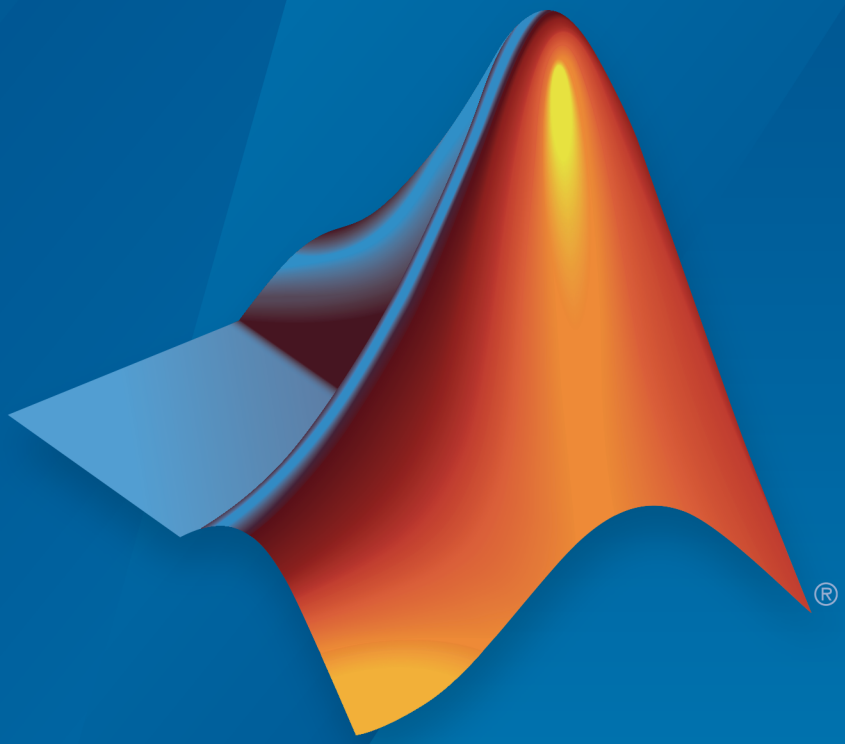
# Simulink® Test™

## Reference



MATLAB® & SIMULINK®

R2016b

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*Simulink® Test™ Reference*



#### Revision History

| | | |
|---|---|---|
| March 2015 | Online Only | New for Version 1.0 (Release 2015a) |
| September 2015 | Online Only | Revised for Version 1.1 (Release 2015b) |
| October 2015 | Online only | Rereleased for Version 1.0.1 (Release 2015aSP1) |
| March 2016 | Online Only | Revised for Version 2.0 (Release 2016a) |
| September 2016 | Online Only | Revised for Version 2.1 (Release 2016b) |

# Contents

# Functions — Alphabetical List

# disp

Display results of `sltest.AssessmentSet` or `sltest.Assessment`

## Syntax

```
disp(as)
```

## Description

`disp(as)` displays the results of the assessment object `as`.

## Examples

### Display results of an assessment

Display the results of the assessment `as`, where `as` is an `sltest.Assessment`.

```
disp(as)
```

```
  sltest.Assessment
  Package: sltest

  Properties:
         Name: 'Simulink:verify_high'
    BlockPath: [1×1 Simulink.SimulationData.BlockPath]
       Values: [1×1 timeseries]
       Result: Fail
```

## Input Arguments

### as — Assessment object

`sltest.Assessment | sltest.AssessmentSet`

Assessment object for which to display results.

Example: as

## See Also

`sltest.Assessment` | `sltest.AssessmentSet` | `sltest.getAssessments`

# find

Find assessments in `sltest.AssessmentSet` or `sltest.Assessment` object

## Syntax

```
asout = find(as,'PropertyName','PropertyValue')
asout = find(as,'PropertyName1','PropertyValue1','-logical',
'PropertyName2','PropertyValue2'...)
asout = find(as,'-regexp','PropertyName','PropertyValue')
```

## Description

`asout = find(as,'PropertyName','PropertyValue')` returns the results `asout` specified by the properties matching `'PropertyName'`, and `'PropertyValue'`.

`asout = find(as,'PropertyName1','PropertyValue1','-logical', 'PropertyName2','PropertyValue2'...)` returns the results `asout` specified by multiple `'PropertyName'`, `'PropertyValue'` pairs, and the `'-logical'` operator specifying the connective between the pairs. `'-logical'` can be `'-and'` or `'-or'`.

`asout = find(as,'-regexp','PropertyName','PropertyValue')` returns assessment results whose `'PropertyName'` matches the regular expression `'PropertyValue'`. When using regular expression search, `'PropertyName'` can be the assessment object `'Name'` or `'BlockPath'`.

## Examples

### Get Assessments from a Simulation

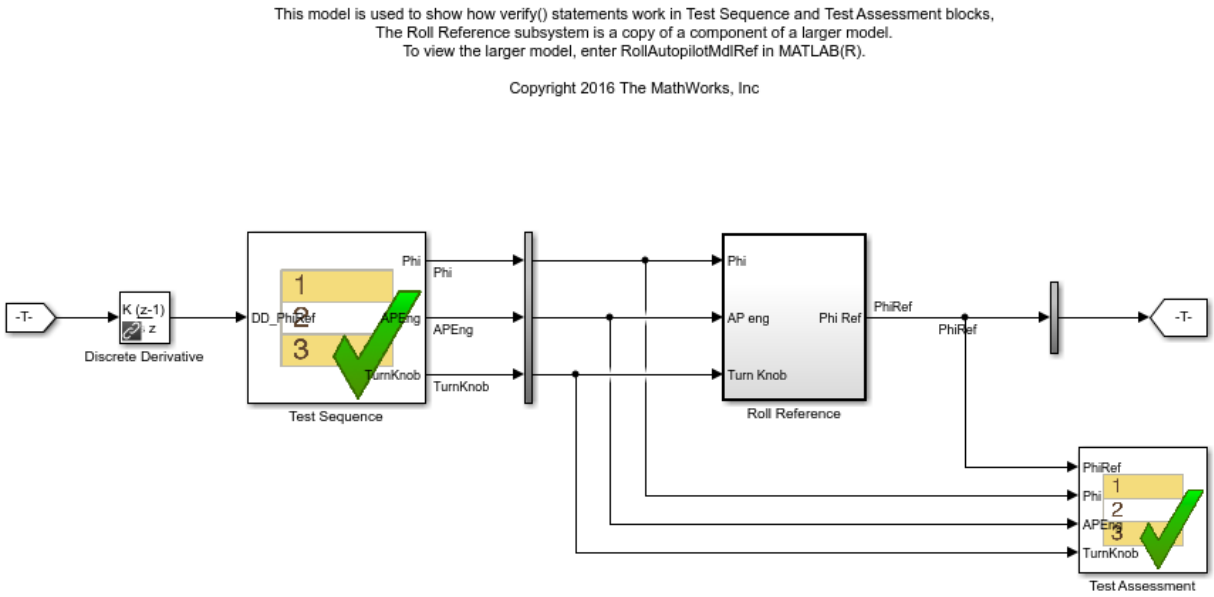
This example shows how to simulate a model with `verify` statements and obtain assessment results via the programmatic interface.

### Get the Assessment Set and One Assessment Result

1. Open the model.

```
open_system(fullfile(matlabroot,'examples','simulinktest','sltestRollRefTestExample.slx
```

```
% Turn the command line warning off for verify() statements
warning off Stateflow:Runtime:TestVerificationFailed
```




2. Run the model.

```
s = sim('sltestRollRefTestExample');
```

3. Get the assessment set.

```
as = sltest.getAssessments('sltestRollRefTestExample');
```

4. Get assessment 3 from the assessment set.

```
as3 = get(as,3);
```

### Display Results of the Assessment Set and Assessment Result

1. Get summary of the assessment set.

```
asSummary = getSummary(as)
```

```
asSummary =

  struct with fields:

       Total: 6
    Untested: 3
      Passed: 2
      Failed: 1
      Result: Fail
```

2. Display the result of assessment 3.

```
disp(as3)
```

```
  sltest.Assessment
  Package: sltest

  Properties:
         Name: 'Simulink:verify_high'
    BlockPath: [1×1 Simulink.SimulationData.BlockPath]
       Values: [1×1 timeseries]
       Result: Fail
```

3. Find untested or failed results in the assessment set.

```
asFailUntested = find(as,'Result',slTestResult.Fail,'-or','Result',slTestResult.Untest
```

```
asFailUntested =

  sltest.AssessmentSet
  Summary:
       Total: 4
    Untested: 3
      Passed: 0
      Failed: 1
      Result: Fail


  Untested Assessments (first 10):
    2 : Untested 'Simulink:verify_high'
    3 : Untested 'Simulink:verifyTKLow'
    4 : Untested 'Simulink:verifyTKNormal'
```

```
  Failed Assessments (first 10):
    1 : Fail 'Simulink:verify_high'
```

4. Find assessments under the Test Assessment block, using a regular expression.

```
assessBlock = find(as,'-regexp','BlockPath','.[Aa]ssess')
```

```
assessBlock =

  sltest.AssessmentSet
  Summary:
       Total: 6
    Untested: 3
      Passed: 2
      Failed: 1
      Result: Fail


  Untested Assessments (first 10):
    4 : Untested 'Simulink:verify_high'
    5 : Untested 'Simulink:verifyTKLow'
    6 : Untested 'Simulink:verifyTKNormal'

  Passed Assessments (first 10):
    1 : Pass 'Simulink:verify_normal'
    2 : Pass 'Simulink:verify_low'

  Failed Assessments (first 10):
    3 : Fail 'Simulink:verify_high'
```

# Input Arguments

### as — Assessment object

`sltest.Assessment | sltest.AssessmentSet`

Assessment object to search.

Example: `as`

### '–logical' — Logical operator

`'–and' | '–or'`

Logical operator connecting multiple property names or property values.

Example: `'–and'`

### `'PropertyName'` — Type of property to search

`'Name' | 'Result' | 'BlockPath'`

Type of property to search.

Example: `'BlockPath'`

### `'PropertyValue'` — Property value to search

character vector | `slTestResult` enumeration

Property value to search, specified as a character vector. Can be a regular expression when using the `'–regexp'` argument.

When using the `'Result'` property name, `'PropertyValue'` is an enumeration of the assessment result:

- `slTestResult.Fail` for failed assessments
- `slTestResult.Pass` for passed assessments
- `slTestResult.Untested` for untested assessments

Example: `slTestResult.Fail`

Example: `'[Aa]sess'`

### `'–regexp'` — Command to search using regular expression

character vector

Regular expression for `BlockPath` properties search, specified as a character vector.

Example: `'–regexp'`

## Output Arguments

### `asout` — Assessment results output

`sltest.assessmentSet` object

Assessment results output from the find operation, specified as an `sltest.assessmentSet` object.

Example: `sltest.AssessmentSet`

## See Also

`sltest.Assessment` | `sltest.AssessmentSet` | `sltest.getAssessments`

# get

Get assessment of `sltest.AssessmentSet`

## Syntax

```
indexResult = get(as,index)
```

## Description

`indexResult = get(as,index)` gets the individual assessment result `indexResult` from the `sltest.AssessmentSet` `as`, specified by the integer `index`.

## Examples

### Get Assessments from a Simulation

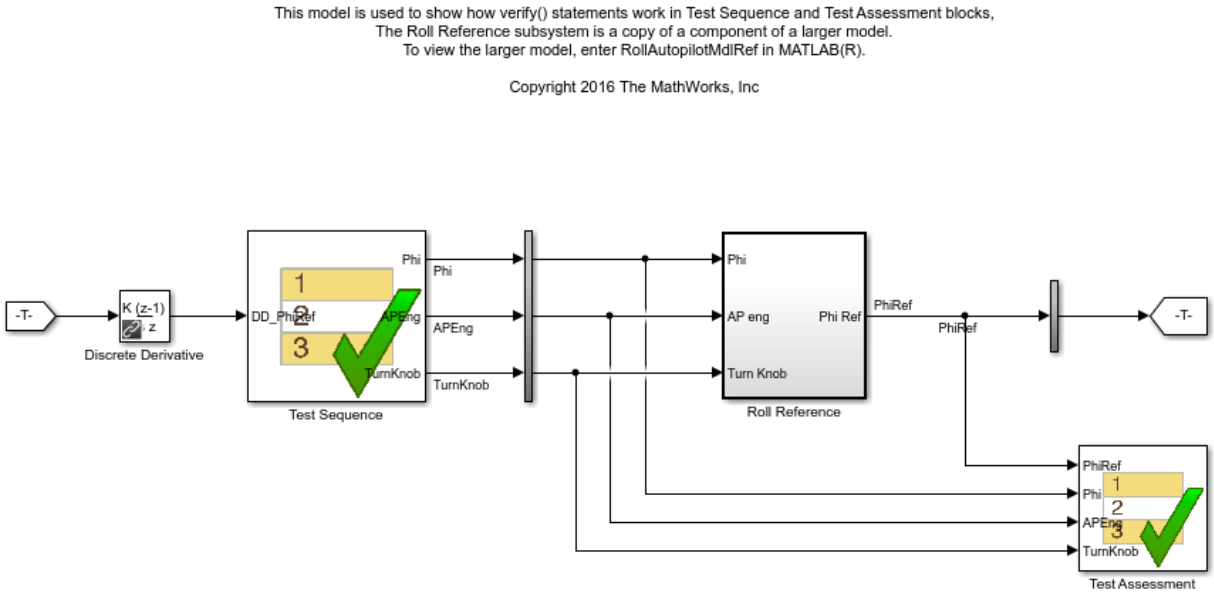
This example shows how to simulate a model with `verify` statements and obtain assessment results via the programmatic interface.

### Get the Assessment Set and One Assessment Result

1. Open the model.

```
open_system(fullfile(matlabroot,'examples','simulinktest','sltestRollRefTestExample.sl
```

```
% Turn the command line warning off for verify() statements
warning off Stateflow:Runtime:TestVerificationFailed
```




2. Run the model.

```
s = sim('sltestRollRefTestExample');
```

3. Get the assessment set.

```
as = sltest.getAssessments('sltestRollRefTestExample');
```

4. Get assessment 3 from the assessment set.

```
as3 = get(as,3);
```

### Display Results of the Assessment Set and Assessment Result

1. Get summary of the assessment set.

```
asSummary = getSummary(as)
```

```
asSummary =

  struct with fields:
```

```
      Total: 6
  Untested: 3
    Passed: 2
    Failed: 1
    Result: Fail
```

2. Display the result of assessment 3.

```
disp(as3)
```

```
  sltest.Assessment
  Package: sltest

  Properties:
         Name: 'Simulink:verify_high'
    BlockPath: [1×1 Simulink.SimulationData.BlockPath]
       Values: [1×1 timeseries]
       Result: Fail
```

3. Find untested or failed results in the assessment set.

```
asFailUntested = find(as,'Result',slTestResult.Fail,'-or','Result',slTestResult.Untest
```

```
asFailUntested =

  sltest.AssessmentSet
  Summary:
       Total: 4
    Untested: 3
      Passed: 0
      Failed: 1
      Result: Fail


  Untested Assessments (first 10):
    2 : Untested 'Simulink:verify_high'
    3 : Untested 'Simulink:verifyTKLow'
    4 : Untested 'Simulink:verifyTKNormal'

  Failed Assessments (first 10):
    1 : Fail 'Simulink:verify_high'
```

4. Find assessments under the Test Assessment block, using a regular expression.

```
assessBlock = find(as,'-regexp','BlockPath','.[Aa]ssess')
```

```
assessBlock =

  sltest.AssessmentSet
  Summary:
       Total: 6
    Untested: 3
      Passed: 2
      Failed: 1
      Result: Fail


  Untested Assessments (first 10):
    4 : Untested 'Simulink:verify_high'
    5 : Untested 'Simulink:verifyTKLow'
    6 : Untested 'Simulink:verifyTKNormal'

  Passed Assessments (first 10):
    1 : Pass 'Simulink:verify_normal'
    2 : Pass 'Simulink:verify_low'

  Failed Assessments (first 10):
    3 : Fail 'Simulink:verify_high'
```

# Input Arguments

### as — Assessment set from which to get a single assessment

`sltest.AssessmentSet`

This is the `sltest.AssessmentSet`, from which to get a single assessment.

Example: `sltest.AssessmentSet`

### `index` — Index of single assessment

integer

Index of a single assessment to return to the `sltest.Assessment` object, specified as an integer.

