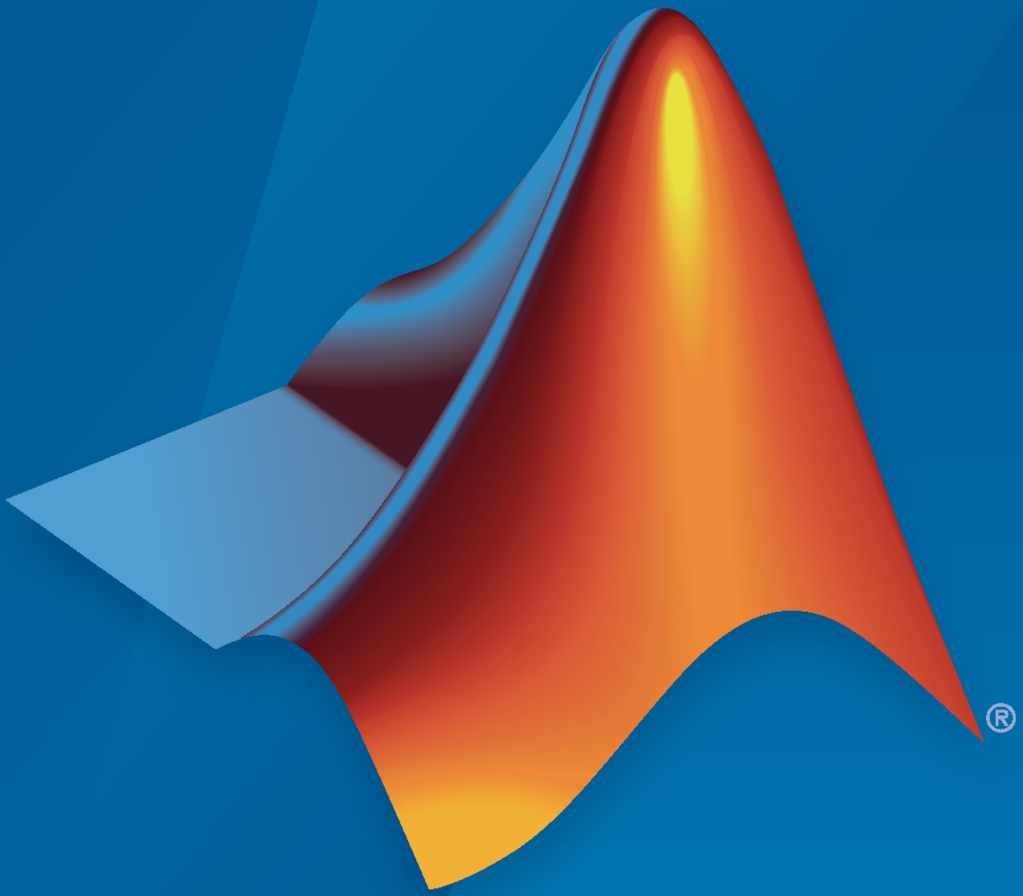
Requirements Toolbox™

Reference



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Requirements Toolbox™ Reference

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March 2022	Online only	Revised for Version 2.0 (Release 2022a)
September 2022	Online only	Revised for Version 2.1 (Release 2022b)

Contents

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Functions

addAssumptionRow

Package: slreq.modeling

Add assumption to Requirements Table block

Syntax

```
AssumptionRow = addAssumptionRow(reqTable)
AssumptionRow = addAssumptionRow(reqTable,Name=Value)
```

Description

AssumptionRow = addAssumptionRow(reqTable) adds an assumption to the Requirements Table block, specified by reqTable.

AssumptionRow = addAssumptionRow(reqTable,Name=Value) adds an assumption by using one or more name-value arguments.

Examples

Add an Assumption to a Requirement Table Block

Create a Requirements Table block and retrieve the RequirementsTable object.

```
table = slreq.modeling.create("myModel");
```

Add an assumption to the block.

```
row = addAssumptionRow(table);
```

Add an Assumption with a Precondition and Postcondition

Create a Requirements Table block and retrieve the RequirementsTable object.

```
table = slreq.modeling.create("myModel");
```

Add an assumption to the block with expressions in the **Precondition** and **Postcondition** columns.

```
row = addAssumptionRow(table, Preconditions={'u1 > 1'},...
Postcoditions={'y1 > 0'});
```

Input Arguments

reqTable — Requirements Table block

RequirementsTable object

Requirements Table block, specified as a RequirementsTable object.

Name-Value Pair Arguments

Specify optional pairs of arguments as `Name1=Value1,...,NameN=ValueN`, where `Name` is the argument name and `Value` is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Example: `addAssumptionRow(table,rowType="normal",Preconditions={'u1 > 0'})` adds an assumption to a Requirements Table block with a precondition `u1 > 0`.

`Preconditions` — Precondition expression

`{''}` (default) | cell array of character vectors

Precondition expression, specified as a cell array of character vectors. For more information on preconditions in assumptions, see “Add Assumptions to Requirements”.

Data Types: `char` | `cell`

`Postconditions` — Postcondition expression

`{''}` (default) | cell array of character vectors

Postcondition expression, specified as a cell array of character vectors. For more information on postconditions in assumptions, see “Add Assumptions to Requirements”.

Data Types: `char` | `cell`

`rowType` — Assumption type

`"normal"` (default) | `"anyChildActive"` | `"allChildrenActive"`

Assumption type, specified by one of these values:

Value	Description
`"normal"`	Creates a normal assumption with all of the available properties.
`"anyChildActive"`	Creates an Any Child Active semantic assumption. The parent assumption cannot have a precondition, and the children cannot have a postcondition.
`"allChildrenActive"`	Creates an All Child Active semantic assumption. The parent assumption cannot have a precondition, and the children cannot have a postcondition.

You can create normal assumptions or semantic assumptions. For more information on semantic requirements and assumptions, see “Add Semantic Rows”. If you do not include this name-value pair, the function creates a normal assumption.

Data Types: `enumerated`

`Summary` — Assumption summary text

`""` (default) | string scalar | character vector

Assumption summary text, specified as a string scalar or character vector. Use this name-value argument to add text to the **Summary** column in the **Assumptions** tab of the Requirements Table block.

Data Types: `char` | `string`

Output Arguments

`AssumptionRow` — Assumption
`AssumptionRow` object

Assumption, returned as an `AssumptionRow` object.

Version History

Introduced in R2022a

See Also

Blocks
Requirements Table

Functions
`addRequirementRow` | `getAssumptionRows`

Objects
`RequirementsTable` | `AssumptionRow`

Topics
"Establish Hierarchy in Requirements Table Blocks"

addChild

Package: `slreq.modeling`

Add child requirement or assumption to Requirements Table block

Syntax

```
newChild = addChild(row)
newChild = addChild(row,Name=Value)
```

Description

`newChild = addChild(row)` adds a child row to the requirement or assumption specified by `row`.

`newChild = addChild(row,Name=Value)` adds a child row using one or more name-value arguments. The available name-value arguments depend on whether `row` is a requirement or assumption.

Examples

Add a Child Requirement to a Requirement Table Block

Create a Requirements Table block and retrieve the `RequirementsTable` object.

```
table = slreq.modeling.create("myModel");
```

New Requirements Table blocks start with one requirement. Find the `RequirementRow` object that corresponds to the requirement by using the `getRequirementRows` function.

```
row = getRequirementRows(table);
```

Add a child to the requirement.

```
childReq = addChild(row);
```

Add a Child Assumption with a Precondition and Postcondition

Create a Requirements Table block and retrieve the `RequirementsTable` object.

```
table = slreq.modeling.create("myModel");
```

Add an assumption to the block by using the `addAssumptionRow` function.

```
row = addAssumptionRow(table);
```

Add a child with expressions in the **Precondition** and **Postcondition** columns to the assumption.

```
child = addChild(row,Preconditions={'u1 > 1'},...
Postcoditions={'y1 > 0'});
```

Input Arguments

row — Requirement or assumption

RequirementRow object | AssumptionRow object

Requirement or assumption in a Requirements Table block, specified as a RequirementRow or AssumptionRow object. To retrieve the row, use getRequirementRows, getAssumptionRows, or getChildren.

Name-Value Pair Arguments

Specify optional pairs of arguments as Name1=Value1,...,NameN=ValueN, where Name is the argument name and Value is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Example: newChild = addChild(row,Preconditions={'u1 > 1'},Duration="5") returns a child requirement from the RequirementRow object row that has the precondition u1 > 1 and a duration equal to 5. This example produces an error if row is a AssumptionRow, because assumptions do not have a duration property.

Actions — Action expressions

{''} (default) | cell array of character vectors

Action expressions, specified as a cell array of character vectors. You can only specify this property if row is a RequirementRow object. For more information on actions, see “Use a Requirements Table Block to Create Formal Requirements”.

Data Types: cell | char

Duration — Duration expression

"" (default) | string scalar | character vector

Duration expression, specified as a string scalar or character vector. You can only specify this property if row is a RequirementRow object. For more information on the duration, see “Control Requirement Execution by Using Temporal Logic”.

Data Types: char | string

Preconditions — Precondition expressions

{''} (default) | cell array of character vectors

Precondition expressions, specified as a cell array of character vectors. If row is an assumption, you can specify only one precondition per child. For more information on preconditions, see “Use a Requirements Table Block to Create Formal Requirements”.

Data Types: cell | char

Postconditions — Postcondition expression

{''} (default) | cell array of character vectors

Postcondition expressions, specified as a cell array of character vectors. If row is an assumption, you can specify only one postcondition per child. For more information on postconditions, see “Use a Requirements Table Block to Create Formal Requirements”.

Data Types: `cell` | `char`

`rowType` — Row type

`"row"` (default) | `"defaultRow"` | `"anyChildActive"` | `"allChildrenActive"`

Row type, specified as one of these values:

Value	Description
`"row"`	Creates a normal child row with all of the available properties.
`"defaultRow"`	Creates a default semantic child row. Default rows cannot have a precondition.
`"anyChildActive"`	Creates a semantic child row where any of the child rows can be active. The children of the added row cannot have postconditions or actions, and the added row cannot have preconditions. See “Add Semantic Rows”.
`"allChildrenActive"`	Creates a semantic child row where all of the child rows must be active. The children of the added row cannot have postconditions or actions, and the added row cannot have preconditions. See “Add Semantic Rows”.

If you do not include this name-value pair, the function creates a normal row.

Data Types: `enumerated`

`Summary` — Child row summary text

`""` (default) | string scalar | character vector

Child row summary text, specified as a string scalar or character vector. Use this name-value argument to add text to the **Summary** column in the **Requirements** or **Assumptions** tabs of the Requirements Table block.

Data Types: `char` | `string`

Output Arguments

`newChild` — Child requirement or assumption

`RequirementRow` or `AssumptionRow` object

Child requirement or assumption, returned as the same object type specified by the input argument `row`. For example, if `row` is a `RequirementRow`, `newChild` is a `RequirementRow`. For more information on requirement hierarchies in Requirements Table blocks, see “Establish Hierarchy in Requirements Table Blocks”.

Version History

Introduced in R2022a

See Also

`RequirementRow` | `AssumptionRow` | `RequirementsTable`

Topics

"Define Requirements Hierarchy"

"Establish Hierarchy in Requirements Table Blocks"

addLink

Package: `oslc.rm`

Add link to local OSLC requirement resource object

Syntax

`addLink(reqResource,resource)`

Description

`addLink(reqResource,resource)` adds an RDF/XML element to the requirement or requirement collection resource specified by `reqResource`. The function sets the element name to `j.0:Link` and the `rdf:resource` attribute to the resource URL associated with `resource`. Use the `commit` function to apply the change to the service provider. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website and QM Resource Definitions on the Open Services for Lifecycle Collaboration (OSLC) website.

Examples

Add and Remove Links from OSLC Resources to Requirement

This example shows how to add and remove links from OSLC resources to an OSLC requirement.

After you have created and configured the OSLC client `myClient` as described in "Create and Configure an OSLC Client for the Requirements Management Domain" on page 2-3, create a query capability for the requirement resource type. Submit a query request to the service provider for the available requirement resources.

```
myQueryCapability = getQueryService(myClient,'Requirement');
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign one of the requirements to a variable called `myReq` and one to `linkReq`. Fetch the full resource properties for the requirements.

```
myReq = reqs(1);
linkReq = reqs(5);
fetch(myReq,myClient);
fetch(linkReq,myClient);
```

Add a link from `linkReq` to `myReq`. Confirm the link creation by getting the links for `myReq`.

```
addLink(myReq,linkReq)
links = getLinks(myReq)
```

```
links =

  1×1 cell array

    {'https://localhost:9443/rm/CA_3d5ba3752e2c489b965a3ecceffb664a'}
```

In the service provider, identify a test case to link to the requirement. Identify the resource URL of the test case and assign it to a variable called URL. Add a link from URL to myReq. Confirm the link creation by getting the links for myReq.

```
URL = 'https://localhost:9443/qm/_ibz6tGWYEeuAF8ZpKyQQtg';
addLink(myReq,URL)
links = getLinks(myReq)
```

```
links =

  1×2 cell array

    {'https://localhost:9443/rm...'}    {'https://localhost:9443/qm...'}
```

Commit the changes to the service provider.

```
status = commit(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Fetch the full resource properties for the updated requirement myReq.

```
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Get the resource URLs linked to myReq.

```
links = getLinks(myReq)
```

```
links =

  1×2 cell array

    {'https://localhost:9443/rm...'}    {'https://localhost:9443/qm...'}
```

Get the URL for the first linked resource and assign it to URL.

```
URL = links{1}
```

```
URL = 

    'https://localhost:9443/rm/CA_3d5ba3752e2c489b965a3ecceffb664a'
```

Before removing the link from myReq, confirm that the resource URL points to the requirement that you want to remove. Create a requirement resource object and set the resource URL. Fetch the full resource properties for the requirement and inspect the requirement.

```
req = oslc.rm.Requirement;
setResourceUrl(req,URL);
status = fetch(req,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

```
req
```

```
ans = 

  Requirement with properties:

    ResourceUrl: 'https://localhost:9443/rm/CA_3d5ba3752e2c489b965a...'
          Dirty: 0
      IsFetched: 1
          Title: '[SAFe] Lifecycle Scenario Template'
     Identifier: '1165'
```

Remove the link from myReq and commit the changes to the service provider.

```
removeLink(myReq,URL)
status = commit(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Fetch the full resource properties for the updated requirement myReq.

```
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Verify the link removal by getting the URLs for the resources linked to myReq.

```
links = getLinks(myReq)
```

```
links =

  1×1 cell array
```

```
    {'https://localhost:9443/qm/_ibz6tGWYEeuAF8ZpKyQQtg'}
```

Input Arguments

reqResource — OSLC requirement resource
oslc.rm.Requirement object | oslc.rm.RequirementCollection object

OSLC requirement or requirement collection resource object, specified as an oslc.rm.Requirement or oslc.rm.RequirementCollection object.

resource — OSLC resource URL or object
character vector | oslc.rm.Requirement object | oslc.rm.RequirementCollection object | oslc.cm.ChangeRequest object | ...

OSLC resource URL, specified as a character vector or OSLC resource object, specified as one of these objects:

- oslc.cm.ChangeRequest
- oslc.qm.TestCase
- oslc.qm.TestExecutionRecord
- oslc.qm.TestPlan
- oslc.qm.TestResult
- oslc.qm.TestScript
- oslc.rm.Requirement
- oslc.rm.RequirementCollection

Tips

- You can also add a link with addResourceProperty to specify the relationship of the link.

Version History

Introduced in R2021a

See Also

oslc.Client | oslc.rm.Requirement | oslc.rm.RequirementCollection | removeLink | getLinks | addRequirementLink

addRequirementLink

Package: `oslc.qm`

Add requirement traceability link to local OSLC test resource object

Syntax

```
addRequirementLink(testResource,requirementURL)
```

Description

`addRequirementLink(testResource,requirementURL)` adds an RDF/XML element to the test case or test script resource specified by `testResource`. The function sets the element name to `oslc_qm:validatesRequirement` and the `rdf:resource` attribute to `requirementURL`. Use the `commit` function to apply the change to the service provider. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website and QM Resource Definitions on the Open Services for Lifecycle Collaboration (OSLC) website.

Examples

Add, Get, and Remove Traceability Links from a Test Case to a Requirement

This example shows how to add, remove, and get OSLC requirement resources linked to a test case resource with a previously configured OSLC client.

After you have created and configured an OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test case resource type.

```
myQueryCapability = getQueryService(myClient,'TestCase');
```

Submit a query request to the service provider for the available test case resources.

```
testCases = queryTestCases(myQueryCapability)
```

```
testCases = 

  1×5 TestCase array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Retrieve the requirement resources linked to one of the test cases. Fetch the resource properties from the service provider for the test case.

```
myTestCase = testCases(1);
fetch(myTestCase,myClient);
reqs = getRequirementLinks(myTestCase)
reqs = 

    Requirement with properties:

    ResourceUrl: 'https://localhost:9443/rm/resources/_aQ1gRg8bEeuLWbFe'
          Dirty: 1
      IsFetched: 0
          Title: ''
     Identifier: ''
```

Remove the existing link to the requirement resource from the test case resource. Commit the changes to the service provider.

```
removeRequirementLink(myTestCase,reqs.ResourceUrl);
status = commit(myTestCase,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

To add a link to a requirement, in the OSLC service provider, locate the requirement resource that you want to link to the test case resource. Identify the resource URL. Create a variable `URL` and set the value of the variable to the requirement URL that you found in the service provider.

```
URL = 'https://localhost:9443/rm/resources/_oJNtgWrqEeup0a6t';
```

Create a traceability link between the requirement resource and the test case. Commit the change to the service provider.

```
addRequirementLink(myTestCase,URL);
status = commit(myTestCase,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

View the test case in the system browser.

```
show(myTestCase)
```

Input Arguments

`testResource` — OSLC test resource

`oslc.qm.TestCase` object | `oslc.qm.TestScript` object

OSLC test resource, specified as an `oslc.qm.TestCase` or `oslc.qm.TestScript` object.

`requirementURL` — Requirement resource URL

character vector

Requirement or requirement collection resource URL, specified as a character vector.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.qm.TestCase` | `oslc.qm.TestScript` | `oslc.rm.RequirementCollection` | `getRequirementLinks` | `removeRequirementLink`

addRequirementRow

Package: slreq.modeling

Add requirement to Requirements Table block

Syntax

```
RequirementRow = addRequirementRow(reqTable)
RequirementRow = addRequirementRow(reqTable,Name=Value)
```

Description

RequirementRow = addRequirementRow(reqTable) adds a requirement to the Requirements Table block specified by reqTable.

RequirementRow = addRequirementRow(reqTable,Name=Value) adds a requirement using one or more name-value arguments.

Examples

Add a Requirement to a Requirements Table Block

Create a Requirements Table block and retrieve the RequirementsTable object.

```
table = slreq.modeling.create("myModel");
```

Add a requirement to the block.

```
row = addRequirementRow(table);
```

Add a Requirement with Preconditions, Postconditions, and Actions

Create a Requirements Table block and retrieve the RequirementsTable object.

```
table = slreq.modeling.create("myModel");
```

Add a requirement to the block with expressions in the **Precondition** and **Postcondition** columns.

```
row = addRequirementRow(table,Preconditions={'u1 > 1'},...
Postcoditions={'y1 > 0'},Actions={'y2 = 1'});
```

Input Arguments

reqTable — Requirements Table block
RequirementsTable object

Requirements Table block, specified as a RequirementsTable object.

Name-Value Pair Arguments

Specify optional pairs of arguments as `Name1=Value1,...,NameN=ValueN`, where `Name` is the argument name and `Value` is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Example: `addRequirementRow(table,Preconditions={'u1 > 0'})` adds a requirement to a Requirements Table block with a precondition `u1 > 0`.

`Actions` — Action expressions

`{''}` (default) | cell array of character vectors

Action expressions, specified as a cell array of character vectors. For more information on actions, see “Use a Requirements Table Block to Create Formal Requirements”.

Data Types: `char` | `cell`

`Duration` — Duration expression

`""` (default) | string scalar | character vector

Duration expression, specified as a string scalar or character vector. For more information on the duration, see “Control Requirement Execution by Using Temporal Logic”.

Data Types: `char` | `string`

`Preconditions` — Precondition expressions

`{''}` (default) | cell array of character vectors

Precondition expressions, specified as a cell array of character vectors. For more information on preconditions, see “Use a Requirements Table Block to Create Formal Requirements”.

Example: `addRequirementRow(table,Preconditions={'u1 > 0','','u3 > 0'})` adds a requirement to a Requirements Table block with `u1 > 0` in the first **Precondition** column, nothing in the second **Precondition** column, and `u3 > 0` in the third **Precondition** column.

Data Types: `char` | `cell`

`Postconditions` — Postcondition expressions

`{''}` (default) | cell array of character vectors

Postcondition expressions, entered as a string array or cell array of character vectors. For more information on postconditions, see “Use a Requirements Table Block to Create Formal Requirements”.

Example: `addRequirementRow(table,Postconditions={'u1 > 0','','u3 > 0'})` adds a requirement to a Requirements Table block with `u1 > 0` in the first **Postcondition** column, nothing in the second **Postcondition** column, and `u3 > 0` in the third **Postcondition** column.

Data Types: `char` | `cell`

`rowType` — Requirement type

`"normal"` (default) | `"default"` | `"anyChildActive"` | `"allChildrenActive"`

Requirement type, specified by one of these values:

Value	Description
"normal"	Creates a normal requirement with all of the available properties.
"default"	Creates a default semantic requirement. Default requirements cannot have preconditions.
"anyChildActive"	Creates an Any Child Active semantic requirement. The parent requirement cannot have preconditions, and the children cannot have postconditions or actions.
"allChildrenActive"	Creates an All Child Active semantic requirement. The parent requirement cannot have preconditions, and the children cannot have postconditions or actions.

You can create normal requirements or semantic requirements. For more information on semantic requirements and assumptions, see “Add Semantic Rows”. If you do not include this name-value pair, the function creates a normal requirement.

Data Types: enumerated

Summary — Requirement summary text
"" (default) | string scalar | character vector

Requirement summary text, specified as a string scalar or character vector. Use this name-value argument to add text to the **Summary** column in the **Requirements** tab of the Requirements Table block.

Data Types: char | string

Output Arguments

RequirementRow — Requirement
RequirementRow object

Requirement, returned as a RequirementRow object.

Version History

Introduced in R2022a

See Also

Blocks
Requirements Table

Functions
addAssumptionRow | getRequirementRows

Objects
RequirementsTable | RequirementRow

Topics

"Establish Hierarchy in Requirements Table Blocks"
"Leverage Evaluation Order of Formal Requirements"

addResourceProperty

Package: `oslc.rm`

Add resource property to local OSLC resource object

Syntax

```
addResourceProperty(resource,propertyName,resourceURL)
```

Description

`addResourceProperty(resource,propertyName,resourceURL)` adds a new element to the locally stored RDF/XML data for the Open Services for Lifecycle Collaboration (OSLC) resource specified by `resource`. The function sets the element name to `propertyName` and sets the `rdf:resource` attribute of the element to `resourceURL`. Use the `commit` function to apply the change to the service provider. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website.

Examples

Add, Get, and Remove Properties from OSLC Resources

This example shows how to add, get, and remove properties from an existing OSLC requirement resource.

Create and configure the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3. Then query the service provider for requirements and assign an `oslc.rm.Requirement` object to the variable `myReq` as described in “Submit a Query Request with Query Capability” on page 1-209.

Retrieve the full resource data from the service provider for the requirement resource `myReq`.

```
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

The requirement `myReq` has a linked requirement with an `implementedBy` relationship. Get the `rdf:resource` value for the `oslc_rm:implementedBy` property for the requirement resource `myReq`.

```
linkedReq = getResourceProperty(myReq,'oslc_rm:implementedBy')
```

```
linkedReq = 

  1×1 cell array

    {'https://localhost:9443/rm/resources/_72lxMWJREeup0...'}
```

Change the relationship between the linked requirement and `myReq` from `implementedBy` to `decomposedBy`. Remove the `oslc_rm:implementedBy` property and add an `oslc_rm:decomposedBy` property.

```
removeResourceProperty(myReq,'oslc_rm:implementedBy',linkedReq)
addResourceProperty(myReq,'oslc_rm:decomposedBy',linkedReq)
```

Get the text contents for the `dcterms:title` property.

```
title = getProperty(myReq,'dcterms:title')
```

```
title = 

    'My New Requirement'
```

Change the title to `My New Requirement (Edited)`. Confirm the changes.

```
setProperty(myReq,'dcterms:title','My New Requirement (Edited)')
title = getProperty(myReq,'dcterms:title')
```

```
title = 

    'My New Requirement (Edited)'
```

Add a new text property to the requirement with the tag `dcterms:description`. Confirm the changes.

```
addTextProperty(myReq,'dcterms:description', ...
    'My new requirement edited using the MATLAB OSLC client.');
desc = getProperty(myReq,'dcterms:description')
```

```
desc = 

    'My new requirement created using the MATLAB OSLC client.'
```

Commit the changes to the service provider.

```
status = commit(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

View the resource that you edited in the system browser.

```
show(myReq)
```

Input Arguments

`resource` — OSLC resource object
`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object | `oslc.cm.ChangeRequest` object | ...

OSLC resource object, specified as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`
- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

`propertyName` — OSLC resource property name
character vector

OSLC resource property name, specified as a character vector.

`resourceURL` — OSLC resource URL
character vector

OSLC resource URL, specified as a character vector.

Tips

- For information about OSLC resource properties, see these pages on the OSLC website:
  - RM Resource Definitions
  - QM Resource Definitions
  - CM Resource Definitions

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `addTextProperty` | `getResourceProperty` | `removeResourceProperty`

External Websites
RDF 1.1 XML Syntax

addSymbol

Package: `slreq.modeling`

Add data to Requirements Table block

Syntax

```
data = addSymbol(reqTable)
data = addSymbol(reqTable,Name=Value)
```

Description

`data = addSymbol(reqTable)` adds data to the Requirements Table block, specified by `reqTable`.

`data = addSymbol(reqTable,Name=Value)` adds data by using one or more name-value arguments.

Examples

Add Data to a Requirement Table Block

Create a Requirements Table block and retrieve the `RequirementsTable` object.

```
table = slreq.modeling.create("myModel");
```

Add data to the block.

```
data = addSymbol(table);
```

Add Data with Specified Name, Scope, and Type Properties

Create a Requirements Table block and retrieve the `RequirementsTable` object.

```
table = slreq.modeling.create("myModel");
```

Add data to the block and specify the **Name**, **Scope**, and **Type** properties.

```
data = addSymbol(table,Name="u1",Scope="Output",Type="Single");
```

Input Arguments

reqTable — Requirements Table block

`RequirementsTable` object

Requirements Table block, specified as a `RequirementsTable` object.

Name-Value Pair Arguments

Specify optional pairs of arguments as `Name1=Value1,...,NameN=ValueN`, where `Name` is the argument name and `Value` is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Example: `addSymbol(table,Complexity="Off")` creates data and sets the complexity of the data to `Off`.

`Complexity` — Whether data accepts complex values

`"Off"` (default) | `"On"` | `"Inherited"`

Whether the data accepts complex values, specified as one of these values:

Complexity	Description
`"Inherited"`	The data inherits complexity based on the `Scope` property. Input and output data inherit complexity from the Simulink® signals connected to the associated input and output ports. Local and parameter data inherit complexity from the parameter to which the data is bound.
`"Off"`	The data is a real number.
`"On"`	The data is a complex number.

Data Types: `enumerated`

`isDesignOutput` — Whether data is design model output

`false` or `0` (default) | `true` or `1`

Whether the data is a design model output, specified as a numeric or logical `1` (`true`) or `0` (`false`). This property applies only when the `Scope` property is `Input`. For more information, see “Treat as design model output for analysis”.

Data Types: `logical`

`Name` — Name of data

`"data"` (default) | string scalar | character vector

Name of the data, specified as a string scalar or character vector.

Data Types: `char` | `string`

`Scope` — Scope of data

`"Input"` (default) | `"Output"` | `"Local"` | `"Constant"` | `"Parameter"`

Scope of the data that specifies where the data resides in memory relative to the block, specified as one of these values:

Scope	Description
`"Input"`	The data is an input signal to a Requirements Table block.
`"Output"`	The data is an output signal of a Requirements Table block.

Scope	Description
"Local"	The data is defined in the current block only.
"Constant"	The data is a read-only constant value that is visible to the block.
"Parameter"	The data resides in a variable of the same name in the MATLAB® workspace, the model workspace, or in the workspace of a masked subsystem that contains this block.

Data Types: enumerated

Size — Size of data

"-1" (default) | string scalar | character vector

Size of the data, specified as a string scalar or character vector. This property must resolve to a scalar value or a MATLAB vector of values. The default value is "–1", which means that the size is inherited. For more information, see “Inherit Size from Simulink” (Simulink).

Data Types: char | string

Type — Data type

"Inherit: Same as Simulink" (default) | "double" | "single" | "int8" | ...

Data type, specified as:

- "Inherit: Same as Simulink"
- "double"
- "single"
- "half"
- "int64"
- "int32"
- "int16"
- "int8"
- "uint64"
- "uint32"
- "uint16"
- "uint8"
- "boolean"
- "string"
- "fixdt(1,16,0)"
- "fixdt(1,16,2^0,0)"
- "Enum: <class name>"
- "Bus: <object name>"

To modify the data type properties, use the **Symbols** pane and Property Inspector. For more information, see “Set Data Types in Requirements Table Blocks”.

Data Types: enumerated

Output Arguments

`data` — Data
`Symbol` object

Data, returned as a `Symbol` object.

Version History

Introduced in R2022a

See Also

Objects
`Symbol` | `RequirementsTable`

Functions
`findSymbol`

Topics
"Use a Requirements Table Block to Create Formal Requirements"
"Define Data in Requirements Table Blocks"

addTextProperty

Package: `oslc.rm`

Add text property to local OSLC resource object

Syntax

```
addTextProperty(resource,propertyName,textContents)
```

Description

`addTextProperty(resource,propertyName,textContents)` adds a new element to the locally stored RDF/XML data for the Open Services for Lifecycle Collaboration (OSLC) resource specified by `resource`. The function sets the element name to `propertyName` and sets the text contents of the element to `textContents`. Use the `commit` function to apply the change to the service provider. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website.

Examples

Add, Get, and Remove Properties from OSLC Resources

This example shows how to add, get, and remove properties from an existing OSLC requirement resource.

Create and configure the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3. Then query the service provider for requirements and assign an `oslc.rm.Requirement` object to the variable `myReq` as described in “Submit a Query Request with Query Capability” on page 1-209.

Retrieve the full resource data from the service provider for the requirement resource `myReq`.

```
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

The requirement `myReq` has a linked requirement with an `implementedBy` relationship. Get the `rdf:resource` value for the `oslc_rm:implementedBy` property for the requirement resource `myReq`.

```
linkedReq = getResourceProperty(myReq,'oslc_rm:implementedBy')
```

```
linkedReq =

  1×1 cell array

    {'https://localhost:9443/rm/resources/_72lxMWJREeup0...'}
```

Change the relationship between the linked requirement and `myReq` from `implementedBy` to `decomposedBy`. Remove the `oslc_rm:implementedBy` property and add an `oslc_rm:decomposedBy` property.

```
removeResourceProperty(myReq,'oslc_rm:implementedBy',linkedReq)
addResourceProperty(myReq,'oslc_rm:decomposedBy',linkedReq)
```

Get the text contents for the `dcterms:title` property.

```
title = getProperty(myReq,'dcterms:title')
```

```
title =

    'My New Requirement'
```

Change the title to `My New Requirement (Edited)`. Confirm the changes.

```
setProperty(myReq,'dcterms:title','My New Requirement (Edited)')
title = getProperty(myReq,'dcterms:title')
```

```
title =

    'My New Requirement (Edited)'
```

Add a new text property to the requirement with the tag `dcterms:description`. Confirm the changes.

```
addTextProperty(myReq,'dcterms:description', ...
    'My new requirement edited using the MATLAB OSLC client.');
desc = getProperty(myReq,'dcterms:description')
```

```
desc =

    'My new requirement created using the MATLAB OSLC client.'
```

Commit the changes to the service provider.

```
status = commit(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

View the resource that you edited in the system browser.

```
show(myReq)
```

Input Arguments

`resource` — OSLC resource object

`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object | `oslc.cm.ChangeRequest` object | ...

OSLC resource object, specified as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`
- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

`propertyName` — OSLC resource property name
character vector

OSLC resource property name, specified as a character vector.

`textContents` — OSLC resource text contents
character vector

OSLC resource text content, specified as a character vector.

Tips

- For information about OSLC resource properties, see these pages on the OSLC website:
  - RM Resource Definitions
  - QM Resource Definitions
  - CM Resource Definitions

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `addResourceProperty` | `getProperty` | `setProperty`

External Websites
RDF 1.1 XML Syntax

clear

Package: `slreq.modeling`

Clear row in Requirements Table block

Syntax

```
clear(row)
clear(row,column)
```

Description

`clear(row)` clears the row content in the requirement or assumption, `row`.

`clear(row,column)` clears the specified column of the row.

Examples

Clear Contents of Requirement in Requirements Table Block

Retrieve the requirements in a Requirements Table block and clear the first requirement.

```
requirements = getRequirementRows(reqTable);
clear(requirements(1));
```

Clear Contents of Assumption in Requirements Table Block

Retrieve the assumptions in a Requirements Table block and clear the first assumption.

```
assumptions = getAssumptionRows(reqTable);
clear(assumptions(1));
```

Clear Preconditions of Requirement

Retrieve the requirements in a Requirements Table block and clear the preconditions of the first requirement.

```
requirements = getRequirementRows(reqTable);
clear(requirements(1),"Preconditions");
```

Input Arguments

`row` — Requirement or assumption
`RequirementRow` object | `AssumptionRow` object

Requirement or assumption in a Requirements Table block, specified as a RequirementRow or AssumptionRow object. To retrieve the row, use getRequirementRows, getAssumptionRows, or getChildren.

column — Column type
"Summary" | "Preconditions" | "Duration" | "Postconditions" | "Actions" | ""

Column type to clear, specified as either "Summary", "Preconditions", "Duration", "Postconditions", "Actions", or an empty string scalar or character vector. If row is an action, you can only clear the summary, preconditions, or postconditions. If you specify column as an empty string scalar or character vector, the function clears the entire row.

Data Types: enumerated

Version History

Introduced in R2022a

See Also

RequirementsTable | RequirementRow | AssumptionRow

slreq.clear

Clear requirements and links from memory

Syntax

```
slreq.clear()
```

Description

`slreq.clear()` clears all requirements and links loaded in memory and closes the **Requirements Editor**, discarding all unsaved changes.

Limitations

If at least one of the requirement sets comes from a model containing a Requirements Table block, you cannot use `slreq.clear()`. To use `slreq.clear()`, close the model first.

Version History

Introduced in R2018a

See Also

`slreq.ReqSet` | `slreq.LinkSet` | **Requirements Editor**

slreq.closeRequirementsManager

Close Requirements Manager app in model

Syntax

```
slreq.closeRequirementsManager(model)
slreq.closeRequirementsManager("all")
```

Description

`slreq.closeRequirementsManager(model)` closes the **Requirements Manager** app in the Simulink model `model` and brings the model to the front.

`slreq.closeRequirementsManager("all")` closes the **Requirements Manager** app in all open models.

Examples

Open and Close the Requirements Manager App Programmatically

This example shows how to open and close the **Requirements Manager** app programmatically.

Open the `CruiseRequirementsExample` project and open the `crs_plant` model.

```
slreqCCProjectStart;
open_system("crs_plant");
```

Open the **Requirements Manager** app in the `crs_plant` model.

```
slreq.openRequirementsManager("crs_plant");
```

Close the **Requirements Manager** app in the `crs_plant` model.

```
slreq.closeRequirementsManager("crs_plant");
```

Close the Requirements Manager App in All Open Models

This example shows how to close the **Requirements Manager** app in all open models.

Open the `CruiseRequirementsExample` project. Open the `crs_plant` and `crs_controller` models.

```
slreqCCProjectStart;
open_system("crs_plant");
open_system("crs_controller");
```

Open the **Requirements Manager** app in the `crs_plant` and `crs_controller` models.

```
slreq.openRequirementsManager("crs_plant");
slreq.openRequirementsManager("crs_controller");
```

Close the **Requirements Manager** app in all open models.

```
slreq.closeRequirementsManager("all");
```

Input Arguments

`model` — Simulink model

string scalar | character vector | model handle

Simulink model to close the **Requirements Manager** app in, specified as a string scalar or character vector that contains the name of the model, or a model handle.

Tips

- Use `bdroot` to get the top-level model of the current system.
- Use `get_param` and `bdroot` to get the handle for the top-level model of the current system:

  ```
  model = get_param(bdroot,"Handle");
  ```

Version History

Introduced in R2021a

See Also

`slreq.openRequirementsManager` | `bdroot` | `slreq.editor` | **Requirements Editor**

slreq.cmConfigureVersion

Set version of linked requirements documents

Syntax

```
prev_version = slreq.cmConfigureVersion(domain,doc_id,version)
prev_version = slreq.cmConfigureVersion(domain,doc_id,version,src)
```

Description

`prev_version = slreq.cmConfigureVersion(domain,doc_id,version)` sets the configured version `version` of the linked requirements document `doc_id` of type `domain` and returns the previously configured version `prev_version`.

`prev_version = slreq.cmConfigureVersion(domain,doc_id,version,src)` sets the configured version `version` of the linked requirements document `doc_id` of type `domain` for all links from the Model-Based Design artifact `src` and returns the previously configured version `prev_version`.

Examples

Set Configured Version for All Links to IBM Rational DOORS Module Baseline

Use baseline version `2.2b` for all links to the IBM Rational DOORS module `546223g1`.

```
% Set configured version to 2.1b
versionA = slreq.cmConfigureVersion('linktype_rmi_doors','546223g1','2.1b')

versionA =

  0×0 empty char array

% versionA is empty because there is no previously configured version

versionB = slreq.cmConfigureVersion('linktype_rmi_doors','546223g1','2.2b')

versionB =

  '2.1b'

% 2.1b is the previously set configured version
```

Set Configured Version for Links from Simulink Model to IBM Rational DOORS Module Baseline

Use baseline version `2.3b` for links from the Simulink model `myModel.slx` to the IBM Rational DOORS module `00006a12`.

```
% Set configured version to 2.1b
versionA = slreq.cmConfigureVersion('linktype_rmi_doors', '00006a12', '2.1b', 'myModel.slx')
versionA =

  0×0 empty char array

% versionA is empty because there is no previously configured version

% Set the configured version to 2.3b

versionB = slreq.cmConfigureVersion('linktype_rmi_doors', '00006a12', '2.3b', 'myModel.slx')

versionB =

  '2.1b'

% 2.1b is the previously set configured version
```

Input Arguments

`domain` — Document type name

`'linktype_rmi_doors'` | character vector | string

Registered document type name, specified as a character vector or a string. As of R2019b, link target version configuration is supported only for IBM® Rational® DOORS® with the value `'linktype_rmi_doors'`.

`doc_id` — Requirements document identifier

character vector | string

Unique identifier for a version-controlled requirements document, specified as a character vector or a string.

`version` — Requirements document target version

character vector | string

Target version of the requirements document, specified as a character vector or a string.

`src` — Source artifact file name

character vector | string

The file name of the Model-Based Design source artifact, specified as a character vector or a string.

Output Arguments

`prev_version` — Document version

character vector

Previously configured version of the linked requirements document, returned as a character vector.

Version History

Introduced in R2019b

See Also

`slreq.cmGetVersion`

slreq.cmGetVersion

Get configured version of linked requirements documents

Syntax

```
doc_version = slreq.cmGetVersion(domain,doc_id)
doc_version = slreq.cmGetVersion(domain,doc_id,src)
```

Description

`doc_version = slreq.cmGetVersion(domain,doc_id)` queries the configured version `doc_version` of the linked requirements document `doc_id` of type `domain`.

`doc_version = slreq.cmGetVersion(domain,doc_id,src)` queries the configured version `doc_version` of the linked requirements document `doc_id` of type `domain` that is linked to the Model-Based Design artifact `src`.

Examples

Query Configured Version for IBM Rational DOORS Module

Get the configured baseline version for the IBM Rational DOORS module `1213424d`.

```
configVer = slreq.cmGetVersion('linktype_rmi_doors','1213424d')
```

```
configVer =

  '1.3a'
```

Query Configured Version for Links from a Simulink Model to IBM Rational DOORS Module

Get the configured baseline version for links from the Simulink model `myModel.slx` for the IBM Rational DOORS module `1234a45a`.

```
configVer = slreq.cmGetVersion('linktype_rmi_doors', '1234a45a', 'myModel.slx')
```

```
configVer =

  '2.4c'
```

Input Arguments

domain — Document type name

`'linktype_rmi_doors'` | character vector | string

Registered document type name, specified as a character vector or a string. As of R2019b, link target version configuration is supported only for IBM Rational DOORS with the value `'linktype_rmi_doors'`.

doc_id — Requirements document identifier

character vector | string

Unique identifier for a version-controlled requirements document, specified as a character vector or a string.

`src` — Source artifact file name

character vector | string

The file name of the Model-Based Design source artifact, specified as a character vector or a string.

Output Arguments

`doc_version` — Document version

character vector

Configured version of the linked requirements document, returned as a character vector.

Version History

Introduced in R2019b

See Also

`slreq.cmConfigureVersion`

commit

Package: oslc.rm

Send local changes to OSLC service provider

Syntax

```
status = commit(resource,myClient)
```

Description

status = commit(resource,myClient) sends the local changes for the resource object resource to the Open Services for Lifecycle Collaboration (OSLC) service provider associated with myClient and returns the commit success status.

Examples

Edit a Requirement and Commit Changes

This example shows how to submit a query request for requirement resources with a configured OSLC client, edit an existing requirement resource, and commit the changes to the service provider.

After you have created and configured the OSLC client myClient as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement resource type.

```
myQueryCapability = getQueryService(myClient,'Requirement');
```

Submit a query request to the service provider for the available requirement resources.

```
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign a requirement resource to the variable myReq. Retrieve the full resource data from the service provider for the requirement resource. Examine the Title property.

```
myReq = reqs(1);
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration
```

```
    OK
```

```
title = myReq.Title
```

```
title =

    'Requirement 1'
```

Edit the requirement title and commit the change to the service provider.

```
myReq.Title = 'My New Requirement Title';
status = commit(myReq,myClient)
```

```
status =

  StatusCode enumeration

    OK
```

Open the requirement resource in the system browser by using the `show` function.

```
show(myReq)
```

Input Arguments

`resource` — OSLC resource object

`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object | `oslc.cm.ChangeRequest` object | ...

OSLC resource object, specified as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`
- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

`myClient` — OSLC client

`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

Output Arguments

`status` — Commit success status

`matlab.net.http.StatusCode`

Commit success status, returned as a `matlab.net.http.StatusCode` object.

Tips

- When you use `commit`, there are two common causes of error:

  1. You do not have the required permissions from the system administrator to commit.
  2. The RDF/XML data for a locally cached resource object is either missing elements required by the service provider or is otherwise incorrectly configured.

  The returned error message contains information about why the `commit` operation failed. If the error is due to incorrectly configured RDF/XML data, use `getRDF` to see if the locally cached resource object contains the elements and attributes that are required by the service provider.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `view` | `fetch` | `remove`

External Websites

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slreq.convertAnnotation

Convert annotations to requirement objects

Syntax

```
myReq = slreq.convertAnnotation(myAnnotation,myDestination)
myReq = slreq.convertAnnotation(myAnnotation,myDestination,Name,Value)
```

Description

`myReq = slreq.convertAnnotation(myAnnotation,myDestination)` converts a Simulink or a Stateflow® annotation `myAnnotation` into a requirement `myReq` and stores it in a destination entity `myDestination`.

`myReq = slreq.convertAnnotation(myAnnotation,myDestination,Name,Value)` converts a Simulink or a Stateflow annotation `myAnnotation` into a requirement `myReq` and stores it in a destination entity `myDestination` using additional options specified by one or more `Name, Value` pair arguments.

Examples

Convert Simulink Annotation to Requirement

```
% Find all annotations in a Simulink model
allAnnotations = find_system('controller_Model', 'FindAll', ...
'on', 'type', 'annotation');

% Create a new requirement set
newReqSet = slreq.new('myNewReqSet');

% Convert one annotation into a requirement newReq
% and add it to newReqSet
newReq = slreq.convertAnnotation(allAnnotations(1), ...
newReqSet);
```

Input Arguments

`myAnnotation` — Simulink or Stateflow annotation

`Simulink.Annotation` object

The annotation to be converted, specified as a `Simulink.Annotation` object.

`myDestination` — Converted annotation destination entity

`slreq.Requirement` object | `slreq.ReqSet` object

The destination entity for the converted annotation, specified either as an `slreq.Requirement` or as an `slreq.ReqSet` object.

Name-Value Pair Arguments

Specify optional pairs of arguments as `Name1=Value1,...,NameN=ValueN`, where `Name` is the argument name and `Value` is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Before R2021a, use commas to separate each name and value, and enclose `Name` *in quotes.*

Example: `'CreateLinks', true`

`CreateLinks` — Option to create links
`true` (default) | `false`

Option to create links when converting annotations, specified as a Boolean value.

`KeepAnnotation` — Option to retain annotation
`false` (default) | `true`

Option to retain the annotation after conversion, specified as a Boolean value.

`IgnoreCallback` — Option to force annotation conversion
`false` (default) | `true`

Option to specify annotation conversion even if a callback function is specified in the annotation, specified as a Boolean value.

`ShowMarkup` — Option to display requirements markup
`true` (default) | `false`

Option to display the Requirement markup after annotation conversion, specified as a Boolean value.

Output Arguments

`myReq` — Requirement
`slreq.Requirement` object

The converted annotation, returned as an `slreq.Requirement` object.

Version History

Introduced in R2018a

See Also

`slreq.Requirement` | `slreq.ReqSet`

create

Package: oslc.core

Create resource in OSLC service provider

Syntax

```
myResource = create(myCreationFactory,resource)
```

Description

myResource = create(myCreationFactory,resource) submits a creation request to the Open Services for Lifecycle Collaboration (OSLC) service provider associated with the creation factory myCreationFactory for the resource object resource.

Examples

Submit a Creation Request for a User-Created Resource

This example shows how to submit a creation request for a user-created resource with a configured OSLC client.

After you have created and configured an OSLC client myClient as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a creation factory for the requirement resource type.

```
myCreationFactory = getCreationFactory(myClient,'Requirement');
```

Create a new requirement resource by creating an instance of the oslc.rm.Requirement class.

```
myReq = oslc.rm.Requirement
```

```
myReq = 
  Requirement with properties:

    ResourceUrl: ''
          Dirty: 0
      IsFetched: 0
          Title: ''
     Identifier: ''
```

Add the dcterms:title property to the requirement and set the value.

```
addTextProperty(myReq,'dcterms:title','My New Requirement');
```

Submit a creation request to the service provider for the requirement object.

```
newReq = create(myCreationFactory,myReq)
```

```
newReq = 
  Requirement with properties:
    ResourceUrl: 'https://localhost:9443/rm/resources/_oJNtgWrqEeup0...'
          Dirty: 1
      IsFetched: 0
          Title: ''
     Identifier: ''
```

Retrieve the full resource data for the requirement resource from the service provider. Open the requirement resource in the system browser with the `show` function..

```
status = fetch(newReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

```
show(newReq)
```

Input Arguments

`myCreationFactory` — Resource creation factory
`oslc.core.CreationFactory` object

OSLC resource creation factory, specified as an `oslc.core.CreationFactory` object.

`resource` — OSLC resource object
`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object | `oslc.cm.ChangeRequest` object | ...

OSLC resource object, specified as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`
- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

Output Arguments

`myResource` — New OSLC resource
`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object | `oslc.cm.ChangeRequest` object | ...

New OSLC resource object, returned as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`

- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

Tips

- For information about OSLC resource properties, see these pages on the OSLC website:
  - RM Resource Definitions
  - QM Resource Definitions
  - CM Resource Definitions

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.CreationFactory` | `createChangeRequest` | `createRequirement` | `createTestCase` | `addResourceProperty` | `addTextProperty` | `getResourceProperty` | `removeResourceProperty` | `getProperty` | `setResourceUrl` | `setProperty`

slreq.modeling.create

Create new model with Requirements Table block

Syntax

```
reqTable = slreq.modeling.create
reqTable = slreq.modeling.create(model)
```

Description

`reqTable = slreq.modeling.create` creates an untitled model that contains a Requirements Table block.

`reqTable = slreq.modeling.create(model)` creates a model with the name specified by `model`.

Examples

Create a New Model that Contains a Requirements Table Block

Create a new model that contains a Requirements Table block.

```
reqTable = slreq.modeling.create;
```

The function returns `reqTable` as a `RequirementsTable` object.

Create a Model With a Custom Name

Create a new model named `myModel` that contains a Requirements Table block.

```
reqTable = slreq.modeling.create("myModel");
```

The function returns `reqTable` as a `RequirementsTable` object.

Input Arguments

`model` — Model name
string scalar | character vector

Model name, specified as a string scalar or character vector.

Data Types: `char` | `string`

Output Arguments

`reqTable` — Requirements Table block
`RequirementsTable` object

Requirements Table block, returned as a `RequirementsTable` object.

Version History

Introduced in R2022a

See Also

Objects
`RequirementsTable`

Functions
`slreq.modeling.find`

Topics
"Use a Requirements Table Block to Create Formal Requirements"

createChangeRequest

Package: oslc.core

Create change request in OSLC service provider

Syntax

```
myChangeRequest = createChangeRequest(myCreationFactory,title)
```

Description

myChangeRequest = createChangeRequest(myCreationFactory,title) creates a change request with the specified title by using the creation factory myCreationFactory in the Open Services for Lifecycle Collaboration (OSLC) service provider.

Examples

Create a New Change Request

This example shows how to submit a creation request for a new change request resource with a configured OSLC client.

After you have created and configured the OSLC client myClient as described in "Create and Configure an OSLC Client for the Change Management Domain" on page 2-5, create a creation factory for the change request resource type.

```
myCreationFactory = getCreationFactory(myClient,'ChangeRequest');
```

Use the creation factory to create a new change request resource with the title My New Change Request. Retrieve the full resource data from the service provider for the change request resource and inspect the resource.

```
newCR = createChangeRequest(myCreationFactory,'My New Change Request');
fetch(newCR,myClient);
newCR
```

```
newCR = 

  ChangeRequest with properties:

    ResourceUrl: 'https://localhost:9443/ccm/resource/itemName/...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Change Request'
     Identifier: '204'
```

Open the change request resource in the system browser by using the show function.

```
show(newCR)
```

Input Arguments

`myCreationFactory` — Resource creation factory

`oslc.core.CreationFactory` object

OSLC resource creation factory, specified as an `oslc.core.CreationFactory` object.

`title` — Change request title

character array

Change request title, specified as a character array.

Output Arguments

`myChangeRequest` — Change request resource

`oslc.cm.ChangeRequest` object

OSLC change request resource, returned as an `oslc.cm.ChangeRequest` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.cm.ChangeRequest` | `oslc.core.CreationFactory` | `createRequirement` | `createTestCase`

slreq.createLink

Create traceable links

Syntax

```
myLink = slreq.createLink(src, dest)
```

Description

`myLink = slreq.createLink(src, dest)` creates an `slreq.Link` object `myLink` that serves as a link between the source artifact `src` and the destination artifact `dest`.

Examples

Create a Link

This example shows how to create a link.

Create a link between the currently selected Simulink block and a requirement `req`.

```
link1 = slreq.createLink(gcb,req)
```

```
link1 = 

  Link with properties:

           Type: 'Implement'
    Description: 'Plant Specs'
       Keywords: [0×0 char]
      Rationale: ''
      CreatedOn: 02-Sep-2017 15:49:28
      CreatedBy: 'Jane Doe'
     ModifiedOn: 21-Oct-2017 11:34:12
     ModifiedBy: 'John Doe'
       Comments: [0×0 struct]
```

Input Arguments

`src` — Link source artifact
structure

The link source artifact, specified as a MATLAB structure.

`dest` — Link destination artifact
structure

The link destination artifact, specified as a MATLAB structure.

Output Arguments

`myLink` — Link artifact
`slreq.Link` object

The link between `src` and `dest`, specified as an `slreq.Link` object.

Version History

Introduced in R2018a

See Also

`slreq.Link` | `slreq.LinkSet`

createRequirement

Package: oslc.core

Create requirement in OSLC service provider

Syntax

```
myRequirement = createRequirement(myCreationFactory,title)
```

Description

`myRequirement = createRequirement(myCreationFactory,title)` creates a requirement with the specified title by using the creation factory `myCreationFactory` in the Open Services for Lifecycle Collaboration (OSLC) service provider.

Examples

Create a New Requirement

This example shows how to submit a creation request for a new requirement resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a creation factory for the requirement resource type.

```
myCreationFactory = getCreationFactory(myClient,'Requirement');
```

Use the creation factory to create a new requirement resource with the title `My New Requirement`. Retrieve the full resource data from the service provider for the requirement resource and inspect the resource.

```
newReq = createRequirement(myCreationFactory,'My New Requirement');
fetch(newReq,myClient);
newReq
```

```
newReq = 

  Requirement with properties:

    ResourceUrl: 'https://localhost:9443/rm/resources/_72lxMWJREeup0...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Requirement'
     Identifier: '1806'
```

Open the requirement resource in the system browser by using the `show` function.

```
show(newReq)
```

Input Arguments

`myCreationFactory` — Resource creation factory

`oslc.core.CreationFactory` object

OSLC resource creation factory, specified as an `oslc.core.CreationFactory` object.

`title` — Requirement title

character array

Requirement title, specified as a character array.

Output Arguments

`myRequirement` — Requirement resource

`oslc.rm.Requirement` object

OSLC requirement resource, returned as an `oslc.rm.Requirement` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.core.CreationFactory` | `createChangeRequest` | `createTestCase` | `createRequirementCollection`

createRequirementCollection

Package: `oslc.core`

Create requirement collection in OSLC service provider

Syntax

```
myReqCol = createRequirementCollection(myCreationFactory,title)
```

Description

`myReqCol = createRequirementCollection(myCreationFactory,title)` creates a requirement collection with the specified title by using the creation factory `myCreationFactory` in the Open Services for Lifecycle Collaboration (OSLC) service provider.

Examples

Create a New Requirement Collection

This example shows how to submit a creation request for a new requirement collection resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a creation factory for the requirement collection resource type.

```
myCreationFactory = getCreationFactory(myClient,...
'RequirementCollection');
```

Use the creation factory to create a requirement collection resource with the title `My New Requirement Collection`. Retrieve the full resource data from the service provider for the requirement collection resource and inspect the resource.

```
newReqCollection = createRequirementCollection(myCreationFactory,...
'My New Requirement Collection')
fetch(newReqCollection,myClient);
newReqCollection
```

```
newReqCollection =

    RequirementCollection with properties:
    ResourceUrl: 'https://localhost:9443/rm/resources/_72lxMWJREeup0r..'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Requirement Collection'
     Identifier: '1808'
```

Open the requirement collection resource in the system browser by using the `show` function.

```
show(newReqCollection)
```

Input Arguments

`myCreationFactory` — Resource creation factory
`oslc.core.CreationFactory` object

OSLC resource creation factory, specified as an `oslc.core.CreationFactory` object.

`title` — Requirement collection title
character array

Requirement collection title, specified as a character array.

Output Arguments

`myReqCol` — Requirement collection resource
`oslc.rm.RequirementCollection` object

OSLC requirement collection resource, returned as an `oslc.rm.RequirementCollection` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.CreationFactory` | `oslc.rm.RequirementCollection` | `createChangeRequest` | `createRequirement` | `createTestCase`

createTestCase

Package: `oslc.core`

Create test case in OSLC service provider

Syntax

```
myTestCase = createTestCase(myCreationFactory,title)
```

Description

`myTestCase = createTestCase(myCreationFactory,title)` creates a test case with the specified title created using the creation factory `myCreationFactory` in the Open Services for Lifecycle Collaboration (OSLC) service provider.

Examples

Create a New Test Case

This example shows how to submit a creation request for a new test case resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a creation factory for the test case resource type.

```
myCreationFactory = getCreationFactory(myClient,'TestCase');
```

Use the creation factory to create a test case resource with the title `My New Test Case`. Retrieve the full resource data from the service provider for the test case resource and inspect the resource.

```
newTestCase = createTestCase(myCreationFactory,'My New Test Case');
fetch(newTestCase,myClient);
newTestCase
```

```
newTestCase = 
  TestCase with properties:

    ResourceUrl: 'https://localhost:9443/qm/resource/itemName/_a9aS...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Test Case'
     Identifier: '301'
```

Open the test case resource in the system browser by using the `show` function.

```
show(newTestCase)
```

Input Arguments

`myCreationFactory` — Resource creation factory
`oslc.core.CreationFactory` object

OSLC resource creation factory, specified as an `oslc.core.CreationFactory` object.

`title` — Test case title
character array

Test case title, specified as a character array.

Output Arguments

`myTestCase` — Test case resource
`oslc.qm.TestCase` object

OSLC test case resource, returned as an `oslc.qm.TestCase` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.CreationFactory` | `oslc.qm.TestCase` | `createChangeRequest` | `createRequirement` | `createTestExecutionRecord` | `createTestPlan` | `createTestResult` | `createTestScript`

createTestExecutionRecord

Package: oslc.core

Create test execution record in OSLC service provider

Syntax

```
myTER = createTestExecutionRecord(myCreationFactory,title,testURL)
```

Description

myTER = createTestExecutionRecord(myCreationFactory,title,testURL) creates a test execution record with the specified title for the test case specified by the resource URL testURL. The resource is created by creation factory myCreationFactory in the Open Services for Lifecycle Collaboration (OSLC) service provider..

Examples

Create a New Test Execution Record

This example shows how to submit a creation request for a new test execution record resource with a configured OSLC client.

After you have created and configured the OSLC client myClient as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a creation factory for the test execution record resource type.

```
myCreationFactory = getCreationFactory(myClient,'TestExecutionRecord');
```

Use the creation factory to create a test execution record resource with the title My New Test Execution Record and associate it with the test case resource URL testURL from a test case. For more information about querying the service provider for test cases, see “Edit a Test Case and Commit Changes” on page 2-21. Retrieve full resource data from the service provider for the test execution record resource and inspect the resource.

```
newTestER = createTestExecutionRecord(myCreationFactory, ...
    'My New Test Execution Record',testURL);
fetch(newTestCase,myClient);
newTestER
```

```
newTestER = 
  TestExecutionRecord with properties:

    ResourceUrl: 'https://localhost:9443/qm/oslc_qm/resources/CfkIoW...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Test Execution Record'
     Identifier: '301'
```

Open the test execution record resource in the system browser by using the show function.

```
show(newTestER)
```

Input Arguments

`myCreationFactory` — Resource creation factory
`oslc.core.CreationFactory` object

OSLC resource creation factory, specified as an `oslc.core.CreationFactory` object.

`title` — Test execution record title
character array

Test execution record title, specified as a character array.

`testURL` — Test case URL
character array

Resource URL of the test case to associate with the test execution record, specified as a character array.

Output Arguments

`myTER` — Test execution record resource
`oslc.qm.TestExecutionRecord` object

OSLC test execution record resource, returned as an `oslc.qm.TestExecutionRecord` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.CreationFactory` | `oslc.qm.TestExecutionRecord` | `createChangeRequest` | `createRequirement` | `createTestCase` | `createTestPlan` | `createTestResult` | `createTestScript`

createTestPlan

Package: oslc.core

Create test plan in OSLC service provider

Syntax

```
myTestPlan = createTestPlan(myCreationFactory,title)
```

Description

myTestPlan = createTestPlan(myCreationFactory,title) creates a test plan with the specified title by using the creation factory myCreationFactory in the Open Services for Lifecycle Collaboration (OSLC) service provider.

Examples

Create a New Test Plan

This example shows how to submit a creation request for a new test plan resource with a configured OSLC client.

After you have created and configured the OSLC client myClient as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a creation factory for the test plan resource type.

```
myCreationFactory = getCreationFactory(myClient,'TestPlan');
```

Use the creation factory to create a test plan resource with the title My New Test Plan. Retrieve the full resource data from the service provider for the test plan resource and inspect the resource.

```
newTestPlan = createTestPlan(myCreationFactory,'My New Test Plan');
fetch(newTestPlan,myClient);
newTestPlan
```

```
newTestPlan = 
  TestPlan with properties:

    ResourceUrl: 'https://localhost:9443/qm/resource/itemName/_f56s...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Test Plan'
     Identifier: '301'
```

Open the test plan resource in the system browser by using the show function.

```
show(newTestPlan)
```

Input Arguments

`myCreationFactory` — Resource creation factory
`oslc.core.CreationFactory` object

OSLC resource creation factory, specified as an `oslc.core.CreationFactory` object.

`title` — Test plan title
character array

Test plan title, specified as a character array.

Output Arguments

`myTestPlan` — Test plan resource
`oslc.qm.TestPlan` object

OSLC test plan resource, returned as an `oslc.qm.TestPlan` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.CreationFactory` | `oslc.qm.TestPlan` | `createChangeRequest` | `createRequirement` | `createTestExecutionRecord` | `createTestCase` | `createTestResult` | `createTestScript`

createTestResult

Package: oslc.core

Create test result in OSLC service provider

Syntax

```
myTR = createTestResult(myCF,title,executionURL,testURL,status)
```

Description

`myTR = createTestResult(myCF,title,executionURL,testURL,status)` creates a test result with the specified title for the test execution record and test case specified by the resource URLs `executionURL` and `testURL`, respectively. The resource result status is specified by `status`. The resource is created by using the creation factory `myCF` in the Open Services for Lifecycle Collaboration (OSLC) service provider.

Examples

Create a New Test Result

This example shows how to submit a creation request for a new test result resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a creation factory for the test result resource type.

```
myCreationFactory = getCreationFactory(myClient,'TestResult');
```

Use the creation factory to create a test result resource with the title `My New Test Result` and associate it with the test case resource URL specified by `testURL` and the test execution record resource URL specified by `executionURL`. Set the test result status to `Unverified`. For more information about querying the service provider for test cases and execution records, see “Edit a Test Case and Commit Changes” on page 2-21 and “Edit a Test Execution Record and Commit Changes” on page 2-25. Retrieve the full resource data from the service provider for the test result resource and inspect the resource.

```
newTestResult = createTestResult(myCreationFactory, ...
    'My New Test Result',testURL,executionURL,'Unverified');
fetch(newTestCase,myClient);
newTestResult
```

```
newTestResult = 
  TestResult with properties:

    ResourceUrl: 'https://localhost:9443/qm/oslc_qm/resources/CdffuW...'
          Dirty: 0
      IsFetched: 1
```

```
         Title: 'My New Test Result'
    Identifier: '1456'
```

Open the test result resource in the system browser by using the `show` function.

```
show(newTestResult)
```

Input Arguments

`myCF` — Resource creation factory
`oslc.core.CreationFactory` object

OSLC resource creation factory, specified as an `oslc.core.CreationFactory` object.

`title` — Test result title
character array

Test result title, specified as a character array.

`executionURL` — Test execution record resource URL
character array

Resource URL of the test execution record to associate with the test result, specified as a character array.

`testURL` — Test case resource URL
character array

Resource URL of the test case to associate with the test result, specified as a character array.

`status` — Test result status
character array

Test result status, specified as a character array.

Output Arguments

`myTR` — Test result resource
`oslc.qm.TestResult` object

OSLC test result resource, returned as an `oslc.qm.TestResult` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.CreationFactory` | `oslc.qm.TestResult` | `createChangeRequest` | `createRequirement` | `createTestExecutionRecord` | `createTestCase` | `createTestPlan` | `createTestScript`

createTestScript

Package: `oslc.core`

Create test script in OSLC service provider

Syntax

```
myTestScript = createTestScript(myCreationFactory,title)
```

Description

`myTestScript = createTestScript(myCreationFactory,title)` creates a test script with the specified title by using the creation factory `myCreationFactory` in the Open Services for Lifecycle Collaboration (OSLC) service provider.

Examples

Create a New Test Script

This example shows how to submit a creation request for a new test script resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a creation factory for the test script resource type.

```
myCreationFactory = getCreationFactory(myClient,'TestScript');
```

Use the creation factory to create a test script resource with the creation factory with the title `My New Test Script`. Retrieve the full resource data from the service provider for the test script resource and inspect the resource.

```
newTestScript = createTestScript(myCreationFactory, ...
    'My New Test Script');
fetch(newTestScript,myClient);
newTestScript
```

```
newTestScript = 
  TestScript with properties:

    ResourceUrl: 'https://localhost:9443/qm/resource/itemName/_b19w2...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Test Script'
     Identifier: '498'
```

Open the test script resource in the system browser by using the `show` function.

```
show(newTestScript)
```

Input Arguments

`myCreationFactory` — Resource creation factory
`oslc.core.CreationFactory` object

OSLC resource creation factory, specified as an `oslc.core.CreationFactory` object.

`title` — Test script title
character array

Test script title, specified as a character array.

Output Arguments

`myTestScript` — Test script resource
`oslc.qm.TestScript` object

OSLC test script resource, returned as an `oslc.qm.TestScript` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.CreationFactory` | `oslc.qm.TestScript` | `createChangeRequest` | `createRequirement` | `createTestExecutionRecord` | `createTestCase` | `createTestPlan` | `createTestResult`

slreq.createTextRange

Package: slreq

Create line ranges

Syntax

```
lr = slreq.createTextRange(fileName,lines)
lr = slreq.createTextRange(fileName,blockSID,lines)
```

Description

lr = slreq.createTextRange(fileName,lines) creates a line range associated with the lines of code, lines, in the file specified by fileName.

lr = slreq.createTextRange(fileName,blockSID,lines) creates a line range in the MATLAB Function block specified by blockSID.

Examples

Create Line Ranges and Link to Requirement

This example shows how to create an slreq.TextRange object and link it to a requirement.

Create an slreq.TextRange object that corresponds to line numbers 1 and 2 in the myAdd function.

```
tr = slreq.createTextRange("myAdd.m",[1 2]);
```

View the slreq.TextRange object in the MATLAB® Editor.

```
show(tr);
```

Load the myAddRequirements requirement set.

```
rs = slreq.load("myAddRequirements");
```

Get a handle to the requirement with the summary Add u and v.

```
req = find(rs,Summary="Add u and v");
```

Create a link from the slreq.TextRange object to the requirement.

```
myLink = slreq.createLink(tr,req);
```

Create Line Ranges in MATLAB Function Blocks

This example shows how to create slreq.TextRange objects in MATLAB Function blocks and link the objects to requirements.

Open the `myAddModel` Simulink® model.

```
model = "myAddModel";
open_system(model);
```

Get the SID of the MATLAB Function block.

```
block = "myAddModel/MATLAB Function";
SID = get_param(block,"SID");
```

Create an `slreq.TextRange` object that corresponds to line number 2 in the `myAdd` MATLAB Function block.

```
tr = slreq.createTextRange(model,SID,2);
```

Load the `myAddRequirements` requirement set.

```
rs = slreq.load("myAddRequirements");
```

Get a handle to the requirement with the summary `Add u and v`.

```
req = find(rs,Summary="Add u and v");
```

Create a link from the `slreq.TextRange` object to the requirement.

```
myLink = slreq.createLink(tr,req);
```

Input Arguments

`fileName` — File name

string scalar | character vector

Name of the file containing the lines of code, specified as a string scalar or character vector.

Example: `"myAdd.m"`,`"vdp.slx"`

`lines` — Start and end line numbers

scalar `double` | `double` array

Start and end line numbers for the line range, specified as a double array of the form `[start end]` or a scalar double.

Example: `[1 4]`, `1`

`blockSID` — MATLAB Function block SID

string scalar | character vector

MATLAB Function block SID, specified as a string scalar or character vector.

Example: `"30"`

Output Arguments

`lr` — Line range

`slreq.TextRange` object

Line range, returned as an `slreq.TextRange` object.

Tips

- You can also use `slreq.LinkSet.createTextRange` to create line ranges.

Version History

Introduced in R2022b

See Also

`slreq.TextRange` | `slreq.getTextRange` | `slreq.LinkSet.createTextRange`

Topics

“Requirements Traceability for MATLAB Code”

slreq.dngConfigure

Configure IBM DOORS Next session in MATLAB

Syntax

`slreq.dngConfigure`

Description

`slreq.dngConfigure` establishes a connection between your MATLAB session and an IBM DOORS Next server. The function prompts you to enter your IBM DOORS Next server URL, port number information, and login credentials, and to select a project configuration.

Examples

Configure a MATLAB Session to Work With IBM DOORS Next

This example shows how to establish a connection between MATLAB and IBM DOORS Next.

Enter `slreq.dngConfigure` at the MATLAB command prompt. In the DOORS Server dialog box, provide the DOORS Next server address, port number, and service root. In the Server Login Name and Server Login Password dialog boxes, enter your login credentials. In the DOORS Project dialog box, select the project to work with and, if applicable, select the configuration context. **Select configuration stream or changeset** lists the recently used configurations. If your configuration context does not appear, select `<more>` to query the full list from the server.

```
slreq.dngConfigure;
```

```
Verifying server address...
Verifying server login username...
When prompted, enter your DOORS Next password
Select Project/Stream/Changeset that you will be working with
```

Tips

- If the function returns an error and does not open any dialog boxes, at the MATLAB command prompt, enter:

  ```
  connector.securePort
  ```

  If `connector.securePort` returns a value that is not `31515`, close all open instances of MATLAB and open one instance.
- After you select your DOORS project and click **OK**, MATLAB tests the connection to DOORS Next in your browser. If the connection is successful, the MATLAB Connector Test dialog box appears with a confirmation message. If the dialog does not appear, check that MATLAB is running on the corresponding HTTPS port. At the MATLAB command line, enter:

  ```
  connector.securePort
  ```

If the output is not `31515`, close all open instances of MATLAB and open one instance. If the dialog box still does not appear, check for security issues in your browser. If the browser indicates that the connection is unsecured or not private, and you trust the connection, click **Advanced > Proceed to localhost (unsafe)** to complete the connection.

- If you plan to create direct links to requirements in IBM DOORS Next, leave the test connection browser window open, because this instance of the web browser is authenticated to communicate with MATLAB. Use this authenticated instance of the web browser to select requirements in your IBM DOORS Next project and create direct links. You can re-open the test connection browser window by copying and pasting this address in the browser address bar: `https://localhost:31515/matlab/oslc/inboundTest`.
- If your network requires advanced authentication that the default authentication process does not support, you can use `rmipref` with the `'LoginProvider'` name-value argument to register a custom authentication callback function before using `slreq.dngConfigure`.

Note If you configure a session by using a custom authentication callback function, you can only create direct links to requirements in IBM DOORS Next. For more information, see “Directly Linking DOORS Next Requirements”. You cannot import requirements as described in “Import Requirements from IBM DOORS Next”.

Version History

Introduced in R2020a

See Also

`slreq.dngCountLinks` | `slreq.dngGetProjectConfig` | `slreq.dngGetUsedConfig` | `slreq.dngUpdateConfig`

Topics

“Link and Trace Requirements with IBM DOORS Next”
“Import Requirements from IBM DOORS Next”

slreq.dngCountLinks

Get number of links to IBM DOORS Next artifacts

Syntax

```
count = slreq.dngCountLinks(sourceArtifact)
count = slreq.dngCountLinks(sourceArtifact, config)
```

Description

`count = slreq.dngCountLinks(sourceArtifact)` returns the total number of links from `sourceArtifact` to IBM DOORS Next artifacts.

`count = slreq.dngCountLinks(sourceArtifact, config)` returns the total number of links from `sourceArtifact` to the specified IBM DOORS Next configuration `config`.

Input Arguments

`sourceArtifact` — Link source artifact name
character vector | string | `slreq.LinkSet` object

The Simulink link source artifact, specified as a character vector or a string or as an `slreq.LinkSet` object.

`config` — Target project configuration identifier
string | character vector | structure

IBM DOORS Next Project configuration identifier. The configuration identifier can be the name, ID, or the configuration structure. The name and ID can be specified as a character vector or string. The configuration structure can be specified as a MATLAB structure.

Output Arguments

`count` — Link count
double

The total number of links from `sourceArtifact` to the IBM DOORS Next Project, returned as a `double`.

Version History

Introduced in R2018b

See Also

slreq.dngGetProjectConfig

Query known configurations from IBM DOORS Next server

Syntax

```
configs = slreq.dngGetProjectConfig()
configs = slreq.dngGetProjectConfig('project', ProjectName)
configs = slreq.dngGetProjectConfig('type', 'stream')
configs = slreq.dngGetProjectConfig('type', 'changeset')
configs = slreq.dngGetProjectConfig('name', ConfigName)
configs = slreq.dngGetProjectConfig('id', ConfigID)
```

Description

`configs = slreq.dngGetProjectConfig()` returns an array of structures representing all known configurations for the current IBM DOORS Next Project.

`configs = slreq.dngGetProjectConfig('project', ProjectName)` returns a structure representing the configuration for the IBM DOORS Next Project specified by `ProjectName` and switches the MATLAB session to `ProjectName`.

`configs = slreq.dngGetProjectConfig('type', 'stream')` returns a structure representing the known streams for the current IBM DOORS Next Project.

`configs = slreq.dngGetProjectConfig('type', 'changeset')` returns a structure representing the known changesets for the current IBM DOORS Next Project.

`configs = slreq.dngGetProjectConfig('name', ConfigName)` returns a structure representing the configuration for the stream or changeset specified by `ConfigName`.

`configs = slreq.dngGetProjectConfig('id', ConfigID)` returns a structure representing the configuration for the stream or changeset specified by `ConfigID`.

Input Arguments

`ProjectName` — Requirements project

character vector | string

IBM DOORS Next Project.

`ConfigName` — Stream or changeset name

character vector | string

The name of the IBM DOORS Next Project stream or changeset specified as a character vector or as a string.

`ConfigID` — Stream or changeset ID

character vector | string

The ID of the IBM DOORS Next Project stream or changeset specified as a character vector or as a string.

Output Arguments

`configs` — Server configurations

structure | array of structures

IBM DOORS Next Project configuration, returned as a structure or an array of structures containing these fields.

`id` — Configuration ID

character vector

IBM DOORS Next Project configuration ID, returned as a character vector.

`name` — Configuration name

character vector

IBM DOORS Next Project configuration name, returned as a character vector.

`type` — Configuration type

character vector

IBM DOORS Next Project configuration type, returned as a character vector.

`url` — Configuration URL

character vector

IBM DOORS Next Project configuration Uniform Resource Locator (URL), returned as a character vector.

Version History

Introduced in R2018b

See Also

slreq.dngGetUsedConfig

Query used IBM DOORS Next configurations from MATLAB/Simulink artifacts

Syntax

```
configs = slreq.dngGetUsedConfig()
configs = slreq.dngGetUsedConfig(sourceArtifact)
```

Description

`configs = slreq.dngGetUsedConfig()` returns allIBM DOORS Next configurations linked from loaded Simulink artifacts.

`configs = slreq.dngGetUsedConfig(sourceArtifact)` returns all IBM DOORS Next configurations linked from a given Simulink source, `sourceArtifact`.

Input Arguments

`sourceArtifact` — Link source artifact name
`slreq.LinkSet` object | character vector | string

The Simulink link source artifact, specified as a character vector or a string or as an `slreq.LinkSet` object.

Output Arguments

`configs` — Server configurations
array of structures

IBM DOORS Next Project configuration, returned as an array of structures containing these fields.

`id` — Configuration ID
character vector

IBM DOORS Next Project configuration ID, returned as a character vector.

`name` — Configuration name
character vector

IBM DOORS Next Project configuration name, returned as a character vector.

`type` — Configuration type
character vector

IBM DOORS Next Project configuration type, returned as a character vector.

`url` — Configuration URL
character vector

IBM DOORS Next Project configuration Uniform Resource Locator (URL), returned as a character vector.

Version History

Introduced in R2018b

See Also

slreq.dngUpdateConfig

Update links to IBM DOORS Next configuration

Syntax

```
count = slreq.dngUpdateConfig(sourceArtifact, oldConfig, newConfig)
```

Description

`count = slreq.dngUpdateConfig(sourceArtifact, oldConfig, newConfig)` updates the links to `oldConfig` originating from `sourceArtifact` to point to the same requirements in IBM DOORS Next under a different configuration, `newConfig`.

Input Arguments

`sourceArtifact` — Link source artifact name
`slreq.LinkSet` object | character vector | string

The Simulink link source artifact, specified as a character vector or a string or as an `slreq.LinkSet` object.

`oldConfig` — Stored project configuration name or ID
character vector

The original IBM DOORS Next Project configuration name or ID, specified as a character vector.

`newConfig` — New project configuration name or ID
character vector

The new IBM DOORS Next Project configuration name or ID, specified as a character vector.

Output Arguments

`count` — Link count
double

The total number of updated links from `sourceArtifact` to the IBM DOORS Next Project, returned as a `double`.

Version History

Introduced in R2018a

See Also

slreq.editor

Open Requirements Editor

Syntax

```
slreq.editor
```

Description

`slreq.editor` opens the **Requirements Editor** user interface (UI) dialog box.

Tips

- Open the **Requirements Manager** app in a Simulink model with `slreq.openRequirementsManager`. You can use the **Requirements Manager** to edit and link requirements without leaving the Simulink model.

Version History

Introduced in R2018a

See Also

`slreq.ReqSet` | **Requirements Editor** | `slreq.openRequirementsManager`

slreq.exportViewSettings

Export view settings

Syntax

```
slreq.exportViewSettings(viewSettingsFile)
```

Description

`slreq.exportViewSettings(viewSettingsFile)` exports Requirements Toolbox™ view settings to a MAT-file, `viewSettingsFile`.

Input Arguments

`viewSettingsFile` — View settings file

character vector

Requirements Toolbox view settings file name, specified as a character vector.

Version History

Introduced in R2018b

See Also

`slreq.importViewSettings` | `slreq.resetViewSettings`

fetch

Package: `oslc.rm`

Retrieve full resource data from OSLC service provider

Syntax

```
status = fetch(resource,myClient)
```

Description

`status = fetch(resource,myClient)` retrieves the XML/RDF data from the `ResourceUrl` associated with `resource` from the service provider associated with `myClient`. The function stores the XML/RDF data in the Open Services for Lifecycle Collaboration (OSLC) resource object `resource` and returns the retrieval success status. For more information about RDF/XML, see RDF 1.1 XML Syntax on the World Wide Web Consortium website.

Examples

Edit a Requirement and Commit Changes

This example shows how to submit a query request for requirement resources with a configured OSLC client, edit an existing requirement resource, and commit the changes to the service provider.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement resource type.

```
myQueryCapability = getQueryService(myClient,'Requirement');
```

Submit a query request to the service provider for the available requirement resources.

```
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign a requirement resource to the variable `myReq`. Retrieve the full resource data from the service provider for the requirement resource. Examine the `Title` property.

```
myReq = reqs(1);
status = fetch(myReq,myClient)
```

```
status = 
  StatusCode enumeration

    OK
```

```
title = myReq.Title
```

```
title =

    'Requirement 1'
```

Edit the requirement title and commit the change to the service provider.

```
myReq.Title = 'My New Requirement Title';
status = commit(myReq,myClient)
```

```
status =

  StatusCode enumeration

    OK
```

Open the requirement resource in the system browser by using the `show` function.

```
show(myReq)
```

Input Arguments

resource — OSLC resource object

`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object | `oslc.cm.ChangeRequest` object | ...

OSLC resource object, specified as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`
- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

myClient — OSLC client

`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

Output Arguments

status — Retrieval success status

`matlab.net.http.StatusCode`

Retrieval success status, returned as a `matlab.net.http.StatusCode` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `remove` | `show` | `commit`

External Websites

RDF 1.1 XML Syntax

slreq.find

Find requirement, reference, and link set artifacts

Syntax

```
myReqTbxObjects = slreq.find("Type",ObjectType)
myReqTbxObjects = slreq.find("Type",ObjectType,Name,Value)
myReqTbxObjects = slreq.find("Type",ObjectType,PropertyName,PropertyValue)
myReqTbxObjects = slreq.find("Type",ObjectType,PropertyOperator,
PropertyValue)
myReqTbxObjects = slreq.find("Type",ObjectType,___,"-or",___)
```

Description

`myReqTbxObjects = slreq.find("Type",ObjectType)` returns the loaded Requirements Toolbox objects of the type specified by `ObjectType`.

`myReqTbxObjects = slreq.find("Type",ObjectType,Name,Value)` returns the loaded Requirements Toolbox objects with the requirement type or link type specified by `Name` and `Value`.

`myReqTbxObjects = slreq.find("Type",ObjectType,PropertyName,PropertyValue)` returns the loaded Requirements Toolbox objects with the property value equal to `PropertyValue` for the property specified by `PropertyName`. The property can be a built-in property, custom attribute, or stereotype property.

`myReqTbxObjects = slreq.find("Type",ObjectType,PropertyOperator, PropertyValue)` returns the loaded Requirements Toolbox objects whose property value, `PropertyValue`, meets the relational criteria for the property specified by `PropertyOperator`.

`myReqTbxObjects = slreq.find("Type",ObjectType,___,"-or",___)` returns the loaded Requirements Toolbox objects that match at least one of the criteria.

Examples

Find Requirements

This example shows how to find requirements.

Load the requirement set `myAddRequirements`.

```
rs = slreq.load("myAddRequirements");
```

Find the loaded requirements.

```
reqs = slreq.find("Type","Requirement")
```

```
reqs=1×4 object
  1×4 Requirement array with properties:

    Type
    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    IndexEnabled
    IndexNumber
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
    Index
```

Find Functional Requirements

This example shows how to find functional requirements.

Load the requirement set `myAddRequirements`.

```
rs = slreq.load("myAddRequirements");
```

Find the loaded functional requirements.

```
reqs = slreq.find("Type","Requirement","ReqType","Functional")
```

```
reqs=1×4 object
  1×4 Requirement array with properties:

    Type
    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    IndexEnabled
    IndexNumber
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
    Index
```

Find Requirements by Property Value

This example shows how to find requirements by property value.

Load the requirement set `myAddRequirements`.

```
rs = slreq.load("myAddRequirements");
```

Find the loaded requirement with `Index` set to `2`.

```
req = slreq.find("Type","Requirement","Index",2);
```

Find Requirements by Property Value by Using Relational Operators

This example shows how to use relational operators to find requirements by property value.

Load the requirement set `myAddRequirements`.

```
rs = slreq.load("myAddRequirements");
```

Find the loaded requirements with `Index` greater than `2`.

```
reqs = slreq.find("Type","Requirement","Index:>",2)
```

```
reqs=1×2 object
  1×2 Requirement array with properties:

    Type
    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    IndexEnabled
    IndexNumber
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
    Index
```

Find Requirements by Property Value with Multiple Criteria

This example shows how to use multiple criteria find requirements by property value.

Load the requirement set `myAddRequirements`.

```
rs = slreq.load("myAddRequirements");
```

Find the loaded requirement with `Index` set to 2 or 4.

```
req = slreq.find("Type","Requirement","Index",2,"-or","Index",4)
```

```
req=1×2 object
  1×2 Requirement array with properties:

    Type
    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    IndexEnabled
    IndexNumber
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
    Index
```

Input Arguments

`ObjectType` — Requirements Toolbox object type

`"ReqSet"` | `"Requirement"` | `"Reference"` | ...

Requirements Toolbox object type, specified as:

- `"ReqSet"`
- `"Requirement"`
- `"Reference"`
- `"Justification"`
- `"LinkSet"`
- `"Link"`

`PropertyName` — Requirements Toolbox object property name

string scalar | character vector

Requirements Toolbox object property name, specified as a string scalar or character vector. The string must be the name of a custom attribute, stereotype property, or built-in property of one of these classes:

- `slreq.ReqSet`
- `slreq.Requirement`
- `slreq.Reference`
- `slreq.Justification`

- `slreq.LinkSet`
- `slreq.Link`

`PropertyValue` — Requirements Toolbox object property value
string scalar | character array | `boolean` | ...

Requirements Toolbox object property value, specified as one of these data types:

- String scalar
- Character array
- `boolean`
- `datetime`
- `single`
- `double`
- `int8`
- `int16`
- `int32`
- `int64`
- `uint8`
- `uint16`
- `uint32`
- `uint64`
- `enumeration`

The data type depends on the type of the built-in property, custom attribute, or stereotype property.

To search for a regular expression, use the syntax `slreq.find("Type",ObjectType,PropertyOperator,PropertyValue)` and include `regexp` in the `PropertyOperator` input. Specify `PropertyValue` as a string scalar or a character vector that includes a regular expression. For more information, see “Regular Expressions”.

`PropertyOperator` — Requirements Toolbox object property name and operator or regular expression
string scalar | character vector

Requirements Toolbox object property name and relational operator or regular expression, specified as a string scalar or a character vector. This argument combines the property name and a relational operator, separated by a colon, in a single string or character vector. For example, to specify a property called `Index` and the operator `>`, the string is `"Index:>"`.

The property name must be the name of a custom attribute, stereotype property, or a built-in property of one of these classes:

- `slreq.ReqSet`
- `slreq.Requirement`
- `slreq.Reference`
- `slreq.Justification`

- `slreq.LinkSet`
- `slreq.Link`

The operator must be one of these options:

- `regexp`
- `==`
- `~=`
- `>`
- `>=`
- `<`
- `<=`

For more information about relational operators, see “MATLAB Operators and Special Characters”.

Use the `regexp` operator to search for a regular expression. For more information, see “Regular Expressions”.

Name-Value Pair Arguments

Specify optional pairs of arguments as `Name1=Value1,...,NameN=ValueN`, where `Name` is the argument name and `Value` is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Before R2021a, use commas to separate each name and value, and enclose `Name` *in quotes.*

Example: `"ReqType","Functional"`

ReqType — Requirement type
`"Functional"` | `"Container"` | `"Informational"`

Requirement type, specified as `"Functional"`, `"Container"`, or `"Informational"`.

Example: `"ReqType","Functional"`

Data Types: `char` | `string`

LinkType — Link type
`"Relate"` | `"Implement"` | `"Verify"` | ...

Link type, specified as one of these types:

- `"Relate"`
- `"Implement"`
- `"Verify"`
- `"Derive"`
- `"Refine"`
- `"Confirm"`

Example: `"LinkType","Relate"`

Data Types: `char` | `string`

Output Arguments

`myReqTbxObjects` — Requirements Toolbox objects
`slreq.ReqSet` | `slreq.Requirement` | `slreq.Reference` | ...

Requirements Toolbox objects, returned as an array of one of these objects:

- `slreq.ReqSet`
- `slreq.Requirement`
- `slreq.Reference`
- `slreq.Justification`
- `slreq.LinkSet`
- `slreq.Link`

Version History

Introduced in R2018a

See Also

Classes
`slreq.ReqSet` | `slreq.Requirement` | `slreq.Reference` | `slreq.Justification` | `slreq.LinkSet` | `slreq.Link`

Functions
`slreq.Justification.find` | `slreq.ReqSet.find` | `slreq.LinkSet.find` | `slreq.Requirement.find` | `slreq.Reference.find`

slreq.modeling.find

Find Requirements Table blocks

Syntax

```
reqTables = slreq.modeling.find(model)
reqTables = slreq.modeling.find(handle)
```

Description

`reqTables = slreq.modeling.find(model)` returns the Requirements Table blocks in the model or subsystem specified by `model`.

`reqTables = slreq.modeling.find(handle)` returns the Requirements Table blocks in the model or subsystem specified by the model or subsystem handle `handle`.

Examples

Find Requirements Table Blocks in a Model

Find the Requirements Table blocks in a model named `myModel`.

```
reqTables = slreq.modeling.find("myModel");
```

The function returns `reqTables` as an array of `RequirementsTable` objects.

Find Requirements Table Blocks by Using a Model Handle

Get the handle of the current model.

```
modelH = get_param(gcs,"Handle");
```

Find the Requirements Table blocks in the model named `myModel`.

```
reqTables = slreq.modeling.find(modelH);
```

The function returns `reqTables` as an array of `RequirementsTable` objects.

Input Arguments

`model` — Model or subsystem name
string scalar | character vector

Model or subsystem name, specified as a string scalar or character vector.

Data Types: `char` | `string`

`handle` — Model or subsystem handle
double

Model or subsystem handle, specified as a double. To retrieve the handle, you can use the `get_param` function:

```
modelH = get_param(gcs,"Handle");
```

Data Types: `double`

Output Arguments

`reqTables` — Requirements Table blocks
array of `RequirementsTable` objects

Requirements Table blocks, returned as an array of `RequirementsTable` objects.

Version History

Introduced in R2022a

See Also

Functions
`slreq.modeling.create` | `get_param`

Objects
`RequirementsTable`

Topics
"Use a Requirements Table Block to Create Formal Requirements"

findSymbol

Package: slreq.modeling

Retrieve data in Requirements Table block

Syntax

```
data = findSymbol(reqTable)
data = findSymbol(reqTable,Name=Value)
```

Description

data = findSymbol(reqTable) returns the data defined in the Requirements Table block, reqTable.

data = findSymbol(reqTable,Name=Value) returns the data and refines the results by using one or more name-value arguments.

Examples

Find the Data in a Requirements Table Block

Retrieve the RequirementsTable object from a model named myModel.

```
table = slreq.modeling.find("myModel");
```

Retrieve the data in the block as a Symbol object array.

```
data = findSymbol(table);
```

Find Data with Specified Scope and Type Properties

In an model named myModel, retrieve the RequirementsTable object.

```
table = slreq.modeling.find("myModel");
```

Retrieve only data of data type Single that has a scope of Output.

```
data = findSymbol(table,Scope="Output",Type="Single");
```

Input Arguments

reqTable — Requirements Table block
RequirementsTable object

Requirements Table block, specified as a RequirementsTable object.

Name-Value Pair Arguments

Specify optional pairs of arguments as `Name1=Value1,...,NameN=ValueN`, where `Name` is the argument name and `Value` is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Example: `findSymbol(table,Complexity="Off")` finds data where the `Complexity` property is set to `Off`.

`Complexity` — Whether data accepts complex values

`"Off"` (default) | `"On"` | `"Inherited"`

Whether the data accepts complex values, specified as one of these values:

Complexity	Description
`"Inherited"`	The data inherits complexity based on the `Scope` property. Input and output data inherit complexity from the Simulink signals connected to the associated input and output ports. Local and parameter data inherit complexity from the parameter to which the data is bound.
`"Off"`	The data is a real number.
`"On"`	The data is a complex number.

Data Types: `enumerated`

`isDesignOutput` — Whether data is design model output

`false` or `0` (default) | `true` or `1`

Whether the data is a design model output, specified as a numeric or logical `1` (`true`) or `0` (`false`). This property applies only when the `Scope` property is `Input`. For more information, see “Treat as design model output for analysis”.

Data Types: `logical`

`Name` — Name of data

`"data"` (default) | string scalar | character vector

Name of the data, specified as a string scalar or character vector.

Data Types: `char` | `string`

`Scope` — Scope of data

`"Input"` (default) | `"Output"` | `"Local"` | `"Constant"` | `"Parameter"`

Scope of the data that specifies where the data resides in memory relative to the block, specified as one of these values:

Scope	Description
`"Input"`	The data is an input signal to a Requirements Table block.
`"Output"`	The data is an output signal of a Requirements Table block.

Scope	Description
"Local"	The data is defined in the current block only.
"Constant"	The data is a read-only constant value that is visible to the block.
"Parameter"	The data resides in a variable of the same name in the MATLAB workspace, the model workspace, or in the workspace of a masked subsystem that contains this block.

Data Types: enumerated

Size — Size of data
"-1" (default) | string scalar | character vector

Size of the data, specified as a string scalar or character vector. This property must resolve to a scalar value or a MATLAB vector of values. The default value is "–1", which means that the size is inherited. For more information, see “Inherit Size from Simulink” (Simulink).

Data Types: char | string

Type — Data type
"Inherit: Same as Simulink" (default) | "double" | "single" | "int8" | ...

Data type, specified as:

- "Inherit: Same as Simulink"
- "double"
- "single"
- "half"
- "int64"
- "int32"
- "int16"
- "int8"
- "uint64"
- "uint32"
- "uint16"
- "uint8"
- "boolean"
- "string"
- "fixdt(1,16,0)"
- "fixdt(1,16,2^0,0)"
- "Enum: <class name>"
- "Bus: <object name>"

To modify the data type properties, use the **Symbols** pane and Property Inspector. For more information, see “Set Data Types in Requirements Table Blocks”.

Data Types: enumerated

Output Arguments

`data` — Requirements Table block data
`Symbol` object array

Requirements Table block data, returned as a `Symbol` object array. The `Symbol` objects are organized by their time of creation via the array index. You cannot reorganize the data order. For more information on data creation, see “Define Data in Requirements Table Blocks”.

Version History

Introduced in R2022a

See Also

Objects
`Symbol` | `RequirementsTable`

Functions
`addSymbol`

Topics
“Use a Requirements Table Block to Create Formal Requirements”
“Define Data in Requirements Table Blocks”

slreq.generateReport

Generate report for requirement set

Syntax

`myReportPath = slreq.generateReport(reqSetList, reportOpts)`

Description

`myReportPath = slreq.generateReport(reqSetList, reportOpts)` generates a report for the requirement sets specified by `reqSetList` using the options specified by `reportOpts` and returns the path `myReportPath` to the report.

Examples

Generate Requirement Report

```
% Generate a requirement report in Microsoft(R) Word
% format for all loaded requirement sets

% Get default report generation options structure
myReportOpts = slreq.getReportOptions();

% Specify the generated report path and file name
myReportOpts.reportPath = 'L:\My_Project\Reqs_Report.docx';

% Generate the report for all loaded requirement sets
myReport = slreq.generateReport('all', myReportOpts);
```

Note To generate reports in PDF and HTML formats, specify a `.pdf` or a `.html` file name as the `reportPath` value.

Input Arguments

`reqSetList` — Requirement set

character vector (default) | `slreq.ReqSet` object | array

Requirement sets for report generation. You can specify a single requirement set or an array of requirement sets. To generate a report for all the loaded requirement sets, specify `'all'` as the `reqSetList` value. If you do not specify a value for `reqSetList`, `'all'` is used as default.

`reportOpts` — Report generation options

structure

Report generation options specified as a MATLAB structure. If `reportOpts` is not specified, the report is generated using the default options specified in `slreq.getReportOptions`.

Options

Fields	Data Type	Description
reportPath	character vector	Generated report path.
titleText	character vector	Report title.
authors	character vector	Report authors.
includes.toc	Boolean	Option to include table of contents in your report.
includes.links	Boolean	Option to include requirements links in your report.
includes.rationale	Boolean	Option to include requirements rationale in your report.
includes.customAttributes	Boolean	Option to include requirement set custom attributes in your report
includes.comments	Boolean	Option to include requirement comments in your report.
includes.implementationStatus	Boolean	Option to include requirement implementation status data in your report.
includes.verificationStatus	Boolean	Option to include requirement verification status data in your report.
includes.keywords	Boolean	Option to include requirement implementation status data in your report.
includes.emptySections	Boolean	Option to include empty sections in your report.
includes.revision	Boolean	Option to include requirement revision information in your report.

Output Arguments

myReportPath — Generated report path
character vector

The file path for the generated report, specified as a character vector.

Version History

Introduced in R2018a

See Also

slreq.getReportOptions

Topics

“Report Requirements Information”

slreq.generateTraceabilityDiagram

Create a traceability diagram

Syntax

```
slreq.generateTraceabilityDiagram(startingItem)
```

Description

`slreq.generateTraceabilityDiagram(startingItem)` creates a traceability diagram that originates from `startingItem`. If a traceability diagram is already open for the specified item, the diagram comes to the foreground.

Note If you create a diagram from a link, the link `source` is the starting node. Similarly, if you create a diagram from a link set, the artifact specified by the `Artifact` is the starting node.

Examples

Create a Traceability Diagram from a Requirement

This example shows how to create a traceability diagram from a requirement object.

Open the `CruiseRequirementsExample` project. Load the `crs_req_func_spec` requirement set.

```
slreqCCProjectStart;
slreq.load("crs_req_func_spec");
```

Find the `Enable Switch Detection` requirement.

```
req = slreq.find(Type="Requirement",Summary="Enable Switch Detection");
```

Create a traceability diagram for the `Enable Switch Detection` requirement.

```
slreq.generateTraceabilityDiagram(req)
```

Create a Traceability Diagram from a Link

This example shows how to create a traceability diagram from a link object.

Open the `CruiseRequirementsExample` project. Load the `crs_req` requirement set, which also loads the `crs_req` link set.

```
slreqCCProjectStart;
slreq.load("crs_req");
```

Find the `crs_req` link set. Then find the link with description `#9: Enable Switch Detection`.

```
myLinkSet = slreq.find(Type="LinkSet",Name="crs_req");
myLink = find(myLinkSet,Type="Link",Description="#9: Enable Switch Detection");
```

Create a traceability diagram from the link.

```
slreq.generateTraceabilityDiagram(myLink)
```

Create a Traceability Diagram from a Requirement Set

This example shows how to create a traceability diagram from a requirement set.

Open the `CruiseRequirementsExample` project. Load the `crs_req_func_spec` requirement set.

```
slreqCCProjectStart;
rs = slreq.load("crs_req_func_spec");
```

Create a traceability diagram for the `crs_req_func_spec` requirement set by using the relative file path.

```
relpath = fullfile("documents","crs_req_func_spec.slreqx")
```

```
relpath = 
"documents\crs_req_func_spec.slreqx"
```

```
slreq.generateTraceabilityDiagram(relpath)
```

Create a Traceability Diagram from a Link Set

This example shows how to create a traceability diagram from a link set.

Open the `CruiseRequirementsExample` project. Load the `crs_req` link set.

```
slreqCCProjectStart;
```

```
ls = slreq.load("crs_req.slmx");
```

Create a traceability diagram for the `crs_req` link set by using the relative file path.

```
relpath = fullfile("documents","crs_req.slmx")
```

```
relpath = 
"documents\crs_req.slmx"
```

```
slreq.generateTraceabilityDiagram(relpath)
```

Input Arguments

`startingItem` — Starting item for diagram
`slreq.Requirement` object | `slreq.Reference` object | `slreq.Justification` object | `slreq.Link` object | `slreq.ReqSet` object | `slreq.LinkSet` object | string scalar | character vector

Starting item to create the traceability diagram from, specified as a:

- `slreq.Requirement` object
- `slreq.Reference` object
- `slreq.Justification` object
- `slreq.Link` object
- `slreq.ReqSet` object
- `slreq.LinkSet` object
- String scalar or character vector that contains the short name, relative file path, or full file path for a requirement set or link set

Version History

Introduced in R2021b

See Also

Topics

"Visualize Links with a Traceability Diagram"
"Assess Allocation and Impact"

slreq.generateTraceabilityMatrix

Create traceability matrix

Syntax

```
slreq.generateTraceabilityMatrix
slreq.generateTraceabilityMatrix(opts)
```

Description

`slreq.generateTraceabilityMatrix` opens the Traceability Matrix window.

`slreq.generateTraceabilityMatrix(opts)` creates a traceability matrix with the artifacts specified by `opts`.

Examples

Open the Traceability Matrix Window

Open the Traceability Matrix window.

```
slreq.generateTraceabilityMatrix
```

Close the Traceability Matrix window.

```
slreq.clear;
```

Programmatically Generate a Traceability Matrix

This example shows how to create an options structure for a traceability matrix, then generate a matrix using those options.

Open the Requirements Definition for a Cruise Control Model project.

```
slreqCCProjectStart;
```

Create an options structure for a traceability matrix.

```
opts = slreq.getTraceabilityMatrixOptions;
```

Set the `leftArtifacts` and `topArtifacts` fields of `opts`. Enter a cell array containing the name of the artifacts that you want to use in your traceability matrix.

```
opts.leftArtifacts = {'crs_req.slreqx','crs_req_func_spec.slreqx'};
opts.topArtifacts = {'crs_plant.slx', 'crs_controller.slx','DriverSwRequest_Tests.mldatx'};
```

Generate the traceability matrix with the artifacts specified by `opts`.

```
slreq.generateTraceabilityMatrix(opts)
```

Cleanup

Clear the open requirement sets and link sets, and close the Traceability Matrix window.

```
slreq.clear;
```

Input Arguments

`opts` — Traceability matrix options

`struct`

Traceability matrix options, specified as a `struct` with these fields:

- `leftArtifacts`
- `topArtifacts`

Version History

Introduced in R2021a

See Also

`slreq.getTraceabilityMatrixOptions`

Topics

"Track Requirement Links with a Traceability Matrix"

getAssumptionRows

Package: `slreq.modeling`

Retrieve assumptions in Requirements Table block

Syntax

`assumptionRows = getAssumptionRows(reqTable)`

Description

`assumptionRows = getAssumptionRows(reqTable)` returns the assumptions of the Requirements Table block specified by `reqTable`.

Examples

Retrieve Assumptions from a Requirements Table Block

Retrieve the `RequirementsTable` object from a model named `myModel`.

```
table = slreq.modeling.find("myModel");
```

Retrieve the assumptions as an array of `AssumptionRow` objects.

```
row = getAssumptionRows(table);
```

Input Arguments

`reqTable` — Requirements Table block
`RequirementsTable` object

Requirements Table block, specified as a `RequirementsTable` object.

Output Arguments

`assumptionRows` — Assumptions
array of `AssumptionRow` objects

Assumptions in the Requirements Table block, returned as an array of `AssumptionRow` objects.

Version History

Introduced in R2022a

See Also

Blocks
Requirements Table

Functions
`addAssumptionRow`

Objects
`RequirementsTable` | `AssumptionRow`

getChildren

Package: `slreq.modeling`

Retrieve child requirements and assumptions in Requirements Table block

Syntax

```
children = getChildren(row)
```

Description

`children = getChildren(row)` returns the child requirements or assumptions of the row specified by `row`.

Examples

Retrieve Child Requirements from a Requirements Table Block

Retrieve the `RequirementsTable` object from a model named `myModel`.

```
table = slreq.modeling.find("myModel");
```

Retrieve the top-level requirements as an array of `RequirementRow` objects.

```
row = getRequirementRows(table);
```

Retrieve the child requirements of the first requirement as an array of `RequirementRow` objects.

```
children = getChildren(row(1));
```

You can find children of the child rows by calling `getChildren` on child rows.

Input Arguments

`row` — Requirement or assumption
`RequirementRow` object | `AssumptionRow` object

Requirement or assumption in a Requirements Table block, specified as a `RequirementRow` or `AssumptionRow` object. To retrieve the row, use `getRequirementRows` or `getAssumptionRows`.

Output Arguments

`children` — Child requirements or assumptions
array of `RequirementRow` objects | array of `AssumptionRow` objects

Child requirements or assumptions, specified as an array of `RequirementRow` or `AssumptionRow` objects. For more information on requirement hierarchies in Requirements Table blocks, see “Establish Hierarchy in Requirements Table Blocks”.

Version History

Introduced in R2022a

See Also

Blocks
Requirements Table

Functions
`addRequirementRow` | `addAssumptionRow`

Objects
`RequirementsTable` | `AssumptionRow` | `RequirementRow`

Topics
"Establish Hierarchy in Requirements Table Blocks"

getConfigurationContextNames

Package: oslc

Get configuration context names from OSLC service provider

Syntax

```
configs = getConfigurationContextNames(myClient)
```

Description

`configs = getConfigurationContextNames(myClient)` returns the configuration context names for the service provider specified for the OSLC client `myClient`.

Examples

Create and Configure an OSLC Client for the Requirements Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Then set the service root and catalog path for the requirements management domain and the configuration query path.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'/oslc_rm/catalog');
setConfigurationQueryPath(myClient,'gc/oslc-query/configurations');
myClient
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
```

```
providers =

  4×1 cell array

    {'OSLC Plugin'                                 }
    {'Model Based Design with OSLC'                }
    {'OSLC4RM'                                     }
    {'Interactive Testing (Requirements Management)'}
```

```
setServiceProvider(myClient,'OSLC Plugin');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations =

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient =

  Client with properties:

         ServiceProvider: 'OSLC Plugin'
    ConfigurationContext: 'Initial Development'
              CatalogUrl: 'https://localhost:9443/rm/oslc_rm/catalog'
```

Input Arguments

myClient — OSLC client

oslc.Client object

OSLC client, specified as an oslc.Client object.

Output Arguments

configs — Configuration context names

cell array

Configuration context names for the configured service provider, returned as a cell array.

Version History

Introduced in R2021a

See Also

oslc.Client | setConfigurationContext | login | setServiceProvider | getServiceProviderNames | setConfigurationQueryPath

getCreationFactory

Package: `oslc`

Get OSLC creation service object

Syntax

```
myCreationFactory = getCreationFactory(myClient)
myCreationFactory = getCreationFactory(myClient,resourceType)
```

Description

`myCreationFactory = getCreationFactory(myClient)` returns all available creation factories for the OSLC client `myClient`.

`myCreationFactory = getCreationFactory(myClient,resourceType)` returns a creation factory for the resource type specified by `resourceType` for the OSLC client `myClient`.

Examples

Create All Available Creation Factories for an OSLC Client

This example shows how to create all available creation factories for a previously configured OSLC client.

After you have created and configured an OSLC client as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create all available creation factories for the client `myClient`.

```
myCreationFactory = getCreationFactory(myClient)
```

```
myCreationFactory = 

  1×8 CreationFactory array with properties:

    client
    creation
    resourceShape
    title
    resourceType
```

Examine the creation factory `resourceType` to determine which creation factory you want to use.

```
myCreationFactory(8).resourceType
```

```
ans =

  1×1 cell array
```

```
    {'http://open-services.net/ns/rm#Requirement'}
```

Submit a Creation Request by using a Creation Factory

This example shows how to submit a creation request by using a creation factory with a previously configured OSLC client.

After you have created and configured an OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a creation factory for the requirement resource type.

```
myCreationFactory = getCreationFactory(myClient,'Requirement')
```

```
myCreationFactory = 

  CreationFactory with properties:

           client: [1×1 oslc.Client]
         creation: 'https://localhost:9443/rm/requirementFactory?projectURL=https%3A...'
    resourceShape: {1×22 cell}
            title: 'Requirement Creation Factory'
     resourceType: {'http://open-services.net/ns/rm#Requirement'}
```

Create a new requirement resource by using a creation factory and name the resource `My New Requirement`. Fetch the full resource properties for the requirement resource. Then commit the changes to the service provider.

```
newReq = createRequirement(myCreationFactory,'My New Requirement');
status = fetch(newReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

```
status = commit(newReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

View the resource that you created in the service provider.

```
show(newReq)
```

Input Arguments

`myClient` — OSLC client
`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

resourceType — OSLC resource type
'Requirement' | 'RequirementCollection' | 'TestCase' | 'TestExecutionRecord' | 'TestPlan' | 'TestResult' | 'TestScript' | 'ChangeRequest'

OSLC resource type, specified as character array with one of these values:

- 'ChangeRequest'
- 'TestCase'
- 'TestExecutionRecord'
- 'TestPlan'
- 'TestResult'
- 'TestScript'
- 'Requirement'
- 'RequirementCollection'

The specified resource type must match the domain for the configured oslc.Client object.

Output Arguments

myCreationFactory — Resource creation factory
oslc.core.CreationFactory object

OSLC resource creation factory, specified as an oslc.core.CreationFactory object.

Version History

Introduced in R2021a

See Also

oslc.Client | oslc.core.CreationFactory | oslc.rm.Requirement | oslc.cm.ChangeRequest | oslc.qm.TestCase

getCustomLoginProvider

Package: oslc

Get registered custom authentication callback function name for OSLC client

Syntax

```
authenticationFunction = getCustomLoginProvider(myClient)
```

Description

authenticationFunction = getCustomLoginProvider(myClient) returns the custom authentication callback function name registered to the OSLC client myClient.

Examples

Get Registered Custom Authentication Callback Function

This example shows how to get the name of the custom authentication callback function that is registered to an OSLC client object.

After you have created and registered a custom authentication callback function to an OSLC client object as described in “Authenticate a Client that Requires an Advanced Authentication” on page 1-292, get the registered authentication callback function name for the OSLC client object myClient.

```
authenticationFunction = getCustomLoginProvider(myClient)
```

```
authenticationFunction =

    'myCustomLoginProvider'
```

Input Arguments

myClient — OSLC client
oslc.Client object

OSLC client, specified as an oslc.Client object.

Output Arguments

authenticationFunction — Custom authentication callback function name
character vector

Custom authentication callback function name, returned as a character vector.

Version History

Introduced in R2021b

See Also

`oslc.Client` | `setCustomLoginProvider`

slreq.getCurrentImportOptions

Get import options in PreImportFcn callback

Syntax

```
importOptions = slreq.getCurrentImportOptions
```

Description

importOptions = slreq.getCurrentImportOptions returns the import options for the current import. You can only call this function in the PreImportFcn callback.

Examples

Use PreImportFcn Callback During Import

This example shows how to assign a script as the PreImportFcn callback for an Import node. You get the contents of the PreImportFcn callback for an Import node and register a different script as the PreImportFcn callback after you import the requirements.

Import the Requirements

Use slreq.import to import the ReqIF™ file mySpec.reqif into Requirements Toolbox™. Name the imported requirement set myReqSet and register the script myPreImportScript as the PreImportFcn callback to use during import. Return a handle to the requirement set.

```
[~,~,rs] = slreq.import("mySpec.reqif",ReqSet="myReqSet",preImportFcn="myPreImportScript");
```

The script myPreImportScript uses slreq.getCurrentImportOptions to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile.xml";
```

The mapping file myMappingFile.xml uses a generic mapping.

Get the custom ID for the requirement with Index set to 1.

```
req1 = find(rs,Index="1");
cID = req1.CustomId
```

```
cID =

  0x0 empty char array
```

The generic mapping does not map the ReqIF attribute ID to the Requirement Toolbox attribute Custom ID. Instead, ID imports as a custom attribute. Get the value for the ID custom attribute for Requirement 1.

```
cID = getAttribute(req1,"ID")
```

```
cID =
'A1'
```

Get and Set the PreImportFcn Callback Script

Get a handle to the Import node, then register the script `myPreImportScrip2` as the `PreImportFcn` callback. Confirm that the registered callback was changed.

```
topRef = children(rs);
setPreImportFcn(topRef,"myPreImportScript2")
newCallback = getPreImportFcn(topRef)
```

```
newCallback =
'myPreImportScript2'
```

The script `myPreImportScript2` uses `slreq.getCurrentImportOptions` to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript2.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile2.xml";
```

The mapping file `myMappingFile2.xml` maps these attributes from the ReqIF™ file to these properties in Requirements Toolbox™:

- `ReqSum` to `Summary`
- `Desc` to `Description`
- `ID` to `Custom ID`

Update the requirement set. The `PreImportFcn` callback script also executes when you update the requirement set.

```
updateReferences(rs,topRef);
```

Get the custom ID for the requirement with `Index` set to `1`.

```
req1 = find(rs,Index="1");
cID = req1.CustomId
```

```
cID =
'A1'
```

Output Arguments

`importOptions` — Import options

`slreq.callback.CustomImportOptions` object | `slreq.callback.DOORSImportOptions` object | ...

Import options, returned as one of these objects:

- `slreq.callback.CustomImportOptions`
- `slreq.callback.DOORSImportOptions`

- `slreq.callback.MSExcelImportOptions`
- `slreq.callback.MSWordImportOptions`
- `slreq.callback.ReqIFImportOptions`

Version History

Introduced in R2022a

See Also

`slreq.Reference` | `getPreImportFcn` | `setPreImportFcn`

Topics

"Use Callbacks to Customize Requirement Import Behavior"

slreq.getCurrentObject

Get selected objects in Requirements Editor, Requirements Browser, or Requirements Table block

Syntax

```
myReqObj = slreq.getCurrentObject
```

Description

`myReqObj = slreq.getCurrentObject` returns the currently selected item or items in the **Requirements Editor** or Requirements Browser, or the currently selected requirement in a Requirements Table block.

Note If you select an item and then select an item or group of items in a different window or block, the function returns the most recently selected item or group of items.

Examples

Get API Object for Selection in Requirements Editor

This example shows how to get the object for the most recently selected item or items in the **Requirements Editor** or the Requirements Perspective.

Open the `CruiseRequirementsExample` project. Load the `crs_req_func_spec` requirement set and open it in the **Requirements Editor**.

```
slreqCCProjectStart;
slreq.open('crs_req_func_spec');
```

In the **Requirements Editor**, select requirement `#1: Driver Switch Request Handling`. Get the object for the selected requirement, then inspect the incoming links.

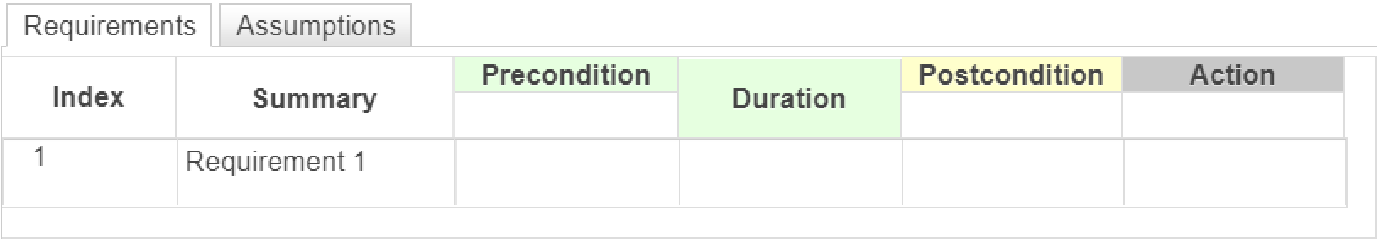
```
myReqObj = slreq.getCurrentObject;
lk = slreq.inLinks(myReqObj)
```

```
lk = 
  Link with properties:

           Type: 'Implement'
    Description: '#1: Driver Switch Request Handling'
       Keywords: {}
      Rationale: ''
      CreatedOn: 20-May-2017 11:19:44
      CreatedBy: 'itoy'
     ModifiedOn: 17-Aug-2017 14:41:16
     ModifiedBy: 'itoy'
       Revision: 1
            SID: 1
       Comments: [0×0 struct]
```

Get `slreq.Requirement` Object for Selected Requirement in Requirements Table Block

Create a new model and add a Requirements Table block to the model.

Open the block to view the empty requirement.



Index	Summary	Precondition	Duration	Postcondition	Action
1	Requirement 1				

Click the index number to select the requirement.

Get the `slreq.Requirement` object for the selected requirement.

```
myReqObj = slreq.getCurrentObject;
```

Output Arguments

`myReqObj` — Requirements Toolbox object
`slreq.ReqSet` object | `slreq.Requirement` object | `slreq.Reference` object | `slreq.Justification` object | `slreq.LinkSet` object | `slreq.Link` object

Requirements Toolbox object, returned as a:

- `slreq.ReqSet` object
- `slreq.Requirement` object
- `slreq.Reference` object
- `slreq.Justification` object
- `slreq.LinkSet` object
- `slreq.Link` object

Tips

- If you execute this function during Requirements Toolbox callbacks, the function returns the target of the callback:

  - `PreImportFcn` — Returns empty when you are importing requirements. Returns a handle to the Import node when you are updating requirements.
  - `PostImportFcn` — Returns a handle to the Import node. If you are importing multiple specifications from a ReqIF™ file, the function returns an array of Import nodes. For more information, see “Import Requirements from ReqIF Files”.
  - `PostLoadFcn` — Returns a handle to the requirement set.
  - `PreSaveFcn` — Returns a handle to the requirement set.

For more information, see “Use Callbacks to Customize Requirement Import Behavior” and “Execute Code When Loading and Saving Requirement Sets”.

Version History

Introduced in R2021a

See Also

`slreq.getExternalURL` | `slreq.editor`

getDialog

Package: oslc

Get user interface dialogs from OSLC service provider

Syntax

```
myDialog = getDialog(myClient)
```

Description

`myDialog = getDialog(myClient)` returns the available user interface dialogs for the OSLC client `myClient`.

Examples

Get and View OSLC User Interface Dialogs

This example shows how to get and view an OSLC user interface dialog for a configured OSLC client.

After you have created and configured an OSLC client as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, get the available user interface dialogs in the requirements management domain of the client `myClient`.

```
dialogs = getDialog(myClient)
```

```
dialogs = 

  1×4 Dialog array with properties:

    dialog
    hintWidth
    hintHeight
    title
    resourceType
```

Examine the properties of one of the dialogs. From the `title`, determine the resource type and if the dialog is for creating or selecting resources.

```
myDialog = dialogs(1);
title = myDialog.title
```

```
title = 

    'Requirement Creation'
```

Open the dialog in a browser.

```
view(myDialog)
```

Input Arguments

`myClient` — OSLC client

`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

Output Arguments

`myDialog` — OSLC user interface dialog

`oslc.core.Dialog` object

OSLC user interface dialog, returned as an `oslc.core.Dialog` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.Dialog` | `view`

slreq.getExternalURL

Get navigation URL for link source or destination, requirement, test or Simulink model element

Syntax

```
navURL = slreq.getExternalURL(myDesignItem)
[navURL,navLabel] = slreq.getExternalURL(myDesignItem)
```

Description

`navURL = slreq.getExternalURL(myDesignItem)` returns a navigation URL to a link source or destination, requirement, test or Simulink model element specified by `myDesignItem`.

Note The MATLAB embedded web server must run on HTTP port 31415 to create the navigation URLs. If your MATLAB session is not configured for this HTTP port number, an error occurs when you try to create a link. Use `connector.port` to check the configured port number. If `connector.port` returns `0`, use `rmipref('UnsecureHttpRequests',true)` to enable the embedded HTTP server. If `connector.port` returns a number that is not `31415`, close all instances of MATLAB and reopen one instance.

`[navURL,navLabel] = slreq.getExternalURL(myDesignItem)` also returns an external navigation label, `navLabel`.

Examples

Get a Navigation URL for a Link Source or Destination

Open the `CruiseRequirementsExample` project. Load the `crs_req` requirement set.

```
slreqCCProjectStart;
slreq.load("crs_req");
```

Find the `crs_req` link set. Find the link with description `#9: Enable Switch Detection`.

```
myLinkSet = slreq.find(Type="LinkSet",Name="crs_req");
myLink = find(myLinkSet,Description="#9: Enable Switch Detection");
```

Get a navigation URL to the link source.

```
navURL1 = slreq.getExternalURL(myLink.source)
```

```
navURL1 = 
'http://127.0.0.1:31415/matlab/feval/rmi.navigate?arguments=[%22linktype_rmi_slreq%22,%22crs_req
```

Get a navigation URL to the link destination.

```
navURL2 = slreq.getExternalURL(myLink.destination)
```

```
navURL2 =
'http://127.0.0.1:31415/matlab/feval/rmi.navigate?arguments=[%22linktype_rmi_slreq%22,%22crs_req_
```

Get a Navigation URL for a Requirement Object

Open the `CruiseRequirementsExample` project. Load the `crs_req_func_spec` requirement set and open it in the **Requirements Editor**.

```
slreqCCProjectStart;
rs = slreq.load("crs_req");
rs2 = slreq.open("crs_req_func_spec");
```

In the **Requirements Editor**, in the `crs_req_func_spec` requirement set, select the requirement with ID #1. Get an API object for the requirement by using `slreq.getCurrentObject`. Then get an external navigation URL for the requirement and a label for the URL.

```
req = slreq.getCurrentObject;
[navURL1,navLabel1] = slreq.getExternalURL(req)
```

```
navURL1 =
'http://127.0.0.1:31415/matlab/feval/rmi.navigate?arguments=[%22linktype_rmi_slreq%22,%22crs_req_

navLabel1 =
'Driver Switch Request Handling'
```

Find a justification in the requirement set with ID #72. Get an external URL navigation URL for the justification and a label for the URL.

```
jt = find(rs2,Type="Justification",ID="#72");
[navURL2,navLabel2] = slreq.getExternalURL(jt)
```

```
navURL2 =
'http://127.0.0.1:31415/matlab/feval/rmi.navigate?arguments=[%22linktype_rmi_slreq%22,%22crs_req_

navLabel2 =
'Non-functional requirement'
```

Find all loaded referenced requirements. Get an external navigation URL for the third referenced requirement and a label for the URL.

```
refs = find(rs,Type="Reference");
ref = refs(3);
[navURL3,navLabel3] = slreq.getExternalURL(ref)
```

```
navURL3 =
'http://127.0.0.1:31415/matlab/feval/rmi.navigate?arguments=[%22linktype_rmi_slreq%22,%22crs_req

navLabel3 =
'System overview'
```

Cleanup

Clear the loaded requirement sets and link sets. Close the **Requirements Editor**.

```
slreq.clear;
```

Get a Navigation URL for a Model Element

Open the `CruiseRequirementsExample` project. Open the `crs_plant` model.

```
slreqCCProjectStart;
open_system("crs_plant");
```

Select the `Transmission` subsystem and use `gcb` or `gcbh` to get a path or handle to the subsystem. Then get an external navigation URL to the subsystem and a label for the URL.

```
subsys = gcb
```

```
subsys = 
'crs_plant/Transmission'
```

```
[navURL1,navLabel1] = slreq.getExternalURL(subsys)
```

```
navURL1 = 
'http://127.0.0.1:31415/matlab/feval/rmiobjnavigate?arguments=[%22crs_plant.slx%22,%22:414%22]'

navLabel1 = 
'Transmission'
```

Look inside the `shift_logic` mask by clicking the ⇩ icon. Select the `first` Stateflow® state and use `sfgco` to get a handle to the state. Then get an external navigation URL to the state and a label for the URL.

```
firstState = sfgco
```

```
firstState = 
  State with properties:

                     Name: 'first'
                       Id: 28
                     Path: 'crs_plant/shift_logic/gear_state'
               SSIdNumber: 6
                Subviewer: [1×1 Stateflow.Chart]
              Description: ''
              LabelString: 'first↵'
              EntryAction: ''
             DuringAction: ''
               ExitAction: ''
                 OnAction: {0×1 cell}
              MooreAction: ''
                 FontSize: 10
                ArrowSize: 9.2240
                TestPoint: 0
                    Chart: [1×1 Stateflow.Chart]
          BadIntersection: 0
                 Document: ''
          RequirementInfo: ''
           ExecutionOrder: 0
    ContentPreviewEnabled: 0
                      Tag: []
               IsSubchart: 0
                IsGrouped: 0
```

```
                    Debug: [1×1 Stateflow.StateDebug]
             EnumTypeName: 'firstModeType'
                 Position: [50.7030 39.5270 85.3400 36.9140]
              LoggingInfo: [1×1 Stateflow.SigLoggingInfo]
         LogStateActivity: 0
    ASLEnabledViaAncestor: 0
    IsExplicitlyCommented: 0
    IsImplicitlyCommented: 0
              CommentText: ''
            Decomposition: 'EXCLUSIVE_OR'
                     Type: 'OR'
             InlineOption: 'Auto'
                  Machine: [1×1 Stateflow.Machine]
            HasOutputData: 0
     OutputMonitoringMode: 'SelfActivity'
               OutputData: []
```

```
[navURL2,navLabel2] = slreq.getExternalURL(firstState)
```

```
navURL2 = 
'http://127.0.0.1:31415/matlab/feval/rmiobjnavigate?arguments=[%22crs_plant.slx%22,%22:413:6%22]

navLabel2 = 
'first'
```

Get a Navigation URL for a Simulink Test Case

Open the `CruiseRequirementsExample` project. Load the `DriverSwRequest_Tests` test file.

```
slreqCCProjectStart;
tf = sltest.testmanager.load("DriverSwRequest_Tests.mldatx");
```

Get the test suite in the test file.

```
suite = getTestSuites(tf);
```

Get the test cases in the test suite. Get an external navigation URL for the first test case and get a label for the navigation URL.

```
cases = getTestCases(suite)
```

```
cases=1×8 object
  1×8 TestCase array with properties:

    Name
    TestFile
    TestPath
    TestType
    RunOnTarget
    Parent
    Requirements
    Description
    Enabled
    ReasonForDisabling
    Tags
```

```
case1 = cases(1)
```

```
case1 = 
  TestCase with properties:

            Name: 'Enable button'
        TestFile: [1×1 sltest.testmanager.TestFile]
        TestPath: 'DriverSwRequest_Tests > Unit test for DriverSwRequest > Enable button'
        TestType: 'simulation'
     RunOnTarget: {[0]}
          Parent: [1×1 sltest.testmanager.TestSuite]
    Requirements: [1×1 struct]
     Description: ''
         Enabled: 1
            Tags: [0×0 string]
```

```
[navURL,navLabel] = slreq.getExternalURL(case1)
```

```
navURL = 
'http://127.0.0.1:31415/matlab/feval/rmitmnavigate?arguments=[%22DriverSwRequest_Tests.mldatx%22

navLabel = 
'Enable button'
```

Cleanup

Clear the loaded test files.

```
sltest.testmanager.clear;
```

Input Arguments

`myDesignItem` — Link source or destination, requirement, test, or model element

`slreq.link` source or destination structure | Requirements Toolbox object | path or handle to model element | Simulink Test™ object

Item in MATLAB or Simulink, specified as:

- `slreq.Link` source or destination structure
- Requirements Toolbox object:
  - `slreq.Requirement`
  - `slreq.Reference`
  - `slreq.Justification`
- Path or handle to:
  - Simulink system or block
  - Stateflow chart, subchart, state, or transition
  - System Composer™ model or component
- Simulink Test object:
  - `sltest.testmanager.TestFile`

  - `sltest.testmanager.TestSuite`
  - `sltest.testmanager.TestCase`
  - `sltest.testmanager.TestIteration`

Output Arguments

`navURL` — External navigation URL

character array

External navigation URL, returned as a character array.

`navLabel` — External navigation URL label

character array

External navigation URL label, returned as a character array.

Tips

- You can copy the external navigation URL to your clipboard for a:

  - Requirements Toolbox requirement, referenced requirement, or justification
  - Simulink, Stateflow, or System Composer model element
  - Simulink data dictionary entry

  Right-click one of these items in the **Requirements Editor** or Simulink Editor and select **Copy URL to Clipboard**, or select **Requirements > Copy URL to Clipboard**.

Version History

Introduced in R2021a

See Also

`slreq.getCurrentObject` | `gcb` | `gcbh` | `sfgco` | `sltest.testmanager.getTestFiles`

getLinks

Package: oslc.rm

Get locally stored traceability links from OSLC requirement resource object

Syntax

```
URLs = getLinks(reqResource)
```

Description

URLs = getLinks(reqResource) returns the resource URLs associated with the rdf:resource attribute of the RDF/XML element j.0:Link for the requirement or requirement collection resource specified by reqResource. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website and QM Resource Definitions on the Open Services for Lifecycle Collaboration (OSLC) website.

Examples

Add and Remove Links from OSLC Resources to Requirement

This example shows how to add and remove links from OSLC resources to an OSLC requirement.

After you have created and configured the OSLC client myClient as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement resource type. Submit a query request to the service provider for the available requirement resources.

```
myQueryCapability = getQueryService(myClient,'Requirement');
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign one of the requirements to a variable called myReq and one to linkReq. Fetch the full resource properties for the requirements.

```
myReq = reqs(1);
linkReq = reqs(5);
fetch(myReq,myClient);
fetch(linkReq,myClient);
```

Add a link from linkReq to myReq. Confirm the link creation by getting the links for myReq.

```
addLink(myReq,linkReq)
links = getLinks(myReq)
```

```
links =

  1×1 cell array

    {'https://localhost:9443/rm/CA_3d5ba3752e2c489b965a3ecceffb664a'}
```

In the service provider, identify a test case to link to the requirement. Identify the resource URL of the test case and assign it to a variable called URL. Add a link from URL to myReq. Confirm the link creation by getting the links for myReq.

```
URL = 'https://localhost:9443/qm/_ibz6tGWYEeuAF8ZpKyQQtg';
addLink(myReq,URL)
links = getLinks(myReq)
```

```
links =

  1×2 cell array

    {'https://localhost:9443/rm...'}    {'https://localhost:9443/qm...'}
```

Commit the changes to the service provider.

```
status = commit(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Fetch the full resource properties for the updated requirement myReq.

```
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Get the resource URLs linked to myReq.

```
links = getLinks(myReq)
```

```
links =

  1×2 cell array

    {'https://localhost:9443/rm...'}    {'https://localhost:9443/qm...'}
```

Get the URL for the first linked resource and assign it to URL.

```
URL = links{1}
```

```
URL = 

    'https://localhost:9443/rm/CA_3d5ba3752e2c489b965a3ecceffb664a'
```

Before removing the link from `myReq`, confirm that the resource URL points to the requirement that you want to remove. Create a requirement resource object and set the resource URL. Fetch the full resource properties for the requirement and inspect the requirement.

```
req = oslc.rm.Requirement;
setResourceUrl(req,URL);
status = fetch(req,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

```
req
```

```
ans = 

  Requirement with properties:

    ResourceUrl: 'https://localhost:9443/rm/CA_3d5ba3752e2c489b965a...'
          Dirty: 0
      IsFetched: 1
          Title: '[SAFe] Lifecycle Scenario Template'
     Identifier: '1165'
```

Remove the link from `myReq` and commit the changes to the service provider.

```
removeLink(myReq,URL)
status = commit(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Fetch the full resource properties for the updated requirement `myReq`.

```
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Verify the link removal by getting the URLs for the resources linked to `myReq`.

```
links = getLinks(myReq)
```

```
links =

  1×1 cell array
```

```
    {'https://localhost:9443/qm/_ibz6tGWYEeuAF8ZpKyQQtg'}
```

Input Arguments

`reqResource` — OSLC requirement resource

`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object

OSLC requirement or requirement collection resource object, specified as an `oslc.rm.Requirement` or `oslc.rm.RequirementCollection` object.

Output Arguments

`URLs` — OSLC resource URLs for linked resources

cell array

OSLC resource URLs for resources linked to the requirement or requirement collection resource, returned as a cell array.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `addLink` | `removeLink` | `getRequirementLinks`

slreq.getNavigationFcn

Get registered navigation function for referenced requirements

Syntax

```
callbackFunction = slreq.getNavigationFcn(domain)
```

Description

`callbackFunction = slreq.getNavigationFcn(domain)` returns the navigation callback function name registered for imported referenced requirements that have the Domain property value equal to `domain`.

Examples

Register and Get a Navigation Callback Function for Referenced Requirements Imported from ReqIF Files

This example shows how to register and get the registered navigation callback function for referenced requirements imported from ReqIF™ files.

Import the ReqIF file `mySpec.reqif` into Requirements Toolbox™.

```
count = slreq.import("mySpec.reqif");
```

Get the handle for the imported requirement set. Check the domain for the imported referenced requirements.

```
rs = slreq.find("Type","ReqSet","Name","mySpec");
topRef = children(rs);
domain = topRef.Domain
```

```
domain =
'Third-Party Tool'
```

Check if there are any currently registered navigation callback functions for the domain.

```
callback = slreq.getNavigationFcn(domain)
```

```
callback =

  0x0 empty char array
```

Register the custom navigation callback function `myNavigationFcn` for the domain. Confirm that the navigation callback function was registered.

```
slreq.registerNavigationFcn(domain,"myNavigationFunction")
callback = slreq.getNavigationFcn(domain)
```

```
callback =
'myNavigationFunction'
```

Cleanup

Clear the open requirement sets without saving. Unregister the custom navigation callback function.

```
slreq.clear;
slreq.registerNavigationFcn(domain,'');
```

Input Arguments

`domain` — Third-party requirements tool domain
string scalar | character vector

Third-party requirements tool domain for which to get the registered the navigation callback function, specified as a string scalar.

Output Arguments

`callbackFunction` — Registered navigation callback function name
character vector

Registered navigation callback function name, returned as a character vector.

Tips

- You can get the value of the Domain property for a referenced requirement at the MATLAB command prompt by entering:

  ```
  domain = myReferencedRequirement.Domain
  ```

  ```
  domain =

      'Third-Party Tool'
  ```

Version History

Introduced in R2019a

See Also

`slreq.registerNavigationFcn` | `slreq.Reference` | **Requirements Editor**

Topics

“Navigate from Referenced Requirements to Requirements in Third-Party Applications”

getProducedTestExecutionRecord

Package: `oslc.qm`

Get locally stored test execution record traceability link from Open Services for Lifecycle Collaboration (OSLC) test result resource object

Syntax

```
executionURL = getProducedTestExecutionRecord(myTR)
```

Description

`executionURL = getProducedTestExecutionRecord(myTR)` returns the `rdf:resource` attribute of the RDF/XML element `oslc_qm:producedByTestExecutionRecord` for the test result `myTR`. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website and QM Resource Definitions on the Open Services for Lifecycle Collaboration (OSLC) website.

Examples

Get Test Resources Associated with Test Result

This example shows how to get the OSLC test execution record resource URL that produced the test result and the test case resource URL that the test result reports on.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test result resource type. Query the service provider for existing test results.

```
myQueryCapability = getQueryService(myClient,'TestResult');
testResults = queryTestResults(myQueryCapability)
```

```
testResults = 

  1×9 TestResult array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Retrieve the test execution record resource URL for the test execution record that produced the test result.

```
terURL = getProducedTestExecutionRecord(myTR)
```

```
terURL =

  1×1 cell array
```

```
    {'https://localhost:9443/qm/_CfkIoWYpEeuAF8ZpKyQQtg'}
```

Retrieve the test case resource URL for the test case that the test result reports on.

```
testCaseURL = getReportsOnTestCase(myTR)
```

```
testCaseURL =

  1×1 cell array

    {'https://localhost:9443/qm/_ibz6tGWYEeuAF8ZpKyQQtg'}
```

Input Arguments

`myTR` — Test result resource
`oslc.qm.TestResult` object

OSLC test result resource, specified as an `oslc.qm.TestResult` object.

Output Arguments

`executionURL` — Test execution record resource URL
cell array

OSLC test execution record resource URL, returned as a cell array.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.qm.TestResult` | `createTestResult` | `oslc.qm.TestExecutionRecord`

External Websites

The OSLC Quality Management (QM) Vocabulary

getProperty

Package: `oslc.rm`

Get local contents of text property from OSLC resource object

Syntax

```
textContents = getProperty(resource,propertyName)
```

Description

`textContents = getProperty(resource,propertyName)` returns the text contents of the RDF/XML element with the name `propertyName` from the locally stored RDF/XML data for the Open Services for Lifecycle Collaboration (OSLC) resource specified by `resource`. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website.

Examples

Add, Get, and Remove Properties from OSLC Resources

This example shows how to add, get, and remove properties from an existing OSLC requirement resource.

Create and configure the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3. Then query the service provider for requirements and assign an `oslc.rm.Requirement` object to the variable `myReq` as described in “Submit a Query Request with Query Capability” on page 1-209.

Retrieve the full resource data from the service provider for the requirement resource `myReq`.

```
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

The requirement `myReq` has a linked requirement with an `implementedBy` relationship. Get the `rdf:resource` value for the `oslc_rm:implementedBy` property for the requirement resource `myReq`.

```
linkedReq = getResourceProperty(myReq,'oslc_rm:implementedBy')
```

```
linkedReq =

  1×1 cell array

    {'https://localhost:9443/rm/resources/_72lxMWJREeup0...'}
```

Change the relationship between the linked requirement and myReq from implementedBy to decomposedBy. Remove the oslc_rm:implementedBy property and add an oslc_rm:decomposedBy property.

```
removeResourceProperty(myReq,'oslc_rm:implementedBy',linkedReq)
addResourceProperty(myReq,'oslc_rm:decomposedBy',linkedReq)
```

Get the text contents for the dcterms:title property.

```
title = getProperty(myReq,'dcterms:title')
```

```
title =

    'My New Requirement'
```

Change the title to My New Requirement (Edited). Confirm the changes.

```
setProperty(myReq,'dcterms:title','My New Requirement (Edited)')
title = getProperty(myReq,'dcterms:title')
```

```
title =

    'My New Requirement (Edited)'
```

Add a new text property to the requirement with the tag dcterms:description. Confirm the changes.

```
addTextProperty(myReq,'dcterms:description', ...
    'My new requirement edited using the MATLAB OSLC client.');
desc = getProperty(myReq,'dcterms:description')
```

```
desc =

    'My new requirement created using the MATLAB OSLC client.'
```

Commit the changes to the service provider.

```
status = commit(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

View the resource that you edited in the system browser.

```
show(myReq)
```

Input Arguments

resource — OSLC resource object
oslc.rm.Requirement object | oslc.rm.RequirementCollection object | oslc.cm.ChangeRequest object | ...

OSLC resource object, specified as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`
- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

`propertyName` — OSLC resource property name
character vector

OSLC resource property name, specified as a character vector.

Output Arguments

`textContents` — OSLC resource property text contents
character vector

OSLC resource text contents, returned as a character vector.

Tips

- For information about OSLC resource properties, see these pages on the OSLC website:
  - RM Resource Definitions
  - QM Resource Definitions
  - CM Resource Definitions

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `addTextProperty` | `setProperty`

External Websites

RDF 1.1 XML Syntax

getQueryService

Package: `oslc`

Get OSLC query service object

Syntax

```
myQueryCapability = getQueryService(myClient)
myQueryCapability = getQueryService(myClient,resourceType)
```

Description

`myQueryCapability = getQueryService(myClient)` returns all available query capabilities for the OSLC client `myClient`.

Tip Use this syntax to create query services with resource types that are not defined in the OSLC standard.

`myQueryCapability = getQueryService(myClient,resourceType)` returns a query capability for the resource type specified by `resourceType` for the OSLC client `myClient`.

Examples

Create All Available Query Capabilities for a Given Client

This example shows how to create all available query capabilities for a configured OSLC client.

After you have created and configured an OSLC client as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create all available query capabilities for the client `myClient`.

```
myQueryCapability = getQueryService(myClient)
```

```
myQueryCapability = 

  1×4 QueryCapability array with properties:

    queryParameter
    client
    queryBase
    resourceShape
    title
    resourceType
```

Examine the query capability `resourceType` to determine which query capability you want to use.

```
myQueryCapability(3).resourceType(2)
```

```
ans =
  1×1 cell array

    {'http://open-services.net/ns/rm#Requirement'}
```

Submit a Query Request with Query Capability

This example shows how to submit a query request with a configured OSLC client.

After you have created and configured an OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement resource type.

```
myQueryCapability = getQueryService(myClient,'Requirement')
```

```
myQueryCapability = 

  QueryCapability with properties:

    queryParameter: ''
            client: [1×1 oslc.Client]
         queryBase: 'https://localhost:9443/rm/views?oslc.query=true&projectURL=http...'
     resourceShape: {0×1 cell}
             title: 'Query Capability'
      resourceType: {1×2 cell}
```

Submit a query request to the service provider for the available requirement resources.

```
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign the first returned requirement resource to the variable `myReq`, then fetch the full resource properties for `myReq`. Examine the `Title` property.

```
myReq = reqs(1);
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

```
title = myReq.Title
title =

    'Requirement 1'
```

Input Arguments

`myClient` — OSLC client
`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

`resourceType` — OSLC resource type
`'Requirement'` | `'RequirementCollection'` | `'TestCase'` | `'TestExecutionRecord'` | `'TestPlan'` | `'TestResult'` | `'TestScript'` | `'ChangeRequest'`

OSLC resource type, specified as character array with one of these values:

- `'ChangeRequest'`
- `'TestCase'`
- `'TestExecutionRecord'`
- `'TestPlan'`
- `'TestResult'`
- `'TestScript'`
- `'Requirement'`
- `'RequirementCollection'`

The specified resource type must match the domain for the configured `oslc.Client` object.

Output Arguments

`myQueryCapability` — Resource query capability
`oslc.core.QueryCapability` object

OSLC resource query capability, specified as an `oslc.core.QueryCapability` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.QueryCapability` | `oslc.rm.Requirement` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase`

getRDF

Package: oslc.rm

Get resource RDF/XML data from OSLC resource object

Syntax

```
rdfContent = getRDF(resource)
```

Description

rdfContent = getRDF(resource) returns the locally stored RDF/XML data for the resource specified by resource. For more information, see RDF classes and properties in OSLC on the Open Services for Lifecycle Collaboration (OSLC) website.

Examples

Get and Set RDF Content for Requirement Resource

This example shows how to get and set the RDF content of an OSLC requirement resource with a configured OSLC client.

After you have created and configured the OSLC client myClient as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement resource type.

```
myQueryCapability = getQueryService(myClient);
```

Submit a query request to the service provider for the available requirement resources.

```
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Fetch the full resource properties for a single requirement resource. Inspect the title of the requirement.

```
myReq = reqs(1);
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration
```

```
    OK
```

```
title = myReq.Title
```

```
title =

    'My New Requirement'
```

Get the locally stored RDF content of the requirement resource.

```
rdfContent = getRDF(myReq)
```

```
rdfContent =

    '<?xml version="1.0" encoding="UTF-8" standalone="no" ?><rdf:RDF
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:dcterms="http://purl.org/dc/terms/"
xmlns:oslc="http://open-services.net/ns/core#"
xmlns:oslc_rm="http://open-services.net/ns/rm#">
          <oslc_rm:Requirement>
         <dcterms:title>My New
Requirement</dcterms:title><oslc:instanceShape
rdf:resource="https://example.com/shapes/oslc-requirement-version1"/>
</oslc_rm:Requirement>
     </rdf:RDF>'
```

Copy and paste the `rdfContent` text into a new variable `newRDF`. Edit the text contents for the `dcterms:title` property to `My New Requirement (Edited)`.

```
newRDF = ['<?xml version="1.0" encoding="UTF-8" ' ...
'standalone="no" ?><rdf:RDF ' ...
'xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" ' ...
'xmlns:dcterms="http://purl.org/dc/terms/" ' ...
'xmlns:oslc="http://open-services.net/ns/core#" ' ...
'xmlns:oslc_rm="http://open-services.net/ns/rm#">' ...
'<oslc_rm:Requirement><dcterms:title>' ...
'My New Requirement (Edited)</dcterms:title>' ...
'<oslc:instanceShape rdf:resource=' ...
'"https://example.com/shapes/oslc-requirement-version1"/>' ...
'</oslc_rm:Requirement></rdf:RDF>']
```

Set the RDF content of the requirement to the variable `newRDF`. Inspect the requirement title.

```
setRDF(myReq,newRDF);
title = myReq.Title
```

```
title =

    'My New Requirement (Edited)'
```

Commit the changes to the service provider.

```
status = commit(newReq,myClient)
```

```
status =

  StatusCode enumeration
```

```
OK
```

Input Arguments

resource — OSLC resource object
oslc.rm.Requirement object | oslc.rm.RequirementCollection object | oslc.cm.ChangeRequest object | ...

OSLC resource object, specified as one of these objects:

- oslc.cm.ChangeRequest
- oslc.qm.TestCase
- oslc.qm.TestExecutionRecord
- oslc.qm.TestPlan
- oslc.qm.TestResult
- oslc.qm.TestScript
- oslc.rm.Requirement
- oslc.rm.RequirementCollection

Output Arguments

rdfContent — RDF resource data
character vector

RDF data for the OSLC resource, returned as a character vector.

Version History

Introduced in R2021a

See Also

oslc.Client | oslc.rm.Requirement | oslc.rm.RequirementCollection | oslc.cm.ChangeRequest | oslc.qm.TestCase | oslc.qm.TestExecutionRecord | oslc.qm.TestPlan | oslc.qm.TestResult | oslc.qm.TestScript | setRDF

External Websites

RDF 1.1 XML Syntax

slreq.getReportOptions

Get default report generation options

Syntax

`myOptions = slreq.getReportOptions()`

Description

`myOptions = slreq.getReportOptions()` returns a structure with the default options for generating reports for requirements sets.

Examples

Get Report Generation Options

```
myOptions = slreq.getReportOptions()

myOptions = 

  struct with fields:

      reportPath: 'L:\slreqrpt_20170826.docx'
      openReport: 1
       titleText: ''
         authors: 'Jane Doe'
        includes: [1×1 struct]
```

Output Arguments

`myOptions` — Report generation options

structure

Options for report generation, returned as a structure with the following fields:

Options

Fields	Data Type	Description
`reportPath`	character vector	Report file path
`openReport`	Boolean	Option to open report automatically after generation
`titleText`	character vector	Report title
`authors`	character vector	Report authors
`includes.toc`	Boolean	Option to include table of contents in your report
`includes.publishedDate`	Boolean	Option to include the report publish date
`includes.revision`	Boolean	Option to include requirement revision information in your report
`includes.properties`	Boolean	Option to include requirement properties
`includes.links`	Boolean	Option to include requirements links in your report
`includes.changeInformation`	Boolean	Option to include change information such as change issues
`includes.groupLinksBy`	character vector	Option to group links by `Artifact` or `LinkType`
`includes.keywords`	Boolean	Option to include requirement implementation status data in your report
`includes.comments`	Boolean	Option to include requirement comments in your report
`includes.implementationStatus`	Boolean	Option to include requirement implementation status data in your report
`includes.verificationStatus`	Boolean	Option to include requirement verification status data in your report
`includes.emptySections`	Boolean	Option to include empty sections in your report
`includes.rationale`	Boolean	Option to include requirements rationale in your report
`includes.customAttributes`	Boolean	Option to include requirement set custom attributes in your report

Version History

Introduced in R2018a

See Also

`slreq.generateReport`

getReportsOnTestCase

Package: oslc.qm

Get locally stored test case traceability link from OSLC test result resource object

Syntax

```
testCaseURL = getReportsOnTestCase(myTR)
```

Description

testCaseURL = getReportsOnTestCase(myTR) returns the rdf:resource attribute of the RDF/XML element oslc_qm:reportsOnTestCase for the test result myTR. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website and QM Resource Definitions on the Open Services for Lifecycle Collaboration (OSLC) website.

Examples

Get Test Resources Associated with Test Result

This example shows how to get the OSLC test execution record resource URL that produced the test result and the test case resource URL that the test result reports on.

After you have created and configured the OSLC client myClient as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test result resource type. Query the service provider for existing test results.

```
myQueryCapability = getQueryService(myClient,'TestResult');
testResults = queryTestResults(myQueryCapability)
```

```
testResults = 

  1×9 TestResult array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Retrieve the test execution record resource URL for the test execution record that produced the test result.

```
terURL = getProducedTestExecutionRecord(myTR)
```

```
terURL =

  1×1 cell array

    {'https://localhost:9443/qm/_CfkIoWYpEeuAF8ZpKyQQtg'}
```

Retrieve the test case resource URL for the test case that the test result reports on.

```
testCaseURL = getReportsOnTestCase(myTR)
```

```
testCaseURL =

  1×1 cell array

    {'https://localhost:9443/qm/_ibz6tGWYEeuAF8ZpKyQQtg'}
```

Input Arguments

`myTR` — Test result resource
`oslc.qm.TestResult` object

OSLC test result resource, specified as an `oslc.qm.TestResult` object.

Output Arguments

`testCaseURL` — Associated test case resource URL
cell array

Resource URL of the test case that the test result reports on, returned as a cell array.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.qm.TestResult` | `createTestResult` | `oslc.qm.TestCase`

External Websites

The OSLC Quality Management (QM) Vocabulary

getRequirementLinks

Package: `oslc.qm`

Get locally stored requirement traceability links from OSLC test resource object

Syntax

```
reqs = getRequirementLinks(testResource)
```

Description

`reqs = getRequirementLinks(testResource)` returns the requirement resource associated with the `rdf:resource` attribute of the RDF/XML element `oslc_qm:validatesRequirement` for the test case or test script specified by `testResource`. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website and QM Resource Definitions on the Open Services for Lifecycle Collaboration (OSLC) website.

Examples

Add, Get, and Remove Traceability Links from a Test Case to a Requirement

This example shows how to add, remove, and get OSLC requirement resources linked to a test case resource with a previously configured OSLC client.

After you have created and configured an OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test case resource type.

```
myQueryCapability = getQueryService(myClient,'TestCase');
```

Submit a query request to the service provider for the available test case resources.

```
testCases = queryTestCases(myQueryCapability)
```

```
testCases = 

  1×5 TestCase array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Retrieve the requirement resources linked to one of the test cases. Fetch the resource properties from the service provider for the test case.

```
myTestCase = testCases(1);
fetch(myTestCase,myClient);
reqs = getRequirementLinks(myTestCase)
reqs = 

    Requirement with properties:

    ResourceUrl: 'https://localhost:9443/rm/resources/_aQ1gRg8bEeuLWbFe'
          Dirty: 1
      IsFetched: 0
          Title: ''
     Identifier: ''
```

Remove the existing link to the requirement resource from the test case resource. Commit the changes to the service provider.

```
removeRequirementLink(myTestCase,reqs.ResourceUrl);
status = commit(myTestCase,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

To add a link to a requirement, in the OSLC service provider, locate the requirement resource that you want to link to the test case resource. Identify the resource URL. Create a variable `URL` and set the value of the variable to the requirement URL that you found in the service provider.

```
URL = 'https://localhost:9443/rm/resources/_oJNtgWrqEeup0a6t';
```

Create a traceability link between the requirement resource and the test case. Commit the change to the service provider.

```
addRequirementLink(myTestCase,URL);
status = commit(myTestCase,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

View the test case in the system browser.

```
show(myTestCase)
```

Input Arguments

`testResource` — OSLC test resource

`oslc.qm.TestCase` object | `oslc.qm.TestScript` object

OSLC test resource, specified as an `oslc.qm.TestCase` or `oslc.qm.TestScript` object.

Output Arguments

`reqs` — OSLC requirement resource

`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object

OSLC requirement or requirement collection resource object, returned as an `oslc.rm.Requirement` or `oslc.rm.RequirementCollection` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.qm.TestCase` | `oslc.qm.TestScript` | `oslc.rm.RequirementCollection` | `addRequirementLink` | `removeRequirementLink`

getRequirementRows

Package: slreq.modeling

Retrieve requirements in Requirements Table block

Syntax

```
RequirementRows = getRequirementRows(reqTable)
```

Description

RequirementRows = getRequirementRows(reqTable) returns the requirements of the Requirements Table block specified by reqTable.

Examples

Retrieve Requirements from a Requirements Table Block

Retrieve the RequirementsTable object from a model named myModel.

```
table = slreq.modeling.find("myModel");
```

Retrieve the requirements as an array of RequirementRow objects.

```
row = getRequirementRows(table);
```

Input Arguments

reqTable — Requirements Table block
RequirementsTable object

Requirements Table block, specified as a RequirementsTable object.

Output Arguments

RequirementRows — Requirements
array of RequirementRow objects

Requirements in the Requirements Table block, returned as an array of RequirementRow objects.

Version History

Introduced in R2022a

See Also

Blocks
Requirements Table

Functions

addRequirementRow

Objects

RequirementsTable | RequirementRow

getResourceProperty

Package: `oslc.rm`

Get local contents of resource property from OSLC resource object

Syntax

`rdfResource = getResourceProperty(resource,propertyName)`

Description

`rdfResource = getResourceProperty(resource,propertyName)` returns the `rdf:resource` attribute of the RDF/XML element with name `propertyName` from the locally stored RDF/XML for the Open Services for Lifecycle Collaboration (OSLC) resource specified by `resource`. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website.

Examples

Add, Get, and Remove Properties from OSLC Resources

This example shows how to add, get, and remove properties from an existing OSLC requirement resource.

Create and configure the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3. Then query the service provider for requirements and assign an `oslc.rm.Requirement` object to the variable `myReq` as described in “Submit a Query Request with Query Capability” on page 1-209.

Retrieve the full resource data from the service provider for the requirement resource `myReq`.

```
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

The requirement `myReq` has a linked requirement with an `implementedBy` relationship. Get the `rdf:resource` value for the `oslc_rm:implementedBy` property for the requirement resource `myReq`.

```
linkedReq = getResourceProperty(myReq,'oslc_rm:implementedBy')
```

```
linkedReq =

  1×1 cell array

    {'https://localhost:9443/rm/resources/_72lxMWJREeup0...'}
```

Change the relationship between the linked requirement and myReq from implementedBy to decomposedBy. Remove the oslc_rm:implementedBy property and add an oslc_rm:decomposedBy property.

```
removeResourceProperty(myReq,'oslc_rm:implementedBy',linkedReq)
addResourceProperty(myReq,'oslc_rm:decomposedBy',linkedReq)
```

Get the text contents for the dcterms:title property.

```
title = getProperty(myReq,'dcterms:title')
```

```
title =

    'My New Requirement'
```

Change the title to My New Requirement (Edited). Confirm the changes.

```
setProperty(myReq,'dcterms:title','My New Requirement (Edited)')
title = getProperty(myReq,'dcterms:title')
```

```
title =

    'My New Requirement (Edited)'
```

Add a new text property to the requirement with the tag dcterms:description. Confirm the changes.

```
addTextProperty(myReq,'dcterms:description', ...
    'My new requirement edited using the MATLAB OSLC client.');
desc = getProperty(myReq,'dcterms:description')
```

```
desc =

    'My new requirement created using the MATLAB OSLC client.'
```

Commit the changes to the service provider.

```
status = commit(myReq,myClient)
```

```
status =

  StatusCode enumeration

    OK
```

View the resource that you edited in the system browser.

```
show(myReq)
```

Input Arguments

resource — OSLC resource object
oslc.rm.Requirement object | oslc.rm.RequirementCollection object | oslc.cm.ChangeRequest object | ...

OSLC resource object, specified as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`
- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

`propertyName` — OSLC resource property name
character vector

OSLC resource property name, specified as a character vector.

Output Arguments

`rdfResource` — OSLC resource property `rdf:resource` attribute
cell array

OSLC resource property `rdf:resource` attribute, returned as a cell array.

Tips

- For information about OSLC resource properties see these pages on the OSLC website:
  - RM Resource Definitions
  - QM Resource Definitions
  - CM Resource Definitions

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `addResourceProperty` | `removeResourceProperty`

External Websites

RDF 1.1 XML Syntax

getRunsTestCase

Package: `oslc.qm`

Get locally stored test case traceability link from OSLC test execution record resource object

Syntax

```
testCaseURL = getRunsTestCase(myTER)
```

Description

`testCaseURL = getRunsTestCase(myTER)` returns the `rdf:resource` attribute of the RDF/XML element `oslc_qm:runsTestCase` for the test execution record `myTER`. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website and QM Resource Definitions on the Open Services for Lifecycle Collaboration (OSLC) website.

Examples

Get Test Case URL Associated with Test Execution Record

This example shows how to get the test case resource URL for the test case run by a test execution resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test execution record resource type. Query the service provide for existing test execution records.

```
myQueryCapability = getQueryService(myClient,'TestExecutionRecord');
TERs = queryTestExecutionRecords(myQueryCapability)
```

```
TERs = 

  1×2 TestExecutionRecord array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Retrieve a test case resource URL run by one of the test execution records.

```
myTER = TERs(1);
testCaseURL = getRunsTestCase(myTER)
```

```
testCaseURL = 

  1×1 cell array
```

```
{'https://localhost:9443/qm/resources/_NMg4MWJzEeuAF8ZpKyQQtg'}
```

Input Arguments

`myTER` — Test execution record resource
`oslc.qm.TestExecutionRecord` object

OSLC test execution record resource, specified as an `oslc.qm.TestExecutionRecord` object.

Output Arguments

`testCaseURL` — Associated test case resource URL
cell array

Resource URL of the test case that the test execution record runs, returned as a cell array.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.qm.TestCase` | `createTestExecutionRecord` | `oslc.qm.TestExecutionRecord`

External Websites

The OSLC Quality Management (QM) Vocabulary

getServer

Package: `oslc`

Get server URL for OSLC client

Syntax

```
myServerURL = getServer(myClient)
```

Description

`myServerURL = getServer(myClient)` returns the server URL for the configured OSLC client `myClient`.

Examples

Get Server URL for an OSLC Client

This example shows how to get the server URL for an OSLC client created in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

After you have created and configured an OSLC client as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, get the server URL for the OSLC client `myClient`.

```
mySeverURL = getServer(myClient)
```

```
myServerURL =

    'https://localhost:9443'
```

Input Arguments

`myClient` — OSLC client
`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

Output Arguments

`myServerURL` — Server URL for OSLC client
character vector

Server URL for OSLC client, returned as a character vector.

Example: `'https://localhost:9443'`

Version History

Introduced in R2021a

See Also

`oslc.Client` | `setServer`

getServiceProviderNames

Package: `oslc`

Get service providers for OSLC client

Syntax

```
providerNames = getServiceProviderNames(myClient)
```

Description

`providerNames = getServiceProviderNames(myClient)` returns the service providers for the configured OSLC client `myClient`.

Examples

Create and Configure an OSLC Client for the Requirements Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Then set the service root and catalog path for the requirements management domain and the configuration query path.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'/oslc_rm/catalog');
setConfigurationQueryPath(myClient,'gc/oslc-query/configurations');
myClient
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
```

```
providers =

  4×1 cell array

    {'OSLC Plugin'                                  }
    {'Model Based Design with OSLC'                 }
    {'OSLC4RM'                                      }
    {'Interactive Testing (Requirements Management)'}
```

```
setServiceProvider(myClient,'OSLC Plugin');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations =

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient = 

  Client with properties:

         ServiceProvider: 'OSLC Plugin'
    ConfigurationContext: 'Initial Development'
              CatalogUrl: 'https://localhost:9443/rm/oslc_rm/catalog'
```

Input Arguments

`myClient` — OSLC client

`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

Output Arguments

`providerNames` — Service providers for OSLC client

cell array

Names of the available service providers for the OSLC client, returned as a cell array.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `getConfigurationContextNames` | `setConfigurationContext` | `login` | `setServiceProvider` | `setConfigurationQueryPath`

getSLRequirements

Package: `oslc.rm`

Get imported referenced requirement associated with OSLC requirement resource object

Syntax

```
ref = getSLRequirements(reqResource)
```

Description

`ref = getSLRequirements(reqResource)` returns the imported referenced requirement associated with the OSLC requirement or requirement collection resource `reqResource`.

Examples

Get Imported Referenced Requirement for OSLC Requirement

This example shows how to get the referenced requirement that was imported from IBM DOORS Next that is associated with the OSLC requirement resource in the same project in DOORS Next.

Import requirements from IBM DOORS Next. For more information, see “Import Requirements from IBM DOORS Next”.

Create and configure an OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3. When setting the service provider and configuration context, use the same settings that you used when importing the requirements.

Create a creation factory for the requirement resource type. Query the service provider for requirements. Submit a query request to the service provider for the available requirement resources.

```
myCreationFactory = getCreationFactory(myClient,'Requirement');
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign one of the requirements to the variable `myReq`. Retrieve the full resource data from the service provider for the requirement resource.

```
myReq = reqs(1);
status = fetch(myReq,myClient)
status = 

  StatusCode enumeration

    OK
```

Get the imported referenced requirement associated with `myReq`.

```
ref = getSLRequirements(myReq)
```

```
ref = 

  Reference with properties:

              Id: '431'
        CustomId: '431'
        Artifact: 'https://localhost:9443/rm/_BCoGwgJZEeuFW5Ss3RBk7w'
      ArtifactId: 'https://localhost:9443/rm/_BDSOEwJZEeuFW5Ss3RBk7w'
          Domain: 'OSLC'
       UpdatedOn: 17-Feb-2021 13:54:13
       CreatedOn: 29-Sep-2020 09:38:16
       CreatedBy: ''
      ModifiedBy: ''
        IsLocked: 1
         Summary: 'System Hazards'
     Description: 'System Hazards'
       Rationale: ''
        Keywords: {}
            Type: 'Functional'
             SID: 431
    FileRevision: 1
      ModifiedOn: 29-Sep-2020 09:38:16
           Dirty: 0
        Comments: [0×0 struct]
           Index: '1'
```

Input Arguments

`reqResource` — OSLC requirement resource
`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object

OSLC requirement or requirement collection resource object, specified as an `oslc.rm.Requirement` or `oslc.rm.RequirementCollection` object.

Output Arguments

`ref` — Referenced requirement
`slreq.Reference`

Referenced requirement, returned as an `slreq.Reference` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `slreq.Reference` | `getLinks` | `getRequirementLinks`

Topics

"Link and Trace Requirements with IBM DOORS Next"

getStatus

Package: oslc.qm

Get locally stored status from OSLC test result resource object

Syntax

```
status = getStatus(myTR)
```

Description

status = getStatus(myTR) returns the text contents of the RDF/XML element oslc_qm:status for the test result myTR. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website and QM Resource Definitions on the Open Services for Lifecycle Collaboration (OSLC) website.

Examples

Get Test Result Status

This example shows how to get the OSLC test result status.

After you have created and configured the OSLC client myClient as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test result resource type. Query the service provide for existing test results.

```
myQueryCapability = getQueryService(myClient,'TestResult');
testResults = queryTestResults(myQueryCapability)
```

```
testResults = 

  1×9 TestResult array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Retrieve the test result status for one of the test results.

```
myTR = testResults(1);
status = getStatus(myTR)
status =

    'example.qm.execution.state.passed'
```

Input Arguments

`myTR` — Test result resource

`oslc.qm.TestResult` object

OSLC test result resource, specified as an `oslc.qm.TestResult` object.

Output Arguments

`status` — Test result resource status

character vector

OSLC test result resource status, returned as a character vector.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.qm.TestResult` | `createTestResult`

External Websites

The OSLC Quality Management (QM) Vocabulary

slreq.getTraceabilityMatrixOptions

Create options structure for traceability matrix

Syntax

```
opts = slreq.getTraceabilityMatrixOptions
opts = slreq.getTraceabilityMatrixOptions('current')
```

Description

`opts = slreq.getTraceabilityMatrixOptions` creates an empty traceability matrix options structure.

`opts = slreq.getTraceabilityMatrixOptions('current')` creates a traceability matrix options structure containing the artifacts from the selected tab in the Traceability Matrix window.

Examples

Programmatically Generate a Traceability Matrix

This example shows how to create an options structure for a traceability matrix, then generate a matrix using those options.

Open the Requirements Definition for a Cruise Control Model project.

```
slreqCCProjectStart;
```

Create an options structure for a traceability matrix.

```
opts = slreq.getTraceabilityMatrixOptions;
```

Set the `leftArtifacts` and `topArtifacts` fields of `opts`. Enter a cell array containing the name of the artifacts that you want to use in your traceability matrix.

```
opts.leftArtifacts = {'crs_req.slreqx','crs_req_func_spec.slreqx'};
opts.topArtifacts = {'crs_plant.slx', 'crs_controller.slx','DriverSwRequest_Tests.mldatx'};
```

Generate the traceability matrix with the artifacts specified by `opts`.

```
slreq.generateTraceabilityMatrix(opts)
```

Cleanup

Clear the open requirement sets and link sets, and close the Traceability Matrix window.

```
slreq.clear;
```

Get Artifacts from the Selected Traceability Matrix

This example shows how to get the artifacts from the selected tab in the Traceability Matrix window, then re-generate the matrix.

Setup

Open the Requirements Definition for a Cruise Control Model project.

```
slreqCCProjectStart;
```

Load the `crs_controller` model, then open the Traceability Matrix window.

```
load_system('crs_controller');
slreq.generateTraceabilityMatrix;
```

Create the Traceability Matrix

1. In the Traceability Matrix window, in the **Select Artifacts** dialog, set **Left** to `crs_req_func.slreqx` and **Top** to `crs_controller.slx`.
2. Click **Generate Matrix**.

Get Artifacts from the Traceability Matrix

Without closing the Traceability Matrix window, get the artifacts that were used to generate the matrix.

```
opts = slreq.getTraceabilityMatrixOptions('current')
```

```
opts = struct with fields:
    leftArtifacts: {'C:\Users\jdoe\MATLAB\Projects\examples\CruiseRequirementsExample\documents\c
     topArtifacts: {'C:\Users\jdoe\MATLAB\Projects\examples\CruiseRequirementsExample\models\crs_
```

Close the Traceability Matrix window. Re-generate the matrix with the artifacts specified by `opts`.

```
slreq.generateTraceabilityMatrix(opts)
```

Cleanup

Clear the open requirement sets and link sets, and close the Traceability Matrix window.

```
slreq.clear;
```

Output Arguments

`opts` — Traceability matrix options

`struct`

Traceability matrix options, specified as a `struct` with these fields:

- `leftArtifacts`
- `topArtifacts`

Version History

Introduced in R2021a

See Also

`slreq.generateTraceabilityMatrix`

Topics

"Track Requirement Links with a Traceability Matrix"

slreq.getTextRange, slreq.getTextRanges

Package: slreq

Get line ranges

Syntax

```
lr = slreq.getTextRange(fileName,lines)
lr = slreq.getTextRange(fileName,blockSID,lines)
lr = slreq.getTextRanges( ___ )
lr = slreq.getTextRange(fileName,ID)
```

Description

lr = slreq.getTextRange(fileName,lines) returns the line ranges associated with the lines of code, lines, in the file specified by fileName.

Note You must open the file in the MATLAB Editor before using this function.

lr = slreq.getTextRange(fileName,blockSID,lines) returns the line ranges associated with the lines in the MATLAB Function block specified by blockSID.

Note You must open the model in Simulink before using this function.

lr = slreq.getTextRanges(___) is an alternative way to execute slreq.getTextRange.

lr = slreq.getTextRange(fileName,ID) returns the line range associated with the ID specified by ID. slreq.getTextRanges does not work for this syntax.

Examples

Modify Line Numbers for Line Ranges

This example shows how to modify line numbers for an slreq.TextRange object.

Open the myAdd code file.

```
file = "myAdd.m";
open(file);
```

Get the slreq.TextRange object associated with the third line in the myAdd function.

```
cr = slreq.getTextRange(file,3);
```

Get the line numbers associated with the slreq.TextRange object.

```
lines = getLineRange(cr)
lines = 1×2

     3     3
```

Associate the `slreq.TextRange` object with the function definition line.

```
setLineRange(cr,1)
```

Confirm that the `slreq.TextRange` object is associated with the function definition line by getting the text contents of the line range.

```
text = getText(cr)
```

```
text = 
'function y = myAdd(u,v)'
```

Get Line Ranges in MATLAB Function Blocks

This example shows how to get `slreq.TextRange` objects in MATLAB Function blocks.

Open the `myAddModel` Simulink® model.

```
model = "myAddModel";
open_system(model);
```

Get the SID of the MATLAB Function block and return it as a string.

```
block = "myAddModel/MATLAB Function";
SID = get_param(block,"SID")
```

```
SID = 
'8'
```

Get the `slreq.TextRange` object associated with the first line of the MATLAB Function block.

```
cr = slreq.getTextRange(model,SID,1);
```

Get Line Ranges by ID

This example shows how to get `slreq.TextRange` objects by using the value of the ID property.

Open the `myAdd` code file.

```
file = "myAdd.m";
open(file);
```

Get the `slreq.TextRange` object associated with the ID `738659.742.1`.

```
cr = slreq.getTextRange(file,"738659.742.1");
```

Input Arguments

`fileName` — File name
string scalar | character vector

Name of the file containing the lines of code, specified as a string scalar or character vector.

Example: `"myAdd.m"`,`"vdp.slx"`

`lines` — Start and end line numbers
scalar `double` | `double` array

Start and end line numbers for the line range, specified as a double array of the form `[start end]` or a scalar double.

Example: `[1 4]`, `1`

`blockSID` — MATLAB Function block SID
string scalar | character vector

MATLAB Function block SID, specified as a string scalar or character vector.

Example: `"30"`

`ID` — Line range ID
string scalar | character vector

Line range ID, specified as a string scalar or character vector. The ID is the `“Id” on page 7-0` property of the object.

Example: `"738659.742.1"`

Output Arguments

`lr` — Line range
`slreq.TextRange` array

Line range, returned as an array of `slreq.TextRange` objects.

Tips

- You can also use `slreq.LinkSet.getTextRange` to get code range objects.

Version History

Introduced in R2022b

See Also

`slreq.TextRange` | `slreq.createTextRange` | `slreq.LinkSet.getTextRange`

Topics
“Requirements Traceability for MATLAB Code”

getUser

Package: `oslc`

Get user for OSLC client

Syntax

```
user = getUser(myClient)
```

Description

`user = getUser(myClient)` returns the configured user for the OSLC client `myClient`.

Examples

Get User for an OSLC Client

This example shows how to get the user for an OSLC client created in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

After you have created and configured an OSLC client as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, get the user for the OSLC client `myClient`.

```
user = getUser(myClient)
```

```
user =

    'jdoe'
```

Input Arguments

`myClient` — OSLC client
`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

Output Arguments

`user` — User for OSLC client
character vector

User for the OSLC client, returned as a character vector.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `setUser` | `login`

hideAssumptionColumn

Package: `slreq.modeling`

Hide Precondition column in Assumptions tab

Syntax

```
hideAssumptionColumn(reqTable)
```

Description

`hideAssumptionColumn(reqTable)` hides the **Precondition** column in the **Assumptions** tab of the Requirements Table block, `reqTable`. The **Precondition** column must be empty.

Examples

Hide the Precondition Column in a Requirements Table Block

Find the Requirements Table block in a model by using `slreq.modeling.find`.

```
reqTable = slreq.modeling.find("myModel");
```

Hide the **Precondition** column in the **Assumptions** tab.

```
hideAssumptionColumn(reqTable);
```

Input Arguments

reqTable — Requirements Table block
`RequirementsTable` object

Requirements Table block, specified as a `RequirementsTable` object.

Version History

Introduced in R2022a

See Also

Objects
`RequirementsTable`

Functions
`showAssumptionColumn` | `showRequirementColumn` | `hideRequirementColumn`

hideRequirementColumn

Package: `slreq.modeling`

Hide columns in Requirements tab

Syntax

```
hideRequirementColumn(reqTable,column)
```

Description

`hideRequirementColumn(reqTable,column)` hides the column type specified by `column` in the **Requirements** tab of the Requirements Table block, `reqTable`. The column type must be empty.

Examples

Hide the Postcondition Columns in a Requirements Table Block

Find the Requirements Table block in a model by using `slreq.modeling.find`.

```
reqTable = slreq.modeling.find("myModel");
```

Hide the **Postcondition** columns in the **Requirements** tab.

```
hideRequirementColumn(reqTable,"Postconditions");
```

Input Arguments

`reqTable` — Requirements Table block
`RequirementsTable` object

Requirements Table block, specified as a `RequirementsTable` object.

`column` — Column type
`"Duration"` | `"Actions"` | `"Postconditions"`

Column type to be shown, specified as `"Duration"`, `"Actions"`, or `"Postconditions"`. Use this argument to show the **Duration**, **Action**, or **Postcondition** columns, respectively.

Data Types: `enumerated`

Version History

Introduced in R2022a

See Also

Objects
`RequirementsTable`

Functions
`showRequirementColumn` | `showAssumptionColumn` | `hideAssumptionColumn`

slreq.import

Import requirements from external documents

Syntax

```
slreq.import(docPath)
[refCount, reqSetFilePath, reqSetObj] = slreq.import(docPath)
slreq.import(docType)
slreq.import(docPath,Name,Value)
slreq.import(reqifFile)
slreq.import(reqifFile, 'mappingFile', mapFilePath)
slreq.import('clearcache')
```

Description

`slreq.import(docPath)` imports requirements content as referenced requirements from an external document located at `docPath`. The imported requirements are saved in a new requirement set with the same name as the external document. Use this import method to import requirements content from Microsoft® Office documents and from files in the Requirements Interchange Format (`.reqif` and `.reqifz`).

`[refCount, reqSetFilePath, reqSetObj] = slreq.import(docPath)` imports requirements content as referenced requirements from an external document located at `docPath` and returns the number of references imported `refCount`. The imported requirements are saved in the requirement set `reqSetObj` located at `reqSetFilePath` with the same name as the external document.

`slreq.import(docType)` imports requirements content as referenced requirements from an external document that is of a registered document type `docType`. The imported requirements are saved in a new requirement set with the same name as the external document.

`slreq.import(docPath,Name,Value)` imports requirements content as referenced requirements from an external document located at `docPath` with options specified by one or more `Name, Value` pair arguments.

`slreq.import(reqifFile)` imports requirement content from the ReqIF file `reqifFile` using a pre-configured attribute mapping.

`slreq.import(reqifFile, 'mappingFile', mapFilePath)` imports requirement content from the ReqIF file `reqifFile` using the attribute mapping specified by `mapFilePath`.

`slreq.import('clearcache')` cleans up temporary HTML files that are created when importing rich text requirements.

Examples

Import Referenced Requirements

```
% Import referenced requirements from Microsoft Office documents
slreq.import('Specification002.docx');
slreq.import('D:/Projects/Requirements/Safety321.xlsx');

% Import referenced requirements from an IBM Rational DOORS Module
slreq.import('linktype_rmi_doors');
```

For more information on importing referenced requirements from third-party applications, see "Import Requirements from Third-Party Applications".

Input Arguments

docPath — Document location

character vector

The file path of the external requirements document, specified as a character vector.

docType — Document type

character vector

The document type of the external requirements document, specified as a character vector.

Example: `'linktype_rmi_doors'`

reqifFile — ReqIF file location

character vector

The file path of the ReqIF file, specified as a character vector.

mapFilePath — Attribute mapping file location

character vector

The file path of the attribute mapping file, specified as a character vector.

Name-Value Pair Arguments

Specify optional pairs of arguments as `Name1=Value1,...,NameN=ValueN`, where `Name` is the argument name and `Value` is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Before R2021a, use commas to separate each name and value, and enclose `Name` *in quotes.*

Example: `'ReqSet','design_specs.slreqx'`

AsReference — Option to import as references

`true` (default) | `false`

Option to import requirements as references, specified as a Boolean value. The value `false` is supported only for import from Microsoft Office documents.

attr2reqprop — ReqIF attribute mapping

`containers.Map` object

Import from ReqIF format, specifying the attribute mapping as a comma-separated pair consisting of `'attr2reqprop'` and a `containers.Map` object. For example:

```
attrMap = containers.Map('KeyType','char','ValueType','char')
attrMap('SourceID') = 'Custom ID'; % Built-in attribute
attrMap('ReqIF.ChapterName') = 'Summary'; % Built-in attribute
attrMap('Data Class') = 'MyDataClass'; % Custom attribute

slreq.import('myfile.reqif','attr2reqprop',attrMap);
```

Example: `slreq.import('myfile.reqif','attr2reqprop',attrMap);`

attributeColumn — Custom Attributes Column
double array

Column in the Microsoft Excel® spreadsheet that you want to map as custom attributes of the requirements in your requirement set, specified as a `double` array.

Example: `'attributeColumn',[4 6]`

attributes — Attribute names
cell array

Attribute names for custom attribute columns, specified as a cell array of character vectors.

Note When importing requirements from a Microsoft Excel spreadsheet, the length of this cell array must match the number of columns specified for import using the `attributeColumn` argument.

Example: `'attributes',{'Test Status','Test Procedure'}`

bookmarks — Option to import requirements using bookmarks
0 (default) | 1

Option to import requirements content using user-defined bookmarks, specified as a `1` or `0` of data type `logical`.

By default, Requirements Toolbox sets the value to `1` for Microsoft Word documents and `0` for Microsoft Excel spreadsheets.

Example: `'bookmarks',false`

columns — Range of columns
double array

Range of columns to import from Microsoft Excel spreadsheet, specified as a `double` array.

Example: `'columns',[1 6]`

createdByColumn — Created By Column
double

Column in the Microsoft Excel spreadsheet that you want to map to the `CreatedBy` property of the requirements in your requirement set, specified as a `double`.

Example: `'createdByColumn',5`

descriptionColumn — Description Column
double

Column in the Microsoft Excel spreadsheet that you want to map to the `Description` property of the requirements in your requirement set, specified as a `double`.

Example: `'descriptionColumn',2`

`idColumn` — ID Column

`double`

Column in the Microsoft Excel spreadsheet that you want to map to the `ID` property of the requirements in your requirement set, specified as a `double`.

Example: `'idColumn',1`

`keywords` — Attribute to map to `Keywords`

string scalar | character vector

Name of the attribute from the external document that you want to map to the `Keywords` property for the imported requirements.

Use this argument when you import from IBM Rational DOORS or custom document types.

Example: `"keywords","Requirement Keywords"`

`keywordsColumn` — Keywords Column

`double`

Column in the Microsoft Excel spreadsheet that you want to map to the `Keywords` property of the requirements in your requirement set, specified as a `double`.

Example: `'keywordsColumn',3`

`match` — Regular expression pattern

character vector

Regular expression pattern for ID search in Microsoft Office documents.

Example: `'match','^REQ\d+'`

`modifiedByColumn` — Modified By Column

`double`

Column in the Microsoft Excel spreadsheet that you want to map to the `ModifiedBy` property of the requirements in your requirement set, specified as a `double`.

Example: `'modifiedByColumn',6`

`postImportFcn` — Custom post-import callback

string scalar | character vector

Custom post-import callback script name to use during import, specified as a string scalar or character vector.

The script that you assign to this callback executes after you import or update requirements.

Example: `"postImportFcn","myPostImportScript"`

`preImportFcn` — Custom pre-import callback

string scalar | character vector

Custom pre-import callback script name to use during import, specified as a string scalar or character vector.

The script that you assign to this callback executes before you import or update requirements.

Example: `"preImportFcn","myPreImportScript"`

`rationale` — Attribute to map to `Rationale`
string scalar | character vector

Name of the attribute from the external document that you want to map to the `Rationale` property for the imported requirements.

Use this argument when you import from IBM Rational DOORS or custom document types.

Example: `"rationale","Requirement Rationale"`

`rationaleColumn` — Rationale Column
`double`

Column in the Microsoft Excel spreadsheet that you want to map to the `Rationale` property of the requirements in your requirement set, specified as a `double`.

Example: `'rationaleColumn',5`

`ReqSet` — Requirement Set
character vector

The name for the requirement set that you import requirements into, specified as a character vector.

If the requirement set exists, the requirements import under a new Import node. If the requirement set does not exist, Requirements Toolbox creates it.

Example: `'ReqSet','My_Requirements_Set'`

`RichText` — Option to import rich text requirements
`false` (default) | `true`

Option to import requirements as rich text, specified as a Boolean value.

Example: `'RichText',true`

`rows` — Range of rows
`double` array

Range of rows to import from Microsoft Excel spreadsheet, specified as a `double` array.

Example: `'rows',[3 35]`

`sheet` — Worksheet name
character vector

Worksheet name from Microsoft Excel workbook, specified as a character vector.

Example: `'sheet','Sheet1'`

`summaryColumn` — Summary Column
`double`

Column in the Microsoft Excel spreadsheet that you want to map to the `Summary` property of the requirements in your requirement set, specified as a `double`.

Example: 'summaryColumn',4

USDM — USDM Format Import Option

character vector

Import from Microsoft Excel spreadsheets specified in the USDM (Universal Specification Describing Manner) standard format. Specify values as a character vector with the ID prefix optionally followed by a separator character.

Example: 'RQ -' will match entries with IDs similar to RQ01, RQ01-2, RQ01-2-1 etc.

Output Arguments

refCount — Imported referenced requirements count

double

Number of referenced requirements imported, returned as a double.

reqSetFilePath — Requirement set file path

character vector

The file path of the requirement set to which you import requirements to, returned as a character vector.

reqSetObj — Requirement set object

slreq.ReqSet object

Handle to the requirement set to which you import requirements to, returned as an slreq.ReqSet object.

Version History

Introduced in R2018a

See Also

slreq.Reference | createReferences

slreq.importViewSettings

Import view settings

Syntax

```
slreq.importViewSettings(viewSettingsFile)
slreq.importViewSettings(viewSettingsFile, overwriteFlag)
```

Description

`slreq.importViewSettings(viewSettingsFile)` imports Requirements Toolbox view settings from a MAT-file, `viewSettingsFile`.

`slreq.importViewSettings(viewSettingsFile, overwriteFlag)` imports Requirements Toolbox view settings from a MAT-file, `viewSettingsFile`, with an optional argument to overwrite existing view settings, specified by `overwriteFlag`.

Input Arguments

`viewSettingsFile` — View settings file
character vector

Requirements Toolbox view settings file name, specified as a character vector.

`overwriteFlag` — Overwrite flag
`false` (default) | true

Optional flag to specify whether the existing view settings are to be overwritten, specified as a Boolean.

Version History

Introduced in R2018b

See Also

`slreq.exportViewSettings` | `slreq.resetViewSettings`

slreq.load

Load requirement set or link set

Syntax

```
myReqSet = slreq.load(reqSetFile)
```

```
myReqSet = slreq.load(reqSetFile,forceResolve)
```

```
myLinkSet = slreq.load(linkSetFile)
```

```
myLinkSet = slreq.load(model)
[myLinkSet,myReqSet] = slreq.load(model)
```

Description

`myReqSet = slreq.load(reqSetFile)` loads a requirement set `myReqSet` into memory.

`myReqSet = slreq.load(reqSetFile,forceResolve)` loads a requirement set and fixes the outdated profile when `forceResolve` is `true`. For more information, see “Customize Requirements and Links by Using Stereotypes”.

`myLinkSet = slreq.load(linkSetFile)` loads a link set `myLinkSet` into memory.

`myLinkSet = slreq.load(model)` loads a Simulink model that contains at least one Requirements Table block, specified by `model`, and loads the associated link set into memory.

`[myLinkSet,myReqSet] = slreq.load(model)` loads a Simulink model that contains at least one Requirements Table block and loads the associated requirement set and link set into memory.

Examples

Load Requirement Set

Load a requirement set and return the associated `slreq.ReqSet` object.

```
rs = slreq.load("basicReqSet");
```

Load Requirement Set with Outdated Profile

Load a requirement set that has an outdated profile.

```
rs = slreq.load("myAddRequirementsOutdated",true);
```

Load Link Set

Load a link set that contains direct links between requirements in Microsoft® Word and model elements in Simulink®.

```
myLinkSet = slreq.load("slvnvdemo_fuelsys_officereq.slmx");
```

Load Requirement Set and Link Set for Requirements Table Block

Load the Simulink model®, requirement set, and link set associated with a Requirements Table block in a Simulink® model.

```
[myLinkSet,myReqSet] = slreq.load("reqTableDurationModel1.slx");
```

Input Arguments

reqSetFile — Requirement set file

string scalar | character vector

requirement set file to load, specified as a string scalar or character vector.

Example: "myReqSet.slreqx"

linkSetFile — Link set file

string scalar | character vector

Link set file to load, specified as a string scalar or character vector.

Example: "myLinkSet.slmx"

forceResolve — Option to fix outdated profile

0 (default) | 1

Option to fix outdated profile when loading requirement set, specified as 1 (true) or 0 (false) of data type logical.

Example: "myLinkSet.slmx"

model — Simulink model

string scalar | character vector

Simulink model to load, specified as a string scalar or character vector. The model must contain at least one Requirements Table block. Each block is associated with a requirement set. See “Configure Properties of Formal Requirements”. You must include the .slx extension.

Output Arguments

myReqSet — Loaded requirement set

slreq.ReqSet object

Loaded requirement set, returned as an slreq.ReqSet object.

`myLinkSet` — Loaded link set
`slreq.LinkSet` object

Loaded link set, returned as an `slreq.LinkSet` object.

Version History

Introduced in R2018a

See Also

`slreq.ReqSet` | `slreq.LinkSet` | `slreq.open` | Requirements Table

login

Package: `oslc`

Log in to OSLC client

Syntax

`login(myClient)`

Description

`login(myClient)` prompts for login credentials and authenticates `myClient` with the Open Services for Lifecycle Collaboration (OSLC) server.

Note If the `login` function does not work for your service provider, try using `setHttpOptions` and `setHttpHeader` to authenticate an instance of `oslc.Client` with your OSLC service provider. The `login` function might not work with some OSLC service providers.

Examples

Create and Configure an OSLC Client for the Requirements Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Then set the service root and catalog path for the requirements management domain and the configuration query path.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'/oslc_rm/catalog');
setConfigurationQueryPath(myClient,'gc/oslc-query/configurations');
myClient
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
```

```
providers =
  4×1 cell array

    {'OSLC Plugin'                                  }
    {'Model Based Design with OSLC'                 }
    {'OSLC4RM'                                      }
    {'Interactive Testing (Requirements Management)'}
```

```
setServiceProvider(myClient,'OSLC Plugin');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations = 

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient = 

  Client with properties:

           ServiceProvider: 'OSLC Plugin'
      ConfigurationContext: 'Initial Development'
                CatalogUrl: 'https://localhost:9443/rm/oslc_rm/catalog'
```

Input Arguments

myClient — OSLC client
oslc.Client object

OSLC client, specified as an oslc.Client object.

Version History

Introduced in R2021a

See Also

oslc.Client | setCatalogPath | setServer | setServiceRoot | setUser | setConfigurationQueryPath

slreq.inLinks

Get incoming links for requirement or other linkable item

Syntax

```
ks = slreq.inLinks(node)
```

Description

`ks = slreq.inLinks(node)` returns incoming links `ks`, a `Link` or `Link` array, to `nodes`, a `Requirement`, `Reference`, or other linkable item.

Examples

Determine Incoming and Outgoing Links

This example shows how to determine the incoming link for a requirement and outgoing link for a model object. Click the **Open Live Script** button to get copies of the example files.

Load Model and Requirement Set

```
load_system('reqs_validation_property_proving_original_model');
rqset = slreq.load('original_thrust_reverser_requirements.slreqx');
```

Get a Requirement from the Set

```
req = slreq.find('Type','Requirement','Summary','Maximum Throttle Threshold');
```

Determine Incoming Links for the Requirement

```
lkIn = slreq.inLinks(req)
```

```
lkIn = 
  Link with properties:

           Type: 'Implement'
    Description: 'R11: Maximum Throttle Threshold (original_thrust_reverser_requirements#11)'
       Keywords: {}
      Rationale: ''
      CreatedOn: 25-Mar-2019 16:10:06
      CreatedBy: 'asriram'
     ModifiedOn: 25-Mar-2019 16:10:06
     ModifiedBy: 'asriram'
       Revision: 14
            SID: 52
       Comments: [0x0 struct]
```

Determine the Incoming Link Source

```
lkSrc = source(lkIn);
```

Convert Link Source to Model Object

```
mo = slreq.structToObj(lkSrc);
```

Determine Outgoing Link from the Model Object

```
lkOut = slreq.outLinks(mo)
```

```
lkOut = 
  Link with properties:

           Type: 'Implement'
    Description: 'R11: Maximum Throttle Threshold (original_thrust_reverser_requirements#11)'
       Keywords: {}
      Rationale: ''
      CreatedOn: 25-Mar-2019 16:10:06
      CreatedBy: 'asriram'
     ModifiedOn: 25-Mar-2019 16:10:06
     ModifiedBy: 'asriram'
       Revision: 14
            SID: 52
       Comments: [0x0 struct]
```

Close Files

```
slreq.clear;
bdclose all;
```

Input Arguments

node — Linkable item to get incoming links for

struct

A linkable item that may have incoming requirements links. Common examples include a `Requirement` or `Reference`. Can be the output of `find`.

Example: `Requirement with properties`

Data Types: `struct`

Output Arguments

ks — Link(s) incoming to node

`Link` or `Link` array

A `Link` or `Link` array incoming to the linkable item.

Version History

Introduced in R2017b

See Also

`slreq.outLinks` | `slreq.structToObj`

slreq.new

Create requirement set

Syntax

```
newReqSet = slreq.new(reqSetName)
newReqSet = slreq.new(reqSetPath)
```

Description

newReqSet = slreq.new(reqSetName) creates a requirement set newReqSet with the name specified by reqSetName in the current working folder.

newReqSet = slreq.new(reqSetPath) creates a requirement set newReqSet in the folder specified by reqSetPath.

Note The folder specified by reqSetPath must exist on disk.

Examples

Create Requirement Set

```
% Create requirement set in current working folder
myReqSet1 = slreq.new('New_Req_Set_1')

myReqSet1 = 

  ReqSet with properties:

             Description: ''
                    Name: 'New_Req_Set_1'
                Filename: 'L:\New_Req_Set_1.slreqx'
                Revision: 1
                   Dirty: 1
    CustomAttributeNames: {}
               CreatedBy: 'John Doe'
               CreatedOn: 18-Feb-2008 20:54:52
              ModifiedBy: 'Jane Doe'
              ModifiedOn: 20-Jan-2016 12:44:12

% Create requirement set in a different directory
myReqSet2 = slreq.new('L:\Reqs_Work\New_Req_Set_2')

myReqSet2 = 

  ReqSet with properties:

             Description: ''
                    Name: 'New_Req_Set_2'
                Filename: 'L:\Reqs_Work\New_Req_Set_2.slreqx'
                Revision: 1
                   Dirty: 1
    CustomAttributeNames: {}
               CreatedBy: 'Jane Doe'
               CreatedOn: 11-Jan-2009 11:33:01
              ModifiedBy: 'John Doe'
              ModifiedOn: 18-Jan-2018 09:07:32
```

Input Arguments

`reqSetName` — Requirement set name

character vector

Name of the requirement set to create, specified as a character vector.

`reqSetPath` — Requirement set path

character vector

Folder to create requirement set in, specified as a character vector.

Output Arguments

newReqSet — Created requirement set

`slreq.ReqSet` object

The created requirement set, specified as an `slreq.ReqSet` object.

Version History

Introduced in R2018a

See Also

`slreq.ReqSet`

slreq.open

Open requirement set

Syntax

```
myReqSet = slreq.open(ReqSetFilePath)
myReqSet = slreq.open(ReqSetName)

myReqSet = slreq.open(model)
```

Description

`myReqSet = slreq.open(ReqSetFilePath)` loads the requirement set at `ReqSetFilePath` into memory. If the requirement set is already loaded into memory, the **Requirements Editor** opens. If the requirement set is already loaded and the **Requirements Editor** is open, the specified requirement set is selected in the **Requirements Editor**.

`myReqSet = slreq.open(ReqSetName)` loads the requirement set named `ReqSetName`.

`myReqSet = slreq.open(model)` loads the specified Simulink model specified by `model` and loads the requirement sets in the **Requirements Editor**. The model must contain at least one Requirements Table block.

Examples

Open a Requirement Set

This example shows how to load and open a requirement set in the **Requirements Editor** and return the associated `slreq.ReqSet` object.

```
rs = slreq.open("basicReqSet");
```

Input Arguments

`ReqSetFilePath` — Requirement set file path
string scalar | character vector

The full file path of the requirement set to be loaded, specified as a string scalar or character vector.

`ReqSetName` — Requirement set name
string scalar | character vector

The name of the requirement set to be loaded, specified as a string scalar or character vector.

`model` — Simulink model
string scalar | character vector

The Simulink model to load, specified as a string scalar or character vector. The model must contain at least one Requirements Table block. Each block is associated with a requirement set. See “Configure Properties of Formal Requirements”. You must include the `.slx` extension.

Output Arguments

`myReqSet` — Requirement set object
`slreq.ReqSet` object

Handle to the requirement set you open, returned as an `slreq.ReqSet` object.

Version History

Introduced in R2018a

See Also

`slreq.ReqSet` | **Requirements Editor** | Requirements Table

slreq.openRequirementsManager

Open Requirements Manager app in model

Syntax

```
slreq.openRequirementsManager(model)
```

Description

`slreq.openRequirementsManager(model)` opens the **Requirements Manager** app in the Simulink model `model` and brings the model to the front. The model must be open.

Examples

Open and Close the Requirements Manager App Programmatically

This example shows how to open and close the **Requirements Manager** app programmatically.

Open the `CruiseRequirementsExample` project and open the `crs_plant` model.

```
slreqCCProjectStart;
open_system("crs_plant");
```

Open the **Requirements Manager** app in the `crs_plant` model.

```
slreq.openRequirementsManager("crs_plant");
```

Close the **Requirements Manager** app in the `crs_plant` model.

```
slreq.closeRequirementsManager("crs_plant");
```

Input Arguments

`model` — Simulink model
string scalar | character vector | model handle

Simulink model to open the **Requirements Manager** app in, specified as a string scalar or character vector that contains the name of the model, or a model handle.

Tips

- Use `bdroot` to get the top-level model of the current system.
- Use `get_param` and `bdroot` to get the handle for the top-level model of the current system:

  ```
  model = get_param(bdroot,"Handle");
  ```
- Open the **Requirements Editor** with `slreq.editor`.

Version History

Introduced in R2021a

See Also

`slreq.closeRequirementsManager` | `bdroot` | `slreq.editor` | **Requirements Editor**

slreq.outLinks

Get outgoing links for a block or other linkable item

Syntax

```
ks = slreq.outLinks(node)
```

Description

`ks = slreq.outLinks(node)`, returns outgoing links `ks`, a `Link` or `Link` array, from `node`, a block or other linkable item.

Examples

Determine Incoming and Outgoing Links

This example shows how to determine the incoming link for a requirement and outgoing link for a model object. Click the **Open Live Script** button to get copies of the example files.

Load Model and Requirement Set

```
load_system('reqs_validation_property_proving_original_model');
rqset = slreq.load('original_thrust_reverser_requirements.slreqx');
```

Get a Requirement from the Set

```
req = slreq.find('Type','Requirement','Summary','Maximum Throttle Threshold');
```

Determine Incoming Links for the Requirement

```
lkIn = slreq.inLinks(req)
```

```
lkIn = 
  Link with properties:

           Type: 'Implement'
    Description: 'R11: Maximum Throttle Threshold (original_thrust_reverser_requirements#11)'
       Keywords: {}
      Rationale: ''
      CreatedOn: 25-Mar-2019 16:10:06
      CreatedBy: 'asriram'
     ModifiedOn: 25-Mar-2019 16:10:06
     ModifiedBy: 'asriram'
       Revision: 14
            SID: 52
       Comments: [0x0 struct]
```

Determine the Incoming Link Source

```
lkSrc = source(lkIn);
```

Convert Link Source to Model Object

```
mo = slreq.structToObj(lkSrc);
```

Determine Outgoing Link from the Model Object

```
lkOut = slreq.outLinks(mo)
```

```
lkOut = 
  Link with properties:

           Type: 'Implement'
    Description: 'R11: Maximum Throttle Threshold (original_thrust_reverser_requirements#11)'
       Keywords: {}
      Rationale: ''
      CreatedOn: 25-Mar-2019 16:10:06
      CreatedBy: 'asriram'
     ModifiedOn: 25-Mar-2019 16:10:06
     ModifiedBy: 'asriram'
       Revision: 14
            SID: 52
       Comments: [0x0 struct]
```

Close Files

```
slreq.clear;
bdclose all;
```

Input Arguments

node — Linkable item to get outgoing links for

struct

A linkable item that may have outgoing requirements links. Common examples include a block, function, or `TestCase`.

Example: `Simulink.Gain`

Example: `TestCase with properties`

Data Types: `struct`

Output Arguments

ks — Link(s) incoming to node

`Link` or `Link` array

A `Link` or `Link` array incoming to the linkable item.

Version History

Introduced in R2017b

See Also

`slreq.inLinks` | `slreq.structToObj`

queryChangeRequests

Package: `oslc.core`

Query OSLC service provider for change requests

Syntax

```
changeRequests = queryChangeRequests(myQueryCapability)
```

Description

`changeRequests = queryChangeRequests(myQueryCapability)` returns the available change request resources in the Open Services for Lifecycle Collaboration (OSLC) service provider that is associated with the query capability `myQueryCapability`.

Examples

Query Service Provider for Change Requests

This example shows how to submit a query for change request resources with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Change Management Domain” on page 2-5, create a query capability for the change request resource type.

```
myQueryCapability = getQueryService(myClient,'ChangeRequest')
```

```
myQueryCapability = 

  QueryCapability with properties:

    queryParameter: ''
            client: [1×1 oslc.Client]
         queryBase: 'https://localhost:9443/rm/views?oslc.query=true&projectURL=http...'
     resourceShape: {0×1 cell}
               dom: [1×1 matlab.io.xml.dom.Element]
             title: 'Query Capability'
      resourceType: {1×2 cell}
```

Submit a query request to the service provider for the available change request resources.

```
changeRequests = queryChangeRequests(myQueryCapability)
```

```
changeRequests = 

  1×7 ChangeRequest array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Input Arguments

`myQueryCapability` — Resource query capability
`oslc.core.QueryCapability` object

OSLC resource query capability, specified as an `oslc.core.QueryCapability` object.

Output Arguments

`changeRequests` — Change request resource
`oslc.cm.ChangeRequest` object

OSLC change request resource, returned as an `oslc.cm.ChangeRequest` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.cm.ChangeRequest` | `oslc.core.QueryCapability`

queryRequirementCollections

Package: `oslc.core`

Query OSLC service provider for requirement collections

Syntax

```
reqCollections = queryRequirementCollections(myQueryCapability)
```

Description

`reqCollections = queryRequirementCollections(myQueryCapability)` returns the available requirement collection resources in the Open Services for Lifecycle Collaboration (OSLC) service provider that is associated with the query capability `myQueryCapability`.

Examples

Query Service Provider for Requirement Collections

This example shows how to submit a query request for requirement collection resources with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement collection resource type.

```
myQueryCapability = getQueryService(myClient,'RequirementCollection')
```

```
myQueryCapability = 

  QueryCapability with properties:

    queryParameter: ''
            client: [1×1 oslc.Client]
         queryBase: 'https://localhost:9443/rm/views?oslc.query=true&projectURL=http...'
     resourceShape: {0×1 cell}
               dom: [1×1 matlab.io.xml.dom.Element]
             title: 'Query Capability'
      resourceType: {1×2 cell}
```

Submit a query request to the service provider for the available requirement collection resources.

```
reqCollections = queryRequirementCollections(myQueryCapability)
```

```
reqCollections = 

  1×5 RequirementCollection array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Input Arguments

`myQueryCapability` — Resource query capability
`oslc.core.QueryCapability` object

OSLC resource query capability, specified as an `oslc.core.QueryCapability` object.

Output Arguments

`reqCollections` — Requirement collection resource
`oslc.rm.RequirementCollection` object

OSLC requirement collection resource, returned as an `oslc.rm.RequirementCollection` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.cm.ChangeRequest` | `oslc.core.QueryCapability` |
`queryRequirements`

queryRequirements

Package: `oslc.core`

Query OSLC service provider for requirements

Syntax

```
reqs = queryRequirements(myQueryCapability)
```

Description

`reqs = queryRequirements(myQueryCapability)` returns the available requirement resources in the Open Services for Lifecycle Collaboration (OSLC) service provider that is associated with the query capability `myQueryCapability`.

Examples

Submit a Query Request with Query Capability

This example shows how to submit a query request with a configured OSLC client.

After you have created and configured an OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement resource type.

```
myQueryCapability = getQueryService(myClient,'Requirement')
```

```
myQueryCapability = 

  QueryCapability with properties:

    queryParameter: ''
            client: [1×1 oslc.Client]
         queryBase: 'https://localhost:9443/rm/views?oslc.query=true&projectURL=http...'
     resourceShape: {0×1 cell}
             title: 'Query Capability'
      resourceType: {1×2 cell}
```

Submit a query request to the service provider for the available requirement resources.

```
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign the first returned requirement resource to the variable `myReq`, then fetch the full resource properties for `myReq`. Examine the `Title` property.

```
myReq = reqs(1);
status = fetch(myReq,myClient)

status = 

  StatusCode enumeration

    OK

title = myReq.Title

title =

    'Requirement 1'
```

Input Arguments

`myQueryCapability` — Resource query capability
`oslc.core.QueryCapability` object

OSLC resource query capability, specified as an `oslc.core.QueryCapability` object.

Output Arguments

`reqs` — Requirement resource
`oslc.rm.Requirement` object

OSLC requirement resource, returned as an `oslc.rm.Requirement` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.core.QueryCapability` | `queryRequirementCollections`

queryTestCases

Package: `oslc.core`

Query OSLC service provider for test cases

Syntax

```
testCases = queryTestCases(myQueryCapability)
```

Description

`testCases = queryTestCases(myQueryCapability)` returns the available test case resources in the Open Services for Lifecycle Collaboration (OSLC) service provider that is associated with the query capability `myQueryCapability`.

Examples

Query Service Provider for Test Cases

This example shows how to submit a query request for test case resources with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test case resource type.

```
myQueryCapability = getQueryService(myClient,'TestCase')
```

```
myQueryCapability = 

  QueryCapability with properties:

    queryParameter: ''
            client: [1×1 oslc.Client]
         queryBase: 'https://localhost:9443/qm/views?oslc.query=true&projectURL=http...'
     resourceShape: {0×1 cell}
               dom: [1×1 matlab.io.xml.dom.Element]
             title: 'Query Capability'
      resourceType: {1×2 cell}
```

Submit a query request to the service provider for the available test case resources.

```
testCases = queryTestCases(myQueryCapability)
```

```
testCases = 

  1×5 TestCase array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Input Arguments

`myQueryCapability` — Resource query capability
`oslc.core.QueryCapability` object

OSLC resource query capability, specified as an `oslc.core.QueryCapability` object.

Output Arguments

`testCases` — Test case resource
`oslc.qm.TestCase` object

OSLC test case resource, returned as an `oslc.qm.TestCase` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.cm.ChangeRequest` | `oslc.core.QueryCapability` | `queryTestExecutionRecords` | `queryTestPlans` | `queryTestResults` | `queryTestScripts`

queryTestExecutionRecords

Package: `oslc.core`

Query OSLC service provider for test execution records

Syntax

```
testExecutionRecords = queryTestExecutionRecords(myQueryCapability)
```

Description

`testExecutionRecords = queryTestExecutionRecords(myQueryCapability)` returns the available test execution record resources in the Open Services for Lifecycle Collaboration (OSLC) service provider that is associated with the query capability `myQueryCapability`.

Examples

Query Service Provider for Test Execution Records

This example shows how to submit a query request for test execution record resources with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test execution record resource type.

```
myQueryCapability = getQueryService(myClient,'TestExecutionRecord')
```

```
myQueryCapability = 

  QueryCapability with properties:

    queryParameter: ''
            client: [1×1 oslc.Client]
         queryBase: 'https://localhost:9443/rm/views?oslc.query=true&projectURL=http...'
     resourceShape: {0×1 cell}
               dom: [1×1 matlab.io.xml.dom.Element]
             title: 'Query Capability'
      resourceType: {1×2 cell}
```

Submit a query request to the service provider for the available test execution record resources.

```
testExecutionRecords = queryTestExecutionRecords(myQueryCapability)
```

```
testExecutionRecords = 

  1×5 TestExecutionRecord array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Input Arguments

`myQueryCapability` — Resource query capability
`oslc.core.QueryCapability` object

OSLC resource query capability, specified as an `oslc.core.QueryCapability` object.

Output Arguments

`testExecutionRecords` — Test execution record resource
`oslc.qm.TestExecutionRecord` object

OSLC test execution record resource, returned as an `oslc.qm.TestExecutionRecord` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.cm.ChangeRequest` | `oslc.core.QueryCapability` | `queryTestPlans` | `queryTestResults` | `queryTestCases` | `queryTestScripts`

queryTestPlans

Package: `oslc.core`

Query OSLC service provider for test plans

Syntax

```
testPlans = queryTestPlans(myQueryCapability)
```

Description

`testPlans = queryTestPlans(myQueryCapability)` returns the available test plan resources in the Open Services for Lifecycle Collaboration (OSLC) service provider that is associated with the query capability `myQueryCapability`.

Examples

Query Service Provider for Test Plans

This example shows how to submit a query request for test plan resources with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test plan resource type.

```
myQueryCapability = getQueryService(myClient,'TestPlan')
```

```
myQueryCapability = 

  QueryCapability with properties:

    queryParameter: ''
            client: [1×1 oslc.Client]
         queryBase: 'https://localhost:9443/rm/views?oslc.query=true&projectURL=http...'
     resourceShape: {0×1 cell}
               dom: [1×1 matlab.io.xml.dom.Element]
             title: 'Query Capability'
      resourceType: {1×2 cell}
```

Submit a query request to the service provider for the available test plan resources.

```
testPlans = queryTestPlans(myQueryCapability)
```

```
testPlans = 

  1×5 TestPlan array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Input Arguments

myQueryCapability — Resource query capability
oslc.core.QueryCapability object

OSLC resource query capability, specified as an oslc.core.QueryCapability object.

Output Arguments

testPlans — Test plan resource
oslc.qm.TestPlan object

OSLC test plan resource, returned as an oslc.qm.TestPlan object.

Version History

Introduced in R2021a

See Also

oslc.Client | oslc.cm.ChangeRequest | oslc.core.QueryCapability | queryTestExecutionRecords | queryTestResults | queryTestCases | queryTestScripts

queryTestResults

Package: oslc.core

Query OSLC service provider for test results

Syntax

```
testResults = queryTestResults(myQueryCapability)
```

Description

testResults = queryTestResults(myQueryCapability) returns the available test result resources in the Open Services for Lifecycle Collaboration (OSLC) service provider that is associated with the query capability myQueryCapability.

Examples

Query Service Provider for Test Results

This example shows how to submit a query request for test result resources with a configured OSLC client.

After you have created and configured the OSLC client myClient as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test result resource type.

```
myQueryCapability = getQueryService(myClient,'TestResult')
```

```
myQueryCapability = 

  QueryCapability with properties:

    queryParameter: ''
            client: [1×1 oslc.Client]
         queryBase: 'https://localhost:9443/rm/views?oslc.query=true&projectURL=http...'
     resourceShape: {0×1 cell}
               dom: [1×1 matlab.io.xml.dom.Element]
             title: 'Query Capability'
      resourceType: {1×2 cell}
```

Submit a query request to the service provider for the available test result resources.

```
testResults = queryTestResults(myQueryCapability)
```

```
testResults = 

  1×5 TestResult array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Input Arguments

`myQueryCapability` — Resource query capability
`oslc.core.QueryCapability` object

OSLC resource query capability, specified as an `oslc.core.QueryCapability` object.

Output Arguments

`testResults` — Test result resource
`oslc.qm.TestResult` object

OSLC test result resource, returned as an `oslc.qm.TestResult` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.cm.ChangeRequest` | `oslc.core.QueryCapability` |
`queryTestExecutionRecords` | `queryTestPlans` | `queryTestCases` | `queryTestScripts`

queryTestScripts

Package: `oslc.core`

Query OSLC service provider for test scripts

Syntax

```
testScripts = queryTestScripts(myQueryCapability)
```

Description

`testScripts = queryTestScripts(myQueryCapability)` returns the available test script resources in the Open Services for Lifecycle Collaboration (OSLC) service provider that is associated with the query capability `myQueryCapability`.

Examples

Query Service Provider for Test Scripts

This example shows how to submit a query request for test script resources with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test script resource type.

```
myQueryCapability = getQueryService(myClient,'TestScript')
```

```
myQueryCapability = 

  QueryCapability with properties:

    queryParameter: ''
            client: [1×1 oslc.Client]
         queryBase: 'https://localhost:9443/rm/views?oslc.query=true&projectURL=http...'
     resourceShape: {0×1 cell}
               dom: [1×1 matlab.io.xml.dom.Element]
             title: 'Query Capability'
      resourceType: {1×2 cell}
```

Submit a query request to the service provider for the available test script resources.

```
testScripts = queryTestScripts(myQueryCapability)
```

```
testScripts = 

  1×5 TestScript array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Input Arguments

`myQueryCapability` — Resource query capability
`oslc.core.QueryCapability` object

OSLC resource query capability, specified as an `oslc.core.QueryCapability` object.

Output Arguments

`testScripts` — Test script resource
`oslc.qm.TestScript` object

OSLC test script resource, returned as an `oslc.qm.TestScript` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.cm.ChangeRequest` | `oslc.core.QueryCapability` | `queryTestExecutionRecords` | `queryTestPlans` | `queryTestResults` | `queryTestCases`

slreq.refreshCustomizations

Register Requirements Toolbox customizations

Syntax

```
slreq.refreshCustomizations
```

Description

`slreq.refreshCustomizations` searches the MATLAB path for `sl_customization.m` files and registers the requirement type and link type customizations defined in the files.

Note If Simulink is installed, this function behaves the same as `sl_refresh_customizations`. If Simulink is not installed, this function only registers Requirements Toolbox customizations and silently ignores other customizations.

Examples

Define and Register Custom Requirement and Link Types by Using an `sl_customization` File

This example shows how to define and register custom requirement types and custom link types by using an `sl_customization` file.

Create an `sl_customization` File

In MATLAB®, select the **Home** tab and click **New Script**. Copy and paste this code in the script.

```
function sl_customization(cm)
    cObj = cm.SimulinkRequirementsCustomizer;
end
```

Select the **Editor** tab and click **Save**. Save the file as `sl_customization.m`.

Define Requirements Toolbox Customizations

Define a custom requirement type called `Stakeholder` by using the `addCustomRequirementType` function. Define the custom requirement type as a subtype of the built-in `Functional` type, then provide a description for the custom requirement type. Copy and paste this code in the `sl_customization` file.

```
addCustomRequirementType(cObj,"Stakeholder",slreq.custom.RequirementType.Functional,...
    "Stakeholder functional requirements");
```

Define a custom link type as a subtype of the built-in `Relate` type called `Trace` by using the `addCustomLinkType` function. Define the forward and backward link direction as `Traces` and `Traced from`, respectively, then provide a description for the custom link type. Copy and paste this code in the `sl_customization` file and click **Save**.

```
addCustomLinkType(cObj,"Trace",slreq.custom.LinkType.Relate,"Traces",...
    "Traced from","General purpose link type from requirement to other item.");
```

Register the Requirements Toolbox Customizations

The updated `sl_customization` file defines the requirement type and link type customizations.

```
type sl_customization
```

```
function sl_customization(cm)
    cObj = cm.SimulinkRequirementsCustomizer;
    addCustomRequirementType(cObj,"Stakeholder",slreq.custom.RequirementType.Functional,...
    "Stakeholder functional requirements");
    addCustomLinkType(cObj,"Trace",slreq.custom.LinkType.Relate,"Traces",...
    "Traced from","General purpose link type from requirement to other item.");
end
```

Register the Requirements Toolbox customizations.

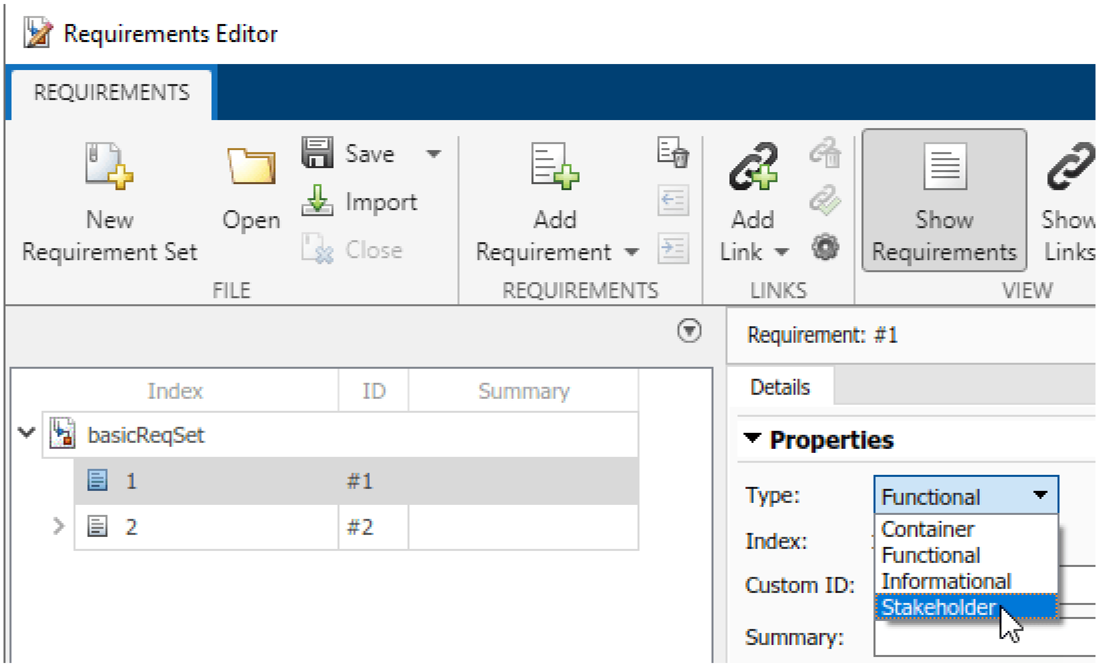
```
slreq.refreshCustomizations
```

View Customizations in the Requirements Editor

Open the `basicReqSet` requirement set in the **Requirements Editor**.

```
slreq.open("basicReqSet");
```

In the **Requirements Editor**, click **Show Requirements** and then select the requirement with index 1. In the right pane, under **Properties**, in the **Type** menu, select `Stakeholder` from the list.



Index	ID	Summary
basicReqSet		
1	#1	
2	#2	

Requirement: #1

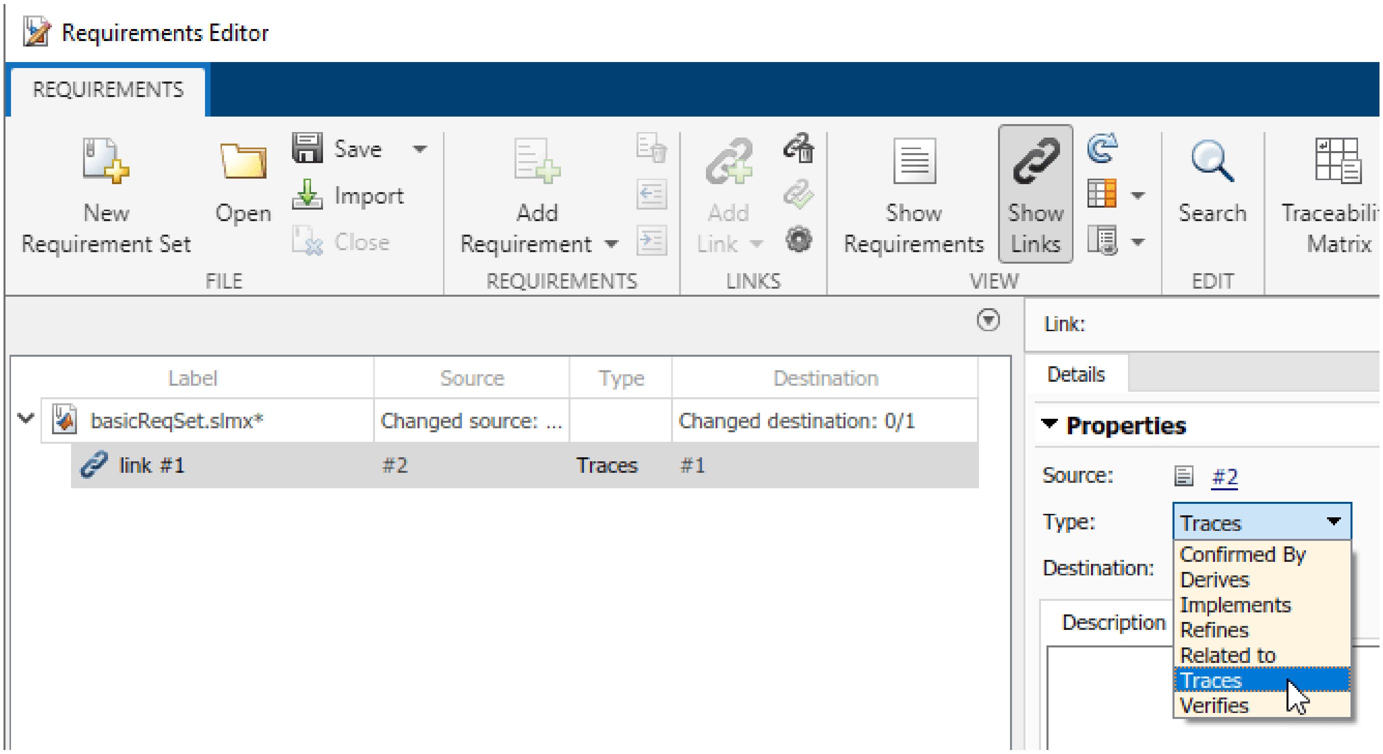
Type: Functional

Index:

Custom ID:

Summary:

Click **Show Links** and select `link #1`. In the right pane, under **Properties**, in the **Type** menu, select `Traces` from the list.



Label	Source	Type	Destination
basicReqSet.slmx*	Changed source: ...		Changed destination: 0/1
link #1	#2	Traces	#1

Source: #2

Type: Traces

Destination:

Version History

Introduced in R2022a

See Also

Topics

`sl_refresh_customizations`

“Define Custom Requirement and Link Types by Using sl_customization Files”

“Register Customizations with Simulink” (Simulink)

slreq.refreshLinkDependencies

Refresh requirement link dependencies

Syntax

```
slreq.refreshLinkDependencies()
```

Description

`slreq.refreshLinkDependencies()` recreates all requirement link dependencies. Use this command to:

- Refresh corrupted, missing, or incorrect requirement link dependencies if a project is open.
- Create dependency information when working with older projects and model files with embedded link sets.

Version History

Introduced in R2018b

See Also

Topics

"View and Edit Links"

slreq.registerNavigationFcn

Register navigation function for referenced requirements

Syntax

```
slreq.registerNavigationFcn(domain,callbackFunction)
```

Description

`slreq.registerNavigationFcn(domain,callbackFunction)` registers a navigation callback function, `callbackFunction`, for referenced requirements imported from ReqIF files that have the Domain property value equal to `domain`. Use this function to enable navigation from the **Requirements Editor** to the original requirement in a third-party requirements management tool.

Note The navigation callback function should take this form:

```
function myCustomNavigationFunction(ref)
% Enter your implementation here
end
```

The function should take the `slreq.Reference` object as an input.

Examples

Register and Get a Navigation Callback Function for Referenced Requirements Imported from ReqIF Files

This example shows how to register and get the registered navigation callback function for referenced requirements imported from ReqIF™ files.

Import the ReqIF file `mySpec.reqif` into Requirements Toolbox™.

```
count = slreq.import("mySpec.reqif");
```

Get the handle for the imported requirement set. Check the domain for the imported referenced requirements.

```
rs = slreq.find("Type","ReqSet","Name","mySpec");
topRef = children(rs);
domain = topRef.Domain
```

```
domain = 
'Third-Party Tool'
```

Check if there are any currently registered navigation callback functions for the domain.

```
callback = slreq.getNavigationFcn(domain)
callback =

  0x0 empty char array
```

Register the custom navigation callback function `myNavigationFcn` for the domain. Confirm that the navigation callback function was registered.

```
slreq.registerNavigationFcn(domain,"myNavigationFunction")
callback = slreq.getNavigationFcn(domain)
```

```
callback =
'myNavigationFunction'
```

Cleanup

Clear the open requirement sets without saving. Unregister the custom navigation callback function.

```
slreq.clear;
slreq.registerNavigationFcn(domain,'');
```

Input Arguments

`domain` — Third-party requirements tool domain

string scalar | character vector

Third-party requirements tool domain for which to register the navigation callback function, specified as a string scalar or character vector.

This argument should match the Domain property value of the referenced requirement.

`callbackFunction` — Navigation callback function name

string scalar | character vector

Navigation callback function name to register, specified as a string scalar or a character vector.

Tips

- You can clear the registered navigation callback function for a domain by entering:

  ```
  slreq.registerNavigationFcn(domain,"")
  ```
- You can get the value of the Domain property for a referenced requirement at the MATLAB command prompt by entering:

  ```
  domain = myReferencedRequirement.Domain
  ```

  ```
  domain =

      'Third-Party Tool'
  ```
- You can use the template generated by Requirements Toolbox to create your navigation callback function. For more information, see “Navigate from Referenced Requirements to Requirements in Third-Party Applications”.

Version History

Introduced in R2019a

See Also

`slreq.getNavigationFcn` | `slreq.Reference` | `slreq.import` | **Requirements Editor**

Topics

"Navigate from Referenced Requirements to Requirements in Third-Party Applications"

remove

Package: oslc

Remove resource from OSLC service provider

Syntax

```
status = remove(resource,myClient)
```

Description

`status = remove(resource,myClient)` removes the resource `resource` from the Open Services for Lifecycle Collaboration (OSLC) service provider associated with `myClient` and returns the remove success status.

Examples

Remove an Existing Requirement

This example shows how to submit a query request for requirement resources with a configured OSLC client and remove a requirement resource.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement resource type.

```
myQueryCapability = getQueryService(myClient,'Requirement');
```

Submit a query request to the service provider for the available requirement resources.

```
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Retrieve the full resource data from the service provider for a requirement resource. Inspect the requirement resource.

```
myReq = reqs(1);
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration
```

```
    OK
```

```
myReq
```

```
myReq = 

  Requirement with properties:

    ResourceUrl: 'https://localhost:9443/rm/resources/_72lxMWJREeup0...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Requirement'
     Identifier: '1806'
```

Remove the requirement from the service provider.

```
status = remove(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Input Arguments

`resource` — OSLC resource object
`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object | `oslc.cm.ChangeRequest` object | ...

OSLC resource object, specified as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`
- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

`myClient` — OSLC client
`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

Output Arguments

`status` — Removal success status
`matlab.net.http.StatusCode` object

Removal success status, returned as a `matlab.net.http.StatusCode` object.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `commit` | `show` | `fetch`

removeLink

Package: `oslc.rm`

Remove link from local OSLC requirement resource object

Syntax

`removeLink(reqResource,resourceURL)`

Description

`removeLink(reqResource,resourceURL)` removes the RDF/XML element `j.0:Link` that has the `rdf:resource` attribute set to `resourceURL` from the requirement or requirement collection resource specified by `reqResource`. Use the `commit` function to apply the change to the service provider. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website and QM Resource Definitions on the Open Services for Lifecycle Collaboration (OSLC) website.

Examples

Add and Remove Links from OSLC Resources to Requirement

This example shows how to add and remove links from OSLC resources to an OSLC requirement.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement resource type. Submit a query request to the service provider for the available requirement resources.

```
myQueryCapability = getQueryService(myClient,'Requirement');
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign one of the requirements to a variable called `myReq` and one to `linkReq`. Fetch the full resource properties for the requirements.

```
myReq = reqs(1);
linkReq = reqs(5);
fetch(myReq,myClient);
fetch(linkReq,myClient);
```

Add a link from `linkReq` to `myReq`. Confirm the link creation by getting the links for `myReq`.

```
addLink(myReq,linkReq)
links = getLinks(myReq)
```

```
links = 

  1×1 cell array

    {'https://localhost:9443/rm/CA_3d5ba3752e2c489b965a3ecceffb664a'}
```

In the service provider, identify a test case to link to the requirement. Identify the resource URL of the test case and assign it to a variable called URL. Add a link from URL to myReq. Confirm the link creation by getting the links for myReq.

```
URL = 'https://localhost:9443/qm/_ibz6tGWYEeuAF8ZpKyQQtg';
addLink(myReq,URL)
links = getLinks(myReq)
```

```
links = 

  1×2 cell array

    {'https://localhost:9443/rm...'}    {'https://localhost:9443/qm...'}
```

Commit the changes to the service provider.

```
status = commit(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Fetch the full resource properties for the updated requirement myReq.

```
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Get the resource URLs linked to myReq.

```
links = getLinks(myReq)
```

```
links = 

  1×2 cell array

    {'https://localhost:9443/rm...'}    {'https://localhost:9443/qm...'}
```

Get the URL for the first linked resource and assign it to URL.

```
URL = links{1}
```

```
URL = 

    'https://localhost:9443/rm/CA_3d5ba3752e2c489b965a3ecceffb664a'
```

Before removing the link from `myReq`, confirm that the resource URL points to the requirement that you want to remove. Create a requirement resource object and set the resource URL. Fetch the full resource properties for the requirement and inspect the requirement.

```
req = oslc.rm.Requirement;
setResourceUrl(req,URL);
status = fetch(req,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

```
req
```

```
ans = 

  Requirement with properties:

    ResourceUrl: 'https://localhost:9443/rm/CA_3d5ba3752e2c489b965a...'
          Dirty: 0
      IsFetched: 1
          Title: '[SAFe] Lifecycle Scenario Template'
     Identifier: '1165'
```

Remove the link from `myReq` and commit the changes to the service provider.

```
removeLink(myReq,URL)
status = commit(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Fetch the full resource properties for the updated requirement `myReq`.

```
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Verify the link removal by getting the URLs for the resources linked to `myReq`.

```
links = getLinks(myReq)
```

```
links =

  1×1 cell array
```

```
    {'https://localhost:9443/qm/_ibz6tGWYEeuAF8ZpKyQQtg'}
```

Input Arguments

`reqResource` — OSLC requirement resource
`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object

OSLC requirement or requirement collection resource object, specified as an `oslc.rm.Requirement` or `oslc.rm.RequirementCollection` object.

`resourceURL` — OSLC resource URL
character vector

OSLC resource URL, specified as a character vector.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `addLink` | `removeRequirementLink` | `getLinks`

removeRequirementLink

Package: `oslc.qm`

Remove requirement traceability link from local OSLC test resource object

Syntax

```
removeRequirementLink(testResource,requirementURL)
```

Description

`removeRequirementLink(testResource,requirementURL)` removes the RDF/XML element `oslc_qm:validatesRequirement` that has the `rdf:resource` attribute set to `requirementURL` from the test case or test script specified by `testResource`. Use the `commit` function to apply the change to the service provider. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website and QM Resource Definitions on the Open Services for Lifecycle Collaboration (OSLC) website.

Examples

Add, Get, and Remove Traceability Links from a Test Case to a Requirement

This example shows how to add, remove, and get OSLC requirement resources linked to a test case resource with a previously configured OSLC client.

After you have created and configured an OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test case resource type.

```
myQueryCapability = getQueryService(myClient,'TestCase');
```

Submit a query request to the service provider for the available test case resources.

```
testCases = queryTestCases(myQueryCapability)
```

```
testCases = 

  1×5 TestCase array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Retrieve the requirement resources linked to one of the test cases. Fetch the resource properties from the service provider for the test case.

```
myTestCase = testCases(1);
fetch(myTestCase,myClient);
reqs = getRequirementLinks(myTestCase)
reqs = 

    Requirement with properties:

    ResourceUrl: 'https://localhost:9443/rm/resources/_aQ1gRg8bEeuLWbFe'
          Dirty: 1
      IsFetched: 0
          Title: ''
     Identifier: ''
```

Remove the existing link to the requirement resource from the test case resource. Commit the changes to the service provider.

```
removeRequirementLink(myTestCase,reqs.ResourceUrl);
status = commit(myTestCase,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

To add a link to a requirement, in the OSLC service provider, locate the requirement resource that you want to link to the test case resource. Identify the resource URL. Create a variable URL and set the value of the variable to the requirement URL that you found in the service provider.

```
URL = 'https://localhost:9443/rm/resources/_oJNtgWrqEeup0a6t';
```

Create a traceability link between the requirement resource and the test case. Commit the change to the service provider.

```
addRequirementLink(myTestCase,URL);
status = commit(myTestCase,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

View the test case in the system browser.

```
show(myTestCase)
```

Input Arguments

testResource — OSLC test resource

oslc.qm.TestCase object | oslc.qm.TestScript object

OSLC test resource, specified as an oslc.qm.TestCase or oslc.qm.TestScript object.

requirementURL — Requirement resource URL

character vector

Requirement or requirement collection resource URL, specified as a character vector.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.qm.TestCase` | `oslc.qm.TestScript` | `oslc.rm.RequirementCollection` | `addRequirementLink` | `getRequirementLinks`

removeResourceProperty

Package: `oslc.rm`

Remove resource property from local OSLC resource object

Syntax

```
removeResourceProperty(resource,propertyName,rdfResource)
```

Description

`removeResourceProperty(resource,propertyName,rdfResource)` removes the RDF/XML element with the name `propertyName` and `rdf:resource` attribute set to `rdfResource` from the locally stored RDF/XML data for the Open Services for Lifecycle Collaboration (OSLC) resource specified by `resource`. Use the `commit` function to apply the change to the service provider. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website.

Examples

Add, Get, and Remove Properties from OSLC Resources

This example shows how to add, get, and remove properties from an existing OSLC requirement resource.

Create and configure the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3. Then query the service provider for requirements and assign an `oslc.rm.Requirement` object to the variable `myReq` as described in “Submit a Query Request with Query Capability” on page 1-209.

Retrieve the full resource data from the service provider for the requirement resource `myReq`.

```
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

The requirement `myReq` has a linked requirement with an `implementedBy` relationship. Get the `rdf:resource` value for the `oslc_rm:implementedBy` property for the requirement resource `myReq`.

```
linkedReq = getResourceProperty(myReq,'oslc_rm:implementedBy')
```

```
linkedReq =

  1×1 cell array

    {'https://localhost:9443/rm/resources/_72lxMWJREeup0...'}
```

Change the relationship between the linked requirement and `myReq` from `implementedBy` to `decomposedBy`. Remove the `oslc_rm:implementedBy` property and add an `oslc_rm:decomposedBy` property.

```
removeResourceProperty(myReq,'oslc_rm:implementedBy',linkedReq)
addResourceProperty(myReq,'oslc_rm:decomposedBy',linkedReq)
```

Get the text contents for the `dcterms:title` property.

```
title = getProperty(myReq,'dcterms:title')
```

```
title =

    'My New Requirement'
```

Change the title to `My New Requirement (Edited)`. Confirm the changes.

```
setProperty(myReq,'dcterms:title','My New Requirement (Edited)')
title = getProperty(myReq,'dcterms:title')
```

```
title =

    'My New Requirement (Edited)'
```

Add a new text property to the requirement with the tag `dcterms:description`. Confirm the changes.

```
addTextProperty(myReq,'dcterms:description', ...
    'My new requirement edited using the MATLAB OSLC client.');
desc = getProperty(myReq,'dcterms:description')
```

```
desc =

    'My new requirement created using the MATLAB OSLC client.'
```

Commit the changes to the service provider.

```
status = commit(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

View the resource that you edited in the system browser.

```
show(myReq)
```

Input Arguments

`resource` — OSLC resource object
`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object | `oslc.cm.ChangeRequest` object | ...

OSLC resource object, specified as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`
- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

`propertyName` — OSLC resource property name
character vector

OSLC resource property name, specified as a character vector.

`rdfResource` — OSLC resource property `rdf:resource` attribute
character array

OSLC resource property `rdf:resource` attribute, specified as a character array.

Tips

- For information about OSLC resource properties, see these pages on the OSLC website:
  - RM Resource Definitions
  - QM Resource Definitions
  - CM Resource Definitions

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `getResourceProperty` | `addResourceProperty`

External Websites
RDF 1.1 XML Syntax

removeRow

Package: slreq.modeling

Remove Requirements Table block row

Syntax

```
removeRow(reqTable,row)
```

Description

removeRow(reqTable,row) removes the row specified by row in the Requirements Table block, specified by reqTable.

Examples

Remove Requirement from Requirements Table Block

Retrieve the requirements in a Requirements Table block and remove the first requirement.

```
requirements = getRequirementRows(reqTable);
removeRow(reqTable,requirements(1));
```

Remove Assumption from Requirements Table Block

Retrieve the assumptions in a Requirements Table block and remove the first assumption.

```
assumptions = getAssumptionRows(reqTable);
removeRow(reqTable,assumptions(1));
```

Input Arguments

reqTable — Requirements Table block
RequirementsTable object

Requirements Table block, specified as a RequirementsTable object.

row — Requirement or assumption
RequirementRow object | AssumptionRow object

Requirement or assumption in a Requirements Table block, specified as a RequirementRow or AssumptionRow object. To retrieve the row, use getRequirementRows, getAssumptionRows, or getChildren.

Tips

- If you remove a row that has children, the child rows are also removed.

Version History

Introduced in R2022a

See Also

Functions
`getRequirementRows` | `getAssumptionRows` | `addAssumptionRow` | `addRequirementRow`

Objects
`RequirementsTable`

slreq.resetViewSettings

Reset saved view settings

Syntax

```
slreq.resetViewSettings('all')
slreq.resetViewSettings('editor')
slreq.resetViewSettings(ModelName)
```

Description

`slreq.resetViewSettings('all')` resets all saved view settings.

`slreq.resetViewSettings('editor')` resets all saved view settings for the **Requirements Editor**.

`slreq.resetViewSettings(ModelName)` resets all saved view settings for the model specified by `ModelName`.

Input Arguments

`ModelName` — Model name

character vector

Simulink model name, specified as a character vector.

Example: `'vdp'`, `'f14'`

Version History

Introduced in R2018b

See Also

Requirements Editor

rmi

Interact programmatically with Requirements Management Interface

Syntax

```
reqlinks = rmi('createEmpty')
reqlinks = rmi('get', object)
reqlinks = rmi('get', sig_builder, group_idx)
rmi('set', model, reqlinks)
rmi('set', sig_builder, reqlinks, group_idx)
rmi('cat', model, reqlinks)
cnt = rmi('count', object)
rmi('clearAll', object)
rmi('clearAll', object, 'deep')
rmi('clearAll', object, 'noprompt')
rmi('clearAll', object, 'deep', 'noprompt')

cmdStr = rmi('navCmd', object)
[cmdStr, titleStr] = rmi('navCmd', object)
object = rmi('guidlookup', model, guidStr)
rmi('highlightModel', object)
rmi('unhighlightModel', object)
rmi('view', object, index)
dialog = rmi('edit', object)
guidStr = rmi('guidget', object)

rmi('report', model)
rmi('report', matlabFilePath)
rmi('report', dictionaryFile)
rmi('projectreport')

rmi setup
rmi register linktypename
rmi unregister linktypename
rmi linktypelist

number_problems = rmi('checkdoc')
number_problems = rmi('checkdoc', docName)
rmi('check', matlabFilePath)
rmi('check', dictionaryFile)

rmi('doorssync', model)
[objHs, parentIdx, isSf, objSIDs] = rmi('getObjectsInModel', model)
[objName, objType] = rmi('getObjLabel', object)

rmi('setDoorsLabelTemplate', template)
template = rmi('getDoorsLabelTemplate')
label = rmi('doorsLabel', moduleID, objectID)
totalModifiedLinks = rmi('updateDoorsLabels', model)
```

Description

`reqlinks = rmi('createEmpty')` creates an empty instance of the requirement links data structure.

`reqlinks = rmi('get', object)` returns the requirement links data structure for `object`.

`reqlinks = rmi('get', sig_builder, group_idx)` returns the requirement links data structure for the Signal Builder group specified by the index `group_idx`.

`rmi('set', model, reqlinks)` sets `reqlinks` as the requirements links for `model`.

`rmi('set', sig_builder, reqlinks, group_idx)` sets `reqlinks` as the requirements links for the signal group `group_idx` in the Signal Builder block `sig_builder`.

`rmi('cat', model, reqlinks)` adds the requirements links in `reqlinks` to existing requirements links for `model`.

`cnt = rmi('count', object)` returns the number of requirements links for `object`.

`rmi('clearAll', object)` deletes all requirements links for `object`.

`rmi('clearAll', object, 'deep')` deletes all requirements links in the model containing `object`.

`rmi('clearAll', object, 'noprompt')` deletes all requirements links for `object` and does not prompt for confirmation.

`rmi('clearAll', object, 'deep', 'noprompt')` deletes all requirements links in the model containing `object` and does not prompt for confirmation.

`cmdStr = rmi('navCmd', object)` returns the MATLAB command `cmdStr` used to navigate to `object`.

`[cmdStr, titleStr] = rmi('navCmd', object)` returns the MATLAB command `cmdStr` and the title `titleStr` that provides descriptive text for `object`.

`object = rmi('guidlookup', model, guidStr)` returns the object name in `model` that has the globally unique identifier `guidStr`.

`rmi('highlightModel', object)` highlights all of the objects in the parent model of `object` that have requirement links.

`rmi('unhighlightModel', object)` removes highlighting of objects in the parent model of `object` that have requirement links.

`rmi('view', object, index)` accesses the requirement numbered `index` in the requirements document associated with `object`.

`dialog = rmi('edit', object)` displays the Requirements dialog box for `object` and returns the handle of the dialog box.

`guidStr = rmi('guidget', object)` returns the globally unique identifier for `object`. A globally unique identifier is created for `object` if it lacks one.

`rmi('report', model)` generates a Requirements Traceability report in HTML format for `model`.

rmi('report', matlabFilePath) generates a Requirements Traceability report in HTML format for the MATLAB code file specified by matlabFilePath.

rmi('report', dictionaryFile) generates a Requirements Traceability report in HTML format for the Simulink data dictionary specified by dictionaryFile.

rmi('projectreport') generates a Requirements Traceability report in HTML format for the current project. The top-level page of this report has HTTP links to reports for each project item that has requirements traceability associations. For more information, see “Create Requirements Traceability Report for A Project”.

rmi setup configures RMI for use with your MATLAB software and installs the interface for use with the IBM Rational DOORS software.

rmi register linktypename registers the custom link type specified by the function linktypename. For more information, see “Custom Link Type Registration”.

rmi unregister linktypename removes the custom link type specified by the function linktypename. For more information, see “Custom Link Type Registration”.

rmi linktypelist displays a list of the currently registered link types. The list indicates whether each link type is built-in or custom, and provides the path to the function used for its registration.

number_problems = rmi('checkdoc') checks validity of links to Simulink from a requirements document in Microsoft Word, Microsoft Excel, or IBM Rational DOORS. It prompts for the requirements document name, returns the total number of problems detected, and opens an HTML report in the MATLAB Web browser. For more information, see “Validate Requirements Links in a Requirements Document”.

number_problems = rmi('checkdoc', docName) checks validity of links to Simulink from the requirements document specified by docName. It returns the total number of problems detected and opens an HTML report in the MATLAB Web browser. For more information, see “Validate Requirements Links in a Requirements Document”.

rmi('check', matlabFilePath) checks consistency of traceability links associated with MATLAB code lines in the .m file matlabFilePath, and opens an HTML report in the MATLAB Web browser.

rmi('check', dictionaryFile) checks consistency of traceability links associated with the Simulink data dictionary dictionaryFile, and opens an HTML report in the MATLAB Web browser.

rmi('doorssync', model) opens the DOORS synchronization settings dialog box, where you can customize the synchronization settings and synchronize your model with an open project in an IBM Rational DOORS database.

[objHs, parentIdx, isSf, objSIDs] = rmi('getObjectsInModel', model) returns a list of Simulink objects that may be considered for inclusion in the IBM Rational DOORS surrogate module.

[objName, objType] = rmi('getObjLabel', object) returns Simulink object Name and Type information for the Simulink object that you link to with a third-party requirements management application.

rmi('setDoorsLabelTemplate', template) specifies a new custom template for labels of requirements links to IBM Rational DOORS. The default label template contains the section number and object heading for the DOORS requirement link target. To revert the link label template back to the default, enter `rmi('setDoorsLabelTemplate', '')` at the MATLAB command prompt.

`template = rmi('getDoorsLabelTemplate')` returns the currently specified custom template for labels of requirements links to IBM Rational DOORS.

`label = rmi('doorsLabel', moduleID, objectID)` generates a label for the requirements link to the IBM Rational DOORS object specified by `objectID` in the DOORS module specified by `moduleID`, according to the current template.

`totalModifiedLinks = rmi('updateDoorsLabels', model)` updates all IBM Rational DOORS requirements links labels in `model` according to the current template.

Examples

Requirements Links Management in Example Model

Get a requirement associated with a block in the `slvnvdemo_fuelsys_officereq` model, change its description, and save the requirement back to that block. Define a new requirement link and add it to the existing requirements links in the block.

Get requirement link associated with the Airflow calculation block in the `slvnvdemo_fuelsys_officereq` example model.

```
slvnvdemo_fuelsys_officereq;
blk_with_req = ['slvnvdemo_fuelsys_officereq/fuel rate controller/'...
'Airflow calculation']
reqts = rmi('get', blk_with_req);
```

Change the description of the requirement link.

```
reqts.description = 'Mass airflow estimation';
```

Save the changed requirement link description for the Airflow calculation block.

```
addpath(fullfile(matlabroot,'toolbox','slrequirements',...
'slrequirementsdemos','fuelsys_req_docs'))
rmi('set', blk_with_req, reqts);
```

Create new requirement link to example document `fuelsys_requirements2.htm`.

```
new_req = rmi('createempty');
new_req.doc = 'fuelsys_requirements2.htm';
new_req.description = 'New requirement';
```

Add new requirement link to existing requirements links for the Airflow calculation block.

```
rmi('cat', blk_with_req, new_req);
```

Requirements Traceability Report for Example Model

Create HTML report of requirements traceability data in example model.

Create an HTML requirements report for the `slvnvdemo_fuelsys_officereq` example model.

```
rmi('report', 'slvnvdemo_fuelsys_officereq');
```

The MATLAB Web browser opens, showing the report.

Labels for Requirements Links to IBM Rational DOORS

Specify a new label template for links to requirements in DOORS, and update labels of all DOORS requirements links in your model to fit the new template.

Specify a new label template for requirements links to IBM Rational DOORS so that new links to DOORS objects are labeled with the corresponding module ID, object absolute number, and the value of the ‘Backup’ attribute.

```
rmi('setDoorsLabelTemplate', '%m:%n [backup=%<Backup>]');
```

Specify a new label template for requirements links to IBM Rational DOORS and set the maximum label length to (for example) 200 characters.

```
rmi('setDoorsLabelTemplate', '%h %200');
```

Update existing DOORS requirements link labels to match the new specified template in your model `example_model`. When updating labels, DOORS must be running and all linked modules must be accessible for reading.

```
rmi('updateDoorsLabels', example_model);
```

Input Arguments

`model` — Simulink model or Stateflow chart with which requirements can be associated

name | handle

Simulink model or Stateflow chart with which requirements can be associated, specified as a character vector or handle.

Example: `'slvnvdemo_officereq'`

Data Types: `char`

`object` — Model object with which requirements can be associated

name | handle

Model object with which requirements can be associated, specified as a character vector or handle.

Example: `'slvnvdemo_fuelsys_officereq/fuel rate controller/Airflow calculation'`

Data Types: `char`

`sig_builder` — Signal Builder block containing signal group with requirements traceability associations

name | handle

Signal Builder block containing signal group with requirements traceability associations, specified as a character vector or handle.

Data Types: `char`

`group_idx` — Signal Builder group index
integer

Signal Builder group index, specified as a scalar.

Example: 2

Data Types: `char`

`matlabFilePath` — MATLAB code file with requirements traceability associations
path

MATLAB code file with requirements traceability associations, specified as the path to the file.

Data Types: `char`

`dictionaryFile` — Simulink data dictionary with requirements traceability associations
character vector

Simulink data dictionary with requirements traceability associations, specified as a character vector containing the file name and, optionally, path of the dictionary.

Data Types: `char`

`guidStr` — Globally unique identifier for model object
character vector

Globally unique identifier for model object `object`, specified as a character vector.

Example: `GIDa_59e165f5_19fe_41f7_abc1_39c010e46167`

Data Types: `char`

`index` — Index number of requirement linked to model object
integer

Index number of requirement linked to model object, specified as an integer.

`docName` — Requirements document in external application
file name | path

Requirements document in external application, specified as a character vector that represents one of the following:

- IBM Rational DOORS module ID.
- path to Microsoft Word requirements document.
- path to Microsoft Excel requirements document.

For more information, see “Validate Requirements Links in a Requirements Document”.

`label` — Label for links to requirements in IBM Rational DOORS
character vector

Label for links to requirements in IBM Rational DOORS, specified as a character vector.

Data Types: `char`

template — Template label for links to requirements in IBM Rational DOORS

character vector

Template label for links to requirements in IBM Rational DOORS, specified as a character vector.

You can use the following format specifiers to include the associated DOORS information in your requirements links labels:

%h	Object heading
%t	Object text
%p	Module prefix
%n	Object absolute number
%m	Module ID
%P	Project name
%M	Module name
%U	DOORS URL
%<ATTRIBUTE_NAME>	Other DOORS attribute you specify

Example: '%m:%n [backup=%<Backup>]'

Data Types: char

moduleID — IBM Rational DOORS module

DOORS module ID

IBM Rational DOORS module, specified as the unique DOORS module ID.

Data Types: char

objectID — IBM Rational DOORS object

DOORS object ID

IBM Rational DOORS object in the DOORS module moduleID, specified as the locally unique DOORS ID.

Data Types: char

Output Arguments

reqlinks — Requirement links data

struct

Requirement links data, returned as a structure array with the following fields:

doc	Character vector identifying requirements document

<table>
<tr><td>id</td><td>Character vector defining location in requirements document. The first character specifies the identifier type:
<table>
<tr><th>First Character</th><th>Identifier</th><th>Example</th></tr>
<tr><td>?</td><td>Search text, the first occurrence of which is located in requirements document</td><td>'?Requirement 1'</td></tr>
<tr><td>@</td><td>Named item, such as bookmark in a Microsoft Word file or an anchor in an HTML file</td><td>'@my_req'</td></tr>
<tr><td>#</td><td>Page or item number</td><td>'#21'</td></tr>
<tr><td>></td><td>Line number</td><td>'>3156'</td></tr>
<tr><td>$</td><td>Worksheet range in a spreadsheet</td><td>'$A2:C5'</td></tr>
</table>
</td></tr>
<tr><td>linked</td><td>Boolean value specifying whether the requirement link is accessible for report generation and highlighting:
1 (default). Highlight model object and include requirement link in reports.
0</td></tr>
<tr><td>description</td><td>Character vector describing the requirement</td></tr>
<tr><td>keywords</td><td>Optional character vector supplementing description</td></tr>
<tr><td>reqsys</td><td>Character vector identifying the link type registration name; 'other' for built-in link types</td></tr>
</table>

cmdStr — Command used to navigate to model object

character vector

Command used to navigate to model object `object`, returned as a character vector.

Example: `rmiobjnavigate('slvnvdemo_fuelsys_officereq.slx', 'GIDa_59e165f5_19fe_41f7_abc1_39c010e46167');`

titleStr — Textual description of model object with requirements links

character vector

Textual description of model object with requirements links, returned as a character vector.

Example: `slvnvdemo_fuelsys_officereq/.../Airflow calculation/Pumping Constant (Lookup2D)`

guidStr — Globally unique identifier for model object

character vector

Globally unique identifier for model object `object`, returned as a character vector.

Example: `GIDa_59e165f5_19fe_41f7_abc1_39c010e46167`

dialog — Requirements dialog box for model object

handle

Requirements dialog box for model object `object`, returned as a handle to the dialog box.

`number_problems` — Total count of invalid links detected in external document

integer

Total count of invalid links detected in external document `docName`.

For more information, see “Validate Requirements Links in a Requirements Document”.

`totalModifiedLinks` — Total count of DOORS requirements links updated with new label template

integer

Total count of DOORS requirements links updated with new label template.

`objHs` — Numeric handles

array

List of numeric handles, returned as an array.

`parentIdx` — Model hierarchy indices

array

Model hierarchy indices, returned as an array.

`isSf` — List position to Stateflow object correspondence

array

Logical array that indicates which list positions correspond to which Stateflow objects.

`objSIDs` — Simulink IDs

array

Session-independent Simulink IDs, returned as an array.