Example: 3

## See Also

`sltest.Assessment` | `sltest.AssessmentSet` | `sltest.getAssessments`

**Introduced in R2016b**

# getSummary

Get summary of `sltest.AssessmentSet`

## Syntax

```
testOut = getSummary(as)
```

## Description

`testOut = getSummary(as)` gets the summary `testOut` of the `sltest.AssessmentSet` `as`.

## Examples

### Get Assessments from a Simulation

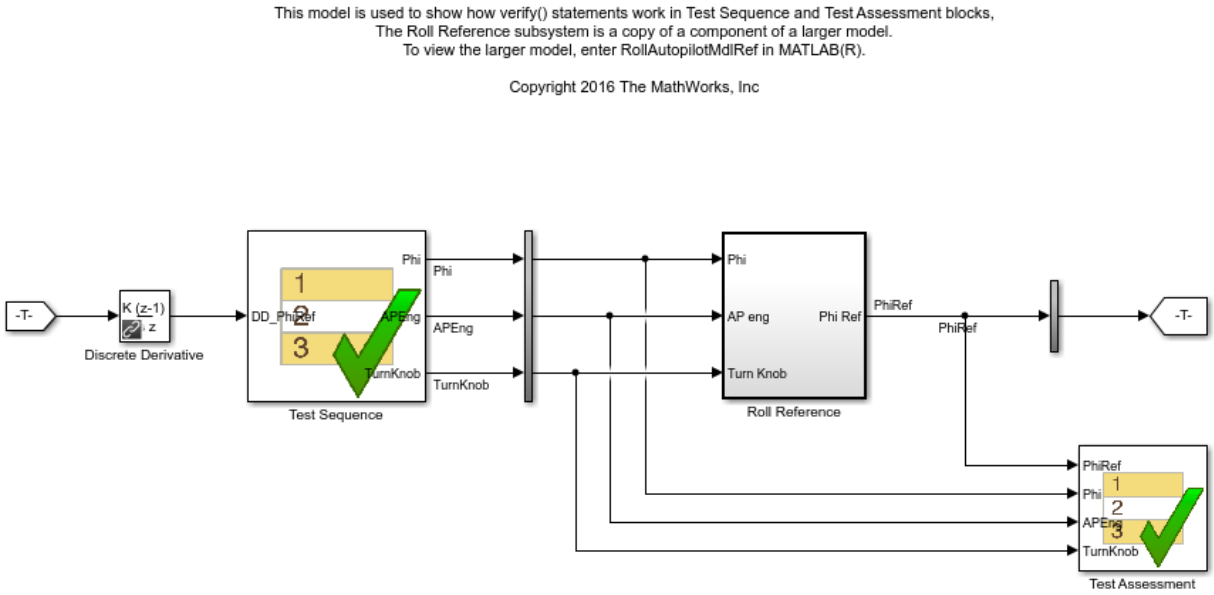
This example shows how to simulate a model with `verify` statements and obtain assessment results via the programmatic interface.

### Get the Assessment Set and One Assessment Result

1. Open the model.

```
open_system(fullfile(matlabroot,'examples','simulinktest','sltestRollRefTestExample.sl
```

```
% Turn the command line warning off for verify() statements
warning off Stateflow:Runtime:TestVerificationFailed
```




2. Run the model.

```
s = sim('sltestRollRefTestExample');
```

3. Get the assessment set.

```
as = sltest.getAssessments('sltestRollRefTestExample');
```

4. Get assessment 3 from the assessment set.

```
as3 = get(as,3);
```

### Display Results of the Assessment Set and Assessment Result

1. Get summary of the assessment set.

```
asSummary = getSummary(as)
```

```
asSummary =

  struct with fields:
```

```
      Total: 6
  Untested: 3
    Passed: 2
    Failed: 1
    Result: Fail
```

2. Display the result of assessment 3.

```
disp(as3)
```

```
  sltest.Assessment
  Package: sltest

  Properties:
         Name: 'Simulink:verify_high'
    BlockPath: [1×1 Simulink.SimulationData.BlockPath]
       Values: [1×1 timeseries]
       Result: Fail
```

3. Find untested or failed results in the assessment set.

```
asFailUntested = find(as,'Result',slTestResult.Fail,'-or','Result',slTestResult.Untest
```

```
asFailUntested =

  sltest.AssessmentSet
  Summary:
       Total: 4
    Untested: 3
      Passed: 0
      Failed: 1
      Result: Fail


  Untested Assessments (first 10):
    2 : Untested 'Simulink:verify_high'
    3 : Untested 'Simulink:verifyTKLow'
    4 : Untested 'Simulink:verifyTKNormal'

  Failed Assessments (first 10):
    1 : Fail 'Simulink:verify_high'
```

4. Find assessments under the Test Assessment block, using a regular expression.

```
assessBlock = find(as,'-regexp','BlockPath','.[Aa]ssess')
```

```
assessBlock =

  sltest.AssessmentSet
  Summary:
       Total: 6
    Untested: 3
      Passed: 2
      Failed: 1
      Result: Fail


  Untested Assessments (first 10):
    4 : Untested 'Simulink:verify_high'
    5 : Untested 'Simulink:verifyTKLow'
    6 : Untested 'Simulink:verifyTKNormal'

  Passed Assessments (first 10):
    1 : Pass 'Simulink:verify_normal'
    2 : Pass 'Simulink:verify_low'

  Failed Assessments (first 10):
    3 : Fail 'Simulink:verify_high'
```

## Input Arguments

### as — Assessment set from which to get a summary

`sltest.AssessmentSet`

This is the `sltest.AssessmentSet`, from which to get a summary.

Example: `sltest.AssessmentSet`

## Output Arguments

### testOut — Assessment summary

struct

Summary of the assessment set, specified as a `struct`.

## See Also

`sltest.Assessment` | `sltest.AssessmentSet` | `sltest.getAssessments`

# sltest.getAssessments

Returns test assessment set object

## Syntax

```
testResults = sltest.getAssessments(model)
```

## Description

`testResults = sltest.getAssessments(model)` returns `testResults`, an `sltest.AssessmentSet` from assessments in `model`. Simulate the model before getting the assessment results.

## Examples

### Create an Assessment Set Object

```
as = sltest.getAssessments('sltestRollRefTestExample')
```

### Get Assessments from a Simulation

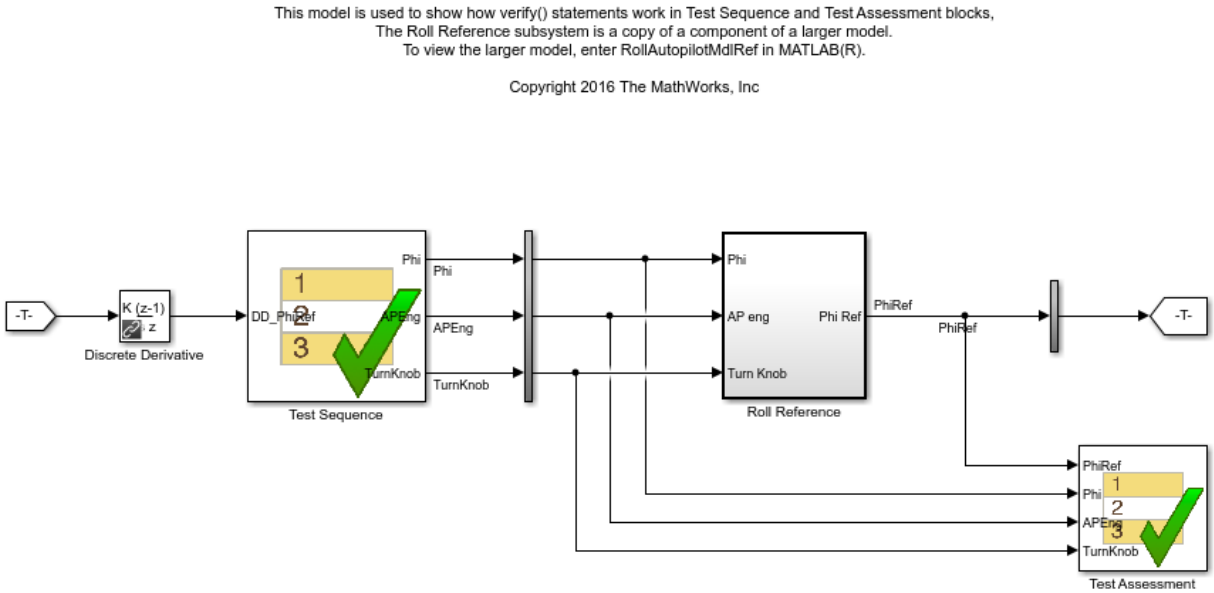
This example shows how to simulate a model with `verify` statements and obtain assessment results via the programmatic interface.

#### Get the Assessment Set and One Assessment Result

1. Open the model.

```
open_system(fullfile(matlabroot,'examples','simulinktest','sltestRollRefTestExample.slx

% Turn the command line warning off for verify() statements
warning off Stateflow:Runtime:TestVerificationFailed
```




2. Run the model.

```
s = sim('sltestRollRefTestExample');
```

3. Get the assessment set.

```
as = sltest.getAssessments('sltestRollRefTestExample');
```

4. Get assessment 3 from the assessment set.

```
as3 = get(as,3);
```

### Display Results of the Assessment Set and Assessment Result

1. Get summary of the assessment set.

```
asSummary = getSummary(as)
```

```
asSummary =

  struct with fields:
```

```
      Total: 6
  Untested: 3
    Passed: 2
    Failed: 1
    Result: Fail
```

2. Display the result of assessment 3.

```
disp(as3)
```

```
  sltest.Assessment
  Package: sltest

  Properties:
         Name: 'Simulink:verify_high'
    BlockPath: [1×1 Simulink.SimulationData.BlockPath]
       Values: [1×1 timeseries]
       Result: Fail
```

3. Find untested or failed results in the assessment set.

```
asFailUntested = find(as,'Result',slTestResult.Fail,'-or','Result',slTestResult.Untest
```

```
asFailUntested =

  sltest.AssessmentSet
  Summary:
       Total: 4
    Untested: 3
      Passed: 0
      Failed: 1
      Result: Fail


  Untested Assessments (first 10):
    2 : Untested 'Simulink:verify_high'
    3 : Untested 'Simulink:verifyTKLow'
    4 : Untested 'Simulink:verifyTKNormal'

  Failed Assessments (first 10):
    1 : Fail 'Simulink:verify_high'
```

4. Find assessments under the Test Assessment block, using a regular expression.

```
assessBlock = find(as,'-regexp','BlockPath','.[Aa]ssess')
```

```
assessBlock =

  sltest.AssessmentSet
  Summary:
       Total: 6
    Untested: 3
      Passed: 2
      Failed: 1
      Result: Fail


  Untested Assessments (first 10):
    4 : Untested 'Simulink:verify_high'
    5 : Untested 'Simulink:verifyTKLow'
    6 : Untested 'Simulink:verifyTKNormal'

  Passed Assessments (first 10):
    1 : Pass 'Simulink:verify_normal'
    2 : Pass 'Simulink:verify_low'

  Failed Assessments (first 10):
    3 : Fail 'Simulink:verify_high'
```

## See Also

`sltest.Assessment` | `sltest.AssessmentSet`

### Introduced in R2016b

# sltest.harness.check

Compare component under test between harness model and main model

## Syntax

```
CheckResult = sltest.harness.check(harnessOwner,harnessName)
[CheckResult,CheckDetails] = sltest.harness.check(harnessOwner,
harnessName)
```

## Description

`CheckResult = sltest.harness.check(harnessOwner,harnessName)` computes the checksum of the component under test in the harness model `harnessName` and compares it to the checksum of the component `harnessOwner` in the main model. The function returns `CheckResult` as `true` or `false`.

`[CheckResult,CheckDetails] = sltest.harness.check(harnessOwner, harnessName)` returns additional details of the check operation to the structure `CheckDetails`.

## Examples

### Compare Checksums for a Subsystem

Compute the checksums of the `Controller` subsystem in the model `f14` and the harness model `controller_harness`, and compare the results.

```
f14;
sltest.harness.create('f14/Controller','Name','controller_harness');
CheckResult = sltest.harness.check('f14/Controller',...
'controller_harness')
```

```
CheckResult = 0
```

### Compare Checksums for a Subsystem and Get Details

Compute the checksums of the `Controller` subsystem in the model `f14` and the harness model `controller_harness`, and compare the results.

```
f14;
sltest.harness.create('f14/Controller','Name','controller_harness');
[CheckResult,CheckDetails] = sltest.harness.check('f14/Controller',...
   'controller_harness')

CheckResult = 0

CheckDetails =

            overall: 0
           contents: 0
          interface: 0
             reason: 'VirtualSubsystem'
```

# Input Arguments

### `harnessOwner` — Model or component

character vector | double

Model or component handle or path, specified as a character vector or double.

Example: `1.9500e+03`

Example: `'model_name'`

Example: `'model_name/Subsystem'`

### `harnessName` — Harness name

character vector

The name of the harness, specified as a character vector.

Example: `'harness_name'`

# Output Arguments

### `CheckResult` — Result of comparison

true | false

The result of the component comparison between the harness model and the system model, returned as true or false.

For a block diagram harness, the function returns `CheckResult` = `true`.

For a virtual subsystem harness, the function returns `CheckResult` = `false`.

### `CheckDetails` — Details of the check operation

structure

Details of the check operation, returned as a structure. Fields contain the results of the overall component comparison, the results of the component interface and contents comparison, the type of component under test in the harness, and the checksum values for the main model and harness model components.

## See Also

`sltest.harness.close` | `sltest.harness.create` | `sltest.harness.delete` | `sltest.harness.export` | `sltest.harness.find` | `sltest.harness.load` | `sltest.harness.open` | `sltest.harness.push` | `sltest.harness.rebuild` | `sltest.harness.set`

### Introduced in R2015a

# sltest.harness.clone

Copy test harness

## Syntax

```
sltest.harness.clone(HarnessOwner,HarnessName)
sltest.harness.clone(HarnessOwner,HarnessName,NewHarness)
```

## Description

`sltest.harness.clone(HarnessOwner,HarnessName)` clones the test harness `HarnessName` associated with the model or component `HarnessOwner`. The cloned harness contains the source harness model contents, configuration settings, and callbacks.

`sltest.harness.clone(HarnessOwner,HarnessName,NewHarness)` uses an additional argument `NewHarness` to specify the name of the cloned harness.

## Examples

### Clone a Subsystem Test Harness

Create a test harness `ControllerHarness1` for the `Controller` subsystem of the model `f14`. Clone the harness and save it as `ControllerHarness2`.

```
f14
sltest.harness.create('f14/Controller','Name','ControllerHarness1',...
'EnableComponentEditing',true)
sltest.harness.clone('f14/Controller','ControllerHarness1','ControllerHarness2')
```

## Input Arguments

### `HarnessOwner` — Model or component

character vector | double

Model or component handle or path, specified as a character vector or double.

Example: 1.9500e+03

Example: 'f14'

Example: 'f14/Controller'

### `HarnessName` — Source harness name
character vector

The name of the source harness, specified as a character vector.

Example: 'ControllerHarness'

### `NewHarness` — Cloned harness name
character vector

The name of the cloned harness, specified as a character vector.

Example: 'ControllerHarness2'

## See Also
`sltest.harness.check` | `sltest.harness.close` | `sltest.harness.create` | `sltest.harness.delete` | `sltest.harness.export` | `sltest.harness.find` | `sltest.harness.load` | `sltest.harness.open` | `sltest.harness.push` | `sltest.harness.rebuild` | `sltest.harness.set`

### Introduced in R2015b

# sltest.harness.close

Close test harness

## Syntax

```
sltest.harness.close(modelName)
sltest.harness.close(harnessOwner)
sltest.harness.close(harnessOwner,harnessName)
```

## Description

`sltest.harness.close(modelName)` closes the open test harness associated with the model `modelName`.

`sltest.harness.close(harnessOwner)` closes the open test harness associated with the model or component `harnessOwner`.

`sltest.harness.close(harnessOwner,harnessName)` closes the test harness `harnessName`, which is associated with the model or component `harnessOwner`.

## Examples

### Close a Harness Associated With a Subsystem

Close the test harness named `controller_harness`, associated with the subsystem `Controller` in the model `f14`.

```
f14;
sltest.harness.create('f14/Controller','Name','sample_controller_harness');
sltest.harness.open('f14/Controller','sample_controller_harness');
sltest.harness.close('f14/Controller','sample_controller_harness');
```

### Close a Harness Associated With a Top-level Model

Close the test harness named `sample_harness`, which is associated with the model `f14`.

```
f14;
```

```
sltest.harness.create('f14','Name','sample_harness');
sltest.harness.open('f14','sample_harness');
sltest.harness.close('f14','sample_harness');
```

## Input Arguments

### `modelName` — Model name

character vector | double

Model handle or path, specified as a character vector or double.

Example: `1.9500e+03`

Example: `'model_name'`

### `harnessOwner` — Model or component name

character vector | double

Model or component handle or path, specified as a character vector or double.

Example: `1.9500e+03`

Example: `'model_name'`

Example: `'model_name/Subsystem'`

### `harnessName` — Harness name

character vector

The name of the harness, specified as a character vector.

Example: 'harness_name'

## See Also

`sltest.harness.check` | `sltest.harness.create` | `sltest.harness.delete` | `sltest.harness.export` | `sltest.harness.find` | `sltest.harness.load` | `sltest.harness.open` | `sltest.harness.push` | `sltest.harness.rebuild` | `sltest.harness.set`

### Introduced in R2015a

# sltest.harness.convert

Convert test harnesses between internal and external storage

## Syntax

```
sltest.harness.convert(modelName)
sltest.harness.convert(modelName,conversion)
```

## Description

`sltest.harness.convert(modelName)` converts the test harnesses storage type for `modelName`.

`sltest.harness.convert(modelName,conversion)` converts test harnesses storage type using the additional option `conversion` specifying which storage type is being converted to.

## Examples

### Convert Test Harnesses from External to Internal

```
sltest.harness.convert('f14','InternalToExternal')
```

## Input Arguments

### `modelName` — Model name

character vector

Model handle or path, specified as a character vector.

Example: `'model_name'`

### `conversion` — Conversion type

`'InternalToExternal' | 'ExternalToInternal'`

Conversion to perform, specified as a character vector.

Example: `'InternalToExternal'`

## See Also

`sltest.harness.check` | `sltest.harness.close` | `sltest.harness.create` | `sltest.harness.delete` | `sltest.harness.export` | `sltest.harness.open`

### Introduced in R2016a

# sltest.harness.create

Create test harness

## Syntax

```
sltest.harness.create(harnessOwner)
sltest.harness.create(harnessOwner,Name,Value)
```

## Description

`sltest.harness.create(harnessOwner)` creates a test harness for the model component `harnessOwner`, using default properties.

`sltest.harness.create(harnessOwner,Name,Value)` uses additional options specified by one or more `Name`,`Value` pair arguments.

## Examples

### Create Harness for a Model

Create harness for the `f14` model. The harness is called `sample_harness` and has a Signal Builder block source and a scope sink.

```
f14;
sltest.harness.create('f14','Name','sample_harness','Source',...
'Signal Builder','Sink','Scope')
```

### Create Harness for a Subsystem

Create harness for the `Controller` subsystem of the `f14` model. The harness allows editing of `Controller` and uses default properties for the other options.

```
f14;
sltest.harness.create('f14/Controller','EnableComponentEditing',true);
```

### Create Default Harness for a Subsystem

Create a default harness for the `Controller` subsystem of the `f14` model.

```
f14;
sltest.harness.create('f14/Controller');
```

# Input Arguments

### `harnessOwner` — Model or component

character vector | double

Model or component handle or path, specified as a character vector or double.

Example: 1.9500e+03

Example: 'model_name'

Example: 'model_name/Subsystem'

## Name-Value Pair Options

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 (`' '`). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'Name','controller_harness','Source','Signal Builder','Sink','To File'` specifies a harness named `controller_harness`, with a signal builder block source and To File block sinks for the component under test.

### `'Name'` — Harness name

character vector

The name for the harness you create, specified as the comma-separated pair consisting of `'Name'` and a valid MATLAB filename.

Example:

```
'Name','harness_name'
```

### `'Description'` — Harness description

character vector

The harness description, specified as the comma-separated pair consisting of `'Description'` and a character vector.

Example:

```
'Description','A test harness'
```

**`'Source'` — Component under test input**
`'Inport'` (default) | `'Signal Builder'` | `'From Workspace'` | `'From File'` | `'Test Sequence'` | `'None'` | `'Custom'`

The input to the component, specified as the comma-separated pair consisting of `'Source'` and one of the possible source values.

Example:

```
'Source','Signal Builder'
```

**`'CustomSourcePath'` — Path to library block for custom source**
character vector

For a custom source, the path to the library block to use as the source, specified as the comma-separated pair consisting of `'CustomSourcePath'` and the path.

Example:

```
'CustomSourcePath','simulink/Sources/Sine Wave'
```

**`'Sink'` — Harness output**
`'Outport'` (default) | `'Scope'` | `'To Workspace'` | `'To File'` | `'None'` | `'Custom'`

The output of the component, specified as the comma-separated pair consisting of `'Sink'` and one of the possible sink values.

Example:

```
'Sink','Scope'
```

**`'CustomSinkPath'` — Path to library block for custom sink**
character vector

For a custom sink, the path to the library block to use as the sink, specified as the comma-separated pair consisting of `'CustomSinkPath'` and the path.

Example:

```
'CustomSinkPath','simulink/Sinks/Terminator'
```

**`'SeparateAssessment'` — Separate Test Assessment block when using Test Sequence source**

`false` (default) | `true`

Option to add a separate Test Assessment block to the test harness, specified as a comma-separated pair consisting of `'SeparateAssessment'` and `false` or `true`. `'Source'` must be `'Test Sequence'`.

Example:

```
'SeparateAssessment',true
```

**`'DriveFcnCallWithTestSequence'` — Connect function call triggers to Test Sequence block output**

`true` (default) | `false`

For a component or block diagram that has function call trigger inputs, this is an option specifying how to connect function call trigger inputs, specified as a comma-separated pair consisting of `'DriveFcnCallWithTestSequence'` and `true` or `false`.

`true` connects function call trigger inputs to outputs of a Test Sequence block. Choose `true` if you want to schedule multiple input function calls in a determined order.

`false` connects function call trigger inputs to Inport blocks. Choose `false` if you want to map an external Boolean timeseries signal to the inports, to drive the function call triggers.

Example:

```
'DriveFcnCallWithTestSequence',false
```

**`'EnableComponentEditing'` — Option for component editing**

`false` (default) | `true`

Option to enable or disable component editing in the harness, specified as a comma-separated pair consisting of `'EnableComponentEditing'` and `false` or `true`.

Example:

```
'EnableComponentEditing',true
```

**`'CreateWithoutCompile'` — Option to create harness without compiling main model**

`false` (default) | `true`

Option to specify harness creation without compiling the main model, specified as a comma-separated pair consisting of `'CreateWithoutCompile'` and `false` or `true`.

`false` compiles the model and runs other operations to support the harness build.

`true` creates the harness without model compilation.

Example:

```
'CreateWithoutCompile',false
```

**`'VerificationMode'` — Option to use normal (model), software-in-the-loop (SIL), or processor-in-the-loop (PIL) block as component under test**
`'Normal'` (default) | `'SIL'` | `'PIL'`

An option to specify what type of block to use in the test harness, specified as a comma-separated pair consisting of `'VerificationMode'` and the type of block to use. SIL and PIL blocks require Simulink Coder.

Example:

```
'VerificationMode','SIL'
```

**`'RebuildOnOpen'` — Sets the harness rebuild command to execute when the harness opens**
`false` (default) | `true`

Option to have the harness rebuild when it opens, specified as the comma-separated pair consisting of `'UseDefaultName'` and `false` or `true`.

Example:

```
'RebuildOnOpen',true
```

**`'RebuildModelData'` — Sets configuration set and model workspace entries to be updated during the test harness rebuild**
`false` (default) | `true`

Option to have the configuration set and model workspace entries updated during test harness rebuild, specified as the comma-separated pair consisting of `'RebuildModelData'` and `true` or `false`.

Example:

```
'RebuildModelData',true
```

### `'SaveExternally'` — Test harnesses saved as separate SLX files

`false` (default) | `true`

Option to have each test harness saved as a separate SLX file, specified as the comma-separated pair consisting of `'SaveExternally'` and `true` or `false`. A model cannot use both external and internal test harness storage. If a model already has test harnesses, a new test harness follows the storage type of the existing harnesses, which this option does not override. See "Manage Test Harnesses".

Example:

```
'SaveExternally',true
```

### `'ScheduleInitTermReset'` — Drive model initialize, reset, and terminate ports

`false` (default) | `true`

Option to drive model initialize, reset, and terminate ports with the chosen test harness source, specified as the comma-separated pair consisting of `'ScheduleInitTermReset'` and `false` or `true`. This option only applies to harnesses created for a block diagram.

Example:

```
'ScheduleInitTermReset',true
```

## See Also

`sltest.harness.check` | `sltest.harness.clone` | `sltest.harness.close` | `sltest.harness.convert` | `sltest.harness.delete` | `sltest.harness.export` | `sltest.harness.find` | `sltest.harness.load` | `sltest.harness.open` | `sltest.harness.set`

### Introduced in R2015a

# sltest.harness.delete

Delete test harness

## Syntax

```
sltest.harness.delete(harnessOwner,harnessName)
```

## Description

`sltest.harness.delete(harnessOwner,harnessName)` deletes the harness `harnessName` associated with `harnessOwner`.

## Examples

### Delete a Harness Associated With a Subsystem

Delete the test harness `controller_harness`, which is associated with the `Controller` subsystem in the `f14` model.

```
f14;
sltest.harness.create('f14/Controller','Name','controller_harness');
sltest.harness.delete('f14/Controller','controller_harness');
```

### Delete a Harness Associated With a Top-level Model

Delete the test harness `bd_harness`, which is associated with the model `f14`.

```
f14;
sltest.harness.create('f14','Name','bd_harness');
sltest.harness.delete('f14','bd_harness');
```

## Input Arguments

### `harnessOwner` — Model or component

character vector | double

Model or component handle or path, specified as a character vector or double.

Example: 1.9500e+03

Example: 'model_name'

Example: 'model_name/Subsystem'

### `harnessName` — Harness name

character vector

The name of the harness, specified as a character vector.

Example: 'harness_name'

## See Also

`sltest.harness.check` | `sltest.harness.clone` | `sltest.harness.close` | `sltest.harness.create` | `sltest.harness.export` | `sltest.harness.find` | `sltest.harness.load` | `sltest.harness.open` | `sltest.harness.push` | `sltest.harness.rebuild` | `sltest.harness.set`

### Introduced in R2015a

# sltest.harness.export

Export test harness to Simulink model

## Syntax

```
sltest.harness.export(harnessOwner,harnessName,'Name',modelName)
```

## Description

`sltest.harness.export(harnessOwner,harnessName,'Name',modelName)` exports the harness `harnessName`, associated with the model or component `harnessOwner`, to a new Simulink® model specified by the pair `'Name',modelName`.

The model must be saved prior to export.

## Examples

### Export a Harness to a New Model

Export the harness `controller_harness`, which is associated with the `Controller` subsystem of the `f14` model. The new model name is `model_from_harness`.

```
f14;
sltest.harness.create('f14/Controller','Name','controller_harness');
save_system('f14');
sltest.harness.export('f14/Controller','controller_harness','Name',...
'model_from_harness');
```

## Input Arguments

### `harnessOwner` — Model or component

character vector | double

Model or component handle or path, specified as a character vector or double

Example: 1.9500e+03

Example: 'model_name'

Example: 'model_name/Subsystem'

### `harnessName` — Name of the harness from which to create the model

character vector

The name of the harness, specified as a character vector.

Example: 'harness_name'

### `modelName` — Name of the new model

character vector

A valid MATLAB filename for the model generated from the harness, specified as a character vector.

Example: 'harness_name'

## See Also

`sltest.harness.check` | `sltest.harness.clone` | `sltest.harness.close` | `sltest.harness.create` | `sltest.harness.delete` | `sltest.harness.find` | `sltest.harness.load` | `sltest.harness.open` | `sltest.harness.push` | `sltest.harness.rebuild` | `sltest.harness.set`

### Introduced in R2015a

# sltest.harness.find

Find test harnesses in model

## Syntax

```
harnessList = sltest.harness.find(harnessOwner)
harnessList = sltest.harness.find(harnessOwner,Name,Value)
```

## Description

`harnessList = sltest.harness.find(harnessOwner)` returns a structure listing harnesses and harness properties that exist for the component or model `harnessOwner`.

`harnessList = sltest.harness.find(harnessOwner,Name,Value)` uses additional search options specified by one or more `Name`,`Value` pair arguments.

## Examples

### Use RegExp to Find Harnesses for a Model Component

Find harnesses for the `f14` model and its first-level subsystems. The function matches harness names according to a regular expression.

```
f14;
sltest.harness.create('f14','Name','model_harness');
sltest.harness.create('f14/Controller','Name','Controller_Harness1');
harnessList = sltest.harness.find('f14','SearchDepth',1,'Name','_[Hh]arnes+',...
'RegExp','on')
```

```
harnessList =

1x2 struct array with fields:

    model
    name
    description
    type
    ownerHandle
```

```
ownerFullPath
ownerType
isOpen
canBeOpened
lockMode
verificationMode
saveIndependently
rebuildOnOpen
rebuildModelData
graphical
origSrc
origSink
```

# Input Arguments

### `harnessOwner` — Model or component

character vector | double

Model or component handle or path, specified as a character vector or double

Example: 1.9500e+03

Example: 'model_name'

Example: 'model_name/Subsystem'

## Name-Value Pair Options

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 (`' '`). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'SearchDepth',2,'Name','controller_harness'` searches the model or component, and two lower hierarchy levels, for harnesses named `controller_harness`.

### `'Name'` — Harness name to search for

character vector | regular expression

Harness name to search for in the model, specified as the comma-separated pair consisting of `'Name'` and a character vector or a regular expression. You can specify a regular expression only if you also use the `Name,Value` pair `'RegExp','on'`.

Example:

```
'Name','sample_harness'
```

```
'Name','_[Hh]arnes+'
```

### 'RegExp' — Ability to search using a regular expression

'off' (default) | 'on'

Ability to search using a regular expression, specified as the comma-separated pair consisting of 'RegExp' and 'off' or 'on'. When 'RegExp' is set to 'on', you can use a regular expression with 'Name'.

Example:

```
'RegExp','on'
```

### 'SearchDepth' — Subsystem levels to search

all levels (default) | nonnegative integer

Subsystem levels into harnessOwner to search for harnesses, specified as the comma-separated pair consisting of 'SearchDepth' and an integer. For example:

0 searches harnessOwner.

1 searches harnessOwner and its subsystems.

2 searches harnessOwner, its subsystems, and their subsystems.

When you do not specify SearchDepth, the function searches all levels of harnessOwner.

Example:

```
'SearchDepth',1
```

### 'OpenOnly' — Search option for open harnesses

'off' (default) | 'on'

Search option to return only active harnesses, specified as the comma-separated pair consisting of 'OpenOnly' and 'off' or 'on'.

Example:

```
'OpenOnly','on'
```

## See Also

sltest.harness.check | sltest.harness.clone | sltest.harness.close | sltest.harness.create | sltest.harness.delete | sltest.harness.export | sltest.harness.load | sltest.harness.open | sltest.harness.push | sltest.harness.rebuild | sltest.harness.set

**Introduced in R2015a**

# sltest.harness.load

Load test harness

## Syntax

```
sltest.harness.load(harnessOwner,harnessName)
```

## Description

`sltest.harness.load(harnessOwner,harnessName)` loads the harness `harnessName` into memory. `harnessName` is associated with the model or component `harnessOwner`.

## Examples

### Load a Harness Associated With a Subsystem

Load the test harness `controller_harness`, which is associated with the `Controller` subsystem in the `f14` model.

```
f14;
sltest.harness.create('f14/Controller','Name','controller_harness');
save_system('f14');
sltest.harness.load('f14/Controller','controller_harness');
```

## Input Arguments

### `harnessOwner` — Model or component

character vector | double

Model or component handle or path, specified as a character vector or double.

Example: 1.9500e+03

Example: 'model_name'

Example: 'model_name/Subsystem'

**`harnessName` — Harness name**
character vector

The name of the harness, specified as a character vector.

Example: 'harness_name'

## See Also

`sltest.harness.check` | `sltest.harness.close` | `sltest.harness.create` | `sltest.harness.delete` | `sltest.harness.export` | `sltest.harness.find` | `sltest.harness.open` | `sltest.harness.push` | `sltest.harness.rebuild` | `sltest.harness.set`

**Introduced in R2015a**

# sltest.harness.move

Move test harness from linked instance to library block

## Syntax

```
sltest.harness.move(harnessOwner,harnessName)
```

## Description

`sltest.harness.move(harnessOwner,harnessName)` moves the test harness `harnessName` associated with the block `harnessOwner` from the linked instance to its reference library block. Moving the test harness removes it from the linked instance.