Version History

Introduced in R2006b

See Also

`rmipref` | `rmiobjnavigate` | `rmidocrename` | `rmitag` | `rmimap.map` | `RptgenRMI.doorsAttribs`

rmidata.export

Move links from internal to external storage

Syntax

```
[linkedElements,reqLinks] = rmidata.export
[linkedElements,reqLinks] = rmidata.export(model)
```

Description

`[linkedElements,reqLinks] = rmidata.export` moves links stored internally in the currently open Simulink model to an external SLMX file. The function saves the SLMX file in the same folder as the model.

`[linkedElements,reqLinks] = rmidata.export(model)` moves links stored internally in the specified model to an external SLMX file.

Examples

Export Links to External File for the Current Model

This example shows how to export links that are stored internally in the current model to an external file.

Open the `slvnvdemo_fuelsys_officereq_internal` model.

```
open_system("slvnvdemo_fuelsys_officereq_internal");
```

Export the links to an external file.

```
[linkedElements,reqLinks] = rmidata.export
```

```
Exporting requirement links from "slvnvdemo_fuelsys_officereq_internal"...

linkedElements = 16

reqLinks = 16
```

Export Links to External File

This example shows how to export links that are stored internally in a model to an external file.

Open the `slvnvdemo_fuelsys_officereq_internal` model.

```
model = "slvnvdemo_fuelsys_officereq_internal";
open_system(model);
```

Export the links to an external file.

```
[linkedElements,reqLinks] = rmidata.export(model)

linkedElements = 16

reqLinks = 16
```

Input Arguments

`model` — Name or handle of model
string scalar | character vector | model handle

Name or handle of a Simulink model, specified as a string scalar, character vector, or model handle.

Output Arguments

`linkedElements` — Number of linked model elements
`double` array

Number of linked model elements, returned as a `double` array.

`reqLinks` — Number of requirement links in model
`double` array

Number of requirements links in the model, returned as a `double` array.

Version History

Introduced in R2011b

See Also

`rmi` | `rmidata.save` | `rmimap.map`

Topics

"Requirements Link Storage"

rmimap.map

Associate link set with model

Syntax

```
rmimap.map(model,myLinkSet)
rmimap.map(model,"undo")
rmimap.map(model,"clear")
```

Description

`rmimap.map(model,myLinkSet)` associates the link set `myLinkSet` with the Simulink model `model`.

`rmimap.map(model,"undo")` reverts the link set mapping to the previously stored mapping for the Simulink model. For more information, see “Link Set Mapping” on page 1-256.

`rmimap.map(model,"clear")` reverts the link set mapping to the default mapping. For more information, see “Default Link Set Mapping” on page 1-256.

Examples

Associate a Link Set with a Simulink Model

This example shows how to associate a link set file with a Simulink model.

Open the model. Define the path to the link set file.

```
model = "slvnvdemo_powerwindowController";
open_system(model);
myLinkSet = fullfile("slvnvdemo_powerwindowRequirements.slmx");
```

Clear any existing link sets associated with the model.

```
rmimap.map(model,"clear");
```

```
Nothing to clear for ...\slvnvdemo_powerwindowController.slx
```

Associate the link set with the model.

```
rmimap.map(model,myLinkSet);
```

```
Mapping ...\slvnvdemo_powerwindowController.slx to ...\slvnvdemo_powerwindowRequirements.slmx
```

Revert to the previously stored link set mapping.

```
rmimap.map(model,"undo")
```

```
Removing C:\Users\jdoe\MATLAB\Examples\slrequirements-ex91255337\slvnvdemo_powerwindowRequiremen
```

Input Arguments

`model` — File path of Simulink model
string scalar | character vector

File path of the Simulink model, specified as a string scalar or character vector.

`myLinkSet` — Full path of SLMX file
string scalar | character vector

Full path of the SLMX file that contains links for the model, specified as a string scalar or character vector.

More About

Link Set Mapping

Requirements Toolbox maps a link set to a Model-Based Design artifact, such as a Simulink model, when you associate a link set with the artifact. When you open the artifact, the mapped link sets also open.

Default Link Set Mapping

The default link set mapping for a Model-Based Design artifact is the link set with the same name as the artifact in the same folder as the artifact.

Version History

Introduced in R2015a

See Also

`rmi` | `rmidata.save` | `rmidata.export`

Topics
“Requirements Link Storage”

rmidata.save

Save requirements traceability data in external `.slreqx` file

Syntax

```
rmidata.save(model)
```

Description

`rmidata.save(model)` saves requirements traceability data for a model in an external `.req` file. The model must be configured to store requirements traceability data externally. This function is equivalent to **Save** > **Save Links Only** in the **Requirements** tab.

Examples

Create New Requirement Link and Save Externally

This example shows how to add a requirement link to an existing example model, and save the model requirements traceability data in an external file.

Open the `slvnvdemo_powerwindowController` model.

```
open_system('slvnvdemo_powerwindowController');
```

Specify that the model store requirements data externally.

```
rmipref('StoreDataExternally',1);
```

Create a new requirements link structure.

```
newReqLink = rmi('createEmpty');
newReqLink.description = 'newReqLink';
```

Specify the requirements document that you want to link to from the model. In this case, an example requirements document is provided.

```
newReqLink.doc = 'PowerWindowSpecification.docx';
```

Specify the text of the requirement within the document to which you want to link.

```
newReqLink.id = '?passenger input consists of a vector with three elements';
```

Specify that the new requirements link that you created be attached to the Mux4 block of the `slvnvdemo_powerwindowController` example model.

```
rmi('set','slvnvdemo_powerwindowController/Mux4',newReqLink);
```

Save the new requirement link that you just created in an external `.slmx` file associated with the model.

```
rmidata.save('slvnvdemo_powerwindowController');
```

This function is equivalent to **Save** > **Save Links Only** in the **Requirements** tab.

To highlight the Mux4 block, turn on requirements highlighting for the `slvnvdemo_powerwindowController` example model.

```
rmi('highlightModel','slvnvdemo_powerwindowController');
```

You can test your requirements link by right-clicking the Mux4 block. In the context menu, select **Requirements** > **1. “newReqLink”**.

Close the model.

```
close_system('slvnvdemo_powerwindowController');
```

Input Arguments

`model` — Name or handle of model with requirements links

character vector | handle

Name of model with requirements links, specified as a character vector, or handle to model with requirements links. The model must be loaded into memory and configured to store requirements traceability data externally.

If you have a new model with no existing requirements links, configure it for external storage as described in “Requirements Link Storage”. You can also use `rmipref` to specify storage settings.

If you have an existing model with internally stored requirements traceability data, convert that data to external storage as described in “Move Internally Stored Requirements Links to External Storage”. You can also use `rmidata.export` to convert existing requirements traceability data to external storage.

Example: `'slvnvdemo_powerwindowController'`

Example: `get_param(gcs,'Handle')`

Version History

Introduced in R2013b

See Also

`rmimap.map` | `rmidata.export`

Topics

“Requirements Link Storage”

rmidocrename

(Not recommended) Update external requirement document paths and file names

Note Using `rmidocrename` is not recommended. Use `updateDocUri` instead.

Syntax

```
rmidocrename(model,old_path,new_path)
```

Description

`rmidocrename(model,old_path,new_path)` updates the link destination for the links associated with the model `model` from the external document specified by `old_path` to the new external document specified by `new_path`. Use this function when you change the name or file path of the external document.

Examples

Change Link Destination

This example shows how to change the link destination for links associated with a Simulink® model.

Open the `slvnvdemo_fuelsys_officereq` model.

```
model = "slvnvdemo_fuelsys_officereq";
open_system(model);
```

Find the links in the model that point to `slvnvdemo_FuelSys_DesignDescription.docx` and update the destination to `slvnvdemo_FuelSys_DesignDescription_new.docx`.

```
oldpath = "slvnvdemo_FuelSys_DesignDescription.docx";
newpath = "slvnvdemo_FuelSys_DesignDescription_new.docx";
rmidocrename(model,oldpath,newpath);
```

```
Processed 16 objects with requirements, 8 out of 16 links were modified.
```

Input Arguments

`model` — Name or handle of model
string scalar | character vector | model handle

Name or handle of a Simulink model, specified as a string scalar, character vector, or model handle.

`old_path` — File path for original external document
string scalar | character vector

File path for the original external document, specified as a string scalar or character vector.

`new_path` — File path for new external document

string scalar | character vector

File path for the new external document, specified as a string scalar or character vector.

Tips

- If you rename or move an external requirements document file, use `updateSrcFileLocation` to update the file name or path of the referenced requirements in the requirement set.

Version History

Introduced in R2009b

Not recommended

Not recommended starting in R2022b

There are no plans to remove `rmidocrename`. However, the `updateDocUri` method has these advantages over `rmidocrename` and is recommended instead:

- You can use `updateDocUri` to update link destinations for links that are not associated with a model.
- You can use `updateDocUri` to update only the link destinations in a specified link set. `rmidocrename` updates all link destinations for links associated with the model.
- Unlike `rmidocrename`, `updateDocUri` returns the number of updated links.

See Also

`rmi` | `updateDocUri` | `updateSrcFileLocation`

rmiobjnavigate

Navigate to model objects

Syntax

```
rmiobjnavigate(modelPath,modelElement)
rmiobjnavigate(modelPath,modelElement,grpNum)
```

Description

`rmiobjnavigate(modelPath,modelElement)` navigates to and highlights the model element specified by `modelElement` in the Simulink model specified by the path `modelPath`.

`rmiobjnavigate(modelPath,modelElement,grpNum)` navigates to the signal group number `grpNum` of a Signal Builder block.

Examples

Navigate to a Simulink Model Element

This example shows how to navigate to a Simulink® model element.

Open the `slvnvdemo_fuelsys_officereq` example model.

```
model = "slvnvdemo_fuelsys_officereq";
open_system(model);
```

Get a handle to the `MAP Sensor` block.

```
blockHandle = get_param("slvnvdemo_fuelsys_officereq/MAP sensor","Handle");
```

Navigate to the `MAP Sensor` block.

```
rmiobjnavigate(model,blockHandle);
```

Navigate to a Signal Builder Block

This example shows how to navigate to a Simulink® Signal Builder block signal group.

Open the `slvnvdemo_fuelsys_officereq` model.

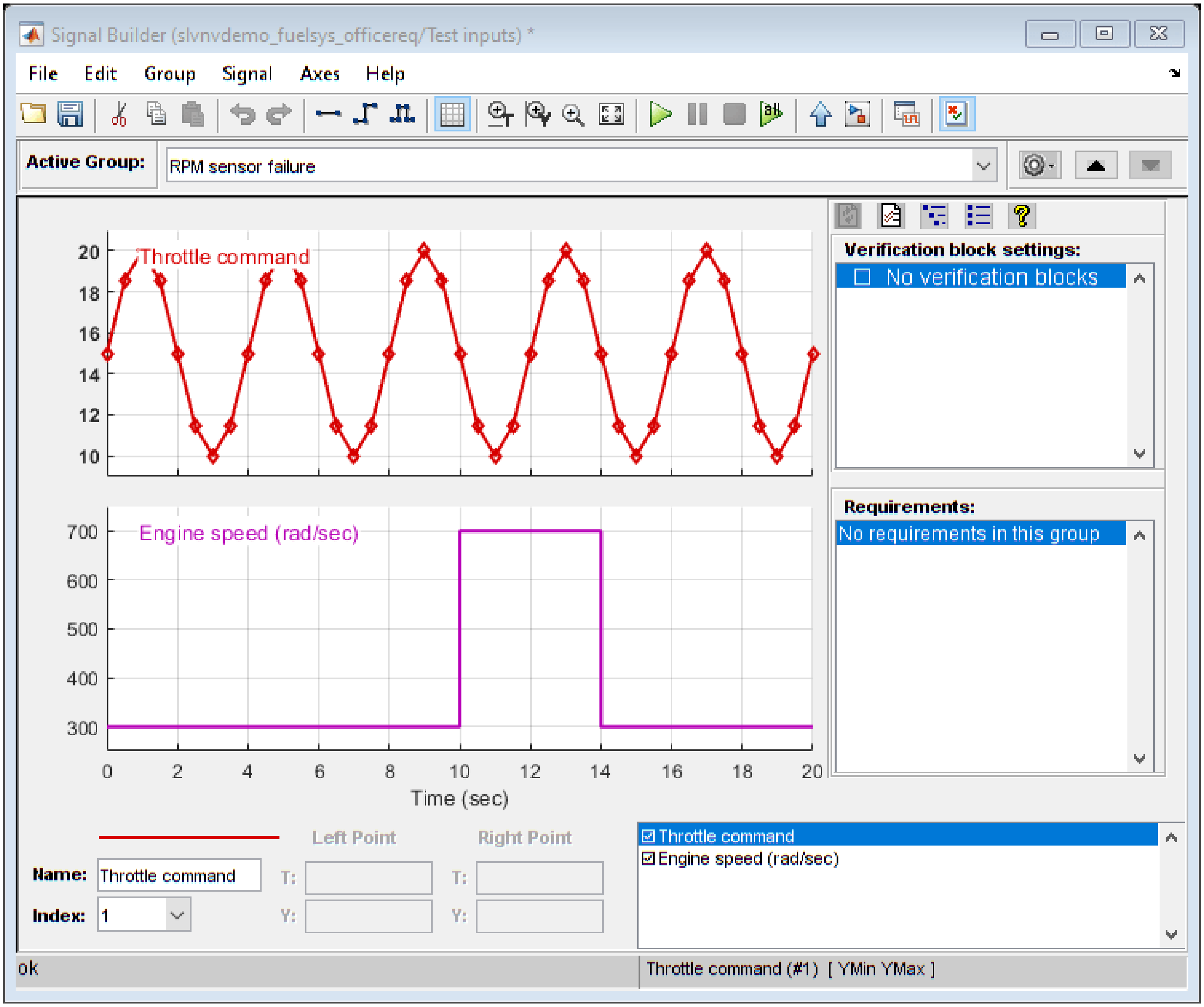
```
model = "slvnvdemo_fuelsys_officereq";
open_system(model);
```

Get a handle to the `Test inputs` Signal Builder block.

```
blockHandle = get_param("slvnvdemo_fuelsys_officereq/Test inputs","Handle");
```

Navigate to the `Test inputs` block and open the second signal group in the block.

```
rmiobjnavigate(model,blockHandle,2)
```



Active Group: RPM sensor failure

Verification block settings:

□ No verification blocks

Requirements:

No requirements in this group

Name: Throttle command

Index: 1

☑ Throttle command

☑ Engine speed (rad/sec)

ok

Throttle command (#1) [YMin YMax]

Input Arguments

modelPath — Simulink model name or path

string scalar | character vector

Simulink model name or path, specified as a string scalar or a character vector. This argument must be a full path to a Simulink model file or a Simulink model file name that can be resolved on the MATLAB path.

modelElement — Model element ID

string scalar | character vector

Model element ID, specified as a string scalar or a character vector.

`grpNum` — Signal group number for Signal Builder block
`double` array

Signal group number for Signal Builder block, specified as a `double` array.

Version History

Introduced in R2010b

See Also

`rmi`

Topics

“Use the rmiobjnavigate Function”

rmipref

Get or set RMI preferences stored in `prefdir`

Syntax

```
rmipref
```

```
currentVal = rmipref(prefName)
```

```
previousVal = rmipref(Name,Value)
```

Description

`rmipref` returns a list of the `Name,Value` pairs that correspond to the Requirements Management Interface (RMI) preference names and accepted values.

`currentVal = rmipref(prefName)` returns the current value of the preference specified by `prefName`.

`previousVal = rmipref(Name,Value)` sets a new value for the RMI preference specified by `Name`, and returns the previous value of that RMI preference.

Examples

References to Simulink Model in External Requirements Documents

Choose the type of reference that the RMI uses when it creates links to your model from external requirements documents. The reference to your model can be either the model file name or the full absolute path to the model file.

The value of the `'ModelPathReference'` preference determines how the RMI stores references to your model in external requirements documents. To view the current value of this preference, enter the following code at the MATLAB command prompt.

```
currentVal = rmipref('ModelPathReference')
```

The default value of the `'ModelPathReference'` preference is `'none'`.

```
currentVal =

none
```

This default value specifies that the RMI uses only the model file name in references to your model that it creates in external requirements documents.

Automatic Application of User Keywords to Selection-Based Requirements Links

Configure the RMI to automatically apply a specified list of user keyword keywords to new selection-based requirements links that you create.

Specify that the user keywords `design` and `reqts` apply to new selection-based requirements links that you create.

```
previousVal = rmipref('SelectionLinkKeyword','design,reqts')
```

When you specify a new value for an RMI preference, `rmipref` returns the previous value of that RMI preference. In this case, `previousVal` is an empty character vector, the default value of the `'SelectionLinkKeyword'` preference.

```
previousVal =

     ''
```

View the currently specified value for the `'SelectionLinkKeyword'` preference.

```
currentVal = rmipref('SelectionLinkKeyword')
```

The function returns the currently specified comma-separated list of user keywords.

```
currentVal =

design,reqts
```

These user keywords apply to all new selection-based requirements links that you create.

Internal Storage of Requirements Traceability Data

Configure the RMI to embed requirements links data in the model file instead of in a separate `.req` file.

Note If you have existing requirements links for your model that are stored internally, you need to move these links into an external `.req` file before you change the storage settings for your requirements traceability data. See "Move Internally Stored Requirements Links to External Storage" for more information.

If you would like to embed requirements traceability data in the model file, set the `'StoreDataExternally'` preference to `0`.

```
previousVal = rmipref('StoreDataExternally',0)
```

When you specify a new value for an RMI preference, `rmipref` returns the previous value of that RMI preference. By default, the RMI stores requirements links data externally in a separate `.req` file, so the previous value of this preference was `1`.

```
previousVal =

     1
```

After you set the `'StoreDataExternally'` preference to `0`, your requirements links are embedded in the model file.

```
currentVal = rmipref('StoreDataExternally')
currentVal =

     0
```

Input Arguments

prefName — RMI preference name

'BiDirectionalLinking' | 'FilterRequireKeywords' | 'CustomSettings' | ...

RMI preference name, specified as the corresponding Name character vector listed in “Name-Value Pair Arguments” on page 1-266.

Name-Value Pair Arguments

Specify optional comma-separated pairs of Name,Value arguments. Name is the argument name and Value is the corresponding value. Name must appear inside single quotes (' ').

Example: 'BiDirectionalLinking',true enables bidirectional linking for your model, so that when you create a selection-based link to a requirements document, the RMI creates a corresponding link to your model from the requirements document.

BiDirectionalLinking — Bidirectional selection linking preference

false (default) | true

Bidirectional selection linking preference, specified as a numeric or logical 1 (true) or 0 (false).

This preference specifies whether to simultaneously create return link from target to source when creating link from source to target. This setting applies only for requirements document types that support selection-based linking.

Data Types: logical

CustomSettings — Preference for storing custom settings

inUse: 0 (default) | structure array of custom field names and settings

Preference for storing custom settings, specified as a structure array. Each field of the structure array corresponds to the name of your custom preference, and each associated value corresponds to the value of that custom preference.

Data Types: struct

DocumentPathReference — Preference for path format of links to requirements documents from model

'modelRelative' (default) | 'absolute' | 'pwdRelative' | 'none'

Preference for path format of links to requirements documents from model, specified as one of the following values.

Value	Document reference contains...
'absolute'	full absolute path to requirements document.
'pwdRelative'	path relative to MATLAB current folder.
'modelRelative'	path relative to model file.
'none'	document file name only.

For more information, see “Document Path Storage”.

Data Types: `char`

`DuplicateOnCopy` — Preference for copying requirements links with model objects

`true` (default) | `false`

Preference for copying requirements links along with model objects, specified as a numeric or logical `1` (`true`) or `0` (`false`).

This preference specifies whether requirements links should be duplicated when copying Simulink and Stateflow objects. When set to `false`, links are duplicated only when you highlight links in the source model where the model objects are copied from.

Data Types: `logical`

`FilterEnable` — Preference to enable filtering by user keyword keywords

`false` (default) | `true`

Preference to enable filtering by user keyword keywords, specified as a numeric or logical `1` (`true`) or `0` (`false`). When you filter by user keyword keywords, you can include or exclude subsets of requirements links in highlighting or reports. You can specify user keyword keywords for requirements links filtering in the `'FilterRequireKeywords'` and `'FilterExcludeKeywords'` preferences. For more information about requirements filtering, see “Filter Requirements with User Keywords”.

Data Types: `logical`

`FilterRequireKeywords` — Preference for user keyword keywords for requirements links

empty character vector (default) | comma-separated list of user keyword keywords

Preference for user keyword keywords for requirements links, specified as a comma-separated list of words or phrases in a character vector. These user keywords apply to all new requirements links you create. Requirements links with these user keywords are included in model highlighting and reports. For more information about requirements filtering, see “Filter Requirements with User Keywords”.

Data Types: `char`

`FilterExcludeKeywords` — Preference to exclude certain requirements links from model highlighting and reports

empty character vector (default) | comma-separated list of user keyword keywords

Preference to exclude certain requirements links from model highlighting and reports, specified as a comma-separated list of user keyword keywords. Requirements links with these user keywords are excluded from model highlighting and reports. For more information about requirements filtering, see “Filter Requirements with User Keywords”.

Data Types: `char`

`FilterMenusByKeywords` — Preference to disable labels of requirements links with designated user keywords

`false` (default) | `true`

Preference to disable labels of requirements links with designated user keywords, specified as a numeric or logical `1` (`true`) or `0` (`false`). When set to `true`, if a requirement link has a user keyword designated in `'FilterExcludeKeywords'` or `'FilterRequireKeywords'`, that requirements link will be disabled in the Requirements context menu. For more information about requirements filtering, see “Filter Requirements with User Keywords”.

Data Types: `logical`

`FilterConsistencyChecking` — Preference to filter Model Advisor requirements consistency checks with designated user keywords

`false` (default) | `true`

Preference to filter Model Advisor requirements consistency checks with designated user keywords, specified as a numeric or logical `1` (`true`) or `0` (`false`). When set to `true`, Model Advisor requirements consistency checks include requirements links with user keywords designated in `'FilterRequireKeywords'` and excludes requirements links with user keywords designated in `'FilterExcludeKeywords'`. For more information about requirements filtering, see “Filter Requirements with User Keywords”.

Data Types: `logical`

`KeepSurrogateLinks` — Preference to keep DOORS surrogate links when deleting all requirements links

empty (default) | `false` | `true`

Preference to keep DOORS surrogate links when deleting all requirements links, specified as a numeric or logical `1` (`true`) or `0` (`false`). When set to `true`, right-clicking **Requirements at This Level** > **Delete All Outgoing Links** deletes all requirements links including DOORS surrogate module requirements links. When not set to `true` or `false`, right-clicking **Requirements at This Level** > **Delete All Outgoing Links** opens a dialog box with a choice to keep or delete DOORS surrogate links.

Data Types: `logical`

`LinkIconFilePath` — Preference to use custom image file as requirements link icon

empty character vector (default) | full image file path

Preference to use custom image file as requirements link icon, specified as full path to icon or small image file. This image will be used for requirements links inserted in external documents.

Data Types: `char`

`LoginProvider` — Custom authentication callback function for integration with web-based services

character vector

Custom authentication callback function for integration with web-based services, specified as a character vector.

If your network requires advanced authentication that the default authentication process does not support, use this argument to register a custom authentication callback function. For example, if you register a custom authentication callback function and then use `slreq.dngConfigure`, the function calls your custom function to authenticate the connection with the IBM DOORS Next server. For more information, see the “Tips” on page 1-71 section of `slreq.dngConfigure`.

Note The custom authentication callback function should take this form:

```
function [success,cookies] = myCustomLoginProvider(server,options)
% Provide your implementation here
end
```

The custom authentication function should return two arguments: success status and cookies received from the server.

Example: "myCustomLoginProvider"

ModelPathReference — Preference for path format in links to model from requirements documents

'none' (default) | 'absolute'

Preference for path format in links to model from requirements documents, specified as one of the following values.

Value	Model reference contains...
'absolute'	full absolute path to model.
'none'	model file name only.

Data Types: char

OslcUseGlobalConfig — Preference to allow global configuration

false or 0 (default) | true or 1

Preference to allow global configurations when configuring a MATLAB session for integration with IBM DOORS Next, specified as a numeric or logical 1 (true) or 0 (false).

Data Types: logical

ReportDocDetails — Preference to include extra detail from requirements documents in generated reports

false (default) | true

Preference to include extra detail from requirements documents in generated reports, specified as a numeric or logical 1 (true) or 0 (false). When set to true, generated requirements reports load linked requirements documents to include additional information about linked requirements. This preference applies to Microsoft Word, Microsoft Excel, and IBM Rational DOORS requirements documents only.

Data Types: logical

ReportFollowLibraryLinks — Preference to include requirements links in referenced libraries in generated report

false (default) | true

Preference to include requirements links in referenced libraries in generated report, specified as a numeric or logical 1 (true) or 0 (false). When set to true, generated requirements reports include requirements links in referenced libraries.

Data Types: logical

ReportHighlightSnapshots — Preference to include highlighting in model snapshots in generated report

true (default) | false

Preference to include highlighting in model snapshots in generated report, specified as a numeric or logical `1` (`true`) or `0` (`false`). When set to `true`, snapshots of model objects in generated requirements reports include highlighting of model objects with requirements links.

Data Types: `logical`

`ReportIncludeKeywords` — Preference to list user keywords for requirements links in generated reports

`false` (default) | `true`

Preference to list user keywords for requirements links in generated reports, specified as a numeric or logical `1` (`true`) or `0` (`false`). When set to `true`, generated requirements reports include user keywords specified for each requirement link. For more information about requirements filtering, see "Filter Requirements with User Keywords".

Data Types: `logical`

`ReportLinkToObjects` — Preference to include links to model objects in generated requirements reports

`false` (default) | `true`

Preference to include links to model objects in generated requirements reports, specified as a numeric or logical `1` (`true`) or `0` (`false`). When set to `true`, generated requirements reports include links to model objects. These links work only if the MATLAB internal HTTP server is active.

Data Types: `logical`

`ReportNoLinkItems` — Preference to include model objects with no requirements links in generated requirements reports

`false` (default) | `true`

Preference to include model objects with no requirements links in generated requirements reports, specified as a numeric or logical `1` (`true`) or `0` (`false`). When set to `true`, generated requirements reports include lists of model objects that have no requirements links.

Data Types: `logical`

`ReportUseDocIndex` — Preference to include short document ID instead of full path to document in generated requirements reports

`false` (default) | `true`

Preference to include short document ID instead of full path to document in generated requirements reports, specified as a numeric or logical `1` (`true`) or `0` (`false`). When set to `true`, generated requirements reports include short document IDs, when specified, instead of full paths to requirements documents.

Data Types: `logical`

`SelectionLinkDoors` — Preference to include IBM Rational DOORS selection link option in Requirements context menu

`true` (default) | `false`

Preference to include IBM Rational DOORS selection link option in Requirements context menu, specified as a numeric or logical `1` (`true`) or `0` (`false`).

Data Types: `logical`

SelectionLinkExcel — Preference to include Microsoft Excel selection link option in Requirements context menu
true (default) | false

Preference to include Microsoft Excel selection link option in Requirements context menu, specified as a numeric or logical 1 (true) or 0 (false).

Data Types: logical

SelectionLinkKeyword — Preference for user keywords to apply to new selection-based requirements links
empty character vector (default) | comma-separated list of user keyword keywords

Preference for user keywords to apply to new selection-based requirements links, specified as a comma-separated list of words or phrases in a character vector. These user keywords automatically apply to new selection-based requirements links that you create. For more information about requirements filtering, see “Filter Requirements with User Keywords”.

Data Types: char

SelectionLinkWord — Preference to include Microsoft Word selection link option in Requirements context menu
true (default) | false

Preference to include Microsoft Word selection link option in Requirements context menu, specified as a numeric or logical 1 (true) or 0 (false).

Data Types: logical

StoreDataExternally — Preference to store requirements links data in external .req file
false (default) | true

Preference to store requirements links data in external .req file, specified as a numeric or logical 1 (true) or 0 (false). This setting applies to all new models and to existing models that do not yet have requirements links. For more information about storage of requirements links data, see “Requirements Link Storage”.

Data Types: logical

UseActiveXButtons — Preference to use legacy ActiveX® buttons in Microsoft Office requirements documents
false (default) | true

Preference to use legacy ActiveX buttons in Microsoft Office requirements documents, specified as a numeric or logical 1 (true) or 0 (false). The default value of this preference is false; requirements links are URL-based by default. ActiveX requirements navigation is supported for backward compatibility.

Data Types: logical

Output Arguments

currentVal — Current value of the RMI preference specified by prefName
true | false | 'absolute' | 'none' | ...

Current value of the RMI preference specified by `prefName`. RMI preference names and their associated possible values are listed in “Name-Value Pair Arguments” on page 1-266.

`previousVal` — Previous value of the RMI preference specified by `prefName`
`true` | `false` | `'absolute'` | `'none'` | ...

Previous value of the RMI preference specified by `prefName`. RMI preference names and their associated possible values are listed in “Name-Value Pair Arguments” on page 1-266.

Version History

Introduced in R2013a

See Also

`rmi`

Topics

“Requirements Settings”

rmiref.insertRefs

(Not recommended) Insert backlinks in Microsoft Office documents

Note Using `rmiref.insertRefs` is not recommended. Use `updateBacklinks` instead.

Syntax

```
[links,matches,inserted] = rmiref.insertRefs(model,type)
```

Description

`[links,matches,inserted] = rmiref.insertRefs(model,type)` inserts navigation backlinks in the active document of type `type` to match `slreq.Link` objects that point from the document to the Simulink model `model`. You can use these backlinks to navigate from the external document to the Simulink model. The function returns the number of links associated with the model, the number of those links that also point to the external requirements document, and the number of backlinks inserted in the requirements document. For more information, see “Manage Navigation Backlinks in External Requirements Documents”.

Examples

Insert Backlinks in Microsoft Word Document

This example shows how to insert backlinks in a Microsoft® Word document.

Open a model called `myModel`.

```
open_system("myModel");
```

Open a Microsoft Word document that contains requirements called `myRequirementsDoc.docx`

```
open("myRequirementsDoc.docx");
```

Insert navigation backlinks in the document for the model `myModel`. Return the total number of links associated with the model, the number of links that navigate to the document, and the number of links inserted in the document.

```
[links,matches,inserted] = rmiref.insertRefs("myModel","word")
```

```
links = 16
matches = 8
inserted = 8
```

Input Arguments

`model` — Name or handle of Simulink model
string scalar | character vector | model handle

Name or handle of a Simulink model, specified as a string scalar, character vector, or model handle.

type — External requirements document type
"word" | "excel"

External requirements document type, specified as "word" or "excel".

Output Arguments

links — Number of links associated with Simulink model
double array

Number of links associated with the Simulink model, returned as a double array.

matches — Number of links associated with external document
double array

Number of links in the Simulink model that are associated with the external requirements document, returned as a double array.

inserted — Number of backlinks inserted in external document
double array

Number of backlinks inserted in the external requirements document, returned as a double array.

Version History

Introduced in R2011a

Not recommended
Not recommended starting in R2022b

There are no plans to remove rmiref.insertRefs. However, the updateBacklinks method has these advantages over rmiref.insertRefs and is recommended instead:

- You can use updateBacklinks to insert backlinks that correspond to links that are not associated with a model.
- You can use updateBacklinks to insert backlinks in documents in third-party tools other than Microsoft Word and Microsoft Excel.

See Also

rmiref.removeRefs | updateBacklinks

Topics
“Manage Navigation Backlinks in External Requirements Documents”

rmiref.removeRefs

Remove backlinks to models from requirements documents

Syntax

```
count = rmiref.removeRefs(doc_type)
```

Description

`count = rmiref.removeRefs(doc_type)` removes all backlinks to models from the currently active external requirements document of type `doc_type`, and returns the number of backlinks removed. For more information about backlinks, see “Manage Navigation Backlinks in External Requirements Documents”.

Note You can only remove backlinks from one external document at a time.

Examples

Remove Backlinks from a Microsoft Word Document

This example shows how to remove backlinks from a Microsoft Word document.

Open the “Redirect Direct Links to Imported Requirements Programmatically” on page 3-98 example.

```
openExample(['slrequirements/' ...
    'RedirectDirectLinksToImportedRequirementsByAPIExample'])
```

Open the `FuelSysWithReqLinks` model.

```
open_system("FuelSysWithReqLinks.slx")
```

The model contains direct links to these documents:

- `FuelSysDesignDescription.docx`
- `FuelSysRequirementsSpecification.docx`
- `FuelSysTestScenarios.xlsx`

Open the `FuelSysDesignDescription.docx` document.

```
open("FuelSysDesignDescription.docx")
```

Remove the backlinks from the `FuelSysDesignDescription.docx` document.

```
count = rmiref.removeRefs("word")
```

```
Removing Simulink references from the current document ...
```

```
Current document: fuelsysdesigndescription.docx
```

```
Total references: 6

Remove all Simulink references? y/n

y

Removing ...

count =

     6
```

Clear the open requirement sets and link sets. Close all open models.

```
slreq.clear;
bdclose all;
```

Input Arguments

doc_type — External requirements document type
"Word" | "Excel" | "DOORS"

External requirements document type, specified as "Word", "Excel", or "DOORS".

Note The document type "DOORS" refers to IBM Rational DOORS modules. You cannot use this function to remove backlinks from IBM DOORS Next modules.

Output Arguments

count — Number of backlinks removed
double

Number of backlinks removed from the external document, returned as a double.

Version History

Introduced in R2011a

See Also

rmiref.insertRefs

Topics
"Manage Navigation Backlinks in External Requirements Documents"

rmitag

Manage keywords for links

Syntax

```
rmitag(model,"add",keyword)
rmitag(model,"delete",keyword)
rmitag(model,"replace",keyword,new_keyword)
rmitag(model,"clear",keyword)
rmitag( ___ ,doc_name)
rmitag(model,"list")
```

Description

`rmitag(model,"add",keyword)` adds the specified keyword `keyword` to the links associated with the model, `model`.

`rmitag(model,"delete",keyword)` deletes the keyword `keyword` from all links associated with the model.

`rmitag(model,"replace",keyword,new_keyword)` replaces the specified keyword `keyword` with the new keyword, `new_keyword`.

`rmitag(model,"clear",keyword)` removes the links that have the specified keyword `keyword`.

`rmitag( ___ ,doc_name)` adds, deletes, or replaces keywords or deletes links where the full or partial document name matches the argument `doc_name`.

`rmitag(model,"list")` lists all keywords for the links associated with `model`.

Examples

Add Keywords to a Model

This example shows how to add keywords to the links associated with a Simulink® model.

Open the `slvnvdemo_fuelsys_officereq` model.

```
open_system("slvnvdemo_fuelsys_officereq");
```

Add the keyword `myTag` to the links associated with the model.

```
rmitag(gcs,"add","myTag");
```

```
Processed objects: 16 (16 modified).
Total links: 16 (16 modified).
```

List the keywords for the links associated with the model.

```
rmitag(gcs,"list")
```

```
Processed objects: 16, total links: 16, found 4 unique tags:
               myTag: 16
                test: 2
         requirement: 6
              design: 7
```

Delete Link Keywords

This example shows how to delete keywords from the links associated with a Simulink® model.

Open the `slvnvdemo_fuelsys_officereq` model.

```
open_system("slvnvdemo_fuelsys_officereq");
```

Delete the keyword `test` from the links associated with the model.

```
rmitag(gcs,"delete","test");
```

```
Processed objects: 16 (2 modified).
Total links: 16 (2 modified).
```

List the keywords for the links associated with the model.

```
rmitag(gcs,"list")
```

```
Processed objects: 16, total links: 16, found 2 unique tags:
         requirement: 6
              design: 7
```

Replace Link Keywords

This example shows how to replace keywords for links associated with a Simulink® model.

Open the `slvnvdemo_fuelsys_officereq` model.

```
open_system("slvnvdemo_fuelsys_officereq");
```

Replace the keyword `requirement` with `specification`.

```
rmitag(gcs,"replace","requirement","specification");
```

```
Processed objects: 16 (6 modified).
Total links: 16 (6 modified).
```

List the user keywords for the links associated with the model.

```
rmitag(gcs,"list")
```

```
Processed objects: 16, total links: 16, found 3 unique tags:
                test: 2
       specification: 6
              design: 7
```

Delete Links from a Model by Using Keywords

This example shows how to delete links associated with a Simulink® model by using keywords.

Open the `slvnvdemo_fuelsys_officereq` model.

```
open_system("slvnvdemo_fuelsys_officereq");
```

Delete the links associated with the model that have the user keyword `design`.

```
rmitag(gcs,"clear","design");
```

```
Processed objects: 16 (7 modified).
Total links: 16 (7 cleared).
```

List the user keywords for the links associated with the model.

```
rmitag(gcs,"list")
```

```
Processed objects: 9, total links: 9, found 2 unique tags:
                test: 2
         requirement: 6
```

Add Keywords for Direct Links to External Documents

This example shows how to add keywords to the links associated with a Simulink® model that point to a document.

Open the `slvnvdemo_fuelsys_officereq` model.

```
open_system("slvnvdemo_fuelsys_officereq");
```

Add the keyword `myTag` to the links associated with the model and point the links to the `slvnvdemo_FuelSys_DesignDescription` document.

```
rmitag(gcs,"add","myTag","slvnvdemo_FuelSys_DesignDescription.docx");
```

```
Processed objects: 16 (8 modified).
Total links: 16 (8 modified).
```

List the keywords for the links associated with the model.

```
rmitag(gcs,"list")
```

```
Processed objects: 16, total links: 16, found 4 unique tags:
               myTag: 8
                test: 2
         requirement: 6
              design: 7
```

List Keywords for a Model

This example shows how to list the keywords for the links associated with a Simulink® model.

Open the `slvnvdemo_fuelsys_officereq` model, then list the link keywords.

```
open_system("slvnvdemo_fuelsys_officereq");
rmitag(gcs,"list")
```

```
Processed objects: 16, total links: 16, found 3 unique tags:
                test: 2
         requirement: 6
              design: 7
```

Input Arguments

`model` — Name or handle of Simulink model
string scalar | character vector | model handle

Name or handle to Simulink model that the links are associated with, specified as a string scalar or character vector that contains the name of the model or a model handle.

`keyword` — Keyword
string scalar | character vector

Keyword, specified as a string scalar or character vector.

`doc_name` — External document name
string scalar | character vector

External requirements document name, specified as a string scalar or character vector.

`new_keyword` — New keyword
string scalar | character vector

New keyword, specified as a string scalar or character vector.

Version History

Introduced in R2010a

See Also

`rmi` | `rmidocrename`

Topics
“User Keywords and Requirements Filtering”

RptgenRMI.doorsAttribs

IBM Rational DOORS attributes in requirements report

Syntax

```
settings = RptgenRMI.doorsAttribs('show')
tf = RptgenRMI.doorsAttribs('default')
tf = RptgenRMI.doorsAttribs(Name,Value)
```

Description

`settings = RptgenRMI.doorsAttribs('show')` returns the DOORS attribute report settings. The listed attributes are included in generated requirements reports.

`tf = RptgenRMI.doorsAttribs('default')` restores the default requirements report settings for DOORS attributes. The function returns `1` if the settings are changed. The default settings are:

- Explicitly include the system attributes `Object Heading` and `Object Text`
- Include all other system attributes and user-defined attributes
- Omit the system attribute `Created Thru`
- Omit system attributes with empty string values
- Omit system attributes that are false

`tf = RptgenRMI.doorsAttribs(Name,Value)` specifies which DOORS attributes to include in generated requirements reports. The function returns `1` if the settings are changed without error.

Note This function sets settings used when generating reports for requirements in IBM Rational DOORS. These settings are not applied for generated reports for requirements in IBM Rational DOORS Next.

Examples

Show the DOORS Attribute Report Settings

```
settings = RptgenRMI.doorsAttribs('show')
```

```
settings = 5x1 cell
    {'Object Heading' }
    {'Object Text'    }
    {'$AllAttributes$'}
    {'$NonEmpty$'     }
    {'-Created Thru'  }
```

Restore Default DOORS Attributes Report Settings

If you change the settings for which DOORS attributes to include in the requirements report, you can restore the default settings.

Change the settings by omitting all attributes other than those that are explicitly included in the report. Show the changed settings.

```
tf = RptgenRMI.doorsAttribs('type','none');
```

```
Excluding attributes...
```

```
settings = RptgenRMI.doorsAttribs('show')
```

```
settings = 4x1 cell
    {'Object Heading'}
    {'Object Text'   }
    {'$NonEmpty$'    }
    {'-Created Thru' }
```

Restore the settings to default. Show the default settings.

```
tf = RptgenRMI.doorsAttribs('default');
settings = RptgenRMI.doorsAttribs('show')
```

```
settings = 5x1 cell
    {'Object Heading' }
    {'Object Text'    }
    {'$AllAttributes$'}
    {'$NonEmpty$'     }
    {'-Created Thru'  }
```

The default settings are:

- Explicitly include the system attributes `Object Heading` and `Object Text`
- Include all other system attributes and user-defined attributes
- Omit the system attribute `Created Thru`
- Omit system attributes with empty string values
- Omit system attributes that are false

Include or Omit DOORS Attributes from the Requirements Report by Specifying Type

Specify that generated requirements reports will include only user-defined attributes.

```
tf = RptgenRMI.doorsAttribs('type','user');
```

```
Including user attributes...
```

Show the settings.

```
settings = RptgenRMI.doorsAttribs('show')
settings = 6x1 cell
    {'Object Text'      }
    {'$NonEmpty$'       }
    {'-Created Thru'    }
    {'+Last Modified By'}
    {'+Last Modified On'}
    {'$UserAttributes$' }
```

Explicitly Include or Omit DOORS Attributes from the Requirements Report

Include the `Last Modified By` and `Last Modified On` attributes.

```
tf = RptgenRMI.doorsAttribs('add','Last Modified By');
```

```
Adding Last Modified By...
```

```
tf = RptgenRMI.doorsAttribs('add','Last Modified On');
```

```
Adding Last Modified On...
```

Omit the `Object Heading` attribute from the requirements report.

```
tf = RptgenRMI.doorsAttribs('remove','Object Heading');
```

```
Removing Object Heading...
```

Show the Current Settings

```
settings = RptgenRMI.doorsAttribs('show')
```

```
settings = 6x1 cell
    {'Object Text'      }
    {'$AllAttributes$'  }
    {'$NonEmpty$'       }
    {'-Created Thru'    }
    {'+Last Modified By'}
    {'+Last Modified On'}
```

Include or Omit Empty User-Defined DOORS Attributes from the Requirements Report

Include empty user-defined attributes in the requirements report.

```
tf = RptgenRMI.doorsAttribs('nonempty','off')
```

```
NonEmpty filter off...
```

```
tf = logical
   1
```

Show the current settings.

```
settings = RptgenRMI.doorsAttribs('show')
settings = 5x1 cell
    {'Object Text'      }
    {'-Created Thru'    }
    {'+Last Modified By'}
    {'+Last Modified On'}
    {'$UserAttributes$' }
```

Input Arguments

Name-Value Pair Arguments

Specify optional pairs of arguments as `Name1=Value1,...,NameN=ValueN`, where `Name` is the argument name and `Value` is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Before R2021a, use commas to separate each name and value, and enclose `Name` *in quotes.*

Example: `'type','all'`

`type` — Types of attributes to include or omit in report
`'all'` | `'user'` | `'none'`

Types of DOORS attributes to include or omit from the report, specified as `'all'`, `'user'`, or `'none'`.

Example: `'type','all'`

`add` — Attributes to add to report
character array

Attributes to add to the generated report, specified as a character array.

Example: `'add','Last Modified By'`

Note The entered character array should be the same as a DOORS predefined system attribute or user-defined attribute.

`remove` — Attributes to remove from report
character array

Attributes to omit from the generated report, specified as a character array.

Example: `'remove','Object Heading'`

Note The entered character array should be the same as a DOORS predefined system attribute or user-defined attribute.

`nonempty` — Include or omit empty attributes
`'on'` | `'off'`

Whether to include or omit empty user-defined attributes in the report, specified as `'on'` or `'off'`. Empty system-defined attributes are always excluded.

Example: `'nonempty','on'`

Output Arguments

`settings` — Current DOORS attribute report settings

cell array

Current DOORS attribute report settings, returned as a cell array.

`tf` — Changed settings success status

`1` | `0`

Changed settings success status, returned as a `1` or `0` of data type `logical`.

Version History

Introduced in R2011b

See Also

`rmi`

setCatalogPath

Package: `oslc`

Set catalog path for OSLC client

Syntax

`setCatalogPath(myClient,path)`

Description

`setCatalogPath(myClient,path)` sets the OSLC client `myClient` to the catalog path specified by `path`.

Examples

Create and Configure an OSLC Client for the Requirements Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Then set the service root and catalog path for the requirements management domain and the configuration query path.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'/oslc_rm/catalog');
setConfigurationQueryPath(myClient,'gc/oslc-query/configurations');
myClient
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
```

```
providers =

  4×1 cell array

    {'OSLC Plugin'                                }
    {'Model Based Design with OSLC'               }
    {'OSLC4RM'                                    }
    {'Interactive Testing (Requirements Management)'}
```

```
setServiceProvider(myClient,'OSLC Plugin');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations =

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient =

  Client with properties:

         ServiceProvider: 'OSLC Plugin'
    ConfigurationContext: 'Initial Development'
              CatalogUrl: 'https://localhost:9443/rm/oslc_rm/catalog'
```

Input Arguments

`myClient` — OSLC client

`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

`path` — OSLC catalog path

character vector

OSLC catalog path in the specified server and domain, specified as a character vector.

Example: `'/oslc_rm/catalog'`

Version History

Introduced in R2021a

See Also

`oslc.Client` | `setServer` | `setServiceRoot` | `login` | `setUser`

setConfigurationContext

Package: oslc

Set configuration context for OSLC client

Syntax

```
setConfigurationContext(myClient,configName)
```

Description

`setConfigurationContext(myClient,configName)` sets the OSLC client `myClient` to the configuration context specified by `configName`.

Examples

Create and Configure an OSLC Client for the Requirements Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Then set the service root and catalog path for the requirements management domain and the configuration query path.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'/oslc_rm/catalog');
setConfigurationQueryPath(myClient,'gc/oslc-query/configurations');
myClient
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
```

```
providers =

  4×1 cell array

    {'OSLC Plugin'                               }
    {'Model Based Design with OSLC'              }
    {'OSLC4RM'                                   }
    {'Interactive Testing (Requirements Management)'}
```

```
setServiceProvider(myClient,'OSLC Plugin');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations =

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient =

  Client with properties:

         ServiceProvider: 'OSLC Plugin'
    ConfigurationContext: 'Initial Development'
              CatalogUrl: 'https://localhost:9443/rm/oslc_rm/catalog'
```

Input Arguments

myClient — OSLC client

oslc.Client object

OSLC client, specified as an oslc.Client object.

configName — Configuration context name

character vector

Configuration context name to set the OSLC client to, specified as a character vector.

Version History

Introduced in R2021a

See Also

oslc.Client | getConfigurationContextNames | login | setServiceProvider | getServiceProviderNames | setConfigurationQueryPath

setConfigurationQueryPath

Package: oslc

Set configuration query path for OSLC client

Syntax

```
setConfigurationQueryPath(myClient,path)
```

Description

`setConfigurationQueryPath(myClient,path)` sets the OSLC client `myClient` to the configuration context query path specified by `path`.

Examples

Create and Configure an OSLC Client for the Requirements Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Then set the service root and catalog path for the requirements management domain and the configuration query path.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'/oslc_rm/catalog');
setConfigurationQueryPath(myClient,'gc/oslc-query/configurations');
myClient
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
```

```
providers =

  4×1 cell array

    {'OSLC Plugin'                                }
    {'Model Based Design with OSLC'               }
    {'OSLC4RM'                                    }
    {'Interactive Testing (Requirements Management)'}
```

```
setServiceProvider(myClient,'OSLC Plugin');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations =

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient =

  Client with properties:

         ServiceProvider: 'OSLC Plugin'
    ConfigurationContext: 'Initial Development'
              CatalogUrl: 'https://localhost:9443/rm/oslc_rm/catalog'
```

Input Arguments

`myClient` — OSLC client
`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

`path` — OSLC configuration query path
character vector

OSLC configuration query path in the specified server and domain, specified as a character vector.

Example: `'gc/oslc-query/configurations'`

Version History

Introduced in R2021a

See Also

`oslc.Client` | `setConfigurationContext` | `login` | `setServiceProvider` | `getServiceProviderNames`

setCustomLoginProvider

Package: `oslc`

Register custom authentication callback function to OSLC client

Syntax

```
setCustomLoginProvider(myClient,authenticationFunction)
```

Description

`setCustomLoginProvider(myClient,authenticationFunction)` registers a custom authentication callback function, `authenticationFunction`, for the OSLC client object `myClient`. You can use this function to authenticate an OSLC client object on networks that require advanced authentication that the default authentication process does not support.

Note The custom authentication callback function should take this form:

```
function [success,cookies] = myCustomLoginProvider(server,options)
% Provide your implementation here
end
```

The custom authentication function should return two arguments: success status and cookies received from the server.

Examples

Authenticate a Client that Requires an Advanced Authentication

This example shows how to authenticate an OSLC client by using a custom authentication function and custom HTTP options.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the server URL, service root, and catalog path for your service provider.

```
setServer(myClient,'http://example.com');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'oslc/services/catalog');
```

Create and enter the user credentials by using the `matlab.net.http.Credentials` class with a basic `matlab.net.http.AuthenticationScheme` object.

```
creds = matlab.net.http.Credentials('Username','jdoe','Password', ...
'Password1234','scheme',matlab.net.http.AuthenticationScheme.Basic);
```

Create custom HTTP options by using the `matlab.net.http.HTTPOptions` class constructor. Set the `Credentials` property and certificate information for the custom HTTP options.

```
opts = matlab.net.http.HTTPOptions('Credentials',creds, ...
    'VerifyServerName', false, 'CertificateFilename', '')
```

```
opts = 

  HTTPOptions with properties:

           MaxRedirects: 20
         ConnectTimeout: 10
               UseProxy: 1
               ProxyURI: []
           Authenticate: 1
            Credentials: [1×1 matlab.net.http.Credentials]
     UseProgressMonitor: 0
            SavePayload: 0
        ConvertResponse: 1
         DecodeResponse: 1
     ProgressMonitorFcn: []
    CertificateFilename: ""
       VerifyServerName: 0
            DataTimeout: Inf
        ResponseTimeout: Inf
       KeepAliveTimeout: Inf
```

Specify the custom HTTP options to authenticate the OSLC client `myClient`.

```
setHttpOptions(myClient,opts);
```

Create a custom authentication callback function called `myCustomLoginProvider`.

```
function [success,cookies] = myCustomLoginProvider(server,options)

end
```

Register the custom authentication callback function with the OSLC client object.

```
setCustomLoginProvider(myClient,myCustomLoginProvider);
```

Authenticate the OSLC client object.

```
login(myClient);
```

Input Arguments

`myClient` — OSLC client

`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

`authenticationFunction` — Custom authentication callback function name

character vector

Custom authentication callback function name, specified as a character vector.

Example: `'myCustomLoginProvider'`

Tips

- If your authentication process requires a particular set of HTTP options, you can either:
  - Construct a `matlab.net.http.HTTPOptions` object and assign it to your OSLC client by using `setHttpOptions`, which passes the HTTP options to your custom authentication callback function.
  - Construct the HTTP options internally in your custom authentication callback function.
- If you want to preconfigure the login process with credentials or use a particular authentication scheme, you can create a `matlab.net.http.Credentials` object and include it with a `matlab.net.http.HTTPOptions` object that you assign to the OSLC client object. For more information, see “Server Authentication”.

  Note Depending on the authentication method used by your server, your custom authentication callback function might also have to satisfy authentication requirements. For example, you might have to mimic the form-based authentication required by your authentication server.
- You can unregister all callbacks from an OSLC client object `myClient` by entering:

  ```
  setCustomLoginProvider(myClient,'');
  ```

Version History

Introduced in R2021b

See Also

`oslc.Client` | `setHttpHeader` | `setHttpOptions` | `login` | `getCustomLoginProvider`

Topics

“Server Authentication”

setHttpHeader

Package: oslc

Set HTTP header for OSLC client

Syntax

```
setHttpHeader(myClient,header)
```

Description

setHttpHeader(myClient,header) assigns the custom HTTP header header to the OSLC client myClient. The custom header allows for HTTP methods. For more information, see matlab.net.http.HeaderField methods.

Examples

Set Custom HTTP Header

This example shows how to set a custom HTTP header for a configured OSLC client.

Create a custom HTTP header by using the matlab.net.http.HeaderField class constructor.

```
header = matlab.net.http.HeaderField('Content-Type','text/plain')
```

```
header = 

  HeaderField with properties:

     Name: "Content-Type"
    Value: "text/plain"
```

After you have created and configured an OSLC client as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, assign the header to the OSLC client myClient.

```
setHttpHeader(myClient,header);
```

Input Arguments

myClient — OSLC client
oslc.Client object

OSLC client, specified as an oslc.Client object.

header — Custom HTTP header
matlab.net.http.HeaderField object

Custom HTTP header, specified as a matlab.net.http.HeaderField object.

Tips

- If your OSLC service provider requires a cookie for repeated requests, you can include an authenticated cookie in your `matlab.net.http.HeaderField` object by using `matlab.net.http.field.CookieField`.

Version History

Introduced in R2021a

See Also

`matlab.net.http.HeaderField` | `oslc.Client` | `setHttpOptions`

setHttpOptions

Package: `oslc`

Set HTTP options for OSLC client

Syntax

```
setHttpOptions(myClient,opts)
```

Description

`setHttpOptions(myClient,opts)` assigns the custom HTTP options `opts` to the OSLC client `myClient`.

Examples

Authenticate a Client that Requires Custom HTTP Options

This example shows how to authenticate an OSLC client by using custom HTTP options.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the server URL, service root and catalog path for your service provider.

```
setServer(myClient,'http://example.com');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'oslc/services/catalog');
```

Create and enter the user credentials by using the `matlab.net.http.Credentials` class with a basic `matlab.net.http.AuthenticationScheme` object.

```
creds = matlab.net.http.Credentials('Username','jdoe','Password', ...
'Password1234','scheme',matlab.net.http.AuthenticationScheme.Basic);
```

Create custom HTTP options by using the `matlab.net.http.HTTPOptions` class constructor. Set the `Credentials` property for the custom HTTP options.

```
opts = matlab.net.http.HTTPOptions('Credentials',creds)
```

```
opts = 

  HTTPOptions with properties:

           MaxRedirects: 20
         ConnectTimeout: 10
               UseProxy: 1
               ProxyURI: []
           Authenticate: 1
            Credentials: [1×1 matlab.net.http.Credentials]
```

```
     UseProgressMonitor: 0
            SavePayload: 0
        ConvertResponse: 1
         DecodeResponse: 1
     ProgressMonitorFcn: []
    CertificateFilename: "default"
       VerifyServerName: 1
            DataTimeout: Inf
        ResponseTimeout: Inf
       KeepAliveTimeout: Inf
```

Specify the custom HTTP options to authenticate the OSLC client `myClient`.

```
setHttpOptions(myClient,opts);
```

Input Arguments

`myClient` — OSLC client

`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

`opts` — Custom HTTP options

`matlab.net.http.HTTPOptions` object

Custom HTTP header, specified as a `matlab.net.http.HTTPOptions` object.

Tips

- You can use a `matlab.net.http.HTTPOptions` object for custom authentication for an `oslc.Client` object. For more information, see “Server Authentication”.

Version History

Introduced in R2021a

See Also

`matlab.net.http.HTTPOptions` | `oslc.Client` | `setHttpHeader`

Topics

“Use HTTP with MATLAB”

setProperty

Package: oslc.rm

Set local contents of text property for OSLC resource object

Syntax

```
setProperty(resource,propertyName,textContents)
```

Description

setProperty(resource,propertyName,textContents) sets the text contents of the RDF/XML element propertyName to the value specified by textContents in the locally stored RDF/XML data for the Open Services for Lifecycle Collaboration (OSLC) resource specified by resource. Use the commit function to apply the change to the service provider. For more information about RDF/XML elements, see An XML Syntax for RDF on the World Wide Web Consortium website.

Examples

Add, Get, and Remove Properties from OSLC Resources

This example shows how to add, get, and remove properties from an existing OSLC requirement resource.

Create and configure the OSLC client myClient as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3. Then query the service provider for requirements and assign an oslc.rm.Requirement object to the variable myReq as described in “Submit a Query Request with Query Capability” on page 1-209.

Retrieve the full resource data from the service provider for the requirement resource myReq.

```
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

The requirement myReq has a linked requirement with an implementedBy relationship. Get the rdf:resource value for the oslc_rm:implementedBy property for the requirement resource myReq.

```
linkedReq = getResourceProperty(myReq,'oslc_rm:implementedBy')
```

```
linkedReq = 

  1×1 cell array

    {'https://localhost:9443/rm/resources/_72lxMWJREeup0...'}
```

Change the relationship between the linked requirement and `myReq` from `implementedBy` to `decomposedBy`. Remove the `oslc_rm:implementedBy` property and add an `oslc_rm:decomposedBy` property.

```
removeResourceProperty(myReq,'oslc_rm:implementedBy',linkedReq)
addResourceProperty(myReq,'oslc_rm:decomposedBy',linkedReq)
```

Get the text contents for the `dcterms:title` property.

```
title = getProperty(myReq,'dcterms:title')
```

```
title =

    'My New Requirement'
```

Change the title to `My New Requirement (Edited)`. Confirm the changes.

```
setProperty(myReq,'dcterms:title','My New Requirement (Edited)')
title = getProperty(myReq,'dcterms:title')
```

```
title =

    'My New Requirement (Edited)'
```

Add a new text property to the requirement with the tag `dcterms:description`. Confirm the changes.

```
addTextProperty(myReq,'dcterms:description', ...
    'My new requirement edited using the MATLAB OSLC client.');
desc = getProperty(myReq,'dcterms:description')
```

```
desc =

    'My new requirement created using the MATLAB OSLC client.'
```

Commit the changes to the service provider.

```
status = commit(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

View the resource that you edited in the system browser.

```
show(myReq)
```

Input Arguments

`resource` — OSLC resource object
`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object | `oslc.cm.ChangeRequest` object | ...

OSLC resource object, specified as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`
- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

`propertyName` — OSLC resource property name
character vector

OSLC resource property name, specified as a character vector.

`textContents` — OSLC resource text contents
character vector

OSLC resource text content, specified as a character vector.

Tips

- For information about OSLC resource properties, see these pages on the OSLC website:
  - RM Resource Definitions
  - QM Resource Definitions
  - CM Resource Definitions

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `addTextProperty` | `getProperty`

External Websites
RDF 1.1 XML Syntax

setQueryParameter

Package: `oslc.core`

Set query parameter for OSLC query service

Syntax

`setQueryParameter(myQueryCapability,parameter)`

Description

`setQueryParameter(myQueryCapability,parameter)` sets a query parameter for the query capability `myQueryCapability`.

Note The query parameter is only applied for one query. After you submit a query, the query parameter is automatically cleared from the query capability.

Examples

Set a Query Parameter for a Query Capability

This example shows how to set a query parameter for a query capability.

After you have created and configured an OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement resource type.

```
myQueryCapability = getQueryService(myClient,'Requirement')
```

```
myQueryCapability = 

  QueryCapability with properties:

    queryParameter: ''
            client: [1×1 oslc.Client]
         queryBase: 'https://localhost:9443/rm/views?oslc.query=true&projectURL=http...'
     resourceShape: {0×1 cell}
               dom: [1×1 matlab.io.xml.dom.Element]
             title: 'Query Capability'
      resourceType: {1×2 cell}
```

Set a query parameter for the query capability. Inspect the query capability `queryParameter` property.

```
setQueryParameter(myQueryCapability,'?oslc.select=oslc_rm:requirement');
param = myQueryCapability.queryParameter
param =

    '?oslc.select=oslc_rm:requirement'
```

Input Arguments

`myQueryCapability` — Resource query capability
`oslc.core.QueryCapability` object

OSLC resource query capability, specified as an `oslc.core.QueryCapability` object.

`parameter` — Query condition search parameter
character vector

OSLC query condition search parameter, specified as a character vector.

For more information, see Query Parameters on the OSLC website.

Tips

- For information about query syntaxes, see Open Services for Lifecycle Collaboration Core Specification Version 2.0 Query Syntax on the OSLC website.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.QueryCapability`

External Websites
OSLC Query Parameters

setRDF

Package: `oslc.rm`

Set RDF content for local OSLC resource object

Syntax

```
setRDF(resource,rdfContent)
```

Description

`setRDF(resource,rdfContent)` sets the XML/RDF data to the content specified by `rdfContent` for the resource specified by `resource`. Use the `commit` function to apply the change to the service provider. For more information, see RDF classes and properties in OSLC on the Open Services for Lifecycle Collaboration (OSLC) website.

Examples

Get and Set RDF Content for Requirement Resource

This example shows how to get and set the RDF content of an OSLC requirement resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in "Create and Configure an OSLC Client for the Requirements Management Domain" on page 2-3, create a query capability for the requirement resource type.

```
myQueryCapability = getQueryService(myClient);
```

Submit a query request to the service provider for the available requirement resources.

```
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Fetch the full resource properties for a single requirement resource. Inspect the title of the requirement.

```
myReq = reqs(1);
status = fetch(myReq,myClient)
```

```
status = 
  StatusCode enumeration

    OK
```

```
title = myReq.Title
```

```
title =

    'My New Requirement'
```

Get the locally stored RDF content of the requirement resource.

```
rdfContent = getRDF(myReq)
```

```
rdfContent =

    '<?xml version="1.0" encoding="UTF-8" standalone="no" ?><rdf:RDF
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:dcterms="http://purl.org/dc/terms/"
xmlns:oslc="http://open-services.net/ns/core#"
xmlns:oslc_rm="http://open-services.net/ns/rm#">
          <oslc_rm:Requirement>
         <dcterms:title>My New
Requirement</dcterms:title><oslc:instanceShape
rdf:resource="https://example.com/shapes/oslc-requirement-version1"/>
</oslc_rm:Requirement>
     </rdf:RDF>'
```

Copy and paste the `rdfContent` text into a new variable `newRDF`. Edit the text contents for the `dcterms:title` property to `My New Requirement (Edited)`.

```
newRDF = ['<?xml version="1.0" encoding="UTF-8" ' ...
'standalone="no" ?><rdf:RDF ' ...
'xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" ' ...
'xmlns:dcterms="http://purl.org/dc/terms/" ' ...
'xmlns:oslc="http://open-services.net/ns/core#" ' ...
'xmlns:oslc_rm="http://open-services.net/ns/rm#">' ...
'<oslc_rm:Requirement><dcterms:title>' ...
'My New Requirement (Edited)</dcterms:title>' ...
'<oslc:instanceShape rdf:resource=' ...
'"https://example.com/shapes/oslc-requirement-version1"/>' ...
'</oslc_rm:Requirement></rdf:RDF>']
```

Set the RDF content of the requirement to the variable `newRDF`. Inspect the requirement title.

```
setRDF(myReq,newRDF);
title = myReq.Title
```

```
title =

    'My New Requirement (Edited)'
```

Commit the changes to the service provider.

```
status = commit(newReq,myClient)
```

```
status =

  StatusCode enumeration
```

```
OK
```

Input Arguments

`resource` — OSLC resource object

`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object | `oslc.cm.ChangeRequest` object | ...

OSLC resource object, specified as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`
- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

`rdfContent` — RDF resource data

character vector

RDF data for OSLC resource, specified as a character vector.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `getRDF`

External Websites

RDF 1.1 XML Syntax

setResourceUrl

Package: `oslc.rm`

Set resource URL for local OSLC resource object

Syntax

```
setResourceUrl(resource,URL)
```

Description

`setResourceUrl(resource,URL)` sets the `ResourceUrl` property of the resource specified by `resource` to the existing resource URL specified by `URL`.

Examples

Set OSLC Requirement Resource URL

This example shows how to associate an Open Services for Lifecycle Collaboration (OSLC) requirement resource object in MATLAB with an existing OSLC requirement resource in the service provider.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a new requirement resource by creating an instance of the `oslc.rm.Requirement` class.

```
myReq = oslc.rm.Requirement
```

```
myReq = 
  Requirement with properties:

    ResourceUrl: ''
          Dirty: 0
      IsFetched: 0
          Title: ''
     Identifier: ''
```

In the OSLC service provider, locate the requirement resource that you want to associate with the object in MATLAB. Identify the resource URL, then create a variable `URL` and set the value of the variable to the resource URL.

```
URL = 'https://localhost:9443/rm/resources/_oJNtgWrqEeup0a6t';
```

Set the resource URL for the requirement object `myReq`. Inspect the requirement.

```
setResourceUrl(myReq,URL);
myReq
```

```
myReq = 

  Requirement with properties:
    ResourceUrl: 'https://localhost:9443/rm/resources/_oJNtgWrqEeup0a6t'
          Dirty: 1
      IsFetched: 0
          Title: ''
     Identifier: ''
```

Retrieve the full resource data from the service provider for the requirement resource and inspect the resource.

```
fetch(myReq,myClient);
myReq
```

```
myReq = 

  Requirement with properties:

    ResourceUrl: 'https://localhost:9443/rm/resources/_oJNtgWrqEeup0a6t'
          Dirty: 0
      IsFetched: 1
          Title: '[SAFe] Lightweight Business Case Template'
     Identifier: '1172'
```

Open the requirement resource in the system browser.

```
show(newReq)
```

Input Arguments

resource — OSLC resource object

oslc.rm.Requirement object | oslc.rm.RequirementCollection object | oslc.cm.ChangeRequest object | ...

OSLC resource object, specified as one of these objects:

- oslc.cm.ChangeRequest
- oslc.qm.TestCase
- oslc.qm.TestExecutionRecord
- oslc.qm.TestPlan
- oslc.qm.TestResult
- oslc.qm.TestScript
- oslc.rm.Requirement
- oslc.rm.RequirementCollection

URL — Existing resource URL

character vector

Existing resource URL, specified as a character vector.

Tips

- Use this function when you have the resource URL for an OSLC resource and want to access the properties or links of the resource in MATLAB.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `show` | `fetch`

setServer

Package: oslc

Set server URL for OSLC client

Syntax

```
setServer(myClient,serverURL)
```

Description

`setServer(myClient,serverURL)` sets the OSLC client `myClient` to the server URL specified by `serverURL`.

Examples

Create and Configure an OSLC Client for the Requirements Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Then set the service root and catalog path for the requirements management domain and the configuration query path.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'/oslc_rm/catalog');
setConfigurationQueryPath(myClient,'gc/oslc-query/configurations');
myClient
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
```

```
providers =

  4×1 cell array

    {'OSLC Plugin'                                }
    {'Model Based Design with OSLC'               }
    {'OSLC4RM'                                    }
    {'Interactive Testing (Requirements Management)'}
```

```
setServiceProvider(myClient,'OSLC Plugin');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations =

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient =

  Client with properties:

         ServiceProvider: 'OSLC Plugin'
    ConfigurationContext: 'Initial Development'
              CatalogUrl: 'https://localhost:9443/rm/oslc_rm/catalog'
```

Input Arguments

myClient — OSLC client

oslc.Client object

OSLC client, specified as an oslc.Client object.

serverURL — OSLC server URL

character vector

OSLC server URL to set the OSLC client to, specified as a character vector.

Version History

Introduced in R2021a

See Also

oslc.Client | setCatalogPath | setServiceRoot | login | setUser

setServiceProvider

Package: `oslc`

Set service provider for OSLC client

Syntax

```
setServiceProvider(myClient,providerName)
```

Description

`setServiceProvider(myClient,providerName)` sets the OSLC client `myClient` to the service provider specified by `providerName`.

Examples

Create and Configure an OSLC Client for the Requirements Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Then set the service root and catalog path for the requirements management domain and the configuration query path.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'/oslc_rm/catalog');
setConfigurationQueryPath(myClient,'gc/oslc-query/configurations');
myClient
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
```

```
providers =

  4×1 cell array

    {'OSLC Plugin'                              }
    {'Model Based Design with OSLC'             }
    {'OSLC4RM'                                  }
    {'Interactive Testing (Requirements Management)'}
```

```
setServiceProvider(myClient,'OSLC Plugin');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations =

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient =

  Client with properties:

         ServiceProvider: 'OSLC Plugin'
    ConfigurationContext: 'Initial Development'
              CatalogUrl: 'https://localhost:9443/rm/oslc_rm/catalog'
```

Input Arguments

`myClient` — OSLC client

`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

`providerName` — OSLC service provider name

character vector

OSLC service provider name to set the client to, specified as a character array.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `getConfigurationContextNames` | `setConfigurationContext` | `login` | `getServiceProviderNames` | `setConfigurationQueryPath`

setServiceRoot

Package: `oslc`

Set service root for OSLC client

Syntax

```
setServiceRoot(myClient,root)
```

Description

`setServiceRoot(myClient,root)` sets the OSLC client `myClient` to the service root specified by `root`.

Examples

Create and Configure an OSLC Client for the Requirements Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Then set the service root and catalog path for the requirements management domain and the configuration query path.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'/oslc_rm/catalog');
setConfigurationQueryPath(myClient,'gc/oslc-query/configurations');
myClient
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
```

```
providers =

  4×1 cell array

    {'OSLC Plugin'                             }
    {'Model Based Design with OSLC'            }
    {'OSLC4RM'                                 }
    {'Interactive Testing (Requirements Management)'}
```

```
setServiceProvider(myClient,'OSLC Plugin');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations =

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient =

  Client with properties:

         ServiceProvider: 'OSLC Plugin'
    ConfigurationContext: 'Initial Development'
              CatalogUrl: 'https://localhost:9443/rm/oslc_rm/catalog'
```

Input Arguments

myClient — OSLC client

oslc.Client object

OSLC client, specified as an oslc.Client object.

root — OSLC service root

character vector

OSLC service root, specified as a character vector.

Version History

Introduced in R2021a

See Also

oslc.Client | setCatalogPath | setServer | login | setUser

setUser

Package: oslc

Set user for OSLC client

Syntax

```
setUser(myClient,userName)
```

Description

setUser(myClient,userName) sets the OSLC client myClient to the user specified by userName.

Examples

Create and Configure an OSLC Client for the Requirements Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Then set the service root and catalog path for the requirements management domain and the configuration query path.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'/oslc_rm/catalog');
setConfigurationQueryPath(myClient,'gc/oslc-query/configurations');
myClient
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
```

```
providers =

  4×1 cell array

    {'OSLC Plugin'                                 }
    {'Model Based Design with OSLC'                }
    {'OSLC4RM'                                     }
    {'Interactive Testing (Requirements Management)'}
```

```
setServiceProvider(myClient,'OSLC Plugin');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations = 

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient = 

  Client with properties:

         ServiceProvider: 'OSLC Plugin'
    ConfigurationContext: 'Initial Development'
              CatalogUrl: 'https://localhost:9443/rm/oslc_rm/catalog'
```

Input Arguments

`myClient` — OSLC client
`oslc.Client` object

OSLC client, specified as an `oslc.Client` object.

`userName` — OSLC user name
character vector

OSLC user name, specified as a character vector.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `setCatalogPath` | `setServer` | `setServiceRoot` | `login`

show

Package: oslc.rm

View OSLC resource in system browser

Syntax

```
show(resource)
```

Description

show(resource) opens the ResourceUrl associated with resource in the system browser.

Examples

Create a New Requirement

This example shows how to submit a creation request for a new requirement resource with a configured OSLC client.

After you have created and configured the OSLC client myClient as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a creation factory for the requirement resource type.

```
myCreationFactory = getCreationFactory(myClient,'Requirement');
```

Use the creation factory to create a new requirement resource with the title My New Requirement. Retrieve the full resource data from the service provider for the requirement resource and inspect the resource.

```
newReq = createRequirement(myCreationFactory,'My New Requirement');
fetch(newReq,myClient);
newReq
```

```
newReq = 

  Requirement with properties:

    ResourceUrl: 'https://localhost:9443/rm/resources/_72lxMWJREeup0...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Requirement'
     Identifier: '1806'
```

Open the requirement resource in the system browser by using the show function.

```
show(newReq)
```

Input Arguments

`resource` — OSLC resource object

`oslc.rm.Requirement` object | `oslc.rm.RequirementCollection` object | `oslc.cm.ChangeRequest` object | ...

OSLC resource object, specified as one of these objects:

- `oslc.cm.ChangeRequest`
- `oslc.qm.TestCase`
- `oslc.qm.TestExecutionRecord`
- `oslc.qm.TestPlan`
- `oslc.qm.TestResult`
- `oslc.qm.TestScript`
- `oslc.rm.Requirement`
- `oslc.rm.RequirementCollection`

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `fetch` | `commit` | `remove`

showAssumptionColumn

Package: `slreq.modeling`

Show Precondition column in Assumptions tab

Syntax

`showAssumptionColumn(reqTable)`

Description

`showAssumptionColumn(reqTable)` shows the **Precondition** column in the **Assumptions** tab of the Requirements Table block, `reqTable`.

Examples

Show the Precondition Column in a Requirements Table Block

Find the Requirements Table block in a model by using `slreq.modeling.find`.

```
reqTable = slreq.modeling.find("myModel");
```

Show the **Precondition** column in the **Assumptions** tab.

```
showAssumptionColumn(reqTable);
```

Input Arguments

reqTable — Requirements Table block
`RequirementsTable` object

Requirements Table block, specified as a `RequirementsTable` object.

Version History

Introduced in R2022a

See Also

Objects
`RequirementsTable`

Functions
`hideAssumptionColumn` | `showRequirementColumn` | `hideRequirementColumn`

showRequirementColumn

Package: `slreq.modeling`

Show columns in Requirements tab

Syntax

```
showRequirementColumn(reqTable,column)
```

Description

`showRequirementColumn(reqTable,column)` shows the column type specified by `column` in the **Requirements** tab of the Requirements Table block, `reqTable`.

Examples

Show the Postcondition Columns in a Requirements Table Block

Find the Requirements Table block in a model by using `slreq.modeling.find`.

```
reqTable = slreq.modeling.find("myModel");
```

Show the **Postcondition** columns in the **Requirements** tab.

```
showRequirementColumn(reqTable,"Postconditions");
```

Input Arguments

`reqTable` — Requirements Table block

`RequirementsTable` object

Requirements Table block, specified as a `RequirementsTable` object.

`column` — Column type

`"Duration"` | `"Actions"` | `"Postconditions"`

Column type to be shown, specified as `"Duration"`, `"Actions"`, or `"Postconditions"`. Use this argument to show the **Duration**, **Action**, or **Postcondition** columns, respectively.

Data Types: `enumerated`

Version History

Introduced in R2022a

See Also

Objects

`RequirementsTable`

Functions
`hideRequirementColumn` | `showAssumptionColumn` | `hideAssumptionColumn`

slwebview_req

Export Simulink system to Web views with requirements

Syntax

```
filename = slwebview_req(sysname)
filename = slwebview_req(sysname,Name,Value)
```

Description

`filename = slwebview_req(sysname)` exports the system `sysname` and its children to a web page `filename` with contextual requirements information for the system displayed on a separate panel of the layered model structure Web view.

`filename = slwebview_req(sysname,Name,Value)` uses additional options specified by one or more `Name,Value` pair arguments.

Note You can use `slwebview_req` only if you have also installed Simulink Report Generator™.

Examples

Export All Layers

Export all the layers (including libraries and masks) from the system `gcs` to the file `filename`

```
filename = slwebview_req(gcs, 'LookUnderMasks', 'all', 'FollowLinks', 'on')
```

Input Arguments

`sysname` — The system to export to a Web view file
character vector containing the path to the system | handle to a subsystem or block diagram | handle to a chart or subchart

Exports the specified system or subsystem and its child systems to a Web view file, with contextual requirements information for the system displayed on a separate panel of the layered model structure Web view. By default, child systems of the `sysname` system are also exported. Use the `SearchScope` name-value pair to export other systems, in relation to `sysname`.

Example: ‘sysname’

Name-Value Pair Arguments

Specify optional pairs of arguments as `Name1=Value1,...,NameN=ValueN`, where `Name` is the argument name and `Value` is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Before R2021a, use commas to separate each name and value, and enclose `Name` *in quotes.*

Example: 'ShowProgressBar','off'

SearchScope — Systems to export, relative to the sysname system
'CurrentAndBelow' (default) | 'Current' | 'CurrentAndAbove' | 'All'

'CurrentAndBelow' exports the Simulink system or the Stateflow chart specified by sysname and all systems or charts that it contains.

'Current' exports only the Simulink system or the Stateflow chart specified by sysname.

'CurrentAndAbove' exports the Simulink system or the Stateflow chart specified by the sysname and all systems or charts that contain it.

'All' exports all Simulink systems or Stateflow charts in the model that contains the system or chart specified by sysname.

Data Types: char

LookUnderMasks — Specifies whether to export the ability to interact with masked blocks
'none' (default) | 'all'

'none' does not export masked blocks in the Web view. Masked blocks are included in the exported systems, but you cannot access the contents of the masked blocks.

'all' exports all masked blocks.

Data Types: char

FollowLinks — Specifies whether to follow links into library blocks
'off' (default) | 'on'

'off' does not allow you to follow links into library blocks in a Web view.

'on' allows you to follow links into library blocks in a Web view.

Data Types: char

FollowModelReference — Specifies whether to access referenced models in a Web view
'off' (default) | 'on'

'off' does not allow you to access referenced models in a Web view.

'on' allows you to access referenced models in a Web view.

Data Types: char

ViewFile — Specifies whether to display the Web view in a Web browser when you export the Web view
'on' (default) | 'off'

'on' displays the Web view in a Web browser when you export the Web view.

'off' does not display the Web view in a Web browser when you export the Web view.

Data Types: char

`ShowProgressBar` — Specifies whether to display the status bar when you export a Web view
'on' (default) | 'off'

`'on'` displays the status bar when you export a Web view.

`'off'` does not display the status bar when you export a Web view.

Data Types: `char`

Output Arguments

`filename` — The name of the HTML file for displaying the Web view
character vector

Reports the name of the HTML file for displaying the Web view. Exporting a Web view creates the supporting files, in a folder.

Tips

A Web view is an interactive rendition of a model that you can view in a Web browser. You can navigate a Web view hierarchically to examine specific subsystems and to see properties of blocks and signals.

You can use Web views to share models with people who do not have Simulink installed.

Web views require a Web browser that supports Scalable Vector Graphics (SVG).

Version History

Introduced in R2015a

See Also

`slwebview_cov`

slreq.show

Navigate to link source or destination

Syntax

```
slreq.show(tgt)
```

Description

`slreq.show(tgt)` navigates to `tgt`, a link source or destination. The source or destination object opens in the corresponding interface, such as a block in a model, or test in the Test Manager.

Examples

Show Link Source

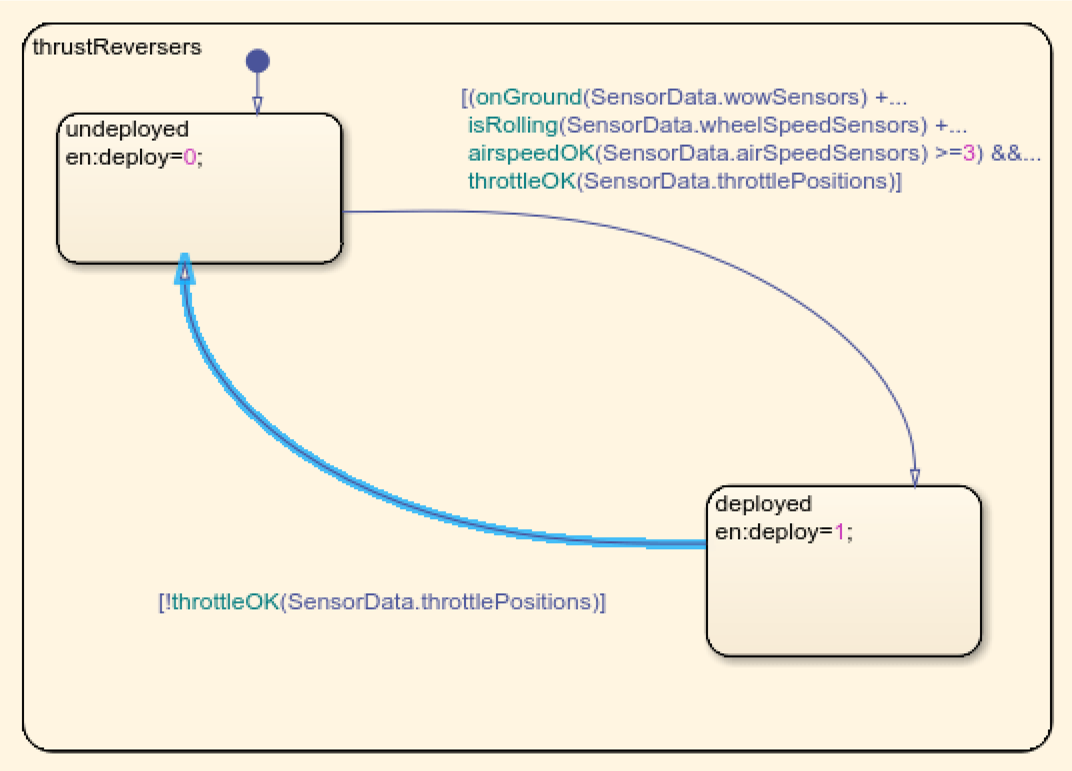
This example shows how to navigate to a link source.

Load Requirement Set and Links

```
rq = slreq.load('original_thrust_reverser_requirements.slreqx');
lk = slreq.load('reqs_validation_property_proving_original_model.slmx');
```

Navigate to a Link Source

```
sl = getLinks(lk);
sl2 = sl(2);
slreq.show(source(sl2))
```


thrustReversers
undeployed
en:deploy=0;
[(onGround(SensorData.wowSensors) +...
isRolling(SensorData.wheelSpeedSensors) +...
airspeedOK(SensorData.airSpeedSensors) >=3) &&...
throttleOK(SensorData.throttlePositions)]
deployed
en:deploy=1;
[!throttleOK(SensorData.throttlePositions)]

Cleanup

Cleanup commands. Clears open requirement sets without saving changes, and closes open models without saving changes.

```
slreq.clear;
bdclose all
```

Input Arguments

tgt — Link source or destination

`struct`

Link source or destination, as may be returned by `source` or `destination` for a `Link`.

Example: `struct with fields`

Data Types: `struct`

Version History

Introduced in R2020a

See Also

`slreq.Link` | `slreq.inLinks` | `slreq.outLinks`

slreq.structToObj

Convert link source or destination information from structure to model object type

Syntax

```
ot = slreq.structToObj(linkinfo)
```

Description

`ot = slreq.structToObj(linkinfo)` converts the source or destination link information in the structure `linkinfo` to the corresponding object type, `ot`. The object type returned can include Simulink blocks, Simulink Test test cases, or other object types compatible with Requirements Toolbox.

Examples

Convert Link Source and Destination to Model Entity

This example shows how to get the structure containing unique requirement source and destination information, then convert the structure information to the specific source and destination model entity.

Load Model, Requirement Set, and Links

```
load_system('reqs_validation_property_proving_original_model');
reqset = slreq.load('original_thrust_reverser_requirements.slreqx');
linkset = slreq.load('reqs_validation_property_proving_original_model.slmx');
```

For a Link Set

Get sources from a link set, get a single source, and convert the structure to the model entity.

```
linkSources = sources(linkset);
linkSource1 = linkSources(1);
modelSource1 = slreq.structToObj(linkSource1);
```

For a Link

Get a link from the link set, get the source and destination for that link.

```
links = getLinks(linkset);
link2 = links(2);
linkSource2 = source(link2);
linkDest2 = destination(link2);
```

Convert the source and destination structure to the model entity.

```
modelSource2 = slreq.structToObj(linkSource2);
modelDest2 = slreq.structToObj(linkDest2);
```

Clear Example Files

Cleanup commands -- close the open model, and clear and close the open requirement and link set.

```
slreq.clear;
close_system('reqs_validation_property_proving_original_model',0)
```

Input Arguments

linkinfo — Link information from a slreq.Link or slreq.LinkSet

struct

linkinfo contains source artifact and unique identification information for particular links, as returned by

- sources for a slreq.LinkSet.
- source or destination for a slreq.Link.

Example: struct with fields

Data Types: struct

Output Arguments

ot — Source or destination object

Requirement, model, or data entity

ot is the requirement, model, or data entity corresponding to the source artifact and unique identification in linkinfo. The value of ot depends on the type of entity the Link has as source or destination.

Version History

Introduced in R2018a

See Also

slreq.LinkSet | slreq.Link

Topics

“Use Command-Line API to Update or Repair Requirements Links”

view

Package: `oslc.core`

View OSLC dialog in system browser

Syntax

```
view(myDialog)
```

Description

`view(myDialog)` opens the Open Services for Lifecycle Collaboration dialog `myDialog` in the system browser.

Examples

Get and View OSLC User Interface Dialogs

This example shows how to get and view an OSLC user interface dialog for a configured OSLC client.

After you have created and configured an OSLC client as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, get the available user interface dialogs in the requirements management domain of the client `myClient`.

```
dialogs = getDialog(myClient)
```

```
dialogs = 

  1×4 Dialog array with properties:

    dialog
    hintWidth
    hintHeight
    title
    resourceType
```

Examine the properties of one of the dialogs. From the `title`, determine the resource type and if the dialog is for creating or selecting resources.

```
myDialog = dialogs(1);
title = myDialog.title
```

```
title = 

    'Requirement Creation'
```

Open the dialog in a browser.

```
view(myDialog)
```

Input Arguments

`myDialog` — OSLC user interface dialog
`oslc.core.Dialog` object

OSLC user interface dialog, specified as an `oslc.core.Dialog` object.

Version History

Introduced in R2021a

See Also

`oslc.core.Dialog` | `oslc.Client` | `getDialog`

2

Classes

oslc.Client

Client to integrate with OSLC providers

Description

Use an `oslc.Client` object to integrate with an Open Services for Lifecycle Collaboration (OSLC) service provider. Specify the service provider properties on the object, then use the object functions to set your user name and log in to the server. You can then use `oslc.core.CreationFactory` and `oslc.core.QueryCapability` objects to create and query resources in the OSLC service provider.

Creation

Syntax

`myClient = oslc.Client`

Description

`myClient = oslc.Client` returns an OSLC client object.

Properties

`ServiceProvider` — OSLC service provider name
character array

OSLC service provider name, specified as a character array.

`ConfigurationContext` — Service provider configuration context name
character array

Service provider configuration context name, specified as a character array.

`CatalogUrl` — Service provider catalog URL
character array

Service provider catalog URL, specified as a character array.

Example: `'https://localhost:9443/qm/oslc_qm/catalog'`

Object Functions

getConfigurationContextNames	Get configuration context names from OSLC service provider
getCreationFactory	Get OSLC creation service object
getCustomLoginProvider	Get registered custom authentication callback function name for OSLC client
getDialog	Get user interface dialogs from OSLC service provider
getQueryService	Get OSLC query service object
getServer	Get server URL for OSLC client

getServiceProviderNames	Get service providers for OSLC client
getUser	Get user for OSLC client
login	Log in to OSLC client
remove	Remove resource from OSLC service provider
setCatalogPath	Set catalog path for OSLC client
setConfigurationContext	Set configuration context for OSLC client
setConfigurationQueryPath	Set configuration query path for OSLC client
setCustomLoginProvider	Register custom authentication callback function to OSLC client
setHttpHeader	Set HTTP header for OSLC client
setHttpOptions	Set HTTP options for OSLC client
setServer	Set server URL for OSLC client
setServiceProvider	Set service provider for OSLC client
setServiceRoot	Set service root for OSLC client
setUser	Set user for OSLC client

Examples

Create and Configure an OSLC Client for the Requirements Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the requirements management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Then set the service root and catalog path for the requirements management domain and the configuration query path.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'rm');
setCatalogPath(myClient,'/oslc_rm/catalog');
setConfigurationQueryPath(myClient,'gc/oslc-query/configurations');
myClient
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
```

```
providers =

  4×1 cell array

    {'OSLC Plugin'                                  }
    {'Model Based Design with OSLC'                 }
    {'OSLC4RM'                                      }
    {'Interactive Testing (Requirements Management)'}
```

```
setServiceProvider(myClient,'OSLC Plugin');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations =

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient = 

  Client with properties:

          ServiceProvider: 'OSLC Plugin'
     ConfigurationContext: 'Initial Development'
               CatalogUrl: 'https://localhost:9443/rm/oslc_rm/catalog'
```

Create and Configure an OSLC Client for the Quality Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the quality management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Set the service root and catalog path for the quality management domain.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'qm');
setCatalogPath(myClient,'/oslc_qm/catalog');
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
```

```
providers =

  4×1 cell array

    {'OSLC Plugin (Quality Management)'                 }
    {'Model Based Design with OSLC (Quality Management)'}
    {'OSLC4RM (Quality Management)'                     }
    {'Interactive Testing (Quality Management)'         }
```

```
setServiceProvider(myClient,'OSLC Plugin (Quality Management)');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations =

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient = 

  Client with properties:

         ServiceProvider: 'OSLC Plugin (Quality Management)'
    ConfigurationContext: 'Initial Development'
              CatalogUrl: 'https://localhost:9443/qm/oslc_qm/catalog'
```

Create and Configure an OSLC Client for the Change Management Domain

This example shows how to create an OSLC client in MATLAB and configure the client to connect to an OSLC service provider for the change management domain.

Create the OSLC client.

```
myClient = oslc.Client;
```

Set the user and server URL for your service provider. Set the service root and catalog path for the change management domain.

```
setUser(myClient,'jdoe');
setServer(myClient,'https://localhost:9443');
setServiceRoot(myClient,'ccm');
setCatalogPath(myClient,'/oslc/workitems/catalog');
```

Log in to the client and enter your credentials when prompted.

```
login(myClient);
```

Get the available service providers in the specified catalog path and service root. Set the OSLC client to the desired service provider.

```
providers = getServiceProviderNames(myClient)
providers =

  4×1 cell array

    {'OSLC Plugin (Change Management)'                 }
    {'Model Based Design with OSLC (Change Management)'}
    {'OSLC4RM (Change Management)'                     }
    {'Interactive Testing (Change Management)'         }
```

```
setServiceProvider(myClient,'OSLC Plugin (Change Management)');
```

If applicable, get the available configuration contexts. Set the OSLC client to the desired configuration context.

```
configurations = getConfigurationContextNames(myClient)
```

```
configurations =

  2×1 cell array

    {'Initial Development'}
    {'Initial Baseline'   }
```

```
setConfigurationContext(myClient,'Initial Development');
```

Inspect the client properties.

```
myClient
```

```
myClient = 

  Client with properties:

           ServiceProvider: 'OSLC Plugin (Change Management)'
      ConfigurationContext: 'Initial Development'
                CatalogUrl: 'https://localhost:9443/cm/oslc_cm/catalog'
```

Version History

Introduced in R2021a

See Also

oslc.core.CreationFactory | oslc.core.QueryCapability | oslc.core.Dialog | oslc.rm.Requirement | oslc.qm.TestCase | oslc.cm.ChangeRequest

External Websites

Open Services for Lifecycle Collaboration

oslc.cm.ChangeRequest

Change request resource for OSLC change management domain

Description

The `oslc.cm.ChangeRequest` object represents change request resources in the change management domain of the Open Services for Lifecycle Collaboration (OSLC) service provider. After creating and configuring `oslc.Client` and `oslc.core.QueryCapability` objects, query the service provider for available change request resources by using the `queryChangeRequests` function.

Creation

Create an `oslc.cm.ChangeRequest` object by using the `createChangeRequest` function.

Properties

`ResourceUrl` — Resource navigation URL
character array

Navigation URL for the change request resource, specified as a character array.

`Dirty` — Uncommitted changes indicator
`0` | `1`

Indicator for uncommitted changes to the change request resource, specified as a logical `1`or `0` where:

- `1` indicates the change request resource has uncommitted changes.
- `0` indicates the change request resource has no uncommitted changes.

Data Types: `logical`

`IsFetched` — Resource fetch status
`0` | `1`

Change request resource fetch status, specified as a logical `1` or `0` where:

- `1` indicates the change request resource is fetched.
- `0` indicates the change request resource is not fetched.

Data Types: `logical`

`Title` — Change request title
character array

Change request title, specified as a character array.

`Identifier` — Change request resource identifier

character array

OSLC change request resource identifier, specified as a character array.

Object Functions

addResourceProperty	Add resource property to local OSLC resource object
addTextProperty	Add text property to local OSLC resource object
commit	Send local changes to OSLC service provider
fetch	Retrieve full resource data from OSLC service provider
getProperty	Get local contents of text property from OSLC resource object
getRDF	Get resource RDF/XML data from OSLC resource object
getResourceProperty	Get local contents of resource property from OSLC resource object
remove	Remove resource from OSLC service provider
removeResourceProperty	Remove resource property from local OSLC resource object
setProperty	Set local contents of text property for OSLC resource object
setRDF	Set RDF content for local OSLC resource object
setResourceUrl	Set resource URL for local OSLC resource object
show	View OSLC resource in system browser

Examples

Edit a Change Request and Commit Changes

This example shows how to submit a query request for change request resources with a configured OSLC client, edit an existing change request resource, and commit the changes to the service provider.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Change Management Domain” on page 2-5, create a query capability for the change request resource type.

```
myQueryCapability = getQueryService(myClient,'ChangeRequest');
```

Submit a query request to the service provider for the available change request resources.

```
changeRequests = queryChangeRequests(myQueryCapability)
```

```
changeRequests = 

  1×6 ChangeRequest array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign a change request resource to the variable `myCR`. Retrieve the full resource data from the service provider for the change request resource. Examine the `Title` property.

```
myCR = changeRequests(1);
status = fetch(myCR,myClient)
status = 

  StatusCode enumeration

    OK
```

```
title = myCR.Title
```

```
title = 

    'Change Request 1'
```

Edit the change request title and commit the change to the service provider.

```
myCR.Title = 'My New Change Request Title';
status = commit(myCR,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Open the change request resource in the system browser by using the `show` function.

```
show(myChangeRequest)
```

Create a New Change Request

This example shows how to submit a creation request for a new change request resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Change Management Domain” on page 2-5, create a creation factory for the change request resource type.

```
myCreationFactory = getCreationFactory(myClient,'ChangeRequest');
```

Use the creation factory to create a new change request resource with the title `My New Change Request`. Retrieve the full resource data from the service provider for the change request resource and inspect the resource.

```
newCR = createChangeRequest(myCreationFactory,'My New Change Request');
fetch(newCR,myClient);
newCR
```

```
newCR = 

  ChangeRequest with properties:

    ResourceUrl: 'https://localhost:9443/ccm/resource/itemName/...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Change Request'
     Identifier: '204'
```

Open the change request resource in the system browser by using the `show` function.

```
show(newCR)
```

Version History

Introduced in R2021a

See Also

`oslc.core.CreationFactory` | `oslc.core.QueryCapability` | `oslc.Client` | `oslc.qm.TestCase` | `oslc.rm.Requirement` | `queryChangeRequests` | `createChangeRequest`

External Websites

Open Services for Lifecycle Collaboration
Resource ChangeRequest

oslc.core.CreationFactory

OSLC service provider creation factory

Description

Use `oslc.core.CreationFactory` object functions to create resources in an Open Services for Lifecycle Collaboration (OSLC) service provider. After creating and configuring an `oslc.Client`, you can create a creation factory object for the service provider specified in the client object.

Creation

Create an `oslc.core.CreationFactory` object by using `getCreationFactory`.

Properties

`client` — Associated OSLC Client
`oslc.Client` object

OSLC client associated with the creation factory, specified as an `oslc.Client` object.

`creation` — Creation factory resource URI
character vector

Creation factory resource URI, specified as a character vector.

`resourceShape` — Resource URI for RDF representation of specified resource type
cell array

Resource URI for the RDF representation of the expected contents of the specified resource type, specified as a cell array.

Example: `{'https://localhost:9443/rm/types/_4zFVsRL5EeuLWbFL3e4vrw'}`

`title` — Creation factory object title
character array

Creation factory object title, returned as a character array.

`resourceType` — Resource type to create
cell array

Resource type to create in the OSLC service provider, specified as a cell array.

Object Functions

create	Create resource in OSLC service provider
createChangeRequest	Create change request in OSLC service provider
createRequirement	Create requirement in OSLC service provider

createRequirementCollection	Create requirement collection in OSLC service provider
createTestCase	Create test case in OSLC service provider
createTestExecutionRecord	Create test execution record in OSLC service provider
createTestPlan	Create test plan in OSLC service provider
createTestResult	Create test result in OSLC service provider
createTestScript	Create test script in OSLC service provider

Examples

Create All Available Creation Factories for an OSLC Client

This example shows how to create all available creation factories for a previously configured OSLC client.

After you have created and configured an OSLC client as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create all available creation factories for the client `myClient`.

```
myCreationFactory = getCreationFactory(myClient)
```

```
myCreationFactory = 

  1×8 CreationFactory array with properties:

    client
    creation
    resourceShape
    title
    resourceType
```

Examine the creation factory `resourceType` to determine which creation factory you want to use.

```
myCreationFactory(8).resourceType
```

```
ans =

  1×1 cell array

    {'http://open-services.net/ns/rm#Requirement'}
```

Submit a Creation Request by using a Creation Factory

This example shows how to submit a creation request by using a creation factory with a previously configured OSLC client.

After you have created and configured an OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a creation factory for the requirement resource type.

```
myCreationFactory = getCreationFactory(myClient,'Requirement')
```

```
myCreationFactory = 

  CreationFactory with properties:
           client: [1×1 oslc.Client]
         creation: 'https://localhost:9443/rm/requirementFactory?projectURL=https%3A...'
    resourceShape: {1×22 cell}
            title: 'Requirement Creation Factory'
     resourceType: {'http://open-services.net/ns/rm#Requirement'}
```

Create a new requirement resource by using a creation factory and name the resource `My New Requirement`. Fetch the full resource properties for the requirement resource. Then commit the changes to the service provider.

```
newReq = createRequirement(myCreationFactory,'My New Requirement');
status = fetch(newReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

```
status = commit(newReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

View the resource that you created in the service provider.

```
show(newReq)
```

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `getCreationFactory`

External Websites

Open Services for Lifecycle Collaboration
Creation Factories

oslc.core.Dialog

OSLC service provider user interface dialog

Description

The `oslc.core.Dialog` objects represent user interface dialogs from an Open Services for Lifecycle Collaboration (OSLC) service provider. After creating and configuring an `oslc.Client` object, query the service provider for available user interface dialogs by using the `getDialog` object function.

Properties

`dialog` — Dialog URL
character array

User interface dialog URL, returned as a character array.

`hintWidth` — User interface width
character array

User interface width in pixels, specified as a character array.

`hintHeight` — User interface height
character array

User interface height in pixels, specified as a character array.

`title` — Dialog title
character array

User interface dialog title, returned as a character array.

`resourceType` — OSLC resource type
cell array

Resource type to select or create in user interface dialog, specified as a cell array.

Object Functions

view	View OSLC dialog in system browser

Examples

Get and View OSLC User Interface Dialogs

This example shows how to get and view an OSLC user interface dialog for a configured OSLC client.

After you have created and configured an OSLC client as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, get the available user interface dialogs in the requirements management domain of the client `myClient`.

```
dialogs = getDialog(myClient)
```

```
dialogs = 

  1×4 Dialog array with properties:

    dialog
    hintWidth
    hintHeight
    title
    resourceType
```

Examine the properties of one of the dialogs. From the `title`, determine the resource type and if the dialog is for creating or selecting resources.

```
myDialog = dialogs(1);
title = myDialog.title
```

```
title =

    'Requirement Creation'
```

Open the dialog in a browser.

```
view(myDialog)
```

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.CreationFactory` | `oslc.core.QueryCapability` | `getDialog`

External Websites

Open Services for Lifecycle Collaboration
Delegated User Interface Dialogs

oslc.core.QueryCapability

OSLC service provider query capability

Description

Use `oslc.core.QueryCapability` object functions to query resources in an Open Services for Lifecycle Collaboration (OSLC) service provider. After creating and configuring an `oslc.Client`, you can create a query capability object for the service provider specified in the Client object.

Creation

Create an `oslc.core.QueryCapability` object by using `getQueryService`.

Properties

`queryParameter` — Additional query capability parameters
character array

Additional query parameters defined in query capability object, specified as a character array.

For more information, see Query Parameters in the OSLC Core Specification Version 2.0 Query Syntax.

Example: `'?oslc.select=oslc_qm:testResult'`

`client` — Associated OSLC Client
`oslc.Client` object

OSLC client associated with the query capability, specified as an `oslc.Client` object.

`queryBase` — Query capability resource URI
character vector

Query capability resource URI, specified as a character vector.

`resourceShape` — Resource URI for RDF representation of specified resource type
cell array

Resource URI for the RDF representation of the expected contents of the specified resource type, specified as a cell array.

Example: `{'https://localhost:9443/rm/types/_4zFVsRL5EeuLWbFL3e4vrw'}`

`title` — Query capability object title
character array

Query capability object title, specified as a character array.

`resourceType` — Resource type to query
cell array

Resource type to query the OSLC client for, specified as a cell array.

Object Functions

queryChangeRequests	Query OSLC service provider for change requests
queryRequirementCollections	Query OSLC service provider for requirement collections
queryRequirements	Query OSLC service provider for requirements
queryTestCases	Query OSLC service provider for test cases
queryTestExecutionRecords	Query OSLC service provider for test execution records
queryTestPlans	Query OSLC service provider for test plans
queryTestResults	Query OSLC service provider for test results
queryTestScripts	Query OSLC service provider for test scripts
setQueryParameter	Set query parameter for OSLC query service

Examples

Create All Available Query Capabilities for a Given Client

This example shows how to create all available query capabilities for a configured OSLC client.

After you have created and configured an OSLC client as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create all available query capabilities for the client myClient.

```
myQueryCapability = getQueryService(myClient)
```

```
myQueryCapability = 

  1×4 QueryCapability array with properties:

    queryParameter
    client
    queryBase
    resourceShape
    title
    resourceType
```

Examine the query capability resourceType to determine which query capability you want to use.

```
myQueryCapability(3).resourceType(2)
```

```
ans =

  1×1 cell array

    {'http://open-services.net/ns/rm#Requirement'}
```

Submit a Query Request with Query Capability

This example shows how to submit a query request with a configured OSLC client.

After you have created and configured an OSLC client myClient as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement resource type.

```
myQueryCapability = getQueryService(myClient,'Requirement')
```

```
myQueryCapability = 

  QueryCapability with properties:

    queryParameter: ''
            client: [1×1 oslc.Client]
         queryBase: 'https://localhost:9443/rm/views?oslc.query=true&projectURL=http...'
     resourceShape: {0×1 cell}
             title: 'Query Capability'
      resourceType: {1×2 cell}
```

Submit a query request to the service provider for the available requirement resources.

```
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign the first returned requirement resource to the variable `myReq`, then fetch the full resource properties for `myReq`. Examine the `Title` property.

```
myReq = reqs(1);
status = fetch(myReq,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

```
title = myReq.Title
```

```
title =

    'Requirement 1'
```

Tips

- For information about query syntaxes, see Open Services for Lifecycle Collaboration Core Specification Version 2.0 Query Syntax on the OSLC website.

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.rm.Requirement` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `getQueryService`

External Websites

Query Capabilities
Open Services for Lifecycle Collaboration

oslc.qm.TestCase

Test case resource for OSLC quality management domain

Description

The oslc.qm.TestCase object represents test case resources in the quality management domain of the Open Services for Lifecycle Collaboration (OSLC) service provider. After creating and configuring oslc.Client and oslc.core.QueryCapability objects, query the service provider for available test case resources with the queryTestCases function.

Creation

Create an oslc.qm.TestCase object by using the createTestCase function.

Properties

ResourceUrl — Resource navigation URL
character array

Navigation URL for the test case resource, specified as a character array.

Dirty — Uncommitted changes indicator
0 | 1

Indicator for uncommitted changes to the test case resource, specified as a logical 1or 0 where:

- 1 indicates the test case resource has uncommitted changes.
- 0 indicates the test case resource has no uncommitted changes.

Data Types: logical

IsFetched — Resource fetch status
0 | 1

test case resource fetch status, specified as a logical 1 or 0 where:

- 1 indicates the test case resource is fetched.
- 0 indicates the test case resource is not fetched.

Data Types: logical

Title — Test case title
character array

Test case title, specified as a character array.

Identifier — Test case resource identifier
character array

OSLC test case resource identifier, specified as a character array.

Object Functions

addRequirementLink	Add requirement traceability link to local OSLC test resource object
addResourceProperty	Add resource property to local OSLC resource object
addTextProperty	Add text property to local OSLC resource object
commit	Send local changes to OSLC service provider
fetch	Retrieve full resource data from OSLC service provider
getProperty	Get local contents of text property from OSLC resource object
getRDF	Get resource RDF/XML data from OSLC resource object
getRequirementLinks	Get locally stored requirement traceability links from OSLC test resource object
getResourceProperty	Get local contents of resource property from OSLC resource object
remove	Remove resource from OSLC service provider
removeRequirementLink	Remove requirement traceability link from local OSLC test resource object
removeResourceProperty	Remove resource property from local OSLC resource object
setProperty	Set local contents of text property for OSLC resource object
setRDF	Set RDF content for local OSLC resource object
setResourceUrl	Set resource URL for local OSLC resource object
show	View OSLC resource in system browser

Examples

Edit a Test Case and Commit Changes

This example shows how to submit a query request for test case resources with a configured OSLC client, edit an existing test case resource, and commit the changes to the service provider.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test case resource type.

```
myQueryCapability = getQueryService(myClient,'TestCase');
```

Submit a query request to the service provider for the available test case resources.

```
testCases = queryTestCases(myQueryCapability)
```

```
testCases = 

  1×4 TestCase array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign a test case resource to the variable `myTestCase`. Retrieve the full resource data from the service provider for the test case resource. Examine the `Title` property.

```
myTestCase = testCases(1);
status = fetch(myTestCase,myClient)
status = 

  StatusCode enumeration

    OK

title = myTestCase.Title

title = 

    'Test Case 1'
```

Edit the test case title and commit the change to the service provider.

```
myTestCase.Title = 'My New Test Case Title';
status = commit(myTestCase,myClient)

status = 

  StatusCode enumeration

    OK
```

Open the test case resource in the system browser by using the `show` function.

```
show(myTestCase)
```

Create a New Test Case

This example shows how to submit a creation request for a new test case resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a creation factory for the test case resource type.

```
myCreationFactory = getCreationFactory(myClient,'TestCase');
```

Use the creation factory to create a test case resource with the title `My New Test Case`. Retrieve the full resource data from the service provider for the test case resource and inspect the resource.

```
newTestCase = createTestCase(myCreationFactory,'My New Test Case');
fetch(newTestCase,myClient);
newTestCase

newTestCase = 
  TestCase with properties:

    ResourceUrl: 'https://localhost:9443/qm/resource/itemName/_a9aS...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Test Case'
     Identifier: '301'
```

Open the test case resource in the system browser by using the `show` function.

```
show(newTestCase)
```

Version History

Introduced in R2021a

See Also

`oslc.core.CreationFactory` | `oslc.core.QueryCapability` | `oslc.Client` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `oslc.rm.Requirement` | `createTestCase` | `queryTestCases`

External Websites

Open Services for Lifecycle Collaboration
Resource: TestCase

oslc.qm.TestExecutionRecord

Test execution record resource for OSLC quality management domain

Description

The `oslc.qm.TestExecutionRecord` object represents test execution record resources in the quality management domain of the Open Services for Lifecycle Collaboration (OSLC) service provider. After creating and configuring `oslc.Client` and `oslc.core.QueryCapability` objects, query the service provider for available test execution record resources by using the `queryTestExecutionRecords` function.

Creation

Create an `oslc.qm.TestExecutionRecord` object by using the `createTestExecutionRecord` function.

Properties

`ResourceUrl` — Resource navigation URL
character array

Navigation URL for the test execution record resource, specified as a character array.

`Dirty` — Uncommitted changes indicator
`0` | `1`

Indicator for uncommitted changes to the test execution record resource, specified as a logical `1`or `0` where:

- `1` indicates the test execution record resource has uncommitted changes.
- `0` indicates the test execution record resource has no uncommitted changes.

Data Types: `logical`

`IsFetched` — Resource fetch status
`0` | `1`

test execution record resource fetch status, specified as a logical `1` or `0` where:

- `1` indicates the test execution record resource is fetched.
- `0` indicates the test execution record resource is not fetched.

Data Types: `logical`

`Title` — Test execution record title
character array

Test execution record title, specified as a character array.

`Identifier` — Test execution record resource identifier

character array

OSLC test execution record resource identifier, specified as a character array.

Object Functions

addResourceProperty	Add resource property to local OSLC resource object
addTextProperty	Add text property to local OSLC resource object
commit	Send local changes to OSLC service provider
fetch	Retrieve full resource data from OSLC service provider
getProperty	Get local contents of text property from OSLC resource object
getRDF	Get resource RDF/XML data from OSLC resource object
getResourceProperty	Get local contents of resource property from OSLC resource object
getRunsTestCase	Get locally stored test case traceability link from OSLC test execution record resource object
remove	Remove resource from OSLC service provider
removeResourceProperty	Remove resource property from local OSLC resource object
setProperty	Set local contents of text property for OSLC resource object
setRDF	Set RDF content for local OSLC resource object
setResourceUrl	Set resource URL for local OSLC resource object
show	View OSLC resource in system browser

Examples

Edit a Test Execution Record and Commit Changes

This example shows how to submit a query request for test execution record resources with a configured OSLC client, edit an existing test execution record resource, and commit the changes to the service provider.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test execution record resource type.

```
myQueryCapability = getQueryService(myClient,'TestExecutionRecord');
```

Submit a query request to the service provider for the available test execution record resources.

```
testERs = queryTestExecutionRecords(myQueryCapability)
```

```
testERs = 

  1×2 TestExecutionRecord array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign a test execution record resource to the variable `myTestER`. Retrieve the full resource data from the service provider for the test execution record resource. Examine the `Title` property.

```
myTestER = testERs(1);
status = fetch(myTestER,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

```
title = myTestER.Title
```

```
title = 

    'Test Case 1'
```

Edit the test execution record title and commit the change to the service provider.

```
myTestER.Title = 'My New Test Execution Record Title';
status = commit(myTestER,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Open the test execution record resource in the system browser by using the `show` function.

```
show(myTestER)
```

Create a New Test Execution Record

This example shows how to submit a creation request for a new test execution record resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a creation factory for the test execution record resource type.

```
myCreationFactory = getCreationFactory(myClient,'TestExecutionRecord');
```

Use the creation factory to create a test execution record resource with the title `My New Test Execution Record` and associate it with the test case resource URL `testURL` from a test case. For more information about querying the service provider for test cases, see “Edit a Test Case and Commit Changes” on page 2-21. Retrieve full resource data from the service provider for the test execution record resource and inspect the resource.

```
newTestER = createTestExecutionRecord(myCreationFactory, ...
    'My New Test Execution Record',testURL);
fetch(newTestCase,myClient);
newTestER
```

```
newTestER = 
  TestExecutionRecord with properties:

    ResourceUrl: 'https://localhost:9443/qm/oslc_qm/resources/CfkIoW...'
          Dirty: 0
```

```
      IsFetched: 1
          Title: 'My New Test Execution Record'
     Identifier: '301'
```

Open the test execution record resource in the system browser by using the `show` function.

```
show(newTestER)
```

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.CreationFactory` | `oslc.core.QueryCapability` | `oslc.qm.TestCase` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `queryTestExecutionRecords` | `createTestExecutionRecord`

External Websites

Open Services for Lifecycle Collaboration
Resource: TestExecutionRecord

oslc.qm.TestPlan

Test plan resource for OSLC quality management domain

Description

The `oslc.qm.TestPlan` object represents test plan resources in the quality management domain of the Open Services for Lifecycle Collaboration (OSLC) service provider. After creating and configuring `oslc.Client` and `oslc.core.QueryCapability` objects, query the service provider for available test plan resources by using the `queryTestPlans` function.

Creation

Create an `oslc.qm.TestPlan` object by using the `createTestPlan` function.

Properties

`ResourceUrl` — Resource navigation URL
character array

Navigation URL for the test plan resource, specified as a character array.

`Dirty` — Uncommitted changes indicator
`0` | `1`

Indicator for uncommitted changes to the test plan resource, specified as a logical `1`or `0` where:

- `1` indicates the test plan resource has uncommitted changes.
- `0` indicates the test plan resource has no uncommitted changes.

Data Types: `logical`

`IsFetched` — Resource fetch status
`0` | `1`

test plan resource fetch status, specified as a logical `1` or `0` where:

- `1` indicates the test plan resource is fetched.
- `0` indicates the test plan resource is not fetched.

Data Types: `logical`

`Title` — Test plan title
character array

Test plan title, specified as a character array.

`Identifier` — Test plan resource identifier
character array

OSLC test plan resource identifier, specified as a character array.

Object Functions

addResourceProperty	Add resource property to local OSLC resource object
addTextProperty	Add text property to local OSLC resource object
commit	Send local changes to OSLC service provider
fetch	Retrieve full resource data from OSLC service provider
getProperty	Get local contents of text property from OSLC resource object
getRDF	Get resource RDF/XML data from OSLC resource object
getResourceProperty	Get local contents of resource property from OSLC resource object
remove	Remove resource from OSLC service provider
removeResourceProperty	Remove resource property from local OSLC resource object
setProperty	Set local contents of text property for OSLC resource object
setRDF	Set RDF content for local OSLC resource object
setResourceUrl	Set resource URL for local OSLC resource object
show	View OSLC resource in system browser

Examples

Edit a Test Plan and Commit Changes

This example shows how to submit a query request for test plan resources with a configured OSLC client, edit an existing test plan resource, and commit the changes to the service provider.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test plan resource type.

```
myQueryCapability = getQueryService(myClient,'TestPlan');
```

Submit a query request to the service provider for the available test plan resources.

```
testPlans = queryTestPlans(myQueryCapability)
```

```
testPlans = 

  1×2 TestPlan array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign a test plan resource to the variable `myTestPlan`. Retrieve the full resource data from the service provider for the test plan resource. Examine the `Title` property.

```
myTestPlan = testPlans(1);
status = fetch(myTestPlan,myClient)
```

```
status = 

  StatusCode enumeration
```

```
    OK
```

```
title = myTestPlan.Title
```

```
title = 

    'Test Plan 1'
```

Edit the test plan title and commit the change to the service provider.

```
myTestPlan.Title = 'My New Test Plan Title';
status = commit(myTestPlan,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Open the test plan resource in the system browser by using the `show` function.

```
show(myTestCase)
```

Create a New Test Plan

This example shows how to submit a creation request for a new test plan resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in "Create and Configure an OSLC Client for the Quality Management Domain" on page 2-4, create a creation factory for the test plan resource type.

```
myCreationFactory = getCreationFactory(myClient,'TestPlan');
```

Use the creation factory to create a test plan resource with the title `My New Test Plan`. Retrieve the full resource data from the service provider for the test plan resource and inspect the resource.

```
newTestPlan = createTestPlan(myCreationFactory,'My New Test Plan');
fetch(newTestPlan,myClient);
newTestPlan
```

```
newTestPlan = 
  TestPlan with properties:

    ResourceUrl: 'https://localhost:9443/qm/resource/itemName/_f56s...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Test Plan'
     Identifier: '301'
```

Open the test plan resource in the system browser by using the `show` function.

```
show(newTestPlan)
```

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.CreationFactory` | `oslc.core.QueryCapability` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestResult` | `oslc.qm.TestScript` | `createTestPlan` | `queryTestPlans`

External Websites

Open Services for Lifecycle Collaboration
Resource: TestPlan

oslc.qm.TestResult

Test result resource for OSLC quality management domain

Description

The `oslc.qm.TestResult` object represents test result resources in the quality management domain of the Open Services for Lifecycle Collaboration (OSLC) service provider. After creating and configuring `oslc.Client` and `oslc.core.QueryCapability` objects, query the service provider for available test result resources by using the `queryTestResults` function.

Creation

Create an `oslc.qm.TestResult` by using the `createTestResult` function.

Properties

`ResourceUrl` — Resource navigation URL
character array

Navigation URL for the test result resource, specified as a character array.

`Dirty` — Uncommitted changes indicator
`0` | `1`

Indicator for uncommitted changes to the test result resource, specified as a logical `1`or `0` where:

- `1` indicates the test result resource has uncommitted changes.
- `0` indicates the test result resource has no uncommitted changes.

Data Types: `logical`

`IsFetched` — Resource fetch status
`0` | `1`

test result resource fetch status, specified as a logical `1` or `0` where:

- `1` indicates the test result resource is fetched.
- `0` indicates the test result resource is not fetched.

Data Types: `logical`

`Title` — Test result title
character array

Test result title, specified as a character array.

`Identifier` — Test result resource identifier
character array

OSLC test result resource identifier, specified as a character array.

Object Functions

addResourceProperty	Add resource property to local OSLC resource object
addTextProperty	Add text property to local OSLC resource object
commit	Send local changes to OSLC service provider
fetch	Retrieve full resource data from OSLC service provider
getProducedTestExecutionRecord	Get locally stored test execution record traceability link from Open Services for Lifecycle Collaboration (OSLC) test result resource object
getProperty	Get local contents of text property from OSLC resource object
getRDF	Get resource RDF/XML data from OSLC resource object
getReportsOnTestCase	Get locally stored test case traceability link from OSLC test result resource object
getResourceProperty	Get local contents of resource property from OSLC resource object
getStatus	Get locally stored status from OSLC test result resource object
remove	Remove resource from OSLC service provider
removeResourceProperty	Remove resource property from local OSLC resource object
setProperty	Set local contents of text property for OSLC resource object
setRDF	Set RDF content for local OSLC resource object
setResourceUrl	Set resource URL for local OSLC resource object
show	View OSLC resource in system browser

Examples

Edit a Test Result and Commit Changes

This example shows how to submit a query request for test result resources with a configured OSLC client, edit an existing test result resource, and commit the changes to the service provider.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test result resource type.

```
myQueryCapability = getQueryService(myClient,'TestResult');
```

Submit a query request to the service provider for the available test result resources.

```
testResults = queryTestResults(myQueryCapability)
```

```
testResults = 

  1×2 TestResult array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign a test result resource to the variable `myTestResult`. Retrieve the full resource data from the service provider for the test result resource. Examine the `Title` property.

```
myTestResult = testResults(1);
status = fetch(myTestResult,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

```
title = myTestResult.Title
```

```
title = 

    'Test Case 1'
```

Edit the test result title and commit the change to the service provider.

```
myTestResult.Title = 'My New Test Result Title';
status = commit(myTestResult,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Open the test result resource in the system browser by using the `show` function.

```
show(myTestResult)
```

Create a New Test Result

This example shows how to submit a creation request for a new test result resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in "Create and Configure an OSLC Client for the Quality Management Domain" on page 2-4, create a creation factory for the test result resource type.

```
myCreationFactory = getCreationFactory(myClient,'TestResult');
```

Use the creation factory to create a test result resource with the title `My New Test Result` and associate it with the test case resource URL specified by `testURL` and the test execution record resource URL specified by `executionURL`. Set the test result status to `Unverified`. For more information about querying the service provider for test cases and execution records, see "Edit a Test Case and Commit Changes" on page 2-21 and "Edit a Test Execution Record and Commit Changes" on page 2-25. Retrieve the full resource data from the service provider for the test result resource and inspect the resource.

```
newTestResult = createTestResult(myCreationFactory, ...
    'My New Test Result',testURL,executionURL,'Unverified');
fetch(newTestCase,myClient);
newTestResult
```

```
newTestResult = 
  TestResult with properties:
    ResourceUrl: 'https://localhost:9443/qm/oslc_qm/resources/CdffuW...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Test Result'
     Identifier: '1456'
```

Open the test result resource in the system browser by using the `show` function.

```
show(newTestResult)
```

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.CreationFactory` | `oslc.core.QueryCapability` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestScript` | `queryTestResults` | `createTestResult`

External Websites

Open Services for Lifecycle Collaboration
Resource: TestResult

oslc.qm.TestScript

Test script resource for OSLC quality management domain

Description

The `oslc.qm.TestScript` object represents test script resources in the quality management domain of the Open Services for Lifecycle Collaboration (OSLC) service provider. After creating and configuring `oslc.Client` and `oslc.core.QueryCapability` objects, query the service provider for available test script resources by using the `queryTestScripts` function.

Creation

Create an `oslc.qm.TestScript` object by using the `createTestScript` function.

Properties

`ResourceUrl` — Resource navigation URL
character array

Navigation URL for the test script resource, specified as a character array.

`Dirty` — Uncommitted changes indicator
`0` | `1`

Indicator for uncommitted changes to the test script resource, specified as a logical `1`or `0` where:

- `1` indicates the test script resource has uncommitted changes.
- `0` indicates the test script resource has no uncommitted changes.

Data Types: `logical`

`IsFetched` — Resource fetch status
`0` | `1`

test script resource fetch status, specified as a logical `1` or `0` where:

- `1` indicates the test script resource is fetched.
- `0` indicates the test script resource is not fetched.

Data Types: `logical`

`Title` — Test script title
character array

Test script title, specified as a character array.

`Identifier` — Test script resource identifier
character array

Test script resource identifier, specified as a character array.

Object Functions

addRequirementLink	Add requirement traceability link to local OSLC test resource object
addResourceProperty	Add resource property to local OSLC resource object
addTextProperty	Add text property to local OSLC resource object
commit	Send local changes to OSLC service provider
fetch	Retrieve full resource data from OSLC service provider
getProperty	Get local contents of text property from OSLC resource object
getRDF	Get resource RDF/XML data from OSLC resource object
getRequirementLinks	Get locally stored requirement traceability links from OSLC test resource object
getResourceProperty	Get local contents of resource property from OSLC resource object
remove	Remove resource from OSLC service provider
removeRequirementLink	Remove requirement traceability link from local OSLC test resource object
removeResourceProperty	Remove resource property from local OSLC resource object
setProperty	Set local contents of text property for OSLC resource object
setRDF	Set RDF content for local OSLC resource object
setResourceUrl	Set resource URL for local OSLC resource object
show	View OSLC resource in system browser

Examples

Edit a Test Script and Commit Changes

This example shows how to submit a query request for test script resources with a configured OSLC client, edit an existing test script resource, and commit the changes to the service provider.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a query capability for the test script resource type.

```
myQueryCapability = getQueryService(myClient,'TestScript');
```

Submit a query request to the service provider for the available test script resources.

```
testScripts = queryTestScripts(myQueryCapability)
```

```
testScripts = 

  1×7 TestScript array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign a test script resource to the variable `myTestScript`. Retrieve the full resource data from the service provider for the test script resource. Examine the `Title` property.

```
myTestScript = testScripts(1);
status = fetch(myTestScript,myClient)
status = 

  StatusCode enumeration

    OK
```

```
title = myTestScript.Title
```

```
title = 

    'Test Script 1'
```

Edit the test script title and commit the change to the service provider.

```
myTestScript.Title = 'My New Test Script Title';
status = commit(myTestScript,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Open the test script resource in the system browser by using the `show` function.

```
show(myTestScript)
```

Create a New Test Script

This example shows how to submit a creation request for a new test script resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Quality Management Domain” on page 2-4, create a creation factory for the test script resource type.

```
myCreationFactory = getCreationFactory(myClient,'TestScript');
```

Use the creation factory to create a test script resource with the creation factory with the title `My New Test Script`. Retrieve the full resource data from the service provider for the test script resource and inspect the resource.

```
newTestScript = createTestScript(myCreationFactory, ...
    'My New Test Script');
fetch(newTestScript,myClient);
newTestScript
```

```
newTestScript = 
  TestScript with properties:

    ResourceUrl: 'https://localhost:9443/qm/resource/itemName/_b19w2...'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Test Script'
     Identifier: '498'
```

Open the test script resource in the system browser by using the `show` function.

```
show(newTestScript)
```

Version History

Introduced in R2021a

See Also

`oslc.Client` | `oslc.core.CreationFactory` | `oslc.core.QueryCapability` | `oslc.rm.Requirement` | `oslc.qm.TestCase` | `oslc.qm.TestExecutionRecord` | `oslc.qm.TestPlan` | `oslc.qm.TestResult` | `createTestScript` | `queryTestScripts`

External Websites

Open Services for Lifecycle Collaboration
Resource: TestScript

oslc.rm.Requirement

Requirement resource for OSLC requirements management domain

Description

The `oslc.rm.Requirement` object represents requirement resources in the requirements management domain of the Open Services for Lifecycle Collaboration (OSLC) service provider. After creating and configuring `oslc.Client` and `oslc.core.QueryCapability` objects, query the service provider for available requirement resources by using the `queryRequirements` function.

Creation

Create an `oslc.rm.Requirement` object by using the `createRequirement` function.

Properties

`ResourceUrl` — Resource navigation URL
character array

Navigation URL for the requirement resource, specified as a character array.

`Dirty` — Uncommitted changes indicator
`0` | `1`

Indicator for uncommitted changes to the requirement resource, specified as a logical `1`or `0` where:

- `1` indicates the requirement resource has uncommitted changes.
- `0` indicates the requirement resource has no uncommitted changes.

Data Types: `logical`

`IsFetched` — Resource fetch status
`0` | `1`

requirement resource fetch status, specified as a logical `1` or `0` where:

- `1` indicates the requirement resource is fetched.
- `0` indicates the requirement resource is not fetched.

Data Types: `logical`

`Title` — Requirement title
character array

Requirement title, specified as a character array.

`Identifier` — Requirement resource identifier
character array

OSLC requirement resource identifier, specified as a character array.

Object Functions

addLink	Add link to local OSLC requirement resource object
addResourceProperty	Add resource property to local OSLC resource object
addTextProperty	Add text property to local OSLC resource object
commit	Send local changes to OSLC service provider
fetch	Retrieve full resource data from OSLC service provider
getLinks	Get locally stored traceability links from OSLC requirement resource object
getProperty	Get local contents of text property from OSLC resource object
getRDF	Get resource RDF/XML data from OSLC resource object
getResourceProperty	Get local contents of resource property from OSLC resource object
getSLRequirements	Get imported referenced requirement associated with OSLC requirement resource object
remove	Remove resource from OSLC service provider
removeLink	Remove link from local OSLC requirement resource object
removeResourceProperty	Remove resource property from local OSLC resource object
setProperty	Set local contents of text property for OSLC resource object
setRDF	Set RDF content for local OSLC resource object
setResourceUrl	Set resource URL for local OSLC resource object
show	View OSLC resource in system browser

Examples

Edit a Requirement and Commit Changes

This example shows how to submit a query request for requirement resources with a configured OSLC client, edit an existing requirement resource, and commit the changes to the service provider.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement resource type.

```
myQueryCapability = getQueryService(myClient,'Requirement');
```

Submit a query request to the service provider for the available requirement resources.

```
reqs = queryRequirements(myQueryCapability)
```

```
reqs = 

  1×30 Requirement array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign a requirement resource to the variable `myReq`. Retrieve the full resource data from the service provider for the requirement resource. Examine the `Title` property.

```
myReq = reqs(1);
status = fetch(myReq,myClient)

status = 

  StatusCode enumeration

    OK

title = myReq.Title

title =

    'Requirement 1'
```

Edit the requirement title and commit the change to the service provider.

```
myReq.Title = 'My New Requirement Title';
status = commit(myReq,myClient)

status = 

  StatusCode enumeration

    OK
```

Open the requirement resource in the system browser by using the `show` function.

```
show(myReq)
```

Create a New Requirement

This example shows how to submit a creation request for a new requirement resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a creation factory for the requirement resource type.

```
myCreationFactory = getCreationFactory(myClient,'Requirement');
```

Use the creation factory to create a new requirement resource with the title `My New Requirement`. Retrieve the full resource data from the service provider for the requirement resource and inspect the resource.

```
newReq = createRequirement(myCreationFactory,'My New Requirement');
fetch(newReq,myClient);
newReq

newReq = 

  Requirement with properties:

    ResourceUrl: 'https://localhost:9443/rm/resources/_72lxMWJREeup0...'
          Dirty: 0
      IsFetched: 1
```

```
         Title: 'My New Requirement'
    Identifier: '1806'
```

Open the requirement resource in the system browser by using the `show` function.

```
show(newReq)
```

Version History

Introduced in R2021a

See Also

`oslc.core.CreationFactory` | `oslc.core.QueryCapability` | `oslc.Client` | `oslc.rm.RequirementCollection` | `oslc.cm.ChangeRequest` | `oslc.qm.TestCase` | `queryRequirements` | `createRequirement`

External Websites

Open Services for Lifecycle Collaboration
Resource Requirement

oslc.rm.RequirementCollection

Requirement collection resource for OSLC requirements management domain

Description

The `oslc.rm.RequirementCollection` object represents requirement collection resources in the requirements management domain of the Open Services for Lifecycle Collaboration (OSLC) service provider. After creating and configuring `oslc.Client` and `oslc.core.QueryCapability` objects, query the service provider for available requirement collection resources by using the `queryRequirementCollections` function.

Creation

Create an `oslc.rm.RequirementCollection` object by using the `createRequirementCollection` function.

Properties

`ResourceUrl` — Resource navigation URL
character array

Navigation URL for the requirement collection resource, specified as a character array.

`Dirty` — Uncommitted changes indicator
`0` | `1`

Indicator for uncommitted changes to the requirement collection resource, specified as a logical `1`or `0` where:

- `1` indicates the requirement collection resource has uncommitted changes.
- `0` indicates the requirement collection resource has no uncommitted changes.

Data Types: `logical`

`IsFetched` — Resource fetch status
`0` | `1`

requirement collection resource fetch status, specified as a logical `1` or `0` where:

- `1` indicates the requirement collection resource is fetched.
- `0` indicates the requirement collection resource is not fetched.

Data Types: `logical`

`Title` — Requirement collection title
character array

Requirement collection title, specified as a character array.

`Identifier` — Requirement collection resource identifier

character array

OSLC requirement collection resource identifier, specified as a character array.

Object Functions

addLink	Add link to local OSLC requirement resource object
addResourceProperty	Add resource property to local OSLC resource object
addTextProperty	Add text property to local OSLC resource object
commit	Send local changes to OSLC service provider
fetch	Retrieve full resource data from OSLC service provider
getLinks	Get locally stored traceability links from OSLC requirement resource object
getProperty	Get local contents of text property from OSLC resource object
getRDF	Get resource RDF/XML data from OSLC resource object
getResourceProperty	Get local contents of resource property from OSLC resource object
getSLRequirements	Get imported referenced requirement associated with OSLC requirement resource object
remove	Remove resource from OSLC service provider
removeLink	Remove link from local OSLC requirement resource object
removeResourceProperty	Remove resource property from local OSLC resource object
setProperty	Set local contents of text property for OSLC resource object
setRDF	Set RDF content for local OSLC resource object
setResourceUrl	Set resource URL for local OSLC resource object
show	View OSLC resource in system browser

Examples

Edit a Requirement Collection and Commit Changes

This example shows how to submit a query request for requirement collection resources with a configured OSLC client, edit an existing requirement collection resource, and commit the changes to the service provider.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a query capability for the requirement collection resource type.

```
myQueryCapability = getQueryService(myClient,'RequirementCollection');
```

Submit a query request to the service provider for the available requirement collection resources.

```
reqCollections = queryRequirementCollections(myQueryCapability)
```

```
reqCollections = 

  1×5 RequirementCollection array with properties:

    ResourceUrl
    Dirty
    IsFetched
    Title
    Identifier
```

Assign a requirement collection resource to the variable `myReqCollection`. Retrieve the full resource data from the service provider for the requirement collection resource. Examine the `Title` property.

```
myReqCollection = reqCollections(1);
status = fetch(myReqCollection,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

```
title = myReqCollection.Title
```

```
title = 

    'Requirement Collection 1'
```

Edit the requirement title and commit the change to the service provider.

```
myReqCollection.Title = 'My New Requirement Collection Title';
status = commit(myReqCollection,myClient)
```

```
status = 

  StatusCode enumeration

    OK
```

Open the requirement collection resource in the system browser by using the `show` function.

```
show(myReqCollection)
```

Create a New Requirement Collection

This example shows how to submit a creation request for a new requirement collection resource with a configured OSLC client.

After you have created and configured the OSLC client `myClient` as described in “Create and Configure an OSLC Client for the Requirements Management Domain” on page 2-3, create a creation factory for the requirement collection resource type.

```
myCreationFactory = getCreationFactory(myClient,...
'RequirementCollection');
```

Use the creation factory to create a requirement collection resource with the title `My New Requirement Collection`. Retrieve the full resource data from the service provider for the requirement collection resource and inspect the resource.

```
newReqCollection = createRequirementCollection(myCreationFactory,...
'My New Requirement Collection')
fetch(newReqCollection,myClient);
newReqCollection
```

```
newReqCollection = 
    RequirementCollection with properties:
    ResourceUrl: 'https://localhost:9443/rm/resources/_72lxMWJREeup0r..'
          Dirty: 0
      IsFetched: 1
          Title: 'My New Requirement Collection'
     Identifier: '1808'
```

Open the requirement collection resource in the system browser by using the `show` function.

```
show(newReqCollection)
```

Version History

Introduced in R2021a

See Also

`oslc.core.CreationFactory` | `oslc.core.QueryCapability` | `oslc.Client` | `oslc.rm.Requirement` | `queryRequirementCollections` | `createRequirementCollection`

External Websites

Open Services for Lifecycle Collaboration
Resource RequirementCollection

slreq.BaseEditableItem class

Package: slreq

Superclass for heterogeneous editable requirement arrays

Description

slreq.BaseEditableItem is an abstract class that returns heterogeneous arrays of slreq.Requirement and slreq.Justification objects. A heterogeneous array is an array of objects that differ in their specific class, but are all derived from or are instances of a root class. For more information, see “Designing Heterogeneous Class Hierarchies” and matlab.mixin.Heterogeneous.

The slreq.BaseEditableItem class is a handle class.

Version History

Introduced in R2018b

See Also

Classes

slreq.BaseItem | slreq.Requirement | slreq.Reference | slreq.Justification

slreq.BaseItem class

Package: `slreq`

Superclass for heterogeneous requirement arrays

Description

`slreq.BaseItem` is an abstract class that returns heterogeneous arrays of `slreq.Requirement`, `slreq.Reference`, and `slreq.Justification` objects. A heterogeneous array is an array of objects that differ in their specific class, but are all derived from or are instances of a root class. For more information, see “Designing Heterogeneous Class Hierarchies” and `matlab.mixin.Heterogeneous`.

The `slreq.BaseItem` class is a `handle` class.

Version History

Introduced in R2018b

See Also

Classes

`slreq.BaseEditableItem` | `slreq.Requirement` | `slreq.Reference` | `slreq.Justification`

slreq.Justification class

Package: slreq

Work with slreq.Justification objects

Description

Use slreq.Justification objects to work with requirements that you exclude from the implementation and verification status metrics roll-up for your requirements sets. Justify a requirement by creating an outgoing link from the slreq.Justification object to the requirement and setting the link type to **Implement** or **Verify**.

Creation

jst = slreq.find(rs, 'Type', 'Justification', 'PropertyName', PropertyValue) finds and returns an slreq.Justification object jst in the requirement set rs with additional properties specified by PropertyName and PropertyValue.

jst = add(jt, 'PropertyName', PropertyValue) adds a child justification jst to the parent justification jt with additional properties specified by PropertyName and PropertyValue.

Input Arguments

rs — Requirement set
slreq.ReqSet object

Requirement set, specified as an slreq.ReqSet object.

jt — Justification
slreq.Justification object

Justification, specified as an slreq.Justification object.

Output Arguments

jst — Justification
slreq.Justification object

Justification, returned as an slreq.Justification object.

Properties

Id — Justification custom ID
character vector

Custom ID of the justification, returned as a character vector. You cannot use spaces and '#' in custom IDs.

Attributes:

GetAccess	public
SetAccess	public

`Summary` — Justification summary

character vector

Justification summary text, specified as a one-line, plain text character vector.

Attributes:

GetAccess	public
SetAccess	public

`Description` — Justification description

character vector

Justification description text, specified as a multiline character vector.

Attributes:

GetAccess	public
SetAccess	public

`Keywords` — Justification keywords

character array

Justification keywords, specified as a character array.

Attributes:

GetAccess	public
SetAccess	public

`Rationale` — Justification rationale

character vector

Justification rationale text, specified as a multiline character vector.

Attributes:

GetAccess	public
SetAccess	public

`CreatedOn` — Date justification was created

`datetime` value

The date on which the justification was created, specified as a `datetime` value. The software populates this property.

Attributes:

GetAccess	public
SetAccess	private

`CreatedBy` — Justification creator

character vector

The name of the individual or organization who created the requirement.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`ModifiedBy` — Justification modifier

character vector

The name of the individual or organization who last modified the justification.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`IndexEnabled` — Index enabled indicator

`1` (default) | `0`

Indicates whether the index is enabled (`1`) or disabled (`0`), returned as a `1` or `0` of data type `logical`. If you disable the index, Requirements Toolbox does not count this justification when it creates the numbered hierarchy list. However, the justification remains in the same place in the hierarchy.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`IndexNumber` — User-specified index value

empty `double` array (default) | `int32` array

User-specified index value, returned as an empty `double` array or an `int32` array. If empty, Requirements Toolbox calculates the `Index` value. Otherwise, Requirements Toolbox sets the `Index` property to the specified integer value.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`SID` — Justification Session Independent Identifier

character vector

The Session Independent Identifier corresponding to the justification.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`FileRevision` — Justification revision number

scalar

Justification revision number, specified as a scalar.

Attributes:

GetAccess	public
SetAccess	private

`ModifiedOn` — Date justification was modified

`datetime` value

The date on which the justification was last modified, specified as a `datetime` value. The software populates this property.

Attributes:

GetAccess	public
SetAccess	private

`Dirty` — Unsaved changes indicator

`0` | `1`

Indicates if the requirement has unsaved changes (`1`) or does not have unsaved changes (`0`).

Attributes:

GetAccess	public
SetAccess	private

`Comments` — Justification comments

structure array

The comments that are attached with the justification, specified as a structure.

Attributes:

GetAccess	public
SetAccess	private

`Index` — Justification index

character array

The index of the justification, specified as a character array.

Attributes:

GetAccess	public
SetAccess	private

Methods

add	Add child justification
addComment	Add comments to justifications
children	Find children justifications
copy	Copy and paste justification
demote	Demote justifications
find	Find children of parent justification
getAttribute	Get justification attributes
isFilteredIn	Check filtered justifications
isHierarchical	Check if justification is hierarchical
move	Move justification in hierarchy
moveDown	Move justification down in hierarchy
moveUp	Move justification up in hierarchy
outLinks	Get outgoing links for justifications
parent	Find parent item of justification
promote	Promote justifications
remove	Remove justification items
reqSet	Return parent requirement set
setAttribute	Set justification attributes
setHierarchical	Change hierarchical justification status

Examples

Add Child Justifications

This example shows how to add a child justification under a justification.

Load a requirement set called `myReqSet`.

```
rs = slreq.load("myReqSet");
```

Find justification objects in the requirement set.

```
myJustifications = find(rs,"Type","Justification")
```

```
myJustifications = 

  1×2 Justification array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
```

Add a child justification to the first justification in the array.

```
myChildJustification = add(myJustifications(1),"Id","2.1",...
"Summary","New Child Justification")
```

```
myChildJustification = 

  Justification with properties:

              Id: '2.1'
         Summary: 'New Child Justification'
     Description: ''
        Keywords: [0×0 char]
       Rationale: ''
       CreatedOn: 25-Aug-2017 14:37:29
       CreatedBy: 'Jane Doe'
      ModifiedBy: 'John Doe'
             SID: 73
    FileRevision: 1
      ModifiedOn: 26-Aug-2017 17:30:20
           Dirty: 0
        Comments: [0×0 struct]
```

Version History

Introduced in R2018b

See Also

`slreq.Reference` | `slreq.ReqSet` | `slreq.Requirement`

slreq.Link class

Package: slreq

Work with link objects

Description

When you establish a traceable association between artifacts, Requirements Toolbox creates an slreq.Link object to store source and destination data of the link.

Creation

link = slreq.createLink(src, dest) creates an slreq.Link object link with source and destination artifacts specified by src and dest respectively. The slreq.Link object is stored in the Link set file that belongs to src.

outLinks = slreq.outLinks(src) returns an array of slreq.Link objects outLinks that contains the outgoing links from the source artifact src.

inLinks = slreq.inLinks(dest) returns an array of slreq.Link objects inLinks that contains the incoming links to the destination artifact dest.

Input Arguments

src — Link source artifact
struct

Link source artifact, specified as a MATLAB structure.

dest — Link destination artifact
struct

Link destination artifact, specified as a MATLAB structure.

Output Arguments

link — Link object
slreq.Link object

Handle to a link, returned as an slreq.Link object.

outLinks — Outgoing links
slreq.Link object array

Array of outgoing links.

inLinks — Incoming links
slreq.Link object array

Array of incoming links.

Properties

`CreatedOn` — Date link was created

`datetime` value

The date on which the link was created, specified as a `datetime` value. The software populates this property.

`CreatedBy` — Link creator

character vector

The name of the individual or organization who created the link.

`ModifiedOn` — Date link was modified

`datetime` value

The date on which the link was last modified, specified as a `datetime` value. The software populates this property.

`ModifiedBy` — Link modifier

character vector

The name of the individual or organization who last modified the link.

`Comments` — Link comments

`struct`

The comments that are attached with the link, returned as a structure.

Type — Link type

`"Relate"` | `"Implement"` | `"Verify"` | `"Derive"` | `"Refine"` | `"Confirm"` | string scalar | character vector

Link type enumeration, specified as one of the options in the table:

Type	Description
`"Relate"`	• General relationship between items for most use cases • Bi-directional link
`"Implement"`	• Specifies the source item that implements the requirement • Contributes to the implementation status For more information, see “Review Requirements Implementation Status”.

Type	Description
`"Verify"`	• Specifies which source item verifies the requirement • Contributes to the verification status if the source item is one of the accepted item types For more information, see "Review Requirements Verification Status".
`"Derive"`	Specifies which source item derives the destination item
`"Refine"`	Specifies which source item adds detail for the functionality specified by the destination item
`"Confirm"`	• Specifies relationship between a requirement and an external test result source • Can contribute to the verification status in certain cases For more information, see "Include Results from External Sources in Verification Status".
string scalar or character vector	String scalar or character vector that specifies a custom link type or stereotype. For more information, see "Define Custom Requirement and Link Types and Properties".

For more information, see "Link Types".

`Description` — Link description

character vector

Link descriptive text, specified as a multi-line character vector.

`Keywords` — Link keywords

character array

Link keywords, specified as character array.

`Rationale` — Link rationale

character vector

Link rationale text, specified as a multiline character vector.

`SID` — Link Session Independent Identifier

character vector

The Session Independent Identifier corresponding to the link.

Methods

destination	Get link destination
getAttribute	Get link property values
isFilteredIn	Check filtered links
isResolved	Check if the link is resolved
isResolvedDestination	Check if the link destination is resolved
isResolvedSource	Check if the link source is resolved
linkSet	Return parent link set
remove	Delete links
setAttribute	Set link property values
setDestination	Set requirement link destination
setSource	Set requirement link source
source	Get link source

Examples

Create a Link

This example shows how to create a link.

Create a link between the currently selected Simulink block and a requirement `req`.

```
link1 = slreq.createLink(gcb,req)
```

```
link1 = 

  Link with properties:

           Type: 'Implement'
    Description: 'Plant Specs'
       Keywords: [0×0 char]
      Rationale: ''
      CreatedOn: 02-Sep-2017 15:49:28
      CreatedBy: 'Jane Doe'
     ModifiedOn: 21-Oct-2017 11:34:12
     ModifiedBy: 'John Doe'
       Comments: [0×0 struct]
```

Get Incoming Links

This example shows how to get the incoming links for a requirement.

Load a requirement set called `myReqSet`.

```
rs = slreq.load("myReqSet");
```

Find a requirement in the requirement with ID `R1.1`.

```
myReq = find(rs,"Type","Requirement","Id","R1.1");
```

Query incoming links to the requirement.

```
inLinks = slreq.inLinks(myReq);
```

Get Outgoing Links

This example shows how to get the outgoing links for a link source.

Load a link set called `c5.slmx`.

```
myLinkSet = slreq.load("c5.slx");
```

Get the link sources from the link set.

```
allSrcs = sources(myLinkSet);
```

Get the outgoing links for the first link source.

```
myLink = slreq.outLinks(allSrcs(1));
```

Version History

Introduced in R2018a

See Also

`slreq.LinkSet` | `slreq.createLink` | `slreq.ReqSet` | `slreq.Reference` | `slreq.Requirement`

Topics

“Create and Store Links”

slreq.LinkSet class

Package: `slreq`

Work with link sets

Description

Instances of `slreq.LinkSet` are Link Set objects. Links are organized in link sets. Each link set is associated with a source artifact such as a Simulink model or a data dictionary and is serialized into a separate file which stores the links associated with it. The default location and name of the link set file matches that of the source artifact.

Creation

`allLinkSets = slreq.find('Type', 'LinkSet')` finds and returns an array of loaded `slreq.LinkSet` objects `allLinkSets`.

`myLinkSet = slreq.find('Type', 'LinkSet', 'Name', ArtifactName)` finds and returns an `slreq.LinkSet` object `myLinkSet` matching the artifact name specified by `ArtifactName`.

`myLinkSet = slreq.load(ArtifactName)` loads an `slreq.LinkSet` object `myLinkSet` matching the artifact name specified by `ArtifactName`.

Input Arguments

`ArtifactName` — Link set artifact name
character vector

The name of the link set artifact, specified as a character vector.

Output Arguments

`allLinkSets` — Link sets
`slreq.LinkSet` array

Array of loaded link sets.

`myLinkSet` — Link set
`slreq.LinkSet` object

Link set, returned as an `slreq.LinkSet` object.

Properties

`Filename` — Link set file path
character vector

File path of the link set, specified as a character vector. By default, the link set is stored in the same folder as the artifact and has the same base file name and an `.slmx` extension.

`Artifact` — Artifact containing link sources

character vector

Artifact that contains the link sources for the link set, specified as a character vector. When you create a link, the link set is associated with the artifact that the link source item belongs to. By default, the link set is stored in the same folder as the artifact and has the same base file name and an `.slmx` extension. For more information, see “Requirements Link Storage”. The artifact can be any file that contains a linkable item, such as a Simulink model or a Simulink Test file.

`Domain` — Link set custom link type

character vector

The custom link type of the links in the link set. For more information, see “Custom Link Types”.

Example: `linktype_rmi_excel`, `linktype_rmi_doors`

`Revision` — Link set revision number

scalar

Link set revision number, specified as a scalar.

`Dirty` — Unsaved changes indicator

`0` | `1`

Indicates if the link set has unsaved changes. `0` for no unsaved changes and `1` for unsaved changes.

`Description` — Link set description

character vector

Link set description text, specified as a character vector.

`CustomAttributeNames` — Custom attributes associated with the link set

cell array of character vectors

Link set custom attribute names, specified as a cell array of character vectors.

Methods

addAttribute	Add custom attribute to link set
createTextRange	Create line ranges
deleteAttribute	Delete custom attribute from link set
exportToVersion	Export link set to previous MATLAB version
find	Find links in link set with matching attribute values
getLinks	Get links from link set
getRegisteredReqSets	Get requirement sets registered in link set
getTextRange	Get line ranges
getTextRanges	Get lines ranges that span multiple lines
importProfile	Assign profile to ink set
inspectAttribute	Get information about link set custom attribute
profiles	Get profiles assigned to link set
redirectLinksToImportedReqs	Redirect link destination from external document to imported requirement set
removeProfile	Remove profile from link set
save	Save link set
sources	Get link sources
updateAttribute	Update information for link set custom attribute
updateBacklinks	Synchronize external navigation links
updateDocUri	Update link destination for direct links
updateRegisteredReqSets	Update requirement sets registered to link set

Examples

Find, Load, and Edit a Link Set

This example shows how to find, load, and edit a link set.

Find a loaded link set by using the name.

```
myLinkSet1 = slreq.find("Type","LinkSet","Name","Project_req")
```

```
myLinkSet1 = 

  LinkSet with properties:

    Description: ''
       Filename: 'Project_req.slmx'
       Artifact: 'Project_req.slreqx'
         Domain: 'linktype_rmi_slreq'
       Revision: 2
          Dirty: 0
```

Load a link set associated with a Simulink model called `fuelsys`.

```
myLinkSet2 = slreq.load("fuelsys.slx")
```

```
myLinkSet2 = 

  LinkSet with properties:

    Description: ''
       Filename: 'C:\MATLAB\My_Files\fuelsys_linkset.slmx'
       Artifact: 'D:\Work\Design_Specs\fuelsys.slx'
         Domain: 'linktype_rmi_simulink'
       Revision: 2
          Dirty: 0
```

Set the link set description.

```
myLinkSet2.Description = "Link set for the fuel system"
```

```
myLinkSet2 = 

  LinkSet with properties:

    Description: 'Link set for the fuel system'
       Filename: 'C:\MATLAB\My_Files\fuelsys_linkset.slmx'
       Artifact: 'D:\Work\Design_Specs\fuelsys.slx'
         Domain: 'linktype_rmi_simulink'
       Revision: 2
          Dirty: 1
```

Version History

Introduced in R2018a

See Also

slreq.Link | slreq.ReqSet | slreq.Reference | slreq.Requirement

slreq.Reference class

Package: `slreq`

Work with external requirement proxy objects

Description

Instances of `slreq.Reference` are proxies for external requirement objects that a third-party external application manages and maintains. Referenced requirement objects are read-only but can be synchronized from an external application and can exist only within a requirement set.

Creation

`ref = find(rs, 'Type', 'Reference', 'PropertyName', PropertyValue)` finds and returns a referenced requirement or a set of referenced requirements `ref` in the requirement set `rs` specified by the properties matching `PropertyName` and `PropertyValue`.

`ref = add(rs, 'Artifact', FileName, 'PropertyName', PropertyValue)` adds a referenced requirement `ref` to a requirement set `rs` which references requirements from the external document specified by `FileName` with properties and custom attributes specified by `PropertyName` and `PropertyValue`.

Input Arguments

`rs` — Requirement set object
`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

`FileName` — Container identifier
character vector

File name for a top-level container identifier, such as a Microsoft Office document name or an IBM Rational DOORS Module unique ID.

Output Arguments

`ref` — Referenced requirement
`slreq.Reference` object

Referenced requirement, specified as an `slreq.Reference` object.

Properties

Id — Referenced requirement ID
character vector

Referenced requirement ID, returned as a character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`CustomId` — Referenced requirement Custom ID

character vector

Referenced requirement custom ID, returned as a character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`Artifact` — Container identifier

character vector

Top-level container identifier, like a Microsoft Office document name or an IBM Rational DOORS Module unique ID.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`ArtifactId` — Requirement identifier

character vector

Unique requirement identifier in the source requirements document. For requirements imported from IBM Rational DOORS, the **ArtifactId** is the Numeric Object Id. For requirements imported from Microsoft Word, the bookmark names are used as the **ArtifactId**.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`Domain` — Requirements document custom link type

character vector

The custom link type of the requirements document. For more information, see “Custom Link Types”.

Example: `'linktype_rmi_doors'`, `'linktype_rmi_excel'`

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`UpdatedOn` — Date and time referenced requirement was last updated

`datetime`

The date and time the referenced requirement was last synchronized with the external document, specified as a `datetime` value. The software automatically populates this property.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`CreatedOn` — Date referenced requirement was created

`datetime`

The date the referenced requirement was created, specified as a `datetime` value. The software automatically populates this property.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`CreatedBy` — Referenced requirement creator

character vector

The name of the individual or organization who created the referenced requirement.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`ModifiedBy` — Referenced requirement modifier

character vector

The name of the individual or organization who last modified the referenced requirement.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`IsLocked` — Referenced requirement lock indicator

1 (default) | 0

Indicates if the referenced requirement is locked. `1` for locked and `0` for unlocked.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`Summary` — Referenced requirement summary

character vector

Referenced requirement summary text, returned as a character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`Description` — Referenced requirement description

character vector

Referenced requirement description text, returned as a multiline character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`Rationale` — Referenced requirement rationale

character vector

Referenced requirement rationale text, returned as a multiline character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`Keywords` — Referenced requirement keywords

character array

Referenced requirement keywords, specified as a character array.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`Type` — Referenced requirement type enumeration

`'Functional'` | `'Informational'` | `'Container'` | string scalar | character vector

Referenced requirement type enumeration, specified as `'Functional'`, `'Informational'`, `'Container'`, or a string scalar or character vector that specifies a custom requirement type. For more information, see “Requirement Types”.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`IndexEnabled` — Referenced requirement index enabled indicator

`1` (default) | `0`

Indicates if the referenced requirement index is enabled (`1`) or disabled (`0`), returned as a `1` or `0` of data type `logical`. Disabling the index omits the referenced requirement from the numbered hierarchy list.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`IndexNumber` — User-specified referenced requirement index value

empty `double` array (default) | `int32` array

User-specified referenced requirement index value, returned as an empty `double` array or an `int32` array. If empty, Requirements Toolbox calculates the `Index` value. Otherwise, Requirements Toolbox sets the `Index` property to the specified integer value.

Attributes:

GetAccess	public
SetAccess	public

`SID` — Referenced requirement Session Independent Identifier

character vector

The Session Independent Identifier corresponding to the referenced requirement.

Attributes:

GetAccess	public
SetAccess	private

`FileRevision` — Referenced requirement revision number

scalar

Referenced requirement revision number, specified as a scalar.

Attributes:

GetAccess	public
SetAccess	private

`ModifiedOn` — Date referenced requirement was modified

`datetime`

The date the referenced requirement was last modified, specified as a `datetime` value. The software automatically populates this property.

Attributes:

GetAccess	public
SetAccess	private

`Dirty` — Unsaved changes indicator

`0` | `1`

Indicates if the requirement has unsaved changes (`1`) or does not have unsaved changes (`0`).

Attributes:

GetAccess	public
SetAccess	private

`Comments` — Referenced requirement comments

structure array

The comments that are attached with the referenced requirement, returned as a structure.

Attributes:

GetAccess	public
SetAccess	private

`Index` — Referenced requirement index

character array

The index of the referenced requirement, specified as a character array.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

Methods

add	Add child referenced requirement
addComment	Add comments to referenced requirements
children	Find children references
find	Find children of parent referenced requirements
getAttribute	Get referenced requirement custom attributes
getImplementationStatus	Query referenced requirement implementation status summary
getPostImportFcn	Get contents of `PostImportFcn` callback
getPreImportFcn	Get registered `PreImportFcn` callback script
getVerificationStatus	Query referenced requirement verification status summary
hasNewUpdate	Check if import node has available update
inLinks	Get incoming links for referenced requirements
isFilteredIn	Check filtered referenced requirements
isJustifiedFor	Check if referenced requirement is justified
justifyImplementation	Justify referenced requirements for implementation
justifyVerification	Justify referenced requirements for verification
moveDown	Move referenced requirement down in hierarchy
moveUp	Move referenced requirement up in hierarchy
navigateToExternalArtifact	Navigate from imported referenced requirement to original requirement
parent	Find parent item of referenced requirement
outLinks	Get outgoing links for referenced requirements
remove	Remove referenced requirements
reqSet	Return parent requirement set
setAttribute	Set referenced requirement custom attributes
setParent	Set parent of referenced requirement in `PostImportFcn` callback
setPostImportFcn	Assign `PostImportFcn` callback script
setPreImportFcn	Assign `PreImportFcn` callback script
unlock	Unlock referenced requirements
unlockAll	Unlock all child referenced requirements for editing
updateFromDocument	Update referenced requirements from external requirements document

Examples

Find a Referenced Requirement

This example shows how to find a referenced requirement in a requirement set.

Load a requirement set called `myReqSet`.

```
rs = slreq.load("myReqSet");
```

Find a requirement with ID 9 in the requirement set.

```
req = find(rs,"Type","Reference","ID","9");
```

```
ref = 

  Reference with properties:

          Keywords: [0×0 char]
          Artifact: 'Req_doc.docx'
                Id: 'R9'
           Summary: 'System overview'
       Description: ''
               SID: 3
            Domain: 'linktype_rmi_word'
    SynchronizedOn: 25-Jul-2017 11:34:02
```

Version History

Introduced in R2018a

See Also

`slreq.ReqSet` | `slreq.Requirement` | `slreq.import` | `slreq.Link` | `slreq.LinkSet`

Topics

"Import and Edit Requirements from a Microsoft Word Document"

slreq.ReqSet class

Package: slreq

Work with requirement sets

Description

Instances of slreq.ReqSet are requirement set objects.

Creation

newReqSet = slreq.new(reqSetName) creates a requirement set named reqSetName in the current working folder.

newReqSet = slreq.new(reqSetPath) creates a requirement set on the specified path.

Input Arguments

reqSetName — Requirement set name
character vector

Name of the requirement set, specified as a character vector.

Example: 'Design Requirements'

reqSetPath — Requirement set file name and path
character vector

The file name and path of the requirement set, specified as a character vector.

Example: 'C:\MATLAB\myReqSet.slreqx'

Output Arguments

newReqSet — Requirement set
slreq.ReqSet object

An instance of the slreq.ReqSet object.

Properties

Name — Requirement set name
character vector

Name of the requirement set, specified as a character vector.

Filename — Requirement set file path
character vector

The file path of the requirement set, specified as a character vector.

`Revision` — Requirement set revision number
scalar

Requirement set revision number, specified as a scalar.

`CreatedBy` — Requirement set creator
character vector

The name of the individual or organization who created the requirement set.

`CreatedOn` — Date requirement set was created
`datetime` value

The date the requirement set was created, specified as a `datetime` value. The software automatically populates this property.

`ModifiedBy` — Requirement set modifier
character vector

The name of the individual or organization who last modified the requirement set.

`ModifiedOn` — Date requirement set was modified
`datetime` value

The date the requirement set was last modified, specified as a `datetime` value. The software automatically populates this property.

`Description` — Requirement set description
character vector

Requirement set description text, specified as a character vector.

`Dirty` — Unsaved changes indicator
`0` | `1`

Indicates if the requirement set has unsaved changes. `0` for no unsaved changes, and `1` for unsaved changes.

`CustomAttributeNames` — Custom attributes associated with the requirement set
cell array of character vectors

Requirement set custom attribute names, specified as a cell array of character vectors.

Methods

add	Add requirements to requirement set
addAttribute	Add custom attribute to requirement set
addJustification	Add justifications to requirement set
children	Get top-level items in requirement set
close	Close a requirement set
createReferences	Create read-only references to requirement items in third-party documents
discard	Close requirement set without saving
deleteAttribute	Delete custom attribute from requirement set
explore	Open requirement set in Requirements Editor
exportToVersion	Export requirement set to previous MATLAB version
find	Find requirements in requirement set that have matching attribute values
getImplementationStatus	Query requirement set implementation status summary
getPostLoadFcn	Get contents of `PostLoadFcn` callback
getPreSaveFcn	Get contents of `PreSaveFcn` callback
getVerificationStatus	Query requirement set verification status summary
importFromDocument	Import editable requirements from external documents
importProfile	Assign profile to requirement set
inspectAttribute	Get information about requirement set custom attribute
profiles	Get profiles assigned to requirement sets
removeProfile	Remove profile from requirement set
runTests	Run test cases linked to the requirement set
save	Save a requirement set
setPostLoadFcn	Assign `PostLoadFcn` callback script
setPreSaveFcn	Assign `PreSaveFcn` callback script
updateAttribute	Update information for requirement set custom attribute
updateImplementationStatus	Update requirement set implementation status summary
updateReferences	Update referenced requirements in requirement set
updateSrcArtifactUri	Update document resource identifier of imported requirements
updateSrcFileLocation	Update document location of imported requirements
updateVerificationStatus	Update requirement set verification status summary

Examples

Create, Save, and Open a Requirement Set Object

This example shows how to create, save, and open a requirement set object.

Create a new requirement set called `Design_Requirements`.

```
rs = slreq.new("Design_Requirements");
```

Save and close the requirement set.

```
save(rs);
close(rs);
```

Open the requirement set in the **Requirements Editor**.

```
slreq.open(rs);
```

Version History

Introduced in R2018a

See Also

`slreq.Requirement` | `slreq.Reference` | `slreq.LinkSet` | `slreq.Link`

slreq.Requirement class

Package: slreq

Work with requirement objects

Description

Instances of slreq.Requirement are Requirement objects that you manage solely inside Requirements Toolbox and that do not have a persistent association with artifacts managed by external applications. Requirement objects can exist only within a requirement set.

Creation

req = find(rs, 'PropertyName', PropertyValue) finds and returns a requirement req in the requirement set rs with additional requirement properties specified by PropertyName and PropertyValue.

req = add(rs, 'PropertyName', PropertyValue) adds a requirement req to the requirement set rs with additional requirement properties specified by PropertyName and PropertyValue.

Input Arguments

rs — Requirement set object
slreq.ReqSet object

Requirement set, specified as an slreq.ReqSet object.

Output Arguments

req — Requirement object
slreq.Requirement object

Handle to a requirement, returned as an slreq.Requirement object.

Properties

Type — Requirement type
"Functional" | "Informational" | "Container" | string scalar | character vector

Requirement type, specified as "Functional", "Informational", "Container", or a string scalar or character vector that specifies a custom requirement type or stereotype. For more information, see “Requirement Types”.

Attributes:

GetAccess	public
SetAccess	public

Id — Requirement custom ID
string scalar | character vector

Custom ID of the requirement, specified as a string scalar or character vector. You cannot use spaces and `'#'` in custom IDs.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`Summary` — Requirement summary

string scalar | character vector

Requirement summary text, specified as a string scalar or character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`Description` — Requirement description

string scalar | character vector

Requirement description text, specified as a string scalar or character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`Keywords` — Requirement keywords

string array | cell array

Requirement keywords, specified as a string array or cell array of character vectors.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`Rationale` — Requirement rationale

string scalar | character vector

Requirement rationale text, specified as a string scalar or character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`CreatedOn` — Date requirement was created

`datetime` value

The date on which the requirement was created, specified as a `datetime` value. The software populates this property.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`CreatedBy` — Requirement creator

character vector

The name of the individual or organization who created the requirement.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`ModifiedBy` — Requirement modifier

character vector

The name of the individual or organization who last modified the requirement.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`IndexEnabled` — Index enabled indicator

`1` (default) | `0`

Indicates whether the index is enabled (`1`) or disabled (`0`), returned as a `1` or `0` of data type `logical`. If you disable the index, Requirements Toolbox does not count this requirement when it creates the numbered hierarchy list. However, the requirement remains in the same place in the hierarchy.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`IndexNumber` — User-specified index value

empty `double` array (default) | `int32` array

User-specified index value, returned as an empty `double` array or an `int32` array. If empty, Requirements Toolbox calculates the `Index` value. Otherwise, Requirements Toolbox sets the `Index` property to the specified integer value.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`SID` — Requirement Session Independent Identifier

character vector

The Session Independent Identifier corresponding to the requirement, specified as a character vector.

Attributes:

GetAccess	public
SetAccess	private

FileRevision — Requirement revision number

scalar

Requirement revision number, specified as a scalar.

Attributes:

GetAccess	public
SetAccess	private

ModifiedOn — Date requirement was modified

datetime value

The date on which the requirement was last modified, specified as a datetime value. The software populates this property.

Attributes:

GetAccess	public
SetAccess	private

Dirty — Unsaved changes indicator

0 | 1

Indicates if the requirement has unsaved changes (1) or does not have unsaved changes (0).

Attributes:

GetAccess	public
SetAccess	private

Comments — Requirement comments

structure array

The comments that are attached with the requirement, specified as a structure.

Attributes:

GetAccess	public
SetAccess	private

Index — Requirement index

character array

The index of the requirement, specified as a character array.

Attributes:

GetAccess	public
SetAccess	private

Methods

add	Add child requirement
addComment	Add comments to requirements
children	Find child requirements of a requirement
copy	Copy and paste requirement
demote	Demote requirements
find	Find children of parent requirements
getAttribute	Get requirement property values
getImplementationStatus	Query requirement implementation status summary
getVerificationStatus	Query requirement verification status summary
inLinks	Get incoming links for requirements
isFilteredIn	Check filtered requirements
isJustifiedFor	Check if requirement is justified
justifyImplementation	Justify requirements for implementation
justifyVerification	Justify requirements for verification
move	Move requirement in hierarchy
moveDown	Move requirement down in hierarchy
moveUp	Move requirement up in hierarchy
outLinks	Get outgoing links for requirements
parent	Find parent item of requirement
promote	Promote requirements
remove	Remove requirement from requirement set
reqSet	Return parent requirement set
setAttribute	Set requirement property values

Examples

Find a Requirement in a Requirement Set

This example shows how to find a requirement in a requirement set.

Load a requirement set called `myReqSet`.

```
rs = slreq.load("myReqSet");
```

Find a requirement with ID 77 in the requirement set.

```
req = find(rs,"Type","Requirement","ID","77");
```

```
req = 

  Requirement with properties:

            Id: '77'
```

```
        Summary: 'Test Spec'
       Keywords: [0×0 char]
    Description: ''
      Rationale: ''
            SID: 80
      CreatedBy: 'John Doe'
      CreatedOn: 05-Oct-2007 16:09:38
     ModifiedBy: 'Jane Doe'
     ModifiedOn: 21-Dec-2016 11:10:05
       Comments: [0×0 struct]
```

Version History

Introduced in R2018a

See Also

`slreq.ReqSet` | `slreq.Reference` | `slreq.Link` | `slreq.LinkSet`

slreq.callback.CustomImportOptions class

Package: `slreq.callback`

Custom import options

Description

Use objects of the `slreq.callback.CustomImportOptions` class to adjust the options to use when import requirements. When you import requirements from a custom third-party document, `slreq.getCurrentImportOptions` generates an `slreq.callback.CustomImportOptions` object that you can use to adjust the options to use during import. You can only access this object in the `PreImportFcn` callback.

The `slreq.callback.CustomImportOptions` class is a `handle` class.

Creation

`options = slreq.getCurrentImportOptions` returns an `slreq.callback.CustomImportOptions` object if you import requirements from a custom third-party document.

Properties

`Rationale` — External attribute mapped to `Rationale`

string scalar | character vector

External attribute mapped to the `“Rationale” on page 2-0` property, specified as a string scalar or character vector.

Example: `myImportOptions.Rationale = "Requirement rationale";`

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`Keywords` — External attribute mapped to `Keywords`

string scalar | character vector

External attribute mapped to the `“Keywords” on page 2-0` property, specified as a string scalar or character vector.

Example: `myImportOptions.Keywords = "Requirement keywords";`

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`Attributes` — External attributes to import

cell array

External attributes to import as custom attributes, specified as a `cell` array.

Example: `myImportOptions.Attributes = {'Priority','Status'};`

Attributes:

GetAccess	public
SetAccess	public

`Filter` — Filter condition to apply during import

string scalar | character vector

Filter condition to apply during import, specified as a string scalar or a character vector.

Example: `myImportOptions.Filter = "AttributeName==Value";`

Attributes:

GetAccess	public
SetAccess	public

`AsReference` — Option to import as references

`1` (default) | `0`

Option to import as `slreq.Reference` objects, specified as a `1` or `0` of data type `logical`. If `0`, requirements import as `slreq.Requirement` objects.

Attributes:

GetAccess	public
SetAccess	public

`RichText` — Option to import with rich text

`0` (default) | `1`

Option to import requirements with rich text, specified as a `1` or `0` of data type `logical`.

Attributes:

GetAccess	public
SetAccess	public

`DocUri` — Resource identifier for requirements document

string scalar | character vector

Resource identifier for external requirements document, specified as a string scalar or character vector.

Attributes:

GetAccess	public
SetAccess	public

`DocType` — Requirements document custom link type

string scalar | character vector

Requirements document custom link type, returned as a string scalar or character vector.

Attributes:

GetAccess	public
SetAccess	private

`ReqSet` — Requirement set name

character vector

Requirement set name, returned as a character vector.

Attributes:

GetAccess	public
SetAccess	private

`PreImportFcn` — Contents of `PreImportFcn` callback

string scalar | character vector

Contents of the `PreImportFcn` callback for the current Import node, specified as a string scalar or a character vector.

Attributes:

GetAccess	public
SetAccess	public

`PostImportFcn` — Contents of `PostImportFcn` callback

string scalar | character vector

Contents of the `PostImportFcn` callback for the current Import node, specified as a string scalar or a character vector.

Attributes:

GetAccess	public
SetAccess	public

Version History

Introduced in R2022a

See Also

`slreq.getCurrentImportOptions` | `setPreImportFcn` | `getPreImportFcn`

Topics

“Use Callbacks to Customize Requirement Import Behavior”

slreq.callback.DOORSImportOptions class

Package: slreq.callback

IBM Rational DOORS import options

Description

Use objects of the slreq.callback.DOORSImportOptions class to adjust the options to use when import requirements. When you import requirements from IBM Rational DOORS, slreq.getCurrentImportOptions generates an slreq.callback.DOORSImportOptions object that you can use to adjust the options to use when you import requirements. You can only access this object in the PreImportFcn callback.

The slreq.callback.DOORSImportOptions class is a handle class.

Creation

options = slreq.getCurrentImportOptions returns an slreq.callback.DOORSImportOptions object if you are importing requirements from IBM Rational DOORS.

Properties

Rationale — External attribute mapped to Rationale

string scalar | character vector

External attribute mapped to the "Rationale" on page 2-0 property, specified as a string scalar or character vector.

Example: myImportOptions.Rationale = "Requirement rationale";

Attributes:

GetAccess	public
SetAccess	public

Keywords — External attribute mapped to Keywords

string scalar | character vector

External attribute mapped to the "Keywords" on page 2-0 property, specified as a string scalar or character vector.

Example: myImportOptions.Keywords = "Requirement keywords";

Attributes:

GetAccess	public
SetAccess	public

Attributes — External attributes to import

cell array

External attributes to import as custom attributes, specified as a `cell` array.

Example: `myImportOptions.Attributes = {'Priority','Status'};`

Attributes:

GetAccess	public
SetAccess	public

`Filter` — Filter condition to apply during import

string scalar | character vector

Filter condition to apply during import, specified as a string scalar or a character vector.

Example: `myImportOptions.Filter = "AttributeName==Value";`

Attributes:

GetAccess	public
SetAccess	public

`AsReference` — Option to import as references

`1` (default) | `0`

Option to import as `slreq.Reference` objects, specified as a `1` or `0` of data type `logical`. If `0`, requirements import as `slreq.Requirement` objects.

Attributes:

GetAccess	public
SetAccess	public

`RichText` — Option to import with rich text

`0` (default) | `1`

Option to import requirements with rich text, specified as a `1` or `0` of data type `logical`.

Attributes:

GetAccess	public
SetAccess	public

`DocUri` — Resource identifier for requirements document

string scalar | character vector

Resource identifier for external requirements document, specified as a string scalar or character vector.

Attributes:

GetAccess	public
SetAccess	public

`DocType` — Requirements document custom link type

string scalar | character vector

Requirements document custom link type, returned as a string scalar or character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`ReqSet` — Requirement set name

character vector

Requirement set name, returned as a character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`PreImportFcn` — Contents of `PreImportFcn` callback

string scalar | character vector

Contents of the `PreImportFcn` callback for the current Import node, specified as a string scalar or a character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`PostImportFcn` — Contents of `PostImportFcn` callback

string scalar | character vector

Contents of the `PostImportFcn` callback for the current Import node, specified as a string scalar or a character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

Version History

Introduced in R2022a

See Also

`slreq.getCurrentImportOptions` | `setPreImportFcn` | `getPreImportFcn`

Topics

“Use Callbacks to Customize Requirement Import Behavior”

slreq.callback.MSExcelImportOptions class

Package: slreq.callback

Microsoft Excel import options

Description

Use objects of the slreq.callback.MSExcelImportOptions class to adjust the options to use when import requirements. When you import requirements from a Microsoft Excel file, slreq.getCurrentImportOptions generates an slreq.callback.MSExcelImportOptions object that you can use to adjust the options to use when you import requirements. You can only access this object in the PreImportFcn callback.

The slreq.callback.MSExcelImportOptions class is a handle class.

Creation

options = slreq.getCurrentImportOptions returns an slreq.callback.MSExcelImportOptions object if you are importing requirements from a Microsoft Excel file.

Properties

Worksheet — Worksheet name

string scalar | character vector

Name ofMicrosoft Excel worksheet, specified as a string scalar or a character vector.

Attributes:

GetAccess	public
SetAccess	public

SubDocPrefix — Option to prepend sheet name in custom ID

0 (default) | 1

Option to prepend the sheet name in the “CustomId” on page 2-0 property of the imported requirements, specified as a 1 or 0 of data type logical.

Tip If requirements from multiple sheets import with the same custom ID, set this property to 1 to generate unique custom IDs.

Attributes:

GetAccess	public
SetAccess	public

Rows — Range of rows

`double` array

Range of rows to import from the Microsoft Excel spreadsheet, specified as a `double` array.

Example: `myImportOptions.Rows = [3 35];`

Attributes:

GetAccess	public
SetAccess	public

`Columns` — Range of columns

`double` array

Range of columns to import from the Microsoft Excel spreadsheet, specified as a `double` array.

Example: `myImportOptions.Columns = [1 6];`

Attributes:

GetAccess	public
SetAccess	public

`Attributes` — External attributes to import

cell array

External attributes to import as custom attributes, specified as a `cell` array.

The length of this cell array must match the number of columns specified by the `“AttributeColumn” on page 2-0` property.

Example: `myImportOptions.Attributes = {'Test Status','Test Procedure'};`

Attributes:

GetAccess	public
SetAccess	public

`IdColumn` — Column to map to the `Id` property

`double`

Column in the Microsoft Excel spreadsheet to map to the `“Id” on page 2-0` property of the requirements in your requirement set, specified as a `double`.

Example: `myImportOptions.IdColumn = 1;`

Attributes:

GetAccess	public
SetAccess	public

`SummaryColumn` — Column to map to the `Summary` property

`double`

Column in the Microsoft Excel spreadsheet to map to the `“Summary” on page 2-0` property of the requirements in your requirement set, specified as a `double`.

Example: `myImportOptions.SummaryColumn = 2;`

Attributes:

GetAccess	public
SetAccess	public

DescriptionColumn — Column to map to the Description property

double

Column in the Microsoft Excel spreadsheet to map to the “Description” on page 2-0 property of the requirements in your requirement set, specified as a double.

Example: myImportOptions.DescriptionColumn = 3;

Attributes:

GetAccess	public
SetAccess	public

RationaleColumn — Column to map to the Rationale property

double

Column in the Microsoft Excel spreadsheet to map to the “Rationale” on page 2-0 property of the requirements in your requirement set, specified as a double.

Example: myImportOptions.RationaleColumn = 4;

Attributes:

GetAccess	public
SetAccess	public

KeywordsColumn — Column to map to the Keywords property

double

Column in the Microsoft Excel spreadsheet to map to the “Keywords” on page 2-0 property of the requirements in your requirement set, specified as a double.

Example: myImportOptions.KeywordsColumn = 5;

Attributes:

GetAccess	public
SetAccess	public

AttributeColumn — Columns to map to custom attributes

double array

Columns in the Microsoft Excel spreadsheet to map as custom attributes of the requirements in your requirement set, specified as a double array.

Example: myImportOptions.AttributeColumn = [4 6];

Attributes:

GetAccess	public
SetAccess	public

USDM — USDM format

string scalar | character vector

Import from Microsoft Excel spreadsheets specified in the Universal Specification Describing Manner (USDM) standard format. Specify values as string scalars or character vectors with the ID prefix optionally followed by a separator character.

Example: `myImportOptions.USDM = "RQ -"` will match entries with IDs similar to `RQ01`, `RQ01-2`, `RQ01-2-1` etc.

Attributes:

GetAccess	public
SetAccess	public

`Bookmarks` — Option to import requirements using bookmarks

`0` (default) | `1`

Option to import requirements content using user-defined bookmarks, specified as a `1` or `0` of data type `logical`.

By default, Requirements Toolbox sets the value to `1` for Microsoft Word documents and `0` for Microsoft Excel spreadsheets.

Attributes:

GetAccess	public
SetAccess	public

`Match` — Regular expression pattern

string scalar | character vector

Regular expression pattern, specified as a string scalar or character vector. Use this expression to search for matches in Microsoft Office documents.

Attributes:

GetAccess	public
SetAccess	public

`AsReference` — Option to import as references

`1` (default) | `0`

Option to import as `slreq.Reference` objects, specified as a `1` or `0` of data type `logical`. If `0`, requirements import as `slreq.Requirement` objects.

Attributes:

GetAccess	public
SetAccess	public

`RichText` — Option to import with rich text

`0` (default) | `1`

Option to import requirements with rich text, specified as a `1` or `0` of data type `logical`.

Attributes:

GetAccess	public
SetAccess	public

DocUri — Resource identifier for requirements document

string scalar | character vector

Resource identifier for external requirements document, specified as a string scalar or character vector.

Attributes:

GetAccess	public
SetAccess	public

DocType — Requirements document custom link type

string scalar | character vector

Requirements document custom link type, returned as a string scalar or character vector.

Attributes:

GetAccess	public
SetAccess	private

ReqSet — Requirement set name

character vector

Requirement set name, returned as a character vector.

Attributes:

GetAccess	public
SetAccess	private

PreImportFcn — Contents of PreImportFcn callback

string scalar | character vector

Contents of the `PreImportFcn` callback for the current Import node, specified as a string scalar or a character vector.

Attributes:

GetAccess	public
SetAccess	public

PostImportFcn — Contents of PostImportFcn callback

string scalar | character vector

Contents of the `PostImportFcn` callback for the current Import node, specified as a string scalar or a character vector.

Attributes:

GetAccess	public
SetAccess	public

Examples

Customize Excel Import Options

This example shows how to customize Microsoft® Excel® import options by using the `PreImportFcn` callback.

Use `slreq.import` to import the Excel file `ExampleRequirements.xlsx` into Requirements Toolbox™. Name the imported requirement set `myReqSet` and register the script `excelPreImport` as the `PreImportFcn` callback. Return a handle to the requirement set.

```
[~,~,rs] = slreq.import("ExampleRequirements.xlsx", ...
    ReqSet="myReqSet",preImportFcn="excelPreImport");
```

The script `excelPreImport` uses `slreq.getCurrentImportOptions` to get the import options, then maps columns 2, 4, and 5 to the built-in `slreq.Reference` properties `ID`, `Summary`, and `Description`. The script also maps columns 3, 6, and 7 to custom attributes `orig_Type`, `Remark`, and `Status`.

```
type excelPreImport.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.IdColumn = 2;
importOptions.SummaryColumn = 4;
importOptions.DescriptionColumn = 5;
importOptions.Attributes = {'orig_type','Remark','Status'};
importOptions.AttributeColumn = [3 6 7];
```

Return the `importOptions` object.

```
importOptions
```

```
importOptions = 
  MSExcelImportOptions with properties:

            Worksheet: []
         SubDocPrefix: 0
                 Rows: []
              Columns: ''
           Attributes: {'orig_type'  'Remark'  'Status'}
             IdColumn: 2
        SummaryColumn: 4
    DescriptionColumn: 5
      RationaleColumn: []
       KeywordsColumn: []
      AttributeColumn: [3 6 7]
      CreatedByColumn: []
     ModifiedByColumn: []
                 USDM: ''
            Bookmarks: 0
                Match: []
          AsReference: 1
             RichText: 0
               DocUri: 'C:\Users\jdoe\MATLAB\Examples\slrequirements-ex00521778\ExampleRequiremen
              DocType: 'linktype_rmi_excel'
               ReqSet: 'myReqSet'
         PreImportFcn: 'excelPreImport'
        PostImportFcn: ''
```

Version History

Introduced in R2022a

See Also

`slreq.getCurrentImportOptions` | `setPreImportFcn` | `getPreImportFcn`

Topics

"Use Callbacks to Customize Requirement Import Behavior"

slreq.callback.MSWordImportOptions class

Package: `slreq.callback`

Microsoft Word import options

Description

Use objects of the `slreq.callback.MSWordImportOptions` class to adjust the options to use when import requirements. When you import requirements from a Microsoft Word file, `slreq.getCurrentImportOptions` generates an `slreq.callback.MSWordImportOptions` object that you can use to adjust the options to use when you import requirements. You can only access this object in the `PreImportFcn` callback.

The `slreq.callback.MSWordImportOptions` class is a `handle` class.

Creation

`options = slreq.getCurrentImportOptions` returns an `slreq.callback.MSWordImportOptions` object if you are importing requirements from a Microsoft Word file.

Properties

`IgnoreOutlineNumbers` — Option to ignore outline numbers

`0` (default) | `1`

Option to ignore outline numbers in section headers, specified as a `1` or `0` of data type `logical`.

Attributes:

```
GetAccess                                         public
SetAccess                                         public
```

`Bookmarks` — Option to import requirements using bookmarks

`0` (default) | `1`

Option to import requirements content using user-defined bookmarks, specified as a `1` or `0` of data type `logical`.

By default, Requirements Toolbox sets the value to `1` for Microsoft Word documents and `0` for Microsoft Excel spreadsheets.

Attributes:

```
GetAccess                                         public
SetAccess                                         public
```

`Match` — Regular expression pattern

string scalar | character vector

Regular expression pattern, specified as a string scalar or character vector. Use this expression to search for matches in Microsoft Office documents.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`AsReference` — Option to import as references

`1` (default) | `0`

Option to import as `slreq.Reference` objects, specified as a `1` or `0` of data type `logical`. If `0`, requirements import as `slreq.Requirement` objects.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`RichText` — Option to import with rich text

`0` (default) | `1`

Option to import requirements with rich text, specified as a `1` or `0` of data type `logical`.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`DocUri` — Resource identifier for requirements document

string scalar | character vector

Resource identifier for external requirements document, specified as a string scalar or character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`DocType` — Requirements document custom link type

string scalar | character vector

Requirements document custom link type, returned as a string scalar or character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`ReqSet` — Requirement set name

character vector

Requirement set name, returned as a character vector.

Attributes:

GetAccess	public
SetAccess	private

`PreImportFcn` — Contents of `PreImportFcn` callback

string scalar | character vector

Contents of the `PreImportFcn` callback for the current Import node, specified as a string scalar or a character vector.

Attributes:

GetAccess	public
SetAccess	public

`PostImportFcn` — Contents of `PostImportFcn` callback

string scalar | character vector

Contents of the `PostImportFcn` callback for the current Import node, specified as a string scalar or a character vector.

Attributes:

GetAccess	public
SetAccess	public

Examples

Customize Word Import Options

This example shows how to customize Microsoft® Word import options by using the `PreImportFcn` callback.

Use `slreq.import` to import the Word document `Reject_Double_Button_Press_Model_Requirements.docx` into Requirements Toolbox™. Name the imported requirement set `myReqSet` and register the script `wordPreImport` as the `PreImportFcn` callback to use during import. Return a handle to the requirement set.

```
[~,~,rs] = slreq.import("Reject_Double_Button_Press_Model_Requirements.docx", ...
    ReqSet="myReqSet",preImportFcn="wordPreImport");
```

The script `wordPreImport` uses `slreq.getCurrentImportOptions` to get the import options, then sets the `Bookmark` property to `1` to use bookmarks to identify items and serve as custom IDs.

```
type wordPreImport.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.Bookmarks = 1;
```

Return the `importOptions` object.

```
importOptions
```

```
importOptions = 
  MSWordImportOptions with properties:
    IgnoreOutlineNumbers: 0
               Bookmarks: 1
                   Match: []
             AsReference: 1
                RichText: 1
                  DocUri: 'C:\Users\jdoe\MATLAB\Examples\slrequirements-ex48179482\Reject_Double_
                 DocType: 'linktype_rmi_word'
                  ReqSet: 'myReqSet'
            PreImportFcn: 'wordPreImport'
           PostImportFcn: ''
```

Version History

Introduced in R2022a

See Also

`slreq.getCurrentImportOptions` | `setPreImportFcn` | `getPreImportFcn`

Topics

“Use Callbacks to Customize Requirement Import Behavior”

slreq.callback.ReqIFImportOptions class

Package: `slreq.callback`

ReqIF import options

Description

Use objects of the `slreq.callback.ReqIFImportOptions` class to adjust the options to use when import requirements. When you import requirements from a ReqIF file, `slreq.getCurrentImportOptions` generates an `slreq.callback.ReqIFImportOptions` object that you can use to adjust the options to use during import. You can only access this object in the `PreImportFcn` callback.

The `slreq.callback.ReqIFImportOptions` class is a `handle` class.

Creation

`options = slreq.getCurrentImportOptions` returns an `slreq.callback.ReqIFImportOptions` object if you are importing requirements from a ReqIF file.

Properties

`MappingFile` — Attribute mapping file

string scalar | character vector

Attribute mapping file to use during import, specified as a string scalar or character vector. Specify the full file path for the file.

Attributes:

GetAccess	public
SetAccess	public

`Attr2ReqProp` — Attribute mapping

`containers.Map` object

Attribute mapping from ReqIF attributes to Requirements Toolbox properties, specified as a `containers.Map` object. For example, this code creates a `containers.Map` object that maps:

- `ReqSum` to “`Summary`” on page 2-0
- `Desc` to “`Description`” on page 2-0
- `ID` to “`CustomId`” on page 2-0

```
attrMap = containers.Map(ReqSum="Summary");
attrMap("Desc") = "Description";
attrMap("ID") = "Custom ID";
```

Example: `myImportOptions.Attr2ReqProp = attrMap;`

Attributes:

GetAccess	public
SetAccess	public

`SingleSpec` — Name of single specification to import

string scalar | character vector

Name of the single specification to import from the ReqIF file, specified as a string scalar or character vector. If the ReqIF file has multiple specifications, only this specification is imported.

Attributes:

GetAccess	public
SetAccess	public

`AsMultipleReqSets` — Option to import into separate requirement sets

`0` (default) | `1`

Option to import each specification into separate requirement sets, specified as a `1` or `0` of data type `logical`.

If your ReqIF file has multiple specifications and you set this property to `0`, the specifications are combined into one requirement set.

Attributes:

GetAccess	public
SetAccess	public

`ImportLinks` — Option to import links

`1` (default) | `0`

Option to import the links from the ReqIF file, specified as a `1` or `0` of data type `logical`.

Attributes:

GetAccess	public
SetAccess	public

`AutoDetectMapping` — Option to automatically detect mapping

`1` (default) | `0`

Option to allow Requirements Toolbox to automatically detect the attribute mapping to use based on the contents of the ReqIF file, specified as a `1` or `0` of data type `logical`.

Attributes:

GetAccess	public
SetAccess	public

`AsReference` — Option to import as references

`1` (default) | `0`

Option to import as `slreq.Reference` objects, specified as a `1` or `0` of data type `logical`. If `0`, requirements import as `slreq.Requirement` objects.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`RichText` — Option to import with rich text

`0` (default) | `1`

Option to import requirements with rich text, specified as a `1` or `0` of data type `logical`.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`DocUri` — Resource identifier for requirements document

string scalar | character vector

Resource identifier for external requirements document, specified as a string scalar or character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

`DocType` — Requirements document custom link type

string scalar | character vector

Requirements document custom link type, returned as a string scalar or character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`ReqSet` — Requirement set name

character vector

Requirement set name, returned as a character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`private`

`PreImportFcn` — Contents of `PreImportFcn` callback

string scalar | character vector

Contents of the `PreImportFcn` callback for the current Import node, specified as a string scalar or a character vector.

Attributes:

`GetAccess`	`public`
`SetAccess`	`public`

PostImportFcn — Contents of PostImportFcn callback

string scalar | character vector

Contents of the PostImportFcn callback for the current Import node, specified as a string scalar or a character vector.

Attributes:

GetAccess	public
SetAccess	public

Examples

Customize ReqIF Import Options

This example shows how to customize ReqIF™ import options by using the PreImportFcn callback.

Use slreq.import to import the ReqIF™ file mySpec.reqif into Requirements Toolbox™. Name the imported requirement set myReqSet and register the script myPreImportScript as the PreImportFcn callback to use during import. Return a handle to the requirement set.

```
[~,~,rs] = slreq.import("mySpec.reqif",ReqSet="myReqSet",preImportFcn="myPreImportScript");
```

The script myPreImportScript uses slreq.getCurrentImportOptions to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile.xml";
```

Return the importOptions object.

```
importOptions
```

```
importOptions = 
  ReqIFImportOptions with properties:

        MappingFile: "myMappingFile.xml"
       Attr2ReqProp: []
         SingleSpec: ''
    AsMultipleReqSets: 0
        ImportLinks: 1
    AutoDetectMapping: 1
        AsReference: 1
           RichText: 0
             DocUri: 'C:\Users\jdoe\MATLAB\Examples\CustomizeReqIFImportOptionsExample\mySpec.r
            DocType: 'REQIF'
             ReqSet: 'myReqSet'
       PreImportFcn: 'myPreImportScript'
      PostImportFcn: ''
```

Version History

Introduced in R2022a

See Also

`slreq.getCurrentImportOptions` | `setPreImportFcn` | `getPreImportFcn`

Topics

"Use Callbacks to Customize Requirement Import Behavior"

slreq.verification.services.TAP class

Package: slreq.verification.services

Work with external results sources

Description

Instances of the slreq.verification.services.TAP provides utilities for interpreting TAP (Test Anything Protocol) result files for verification.

Creation

Service objects used in the custom logic of GetResultFcn to script up result fetching logic.

tapService = slreq.verification.services.TAP() directs the result fetching logic to the TAP file.

Output Arguments

tapService — services used for TAP files
character vector

Service used in GetResultFcn to script up result fetching logic

Methods

The output is result that is an instance of the tapService object. For the resultFile with testID, the GetResultFcn function returns the result for that testID:

```
result = tapService.getResult(testID, resultFile);
```

The GetResultFcn fetches the result for the testID with test points in the resultFile using:

```
result = tapService.getAllResults(resultFile);
```

Example

Service Usage in a GetResultFcn of Link Type

```
 function result = GetResultFcn(link)
    testID = link.destination.id;
    testFile = link.destination.artifact;
    resultFile = getResultFile(testFile);

    if ~isempty(resultFile) && isfile(resultFile)
        tapService = slreq.verification.services.TAP();
        result = tapService.getResult(testID, resultFile);
    else
        result.status = slreq.verification.Status.Unknown;
    end
end
```

Version History

Introduced in R2020a

See Also

`slreq.Link` | “Link Type Properties”

slreq.verification.services.JUnit class

Package: `slreq.verification.services`

Work with external results sources

Description

Instances of the `slreq.verification.services.JUnit` provides utilities for interpreting JUnit result files for verification.

Creation

`JUnitService = slreq.verification.services.JUnit()` directs the result fetching logic to the XML file.

Output Arguments

`JUnitService` — Services used for XML files
character vector

Services used in `GetResultFcn` to script up result fetching logic

Methods

The output is `result` that is an instance of the `JUnitService` object. For the `resultFile` with `testID`, the `GetResultFcn` function returns the result for that `testID`:

```
result = JUnitService.getResult(testID, resultFile);
```

The `GetResultFcn` fetches the `result` for the `testID` with test points in the `resultFile` using:

```
result = JUnitService.getAllResults(resultFile);
```

Example

Service Usage in a `GetResultFcn` of Link Type

```
 function result = GetResultFcn(link)
    testID = link.destination.id;
    testFile = link.destination.artifact;
    resultFile = getResultFile(testFile);

    if ~isempty(resultFile) && isfile(resultFile)
        JUnitService = slreq.verification.services.JUnit();
        result = JUnitService.getResult(testID, resultFile);
    else
        result.status = slreq.verification.Status.Unknown;
    end
end
```

Version History

Introduced in R2020a

See Also

`slreq.Link` | "Link Type Properties"

3

Methods

add

Class: `slreq.Justification`
Package: `slreq`

Add child justification

Syntax

```
childJustification = add(jt)
childJustification = add(jt,PropertyName,
PropertyValue,...,PropertyNameN,PropertyValueN)
```

Description

`childJustification = add(jt)` adds a child justification to the justification object `jt`.

`childJustification = add(jt,PropertyName, PropertyValue,...,PropertyNameN,PropertyValueN)` adds a child justification with the additional properties specified by `PropertyName` and `PropertyValue`.

Input Arguments

`jt` — Justification
`slreq.Justification` object

Justification, specified as an `slreq.Justification` object.

`PropertyName` — Justification property name
string scalar | character vector

Justification property name, specified as an string scalar or a character vector.

For more information, see `slreq.Justification` properties on page 2-50.

`PropertyValue` — Justification property value
string scalar | character vector

Justification property value, specified as an string scalar or a character vector.

Output Arguments

`childJustification` — Requirement justification
`slreq.Justification` object

New child justification, returned as an `slreq.Justification` object.

Examples

Add a Child Justification Under a Justification

This example shows how to add a child justification under another justification.

Load a requirement set file called `My_Requirement_Set_1`.

```
rs = slreq.load('C:\MATLAB\My_Requirement_Set_1.slreqx');
```

Add a justification to the requirement set.

```
jt = addJustification(rs,"Id","J1",...
"Summary","Non-functional requirement justification");
```

Add a child justification to the justification `jt`.

```
childJt = add(just1,"Id","J1.1",...
"Summary","Justification for non-functional requirement")
```

```
childJust1 = 

  Justification with properties:

              Id: 'J1.1'
         Summary: 'Justification for non-functional requirement'
     Description: ''
        Keywords: [0×0 char]
       Rationale: ''
       CreatedOn: 25-Aug-2017 11:21:29
       CreatedBy: 'John Doe'
      ModifiedBy: 'Jane Doe'
             SID: 11
    FileRevision: 2
      ModifiedOn: 25-Aug-2017 14:00:29
           Dirty: 0
        Comments: [0×0 struct]
```

Tips

- To add a top-level requirement to a requirement set, use `slreq.ReqSet.add`. To add a requirement as a child of another requirement, use `slreq.Requirement.add`. To add a referenced requirement as a child of another referenced requirement, use `slreq.Requirement.add`.

Version History

Introduced in R2018b

See Also

`slreq.Justification` | `slreq.ReqSet.add` | `slreq.Requirement.add` | `slreq.Requirement.add` | `children` | `remove`

addComment

Class: `slreq.Justification`
Package: `slreq`

Add comments to justifications

Syntax

```
newComment = addComment(jt,myComment)
```

Description

`newComment = addComment(jt,myComment)` adds a comment, `myComment`, to the justification `jt`.

Input Arguments

`jt` — Justification
`slreq.Justification` object

Justification, specified as an `slreq.Justification` object.

`myComment` — Comment text
string scalar | character vector

Comment text to add to the requirement, specified as a string scalar or character vector.

Output Arguments

`newComment` — Comment
`struct`

Comment added, returned as a structure containing these fields:

`CommentedBy` — Name of individual or organization who added comment
character vector

Name of the individual or organization who added the comment, returned as a character vector.

`CommentedOn` — Date that comment was added
`datetime`

Date that the comment was added, returned as a `datetime` object.

`CommentedRevision` — Comment revision number
`int32` object

Comment revision number, returned as an `int32` object.

`Text` — Comment text
character vector

Comment text, returned as a character vector.

Examples

Add Comments to Justifications

This example shows how to add comments to justifications.

Load the requirement set `crs_req_justs`.

```
rs = slreq.load("crs_req_justs");
```

Get a handle to the first justification in the requirement set.

```
jt = find(rs,Index=5);
```

Add a comment to the justification.

```
newComment = addComment(jt,"My new comment.");
```

Tips

- To add a comment to a requirement, use `slreq.Requirement.addComment`. To add a comment to a referenced requirement, use `slreq.Reference.addComment`.

Alternative Functionality

App

You can also add a comment by using the **Requirements Editor**. Select a justification and, in the right pane, under **Comments**, click **Add Comment**.

Version History

Introduced in R2018b

See Also

`slreq.Justification` | `getAttribute`

children

Class: slreq.Justification
Package: slreq

Find children justifications

Syntax

```
childJusts = children(jt)
```

Description

childJusts = children(jt) returns the child justifications childJusts of the slreq.Justification object jt.

Input Arguments

jt — Justification object

slreq.Justification object

Justification, specified as an slreq.Justification object.

Output Arguments

childJusts — Child justifications

slreq.Justification object | slreq.Justification object array

The child justifications belonging to the justification jt, returned as slreq.Justification objects.

Examples

Find Child Justifications

```
% Load a requirement set file and find justification objects
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
allJusts = find(rs, 'Type', 'Justification')

allJusts = 

  1×20 Justification array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments

jt1 = allJusts(1);

% Find the children of jt1
childJusts = children(jt1)

childJusts = 

   1×10 Justification array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
```

Tips

- To get the top-level items in a requirement set, use `slreq.ReqSet.children`. To get the child requirements of a requirement use `slreq.Requirement.children`. To get the child referenced requirements of a referenced requirement, use `slreq.Reference.children`.

Version History

Introduced in R2018b

See Also

`slreq.Justification` | `add` | `slreq.ReqSet.children` | `slreq.Requirement.children` | `slreq.Reference.children` | `parent`

copy

Class: `slreq.Justification`
Package: `slreq`

Copy and paste justification

Syntax

```
tf = copy(just1,location,just2)
```

Description

`tf = copy(just1,location,just2)` copies justification `just1` and pastes it under, before, or after justification `just2` depending on the location specified by `location`. The function returns `1` if the copy and paste is executed.

Note If you copy a justification and paste it within the same requirement set, the copied justification retains the same custom attribute values as the original. If the justification is pasted into a different requirement set, the copied justification does not retain the custom attribute values.

Input Arguments

`just1` — Justification to copy

`slreq.Justification` object

Justification to copy, specified as an `slreq.Justification` object.

`location` — Justification paste location

`'under'` | `'before'` | `'after'`

Paste location, specified as `'under'`, `'before'`, or `'after'`.

`just2` — Justification to paste original justification near

`slreq.Justification` object

Justification to paste original justification near, specified as an `slreq.Justification` object.

Output Arguments

`tf` — Paste success status

`0` | `1`

Paste success status, returned as a `0` or `1` of data type `logical`.

ExamplesCopy and Paste a Justification

This example shows how to copy a justification and paste it under, before, or after another justification.

Load the `crs_req_justs` requirement file, which describes a cruise control system, and assign it to a variable. Find two justifications by index. The first justification will be copied and pasted in relation to the second justification.

```
rs = slreq.load('crs_req_justs');
jt1 = find(rs,'Type','Justification','Index','5.1');
jt2 = find(rs,'Type','Justification','Index','5.2');
```

Paste Under a Justification

Copy and paste the first justification, `jt1`, under the second justification, `jt2`. The first justification becomes the last child justification of `jt2`, which you can verify by finding the children of `jt2` and comparing the summary of the last child and `jt1`.

```
tf = copy(jt1,'under',jt2);
childJusts = children(jt2);
lastChild = childJusts(numel(childJusts));
lastChild.Summary
```

```
ans = 
'Non-functional requirement'
```

```
jt1.Summary
```

```
ans = 
'Non-functional requirement'
```

Paste Before a Justification

Copy and paste the first justification, `jt1`, before the second justification, `jt2`. Confirm that the justification was pasted before `jt2` by checking the index and summary. The old index of `jt2` was `5.2`. The index of the pasted justification should be `5.2` and the index of `jt2` should be `5.3`.

```
tf = copy(jt1,'before',jt2);
pastedJust1 = find(rs,'Type','Justification','Index','5.2');
pastedJust1.Summary
```

```
ans = 
'Non-functional requirement'
```

```
jt2.Index
```

```
ans = 
'5.3'
```

Paste After a Justification

Copy and paste the first justification, `jt1`, after the second justification, `jt2`. Confirm that the justification was pasted after `jt2` by checking the index. The index of `jt2` is `5.3` and should not change, which means the index of the pasted justification should be `5.4`.

```
tf = copy(jt1,'after',jt2);
pastedJust2 = find(rs,'Type','Justification','Index','5.4');
pastedJust2.Summary
```

```
ans =
'Non-functional requirement'
```

```
jt2.Index
```

```
ans =
'5.3'
```

Cleanup

Clear the open requirement set and link sets, and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

`move` | `moveDown` | `moveUp` | `slreq.Justification`

demote

Class: `slreq.Justification`
Package: `slreq`

Demote justifications

Syntax

`demote(jt)`

Description

`demote(jt)` demotes the `slreq.Justification` object `jt` down one level in the hierarchy.

Input Arguments

`jt` — Justification object

`slreq.Justification` object

Justification, specified as an `slreq.Justification` object.

Examples

Demote a Justification

```
% Load a requirement set file and find justification objects
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');

allJusts = find(rs, 'Type', 'Justification')

allJusts = 

  1×20 Justification array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments

jt1 = allJusts(1);

% Find the children of jt1
```

```
childJusts = children(jt1)

childJusts = 

   1×10 Justification array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments

% Demote the first child of jt1
demotedJustification = demote(childJusts(1));

% Find the parent of demotedJustification
parentJustification = parent(demotedJustification)

parentJustification = 

    Justification with properties:

              Id: 'J1.1'
         Summary: 'Justifications'
     Description: ''
        Keywords: [0×0 char]
       Rationale: ''
       CreatedOn: 27-Feb-2014 10:15:38
       CreatedBy: 'Jane Doe'
      ModifiedBy: 'John Doe'
             SID: 34
    FileRevision: 21
      ModifiedOn: 02-Aug-2017 13:49:40
           Dirty: 1
        Comments: [0×0 struct]
```

Version History

Introduced in R2018b

See Also

promote | children | parent

find

Class: slreq.Justification
Package: slreq

Find children of parent justification

Syntax

```
childJusts = find(jt,'PropertyName1',PropertyValue1,...,'PropertyNameN',
PropertyValueN)
```

Description

`childJusts = find(jt,'PropertyName1',PropertyValue1,...,'PropertyNameN', PropertyValueN)` finds and returns child justifications `childJusts` of the parent justification `jt` that match the properties specified by `PropertyName` and `PropertyValue`.

Input Arguments

`jt` — Justification

`slreq.Justification` object

Justification, specified as an `slreq.Justification` object.

`PropertyName` — Justification property

character vector

Justification property name, specified as a character vector. See the valid property names in the properties section of `slreq.Justification`.

Example: `'Type'`,`'Keywords'`,`'SID'`

`PropertyValue` — Justification property value

character vector | character array | `datetime` value | scalar | `logical` | structure array

Justification property value, specified as a character vector, character array, `datetime` value, scalar, `logical`, or structure array. The data type depends on the specified `propertyName`. See the valid property values in the properties section of `slreq.Justification`.

Output Arguments

`childJusts` — Child justifications

`slreq.Justification` object | `slreq.Justification` object array

Child justifications, returned as `slreq.Justification` objects.

Examples

Find Child Justifications

This example shows how to find child justifications that match property values.

Load the crs_req_justs requirement file, which describes a cruise control system, and assign it to a variable. Find the justification with index 5, as this justification has child justifications.

```
rs = slreq.load('crs_req_justs');
parentReq = find(rs,'Type','Justification','Index','5');
```

Find all the child justifications of parentReq that were modified in revision 1.

```
childReqs1 = find(parentReq,'FileRevision',1)
```

```
childReqs1=1×6 object
  1x6 Justification array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    IndexEnabled
    IndexNumber
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
    Index
```

Find all the child justifications of parentReq that were modified in revision 1 and whose summary says Non-functional requirement.

```
childReqs2 = find(parentReq,'FileRevision',1,'Summary','Non-functional requirement')
```

```
childReqs2 = 
  Justification with properties:

              Id: '#72'
         Summary: 'Non-functional requirement'
     Description: '<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN" "http://www.w3.org/TR/REC-ht
        Keywords: {}
       Rationale: ''
       CreatedOn: 27-Feb-2017 10:34:22
       CreatedBy: 'itoy'
      ModifiedBy: 'asriram'
    IndexEnabled: 1
     IndexNumber: []
             SID: 72
    FileRevision: 1
      ModifiedOn: 03-Aug-2017 17:14:44
           Dirty: 0
        Comments: [0x0 struct]
```

```
            Index: '5.1'
```

Cleanup

Clear the open requirement sets and link sets, and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2018b

See Also

`slreq.find` | `slreq.ReqSet` | `slreq.Justification`

getAttribute

Class: slreq.Justification
Package: slreq

Get justification attributes

Syntax

```
val = getAttribute(jt, propertyName)
```

Description

val = getAttribute(jt, propertyName) gets a justification property propertyName of the justification jt.

Input Arguments

jt — Justification object

slreq.Justification object

Justification, specified as an slreq.Justification object.

propertyName — Justification property

character vector

Justification property name.

Example: 'SID', 'CreatedOn', 'Summary'

Examples

Get Justification Attributes

```
% Load a requirement set file and get the handle to one justification
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
jt1 = find(rs, 'Type', 'Justification', 'ID', 'J3.5');

% Get the Summary of jt1
summaryJt1 = getAttribute(jt1, 'Summary')

summaryJt1 =

  'Requirement Justification'
```

Version History

Introduced in R2018b

See Also

`setAttribute`

isFilteredIn

Class: slreq.Justification
Package: slreq

Check filtered justifications

Syntax

```
tf = isFilteredIn(jt)
```

Description

tf = isFilteredIn(jt) checks if the justification, jt, is filtered in the **Requirements Editor** or Requirements Perspective and returns 1 if the justification is not filtered and 0 if the justification is filtered.

Input Arguments

jt — Justification
slreq.Justification object

Justification, specified as an slreq.Justification object.

Examples

Check for Filtered Justifications

This example shows how to check if a justification is filtered.

Load the crs_req_justs requirement set.

```
rs = slreq.open("crs_req_justs");
```

Find the justification with Index set to 5.

```
jt = find(rs,Index=5);
```

Check if the justification is filtered.

```
tf = isFilteredIn(jt)
```

```
tf = logical
   1
```

Create a filter called ContainerReqs. Use the ReqFilter property to define a filter that displays only requirements with Type set to Container.

```
myView = slreq.View.create("ContainerReqs");
myView.ReqFilter = "{'ReqType','Container'};"
```

```
myView = 
  View with properties:

          Name: 'ContainerReqs'
     ReqFilter: "{'ReqType','Container'};"
    LinkFilter: ''
          Host: ''
```

Apply the filter, then check if the justification is filtered.

```
activate(myView)
tf = isFilteredIn(jt)
```

```
tf = logical
   0
```

Clear the loaded requirement sets and close the **Requirements Editor.**

```
slreq.clear;
```

Tips

- To check if a requirement is filtered, use `slreq.Requirement.isFilteredIn`. To check if a referenced requirement is filtered, use `slreq.Reference.isFilteredIn`. To check if a link is filtered, use `slreq.Link.isFilteredIn`.

Version History

Introduced in R2022b

See Also

Apps

Requirements Editor

Classes

`slreq.Justification`

Objects

`slreq.View`

Topics

“Filter Requirements and Links in the Requirements Editor”

isHierarchical

Class: `slreq.Justification`
Package: `slreq`

Check if justification is hierarchical

Syntax

```
tf = isHierarchical(jt)
```

Description

`tf = isHierarchical(jt)` checks if the `slreq.Justification` object `jt` is part of a hierarchy of justifications and returns the Boolean `tf`.

Input Arguments

`jt` — Justification object

`slreq.Justification` object

Justification, specified as an `slreq.Justification` object.

Output Arguments

`tf` — Hierarchical justification status

`true` | `false`

The hierarchical justification status of the `slreq.Justification` object, returned as a Boolean.

Examples

Query Hierarchical Justification Status

```
% Load a requirement set file and find justification objects
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');

allJusts = find(rs, 'Type', 'Justification')

allJusts = 

  1×9 Justification array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments

% Check if the first justification in allJusts is hierarchically justified
tf = isHierarchical(allJusts(1))

tf =

  logical

   0
```

Version History

Introduced in R2018b

See Also

setHierarchical | children

move

Class: `slreq.Justification`
Package: `slreq`

Move justification in hierarchy

Syntax

```
tf = move(jt1,location,jt2)
```

Description

`tf = move(jt1,location,jt2)` moves justification `jt1` under, before, or after justification `jt2` depending on the location specified by `location`. The function returns `1` if the move is executed without error.

Input Arguments

`jt1` — Justification to move

`slreq.Justification` object

Justification to move, specified as an `slreq.Justification` object.

`location` — Justification move location

`'under'` | `'before'` | `'after'`

Justification move location, specified as `'under'`, `'before'`, or `'after'`.

`jt2` — Justification

`slreq.Justification` object

Justification, specified as an `slreq.Justification` object.

Output Arguments

`tf` — Paste success status

`0` | `1`

Paste success status, returned as a `0` or `1` of data type `logical`.

Examples

Move a Justification

This example shows how to move a justification under, before, or after another justification.

Load the `crs_req_justs`requirement file, which describes a cruise control system, and assign it to a variable. Find two justifications by index. The first justification will be moved in relation to the second justification.

```
rs = slreq.load('crs_req_justs');
jt1 = find(rs,'Type','Justification','Index','5.1');
jt2 = find(rs,'Type','Justification','Index','5.2');
```

Move Under a Justification

Move the first justification, `jt1`, under the second justification, `jt2`. The first justification becomes the last child justification of justification `jt2`, and `jt2` moves up one in the hierarchy, which you can verify by checking the index of `jt1` and `jt2`. The old indices of `jt1` and `jt2` were `5.1` and `5.2`, respectively.

```
tf = move(jt1,'under',jt2);
jt1.Index
```

```
ans = 
'5.1.3'
```

```
jt2.Index
```

```
ans = 
'5.1'
```

Move Before a Justification

Move the first justification, `jt1`, before the second justification, `jt2`. Confirm that the justification was moved correctly by checking the indices of `jt1` and `jt2`. The indices of `jt1` and `jt2` are now the same as they were originally: `5.1` and `5.2`, respectively.

```
tf = move(jt1,'before',jt2);
jt1.Index
```

```
ans = 
'5.1'
```

```
jt2.Index
```

```
ans = 
'5.2'
```

Move After a Justification

Move the first justification, `jt1`, after the second justification, `jt2`. When you move justification `jt1` down in the hierarchy, justification `jt2` also moves up, which you can verify by checking the indices of `jt1` and `jt2`.

```
tf = move(jt1,'after',jt2);
jt1.Index
```

```
ans = 
'5.2'
```

```
jt2.Index
```

```
ans = 
'5.1'
```

Cleanup

Clear the open requirement sets and link sets, and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

moveDown | copy | moveUp | slreq.Justification

moveDown

Class: `slreq.Justification`
Package: `slreq`

Move justification down in hierarchy

Syntax

```
tf = moveDown(jt)
```

Description

`tf = moveDown(jt)` moves the justification `jt` down one spot in the hierarchy, and returns `1` if the move is executed without error. The justification `jt` cannot be moved to a new level in the hierarchy.

Input Arguments

`jt` — Justification
`slreq.Justification`

Justification, specified as an `slreq.Justification` object.

Output Arguments

`tf` — Paste success status
`0 | 1`

Paste success status, returned as a `0` or `1` of data type `logical`.

Examples

Move a Justification Down

This example shows how to move a justification down in the hierarchy.

Load the `crs_req_justs` requirement file, which describes a cruise control system, and assign it to a variable. Find the justification with index `5.3`.

```
rs = slreq.load('crs_req_justs');
jt1 = find(rs,'Type','Justification','Index','5.3');
```

Move the justification down one spot in the hierarchy. Confirm the move by checking the success status, `tf1`, and the index.

```
tf1 = moveDown(jt1)
```

```
tf1 = logical
   1
```

```
jt1.Index
```

```
ans = 
'5.4'
```

Find the justification with index `5.2.2`. This justification is already at the bottom of its level in the hierarchy and cannot be moved down further, which you can verify by trying to move it down. Confirm that the move failed by checking the success status, `tf2`, and the index.

```
jt2 = find(rs,'Type','Justification','Index','5.2.2');
tf2 = moveDown(jt2)
```

```
tf2 = logical
   0
```

```
jt2.Index
```

```
ans = 
'5.2.2'
```

Cleanup

Clear the open requirement sets and link sets, and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

`move` | `copy` | `moveUp` | `slreq.Justification`

moveUp

Class: `slreq.Justification`
Package: `slreq`

Move justification up in hierarchy

Syntax

```
tf = moveUp(jt)
```

Description

`tf = moveUp(jt)` moves the justification `jt` up one spot in the hierarchy, and returns `1` if the move executes without error. The justification `jt` cannot be moved to a new level in the hierarchy.

Input Arguments

`jt` — Justification
`slreq.Justification`

Justification, specified as an `slreq.Justification` object.

Output Arguments

`tf` — Paste success status
`0 | 1`

Paste success status, returned as a `0` or `1` of data type `logical`.

Examples

Move a Justification Up

This example shows how to move a justification up in the hierarchy.

Load the `crs_req_justs` requirement file, which describes a cruise control system, and assign it to a variable. Find the justification with index `5.3`.

```
rs = slreq.load('crs_req_justs');
jt1 = find(rs,'Type','Justification','Index','5.3');
```

Move the justification up one spot in the hierarchy. Confirm the move by checking the success status, `tf1`, and the index.

```
tf1 = moveUp(jt1)
```

```
tf1 = logical
   1
```

```
jt1.Index

ans = 
'5.2'
```

Find the justification with index `5.1`. This justification is already at the top of its level in the hierarchy and cannot be moved up further, which you can verify by trying to move it up. Confirm that the move failed by checking the success status, `tf2`, and the index.

```
jt2 = find(rs,'Type','Justification','Index','5.1');
tf2 = moveUp(jt2)

tf2 = logical
   0

jt2.Index

ans = 
'5.1'
```

Cleanup

Clear the open requirement sets and link sets, and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

`moveDown` | `copy` | `move` | `slreq.Justification`

outLinks

Get outgoing links for justifications

Syntax

```
myLinks = outLinks(jt)
```

Description

`myLinks = outLinks(jt)` returns the outgoing links for the justification `jt`.

Input Arguments

`jt` — Justification
`slreq.Justification` object

Justification, specified as an `slreq.Justification` object.

Output Arguments

`myLinks` — Outgoing links
`slreq.Link` array

Outgoing links for the justification, returned as an `slreq.Link` array.

Examples

Get Outgoing Links for Justifications

This example shows how to get outgoing links for justifications.

Load the requirement set `crs_req_justs`.

```
rs = slreq.load("crs_req_justs");
```

Find the justification with `Index` set to `5.2`.

```
jt = find(rs,Index=5.2);
```

Get the outgoing links for the justification.

```
myLinks = outLinks(jt);
```

Tips

- To get the outgoing links for a requirement, use `slreq.Requirement.outLinks`. To get the outgoing links for a referenced requirement, use `slreq.Reference.outLinks`.

- The links for justification objects are always outgoing.

Alternative Functionality

App

You can also use the **Requirements Editor** to view outgoing links. Select a justification. In the right pane, under **Links**, the outgoing links icon ⇨ indicates outgoing links.

Version History

Introduced in R2018b

See Also

`slreq.Justification` | `slreq.Link`

parent

Class: `slreq.Justification`
Package: `slreq`

Find parent item of justification

Syntax

```
parentObj = parent(jt)
```

Description

`parentObj = parent(jt)` returns the parent object `parentObj` of the `slreq.Justification` object `jt`.

Input Arguments

`jt` — Justification object

`slreq.Justification` object

Justification, specified as an `slreq.Justification` object.

Output Arguments

`parentObj` — Parent object

`slreq.Justification` object | `slreq.ReqSet` object

The parent of the justification `jt`, returned as an `slreq.Justification` object or as an `slreq.ReqSet` object.

Examples

Find Parent Justification

```
% Load a requirement set file and find justification objects
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
myJustifications = find(rs, 'Type', 'Justification')

myJustifications = 

  1×13 Justification array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments

% Find the parent of the first justification object
parentJust1 = parent(myJustifications(1))

parentJust1 =

  ReqSet with properties:

             Description: ''
                    Name: 'My_Requirements_Set_1'
                Filename: 'C:\MATLAB\My_Requirements_Set_1.slreqx'
                Revision: 6
                   Dirty: 1
    CustomAttributeNames: {}

% Find the parent of the third justification object
parentJust3 = parent(myJustifications(3))

parentJust3 =

  Justification with properties:

              Id: 'J1'
         Summary: 'Justifications'
     Description: ''
        Keywords: [0×0 char]
       Rationale: ''
       CreatedOn: 27-Feb-2014 10:15:38
       CreatedBy: 'Jane Doe'
      ModifiedBy: 'John Doe'
             SID: 35
    FileRevision: 11
      ModifiedOn: 02-Aug-2017 13:49:40
           Dirty: 1
        Comments: [0×0 struct]
```

Version History

Introduced in R2018b

See Also

children | demote | promote

promote

Class: `slreq.Justification`
Package: `slreq`

Promote justifications

Syntax

`promote(jt)`

Description

`promote(jt)` promotes the `slreq.Justification` object `jt` up one level in the hierarchy.

Input Arguments

`jt` — Justification object

`slreq.Justification` object

Justification, specified as an `slreq.Justification` object.

Examples

Promote a Justification

```
% Load a requirement set file and find justification objects
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');

allJusts = find(rs, 'Type', 'Justification')

allJusts =

  1×20 Justification array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments

jt1 = allJusts(1);

% Find the children of jt1
```

```
childJusts = children(jt1)

childJusts = 

   1×10 Justification array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments

% Promote the first child of jt1
promote(childJusts(1));

% Find the parent of childJusts(1)
parentJustification = parent(childJusts(1))

parentJustification = 

  ReqSet with properties:

              Description: ''
                     Name: 'My_Requirements_Set_1'
                 Filename: 'C:\MATLAB\My_Requirements_Set_1.slreqx'
                 Revision: 81
                    Dirty: 1
    CustomAttributeNames: {}
```

Version History

Introduced in R2018b

See Also

demote | children | parent

remove

Class: `slreq.Justification`
Package: `slreq`

Remove justification items

Syntax

```
count = remove(jt, 'PropertyName', PropertyValue)
```

Description

`count = remove(jt, 'PropertyName', PropertyValue)` removes child justification items belonging to the parent justification `jt` with additional properties specified by `PropertyName` and `PropertyValue`. Returns the number of items removed as `count`.

Input Arguments

`jt` — Parent justification object

`slreq.Justification` object

Parent justification, specified as an `slreq.Justification` object.

Output Arguments

`count` — Removed justification count

`double`

Number of justification items removed, returned as a double.

Examples

Remove Justification Items

Load a requirement set file.

```
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
```

Find justification objects in the requirement set.

```
myJustifications = find(rs, 'Type', 'Justification')
```

```
myJustifications = 

  1×10 Justification array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
```

Remove one of the justification objects that was created by Jane Doe.

```
count = remove(myJustifications(1), 'CreatedBy', 'Jane Doe')
```

```
count =

  1
```

Version History

Introduced in R2018b

See Also

add

reqSet

Class: slreq.Justification
Package: slreq

Return parent requirement set

Syntax

```
rsout = reqSet(jt)
```

Description

rsout = reqSet(jt) returns the parent requirement set rsout. The justification jt belongs to rsout.

Input Arguments

jt — Justification object
slreq.Justification object

Justification, specified as an slreq.Justification object.

Output Arguments

rsout — Parent requirement set
slreq.ReqSet object

The parent requirement set of the justification jt, returned as an slreq.ReqSet object.

Examples

Query Requirement Set Information

```
% Load a new requirement set file and select one justification
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
allJustifications = find(rs, 'Type', 'Justification');
jt = allJustifications(1);

% Query which requirement set jt belongs to
reqSet(jt)

ans = 

  ReqSet with properties:

             Description: ''
                    Name: 'My_Requirements_Set_1'
                Filename: 'C:\MATLAB\My_Requirements_Set_1.slreqx'
                Revision: 65
                   Dirty: 0
```

```
    CustomAttributeNames: {}
               CreatedBy: 'John Doe'
               CreatedOn: 17-Dec-2016 10:02:30
              ModifiedBy: 'Jane Doe'
              ModifiedOn: 01-May-2016 11:20:21
```

Version History

Introduced in R2018b

See Also

parent | promote

setAttribute

Class: `slreq.Justification`
Package: `slreq`

Set justification attributes

Syntax

`setAttribute(jt, propertyName, propertyValue)`

Description

`setAttribute(jt, propertyName, propertyValue)` sets a justification property.

Input Arguments

`jt` — Justification object
`slreq.Justification` object

Justification, specified as an `slreq.Justification` object.

`propertyName` — Justification property
character vector

Justification property name.

Example: `'SID', 'CreatedOn', 'Summary'`

`propertyValue` — Justification property value
character vector

Justification property value.

Example: `'Test Justification', 'J4.5.4'`

Examples

Set Justification Attributes

```
% Load a requirement set file and get the handle to one justification
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
jt1 = find(rs, 'Type', 'Justification', 'ID', 'J2.1');

% Set the Summary of req1
setAttribute(jt1, 'Summary', 'Controller Requirement Justification');

jt1

jt1 = 

  Justification with properties:
```

```
           Id: 'J2.1'
      Summary: 'Controller Requirement Justification'
  Description: ''
     Keywords: [0×0 char]
    Rationale: ''
    CreatedOn: 27-Feb-2014 10:15:38
    CreatedBy: 'Jane Doe'
   ModifiedBy: 'John Doe'
          SID: 37
 FileRevision: 25
   ModifiedOn: 02-Aug-2017 13:49:40
        Dirty: 1
     Comments: [0×0 struct]
```

Version History

Introduced in R2018b

See Also

`getAttribute`

setHierarchical

Class: slreq.Justification
Package: slreq

Change hierarchical justification status

Syntax

```
setHierarchical(jt, tf)
```

Description

`setHierarchical(jt, tf)` changes the hierarchical justification status of the `slreq.Justification` object `jt` as specified by the Boolean `tf`.

Input Arguments

`jt` — Justification object

`slreq.Justification` object

Justification, specified as an `slreq.Justification` object.

`tf` — Hierarchical justification status flag

`true` | `false`

The hierarchical justification status of the `slreq.Justification` object, specified as a Boolean.

Examples

Change Hierarchical Justification Status

```
% Load a requirement set file and find justification objects
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');

allJusts = find(rs, 'Type', 'Justification')

allJusts = 

  1×10 Justification array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments

% Check if the first justification in allJusts is hierarchically justified
tf = isHierarchical(allJusts(1))

tf =

  logical

   0

% Change the first justification in allJusts to be hierarchically justified
setHierarchical(allJusts(1), true);
```

Version History

Introduced in R2018b

See Also

isHierarchical | parent

destination

Class: slreq.Link
Package: slreq

Get link destination

Syntax

```
dest = destination(myLink)
```

Description

`dest = destination(myLink)` returns the link destination of the link `myLink`.

Input Arguments

myLink — Link object

slreq.Link object

Link, specified as an `slreq.Link` object.

Output Arguments

dest — Link destination

struct

Link destination, returned as a MATLAB structure that contains these fields:

- `domain`
- `artifact`
- `id`
- `summary`
- `reqSet`
- `sid`

Examples

Get a Link Destination

This example shows how to get a link destination from a link object.

Load the `crs_req` requirement files, which contain links for a cruise control system.

```
slreq.load("crs_req");
slreq.load("crs_req_func_spec");
```

Find the `crs_req` link set.

```
myLinkSet = slreq.find(Type="LinkSet",Description="crs_req");
```

Get the links from the link set.

```
myLinks = getLinks(myLinkSet);
```

Get the link destination structure for one of the links.

```
dest = destination(myLinks(1));
```

Convert the link destination structure to an object.

```
destObj = slreq.structToObj(dest);
```

Tips

- You can use `slreq.structToObj` to convert the link destination structure to an object.

Version History

Introduced in R2018a

See Also

`source` | `slreq.Link` | `linkSet`

getAttribute

Class: `slreq.Link`
Package: `slreq`

Get link property values

Syntax

```
val = getAttribute(myLink,propertyName)
```

Description

`val = getAttribute(myLink,propertyName)` returns the value of the link property, `propertyName`, for the link `myLink`. The property can be a built-in property, a custom attribute, or a stereotype property.

Note To return the value of a stereotype property, you must pass the fully qualified name of the property. For example, the fully qualified name for a property called `Status` in a stereotype called `myStereotype` in a profile called `myProfile` is `myProfile.myStereotype.Status`.

Input Arguments

`myLink` — Link
`slreq.Link` object

Link, specified as an `slreq.Link` object.

`propertyName` — Link property name
string scalar | character vector

Link property name, specified as a string scalar or character vector.

Example: `"Description"`

Output Arguments

`val` — Link property value
string scalar | character array | `boolean` | ...

Link property value, returned as a:

- String scalar
- Character array
- `boolean`
- `datetime`
- `single`

- double
- int8
- int16
- int32
- int64
- uint8
- uint16
- uint32
- uint64
- enumeration

The data type depends on the type of the built-in property, custom attribute, or stereotype property.

Examples

Get Link Attribute Value

This example shows how to get the attribute value of a specified custom attribute for a link.

Load the crs_req requirement files, which contain links for a cruise control system. Find the link set.

```
slreq.load('crs_req');
ls = slreq.find('Type','LinkSet');
```

Create a links array containing all the links from link set ls. Get one link from the array. Get the attribute value of the custom attribute called Target Speed Change, which tracks whether linked requirements are related to incrementing or decrementing the speed.

```
linksArray = find(ls);
myLink = linksArray(7);
val = getAttribute(myLink,'Target Speed Change')
```

```
val = 
'Decrement'
```

Cleanup

Clean up commands. Clear the open requirement sets and close the open models without saving the changes.

```
slreq.clear;
bdclose all;
```

Tips

- To get property values for requirements, use slreq.Requirement.getAttribute.

Version History

Introduced in R2020b

See Also

`slreq.Link` | `slreq.LinkSet` | `setAttribute`

Topics

“Customize Requirements and Links by Using Stereotypes”
“Manage Custom Attributes for Links by Using the Requirements Toolbox API”

isFilteredIn

Class: slreq.Link
Package: slreq

Check filtered links

Syntax

```
tf = isFilteredIn(myLink)
```

Description

tf = isFilteredIn(myLink) checks if the link, myLink, is filtered in the **Requirements Editor** or Requirements Perspective and returns 1 if the link is not filtered and 0 if the link is filtered.

Input Arguments

myLink — Link
slreq.Link object

Link, specified as an slreq.Link object.

Examples

Check for Filtered Links

This example shows how to check if a link is filtered.

Load the myAddRequirements requirement set, which also loads the myAdd link set.

```
rs = slreq.open("myAddRequirements");
```

Find the myAdd link set.

```
ls = slreq.find(Type="LinkSet",Description="myAdd");
```

Get the first link in the link set.

```
linksArray = getLinks(ls);
myLink = linksArray(1);
```

Check if the link is filtered.

```
tf = isFilteredIn(myLink)
```

```
tf = logical
   1
```

Create a filter called ImplementLinks. Use the LinkFilter property to define a filter that displays only links with Type set to Implement.

```
myView = slreq.View.create("ImplementLinks");
myView.LinkFilter = "{'LinkType','Implement'};"
```

```
myView = 
  View with properties:

          Name: 'ImplementLinks'
     ReqFilter: ''
    LinkFilter: "{'LinkType','Implement'};"
          Host: ''
```

Apply the filter, then check if the link is filtered.

```
activate(myView)
tf = isFilteredIn(myLink)
```

```
tf = logical
   0
```

Clear the loaded requirement sets and link sets and close the **Requirements Editor.**

```
slreq.clear;
```

Tips

- To check if a requirement is filtered, use `slreq.Requirement.isFilteredIn`. To check if a referenced requirement is filtered, use `slreq.Reference.isFilteredIn`. To check if a justification is filtered, use `slreq.Justification.isFilteredIn`.

Version History

Introduced in R2022b

See Also

Apps

Requirements Editor

Classes

`slreq.Link`

Objects

`slreq.View`

Topics

“Filter Requirements and Links in the Requirements Editor”

isResolved

Class: `slreq.Link`
Package: `slreq`

Check if the link is resolved

Syntax

```
tf = isResolved(myLink)
```

Description

`tf = isResolved(myLink)` checks if the link `myLink` is resolved.

An unresolved link has a source item or destination item that is not available. The source or destination items can be unavailable because:

- The artifact that contains the source or destination item is not loaded.

  For example, if you load a requirement set that has incoming links from a Simulink model, this also loads the link set that belongs to the model. However, if you do not load the Simulink model, the links are unresolved.
- The artifact is loaded, but the specified ID does not exist. Links with invalid IDs are called broken links.

  For example, if you delete a linked requirement, the link becomes unresolved because the stored ID no longer corresponds to a valid item.

For more information, see “Load and Resolve Links”.

Input Arguments

`myLink` — Link object

`slreq.Link` object

Handle to a link, specified as an `slreq.Link` object.

Output Arguments

`tf` — Link resolution status

`0` | `1`

The resolution status of the `slreq.Link` object, returned as a Boolean.

Examples

Check if Link is Resolved

```
isResolvedDestination(myLink)
```

```
ans =

  logical

   1

isResolvedSource(myLink)

ans =

  logical

   0

isResolved(myLink)

ans =

  logical

   0
```

Version History

Introduced in R2019a

See Also

`isResolvedDestination` | `isResolvedSource` | `setSource` | `setDestination`

Topics

“Load and Resolve Links”

isResolvedDestination

Class: `slreq.Link`
Package: `slreq`

Check if the link destination is resolved

Syntax

```
tf = isResolvedDestination(myLink)
```

Description

`tf = isResolvedDestination(myLink)` checks if the destination of the link `myLink` is resolved.

An unresolved link has a source item or destination item that is not available. The source or destination items can be unavailable because:

- The artifact that contains the source or destination item is not loaded.

  For example, if you load a requirement set that has incoming links from a Simulink model, this also loads the link set that belongs to the model. However, if you do not load the Simulink model, the links are unresolved.
- The artifact is loaded, but the specified ID does not exist. Links with invalid IDs are called broken links.

  For example, if you delete a linked requirement, the link becomes unresolved because the stored ID no longer corresponds to a valid item.

For more information, see “Load and Resolve Links”.

Input Arguments

`myLink` — Link object

`slreq.Link` object

Handle to a link, specified as an `slreq.Link` object.

Output Arguments

`tf` — Link destination resolution status

`0` | `1`

The destination resolution status of the `slreq.Link` object, returned as a Boolean.

Examples

Check if Link Destination is Resolved

```
isResolvedDestination(myLink)
```

```
ans =

  logical

   1
```

Version History

Introduced in R2019a

See Also

`isResolved` | `isResolvedSource` | `setDestination`

Topics

“Load and Resolve Links”

isResolvedSource

Class: `slreq.Link`
Package: `slreq`

Check if the link source is resolved

Syntax

```
tf = isResolvedSource(myLink)
```

Description

`tf = isResolvedSource(myLink)` checks if the source of the link `myLink` is resolved.

An unresolved link has a source item or destination item that is not available. The source or destination items can be unavailable because:

- The artifact that contains the source or destination item is not loaded.

  For example, if you load a requirement set that has incoming links from a Simulink model, this also loads the link set that belongs to the model. However, if you do not load the Simulink model, the links are unresolved.
- The artifact is loaded, but the specified ID does not exist. Links with invalid IDs are called broken links.

  For example, if you delete a linked requirement, the link becomes unresolved because the stored ID no longer corresponds to a valid item.

For more information, see "Load and Resolve Links".

Input Arguments

`myLink` — Link object

`slreq.Link` object

Handle to a link, specified as an `slreq.Link` object.

Output Arguments

`tf` — Link source resolution status

`0` | `1`

The source resolution status of the `slreq.Link` object, returned as a Boolean.

Examples

Check if Link Source is Resolved

```
isResolved(myLink)
```

```
ans =

  logical

   0
```

Version History

Introduced in R2019a

See Also

`isResolved` | `isResolvedDestination` | `setSource`

Topics

"Load and Resolve Links"

linkSet

Class: slreq.Link
Package: slreq

Return parent link set

Syntax

```
lks = linkSet(myLink)
```

Description

`lks = linkSet(myLink)` returns the parent link set `lks` to which the link `myLink` belongs.

Input Arguments

myLink — Link object
slreq.Link object

Link, specified as an `slreq.Link` object.

Output Arguments

lks — Parent link set
slreq.LinkSet object

Parent link set of the link `myLink`, returned as an `slreq.LinkSet` object.

Examples

Query Link Set Information

```
% Load a requirement set file and select one requirement
rs = slreq.load('C:\MATLAB\My_Req_Set.slreqx');
allReqs = find(rs, 'Type', 'Requirement');
req = allReqs(1);

% Find the incoming links that belong to req
allInLinks = inLinks(req);

% Query link set information
myParentLinkSet = linkSet(allInLinks)

myParentLinkSet = 

  LinkSet with properties:

    Description: ''
       Filename: 'model_controller.slmx'
       Artifact: 'model_controller.slx'
```

```
      Domain: 'linktype_rmi_simulink'
    Revision: 4
       Dirty: 0
```

Version History

Introduced in R2018a

See Also

slreq.Link | source | destination

remove

Class: `slreq.Link`
Package: `slreq`

Delete links

Syntax

`remove(myLink)`

Description

`remove(myLink)` deletes the link `myLink`.

Input Arguments

`myLink` — Link to delete
`slreq.Link` object

Link to delete, specified as an `slreq.Link` object.

Examples

Delete Link

```
% Delete a link myLink
```

```
remove(myLink);
```

Version History

Introduced in R2019a

See Also

`slreq.Link`

setAttribute

Class: `slreq.Link`
Package: `slreq`

Set link property values

Syntax

```
setAttribute(myLink,propertyName,propertyValue)
```

Description

`setAttribute(myLink,propertyName,propertyValue)` sets a link property, `propertyName`, to the value specified by `propertyValue`for the link `myLink`. The property can be a built-in property, a custom attribute, or a stereotype property.

Note To set the value of a stereotype property, you must pass the fully qualified name of the property. For example, the fully qualified name for a property called `Status` in a stereotype called `myStereotype` in a profile called `myProfile` is `myProfile.myStereotype.Status`.

Input Arguments

`myLink` — Link
`slreq.Link` object

Link, specified as an `slreq.Link` object.

`propertyName` — Link property name
string scalar | character vector

Link property name, specified as a string scalar or character vector.

Example: `"Description"`

`propertyValue` — Link property value
string scalar | character array | `boolean` | ...

Link property value, specified as a:

- String scalar
- Character array
- `boolean`
- `datetime`
- `single`
- `double`
- `int8`

- `int16`
- `int32`
- `int64`
- `uint8`
- `uint16`
- `uint32`
- `uint64`
- `enumeration`

The data type depends on the type of the built-in property, custom attribute, or stereotype property.

Examples

Set Link Attribute Value

This example shows how to set the attribute value of a specified custom attribute for a link.

Load the `crs_req` requirement files, which contain links for a cruise control system.

```
slreq.load('crs_req');
slreq.load('crs_req_func_spec');
```

Create a links array containing all links. Get one link from the array.

```
linksArray = slreq.find('Type','Link')
```

```
linksArray=1×12 object
  1x12 Link array with properties:

    Type
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedOn
    ModifiedBy
    Revision
    SID
    Comments
```

```
lk = linksArray(1);
```

Custom attribute `Target Speed Change`, tracks whether the linked requirements are related to incrementing or decrementing the speed, or not related at all. Set the value of `Target Speed Change` to `Unset` for your link. Then use `getAttribute` to confirm that the value was set correctly.

```
setAttribute(lk,'Target Speed Change','Unset');
value = getAttribute(lk,'Target Speed Change')
```

```
value =
'Unset'
```

Cleanup

Clean up commands. Clear the open requirement sets and close the open models without saving the changes.

```
slreq.clear;
bdclose all;
```

Tips

- To set property values for requirements, use `slreq.Requirement.setAttribute`.

Version History

Introduced in R2020b

See Also

`slreq.Link` | `slreq.LinkSet` | `getAttribute`

Topics

"Customize Requirements and Links by Using Stereotypes"
"Manage Custom Attributes for Links by Using the Requirements Toolbox API"

setDestination

Class: slreq.Link
Package: slreq

Set requirement link destination

Syntax

```
setDestination(myLink,dest)
```

Description

setDestination(myLink,dest) sets the link destination artifact dest for the slreq.Link object myLink.

Input Arguments

myLink — Link object

slreq.Link object

Handle to a link, specified as an slreq.Link object.

dest — Link destination

Requirements Toolbox linkable item

Artifact to serve as the link destination, specified as a Requirements Toolbox linkable item. See "Linkable Items".

Examples

Set Simulink Blocks as Link Destinations

```
% Set the Gain block in model myModel as the destination for link myLink
setDestination(myLink, 'myModel/Gain');
```

Set Simulink Test Objects as Link Destinations

```
% Create a Simulink Test test file, test suite, and a test case
myTestfile = sltest.testmanager.TestFile('my_test_file.mldatx');
myTestsuite = sltest.testmanager.TestSuite(myTestfile,'My Test Suite');
myTestcase = sltest.testmanager.TestCase(myTestsuite,'equivalence','Equivalence Test Case');

% Create a link from the test case to requirement myReq
myLink = slreq.createLink(req, myTestcase);

% Set the link destination to the test suite
setDestination(myLink, myTestsuite);
```

Set Stateflow Objects as Link Destinations

```
% Get Stateflow Root Handle
rt = sfroot;
```

```
% Find the state with the name 'Intermediate'
myState = rt.find('-isa', 'Stateflow.State', 'Name', 'Intermediate');

% Set the destination for link myLink to myState
setDestination(myLink, myState);
```

Set Simulink Data Dictionary Entries as Link Destinations

```
% Get handle to Simulink data dictionary entry
myDict = Simulink.data.dictionary.open('myDictionary.sldd');
dataSectObj = getSection(myDict,'Design Data');
myDictEntry = getEntry(dataSectObj,'myEntry');

% Set the destination for link myLink to myDictEntry
setDestination(myLink, myDictEntry);
```

Version History

Introduced in R2019b

See Also

`setSource`

setSource

Class: slreq.Link
Package: slreq

Set requirement link source

Syntax

```
setSource(myLink,src)
```

Description

`setSource(myLink,src)` sets the link source artifact `src` for the `slreq.Link` object `myLink`. You can set a link source only to a linkable artifact that belongs to the original link source artifact.

Input Arguments

`myLink` — Link object

slreq.Link object

Handle to a link, specified as an `slreq.Link` object.

`src` — Link source

Requirements Toolbox linkable artifact

Artifact to serve as the link source, specified as a Requirements Toolbox linkable artifact. See "Linkable Items".

Examples

Set Simulink Blocks as Link Sources

```
% Set the Gain block in model myModel as the source for link myLink
setSource(myLink, 'myModel/Gain');
```

Set Simulink Test Objects as Link Source

```
% Create a test file, test suite, and a test case
myTestfile = sltest.testmanager.TestFile('my_test_file.mldatx');
myTestsuite = sltest.testmanager.TestSuite(myTestfile,'My Test Suite');
myTestcase = sltest.testmanager.TestCase(myTestsuite,'equivalence','Equivalence Test Case');

% Create a link from the test case to requirement myReq
myLink = slreq.createLink(myTestcase, req);

% Set the link source to the test suite
setSource(myLink, myTestsuite);
```

Set Stateflow Objects as Link Sources

```
% Get Stateflow Root Handle
rt = sfroot;
```

```
% Find the state with the name 'Intermediate'
myState = rt.find('-isa', 'Stateflow.State', 'Name', 'Intermediate');

% Set the source for link myLink to myState
setSource(myLink, myState);
```

Set Simulink Data Dictionary Entries as Link Sources

```
% Get handle to Simulink data dictionary entry
myDict = Simulink.data.dictionary.open('myDictionary.sldd');
dataSectObj = getSection(myDict,'Design Data');
myDictEntry = getEntry(dataSectObj,'myEntry');

% Set the source for link myLink to myDictEntry
setSource(myLink, myDictEntry);
```

Change a Link Source to a Different Source Artifact

```
% Get destination of link link_1
dest = destination(link_1);

% Create a new link, link_2, with source newSrc and destination dest
link_2 = slreq.createLink(newSrc, dest);

% Copy link properties
link_2.Description = link_1.Description;
link_2.Rationale = link_1.Rationale;
link_2.Keywords = link_1.Keywords;
comments = link_1.Comments;
for i = 1:length(comments)
  link_2.addComment(comments(i).Text);
end

% Delete link_1
remove(link_1);
```

Version History

Introduced in R2019b

See Also

`setDestination`

source

Class: `slreq.Link`
Package: `slreq`

Get link source

Syntax

```
src = source(myLink)
```

Description

`src = source(myLink)` returns a link source of the link `myLink`.

Input Arguments

`myLink` — Link object
`slreq.Link` object

Link, specified as an `slreq.Link` object.

Output Arguments

`src` — Link source
`struct`

Link source, returned as a MATLAB structure that contains these fields:

- `domain`
- `artifact`
- `id`

Examples

Get a Link Source

This example shows how to get a link source from a link object.

Load the `crs_req` requirement files, which contain links for a cruise control system.

```
slreq.load("crs_req");
slreq.load("crs_req_func_spec");
```

Find the `crs_req` link set.

```
myLinkSet = slreq.find(Type="LinkSet",Description="crs_req");
```

Get the links from the link set.

```
myLinks = getLinks(myLinkSet)
```

```
myLinks=1×12 object
  1x12 Link array with properties:

    Type
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedOn
    ModifiedBy
    Revision
    SID
    Comments
```

Get the link source structure for one of the links.

```
src = source(myLinks(1));
```

Convert the link source structure to an object.

```
srcObj = slreq.structToObj(src);
```

Tips

- You can use `slreq.structToObj` to convert the link source structure to an object.

Version History

Introduced in R2018a

See Also

`slreq.Link` | `destination` | `linkSet` | `slreq.structToObj`

addAttribute

Class: `slreq.LinkSet`
Package: `slreq`

Add custom attribute to link set

Syntax

```
addAttribute(myLinkSet,name,type)
addAttribute(myLinkSet,name,'Checkbox','DefaultValue',value)
addAttribute(myLinkSet,name,'Combobox','List',options)
addAttribute(myLinkSet, ___ ,'Description',descr)
```

Description

`addAttribute(myLinkSet,name,type)` adds a custom attribute with the name specified by `name` and the custom attribute type specified by `type` to the link set `myLinkSet`.

`addAttribute(myLinkSet,name,'Checkbox','DefaultValue',value)` adds a `Checkbox` custom attribute with the name specified by `name` and the default value specified by `value` to the link set `myLinkSet`.

`addAttribute(myLinkSet,name,'Combobox','List',options)` adds a `Combobox` custom attribute with name specified by `name`, and the list options specified by `options` to the link set `myLinkSet`.

`addAttribute(myLinkSet, ___ ,'Description',descr)` adds a custom attribute with the name specified by `name`, the type specified by `type`, and the description specified by `descr` to the link set `myLinkSet`.

Input Arguments

`myLinkSet` — Link set
`slreq.LinkSet` object

Link set, specified as an `slreq.LinkSet` object.

name — Custom attribute name
character array

Custom attribute name, specified as a character array.

type — Custom attribute type
`'Edit'` | `'Checkbox'` | `'Combobox'` | `'DateTime'`

Custom attribute type, specified as a character array. The valid custom attribute types are `'Edit'`, `'Checkbox'`, `'Combobox'`, and `'DateTime'`.

`descr` — Custom attribute description
character array

Custom attribute description, specified as a character array.

value — Checkbox default value
false (default) | true

Checkbox default value, specified as a logical 1 (true) or 0 (false).

options — Combobox list options
cell array

Combobox list options, specified as a cell array. The list of options is valid only if 'Unset' is the first entry. 'Unset' indicates that the user hasn't chosen an option from the combo box. If the list does not start with 'Unset', it will be automatically appended as the first entry.

Example: {'Unset','A','B','C'}

Examples

Add Custom Attribute to Link Set

This example shows how to add a custom attribute to of all four available types, Edit, Checkbox, Combobox, and DateTime, and how to add a custom attribute with a description.

Setup

Open the CruiseRequirementsExample project. Load the crs_req_func_spec requirement set.

```
slreqCCProjectStart;
rs = slreq.load("crs_req_func_spec");
```

Get a handle for the crs_controller link set by finding the referenced requirement with summary Driver Switch Request Handling, getting the incoming link for that requirement, and then getting the link set that the link belongs to.

```
req = find(rs,"Summary","Driver Switch Request Handling");
myLink = inLinks(req);
ls = linkSet(myLink);
```

Add an Edit Custom Attribute

Add an Edit custom attribute to the link set. Confirm that the attribute added by using inspectAttribute.

```
addAttribute(ls,"MyEditAttribute","Edit");
atrb = inspectAttribute(ls,"MyEditAttribute")
```

```
atrb = struct with fields:
           name: "MyEditAttribute"
           type: Edit
    description: ''
```

Add a Checkbox Custom Attribute

Add a Checkbox custom attribute with the default value true. Confirm that the attribute was added successfully by using inspectAttribute.

```
addAttribute(ls,"MyCheckbox","Checkbox","DefaultValue",true);
atrb2 = inspectAttribute(ls,"MyCheckbox")
```

```
atrb2 = struct with fields:
           name: "MyCheckbox"
           type: Checkbox
    description: ''
        default: 1
```

Add a Combobox Custom Attribute

Add a `ComboBox` custom attribute with the options `Unset`, `A`, `B`, and `C`. Confirm that the attribute was added successfully by using `inspectAttribute`.

```
addAttribute(ls,"MyCombobox","Combobox","List",["Unset","A","B","C"]);
atrb3 = inspectAttribute(ls,"MyCombobox")
```

```
atrb3 = struct with fields:
           name: "MyCombobox"
           type: Combobox
    description: ''
           list: {'Unset'  'A'  'B'  'C'}
```

Add a DateTime Custom Attribute

Add a `DateTime` custom attribute. Confirm that the attribute was added successfully by using `inspectAttribute`.

```
addAttribute(ls,"MyDateTime","DateTime");
atrb4 = inspectAttribute(ls,"MyDateTime")
```

```
atrb4 = struct with fields:
           name: "MyDateTime"
           type: DateTime
    description: ''
```

Add a Custom Attribute with a Description

Add an `Edit` custom attribute. Add a description to the custom attribute. Confirm that the attribute was added successfully by using `inspectAttribute`.

```
addAttribute(ls,"MyEditAttribute2","Edit","Description",...
    "You can enter text as the custom attribute value.");
atrb5 = inspectAttribute(ls,"MyEditAttribute2")
```

```
atrb5 = struct with fields:
           name: "MyEditAttribute2"
           type: Edit
    description: 'You can enter text as the custom attribute value.'
```

Add a `ComboBox` custom attribute with the options `Unset`, `A`, `B`, and `C`. Add a description to the custom attribute. Confirm that the attribute was added successfully by using `inspectAttribute`.

```
addAttribute(ls,"MyCombobox2","Combobox","List",["Unset","A","B","C"],"Description",...
    "This combo box attribute has 4 options.");
atrb6 = inspectAttribute(ls,"MyCombobox2")
```

```
atrb6 = struct with fields:
           name: "MyCombobox2"
           type: Combobox
    description: 'This combo box attribute has 4 options.'
           list: {'Unset'  'A'  'B'  'C'}
```

Version History

Introduced in R2020b

See Also

slreq.LinkSet | deleteAttribute | inspectAttribute | updateAttribute

Topics

"Manage Custom Attributes for Links by Using the Requirements Toolbox API"

createTextRange

Class: `slreq.LinkSet`
Package: `slreq`

Create line ranges

Syntax

```
cr = createTextRange(myLinkSet,lines)
cr = createTextRange(myLinkSet,blockSID,lines)
```

Description

`cr = createTextRange(myLinkSet,lines)` creates a line range associated with the lines of code, `lines`, in the MATLAB or external code file associated with the link set specified by `myLinkSet`.