## Examples

### Move Test Harness from Linked Block to LIbrary

Move the test harness `Baseline_controller_tests` from the linked instance of the `Controller` subsystem to the library subsystem.

Open the model.

```
open_system sltestHeatpumpLibraryLinkExample
```

Move the test harness.

```
sltest.harness.move('sltestHeatpumpLibraryLinkExample/Controller',...
'Baseline_controller_tests')
```

## Input Arguments

### `harnessOwner` — Model or component name

character vector | double

Model or component handle or path, specified as a character vector or double.

Example: `1.9500e+03`

Example: `'model_name'`

Example: `'model_name/Subsystem'`

**`harnessName` — Harness name**
character vector

The name of the harness, specified as a character vector.

Example: 'harness_name'

## See Also

`sltest.harness.close` | `sltest.harness.create` | `sltest.harness.delete` | `sltest.harness.find` | `sltest.harness.open`

**Introduced in R2016a**

# sltest.harness.open

Open test harness

## Syntax

```
sltest.harness.open(harnessOwner,harnessName)
```

## Description

`sltest.harness.open(harnessOwner,harnessName)` opens the harness `harnessName`, which is associated with the model or component `harnessOwner`.

## Examples

### Open a Harness Associated With a Subsystem

Open the test harness `controller_harness`, which is associated with the `Controller` subsystem in the `f14` model.

```
f14;
sltest.harness.create('f14/Controller','Name','controller_harness');
sltest.harness.open('f14/Controller','controller_harness');
```

### Open a Harness Associated With a Model

Open the test harness `sample_harness`, which is associated with the `f14` model.

```
f14;
sltest.harness.create('f14','Name','sample_harness');
sltest.harness.open('f14','sample_harness');
```

## Input Arguments

### `harnessOwner` — Model or component

character vector | double

Model or component handle or path, specified as a character vector or double.

Example: 1.9500e+03

Example: 'model_name'

Example: 'model_name/Subsystem'

### `harnessName` — Harness name

character vector

The name of the harness, specified as a character vector.

Example: 'harness_name'

## See Also

`sltest.harness.check` | `sltest.harness.close` | `sltest.harness.create` | `sltest.harness.delete` | `sltest.harness.export` | `sltest.harness.find` | `sltest.harness.load` | `sltest.harness.push` | `sltest.harness.rebuild` | `sltest.harness.set`

### Introduced in R2015a

# sltest.harness.push

Push test harness workspace entries and configuration set to model

## Syntax

```
sltest.harness.push(harnessOwner,harnessName)
```

## Description

`sltest.harness.push(harnessOwner,harnessName)` pushes the configuration parameter set and workspace entries associated with the component under test from the test harness `harnessName` to the main model containing the model or component `harnessOwner`.

## Examples

### Push Parameters from Harness to Model

Push the parameters of the harness `controller_harness`, which is associated with the `Controller` subsystem in the `f14` model, to the `f14` model.

```
f14;
sltest.harness.create('f14/Controller','Name','controller_harness');
sltest.harness.push('f14/Controller','controller_harness')
```

## Input Arguments

### `harnessOwner` — Model or component

character vector | double

Model or component handle, or path, specified as a character vector or double

Example: 1.9500e+03

Example: 'model_name'

Example: 'model_name/Subsystem'

**`harnessName` — Harness name**
character vector

The name of the harness, specified as a character vector.

Example: 'harness_name'

## See Also

`sltest.harness.check` | `sltest.harness.close` | `sltest.harness.create` | `sltest.harness.delete` | `sltest.harness.export` | `sltest.harness.find` | `sltest.harness.load` | `sltest.harness.open` | `sltest.harness.rebuild` | `sltest.harness.set`

**Introduced in R2015a**

# sltest.harness.rebuild

Rebuild test harness and update workspace entries and configuration parameter set based on main model

## Syntax

```
sltest.harness.rebuild(harnessOwner,harnessName)
```

## Description

`sltest.harness.rebuild(harnessOwner,harnessName)` rebuilds the test harness `harnessName` based on the main model containing `harnessOwner`. The function transfers the configuration set and workspace entries associated with `harnessOwner` to the test harness `harnessName`. The function also rebuilds conversion subsystems in the test harness.

## Examples

### Rebuild Parameters from Harness to Model

Rebuild the harness `controller_harness`, which is associated with the `Controller` subsystem in the `f14` model.

```
f14;
sltest.harness.create('f14/Controller','Name','controller_harness');
sltest.harness.rebuild('f14/Controller','controller_harness');
```

## Input Arguments

### `harnessOwner` — Model or component

character vector | double

Model or component handle, or path, specified as a character vector or double

Example: 1.9500e+03

Example: 'model_name'

Example: 'model_name/Subsystem'

**`harnessName` — Harness name**
character vector

The name of the harness, specified as a character vector.

Example: 'harness_name'

## See Also

`sltest.harness.check` | `sltest.harness.close` | `sltest.harness.create` | `sltest.harness.delete` | `sltest.harness.export` | `sltest.harness.find` | `sltest.harness.load` | `sltest.harness.open` | `sltest.harness.push` | `sltest.harness.set`

**Introduced in R2015a**

# sltest.harness.set

Change test harness property

## Syntax

```
sltest.harness.set(harnessOwner,harnessName,Name,Value)
```

## Description

`sltest.harness.set(harnessOwner,harnessName,Name,Value)` changes a property, specified by one `Name,Value` pair argument, for the test harness `harnessName` owned by the model or component `harnessOwner`.

## Examples

### Change a test harness name

Change the name of the test harness `controller_harness`, which is associated with the `Controller` subsystem in the `f14` model. The new name is `new_name`.

```
f14;
sltest.harness.create('f14/Controller','Name','controller_harness');
sltest.harness.set('f14/Controller','controller_harness','Name','new_name')
```

### Enable component editing in the test harness

Set the test harness `controller_harness` to allow editing of the component under test.

```
f14;
sltest.harness.create('f14/Controller','Name','controller_harness');
sltest.harness.set('f14/Controller','controller_harness',...
'EnableComponentEditing',true);
```

## Input Arguments

### `harnessOwner` — Model or component

character vector | double

Model or component handle, or path, specified as a character vector or double

Example: 1.9500e+03

Example: 'model_name'

Example: 'model_name/Subsystem'

**`harnessName` — Harness name**
character vector

The name of the harness, specified as a character vector.

Example: 'harness_name'

## Name-Value Pair Options

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 (`' '`). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'Name','updated_harness'` specifies a new harness name `'updated_harness'`.

**`'Name'` — New harness name**
character vector

The new name for the harness, specified as the comma-separated pair consisting of `'Name'` and a valid MATLAB filename.

Example:

```
'Name','new_harness_name'
```

**`'Description'` — New harness description**
character vector

The new description for the harness, specified by the comma-separated pair consisting of `'Description'` and a character vector.

Example:

```
'Description','An updated test harness'
```

**`'EnableComponentEditing'` — Set the option for component editing**
`false | true`

An option to enable or disable component editing in the harness, specified by a comma-separated pair consisting of `'EnableComponentEditing'` and `false` or `true`.

Example:

```
'EnableComponentEditing',true
```

**`'RebuildOnOpen'` — Sets the harness rebuild command to execute when the harness opens**
`false` (default) | `true`

Option to have the harness rebuild when it opens, specified as the comma-separated pair consisting of `'UseDefaultName'` and `false` or `true`.

Example:

```
'RebuildOnOpen',true
```

**`'RebuildModelData'` — Sets configuration set and model workspace entries to be updated during the test harness rebuild**
`false` (default) | `true`

Option to have the configuration set and model workspace entries updated during test harness rebuild, specified as the comma-separated pair consisting of `'RebuildModelData'` and `true` or `false`.

Example:

```
'RebuildModelData',true
```

**`'RebuildWithoutCompile'` — Sets the harness to rebuild without compiling the main model**
`false` (default) | `true`

Option to rebuild the harness without compiling the main model, in which cached information from the most recent compile is used to update the test harness workspace, and conversion subsystems are not updated, specified as the comma-separated pair consisting of `'RebuildWithoutCompile'` and `true` or `false`.

Example:

```
'RebuildWithoutCompile',true
```

## See Also

`sltest.harness.check` | `sltest.harness.close` | `sltest.harness.create` | `sltest.harness.delete` | `sltest.harness.export` | `sltest.harness.find` | `sltest.harness.load` | `sltest.harness.open` | `sltest.harness.push` | `sltest.harness.rebuild`

**Introduced in R2015a**

# sltest.import.sldvData

Create test cases from Simulink Design Verifier results

## Syntax

```
[owner,testHarness,testFile] = sltest.import.sldvData(dataFile)
[owner,testHarness,testFile] = sltest.import.sldvData(dataFile,Name,
Value)
```

## Description

`[owner,testHarness,testFile] = sltest.import.sldvData(dataFile)` creates a test harness and test file using Simulink Design Verifier™ analysis results contained in `dataFile`. The function returns the model component `owner` associated with the test case, the `testHarness`, and the `testFile`.

`[owner,testHarness,testFile] = sltest.import.sldvData(dataFile,Name,Value)` uses additional options specified by one or more `Name`,`Value` pair arguments.

## Examples

### Create Test Cases for ShiftLogic Subsystem

Create a test file and test harness for the ShiftLogic subsystem in the `sldvdemo_autotrans` model. The inputs reflect the analysis objectives.

Analyze the ShiftLogic subsystem with Simulink Design Verifier to generate test inputs for subsystem coverage. The results data file is `ShiftLogic_sldvdata.mat`.

Create the test case.

```
[component,harness,testfile] = sltest.import.sldvData...
('./ShiftLogic/ShiftLogic_sldvdata.mat','TestHarnessName',...
'CoverageHarness','TestFileName','CoverageTests')
```

Open the test harness.

```
sltest.harness.open(component,harness)
```

Open the test file.

```
open([testfile '.mldatx'])
```

### Create Test Cases for ShiftLogic Subsystem Using an Existing Test Harness

Create a test file and test harness for the ShiftLogic subsystem in the `sldvdemo_autotrans` model, using an existing test harness.

Analyze the ShiftLogic subsystem with Simulink Design Verifier to generate test inputs for subsystem coverage. The results data file is `ShiftLogic_sldvdata.mat`. The existing test harness is named `DatafileHarness`.

Create the test case.

```
[component,harness,testfile] = sltest.import.sldvData...
('./sldv_output/ShiftLogic/ShiftLogic_sldvdata.mat',...
'TestHarnessName','DatafileHarness','TestFileName','CoverageTests',...
'CreateHarness',false)
```

Open the test harness.

```
sltest.harness.open(component,harness)
```

Open the test file.

```
open([testfile '.mldatx'])
```

- “Test Models Using Inputs Generated by Simulink Design Verifier”

## Input Arguments

### `dataFile` — Path and file name

character vector

Path and file name of the data file generated by Simulink Design Verifier analysis, specified as a character vector.

Example: 'ShiftLogic0/ShiftLogic0_sldvdata.mat'

Example: 'Controller_sldvdata.mat'

## Name-Value Pair Options

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 (`' '`). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'TestHarnessName','DatafileHarness','CreateHarness',false`

**`'CreateHarness'` — Create a test harness for the model or subsystem**
`true` (default) | `false`

Option to add a test harness to the model or model component, which corresponds to the test cases in the test file, specified as a comma-separated pair consisting of `'CreateHarness'` and `true` or `false`.

If you specify `true`, use a new test harness name with the `'TestHarnessName'` name-value pair.

If you specify `false`, use an existing test harness name with the `'TestHarnessName'` name-value pair.

---

**Note:** If the model under analysis is a test harness, the `CreateHarness` default value is `false`.

---

Example:

```
'CreateHarness',false
```

**`'TestHarnessName'` — Harness name**
character vector

The test harness used for running the test cases, specified as the comma-separated pair consisting of `'TestHarnessName'` and the name of a test harness.

Use a new test harness name if `'CreateHarness'` is `true` and an existing test harness name if `'CreateHarness'` is `false`.

Example:

```
'TestHarnessName','ModelCoverageTestHarness'
```

### `'TestFileName'` — Test file name

character vector

The name for the test file created for the test cases, specified as the comma-separated pair consisting of `'TestFileName'` and the name of a test file.

Example:

```
'TestFileName','ModelCoverageTests'
```

### `'ExtractedModelPath'` — Path of extracted model

character vector

The path to the model extracted from Simulink Design Verifier analysis, specified as the comma-separated pair consisting of `'ExtractedModelPath'` and a path.

Simulink Test™ uses the extracted model to generate the test harness. By default, `sltest.import.sldvData` looks for the extracted model in the output folder specified in the Design Verifier configuration parameters. Use `ExtractedModelPath` if the extracted model is in a different location.

Simulink Design Verifier does not use an extracted model when you analyze a top-level model. When you generate test cases for a top-level model, Simulink Test does not use `'ExtractedModelPath'`.

Example:

```
'Tests/ExtractedModels/'
```

### Introduced in R2015b

# sltest.testmanager.clear

Clear all test files from the Simulink Test manager

## Syntax

```
sltest.testmanager.clear
```

## Description

`sltest.testmanager.clear` clears all the test files from the Simulink Test manager. Changes to unsaved test files are not saved.

## Examples

### Clear Test File from Test Manager

```
% Create test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'simulation','Simulation Test Case');

% Clear test file from test manager
sltest.testmanager.clear;
```

- "Automate Tests Programmatically"

## See Also

`sltest.testmanager.close` | `sltest.testmanager.view`

### Introduced in R2015a

# sltest.testmanager.clearResults

Clear all results from Test Manager

## Syntax

```
sltest.testmanager.clearResults
```

## Description

`sltest.testmanager.clearResults` clears all of the results data from the Test Manager **Results and Artifacts** pane.

## Examples

### Clear Results From Test Manager

```
% Run test files in Test Manager
sltest.testmanager.run;

% Clear results from Test Manager
sltest.testmanager.clearResults
```

- "Automate Tests Programmatically"

## See Also

`sltest.testmanager.clear`

### Introduced in R2016a

# sltest.testmanager.close

Close the Simulink Test Manager

## Syntax

```
sltest.testmanager.close
```

## Description

`sltest.testmanager.close` closes the Simulink Test Manager interface. Test files and results are retained in the Test Manager until the MATLAB® session is closed.

## Examples

### Clear Test File and Close Test Manager

```
% Create test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'simulation','Simulation Test Case');

% Clear test file from Test Manager
sltest.testmanager.clear;

% Close Test Manager
sltest.testmanager.close;
```

- “Automate Tests Programmatically”

## See Also

`sltest.testmanager.view`

### Introduced in R2015a

# sltest.testmanager.copyTests

Copy test cases or test suites to another location

## Syntax

```
objArray = sltest.testmanager.copyTests(srcObjArray,targetObj)
```

## Description

`objArray = sltest.testmanager.copyTests(srcObjArray,targetObj)` copies test cases or test suites to another test file or test suite.

## Examples

### Copy Test Cases to a New Test Suite

```
% Create test structure
tf = sltest.testmanager.TestFile('Test File');
ts_orig = tf.createTestSuite('Original Test Suite');
tc1 = ts_orig.createTestCase('baseline','Baseline Test Case 1');
tc2 = ts_orig.createTestCase('baseline','Baseline Test Case 2');

% Create new test suite for the target location
ts_new = tf.createTestSuite('New Test Suite');

% Copy test cases to new test suite
objArray = sltest.testmanager.copyTests([tc1,tc2],ts_new)
```

```
objArray =

  1x2 TestCase array with properties:

    Name
    Description
    Enabled
    ReasonForDisabling
    TestFile
    TestPath
```

```
    TestType
    Parent

% Look at the details of the object array
objArray(1)

ans =

  TestCase with properties:

          Name: 'Baseline Test Case 1'
    Description: ''
        Enabled: 1
       TestFile: [1x1 sltest.testmanager.TestFile]
       TestPath: 'Test File > New Test Suite > Baseline Test Case 1'
       TestType: 'baseline'
         Parent: [1x1 sltest.testmanager.TestSuite]
```

- "Automate Tests Programmatically"

# Input Arguments

### `srcObjArray` — Test case or test suites to copy

object array

Test cases or test suites to copy, specified as an array of sltest.testmanager.TestCase or sltest.testmanager.TestSuite objects.