`cr = createTextRange(myLinkSet,blockSID,lines)` creates a line range in the MATLAB Function block specified by `blockSID`.

Input Arguments

`myLinkSet` — Link set

`slreq.LinkSet`

Link set, specified as an `slreq.LinkSet` object.

`lines` — Start and end line numbers

scalar `double` | `double` array

Start and end line numbers for the line range, specified as a double array of the form `[start end]` or a scalar double.

Example: `[1 4]`, `1`

`blockSID` — MATLAB Function block SID

string scalar | character vector

MATLAB Function block SID, specified as a string scalar or character vector.

Example: `"30"`

Output Arguments

`lr` — Line range

`slreq.TextRange` object

Line range, returned as an `slreq.TextRange` object.

Examples

Create Line Ranges for Link Sets

This example shows how to create an `slreq.TextRange` object for a link set.

Open the `myAdd` code file.

```
open("myAdd.m");
```

Get a handle to the `myAdd` link set.

```
myLinkSet = slreq.find(Type="LinkSet",Description="myAdd");
```

Create an `slreq.TextRange` object that corresponds to line numbers 1 and 2 in the `myAdd` function.

```
cr = createTextRange(myLinkSet,[1 2]);
```

Create Line Ranges in MATLAB Function Blocks for Link Sets

This example shows how to create `slreq.TextRange` objects in MATLAB Function blocks and link the line ranges to requirements.

Open the `myAddModel` Simulink® model.

```
model = "myAddModel";
open_system(model);
```

Get the SID of the MATLAB Function block.

```
block = "myAddModel/MATLAB Function";
SID = get_param(block,"SID")
```

```
SID =
'8'
```

Get a handle to the `myAddModel` link set.

```
myLinkSet = slreq.find(Type="LinkSet",Description="myAddModel");
```

Create an `slreq.TextRange` object that corresponds to line number 2 in the `myAdd` MATLAB Function block.

```
cr = createTextRange(myLinkSet,SID,2);
```

Load the `myAddRequirements` requirement set.

```
rs = slreq.load("myAddRequirements");
```

Get a handle to the requirement with the summary `Add u and v`.

```
req = find(rs,Summary="Add u and v");
```

Create a link from the `slreq.TextRange` object to the requirement.

```
myLink = slreq.createLink(cr,req);
```

Tips

- You can also use `slreq.createTextRange` to create code range objects.

Version History

Introduced in R2022b

See Also

`slreq.LinkSet` | `slreq.TextRange` | `slreq.createTextRange`

Topics

"Requirements Traceability for MATLAB Code"

deleteAttribute

Class: `slreq.LinkSet`
Package: `slreq`

Delete custom attribute from link set

Syntax

```
deleteAttribute(myLinkSet,name,'Force',true)
deleteAttribute(myLinkSet,name,'Force',false)
```

Description

`deleteAttribute(myLinkSet,name,'Force',true)` deletes the custom attribute specified by `name` from the link set `myLinkSet`, even if the custom attribute is used by links in the link set.

`deleteAttribute(myLinkSet,name,'Force',false)` deletes the custom attribute specified by `name` from the link set `myLinkSet` only if the custom attribute is not used by links in the link set.

Input Arguments

`myLinkSet` — Link set
`slreq.LinkSet` object

Link set, specified as an `slreq.LinkSet` object.

name — Custom attribute name
character array

Custom attribute name, specified as a character array.

Examples

Delete Custom Attribute

This example shows how to delete a custom attribute.

Load the `crs_req` requirement files, which contain links for a cruise control system. Find a link set in the files.

```
slreq.load('crs_req');
ls = slreq.find('Type','LinkSet');
```

Delete the custom attribute named `Target Speed Change` from the link set. Because the `Target Speed Change` attribute is used by links, it can only be deleted by setting `Force` to `true`.Confirm that it was deleted successfully by accessing the `CustomAttributeNames` property for the link set.

```
deleteAttribute(ls,'Target Speed Change','Force',true)
atrb1 = ls.CustomAttributeNames
```

```
atrb1 =

  0x0 empty cell array
```

Only Delete Custom Attribute if the Attribute is Unused

Add an `Edit` custom attribute to the link set. The attribute is unused because the value is not set for any links. Confirm that it was added successfully by accessing the `CustomAttributeNames` property for the link set.

```
addAttribute(ls,'MyEditAttribute','Edit')
atrb2 = ls.CustomAttributeNames
```

```
atrb2 = 1x1 cell array
    {'MyEditAttribute'}
```

If you set `Force` to `false`, you can delete the attribute only if the attribute is unused. If the attribute is used by links, then an error will occur. Confirm the deletion by accessing the `CustomAttributeNames` property for the link set.

```
deleteAttribute(ls,'MyEditAttribute','Force',false)
atrb3 = ls.CustomAttributeNames
```

```
atrb3 =

  0x0 empty cell array
```

Cleanup

Clean up commands. Clear the open requirement sets, link sets, and open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

`slreq.LinkSet` | `addAttribute` | `inspectAttribute` | `updateAttribute`

Topics

"Manage Custom Attributes for Links by Using the Requirements Toolbox API"

exportToVersion

Class: `slreq.LinkSet`
Package: `slreq`

Export link set to previous MATLAB version

Syntax

```
tf = exportToVersion(myLinkSet,name,version)
```

Description

`tf = exportToVersion(myLinkSet,name,version)` saves a copy of the link set `myLinkSet` as a new link set file that is compatible with the MATLAB version specified by `version` and with file name specified by `name`. The method returns `1` if the file is exported. The file is saved in the current folder.

Note You can only export link sets to version R2017b or later.

Input Arguments

`myLinkSet` — Link set
`slreq.LinkSet` object

Link set, specified as an `slreq.LinkSet` object.

`name` — File name for exported link set
string scalar | character vector

File name for exported link set, specified as a string scalar or character vector.

`version` — MATLAB version to export to
string scalar | character vector

MATLAB version to export to, specified as a string scalar or character vector.

You can export to version R2017b or later.

Example: `tf = exportToVersion(myLinkSet,"newLinkSet","R2021a")`

Output Arguments

`tf` — Export success status
`0` | `1`

Export success status, returned as a logical `1` (true) or `0` (false).

Data Types: `logical`

Examples

Export a Link Set to a Previous Version of MATLAB

This example shows how to export a link set to a file that is compatible with a previous version of MATLAB.

Open the `CruiseRequirementsExample` project. Load the `crs_req` requirement set, which also loads the `crs_req` link set.

```
slreqCCProjectStart;
slreq.load("crs_req");
```

Find the `crs_req` link set and assign it to a variable.

```
myLinkSet = slreq.find("Type","LinkSet","Name","crs_req")
```

```
myLinkSet = 
  LinkSet with properties:

             Description: ''
                Filename: 'C:\TEMP\Bdoc22b_2054784_11640\mlx_to_docbook1\bml.batserve.041884\MATL
                Artifact: 'C:\TEMP\Bdoc22b_2054784_11640\mlx_to_docbook1\bml.batserve.041884\MATL
                  Domain: 'linktype_rmi_slreq'
                Revision: 5
                   Dirty: 0
    CustomAttributeNames: {}
```

Export the link set to a new file that is compatible with MATLAB R2020a. Name the new file `crs_req_2020a`.

```
tf = exportToVersion(myLinkSet,"crs_req_2020a","R2020a")
```

```
tf = logical
   1
```

Tips

- If the link set contains links to Model-Based Design artifacts, you might also need to export the artifacts to a previous version for the links to be resolved. For more information, see “Export Link Sets”.
- You can export a requirement set to a previous version with `slreq.ReqSet.exportToVersion`.

Version History

Introduced in R2018a

See Also

`slreq.LinkSet` | `slreq.ReqSet.exportToVersion`

Topics

"Export Requirement Sets and Link Sets to Previous Versions of Requirements Toolbox"

find

Class: `slreq.LinkSet`
Package: `slreq`

Find links in link set with matching attribute values

Syntax

```
myLinks = find(myLinkSet,'PropertyName1',PropertyValue1,...,'PropertyNameN',
PropertyValueN)
```

Description

`myLinks = find(myLinkSet,'PropertyName1',PropertyValue1,...,'PropertyNameN', PropertyValueN)` finds and returns `slreq.Link` objects in the link set `myLinkSet` that match the properties specified by `PropertyName` and `PropertyValue`.

Input Arguments

`myLinkSet` — Link set
`slreq.LinkSet` object

Link set, specified as an `slreq.LinkSet` object.

`PropertyName` — Link property
character vector

Link property name, specified as a character vector. See the valid property names in the properties section of `slreq.Link`.

Example: `'Type'`,`'Keywords'`,`'SID'`

`PropertyValue` — Link property value
character vector | character array | `datetime` value | scalar | `logical` | structure array

Link property value, specified as a character vector, character array, `datetime` value, scalar, `logical`, or structure array. The data type depends on the specified `propertyName`. See the valid property values in the properties section of `slreq.Link`.

Example: `'Type'`,`'Keywords'`,`'SID'`

Output Arguments

`myLinks` — Link
`slreq.Link` object

Link or link array, specified as an `slreq.Link` object.

Examples

Find a Link in a Requirement Set

This example shows how to find a link in a link set that matches the specified property value.

Open the `CruiseRequirementsExample` project. Load the `crs_req` requirement set, which also loads the `crs_req` link set. Then, find the `crs_req` link set.

```
slreqCCProjectStart;
slreq.load("crs_req");
ls = slreq.find("Type","LinkSet","Name","crs_req")
```

```
ls = 
  LinkSet with properties:

             Description: ''
                Filename: 'C:\TEMP\Bdoc22b_2054784_11640\mlx_to_docbook1\bml.batserve.041884\MAT
                Artifact: 'C:\TEMP\Bdoc22b_2054784_11640\mlx_to_docbook1\bml.batserve.041884\MAT
                  Domain: 'linktype_rmi_slreq'
                Revision: 5
                   Dirty: 0
    CustomAttributeNames: {}
```

Find a link that matches the specified SID.

```
myLink = find(ls,"SID","3")
```

```
myLink = 
  Link with properties:

           Type: 'Derive'
    Description: '#8: Set Switch Detection'
       Keywords: {}
      Rationale: ''
      CreatedOn: 20-May-2017 13:14:40
      CreatedBy: 'itoy'
     ModifiedOn: 02-Feb-2018 14:28:04
     ModifiedBy: 'itoy'
       Revision: 4
            SID: 3
       Comments: [0x0 struct]
```

Find all links that are modified in the specified revision.

```
myLinks = find(ls,"Revision","4")
```

```
myLinks=1×12 object
  1x12 Link array with properties:

    Type
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedOn
    ModifiedBy
    Revision
    SID
    Comments
```

Find a link that matches the specified SID and revision.

```
myLink2 = find(ls,"SID","8","Revision","4")
```

```
myLink2 = 
  Link with properties:

           Type: 'Derive'
    Description: '#12: Increment Short Switch Detection'
       Keywords: {}
      Rationale: ''
      CreatedOn: 20-May-2017 13:15:45
      CreatedBy: 'itoy'
     ModifiedOn: 02-Feb-2018 14:28:04
     ModifiedBy: 'itoy'
       Revision: 4
            SID: 8
       Comments: [0x0 struct]
```

Version History

Introduced in R2018a

See Also

`slreq.LinkSet` | `slreq.find`

getLinks

Class: slreq.LinkSet
Package: slreq

Get links from link set

Syntax

```
lks = getLinks(lkset)
```

Description

lks = getLinks(lkset) returns an array lks of Links from lkset, a LinkSet.

Input Arguments

lkset — Link set

LinkSet

LinkSet from which to get links.

Example: LinkSet with properties:

Output Arguments

lks — Links

Link | Link array

Links in the link set.

Examples

Get Links from a Link Set

```
load_system('reqs_validation_property_proving_original_model');
rq = slreq.load('original_thrust_reverser_requirements.slreqx');
lk = slreq.load('reqs_validation_property_proving_original_model.slmx');

sl = getLinks(lk);
```

Version History

Introduced in R2020a

See Also

sources

getRegisteredReqSets

Class: slreq.LinkSet
Package: slreq

Get requirement sets registered in link set

Syntax

```
registeredReqSets = getRegisteredReqSets(myLinkSet)
```

Description

registeredReqSets = getRegisteredReqSets(myLinkSet) returns a cell array of the file names of the requirement sets registered to the link set myLinkSet.

Input Arguments

myLinkSet — Link set
slreq.LinkSet object

Link set, specified as an slreq.LinkSet object.

Output Arguments

registeredReqSets — Registered requirement set file names
cell array

File names of requirement sets registered in the link set, returned as a cell array.

Examples

Update Requirement Sets Registered in Link Set

This example shows how to get and update the requirement sets registered in a link set.

Open the Requirements Definition for a Cruise Control Model project.

```
slreqCCProjectStart;
```

Load the crs_req requirement set, which describes a cruise control system. This action also loads the crs_req link set and the crs_req_func_spec requirement set.

```
slreq.load("crs_req");
```

Find the crs_req link set and the crs_req_func_spec requirement set.

```
myLinkSet = slreq.find("Type","LinkSet","Name","crs_req");
rs = slreq.find("Type","ReqSet","Name","crs_req_func_spec");
```

Get the requirement sets registered in the `crs_req` link set.

```
registeredReqSets = getRegisteredReqSets(myLinkSet);
```

Get the links from the `crs_req` link set. Remove all of the links from the `crs_req` link set and close the `crs_req_func_spec` requirement set.

```
links = getLinks(myLinkSet);
for i = 1:numel(links)
    remove(links(i));
end
close(rs);
```

Update the requirement sets registered to the link set `crs_req`. Confirm that the requirement set `crs_req_func_spec` is not registered in the link set `crs_req` by getting the currently registered requirement sets.

```
updateRegisteredReqSets(myLinkSet)
registeredReqSets = getRegisteredReqSets(myLinkSet)
```

```
registeredReqSets =

  0x0 empty cell array
```

Cleanup

Clear the open requirement sets and link sets. Close the Requirements Definition for a Cruise Control Model project.

```
slreq.clear;
close(currentProject);
```

Tips

- When you create a link to a requirement, the requirement set of the requirement becomes registered to the link set of the link. If you delete the link to the requirement, you must manually unregister the requirement set from the link set. You can update the registered requirement sets by using `updateRegisteredReqSets`.
- You can register a requirement set without creating a link by opening a requirement set in the Requirements Perspective in the Simulink model editor.

Version History

Introduced in R2021b

See Also

`slreq.LinkSet` | `updateRegisteredReqSets`

getTextRange

Class: `slreq.LinkSet`
Package: `slreq`

Get line ranges

Syntax

```
cr = getTextRange(myLinkSet,lines)
cr = getTextRange(myLinkSet,blockSID,lines)
```

Description

`cr = getTextRange(myLinkSet,lines)` returns the line ranges associated with the lines of code, `lines`, in the file associated with the link set specified by `myLinkSet`.

Note You must open the file in the MATLAB Editor before using this function.

`cr = getTextRange(myLinkSet,blockSID,lines)` returns the line range associated with the lines in the MATLAB Function block specified by `blockSID`.

Note You must open the model in Simulink before using this function.

Input Arguments

`myLinkSet` — Link set

`slreq.LinkSet`

Link set, specified as an `slreq.LinkSet` object.

`lines` — Start and end line numbers

scalar `double` | `double` array

Start and end line numbers for the line range, specified as a double array of the form `[start end]` or a scalar double.

Example: `[1 4]`, `1`

`blockSID` — MATLAB Function block SID

string scalar | character vector

MATLAB Function block SID, specified as a string scalar or character vector.

Example: `"30"`

Output Arguments

lr — Line range
slreq.TextRange array

Line range, returned as an array of slreq.TextRange objects.

Examples

Get Line Ranges in Link Sets

This example shows how to get slreq.TextRange objects in a link set.

Open the myAdd code file.

```
open("myAdd.m");
```

Get a handle to the myAdd link set.

```
myLinkSet = slreq.find(Type="LinkSet",Description="myAdd");
```

Get the slreq.TextRange object that corresponds to line number 3 in the file associated with the myAdd link set.

```
cr = getTextRange(myLinkSet,3);
```

You can also get the code ranges by using getTextRanges.

Get Line Ranges in MATLAB Function Blocks for Link Sets

This example shows how to get slreq.TextRange objects in MATLAB Function blocks for link sets.

Open the myAddModel Simulink® model.

```
model = "myAddModel";
open_system(model);
```

Get the SID of the MATLAB Function block.

```
block = "myAddModel/MATLAB Function";
SID = get_param(block,"SID")
```

```
SID =
'8'
```

Get a handle to the myAddModel link set.

```
myLinkSet = slreq.find(Type="LinkSet",Description="myAddModel");
```

Get the slreq.TextRange object associated with the first line of the MATLAB Function block.

```
cr = getTextRange(myLinkSet,SID,1);
```

You can also get the slreq.TextRange object by using getTextRanges.

Tips

- You can also use `slreq.getTextRange` or `getTextRanges` to get code range objects.

Version History

Introduced in R2022b

See Also

`slreq.LinkSet` | `slreq.TextRange` | `getTextRanges` | `slreq.getTextRange` | `slreq.createTextRange`

Topics

"Requirements Traceability for MATLAB Code"

getTextRanges

Class: slreq.LinkSet
Package: slreq

Get lines ranges that span multiple lines

Syntax

```
cr = getTextRanges(myLinkSet,lines)
cr = getTextRanges(myLinkSet,blockSID,lines)
```

Description

cr = getTextRanges(myLinkSet,lines) returns the line ranges associated with the lines of code, lines, in the file associated with the link set specified by myLinkSet.

Note You must open the file in the MATLAB Editor before using this function.

cr = getTextRanges(myLinkSet,blockSID,lines) returns the code ranges associated with the lines in the MATLAB Function block specified by blockSID.

Note You must open the model in Simulink before using this function.

Input Arguments

myLinkSet — Link set
slreq.LinkSet

Link set, specified as an slreq.LinkSet object.

lines — Start and end line numbers
scalar double | double array

Start and end line numbers for the line range, specified as a double array of the form [start end] or a scalar double.

Example: [1 4], 1

blockSID — MATLAB Function block SID
string scalar | character vector

MATLAB Function block SID, specified as a string scalar or character vector.

Example: "30"

Output Arguments

lr — Line range
slreq.TextRange array

Line range, returned as an array of slreq.TextRange objects.

Examples

Get Line Ranges in Link Sets

This example shows how to get slreq.TextRange objects in a link set.

Open the myAdd code file.

```
open("myAdd.m");
```

Get a handle to the myAdd link set.

```
myLinkSet = slreq.find(Type="LinkSet",Description="myAdd");
```

Get the slreq.TextRange object that corresponds to line number 3 in the file associated with the myAdd link set.

```
cr = getTextRange(myLinkSet,3);
```

You can also get the code ranges by using getTextRanges.

Get Line Ranges in MATLAB Function Blocks for Link Sets

This example shows how to get slreq.TextRange objects in MATLAB Function blocks for link sets.

Open the myAddModel Simulink® model.

```
model = "myAddModel";
open_system(model);
```

Get the SID of the MATLAB Function block.

```
block = "myAddModel/MATLAB Function";
SID = get_param(block,"SID")
```

```
SID =
'8'
```

Get a handle to the myAddModel link set.

```
myLinkSet = slreq.find(Type="LinkSet",Description="myAddModel");
```

Get the slreq.TextRange object associated with the first line of the MATLAB Function block.

```
cr = getTextRange(myLinkSet,SID,1);
```

You can also get the slreq.TextRange object by using getTextRanges.

Tips

- You can also use `getTextRange` or `slreq.getTextRange` to get code ranges.

Version History

Introduced in R2022b

See Also

`slreq.LinkSet` | `slreq.TextRange` | `getTextRange` | `slreq.createTextRange`

Topics

"Requirements Traceability for MATLAB Code"

importProfile

Class: `slreq.LinkSet`
Package: `slreq`

Assign profile to ink set

Syntax

```
importProfile(myLinkSet,fileName)
```

Description

`importProfile(myLinkSet,fileName)` assigns the profile, `fileName`, to the link set `myLinkSet`.

Input Arguments

`myLinkSet` — Link set

`slreq.LinkSet`

Link set, specified as an `slreq.LinkSet` object.

`fileName` — Profile file name

string scalar | character vector

Profile file name, specified as a string scalar or character vector.

Example: `"myProfile.xml"`

Examples

Assign a Profile to a Link Set

This example shows how to assign a profile to a link set.

Load the `myAddRequirements` requirement set, which also loads the `myAddProfile` link set.

```
rs = slreq.load("myAddRequirements");
```

Find the `myAddProfile` link set.

```
myLinkSet = slreq.find(Type="LinkSet",Description="myAdd");
```

Assign the profile to the link set.

```
importProfile(myLinkSet,"myAddLinksProfile2")
fileName = profiles(myLinkSet)
```

```
fileName = 1×2 cell
    {'myAddLinksProfile.xml'}    {'myAddLinksProfile2.xml'}
```

Tips

- To assign profiles to requirement sets, use `slreq.ReqSet.importProfile`.

Version History

Introduced in R2022b

See Also

Profile Editor | `slreq.LinkSet` | `profiles` | `removeProfile`

inspectAttribute

Class: `slreq.LinkSet`
Package: `slreq`

Get information about link set custom attribute

Syntax

```
atrb = inspectAttribute(myLinkSet,name)
```

Description

`atrb = inspectAttribute(myLinkSet,name)` returns a structure with information about the custom attribute name specified by `name` in the link set `myLinkSet`.

Input Arguments

`myLinkSet` — Link set

`slreq.LinkSet` object

Link set, specified as an `slreq.LinkSet` object.

name — Custom attribute name

character array

Custom attribute name, specified as a character array.

Output Arguments

`atrb` — Custom attribute information

`struct`

Custom attribute information, returned as a `struct`.

Examples

Get Link Set Custom Attribute Information

This example shows how to get information about a link set custom attribute.

Load the `crs_req` requirement files, which describes a cruise control system. Find a link set from the files and assign it to a variable.

```
slreq.load('crs_req');
ls = slreq.find('Type','LinkSet');
```

The custom attribute `Target Speed Change` tracks whether linked requirements are related to incrementing or decrementing the speed, or not related at all. Get information about this custom attribute.

```
atrb = inspectAttribute(ls,'Target Speed Change')
```

```
atrb = struct with fields:
           name: 'Target Speed Change'
           type: Combobox
    description: 'Tracks if linked requirements are related to incrementing or decrementing speed
           list: {'Unset'  'Increment'  'Decrement'}
```

Cleanup

Clear the open requirement sets, link sets, and open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

slreq.LinkSet | addAttribute | updateAttribute | deleteAttribute

Topics

"Manage Custom Attributes for Links by Using the Requirements Toolbox API"

profiles

Class: `slreq.LinkSet`
Package: `slreq`

Get profiles assigned to link set

Syntax

```
fileNames = profiles(myLinkSet)
```

Description

`fileNames = profiles(myLinkSet)` returns the file names of the profiles assigned to the link set `myLinkSet`.

Input Arguments

`myLinkSet` — Link set
`slreq.LinkSet`

Link set, specified as an `slreq.LinkSet` object.

Output Arguments

`fileNames` — Profile file names
cell array

Profile file names, returned as a cell array of character vectors.

Examples

Get and Remove Profiles from Link Sets

This example shows how to get the profiles assigned to a link set and how to remove a profile.

Load the `myAddRequirements` requirement set, which also loads the `myAddProfile` link set.

```
rs = slreq.load("myAddRequirements");
```

Find the `myAddProfile` link set.

```
myLinkSet = slreq.find(Type="LinkSet",Description="myAdd");
```

Get the profiles assigned to the link set.

```
fileName = profiles(myLinkSet)
```

```
fileName = 1×1 cell array
    {'myAddLinksProfile.xml'}
```

Remove the profile from the link set.

```
tf = removeProfile(myLinkSet,fileName{1})
```

```
tf = logical
   1
```

Tips

- To get profiles assigned to requirement sets, use `slreq.ReqSet.profiles`.

Version History

Introduced in R2022b

See Also

`slreq.LinkSet` | `importProfile` | `removeProfile`

redirectLinksToImportedReqs

Class: slreq.LinkSet
Package: slreq

Redirect link destination from external document to imported requirement set

Syntax

```
count = redirectLinksToImportedReqs(myLinkSet,rs)
```

Description

`count = redirectLinksToImportedReqs(myLinkSet,rs)` redirects the link destinations for the direct links in the link set `myLinkSet` from the requirements in an external document to the imported referenced requirements in the requirement set `rs`.

Input Arguments

`myLinkSet` — Link set
`slreq.LinkSet` object

Link set, specified as an `slreq.LinkSet` object.

`rs` — Requirement set
`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

Output Arguments

`count` — Number of updated links
character vector

Number of updated `slreq.Link` objects in the link set, returned as a character vector.

Examples

Redirect Direct Links to Imported Requirements Programmatically

This example shows how to programmatically redirect the link destinations for direct links from an external document to a corresponding imported requirement.

Open the `FuelSysWithReqLinks` model. Find the link set associated with the model.

```
open_system("FuelSysWithReqLinks.slx")
myLinkSet = slreq.find("Type","LinkSet","Name","FuelSysWithReqLinks");
```

The model contains direct links to these documents:

- FuelSysDesignDescription.docx
- FuelSysRequirementsSpecification.docx
- FuelSysTestScenarios.xlsx

Redirect Links to Imported References

Load the requirement set FuelSysRequirements. The requirement set contains imported referenced requirements from the documents listed above. The import process is described in “Migrating Requirements Management Interface Data to Requirements Toolbox”.

```
rs = slreq.load("FuelSysRequirements.slreqx");
```

Redirect the link destination for the direct links in the link set myLinkSet to the imported referenced requirements.

```
count = redirectLinksToImportedReqs(myLinkSet,rs)
```

```
count = 13
```

Cleanup

Clear the open requirement sets and link sets. Close all open models.

```
slreq.clear;
bdclose all;
```

Tips

- You can also redirect the links to imported requirements in the **Requirements Editor** or Requirements Perspective. For more information, see **Update Model Link Destinations** in “Migrating Requirements Management Interface Data to Requirements Toolbox”.

Version History

Introduced in R2018a

See Also

Requirements Editor | slreq.LinkSet

Topics

“Use Command-Line API to Update or Repair Requirements Links”
“Migrating Requirements Management Interface Data to Requirements Toolbox”

removeProfile

Class: `slreq.LinkSet`
Package: `slreq`

Remove profile from link set

Syntax

```
tf = removeProfile(myLinkSet,fileName)
```

Description

`tf = removeProfile(myLinkSet,fileName)` removes the profile, `fileName`, from the link set `myLinkSet`.

Note If you remove a profile, Requirements Toolbox applies these changes to links that used a stereotype from the profile:

- Sets the link type to `Relate`
- Removes the stereotype properties and deletes the stereotype property values

Input Arguments

`myLinkSet` — Link set
`slreq.LinkSet`

Link set, specified as an `slreq.LinkSet` object.

`fileName` — Profile file name
string scalar | character vector

Profile file name, specified as a string scalar or character vector.

Example: `"myProfile.xml"`

Output Arguments

`tf` — Remove success status
`0` | `1`

Remove success status, returned as a `1` or `0` of data type `logical`.

Examples

Get and Remove Profiles from Link Sets

This example shows how to get the profiles assigned to a link set and how to remove a profile.

Load the `myAddRequirements` requirement set, which also loads the `myAddProfile` link set.

```
rs = slreq.load("myAddRequirements");
```

Find the `myAddProfile` link set.

```
myLinkSet = slreq.find(Type="LinkSet",Description="myAdd");
```

Get the profiles assigned to the link set.

```
fileName = profiles(myLinkSet)
```

```
fileName = 1×1 cell array
    {'myAddLinksProfile.xml'}
```

Remove the profile from the link set.

```
tf = removeProfile(myLinkSet,fileName{1})
```

```
tf = logical
   1
```

Tips

- To remove profiles from requirement sets, use `slreq.ReqSet.removeProfile`

Version History

Introduced in R2022b

See Also

`slreq.LinkSet` | `profiles` | `importProfile`

save

Class: slreq.LinkSet
Package: slreq

Save link set

Syntax

```
save(lks)
save(lks, filePath)
```

Description

save(lks) saves the link set lks by using its file name.

save(lks, filePath) saves the link set lks and updates its Name and Filename properties.

Input Arguments

lks — Link set file

slreq.LinkSet object

Link set file, specified as an slreq.LinkSet object.

filePath — File name and path

character vector

The file name and path of the link set, specified as a character vector.

Example: 'C:\MATLAB\myLinkSet.slmx'

Examples

Save Link Set File

Load a link set associated with a Simulink model called fuelsys. Save the link set.

```
myLinkSet = slreq.load('fuelsys.slx');
save(myLinkSet);
```

Save the link set to a new file.

```
save(myLinkSet,'C:\MATLAB\Files\MyLinkSet1.slmx');
```

Version History

Introduced in R2018a

See Also

`slreq.LinkSet` | `sources`

sources

Class: slreq.LinkSet
Package: slreq

Get link sources

Syntax

```
linkSetSources = sources(lks)
```

Description

linkSetSources = sources(lks) returns an array of structures linkSetSources that contains the link sources of all the links in the link set lks.

Input Arguments

lks — Link set

slreq.LinkSet object

Instance of an slreq.LinkSet object.

Output Arguments

linkSetSources — Link set sources

structure

Link set source data, returned as a MATLAB structure.

Examples

Get Link Sources

Load a link set associated with a Simulink model called fuelsys. Get the sources for the link set.

```
myLinkSet = slreq.load('fuelsys.slx');
mySources = sources(myLinkSet)
```

```
mySources = 

  1×16 struct array with fields:

    domain
    artifact
    id
```

Version History

Introduced in R2018a

See Also

`slreq.LinkSet` | `save`

updateAttribute

Class: `slreq.LinkSet`
Package: `slreq`

Update information for link set custom attribute

Syntax

```
updateAttribute(myLinkSet,atrb,Name,Value)
```

Description

`updateAttribute(myLinkSet,atrb,Name,Value)` updates the custom attribute specified by `atrb` with properties specified by the name-value pairs `Name` and `Value` in the link set `myLinkSet`.

Input Arguments

`myLinkSet` — Link set
`slreq.LinkSet` object

Link set, specified as an `slreq.LinkSet` object.

`atrb` — Custom attribute name
character array

Custom attribute name, specified as a character array.

Name-Value Pair Arguments

Specify optional pairs of arguments as `Name1=Value1,...,NameN=ValueN`, where `Name` is the argument name and `Value` is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Before R2021a, use commas to separate each name and value, and enclose `Name` *in quotes.*

Example: `'Description','My new description.'`

`Description` — Custom attribute description
character array

Custom attribute description, specified as the comma-separated pair consisting of `'Description'` and a character array.

Example: `'Description','My new description.'`

`List` — Combobox list options
cell array

`Combobox` list options, specified as the comma-separated pair consisting of `'List'` and a cell array. The list of options is valid only if `'Unset'` is the first entry. `'Unset'` indicates that the user hasn't chosen an option from the combo box. If the list does not start with `'Unset'`, it will be automatically appended as the first entry.

Example: `'List',{'Unset','A','B','C'}`

Note You can only use this name-value pair when the `Type` property of the custom attribute that you're updating is `Combobox`.

Examples

Update Link Set Custom Attribute Information

This example shows how to update custom attribute information for a link set.

Load the `crs_req` requirement files, which describe a cruise control system. Find a link set in the files and assign it to a variable.

```
slreq.load('crs_req');
ls = slreq.find('Type','LinkSet');
```

Update an Edit Custom Attribute

Add an `Edit` custom attribute that has a description to the link set. Get the attribute information with `inspectAttribute`.

```
addAttribute(ls,'MyEditAttribute','Edit','Description','Original attribute.');
inspectAttribute(ls,'MyEditAttribute')
```

```
ans = struct with fields:
           name: 'MyEditAttribute'
           type: Edit
    description: 'Original attribute.'
```

Update the custom attribute with a new description. Confirm the change by getting the attribute information with `inspectAttribute`.

```
updateAttribute(ls,'MyEditAttribute','Description','Updated attribute.');
inspectAttribute(ls,'MyEditAttribute')
```

```
ans = struct with fields:
           name: 'MyEditAttribute'
           type: Edit
    description: 'Updated attribute.'
```

Update a Combobox Custom Attribute

Add a `Combobox` custom attribute with a list of options to the link set. Get the attribute information with `inspectAttribute`.

```
addAttribute(ls,'MyCombobox','Combobox','List',{'Unset','A','B','C'});
inspectAttribute(ls,'MyCombobox')
```

```
ans = struct with fields:
           name: 'MyCombobox'
           type: Combobox
    description: ''
```

```
           list: {'Unset'  'A'  'B'  'C'}
```

Update the custom attribute with a new list of options. Confirm the change by getting the attribute information with `inspectAttribute`.

```
updateAttribute(ls,'MyCombobox','List',{'Unset','1','2','3'});
inspectAttribute(ls,'MyCombobox')
```

```
ans = struct with fields:
           name: 'MyCombobox'
           type: Combobox
    description: ''
           list: {'Unset'  '1'  '2'  '3'}
```

Update the custom attribute with a new list of options and a new description. Confirm the change by getting the attribute information with `inspectAttribute`.

```
updateAttribute(ls,'MyCombobox','List',{'Unset','A1','B2','B3'},'Description',...
    'Updated attribute with new options.');
inspectAttribute(ls,'MyCombobox')
```

```
ans = struct with fields:
           name: 'MyCombobox'
           type: Combobox
    description: 'Updated attribute with new options.'
           list: {'Unset'  'A1'  'B2'  'B3'}
```

Cleanup

Clear the open requirement sets and link sets, and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

`slreq.LinkSet` | `addAttribute` | `inspectAttribute` | `deleteAttribute`

Topics

"Manage Custom Attributes for Links by Using the Requirements Toolbox API"

updateBacklinks

Class: `slreq.LinkSet`
Package: `slreq`

Synchronize external navigation links

Syntax

```
[checked,added] = updateBacklinks(myLinkSet)
[checked,added,removed] = updateBacklinks(myLinkSet,removeUnmatched)
```

Description

`[checked,added] = updateBacklinks(myLinkSet)` synchronizes backlinks in external documents to match links in the link set `myLinkSet`. The method returns the number of links in the link set that the method checked and the number of backlinks it added to the external document.

`[checked,added,removed] = updateBacklinks(myLinkSet,removeUnmatched)` removes backlinks from the external document that do not have a corresponding link in the link set when `removeUnmatched` is `true`. The method returns the number of backlinks removed from the external document.

Input Arguments

`myLinkSet` — Link set
`slreq.LinkSet`

Link set, specified as an `slreq.LinkSet` object.

`removeUnmatched` — Option to remove unmatched backlinks
`false` (default) | `true`

Option to remove the unmatched backlinks from the external document, specified as a `1` or `0` of data type `logical`.

Output Arguments

`checked` — Links checked in link set
`double`

Number of links in the link set that the method checked, returned as a `double`.

`added` — Backlinks added in external document
`double`

Number of backlinks the method added to the external document, returned as a `double`.

`removed` — Backlinks removed in external document
`double`

Number of backlinks the method removed from the external document, returned as a `double`.

Examples

Update Backlinks for a Microsoft Word Document

This example shows how to update backlinks for a Microsoft® Word document by using `updateBacklinks`.

Open the `crs_req_func_spec` requirement set. The requirement set has outgoing links to the `crs_req.docx` document.

```
rs = slreq.open("crs_req_func_spec");
myLinkSet = slreq.find(Type="LinkSet",Name="crs_req_func_spec");
```

Update the backlinks for the external documents associated with the link set. Remove the unmatched backlinks from the external documents.

```
[checked,added,removed] = updateBacklinks(myLinkSet,true)
```

```
checked = 14

added = 4

removed = 1
```

Alternatives

App

You can also update backlinks by using the **Requirements Editor**. For more information, see “Manage Navigation Backlinks in External Requirements Documents”.

Version History

Introduced in R2022a

See Also

`slreq.LinkSet`

updateDocUri

Class: `slreq.LinkSet`
Package: `slreq`

Update link destination for direct links

Syntax

```
count = updateDocUri(myLinkSet,oldID,newID)
```

Description

`count = updateDocUri(myLinkSet,oldID,newID)` updates the link destinations for the direct links in the link set specified by `myLinkSet` from the external document specified by the resource identifier (such as a file path or IBM Rational DOORS module ID) `oldID` to the external document specified by the resource identifier `newID`. The method returns the number of links updated.

Note You might have to save the link set, close it, and reopen it for the changes to take effect.

Input Arguments

`myLinkSet` — Link set
`slreq.LinkSet` object

Link set, specified as an `slreq.LinkSet` object.

`oldID` — Resource identifier for original external document
string scalar | character vector

Resource identifier for the original external document, specified as a string scalar or character vector.

`newID` — Resource identifier for new external document
string scalar | character vector

Resource identifier for the new external document to use as the link destinations, specified as a string scalar or character vector.

Output Arguments

`count` — Number of updated links
character vector

Number of updated `slreq.Link` objects in the link set, returned as a character vector.

Examples

Update Direct Links to the URI of a Different External Document

This example shows how to update the link destinations for direct links to the URI of a new document.

Open the “Link to Requirements in Microsoft Word Documents” example, which uses a model that has direct links to external documents.

```
openExample('slrequirements/LinkToRequirementsInMicrosoftWordDocumentsExample');
```

Open the `slvnvdemo_fuelsys_officereq` model. Find the associated link set.

```
open_system("slvnvdemo_fuelsys_officereq.slx")
myLinkSet = slreq.find("Type","LinkSet","Name","slvnvdemo_fuelsys_officereq");
```

Update Direct Link Destinations

Some of the links in `myLinkSet` point to `slvnvdemo_FuelSys_DesignDescription.docx`. Update the link destinations to point to `slvnvdemo_FuelSys_DesignDescription_new.docx`.

```
count = updateDocUri(myLinkSet,"slvnvdemo_FuelSys_DesignDescription.docx","slvnvdemo_FuelSys_Des
```

```
count = 8
```

Save the link set. Then close the link set and re-open it for the changes to take effect.

```
tf = save(myLinkSet)
```

```
tf = logical
   1
```

```
slreq.clear;
myLinkSet = slreq.load("slvnvdemo_fuelsys_officereq.slmx");
```

Tips

- If you rename or move an external requirements document file, use `updateSrcFileLocation` to update the file name or path of the referenced requirements in the requirement set.
- To update the external requirements document resource identifier for referenced requirements imported from non-file-based domains, use `updateSrcArtifactUri`.

Version History

Introduced in R2018a

See Also

`slreq.LinkSet` | `setDestination` | `setSource`

Topics

“Use Command-Line API to Update or Repair Requirements Links”

updateRegisteredReqSets

Class: slreq.LinkSet
Package: slreq

Update requirement sets registered to link set

Syntax

```
updateRegisteredReqSets(myLinkSet)
```

Description

updateRegisteredReqSets(myLinkSet) updates the requirement sets registered in the link set myLinkSet. If a currently registered requirement set has incoming links from the link set myLinkSet, then it remains registered. Otherwise, the software unregisters the requirement sets from the link set myLinkSet.

Input Arguments

myLinkSet — Link set
slreq.LinkSet

Link set, specified as an slreq.LinkSet object.

Examples

Update Requirement Sets Registered in Link Set

This example shows how to get and update the requirement sets registered in a link set.

Open the Requirements Definition for a Cruise Control Model project.

```
slreqCCProjectStart;
```

Load the crs_req requirement set, which describes a cruise control system. This action also loads the crs_req link set and the crs_req_func_spec requirement set.

```
slreq.load("crs_req");
```

Find the crs_req link set and the crs_req_func_spec requirement set.

```
myLinkSet = slreq.find("Type","LinkSet","Name","crs_req");
rs = slreq.find("Type","ReqSet","Name","crs_req_func_spec");
```

Get the requirement sets registered in the crs_req link set.

```
registeredReqSets = getRegisteredReqSets(myLinkSet);
```

Get the links from the crs_req link set. Remove all of the links from the crs_req link set and close the crs_req_func_spec requirement set.

```
links = getLinks(myLinkSet);
for i = 1:numel(links)
    remove(links(i));
end
close(rs);
```

Update the requirement sets registered to the link set `crs_req`. Confirm that the requirement set `crs_req_func_spec` is not registered in the link set `crs_req` by getting the currently registered requirement sets.

```
updateRegisteredReqSets(myLinkSet)
registeredReqSets = getRegisteredReqSets(myLinkSet)
```

```
registeredReqSets =

  0x0 empty cell array
```

Cleanup

Clear the open requirement sets and link sets. Close the Requirements Definition for a Cruise Control Model project.

```
slreq.clear;
close(currentProject);
```

Tips

- When you create a link to a requirement, the requirement set of the requirement becomes registered to the link set of the link. You can get the currently registered requirement sets for the link set by using `getRegisteredReqSets`. For more information, see “Load Registered Requirement Sets”.
- You can only unregister a requirement set that is not loaded.
- Loading the link set loads the requirement sets registered to that link set. For more information, see “Load and Resolve Links”.

Version History

Introduced in R2018a

See Also

`slreq.LinkSet` | `getRegisteredReqSets`

Topics

“Create and Store Links”
“Load and Resolve Links”

add

Class: `slreq.Reference`
Package: `slreq`

Add child referenced requirement

Syntax

```
refChild = add(ref,"Artifact",FileName)
refChild = add(ref,"Artifact",FileName,PropertyName,
PropertyValue,...,PropertyNameN,PropertyValueN)
```

Description

`refChild = add(ref,"Artifact",FileName)` adds a child referenced requirement under the referenced requirement `ref` that references requirements in the external document, `FileName`.

`refChild = add(ref,"Artifact",FileName,PropertyName, PropertyValue,...,PropertyNameN,PropertyValueN)` adds a child referenced requirement with properties and property values specified by `PropertyName` and `PropertyValue`.

Input Arguments

`ref` — Referenced requirement
`slreq.Reference` object

Referenced requirement, specified as an `slreq.Reference` object.

`FileName` — External requirements document identifier
string scalar | character vector

External requirements document identifier, specified as a string scalar or character vector. Examples of a document identifier are a Microsoft Office document name or an IBM Rational DOORS Module unique ID.

`PropertyName` — Referenced requirement property name
string scalar | character vector

Referenced requirement property name, specified as an string scalar or a character vector.

You can only enter an `slreq.Reference` property on page 2-65 where the `SetAccess` attribute is `public`.

Example: `"Summary"`

`PropertyValue` — Referenced requirement property value
string scalar | character vector

Referenced requirement property value, specified as an string scalar or a character vector.

Output Arguments

refChild — Referenced child requirement
slreq.Reference object

New referenced child requirement, returned as an slreq.Reference object.

Examples

Add a Child Referenced Requirement under a Referenced Requirement

This example shows how to add a child referenced requirement under a referenced requirement.

Open the CruiseRequirementsExample project and load the crs_req requirement set

```
slreqCCProjectStart;
rs = slreq.load("crs_req");
```

Find the top-level referenced requirement with the summary Functional Requirements. Add a child referenced requirement under that referenced requirement that uses the same external document as the top-level referenced requirement.

```
topRef = find(rs,"Summary","Functional Requirements");
childRef = add(topRef,"Artifact",topRef.Artifact)
```

```
childRef = 
  Reference with properties:

              Id: ''
        CustomId: ''
        Artifact: 'crs_req.docx'
      ArtifactId: ''
          Domain: 'linktype_rmi_word'
       UpdatedOn: 22-Feb-2022 16:01:49
       CreatedOn: 22-Feb-2022 16:01:49
       CreatedBy: ''
      ModifiedBy: ''
        IsLocked: 1
         Summary: ''
     Description: ''
       Rationale: ''
        Keywords: {}
            Type: 'Functional'
    IndexEnabled: 1
     IndexNumber: []
             SID: 32
    FileRevision: 1
      ModifiedOn: 22-Feb-2022 16:01:49
           Dirty: 0
        Comments: [0×0 struct]
           Index: '3.13'
```

Tips

- To add a top-level requirement to a requirement set, use `slreq.ReqSet.add`. To add a requirement as a child of another requirement, use `slreq.Requirement.add`. To add a justification as a child of another justification, use `slreq.Justification.add`.

Version History

Introduced in R2018a

See Also

`slreq.Reference` | `slreq.ReqSet.add` | `slreq.Requirement.add` | `slreq.Justification.add`

addComment

Class: `slreq.Reference`
Package: `slreq`

Add comments to referenced requirements

Syntax

```
newComment = addComment(ref,myComment)
```

Description

`newComment = addComment(ref,myComment)` adds a comment, `myComment`, to the referenced requirement `ref`.

Input Arguments

`ref` — Referenced requirement

`slreq.Reference` object

Referenced requirement, specified as a `slreq.Reference` object.

`myComment` — Comment text

string scalar | character vector

Comment text to add to the requirement, specified as a string scalar or character vector.

Output Arguments

`newComment` — Comment

`struct`

Comment added, returned as a structure containing these fields:

`CommentedBy` — Name of individual or organization who added comment

character vector

Name of the individual or organization who added the comment, returned as a character vector.

`CommentedOn` — Date that comment was added

`datetime`

Date that the comment was added, returned as a `datetime` object.

`CommentedRevision` — Comment revision number

`int32` object

Comment revision number, returned as an `int32` object.

Text — Comment text

character vector

Comment text, returned as a character vector.

Examples

Add Comments to Referenced Requirements

This example shows how to add comments to referenced requirements.

Load the requirement set `crs_req`.

```
rs = slreq.load("crs_req");
```

Find the first referenced requirement in the set.

```
ref = find(rs,Index=1);
```

Add a comment to the referenced requirement.

```
newComment = addComment(ref,"My new comment.");
```

Tips

- To add a comment to a requirement, use `slreq.Requirement.addComment`. To add a comment to a justification, use `slreq.Justification.addComment`.

Alternative Functionality

App

You can also add a comment by using the **Requirements Editor**. Select a referenced requirement and, in the right pane, under **Comments**, click **Add Comment**.

Version History

Introduced in R2018b

See Also

`slreq.Reference` | `getAttribute`

children

Class: slreq.Reference
Package: slreq

Find children references

Syntax

```
childRefs = children(ref)
```

Description

childRefs = children(ref) returns the child referenced requirements childRefs of the slreq.Reference object ref.

Input Arguments

ref — Referenced requirement instance

slreq.Reference object

Reference to a requirement specified as an slreq.Reference object.

Output Arguments

childRef — Child references

slreq.Reference object | slreq.Reference object array

The child referenced requirements belonging to the referenced requirement ref, returned as slreq.Reference objects.

Examples

Find Child References

```
% Load a requirement set file and find referenced requirements
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
allRefs = find(rs, 'Type', 'Reference')

allRefs = 

  1×32 Reference array with properties:

    Keywords
    Artifact
    Id
    Summary
    Description
    SID
    Domain
    SynchronizedOn
    ModifiedOn

ref1 = allRefs(1);

% Find the children of ref1
childRef = children(ref1)

childRef = 

  Reference with properties:

          Keywords: [0×0 char]
          Artifact: 'Req_doc.docx'
                Id: 'R1.1'
           Summary: 'References'
       Description: ''
               SID: 2
            Domain: 'linktype_rmi_word'
    SynchronizedOn: 26-Jul-2015 15:45:22
        ModifiedOn: 27-Jul-2015 12:00:13
```

Tips

- To get the top-level items in a requirement set, use `slreq.ReqSet.children`. To get the child requirements of a requirement use `slreq.Requirement.children`. To get the child justifications of a justification, use `slreq.Justification.children`.

Version History

Introduced in R2018a

See Also

`slreq.Reference` | `slreq.ReqSet` | `slreq.ReqSet.children` | `slreq.Requirement.children` | `slreq.Justification.children` | `parent`

find

Class: `slreq.Reference`
Package: `slreq`

Find children of parent referenced requirements

Syntax

```
childRefs = find(ref,'PropertyName1',PropertyValue1,...,'PropertyNameN',
PropertyValueN)
```

Description

`childRefs = find(ref,'PropertyName1',PropertyValue1,...,'PropertyNameN', PropertyValueN)` finds and returns child referenced requirements `childRefs` of the parent referenced requirement `ref` that match the properties specified by `PropertyName` and `PropertyValue`.

Input Arguments

`ref` — Referenced requirement
`slreq.Reference` object

Referenced requirement, specified as an `slreq.Reference` object.

`PropertyName` — Reference property
character vector

Reference property name, specified as a character vector. See the valid property names in the properties section of `slreq.Reference`.

Example: `'Type'`,`'Keywords'`,`'SID'`

`PropertyValue` — Reference property value
character vector | character array | `datetime` value | scalar | `logical` | structure array

Reference property value, specified as a character vector, character array, `datetime` value, scalar, `logical`, or structure array. The data type depends on the specified `propertyName`. See the valid property values in the properties section of `slreq.Reference`

Output Arguments

`childRefs` — Child referenced requirements
`slreq.Reference` object | `slreq.Reference` object array

Child referenced requirements, returned as `slreq.Reference` objects.

Examples

Find Child Referenced Requirements

This example shows how to find child referenced requirements that match property values.

Load the `crs_req` requirement file, which describes a cruise control system, and assign it to a variable. Find the referenced requirement with index `3`, as this referenced requirement has child referenced requirements.

```
rs = slreq.load('crs_req');
parentRef = find(rs,'Type','Reference','Index','3')
```

```
parentRef = 
  Reference with properties:

             Id: 'Functional Requirements'
       CustomId: 'Functional Requirements'
       Artifact: 'crs_req.docx'
     ArtifactId: '?Functional Requirements'
         Domain: 'linktype_rmi_word'
      UpdatedOn: 02-Feb-2018 13:23:13
      CreatedOn: NaT
      CreatedBy: ''
     ModifiedBy: ''
       IsLocked: 1
        Summary: 'Functional Requirements'
    Description: '<div class=WordSection1>...'
      Rationale: ''
       Keywords: {}
           Type: 'Functional'
   IndexEnabled: 1
    IndexNumber: []
            SID: 9
   FileRevision: 1
     ModifiedOn: 03-Aug-2017 17:34:56
          Dirty: 0
       Comments: [0x0 struct]
          Index: '3'
```

Find all the child referenced requirements of `parentRef` that were modified in revision `1`.

```
childRefs1 = find(parentRef,'FileRevision',1)
```

```
childRefs1=1×18 object
  1x18 Reference array with properties:

    Id
    CustomId
    Artifact
    ArtifactId
    Domain
    UpdatedOn
    CreatedOn
    CreatedBy
    ModifiedBy
    IsLocked
    Summary
    Description
    Rationale
    Keywords
    Type
    IndexEnabled
    IndexNumber
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
    Index
```

Find all the child referenced requirements of `parentRef` that were modified in revision `1` and have an SID equal to `12`.

```
childRefs2 = find(parentRef,'FileRevision',1,'SID',12)
```

```
childRefs2 = 
  Reference with properties:

              Id: 'Activating cruise control'
        CustomId: 'Activating cruise control'
        Artifact: 'crs_req.docx'
      ArtifactId: '?Activating cruise control'
          Domain: 'linktype_rmi_word'
       UpdatedOn: 02-Feb-2018 13:23:13
       CreatedOn: NaT
       CreatedBy: ''
      ModifiedBy: ''
        IsLocked: 1
         Summary: 'Activating cruise control'
     Description: '<div class=WordSection1>...'
       Rationale: ''
        Keywords: {}
            Type: 'Functional'
    IndexEnabled: 1
     IndexNumber: []
             SID: 12
    FileRevision: 1
      ModifiedOn: 03-Aug-2017 17:34:56
           Dirty: 0
        Comments: [0x0 struct]
           Index: '3.3'
```

Cleanup

Clear the open requirement sets and link sets, and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2018a

See Also

`slreq.Reference` | `slreq.ReqSet` | `slreq.find`

getAttribute

Class: slreq.Reference
Package: slreq

Get referenced requirement custom attributes

Syntax

```
val = getAttribute(ref,propertyName)
```

Description

val = getAttribute(ref,propertyName) returns the value of the referenced requirement property or custom attribute specified by propertyName.

Input Arguments

ref — Referenced requirement
slreq.Reference object

Referenced requirement, specified as a slreq.Reference object.

propertyName — Referenced requirement property or custom attribute name
string scalar | character vector

Referenced requirement property or custom attribute name, specified as a string scalar or character vector.

Example: "Priority"

Output Arguments

val — Referenced requirement property or custom attribute value
string scalar | character vector | double | logical | datetime

Referenced requirement property or custom attribute value, returned as a string scalar, character vector, double, logical, or datetime. The data type depends on the property type or custom attribute type.

Example: "High"

Examples

Get Referenced Requirement Custom Attribute Value

This example shows how to get the value of a custom attribute for a referenced requirement.

Load a requirement set called My_Requirement_Set.

```
rs = slreq.load('C:\MATLAB\My_Requirements_Set.slreqx');
```

Find the referenced requirement with ID `R20.1`.

```
ref1 = find(rs,Type="Reference",ID="R20.1");
```

Get the value of the `Priority` custom attribute for the referenced requirement.

```
val = getAttribute(ref1,"Priority")
```

```
val = 

    "Low"
```

Version History

Introduced in R2018a

See Also

`slreq.Reference` | `slreq.ReqSet` | `setAttribute`

getImplementationStatus

Class: `slreq.Reference`
Package: `slreq`

Query referenced requirement implementation status summary

Syntax

```
status = getImplementationStatus(ref)
status = getImplementationStatus(ref, 'self')
```

Description

`status = getImplementationStatus(ref)` returns the implementation status summary for the referenced requirement `ref` and its child references.

`status = getImplementationStatus(ref, 'self')` returns the implementation status summary for just the referenced requirement `ref`.

Input Arguments

`ref` — Referenced requirement instance

`slreq.Reference` object

Referenced requirement instance, specified as an `slreq.Reference` object.

Output Arguments

`status` — Referenced requirement implementation status summary

structure

The implementation status summary for the referenced requirement and its child references, returned as a MATLAB structure containing these fields.

`total` — Total number of referenced requirements

`double`

The total number of Functional referenced requirements (including child references), returned as a `double`.

`implemented` — Implemented referenced requirements

`double`

The total number of implemented referenced requirements (including child references), returned as a `double`.

`justified` — Justified referenced requirements

`double`

The total number of referenced requirements (including child references), justified for implementation, returned as a `double`.

none — Unimplemented referenced requirements
`double`

The total number of unimplemented referenced requirements (including child references), returned as a `double`.

Examples

Get Implementation Status Summary of a Referenced Requirement

```
% Get the implementation status summary of the referenced requirement ref
% and its child references
refImplStatus = getImplementationStatus(ref)

refImplStatus = 

  struct with fields:

          total: 35
    implemented: 23
      justified: 9
           none: 3

% Get the implementation status summary of only the referenced requirement myRef
myRefImplStatus = getImplementationStatus(myRef, 'self')

myRefImplStatus = 

  struct with fields:

   implemented: 0
     justified: 0
          none: 0
```

Version History

Introduced in R2018b

See Also

`updateImplementationStatus`

getPostImportFcn

Class: `slreq.Reference`
Package: `slreq`

Get contents of `PostImportFcn` callback

Syntax

```
callback = getPostImportFcn(topRef)
```

Description

`callback = getPostImportFcn(topRef)` returns the contents of the `PostImportFcn` callback for the Import node `topRef`.

Input Arguments

`topRef` — Import node
`slreq.Reference` object

Import node, specified as an `slreq.Reference` object.

Output Arguments

`callback` — Contents of `PostImportFcn` callback
character vector

Contents of the `PostImportFcn` callback for the Import node, returned as a character vector.

Examples

Use `PostImportFcn` Callback During Import

This example shows how to assign a script as the `PostImportFcn` callback for an Import node. You get the contents of the `PostImportFcn` callback for an Import node and register a different script after you import the requirements.

Import the Requirements

Use `slreq.import` to import the ReqIF file `mySpec.reqif` into Requirements Toolbox™. Name the imported requirement set `myReqSet`, register the script `myPreImportScript2` as the `PreImportFcn`, and register the script `myPostImportScript` as the `PostImportFcn` callback. Return a handle to the requirement set.

```
[~,~,rs] = slreq.import("mySpec.reqif",ReqSet="myReqSet",preImportFcn="myPreImportScript2",postI
```

The script `myPreImportScript2` uses `slreq.getCurrentImportOptions` to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript2.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile2.xml";
```

The mapping file `myMappingFile2.xml` maps these attributes from the ReqIF™ file to these properties in Requirements Toolbox™:

- `ReqSum` to `Summary`
- `Desc` to `Description`
- `ID` to `Custom ID`

The script `myPostImportScript` uses `slreq.getCurrentObject` to get a handle to the Import node, gets the requirement set that the Import node belongs to, and then finds requirements that have the summary `Requirement 1` and `Requirement 2`. Then, the script moves `Requirement 2` under `Requirement 1`.

```
type myPostImportScript.m
```

```
topRef = slreq.getCurrentObject;
rs = reqSet(topRef);
ref = find(rs,Type="Reference",Summary="Requirement 2");
parentRef = find(rs,Type="Reference",Summary="Requirement 1");
parentID = parentRef.SID;
setParent(ref,parentID);
```

Confirm that `Requirement 2` is a child of `Requirement 1`.

```
req1 = find(rs,Summary="Requirement 1");
req2 = children(req1);
reqSummary = req2.Summary
```

```
reqSummary = 
'Requirement 2'
```

Get and Set the `PostImportFcn` Callback

Get a handle to the Import node, then register the script `myPostImportScrip2` as the `PostImportFcn` callback. Confirm that the contents of the callback changed.

```
topRef = children(rs);
setPostImportFcn(topRef,"myPostImportScript2")
newCallback = getPostImportFcn(topRef)
```

```
newCallback = 
'myPostImportScript2'
```

The `myPostImportScript2` script moves `Requirement 2` under `Requirement 3`.

```
type myPostImportScript2.m
```

```
topRef = slreq.getCurrentObject;
rs = reqSet(topRef);
ref = find(rs,Type="Reference",Summary="Requirement 2");
parentRef = find(rs,Type="Reference",Summary="Requirement 3");
parentID = parentRef.SID;
setParent(ref,parentID);
```

Update the requirement set. The PostImportFcn callback executes after you update the requirement set.

```
updateReferences(rs,topRef);
```

Confirm that Requirement 2 is a child of Requirement 3.

```
req3 = find(rs,Summary="Requirement 3");
req2 = children(req3);
reqSummary = req2.Summary
```

```
reqSummary =
'Requirement 2'
```

Version History

Introduced in R2022a

See Also

getPreImportFcn | setPreImportFcn | setPostImportFcn | setParent

Topics

"Use Callbacks to Customize Requirement Import Behavior"

getPreImportFcn

Class: slreq.Reference
Package: slreq

Get registered PreImportFcn callback script

Syntax

```
callback = getPreImportFcn(topRef)
```

Description

callback = getPreImportFcn(topRef) returns the contents of the PreImportFcn callback for the Import node topRef.

Input Arguments

topRef — Import node
slreq.Reference object

Import node, specified as an slreq.Reference object.

Output Arguments

callback — Contents of PreImportFcn callback
character vector

Contents of the PreImportFcn callback for the Import node, returned as a character vector.

Examples

Use PreImportFcn Callback During Import

This example shows how to assign a script as the PreImportFcn callback for an Import node. You get the contents of the PreImportFcn callback for an Import node and register a different script as the PreImportFcn callback after you import the requirements.

Import the Requirements

Use slreq.import to import the ReqIF™ file mySpec.reqif into Requirements Toolbox™. Name the imported requirement set myReqSet and register the script myPreImportScript as the PreImportFcn callback to use during import. Return a handle to the requirement set.

```
[~,~,rs] = slreq.import("mySpec.reqif",ReqSet="myReqSet",preImportFcn="myPreImportScript");
```

The script myPreImportScript uses slreq.getCurrentImportOptions to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile.xml";
```

The mapping file `myMappingFile.xml` uses a generic mapping.

Get the custom ID for the requirement with `Index` set to `1`.

```
req1 = find(rs,Index="1");
cID = req1.CustomId
```

```
cID =

  0x0 empty char array
```

The generic mapping does not map the ReqIF attribute `ID` to the Requirement Toolbox attribute `Custom ID`. Instead, `ID` imports as a custom attribute. Get the value for the `ID` custom attribute for `Requirement 1`.

```
cID = getAttribute(req1,"ID")
```

```
cID =
'A1'
```

Get and Set the `PreImportFcn` Callback Script

Get a handle to the Import node, then register the script `myPreImportScrip2` as the `PreImportFcn` callback. Confirm that the registered callback was changed.

```
topRef = children(rs);
setPreImportFcn(topRef,"myPreImportScript2")
newCallback = getPreImportFcn(topRef)
```

```
newCallback =
'myPreImportScript2'
```

The script `myPreImportScript2` uses `slreq.getCurrentImportOptions` to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript2.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile2.xml";
```

The mapping file `myMappingFile2.xml` maps these attributes from the ReqIF™ file to these properties in Requirements Toolbox™:

- `ReqSum` to `Summary`
- `Desc` to `Description`
- `ID` to `Custom ID`

Update the requirement set. The `PreImportFcn` callback script also executes when you update the requirement set.

```
updateReferences(rs,topRef);
```

Get the custom ID for the requirement with `Index` set to `1`.

```
req1 = find(rs,Index="1");
cID = req1.CustomId

cID =
'A1'
```

Version History

Introduced in R2022a

See Also

`getPostImportFcn` | `setPreImportFcn` | `setPostImportFcn`

Topics

"Use Callbacks to Customize Requirement Import Behavior"

getVerificationStatus

Class: `slreq.Reference`
Package: `slreq`

Query referenced requirement verification status summary

Syntax

```
status = getVerificationStatus(ref)
status = getVerificationStatus(ref, 'self')
```

Description

`status = getVerificationStatus(ref)` returns the verification status summary for the referenced requirement `ref` and all its child references.

`status = getVerificationStatus(ref, 'self')` returns the verification status summary for just the referenced requirement `ref`.

Input Arguments

`ref` — Referenced requirement instance

`slreq.Reference` object

Referenced requirement instance, specified as an `slreq.Reference` object.

Output Arguments

`status` — Referenced requirement verification status summary

structure

The verification status summary for the referenced requirement and its child references, returned as a MATLAB structure containing these fields.

`total` — Total number of referenced requirements

`double`

The total number of referenced requirements (including child references) with Verify links, returned as a `double`.

`passed` — Passed referenced requirements

`double`

The total number of referenced requirements (including child references) that passed the tests associated with them, returned as a `double`.

`failed` — Failed referenced requirements

`double`

The total number of referenced requirements (including child references) that failed the tests associated with them, returned as a `double`.

`unexecuted` — Unexecuted requirements
`double`

The total number of referenced requirements (including child references) with unexecuted associated tests, returned as a `double`.

`justified` — Justified referenced requirements
`double`

The total number of referenced requirements (including child references) that are justified for verification, returned as a `double`.

`none` — Unlinked referenced requirements
`double`

The total number of referenced requirements (including child references) without links to verification objects, returned as a `double`.

Examples

Get Verification Status Summary of Referenced Requirements

```
% Get the verification status summary of the referenced requirement ref
% and all its child references
refVerifStatus = getVerificationStatus(ref)

refVerifStatus =

  struct with fields:

          total: 70
         passed: 45
         failed: 7
     unexecuted: 10
      justified: 1
           none: 7

% Get the verification status summary of only the referenced requirement myRef
myRefVerifStatus = getVerificationStatus(myRef, 'self')

myRefVerifStatus =

  struct with fields:

        passed: 1
        failed: 0
    unexecuted: 0
     justified: 0
          none: 0
```

Version History

Introduced in R2018b

See Also

`updateVerificationStatus`

hasNewUpdate

Class: `slreq.Reference`
Package: `slreq`

Check if import node has available update

Syntax

```
tf = hasNewUpdate(topRef)
```

Description

`tf = hasNewUpdate(topRef)` checks if the external document associated with the import node `topRef` has changed since the document was last imported.

Input Arguments

`topRef` — Import node

`slreq.Reference` object

Import node, specified as an `slreq.Reference` object.

Output Arguments

`tf` — Available update indicator

`0` | `1`

Available update indicator, returned as a `1` or `0` of data type `logical`.

Examples

Check Import Node for Available Update and Update Referenced Requirements

This example shows how to check if the import node has an available update and update the referenced requirements.

Open the Requirements Definition for a Cruise Control Model project.

```
slreqCCProjectStart;
```

Load the `crs_req` requirement set.

```
rs = slreq.load("crs_req");
```

Get a handle to the import node of the requirement set.

```
topRef = children(rs);
```

Check if the import node has an available update.

```
tf = hasNewUpdate(topRef)
```

```
tf = logical
   1
```

A result of `1` means that `topRef` has been updated since the last time it was imported. Update the referenced requirements under the import node.

```
[status,changelist] = updateFromDocument(topRef)
```

```
status =
'Update completed. Refer to Comments on Import1.'

changelist =
    'Updated: CC003_01. Properties: description
     Updated: CC003_02. Properties: description
     Updated: CC003_03. Properties: description
     Updated: CC003_04. Properties: description
     Updated: Cruise control buttons. Properties: description
     Updated: Cruise control mode indicator. Properties: description
     Updated: Cruise control modes. Properties: description
     Updated: Dashboard image. Properties: description
     Updated: Deactivating cruise control. Properties: description
     Updated: Disabling cruise control. Properties: description
     Updated: Enabling cruise control. Properties: description
     Updated: Other inputs. Properties: description
     Updated: ROM. Properties: description
     Updated: Resuming cruise control. Properties: description
     Updated: System Inputs. Properties: description
     Updated: System outputs. Properties: description
     Updated: Throttle value calculation. Properties: description
     '
```

Version History

Introduced in R2019b

See Also

`slreq.Reference` | `updateFromDocument`

inLinks

Class: slreq.Reference
Package: slreq

Get incoming links for referenced requirements

Syntax

```
myLinks = inLinks(ref)
```

Description

myLinks = inLinks(ref) returns the incoming links for the referenced requirement ref.

Input Arguments

ref — Referenced requirement
slreq.Reference object

Referenced requirement, specified as a slreq.Reference object.

Output Arguments

myLinks — Incoming links
slreq.Link array

Incoming links for the requirement, returned as an slreq.Link array.

Examples

Get Incoming and Outgoing Links for Referenced Requirements

This example shows how to get incoming and outgoing links for referenced requirements.

Open the Requirements Definition for a Cruise Control Model project. Load the crs_req requirement set.

```
slreqCCProjectStart;
rs = slreq.load("crs_req");
```

Find the requirement with the index 2.1.2.

```
ref1 = find(rs,Index="2.1.2");
```

Get the incoming links for the requirement.

```
myInLinks = inLinks(ref1);
```

Find the requirement with the index 3.1.

```
ref2 = find(rs,Index="3.1");
```

Get the outgoing links for the requirement.

```
myOutLinks = outLinks(ref2);
```

Tips

- To get the incoming links for a requirement, use `slreq.Requirement.inLinks`.

Alternative Functionality

App

You can also use the **Requirements Editor** to view incoming links. Select a referenced requirement. In the right pane, under **Links**, the incoming links icon ⇦ indicates incoming links.

Version History

Introduced in R2017b

See Also

`slreq.Reference` | `slreq.Link` | `outLinks`

isFilteredIn

Class: slreq.Reference
Package: slreq

Check filtered referenced requirements

Syntax

```
tf = isFilteredIn(ref)
```

Description

`tf = isFilteredIn(ref)` checks if the referenced requirement, `ref`, is filtered in the **Requirements Editor** or Requirements Perspective and returns `1` if the referenced requirement is not filtered and `0` if the referenced requirement is filtered.

Input Arguments

ref — Referenced requirement
slreq.Reference object

Referenced requirement, specified as a `slreq.Reference` object.

Examples

Check for Filtered Referenced Requirements

This example shows how to check if a referenced requirement is filtered.

Load the `crs_req` requirement set.

```
rs = slreq.open("crs_req");
```

Find the requirement with `Summary` set to `Overview`.

```
ref = find(rs,Summary="Overview");
```

Check if the referenced requirement is filtered.

```
tf = isFilteredIn(ref)
```

```
tf = logical
   1
```

Create a filter called `ContainerReqs`. Use the `ReqFilter` property to define a filter that displays only requirements with `Type` set to `Container`.

```
myView = slreq.View.create("ContainerReqs");
myView.ReqFilter = "{'ReqType','Container'};"
```

```
myView = 
  View with properties:

          Name: 'ContainerReqs'
     ReqFilter: "{'ReqType','Container'};"
    LinkFilter: ''
          Host: ''
```

Apply the filter, then check if the referenced requirement is filtered.

```
activate(myView)
tf = isFilteredIn(ref)
```

```
tf = logical
   0
```

Clear the loaded requirement sets and close the **Requirements Editor.**

```
slreq.clear;
```

Tips

- To check if a requirement is filtered, use `slreq.Requirement.isFilteredIn`. To check if a justification is filtered, use `slreq.Justification.isFilteredIn`. To check if a link is filtered, use `slreq.Link.isFilteredIn`.

Version History

Introduced in R2022b

See Also

Apps
Requirements Editor

Classes
`slreq.Reference`

Objects
`slreq.View`

Topics
“Filter Requirements and Links in the Requirements Editor”

isJustifiedFor

Class: `slreq.Reference`
Package: `slreq`

Check if referenced requirement is justified

Syntax

```
tf = isJustifiedFor(ref, linkType)
```

Description

`tf = isJustifiedFor(ref, linkType)` checks if the referenced requirement `ref` is justified for the link type specified by `linkType`.

Input Arguments

`ref` — Referenced requirement instance

`slreq.Reference` object

Referenced requirement to check for justification, specified as an `slreq.Reference` object.

`linkType` — Justification link type

`'Implement'` | `'Verify'`

Justification link type, specified as a character vector.

Output Arguments

`tf` — Justification status

`0` | `1`

The justification status of the referenced requirement, returned as a Boolean.

Examples

Check if Referenced Requirements Are Justified

```
% Check if referenced requirement ref1 is justified for Implementation
ref1_Status = isJustifiedFor(ref1, 'Implement')

ref1_Status =

  logical

   1

% Check if referenced requirement ref2 is justified for Verification
ref2_Status = isJustifiedFor(ref2, 'Verify')
```

```
ref2_Status =

  logical

   0
```

Version History

Introduced in R2018b

See Also

getImplementationStatus | getVerificationStatus

justifyImplementation

Class: slreq.Reference
Package: slreq

Justify referenced requirements for implementation

Syntax

```
implementationJustLink = justifyImplementation(ref, jt)
```

Description

implementationJustLink = justifyImplementation(ref, jt) justifies the referenced requirement ref for implementation by creating a link implementationJustLink from the justification jt to ref.

Input Arguments

ref — Referenced requirement instance

slreq.Reference object

Referenced requirement to justify for implementation, specified as an slreq.Reference object.

jt — Justification object

slreq.Justification object

Justification object to justify ref for implementation, specified as an slreq.Justification object.

Output Arguments

implementationJustLink — Justification link

slreq.Link object

Link to justification object jt of type **Implement**, returned as an slreq.Link object.

Examples

```
% Justify referenced requirement myRef for implementation
% by using a justification object myJust

myImplJustification = justifyImplementation(myRef, myJust)

myImplJustification = 

  Link with properties:

           Type: 'Implement'
    Description: 'Cruise Control Mode (crs_req_func_spec#1)'
       Keywords: [0×0 char]
      Rationale: ''
      CreatedOn: 13-Jan-2017 13:45:12
      CreatedBy: 'John Doe'
     ModifiedOn: 24-Oct-2018 12:25:30
     ModifiedBy: 'Jane Doe'
       Revision: 6
       Comments: [0×0 struct]
```

Version History

Introduced in R2018b

See Also

getImplementationStatus | addJustification

justifyVerification

Class: `slreq.Reference`
Package: `slreq`

Justify referenced requirements for verification

Syntax

`verificationJustLink = justifyVerification(ref, jt)`

Description

`verificationJustLink = justifyVerification(ref, jt)` justifies the referenced requirement `ref` for verification by creating a link `verificationJustLink` from the justification `jt` to `ref`.

Input Arguments

`ref` — Referenced requirement instance

`slreq.Reference` object

Referenced requirement to justify for verification, specified as an `slreq.Reference` object.

`jt` — Justification object

`slreq.Justification` object

Justification object to justify `ref` for verification, specified as an `slreq.Justification` object.

Output Arguments

`verificationJustLink` — Justification link

`slreq.Link` object

Link to justification object `jt` of type **Verify**, returned as an `slreq.Link` object.

Examples

```
% Justify referenced requirement myRef for verification
% by using a justification object myJust

myVerifJustification = justifyVerification(myRef, myJust)

myVerifJustification = 

  Link with properties:

           Type: 'Verify'
    Description: 'Brake Test (crs_req_func_spec#73)'
       Keywords: [0×0 char]
      Rationale: ''
```

```
   CreatedOn: 25-Nov-2017 10:11:35
   CreatedBy: 'John Doe'
  ModifiedOn: 26-Feb-2018 17:16:09
  ModifiedBy: 'Jane Doe'
    Revision: 7
    Comments: [0×0 struct]
```

Version History

Introduced in R2018b

See Also

addJustification | getVerificationStatus

moveDown

Class: slreq.Reference
Package: slreq

Move referenced requirement down in hierarchy

Syntax

```
tf = moveDown(ref)
```

Description

`tf = moveDown(ref)` moves the referenced requirement `ref` down one spot in the hierarchy, and returns `1` if the move executes without error. The referenced requirement `ref` cannot be moved to a new level in the hierarchy.

Note You can use this method only in the `PostImportFcn` callback.

Input Arguments

`ref` — Referenced requirement
`slreq.Reference` object

Referenced requirement, specified as a `slreq.Reference` object.

Output Arguments

`tf` — Move success status
`0` | `1`

Move success status, returned as a `1` or `0` of data type `logical`.

Examples

Move Referenced Requirement in `PostImportFcn` Callback

This example shows how to move an imported referenced requirement up and down in the hierarchy in the `PostImportFcn` callback.

Use `slreq.import` to import the ReqIF™ file `mySpec.reqif` into Requirements Toolbox™. Name the imported requirement set `myReqSet`, register the script `myPreImportScript2` as the `PreImportFcn`, and register the script `movePostImport` as the `PostImportFcn` callback to use during import. Return a handle to the requirement set.

```
[~,~,rs] = slreq.import("mySpec.reqif",ReqSet="myReqSet",preImportFcn="myPreImportScript2",postIn
```

The script myPreImportScript2 uses slreq.getCurrentImportOptions to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript2.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile2.xml";
```

The mapping file myMappingFile2.xml maps these attributes from the ReqIF file to these properties in Requirements Toolbox:

- ReqSum to Summary
- Desc to Description
- ID to Custom ID

The script myPostImportScript uses slreq.getCurrentObject to get a handle to the import node, gets the requirement set that the import node belongs to. The script then finds the referenced requirement that has Summary set to Requirement 3 and moves it up. It also finds the referenced requirement that has Summary set to Requirement 1 and moves it down.

```
type movePostImport.m
```

```
topRef = slreq.getCurrentObject;
rs = reqSet(topRef);
ref1 = find(rs,Type="Reference",Summary="Requirement 3");
tf1 = moveUp(ref1);
ref2 = find(rs,Type="Reference",Summary="Requirement 1");
tf2 = moveDown(ref2);
```

Version History

Introduced in R2022a

See Also

slreq.Reference | remove | moveUp | setParent

Topics

"Use Callbacks to Customize Requirement Import Behavior"

moveUp

Class: `slreq.Reference`
Package: `slreq`

Move referenced requirement up in hierarchy

Syntax

```
tf = moveUp(ref)
```

Description

`tf = moveUp(ref)` moves the referenced requirement `ref` up one spot in the hierarchy, and returns `1` if the move executes without error. The referenced requirement `ref` cannot be moved to a new level in the hierarchy.

Note You can use this method only in the `PostImportFcn` callback.

Input Arguments

`ref` — Referenced requirement
`slreq.Reference` object

Referenced requirement, specified as a `slreq.Reference` object.

Output Arguments

`tf` — Move success status
`0` | `1`

Move success status, returned as a `1` or `0` of data type `logical`.

Examples

Move Referenced Requirement in `PostImportFcn` Callback

This example shows how to move an imported referenced requirement up and down in the hierarchy in the `PostImportFcn` callback.

Use `slreq.import` to import the ReqIF™ file `mySpec.reqif` into Requirements Toolbox™. Name the imported requirement set `myReqSet`, register the script `myPreImportScript2` as the `PreImportFcn`, and register the script `movePostImport` as the `PostImportFcn` callback to use during import. Return a handle to the requirement set.

```
[~,~,rs] = slreq.import("mySpec.reqif",ReqSet="myReqSet",preImportFcn="myPreImportScript2",postIm
```

The script myPreImportScript2 uses slreq.getCurrentImportOptions to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript2.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile2.xml";
```

The mapping file myMappingFile2.xml maps these attributes from the ReqIF file to these properties in Requirements Toolbox:

- ReqSum to Summary
- Desc to Description
- ID to Custom ID

The script myPostImportScript uses slreq.getCurrentObject to get a handle to the import node, gets the requirement set that the import node belongs to. The script then finds the referenced requirement that has Summary set to Requirement 3 and moves it up. It also finds the referenced requirement that has Summary set to Requirement 1 and moves it down.

```
type movePostImport.m
```

```
topRef = slreq.getCurrentObject;
rs = reqSet(topRef);
ref1 = find(rs,Type="Reference",Summary="Requirement 3");
tf1 = moveUp(ref1);
ref2 = find(rs,Type="Reference",Summary="Requirement 1");
tf2 = moveDown(ref2);
```

Version History

Introduced in R2022a

See Also

slreq.Reference | remove | moveDown | setParent

Topics

"Use Callbacks to Customize Requirement Import Behavior"

navigateToExternalArtifact

Class: `slreq.Reference`
Package: `slreq`

Navigate from imported referenced requirement to original requirement

Syntax

```
navigateToExternalArtifact(ref)
```

Description

`navigateToExternalArtifact(ref)` navigates to the requirement in the external document that corresponds to the imported referenced requirement, `ref`.

Note To enable navigation to external documents from referenced requirements that were imported from ReqIF files, you must register a navigation callback function by using `slreq.registerNavigationFcn`.

Input Arguments

`ref` — Referenced requirement
`slreq.Reference` object

Referenced requirement, specified as a `slreq.Reference` object.

Examples

Navigate to Requirements in External Documents

This example shows how to navigate from an imported referenced requirement to the original requirement in a Microsoft® Word document.

Load the `crs_req` requirement set.

```
rs = slreq.load("crs_req");
```

Get a handle to the referenced requirement with the index 2.

```
ref = find(rs,Index=2);
```

Navigate to the original requirement that corresponds to the referenced requirement in the Microsoft Word document.

```
navigateToExternalArtifact(ref)
```

Alternative Functionality

App

You can also use the **Requirements Editor** to navigate to the requirement in the external document. Select a referenced requirement, and, in the right pane, under **Properties**, click **Show in document**.

Version History

Introduced in R2019a

See Also

`slreq.dngConfigure` | `slreq.registerNavigationFcn` | `slreq.getNavigationFcn`

Topics

“Configure Requirements Toolbox for Interaction with Microsoft Office and IBM DOORS”

parent

Class: slreq.Reference
Package: slreq

Find parent item of referenced requirement

Syntax

```
parentObj = parent(ref)
```

Description

parentObj = parent(ref) returns the parent object parentObj of the slreq.Reference object req.

Input Arguments

ref — Referenced requirement instance

slreq.Reference object

Referenced requirement specified as an slreq.Reference object.

Output Arguments

parentObj — Parent object

slreq.Reference object | slreq.ReqSet object

The parent of the referenced requirement ref, returned as an slreq.Reference object or as an slreq.ReqSet object.

Examples

Find Parent References

```
% Load a requirement set file and find referenced requirements
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
refs = find(rs, 'Type', 'Reference')

refs = 

  1×32 Reference array with properties:

    Keywords
    Artifact
    Id
    Summary
    Description
    SID
    Domain
    SynchronizedOn
    ModifiedOn

% Find the parent of the first reference element
parentRef1 = parent(refs(1));

parentRef1 = 

  ReqSet with properties:

             Description: ''
                    Name: 'My_Requirements_Set_1'
                Filename: 'C:\MATLAB\My_Requirements_Set_1.slreqx'
                Revision: 6
                   Dirty: 1
    CustomAttributeNames: {}
```

Version History

Introduced in R2018a

See Also

slreq.Reference | slreq.ReqSet | children

outLinks

Class: `slreq.Reference`
Package: `slreq`

Get outgoing links for referenced requirements

Syntax

```
myLinks = outLinks(ref)
```

Description

`myLinks = outLinks(ref)` returns the outgoing links for the referenced requirement `ref`.

Input Arguments

`ref` — Referenced requirement
`slreq.Reference` object

Referenced requirement, specified as a `slreq.Reference` object.

Output Arguments

`myLinks` — Outgoing links
`slreq.Link` array

Outgoing links for the requirement, returned as an `slreq.Link` array.

Examples

Get Incoming and Outgoing Links for Referenced Requirements

This example shows how to get incoming and outgoing links for referenced requirements.

Open the Requirements Definition for a Cruise Control Model project. Load the `crs_req` requirement set.

```
slreqCCProjectStart;
rs = slreq.load("crs_req");
```

Find the requirement with the index `2.1.2`.

```
ref1 = find(rs,Index="2.1.2");
```

Get the incoming links for the requirement.

```
myInLinks = inLinks(ref1);
```

Find the requirement with the index `3.1`.

```
ref2 = find(rs,Index="3.1");
```

Get the outgoing links for the requirement.

```
myOutLinks = outLinks(ref2);
```

Tips

- To get the outgoing links for a requirement, use `slreq.Requirement.outLinks`. To get the outgoing links for a justification, use `slreq.Justification.outLinks`.

Alternative Functionality

App

You can also use the **Requirements Editor** to view outgoing links. Select a referenced requirement. In the right pane, under **Links**, the outgoing links icon ⇨ indicates outgoing links.

Version History

Introduced in R2017b

See Also

`slreq.Reference` | `slreq.Link` | `inLinks`

remove

Class: slreq.Reference
Package: slreq

Remove referenced requirements

Syntax

```
count = remove(topRef)
count = remove(ref)
```

Description

`count = remove(topRef)` removes all descendant referenced requirements under the import node `topRef` as well as the import node itself. The function returns the number of referenced requirements removed.

`count = remove(ref)` removes the referenced requirement `ref` and the descendant referenced requirements. The function returns the number of referenced requirements removed. You can use this syntax only in the `PostImportFcn` callback.

Input Arguments

topRef — Import node
slreq.Reference object

Import node, specified as an `slreq.Reference` object.

ref — Referenced requirement
slreq.Reference object

Referenced requirement, specified as a `slreq.Reference` object.

Output Arguments

count — Removed referenced requirements count
double

The number of referenced requirements removed, returned as a double.

Examples

Remove Import Node from Requirement Set

Load a requirement set file called `myReqSet`.

```
rs = slreq.load("myReqSet");
```

Get a handle to the import node.

```
topRef = children(rs);
```

Remove the import node and its descendant requirements.

```
count = remove(topRef)
```

```
count =

    46
```

Remove Referenced Requirement in `PostImportFcn` Callback

This example shows how to remove an imported referenced requirement in the `PostImportFcn` callback.

Use `slreq.import` to import the ReqIF™ file `mySpec.reqif` into Requirements Toolbox™. Name the imported requirement set `myReqSet`, register the script `myPreImportScript2` as the `PreImportFcn`, and register the script `removePostImport` as the `PostImportFcn` callback to use during import. Return a handle to the requirement set.

```
[~,~,rs] = slreq.import("mySpec.reqif",ReqSet="myReqSet", ...
    preImportFcn="myPreImportScript2",postImportFcn="removePostImport");
```

The script `myPreImportScript2` uses `slreq.getCurrentImportOptions` to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript2.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile2.xml";
```

The mapping file `myMappingFile2.xml` maps these attributes from the ReqIF file to these properties in Requirements Toolbox:

- `ReqSum` to `Summary`
- `Desc` to `Description`
- `ID` to `Custom ID`

The script `myPostImportScript` uses `slreq.getCurrentObject` to get a handle to the import node, gets the requirement set that the import node belongs to, then finds and removes the referenced requirement that has `Summary` set to `Requirement 3`.

```
type removePostImport.m
```

```
topRef = slreq.getCurrentObject;
rs = reqSet(topRef);
ref = find(rs,Type="Reference",Summary="Requirement 3");
count = remove(ref);
```

Version History

Introduced in R2019a

See Also

`add` | `slreq.Reference`

Topics

“Use Callbacks to Customize Requirement Import Behavior”

reqSet

Class: slreq.Reference
Package: slreq

Return parent requirement set

Syntax

rsout = reqSet(ref)

Description

rsout = reqSet(ref) returns the parent requirement set rsout to which the referenced requirement ref belongs.

Input Arguments

ref — Referenced requirement
slreq.Reference object

Referenced requirement, specified as a slreq.Reference object.

Output Arguments

rsout — Parent requirement set
slreq.ReqSet object

The parent requirement set of the referenced requirement ref, returned as an slreq.ReqSet object.

Examples

Query Requirement Set Information

```
% Load a new requirement set file and select one referenced requirement
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
allRefs = find(rs,'Type','Reference');
ref = allRefs(1);

% Query which requirement set ref belongs to
reqSet(ref)

ans = 

  ReqSet with properties:

           Description: ''
                  Name: 'My_Requirements_Set_1'
              Filename: 'C:\MATLAB\My_Requirements_Set_1.slreqx'
              Revision: 65
```

```
                 Dirty: 0
   CustomAttributeNames: {}
```

Version History

Introduced in R2018a

See Also

`slreq.Reference` | `slreq.ReqSet` | `parent`

setAttribute

Class: slreq.Reference
Package: slreq

Set referenced requirement custom attributes

Syntax

```
setAttribute(ref,propertyName,propertyValue)
```

Description

setAttribute(ref,propertyName,propertyValue) sets the value of the referenced requirement property or custom attribute, propertyName, to the value specified by propertyValue.

Input Arguments

ref — Referenced requirement

slreq.Reference object

Referenced requirement, specified as a slreq.Reference object.

propertyName — Referenced requirement property or custom attribute name

string scalar | character vector

Referenced requirement property or custom attribute name, specified as a string scalar or character vector.

Example: "Priority"

propertyValue — Referenced requirement custom attribute value

string scalar | character vector | double | logical | datetime

Referenced requirement property or custom attribute value, specified as a string scalar, character vector, double, logical, or datetime. The data type depends on the property type or custom attribute type.

Example: "High"

Examples

Set Referenced Requirement Custom Attribute Value

This example shows how to set the value of a custom attribute for a referenced requirement.

Load a requirement set called My_Requirement_Set.

```
rs = slreq.load('C:\MATLAB\My_Requirements_Set.slreqx');
```

Find the referenced requirement with ID R20.1.

```
ref1 = find(rs,Type="Reference",ID="R20.1");
```

Set the `Priority` custom attribute of the referenced requirement to `Low`.

```
setAttribute(ref1,"Priority","Low");
```

Version History

Introduced in R2018a

See Also

`slreq.Reference` | `slreq.ReqSet` | `getAttribute`

setParent

Class: slreq.Reference
Package: slreq

Set parent of referenced requirement in PostImportFcn callback

Syntax

```
setParent(ref,parentID)
```

Description

setParent(ref,parentID) moves the referenced requirement ref under the parent referenced requirement specified by parentID. You can only use this method in the PostImportFcn callback.

Input Arguments

ref — Referenced requirement
slreq.Reference object

Referenced requirement, specified as a slreq.Reference object.

parentID — SID of parent referenced requirement
int32 | double

SID on page 2-0 of the parent referenced requirement, specified as an int32 or a double.

Examples

Use PostImportFcn Callback During Import

This example shows how to assign a script as the PostImportFcn callback for an Import node. You get the contents of the PostImportFcn callback for an Import node and register a different script after you import the requirements.

Import the Requirements

Use slreq.import to import the ReqIF file mySpec.reqif into Requirements Toolbox™. Name the imported requirement set myReqSet, register the script myPreImportScript2 as the PreImportFcn, and register the script myPostImportScript as the PostImportFcn callback. Return a handle to the requirement set.

```
[~,~,rs] = slreq.import("mySpec.reqif",ReqSet="myReqSet",preImportFcn="myPreImportScript2",postI
```

The script myPreImportScript2 uses slreq.getCurrentImportOptions to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript2.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile2.xml";
```

The mapping file `myMappingFile2.xml` maps these attributes from the ReqIF™ file to these properties in Requirements Toolbox™:

- `ReqSum` to `Summary`
- `Desc` to `Description`
- `ID` to `Custom ID`

The script `myPostImportScript` uses `slreq.getCurrentObject` to get a handle to the Import node, gets the requirement set that the Import node belongs to, and then finds requirements that have the summary `Requirement 1` and `Requirement 2`. Then, the script moves `Requirement 2` under `Requirement 1`.

```
type myPostImportScript.m
```

```
topRef = slreq.getCurrentObject;
rs = reqSet(topRef);
ref = find(rs,Type="Reference",Summary="Requirement 2");
parentRef = find(rs,Type="Reference",Summary="Requirement 1");
parentID = parentRef.SID;
setParent(ref,parentID);
```

Confirm that `Requirement 2` is a child of `Requirement 1`.

```
req1 = find(rs,Summary="Requirement 1");
req2 = children(req1);
reqSummary = req2.Summary
```

```
reqSummary = 
'Requirement 2'
```

Get and Set the `PostImportFcn` Callback

Get a handle to the Import node, then register the script `myPostImportScrip2` as the `PostImportFcn` callback. Confirm that the contents of the callback changed.

```
topRef = children(rs);
setPostImportFcn(topRef,"myPostImportScript2")
newCallback = getPostImportFcn(topRef)
```

```
newCallback = 
'myPostImportScript2'
```

The `myPostImportScript2` script moves `Requirement 2` under `Requirement 3`.

```
type myPostImportScript2.m
```

```
topRef = slreq.getCurrentObject;
rs = reqSet(topRef);
ref = find(rs,Type="Reference",Summary="Requirement 2");
parentRef = find(rs,Type="Reference",Summary="Requirement 3");
parentID = parentRef.SID;
setParent(ref,parentID);
```

Update the requirement set. The `PostImportFcn` callback executes after you update the requirement set.

```
updateReferences(rs,topRef);
```

Confirm that `Requirement 2` is a child of `Requirement 3`.

```
req3 = find(rs,Summary="Requirement 3");
req2 = children(req3);
reqSummary = req2.Summary
```

```
reqSummary = 
'Requirement 2'
```

Version History

Introduced in R2022a

See Also

`slreq.Reference` | `getPostImportFcn` | `setPostImportFcn` | `moveUp` | `moveDown`

Topics

"Use Callbacks to Customize Requirement Import Behavior"

setPostImportFcn

Class: `slreq.Reference`
Package: `slreq`

Assign `PostImportFcn` callback script

Syntax

```
setPostImportFcn(topRef,callbackScript)
```

Description

`setPostImportFcn(topRef,callbackScript)` assigns the script specified by `callbackScript` as the `PostImportFcn` callback script for the Import node `topRef`.

Input Arguments

`topRef` — Import node
`slreq.Reference` object

Import node, specified as an `slreq.Reference` object.

`callbackScript` — Name of script to register
string scalar | character vector

Name of the script to register as the `PostImportFcn` callback for the Import node, specified as a string scalar or character vector.

Examples

Use `PostImportFcn` Callback During Import

This example shows how to assign a script as the `PostImportFcn` callback for an Import node. You get the contents of the `PostImportFcn` callback for an Import node and register a different script after you import the requirements.

Import the Requirements

Use `slreq.import` to import the ReqIF file `mySpec.reqif` into Requirements Toolbox™. Name the imported requirement set `myReqSet`, register the script `myPreImportScript2` as the `PreImportFcn`, and register the script `myPostImportScript` as the `PostImportFcn` callback. Return a handle to the requirement set.

```
[~,~,rs] = slreq.import("mySpec.reqif",ReqSet="myReqSet",preImportFcn="myPreImportScript2",postIm
```

The script `myPreImportScript2` uses `slreq.getCurrentImportOptions` to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript2.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile2.xml";
```

The mapping file `myMappingFile2.xml` maps these attributes from the ReqIF™ file to these properties in Requirements Toolbox™:

- `ReqSum` to `Summary`
- `Desc` to `Description`
- `ID` to `Custom ID`

The script `myPostImportScript` uses `slreq.getCurrentObject` to get a handle to the Import node, gets the requirement set that the Import node belongs to, and then finds requirements that have the summary `Requirement 1` and `Requirement 2`. Then, the script moves `Requirement 2` under `Requirement 1`.

```
type myPostImportScript.m
```

```
topRef = slreq.getCurrentObject;
rs = reqSet(topRef);
ref = find(rs,Type="Reference",Summary="Requirement 2");
parentRef = find(rs,Type="Reference",Summary="Requirement 1");
parentID = parentRef.SID;
setParent(ref,parentID);
```

Confirm that `Requirement 2` is a child of `Requirement 1`.

```
req1 = find(rs,Summary="Requirement 1");
req2 = children(req1);
reqSummary = req2.Summary
```

```
reqSummary = 
'Requirement 2'
```

Get and Set the `PostImportFcn` Callback

Get a handle to the Import node, then register the script `myPostImportScrip2` as the `PostImportFcn` callback. Confirm that the contents of the callback changed.

```
topRef = children(rs);
setPostImportFcn(topRef,"myPostImportScript2")
newCallback = getPostImportFcn(topRef)
```

```
newCallback = 
'myPostImportScript2'
```

The `myPostImportScript2` script moves `Requirement 2` under `Requirement 3`.

```
type myPostImportScript2.m
```

```
topRef = slreq.getCurrentObject;
rs = reqSet(topRef);
ref = find(rs,Type="Reference",Summary="Requirement 2");
parentRef = find(rs,Type="Reference",Summary="Requirement 3");
parentID = parentRef.SID;
setParent(ref,parentID);
```

Update the requirement set. The `PostImportFcn` callback executes after you update the requirement set.

```
updateReferences(rs,topRef);
```

Confirm that `Requirement 2` is a child of `Requirement 3`.

```
req3 = find(rs,Summary="Requirement 3");
req2 = children(req3);
reqSummary = req2.Summary
```

```
reqSummary =
'Requirement 2'
```

Version History

Introduced in R2022a

See Also

`getPostImportFcn` | `getPreImportFcn` | `setPreImportFcn` | `setParent`

Topics

"Use Callbacks to Customize Requirement Import Behavior"

setPreImportFcn

Class: slreq.Reference
Package: slreq

Assign PreImportFcn callback script

Syntax

```
setPreImportFcn(topRef,callbackScript)
```

Description

setPreImportFcn(topRef,callbackScript) assigns the script specified by callbackScript as the PreImportFcn callback script for the Import node topRef.

Input Arguments

topRef — Import node
slreq.Reference object

Import node, specified as an slreq.Reference object.

callbackScript — Name of script to register
string scalar | character vector

Name of the script to register as the PreImportFcn callback for the Import node, specified as a string scalar or character vector.

Examples

Use PreImportFcn Callback During Import

This example shows how to assign a script as the PreImportFcn callback for an Import node. You get the contents of the PreImportFcn callback for an Import node and register a different script as the PreImportFcn callback after you import the requirements.

Import the Requirements

Use slreq.import to import the ReqIF™ file mySpec.reqif into Requirements Toolbox™. Name the imported requirement set myReqSet and register the script myPreImportScript as the PreImportFcn callback to use during import. Return a handle to the requirement set.

```
[~,~,rs] = slreq.import("mySpec.reqif",ReqSet="myReqSet",preImportFcn="myPreImportScript");
```

The script myPreImportScript uses slreq.getCurrentImportOptions to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile.xml";
```

The mapping file `myMappingFile.xml` uses a generic mapping.

Get the custom ID for the requirement with `Index` set to `1`.

```
req1 = find(rs,Index="1");
cID = req1.CustomId
```

```
cID =

  0x0 empty char array
```

The generic mapping does not map the ReqIF attribute `ID` to the Requirement Toolbox attribute `Custom ID`. Instead, `ID` imports as a custom attribute. Get the value for the `ID` custom attribute for `Requirement 1`.

```
cID = getAttribute(req1,"ID")
```

```
cID =
'A1'
```

Get and Set the `PreImportFcn` Callback Script

Get a handle to the Import node, then register the script `myPreImportScrip2` as the `PreImportFcn` callback. Confirm that the registered callback was changed.

```
topRef = children(rs);
setPreImportFcn(topRef,"myPreImportScript2")
newCallback = getPreImportFcn(topRef)
```

```
newCallback =
'myPreImportScript2'
```

The script `myPreImportScript2` uses `slreq.getCurrentImportOptions` to get the import options, then specifies the attribute mapping file to use during import.

```
type myPreImportScript2.m
```

```
importOptions = slreq.getCurrentImportOptions;
importOptions.MappingFile = "myMappingFile2.xml";
```

The mapping file `myMappingFile2.xml` maps these attributes from the ReqIF™ file to these properties in Requirements Toolbox™:

- `ReqSum` to `Summary`
- `Desc` to `Description`
- `ID` to `Custom ID`

Update the requirement set. The `PreImportFcn` callback script also executes when you update the requirement set.

```
updateReferences(rs,topRef);
```

Get the custom ID for the requirement with `Index` set to `1`.

```
req1 = find(rs,Index="1");
cID = req1.CustomId
```

```
cID =
'A1'
```

Version History

Introduced in R2022a

See Also

`getPostImportFcn` | `getPreImportFcn` | `setPostImportFcn`

Topics

“Use Callbacks to Customize Requirement Import Behavior”

unlock

Class: `slreq.Reference`
Package: `slreq`

Unlock referenced requirements

Syntax

`unlock(ref)`

Description

`unlock(ref)` unlocks a referenced requirement for editing.

Input Arguments

ref — Referenced requirement

`slreq.Reference` object

Referenced requirement to unlock, specified as an `slreq.Reference` object.

Examples

Unlock an Imported Referenced Requirement

```
% Load a requirement set file
rs = slreq.load('C:\MATLAB\My_Requirement_Set_1.slreqx');

% Find all referenced requirements in the requirement set
allRefs = find(rs, 'Type', 'Reference')

allRefs = 

  1×73 Reference array with properties:

    Id
    CustomId
    Artifact
    ArtifactId
    Domain
    UpdatedOn
    CreatedOn
    CreatedBy
    ModifiedBy
    IsLocked
    Summary
    Description
    Rationale
    Keywords
    Type
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments

% Unlock a referenced requirement
unlock(allRefs(25))
```

Version History

Introduced in R2019a

See Also

`unlockAll`

unlockAll

Class: `slreq.Reference`
Package: `slreq`

Unlock all child referenced requirements for editing

Syntax

`unlockAll(topRef)`

Description

`unlockAll(topRef)` unlocks all the child referenced requirements of the top Import node `topRef`.

Input Arguments

`topRef` — Import node

`slreq.Reference` object

Import node, specified as an `slreq.Reference` object.

Examples

Unlock all the Children of a Parent Referenced Requirement

```
% Load a requirement set file
rs = slreq.load('C:\MATLAB\My_Requirement_Set_1.slreqx');

% Find all referenced requirements in the requirement set
allRefs = find(rs, 'Type', 'Reference')

allRefs = 

  1×25 Reference array with properties:

    Id
    CustomId
    Artifact
    ArtifactId
    Domain
    UpdatedOn
    CreatedOn
    CreatedBy
    ModifiedBy
    IsLocked
    Summary
    Description
    Rationale
    Keywords
    Type
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments

% Unlock all child referenced requirements of the top Import node
unlockall(allRefs(1))
```

Version History

Introduced in R2019a

See Also

`unlock`

updateFromDocument

Class: `slreq.Reference`
Package: `slreq`

Update referenced requirements from external requirements document

Syntax

```
[status,changeList] = updateFromDocument(topRef)
```

Description

`[status,changeList] = updateFromDocument(topRef)` updates the referenced requirements under the Import node `topRef`. The function returns the update status and a list of updated requirements.

Input Arguments

`topRef` — Import node
`slreq.Reference` object

Import node, specified as an `slreq.Reference` object.

Output Arguments

`status` — Update status
character vector

Requirement set update status, returned as a character vector.

`changeList` — List of updated referenced requirements
character vector

List of updated referenced requirements, returned as a character vector. The list includes the properties on page 2-65 of each referenced requirement changed by the function.

Examples

Check Import Node for Available Update and Update Referenced Requirements

This example shows how to check if the import node has an available update and update the referenced requirements.

Open the Requirements Definition for a Cruise Control Model project.

```
slreqCCProjectStart;
```

Load the `crs_req` requirement set.

```
rs = slreq.load("crs_req");
```

Get a handle to the import node of the requirement set.

```
topRef = children(rs);
```

Check if the import node has an available update.

```
tf = hasNewUpdate(topRef)
```

```
tf = logical
   1
```

A result of `1` means that `topRef` has been updated since the last time it was imported. Update the referenced requirements under the import node.

```
[status,changelist] = updateFromDocument(topRef)
```

```
status = 
'Update completed. Refer to Comments on Import1.'

changelist = 
    'Updated: CC003_01. Properties: description
     Updated: CC003_02. Properties: description
     Updated: CC003_03. Properties: description
     Updated: CC003_04. Properties: description
     Updated: Cruise control buttons. Properties: description
     Updated: Cruise control mode indicator. Properties: description
     Updated: Cruise control modes. Properties: description
     Updated: Dashboard image. Properties: description
     Updated: Deactivating cruise control. Properties: description
     Updated: Disabling cruise control. Properties: description
     Updated: Enabling cruise control. Properties: description
     Updated: Other inputs. Properties: description
     Updated: ROM. Properties: description
     Updated: Resuming cruise control. Properties: description
     Updated: System Inputs. Properties: description
     Updated: System outputs. Properties: description
     Updated: Throttle value calculation. Properties: description
     '
```

Tips

- You can use `updateReferences` to update the referenced requirements in a requirement set by specifying the external requirements document identifier.

Version History

Introduced in R2019a

See Also

`slreq.Reference` | `slreq.import` | `updateReferences` | `hasNewUpdate`

Topics

"Update Imported Requirements"

add

Class: `slreq.ReqSet`
Package: `slreq`

Add requirements to requirement set

Syntax

```
req = add(rs)
req = add(rs,"Artifact",artifactName)
req = add( ___ ,reqProperty,value,...,refPropertyN,valueN)
```

Description

`req = add(rs)` adds a requirement to the requirement set `rs` and returns a handle to the requirement.

`req = add(rs,"Artifact",artifactName)` adds a referenced requirement associated with the external requirements document, `artifactName`.

`req = add( ___ ,reqProperty,value,...,refPropertyN,valueN)` adds a requirement or a referenced requirement to the requirement set with properties and property values specified by `reqProperty` and `value`, respectively.

Input Arguments

`rs` — Requirement set

`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

`reqProperty` — Requirement property name

string scalar | character vector

Requirement or referenced requirement property name, specified as a string scalar or a character vector.

You can only enter an `slreq.Requirement` property on page 2-76 or `slreq.Reference` property on page 2-65 where the `SetAccess` attribute is `public`.

Example: `"Summary"`

`value` — Requirement property value

string scalar | character vector

Requirement or referenced requirement property value, specified as an string scalar or a character vector.

`artifactName` — External requirements document name

string scalar | character vector

External requirements document name, specified as a string scalar or a character vector.

Output Arguments

req — Requirement
slreq.Requirement object | slreq.Reference object

Requirement or referenced requirement, returned as an slreq.Requirement or an slreq.Reference object.

Examples

Add a Requirement to a Requirement Set

This example shows how to add a requirement to a requirement set.

Load the requirement set myReqSet, which does not contain any requirements.

```
rs = slreq.load("myReqSet");
```

Use the add method to add a requirement to the requirement set.

```
req = add(rs)
```

```
req = 
  Requirement with properties:

            Type: 'Functional'
              Id: '#2'
         Summary: ''
     Description: ''
        Keywords: {}
       Rationale: ''
       CreatedOn: 01-Sep-2022 13:59:48
       CreatedBy: 'batserve'
      ModifiedBy: 'batserve'
    IndexEnabled: 1
     IndexNumber: []
             SID: 2
    FileRevision: 1
      ModifiedOn: 01-Sep-2022 13:59:48
           Dirty: 1
        Comments: [0x0 struct]
           Index: '1'
```

Cleanup

Discard the requirement set without saving.

```
discard(rs);
```

Add a Referenced Requirement to a Requirement Set

This example shows how to add a referenced requirement to a requirement set.

Open the `CruiseRequirementsExample` project and load the `crs_req` requirement set.

```
slreqCCProjectStart;
rs = slreq.load("crs_req");
```

Use the `add` method to add a referenced requirement to the requirement set as an Import node. Associate the Import node with the `crs_req.docx` file as the external requirements artifact.

```
ref = add(rs,"Artifact","crs_req.docx")
```

```
ref = 
  Reference with properties:

             Id: ''
       CustomId: ''
       Artifact: 'crs_req.docx'
     ArtifactId: ''
         Domain: 'linktype_rmi_word'
      UpdatedOn: 22-Feb-2022 16:16:54
      CreatedOn: 22-Feb-2022 16:16:54
      CreatedBy: ''
     ModifiedBy: ''
       IsLocked: 1
        Summary: ''
    Description: ''
      Rationale: ''
       Keywords: {}
           Type: 'Functional'
   IndexEnabled: 1
    IndexNumber: []
            SID: 32
   FileRevision: 1
     ModifiedOn: 22-Feb-2022 16:16:54
          Dirty: 0
       Comments: [0×0 struct]
          Index: 'Import2'
```

Specify Properties when Adding Requirements to a Requirement Set

This example shows how to specify properties when adding a requirement to a requirement set.

Load the requirement set `myReqSet`, which does not contain any requirements.

```
rs = slreq.load("myReqSet");
```

Use the `add` method to add a requirement to the requirement set. Set the requirement summary to `New Req` and set the requirement description to `My new requirement`.

```
req = add(rs,"Summary","New Req","Description","My new requirement")
```

```
req = 
  Requirement with properties:
```

```
            Type: 'Functional'
              Id: '#2'
         Summary: 'New Req'
     Description: 'My new requirement'
        Keywords: {}
       Rationale: ''
       CreatedOn: 01-Sep-2022 13:59:50
       CreatedBy: 'batserve'
      ModifiedBy: 'batserve'
    IndexEnabled: 1
     IndexNumber: []
             SID: 2
    FileRevision: 1
      ModifiedOn: 01-Sep-2022 13:59:50
           Dirty: 1
        Comments: [0x0 struct]
           Index: '1'
```

Cleanup

Discard the requirement set without saving.

```
discard(rs);
```

Specify Properties when Adding Referenced Requirements to a Requirement Set

This example shows how to specify properties when adding a referenced requirement to a requirement set.

Open the `CruiseRequirementsExample` project and load the `crs_req` requirement set.

```
slreqCCProjectStart;
rs = slreq.load("crs_req");
```

Use the `add` method to add a referenced requirement to the requirement set as an Import node. Associate the Import node with the `crs_req.docx` file as the external requirements artifact. Set the requirement summary to `New Import Node` and set the requirement description to `My new Import node`.

```
ref = add(rs,"Artifact","crs_req.docx","Summary","New Import Node","Description","My new Import
```

```
ref = 
  Reference with properties:

              Id: ''
        CustomId: ''
        Artifact: 'crs_req.docx'
      ArtifactId: ''
          Domain: 'linktype_rmi_word'
       UpdatedOn: 22-Feb-2022 16:19:26
       CreatedOn: 22-Feb-2022 16:19:26
       CreatedBy: ''
      ModifiedBy: ''
        IsLocked: 1
```

```
         Summary: 'New Import Node'
     Description: 'My new Import node'
       Rationale: ''
        Keywords: {}
            Type: 'Functional'
    IndexEnabled: 1
     IndexNumber: []
             SID: 32
    FileRevision: 1
      ModifiedOn: 22-Feb-2022 16:19:26
           Dirty: 0
        Comments: [0×0 struct]
           Index: 'Import2'
```

Tips

- To add a requirement as a child of another requirement, use `slreq.Requirement.add`. To add a referenced requirement as a child of another referenced requirement, use `slreq.Reference.add`. To add a justification as a child of another justification, use `slreq.Justification.add`.

Version History

Introduced in R2017b

See Also

`slreq.ReqSet` | `slreq.Reference` | `slreq.Requirement` | `slreq.Requirement.add` | `slreq.Reference.add` | `slreq.Justification.add`

addAttribute

Class: slreq.ReqSet
Package: slreq

Add custom attribute to requirement set

Syntax

```
addAttribute(rs,name,type)
addAttribute(rs,name,'Checkbox','DefaultValue',value)
addAttribute(rs,name,'Combobox','List',options)
addAttribute(rs,___,'Description',descr)
```

Description

addAttribute(rs,name,type) adds a custom attribute with the name specified by name and the custom attribute type specified by type to the requirement set rs.

addAttribute(rs,name,'Checkbox','DefaultValue',value) adds a Checkbox custom attribute with the name specified by name and the default value specified by value to the requirement set rs.

addAttribute(rs,name,'Combobox','List',options) adds a Combobox custom attribute with the name specified by name, and the list options specified by options to the requirement set rs.

addAttribute(rs,___,'Description',descr) adds a custom attribute with the name specified by name, the type specified by type, and the description specified by descr to the requirement set rs.

Input Arguments

rs — Requirement set
slreq.ReqSet object

Requirement set, specified as an slreq.ReqSet object.

name — Custom attribute name
character array

Custom attribute name, specified as a character array.

type — Custom attribute type
'Edit' | 'Checkbox' | 'Combobox' | 'DateTime'

Custom attribute type, specified as a character array. The valid custom attribute types are Edit, Checkbox, Combobox, and DateTime.

descr — Custom attribute description
character array

Custom attribute description, specified as a character array.

value — Checkbox default value

false (default) | true

Checkbox default value, specified as a logical 1 (true) or 0 (false).

options — Combobox list options

cell array

Combobox list options, specified as a cell array. The list of options is valid only if 'Unset' is the first entry. 'Unset' indicates that the user hasn't chosen an option from the combo box. If the list does not start with 'Unset', it will be automatically appended as the first entry.

Example: {'Unset','A','B','C'}

Examples

Add Custom Attribute to Requirement Set

This example shows how to add a custom attribute of all four types to a requirement set, Edit, Checkbox, Combobox, and DateTime, and how to add a custom attribute with a description.

Add an Edit Custom Attribute

Load crs_req_func_spec, which describes a cruise control system and assign it to a variable.

```
rs = slreq.load('crs_req_func_spec');
```

Add an Edit custom attribute. Confirm that the attribute was successfully added by using inspectAttribute.

```
addAttribute(rs,'MyEditAttribute','Edit');
atrb = inspectAttribute(rs,'MyEditAttribute')
```

```
atrb = struct with fields:
           name: 'MyEditAttribute'
           type: Edit
    description: ''
```

Add a Checkbox Custom Attribute

Add a Checkbox custom attribute with the default value true. Confirm that the attribute was successfully added by using inspectAttribute.

```
addAttribute(rs,'MyCheckbox','Checkbox','DefaultValue',true);
atrb2 = inspectAttribute(rs,'MyCheckbox')
```

```
atrb2 = struct with fields:
           name: 'MyCheckbox'
           type: Checkbox
    description: ''
        default: 1
```

Add a Combobox Custom Attribute

Add a ComboBox custom attribute with the options Unset, A, B, and C. Confirm that the attribute was successfully added by using inspectAttribute.

```
addAttribute(rs,'MyCombobox','Combobox','List',{'Unset','A','B','C'});
atrb3 = inspectAttribute(rs,'MyCombobox')
```

```
atrb3 = struct with fields:
           name: 'MyCombobox'
           type: Combobox
    description: ''
           list: {'Unset'  'A'  'B'  'C'}
```

Add a DateTime Custom Attribute

Add a DateTime custom attribute. Confirm that the attribute was successfully added by using inspectAttribute.

```
addAttribute(rs,'MyDateTime','DateTime');
atrb4 = inspectAttribute(rs,'MyDateTime')
```

```
atrb4 = struct with fields:
           name: 'MyDateTime'
           type: DateTime
    description: ''
```

Add a Custom Attribute with a Description

Add an Edit custom attribute. Add a description to the custom attribute. Confirm that the attribute was successfully added by using inspectAttribute.

```
addAttribute(rs,'MyEditAttribute2','Edit','Description',...
    'You can enter text as the custom attribute value.');
atrb5 = inspectAttribute(rs,'MyEditAttribute2')
```

```
atrb5 = struct with fields:
           name: 'MyEditAttribute2'
           type: Edit
    description: 'You can enter text as the custom attribute value.'
```

Add a ComboBox custom attribute with the options Unset, A, B, and C. Add a description to the custom attribute. Confirm that the attribute was successfully added by using inspectAttribute.

```
addAttribute(rs,'MyCombobox2','Combobox','List',{'Unset','A','B','C'},'Description',...
    'This combobox attribute has 4 options.');
atrb6 = inspectAttribute(rs,'MyCombobox2')
```

```
atrb6 = struct with fields:
           name: 'MyCombobox2'
           type: Combobox
    description: 'This combobox attribute has 4 options.'
           list: {'Unset'  'A'  'B'  'C'}
```

Cleanup

Clear the open requirement sets and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

`slreq.ReqSet` | `deleteAttribute` | `inspectAttribute` | `updateAttribute`

Topics

"Manage Custom Attributes for Requirements by Using the Requirements Toolbox API"

addJustification

Class: `slreq.ReqSet`
Package: `slreq`

Add justifications to requirement set

Syntax

```
jt = addJustification(rs)
jt = addJustification(rs, 'PropertyName', PropertyValue)
```

Description

`jt = addJustification(rs)` adds a justification `jt` to the requirement set `rs`.

`jt = addJustification(rs, 'PropertyName', PropertyValue)`adds a justification `jt` to the requirement set `rs` with additional properties specified by `PropertyName` and `PropertyValue`.

Input Arguments

`rs` — Requirement set

`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

Output Arguments

`jt` — Justification object

`slreq.Justification` object

Justification added to the requirement set `rs`, returned as an `slreq.Justification` object.

Examples

Add Justifications to Requirement Set

This example shows how to add a justification to a requirement set.

Suppose that you have a requirement set `rs`. Add a justification to the requirement set.

```
jt1 = addJustification(rs)
```

```
jt1 = 

  Justification with properties:

             Id: '70'
        Summary: ''
    Description: ''
       Keywords: [0×0 char]
```

```
        Rationale: ''
        CreatedOn: 16-Jan-2018 10:53:28
        CreatedBy: 'John Doe'
       ModifiedBy: 'Jane Doe'
              SID: 76
     FileRevision: 1
       ModifiedOn: 16-Feb-2018 12:50:43
            Dirty: 0
         Comments: [0×0 struct]
```

Add a justification to the requirement set and specify the summary and description.

```
jt2 = addJustification(rs, 'Summary', 'New justification', ...
'Description', 'Justify safety requirement')
```

```
jt2 = 

  Justification with properties:

               Id: '71'
          Summary: 'New justification'
      Description: 'Justify safety requirement'
         Keywords: [0×0 char]
        Rationale: ''
        CreatedOn: 11-Feb-2018 11:45:12
        CreatedBy: 'John Doe'
       ModifiedBy: 'Jane Doe'
              SID: 77
     FileRevision: 1
       ModifiedOn: 12-Feb-2018 13:01:08
            Dirty: 0
         Comments: [0×0 struct]
```

Version History

Introduced in R2018b

See Also

justifyImplementation | justifyVerification | justifyImplementation | justifyVerification

Topics

“Justify Requirements”

children

Class: `slreq.ReqSet`
Package: `slreq`

Get top-level items in requirement set

Syntax

```
reqs = children(rs)
```

Description

`reqs = children(rs)` returns the top-level items in the requirement set `rs`. The items can be requirements, referenced requirements, or justifications.

Input Arguments

rs — Requirement set
`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

Output Arguments

reqs — Top-level items in requirement set
`slreq.Requirement` array | `slreq.Reference` array | `slreq.Justification` array

Top-level items in the requirement set, returned as an array of `slreq.Requirement`, `slreq.Reference`, or `slreq.Justification` array.

Examples

Get the Top-Level Items in a Requirement Set

This example shows how to get the top-level items in a requirement set.

Open the `CruiseRequirementsExample` project. Load the `crs_req_func_spec` requirement set.

```
slreqCCProjectStart;
rs = slreq.load("crs_req_func_spec");
```

Get the top-level items in the requirement set.

```
topItems = children(rs)
```

```
topItems=1×5 object
  1x5 heterogeneous BaseEditableItem (Requirement, Justification) array with properties:

    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    IndexEnabled
    IndexNumber
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
    Index
```

Tips

- To get the child requirements of a requirement, use `slreq.Requirement.children`. To get the child referenced requirements of a referenced requirement, use `slreq.Reference.children`. To get the child justifications of a justification, use `slreq.Justification.children`.

Version History

Introduced in R2017b

See Also

`slreq.ReqSet` | `slreq.Reference` | `slreq.Requirement` | `slreq.Justification` | `slreq.Requirement.children` | `slreq.Reference.children` | `slreq.Justification.children`

close

Class: `slreq.ReqSet`
Package: `slreq`

Close a requirement set

Syntax

```
close(rs)
```

Description

`close(rs)` closes a requirement set.

Input Arguments

rs — Requirement set file

`slreq.ReqSet` object

Requirement set file, specified as an `slreq.ReqSet` object.

Examples

Close a Requirement Set

```
% Create a new requirement set file
rs1 = slreq.new('C:\MATLAB\My_Requirements_Set_1.slreqx');

% Save the requirement set file
save(rs1);

% Close the requirement set file
close(rs1);
```

Version History

Introduced in R2018a

See Also

`slreq.ReqSet`

createReferences

Class: `slreq.ReqSet`
Package: `slreq`

Create read-only references to requirement items in third-party documents

Syntax

```
createReferences(rs, pathToFile, Name, Value)
createReferences(rs, reqFormat, Name, Value)
```

Description

`createReferences(rs, pathToFile, Name, Value)` creates read-only references to requirements content in an external document at `pathToFile` by using additional `Name, Value` arguments to specify import options.

`createReferences(rs, reqFormat, Name, Value)` creates read-only references to requirements content in an external document corresponding to the specified registered document type specified by `reqFormat` by using additional `Name, Value` arguments to specify import options.

Input Arguments

`rs` — Requirement set file
`slreq.ReqSet` object

Requirement set file, specified as a `slreq.ReqSet` object.

`pathToFile` — File path
character vector

Path to the requirements document.

Example: `'C:\MATLAB\System_Requirements.docx'`

`reqFormat` — Registered document type label
character vector

Custom registered document type label that you create by using a Custom Document Type extension API.

Example: `'linktype_rmi_doors'`

Name-Value Pair Arguments

Specify optional pairs of arguments as `Name1=Value1,...,NameN=ValueN`, where `Name` is the argument name and `Value` is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Before R2021a, use commas to separate each name and value, and enclose `Name` *in quotes.*

Example: `'columns', '[1 8]', 'RichText', true`

`ReqSet` — Requirement Set
`slreq.ReqSet` object

The name of the existing requirement set that you import references to requirements into, specified as the comma-separated pair of `'ReqSet'` and a valid requirement set file name.

Example: `'ReqSet', 'My_Requirements_Set'`

`RichText` — Requirements content imported as rich text
`false` (default) | `true`

Option to import requirements content as rich text, specified as the comma-separated pair consisting of `'RichText'` and `true` or `false`.

Example: `'RichText', true`

`bookmarks` — Use custom bookmarks in Microsoft Word and Microsoft Excel
`true` | `false`

Option to use custom bookmarks in Microsoft Word documents and Microsoft Excel spreadsheets to import requirements content, specified as the comma-separated pair consisting of `'bookmarks'` and `true` or `false`.

Example: `'bookmarks', false`

`match` — Regular expression
character vector

Import requirements by using regular expression pattern matching, specified as the comma-separated pair consisting of `'match'` and a regular expression pattern.

Example: `'match', '^REQ\d+'`

`columns` — Range of columns
double array

Range of columns to import. This option is applicable only for Microsoft Excel spreadsheets.

Example: `'columns', [1 6]`

`rows` — Range of rows
double array

Range of rows to import. This option is applicable only for Microsoft Excel spreadsheets.

Example: `'rows', [3 35]`

`attributes` — Attribute names
cell array

Attribute names to import, specified as a cell array.

Note When importing requirements from a Microsoft Excel spreadsheet, the length of this cell array must match the number of columns that you specified for import by using the `'columns'` option.

Example: `'attributes', {'Test Status', 'Test Procedure'}`

idColumn — ID Column

double

Column in the Microsoft Excel spreadsheet that you want to correspond to the **ID** field in the requirement set.

Example: 'idColumn', 1

summaryColumn — Summary Column

double

Column in the Microsoft Excel spreadsheet that you want to correspond to the **Summary** field in the requirement set.

Example: 'summaryColumn', 4

keywordsColumn — Keywords Column

double

Column in the Microsoft Excel spreadsheet that you want to correspond to the **Keywords** field in the requirements set.

Example: 'keywordsColumn', 3

descriptionColumn — Description Column

double

Column in the Microsoft Excel spreadsheet that you want to correspond to the **Description** field in the requirements set.

Example: 'descriptionColumn', 2

rationaleColumn — Rationale Column

double

Column in the Microsoft Excel spreadsheet that you want to correspond to the **Rationale** field in the requirements set.

Example: 'rationaleColumn', 5

Examples

Create Read-Only References to Requirements in Microsoft Office Documents

```
% Create a new requirement set and save it

rs = slreq.new('newReqSet');
save(rs);

% Create read-only rich text references to requirements
% in a Word document
createReferences(rs, 'C:\Work\Requirements_Spec.docx', ...
'RichText', true);

% Create read-only plain text references to requirements
% in an Excel spreadsheet
createReferences(rs, 'C:\Work\Design_Spec.xlsx', ...
'columns', [2 6], 'rows', [3 32], 'idColumn', 2, ...
'summaryColumn', 3);
```

Version History

Introduced in R2018a

See Also

slreq.ReqSet | slreq.Reference | slreq.import

discard

Class: slreq.ReqSet
Package: slreq

Close requirement set without saving

Syntax

```
discard(rs)
```

Description

discard(rs) closes the requirement set rs without saving.

Input Arguments

rs — Requirement set
slreq.ReqSet object

Requirement set, specified as an slreq.ReqSet object.

Examples

Discard Changes to a Requirement Set

This example shows how to discard changes to a requirement set without saving.

Open the CruiseRequirementsExample project. Load the crs_req_func_spec requirement set.