### `targetObj` — Target test file or test suite

object

The destination test file or test suite to copy to, specified as an sltest.testmanager.TestFile or sltest.testmanager.TestSuite object.

# Output Arguments

### `objArray` — Test cases or test suites at new location

object array

Test cases or test suites at the target destination location, returned as an array of sltest.testmanager.TestCase or sltest.testmanager.TestSuite objects.

## See Also

`sltest.testmanager.moveTests`

**Introduced in R2015b**

# sltest.testmanager.createTestsFromModel

Generate test cases from a model

## Syntax

```
testFile = sltest.testmanager.createTestsFromModel(filePath,
modelName,testType)
```

## Description

`testFile = sltest.testmanager.createTestsFromModel(filePath, modelName,testType)` generates test cases based on the model structure. The function creates test cases from test harnesses and Signal Builder groups in the model and assigns them to a test file.

## Examples

### Create Test Cases From a Model

Create a new test file with new test cases in the Test Manager. Each test case uses a Signal Builder group scenario.

```
testFile = sltest.testmanager.createTestsFromModel('C:\MATLAB\TestFile.mldatx',...
    'sldemo_autotrans','baseline')
```

```
testFile =

  TestFile with properties:

        Name: 'TestFile'
    FilePath: 'C:\MATLAB\TestFile.mldatx'
       Dirty: 0
```

- “Automate Tests Programmatically”

## Input Arguments

### `filePath` — Test file name and path

character vector

The path and name of the test file to save the generated test cases to, specified as a character vector.

Example: `'C:\MATLAB\TestFile.mldatx'`

### `modelName` — Model name

character vector

The name of the model to generate test cases from, specified as a character vector.

Example: `'sldemo_autotrans'`

### `testType` — Test case type

`'baseline'` (default) | `'simulation'` | `'equivalence'`

The type of test cases to generate, specified as a character vector. The function creates test cases using this test case type.

## Output Arguments

### `testFile` — Test file

`sltest.testmanager.TestFile` object

Test file that contains the generated test cases, returned as an sltest.testmanager.TestFile object.

### Introduced in R2015b

# sltest.testmanager.exportResults

Export results set from Test Manager

## Syntax

```
sltest.testmanager.exportResults(resultObjs,filePath)
```

## Description

`sltest.testmanager.exportResults(resultObjs,filePath)` exports the specified results set objects to a .mldatx file.

## Examples

### Export Results Set From Test Manager

```
% Get the results set object from Test Manager
result = sltest.testmanager.getResultSets

% Export the results set object to a file
sltest.testmanager.exportResults(Obj,'C:\MATLAB\results.mldatx')
```

- "Automate Tests Programmatically"

## Input Arguments

### `resultObjs` — Results set array

object

Result sets, specified as an array of sltest.testmanager.ResultSet objects.

### `filePath` — Results file path and name

character vector

The file path and name of the result file you want to output, specified as a character vector. The results file is a .mldatx file.

Example: `'C:\MATLAB\results.mldatx'`

## See Also

sltest.testmanager.ResultSet | `sltest.testmanager.getResultSets`

**Introduced in R2016a**

# sltest.testmanager.getResultSets

Returns result set objects in Test Manager

## Syntax

```
rsList = sltest.testmanager.getResultSets
```

## Description

`rsList = sltest.testmanager.getResultSets` returns an array of result set objects, sltest.testmanager.ResultSet, from the results currently in the Test Manager **Results and Artifacts** pane.

## Examples

### Get Test Suite Result

If there is a test suite result in the Test Manager that you want to interact with programmatically, then you can use this function to get the result set object, `sltest.testmanager.ResultSet`.

```
rsList = sltest.testmanager.getResultSets;
tsrList = getTestSuiteResults(rsList(1));
```

- "Automate Tests Programmatically"

## Output Arguments

### `rsList` — Result set array

array of objects

The results currently in the Test Manager **Results and Artifacts** pane, returned as an array of sltest.testmanager.ResultSet objects.

## See Also

sltest.testmanager.ResultSet | `sltest.testmanager.view`

**Introduced in R2016a**

# sltest.testmanager.getTestFiles

Get all test files open in the Test Manager

## Syntax

```
testFiles = sltest.testmanager.getTestFiles
```

## Description

`testFiles = sltest.testmanager.getTestFiles` returns an array of test files that are currently open in the Test Manager. The array contains an `sltest.testmanager.TestFile` object for each test file.

## Examples

### Get Test Files From Test Manager

If there are test files open in the Test Manager, then you can use the function to get the `sltest.testmanager.TestFile` objects for each test file.

Load test files in the Test Manager that you want to get the objects for.

```
% Get test files from Test Manager
testFiles = sltest.testmanager.getTestFiles
```

- "Automate Tests Programmatically"

## Output Arguments

### `testFiles` — Test files

`sltest.testmanager.TestFile` object array

Test files that are open in the test manager, returned as an array of sltest.testmanager.TestFile objects.

## See Also

sltest.testmanager.TestFile | `sltest.testmanager.view`

**Introduced in R2016b**

# sltest.testmanager.importResults

Import Test Manager results file

## Syntax

```
resultObjs = sltest.testmanager.importResults(filePath)
```

## Description

`resultObjs = sltest.testmanager.importResults(filePath)` imports a results set file (.mldatx) into the Test Manager.

## Examples

### Import Results and Generate Report

```
% Import results set from a file
result = sltest.testmanager.importResults('testResults.mldatx');

% Set a filepath and filename for the report
filePath = 'testreport.zip';

% Generate the report
sltest.testmanager.report(result,filePath,...
   'Author','User',...
   'Title','Test',...
   'IncludeMLVersion',true,...
   'IncludeTestResults',int32(0),...
   'LaunchReport', true);
```

- “Automate Tests Programmatically”

## Input Arguments

### `filePath` — File name and path of results set

character vector

File name and path of results set, specified as a character vector.

Example: `'testResults.mldatx'`

## Output Arguments

### `resultObjs` — Results set

object

Results set, returned as an array of sltest.testmanager.ResultSet objects.

## See Also

sltest.testmanager.ResultSet | `sltest.testmanager.report`

### Introduced in R2016a

# sltest.testmanager.load

Load a test file in the Simulink Test manager

## Syntax

```
tfObj = sltest.testmanager.load(filename)
```

## Description

`tfObj = sltest.testmanager.load(filename)` loads a test file in the Simulink Test manager.

## Examples

### Load Example Test File

In this example, the test file is from the "Overriding Model Parameters in a Test Case" example.

```
% Path to the example test file
exampleFile = fullfile(matlabroot,...
          'toolbox','simulinktest','simulinktestdemos',...
          'sltestParameterOverridesTestSuite.mldatx');

% Load the example test file
sltest.testmanager.load(exampleFile);

% View the test file in the test manager
sltest.testmanager.view;
```

- "Automate Tests Programmatically"

## Input Arguments

### `filename` — File name of test file

character vector

File name of a test file, specified as a character vector. The character vector must fully specify the location of the test file.

Example: `'C:\MATLAB\test_file.mldatx'`

## Output Arguments

### `tfObj` — Test file object

object

Test file, returned as an sltest.testmanager.TestFile object.

## See Also

`sltest.testmanager.run` | sltest.testmanager.TestFile | `sltest.testmanager.view`

### Introduced in R2015a

# sltest.testmanager.moveTests

Move test cases or test suites to a new location

## Syntax

```
objArray = sltest.testmanager.moveTests(srcObjArray,targetObj)
```

## Description

`objArray = sltest.testmanager.moveTests(srcObjArray,targetObj)` moves test cases or test suites to another test file or test suite.

## Examples

### Move Test Suite to a New Test File

```
% Create test structure
tf1 = sltest.testmanager.TestFile('Test File 1');
ts = tf1.createTestSuite('Test Suite');

% Create new test file
tf2 = sltest.testmanager.TestFile('Test File 2');

% Move test suite to Test File 2
objArray = sltest.testmanager.moveTests(ts,tf2)
```

```
objArray =

  TestSuite with properties:

          Name: 'Test Suite'
    Description: ''
        Enabled: 1
       TestFile: [1x1 sltest.testmanager.TestFile]
       TestPath: 'Test File 2 > Test Suite'
         Parent: [1x1 sltest.testmanager.TestFile]
```

- “Automate Tests Programmatically”

## Input Arguments

**`srcObjArray` — Test case or test suites to move**
object array

Test cases or test suites to move, specified as an array of sltest.testmanager.TestCase or sltest.testmanager.TestSuite objects.

**`targetObj` — Target test file or test suite**
object

The destination test file or test suite to move to, specified as an sltest.testmanager.TestFile or sltest.testmanager.TestSuite object.

## Output Arguments

**`objArray` — Test cases or test suites at new location**
object array

Test cases or test suites at the target destination location, returned as an array of sltest.testmanager.TestCase or sltest.testmanager.TestSuite objects.

## See Also

`sltest.testmanager.copyTests`

**Introduced in R2015b**

# sltest.testmanager.report

Generate report of test results

## Syntax

```
sltest.testmanager.report(resultObj,filePath,Name,Value)
```

## Description

`sltest.testmanager.report(resultObj,filePath,Name,Value)` generates a report of the specified results in `resultObj` and saves the report to the `filePath` location.

## Examples

### Generate a Test Report

Generate a report that includes the test author, test title, and the MATLAB version used to run the test case. The report includes only failed results.

```
filePath = 'test.pdf';
sltest.testmanager.report(resultObj,filePath,...
 'Author','TestAuthor',...
 'Title','Test',...
 'IncludeMLVersion',true,...
 'IncludeTestResults',2);
```

### Use Custom Report Class to Generate Report

If you create a custom class to customize how the report is generated using the `sltest.testmanager.TestResultReport` class, then generate the report using:

```
% Import existing results or use sltest.testmanager.run to run tests
% and collect results
result = sltest.testmanager.importResults('testResults.mldatx');
filePath = 'testreport.zip';
sltest.testmanager.report(result,filePath,...
```

```
    'Author','User',...
    'Title','Test',...
    'IncludeMLVersion',true,...
    'IncludeTestResults',int32(0),...
    'CustomReportClass','CustomReport',...
    'LaunchReport',true);
```

- "Automate Tests Programmatically"

# Input Arguments

### `resultObj` — Results set object

object

Results set object to get results from, specified as an sltest.testmanager.ResultSet object.

### `filePath` — File name and path of the generated report

character vector

File name and path of the generated report, specified as a character vector. File path must have file extension of pdf, docx, or zip, which are the only supported file types.

## 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 (`' '`). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'IncludeTestRequirement',true`

### `'Author'` — Report author

empty character vector (default)

Name of the report author, specified as a character vector.

Example: `'Test Engineer'`

### `'Title'` — Report title

`'Test'` (default) | character vector

Title of the report, specified as a character vector.

Example: `'Test_Report_1'`

**`'IncludeMLVersion'` — Include the MATLAB version**
`true` (default) | `false`

Choose to include the version of MATLAB used to run the test cases, specified as a Boolean value, `true` or `false`.

**`'IncludeTestRequirement'` — Include the test requirement**
`true` (default) | `false`

Choose to include the test requirement link defined under **Requirements** in the test case, specified as a Boolean value, `true` or `false`.

**`'IncludeSimulationSignalPlots'` — Include the simulation output plots**
`false` (default) | `true`

Choose to include the simulation output plots of each signal, specified as a Boolean value, `true` or `false`.

**`'IncludeComparisonSignalPlots'` — Include the comparison plots**
`false` (default) | `true`

Choose to include the signal comparison plots defined under baseline criteria, equivalence criteria, or assessments using the `verify` operator in the test case, specified as a Boolean value, `true` or `false`.

**`'IncludeErrorMessages'` — Include error messages**
`true` (default) | `false`

Choose to include any error messages from the test case simulations, specified as a Boolean value, `true` or `false`.

**`'IncludeTestResults'` — Include all or subset of test results**
`2` (default) | `0` | `1`

Choose to include all or a subset of test results in the report. You can select all results (passed and failed), specified as the integer value `0`, select only passed results, specified as the value `1`, or select only failed results, specified as the value `2`.

**`'LaunchReport'` — Open report at completion**
`true` (default) | `false`

Open the report when it is finished generating, specified as a Boolean value, `true` or to not open the report, `false`.

**`'CustomTemplateFile'` — Path to document template**
character vector

Name and path for a Microsoft® Word template file to use for report generation, specified as a character vector. This is an optional argument that is only available if you have a MATLAB Report Generator™ license.

**`'CustomReportClass'` — Class name for customized report**
character vector

Name of the class used for report customization, specified as a character vector. This is an optional argument that is only available if you have a MATLAB Report Generator license.

**`'IncludeCoverageResult'` — Include coverage result metrics**
`false` (default) | `true`

Choose to include coverage metrics that are collected at test execution, specified as a Boolean value, `true` or `false`. For more information about collecting coverage, see "Collect Coverage in Tests".

**`'IncludeSimulationMetadata'` — Include simulation metadata**
`true` (default) | `false`

Choose to include simulation metadata for each test case or iteration, specified as a Boolean value, `true` or `false`. The metadata includes: Simulink version, model version, model author, date, model user ID, model path, machine name, solver name, solver type, fixed step size, simulation start time, simulation stop time, and platform.

## See Also

sltest.testmanager.ResultSet | sltest.testmanager.TestResultReport

**Introduced in R2015a**

# sltest.testmanager.run

Run test in the Simulink Test manager

## Syntax

```
resultObj = sltest.testmanager.run
resultObj = sltest.testmanager.run(tObj)
resultObj = sltest.testmanager.run('runWithPCT',value)
```

## Description

`resultObj = sltest.testmanager.run` runs all of the test files in the Simulink Test manager. The function returns a sltest.testmanager.ResultSet object.

`resultObj = sltest.testmanager.run(tObj)` runs a test file, test suite, or test case that is loaded in the Simulink Test manager. The function returns a sltest.testmanager.ResultSet object.

`resultObj = sltest.testmanager.run('runWithPCT',value)` runs all of the test files in the Simulink Test manager using parallel execution. The function returns a sltest.testmanager.ResultSet object. The function runs tests in parallel only if you have a license to Parallel Computing Toolbox™.

## Examples

### Run a Test Case

You can run tests at a test-file, test-suite, or test-case level if they are loaded in the test manager.

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'simulation','Simulation Test Case');

% Assign the system under test to the test case
```

```
setProperty(tc,'Model','sldemo_autotrans');

% Run the test case and return results data
ro = run(tc);
```

- "Automate Tests Programmatically"

## Input Arguments

### `tObj` — Test object

object

Test file, test suite, or test case that you want to run in the test manager, specified as a sltest.testmanager.TestFile, sltest.testmanager.TestSuite, or sltest.testmanager.TestCase object that is loaded in the test manager.

### `value` — Enable parallel execution

`false` (default) | `true`

Enable parallel test execution, specified as `true` or `false`. The function runs tests in parallel only if you have a license to Parallel Computing Toolbox.

Example: `'runWithPCT',true`

## Output Arguments

### `resultObj` — Results set object

object

Results set object to get results from, returned as a sltest.testmanager.ResultSet object.

## See Also

`sltest.testmanager.load`

### Introduced in R2015a

# sltest.testmanager.view

Launch the Simulink Test Manager

## Syntax

```
sltest.testmanager.view
```

## Description

`sltest.testmanager.view` launches the Simulink Test Manager interface. You can also use the function `sltestmgr` to launch the Test Manager.

## Examples

### Create Test Case and View in Test Manager

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Assign the system under test to test case
setProperty(tc,'Model','sldemo_absbrake');

% Open Test Manager to view and edit test case
sltest.testmanager.view;
```

- "Automate Tests Programmatically"

## See Also

`sltest.testmanager.load` | `sltest.testmanager.run`

### Introduced in R2015a

# sltest.testsequence.addStep

Add new test sequence step

## Syntax

```
sltest.testsequence.addStep(blockPath,stepPath,Name,Value)
```

## Description

`sltest.testsequence.addStep(blockPath,stepPath,Name,Value)` adds a step named `stepPath` to a Test Sequence block specified by `blockPath`. Step properties are specified by `Name,Value`.

## Examples

### Create a New Test Step

This example creates a test step in the Projector Fan Speed example test sequence under the parent step `SystemHeatingTest`.