```
slreqCCProjectStart;
rs = slreq.load("crs_req_func_spec");
```

Set the description of the requirement set to crs_req_func_spec.

```
rs.Description = "crs_req_func_spec"
```

```
rs = 
  ReqSet with properties:

             Description: 'crs_req_func_spec'
                    Name: 'crs_req_func_spec'
                Filename: 'C:\TEMP\Bdoc22b_2054784_11640\mlx_to_docbook1\bml.batserve.041884\MATL
                Revision: 66
                   Dirty: 1
    CustomAttributeNames: {}
               CreatedBy: 'itoy'
               CreatedOn: 27-Feb-2017 10:20:39
              ModifiedBy: 'Shashidhar'
              ModifiedOn: 13-Jul-2021 10:50:42
```

Discard the changes to the requirement set without saving.

```
discard(rs);
```

Tips

- You can also use `close` to close a requirement set, which prompts you to save the requirement set before closing.
- You can use `save` to save the requirement set before discarding.
- You can use `slreq.clear` to close all requirement sets and link sets without saving and close the **Requirements Editor**.

Version History

Introduced in R2017b

See Also

`slreq.clear` | `close` | `save` | `slreq.ReqSet`

deleteAttribute

Class: slreq.ReqSet
Package: slreq

Delete custom attribute from requirement set

Syntax

```
deleteAttribute(rs,name,'Force',true)
deleteAttribute(rs,name,'Force',false)
```

Description

deleteAttribute(rs,name,'Force',true) deletes the custom attribute specified by name from the requirement set rs, even if the custom attribute is used by requirements in the requirement set.

deleteAttribute(rs,name,'Force',false) deletes the custom attribute specified by name from the requirement set rs only if the custom attribute is not used by requirements in the requirement set.

Input Arguments

rs — Requirement set
slreq.ReqSet object

Requirement set, specified as an slreq.ReqSet object.

name — Custom attribute name
character array

Custom attribute name, specified as a character array.

Examples

Delete Custom Attribute

This example shows how to delete a custom attribute.

Load crs_req_func_spec, which is the requirement file for a cruise control system. Find a requirement set in the files.

```
slreq.load('crs_req_func_spec');
rs = slreq.find('Type','ReqSet');
```

Add an Edit custom attribute to the requirement set. Confirm that it was successfully added by accessing the CustomAttributeNames property for the requirement set.

```
addAttribute(rs,'MyCheckbox','Checkbox')
atrb1 = rs.CustomAttributeNames
```

```
atrb1 = 1x1 cell array
    {'MyCheckbox'}
```

Find a requirement in the requirement set. Set the custom attribute value for the requirement using `setAttribute`.

```
req = find(rs,'ID','#1');
setAttribute(req,'MyCheckbox',true)
```

The custom attribute `MyCheckbox` is now used by a requirement. Delete the requirement by using `deleteAttribute` with `'Force'` set to `true`. Confirm the deletion by accessing the `CustomAttributeNames` property for the requirement set.

```
deleteAttribute(rs,'MyCheckbox','Force',true)
atrb2 = rs.CustomAttributeNames
```

```
atrb2 =

  0x0 empty cell array
```

Only Delete Custom Attribute if the Attribute is Unused

Add an `Edit` custom attribute to the requirement set. The attribute is unused because the value is not set for any links. Confirm that it added by accessing the `CustomAttributeNames` property for the requirement set.

```
addAttribute(rs,'MyEditAttribute','Edit')
atrb3 = rs.CustomAttributeNames
```

```
atrb3 = 1x1 cell array
    {'MyEditAttribute'}
```

You can delete the attribute only if the attribute is unused by setting `Force` to `false`. If the attribute is used by links, then an error will occur. Confirm the deletion by accessing the `CustomAttributeNames` property for the requirement set.

```
deleteAttribute(rs,'MyEditAttribute','Force',false)
atrb4 = rs.CustomAttributeNames
```

```
atrb4 =

  0x0 empty cell array
```

Cleanup

Clean up commands. Clear the open requirement sets and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

`slreq.ReqSet` | `addAttribute` | `inspectAttribute` | `updateAttribute`

Topics

"Manage Custom Attributes for Requirements by Using the Requirements Toolbox API"

explore

Class: `slreq.ReqSet`
Package: `slreq`

Open requirement set in Requirements Editor

Syntax

```
explore(rs)
```

Description

`explore(rs)` opens the requirement set `rs` in the **Requirements Editor**. This function only works if the requirement set is loaded.

Input Arguments

`rs` — Requirement set
`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

Examples

Open a Requirement Set in the Requirements Editor

This example shows how to open a Requirement Set in the **Requirements Editor**.

Open the `CruiseRequirementsExample` project and load the `crs_req` requirement set.

```
slreqCCProjectStart;
rs = slreq.load('crs_req');
```

Open the requirement set in the **Requirements Editor**.

```
explore(rs)
```

Tips

- You can also use `slreq.open` to open a Requirement Set in the **Requirements Editor**. This function loads the requirement set if it is not loaded.

Version History

Introduced in R2017b

See Also

`slreq.ReqSet` | `slreq.load` | `slreq.open`

exportToVersion

Class: `slreq.ReqSet`
Package: `slreq`

Export requirement set to previous MATLAB version

Syntax

```
tf = exportToVersion(rs,name,version)
```

Description

`tf = exportToVersion(rs,name,version)` saves a copy of the requirement set `rs` with the file name `name` that is compatible with the MATLAB version `version`. The function returns `1` if the file exports. The function saves the file in the current folder. If the requirement set has an associated link set, `exportToVersion` also exports the link set and saves it in the current folder.

Note You can export requirement sets only to version R2017b or later.

Input Arguments

`rs` — Requirement set

`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

`name` — File name for exported requirement set

string scalar | character vector

File name for the exported requirement set, specified as a string scalar or character vector.

`version` — MATLAB version to export to

string scalar | character vector

MATLAB version to export to, specified as a string scalar or character vector.

You can export to version R2017b or later.

Example: `tf = exportToVersion(rs,"newLinkSet","R2021a")`

Output Arguments

`tf` — Export success status

`0` | `1`

Export success status, returned as a logical `1` (true) or `0` (false).

Data Types: `logical`

Examples

Export a Requirement Set to a Previous Version of MATLAB

This example shows how to export a requirement set to a file that is compatible with a previous version of MATLAB.

Open the `CruiseRequirementsExample` project and load the `crs_req` requirement set.

```
slreqCCProjectStart;
rs = slreq.load("crs_req");
```

Export the requirement set to a new file that is compatible with MATLAB R2020a. Name the new file `crs_req_2020a`. The `exportToVersion` function also exports the link set associated with the requirement set using the same file name.

```
tf = exportToVersion(rs,"crs_req_2020a","R2020a")
```

```
tf = logical
   1
```

Tips

- You can export a link set to a previous version with `slreq.LinkSet.exportToVersion`.

Version History

Introduced in R2018a

See Also

`slreq.ReqSet` | `slreq.LinkSet.exportToVersion`

Topics

"Export Requirement Sets and Link Sets to Previous Versions of Requirements Toolbox"

find

Class: slreq.ReqSet
Package: slreq

Find requirements in requirement set that have matching attribute values

Syntax

```
myReq = find(rs, 'PropertyName', 'PropertyValue')
```

Description

myReq = find(rs, 'PropertyName', 'PropertyValue') finds and returns an slreq.Requirement object myReq in the requirement set rs specified by the properties matching PropertyName and PropertyValue. Property name matching is case-insensitive.

Input Arguments

rs — Requirement set
slreq.ReqSet object

Requirement set, specified as a slreq.ReqSet object.

Output Arguments

myReq — Requirement object
slreq.Requirement object

Requirement, returned as an slreq.Requirement object.

Examples

Find Requirements That Have Matching Attribute Values

```
% Load a requirement set file
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');

% Find all editable requirements in the requirement set
allReqs = find(rs, 'Type', 'Requirement');

% Find all referenced requirements in the requirement set
allRefs = find(rs, 'Type', 'Reference');

% Find all requirements with a certain ID
matchedReqs = find(rs, 'ID', 'R1.1');
```

Find Requirements by Using Regular Expression Matching

You can search for requirements in your requirement sets by constructing regular expression search patterns by using the tilde (~) symbol.

```
% Load a requirement set file
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');

% Find all requirements that correspond to the controller
controllerReqs = find(rs, 'Type', 'Requirement', 'Summary', '~Controller(?i)\w*')

controllerReqs = 

  1×19 Requirement array with properties:

    Id
    Summary
    Keywords
    Description
    Rationale
    SID
    CreatedBy
    CreatedOn
    ModifiedBy
    ModifiedOn
    FileRevision
    Dirty
    Comments
```

For more information on constructing regular expression search patterns, see “Steps for Building Expressions”.

Version History

Introduced in R2018a

See Also

slreq.ReqSet | slreq.find

getImplementationStatus

Class: `slreq.ReqSet`
Package: `slreq`

Query requirement set implementation status summary

Syntax

```
status = getImplementationStatus(rs)
```

Description

`status = getImplementationStatus(rs)` returns the implementation status for the requirement set `rs`.

Input Arguments

`rs` — Requirement set

`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

Output Arguments

`status` — Requirement set implementation status summary

structure

The implementation status summary for the requirements in the requirement set, returned as a MATLAB structure containing these fields.

`total` — Total number of requirements

`double`

The total number of Functional requirements in the requirement set, returned as a `double`.

`implemented` — Implemented requirements

`double`

The total number of implemented requirements in the requirement set, returned as a `double`.

`justified` — Justified requirements

`double`

The total number of requirements justified for implementation in the requirement set, returned as a `double`.

none — Unimplemented requirements

`double`

The total number of unimplemented requirements in the requirement set, returned as a `double`.

Examples

Get Implementation Status Summary of a Requirement Set

```
% Load a requirement set file
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');

% Get the implementation status summary of the requirement set rs
implStatus = getImplementationStatus(rs)

implStatus = 

  struct with fields:

          total: 25
    implemented: 18
      justified: 5
           none: 2
```

Version History

Introduced in R2018b

See Also

`updateImplementationStatus`

getPostLoadFcn

Class: slreq.ReqSet
Package: slreq

Get contents of PostLoadFcn callback

Syntax

```
callback = getPostLoadFcn(rs)
```

Description

callback = getPostLoadFcn(rs) returns the contents of the PostLoadFcn callback for the requirement set rs.

Input Arguments

rs — Requirement set
slreq.ReqSet object

Requirement set, specified as an slreq.ReqSet object.

Output Arguments

callback — Contents of PostLoadFcn callback
character vector

Contents of the PostLoadFcn callback script for the requirement set, returned as a character vector.

Examples

Get and Set PostLoadFcn Callback

This example shows how to get and set the PostLoadFcn callback for a requirement set.

Add the current folder to the path.

```
addpath(pwd)
```

Open a project that contains an algorithm to calculate the shortest path between two nodes on a graph. For more information, see “Verify a MATLAB Algorithm by Using Requirements-Based Tests”.

```
slreqShortestPathProjectStart;
```

Open the shortest_path_tests_reqs requirement set. The requirement set contains test requirements that describe the functional behavior that must be tested by a test case in order to verify the shortest_path algorithm in the project.

```
testReqs = slreq.open("shortest_path_tests_reqs");
```

Register the `postLoadTestReqs` script as the `PostLoadFcn` callback.

```
setPostLoadFcn(testReqs,"postLoadTestReqs");
```

Confirm that the `postLoadTestReqs` script is the `PostLoadFcn` callback for the `shortest_path_tests_reqs` requirement set.

```
callbackScript = getPostLoadFcn(testReqs)
```

```
callbackScript = 
'postLoadTestReqs'
```

Save and close the `shortest_path_tests_reqs` requirement set, then re-open the requirement set. The `PostLoadFcn` callback executes.

```
save(testReqs);
slreq.clear;
testReqs = slreq.load("shortest_path_tests_reqs");
```

The `postLoadTestReqs` script opens the test file associated with the test requirements, `graph_unit_tests.m` and imports the **Requirements Editor** view settings from `myViewSettings.mat`.

```
type postLoadTestReqs.m
```

```
open("graph_unit_tests.m");
slreq.importViewSettings("myViewSettings.mat",1);
```

Version History

Introduced in R2022a

See Also

`slreq.ReqSet` | `setPostLoadFcn` | `setPreSaveFcn` | `getPreSaveFcn`

Topics

“Execute Code When Loading and Saving Requirement Sets”

getPreSaveFcn

Class: `slreq.ReqSet`
Package: `slreq`

Get contents of `PreSaveFcn` callback

Syntax

```
callback = getPreSaveFcn(rs)
```

Description

`callback = getPreSaveFcn(rs)` returns the contents of the `PreSaveFcn` callback for the requirement set `rs`.

Input Arguments

`rs` — Requirement set

`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

Output Arguments

`callback` — Contents of `PreSaveFcn` callback

character vector

Contents of the `PreSaveFcn` callback for the requirement set, returned as a character vector.

Examples

Get and Set `PreSaveFcn` Callback

This example shows how to get and set the `PreSaveFcn` callback for a requirement set.

Add the current folder to the path.

```
addpath(pwd)
```

Open a project that contains an algorithm to calculate the shortest path between two nodes on a graph. For more information, see “Verify a MATLAB Algorithm by Using Requirements-Based Tests”.

```
slreqShortestPathProjectStart;
```

Open the `shortest_path_tests_reqs` requirement set. The requirement set contains test requirements that describe the functional behavior that must be tested by a test case in order to verify the `shortest_path` algorithm in the project.

```
testReqs = slreq.open("shortest_path_tests_reqs");
```

Register the preSaveTestReqs script as the PreSaveFcn callback.

```
setPreSaveFcn(testReqs,"preSaveTestReqs");
```

Confirm that the preSaveTestReqs script is the PreSaveFcn callback for the shortest_path_tests_reqs requirement set.

```
callbackScript = getPreSaveFcn(testReqs)
```

```
callbackScript = 
'preSaveTestReqs'
```

Save the shortest_path_tests_reqs requirement set to execute the callback.

```
save(testReqs);
```

The preSaveTestReqs script saves the current **Requirements Editor** view settings to a MAT-file called myViewSettings.mat.

```
type preSaveTestReqs.m
```

```
slreq.exportViewSettings("myViewSettings.mat");
```

Version History

Introduced in R2022a

See Also

slreq.ReqSet | setPostLoadFcn | setPreSaveFcn | getPostLoadFcn

Topics

"Execute Code When Loading and Saving Requirement Sets"

getVerificationStatus

Class: `slreq.ReqSet`
Package: `slreq`

Query requirement set verification status summary

Syntax

```
status = getVerificationStatus(rs)
```

Description

`status = getVerificationStatus(rs)` returns the verification status summary of requirements in the requirement set `rs`.

Input Arguments

`rs` — Requirement set

`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

Output Arguments

`status` — Requirement set verification status summary

structure

The verification status summary for the requirement set, returned as a MATLAB structure containing these fields.

`total` — Total number of requirements

`double`

The total number of requirements in the requirement set with Verify links, returned as a `double`.

`passed` — Passed requirements

`double`

The total number of requirements in the requirement set that passed the tests associated with them, returned as a `double`.

`failed` — Failed requirements

`double`

The total number of requirements in the requirement set that failed the tests associated with them, returned as a `double`.

`unexecuted` — Unexecuted requirements

`double`

The total number of requirements in the requirement set with unexecuted associated tests, returned as a double.

justified — Justified requirements
double

The total number of requirements justified for verification in the requirement set, returned as a double.

none — Unlinked requirements
double

The total number of requirements without links to verification objects in the requirement set, returned as a double.

Examples

Get Verification Status Summary of a Requirement Set

```
% Load a requirement set file
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');

% Get the verification status summary of the requirements in rs
verifStatus = getVerificationStatus(rs)

verifStatus = 

  struct with fields:

          total: 25
         passed: 10
         failed: 5
     unexecuted: 4
      justified: 1
           none: 5
```

Version History

Introduced in R2018b

See Also

updateVerificationStatus

importFromDocument

Class: slreq.ReqSet
Package: slreq

Import editable requirements from external documents

Syntax

```
importFromDocument(rs, pathToFile, Name,Value)
```

Description

importFromDocument(rs, pathToFile, Name,Value) imports editable requirements with contents duplicated from an external document at pathToFile using by additional Name,Value arguments to specify import options.

Input Arguments

rs — Requirement set file

slreq.ReqSet object

Requirement set file, specified as a slreq.ReqSet object.

pathToFile — File path

character vector

Path to the requirements document that you want to import editable requirements from.

Example: 'C:\MATLAB\System_Requirements.docx'

Name-Value Pair Arguments

Specify optional pairs of arguments as Name1=Value1,...,NameN=ValueN, where Name is the argument name and Value is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Before R2021a, use commas to separate each name and value, and enclose Name *in quotes.*

Example: 'ReqSet','design_specs.slreqx'

AsReference — Option to import as references

true (default) | false

Option to import requirements as references, specified as a Boolean value. The value false is supported only for import from Microsoft Office documents.

attr2reqprop — ReqIF attribute mapping

containers.Map object

Import from ReqIF format, specifying the attribute mapping as a comma-separated pair consisting of 'attr2reqprop' and a containers.Map object. For example:

```
attrMap = containers.Map('KeyType','char','ValueType','char')
attrMap('SourceID') = 'Custom ID'; % Built-in attribute
attrMap('ReqIF.ChapterName') = 'Summary'; % Built-in attribute
attrMap('Data Class') = 'MyDataClass'; % Custom attribute

slreq.import('myfile.reqif','attr2reqprop',attrMap);
```

Example: `slreq.import('myfile.reqif','attr2reqprop',attrMap);`

`attributeColumn` — Custom Attributes Column

`double` array

Column in the Microsoft Excel spreadsheet that you want to map as custom attributes of the requirements in your requirement set, specified as a `double` array.

Example: `'attributeColumn',[4 6]`

`attributes` — Attribute names

cell array

Attribute names for custom attribute columns, specified as a cell array of character vectors.

Note When importing requirements from a Microsoft Excel spreadsheet, the length of this cell array must match the number of columns specified for import using the `attributeColumn` argument.

Example: `'attributes',{'Test Status','Test Procedure'}`

`bookmarks` — Option to import requirements using bookmarks

`0` (default) | `1`

Option to import requirements content using user-defined bookmarks, specified as a `1` or `0` of data type `logical`.

By default, Requirements Toolbox sets the value to `1` for Microsoft Word documents and `0` for Microsoft Excel spreadsheets.

Example: `'bookmarks',false`

`columns` — Range of columns

`double` array

Range of columns to import from Microsoft Excel spreadsheet, specified as a `double` array.

Example: `'columns',[1 6]`

`createdByColumn` — Created By Column

`double`

Column in the Microsoft Excel spreadsheet that you want to map to the `CreatedBy` property of the requirements in your requirement set, specified as a `double`.

Example: `'createdByColumn',5`

`descriptionColumn` — Description Column

`double`

Column in the Microsoft Excel spreadsheet that you want to map to the `Description` property of the requirements in your requirement set, specified as a `double`.

Example: `'descriptionColumn',2`

`idColumn` — ID Column
`double`

Column in the Microsoft Excel spreadsheet that you want to map to the `ID` property of the requirements in your requirement set, specified as a `double`.

Example: `'idColumn',1`

`keywords` — Attribute to map to `Keywords`
string scalar | character vector

Name of the attribute from the external document that you want to map to the `Keywords` property for the imported requirements.

Use this argument when you import from IBM Rational DOORS or custom document types.

Example: `"keywords","Requirement Keywords"`

`keywordsColumn` — Keywords Column
`double`

Column in the Microsoft Excel spreadsheet that you want to map to the `Keywords` property of the requirements in your requirement set, specified as a `double`.

Example: `'keywordsColumn',3`

`match` — Regular expression pattern
character vector

Regular expression pattern for ID search in Microsoft Office documents.

Example: `'match','^REQ\d+'`

`modifiedByColumn` — Modified By Column
`double`

Column in the Microsoft Excel spreadsheet that you want to map to the `ModifiedBy` property of the requirements in your requirement set, specified as a `double`.

Example: `'modifiedByColumn',6`

`postImportFcn` — Custom post-import callback
string scalar | character vector

Custom post-import callback script name to use during import, specified as a string scalar or character vector.

The script that you assign to this callback executes after you import or update requirements.

Example: `"postImportFcn","myPostImportScript"`

`preImportFcn` — Custom pre-import callback
string scalar | character vector

Custom pre-import callback script name to use during import, specified as a string scalar or character vector.

The script that you assign to this callback executes before you import or update requirements.

Example: `"preImportFcn","myPreImportScript"`

`rationale` — Attribute to map to `Rationale`

string scalar | character vector

Name of the attribute from the external document that you want to map to the `Rationale` property for the imported requirements.

Use this argument when you import from IBM Rational DOORS or custom document types.

Example: `"rationale","Requirement Rationale"`

`rationaleColumn` — Rationale Column

`double`

Column in the Microsoft Excel spreadsheet that you want to map to the `Rationale` property of the requirements in your requirement set, specified as a `double`.

Example: `'rationaleColumn',5`

`ReqSet` — Requirement Set

character vector

The name for the requirement set that you import requirements into, specified as a character vector.

If the requirement set exists, the requirements import under a new Import node. If the requirement set does not exist, Requirements Toolbox creates it.

Example: `'ReqSet','My_Requirements_Set'`

`RichText` — Option to import rich text requirements

`false` (default) | `true`

Option to import requirements as rich text, specified as a Boolean value.

Example: `'RichText',true`

`rows` — Range of rows

`double` array

Range of rows to import from Microsoft Excel spreadsheet, specified as a `double` array.

Example: `'rows',[3 35]`

`sheet` — Worksheet name

character vector

Worksheet name from Microsoft Excel workbook, specified as a character vector.

Example: `'sheet','Sheet1'`

`summaryColumn` — Summary Column

`double`

Column in the Microsoft Excel spreadsheet that you want to map to the `Summary` property of the requirements in your requirement set, specified as a `double`.

Example: `'summaryColumn',4`

USDM — USDM Format Import Option

character vector

Import from Microsoft Excel spreadsheets specified in the USDM (Universal Specification Describing Manner) standard format. Specify values as a character vector with the ID prefix optionally followed by a separator character.

Example: `'RQ -'` will match entries with IDs similar to `RQ01`, `RQ01-2`, `RQ01-2-1` etc.

Examples

Import Editable Requirements from Microsoft Office Documents

```
% Create a new requirement set and save it
rs = slreq.new('newReqSet');
save(rs);

% Import editable requirements as rich text from a Word document
importFromDocument(rs, 'C:\Work\Requirements_Spec.docx', ...
 'RichText', true);

% Import editable requirements from an Excel spreadsheet
importFromDocument(rs, 'C:\Work\Design_Spec.xlsx', ...
'columns', [2 6], 'rows', [3 32], 'idColumn', 2, ...
'summaryColumn', 3);
```

For more information on importing requirements from Microsoft Office documents, see “Import Requirements from Microsoft Office Documents”.

Version History

Introduced in R2018a

See Also

`slreq.ReqSet` | `createReferences`

importProfile

Class: slreq.ReqSet
Package: slreq

Assign profile to requirement set

Syntax

```
importProfile(rs,fileName)
```

Description

`importProfile(rs,fileName)` assigns the profile, `fileName`, to the requirement set `rs`.

Input Arguments

rs — Requirement set
slreq.ReqSet object

Requirement set, specified as an `slreq.ReqSet` object.

fileName — Profile file name
string scalar | character vector

Profile file name, specified as a string scalar or character vector.

Example: "myProfile.xml"

Examples

Import Profile and Get and Set Stereotype Properties

This example shows how to assign a profile to a requirement set and get and set stereotype property values for requirements.

Save the location of the current folder as a variable.

```
initFolder = pwd;
```

Open the `ShortestPath` project.

```
slreqShortestPathProjectStart;
```

Load the `shortest_path_tests_reqs` requirement set.

```
rs = slreq.load("shortest_path_tests_reqs");
```

Assign the `TestReqProfile` profile to the `shortest_path_tests_reqs` requirement set.

```
importProfile(rs,strcat(initFolder,"\TestReqProfile"));
```

Find the requirement with index 2.1.1. Apply the TestRequirement stereotype to the requirement.

```
testReq = find(rs,Index="2.1.1");
testReq.Type = "TestReqProfile.TestRequirement";
```

Get the value of the Reviewed stereotype property.

```
val = getAttribute(testReq,"TestReqProfile.TestRequirement.Reviewed")
```

```
val = 0
```

Set the value of the Reviewed stereotype property to 1.

```
setAttribute(testReq,"TestReqProfile.TestRequirement.Reviewed",1)
```

Tips

- To assign profiles to link sets, use slreq.LinkSet.importProfile.

Version History

Introduced in R2022b

See Also

slreq.ReqSet | profiles | removeProfile

inspectAttribute

Class: slreq.ReqSet
Package: slreq

Get information about requirement set custom attribute

Syntax

```
atrb = inspectAttribute(rs,name)
```

Description

atrb = inspectAttribute(rs,name) returns a structure with information about the custom attribute name specified by name in the requirement set rs.

Input Arguments

rs — Requirement set

slreq.ReqSet object

Requirement set, specified as an slreq.ReqSet object.

name — Custom attribute name

character array

Custom attribute name, specified as a character array.

Output Arguments

atrb — Custom attribute information

struct

Custom attribute information, returned as a struct.

Examples

Get Requirement Set Custom Attribute Information

This example shows how to get information about a requirement set custom attribute.

Load crs_req_func_spec, which describes a cruise control system. Find a requirement set and assign it to a variable.

```
slreq.load('crs_req_func_spec');
rs = slreq.find('Type','ReqSet');
```

Add a Checkbox custom attribute to the requirement set with a description. Use inspectAttribute to get information about the custom attribute.

```
addAttribute(rs,'MyCheckbox','Checkbox','Description',...
    'This checkbox atrribute can be true or false.');
atrb = inspectAttribute(rs,'MyCheckbox')
```

```
atrb = struct with fields:
           name: 'MyCheckbox'
           type: Checkbox
    description: 'This checkbox atrribute can be true or false.'
        default: 0
```

Cleanup

Clear the open requirement sets and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

slreq.ReqSet | addAttribute | deleteAttribute | updateAttribute

Topics

"Manage Custom Attributes for Requirements by Using the Requirements Toolbox API"

profiles

Class: slreq.ReqSet
Package: slreq

Get profiles assigned to requirement sets

Syntax

```
fileNames = profiles(rs)
```

Description

fileNames = profiles(rs) returns the file names of the profiles assigned to the requirement set rs.

Input Arguments

rs — Requirement set
slreq.ReqSet object

Requirement set, specified as an slreq.ReqSet object.

Output Arguments

fileNames — Profile file names
cell array

Profile file names, returned as a cell array of character vectors.

Examples

Get and Remove Profiles for a Requirement Set

This example shows how to get profiles assigned to a requirement set and remove profiles.

Load the myAddRequirements2 requirement set.

```
rs = slreq.load("myAddRequirements2");
```

Get the profiles assigned to the requirement set.

```
fileNames = profiles(rs)
```

```
fileNames = 1×1 cell array
    {'myAddProfile.xml'}
```

Remove the myAddProfile profile from the requirement set.

```
tf = removeProfile(rs,"myAddProfile.xml")
tf = logical
   1
```

Tips

- To get profiles assigned to link sets, use `slreq.LinkSet.profiles`.

Version History

Introduced in R2022b

See Also

`slreq.ReqSet` | `importProfile` | `removeProfile`

removeProfile

Class: `slreq.ReqSet`
Package: `slreq`

Remove profile from requirement set

Syntax

```
tf = removeProfile(rs,fileName)
```

Description

`tf = removeProfile(rs,fileName)` removes the profile, `fileName`, from the requirement set `rs`.

Note If you remove a profile, Requirements Toolbox applies these changes to requirements that used a stereotype from the profile:

- Sets the requirement type to `Functional`
- Removes the stereotype properties and deletes the stereotype property values

---

Input Arguments

`rs` — Requirement set

`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

`fileName` — Profile file name

string scalar | character vector

Profile file name, specified as a string scalar or character vector.

Example: `"myProfile.xml"`

Output Arguments

`tf` — Remove success status

`0` | `1`

Remove success status, returned as a `1` or `0` of data type `logical`.

Examples

Get and Remove Profiles for a Requirement Set

This example shows how to get profiles assigned to a requirement set and remove profiles.

Load the `myAddRequirements2` requirement set.

```
rs = slreq.load("myAddRequirements2");
```

Get the profiles assigned to the requirement set.

```
fileNames = profiles(rs)
```

```
fileNames = 1×1 cell array
    {'myAddProfile.xml'}
```

Remove the `myAddProfile` profile from the requirement set.

```
tf = removeProfile(rs,"myAddProfile.xml")
```

```
tf = logical
   1
```

Tips

- To remove profiles from link sets, use `slreq.LinkSet.removeProfile`.

Version History

Introduced in R2022b

See Also

`slreq.ReqSet` | `profiles` | `importProfile`

runTests

Class: `slreq.ReqSet`
Package: `slreq`

Run test cases linked to the requirement set

Syntax

```
status = runTests(rs)
status = runTests(rs,Name,Value)
```

Description

`status = runTests(rs)` runs the tests for the requirement set, `rs` linked with the test cases.

`status = runTests(rs,Name,Value)` selects the instances specified by the name-value pairs `Name` and `Value` in the requirement set `rs`.

You can use `runTests` to run MATLAB unit tests, Simulink tests, and Simulink Design Verifier™ verifiables.

Input Arguments

`rs` — Requirement set
`slreq.ReqSet` object

Requirement set, specified as a `slreq.ReqSet` object.

Name-Value Pair Arguments

`Select` — Options for searching under masks
`'all'` (default) | `'failed'` | `'unexecuted'`

Select one or more criteria for the tests execution, specified as the comma-separated pair consisting of 'select' and one of these options:

- `"all"` — Select and run tests on all tests linked to the requirement set.
- `"failed"` — Select and run tests on failed tests linked to the requirement set.
- `"unexecuted"` — Select and run tests on unexecuted tests linked to the requirement set.

Example: `runTests(rs, 'Select', 'failed')`

Example: `runTests(rs, 'Select', {'unexecuted', 'failed'})`

Output Arguments

`status` — Requirement set verification status summary
structure

The verification status summary for the requirement set after the tests are run, returned as a MATLAB structure containing these fields.

`total` — Total number of requirements
`double`

The total number of requirements in the requirement set with Verify links, returned as a `double`.

`passed` — Passed requirements
`double`

The total number of requirements in the requirement set that passed the tests associated with them, returned as a `double`.

`failed` — Failed requirements
`double`

The total number of requirements in the requirement set that failed the tests associated with them, returned as a `double`.

`unexecuted` — Unexecuted requirements
`double`

The total number of requirements in the requirement set with unexecuted associated tests, returned as a `double`.

`justified` — Justified requirements
`double`

The total number of requirements justified for verification in the requirement set, returned as a `double`.

none — Unlinked requirements
`double`

The total number of requirements without links to verification objects in the requirement set, returned as a `double`.

Examples

Run Tests on a Requirement Set

```
addpath(fullfile(matlabroot,'examples','slrequirements','main'));
reqSet = slreq.open('counter_req.slreqx');
rmi register linktype_mymljunitresults;
externalSource.id = 'testCounterStartsAtZero';
externalSource.artifact = 'counterTests.m';
externalSource.domain = 'linktype_mymljunitresults';
requirement = reqSet.find('Type', 'Requirement', 'SID', 2);
link = slreq.createLink(requirement, externalSource);
status = runTests(reqSet)
status = 

  struct with fields:
         total: 3
        passed: 0
        failed: 0
    unexecuted: 1
     justified: 0
          none: 2
```

Verify a MATLAB Algorithm by Using Requirements-Based Tests

This example shows how to verify a MATLAB® algorithm by creating verification links from MATLAB code lines in functions and tests to requirements. This example uses a project that contains an algorithm to calculate the shortest path between two nodes on a graph.

Open the project.

```
slreqShortestPathProjectStart
```

Examine the Project Artifacts

The project contains:

- Requirement sets for functional and test requirements, located in the `requirements` folder
- A MATLAB algorithm, located in the `src` folder
- MATLAB unit tests, located in the `tests` folder
- Links from MATLAB code lines to requirements, stored `.slmx` files located in the `src` and `tests` folders
- Scripts to automate project analysis, located in the `scripts` folder

Open the Functional Requirement Set

The `shortest_path_func_reqs` requirement set captures the functional behavior that the `shortest_path` function requires. The requirements describe the nominal behavior and the expected behavior for invalid conditions, such as when the inputs to the function are not valid. Open the requirement set in the **Requirements Editor**.

```
funcReqs = slreq.open("shortest_path_func_reqs");
```

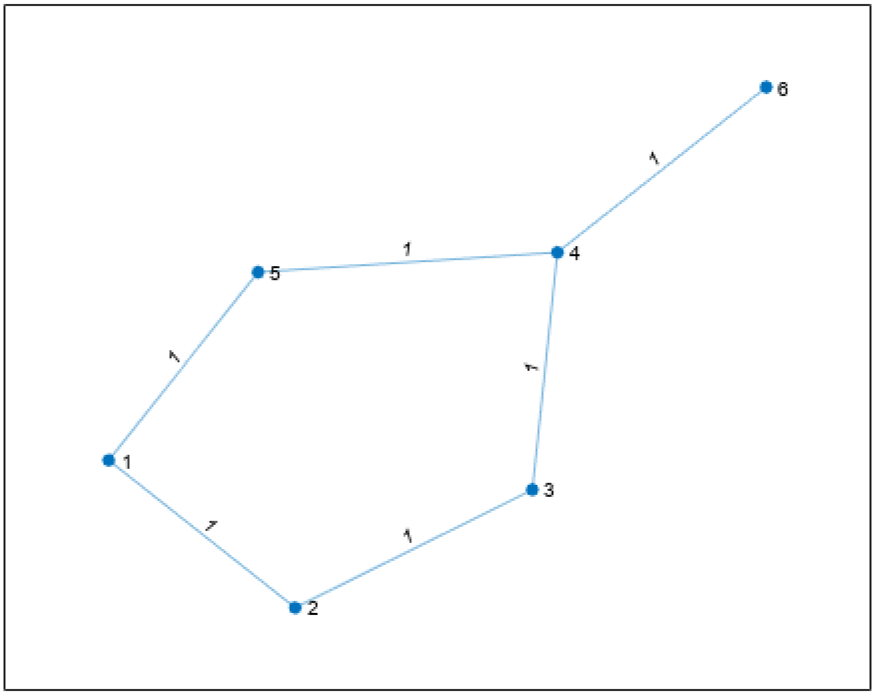
Use the Shortest Path Function

The `shortest_path` function tests the validity of the inputs to the function and then uses the Djikstra algorithm to calculate the number of edges in the shortest path between two nodes on a graph. The inputs to the function are an adjacency matrix that represents a graph, the starting node, and the ending node. For example, consider this adjacency matrix that represents a graph with six nodes.

```
A = [0 1 0 0 1 0;
    1 0 1 0 0 0;
    0 1 0 1 0 0;
    0 0 1 0 1 1;
    1 0 0 1 0 0;
    0 0 0 1 0 0];
```

Create a graph from the matrix and plot it.

```
G = graph(A);
plot(G,EdgeLabel=G.Edges.Weight)
```



Calculate the number of edges in the shortest path between nodes 1 and 6.

```
pathLength = shortest_path(A,1,6)
```

```
pathLength = 3
```

Open the Test Requirement Set

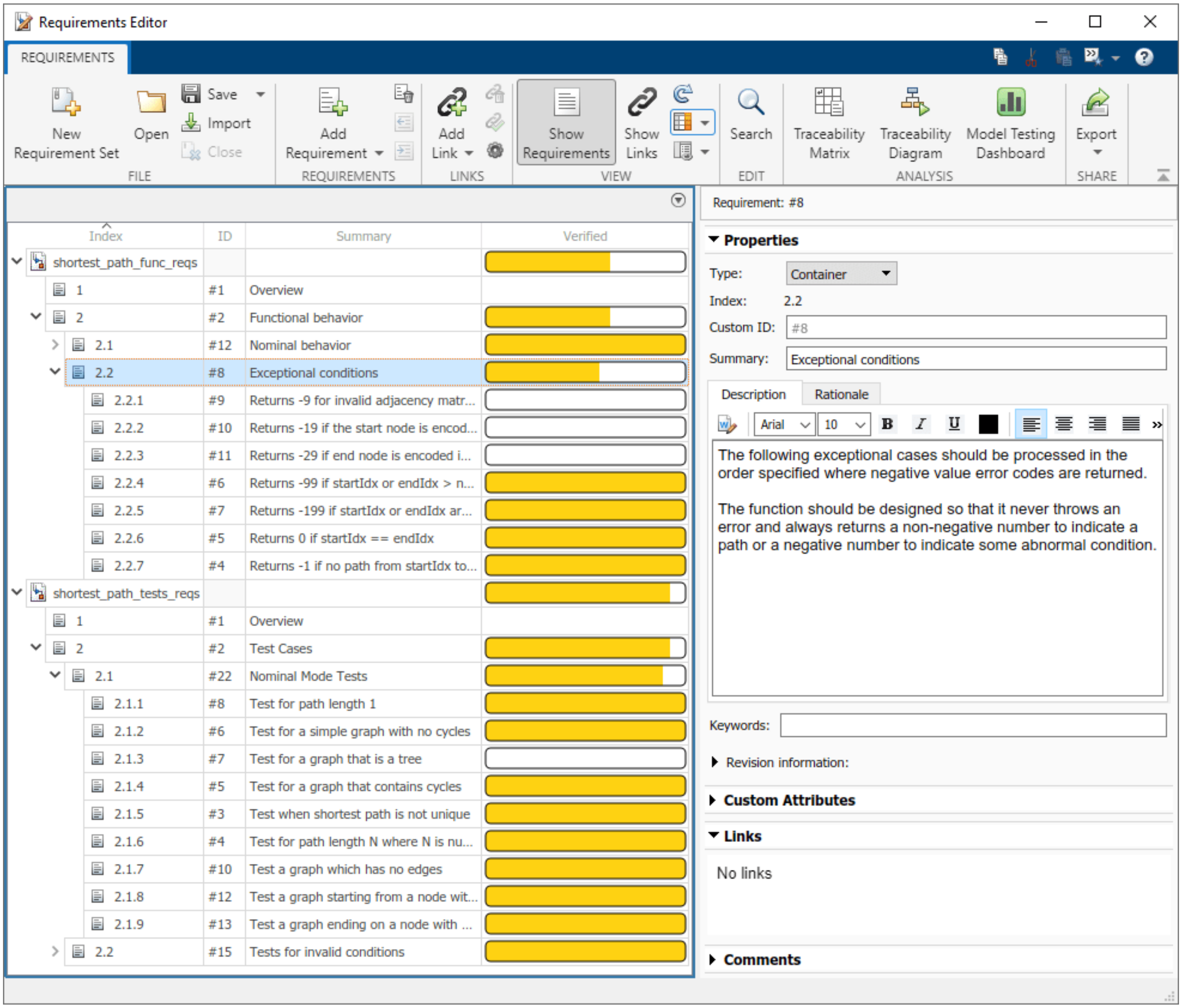
The `shortest_path_tests_reqs` requirement set contains test requirements that describe the functional behavior that must be tested by a test case. The test requirements are derived from the functional requirements. There are test requirements for the nominal behavior and for the invalid conditions. Open the requirement set in the **Requirements Editor**.

```
testReqs = slreq.open("shortest_path_tests_reqs");
```

The class-based MATLAB unit tests in `graph_unit_tests` implement the test cases described in `shortest_path_tests_reqs`. The class contains test methods based on the test requirements from `shortest_path_tests_reqs`. The class also contains the `verify_path_length` method, which the test cases use as a qualification method to verify that the expected and actual results are equal. The class also contains static methods that create adjacency matrices for the test cases.

View the Verification Status

To view the verification status, in the **Requirements Editor** toolstrip, in the **View** section, click ▦ **Columns** and select **Verification Status**. Three of the functional requirements and one test requirement are missing verification links. The verification status is yellow for each requirement, which indicates that the linked tests have not run.



Index	ID	Summary	Verified
shortest_path_func_reqs			
1	#1	Overview	
2	#2	Functional behavior	
2.1	#12	Nominal behavior	
2.2	#8	Exceptional conditions	
2.2.1	#9	Returns -9 for invalid adjacency matr...	
2.2.2	#10	Returns -19 if the start node is encod...	
2.2.3	#11	Returns -29 if end node is encoded i...	
2.2.4	#6	Returns -99 if startIdx or endIdx > n...	
2.2.5	#7	Returns -199 if startIdx or endIdx ar...	
2.2.6	#5	Returns 0 if startIdx == endIdx	
2.2.7	#4	Returns -1 if no path from startIdx to...	
shortest_path_tests_reqs			
1	#1	Overview	
2	#2	Test Cases	
2.1	#22	Nominal Mode Tests	
2.1.1	#8	Test for path length 1	
2.1.2	#6	Test for a simple graph with no cycles	
2.1.3	#7	Test for a graph that is a tree	
2.1.4	#5	Test for a graph that contains cycles	
2.1.5	#3	Test when shortest path is not unique	
2.1.6	#4	Test for path length N where N is nu...	
2.1.7	#10	Test a graph which has no edges	
2.1.8	#12	Test a graph starting from a node wit...	
2.1.9	#13	Test a graph ending on a node with ...	
2.2	#15	Tests for invalid conditions	

Requirement: #8

Type: Container
Index: 2.2
Custom ID: #8
Summary: Exceptional conditions

The following exceptional cases should be processed in the order specified where negative value error codes are returned.

The function should be designed so that it never throws an error and always returns a non-negative number to indicate a path or a negative number to indicate some abnormal condition.

Keywords:

Revision information:

No links

Run the tests and update the verification status for the requirement sets by using the `runTests` method.

```
status1 = runTests(funcReqs);
```

```
Running graph_unit_tests
.......... ......
Done graph_unit_tests
__________
```

```
status2 = runTests(testReqs);
```

```
Running graph_unit_tests
.......... ....
```

```
Done graph_unit_tests
__________
```

The verification status is green to indicate that the linked tests passed. However, some of the requirements do not have links to tests.

Identify Traceability Gaps in the Project

The functional and test requirements are linked to code lines in the `shortest_path` and `graph_unit_tests` files, but the traceability is not complete. Use a traceability matrix to identify requirements that are not linked to tests and to create links to make the requirements fully traceable.

Find the Missing Links with a Traceability Matrix

Create a traceability matrix for both requirement sets with the requirements on the top and the unit tests on the left. For more information about traceability matrices, see "Track Requirement Links with a Traceability Matrix"

```
mtxOpts = slreq.getTraceabilityMatrixOptions;
mtxOpts.topArtifacts = {'shortest_path_func_reqs.slreqx','shortest_path_tests_reqs.slreqx'};
mtxOpts.leftArtifacts = {'graph_unit_tests'};
slreq.generateTraceabilityMatrix(mtxOpts)
```

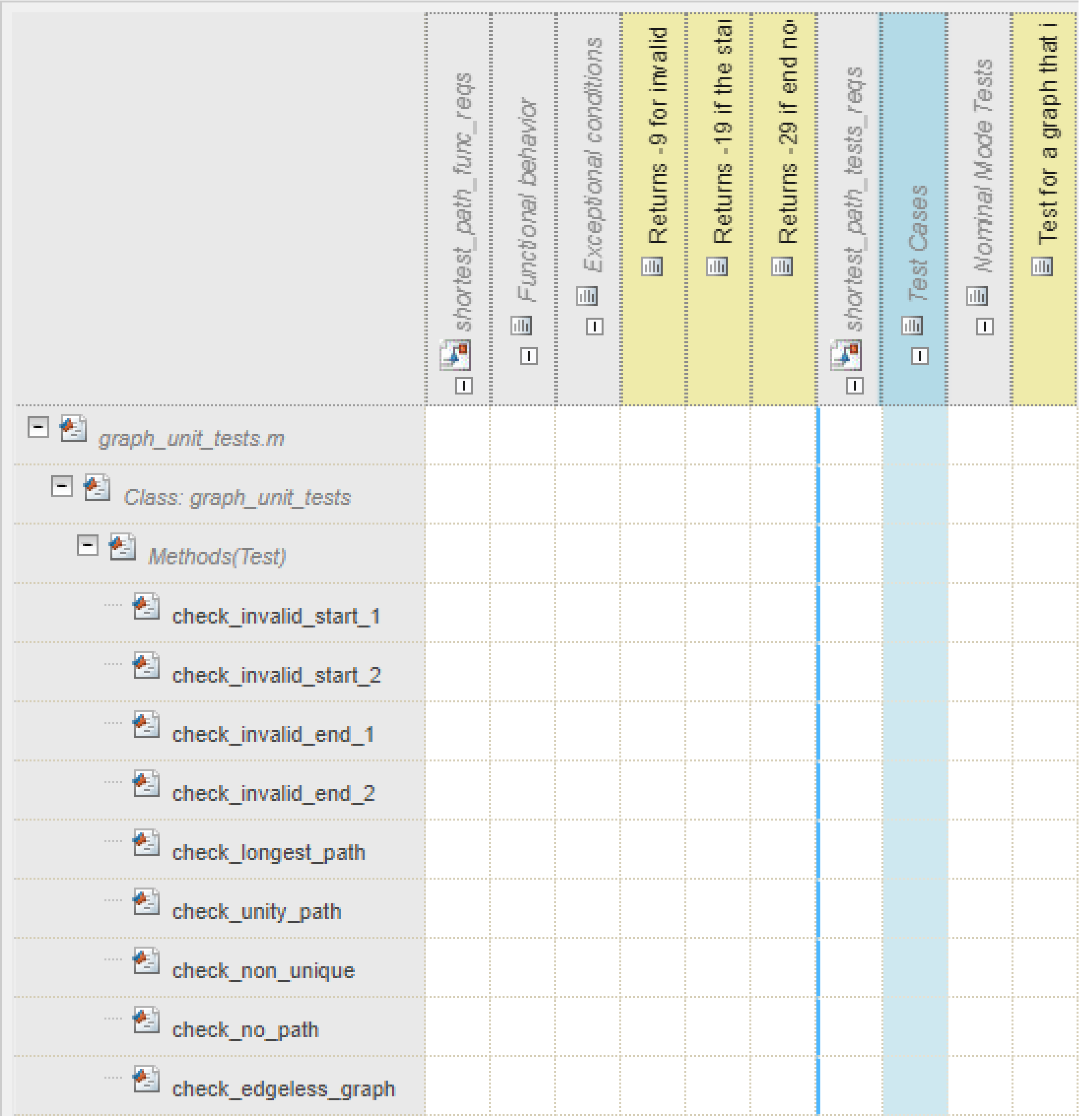
In the **Filter Panel**, in the **Top** section, filter the matrix to show only the functional requirements not linked to tests by clicking:

- **Top** > **Link** > **Missing Links**
- **Top** > **Type** > **Functional**

In the **Left** section, show only the test functions in the `graph_unit_tests` file by clicking:

- **Left** > **Type** > **Function**
- **Left** > **Attributes** > **Test**

Click **Highlight Missing Links** in the toolstrip.



	shortest_path_func_reqs	Functional behavior	Exceptional conditions	Returns -9 for invalid	Returns -19 if the stai	Returns -29 if end no	shortest_path_tests_reqs	Test Cases	Nominal Mode Tests	Test for a graph that i
graph_unit_tests.m										
Class: graph_unit_tests										
Methods(Test)										
check_invalid_start_1										
check_invalid_start_2										
check_invalid_end_1										
check_invalid_end_2										
check_longest_path										
check_unity_path										
check_non_unique										
check_no_path										
check_edgeless_graph										

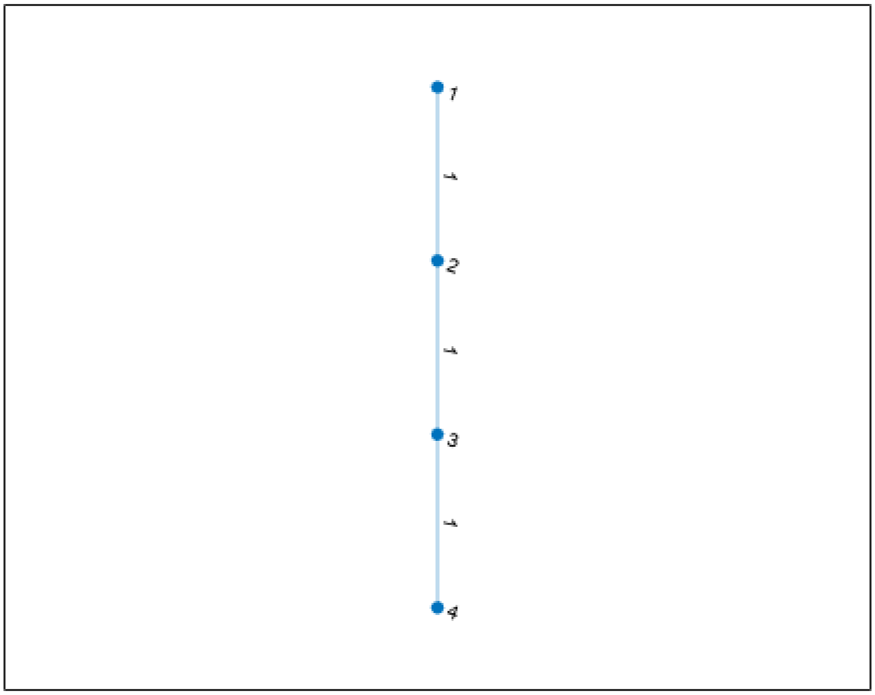
The Traceability Matrix window shows the three functional requirements and one test requirement that are missing verification links.

Create Verification Links for Requirements

The test requirement 2.1.3, `Test for a graph that is a tree`, is not linked to a test. A tree is a graph in which any two nodes are only connected by one path.

The test case `check_invalid_start_1` tests a tree graph by using the `graph_straight_seq` static method to create the adjacency matrix. Use the `graph_straight_seq` method to view the tree graph.

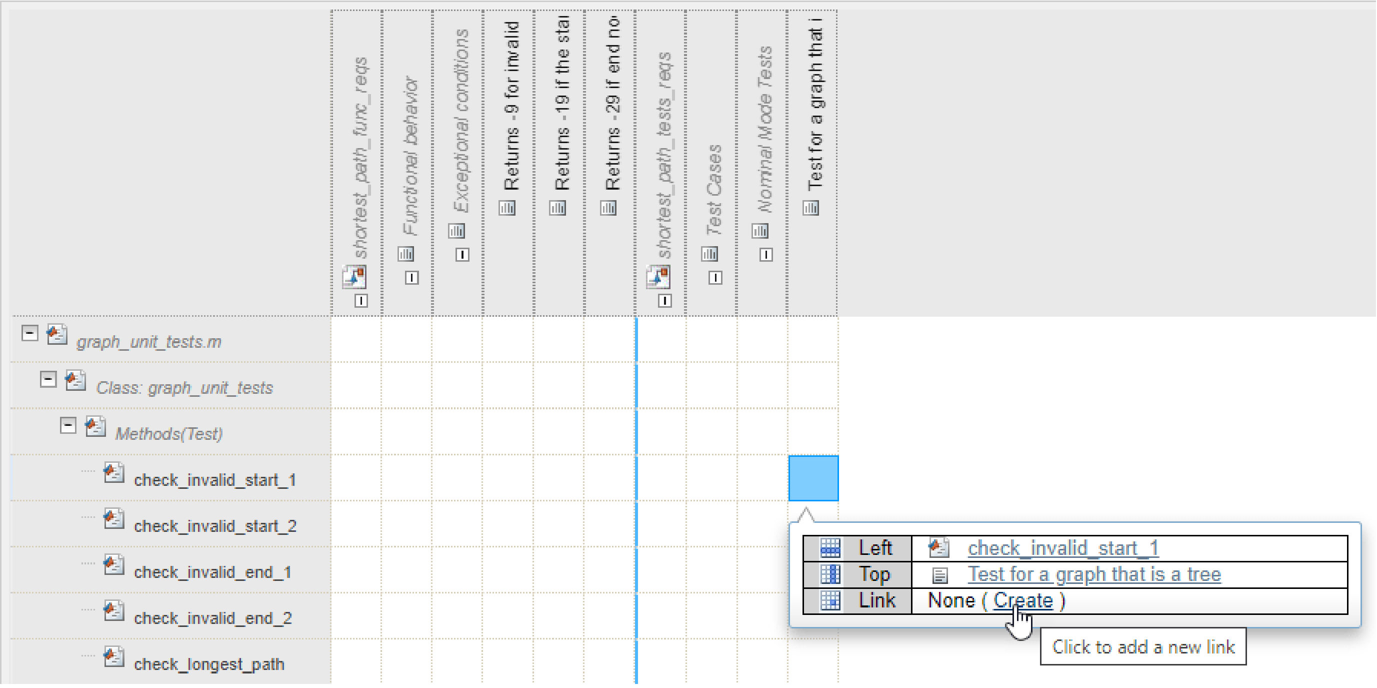
```
A = graph_unit_tests.graph_straight_seq;
G = graph(A);
plot(G,EdgeLabel=G.Edges.Weight)
```



Create a link from the `Test for a graph that is a tree` requirement to the `check_invalid_start_1` test case by using the traceability matrix you previously generated.

```
slreq.generateTraceabilityMatrix(mtxOpts)
```

Click the cell that corresponds to the requirement and the test and select **Create**. In the Create Link dialog box, click **Create**.



Left	check_invalid_start_1
Top	Test for a graph that is a tree
Link	None (Create)

Update the verification status in the **Requirements Editor** by running the tests linked to the test requirements. The `check_invalid_start_1` test verifies the `Test for a graph that is a tree` requirement.

```
status3 = runTests(testReqs);
```

```
Running graph_unit_tests
.......... ....
Done graph_unit_tests
```

___

Additionally, three functional requirements do not have links to tests:

- Requirement 2.2.1: `Returns -9 for invalid adjacency matrices`
- Requirement 2.2.2: `Returns -19 if the start node is encoded incorrectly`
- Requirement 2.2.3: `Returns -29 if end node is encoded incorrectly`

There is a traceability gap for these requirements. You cannot fill this gap by creating links to tests because there are no tests that verify these requirements.

Fix Coverage and Traceability Gaps by Authoring Tests

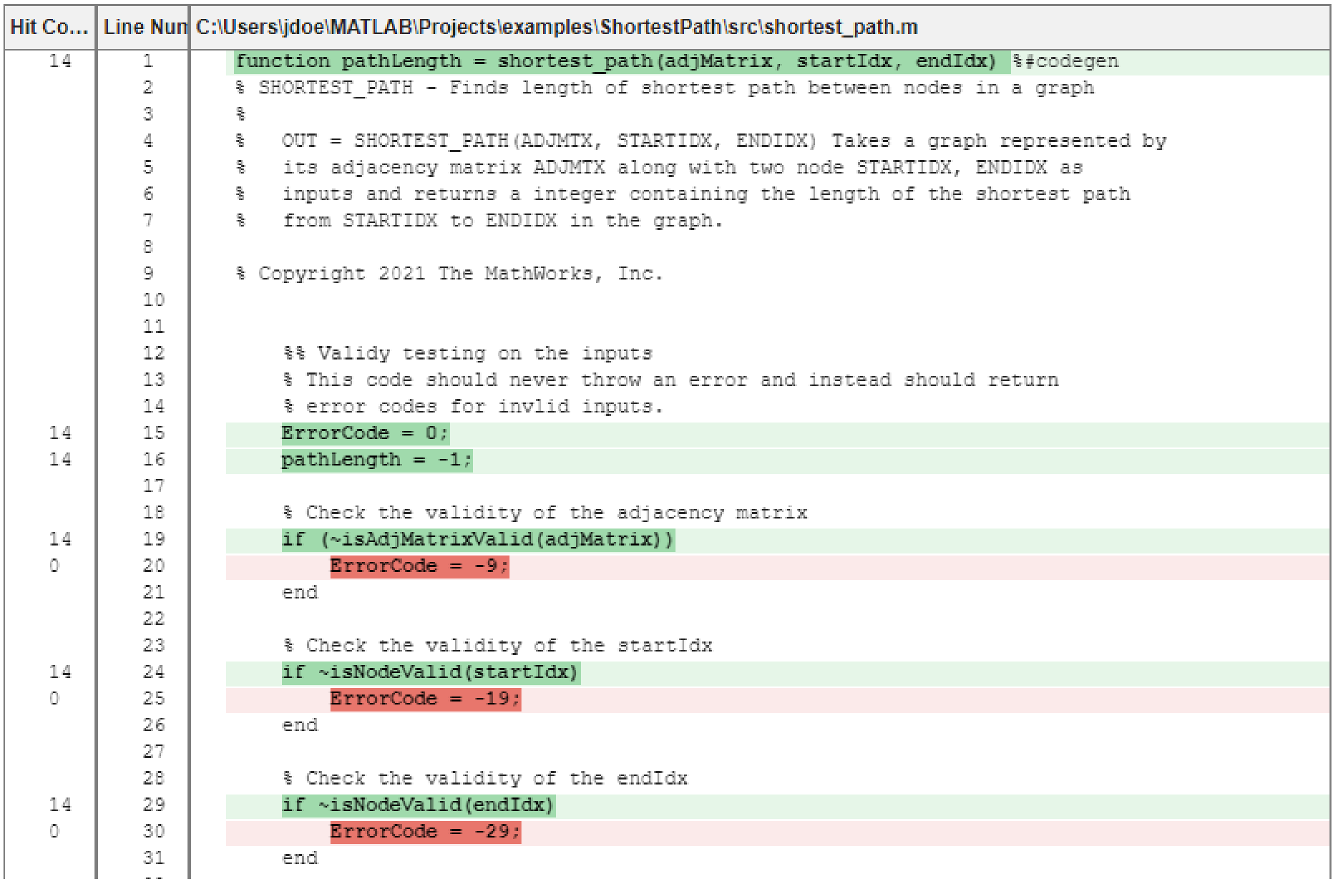
The three functional requirements that do not have links to tests do have links to lines of code in the `shortest_path` function. Run the tests with coverage to determine if those lines of code in the `shortest_path` function are covered by tests.

Run Tests with Coverage

Use the `RunTestsWithCoverage` script to run the tests with function and statement coverage and view the coverage in a report. For more information, see “Generate Code Coverage Report in HTML Format”.

```
RunTestsWithCoverage

Running graph_unit_tests
.......... ........
Done graph_unit_tests
__________

Code coverage report has been saved to:
 C:\Users\jdoe\MATLAB\Projects\examples\ShortestPath\coverageReport\index.html
```

Open the coverage report. The error code statements on lines 20, 25, and 30 are not covered by tests.



```
Hit Co...  Line Nun  C:\Users\jdoe\MATLAB\Projects\examples\ShortestPath\src\shortest_path.m
   14         1      function pathLength = shortest_path(adjMatrix, startIdx, endIdx) %#codegen
              2      % SHORTEST_PATH - Finds length of shortest path between nodes in a graph
              3      %
              4      %   OUT = SHORTEST_PATH(ADJMTX, STARTIDX, ENDIDX) Takes a graph represented by
              5      %   its adjacency matrix ADJMTX along with two node STARTIDX, ENDIDX as
              6      %   inputs and returns a integer containing the length of the shortest path
              7      %   from STARTIDX to ENDIDX in the graph.
              8
              9      % Copyright 2021 The MathWorks, Inc.
             10
             11
             12          %% Validy testing on the inputs
             13          % This code should never throw an error and instead should return
             14          % error codes for invlid inputs.
   14        15          ErrorCode = 0;
   14        16          pathLength = -1;
             17
             18          % Check the validity of the adjacency matrix
   14        19          if (~isAdjMatrixValid(adjMatrix))
   0         20              ErrorCode = -9;
             21          end
             22
             23          % Check the validity of the startIdx
   14        24          if ~isNodeValid(startIdx)
   0         25              ErrorCode = -19;
             26          end
             27
             28          % Check the validity of the endIdx
   14        29          if ~isNodeValid(endIdx)
   0         30              ErrorCode = -29;
             31          end
```

Note that the coverage gap for these code lines and the traceability gap for requirements 2.2.1, 2.2.2, and 2.2.3 refer to the same error codes. You can close the coverage and traceability gaps simultaneously by authoring tests for these lines of code and creating links to the requirements.

Improve Coverage by Authoring New Tests

Create tests that improve the coverage for the tests and verify requirements 2.2.1, 2.2.2, and 2.2.2. Open the `graph_unit_tests` test file.

```
open("graph_unit_tests.m");
```

These functions test the three error codes. Copy and paste the code in line 4, in the test methods section of the `graph_unit_tests` file, then save the file.

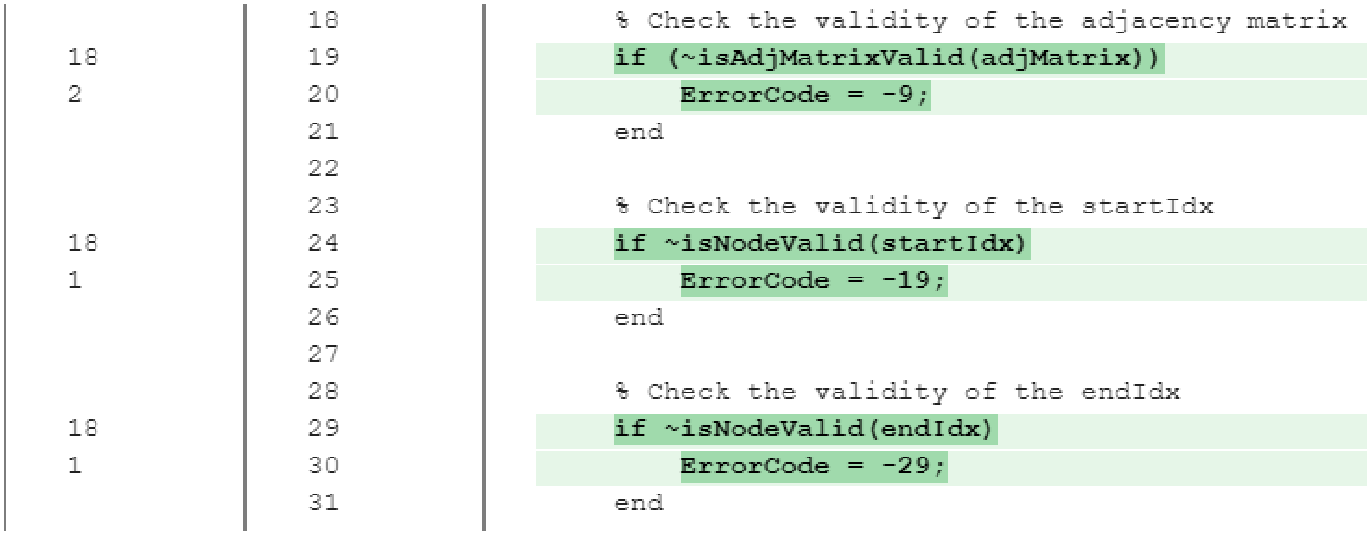
```
function check_invalid_nonsquare(testCase)
    adjMatrix = zeros(2,3);
    startIdx = 1;
    endIdx = 1;
    expOut = -9;
    verify_path_length(testCase, adjMatrix, startIdx, endIdx, expOut, ...
        'Graph is not square');
end

function check_invalid_entry(testCase)
    adjMatrix = 2*ones(4,4);
    startIdx = 1;
    endIdx = 1;
    expOut = -9;
    verify_path_length(testCase, adjMatrix, startIdx, endIdx, expOut, ...
        'Adjacency matrix is not valid');
end

function check_invalid_noninteger_startnode(testCase)
    adjMatrix = zeros(4,4);
    startIdx = 1.2;
    endIdx = 1;
    expOut = -19;
    verify_path_length(testCase, adjMatrix, startIdx, endIdx, expOut, ...
        'Start node is not an integer');
end

function check_invalid_noninteger_endnode(testCase)
    adjMatrix = zeros(4,4);
    startIdx = 1;
    endIdx = 2.2;
    expOut = -29;
    verify_path_length(testCase, adjMatrix, startIdx, endIdx, expOut, ...
        'End node is not an integer');
end
```

Rerun the tests with coverage and open the coverage report.

```
RunTestsWithCoverage
```

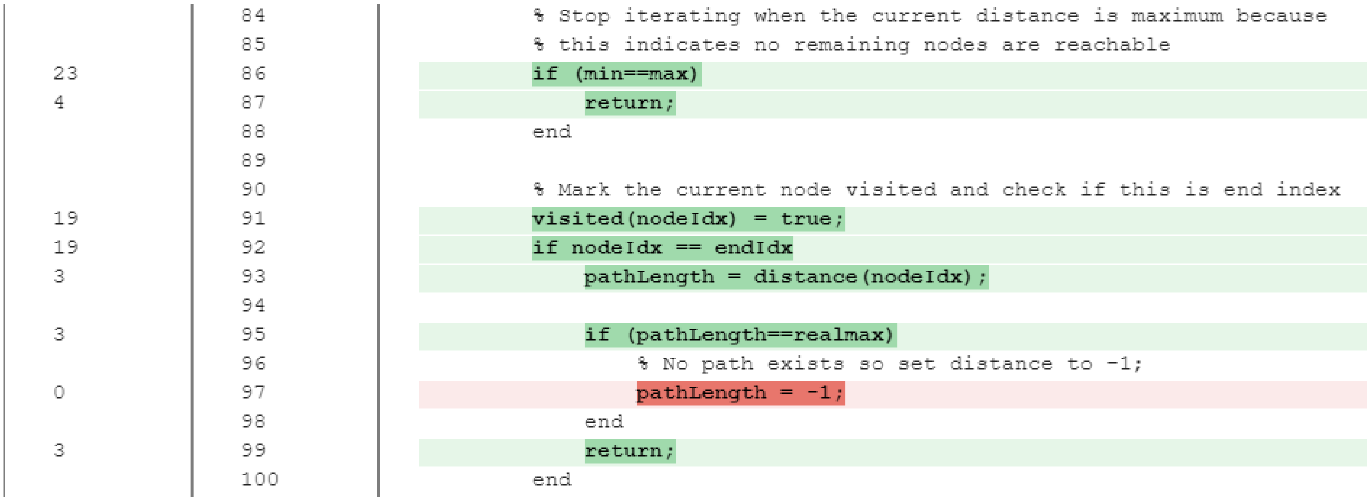
```
Running graph_unit_tests
.......... ........
Done graph_unit_tests
__________

Code coverage report has been saved to:
 C:\Users\jdoe\MATLAB\Projects\examples\ShortestPath\coverageReport\index.html
```

The tests now cover the error code statements.



```
        18    % Check the validity of the adjacency matrix
18      19    if (~isAdjMatrixValid(adjMatrix))
2       20        ErrorCode = -9;
        21    end
        22
        23    % Check the validity of the startIdx
18      24    if ~isNodeValid(startIdx)
1       25        ErrorCode = -19;
        26    end
        27
        28    % Check the validity of the endIdx
18      29    if ~isNodeValid(endIdx)
1       30        ErrorCode = -29;
        31    end
```

However, there is a statement on line 97 that the tests do not cover. The conditions that require the tests to cover the statement on line 97 also cause the `return` on line 87 to execute, which means that the statement on 97 is not reachable and is dead logic.



```
        84     % Stop iterating when the current distance is maximum because
        85     % this indicates no remaining nodes are reachable
23      86     if (min==max)
4       87         return;
        88     end
        89
        90     % Mark the current node visited and check if this is end index
19      91     visited(nodeIdx) = true;
19      92     if nodeIdx == endIdx
3       93         pathLength = distance(nodeIdx);
        94
3       95         if (pathLength==realmax)
        96             % No path exists so set distance to -1;
0       97             pathLength = -1;
        98         end
3       99         return;
        100    end
```

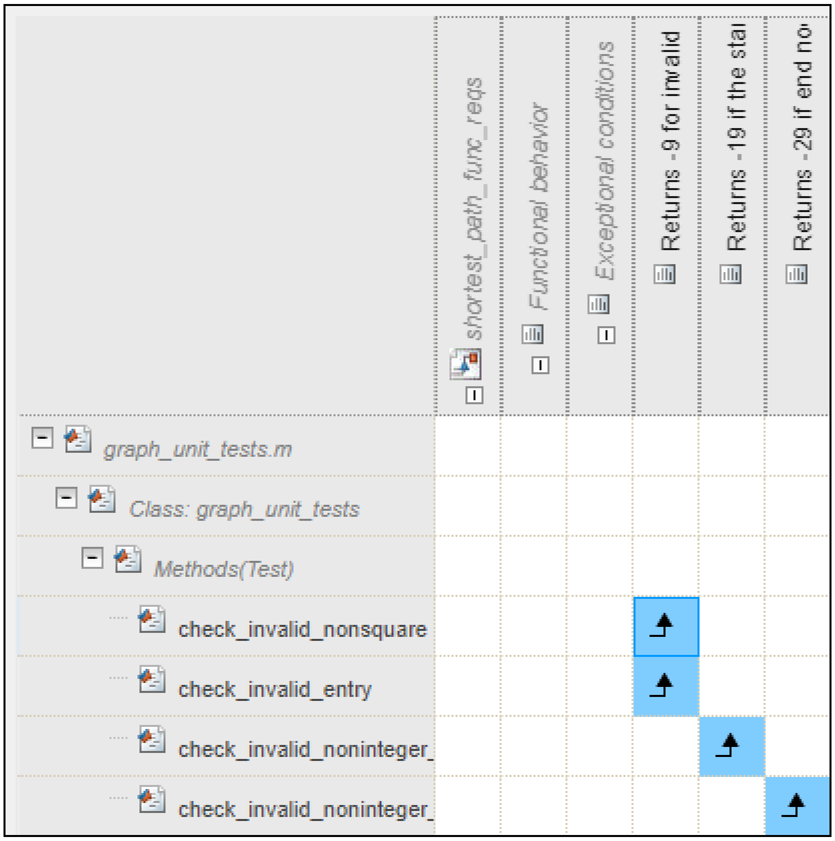
Fix Requirement Traceability Gaps

Regenerate the traceability matrix, apply the same filters from before, then click **Highlight Missing Links** in the toolstrip.

```
slreq.generateTraceabilityMatrix(mtxOpts)
```

- **Top** > **Link** > **Missing Links**
- **Top** > **Type** > **Functional**
- **Left** > **Type** > **Function**
- **Left** > **Attributes** > **Test**

Create links between the error code requirements and the new tests.



	shortest_path_func_reqs	Functional behavior	Exceptional conditions	Returns -9 for invalid	Returns -19 if the sta	Returns -29 if end no
graph_unit_tests.m						
Class: graph_unit_tests						
Methods(Test)						
check_invalid_nonsquare				↑		
check_invalid_entry				↑		
check_invalid_noninteger_					↑	
check_invalid_noninteger_						↑

Update the verification status in the **Requirements Editor** by re-running the tests linked to both requirement sets.

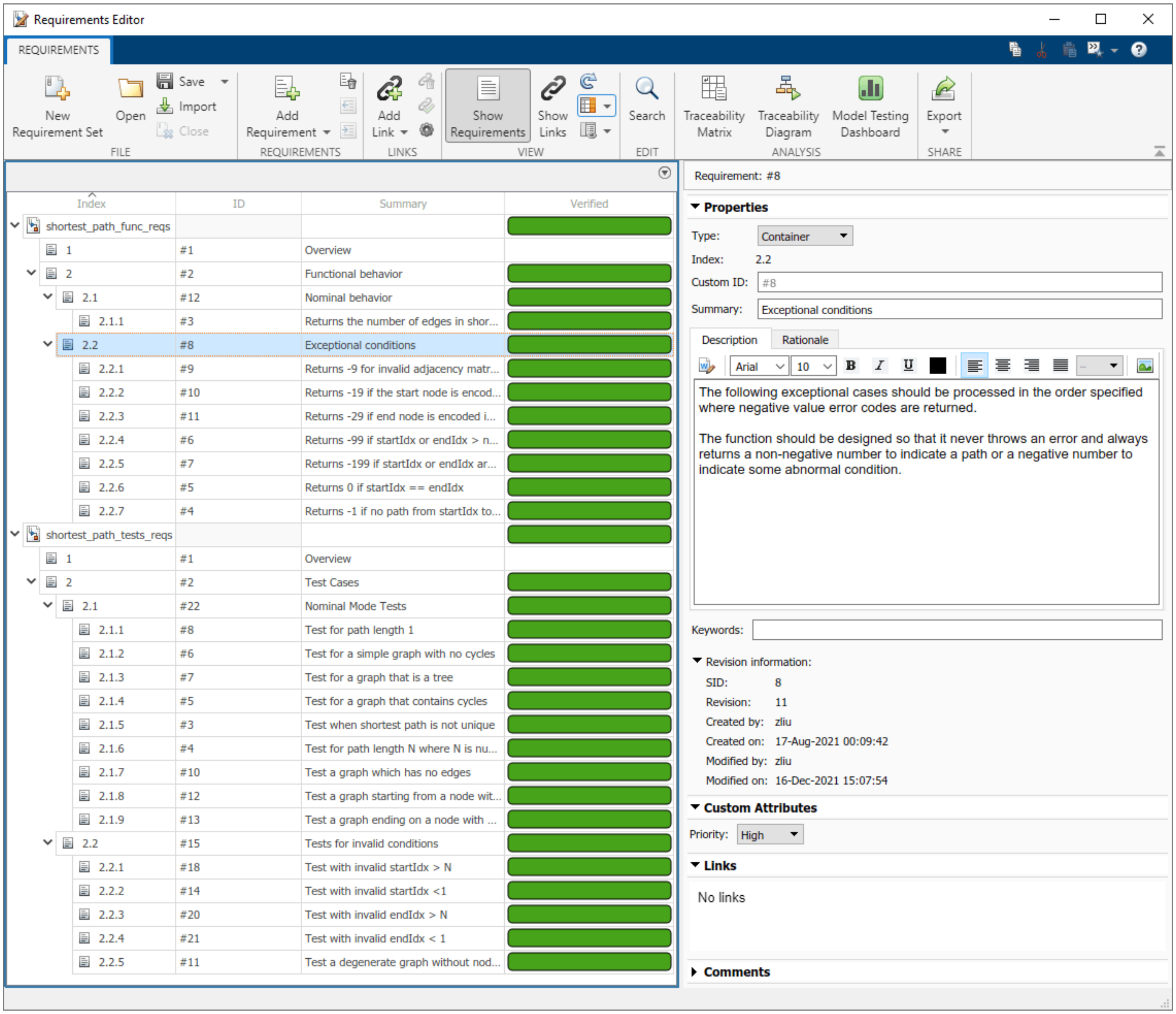
```
status4 = runTests(funcReqs);
```

```
Running graph_unit_tests
.......... ......
Done graph_unit_tests
```

```
status5 = runTests(testReqs);
```

```
Running graph_unit_tests
.......... ....
Done graph_unit_tests
```

All requirements have links to tests and all tests pass.



Index	ID	Summary	Verified
shortest_path_func_reqs			🟩
1	#1	Overview	
2	#2	Functional behavior	🟩
2.1	#12	Nominal behavior	🟩
2.1.1	#3	Returns the number of edges in shor...	🟩
2.2	#8	Exceptional conditions	🟩
2.2.1	#9	Returns -9 for invalid adjacency matr...	🟩
2.2.2	#10	Returns -19 if the start node is encod...	🟩
2.2.3	#11	Returns -29 if end node is encoded i...	🟩
2.2.4	#6	Returns -99 if startIdx or endIdx > n...	🟩
2.2.5	#7	Returns -199 if startIdx or endIdx ar...	🟩
2.2.6	#5	Returns 0 if startIdx == endIdx	🟩
2.2.7	#4	Returns -1 if no path from startIdx to...	🟩
shortest_path_tests_reqs			🟩
1	#1	Overview	
2	#2	Test Cases	🟩
2.1	#22	Nominal Mode Tests	🟩
2.1.1	#8	Test for path length 1	🟩
2.1.2	#6	Test for a simple graph with no cycles	🟩
2.1.3	#7	Test for a graph that is a tree	🟩
2.1.4	#5	Test for a graph that contains cycles	🟩
2.1.5	#3	Test when shortest path is not unique	🟩
2.1.6	#4	Test for path length N where N is nu...	🟩
2.1.7	#10	Test a graph which has no edges	🟩
2.1.8	#12	Test a graph starting from a node wit...	🟩
2.1.9	#13	Test a graph ending on a node with ...	🟩
2.2	#15	Tests for invalid conditions	🟩
2.2.1	#18	Test with invalid startIdx > N	🟩
2.2.2	#14	Test with invalid startIdx <1	🟩
2.2.3	#20	Test with invalid endIdx > N	🟩
2.2.4	#21	Test with invalid endIdx < 1	🟩
2.2.5	#11	Test a degenerate graph without nod...	🟩

Requirement: #8

Properties

Type: Container
Index: 2.2
Custom ID: #8
Summary: Exceptional conditions

Description | Rationale

The following exceptional cases should be processed in the order specified where negative value error codes are returned.

The function should be designed so that it never throws an error and always returns a non-negative number to indicate a path or a negative number to indicate some abnormal condition.

Keywords:

Revision information:
SID: 8
Revision: 11
Created by: zliu
Created on: 17-Aug-2021 00:09:42
Modified by: zliu
Modified on: 16-Dec-2021 15:07:54

Custom Attributes

Priority: High

Links

No links

Comments

Trace Requirements in Generated Code

Use Embedded Coder® to generate code from the `shortest_path` algorithm and include requirements comments that allow you to trace the requirements in the generated code. For more information, see “Requirements Traceability for Code Generated from MATLAB Code”.

Create a code configuration object to generate code with a LIB build type.

```
cfg = coder.config("lib","ecoder",true);
```

Enable the code configuration parameter to include requirements comments in the generated code.

```
cfg.ReqsInCode = true;
```

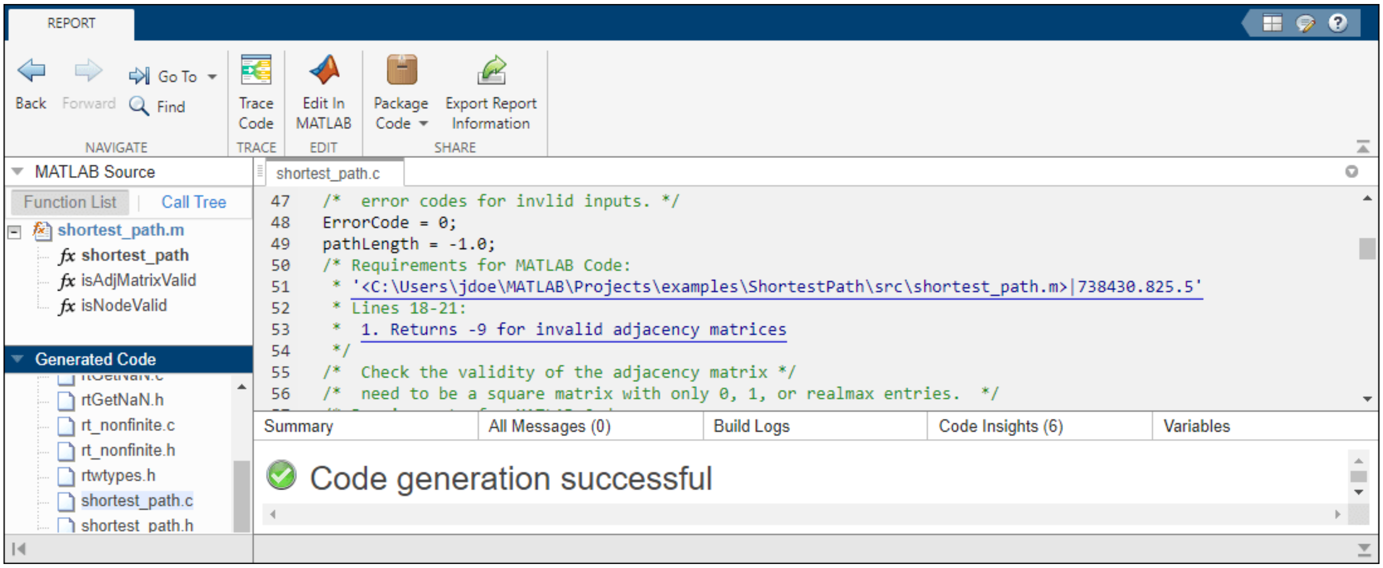
Use `coder.typeof` (MATLAB Coder) to define a variable-sized double array with a maximum size of 100x100 and a scalar double to use as inputs in the generated code.

```
mtxType = coder.typeof(ones(100,100),[],1);
scalarDblType = coder.typeof(1);
```

Generate C code from the `shortest_path` algorithm with the specified code configuration parameters and input types. Create a code generation report and launch the report.

```
codegen shortest_path -config cfg -args {mtxType, scalarDblType, scalarDblType} -launchreport
```

```
Code generation successful: View report
```



```
/*  error codes for invlid inputs. */
ErrorCode = 0;
pathLength = -1.0;
/* Requirements for MATLAB Code:
 * '<C:\Users\jdoe\MATLAB\Projects\examples\ShortestPath\src\shortest_path.m>|738430.825.5'
 * Lines 18-21:
 *  1. Returns -9 for invalid adjacency matrices
 */
/*  Check the validity of the adjacency matrix */
/*  need to be a square matrix with only 0, 1, or realmax entries.  */
```

Code generation successful

The `shortest_path.c` file contains comments with the summary of the linked requirement, the full file path of the `shortest_path.m` file, and the linked code lines.

Version History

Introduced in R2022a

See Also

`getVerificationStatus` | “Requirements Traceability for MATLAB Code”

save

Class: `slreq.ReqSet`
Package: `slreq`

Save a requirement set

Syntax

```
save(rs)
save(rs, filePath)
```

Description

`save(rs)` saves a requirement set by using its file name.

`save(rs, filePath)` saves a requirement set and updates its Name and Filename properties.

Input Arguments

`rs` — Requirement set file

`slreq.ReqSet` object

Requirement set file, specified as a `slreq.ReqSet` object.

`filePath` — File name and path

character vector

The file name and path of the requirement set, specified as a character vector.

Example: `'C:\MATLAB\myReqSet.slreqx'`

Examples

Save Requirement Set File

```
% Create the requirement set file
rs = slreq.new('C:\MATLAB\My Requirement Set.slreqx');

% Save the requirement set file
save(rs);

% Save the requirement set file as another requirement set file
save(rs, 'C:\MATLAB\Another Requirement Set.slreqx');
```

Version History

Introduced in R2018a

See Also

`slreq.ReqSet`

setPostLoadFcn

Class: slreq.ReqSet
Package: slreq

Assign PostLoadFcn callback script

Syntax

```
setPostLoadFcn(rs,callbackScript)
```

Description

setPostLoadFcn(rs,callbackScript) assigns the script specified by callbackScript as the PostLoadFcn callback script for the requirement set rs.

Input Arguments

rs — Requirement set
slreq.ReqSet object

Requirement set, specified as an slreq.ReqSet object.

callbackScript — Name of script to register
string scalar | character vector

Name of the script to register as the PostLoadFcn callback for the requirement set, specified as a string scalar or character vector.

Examples

Get and Set PostLoadFcn Callback

This example shows how to get and set the PostLoadFcn callback for a requirement set.

Add the current folder to the path.

```
addpath(pwd)
```

Open a project that contains an algorithm to calculate the shortest path between two nodes on a graph. For more information, see “Verify a MATLAB Algorithm by Using Requirements-Based Tests”.

```
slreqShortestPathProjectStart;
```

Open the shortest_path_tests_reqs requirement set. The requirement set contains test requirements that describe the functional behavior that must be tested by a test case in order to verify the shortest_path algorithm in the project.

```
testReqs = slreq.open("shortest_path_tests_reqs");
```

Register the postLoadTestReqs script as the PostLoadFcn callback.

```
setPostLoadFcn(testReqs,"postLoadTestReqs");
```

Confirm that the `postLoadTestReqs` script is the `PostLoadFcn` callback for the `shortest_path_tests_reqs` requirement set.

```
callbackScript = getPostLoadFcn(testReqs)
```

```
callbackScript = 
'postLoadTestReqs'
```

Save and close the `shortest_path_tests_reqs` requirement set, then re-open the requirement set. The `PostLoadFcn` callback executes.

```
save(testReqs);
slreq.clear;
testReqs = slreq.load("shortest_path_tests_reqs");
```

The `postLoadTestReqs` script opens the test file associated with the test requirements, `graph_unit_tests.m` and imports the **Requirements Editor** view settings from `myViewSettings.mat`.

```
type postLoadTestReqs.m
```

```
open("graph_unit_tests.m");
slreq.importViewSettings("myViewSettings.mat",1);
```

Version History

Introduced in R2022a

See Also

`slreq.getCurrentObject` | `setPreSaveFcn` | `getPostLoadFcn` | `getPreSaveFcn`

Topics

"Execute Code When Loading and Saving Requirement Sets"

setPreSaveFcn

Class: slreq.ReqSet
Package: slreq

Assign PreSaveFcn callback script

Syntax

```
setPreSaveFcn(rs,callbackScript)
```

Description

setPreSaveFcn(rs,callbackScript) assigns the script specified by callbackScript as the PreSaveFcn callback script for the requirement set rs.

Input Arguments

rs — Requirement set
slreq.ReqSet object

Requirement set, specified as an slreq.ReqSet object.

callbackScript — Name of script to register
string scalar | character vector

Name of the script to register as the PreSaveFcn callback for the requirement set, specified as a string scalar or character vector.

Examples

Get and Set PreSaveFcn Callback

This example shows how to get and set the PreSaveFcn callback for a requirement set.

Add the current folder to the path.

```
addpath(pwd)
```

Open a project that contains an algorithm to calculate the shortest path between two nodes on a graph. For more information, see “Verify a MATLAB Algorithm by Using Requirements-Based Tests”.

```
slreqShortestPathProjectStart;
```

Open the shortest_path_tests_reqs requirement set. The requirement set contains test requirements that describe the functional behavior that must be tested by a test case in order to verify the shortest_path algorithm in the project.

```
testReqs = slreq.open("shortest_path_tests_reqs");
```

Register the preSaveTestReqs script as the PreSaveFcn callback.

```
setPreSaveFcn(testReqs,"preSaveTestReqs");
```

Confirm that the preSaveTestReqs script is the PreSaveFcn callback for the shortest_path_tests_reqs requirement set.

```
callbackScript = getPreSaveFcn(testReqs)
```

```
callbackScript =
'preSaveTestReqs'
```

Save the shortest_path_tests_reqs requirement set to execute the callback.

```
save(testReqs);
```

The preSaveTestReqs script saves the current **Requirements Editor** view settings to a MAT-file called myViewSettings.mat.

```
type preSaveTestReqs.m
```

```
slreq.exportViewSettings("myViewSettings.mat");
```

Version History

Introduced in R2022a

See Also

slreq.getCurrentObject | setPostLoadFcn | getPostLoadFcn | getPreSaveFcn

Topics

“Execute Code When Loading and Saving Requirement Sets”

updateAttribute

Class: `slreq.ReqSet`
Package: `slreq`

Update information for requirement set custom attribute

Syntax

```
updateAttribute(rs,atrb,Name,Value)
```

Description

`updateAttribute(rs,atrb,Name,Value)` updates the custom attribute specified by `atrb` with properties specified by the name-value pairs `Name` and `Value` in the requirement set `rs`.

Input Arguments

`rs` — Requirement set

`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

`atrb` — Custom attribute name

character array

Custom attribute name, specified as a character array.

Name-Value Pair Arguments

Specify optional pairs of arguments as `Name1=Value1,...,NameN=ValueN`, where `Name` is the argument name and `Value` is the corresponding value. Name-value arguments must appear after other arguments, but the order of the pairs does not matter.

Before R2021a, use commas to separate each name and value, and enclose `Name` *in quotes.*

Example: `'Description','My new description.'`

`Description` — Custom attribute description

character array

Custom attribute description, specified as the comma-separated pair consisting of `'Description'` and a character array.

Example: `'Description','My new description.'`

`List` — Combobox list options

cell array

`Combobox` list options, specified as the comma-separated pair consisting of `'List'` and a cell array. The list of options is valid only if `'Unset'` is the first entry. `'Unset'` indicates that the user hasn't chosen an option from the combo box. If the list does not start with `'Unset'`, it will be automatically appended as the first entry.

Example: 'List',{'Unset','A','B','C'}

Note You can only use this name-value pair when the Type property of the custom attribute that you're updating is Combobox.

Examples

Update Requirement Set Custom Attribute Information

This example shows how to update custom attribute information for a requirement set.

Load crs_req_func_spec, which describes a cruise control system. Find a requirement set in the files and assign it to a variable.

```
slreq.load('crs_req_func_spec');
rs = slreq.find('Type','ReqSet');
```

Update an Edit Custom Attribute

Add an Edit custom attribute that has a description to the requirement set. Get the attribute information with inspectAttribute.

```
addAttribute(rs,'MyEditAttribute','Edit','Description','Original attribute.')
inspectAttribute(rs,'MyEditAttribute')
```

```
ans = struct with fields:
           name: 'MyEditAttribute'
           type: Edit
    description: 'Original attribute.'
```

Update the custom attribute with a new description. Confirm the change by getting the attribute information with inspectAttribute.

```
updateAttribute(rs,'MyEditAttribute','Description','Updated attribute.')
inspectAttribute(rs,'MyEditAttribute')
```

```
ans = struct with fields:
           name: 'MyEditAttribute'
           type: Edit
    description: 'Updated attribute.'
```

Update a Combobox Custom Attribute

Add a Combobox custom attribute that has a list of options to the requirement set. Get the attribute information with inspectAttribute.

```
addAttribute(rs,'MyCombobox','Combobox','List',{'Unset','A','B','C'})
inspectAttribute(rs,'MyCombobox')
```

```
ans = struct with fields:
           name: 'MyCombobox'
           type: Combobox
    description: ''
```

```
           list: {'Unset'  'A'  'B'  'C'}
```

Update the custom attribute with a new list of options. Confirm the change by getting the attribute information with `inspectAttribute`.

```
updateAttribute(rs,'MyCombobox','List',{'Unset','1','2','3'})
inspectAttribute(rs,'MyCombobox')
```

```
ans = struct with fields:
           name: 'MyCombobox'
           type: Combobox
    description: ''
           list: {'Unset'  '1'  '2'  '3'}
```

Update the custom attribute with a new list of options and a new description. Confirm the change by getting the attribute information with `inspectAttribute`.

```
updateAttribute(rs,'MyCombobox','List',{'Unset','A1','B2','B3'},'Description',...
    'Updated attribute with new options.')
inspectAttribute(rs,'MyCombobox')
```

```
ans = struct with fields:
           name: 'MyCombobox'
           type: Combobox
    description: 'Updated attribute with new options.'
           list: {'Unset'  'A1'  'B2'  'B3'}
```

Cleanup

Clear the open requirement sets and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

`slreq.ReqSet` | `addAttribute` | `deleteAttribute` | `inspectAttribute`

Topics

"Manage Custom Attributes for Requirements by Using the Requirements Toolbox API"

updateImplementationStatus

Class: slreq.ReqSet
Package: slreq

Update requirement set implementation status summary

Syntax

```
updateImplementationStatus(rs)
```

Description

`updateImplementationStatus(rs)` updates the implementation status summary of the requirement set `rs`.

Input Arguments

rs — Requirement set

slreq.ReqSet object

Requirement set, specified as an `slreq.ReqSet` object.

Version History

Introduced in R2018b

See Also

getImplementationStatus

updateReferences

Class: `slreq.ReqSet`
Package: `slreq`

Update referenced requirements in requirement set

Syntax

```
[status,changeList] = updateReferences(rs,docID)
[status,changeList] = updateReferences(rs,topRef)
```

Description

`[status,changeList] = updateReferences(rs,docID)` updates the referenced requirements in the requirement set `rs` by using the external requirements document specified by `docID`. The function returns the update status and a list of changes made to the requirements.

`[status,changeList] = updateReferences(rs,topRef)` updates the referenced requirements under the Import node `topRef` in the requirement set `rs`. The function updates the referenced requirements by using the external document associated with the Import node.

Input Arguments

`rs` — Requirement set

`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

`docID` — External requirements document identifier

string scalar | character vector

Identifier of the external requirements document associated with the requirement set, specified as a string scalar or a character vector.

Example: `"requirement_spec.docx"`

`topRef` — Import node

`slreq.Reference` object

Import node, specified as an `slreq.Reference` object.

Output Arguments

`status` — Update status

character vector

Requirement set update status, returned as a character vector.

`changeList` — List of updated referenced requirements

character vector

List of updated referenced requirements, returned as a character vector. The list includes the properties on page 2-65 of each referenced requirement changed by the function.

Examples

Update a Requirement Set from an External Requirements Document

This example shows how to update a requirement set from an external requirements document.

Open the `CruiseRequirementsExample` project. Load the `crs_req` requirement set.

```
slreqCCProjectStart;
rs = slreq.load("crs_req");
```

Update the requirement set from the external requirements document `crs_req.docx`.

```
[status,changeList] = updateReferences(rs,"crs_req.docx")
```

```
status =
'Update completed. Refer to Comments on Import1.'

changeList =
    'Updated: CC003_01. Properties: description
     Updated: CC003_02. Properties: description
     Updated: CC003_03. Properties: description
     Updated: CC003_04. Properties: description
     Updated: Cruise control buttons. Properties: description
     Updated: Cruise control mode indicator. Properties: description
     Updated: Cruise control modes. Properties: description
     Updated: Dashboard image. Properties: description
     Updated: Deactivating cruise control. Properties: description
     Updated: Disabling cruise control. Properties: description
     Updated: Enabling cruise control. Properties: description
     Updated: Other inputs. Properties: description
     Updated: ROM. Properties: description
     Updated: Resuming cruise control. Properties: description
     Updated: System Inputs. Properties: description
     Updated: System outputs. Properties: description
     Updated: Throttle value calculation. Properties: description
     '
```

Update Referenced Requirements in a Requirement Set from an Import Node

This example shows how to update referenced requirements in a requirement set from an Import node.

Open the `CruiseRequirementsExample` project and load the `crs_req` requirement set.

```
slreqCCProjectStart;
rs = slreq.load("crs_req");
```

Find the Import node in the requirement set. The Import node has an `Index` property set to `Import1`.

```
topRef = find(rs,"Index","Import1");
```

Update the requirement set from the external requirements document associated with the Import node.

```
[status,changeList] = updateReferences(rs,topRef)
```

```
status =
'Update completed. Refer to Comments on Import1.'

changeList =
    'Updated: CC003_01. Properties: description
     Updated: CC003_02. Properties: description
     Updated: CC003_03. Properties: description
     Updated: CC003_04. Properties: description
     Updated: Cruise control buttons. Properties: description
     Updated: Cruise control mode indicator. Properties: description
     Updated: Cruise control modes. Properties: description
     Updated: Dashboard image. Properties: description
     Updated: Deactivating cruise control. Properties: description
     Updated: Disabling cruise control. Properties: description
     Updated: Enabling cruise control. Properties: description
     Updated: Other inputs. Properties: description
     Updated: ROM. Properties: description
     Updated: Resuming cruise control. Properties: description
     Updated: System Inputs. Properties: description
     Updated: System outputs. Properties: description
     Updated: Throttle value calculation. Properties: description
     '
```

Tips

- You can use `updateFromDocument` to update the referenced requirements under an Import node without specifying the requirement set.

Version History

Introduced in R2017b

See Also

`slreq.ReqSet` | `updateFromDocument` | `hasNewUpdate`

updateSrcArtifactUri

Class: `slreq.ReqSet`
Package: `slreq`

Update document resource identifier of imported requirements

Syntax

```
updateSrcArtifactUri(rs,oldURI,newURI)
```

Description

`updateSrcArtifactUri(rs,oldURI,newURI)` updates the Artifact property from `oldURI` to `newURI` for the referenced requirements in the requirement set `rs` that have Artifact set to `oldURI`. Use this function to update the external requirements document associated with the imported requirements from non-file-based domains, such as a query URL.

Input Arguments

`rs` — Requirement set

`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

`oldURI` — Resource identifier for original external document

string scalar | character vector

Resource identifier for the original external document, specified as a string scalar or character vector.

`newURI` — Resource identifier for new external document

string scalar | character vector

Resource identifier for the new external document, specified as a string scalar or character vector.

Examples

Update Source Artifact Resource Identifier

This example shows how to update the stored query for requirements that were previously imported to a requirement set called `myReqSet`.

Get a handle to the requirement set called `myReqSet`.

```
rs = slreq.find(Type="ReqSet",Name="myReqSet");
```

Get a handle to the import node for the requirement set.

```
topRef = children(rs);
```

Update the query stored in the Artifact property of the referenced requirements in the requirement set.

```
oldURI = topRef.Artifact;
newURI = "rm:ofType=%3A9443%2Frm2%2Ftypes%2F_C1KXMwJgEeuFW5Ss3RBk7w%3E";
updateSrcArtifactUri(rs,oldURI,newURI);
```

Tips

- If you rename or move an external requirements document file, use `updateSrcFileLocation` to update the file name or path of the referenced requirements in the requirement set.
- If you rename or move an external requirements document, you can update the link destinations for direct links by using `updateDocUri`.

Version History

Introduced in R2022a

See Also

`slreq.ReqSet` | `updateDocUri` | `updateSrcFileLocation`

updateSrcFileLocation

Class: slreq.ReqSet
Package: slreq

Update document location of imported requirements

Syntax

```
updateSrcFileLocation(rs,oldID,newID)
```

Description

updateSrcFileLocation(rs,oldID,newID) updates the Artifact property from oldID to newID for the referenced requirements in the requirement set rs that have Artifact set to oldID. Use this function to update the external requirements document associated with imported requirements.

Input Arguments

rs — Requirement set
slreq.ReqSet object

Requirement set, specified as an slreq.ReqSet object.

oldID — Resource identifier for original external document
string scalar | character vector

Resource identifier for the original external document, specified as a string scalar or character vector.

newID — Resource identifier for new external document
string scalar | character vector

Resource identifier for the new external document, specified as a string scalar or character vector.

Examples

Update Source File Location for Referenced Requirements in an Imported Requirement Set

This example shows how to update the source file location for referenced requirements in an imported requirement set.

Open the CruiseRequirementsExample project and load the crs_req requirement set.

```
slreqCCProjectStart;
rs = slreq.load("crs_req");
```

Copy the crs_req.docx document and name it crs_req_v2.docx. Save the new file in the same folder.

```
oldPath = fullfile(pwd,"documents","crs_req.docx");
newPath = fullfile(pwd,"documents","crs_req_v2.docx");
copyfile(oldPath,newPath);
```

Update the referenced requirements in the requirement set `crs_req` that point to `crs_req.docx` as the source file to point to `crs_req_v2.docx`.

```
updateSrcFileLocation(rs,"crs_req.docx","crs_req_v2.docx")
```

To confirm that the source file updated, get a handle to the Import node for the requirement set and check the `Artifact` property.

```
topRef = children(rs);
srcFile = topRef.Artifact
```

```
srcFile = 
'crs_req_v2.docx'
```

Tips

- If you rename or move an external requirements document, you can update the link destinations for direct links by using `updateDocUri`.
- To update the external requirements document resource identifier for referenced requirements imported from non-file-based domains, use `updateSrcArtifactUri`.

Version History

Introduced in R2017b

See Also

`slreq.ReqSet` | `updateDocUri`

Topics

"Use Command-Line API to Update or Repair Requirements Links"

updateVerificationStatus

Class: `slreq.ReqSet`
Package: `slreq`

Update requirement set verification status summary

Syntax

`updateVerificationStatus(rs)`

Description

`updateVerificationStatus(rs)` updates the verification status summary of the requirement set `rs`.

Input Arguments

`rs` — Requirement set

`slreq.ReqSet` object

Requirement set, specified as an `slreq.ReqSet` object.

Version History

Introduced in R2018b

See Also

`getVerificationStatus`

add

Class: `slreq.Requirement`
Package: `slreq`

Add child requirement

Syntax

```
reqChild = add(req)
reqChild = add(req,PropertyName,
PropertyValue,...,PropertyNameN,PropertyValueN)
```

Description

`reqChild = add(req)` adds a child requirement to the requirement `req` and returns a handle to the child requirement.

`reqChild = add(req,PropertyName, PropertyValue,...,PropertyNameN,PropertyValueN)` adds a child requirement with the properties and property values specified by `PropertyName` and `PropertyValue`.

Input Arguments

req — Requirement
`slreq.Requirement` object

Requirement, specified as an `slreq.Requirement` object.

`PropertyName` — Requirement property name
string scalar | character vector

Requirement property name, specified as a string scalar or a character vector.

You can only enter an `slreq.Requirement` property on page 2-76 where the `SetAccess` attribute is `public`.

Example: `"Summary"`

`PropertyValue` — Requirement property value
string scalar | character vector

Requirement property value, specified as an string scalar or a character vector.

Output Arguments

`reqChild` — Child requirement
`slreq.Requirement` object

New child requirement, returned as an `slreq.Requirement` object.

Examples

Add a Child Requirement Under a Requirement

This example shows how to add a child requirement under a requirement.

Load the requirement set `myReqSet`, which does not contain any requirements.

```
rs = slreq.load("myReqSet");
```

Use the `add` method to add a top-level requirement to the requirement set.

```
req = add(rs);
```

Use the `add` method to add a child requirement under the requirement.

```
newReq = add(req)
```

```
newReq = 
  Requirement with properties:

            Type: 'Functional'
              Id: '#3'
         Summary: ''
     Description: ''
        Keywords: {}
       Rationale: ''
       CreatedOn: 01-Sep-2022 13:59:19
       CreatedBy: 'batserve'
      ModifiedBy: 'batserve'
    IndexEnabled: 1
     IndexNumber: []
             SID: 3
    FileRevision: 1
      ModifiedOn: 01-Sep-2022 13:59:19
           Dirty: 1
        Comments: [0x0 struct]
           Index: '1.1'
```

Get the value of the `Index` property for the new requirement.

```
idx = newReq.Index
```

```
idx = 
'1.1'
```

The value indicates that the new requirement is a child requirement of the original requirement.

Cleanup

Discard the requirement set without saving.

```
discard(rs);
```

Tips

- To add a top-level requirement to a requirement set, use `slreq.ReqSet.add`. To add a referenced requirement as a child of another referenced requirement, use `slreq.Reference.add`. To add a justification as a child of another justification, use `slreq.Justification.add`.

Version History

Introduced in R2018a

See Also

`slreq.Requirement` | `slreq.ReqSet.add` | `slreq.Reference.add` | `slreq.Justification.add` | `remove`

addComment

Class: `slreq.Requirement`
Package: `slreq`

Add comments to requirements

Syntax

```
newComment = addComment(req,myComment)
```

Description

`newComment = addComment(req,myComment)` adds a comment, `myComment`, to the requirement `req`.

Input Arguments

`req` — Requirement
`slreq.Requirement` object

Requirement, specified as an `slreq.Requirement` object.

`myComment` — Comment text
string scalar | character vector

Comment text to add to the requirement, specified as a string scalar or character vector.

Output Arguments

`newComment` — Comment
`struct`

Comment added, returned as a structure containing these fields:

`CommentedBy` — Name of individual or organization who added comment
character vector

Name of the individual or organization who added the comment, returned as a character vector.

`CommentedOn` — Date that comment was added
`datetime`

Date that the comment was added, returned as a `datetime` object.

`CommentedRevision` — Comment revision number
`int32` object

Comment revision number, returned as an `int32` object.

Text — Comment text
character vector

Comment text, returned as a character vector.

Examples

Add Comments to Requirements

This example shows how to add comments to requirements.

Load the requirement set `basicReqSet`.

```
rs = slreq.load("basicReqSet");
```

Find the first requirement in the set.

```
req = find(rs,Index=1);
```

Add a comment to the requirement.

```
newComment = addComment(req,"My new comment.");
```

Tips

- To add a comment to a referenced requirement, use `slreq.Reference.addComment`. To add a comment to a justification, use `slreq.Justification.addComment`.

Alternative Functionality

App

You can also add a comment by using the **Requirements Editor**. Select a requirement and, in the right pane, under **Comments**, click **Add Comment**.

Version History

Introduced in R2017b

See Also

`slreq.Requirement` | `getAttribute`

children

Class: `slreq.Requirement`
Package: `slreq`

Find child requirements of a requirement

Syntax

```
childReqs = children(req)
```

Description

`childReqs = children(req)` returns the child requirements `childReqs` of the `slreq.Requirement` object `req`.

Input Arguments

req — Requirement instance
`slreq.Requirement` object

Requirement specified as an `slreq.Requirement` object.

Output Arguments

childReqs — Child requirements
`slreq.Requirement` object | `slreq.Requirement` object array

The child requirements belonging to the requirement `req`, returned as `slreq.Requirement` objects.

Examples

Find Child Requirements

```
% Load a requirement set file and add three new requirements

rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
req1 = add(rs, 'Id', '5', 'Summary' , 'Additional Requirement');
req2 = add(req1, 'Id', '5.1', 'Summary', 'Additional Child Requirement 1');
req3 = add(req1, 'Id', '5.2', 'Summary', 'Additional Child Requirement 2');

% Find the children of req1
childReqs = children(req1);

childReqs = 

  1×2 Requirement array with properties:

    Id
    Summary
    Keywords
    Description
    Rationale
    SID
    CreatedBy
    CreatedOn
    ModifiedBy
    ModifiedOn
    FileRevision
    Comments
```

Tips

- To get the top-level items in a requirement set, use `slreq.ReqSet.children`. To get the child referenced requirements of a referenced requirement, use `slreq.Reference.children`. To get the child justifications of a justification, use `slreq.Justification.children`.

Version History

Introduced in R2018a

See Also

`slreq.Requirement` | `slreq.ReqSet` | `slreq.ReqSet.children` | `slreq.Reference.children` | `slreq.Justification.children` | `parent`

copy

Class: slreq.Requirement
Package: slreq

Copy and paste requirement

Syntax

```
tf = copy(req1,location,req2)
```

Description

`tf = copy(req1,location,req2)` copies requirement `req1` and pastes it under, before, or after requirement `req2` depending on the location specified by `location`. The function returns `1` if the copy and paste is executed.

Note If you copy a requirement and paste it within the same requirement set, the copied requirement retains the same custom attribute values as the original. If the requirement is pasted into a different requirement set, the copied requirement does not retain the custom attribute values.

Input Arguments

`req1` — Requirement to copy

`slreq.Requirement` object

Requirement to copy, specified as an `slreq.Requirement` object.

`location` — Requirement paste location

`'under'` | `'before'` | `'after'`

Paste location, specified as `'under'`, `'before'`, or `'after'`.

`req2` — Requirement

`slreq.Requirement` object

Requirement, specified as an `slreq.Requirement` object.

Output Arguments

`tf` — Paste success status

`0` | `1`

Paste success status, returned as a `1` or `0` of data type `logical`.

Examples

Copy and Paste a Requirement

This example shows how to copy a requirement and paste it under, before, or after another requirement.

Load the `crs_req_func_spec` requirement file, which describes a cruise control system, and assign it to a variable. Find two requirements by index. The first requirement will be copied and pasted in relation to the second requirement.

```
rs = slreq.load('crs_req_func_spec');
req1 = find(rs,'Type','Requirement','Index','1');
req2 = find(rs,'Type','Requirement','Index','2');
```

Paste Under a Requirement

Copy and paste the first requirement, `req1`, under the second requirement, `req2`. The first requirement becomes the last child requirement of `req2`, which you can verify by finding children of `req2` and comparing the summary of the last child and `req1`.

```
tf = copy(req1,'under',req2);
childReqs = children(req2);
lastChild = childReqs(numel(childReqs));
lastChild.Summary
```

```
ans = 
'Driver Switch Request Handling'
```

```
req1.Summary
```

```
ans = 
'Driver Switch Request Handling'
```

Paste Before a Requirement

Copy and paste the first requirement, `req1`, before the second requirement, `req2`. Confirm that the requirement was pasted before `req2` by checking the index and Summary. The old index of `req2` was `2`. The index of the pasted requirement should be `2` and the index of `req2` should be `3`.

```
tf = copy(req1,'before',req2);
pastedReq = find(rs,'Type','Requirement','Index','2');
pastedReq.Summary
```

```
ans = 
'Driver Switch Request Handling'
```

```
req2.Index
```

```
ans = 
'3'
```

Paste After a Requirement

Copy and paste the first requirement, `req1`, after the second requirement, `req2`. Confirm that the requirement was pasted after `req2` by checking the index. The index of `req2` is `3` and should not change, which means the index of the pasted requirement should be `4`.

```
tf = copy(req1,'after',req2);
pastedReq2 = find(rs,'Type','Requirement','Index','4');
pastedReq2.Summary
```

```
ans =
'Driver Switch Request Handling'
```

```
req2.Index
```

```
ans =
'3'
```

Cleanup

Clear the open requirement sets and link sets, and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

`slreq.Requirement` | `move` | `moveDown` | `moveUp`

demote

Class: `slreq.Requirement`
Package: `slreq`

Demote requirements

Syntax

`deomote(req)`

Description

`deomote(req)` demotes the `slreq.Requirement` object `req` one level down in the hierarchy.

Input Arguments

req — Requirement instance
`slreq.Requirement` object

Requirement specified as an `slreq.Requirement` object.

Examples

Demote Requirements

```
% Load a requirement set file and add two new requirements
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
req1 = add(rs, 'Id', '5', 'Summary' , 'Additional Requirement');
req2 = add(req1, 'Id', '5.1', 'Summary' , 'Child Requirement');

% Demote req2
demote(req2);

% Find the parent of req2
parentReq = parent(req2);

parentReq = 

  ReqSet with properties:

              Description: ''
                     Name: 'My_Requirements_Set_1'
                 Filename: 'C:\MATLAB\My_Requirements_Set_1.slreqx'
                 Revision: 6
                    Dirty: 1
    CustomAttributeNames: {}
```

Version History

Introduced in R2018a

See Also

`slreq.Requirement` | `slreq.ReqSet` | `promote`

find

Class: `slreq.Requirement`
Package: `slreq`

Find children of parent requirements

Syntax

```
childReqs = find(req,'PropertyName1',PropertyValue1,...,'PropertyNameN',
PropertyValueN)
```

Description

`childReqs = find(req,'PropertyName1',PropertyValue1,...,'PropertyNameN', PropertyValueN)` finds and returns child requirements `childReqs` of the parent requirement `req` that match the properties specified by `PropertyName` and `PropertyValue`.

Input Arguments

`req` — Requirement

`slreq.Requirement` object

Requirement, specified as an `slreq.Requirement` object.

`PropertyName` — Requirement property

character vector

Requirement property name, specified as a character vector. See the valid property names in the properties section of `slreq.Requirement`.

Example: `'Type'`,`'Keywords'`,`'SID'`

`PropertyValue` — Requirement property value

character vector | character array | `datetime` value | scalar | `logical` | structure array

Requirement property value, specified as a character vector, character array, `datetime` value, scalar, `logical`, or structure array. The data type depends on the specified `propertyName`. See the valid property values in the properties section of `slreq.Requirement`.

Output Arguments

`childReqs` — Child requirements

`slreq.Requirement` object | `slreq.Requirement` object array

Child requirements, returned as `slreq.Requirement` objects.

Examples

Find Child Requirements

This example shows how to find child requirements that match property values.

Load the `crs_req_func_spec` requirement file, which describes a cruise control system, and assign it to a variable. Find the requirement with index `4`, as this requirement has child requirements.

```
rs = slreq.load('crs_req_func_spec');
parentReq = find(rs,'Type','Requirement','Index','4');
```

Find all the child requirements of `parentReq` that were modified in revision `1`.

```
childReqs1 = find(parentReq,'FileRevision',1)
```

```
childReqs1=1×10 object
  1x10 Requirement array with properties:

    Type
    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    IndexEnabled
    IndexNumber
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
    Index
```

Find all the child requirements of `parentReq` that were modified in revision `1` and are `Functional` type requirements.

```
childReqs2 = find(parentReq,'FileRevision',1,'Type','Functional')
```

```
childReqs2=1×10 object
  1x10 Requirement array with properties:

    Type
    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    IndexEnabled
    IndexNumber
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
    Index
```

Cleanup

Clear the open requirement sets and link sets, and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2018a

See Also

`slreq.Requirement` | `slreq.ReqSet` | `slreq.find`

getAttribute

Class: `slreq.Requirement`
Package: `slreq`

Get requirement property values

Syntax

```
val = getAttribute(req,propertyName)
```

Description

`val = getAttribute(req,propertyName)` returns the value of the requirement property, `propertyName`, for the requirement, `req`. The property can be a built-in property, a custom attribute, or a stereotype property.

Note To return the value of a stereotype property, you must pass the fully qualified name of the property. For example, the fully qualified name for a property called `Status` in a stereotype called `myStereotype` in a profile called `myProfile` is `myProfile.myStereotype.Status`.

Input Arguments

`req` — Requirement
`slreq.Requirement` object

Requirement, specified as an `slreq.Requirement` object.

`propertyName` — Requirement property name
string scalar | character vector

Requirement property name, specified as a string scalar or character vector.

Example: `"Description"`

Output Arguments

`val` — Requirement property value
string scalar | character array | `boolean` | ...

Requirement property value, returned as a:

- String scalar
- Character array
- `boolean`
- `datetime`
- `single`

- `double`
- `int8`
- `int16`
- `int32`
- `int64`
- `uint8`
- `uint16`
- `uint32`
- `uint64`
- `enumeration`

The data type depends on the type of the built-in property, custom attribute, or stereotype property.

Examples

Import Profile and Get and Set Stereotype Properties

This example shows how to assign a profile to a requirement set and get and set stereotype property values for requirements.

Save the location of the current folder as a variable.

```
initFolder = pwd;
```

Open the `ShortestPath` project.

```
slreqShortestPathProjectStart;
```

Load the `shortest_path_tests_reqs` requirement set.

```
rs = slreq.load("shortest_path_tests_reqs");
```

Assign the `TestReqProfile` profile to the `shortest_path_tests_reqs` requirement set.

```
importProfile(rs,strcat(initFolder,"\TestReqProfile"));
```

Find the requirement with index `2.1.1`. Apply the `TestRequirement` stereotype to the requirement.

```
testReq = find(rs,Index="2.1.1");
testReq.Type = "TestReqProfile.TestRequirement";
```

Get the value of the `Reviewed` stereotype property.

```
val = getAttribute(testReq,"TestReqProfile.TestRequirement.Reviewed")
```

```
val = 0
```

Set the value of the `Reviewed` stereotype property to `1`.

```
setAttribute(testReq,"TestReqProfile.TestRequirement.Reviewed",1)
```

Tips

- To get property values for links, use `slreq.Link.getAttribute`.

Version History

Introduced in R2018a

See Also

`slreq.Requirement` | `slreq.ReqSet` | `setAttribute`

Topics

"Customize Requirements and Links by Using Stereotypes"
"Manage Custom Attributes for Requirements by Using the Requirements Toolbox API"

getImplementationStatus

Class: `slreq.Requirement`
Package: `slreq`

Query requirement implementation status summary

Syntax

```
status = getImplementationStatus(req)
status = getImplementationStatus(req, 'self')
```

Description

`status = getImplementationStatus(req)` returns the implementation status summary for the requirement `req` and all its child requirements.

`status = getImplementationStatus(req, 'self')` returns the implementation status summary for just the requirement `req`.

Input Arguments

`req` — Requirement instance
`slreq.Requirement` object

Requirement instance, specified as an `slreq.Requirement` object.

Output Arguments

`status` — Requirement implementation status summary
structure

The implementation status summary for the requirement and its child requirements, returned as a MATLAB structure containing these fields.

`total` — Total number of requirements
`double`

The total number of Functional requirements (including child requirements), returned as a `double`.

`implemented` — Implemented requirements
`double`

The total number of implemented requirements (including child requirements), returned as a `double`.

`justified` — Justified requirements
`double`

The total number of requirements (including child requirements), justified for implementation, returned as a `double`.

none — Unimplemented requirements
double

The total number of unimplemented requirements (including child requirements), returned as a `double`.

Examples

Get Implementation Status Summary of a Requirement

```
% Get the implementation status summary of the requirement req
% and all its child requirements
reqImplStatus = getImplementationStatus(req)

reqImplStatus = 

  struct with fields:

          total: 20
    implemented: 16
      justified: 3
           none: 1

% Get the implementation status summary of only the requirement myReq
myReqImplStatus = getImplementationStatus(myReq, 'self')

myReqImplStatus = 

  struct with fields:

    implemented: 16
      justified: 3
           none: 1
```

Version History

Introduced in R2018b

See Also

`updateImplementationStatus`

getVerificationStatus

Class: `slreq.Requirement`
Package: `slreq`

Query requirement verification status summary

Syntax

```
status = getVerificationStatus(req)
status = getVerificationStatus(req, 'self')
```

Description

`status = getVerificationStatus(req)` returns the verification status summary for the requirement `req` and all its child requirements.

`status = getVerificationStatus(req, 'self')` returns the verification status summary for just the requirement `req`.

Input Arguments

`req` — Requirement instance
`slreq.Requirement` object

Requirement instance, specified as an `slreq.Requirement` object.

Output Arguments

`status` — Requirement verification status summary
structure

The verification status for the requirement and its child requirements, returned as a MATLAB structure containing these fields.

`total` — Total number of requirements
`double`

The total number of requirements (including child requirements) with Verify links, returned as a `double`.

`passed` — Passed requirements
`double`

The total number of requirements (including child requirements) that passed the tests associated with them, returned as a `double`.

`failed` — Failed requirements
`double`

The total number of requirements (including child requirements) that failed the tests associated with them, returned as a `double`.

`unexecuted` — Unexecuted requirements

`double`

The total number of requirements (including child requirements) with unexecuted associated tests, returned as a `double`.

`justified` — Justified requirements

`double`

The total number of requirements (including child requirements) that are justified for verification in the requirement set, returned as a `double`.

`none` — Unlinked requirements

`double`

The total number of requirements (including child requirements) without links to verification objects, returned as a `double`.

Examples

Get Verification Status Summary of a Requirement

```
% Get the verification status summary of the requirement req
% and all its child requirements
reqVerifStatus = getVerificationStatus(req)

reqVerifStatus = 

  struct with fields:

         total: 34
        passed: 14
        failed: 15
    unexecuted: 4
     justified: 1
          none: 0


% Get the verification status summary of only the requirement myReq
myReqVerifStatus = getVerificationStatus(myReq, 'self')

myReqVerifStatus = 

  struct with fields:

        passed: 0
        failed: 1
    unexecuted: 0
     justified: 0
          none: 0
```

Version History

Introduced in R2018b

See Also

`updateVerificationStatus`

inLinks

Class: slreq.Requirement
Package: slreq

Get incoming links for requirements

Syntax

```
myLinks = inLinks(req)
```

Description

`myLinks = inLinks(req)` returns the incoming links for the requirement `req`.

Input Arguments

req — Requirement
`slreq.Requirement` object

Requirement, specified as an `slreq.Requirement` object.

Output Arguments

myLinks — Incoming links
`slreq.Link` array

Incoming links for the requirement, returned as an `slreq.Link` array.

Examples

Get Incoming and Outgoing Links for Requirements

This example shows how to get incoming and outgoing links for requirements.

Load the requirement set `basicReqSet`.

```
rs = slreq.load("basicReqSet");
```

Find the first requirement in the requirement set.

```
req1 = find(rs,Index=1);
```

Get the incoming links for the requirement.

```
myInLinks = inLinks(req1);
```

Find the second requirement in the requirement set.

```
req2 = find(rs,Index=2);
```

Get the outgoing links for the requirement.

```
myOutLinks = outLinks(req2);
```

Tips

- To get the incoming links for a referenced requirement, use `slreq.Reference.inLinks`.

Alternative Functionality

App

You can also use the **Requirements Editor** to view incoming links. Select a requirement. In the right pane, under **Links**, the incoming links icon ⇦ indicates incoming links.

Version History

Introduced in R2017b

See Also

`slreq.Requirement` | `slreq.Link` | `outLinks`

isFilteredIn

Class: slreq.Requirement
Package: slreq

Check filtered requirements

Syntax

```
tf = isFilteredIn(req)
```

Description

tf = isFilteredIn(req) checks if the requirement, req, is filtered in the **Requirements Editor** or Requirements Perspective and returns 1 if the requirement is not filtered and 0 if the requirements is filtered.

Input Arguments

req — Requirement
slreq.Requirement object

Requirement, specified as an slreq.Requirement object.

Examples

Check for Filtered Requirements

This example shows how to check if a requirement is filtered.

Load the myAddRequirements requirement set.

```
rs = slreq.open("myAddRequirements");
```

Find the requirement with Summary set to Input u.

```
req = find(rs,Summary="Input u");
```

Check if the requirement is filtered.

```
tf = isFilteredIn(req)
```

```
tf = logical
   1
```

Create a filter called ContainerReqs. Use the ReqFilter property to define a filter that displays only requirements with Type set to Container.

```
myView = slreq.View.create("ContainerReqs");
myView.ReqFilter = "{'ReqType','Container'};"
```

```
myView = 
  View with properties:

          Name: 'ContainerReqs'
     ReqFilter: "{'ReqType','Container'};"
    LinkFilter: ''
          Host: ''
```

Apply the filter, then check if the requirement is filtered.

```
activate(myView)
tf = isFilteredIn(req)
```

```
tf = logical
   0
```

Clear the loaded requirement sets and close the **Requirements Editor.**

```
slreq.clear;
```

Tips

- To check if a referenced requirement is filtered, use `slreq.Reference.isFilteredIn`. To check if a justification is filtered, use `slreq.Justification.isFilteredIn`. To check if a link is filtered, use `slreq.Link.isFilteredIn`.

Version History

Introduced in R2022b

See Also

Apps

Requirements Editor

Classes

`slreq.Requirement`

Objects

`slreq.View`

Topics

"Filter Requirements and Links in the Requirements Editor"

isJustifiedFor

Class: `slreq.Requirement`
Package: `slreq`

Check if requirement is justified

Syntax

```
tf = isJustifiedFor(req, linkType)
```

Description

`tf = isJustifiedFor(req, linkType)` checks if the requirement `req` is justified for the link type specified by `linkType`.

Input Arguments

`req` — Requirement instance

`slreq.Requirement` object

Requirement to check for justification, specified as an `slreq.Requirement` object.

`linkType` — Justification link type

`'Implement'` | `'Verify'`

Justification link type, specified as a character vector.

Output Arguments

`tf` — Justification status

`0` | `1`

The justification status of the requirement, returned as a Boolean.

Examples

Check if Requirements Are Justified

```
% Check if requirement req1 is justified for Implementation
req1_Status = isJustifiedFor(req1, 'Implement')

req1_Status =

  logical

   1

% Check if requirement req2 is justified for Verification
req2_Status = isJustifiedFor(req2, 'Verify')
```

```
req2_Status =

  logical

   0
```

Version History

Introduced in R2018b

See Also

`getImplementationStatus` | `getVerificationStatus`

justifyImplementation

Class: `slreq.Requirement`
Package: `slreq`

Justify requirements for implementation

Syntax

`implementationJustLink = justifyImplementation(req, jt)`

Description

`implementationJustLink = justifyImplementation(req, jt)` justifies the requirement `req` for implementation by creating a link `implementationJustLink` from the justification `jt` to `req`.

Input Arguments

`req` — Requirement instance

`slreq.Requirement` object

Requirement to justify for implementation, specified as an `slreq.Requirement` object.

`jt` — Justification object

`slreq.Justification` object

Justification object to justify `req` for implementation, specified as an `slreq.Justification` object.

Output Arguments

`implementationJustLink` — Justification link

`slreq.Link` object

Link to justification object `jt` of type **Implement**, returned as an `slreq.Link` object.

Examples

```
% Justify requirement myReq for implementation by using a justification object myJust

myImplJustification = justifyImplementation(myReq, myJust)

myImplJustification = 

  Link with properties:

           Type: 'Implement'
    Description: 'Cruise Control Mode (crs_req_func_spec#1)'
       Keywords: [0×0 char]
      Rationale: ''
      CreatedOn: 13-Jan-2017 13:45:12
      CreatedBy: 'John Doe'
```

```
     ModifiedOn: 24-Oct-2018 12:25:30
     ModifiedBy: 'Jane Doe'
       Revision: 6
       Comments: [0×0 struct]
```

Version History

Introduced in R2018b

See Also

getImplementationStatus | addJustification

justifyVerification

Class: `slreq.Requirement`
Package: `slreq`

Justify requirements for verification

Syntax

```
verificationJustLink = justifyVerification(req, jt)
```

Description

`verificationJustLink = justifyVerification(req, jt)` justifies the requirement `req` for verification by creating a link `verificationJustLink` from the justification `jt` to `req`.

Input Arguments

req — Requirement object

`slreq.Requirement` object

Requirement to justify for verification, specified as an `slreq.Requirement` object.

jt — Justification object

`slreq.Justification` object

Justification object to justify `req` for verification, specified as an `slreq.Justification` object.

Output Arguments

verificationJustLink — Justification link

`slreq.Link` object

Link to justification object `jt` of type **Verify**, returned as an `slreq.Link` object.

Examples

```
% Justify requirement myReq for verification by using a justification object myJust

myVerifJustification = justifyVerification(myReq, myJust)

myVerifJustification = 

  Link with properties:

           Type: 'Verify'
    Description: 'Cruise mode detection (crs_req_func_spec#67)'
       Keywords: [0×0 char]
      Rationale: ''
      CreatedOn: 30-Oct-2017 09:10:34
      CreatedBy: 'John Doe'
     ModifiedOn: 02-Feb-2018 17:08:09
     ModifiedBy: 'Jane Doe'
       Revision: 5
       Comments: [0×0 struct]
```

Version History

Introduced in R2018b

See Also

addJustification | getVerificationStatus

move

Class: `slreq.Requirement`
Package: `slreq`

Move requirement in hierarchy

Syntax

```
tf = move(req1,location,req2)
```

Description

`tf = move(req1,location,req2)` moves requirement `req1` under, before, or after requirement `req2` depending on the location specified by `location`. The function returns `1` if the move is executed without error.

Input Arguments

`req1` — Requirement
`slreq.Requirement` object

Requirement to move, specified as an `slreq.Requirement` object.

`location` — Requirement move location
`'under'` | `'before'` | `'after'`

Requirement move location, specified as `'under'`, `'before'`, or `'after'`.

`req2` — Requirement to move
`slreq.Requirement` object

Requirement, specified as an `slreq.Requirement` object.

Output Arguments

`tf` — Paste success status
`0` | `1`

Paste success status, returned as a `1` or `0` of data type `logical`.

Examples

Move a Requirement

This example shows how to move a requirement under, before, or after another requirement.

Load the `crs_req_func_spec` requirement file, which describes a cruise control system, and assign it to a variable. Find two requirements by index. The first requirement will be moved in relation to the second requirement.

```
rs = slreq.load('crs_req_func_spec');
req1 = find(rs,'Type','Requirement','Index','1');
req2 = find(rs,'Type','Requirement','Index','2');
```

Move Under a Requirement

Move the first requirement, `req1`, under the second requirement, `req2`. The first requirement becomes the last child requirement of requirement `req2`, and `req2` moves up one in the hierarchy, which you can verify by checking the index of `req1` and `req2`. The old indices of `req1` and `req2` were `1` and `2`, respectively.

```
tf = move(req1,'under',req2);
req1.Index
```

```
ans = 
'1.3'
```

```
req2.Index
```

```
ans = 
'1'
```

Move Before a Requirement

Move the first requirement, `req1`, before the second requirement, `req2`. Confirm that the requirement was moved correctly by checking the indices of `req1` and `req2`. The indices of `req1` and `req2` are now the same as they were originally: `1` and `2`, respectively.

```
tf = move(req1,'before',req2);
req1.Index
```

```
ans = 
'1'
```

```
req2.Index
```

```
ans = 
'2'
```

Move After a Requirement

Move the first requirement,`req1`, after the second requirement, `req2`. When you move requirement `req1` down in the hierarchy, requirement `req2` also moves up, which you can verify by checking the indices of `req1` and `req2`.

```
tf = move(req1,'after',req2);
req1.Index
```

```
ans = 
'2'
```

```
req2.Index
```

```
ans = 
'1'
```

Cleanup

Clear the open requirement sets and link sets, and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

`slreq.Requirement` | `copy` | `moveDown` | `moveUp`

moveDown

Class: `slreq.Requirement`
Package: `slreq`

Move requirement down in hierarchy

Syntax

```
tf = moveDown(req)
```

Description

`tf = moveDown(req)` moves the requirement `req` down one spot in the hierarchy, and returns `1` if the move is executed without error. The requirement `req` cannot be moved to a new level in the hierarchy.

Input Arguments

`req` — Requirement
`slreq.Requirement`

Requirement, specified as an `slreq.Requirement` object.

Output Arguments

`tf` — Paste success status
`0 | 1`

Paste success status, returned as a `1` or `0` of data type `logical`.

Examples

Move a Requirement Down

This example shows how to move a requirement down in the hierarchy.

Load the `crs_req_func_spec` requirement file, which describes a cruise control system, and assign it to a variable. Find the requirement with index `3.1`.

```
rs = slreq.load('crs_req_func_spec');
req1 = find(rs,'Type','Requirement','Index','3.1');
```

Move the requirement down one spot in the hierarchy. Confirm the move by checking the success status, `tf1`, and the index.

```
tf1 = moveDown(req1)
```

```
tf1 = logical
   1
```

```
req1.Index
```

```
ans =
'3.2'
```

Find the requirement with index 3.4. This requirement is already at the bottom of its level in the hierarchy and cannot be moved down further, which you can verify by trying to move it down. Confirm that the move failed by checking the success status, tf2, and the index.

```
req2 = find(rs,'Type','Requirement','Index','3.4');
tf2 = moveDown(req2)
```

```
tf2 = logical
   0
```

```
req2.Index
```

```
ans =
'3.4'
```

Cleanup

Clear the open requirement sets and link sets, and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

slreq.Requirement | copy | move | moveUp

moveUp

Class: slreq.Requirement
Package: slreq

Move requirement up in hierarchy

Syntax

```
tf = moveUp(req)
```

Description

tf = moveUp(req) moves the requirement req up one spot in the hierarchy, and returns 1 if the move is executed without error. The requirement req cannot be moved to a new level in the hierarchy.

Input Arguments

req — Requirement
slreq.Requirement object

Requirement, specified as an slreq.Requirement object.

Output Arguments

tf — Move success status
0 | 1

Move success status, returned as a 1 or 0 of data type logical.

Examples

Move a Requirement Up

This example shows how to move a requirement up in the hierarchy.

Load the crs_req_func_spec requirement file, which describes a cruise control system, and assign it to a variable. Find the requirement with index 3.4.

```
rs = slreq.load('crs_req_func_spec');
req1 = find(rs,'Type','Requirement','Index','3.4');
```

Move the requirement up one spot in the hierarchy. Confirm the move by checking the success status, tf1, and the index.

```
tf1 = moveUp(req1)
```

```
tf1 = logical
   1
```

```
req1.Index
```

```
ans = 
'3.3'
```

Find the requirement with index `3.1`. This requirement is already at the top of its level in the hierarchy and cannot be moved up further, which you can verify by trying to move it up. Confirm that the move failed by checking the success status, `tf2`, and the index.

```
req2 = find(rs,'Type','Requirement','Index','3.1');
tf2 = moveUp(req2)
```

```
tf2 = logical
   0
```

```
req2.Index
```

```
ans = 
'3.1'
```

Cleanup

Clear the open requirement sets and link sets, and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2020b

See Also

`slreq.Requirement` | `copy` | `move` | `moveDown`

outLinks

Class: slreq.Requirement
Package: slreq

Get outgoing links for requirements

Syntax

```
myLinks = outLinks(req)
```

Description

myLinks = outLinks(req) returns the outgoing links for the requirement req.

Input Arguments

req — Requirement
slreq.Requirement object

Requirement, specified as an slreq.Requirement object.

Output Arguments

myLinks — Outgoing links
slreq.Link array

Outgoing links for the requirement, returned as an slreq.Link array.

Examples

Get Incoming and Outgoing Links for Requirements

This example shows how to get incoming and outgoing links for requirements.

Load the requirement set basicReqSet.

```
rs = slreq.load("basicReqSet");
```

Find the first requirement in the requirement set.

```
req1 = find(rs,Index=1);
```

Get the incoming links for the requirement.

```
myInLinks = inLinks(req1);
```

Find the second requirement in the requirement set.

```
req2 = find(rs,Index=2);
```

Get the outgoing links for the requirement.

```
myOutLinks = outLinks(req2);
```

Tips

- To get the outgoing links for a referenced requirement, use `slreq.Reference.outLinks`. To get the outgoing links for a justification, use `slreq.Justification.outLinks`.

Alternative Functionality

App

You can also use the **Requirements Editor** to view outgoing links. Select a requirement. In the right pane, under **Links**, the outgoing links icon ⇨ indicates outgoing links.

Version History

Introduced in R2017b

See Also

`slreq.Requirement` | `slreq.Link` | `inLinks`

parent

Class: slreq.Requirement
Package: slreq

Find parent item of requirement

Syntax

```
parentObj = parent(req)
```

Description

parentObj = parent(req) returns the parent object parentObj of the slreq.Requirement object req.

Input Arguments

req — Requirement instance
slreq.Requirement object

Requirement specified as an slreq.Requirement object.

Output Arguments

parentObj — Parent object
slreq.Requirement object | slreq.ReqSet object

The parent of the requirement req, returned as an slreq.Requirement object or as an slreq.ReqSet object.

Examples

Find Parent Objects of Requirements

```
% Load a requirement set file and add two new requirements

rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
req1 = add(rs, 'Id', '5', 'Summary' , 'Additional Requirement');
req2 = add(req1, 'Id', '5.1', 'Summary' , 'Additional Child Requirement');

% Find the parent of req2
parentReq1 = parent(req2)

parentReq1 = 

  Requirement with properties:

           Id: '5'
      Summary: 'Additional Requirement'
     Keywords: [0×0 char]
```

```
    Description: ''
      Rationale: ''
            SID: 10
      CreatedBy: 'John Doe'
      CreatedOn: 05-Oct-2007 16:09:38
     ModifiedBy: 'Jane Doe'
     ModifiedOn: 21-Dec-2016 11:10:05
       Comments: [0×0 struct]

% Find the parent of req1
parentReq2 = parent(req1)

parentReq2 = 

  ReqSet with properties:

             Description: ''
                    Name: 'My_Requirements_Set_1'
                Filename: 'C:\MATLAB\My_Requirements_Set_1.slreqx'
                Revision: 6
                   Dirty: 1
    CustomAttributeNames: {}
```

Version History

Introduced in R2018a

See Also

slreq.Requirement | slreq.ReqSet | children

promote

Class: `slreq.Requirement`
Package: `slreq`

Promote requirements

Syntax

`promote(req)`

Description

`promote(req)` promotes the `slreq.Requirement` object `req` one level up in the hierarchy.

Input Arguments

req — Requirement instance
`slreq.Requirement` object

Requirement specified as an `slreq.Requirement` object.

Examples

Find Requirements with Matching Attribute Values

```
% Load a requirement set file and add two new requirements
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
req1 = add(rs, 'Id', '5', 'Summary' , 'Additional Requirement');
req2 = add(req1, 'Id', '5.1', 'Summary' , 'Child Requirement');

% Promote req2
promote(req2);

% Find the parent of req2
parentReq = parent(req2);

parentReq = 

  ReqSet with properties:

            Description: ''
                   Name: 'My_Requirements_Set_1'
               Filename: 'C:\MATLAB\My_Requirements_Set_1.slreqx'
               Revision: 6
                  Dirty: 1
    CustomAttributeNames: {}
```

Version History

Introduced in R2018a

See Also

slreq.Requirement | slreq.ReqSet | demote

remove

Class: `slreq.Requirement`
Package: `slreq`

Remove requirement from requirement set

Syntax

```
count = remove(req)
count = remove(parentReq,'PropertyName1',PropertyValue1,...,'PropertyNameN',
PropertyValueN)
```

Description

`count = remove(req)` removes the requirement `req` and returns the number of requirements deleted. If `req` has child requirements, they are also deleted.

`count = remove(parentReq,'PropertyName1',PropertyValue1,...,'PropertyNameN', PropertyValueN)` removes child requirements of `parentReq` that match the properties specified by `PropertyName` and `PropertyValue`. The function returns the number of requirements deleted. The parent requirement is not removed.

Note When you remove a requirement, the variable corresponding to the removed `slreq.Requirement` object remains in the workspace but is no longer a valid `slreq.Requirement` object.

Input Arguments

`req` — Requirement
`slreq.Requirement` object

Requirement, specified as an `slreq.Requirement` object.

`parentReq` — Parent requirement
`slreq.Requirement` object

Parent requirement, specified as an `slreq.Requirement` object.

`PropertyName` — Requirement property
character vector

Requirement property name, specified as a character vector. See the valid property names in the properties section of `slreq.Requirement`.

Example: `'Type', 'Id', 'Keywords'`

`PropertyValue` — Requirement property value
character vector | character array | `datetime` value | scalar | `logical` | structure array

Requirement property value, specified as a character vector, character array, `datetime` value, scalar, `logical`, or structure array. The value depends on the specified `propertyName`. See the valid property values in the properties section of `slreq.Requirement`.

Example: `'Functional', '1.1.1', 'Design'`

Output Arguments

`count` — Removed requirements count

`double`

Total number of requirements that were removed, returned as a `double`.

Examples

Remove a Single Requirement

This example shows how to find and remove a single requirement.

Load a requirement set file. Find a requirement in the requirement set by using the ID number, then remove it.

```
rs = slreq.load('crs_req_func_spec.slreqx');
req = find(rs,'Type','Requirement','ID','#2');
count = remove(req)
```

```
count = 1
```

Cleanup

Clean up commands. Clear the open requirement sets without saving changes and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Remove a Parent Requirement

This example shows how to remove a parent requirement and its children.

Load a requirement set and find a parent requirement by using the ID number. Confirm that it is a parent requirement by checking if it has children, then remove the requirement. When you remove a parent requirement, the children are also removed.

```
rs = slreq.load('crs_req_func_spec.slreqx');
parentReq1 = find(rs,'Type','Requirement','ID','#24');
childReqs1 = children(parentReq1)
```

```
childReqs1=1×12 object
  1x12 Requirement array with properties:

    Type
    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    IndexEnabled
    IndexNumber
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
    Index
```

```
count2 = remove(parentReq1)
```

```
count2 = 13
```

Cleanup

Clean up commands. Clear the open requirement sets without saving changes and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Remove Requirements that Match Property Types

This example shows how to remove child requirements that match a property type, and how to automate the process of removing all requirements with a matching property type.

Remove Child Requirements that Match Property Types

Load a requirement set file and find a parent requirement by using the ID number.

```
rs = slreq.load('crs_req_func_spec.slreqx');
parentReq = find(rs,'Type','Requirement','ID','#63');
```

Confirm that the requirement is a parent requirement by checking if it has children, and remove child requirements that match that revision number.

```
childReqs = children(parentReq)
```

```
childReqs=1×7 object
  1x7 Requirement array with properties:

    Type
    Id
    Summary
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedBy
    IndexEnabled
    IndexNumber
    SID
    FileRevision
    ModifiedOn
    Dirty
    Comments
    Index
```

```
count1 = remove(parentReq,'FileRevision',54)
```

```
count1 = 4
```

Remove Multiple Requirements that Match Property Types

Create a requirements array by finding all requirements in the requirement set that were modified in revision 18.

```
reqs = find(rs,'Type','Requirement','FileRevision',18);
```

Initialize the count variable, then loop through the requirements array and delete all of the requirements. Increment the count variable each time a requirement is deleted, then display the total number of requirements deleted.

```
count2 = 0;
for i = 1:numel(reqs)
    count2 = count2 + remove(reqs(i));
end
count2
```

```
count2 = 4
```

Cleanup

Clean up commands. Clear the open requirement sets without saving changes and close the open models without saving changes.

```
slreq.clear;
bdclose all;
```

Version History

Introduced in R2018a

See Also

`slreq.Requirement` | `add` | `slreq.find`

reqSet

Class: `slreq.Requirement`
Package: `slreq`

Return parent requirement set

Syntax

`rsout = reqSet(req)`

Description

`rsout = reqSet(req)` returns the parent requirement set `rsout` to which the requirement `req` belongs.

Input Arguments

req — Requirement object
`slreq.Requirement` object

Requirement, specified as an `slreq.Requirement` object.

Output Arguments

rsout — Parent requirement set
`slreq.ReqSet` object

The parent requirement set of the requirement `req`, returned as an `slreq.ReqSet` object.

Examples

Query Requirement Set Information

```
% Load a new requirement set file and select one requirement
rs = slreq.load('C:\MATLAB\My_Requirements_Set_1.slreqx');
allReqs = find(rs, 'Type', 'Requirement');
req = allReqs(1);

% Query which requirement set req belongs to
reqSet(req)

ans = 

  ReqSet with properties:

             Description: ''
                    Name: 'My_Requirements_Set_1'
                Filename: 'C:\MATLAB\My_Requirements_Set_1.slreqx'
                Revision: 63
                   Dirty: 0
```

```
    CustomAttributeNames: {}
               CreatedBy: 'Jane Doe'
               CreatedOn: 27-Feb-2017 10:20:39
              ModifiedBy: 'John Doe'
              ModifiedOn: 08-Mar-2017 09:27:31
```

Version History

Introduced in R2018a

See Also

`slreq.Requirement` | `slreq.ReqSet` | `parent`

setAttribute

Class: `slreq.Requirement`
Package: `slreq`

Set requirement property values

Syntax

`setAttribute(req,propertyName,propertyValue)`

Description

`setAttribute(req,propertyName,propertyValue)` sets a requirement property, `propertyName`, to the value specified by `propertyValue` for the requirement `req`. The property can be a built-in property, a custom attribute, or a stereotype property.

Note To set the value of a stereotype property, you must pass the fully qualified name of the property. For example, the fully qualified name for a property called `Status` in a stereotype called `myStereotype` in a profile called `myProfile` is `myProfile.myStereotype.Status`.

Input Arguments

req — Requirement
`slreq.Requirement` object

Requirement, specified as an `slreq.Requirement` object.

`propertyName` — Requirement property name
string scalar | character vector

Requirement property name, specified as a string scalar or character vector.

Example: `"Description"`

`propertyValue` — Requirement property value
string scalar | character array | `boolean` | ...

Requirement property value, specified as a:

- String scalar
- Character array
- `boolean`
- `datetime`
- `single`
- `double`
- `int8`

- int16
- int32
- int64
- uint8
- uint16
- uint32
- uint64
- enumeration

The data type depends on the type of the built-in property, custom attribute, or stereotype property.

Examples

Import Profile and Get and Set Stereotype Properties

This example shows how to assign a profile to a requirement set and get and set stereotype property values for requirements.

Save the location of the current folder as a variable.

```
initFolder = pwd;
```

Open the ShortestPath project.

```
slreqShortestPathProjectStart;
```

Load the shortest_path_tests_reqs requirement set.

```
rs = slreq.load("shortest_path_tests_reqs");
```

Assign the TestReqProfile profile to the shortest_path_tests_reqs requirement set.

```
importProfile(rs,strcat(initFolder,"\TestReqProfile"));
```

Find the requirement with index 2.1.1. Apply the TestRequirement stereotype to the requirement.

```
testReq = find(rs,Index="2.1.1");
testReq.Type = "TestReqProfile.TestRequirement";
```

Get the value of the Reviewed stereotype property.

```
val = getAttribute(testReq,"TestReqProfile.TestRequirement.Reviewed")
```

```
val = 0
```

Set the value of the Reviewed stereotype property to 1.

```
setAttribute(testReq,"TestReqProfile.TestRequirement.Reviewed",1)
```

Tips

- To set property values for links, use `slreq.Link.setAttribute`.

Version History

Introduced in R2018a

See Also

`slreq.Requirement` | `slreq.ReqSet` | `getAttribute`

Topics

"Customize Requirements and Links by Using Stereotypes"
"Manage Custom Attributes for Requirements by Using the Requirements Toolbox API"

deleteLinks

Package: slreq

Delete links for line ranges

Syntax

```
count = deleteLinks(lr)
```

Description

`count = deleteLinks(lr)` deletes links associated with the line range `lr` and returns the number of deleted links.

Examples

Remove Line Ranges

This example shows how to remove an `slreq.TextRange` object.

Open the `myAdd` code file.

```
file = "myAdd.m";
open(file);
```

Get the `slreq.TextRange` object associated with lines 1–3 in the `myAdd` function.

```
cr = slreq.getTextRange(file,[1 3]);
```

Get the links associated with the `slreq.TextRange` object.

```
links = getLinks(cr)
```

```
links=1×3 object
  1×3 Link array with properties:

    Type
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedOn
    ModifiedBy
    Revision
    SID
    Comments
```

Delete the links associated with the `slreq.TextRange` object.

```
count = deleteLinks(cr)
count = 3
```

Remove the `slreq.TextRange` object associated with line number 3.

```
remove(cr)
```

Input Arguments

`lr` — Line range
`slreq.TextRange` object

Line range, specified as an `slreq.TextRange` object.

Output Arguments

`count` — Number of links removed
scalar `double`

Number of links removed, returned as a scalar `double`.

Version History

Introduced in R2022b

See Also

`slreq.TextRange` | `slreq.getTextRange` | `slreq.Link` | `getLinks` | `remove`

Topics
"Requirements Traceability for MATLAB Code"

getLineRange

Package: slreq

Get line numbers for line range

Syntax

```
lines = getLineRange(lr)
```

Description

`lines = getLineRange(lr)` returns the line numbers for the line range `lr`.

Examples

Modify Line Numbers for Line Ranges

This example shows how to modify line numbers for an `slreq.TextRange` object.

Open the `myAdd` code file.

```
file = "myAdd.m";
open(file);
```

Get the `slreq.TextRange` object associated with the third line in the `myAdd` function.

```
cr = slreq.getTextRange(file,3);
```

Get the line numbers associated with the `slreq.TextRange` object.

```
lines = getLineRange(cr)
```

```
lines = 1×2

     3     3
```

Associate the `slreq.TextRange` object with the function definition line.

```
setLineRange(cr,1)
```

Confirm that the `slreq.TextRange` object is associated with the function definition line by getting the text contents of the line range.

```
text = getText(cr)
```

```
text = 
'function y = myAdd(u,v)'
```

Input Arguments

`lr` — Line range
`slreq.TextRange` object

Line range, specified as an `slreq.TextRange` object.

Output Arguments

`lines` — Start and end line numbers
`double` array

Start and end line numbers of the line range, returned as a double array of the form `[start end]`.

Version History

Introduced in R2022b

See Also

`slreq.TextRange` | `slreq.getTextRange`

Topics

"Requirements Traceability for MATLAB Code"

getLinks

Package: slreq

Get links for line range

Syntax

myLinks = getLinks(lr)

Description

myLinks = getLinks(lr) returns the links associated with the line range lr.

Examples

Remove Line Ranges

This example shows how to remove an slreq.TextRange object.

Open the myAdd code file.

```
file = "myAdd.m";
open(file);
```

Get the slreq.TextRange object associated with lines 1–3 in the myAdd function.

```
cr = slreq.getTextRange(file,[1 3]);
```

Get the links associated with the slreq.TextRange object.

```
links = getLinks(cr)
```

```
links=1×3 object
  1×3 Link array with properties:

    Type
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedOn
    ModifiedBy
    Revision
    SID
    Comments
```

Delete the links associated with the slreq.TextRange object.

```
count = deleteLinks(cr)
count = 3
```

Remove the `slreq.TextRange` object associated with line number 3.

```
remove(cr)
```

Input Arguments

`lr` — Line range
`slreq.TextRange` object

Line range, specified as an `slreq.TextRange` object.

Output Arguments

`myLinks` — Links
`slreq.Link` array

Links, returned as an `slreq.Link` array.

Version History

Introduced in R2022b

See Also

`slreq.TextRange` | `slreq.getTextRange` | `slreq.Link` | `deleteLinks`

Topics

"Requirements Traceability for MATLAB Code"

getText

Package: slreq

Get contents of line range

Syntax

```
text = getText(lr)
```

Description

`text = getText(lr)` returns the text contents of the line range `lr`.

Examples

Modify Line Numbers for Line Ranges

This example shows how to modify line numbers for an `slreq.TextRange` object.

Open the `myAdd` code file.

```
file = "myAdd.m";
open(file);
```

Get the `slreq.TextRange` object associated with the third line in the `myAdd` function.

```
cr = slreq.getTextRange(file,3);
```

Get the line numbers associated with the `slreq.TextRange` object.

```
lines = getLineRange(cr)
```

```
lines = 1×2

     3     3
```

Associate the `slreq.TextRange` object with the function definition line.

```
setLineRange(cr,1)
```

Confirm that the `slreq.TextRange` object is associated with the function definition line by getting the text contents of the line range.

```
text = getText(cr)
```

```
text = 
'function y = myAdd(u,v)'
```

Input Arguments

`lr` — Line range
`slreq.TextRange` object

Line range, specified as an `slreq.TextRange` object.

Output Arguments

`text` — Text contents
character array

Text contents of the code range object, returned as a character array.

Version History

Introduced in R2022b

See Also

`slreq.TextRange` | `slreq.getTextRange`

Topics
"Requirements Traceability for MATLAB Code"

remove

Package: `slreq`

Delete unused line ranges

Syntax

```
remove(lr)
```

Description

`remove(lr)` deletes the unused line range `lr`.

Note You cannot delete a code range object that has links. Use the `deleteLinks` function to delete links.

Examples

Remove Line Ranges

This example shows how to remove an `slreq.TextRange` object.

Open the `myAdd` code file.

```
file = "myAdd.m";
open(file);
```

Get the `slreq.TextRange` object associated with lines 1–3 in the `myAdd` function.

```
cr = slreq.getTextRange(file,[1 3]);
```

Get the links associated with the `slreq.TextRange` object.

```
links = getLinks(cr)
```

```
links=1×3 object
  1×3 Link array with properties:

    Type
    Description
    Keywords
    Rationale
    CreatedOn
    CreatedBy
    ModifiedOn
    ModifiedBy
    Revision
    SID
    Comments
```

Delete the links associated with the `slreq.TextRange` object.

```
count = deleteLinks(cr)
```

```
count = 3
```

Remove the `slreq.TextRange` object associated with line number 3.

```
remove(cr)
```

Input Arguments

`lr` — Line range

`slreq.TextRange` object

Line range, specified as an `slreq.TextRange` object.

Version History

Introduced in R2022b

See Also

`slreq.TextRange` | `slreq.getTextRange` | `getLinks` | `deleteLinks`

Topics

"Requirements Traceability for MATLAB Code"

setLineRange

Package: slreq

Set line numbers for line range

Syntax

```
setLineRange(lr,lines)
```

Description

`setLineRange(lr,lines)` modifies the line numbers for the line range `lr`.

Examples

Modify Line Numbers for Line Ranges

This example shows how to modify line numbers for an `slreq.TextRange` object.

Open the `myAdd` code file.

```
file = "myAdd.m";
open(file);
```

Get the `slreq.TextRange` object associated with the third line in the `myAdd` function.

```
cr = slreq.getTextRange(file,3);
```

Get the line numbers associated with the `slreq.TextRange` object.

```
lines = getLineRange(cr)
```

```
lines = 1×2

     3     3
```

Associate the `slreq.TextRange` object with the function definition line.

```
setLineRange(cr,1)
```

Confirm that the `slreq.TextRange` object is associated with the function definition line by getting the text contents of the line range.

```
text = getText(cr)
```

```
text = 
'function y = myAdd(u,v)'
```

Input Arguments

`lr` — Line range

`slreq.TextRange` object

Line range, specified as an `slreq.TextRange` object.

`lines` — Start and end line numbers

scalar `double` | `double` array

Start and end line numbers for the line range, specified as a double array of the form `[start end]` or a scalar double.

Example: `[1 4]`, `1`

Version History

Introduced in R2022b

See Also

`slreq.TextRange` | `slreq.getTextRange` | `getLineRange`

Topics

"Requirements Traceability for MATLAB Code"

show

Package: `slreq`

Open and highlight line range in MATLAB Editor

Syntax

```
show(lr)
```

Description

`show(lr)` opens the file associated with the line range `lr` in the MATLAB Editor and highlights the line range.

Examples

Create Line Ranges and Link to Requirement

This example shows how to create an `slreq.TextRange` object and link it to a requirement.

Create an `slreq.TextRange` object that corresponds to line numbers 1 and 2 in the `myAdd` function.

```
tr = slreq.createTextRange("myAdd.m",[1 2]);
```

View the `slreq.TextRange` object in the MATLAB® Editor.

```
show(tr);
```

Load the `myAddRequirements` requirement set.

```
rs = slreq.load("myAddRequirements");
```

Get a handle to the requirement with the summary `Add u and v`.

```
req = find(rs,Summary="Add u and v");
```

Create a link from the `slreq.TextRange` object to the requirement.

```
myLink = slreq.createLink(tr,req);
```

Input Arguments

`lr` — Line range
`slreq.TextRange` object

Line range, specified as an `slreq.TextRange` object.

Version History

Introduced in R2022b

See Also

`slreq.TextRange` | `slreq.getTextRange` | `getText`

Topics

"Requirements Traceability for MATLAB Code"

activate

Package: `slreq`

Apply view settings

Syntax

```
activate(view)
```

Description

`activate(view)` applies the view settings specified by `view` to the **Requirements Editor** and Requirements Perspective.

Examples

Create and Apply View to Requirements Editor

This example shows how to create a view and apply it to the **Requirements Editor** and Requirements Perspective.

Open the `myAddRequirements` requirement set, which contains requirements with `Type` set to `Functional`.

```
rs = slreq.open("myAddRequirements");
```

Create a view with the name `NewView`.

```
myView = slreq.View.create("NewView")
```

```
myView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: ''
    LinkFilter: ''
          Host: ''
```

Set the requirement filter to only display requirements that have `Type` set to `Container`.

```
myView.ReqFilter = "{'ReqType','Container'};"
```

```
myView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: "{'ReqType','Container'};"
    LinkFilter: ''
          Host: ''
```

Check if the view is valid.

```
tf = isValid(myView)
```

```
tf = logical
   1
```

Apply the view to the **Requirements Editor** and Requirements Perspective.

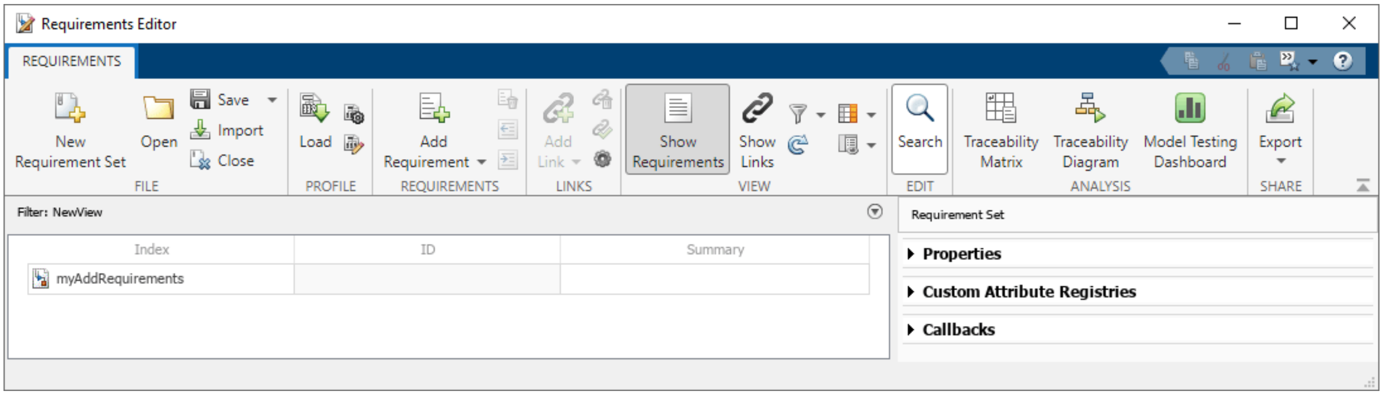
```
activate(myView)
```

Confirm that the active view is `NewView`.

```
appliedView = slreq.View.getActiveView
```

```
appliedView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: "{'ReqType','Container'};"
    LinkFilter: ''
          Host: ''
```

The `myAddRequirements` requirement set does not contain any requirements with `Type` set to `Container`, so all of the requirements are filtered out.



Filter: NewView

Index	ID	Summary
myAddRequirements		

Clear the loaded requirement sets and link sets and close the **Requirements Editor.**

```
slreq.clear;
```

Input Arguments

view — View settings

`slreq.View` object

View settings, specified as an `slreq.View` object.

Version History

Introduced in R2022b

See Also

Objects
`slreq.View`

Topics
"Filter Requirements and Links in the Requirements Editor"

activateDefaultView

Package: slreq

Apply default view settings

Syntax

```
slreq.View.activateDefaultView
```

Description

slreq.View.activateDefaultView applies the default view settings to the **Requirements Editor** and Requirements Perspective.

Examples

Get and Delete View from Requirements Editor

This example shows how to import a view settings file, get the available views for the **Requirements Editor** and Requirements Perspective, and delete a view.

Open the myAddRequirements requirement set.

```
rs = slreq.open("myAddRequirements");
```

Load the view settings file, ViewFile.mat, which contains views that filter the **Requirements Editor** and Requirements Perspective.

```
slreq.importViewSettings("ViewFile.mat")
```

Get the available views.

```
views = slreq.View.getViews
```

```
views=1×2 object
  1×2 View array with properties:

    Name
    ReqFilter
    LinkFilter
    Host
```

Display the views and their properties.

```
views(1)
```

```
ans = 
  View with properties:

          Name: 'default view'
```

```
      ReqFilter: ''
     LinkFilter: ''
           Host: ''
```

```
views(2)
```

```
ans = 
  View with properties:

           Name: 'ReqView'
      ReqFilter: '{'ReqType','
     LinkFilter: ''
           Host: ''
```

Apply the view `ReqView`.

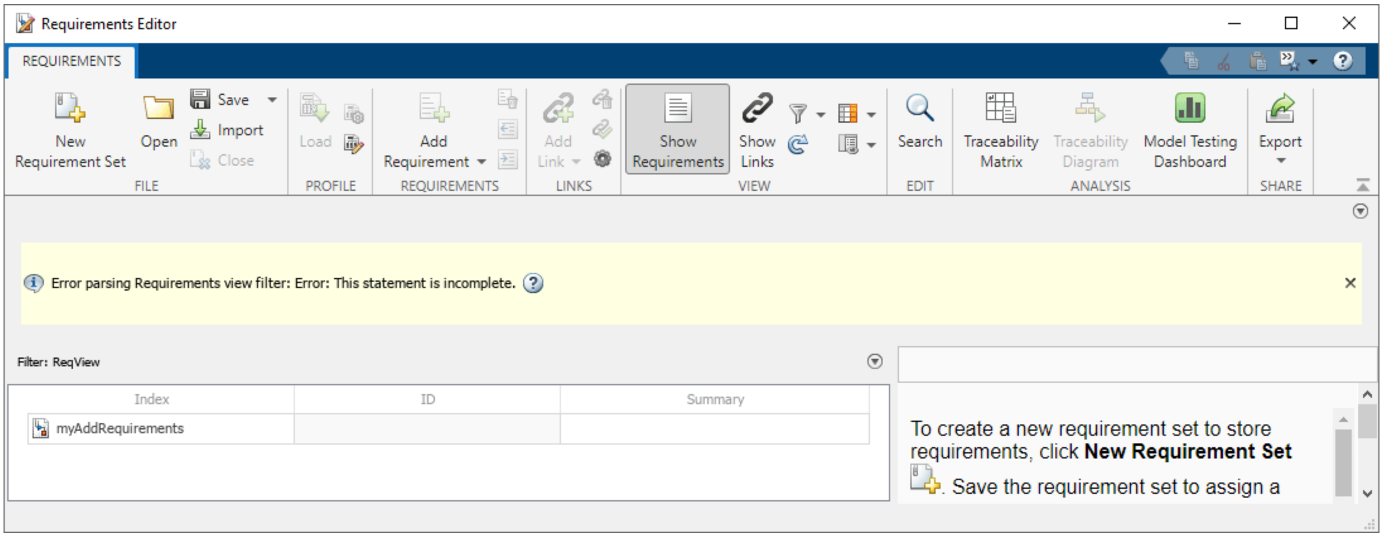
```
activate(views(2))
```

The view `ReqView` has a requirement filter with an incomplete syntax.

Get the error that the software returned when it applied the view.

```
msg = getErrorMessage(views(2))
```

```
msg = struct with fields:
    requirement: 'Error parsing Requirements view filter: Error: This statement is incomplete.'
           link: ''
```



Error parsing Requirements view filter: Error: This statement is incomplete.

Filter: ReqView

Index	ID	Summary
myAddRequirements		

To create a new requirement set to store requirements, click **New Requirement Set** . Save the requirement set to assign a

Apply the default view to the **Requirements Editor** and Requirements Perspective.

```
slreq.View.activateDefaultView
```

Delte the view `ReqView`.

```
deletedView = delete(views(2))
deletedView = 
  View with no properties.
```

Clear the loaded requirement sets and link sets and close the **Requirements Editor.**

```
slreq.clear;
```

Version History

Introduced in R2022b

See Also

Objects
`slreq.View`

Topics
"Filter Requirements and Links in the Requirements Editor"

create

Package: slreq

Create view settings

Syntax

```
view = slreq.View.create(viewName)
view = slreq.View.create(viewName,reqSetName)
view = slreq.View.create(___,existingView)
```

Description

view = slreq.View.create(viewName) creates a view with the name viewName. Requirements Toolbox saves the view in the preferences folder.

view = slreq.View.create(viewName,reqSetName) saves the view settings in the requirement set specified by reqSetName.

view = slreq.View.create(___,existingView) saves a copy of the existing view settings, existingView.

Examples

Create and Apply View to Requirements Editor

This example shows how to create a view and apply it to the **Requirements Editor** and Requirements Perspective.

Open the myAddRequirements requirement set, which contains requirements with Type set to Functional.

```
rs = slreq.open("myAddRequirements");
```

Create a view with the name NewView.

```
myView = slreq.View.create("NewView")
```

```
myView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: ''
    LinkFilter: ''
          Host: ''
```

Set the requirement filter to only display requirements that have Type set to Container.

```
myView.ReqFilter = "{'ReqType','Container'};"
```

```
myView = 
  View with properties:

           Name: 'NewView'
      ReqFilter: "{'ReqType','Container'};"
     LinkFilter: ''
           Host: ''
```

Check if the view is valid.

```
tf = isValid(myView)
```

```
tf = logical
   1
```

Apply the view to the **Requirements Editor** and Requirements Perspective.

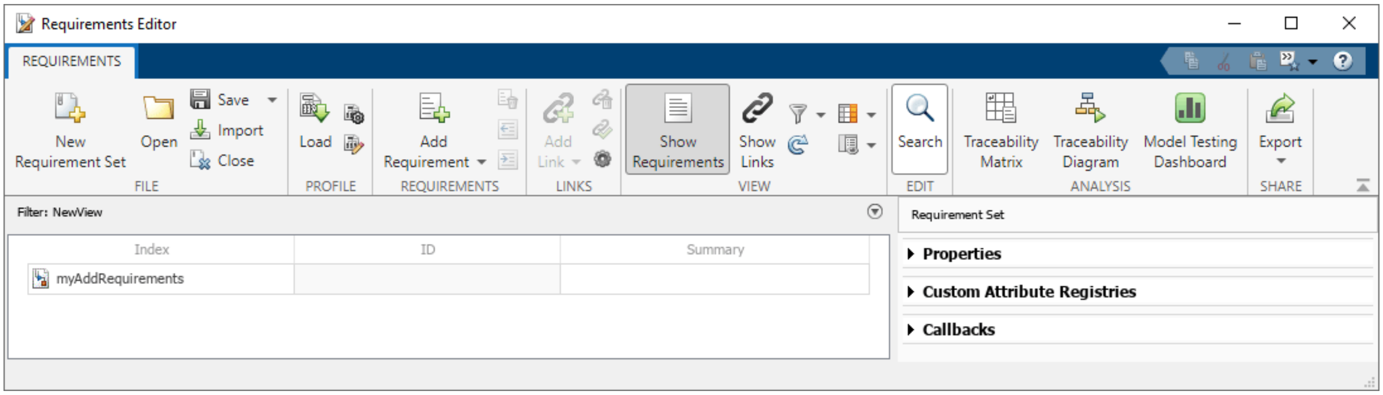
```
activate(myView)
```

Confirm that the active view is NewView.

```
appliedView = slreq.View.getActiveView
```

```
appliedView = 
  View with properties:

           Name: 'NewView'
      ReqFilter: "{'ReqType','Container'};"
     LinkFilter: ''
           Host: ''
```

The myAddRequirements requirement set does not contain any requirements with Type set to Container, so all of the requirements are filtered out.



Filter: NewView

Index	ID	Summary
myAddRequirements		

Clear the loaded requirement sets and link sets and close the **Requirements Editor.**

```
slreq.clear;
```

Create View and Store in Requirement Set

This example shows how to create a view and store it in a requirement set.

Load and open the `myAddRequirements` requirement set.

```
rs = slreq.open("myAddRequirements");
```

Create a view and store it in the requirement set.

```
myView = slreq.View.create("NewView","myAddRequirements");
```

Clear the loaded requirement sets and close the **Requirements Editor.**

```
slreq.clear;
```

Create Copy of View

This example shows how to create a copy of an existing view.

Load the `myAddRequirements` requirement set.

```
rs = slreq.open("myAddRequirements");
```

Load the view settings file `ViewFile2.mat`, which contains a view stored in the preferences folder.

```
slreq.importViewSettings("ViewFile2")
```

Get the existing views from the view settings file.

```
views = slreq.View.getViews
```

```
views=1×2 object
  1×2 View array with properties:

    Name
    ReqFilter
    LinkFilter
    Host
```

Assign the second view in the array to a variable.

```
viewToCopy = views(2)
```

```
viewToCopy = 
  View with properties:

          Name: 'NewView'
     ReqFilter: '{'ReqType','Container'};'
    LinkFilter: ''
          Host: ''
```

Create a copy of the view and store it in the requirement set.

```
copiedView = slreq.View.create("CopiedView","myAddRequirements",viewToCopy);
```

Clear the loaded requirement sets and close the **Requirements Editor.**

```
slreq.clear;
```

Input Arguments

`viewName` — View name

string scalar | character vector

View name, specified as a string scalar or a character vector.

Example: `"myView"`

`reqSetName` — Requirement set name

string scalar | character vector

Requirement set name, specified as a string scalar or a character vector.

Example: `"myReqSet"`

`existingView` — Existing view name

string scalar | character vector

Existing view name, specified as a string scalar or a character vector.

Example: `"myView"`

Output Arguments

`view` — View settings

`slreq.View` object

View settings, returned as an `slreq.View` object.

Version History

Introduced in R2022b

See Also

Objects

`slreq.View`

Topics

“Filter Requirements and Links in the Requirements Editor”
“Where MATLAB Stores Preferences”

delete

Package: slreq

Delete view settings

Syntax

```
emptyView = delete(view)
```

Description

`emptyView = delete(view)` deletes the view settings specified by `view` and returns an empty `slreq.View` object,.

Examples

Get and Delete View from Requirements Editor

This example shows how to import a view settings file, get the available views for the **Requirements Editor** and Requirements Perspective, and delete a view.

Open the `myAddRequirements` requirement set.

```
rs = slreq.open("myAddRequirements");
```

Load the view settings file, `ViewFile.mat`, which contains views that filter the **Requirements Editor** and Requirements Perspective.

```
slreq.importViewSettings("ViewFile.mat")
```

Get the available views.

```
views = slreq.View.getViews
```

```
views=1×2 object
  1×2 View array with properties:

    Name
    ReqFilter
    LinkFilter
    Host
```

Display the views and their properties.

```
views(1)
```

```
ans =
  View with properties:

          Name: 'default view'
```

```
     ReqFilter: ''
    LinkFilter: ''
          Host: ''
```

```
views(2)
```

```
ans = 
  View with properties:

          Name: 'ReqView'
     ReqFilter: '{'ReqType','
    LinkFilter: ''
          Host: ''
```

Apply the view ReqView.

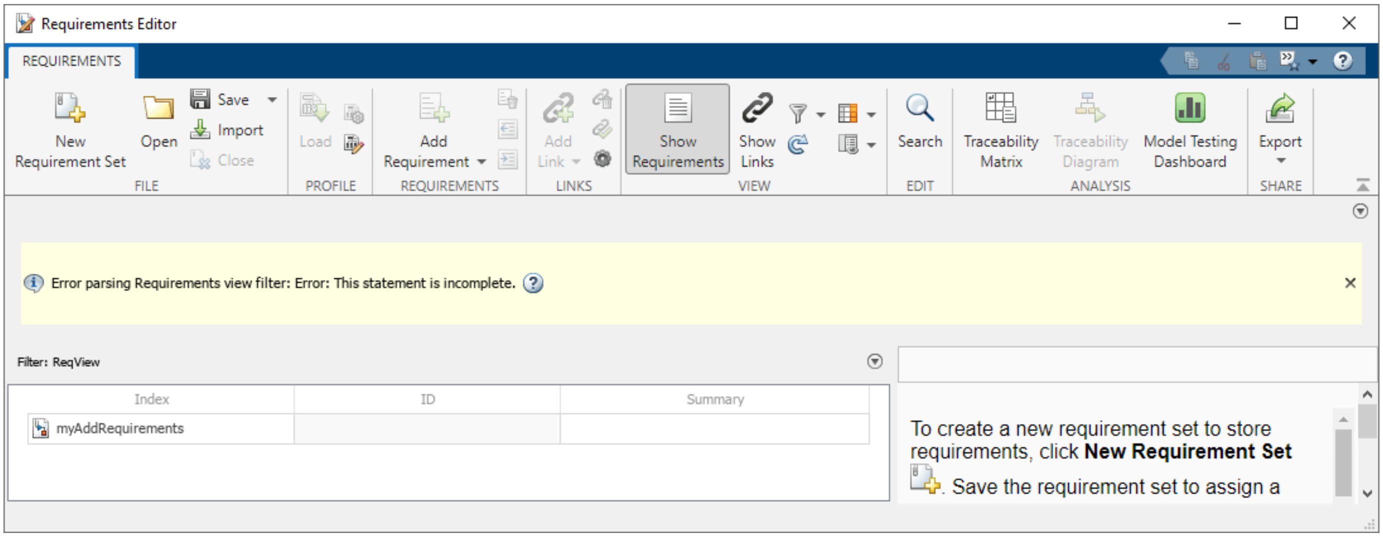
```
activate(views(2))
```

The view ReqView has a requirement filter with an incomplete syntax.

Get the error that the software returned when it applied the view.

```
msg = getErrorMessage(views(2))
```

```
msg = struct with fields:
    requirement: 'Error parsing Requirements view filter: Error: This statement is incomplete.'
           link: ''
```



Error parsing Requirements view filter: Error: This statement is incomplete.

Filter: ReqView

Index	ID	Summary
myAddRequirements		

To create a new requirement set to store requirements, click **New Requirement Set** . Save the requirement set to assign a

Apply the default view to the **Requirements Editor** and Requirements Perspective.

```
slreq.View.activateDefaultView
```

Delte the view ReqView.

```
deletedView = delete(views(2))
deletedView = 
  View with no properties.
```

Clear the loaded requirement sets and link sets and close the **Requirements Editor.**

```
slreq.clear;
```

Input Arguments

`view` — View settings

`slreq.View` object

View settings, specified as an `slreq.View` object.

Version History

Introduced in R2022b

See Also

Objects

`slreq.View`

Topics

“Filter Requirements and Links in the Requirements Editor”

getActiveView

Package: slreq

Get applied view settings

Syntax

```
view = slreq.View.getActiveView
```

Description

view = slreq.View.getActiveView returns the currently applied view settings from the **Requirements Editor** and Requirements Perspective.

Examples

Create and Apply View to Requirements Editor

This example shows how to create a view and apply it to the **Requirements Editor** and Requirements Perspective.

Open the myAddRequirements requirement set, which contains requirements with Type set to Functional.

```
rs = slreq.open("myAddRequirements");
```

Create a view with the name NewView.

```
myView = slreq.View.create("NewView")
```

```
myView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: ''
    LinkFilter: ''
          Host: ''
```

Set the requirement filter to only display requirements that have Type set to Container.

```
myView.ReqFilter = "{'ReqType','Container'};"
```

```
myView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: "{'ReqType','Container'};"
    LinkFilter: ''
          Host: ''
```

Check if the view is valid.

```
tf = isValid(myView)
```

```
tf = logical
   1
```

Apply the view to the **Requirements Editor** and Requirements Perspective.

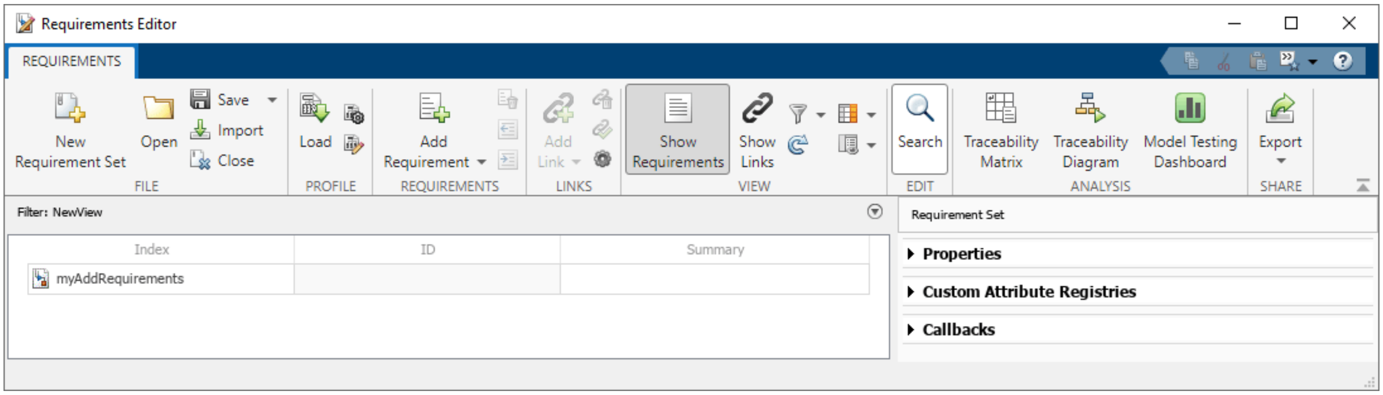
```
activate(myView)
```

Confirm that the active view is `NewView`.

```
appliedView = slreq.View.getActiveView
```

```
appliedView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: "{'ReqType','Container'};"
    LinkFilter: ''
          Host: ''
```

The `myAddRequirements` requirement set does not contain any requirements with `Type` set to `Container`, so all of the requirements are filtered out.



Filter: NewView

Index	ID	Summary
myAddRequirements		

Clear the loaded requirement sets and link sets and close the **Requirements Editor.**

```
slreq.clear;
```

Output Arguments

view — View settings

`slreq.View` object

View settings, returned as an `slreq.View` object.

Version History

Introduced in R2022b

See Also

Objects
`slreq.View`

Topics
“Filter Requirements and Links in the Requirements Editor”

getErrorMessage

Package: slreq

Get view settings error message

Syntax

```
msg = getErrorMessage(view)
```

Description

`msg = getErrorMessage(view)` returns the error messages that resulted when the view settings, `view`, were applied to the **Requirements Editor** and Requirements Perspective.

Examples

Get and Delete View from Requirements Editor

This example shows how to import a view settings file, get the available views for the **Requirements Editor** and Requirements Perspective, and delete a view.

Open the `myAddRequirements` requirement set.

```
rs = slreq.open("myAddRequirements");
```

Load the view settings file, `ViewFile.mat`, which contains views that filter the **Requirements Editor** and Requirements Perspective.

```
slreq.importViewSettings("ViewFile.mat")
```

Get the available views.

```
views = slreq.View.getViews
```

```
views=1×2 object
  1×2 View array with properties:

    Name
    ReqFilter
    LinkFilter
    Host
```

Display the views and their properties.

```
views(1)
```

```
ans = 
  View with properties:

            Name: 'default view'
```

```
      ReqFilter: ''
     LinkFilter: ''
           Host: ''
```

```
views(2)
```

```
ans = 
  View with properties:

           Name: 'ReqView'
      ReqFilter: '{'ReqType','
     LinkFilter: ''
           Host: ''
```

Apply the view `ReqView`.

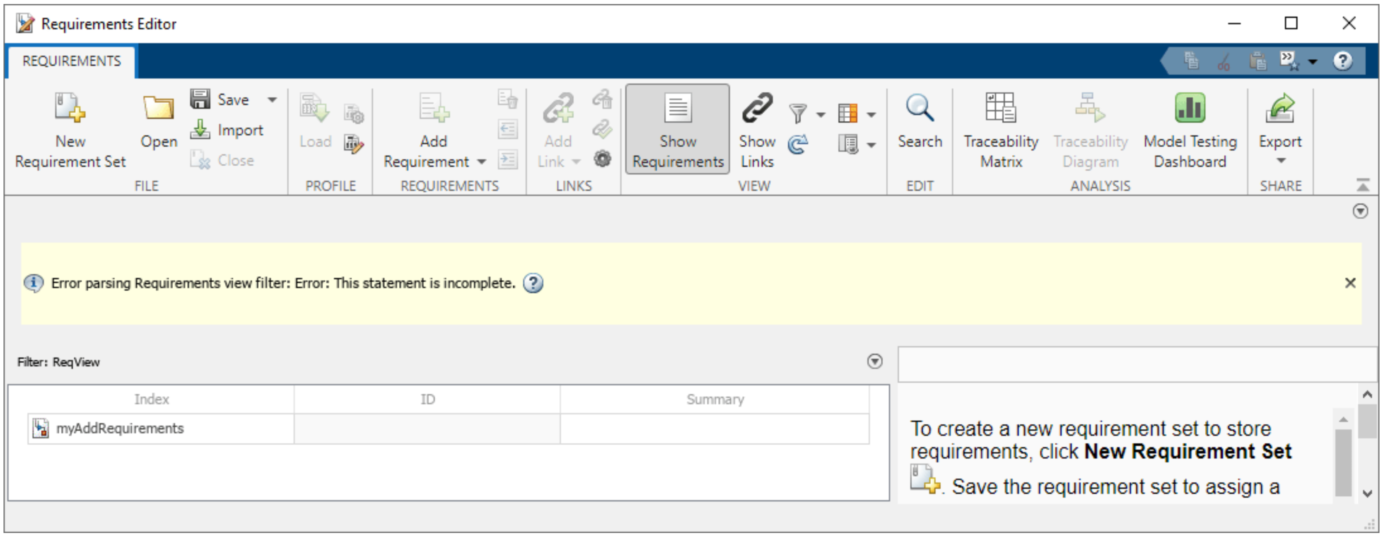
```
activate(views(2))
```

The view `ReqView` has a requirement filter with an incomplete syntax.

Get the error that the software returned when it applied the view.

```
msg = getErrorMessage(views(2))
```

```
msg = struct with fields:
    requirement: 'Error parsing Requirements view filter: Error: This statement is incomplete.'
           link: ''
```



Error parsing Requirements view filter: Error: This statement is incomplete.

Filter: ReqView

Index	ID	Summary
myAddRequirements		

To create a new requirement set to store requirements, click **New Requirement Set** . Save the requirement set to assign a

Apply the default view to the **Requirements Editor** and Requirements Perspective.

```
slreq.View.activateDefaultView
```

Delte the view `ReqView`.

```
deletedView = delete(views(2))
deletedView = 
  View with no properties.
```

Clear the loaded requirement sets and link sets and close the **Requirements Editor.**

```
slreq.clear;
```

Input Arguments

`view` — View settings
`slreq.View` object

View settings, specified as an `slreq.View` object.

Output Arguments

`msg` — Error messages
structure

Error messages, returned as a `struct` with the fields `requirement` and `link`.

Version History

Introduced in R2022b

See Also

Objects
`slreq.View`

getViews

Package: slreq

Get available views

Syntax

```
views = slreq.View.getViews
```

Description

views = slreq.View.getViews returns the available views from the **Requirements Editor** and Requirements Perspective.

Examples

Get and Delete View from Requirements Editor

This example shows how to import a view settings file, get the available views for the **Requirements Editor** and Requirements Perspective, and delete a view.

Open the myAddRequirements requirement set.

```
rs = slreq.open("myAddRequirements");
```

Load the view settings file, ViewFile.mat, which contains views that filter the **Requirements Editor** and Requirements Perspective.

```
slreq.importViewSettings("ViewFile.mat")
```

Get the available views.

```
views = slreq.View.getViews
```

```
views=1×2 object
  1×2 View array with properties:

    Name
    ReqFilter
    LinkFilter
    Host
```

Display the views and their properties.

```
views(1)
```

```
ans = 
  View with properties:

          Name: 'default view'
```

```
     ReqFilter: ''
    LinkFilter: ''
          Host: ''
```

```
views(2)
```

```
ans = 
  View with properties:

          Name: 'ReqView'
     ReqFilter: '{'ReqType','
    LinkFilter: ''
          Host: ''
```

Apply the view `ReqView`.

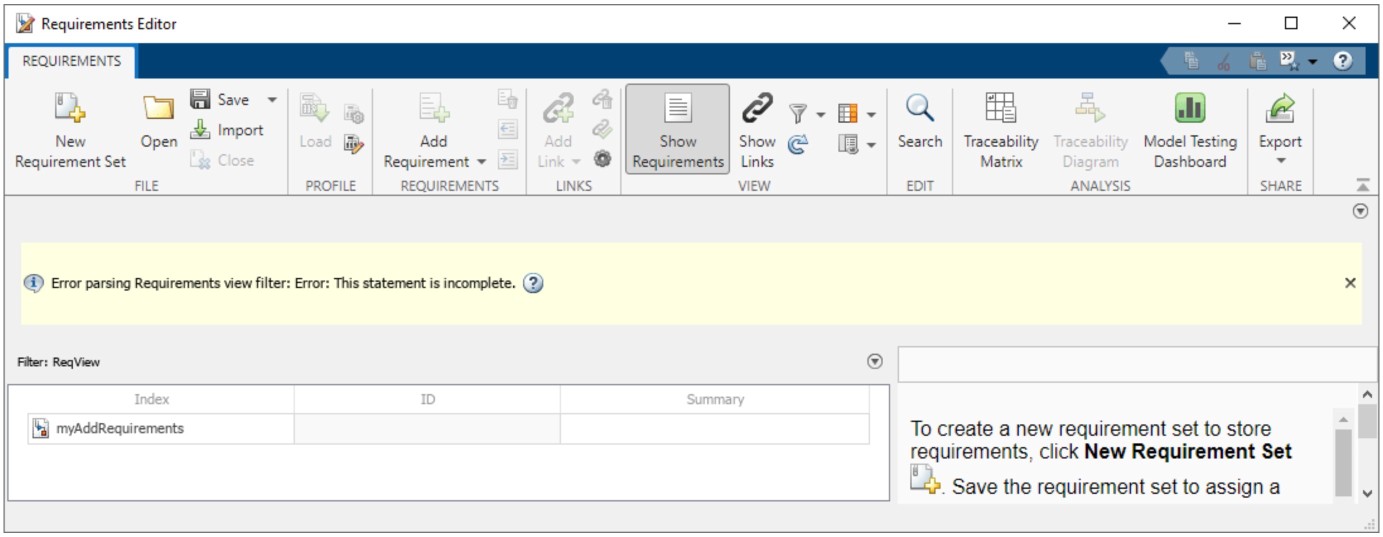
```
activate(views(2))
```

The view `ReqView` has a requirement filter with an incomplete syntax.

Get the error that the software returned when it applied the view.

```
msg = getErrorMessage(views(2))
```

```
msg = struct with fields:
    requirement: 'Error parsing Requirements view filter: Error: This statement is incomplete.'
           link: ''
```



Error parsing Requirements view filter: Error: This statement is incomplete.

To create a new requirement set to store requirements, click **New Requirement Set** . Save the requirement set to assign a

Apply the default view to the **Requirements Editor** and Requirements Perspective.

```
slreq.View.activateDefaultView
```

Delte the view `ReqView`.

```
deletedView = delete(views(2))
deletedView = 
  View with no properties.
```

Clear the loaded requirement sets and link sets and close the **Requirements Editor.**

```
slreq.clear;
```

Output Arguments

`views` — View settings

`slreq.View` array

View settings, returned as an `slreq.View` array.

Version History

Introduced in R2022b

See Also

Objects

`slreq.View`

Topics

“Filter Requirements and Links in the Requirements Editor”

isValid

Package: slreq

Check validity of view settings

Syntax

```
tf = isValid(view)
```

Description

`tf = isValid(view)` checks if the view specified by `view` exists. The function returns `1` if the view exists.

Examples

Create and Apply View to Requirements Editor

This example shows how to create a view and apply it to the **Requirements Editor** and Requirements Perspective.

Open the `myAddRequirements` requirement set, which contains requirements with `Type` set to `Functional`.

```
rs = slreq.open("myAddRequirements");
```

Create a view with the name `NewView`.

```
myView = slreq.View.create("NewView")
```

```
myView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: ''
    LinkFilter: ''
          Host: ''
```

Set the requirement filter to only display requirements that have `Type` set to `Container`.

```
myView.ReqFilter = "{'ReqType','Container'};"
```

```
myView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: "{'ReqType','Container'};"
    LinkFilter: ''
          Host: ''
```

Check if the view is valid.

```
tf = isValid(myView)
```

```
tf = logical
   1
```

Apply the view to the **Requirements Editor** and Requirements Perspective.

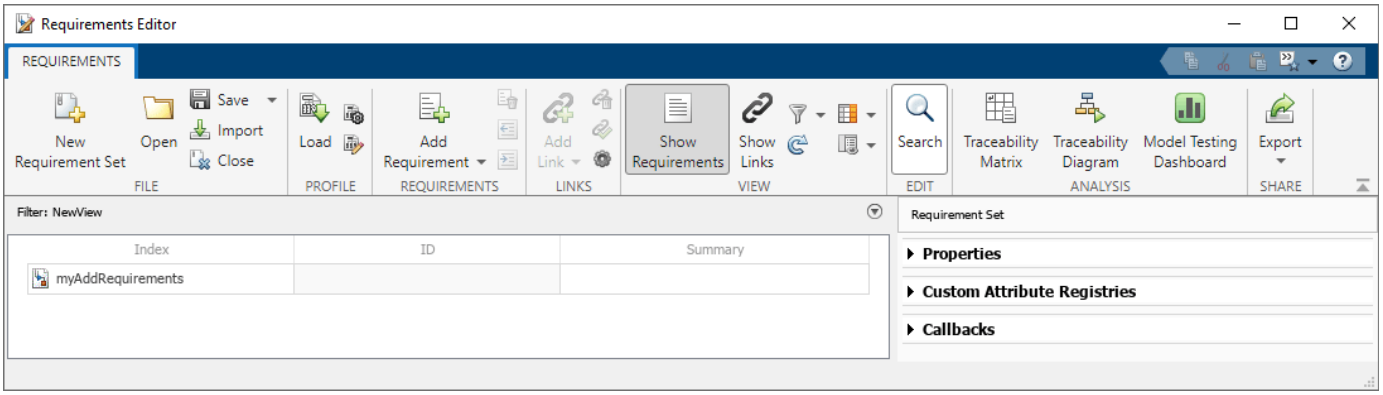
```
activate(myView)
```

Confirm that the active view is NewView.

```
appliedView = slreq.View.getActiveView
```

```
appliedView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: "{'ReqType','Container'};"
    LinkFilter: ''
          Host: ''
```

The myAddRequirements requirement set does not contain any requirements with Type set to Container, so all of the requirements are filtered out.



Filter: NewView

Index	ID	Summary
myAddRequirements		

Requirement Set

Clear the loaded requirement sets and link sets and close the **Requirements Editor.**

```
slreq.clear;
```

Input Arguments

view — View settings

slreq.View object

View settings, specified as an slreq.View object.

Output Arguments

`tf` — Validity check status

0 | 1

Validity check status, returned as a `1` or `0` of data type `logical`.

Version History

Introduced in R2022b

See Also

Objects

`slreq.View`

Topics

“Filter Requirements and Links in the Requirements Editor”

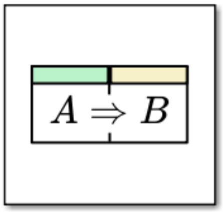
4

Blocks

Requirements Table

Model formal requirements with input conditions

Library: Requirements Toolbox



Requirements Table

Description

The Requirements Table block models formal requirements. The block starts with evaluating conditions listed in the **Precondition** column. If the conditions are satisfied, you can check if other simulation data meet specified conditions in the **Postcondition** column, or execute desired actions, such as block outputs or functions, in the **Action** column. For more information, see “Use a Requirements Table Block to Create Formal Requirements”.

You can also constrain requirements based on physical limitations of your model by defining assumptions in the **Assumptions** tab. See “Add Assumptions to Requirements”.

You can configure this block only if you have Requirements Toolbox.

Ports

Input

`Port_1` — Input port
scalar | vector | matrix

Input port, specified as a scalar, vector, or matrix. Each input data that you define has a corresponding input port.

Dependencies

To create input ports, open the block and create input data in the **Symbols** pane. See “Define Data in Requirements Table Blocks”.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64` | `Boolean` | `string` | `fixed point` | `enumerated` | `bus`

Output

`Port_1` — Output port
scalar | vector | matrix

Output port, specified as a scalar, vector, or matrix. Each output data that you define has a corresponding output port.

Dependencies

To create output ports, open the block and create output data in the **Symbols** pane. See “Define Data in Requirements Table Blocks”.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64` | `Boolean` | `string` | `fixed point` | `enumerated` | `bus`

Parameters

Main

`Show port labels` — Display options for port labels

`FromPortIcon` (default) | `none` | `FromPortBlockName` | `SignalName`

Select how to display port labels on the Requirements Table block icon.

- `none` – Do not display port labels.
- `FromPortIcon` – Display the name of the input and output data.
- `FromPortBlockName` – Display the name of the input and output data.
- `SignalName` – If the signal connected to the port is named, display the signal name. Otherwise, display the name of the data.

Programmatic Use
Parameter: `ShowPortLabels`
Type: string scalar or character vector
Value: `"none"` | `"FromPortIcon"` | `"FromPortBlockName"` | `"SignalName"`
Default: `"FromPortIcon"`

`Read/Write permissions` — Levels of access to contents of block

`ReadWrite` (default) | `ReadOnly` | `NoReadOrWrite`

Control user access to the contents of the Requirements Table block.

- `ReadWrite` – Enable opening and modifying of Requirements Table block contents.
- `ReadOnly` – Enable opening of the Requirements Table block.
- `NoReadOrWrite` – Disable opening or modifying of the Requirements Table block.

Note When you attempt to view the contents of a Requirements Table block whose **Read/Write permissions** parameter is `NoReadOrWrite`, the block does not respond. For example, when you double-click the Requirements Table block, Simulink does not open the table contents and does not display messages.

Programmatic Use
Parameter: `Permissions`
Type: string scalar or character vector
Value: `"ReadWrite"` | `"ReadOnly"` | `"NoReadOrWrite"`
Default: `"ReadWrite"`

`Minimize algebraic loop occurrences` — Option to eliminate artificial algebraic loops

off (default) | on

Try to eliminate artificial algebraic loops that include the atomic unit during simulation.

- ☐ **off** – Do not try to eliminate artificial algebraic loops that include the atomic unit.
- ☑ **on** – Try to eliminate artificial algebraic loops that include the atomic unit.

Programmatic Use
Parameter: `MinAlgLoopOccurrences`
Type: string scalar or character vector
Value: `"off"` | `"on"`
Default: `"off"`

`Sample time (-1 for inherited)` — Specify time interval

`-1` (default) | `[Ts 0]`

Specify whether entries in this block must run at the same rate or can run at different rates.

- If entries in the Requirements Table block can run at different rates, specify the sample time as inherited (`-1`).
- If entries must run at the same rate, specify the sample time, `Ts`, corresponding to this rate.

Programmatic Use
Parameter: `SystemSampleTime`
Type: string scalar or character vector
Value: `"-1"` | `"[Ts 0]"`
Default: `"-1"`

Code Generation

To enable these parameters, you must have Simulink Coder™ or Embedded Coder®.

`Function packaging` — Code format

`Auto` (default) | `Inline` | `Nonreusable function` | `Reusable function`

Select the code format the block uses to generate code for an atomic (nonvirtual) unit.

- `Auto` – Simulink Coder and Embedded Coder choose the optimal code format based on the type and number of instances of the Requirements Table block in the model.
- `Inline` – Simulink Coder and Embedded Coder inline the Requirements Table block unconditionally.
- `Nonreusable function` – Simulink Coder explicitly generates a separate function in a separate file.
- `Reusable function` – Simulink Coder and Embedded Coder generate a function with arguments that allows reuse of block code when a model includes multiple instances of the block.

  This option also generates a function with arguments that allows the Requirements Table block to be reused in the generated code of a model reference hierarchy that includes multiple instances of a Requirements Table block across referenced models. In this case, the block must be in a library.

Tips

- When you want to represent multiple instances of a Requirements Table block as one reusable function, you can designate each of the instances as `Auto` or as `Reusable function`. It is best to use one or the other, as using both creates two reusable functions, one for each designation.

The outcomes of these choices differ only when reuse is not possible. Selecting `Auto` does not allow control of the function or file name for the Requirements Table block code.

- The `Reusable function` and `Auto` options both try to determine if multiple instances of a Requirements Table block exist and if the code can be reused. The options differ only when reuse is not possible:
  - `Auto` yields inlined code, or if circumstances prohibit inlining, the setting separates functions for each Requirements Table block instance.
  - `Reusable function` yields a separate function with arguments for each Requirements Table block instance in the model.
- If you select `Reusable function` while your generated code is under source control, set **File name options** to `Use subsystem name`, `Use function name`, or `User specified`. Otherwise, the names of your code files change when you modify your model, which prevents source control on your files.

Programmatic Use
Parameter: `RTWSystemCode`
Type: string scalar or character vector
Value: `"Auto"` | `"Inline"` | `"Nonreusable function"` | `"Reusable function"`
Default: `"Auto"`

`Function name options` — How to name generated function

`Auto` (default) | `Use subsystem name` | `User specified`

Select how Simulink Coder names the function it generates for the block.

If you have Embedded Coder, you can control function names with options on the Configuration Parameter **Code Generation > Identifiers** pane.

- `Auto` – Assign a unique function name using the default naming convention, `*model*_*block*()`, where *`model`* is the name of the model and *`block`* is the name of the block (or that of an identical one when code is being reused).
- `Use subsystem name` – Use the Requirements Table block name as the function name. By default, the function name uses the naming convention *`model_block`*.

> **Note** When a Requirements Table block is in a library block and the **Function packaging** parameter is set to `Reusable function`, if you set the `Use subsystem name` option, the code generator uses the name of the library block for the function name and file name.

- `User specified` – Enable the **Function name** field. Enter a legal C or C++ function name, which must be unique.

For more information, see “Generate Subsystem Code as Separate Function and Files” (Simulink Coder).

Dependencies

To enable this parameter, set **Function packaging** to `Nonreusable function` or `Reusable function`.

Programmatic Use
Parameter: `RTWFcnNameOpts`
Type: string scalar or character vector

Value: "Auto" | "Use subsystem name" | "User specified"
Default: "Auto"

Function name — Name of function for block code

"" (default) | function name

Name of the function for the block code.

Use this parameter if you want to give the function a specific name instead of using an autogenerated name or the block name. For more information, see "Generate Subsystem Code as Separate Function and Files" (Simulink Coder).

Dependencies

To enable this parameter, set the **Function name options** parameter to User specified.

Programmatic Use

Parameter: RTWFcnName
Type: string scalar or character vector
Value: "" | "<function name>"
Default: ""

File name options — How to name generated file

Auto (default) | Use subsystem name | Use function name | User specified

How Simulink Coder names the separate file for the function it generates for the block.

- Auto – Depending on the configuration of the block and how many instances are in the model, Auto yields different results:

  - If the code generator does *not* generate a separate file for the block, the block code is generated within the code module generated from the block parent system. If the block parent is the model itself, the block code is generated within *model*.c or *model*.cpp.
  - If you select Reusable function for the **Function packaging** parameter and your generated code is under source control, consider specifying a **File name options** value other than Auto. This prevents the generated file name from changing due to unrelated model modifications, which is problematic for using source control to manage configurations.
  - If you select Reusable function for the **Function packaging** parameter and there are multiple instances of the block in a model reference hierarchy, in order to generate reusable code for the block, **File name options** must be set to Auto.
- Use subsystem name – The code generator generates a separate file, using the block name as the file name.

  Note When **File name options** is set to Use subsystem name, the block file changes if the model contains Model blocks, or if a model reference target is being generated for the model. In these situations, the file name for the Requirements Table block consists of the block name prefixed by the model name.

- Use function name – The code generator uses the function name specified by **Function name options** as the file name.
- User specified – This option enables the **File name (no extension)** text entry field. The code generator uses the name you enter as the file name. Enter a file name, but do not include the .c or .cpp (or another) extension. This file name need not be unique.

Note While a Requirements Table block source file name need not be unique, you must avoid giving nonunique names that result in cyclic dependencies (for example, `sys_a.h` includes `sys_b.h`, `sys_b.h` includes `sys_c.h`, and `sys_c.h` includes `sys_a.h`).

Dependencies

To enable this parameter, set **Function packaging** to `Nonreusable function` or `Reusable function`.

Programmatic Use

Parameter: `RTWFileNameOpts`
Type: string scalar or character vector
Value: `"Auto"` | `"Use subsystem name"` | `"Use function name"` | `"User specified"`
Default: `"Auto"`

`File name (no extension)` — Name of generated file

`""` (default) | file name

Name of the generated file. The file name that you specify does not have to be unique. However, avoid giving non-unique names that result in cyclic dependencies (for example, `sys_a.h` includes `sys_b.h`, `sys_b.h` includes `sys_c.h`, and `sys_c.h` includes `sys_a.h`).

For more information, see “Generate Subsystem Code as Separate Function and Files” (Simulink Coder).

Dependencies

To enable this parameter, set **File name options** to `User specified`.

Programmatic Use

Parameter: `RTWFileName`
Type: string scalar or character vector
Value: `""` | `"<file name>"`
Default: `""`

Version History

Introduced in R2022a

Extended Capabilities

C/C++ Code Generation

Generate C and C++ code using Simulink® Coder™.

Actual data type or capability support depends on block implementation.

GPU Code Generation

Generate CUDA® code for NVIDIA® GPUs using GPU Coder™.

Actual data type or capability support depends on block implementation.

HDL Code Generation

Generate Verilog and VHDL code for FPGA and ASIC designs using HDL Coder™.

Actual data type or capability support depends on block implementation.

Fixed-Point Conversion
Design and simulate fixed-point systems using Fixed-Point Designer™.

Actual data type or capability support depends on block implementation.

See Also

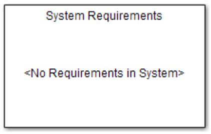
`RequirementsTable`

Topics

"Specify Requirements Table Block Properties"
"Define Data in Requirements Table Blocks"
"Set Data Types in Requirements Table Blocks"
"What Is a Specification Model?"

System Requirements

List system requirements in Simulink models
Library: Requirements Toolbox


System Requirements

<No Requirements in System>

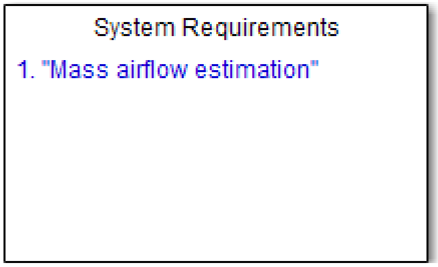
Description

The System Requirements block lists the system-level requirements associated with a model or subsystem. This block is dynamically populated. It displays system requirements associated with the level of hierarchy in which the block appears in the model. It does not list requirements associated with individual blocks in the model. To list desired requirement links in the System Requirements block:

1. Right-click the background of your model.
2. Select **Requirements at This Level**.
3. From the top of the context menu, verify that all the requirements you want to list appear in the System Requirements block.

You can place this block anywhere in your model. It does not connect to other Simulink blocks. You can have only one System Requirements block in a given subsystem.

When you insert this block into your Simulink model, it is populated with the system requirements, as shown in the `Airflow Calculation` subsystem of the `slvnvdemo_fuelsys_officereq` example.


System Requirements

1. "Mass airflow estimation"

Each of the listed requirements is an active link to the requirements document. When you double-click a requirement label, the associated requirements document opens in its editor window, scrolled to the target location.

Parameters

Block Title

The title of the system requirements list in the model. The default title is `System Requirements`. You can enter a customized title, for example, `Engine Requirements`.

Version History

Introduced before R2006a

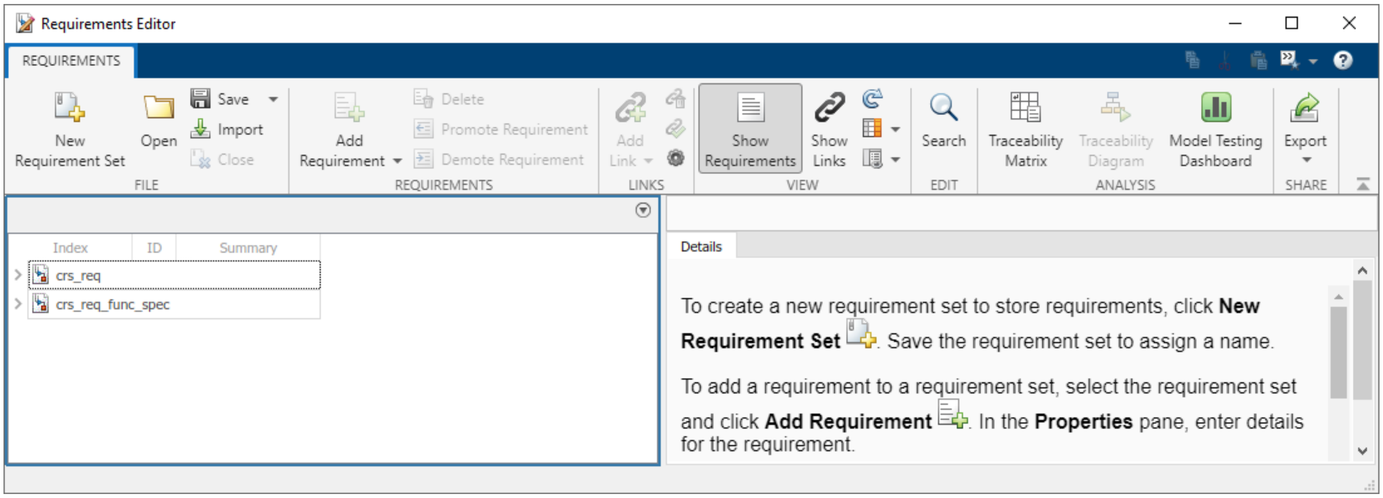
Requirements Toolbox Tools and Apps

Requirements Editor

Create and edit requirements

Description

Use the **Requirements Editor** app to create requirement sets, requirements, import and export requirements, and link requirements to blocks and other supported artifacts.



Index	ID	Summary
crs_req		
crs_req_func_spec		

To create a new requirement set to store requirements, click **New Requirement Set**. Save the requirement set to assign a name.

To add a requirement to a requirement set, select the requirement set and click **Add Requirement**. In the **Properties** pane, enter details for the requirement.

Open the Requirements Editor App

- Simulink Toolstrip: On the **Apps** tab, under **Model Verification, Validation, and Test**, click **Requirements Editor**.
- MATLAB Toolstrip: On the **Apps** tab, under **Verification, Validation, and Test**, click **Requirements Editor**.
- MATLAB command prompt: Enter `slreq.editor`.

Examples

Create, Open, and Delete Requirement Sets

To create a new requirement set:

1. In the **Requirements Editor**, click **New Requirement Set**.
2. Specify the name and file location of the requirement set. The editor saves the requirement set as a SLREQX file and the requirement set appears in the **Requirements Editor**.

You can open existing requirement sets by clicking **Open** and selecting a requirement set file. To delete a requirement set, click a requirement set and click the Close button. Removing a requirement set does not delete the SLREQX file.

Add Requirements to a Requirement Set

To add requirements to a requirement set:

1. In the left pane, select a requirement set.
2. In the **Requirements** section, click **Add Requirement**.

Each requirement you create creates an associated `slreq.Requirement` object. You can edit the properties of the requirement in the **Requirements Editor** or programmatically. To adjust the properties in the **Requirements Editor**, click the requirement. The properties appear in the right pane of the editor.

Link Requirements to Model Artifacts

To link requirements to artifacts in models:

1. In an open Simulink model, click a model artifact. For a list of supported model artifacts, see “Supported Model Objects for Requirements Linking”.
2. In the **Requirements Editor**, click the requirement you want to link.
3. In the **Links** section, click **Add Link > Link from Selection in Simulink**.

For more information, see “Create and Store Links”.

Link Requirements to MATLAB or Plain Text Code

To link requirements to lines of MATLAB code or to plain text code, such as C or H files:

1. Open the MATLAB code or plain text code in the MATLAB Editor.

   Note You cannot create links to MATLAB code in MLX files.
2. Select the lines of code that you want to link.

   Tip To link to MATLAB functions and enable change tracking for the entire body of the function, create the link to the line that contains the `function` keyword.
3. In the **Requirements Editor**, select the requirement you want to link.
4. In the **Links** section, click **Add Link > Link from Selection in MATLAB Editor**.

For more information, see “Create and Store Links”.

Set Requirement Properties, Custom Attributes, or Stereotype Properties

To set the value of built-in requirement properties, custom attributes, or stereotype properties:

1. Open a requirement set.
2. In the **View** section, click **Show Requirements**.
3. Select a requirement.
4. Set the value of a property or attribute in the right pane:

   - Built-in property — Under **Properties**, set the property to the specified value.
   - Custom attribute — Under **Custom Attributes**, set the custom attribute to the specified value.
   - Stereotype property — Under **Stereotype Attributes**, set the stereotype property to the specified value.

Set Link Properties, Custom Attributes, or Stereotype Properties

To set the value of built-in link properties, custom attributes, or stereotype properties:

1. Open a requirement set.
2. In the **View** section, click **Show Links**.
3. Select a link.
4. Set the value of a property or attribute in the right pane:

   - Built-in property — Under **Properties**, set the property to the specified value.
   - Custom attribute — Under **Custom Attributes**, set the custom attribute to the specified value.
   - Stereotype property — Under **Stereotype Attributes**, set the stereotype property to the specified value.

Search Displayed Requirements

By default, the **Requirements Editor** displays loaded requirements in alphabetical order. To reduce the number of requirements displayed, search displayed requirements.

1. Open a requirement set.
2. In the **View** section, click **Show Requirements**.
3. In the **Edit** section, click **Search**.

When you perform a search:

- A requirement set is not visible if none of the requirements in the set pass the filter. If a child requirement passes the filter, the parent requirement set is also visible.
- The filter is not case-sensitive. For example, typing A displays the requirements whose columns contain an uppercase or lowercase A.

- The filter applies to the columns in the editor. If you add columns, the filter automatically applies to them.

Search Displayed Links

By default, the **Requirements Editor** displays links to loaded requirement sets, in alphabetical order. To reduce the number of links displayed, search displayed links.

1. Open a requirement set.
2. In the **View** section, click **Show Links**.
3. In the **Edit** section, click **Search**.

Display Additional Columns

To display additional columns in the left pane:

1. Decide if you want to view requirement or link sets. To view requirement sets, in the **View** section, click **Show Requirements**. To view link sets, in the **View** section, click **Show Links**.
2. In the **View** section, click the **Columns** button ▦.

If you selected **Show Requirements**, you can select from these options:

- **Implementation Status**: Displays the implementation status summaries for your requirement sets. For more information, see “Review Requirements Implementation Status”.
- **Verification Status**: Displays the verification status summaries for your requirement sets. For more information, see “Review Requirements Verification Status”.
- **Select Attributes**: Select additional attributes to display. You can display the **Index**, **ID**, **Summary**,**Type**, **Keywords**, **SID**, **CreatedOn**, **CreatedBy**, **ModifiedOn**, **SyncronizedOn**, **ModifiedBy**, **Revision**, **Verified**, **Implemented**, **Description**, **Rationale**. The default attributes are **Index**, **ID**, and **Summary**.

If you selected **Show Links**, you can only click **Select Attributes**. You can then select the following attributes: **Label**, **Source**, **Type**,**Destination**, **Keywords**, **SID**, **CreatedOn**, **CreatedBy**, **ModifiedOn**, **ModifiedBy**, **Revision**, **Description**, and **Rationale**. The default attributes are **Label**, **Source**, **Type**, and **Destination**.

Once you display the attributes, you can filter them with the **Search** feature.

Import Requirements in Other Formats

To import requirements from a third-party requirements application:

1. In the **File** section, click **Import** to open the Import Requirements window.
2. In the **Document Type** property, select the file format. You can select Microsoft Word, Microsoft Excel, ReqIF File, and IBM DOORS Next.
3. In the **Document Location** property, select the location of the file.

4. Set the import options. Each format has different import options.

If you import the requirements, Requirements Toolbox creates an `slreq.Requirement` object for each requirement. If you import the requirements as referenced requirements, Requirements Toolbox creates an `slreq.Reference` object for each requirement. For more information, see “Import Requirements from Third-Party Applications”.

Create Report from Requirements Information

To create a report for one or more requirement sets:

1. In the **Share** section, click **Export** > **Generate Report**. The Report Generation Options window opens.
2. Set the file name and location of the report by clicking the **Select** button.
3. Select the report content options.
4. Select the requirement sets to include in the report. The **Included Requirement Sets** section displays the loaded requirement sets. To add a requirement set, open the requirement set using the **Requirements Editor**.
5. Click **Generate Report**.

For more information, see “Report Requirements Information”.

Open the Traceability Matrix Window

To access the Traceability Matrix window:

In the **Analyze** section, click **Traceability Matrix**. You can then create a traceability matrix in the window. For more information, see “Track Requirement Links with a Traceability Matrix”.

Create a Traceability Diagram

To create a traceability diagram:

1. Click a requirement set.
2. In the **Analyze** section, click **Traceability Diagram**.

For more information, see “Visualize Links with a Traceability Diagram”.

Open the model testing dashboard

If you have a license for Simulink Check™, you can also open the model testing dashboard. To open the model testing dashboard:

In the **Analyze** section, click **Model Testing Dashboard**. For more information, see “Assess Requirements-Based Testing Quality by Using the Model Testing Dashboard” (Simulink Check) and “Explore Status and Quality of Testing Activities Using Model Testing Dashboard” (Simulink Check).

Parameters

View

`Show Requirements` — Show requirements and requirement sets

on (default) | off

Show the loaded requirements and requirement sets. To enable this parameter, in the **View** section, click **Show Requirements**.You can enable this parameter or the **Show Links** parameter.

`Show Links` — Show requirements links

off (default) | on

Show the loaded links and link sets. To enable this parameter, in the **View** section, click **Show Links**. You can enable this parameter or the **Show Requirements** parameter.

`Columns` — Select displayed columns in requirement and link sets

Select Attributes

Select attributes and information to display when viewing loaded requirement and link sets. In the **View** section, click the **Columns** button. Once you display the attributes, you can filter them with the **Search** feature.

`Information` — Select displayed information for selected requirements

Change Information | **Comments** | **Code Traceability**

Select information you want to display in individual requirements. To access this parameter, in the **View** section, click the **Information** button. You can then select the following information types:

- **Change Information**: Indicates changes to requirements. For more information, see “Track Changes to Requirement Links”.
- **Comments**: Adds the comment section in the right pane of selected requirements.
- **Code Traceability**: Displays code traceability information of requirements. For more information, see “Requirements Traceability for MATLAB Code”.

The default information types displayed are **Change Information** and **Comments**.

Tips

- You can use the **Requirements Manager** to edit and link requirements without leaving the Simulink model. Open the **Requirements Manager** app in a Simulink model by navigating to the **Apps** tab and, under **Model Verification, Validation, and Test**, clicking **Requirements Manager**.

Version History

Introduced in R2017b

See Also

Functions

`slreq.ReqSet` | `slreq.Link` | `slreq.LinkSet` | `slreq.clear` | `slreq.import` | `slreq.load` | `slreq.new` | `slreq.open`

Topics

"Work with Requirements in the Requirements Editor"
"Access Frequently Used Features and Commands from the Requirements Editor"
"Assess Allocation and Impact"
"Define Custom Requirement and Link Types by Using sl_customization Files"

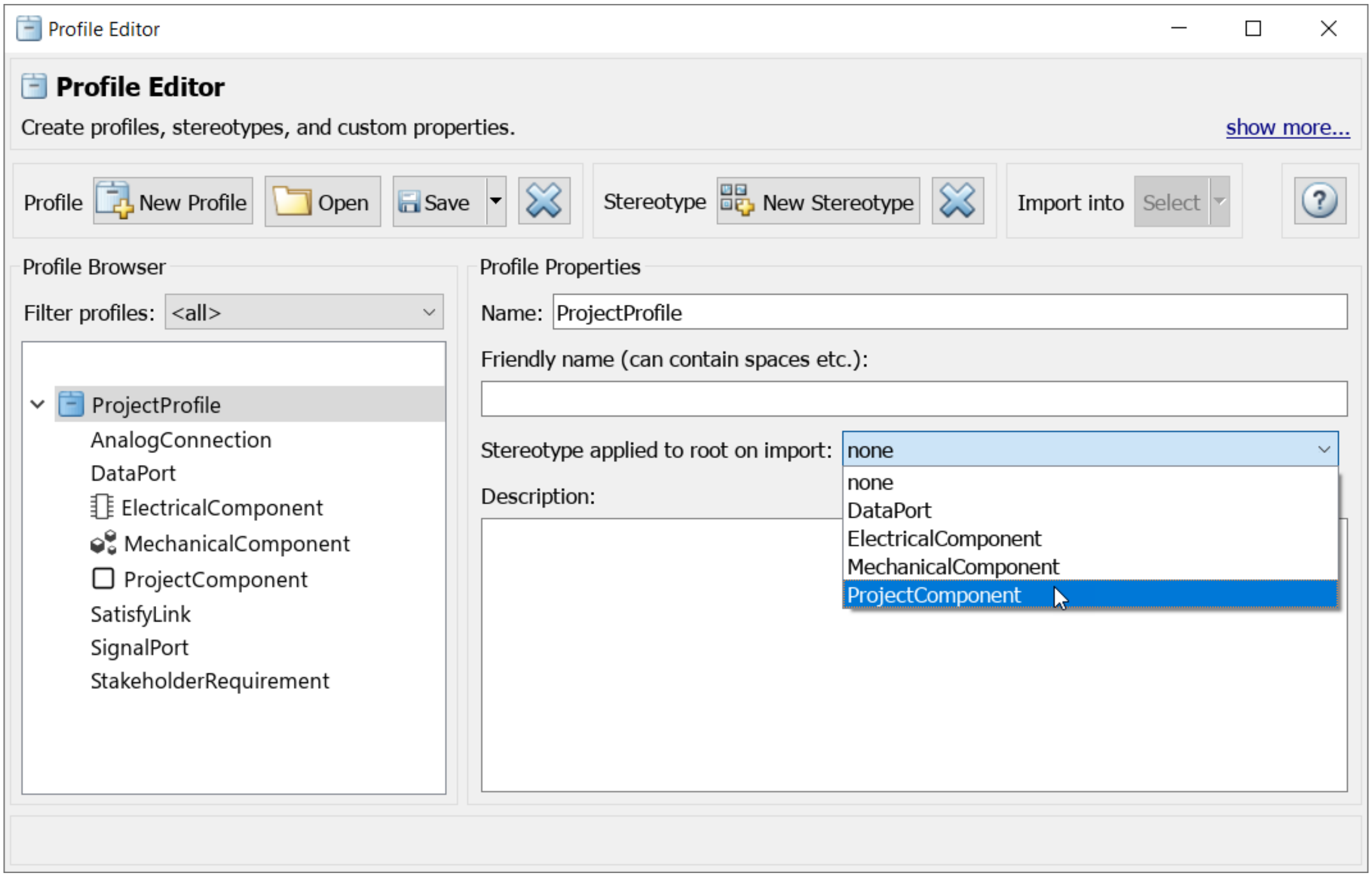
Profile Editor

Create and manage profiles with stereotypes and properties

Description

The **Profile Editor** allows you to define a profile that contains stereotypes with properties. In System Composer architecture models, stereotyping is necessary to define custom metadata on model elements typed by the stereotype. In Requirements Toolbox, you can use stereotypes to define custom requirement types and link types with custom properties.

- **System Composer**: Apply a profile to your model or interface data dictionary. Then, use stereotypes in the model to type model elements such as components, connectors, ports, interfaces, functions, requirement sets, and link sets. Functions only apply to software architectures. You can define custom property values on each element using the stereotyped template.
- **Requirements Toolbox**: Apply a profile to a requirement set or link set. Then use stereotypes by setting the requirement type or link type to the stereotype and setting the stereotype properties to your desired values.



Name: ProjectProfile

Friendly name (can contain spaces etc.):

Stereotype applied to root on import: none

Open the Profile Editor

System Composer

- System Composer toolstrip: In the **Modeling** tab, click **Profile Editor**.
- MATLAB Command Window: Enter `systemcomposer.profile.editor`.

Requirements Toolbox

- **Requirements Editor** toolstrip: Click **Profile Editor** .

Examples

- “Customize Requirements and Links by Using Stereotypes”
- “Define Stereotypes and Perform Analysis” (System Composer)
- “Define Profiles and Stereotypes” (System Composer)
- “Use Stereotypes and Profiles” (System Composer)
- “Apply Stereotypes to Functions of Software Architectures” (System Composer)

Parameters

`Filter profiles` — Filter to show imported profiles

`<all>` (default) | model file name | dictionary file name | `<refresh>`

Filter imported profiles:

- `<all>` to show all imported profiles from all loaded models and dictionaries.
- A model name, such as `model.slx`, to show all imported profiles from specified architecture model.
- An interface data dictionary, such as `dictionary.sldd`, to show all imported profiles from specified interface data dictionary.
- `<refresh>` to refresh profiles from all loaded models and dictionaries.

`Import into` — Import selected profile

model file name | dictionary file name

Specify the name of a model or interface data dictionary to which to import the selected profile.

`Stereotype applied to root on import` — Root stereotype

<none> (default) | stereotype

Stereotype to apply to the root architecture after importing profile into a model. Choose from a list of available stereotypes. The root architecture is at the system boundary of the top-level model that separates the contents of the model from the environment.

`Applies to` — Element type to which stereotype can be applied

`<all>` (default) | `Component` | `Port` | `Connector` | `Interface` | `Function` | `Requirement` | `Link`

Element type to which the stereotype can be applied.

`Base stereotype` — Stereotype from which stereotype inherits properties

`<none>` (default) | stereotype

Stereotype from which the stereotype inherits properties. Choose from a list of available stereotypes.

`Abstract stereotype` — Whether stereotype is abstract

off (default) | on

Select this check box to indicate an abstract stereotype. An abstract stereotype is a stereotype that is not intended to be applied directly to a model element. You can use abstract stereotypes only as the base stereotype for other stereotypes.

`Show inherited properties` — Whether to show properties inherited from base stereotype

off (default) | on

Select this check box to indicate whether to display read-only properties inherited from a base stereotype.

More About

Interface Data Dictionary

An interface data dictionary is a consolidated list of all the interfaces and value types in an architecture and where they are used.

Local interfaces on a System Composer model can be saved in an interface data dictionary using the **Interface Editor**. You can reuse interface dictionaries between models that need to use a given set of interfaces, elements, and value types. Linked data dictionaries are stored in separate SLDD files.

System Composer interface data dictionaries require a System Composer license.

Profile

A profile is a package of stereotypes that you can use to create a self-consistent domain of element types.

Author profiles and apply profiles to a model using the **Profile Editor**. You can store stereotypes for a project in one or several profiles. When you save profiles, they are stored in XML files.

Stereotype

A stereotype is a custom extension of the modeling language. Stereotypes provide a mechanism to extend the architecture language elements by adding domain-specific metadata.

Apply stereotypes to model elements such as root-level architecture, component architecture, connectors, ports, data interfaces, value types, functions, requirements, and links. Functions only apply to software architectures. You must have a Requirements Toolbox license to apply stereotypes to requirements and links. A model element can have multiple stereotypes. Stereotypes provide model elements with a common set of property fields, such as mass, cost, and power.

Property

A property is a field in a stereotype. You can specify property values for each element to which the stereotype is applied.

Use properties to store quantitative characteristics, such as weight or speed, that are associated with a model element. Properties can also be descriptive or represent a status. You can view and edit the properties of each element in the architecture model using the **Property Inspector**.

Component

A component is a nontrivial, nearly independent, and replaceable part of a system that fulfills a clear function in the context of an architecture. A component defines an architectural element, such as a function, a system, hardware, software, or other conceptual entity. A component can also be a subsystem or subfunction.

Represented as a block, a component is a part of an architecture model that can be separated into reusable artifacts. Transfer information between components with:

- Port interfaces using the **Interface Editor**
- Parameters using the **Parameter Editor**

System Composer components require a System Composer license.

Port

A port is a node on a component or architecture that represents a point of interaction with its environment. A port permits the flow of information to and from other components or systems.

There are different types of ports:

- *Component ports* are interaction points on the component to other components.
- *Architecture ports* are ports on the boundary of the system, whether the boundary is within a component or the overall architecture model.

System Composer ports require a System Composer license.

Connector

Connectors are lines that provide connections between ports. Connectors describe how information flows between components or architectures.

A connector allows two components to interact without defining the nature of the interaction. Set an interface on a port to define how the components interact.

System Composer connectors require a System Composer license.

Data Interface

A data interface defines the kind of information that flows through a port. The same interface can be assigned to multiple ports. A data interface can be composite, meaning that it can include data elements that describe the properties of an interface signal.

Data interfaces represent the information that is shared through a connector and enters or exits a component through a port. Use the **Interface Editor** to create and manage data interfaces and data elements and store them in an interface data dictionary for reuse between models.

System Composer data interfaces require a System Composer license.

Physical Interface

A physical interface defines the kind of information that flows through a physical port. The same interface can be assigned to multiple ports. A physical interface is a composite interface equivalent to a `Simulink.ConnectionBus` object that specifies any number of `Simulink.ConnectionElement` objects.

Use a physical interface to bundle physical elements to describe a physical model using at least one physical domain.

System Composer physical interfaces require a System Composer license.

Service Interface

A service interface defines the functional interface between client and server components. Each service interface consists of one or more function elements.

Once you have defined a service interface in the **Interface Editor**, you can assign it to client and server ports using the **Property Inspector**. You can also use the **Property Inspector** to assign stereotypes to service interfaces.

System Composer service interfaces require a System Composer license.

Requirements

Requirements are a collection of statements describing the desired behavior and characteristics of a system. Requirements ensure system design integrity and are achievable, verifiable, unambiguous, and consistent with each other. Each level of design should have appropriate requirements.

Requirement Link

A link is an object that relates two model-based design elements. A requirement link is a link where the destination is a requirement. You can link requirements to components or ports.

Requirement Set

A requirement set is a collection of requirements. You can structure the requirements hierarchically and link them to components or ports.

Version History

Introduced in R2019a

See Also

Apps
Requirements Editor

Tools
Profile Editor

Functions
`systemcomposer.profile.editor`

Topics

"Customize Requirements and Links by Using Stereotypes"
"Define Stereotypes and Perform Analysis" (System Composer)
"Define Profiles and Stereotypes" (System Composer)
"Use Stereotypes and Profiles" (System Composer)
"Apply Stereotypes to Functions of Software Architectures" (System Composer)

6

Operators

contains

Determine if string contains substring

Syntax

```
tf = contains(str,substr)
tf = contains(str,substr,IgnoreCase=true)
```

Description

`tf = contains(str,substr)` returns `1` (`true`) if the string `str` contains the substring `substr`, and returns `0` (`false`) otherwise. Use this operator in the Requirements Table block.

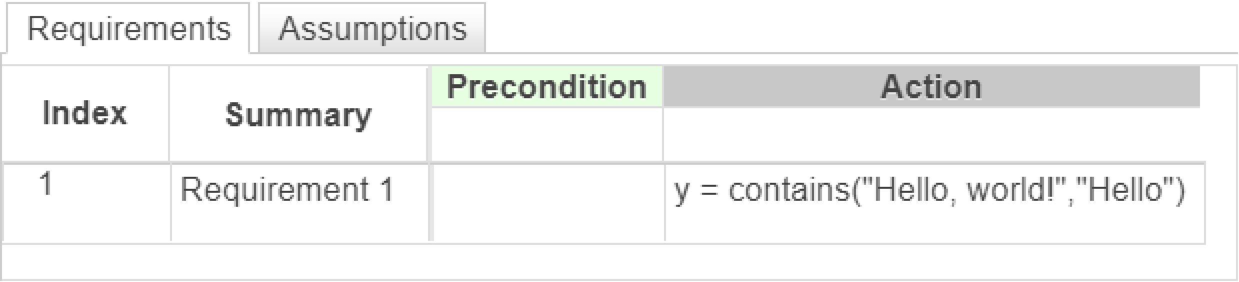
`tf = contains(str,substr,IgnoreCase=true)` checks if `str` contains `substr`, ignoring any differences in letter case.

Examples

Determine if String Contains Substring

In a Requirements Table block, create a requirement that outputs whether the string `"Hello, world!"` contains the substring `"Hello"`.

```
y = contains("Hello, world!","Hello")
```

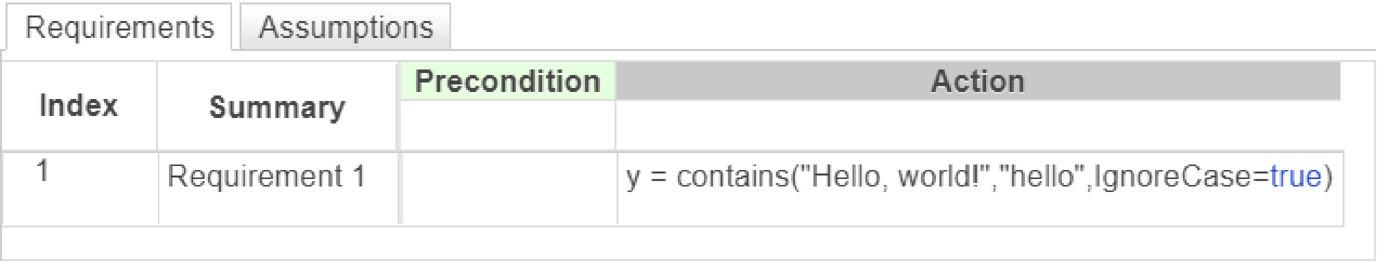


Index	Summary	Precondition	Action
1	Requirement 1		y = contains("Hello, world!","Hello")

Determine if String Contains Substring While Ignoring Case

In a Requirements Table block, create a requirement that outputs whether the string `"Hello, world!"` contains the substring `"Hello"`, regardless of case.

```
y = contains("Hello, world!","hello",IgnoreCase=true)
```



Index	Summary	Precondition	Action
1	Requirement 1		y = contains("Hello, world!","hello",IgnoreCase=true)

Input Arguments

`str` — Input string

string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`substr` — Substring

string scalar

Substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`startsWith` | `endsWith` | `strfind`

duration

Time during which condition is valid

Syntax

```
time = duration(condition)
```

Description

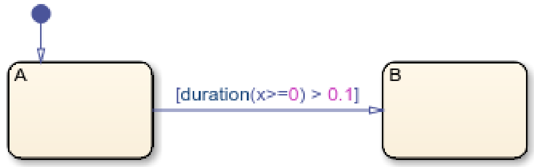
`time = duration(condition)` returns the length of time, in seconds, that `condition` stays `true`. Use this operator in the Requirements Table block.

Examples

Guard Transition with Temporal Condition

Transition out of the state when the variable `x` has been greater than or equal to 0 for longer than 0.1 seconds.

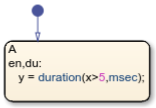
```
[duration(x>=0) > 0.1]
```



Determine Elapsed Time

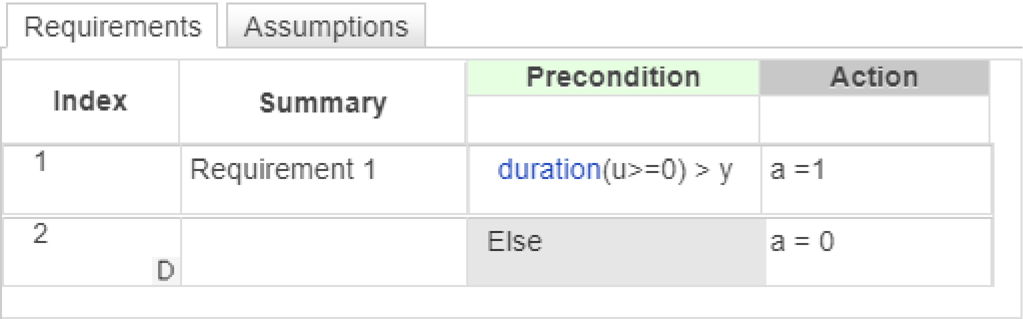
Store the number of milliseconds since the variable `x` became greater than 5 and the state became active.

```
en,du:
   y = duration(x>5,msec);
```



Compare Duration Length to Input Data

Set `a` equal to `1` when the time that the input data `u` is greater than or equal to `0` exceeds the value of `y`. Otherwise, the block sets `a` equal to `0`.



Index	Summary	Precondition	Action
1	Requirement 1	duration(u>=0) > y	a =1
2 D		Else	a = 0

Input Arguments

`condition` — Logical condition

`true` | `false`

Logical condition, specified as `true` or `false`. You can specify the value of `condition` by using an expression that evaluates to `true` or `false`. The operator evaluates `condition` at each time step.

`condition` does not support expressions that depend on local or output data.

Example: `duration(u)`

Example: `duration(u>=0)`

Data Types: `logical`

`time_unit` — Units of time

`sec` (default) | `msec` | `usec`

Units of time that `duration` returns, specified in seconds (`sec`), milliseconds (`msec`), or microseconds (`usec`).

Data Types: `enumerated`

Output Arguments

`time` — Length of time

scalar double

Length of time, in seconds, that `condition` stays `true`, returned as a scalar double.

Tips

- The Requirements Table block resets the output of the `duration` operator if `condition` becomes `false` or if the block becomes inactive.

See Also

Requirements Table | `isStartup` | `getPrevious` | `t`

Topics

"Use a Requirements Table Block to Create Formal Requirements"
"Control Requirement Execution by Using Temporal Logic"

endsWith

Determine if string ends with substring

Syntax

```
tf = endsWith(str,substr)
tf = endsWith(str,substr,IgnoreCase=true)
```

Description

`tf = endsWith(str,substr)` returns `1` (`true`) if the string `str` ends with the substring `substr`, and returns `0` (`false`) otherwise. Use this operator in the Requirements Table block.

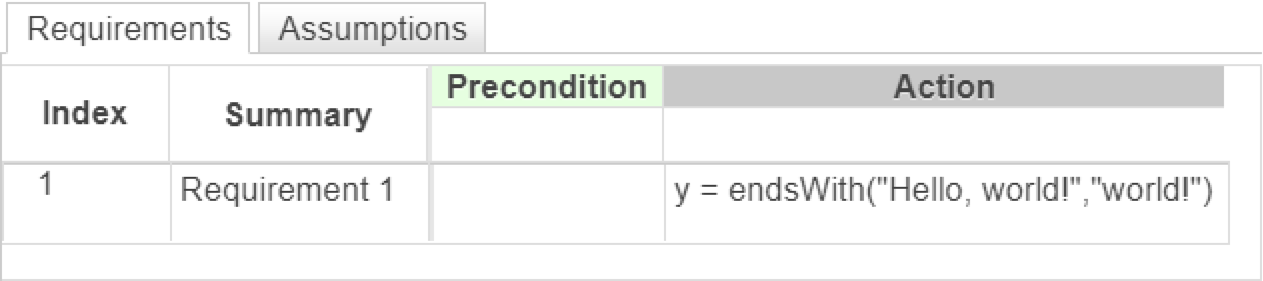
`tf = endsWith(str,substr,IgnoreCase=true)` checks if `str` ends with `substr`, ignoring any differences in letter case.

Examples

Determine if String Ends with Substring

In a Requirements Table block, create a requirement that checks if the string `"Hello, world!"` ends with the substring `"world!"`.

```
y = endsWith("Hello, world!","world!")
```

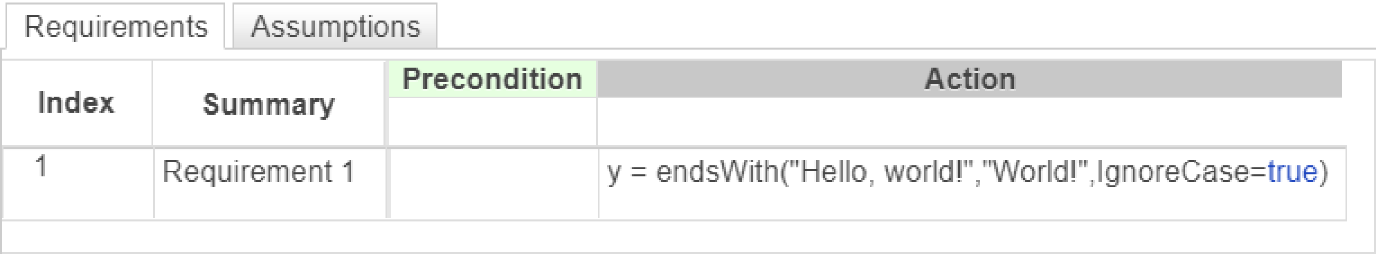


Index	Summary	Precondition	Action
1	Requirement 1		y = endsWith("Hello, world!","world!")

Determine if String Ends with Substring While Ignoring Case

In a Requirements Table block, create a requirement that checks if the string `"Hello, world!"` ends with the substring `"World!"`, regardless of case.

```
y = endsWith("Hello, world!","world!",IgnoreCase=true)
```



Index	Summary	Precondition	Action
1	Requirement 1		y = endsWith("Hello, world!","World!",IgnoreCase=true)

Input Arguments

`str` — Input string

string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`substr` — Substring

string scalar

Substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`contains` | `startsWith` | `strfind`

erase

Delete substrings within strings

Syntax

```
newStr = erase(str,substr)
```

Description

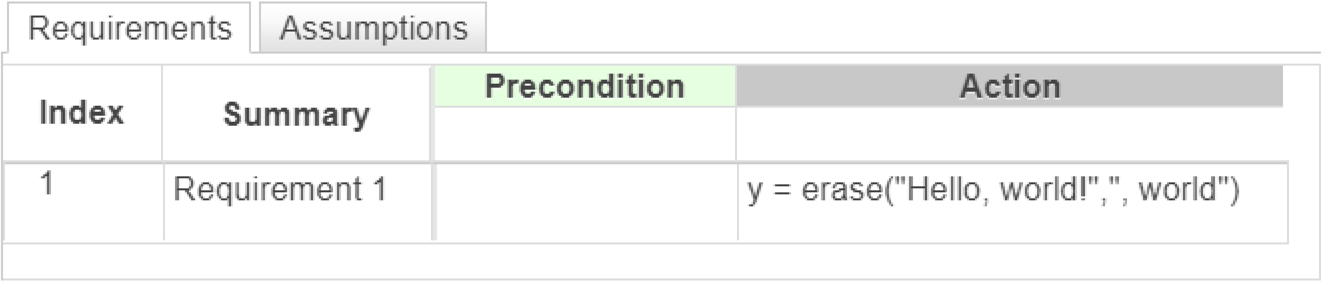
`newStr = erase(str,substr)` deletes instances of the substring `substr` that occur in the string `str`. Use this operator in the Requirements Table block.

Examples

Replace a Substring

In a Requirements Table block, create a requirement that erases the substring `", world"` from the string `"Hello, world!"`.

```
y = erase("Hello, world!",", world")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = erase("Hello, world!",", world")

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`substr` — Substring
string scalar

Substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

`newStr` — Output string

string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`eraseBetween`

eraseBetween

Delete substring between start and end points

Syntax

```
newStr = eraseBetween(str,startStr,endStr)
newStr = eraseBetween(str,startPos,endPos)
newStr = eraseBetween( ___ ,Boundaries=bounds)
```

Description

`newStr = eraseBetween(str,startStr,endStr)` deletes the substring in `str` between the substrings `startStr` and `endStr`. `eraseBetween` does not delete `startStr` and `endStr` themselves.

`newStr = eraseBetween(str,startPos,endPos)` deletes the substring in `str` between the character positions `startPos` and `endPos`, including the characters at those positions.

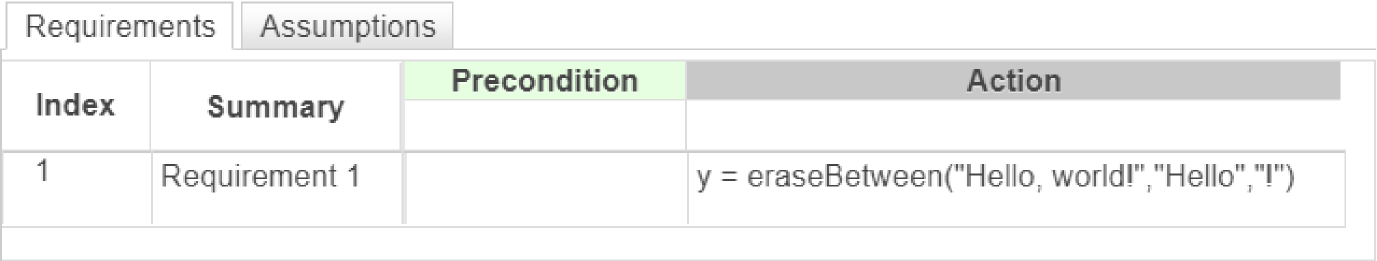
`newStr = eraseBetween( ___ ,Boundaries=bounds)` includes or excludes the boundaries specified in the previous syntaxes from the substring that the operator deletes. Specify `bounds` as `"inclusive"` or `"exclusive"`.

Examples

Erase Text Between Two Substrings

In a Requirements Table block, create a requirement that erases the characters between `"H"` and `"!"` in the string `"Hello, world!"`. The output is `"Hello!"`.

```
y = eraseBetween("Hello, world!","Hello","!")
```

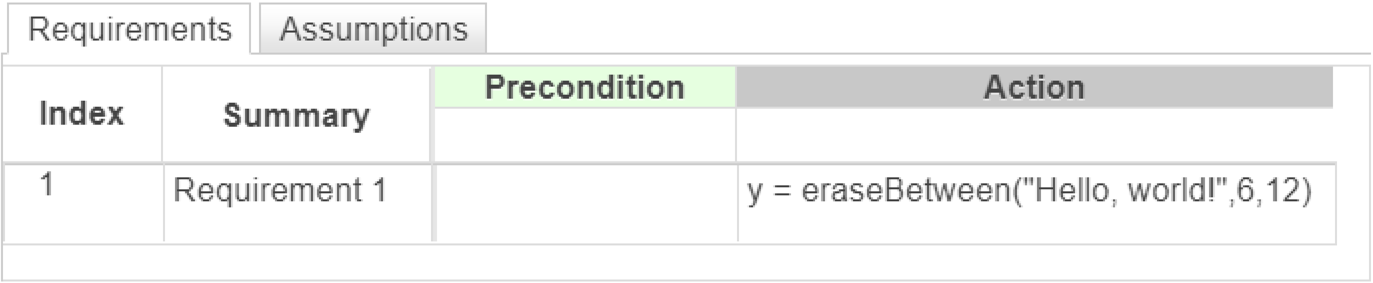


Index	Summary	Precondition	Action
1	Requirement 1		y = eraseBetween("Hello, world!","Hello","!")

Erase Text Between Start and End Positions

In a Requirements Table block, create a requirement that erases the characters between the sixth and twelfth characters of the string `"Hello, world!"`. The output is `"Hello!"`.

```
y = eraseBetween("Hello, world!",6,12)
```

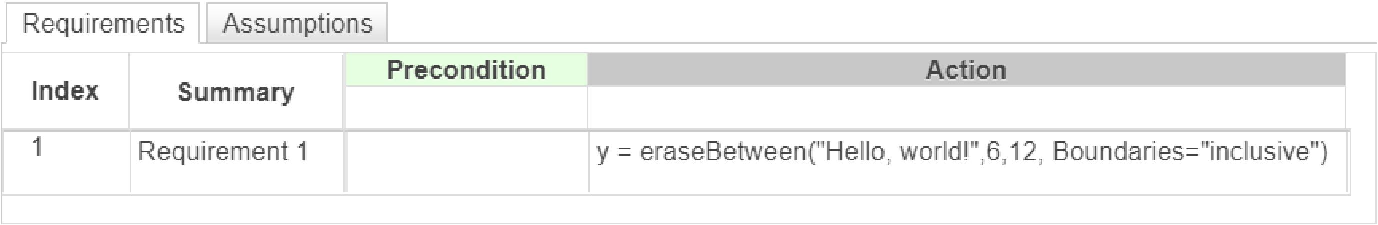


Index	Summary	Precondition	Action
1	Requirement 1		y = eraseBetween("Hello, world!",6,12)

Erase Text with Inclusive Bounds

In a Requirements Table block, create a requirement that erases the characters between the sixth and twelfth characters of the string `"Hello, world!"`, including the bounds. The output is `"Hello!"`.

```
y = eraseBetween("Hello, world!",6,12,Boundaries="inclusive")
```

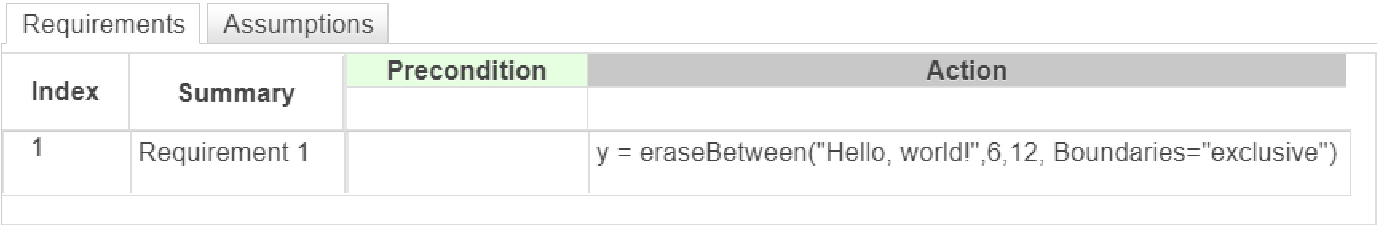


Index	Summary	Precondition	Action
1	Requirement 1		y = eraseBetween("Hello, world!",6,12, Boundaries="inclusive")

Erase Text with Exclusive Bounds

In a Requirements Table block, create a requirement that erases the characters between the sixth and twelfth characters of the string `"Hello, world!"`, excluding the bounds. The output is `"Hello,d!"`.

```
y = eraseBetween("Hello, world!",6,12,Boundaries="exclusive")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = eraseBetween("Hello, world!",6,12, Boundaries="exclusive")

Input Arguments

`str` — Input string

string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`startStr` — Starting substring
string scalar

Staring substring, specified as a string scalar. Enclose literal strings with double quotes.

Data Types: `string`

`endStr` — Ending substring
string scalar

Ending substring, specified as a string scalar. Enclose literal strings with double quotes.

Data Types: `string`

`startPos` — Starting character position
positive integer

Starting character position, specified as a positive integer.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

`endPos` — Ending character position
positive integer

Ending character position, specified as a positive integer.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

`bounds` — Boundary type
`"inclusive"` | `"exclusive"`

Boundary type, specified as either `"inclusive"` or `"exclusive"`. When you set `bounds` to `"inclusive"`, `replaceBetween` erases the text between and including the boundaries. When you set `bounds` to `"inclusive"`, `replaceBetween` erases the text only between the boundaries.

Data Types: `enumerated`

Output Arguments

`newStr` — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`erase` | `replaceBetween`

extractAfter

Extract substring after position

Syntax

```
newStr = extractAfter(str,subStr)
newStr = extractAfter(str,pos)
```

Description

`newStr = extractAfter(str,subStr)` returns the substring of `str` that begins after the last occurrence of the substring `subStr`.

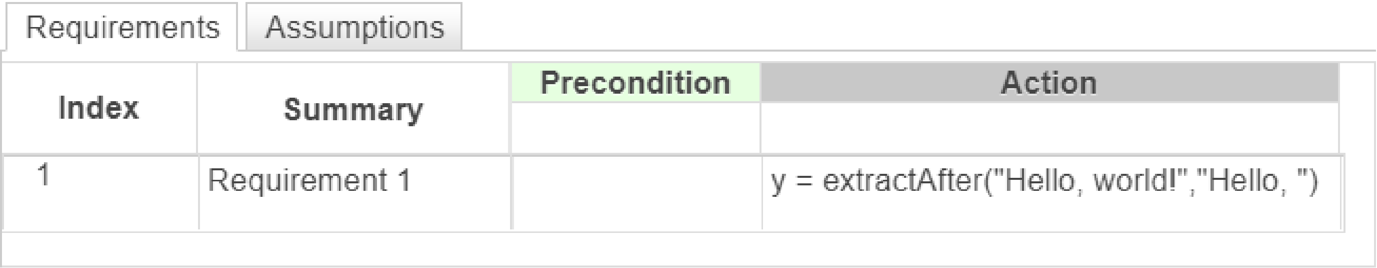
`newStr = extractAfter(str,pos)` returns the substring of `str` that begins after the character position `pos`.

Examples

Extract Text After Substring

In a Requirements Table block, create a requirement that returns the characters in the string `"Hello, world!"` after the substring `"Hello, "`. The output is `"world!"`.