Set paths and open the model.

```
Model = 'sltestProjectorFanSpeedExample';
Harness = 'FanSpeedTestHarness';
open_system(Model);
```

Open the test harness.

```
sltest.harness.open(Model,Harness);
```

Create a new local variable `h`.

```
sltest.testsequence.addSymbol('FanSpeedTestHarness/Test Sequence',...
'h','Data','Local');
```

Create a step `substep1` under the step `SystemHeatingTest` and assign the value `5` to `h`..

```
sltest.testsequence.addStep('FanSpeedTestHarness/Test Sequence',...
'SystemHeatingTest.substep1','Label','h = 5')
```

- “Programmatically Create a Test Sequence”

# Input Arguments

### `blockPath` — Test Sequence block path

character vector

Path to a Test Sequence block, including block name, specified as a character vector.

Example: 'FanSpeedTestHarness/Test Sequence'

### `stepPath` — New test step name and level in hierarchy

character vector

Path to the new step in the Test Sequence block, specified as a character vector. The new step must not already exist in the Test Sequence block. The path must include the step location in the Test Sequence hierarchy, using `.` to separate hierarchy levels. The new step is appended to the end of the hierarchy level.

Example: 'SystemHeatingTest.NewStep'

## Name-Value Pair Options

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 (`' '`). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'Label','out = square(et)','IsWhenStep',false,'Description','This step produces a square wave.'` specifies a test step to produce a square wave.

### `'Label'` — Test step actions

character vector

The test step action programming. To add a line, create the step actions using the `sprintf` function and the new line operator `\n`.

Example:

```
'Label','out = square(et)'

action = sprintf('mode = uint8(3)\nout = square(et)\n%%New step action')
'Label',action
```

### `'IsWhenStep'` — Specifies standard or When decomposition step

false (default) | true

Specifies whether the step is a standard transition type or a When decomposition transition

Example:

```
'IsWhenStep',true
```

### `'WhenCondition'` — When decomposition step switch condition

character vector

Specifies the condition that activates a when decomposition child step. This must be a valid logical expression for the When step to activate.

Example:

```
'WhenCondition','a >= 1'
```

### `'Description'` — Description for the test step

character vector

Test step description, specified as a character vector.

Example:

```
'Description','This step produces a high-frequency square wave.'
```

## See Also

`sltest.testsequence.addStepAfter` | `sltest.testsequence.addStepBefore` | `sltest.testsequence.addSymbol` | `sltest.testsequence.addTransition` | `sltest.testsequence.editStep` | `sltest.testsequence.find`

### Introduced in R2016a

# sltest.testsequence.addStepAfter

Add test sequence step after existing step

## Syntax

```
sltest.testsequence.addStepAfter(blockPath,newStep,
precedingStepPath,Name,Value)
```

## Description

`sltest.testsequence.addStepAfter(blockPath,newStep, precedingStepPath,Name,Value)` adds a step to a Test Sequence block specified by `blockPath`. The new step is named `newStep` and is inserted immediately after the step `precedingStepPath`. Step properties are specified by `Name,Value`.

## Examples

### Create a New Test Step

This example creates a test step `step1` in a test sequence block after the step `SetLowPhi`, which is in the second level of hierarchy under the top-level step `APEngagement_AttitudeLevels`.

Set paths and open the model.

```
filePath = fullfile(matlabroot,'toolbox','simulinktest','simulinktestdemos');
rollModel = 'RollAutopilotMdlRef';
testHarness = 'RollReference_Requirement1_3';
open_system(fullfile(filePath,rollModel));
```

Open the test harness.

```
sltest.harness.open([rollModel '/Roll Reference'],testHarness)
```

Create a new local variable `h`.

```
sltest.testsequence.addSymbol('RollReference_Requirement1_3/Test Sequence',...
```

```
'h','Data','Local');
```

Add a step named `step2` and set the value of `h` to `5`.

```
sltest.testsequence.addStepAfter('RollReference_Requirement1_3/Test Sequence',...
'AttitudeLevels.APEngage_LowRoll.step2',...
'AttitudeLevels.APEngage_LowRoll.SetLowPhi','Label','h = 5;')
```

- "Programmatically Create a Test Sequence"

# Input Arguments

### `blockPath` — Test Sequence block path

character vector

Path to a Test Sequence block, including block name, specified as a character vector.

Example: 'TestHarness/Test Sequence'

### `newStep` — New test step name or handle

character vector

Name of a new test step in the Test Sequence block, specified as a character vector. The new step must not already exist in the Test Sequence block. It will be added immediately after `precedingStepPath` and have the same parent step.

Example: 'newStep'

Example: 'topStep.midStep.newStep'

### `precedingStepPath` — Preceding test step path

character vector

Path to an existing step in the Test Sequence block, specified as a character vector, after which `newStep` is inserted. The path must include the step location in the Test Sequence hierarchy, using `.` to separate levels of hierarchy.

Example: 'topStep.midStep.afterStep'

## Name-Value Pair Options

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 (' '). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'Label','out = square(et)','IsWhenStep',false,'Description','This step produces a square wave.'` specifies a test step to produce a square wave.

### `'Label'` — Test step actions

character vector

The test step action programming. To add a line, create the step actions using the `sprintf` function and the new line operator `\n`.

Example:

```
'Label','out = square(et)'
```

```
action = sprintf('mode = uint8(3)\nout = square(et)\n%%New step action')
'Label',action
```

### `'IsWhenStep'` — Specifies standard or When decomposition step

false (default) | true

Specifies whether the step is a standard transition type or a When decomposition transition

Example:

```
'IsWhenStep',true
```

### `'WhenCondition'` — When decomposition step switch condition

character vector

Specifies the condition that activates a when decomposition child step. This must be a valid logical expression for the When step to activate.

Example:

```
'WhenCondition','a >= 1'
```

### `'Description'` — Description for the test step

character vector

Test step description, specified as a character vector.

Example:

```
'Description','This step produces a high-frequency square wave.'
```

## See Also

`sltest.testsequence.addStep` | `sltest.testsequence.addStepBefore` | `sltest.testsequence.addSymbol` | `sltest.testsequence.addTransition` | `sltest.testsequence.editStep` | `sltest.testsequence.find`

**Introduced in R2016a**

# sltest.testsequence.addStepBefore

Add test sequence step before existing step

## Syntax

```
sltest.testsequence.addStepBefore(blockPath,newStep,
followingStepPath,Name,Value)
```

## Description

`sltest.testsequence.addStepBefore(blockPath,newStep, followingStepPath,Name,Value)` adds a step to a Test Sequence block specified by `blockPath`. The new step is named `newStep` and inserted immediately before the step named `followingStepPath`. Step properties are specified by `Name,Value`.

## Examples

### Create a New Test Step

This example creates a test step `step1` in a test sequence block before the step `SetLowPhi`, which is in the second level of hierarchy under the top-level step `APEngagement_AttitudeLevels`.

Set paths and open the model.

```
filePath = fullfile(matlabroot,'toolbox','simulinktest','simulinktestdemos');
rollModel = 'RollAutopilotMdlRef';
testHarness = 'RollReference_Requirement1_3';
open_system(fullfile(filePath,rollModel));
```

Open the test harness.

```
sltest.harness.open([rollModel '/Roll Reference'],testHarness)
```

Create a new local variable `h`.

```
sltest.testsequence.addSymbol('RollReference_Requirement1_3/Test Sequence',...
```

```
'h','Data','Local');
```

Add a step named `step1` and set the value of `h` to `5`.

```
sltest.testsequence.addStepBefore('RollReference_Requirement1_3/Test Sequence',...
'AttitudeLevels.APEngage_LowRoll.step1',...
'AttitudeLevels.APEngage_LowRoll.SetLowPhi','Label','h = 5;')
```

- "Programmatically Create a Test Sequence"

## Input Arguments

### `blockPath` — Test Sequence block path

character vector

Path to a Test Sequence block, including block name, specified as a character vector.

Example: 'TestHarness/Test Sequence'

### `newStep` — New test step path

character vector

Name of a new test step in the Test Sequence block, specified as a character vector. The new step must not already exist in the Test Sequence block. It will be added immediately after `followingStepPath` and have the same parent step.

Example: 'topStep.midStep.newStep'

### `followingStepPath` — Path of test step following new step

character vector

Path to an existing step in the Test Sequence block, specified as a character vector, before which `newStep` is inserted. The path must include the step location in the Test Sequence hierarchy, using `.` to separate levels of hierarchy.

Example: 'topStep.midStep.afterStep

## Name-Value Pair Options

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 (' '). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'Label','out = square(et)','IsWhenStep',false,'Description','This step produces a square wave.'` specifies a test step to produce a square wave.

### `'Label'` — Test step actions

character vector

The test step action programming. To add a line, create the step actions using the `sprintf` function and the new line operator `\n`.

Example:

```
'Label','out = square(et)'

action = sprintf('mode = uint8(3)\nout = square(et)\n%%New step action')
'Label',action
```

### `'IsWhenStep'` — Specifies standard or When decomposition step

false (default) | true

Specifies whether the step is a standard transition type or a When decomposition transition

Example:

```
'IsWhenStep',true
```

### `'WhenCondition'` — When decomposition step switch condition

character vector

Specifies the condition that activates a when decomposition child step. This must be a valid logical expression for the When step to activate.

Example:

```
'WhenCondition','a >= 1'
```

### `'Description'` — Description for the test step

character vector

Test step description, specified as a character vector.

Example:

```
'Description','This step produces a high-frequency square wave.'
```

## See Also

`sltest.testsequence.addStep` | `sltest.testsequence.addStepAfter` | `sltest.testsequence.addSymbol` | `sltest.testsequence.addTransition` | `sltest.testsequence.editStep` | `sltest.testsequence.find`

**Introduced in R2016a**

# sltest.testsequence.addSymbol

Add new data symbol to test sequence

## Syntax

```
sltest.testsequence.addSymbol(blockPath,name,kind,scope)
```

## Description

`sltest.testsequence.addSymbol(blockPath,name,kind,scope)` adds a symbol `name` with properties specified by `scope` and `kind` to a Test Sequence block specified by the `blockPath`. The new symbol appears in the **Symbols** sidebar of the Test Sequence Editor.

## Examples

### Create a New Data Symbol

This example creates a parameter `theta` in the test sequence block.

Set paths and open the model.

```
filePath = fullfile(matlabroot,'toolbox','simulinktest','simulinktestdemos');
rollModel = 'RollAutopilotMdlRef';
testHarness = 'RollReference_Requirement1_3';
open_system(fullfile(filePath,rollModel));
```

Open the test harness.

```
sltest.harness.open([rollModel '/Roll Reference'],testHarness)
```

Add a parameter.

```
sltest.testsequence.addSymbol('RollReference_Requirement1_3/Test Sequence',...
'theta','Data','Parameter')
```

- “Programmatically Create a Test Sequence”

## Input Arguments

### `blockPath` — Test Sequence block path

character vector

Path to a Test Sequence block, including block name, specified as a character vector.

Example: 'TestHarness/Test Sequence'

### `name` — Name of new symbol

character vector

Name of the new symbol, specified as a character vector. This data symbol must not already exist in the Test Sequence block.

Example: 'theta'

### `kind` — Data symbol type

`'Data' | 'Message' | 'Function Call'`

The scope defines how the data symbol operates in the block. It is specified as a character vector.

Example: 'Parameter'

### `scope` — Data symbol scope

`'Input' | 'Output' | 'Local' | 'Constant' | 'Parameter' | 'Data Store Memory'`

The scope defines how the data symbol operates in the block. It is specified as a character vector.

Example: 'Parameter'

## See Also

`sltest.testsequence.addStep` | `sltest.testsequence.addStepAfter` | `sltest.testsequence.addStepBefore` | `sltest.testsequence.addTransition` | `sltest.testsequence.editStep` | `sltest.testsequence.find`

### Introduced in R2016a

# sltest.testsequence.addTransition

Add new transition to test sequence step

## Syntax

```
sltest.testsequence.addTransition(blockPath,fromStep,condition,
toStep)
```

## Description

`sltest.testsequence.addTransition(blockPath,fromStep,condition,
toStep)` creates a test step transition in the Test Sequence block `blockPath`. The transition executes on `condition`, from the origin `fromStep`, to the destination `toStep`. `fromStep` and `toStep` must be at the same level of test step hierarchy.

## Examples

### Add a Transition to Stop the Test

This example adds a local error variable, then adds a transition to stop the test sequence if the error variable is 1.

Set paths and open the model.

```
filePath = fullfile(matlabroot,'toolbox','simulinktest','simulinktestdemos');
rollModel = 'RollAutopilotMdlRef';
testHarness = 'RollReference_Requirement1_3';
open_system(fullfile(filePath,rollModel));
```

Open the test harness.

```
sltest.harness.open([rollModel '/Roll Reference'],testHarness)
```

Add a new local variable.

```
sltest.testsequence.addSymbol('RollReference_Requirement1_3/Test Sequence',...
'error','Data','Local')
```

Add a transition to the step `InitializeTest` which goes to the step `Stop` if `error` is 1.

```
sltest.testsequence.addTransition('RollReference_Requirement1_3/Test Sequence','Initial
'error == 1','Stop')
```

- "Programmatically Create a Test Sequence"

## Input Arguments

### `blockPath` — Test Sequence block path

character vector

Path to a Test Sequence block, including block name, specified as a character vector.

Example: 'TestHarness/Test Sequence'

### `fromStep` — Origination step path

character vector

Path of an existing step in the Test Sequence block, specified as a character vector, at which the transition originates. The path must include the step name and step hierarchy, using `.` to separate hierarchy levels.

Example: 'topStep.midStep.step1'

### `condition` — Condition on which the transition executes

character vector

The condition on which the transition executes, specified as a character vector. Though specified as a character vector, it must be a valid logical expression for the transition to execute.

Example: 'theta == 0 && a == 1'

### `toStep` — Destination step path

character vector

Path of an existing step in the Test Sequence block, specified as a character vector, which becomes the active step after the transition executes. The path must include the step name and step hierarchy, using `.` to separate hierarchy levels. This step must be at same level as `fromStep`.

Example: 'topStep.midStep.step2'

## See Also

`sltest.testsequence.addStep` | `sltest.testsequence.addStepAfter` | `sltest.testsequence.addStepBefore` | `sltest.testsequence.addSymbol` | `sltest.testsequence.editStep` | `sltest.testsequence.find`

**Introduced in R2016a**

# sltest.testsequence.editStep

Edit existing test sequence step

## Syntax

```
sltest.testsequence.editStep(blockPath,stepPath,Name,Value)
```

## Description

`sltest.testsequence.editStep(blockPath,stepPath,Name,Value)` edits the properties of an existing step specified by `stepPath` in a Test Sequence block specified by `blockPath`. Changes to the properties are specified by `Name,Value`.

## Examples

### Add and Edit a Test Step

This example adds a test step then edits the step actions of the new step.

Open the model and test harness.

```
open_system('sltestTestSequenceWhenExample')
sltest.harness.open('sltestTestSequenceWhenExample/SimpleTracker','SimpleTrackerHarness
```

Add a test step named `SquareAndVeryQuick`.

```
sltest.testsequence.addStep('SimpleTrackerHarness/Test Sequence','Square.SquareAndVeryQ
```

Edit the step actions.

```
action = sprintf('mode = uint8(3);\nout = square(et);\n%% New step action')
```

```
action =

mode = uint8(3);
out = square(et);
```

```
% New step action

sltest.testsequence.editStep('SimpleTrackerHarness/Test Sequence',...
'Square.SquareAndVeryQuick','Label',action,'Description',...
'This step outputs a high-frequency square wave.')
```

Add two substeps to the new step.

```
sltest.testsequence.addStep('SimpleTrackerHarness/Test Sequence',...
'Square.SquareAndVeryQuick.Step1')
sltest.testsequence.addStep('SimpleTrackerHarness/Test Sequence',...
'Square.SquareAndVeryQuick.Step2')
```

Change the parent step to a When decomposition.

```
sltest.testsequence.editStep('SimpleTrackerHarness/Test Sequence',...
'Square.SquareAndVeryQuick','IsWhenStep',true)
```

Add a When condition to the substep `Step1`.

```
sltest.testsequence.editStep('SimpleTrackerHarness/Test Sequence',...
'Square.SquareAndVeryQuick.Step1','WhenCondition','a >= 1')
```

- "Programmatically Create a Test Sequence"

# Input Arguments

### `blockPath` — Test Sequence block path

character vector

Path to a Test Sequence block, including block name, specified as a character vector.

Example: 'TestHarness/Test Sequence'

### `stepPath` — Path of test step to edit

character vector

Path to the step to edit, specified as a character vector. The step must already exist in the Test Sequence block. The path includes the step name and location in the Test Sequence hierarchy, using `.` to separate levels of hierarchy.

Example: 'SystemHeatingTest.NewStep'

## Name-Value Pair Options

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 (`' '`). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'Label','out = square(et)','IsWhenStep',false,'Description','This step produces a square wave.'` specifies a test step to produce a square wave.

### `'Name'` — New test step name

character vector

The new name for the test step, specified as a character vector.

Example:

```
'Name','HoldOutput'
```

### `'Label'` — Test step actions

character vector

The test step action programming. To add a line, create the step actions using the `sprintf` function and the new line operator `\n`.

Example:

```
'Label','out = square(et)'
```

```
action = sprintf('mode = uint8(3)\nout = square(et)\n%%New step action')
'Label',action
```

### `'IsWhenStep'` — Specifies standard or When decomposition step

false (default) | true

Specifies whether the step is a standard transition type or a When decomposition transition

Example:

```
'IsWhenStep',true
```

### `'WhenCondition'` — When decomposition step switch condition

character vector

Specifies the condition that activates a when decomposition child step. This must be a valid logical expression for the When step to activate.

Example:

```
'WhenCondition','a >= 1'
```

**`'Description'` — Description for the test step**
character vector

Test step description, specified as a character vector.

Example:

```
'Description','This step produces a high-frequency square wave.'
```

## See Also

`sltest.testsequence.addStep` | `sltest.testsequence.addStepAfter` | `sltest.testsequence.addStepBefore` | `sltest.testsequence.addSymbol` | `sltest.testsequence.addTransition` | `sltest.testsequence.find`

**Introduced in R2016a**

# sltest.testsequence.find

Find Test Sequence blocks

## Syntax

```
blocks = sltest.testsequence.find
```

## Description

`blocks = sltest.testsequence.find` returns a cell array `blocks` listing all Test Sequence blocks in open models.

## Examples

### Find Open Test Sequence Blocks

This example opens a test harness and finds the paths to the two Test Sequence blocks contained in the test harness.

Open the model and test harness.

```
open_system('sltestTestSequenceWhenExample')
sltest.harness.open('sltestTestSequenceWhenExample/SimpleTracker',...
'SimpleTrackerHarness')
```

Find the Test Sequence blocks. One of the blocks is used specifically for Test Assessment.

```
blocks = sltest.testsequence.find
```

```
blocks =

    'SimpleTrackerHarness/Tes…'     'SimpleTrackerHarness/Tes…'
```

## See Also

`sltest.testsequence.addStep` | `sltest.testsequence.addStepAfter` | `sltest.testsequence.addStepBefore` | `sltest.testsequence.addSymbol` | `sltest.testsequence.addTransition` | `sltest.testsequence.editStep`

**Introduced in R2016a**

# sltestiteration

Create test iteration

## Syntax

```
iterObj = sltestiteration
```

## Description

`iterObj = sltestiteration` returns a test iteration object, sltest.testmanager.TestIteration. You can use the function in the MATLAB command window, or you can use it in the context of a scripted iteration under the **Iterations** section of a test case. For more information on creating test iterations, see "Run Multiple Combinations of Tests Using Iterations".

## Examples

### Iterate Over Signal Builder Groups

This example is a script that must be entered in the Scripted Iterations script text box under the **Iterations** section of a test case. Also, the system under test for this example is a model that contains Signal Builder groups.

```
%% Iterate Over All Signal Builder Groups

% Determine the number of possible iterations
numSteps = length(sltest_signalBuilderGroups);

% Create each iteration
for k = 1 : numSteps
    % Set up a new iteration object
    testItr = sltestiteration;

    % Set iteration settings
    setTestParam(testItr,'SignalBuilderGroup',sltest_signalBuilderGroups{k});
```

```
    % Add the iteration to run in this test case
    % You can pass in an optional iteration name
    addIteration(sltest_testCase,testItr);
end
```

- "Run Multiple Combinations of Tests Using Iterations"
- "Automate Tests Programmatically"

## Output Arguments

### `iterObj` — Test iteration

`sltest.testmanager.TestIteration` object

Test iteration, returned as a sltest.testmanager.TestIteration object.

## See Also

sltest.testmanager.TestIteration

### Introduced in R2016a

# Classes — Alphabetical List

# sltest.Assessment

Access assessment from set

## Description

An `sltest.Assessment` object is an individual assessment result from an `sltest.AssessmentSet` object.

## Create Object

Create an `sltest.Assessment` object using `result = get(as,index)` where `as` is an `sltest.AssessmentSet` object.

## Properties

### `BlockPath` — Path to assessment

fully specified Simulink block path

Path to block containing the assessment. For a Test Sequence block, the sub path is a path to the test step containing the assessment. See `Simulink.SimulationData.BlockPath`.

Example: `Simulink.SimulationData.BlockPath`

### `Name` — Name of assessment

character vector

Name of the assessment, specified as a character vector. For a `verify()` statement, results in the Test Manager are identified by the name.

Example: `'Simulink:verify_low'`

### `Values` — Assessment timeseries output

timeseries

Output of the assessment, specified as a timeseries.

Example: `Values: [1×1 timeseries]`

### `Result` — Assessment result

character vector

Result of the assessment.

Example: `'Fail'`

## Object Functions

| | |
|---|---|
| disp | Display results of sltest.AssessmentSet or sltest.Assessment |
| find | Find assessments in sltest.AssessmentSet or sltest.Assessment object |

## Examples

### Get Assessments from a Simulation

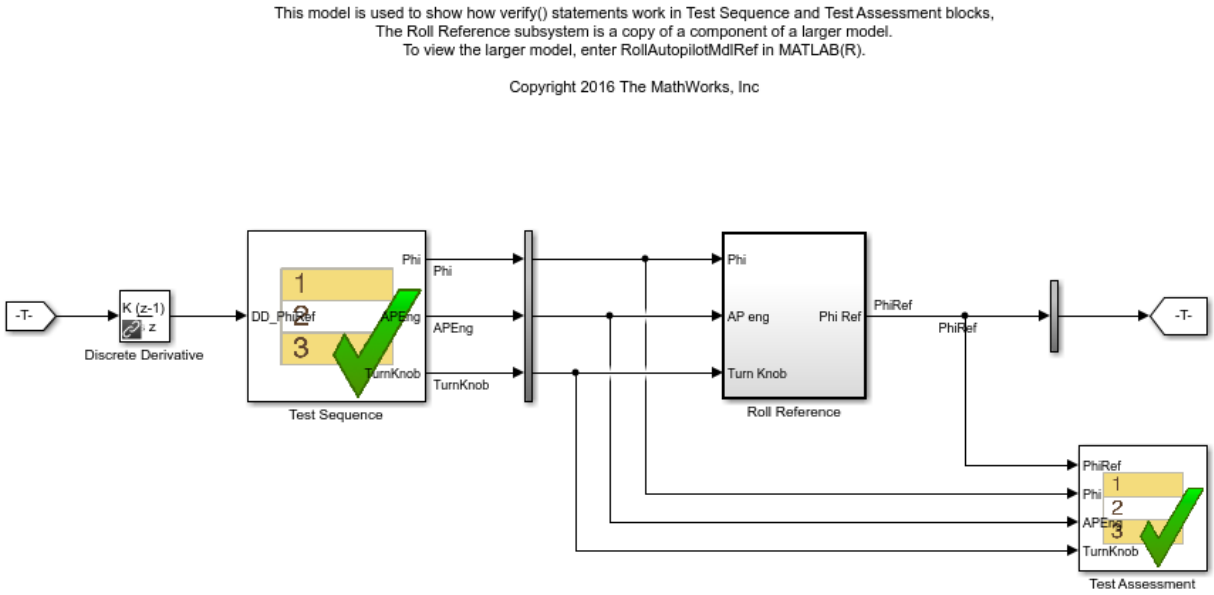
This example shows how to simulate a model with `verify` statements and obtain assessment results via the programmatic interface.

### Get the Assessment Set and One Assessment Result

1. Open the model.

```
open_system(fullfile(matlabroot,'examples','simulinktest','sltestRollRefTestExample.slx
```

```
% Turn the command line warning off for verify() statements
warning off Stateflow:Runtime:TestVerificationFailed
```




2. Run the model.

```
s = sim('sltestRollRefTestExample');
```

3. Get the assessment set.

```
as = sltest.getAssessments('sltestRollRefTestExample');
```

4. Get assessment 3 from the assessment set.

```
as3 = get(as,3);
```

### Display Results of the Assessment Set and Assessment Result

1. Get summary of the assessment set.

```
asSummary = getSummary(as)
```

```
asSummary =

  struct with fields:
```

```
      Total: 6
  Untested: 3
    Passed: 2
    Failed: 1
    Result: Fail
```

2. Display the result of assessment 3.

```
disp(as3)
```

```
  sltest.Assessment
  Package: sltest

  Properties:
         Name: 'Simulink:verify_high'
    BlockPath: [1×1 Simulink.SimulationData.BlockPath]
       Values: [1×1 timeseries]
       Result: Fail
```

3. Find untested or failed results in the assessment set.

```
asFailUntested = find(as,'Result',slTestResult.Fail,'-or','Result',slTestResult.Untest
```

```
asFailUntested =

  sltest.AssessmentSet
  Summary:
       Total: 4
    Untested: 3
      Passed: 0
      Failed: 1
      Result: Fail


  Untested Assessments (first 10):
    2 : Untested 'Simulink:verify_high'
    3 : Untested 'Simulink:verifyTKLow'
    4 : Untested 'Simulink:verifyTKNormal'

  Failed Assessments (first 10):
    1 : Fail 'Simulink:verify_high'
```

4. Find assessments under the Test Assessment block, using a regular expression.

```
assessBlock = find(as,'-regexp','BlockPath','.[Aa]ssess')
```

```
assessBlock =

  sltest.AssessmentSet
  Summary:
       Total: 6
    Untested: 3
      Passed: 2
      Failed: 1
      Result: Fail


  Untested Assessments (first 10):
    4 : Untested 'Simulink:verify_high'
    5 : Untested 'Simulink:verifyTKLow'
    6 : Untested 'Simulink:verifyTKNormal'

  Passed Assessments (first 10):
    1 : Pass 'Simulink:verify_normal'
    2 : Pass 'Simulink:verify_low'

  Failed Assessments (first 10):
    3 : Fail 'Simulink:verify_high'
```

## See Also

`sltest.AssessmentSet` | `sltest.getAssessments`

### Introduced in R2016b

# sltest.AssessmentSet

Access a set of assessments from a simulation

## Description

The function `as = sltest.getAssessments('model')` creates an `sltest.AssessmentSet` object `as` containing the assessments for `model`. Individual assessment results are obtained using `result = get(as,index)`. `getSummary(as)` returns an overview of the assessment set. `disp` returns an overview of individual assessment results.

## Create Object

Create an `sltest.AssessmentSet` object using `sltest.getAssessments`.

## Object Functions

| | |
|---|---|
| disp | Display results of sltest.AssessmentSet or sltest.Assessment |
| find | Find assessments in sltest.AssessmentSet or sltest.Assessment object |
| get | Get assessment of sltest.AssessmentSet |
| getSummary | Get summary of sltest.AssessmentSet |

## Examples

### Get Assessments from a Simulation

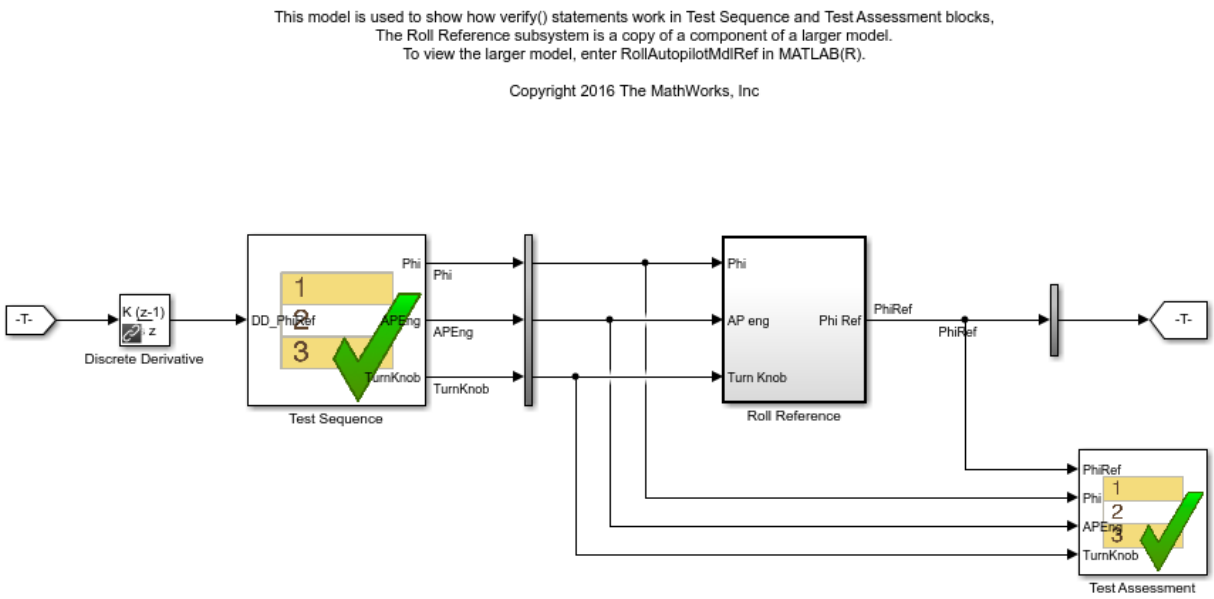
This example shows how to simulate a model with `verify` statements and obtain assessment results via the programmatic interface.

### Get the Assessment Set and One Assessment Result

1. Open the model.

```
open_system(fullfile(matlabroot,'examples','simulinktest','sltestRollRefTestExample.slx
```

```
% Turn the command line warning off for verify() statements
warning off Stateflow:Runtime:TestVerificationFailed
```




2. Run the model.

```
s = sim('sltestRollRefTestExample');
```

3. Get the assessment set.

```
as = sltest.getAssessments('sltestRollRefTestExample');
```

4. Get assessment 3 from the assessment set.

```
as3 = get(as,3);
```

### Display Results of the Assessment Set and Assessment Result

1. Get summary of the assessment set.

```
asSummary = getSummary(as)
```

```
asSummary =

  struct with fields:

       Total: 6
    Untested: 3
      Passed: 2
      Failed: 1
      Result: Fail
```

2. Display the result of assessment 3.

```
disp(as3)
```

```
  sltest.Assessment
  Package: sltest

  Properties:
         Name: 'Simulink:verify_high'
    BlockPath: [1×1 Simulink.SimulationData.BlockPath]
       Values: [1×1 timeseries]
       Result: Fail
```

3. Find untested or failed results in the assessment set.

```
asFailUntested = find(as,'Result',slTestResult.Fail,'-or','Result',slTestResult.Untest
```

```
asFailUntested =

  sltest.AssessmentSet
  Summary:
       Total: 4
    Untested: 3
      Passed: 0
      Failed: 1
      Result: Fail


  Untested Assessments (first 10):
    2 : Untested 'Simulink:verify_high'
    3 : Untested 'Simulink:verifyTKLow'
```

```
    4 : Untested 'Simulink:verifyTKNormal'

  Failed Assessments (first 10):
    1 : Fail 'Simulink:verify_high'
```

4. Find assessments under the Test Assessment block, using a regular expression.

```
assessBlock = find(as,'-regexp','BlockPath','.[Aa]ssess')
```

```
assessBlock =

  sltest.AssessmentSet
  Summary:
       Total: 6
    Untested: 3
      Passed: 2
      Failed: 1
      Result: Fail


  Untested Assessments (first 10):
    4 : Untested 'Simulink:verify_high'
    5 : Untested 'Simulink:verifyTKLow'
    6 : Untested 'Simulink:verifyTKNormal'

  Passed Assessments (first 10):
    1 : Pass 'Simulink:verify_normal'
    2 : Pass 'Simulink:verify_low'

  Failed Assessments (first 10):
    3 : Fail 'Simulink:verify_high'
```

## See Also

`sltest.Assessment` | `sltest.getAssessments`

### Introduced in R2016b

# sltest.testmanager.BaselineCriteria class

**Package:** sltest.testmanager

Add or modify baseline criteria

## Description

Instances of `sltest.testmanager.BaselineCriteria` is a set of signals in a test case that determines the pass-fail criteria in a baseline test case.