```
y = extractAfter("Hello, world!","Hello, ")
```

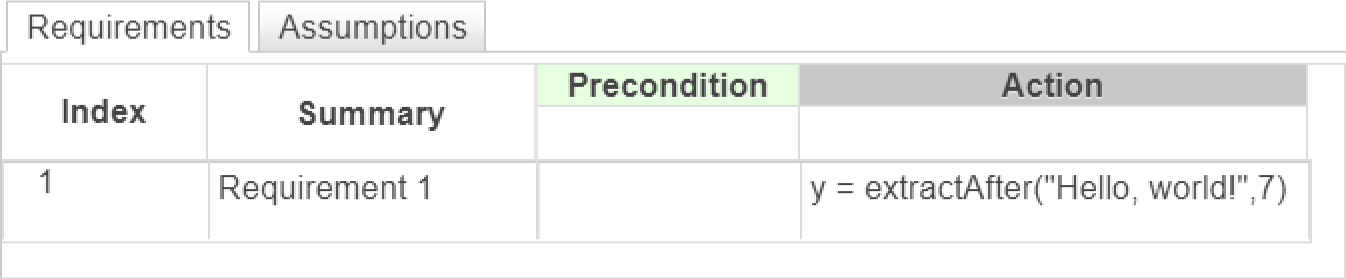


Index	Summary	Precondition	Action
1	Requirement 1		y = extractAfter("Hello, world!","Hello, ")

Extract Text After a Position

In a Requirements Table block, create a requirement that returns the substring after the seventh character of the string `"Hello, world!"`. The output is `"world!"`.

```
y = extractAfter("Hello, world!",7)
```



Index	Summary	Precondition	Action
1	Requirement 1		y = extractAfter("Hello, world!",7)

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`substr` — Substring
string scalar

Substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`pos` — Character position
positive integer

Character position, specified as a positive integer.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

Output Arguments

`newStr` — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`extractBefore` | `insertAfter`

extractBefore

Extract substring before position

Syntax

```
newStr = extractBefore(str,subStr)
newStr = extractBefore(str,pos)
```

Description

`newStr = extractBefore(str,subStr)` returns the substring of `str` that ends before the first occurrence of the substring `subStr`.

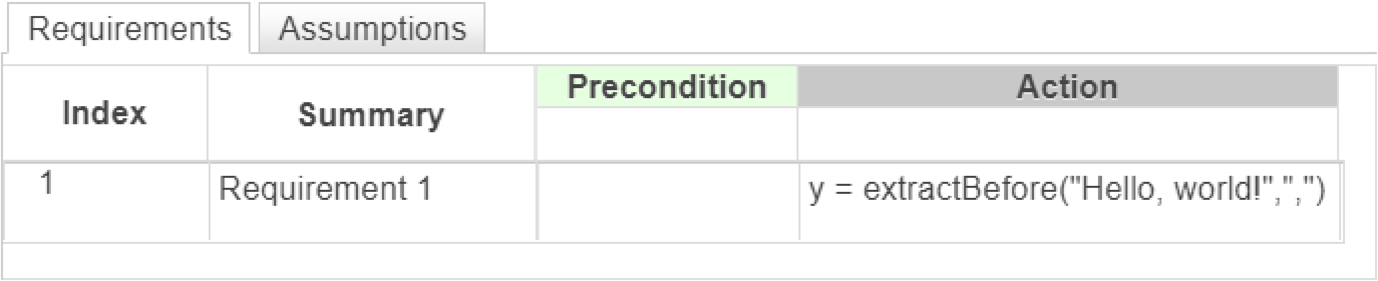
`newStr = extractBefore(str,pos)` returns the substring of `str` that ends before the character position `pos`.

Examples

Extract Text Before Substring

In a Requirements Table block, create a requirement that extracts the characters in the string `"Hello, world!"` before the substring `","`. The output is `"Hello"`.

```
y = extractBefore("Hello, world!",",")
```

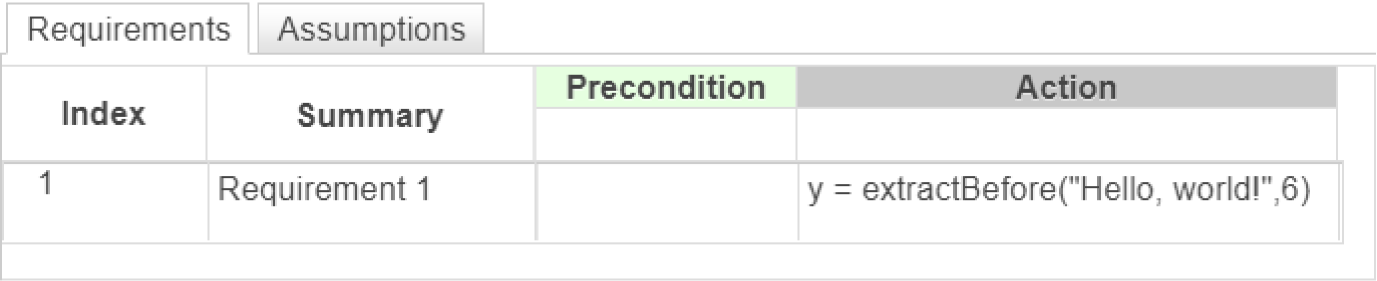


Index	Summary	Precondition	Action
1	Requirement 1		y = extractBefore("Hello, world!",",")

Extract Text Before a Position

In a Requirements Table block, create a requirement that extracts the characters in the string `"Hello, world!"` before the sixth character. The output is `"Hello"`.

```
y = extractBefore("Hello, world!",6)
```



Index	Summary	Precondition	Action
1	Requirement 1		y = extractBefore("Hello, world!",6)

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`substr` — Substring
string scalar

Substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`pos` — Character position
positive integer

Character position, specified as a positive integer.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

Output Arguments

`newStr` — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`extractAfter` | `insertBefore`

getPrevious, prev

Previous value of data

Syntax

```
z = getPrevious(u)
z = prev(u)
```

Description

`z = getPrevious(u)` returns the value of the data at the previous time step. This operator works only in the Requirements Table block.

`z = prev(u)` is an alternative way to execute `getPrevious(u)`.

Input Arguments

u — Data
block data

Data, specified as data defined in the Requirements Table block. See “Define Data in Requirements Table Blocks”. `u` must be specified as input or output data.

Output Arguments

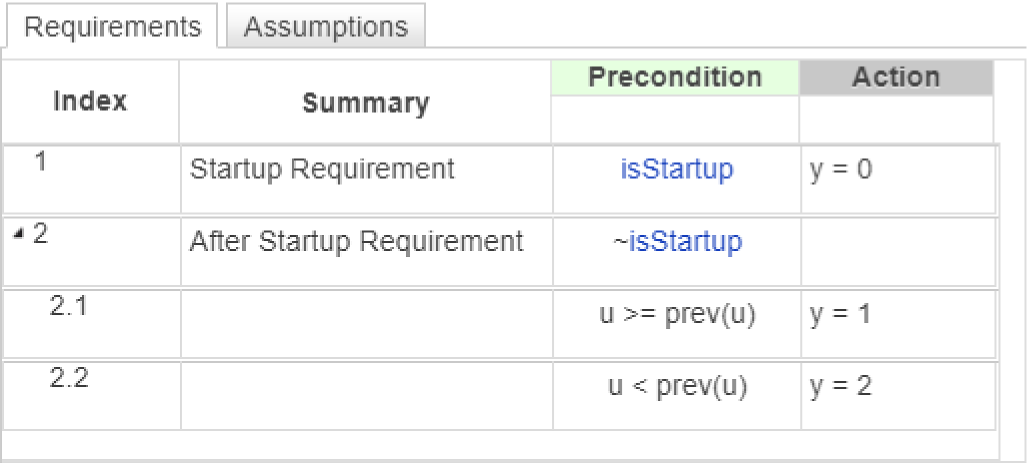
z — Value at previous time step
any data type, depending on the input

Value at the previous time step, returned as a value with the same data type of `u`.

Examples

Check Previous Data Values

At the start time, set `y` equal to `0`. After the start time, recall the value of the input data `u` in the precondition at the previous time step. One requirement checks if the previous value of `u` is greater than or equal to the current value, and another checks if the previous value is less than the current value. The block assigns different values for the output data `y`.



Index	Summary	Precondition	Action
1	Startup Requirement	isStartup	y = 0
▴ 2	After Startup Requirement	~isStartup	
2.1		u >= prev(u)	y = 1
2.2		u < prev(u)	y = 2

Tips

- If `getPrevious` attempts to return the value of the data at a time step when it was not defined, it returns an undefined value. For example, data is not defined before the simulation time is `0`. For this situation, use the `isStartup` operator to define additional requirements at a simulation time of `0` and `~isStartup` at the other time steps.
- You can use this operator only in the **Requirements** tab.

Version History

Introduced in R2022a

See Also

Requirements Table | `duration` | `isStartup` | `t`

Topics

“Use a Requirements Table Block to Create Formal Requirements”
“Control Requirement Execution by Using Temporal Logic”

hasChanged

Detect change in data since last time step

Syntax

```
tf = hasChanged(data)
```

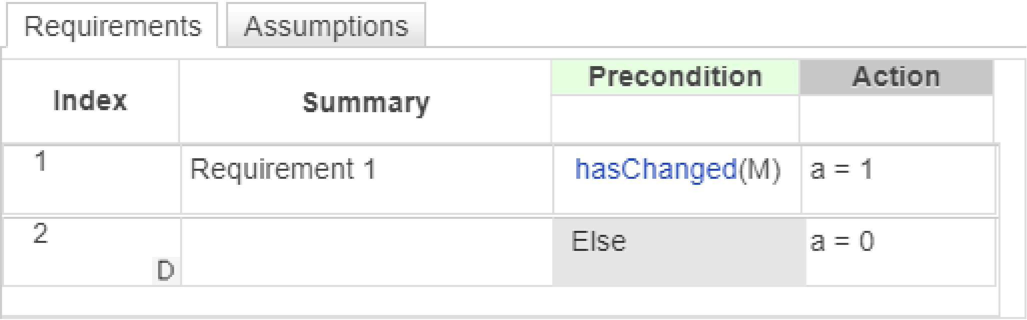
Description

`tf = hasChanged(data)` returns `1` (`true`) if the value of `data` at the beginning of the current time step is different from the value of `data` at the beginning of the previous time step. Otherwise, the operator returns `0` (`false`). Use this operator in the Requirements Table block.

Examples

Detect Change in Input Data

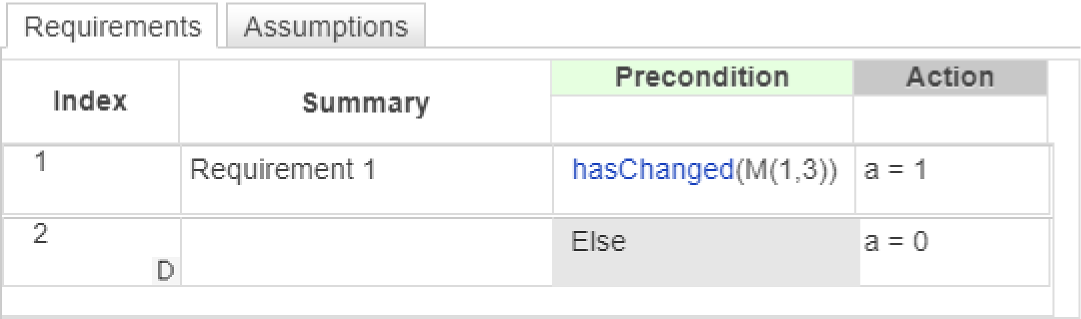
Set the output data `a` to `1` if the input data `M` has changed since the last time step. Otherwise, set `a` to `0`.



Index	Summary	Precondition	Action
1	Requirement 1	hasChanged(M)	a = 1
2 D		Else	a = 0

Detect Change in Matrix Element

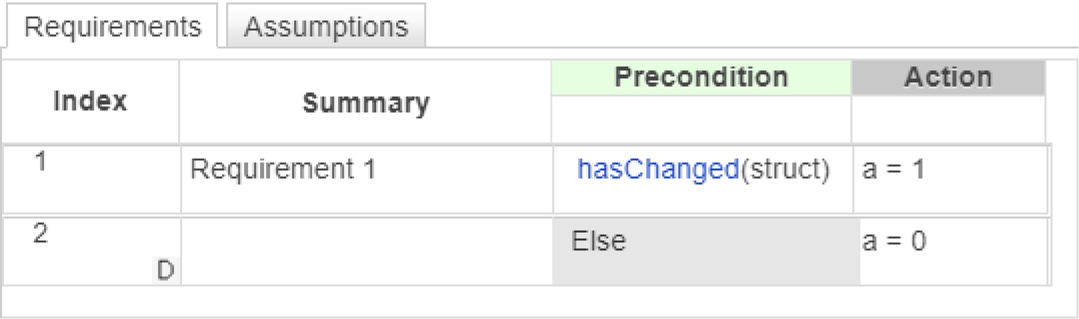
Set the output data `a` to `1` if the element in row 1 and column 3 of input data `M` has changed since the last time step. Otherwise, set `a` to `0`.



Index	Summary	Precondition	Action
1	Requirement 1	hasChanged(M(1,3))	a = 1
2 D		Else	a = 0

Detect Change in Structure

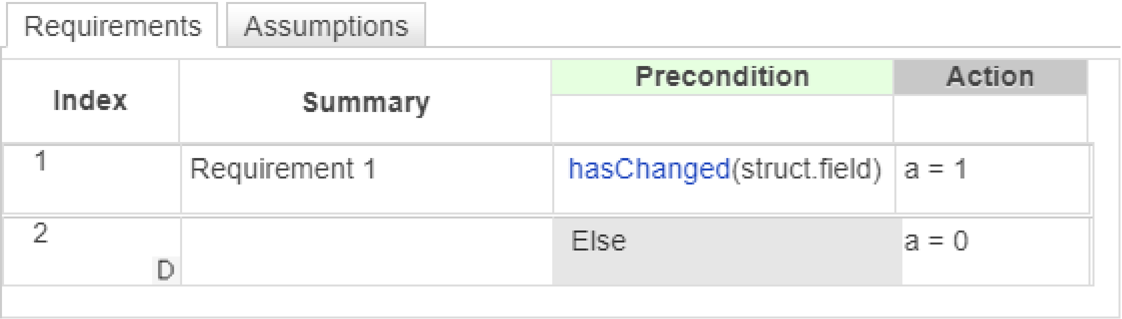
Set the output data a to 1 if one of the fields of the structure `struct` has changed value since the last time step. Otherwise, set a to `0`.



Index	Summary	Precondition	Action
1	Requirement 1	hasChanged(struct)	a = 1
2 D		Else	a = 0

Detect Change in Structure Field

Set the output data a to 1 if the field `struct.field` has changed value since the last time step. Otherwise, set a to `0`.



Index	Summary	Precondition	Action
1	Requirement 1	hasChanged(struct.field)	a = 1
2 D		Else	a = 0

Input Arguments

`data` — Data
scalar | matrix | structure | ...

Data defined in the Requirements Table block, specified as a:

- Scalar
- Matrix or an element of a matrix
- Structure or a field in a structure
- Valid combination of structure fields or matrix elements

See “Define Data in Requirements Table Blocks”.

If data is a matrix, the operator returns true when it detects a change in one of the elements of data. You can also index elements of a matrix by using numbers or expressions that evaluate to an integer.

If data is a structure, the operator returns true when it detects a change in one of the fields of data. You can also index fields in a structure by using dot notation.

The argument data cannot be a nontrivial expression or a custom code variable.

Data Types: single | double | int8 | int16 | int32 | int64 | uint8 | uint16 | uint32 | uint64 | logical | string | fi | enumerated | bus

Tips

- If the Requirements Table block writes to the specified data but does not change the value, the hasChanged operator returns false.

Version History

Introduced in R2022a

See Also

Requirements Table | hasChangedFrom | hasChangedTo

Topics

“Use a Requirements Table Block to Create Formal Requirements”
“Detect Data Changes by Using Requirements Table Blocks”

hasChangedFrom

Detect change in data from specified value

Syntax

```
tf = hasChangedFrom(data,value)
```

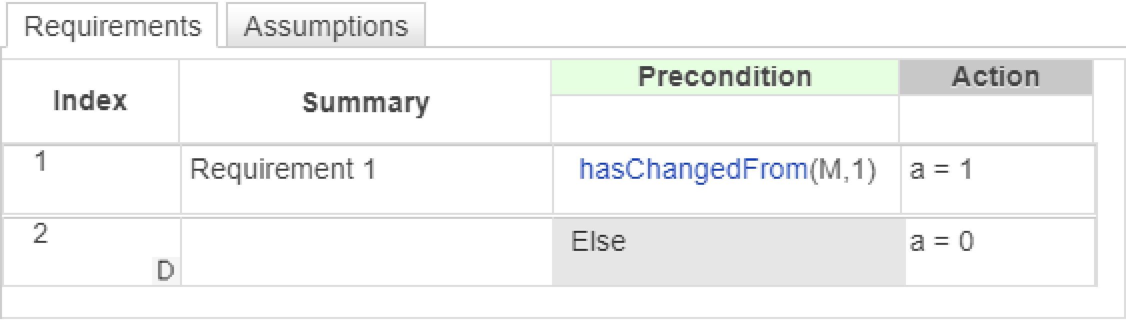
Description

`tf = hasChangedFrom(data,value)` returns `1` (`true`) if the value of `data` is equal to `value` at the beginning of the previous time step and is a different value at the beginning of the current time step. Otherwise, the operator returns `0` (`false`). Use this operator in the Requirements Table block.

Examples

Detect Change in Input Data

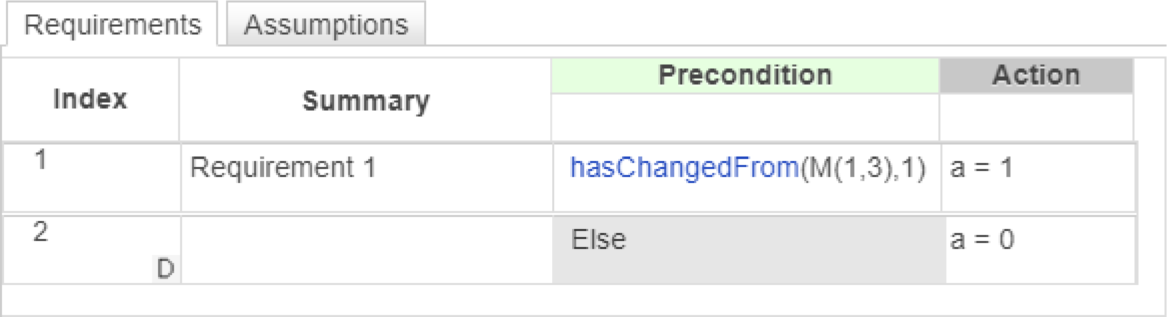
Set the output data `a` to `1` if the input data `M` has changed from `1` since the last time step. Otherwise, set `a` to `0`.



Index	Summary	Precondition	Action
1	Requirement 1	hasChangedFrom(M,1)	a = 1
2 D		Else	a = 0

Detect Change in Matrix Element

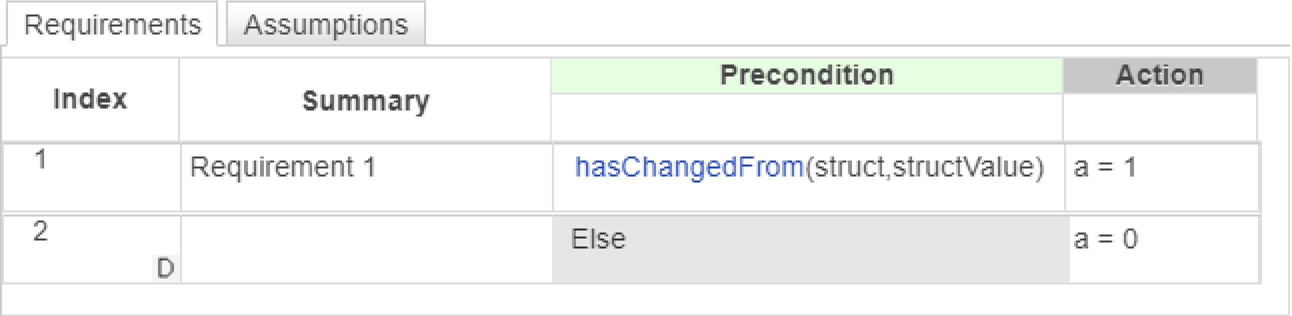
Set the output data `a` to `1` if the element in row 1 and column 3 of input data `M` has changed from `1` since the last time step. Otherwise, set `a` to `0`.



Index	Summary	Precondition	Action
1	Requirement 1	hasChangedFrom(M(1,3),1)	a = 1
2 D		Else	a = 0

Detect Change in Structure

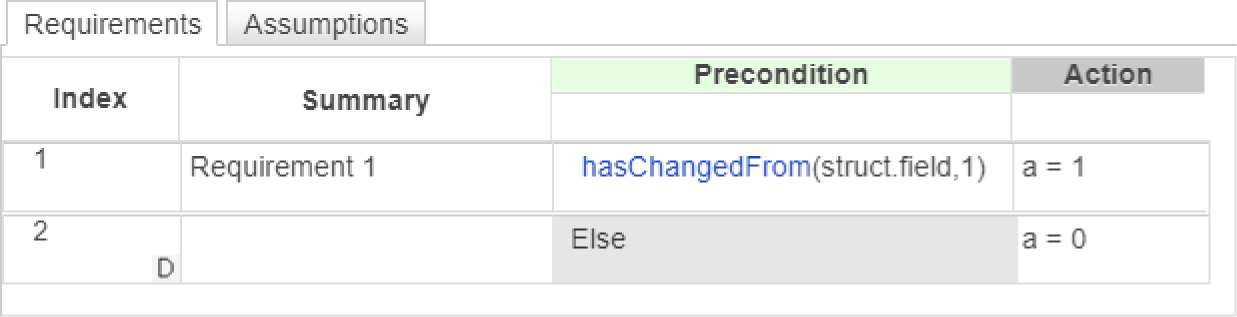
Set the output data a to 1 if one of the fields of the structure `struct` has changed from the value of `structValue` since the last time step. Otherwise, set a to 0.



Index	Summary	Precondition	Action
1	Requirement 1	hasChangedFrom(struct,structValue)	a = 1
2 D		Else	a = 0

Detect Change in Structure Field

Set the output data a to 1 if the field `struct.field` has changed from the value of 1 since the last time step. Otherwise, set a to 0.



Index	Summary	Precondition	Action
1	Requirement 1	hasChangedFrom(struct.field,1)	a = 1
2 D		Else	a = 0

Input Arguments

`data` — Data

scalar | matrix | structure | ...

Data defined in the Requirements Table block, specified as a:

- Scalar
- Matrix or an element of a matrix
- Structure or a field in a structure
- Valid combination of structure fields or matrix elements

See “Define Data in Requirements Table Blocks”.

If `data` is a matrix, the operator returns `true` when it detects a change in one of the elements of `data`. You can also index elements of a matrix by using numbers or expressions that evaluate to a integer.

If `data` is a structure, the operator returns `true` when it detects a change in one of the fields of `data`. You can also index fields in a structure by using dot notation.

The argument `data` cannot be a nontrivial expression or a custom code variable.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64` | `logical` | `string` | `fi` | `enumerated` | `bus`

`value` — Value of data at previous time step
scalar | matrix | structure

Value of the data at previous time step, specified as the same data type of `data`. `value` must be an expression that resolves to a value that is comparable with `data`:

- If `data` is a scalar, then `value` must resolve to a scalar.
- If `data` is a matrix, then `value` must resolve to a matrix with the same dimensions as `data`.
- If `data` is a structure, then `value` must resolve to a structure whose field specification matches `data` exactly.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64` | `logical` | `string` | `fi` | `enumerated` | `bus`

Tips

- If the Requirements Table block writes to the specified data but does not change the value, the `hasChangedFrom` operator returns `false`.

Version History

Introduced in R2022a

See Also

Requirements Table | `hasChanged` | `hasChangedTo`

Topics

“Use a Requirements Table Block to Create Formal Requirements”
“Detect Data Changes by Using Requirements Table Blocks”

hasChangedTo

Detect change in data to specified value

Syntax

```
tf = hasChangedTo(data,value)
```

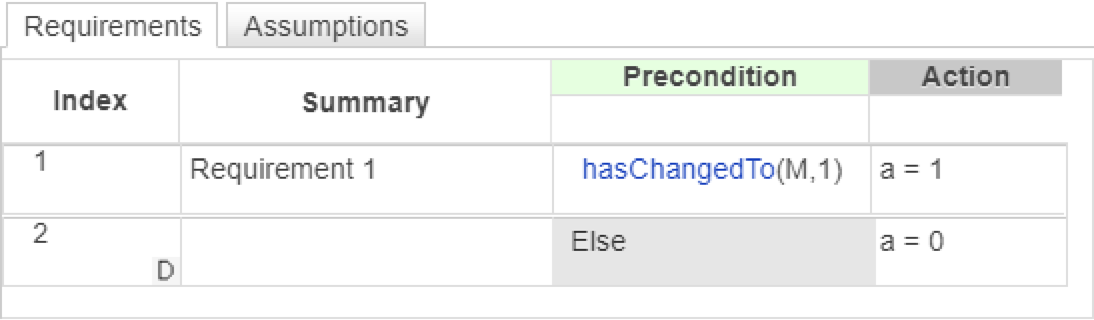
Description

`tf = hasChangedTo(data,value)` returns `1` (`true`) if the value of `data` is not equal to `value` at the beginning of the previous time step and is equal to `value` at the beginning of the current time step. Otherwise, the operator returns `0` (`false`). Use this operator in the Requirements Table block.

Examples

Detect Change in Input Data

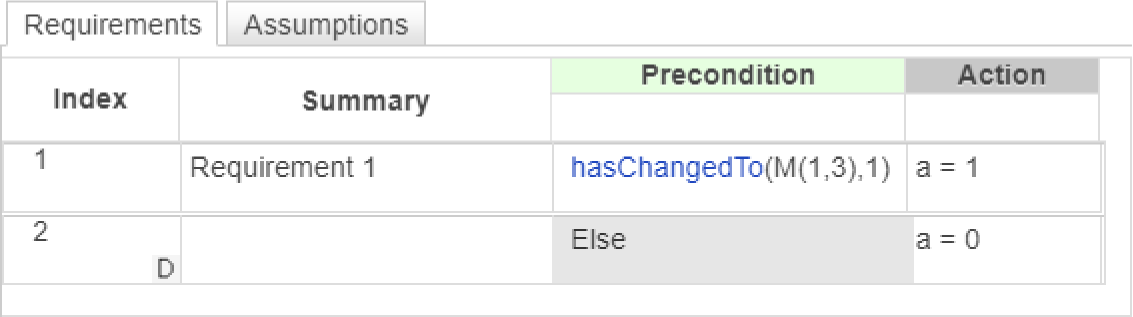
Set the output data `a` to `1` if the input data `M` has changed to `1` since the last time step. Otherwise, set `a` to `0`.



Index	Summary	Precondition	Action
1	Requirement 1	hasChangedTo(M,1)	a = 1
2 D		Else	a = 0

Detect Change in Matrix Element

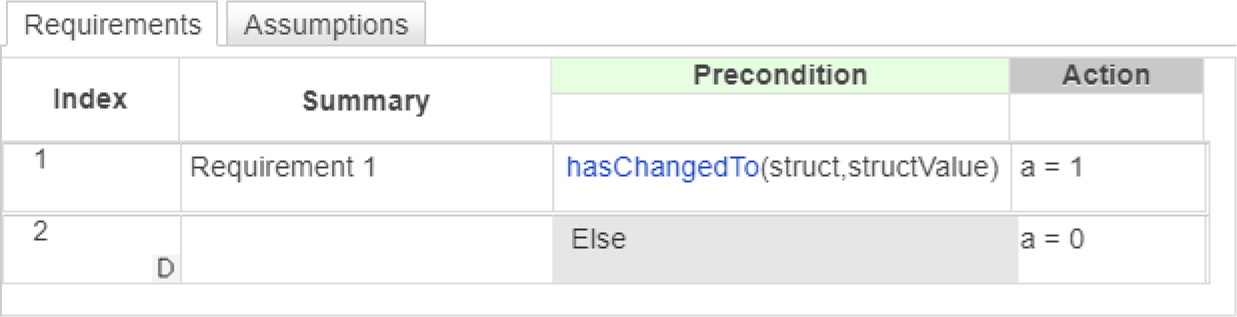
Set the output data `a` to `1` if the element in row 1 and column 3 of input data `M` has changed to `1` since the last time step. Otherwise, set `a` to `0`.



Index	Summary	Precondition	Action
1	Requirement 1	hasChangedTo(M(1,3),1)	a = 1
2 D		Else	a = 0

Detect Change in Structure

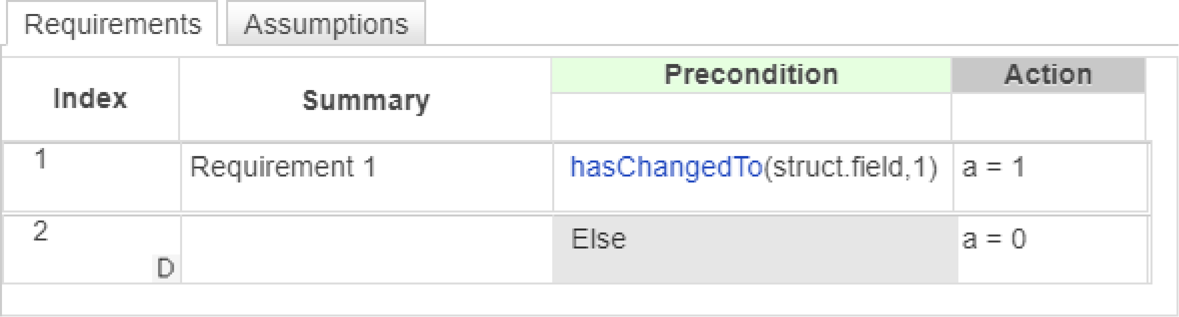
Set the output data a to 1 if one of the fields of the structure `struct` has changed value since the last time step and the current value of `struct` is equal to `structValue`. Otherwise, set a to `0`.



Index	Summary	Precondition	Action
1	Requirement 1	hasChangedTo(struct,structValue)	a = 1
2 D		Else	a = 0

Detect Change in Structure Field

Set the output data a to 1 if the field `struct.field` has changed to the value 1 since the last time step. Otherwise, set a to `0`.



Index	Summary	Precondition	Action
1	Requirement 1	hasChangedTo(struct.field,1)	a = 1
2 D		Else	a = 0

Input Arguments

`data` — Data

scalar | matrix | structure | ...

Data defined in the Requirements Table block, specified as a:

- Scalar
- Matrix or an element of a matrix
- Structure or a field in a structure
- Valid combination of structure fields or matrix elements

See “Define Data in Requirements Table Blocks”.

If `data` is a matrix, the operator returns `true` when it detects a change in one of the elements of `data`. You can also index elements of a matrix by using numbers or expressions that evaluate to a integer.

If `data` is a structure, the operator returns `true` when it detects a change in one of the fields of `data`. You can also index fields in a structure by using dot notation.

The argument `data` cannot be a nontrivial expression or a custom code variable.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64` | `logical` | `string` | `fi` | `enumerated` | `bus`

`value` — Value of data at current time step
scalar | matrix | structure

Value of the data at the current time step, specified as the same data type of `data`. `value` must be an expression that resolves to a value that is comparable with `data`:

- If `data` is a scalar, then `value` must resolve to a scalar.
- If `data` is a matrix, then `value` must resolve to a matrix with the same dimensions as `data`.
- If `data` is a structure, then `value` must resolve to a structure whose field specification matches `data` exactly.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64` | `logical` | `string` | `fi` | `enumerated` | `bus`

Tips

- If the Requirements Table block writes to the specified data but does not change the value, the `hasChangedTo` operator returns `false`.

Version History

Introduced in R2022a

See Also

Requirements Table | `hasChanged` | `hasChangedFrom`

Topics

“Use a Requirements Table Block to Create Formal Requirements”
“Detect Data Changes by Using Requirements Table Blocks”

insertAfter

Insert string after substring

Syntax

```
newStr = insertAfter(str,subStr,new)
newStr = insertAfter(str,pos,new)
```

Description

`newStr = insertAfter(str,subStr,new)` inserts the string `new` into the string `str` after the substring `subStr`. `insertAfter` inserts `new` after every occurrence of `subStr`. Use this operator in the Requirements Table block.

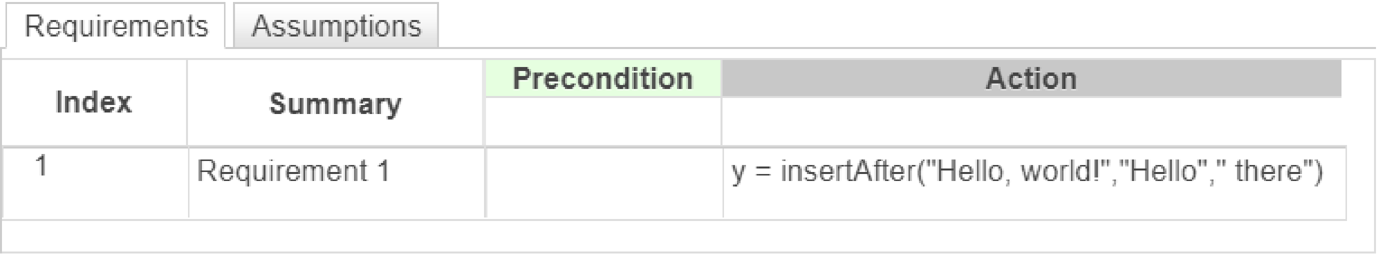
`newStr = insertAfter(str,pos,new)` inserts `new` into `str` after the character position `pos`.

Examples

Insert Text After Substring

In a Requirements Table block, create a requirement that inserts the substring `" there"` after the substring `"Hello,"` in the string `"Hello, world!"`. The output is `"Hello there, world!"`.

```
y = insertAfter("Hello, world!","Hello"," there")
```

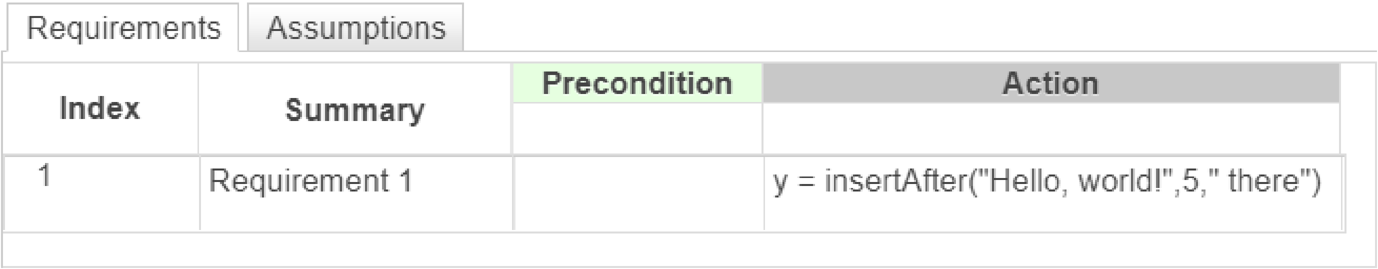


Index	Summary	Precondition	Action
1	Requirement 1		y = insertAfter("Hello, world!","Hello"," there")

Insert Text After Character Position

In a Requirements Table block, create a requirement that inserts the substring `" there"` after the fifth character of the string `"Hello, world!"`. The output is `"Hello there, world!"`.

```
y = insertAfter("Hello, world!",5," there")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = insertAfter("Hello, world!",5," there")

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`substr` — Substring
string scalar

Substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

pos — Character position
positive integer

Character position, specified as a positive integer.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

new — New substring
string scalar

New substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

`newStr` — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`insertBefore` | `extractAfter`

insertBefore

Insert string before substring

Syntax

```
newStr = insertBefore(str,subStr,new)
newStr = insertBefore(str,pos,new)
```

Description

`newStr = insertBefore(str,subStr,new)` inserts the string `new` into the string `str` before the substring `subStr`. `insertAfter` inserts `new` before every occurrence of `subStr`. Use this operator in the Requirements Table block.

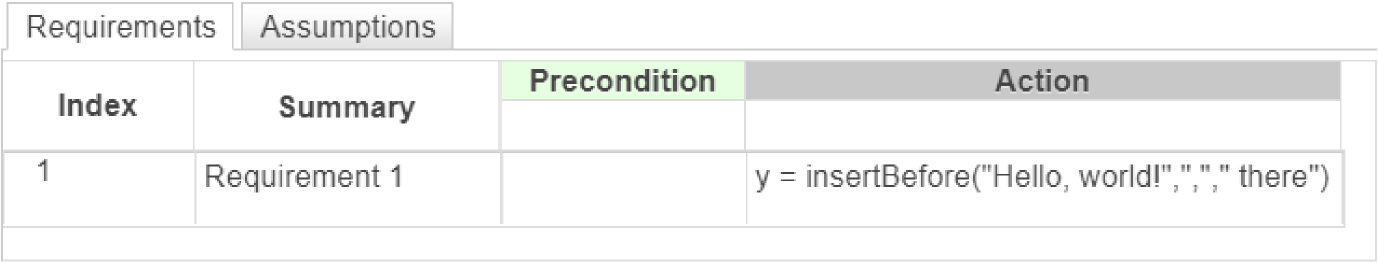
`newStr = insertBefore(str,pos,new)` inserts `new` into `str` before the character position `pos`.

Examples

Insert Text Before Substring

In a Requirements Table block, create a requirement that inserts the substring `" there"` before the substring `","` in the string `"Hello, world!"`. The output is `"Hello there, world!"`.

```
y = insertBefore("Hello, world!",","," there")
```

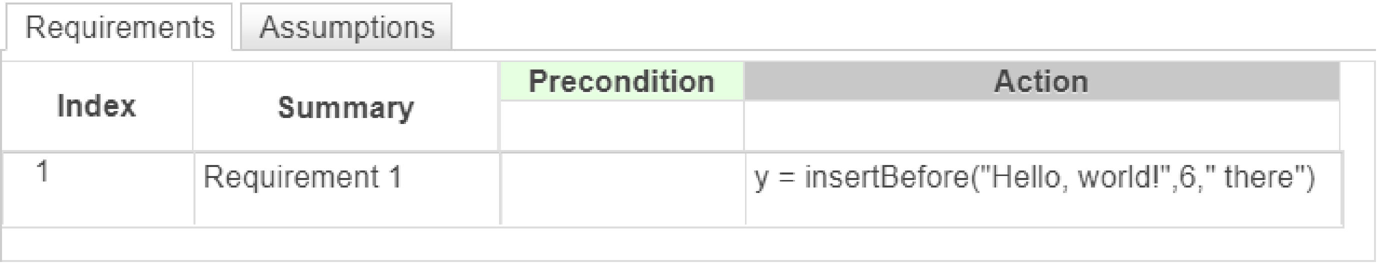


Index	Summary	Precondition	Action
1	Requirement 1		y = insertBefore("Hello, world!",","," there")

Insert Text Before Character Position

In a Requirements Table block, create a requirement that inserts the substring `" there"` before the sixth character of the string `"Hello, world!"`. The output is `"Hello there, world!"`.

```
y = insertBefore("Hello, world!",6," there")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = insertBefore("Hello, world!",6," there")

Input Arguments

`str` — Input string

string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`substr` — Substring

string scalar

Substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`pos` — Character position

positive integer

Character position, specified as a positive integer.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

`new` — New substring

string scalar

New substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

`newStr` — Output string

string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`insertAfter` | `extractBefore`

isletter

Determine which characters are letters

Syntax

```
tf = isletter(str)
```

Description

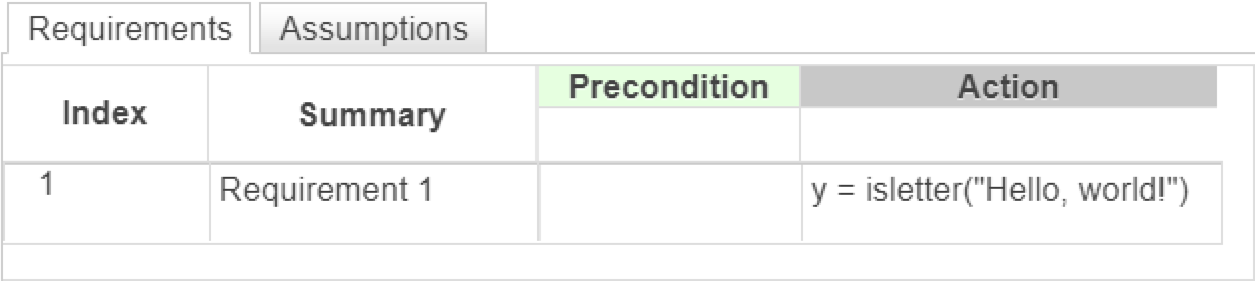
`tf = isletter(str)` returns a Boolean array based on whether each character of `str` is a letter or not. Use this operator in the Requirements Table block.

Examples

Determine Which Characters of a String Are Letters

In a Requirements Table block, create a requirement that outputs a logical array that indicates which characters in the string `"Hello, world!"` are letters.

```
y = isletter("Hello, world!")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = isletter("Hello, world!")

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

`tf` — Whether each character is a letter
logical array

Whether each character is a letter, specified as a logical array. The elements in `tf` are logical `1` where the corresponding characters in `str` are letters, and logical `0` where the characters are not letters.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`isspace` | `isstring`

isspace

Determine which characters are spaces

Syntax

```
tf = isspace(str)
```

Description

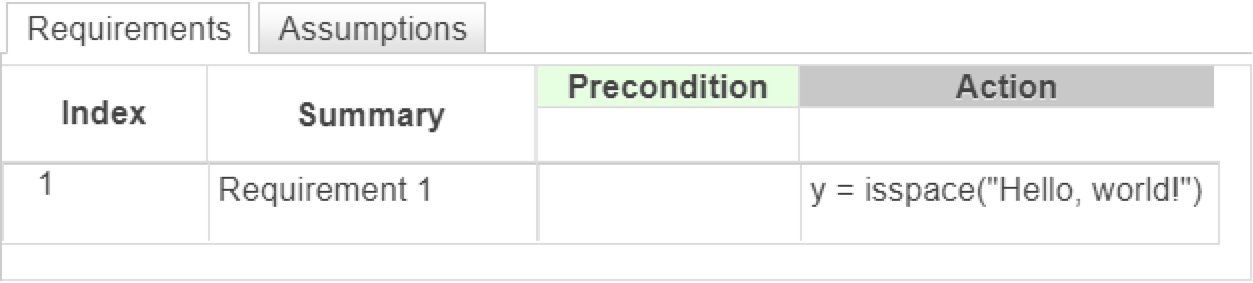
`tf = isspace(str)` returns a Boolean array based on whether each character of `str` is a space or not. Use this operator in the Requirements Table block.

Examples

Determine Which Characters of a String Are Spaces

In a Requirements Table block, create a requirement that outputs a logical array determined by the string `"Hello, world!"`.

```
y = isspace("Hello, world!")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = isspace("Hello, world!")

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

`tf` — Whether each character is a space
logical array

Whether each character is a space, specified as a logical array. The elements in `tf` are logical `1` where the corresponding characters in `str` are spaces, and logical `0` where the characters are not spaces.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`isletter` | `isstring`

isStartup

Whether simulation time is `0`

Syntax

```
isStartup
isStartup()
```

Description

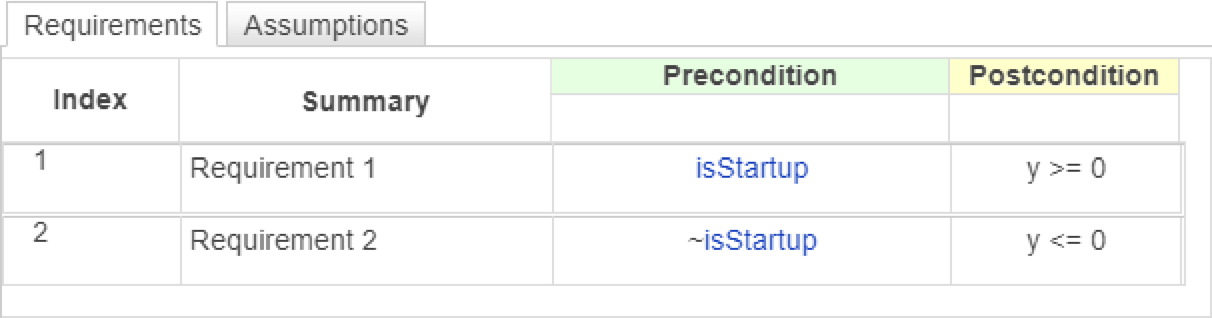
`isStartup` returns `true` if the simulation time equals `0` and returns `false` at all other simulation times. You can use this operator only in the Requirements Table block.

`isStartup()` is an alternative way to execute `isStartup`.

Examples

Change Requirement Evaluation Due to Start Time

Use `isStartup` to check when the block input data `y` is greater than or equal to `0` when the simulation time equals `0`, and check that `y` is less than or equal to `0` at other times. The second requirement checks the logical opposite of `isStartup` with the ~ operator.



Index	Summary	Precondition	Postcondition
1	Requirement 1	isStartup	y >= 0
2	Requirement 2	~isStartup	y <= 0

Tips

- Because `isStartup` returns a Boolean value, you can use it as the only entry in a requirement precondition of the Requirements Table block.
- You can use `isStartup` with `getPrevious` to specify time-dependent requirement execution.

Version History

Introduced in R2022a

See Also

Requirements Table | `duration` | `getPrevious` | `t`

Topics

"Use a Requirements Table Block to Create Formal Requirements"
"Control Requirement Execution by Using Temporal Logic"
"Establish Hierarchy in Requirements Table Blocks"

isstring

Determine if input is string

Syntax

```
tf = isstring(X)
```

Description

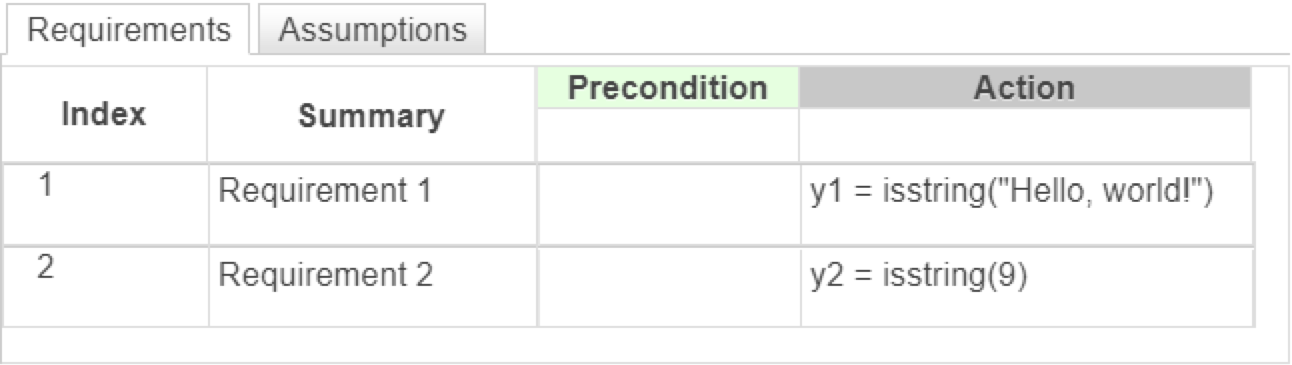
`tf = isstring(X)` returns `1` (`true`) if `X` is a string. Otherwise, it returns `0` (`false`). Use this operator in the Requirements Table block.

Examples

Check Whether an Input Argument is a String Array

In a Requirements Table block, create two requirements that output if the string `"Hello, world!"` and the value `9` are strings.

```
y1 = isstring("Hello, world!")
y2 = isstring(9)
```



Index	Summary	Precondition	Action
1	Requirement 1		y1 = isstring("Hello, world!")
2	Requirement 2		y2 = isstring(9)

Input Arguments

X — Input value
scalar | vector | matrix | multidimensional array

Input value, specified as a scalar, vector, matrix, or multidimensional array. `X` can be any data type. If `X` is a string, it must be a string scalar.

Version History

Introduced in R2022b

See Also

`isletter` | `isspace`

lower

Convert string to lowercase

Syntax

```
newStr = lower(str)
```

Description

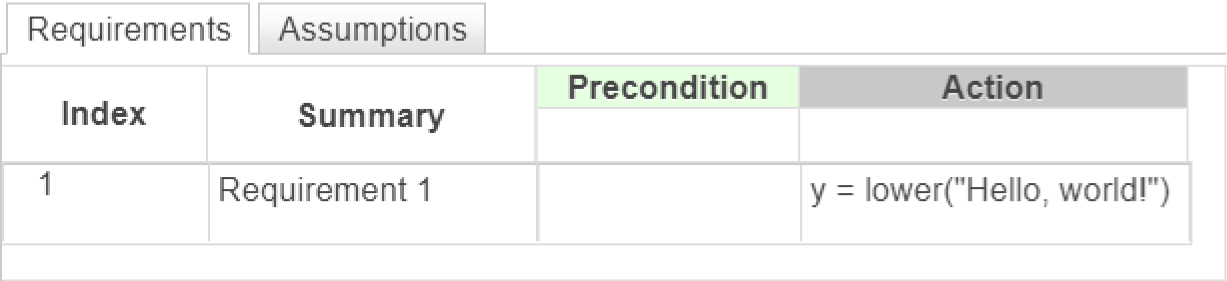
`newStr = lower(str)` converts the uppercase characters in the string `str` to the corresponding lowercase characters. Use this operator in the Requirements Table block.

Examples

Convert String to Lowercase

In a Requirements Table block, create a requirement that converts the uppercase characters in the string `"Hello, world!"` to lowercase characters. The output is `"hello, world!"`.

```
y = lower("Hello, world!")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = lower("Hello, world!")

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

`newStr` — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`upper` | `reverse`

matches

Determine if two strings match

Syntax

```
tf = matches(str1,str2)
tf = matches(str1,str2,IgnoreCase=true)
```

Description

`tf = matches(str1,str2)` compares the strings `str1` and `str2`. The operator returns `1` (`true`) if the strings are identical, and returns `0` (`false`) otherwise. Use this operator in the Requirements Table block.

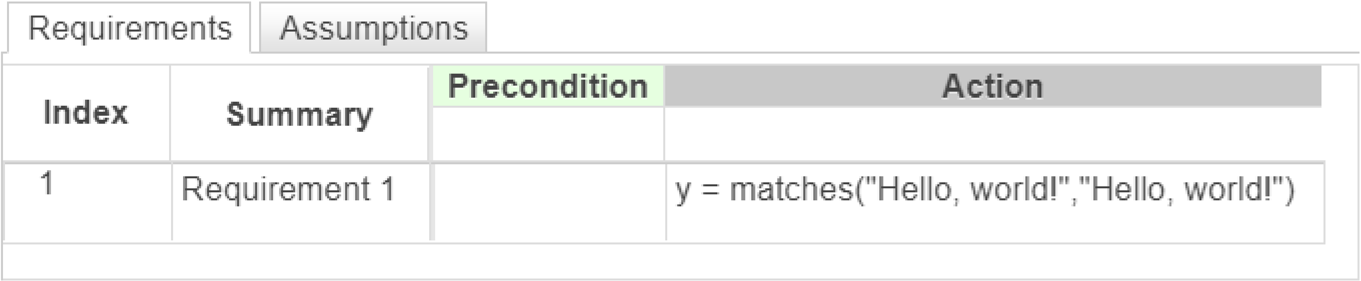
`tf = matches(str1,str2,IgnoreCase=true)` compares strings `str1` and `str2`, ignoring any differences in letter case.

Examples

Compare Strings

In a Requirements Table block, create a requirement that checks if the string `"Hello, world!"` matches the string `"Hello, world!"`.

```
y = matches("Hello, world!","Hello, world!")
```

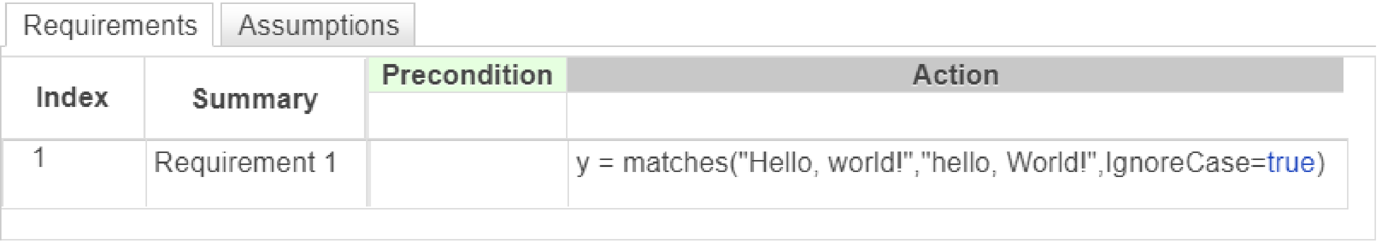


Index	Summary	Precondition	Action
1	Requirement 1		y = matches("Hello, world!","Hello, world!")

Compare Strings While Ignoring Case

In a Requirements Table block, create a requirement that checks if the string `"Hello, world!"` matches the string `"hello, World!"` regardless of case.

```
y = matches("Hello, world!","hello, World!",IgnoreCase=true)
```



Index	Summary	Precondition	Action
1	Requirement 1		y = matches("Hello, world!","hello, World!",IgnoreCase=true)

Input Arguments

`str1`, `str2` — Input strings

string scalar

Input strings, specified as string scalars. Enclose literal string with double quotes.

Example: `"Hello"`

Data Types: `string`

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`strcmp` | `strcmpi` | `strncmp` | `strncmpi`

plus, +

Concatenate strings

Syntax

```
newStr = plus(str1,str2)
newStr = str1 + str2
```

Description

`newStr = plus(str1,str2)` concatenates the strings `str1` and `str2`. Use this operator in the Requirements Table block.

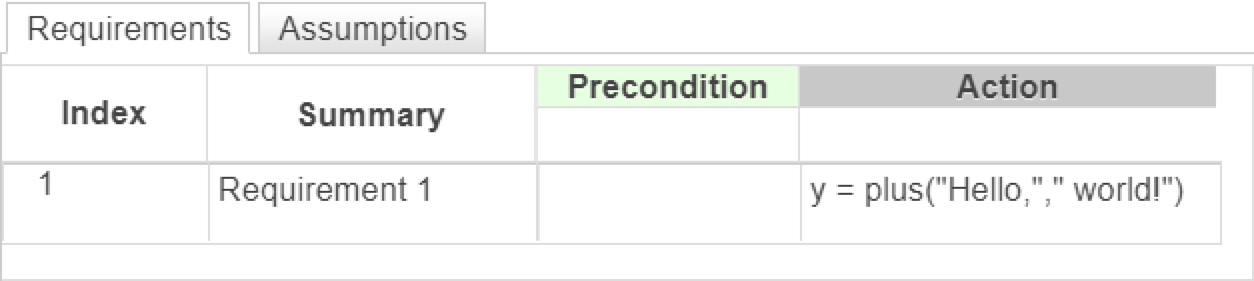
`newStr = str1 + str2` is an alternative way to execute `newStr = plus(str1,str2)`.

Examples

Concatenate Strings

In a Requirements Table block, create a requirement that concatenates the string `"Hello,"` with the string `" world!"`. The output is `"Hello, world!"`.

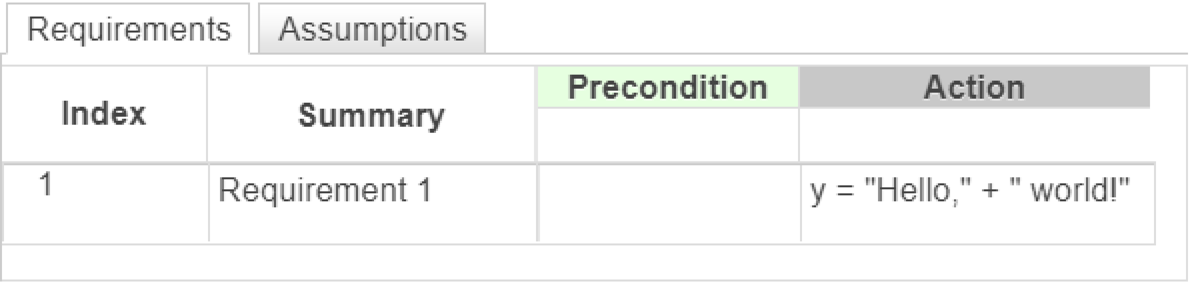
```
y = plus("Hello,"," world!")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = plus("Hello,"," world!")

Alternatively, you can use + to concatenate two strings.

```
y = "Hello," + " world!"
```



Index	Summary	Precondition	Action
1	Requirement 1		y = "Hello," + " world!"

Input Arguments

str1, str2 — Input strings
string scalar

Input strings, specified as string scalars. Enclose literal string with double quotes.

Example: "Hello"

Data Types: string

Output Arguments

newStr — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of Simulink.Bus object fields.

Version History

Introduced in R2022b

See Also

extractAfter | extractBefore

replace

Find and replace substrings

Syntax

```
newStr = replace(str,old,new)
```

Description

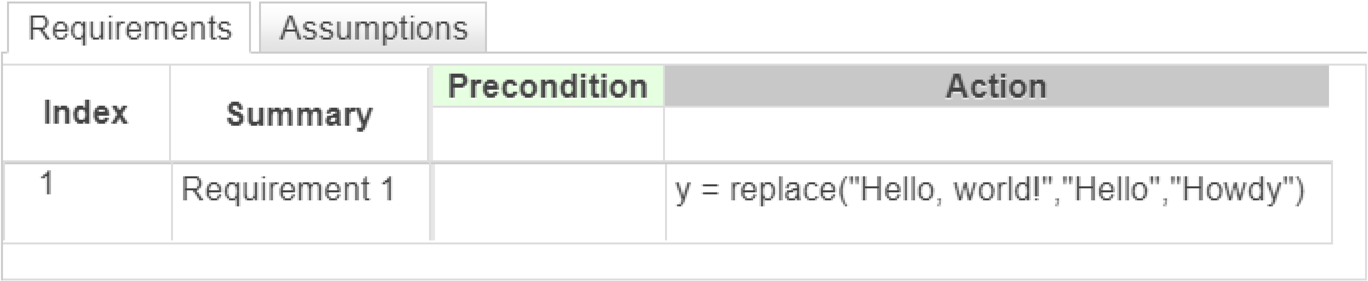
`newStr = replace(str,old,new)` replaces instances of the substring `old` that occur in the string `str` with the string new. Use this operator in the Requirements Table block.

Examples

Replace Substring

In a Requirements Table block, create a requirement that replaces the substring `"Hello"` with the substring `"Howdy"` in the string `"Hello, world!"`.

```
y = replace("Hello, world!","Hello","Howdy")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = replace("Hello, world!","Hello","Howdy")

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`old` — Substring to replace
string scalar

Substring to replace, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`new` — New substring
string scalar

New substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

`newStr` — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Algorithms

The `replace` operator replaces sequential substrings. For example, `replace("abc 2 def 22 ghi 222 jkl 2222","22","*")` returns `"abc 2 def * ghi *2 jkl **"`. To replace overlapping substrings, use `strrep`. For more information, see “Replace Repeated Pattern”.

Version History

Introduced in R2022b

See Also

`replaceBetween` | `strrep`

replaceBetween

Replace substrings between start and end points

Syntax

```
newStr = replaceBetween(str,startStr,endStr,new)
newStr = replaceBetween(str,startPos,endPos,new)
newStr = replaceBetween( ___ ,Boundaries=bounds)
```

Description

`newStr = replaceBetween(str,startStr,endStr,new)` replaces the substring in `str` between the substrings `startStr` and `endStr` with the string `new`. `replaceBetween` does not replace `startStr` and `endStr` themselves. `new` can have a different number of characters than the substring it replaces. Use this operator in the Requirements Table block.

`newStr = replaceBetween(str,startPos,endPos,new)` replaces the substring in `str` between the character positions `startPos` and `endPos`, including the characters at those positions.

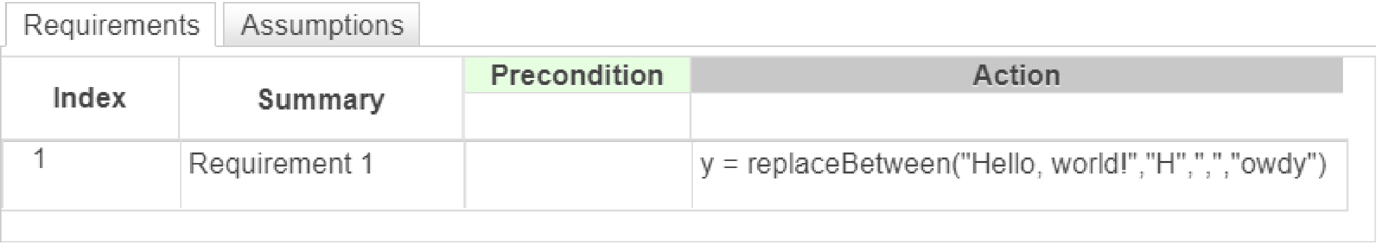
`newStr = replaceBetween( ___ ,Boundaries=bounds)` includes or excludes the boundaries specified in the previous syntaxes from the substring that the operator replaces. Specify `bounds` as `"inclusive"` or `"exclusive"`.

Examples

Replace a Substring with a New Substring

In a Requirements Table block, create a requirement that replaces the characters in the string `"Hello, world!"` between `"H"` and `","` with the substring `"owdy"`. The output is `"Howdy, world!"`.

```
y = replaceBetween("Hello, world!","H",",","owdy")
```

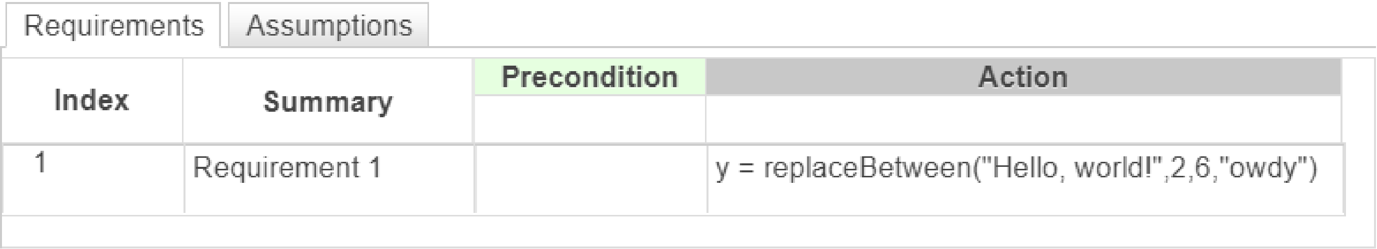


Index	Summary	Precondition	Action
1	Requirement 1		y = replaceBetween("Hello, world!","H",",","owdy")

Replace a Substring Between Start and End Positions

In a Requirements Table block, create a requirement that replaces the characters between the second and sixth characters of the string `"Hello, world!"` with the substring `"owdy"`. The output is `"Howdy, world!"`.

```
y = replaceBetween("Hello, world!",2,6,"owdy")
```

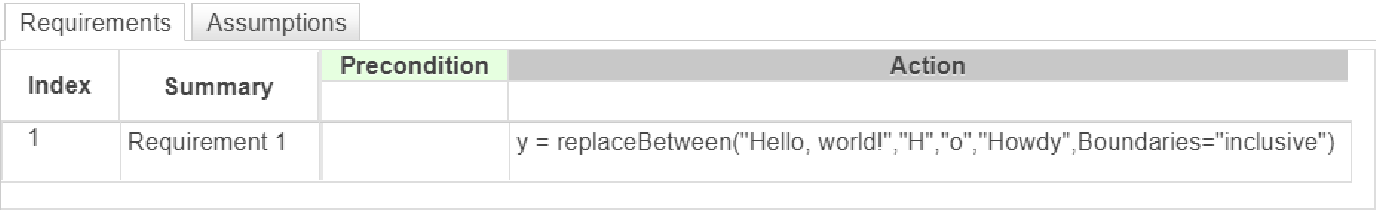


Index	Summary	Precondition	Action
1	Requirement 1		y = replaceBetween("Hello, world!",2,6,"owdy")

Replace a Substring and Specify Inclusive Bounds

In a Requirements Table block, create a requirement that replaces the characters in the string `"Hello, world!"` between `"H"` and `"o"` with the substring `"Howdy"`, including the bounds. The output is `"Howdy, world!"`.

```
y = replaceBetween("Hello, world!","H","o","Howdy",Boundaries="inclusive")
```

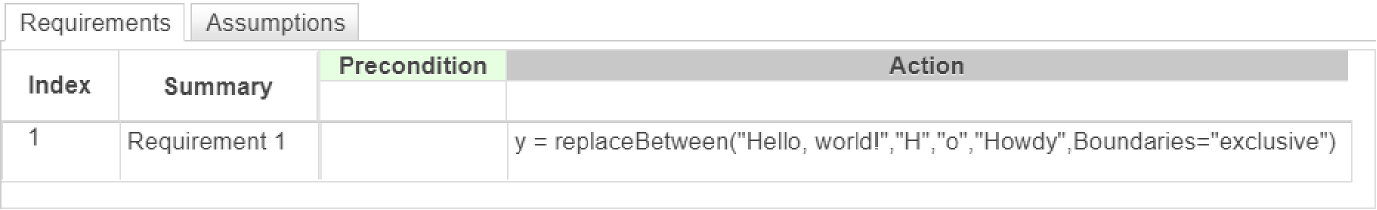


Index	Summary	Precondition	Action
1	Requirement 1		y = replaceBetween("Hello, world!","H","o","Howdy",Boundaries="inclusive")

Replace a Substring and Specify Exclusive Bounds

In a Requirements Table block, create a requirement that replaces the characters in the string `"Hello, world!"` between `"H"` and `"o"` with the substring `"Howdy"`, excluding the bounds. The output is `"HHowdyo, world!"`.

```
y = replaceBetween("Hello, world!","H","o","Howdy",Boundaries="exclusive")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = replaceBetween("Hello, world!","H","o","Howdy",Boundaries="exclusive")

Input Arguments

`str` — Input string

string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`startStr` — Starting substring
string scalar

Staring substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`endStr` — Ending substring
string scalar

Ending substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`startPos` — Starting character position
positive integer

Starting character position, specified as a positive integer.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

`endPos` — Ending character position
positive integer

Ending character position, specified as a positive integer.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

`new` — New substring
string scalar

New substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`bounds` — Boundary type
`"inclusive"` | `"exclusive"`

Boundary type, specified as `"inclusive"` or `"exclusive"`. When you set `bounds` to `"exclusive"`, `replaceBetween` replaces only the text between the boundaries. When you set `bounds` to `"inclusive"`, `replaceBetween` also replaces the boundaries themselves.

Data Types: `enumerated`

Output Arguments

`newStr` — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`replace` | `strrep` | `eraseBetween`

reverse

Reverse order of characters in strings

Syntax

```
newStr = reverse(str)
```

Description

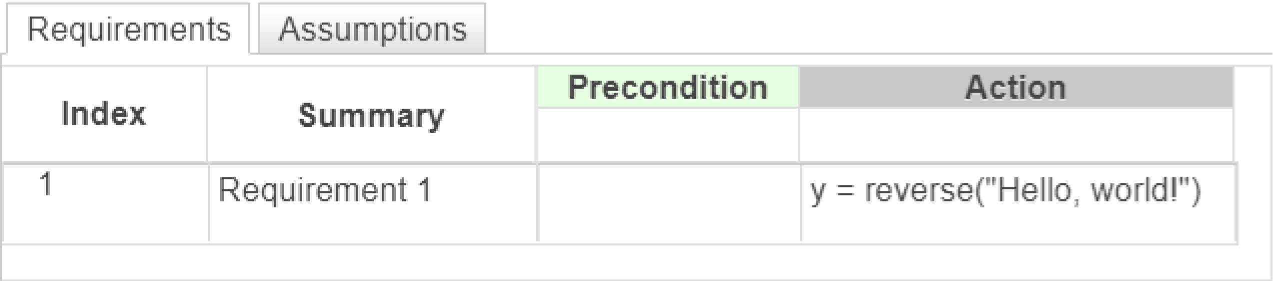
`newStr = reverse(str)` reverses the order of the characters in the string `str`. Use this operator in the Requirements Table block.

Examples

Reverse String

In a Requirements Table block, create a requirement that reverses the order of the characters in the string `"Hello, world!"`. The output is `"!dlrow ,olleH"`.

```
y = reverse("Hello, world!")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = reverse("Hello, world!")

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

`newStr` — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`lower` | `upper`

startsWith

Determine if string starts with substring

Syntax

```
tf = startsWith(str,substr)
tf = startsWith(str,substr,IgnoreCase=true)
```

Description

`tf = startsWith(str,substr)` returns `1` (`true`) if the string `str` starts with the substring `substr`, and returns `0` (`false`) otherwise. Use this operator in the Requirements Table block.

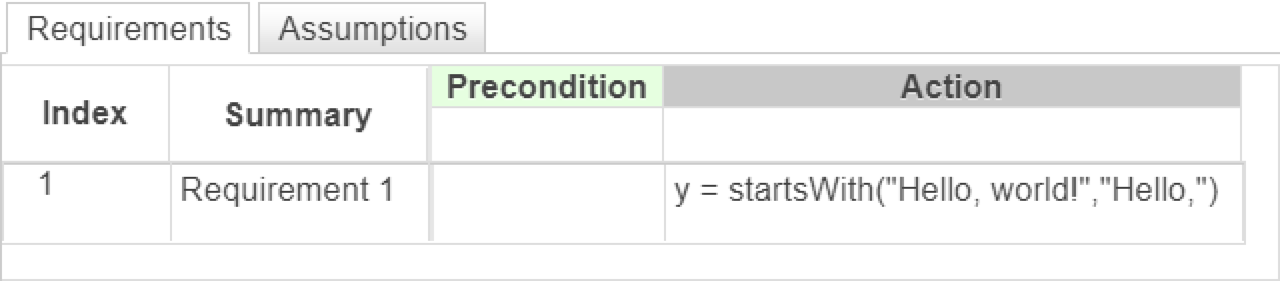
`tf = startsWith(str,substr,IgnoreCase=true)` checks if `str` starts with `substr`, ignoring any differences in letter case.

Examples

Determine If String Starts with Substring

In a Requirements Table block, create a requirement that checks if the string `"Hello, world!"` starts with the substring `"Hello,"`.

```
y = startsWith("Hello, world!","Hello,")
```

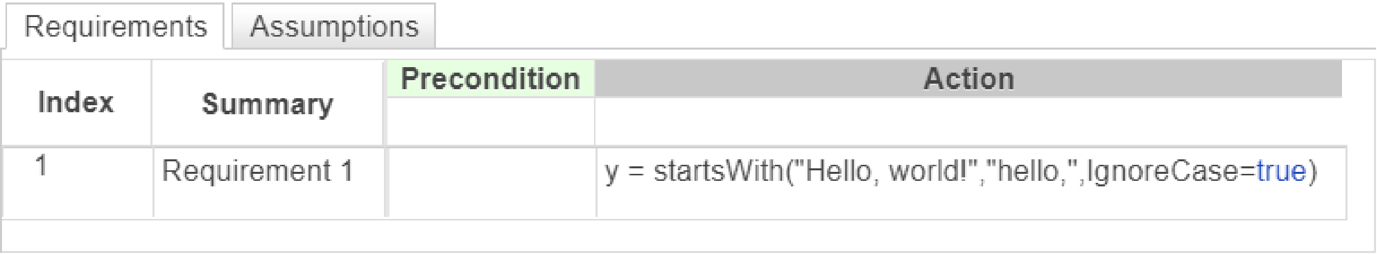


Index	Summary	Precondition	Action
1	Requirement 1		y = startsWith("Hello, world!","Hello,")

Determine If String Starts with Substring While Ignoring Case

In a Requirements Table block, create a requirement that checks if the string `"Hello, world!"` starts with the substring `"hello,"` regardless of case.

```
y = startsWith("Hello, world!","hello,",IgnoreCase=true)
```



Index	Summary	Precondition	Action
1	Requirement 1		y = startsWith("Hello, world!","hello,",IgnoreCase=true)

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`substr` — Substring
string scalar

Substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`contains` | `endsWith` | `strfind`

str2double, double

Convert string to double-precision value

Syntax

```
X = str2double(str)
X = double(str)
```

Description

`X = str2double(str)` converts the text in string `str` to a double-precision complex value. If `str2double` cannot convert the text to a number, it returns a `NaN` value. Use this operator in the Requirements Table block.

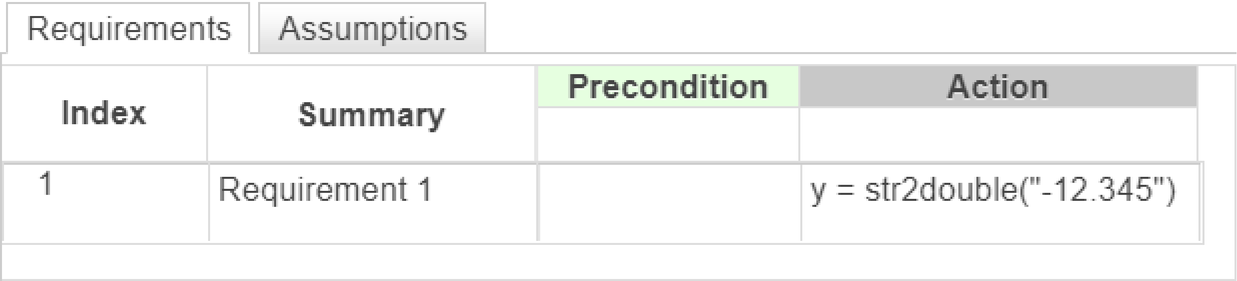
`X = double(str)` is an alternative way to execute `str2double(str)`.

Examples

Convert String That Contains Decimal Notation

In a Requirements Table block, convert the string `"-12.345"` to a double and output the value.

```
y = str2double("-12.345")
```

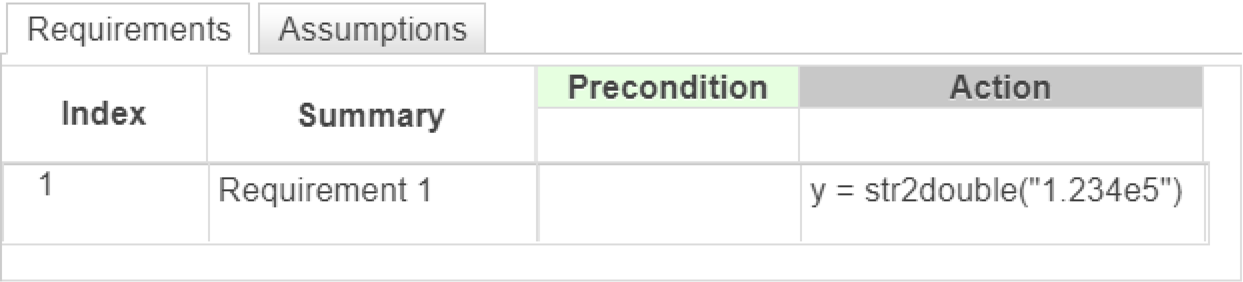


Index	Summary	Precondition	Action
1	Requirement 1		y = str2double("-12.345")

Convert String That Contains Exponential Notation

In a Requirements Table block, convert the string `"1.234e5"` to a double and output the value.

```
X = str2double("1.234e5")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = str2double("1.234e5")

Input Arguments

`str` — Input value

string scalar

Input value, specified as a string scalar.

`str` must contain text that represents a number, including:

- Digits
- A decimal point
- A leading `+` or `-` sign
- An `e` preceding a power of 10 scale factor
- An imaginary part followed by an `i` or a `j`

Enclose literal string with double quotes.

Data Types: `string`

Output Arguments

`X` — Output number

double

Output number, returned as a double-precision complex scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`string`

strcmp

Compare strings (case sensitive)

Syntax

```
tf = strcmp(str1,str2)
```

Description

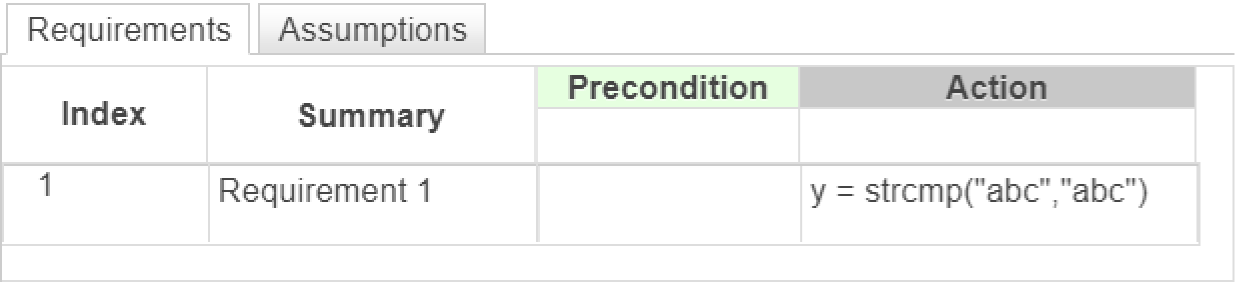
`tf = strcmp(str1,str2)` compares the strings `str1` and `str2`. The operator returns `1` (`true`) if the strings are identical, and returns `0` (`false`) otherwise. `strcmp` is case sensitive. Use this operator in the Requirements Table block.

Examples

Compare First `N` Characters of Strings

In a Requirements Table block, create a requirement that checks if the strings `"abc"` and `"abc"` are equal.

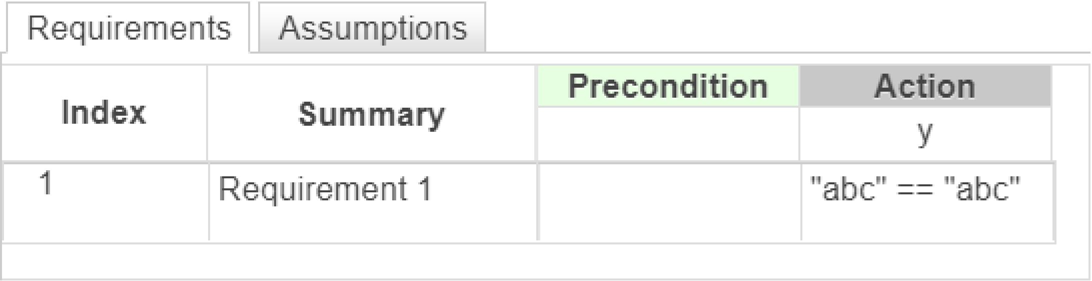
```
y = strcmp("abc","abc")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = strcmp("abc","abc")

You can also compare and sort string with relational operators. Use == to determine two strings are equal.

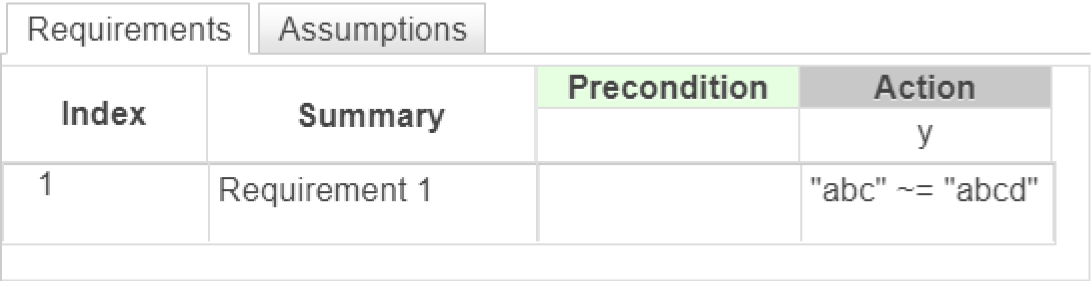
```
"abc" == "abc"
```



Index	Summary	Precondition	Action
			y
1	Requirement 1		"abc" == "abc"

Use ~= to determine if two strings are not equal.

```
"abc" ~= "abcd"
```



Index	Summary	Precondition	Action
			y
1	Requirement 1		"abc" ~= "abcd"

Input Arguments

Version History

Introduced in R2022b

See Also

`matches` | `strcmpi` | `strncmp` | `strncmpi`

strcmpi

Compare strings (case insensitive)

Syntax

```
tf = strcmpi(str1,str2)
```

Description

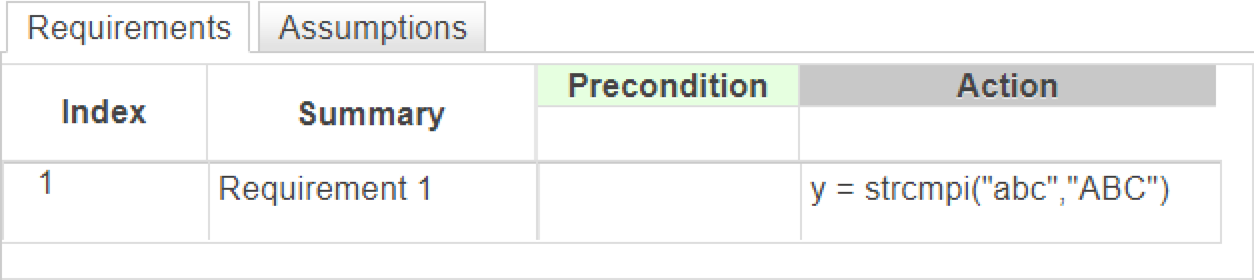
`tf = strcmpi(str1,str2)` compares strings `str1` and `str2`, ignoring differences in letter case. The operator returns `1` (`true`) if the strings are identical and `0` (`false`) otherwise. Use this operator in the Requirements Table block.

Examples

Compare Strings While Ignoring Case

In a Requirements Table block, create a requirement that checks if the strings `"abc"` and `"ABC"` are equal, ignoring case.

```
y = strcmpi("abc","ABC")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = strcmpi("abc","ABC")

Input Arguments

`str1`, `str2` — Input strings
string scalar

Input strings, specified as string scalars. Enclose literal string with double quotes.

Example: `"Hello"`

Data Types: `string`

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`matches` | `strcmp` | `strncmp` | `strncmpi`

strfind

Find substring within a string

Syntax

```
k = strfind(str,substr)
```

Description

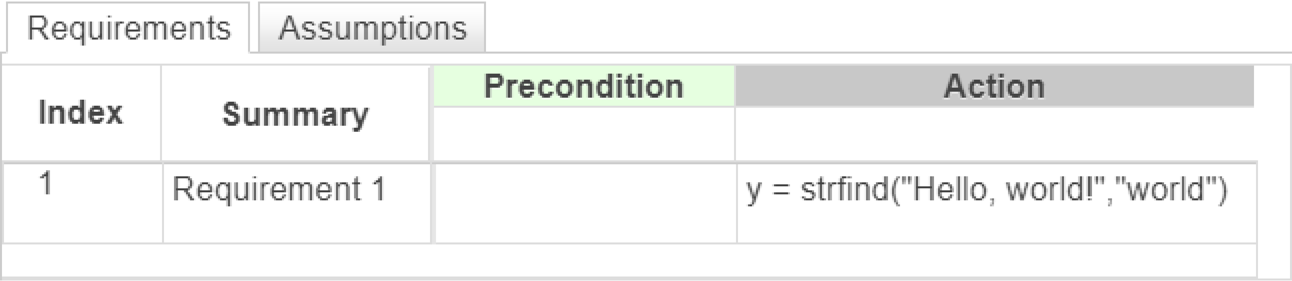
`k = strfind(str,substr)` searches the string `str` for occurrences of the substring `substr`. The operator returns a vector that contains the starting index of each occurrence of `substr` in `str`. The search is case-sensitive. Use this operator in the Requirements Table block.

Examples

Find Start of Substring

In a Requirements Table block, create a requirement that outputs the starting character position of the substring `"world"` in the string `"Hello, world!"`. The output is `8`.

```
y = strfind("Hello, world!","world")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = strfind("Hello, world!","world")

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`substr` — Substring
string scalar

Substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

k — Starting character position of substring
vector of doubles

Starting character position of each occurrence of `subStr` in `str`, returned as a vector of doubles that contains the starting index of each occurrence of `substr` in `str`. If `strfind` does not find `subStr`, then `k` is an empty array.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`contains` | `startsWith` | `endsWith`

string

Convert value to string

Syntax

```
str = string(X)
```

Description

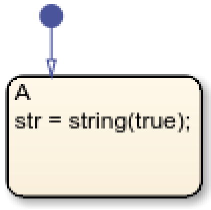
`str = string(X)` converts the input `X` to a string. Use this operator in the Requirements Table block.

Examples

Convert Boolean Value to String

Convert Boolean value to string `"true"`.

```
str = string(true);
```

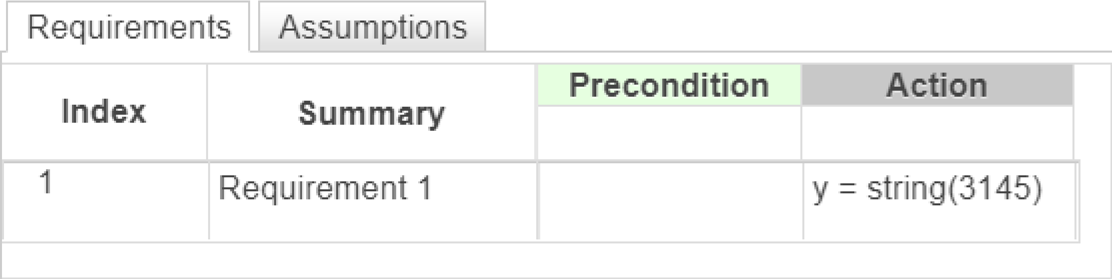


```
str = string(true);
```

Convert Input to a String

In a Requirements Table block, create a requirement that converts the number `3145` into a string.

```
y = string(3145)
```



Index	Summary	Precondition	Action
1	Requirement 1		y = string(3145)

Input Arguments

X — Input value
scalar

Input value, specified as a scalar.

If X is a numerical data type, it must be an integer. For example, A can equal 25, but cannot equal 2.5.

Data Types: single | double | int8 | int16 | int32 | int64 | uint8 | uint16 | uint32 | uint64 | logical | string
Complex Number Support: Yes

Output Arguments

str — Output string
string scalar

Output string, returned as a string scalar.

Version History

Introduced in R2022b

See Also

str2double

strip

Remove leading and trailing characters from string

Syntax

```
newStr = strip(str)
newStr = strip(str,side)
newStr = strip( ___ ,stripCharacter)
```

Description

`newStr = strip(str)` removes consecutive whitespace characters from the beginning and end of the string `str`. Use this operator in the Requirements Table block.

`newStr = strip(str,side)` removes consecutive white space characters from the side specified by `side`.

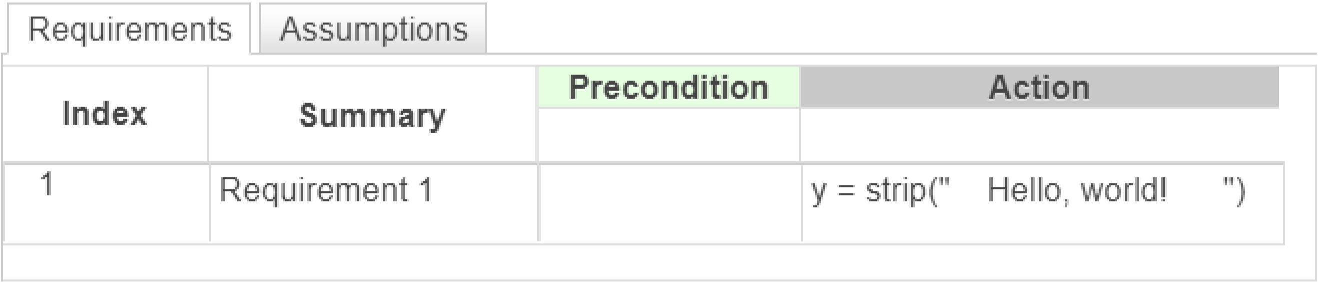
`newStr = strip( ___ ,stripCharacter)` strips the character specified by `stripCharacter`. You can use any of the input arguments in the previous syntaxes.

Examples

Delete Leading and Trailing Spaces from String

In a Requirements Table block, create a requirement that deletes the leading and trailing space characters in a string.

```
y = strip("    Hello, world!      ")
```

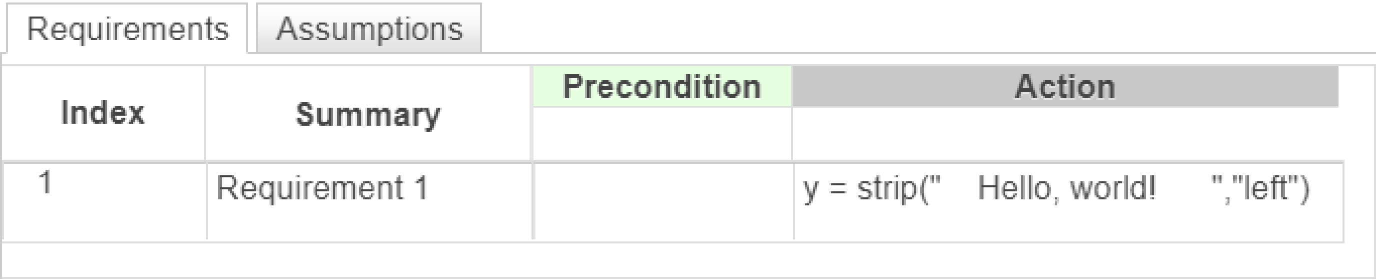


Index	Summary	Precondition	Action
1	Requirement 1		y = strip(" Hello, world! ")

Delete Leading Spaces from String

In a Requirements Table block, create a requirement that deletes only the leading space characters in a string.

```
y = strip("    Hello, world!      ","left")
```

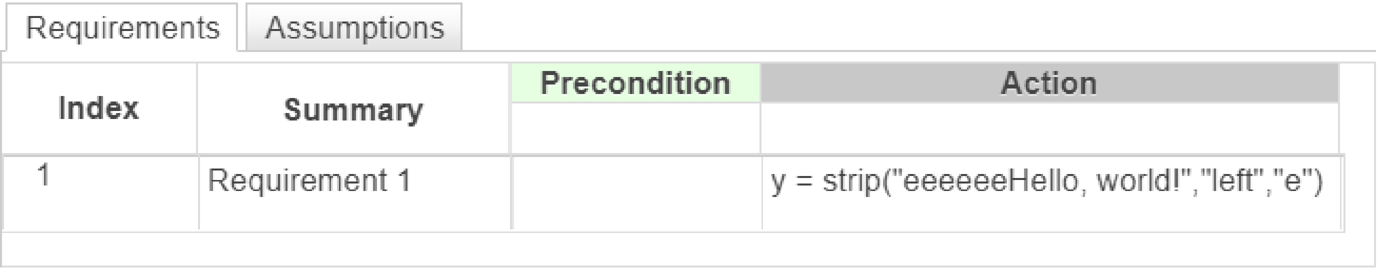


Index	Summary	Precondition	Action
1	Requirement 1		y = strip(" Hello, world! ","left")

Delete Leading Character from String

In a Requirements Table block, create a requirement that deletes leading instances of the character `e` in a string.

```
y = strip("eeeeeeHello, world!      ","left","e")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = strip("eeeeeeHello, world!","left","e")

Input Arguments

`str` — Input string

string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`side` — Side of string to strip

`"both"` (default) | `"left"` | `"right"`

Side of string to strip, specified as `"left"`, `"right"`, or `"both"`.

Data Types: `string`

`stripCharacter` — Character to remove

`" "` (default) | string scalar

Character to remove, specified as a string scalar.

Data Types: `string`

Output Arguments

`newStr` — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`strtrim`

strlength

Determine length of string

Syntax

```
l = strlength(str)
```

Description

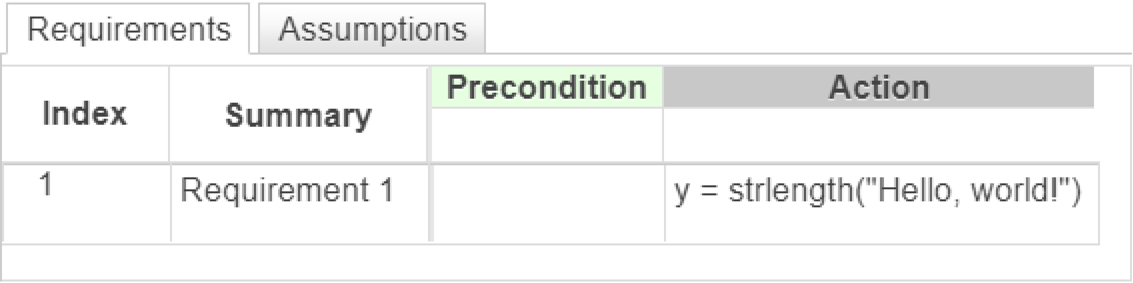
`l = strlength(str)` returns the number of characters in the string `str`. Use this operator in the Requirements Table block.

Examples

Determine Number of Characters in a String

In a Requirements Table block, create a requirement that outputs the number of characters in the string `"Hello, world!"`.

```
y = strlength("Hello, world!")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = strlength("Hello, world!")

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

L — Number of characters
double

Number of characters in `str`, returned as a double-precision scalar.

Version History

Introduced in R2022b

See Also

`string` | `contains` | `strlen`

strncmp

Compare first N characters of strings (case sensitive)

Syntax

```
tf = strncmp(str1,str2,n)
```

Description

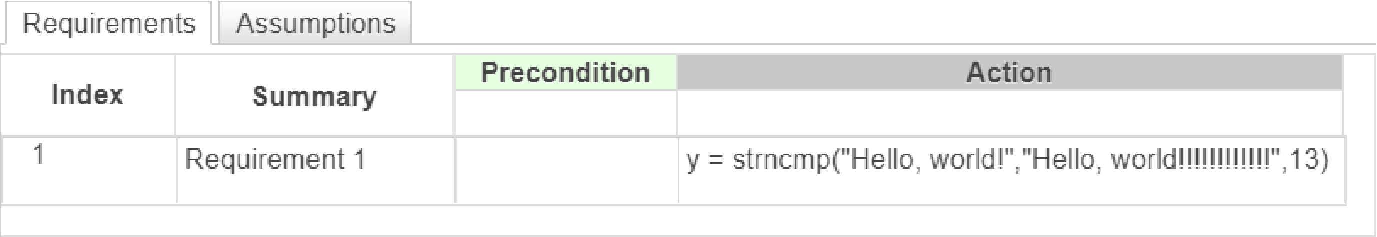
`tf = strncmp(str1,str2,n)` compares up to `n` characters of `str1` and `str2`. The operator returns `1` (`true`) if the strings are identical and `0` (`false`) otherwise. Use this operator in the Requirements Table block.

Examples

Compare First `N` Characters of Strings

In a Requirements Table block, create a requirement that checks if the string `"Hello, world!"` matches the first thirteen characters of the string `"Hello, world!!!!!!!!!!!!"`.

```
y = strncmp("Hello, world!","Hello, world!!!!!!!!!!!!",13)
```



Index	Summary	Precondition	Action
1	Requirement 1		y = strncmp("Hello, world!","Hello, world!!!!!!!!!!!!",13)

Input Arguments

`str1`, `str2` — Input strings

string scalar

Input strings, specified as string scalars. Enclose literal string with double quotes.

Example: `"Hello"`

Data Types: `string`

`n` — Number of characters checked

positive integer

Number of characters checked, starting at the beginning of each string, specified as a positive integer.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`matches` | `strcmp` | `strcmpi` | `strncmpi`

strncmpi

Compare first N characters of strings (case insensitive)

Syntax

```
tf = strncmpi(str1,str2,n)
```

Description

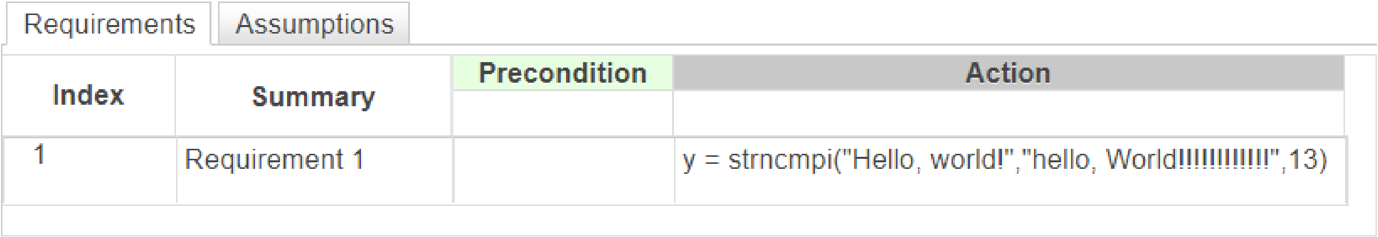
`tf = strncmpi(str1,str2,n)` compares up to `n` characters of `str1` and `str2`, ignoring case. The operator returns `1` (`true`) if the strings are identical and `0` (`false`) otherwise. Use this operator in the Requirements Table block.

Examples

Compare First `N` Characters While Ignoring Case

In a Requirements Table block, create a requirement that checks if the string `"Hello, world!"` matches the first thirteen characters of the string `"hello, World!!!!!!!!!!!!"`, ignoring case.

```
y = strncmpi("Hello, world!","hello, World!!!!!!!!!!!!",13)
```



Index	Summary	Precondition	Action
1	Requirement 1		y = strncmpi("Hello, world!","hello, World!!!!!!!!!!!!",13)

Input Arguments

`str1`, `str2` — Input strings
string scalar

Input strings, specified as string scalars. Enclose literal string with double quotes.

Example: `"Hello"`

Data Types: `string`

`n` — Number of characters checked
positive integer

Number of characters checked, starting at the beginning of each string, specified as a positive integer.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`matches` | `strcmp` | `strcmpi` | `strncmp`

strrep

Find and replace substrings

Syntax

```
newStr = strrep(str,old,new)
```

Description

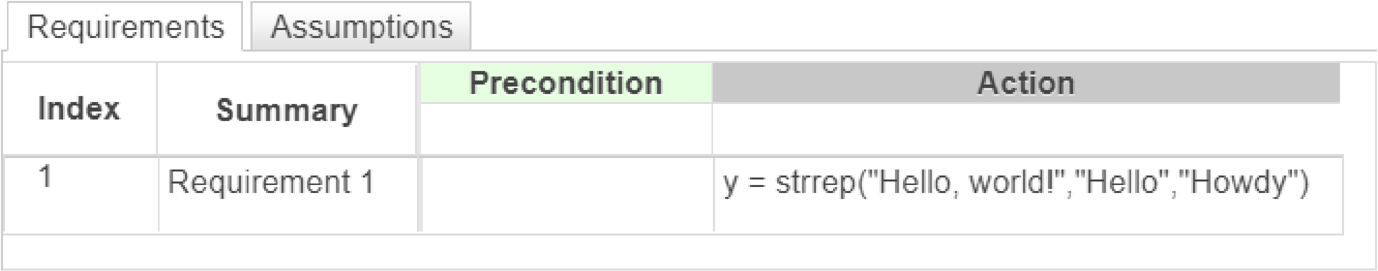
`newStr = strrep(str,old,new)` replaces instances of the substring `old` that occur in the string `str` with the substring `new`. Use this operator in the Requirements Table block.

Examples

Replace Substring

In a Requirements Table block, create a requirement that replaces the substring `"Hello"` with the substring `"Howdy"`.

```
y = strrep("Hello, world!","Hello","Howdy")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = strrep("Hello, world!","Hello","Howdy")

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`old` — Substring to replace
string scalar

Substring to replace, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

`new` — New substring
string scalar

New substring, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

`newStr` — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Algorithms

The `strrep` operator replaces overlapping substrings. For example, `strrep("abc 2 def 22 ghi 222 jkl 2222","22","*")` returns `"abc 2 def * ghi ** jkl ***"`. To replace only sequential substrings, use `replace`. For more information, see “Replace Repeated Pattern”.

Version History

Introduced in R2022b

See Also

`replace` | `replaceBetween`

strtrim

Remove leading and trailing white space from string

Syntax

```
newStr = strtrim(str)
```

Description

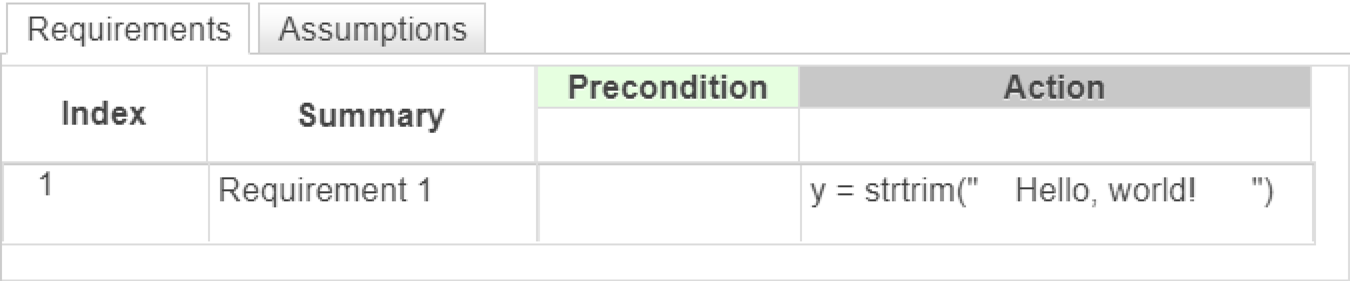
`newStr = strtrim(str)` removes the leading and trailing whitespace characters from the string `str`. Use this operator in the Requirements Table block.

Examples

Delete Leading and Trailing Spaces from String

In a Requirements Table block, create a requirement that deletes the leading and trailing space characters in a string.

```
y = strtrim("    Hello, world!      ")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = strtrim(" Hello, world! ")

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

`newStr` — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`strip`

t

Elapsed time of simulation

Syntax

```
t
```

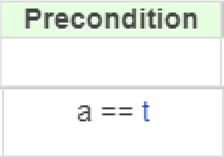
Description

`t` returns the simulation time in seconds. You can use this operator only in the Requirements Table block.

Examples

Check if Variable Equals Simulation Time

In a precondition, check if the variable `a` is equal to the simulation time in seconds.



Precondition
a == t

Tips

- `t` captures the time of the highest model in the model hierarchy. As a result, `t` is the same value in each Requirements Table block used in a simulation, including disabled blocks in Enabled Subsystem blocks.

Version History

Introduced in R2022a

See Also

Requirements Table | `isStartup` | `duration` | `getPrevious`

Topics

"Use a Requirements Table Block to Create Formal Requirements"
"Control Requirement Execution by Using Temporal Logic"

upper

Convert a string to uppercase

Syntax

```
newStr = upper(str)
```

Description

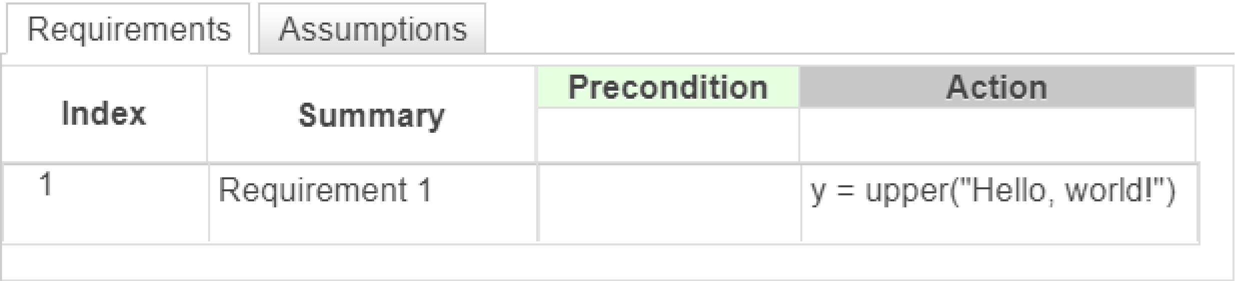
`newStr = upper(str)` converts the lowercase characters in the string `str` to the corresponding uppercase characters. Use this operator in the Requirements Table block.

Examples

Convert String to Uppercase

In a Requirements Table block, create a requirement that converts the lowercase characters in the string `"Hello, world!"` to uppercase characters. The output is `"HELLO, WORLD!"`.

```
y = upper("Hello, world!")
```



Index	Summary	Precondition	Action
1	Requirement 1		y = upper("Hello, world!")

Input Arguments

`str` — Input string
string scalar

Input string, specified as a string scalar. Enclose literal strings with double quotes.

Example: `"Hello"`

Data Types: `string`

Output Arguments

`newStr` — Output string
string scalar

Output string, returned as a string scalar.

Limitations

- This operator does not support the use of `Simulink.Bus` object fields.

Version History

Introduced in R2022b

See Also

`lower` | `reverse`

7

Objects

AssumptionRow

Work with assumptions in Requirements Table block

Description

`AssumptionRow` objects represent assumptions in Requirements Table blocks. Use `AssumptionRow` objects to programmatically adjust the assumption properties.

Creation

There are several ways to create a `AssumptionRow` object:

- Create a new assumption in a Requirements Table block by using the `addAssumptionRow` object function.
- Create an assumption interactively in the Requirements Table block, then get the associated `AssumptionRow` object by using the `getAssumptionRows` object function.

Properties

`Index` — Index of assumption
character vector (default)

This property is read-only.

Index of the assumption, returned as a character vector. When you create a new assumption, the software automatically assigns the assumption a unique index.

`Preconditions` — Precondition expression
`{''}` (default) | cell array of character vectors

Precondition expression, specified as a cell array of a character vector. For more information on preconditions in assumptions, see “Add Assumptions to Requirements”.

Data Types: `char` | `cell`

`Postconditions` — Postcondition expression
`{''}` (default) | cell array of character vectors

Postcondition expression, specified as a cell array of a character vector. For more information on postconditions in assumptions, see “Add Assumptions to Requirements”.

Data Types: `char` | `cell`

`Summary` — Assumption summary text
`""` (default) | string scalar | character vector

Assumption summary text, specified as a string scalar or character vector. Use this property to add text to the **Summary** column in the **Assumptions** tab of the Requirements Table block.

Data Types: `char` | `string`

Object Functions

addChild	Add child requirement or assumption to Requirements Table block
getChildren	Retrieve child requirements and assumptions in Requirements Table block
clear	Clear row in Requirements Table block
removeRow	Remove Requirements Table block row

Examples

Create Assumptions and Set Preconditions and Postconditions

In a `RequirementsTable` object named `reqTable`, add two assumptions.

```
addAssumptionRow(reqTable);
addAssumptionRow(reqTable);
```

Retrieve the `AssumptionRow` objects.

```
aRow = getAssumptionRows(reqTable);
```

Set the preconditions for the assumptions.

```
aRow(1).Preconditions = {'u1 > 1'};
aRow(2).Preconditions = {'u1 > 0'};
aRow(3).Preconditions = {'u1 > -1'};
```

Set the postconditions for the assumptions.

```
aRow(1).Postconditions = {'u2 > 1'};
aRow(2).Postconditions = {'u2 > 0'};
aRow(3).Postconditions = {'u2 < -1'};
```

Version History

Introduced in R2022a

See Also

Objects

`RequirementsTable` | `RequirementRow`

Functions

`addAssumptionRow` | `getAssumptionRows`

RequirementRow

Work with requirements in Requirements Table block

Description

`RequirementRow` objects represent requirements in Requirements Table blocks. Use the objects to programmatically adjust the requirement properties.

Creation

There are several ways to create a `RequirementRow` object:

- Create a new requirement in a Requirements Table block by using the `addRequirementRow` object function.
- Create a requirement interactively in the Requirements Table block, then get the associated `RequirementRow` object by using the `getRequirementRows` object function.

Properties

`Actions` — Action expression
`{''}` (default) | cell array of character vectors

Action expressions, specified as a cell array of character vectors. For more information on actions, see "Use a Requirements Table Block to Create Formal Requirements".

Data Types: `cell` | `char`

`Duration` — Duration expression
`""` (default) | string scalar | character vector

Duration expression, entered as a string scalar or character vector.

Data Types: `char` | `string`

`Index` — Index of requirement
character vector (default)

This property is read-only.

Index of the requirement, returned as a character vector. When you create a new requirement, the software automatically assigns the requirement a unique index.

`Preconditions` — Precondition expression
`{''}` (default) | cell array of character vectors

Precondition expressions, specified as a cell array of character vectors. You can also use the `addRequirementRow` object function to set the Precondition property when you create the `RequirementRow` object.

Example: `reqRow.Preconditions = {'u1 > 0','','u3 > 0'}` specifies the preconditions in a requirement with `u1 > 0` in the first **Precondition** column, nothing in the second **Precondition** column, and `u3 > 0` in the third **Precondition** column.

Data Types: `cell` | `char`

`Postconditions` — Postcondition expression

`{''}` (default) | cell array of character vectors

Postcondition expressions, specified as a cell array of character vectors.

Example: `reqRow.Postconditions = {'u1 > 0','','u3 > 0'}` specifies the postconditions in a requirement with `u1 > 0` in the first **Postcondition** column, nothing in the second **Postcondition** column, and `u3 > 0` in the third **Postcondition** column.

Data Types: `cell` | `char`

`Summary` — Requirement summary text

`""` (default) | string scalar | character vector

Requirement summary text, specified as a string scalar or character vector. Use this property to add text to the **Summary** column in the **Requirements** tab of the Requirements Table block.

Data Types: `char` | `string`

Object Functions

addChild	Add child requirement or assumption to Requirements Table block
getChildren	Retrieve child requirements and assumptions in Requirements Table block
clear	Clear row in Requirements Table block
removeRow	Remove Requirements Table block row

Examples

Create Requirements and Set Preconditions and Postconditions

In a `RequirementsTable` object named `reqTable`, add two additional requirements.

```
addRequirementRow(reqTable);
addRequirementRow(reqTable);
```

Retrieve the `RequirementRow` objects.

```
rRow = getRequirementRows(reqTable);
```

Set the preconditions for the requirements.

```
rRow(1).Preconditions = {'u1 > 1'};
rRow(2).Preconditions = {'u1 > 0'};
rRow(3).Preconditions = {'u1 > -1'};
```

Set the postconditions for the requirements.

```
rRow(1).Postconditions = {'u2 > 1'};
rRow(2).Postconditions = {'u2 > 0'};
rRow(3).Postconditions = {'u2 < -1'};
```

Version History

Introduced in R2022a

See Also

Objects
RequirementsTable | AssumptionRow

Functions
addRequirementRow | getRequirementRows

RequirementsTable

Configure Requirements Table blocks

Description

Use `RequirementsTable` objects to configure Requirements Table blocks.

Creation

There are several ways to create a `RequirementsTable` object:

- Use the `slreq.modeling.create` function to create a new Simulink model that contains a Requirements Table block.
- Add a Requirements Table block to an existing model using `add_block` and retrieve the object with the `slreq.modeling.find` function.

Properties

`Name` — Name of Requirements Table block
`"Requirements Table"` (default) | string scalar | character vector

Name of the Requirements Table block, specified as a string scalar or character vector.

Example: `table.Name = "tableName"` changes the block name to `tableName`

Data Types: `char` | `string`

`Path` — Path of Requirements Table block
string scalar | character vector

This property is read-only.

Path of the Requirements Table block, specified as a string scalar or character vector.

Data Types: `char` | `string`

`RequirementHeaders` — Requirements Table block headers
structure array

Requirements Table block headers, specified as a structure array. Specify headers to add under the **Precondition**, **Postcondition**, and **Action** columns in the **Requirements** tab by setting the `Preconditions`, `Postconditions`, and `Actions` fields to a string vector or cell array of character vectors. Use a cell array to add multiple columns under the **Precondition**, **Postcondition**, and **Action** columns.

Example: `table.RequirementHeaders.Preconditions = ["u1","",""]` changes the **Precondition** column header where one header is `u1` and the other two are empty.

Data Types: `struct`

Object Functions

addRequirementRow	Add requirement to Requirements Table block
addAssumptionRow	Add assumption to Requirements Table block
addSymbol	Add data to Requirements Table block
clear	Clear row in Requirements Table block
getAssumptionRows	Retrieve assumptions in Requirements Table block
getRequirementRows	Retrieve requirements in Requirements Table block
findSymbol	Retrieve data in Requirements Table block
hideAssumptionColumn	Hide Precondition column in Assumptions tab
hideRequirementColumn	Hide columns in Requirements tab
removeRow	Remove Requirements Table block row
showAssumptionColumn	Show Precondition column in Assumptions tab
showRequirementColumn	Show columns in Requirements tab

Examples

Change Name of a Requirements Table Block

Create a new model called `myModel` that contains a Requirements Table block.

```
table = slreq.modeling.create("myModel");
```

Change the name of the block to `newTableName`.

```
table.Name = "newTableName";
```

Specify Precondition, Postcondition, and Action Columns

Create a new model called `myModel` that contains a Requirements Table block.

```
table = slreq.modeling.create("myModel");
```

Specify three **Precondition** columns with empty headers.

```
table.RequirementHeaders.Preconditions = ["","",""];
```

Specify two **Postcondition** columns where one header is `u1` and the other is empty.

```
table.RequirementHeaders.Postconditions = ["u1",""];
```

Specify two **Action** columns with the headers `u2` and `u3`.

```
table.RequirementHeaders.Actions = ["u2","u3"];
```

Version History

Introduced in R2022a

See Also

Blocks

Requirements Table

Objects
`AssumptionRow` | `RequirementRow` | `Symbol`

Functions
`slreq.modeling.create` | `slreq.modeling.find`

slreq.TextRange

Line range

Description

Use `slreq.TextRange` objects to describe lines of code in a MATLAB code or plain-text external code file.

Creation

There are several ways to create an `slreq.TextRange` object:

- Create a link to MATLAB or plain-text external code by using the **Requirements Editor**. See “Requirements Traceability for MATLAB Code”.
- Use `slreq.createTextRange`.

Properties

`Artifact` — Name of file containing lines of code
character vector

This property is read-only.

Name of the file containing the lines of code, returned as a character vector.

`Id` — Line range identifier
character vector

This property is read-only.

Line range identifier, returned as a character vector.

`Domain` — Domain of artifact
character vector

This property is read-only.

Domain of the artifact that contains the linkable object, returned as a character vector.

`Parent` — MATLAB Function block SID
character vector

This property is read-only.

MATLAB Function block SID, returned as a character vector.

This property is empty for line ranges in MATLAB code files or other plain-text external code files, such as C files.

Object Functions

deleteLinks	Delete links for line ranges
getLineRange	Get line numbers for line range
getLinks	Get links for line range
getText	Get contents of line range
remove	Delete unused line ranges
setLineRange	Set line numbers for line range
show	Open and highlight line range in MATLAB Editor

Examples

Create Line Ranges and Link to Requirement

This example shows how to create an `slreq.TextRange` object and link it to a requirement.

Create an `slreq.TextRange` object that corresponds to line numbers 1 and 2 in the `myAdd` function.

```
tr = slreq.createTextRange("myAdd.m",[1 2]);
```

View the `slreq.TextRange` object in the MATLAB® Editor.

```
show(tr);
```

Load the `myAddRequirements` requirement set.

```
rs = slreq.load("myAddRequirements");
```

Get a handle to the requirement with the summary `Add u and v`.

```
req = find(rs,Summary="Add u and v");
```

Create a link from the `slreq.TextRange` object to the requirement.

```
myLink = slreq.createLink(tr,req);
```

Version History

Introduced in R2022b

See Also

`slreq.createTextRange` | `slreq.getTextRange`

Topics

“Requirements Traceability for MATLAB Code”
“Create and Store Links”

slreq.View

View settings

Description

Use `slreq.View` objects to apply and manage the view settings for the **Requirements Editor** and Requirements Perspective.

Creation

Create a `View` object by using `create`.

Properties

`Name` — View name
character vector | string scalar

View name, specified as a character vector or string scalar.

Example: `"myView"`

`ReqFilter` — Requirement filter
character array | string scalar

Requirement filter, specified as a character array or a string scalar. The contents of the character vector or string scalar must be formatted as a cell array.

Example: `"{'ReqType','Functional'};"`

`LinkFilter` — Link filter
character array | string scalar

Link filter, specified as a character array or a string scalar. The contents of the character vector or string scalar must be formatted as a cell array.

Example: `"{'LinkType','Relate'};"`

`Host` — Host requirement set
character array

This property is read-only.

Host requirement set that the view is stored in, returned as a character array. If the view is in the preferences folder, the host is empty.

Object Functions

activate	Apply view settings
activateDefaultView	Apply default view settings

create	Create view settings
delete	Delete view settings
getActiveView	Get applied view settings
getErrorMessage	Get view settings error message
getViews	Get available views
isValid	Check validity of view settings

Examples

Create and Apply View to Requirements Editor

This example shows how to create a view and apply it to the **Requirements Editor** and Requirements Perspective.

Open the `myAddRequirements` requirement set, which contains requirements with `Type` set to `Functional`.

```
rs = slreq.open("myAddRequirements");
```

Create a view with the name `NewView`.

```
myView = slreq.View.create("NewView")
```

```
myView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: ''
    LinkFilter: ''
          Host: ''
```

Set the requirement filter to only display requirements that have `Type` set to `Container`.

```
myView.ReqFilter = "{'ReqType','Container'};"
```

```
myView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: "{'ReqType','Container'};"
    LinkFilter: ''
          Host: ''
```

Check if the view is valid.

```
tf = isValid(myView)
```

```
tf = logical
   1
```

Apply the view to the **Requirements Editor** and Requirements Perspective.

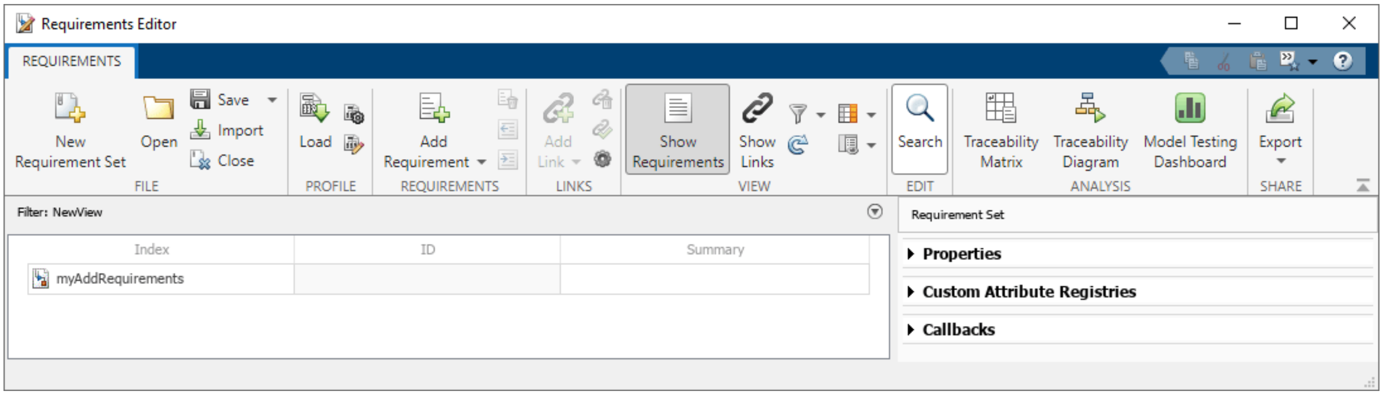
```
activate(myView)
```

Confirm that the active view is NewView.

```
appliedView = slreq.View.getActiveView
```

```
appliedView = 
  View with properties:

          Name: 'NewView'
     ReqFilter: "{'ReqType','Container'};"
    LinkFilter: ''
          Host: ''
```

The myAddRequirements requirement set does not contain any requirements with Type set to Container, so all of the requirements are filtered out.



Filter: NewView

Index	ID	Summary
myAddRequirements		

Clear the loaded requirement sets and link sets and close the **Requirements Editor.**

```
slreq.clear;
```

Version History

Introduced in R2022b

See Also

Apps

Requirements Editor

Topics

“Filter Requirements and Links in the Requirements Editor”
“Where MATLAB Stores Preferences”

Symbol

Configure data in Requirements Table blocks

Description

`Symbol` objects represent the data in Requirements Table blocks. Use `Symbol` objects to configure the input, output, parameter, local, and constant data in a Requirements Table block.

Creation

There are several ways to create a `Symbol` object:

- Create new data in a Requirements Table block by using the `addSymbol` object function.
- Create new data interactively in the Requirements Table block, then get the associated `Symbol` object by using the `findSymbol` object function.

Properties

`Complexity` — Whether data accepts complex values
`"Off"` (default) | `"On"` | `"Inherited"`

Whether the data accepts complex values, specified as one of these values:

Complexity	Description
`"Inherited"`	The data inherits complexity based on the `Scope` property. Input and output data inherit complexity from the Simulink signals connected to the associated input and output ports. Local and parameter data inherit complexity from the parameter to which the data is bound.
`"Off"`	The data is a real number.
`"On"`	The data is a complex number.

Data Types: `enumerated`

`isDesignOutput` — Whether data is design model output
`false` or `0` (default) | `true` or `1`

Whether the data is a design model output, specified as a numeric or logical `1` (`true`) or `0` (`false`). This property applies only when the `Scope` property is `Input`. For more information, see “Treat as design model output for analysis”.

Data Types: `logical`

`Name` — Name of data
`"data"` (default) | string scalar | character vector

Name of the data, specified as a string scalar or character vector.

Data Types: `char` | `string`

Scope — Scope of data

`"Input"` (default) | `"Output"` | `"Local"` | `"Constant"` | `"Parameter"`

Scope of the data that specifies where the data resides in memory relative to the block, specified as one of these values:

Scope	Description
`"Input"`	The data is an input signal to a Requirements Table block.
`"Output"`	The data is an output signal of a Requirements Table block.
`"Local"`	The data is defined in the current block only.
`"Constant"`	The data is a read-only constant value that is visible to the block.
`"Parameter"`	The data resides in a variable of the same name in the MATLAB workspace, the model workspace, or in the workspace of a masked subsystem that contains this block.

Data Types: `enumerated`

Size — Size of data

`"-1"` (default) | string scalar | character vector

Size of the data, specified as a string scalar or character vector. This property must resolve to a scalar value or a MATLAB vector of values. The default value is `"–1"`, which means that the size is inherited. For more information, see “Inherit Size from Simulink” (Simulink).

Data Types: `char` | `string`

Type — Data type

`"Inherit: Same as Simulink"` (default) | `"double"` | `"single"` | `"int8"` | ...

Data type, specified as:

- `"Inherit: Same as Simulink"`
- `"double"`
- `"single"`
- `"half"`
- `"int64"`
- `"int32"`
- `"int16"`
- `"int8"`
- `"uint64"`
- `"uint32"`

- `"uint16"`
- `"uint8"`
- `"boolean"`
- `"string"`
- `"fixdt(1,16,0)"`
- `"fixdt(1,16,2^0,0)"`
- `"Enum: <class name>"`
- `"Bus: <object name>"`

To modify the data type properties, use the **Symbols** pane and Property Inspector. For more information, see “Set Data Types in Requirements Table Blocks”.

Data Types: `enumerated`

Examples

Add Data to a Requirements Table Block

Create a new model called `myModel` that contains a Requirements Table block.

```
table = slreq.modeling.create("myModel");
```

Add data named `u1` to the block.

```
data = addSymbol(table,Name="u1");
```

Retrieve Data and Change It

From a model named `myModel` that contains a Requirements Table block, retrieve the `RequirementsTable` object.

```
table = slreq.modeling.find("myModel");
```

Retrieve the `Symbol` objects from the block.

```
data = findSymbols(table);
```

Change the properties of the first `Symbol` object in the array.

```
data(1).Name = "u1";
data(1).Scope = "Output";
```

Version History

Introduced in R2022a

See Also

`addSymbol` | `findSymbol`