## Construction

`obj = sltest.testmanager.TestCase.addBaselineCriteria` creates a `sltest.testmanager.BaselineCriteria` object for a test case object.

## Properties

### `FilePath` — File path

character vector

File path of the baseline criteria set, returned as a character vector.

### `AbsTol` — Absolute tolerance value

scalar

Value of the absolute tolerance at a baseline criteria file level, specified as a scalar value.

### `RelTol` — Relative tolerance value

scalar

Value of the relative tolerance at a baseline criteria file level, specified as a scalar value.

### `Active` — Enabled indicator

`0` | `1`

Indicates if the baseline criteria is enabled, `0` if it is not enabled, and `1` if it is enabled.

# Methods

# Examples

### Add Baseline Criteria and Change Tolerance

In this example, a signal data set is capture for the baseline criteria, and the absolute tolerance is changed from 0 to 9.

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);

% Set the baseline criteria tolerance for a signal
sc = getSignalCriteria(baseline);
sc(1).AbsTol = 9;
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestCase

### Introduced in R2015b

# sltest.testmanager.CoverageSettings class

**Package:** sltest.testmanager

Modify coverage settings

## Description

Instances of `sltest.testmanager.CoverageSettings` let you set the setting under the **Coverage Settings** section in a test file, test suite, or test case.

## Construction

The `getCoverageSettings` methods for test file, test suite, and test case objects returns a `sltest.testmanager.CoverageSettings` object, which lets you access the coverage collection and metric settings.

## Properties

### `RecordCoverage` — Enable coverage collection

`false` (default) | `true`

Specify if the coverage collection is on or off, `false` for off and `true` for on.

Coverage collection is enabled or disabled in the Test Manager under the **Coverage Settings** section. This property controls the **Record coverage for system under test** check box. The **Record coverage for referenced models** check box must be changed manually in the Test Manager and not programmatically.

### `MetricSettings` — Coverage metric setting selection

character vector

Selection of coverage settings that are enabled or disabled, specified as a character vector. For the set of possible character vectors, see the parameter info for `CovMetricSettings` in “Model Parameters”. Coverage metric settings can be modified only at a test-file level.

Coverage metrics are enabled or disabled in the Test Manager by selecting the check boxes in the **Coverage Settings** section.

Example: `'dw'`

# Examples

### Enable MCDC and Signal Range Coverage Metrics

```
% Get coverage settings object from the test file
cov = getCoverageSettings(testfile);
cov.RecordCoverage = true;

% Enable MCDC and signal range coverage metrics
cov.MetricSettings = 'mr';
```

- "Collect Coverage in Tests"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestFile | sltest.testmanager.TestSuite | sltest.testmanager.TestCase

### Introduced in R2016a

# sltest.testmanager.CustomCriteria class

**Package:** sltest.testmanager

Add or modify custom criteria

## Description

An instance of `sltest.testmanager.CustomCriteria` is a test case custom criteria that evaluates the simulation output, returning a pass or fail result.

## Construction

`obj = getCustomCriteria(tc)` creates an `sltest.testmanager.CustomCriteria` object for a test case object `tc`.

`output_args = function(input_args,Name,Value)`.

## Properties

### `Enabled` — Enable or disable custom criteria

false (default) | true

Property that enables or disables the custom criteria for evaluation, specified as a logical.

Example: true

### `Callback` — Criteria script

character array

Property that defines the custom criteria script, specified as a character array.

Example: test.verifyEqual(lastPhi,0,['Final: ',num2str(lastPhi),'.']);

## Examples

### Get and Set Custom Criteria in Test Case

Create a test case object from the test suite `ts`.

```
tc = ts.getTestCaseByName('Requirement 1.3 Test');
```

Get the custom criteria from the test case `tc`.

```
tcCriteria = getCustomCriteria(tc);
```

Set the custom criteria script.

```
tcCriteria.Callback = 'test.verifyEqual(lastPhi,0);'
```

Enable the custom criteria.

```
tcCriteria.Enabled = true;
```

- "Apply Custom Criteria to Test Cases"
- "Custom Criteria Programmatic Interface Example"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestCase.getCustomCriteria

### Introduced in R2016b

# sltest.testmanager.CustomCriteriaResult class

**Package:** sltest.testmanager

View custom criteria test result

## Description

An instance of `sltest.testmanager.CustomCriteriaResult` is a test result of the evaluation of custom criteria.

## Construction

`obj = getCustomCriteriaResult(tcr)` creates an `sltest.testmanager.CustomCriteriaResult` object for a test case result object `tcr`.

`obj = getCustomCriteriaResult(tir)` creates an `sltest.testmanager.CustomCriteriaResult` object for a test iteration result object `tir`.

## Properties

### `Outcome` — Result of custom criteria evaluation

`sltest.testmanager.TestResultOutcomes` object.

Custom criteria result, returned as an `sltest.testmanager.TestResultOutcomes` object.

Example: Passed

### `DiagnosticRecord` — Criteria script

`sltest.testmanager.DiagnosticRecord` object.

Diagnostic record of the custom criteria result, returned as an `sltest.testmanager.DiagnosticRecord` object.

Example: `DiagnosticRecord`

# Examples

### Get Custom Criteria Result from Test Case Result

Run the test case `tc`, creating a result set `tcResultSet`.

```
tcResultSet = run(tc);
```

Get the test case result from the result set.

```
tcResult = getTestCaseResults(tcResultSet);
```

Get the custom criteria result from the test case result.

```
ccResult = getCustomCriteriaResult(tcResult);
```

- "Apply Custom Criteria to Test Cases"
- "Custom Criteria Programmatic Interface Example"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestCase.getCustomCriteria

### Introduced in R2016b

# sltest.testmanager.DiagnosticRecord class

**Package:** sltest.testmanager

View custom criteria diagnostic information

## Description

An instance of `sltest.testmanager.DiagnosticRecord` displays diagnostic information returned a verification during custom criteria analysis.

## Construction

`obj = getCustomCriteriaResult(tcResult)` creates an `sltest.testmanager.CustomCriteriaResult` object, which has a property `DiagnosticRecord`. `DiagnosticRecord` is an `sltest.testmanager.DiagnosticRecord` object for the test case result object `tcResult`.

## Properties

### `Outcome` — Record outcome of diagnostic

`sltest.testmanager.TestResultOutcomes` object.

Outcome of diagnostic, returned as an `sltest.testmanager.TestResultOutcomes` object.

Example: Passed

### `TestDiagnosticResult` — Record test diagnostic results

cell array

Diagnostic record of the custom criteria result, returned as a cell array.

Example: `'Final: 0.'`

### `FrameworkDiagnosticResult` — Record framework diagnostic results

cell array

Framework diagnostic record of the custom criteria result, returned as a cell array.

Example: `'verifyEqual passed.…'`

### `Event` — Record event name

character vector

Name of the recorded event, returned as a character vector.

Example: `VerificationPassed`

### `Report` — Record diagnostic information

character vector

Report of the diagnostic result, returned as a character vector.

### `Exception` — Capture error information

`Mexception` object

If the custom criteria returns an error, it constructs an `Mexception` object containing information about the error.

Example: `MException`

## Examples

### Get Custom Criteria Result from Test Case Result

Run the test case `tc`, creating a result set `tcResultSet`.

```
tcResultSet = run(tc);
```

Get the test case result from the result set.

```
tcResult = getTestCaseResults(tcResultSet);
```

Get the custom criteria result from the test case result.

```
ccResult = getCustomCriteriaResult(tcResult);
```

Display the diagnostic result

```
ccResult.DiagnosticRecord
```

```
ans =

  DiagnosticRecord with properties:

                     Outcome: Passed
          TestDiagnosticResult: {'Final: 0.'}
    FrameworkDiagnosticResult: {'verifyEqual passed.…'}
                       Event: 'VerificationPassed'
                      Report: '============================…'
```

- “Apply Custom Criteria to Test Cases”
- “Custom Criteria Programmatic Interface Example”
- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestCase.getCustomCriteria

### Introduced in R2016b

# sltest.testmanager.EquivalenceCriteria class

**Package:** sltest.testmanager

Add or modify equivalence criteria

## Description

Instances of `sltest.testmanager.EquivalenceCriteria` is a set of signals in a test case that determines the pass-fail criteria in an equivalence test case.

## Construction

`obj = sltest.testmanager.TestCase.captureEquivalenceCriteria` creates a `sltest.testmanager.EquivalenceCriteria` object for a test case object.

## Properties

### `Enabled` — Enabled indicator

`0 | 1`

Indicates if the equivalence criteria is enabled, `0` if it is not enabled, and `1` if it is enabled.

## Methods

## Examples

### Add Equivalence Criteria to Test Case

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'equivalence','Equivalence Test Case');
```

```
% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
% for Simulation 1 and Simulation 2
setProperty(tc,'Model','sldemo_absbrake','SimulationIndex',1);
setProperty(tc,'Model','sldemo_absbrake','SimulationIndex',2);

% Capture equivalence criteria
eq = captureEquivalenceCriteria(tc);
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestCase

### Introduced in R2015b

# sltest.testmanager.ParameterOverride class

**Package:** sltest.testmanager

Add or modify parameter override

## Description

Instances of `sltest.testmanager.ParameterOverride` are parameters overrides contained in a parameter set within a test case that can override model parameters.

## Construction

`obj = sltest.testmanager.ParameterSet.addParameterOverride` creates a `sltest.testmanager.ParameterOverride` object for a parameter set object.

## Properties

### `Name` — Parameter override name

character vector

Name of the parameter override, specified as a character vector.

### `Value` — Override value

scalar | vector

Value of the parameter override, specified as a scalar or vector value.

### `Enabled` — Enabled indicator

`0` | `1`

Indicates if the parameter override is enabled, `0` if it is not enabled, and `1` if it is enabled.

### `Source` — Parameter override source

character vector

The source of the parameter variable, returned as a character vector. For example, the source could be the base workspace.

# Methods

# Examples

### Add Parameter Override to Test Case

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.ParameterSet | sltest.testmanager.TestCase

### Introduced in R2015b

# sltest.testmanager.ParameterSet class

**Package:** sltest.testmanager

Add or modify parameter set

## Description

Instances of `sltest.testmanager.ParameterSet` are sets of parameters in a test case that can override model parameters.

## Construction

`obj = sltest.testmanager.TestCase.addParameterSet` creates a `sltest.testmanager.ParameterSet` object for a test case object.

## Properties

### `Name` — Parameter set name

character vector

Name of the parameter set, specified as a character vector.

### `FilePath` — File path

character vector

File path of the parameter set if parameters were added from a file, returned as a character vector.

### `Enable` — Enabled indicator

`0` | `1`

Indicates if the parameter set is enabled, `0` if it is not enabled, and `1` if it is enabled.

# Methods

# Examples

### Add Parameter Override to Test Case

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestCase

### Introduced in R2015b

# sltest.testmanager.ResultSet class

**Package:** sltest.testmanager

Access results set data

## Description

Instances of `sltest.testmanager.ResultSet` enable you to access the results from test execution performed by the Test Manager.

## Construction

The function `sltest.testmanager.run` creates a `sltest.testmanager.ResultSet` object.

## Properties

### `NumPassed` — Number of passed tests

integer

The number of passed tests contained in the results set.

### `NumFailed` — Number of failed tests

integer

The number of failed tests contained in the results set.

### `NumDisabled` — Number of disabled tests

integer

The number of test cases that were disabled in the results set.

### `NumTotal` — Total number of tests

integer

The total number of tests in the results set.

### `NumTestCaseResults` — Number of test case result children

integer

The number of test case results that are direct children of the results set object.

### `NumTestSuiteResults` — Number of test suite result children

integer

The number of test suite results that are direct children of the results set object.

### `NumTestFileResults` — Number of test file result children

integer

The number of test file results that are direct children of the results set object.

# Methods

# Examples

### Get Test Result Set Data

Get results from running a test file with `sltest.testmanager.run`.

```
result = sltest.testmanager.run;
testCaseResultArray = result.getTestCaseResults;
testSuiteResultArray = result.getTestSuiteResults;
```

- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestFileResult | sltest.testmanager.TestSuiteResult | sltest.testmanager.TestCaseResult

### Introduced in R2015a

# sltest.testmanager.SignalCriteria class

**Package:** sltest.testmanager

Add or modify signal criteria

## Description

Instances of `sltest.testmanager.SignalCriteria` is an individual signal in a criteria set in a test case that determines the pass-fail criteria.

## Construction

`obj = getAllSignalCriteria` creates a `sltest.testmanager.SignalCriteria` object for a test case object. This can be constructed from baseline or equivalence criteria.

## Properties

### `Name` — Signal name

character vector

Signal name, returned as a character vector.

### `AbsTol` — Absolute tolerance value

scalar

Value of the absolute tolerance at a signal level, specified as a scalar value.

### `RelTol` — Relative tolerance value

scalar

Value of the relative tolerance at a signal level, specified as a scalar value.

### `SyncMethod` — Time synchronization method

`'union' | 'intersection' | 'uniform'`

The method of time synchronization used when a signal is compared to another signal, specified as `'union'`, `'intersection'`, or `'uniform'`. The method can be one of the following:

- `'union'` — Compare using a time vector that is the union of the time vectors of both timeseries. This method of time synchronization might require value interpolation.
- `'intersection'` — Compare using a time vector that is the intersection of the time vectors of both timeseries. This method of time synchronization does not require value interpolation because only time points common to both time series are considered.
- `'uniform'` — Compare using a time vector that is constructed using uniform time steps. This method of time synchronization requires value interpolation in both timeseries.

### `InterpMethod` — Interpolation method

`'zoh' | 'linear'`

The method of interpolation used to align signal data, specified as `'zoh'` or `'linear'`. The method can be one of the following:

- `'zoh'` — Zero-order hold. Data values are interpolated by holding their value at the previous time point.
- `'linear'` — Interpolated data values are determined by taking the data values at the previous and next time points. These two points form the linear interpolant, which becomes a straight line between these points. The interpolated data value is the point at which the linear interpolant and time point meet.

### `Enabled` — Enabled indicator

`0 | 1`

Indicates if the signal criteria is enabled, `0` if it is not enabled, and `1` if it is enabled.

### `DataSource` — Signal data source

character vector

Signal data source, returned as a character vector.

### `SID` — Signal identifier

character vector

Signal identifier, returned as a character vector.

### `BlockPath` — Signal block path

character vector

Signal block path, returned as a character vector.

## Methods

## Examples

### Set Absolute Tolerance in Baseline Criteria

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);

% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);

% Set the baseline criteria tolerance for one signal
sc = getSignalCriteria(baseline);
sc(1).AbsTol = 9;
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.BaselineCriteria | sltest.testmanager.EquivalenceCriteria | sltest.testmanager.TestCase

**Introduced in R2015b**

# sltest.testmanager.TestCase class

**Package:** sltest.testmanager

Create or modify test case

## Description

Instances of `sltest.testmanager.TestCase` are test case objects.

If you want to modify the test case settings that define how the test case executes, use the methods sltest.testmanager.TestCase.setProperty and sltest.testmanager.TestCase.getProperty.

## Construction

`obj = sltest.testmanager.TestCase(parent,type,name)` creates a `sltest.testmanager.TestCase` object as a child of the specified parent. You can specify the name of the test case and the test case type: baseline, equivalence, or simulation.

### Input Arguments

#### `parent` — Parent test suite

`sltest.testmanager.TestSuite` object

Parent test suite for the test case to reside in, specified as an sltest.testmanager.TestSuite object.

#### `type` — Test case type

`'baseline'` (default) | `'equivalence'` | `'simulation'`

Test case type, specified as `'baseline'`, `'equivalence'`, or `'simulation'`. There are three test case types: baseline, equivalence, and simulation.

#### `name` — Test case name

character vector

Name of the test suite, specified as a character vector. If this is empty, a unique name is created.

Example: `'Test Case 5'`

### `runOnTarget` — Run simulation on target

cell array of Booleans

Specify if you want to run the test case simulation on a target, specified as a cell array of Booleans. This is an optional argument. For more information on real-time testing, see "Test Models in Real Time".

## Properties

### `Name` — Test case name

character vector

Name of the test case, returned as a character vector.

### `Description` — Test case description

character vector

Test case description text, specified as a character vector.

### `Enabled` — Test execution indicator

`true | false`

Indicates if the test case will execute, specified as a logical value `true` or `false`.

### `ReasonForDisabling` — Disabled description

character vector

Description text for why the test file was disabled, specified as a character vector. This property is visible only when the `Enabled` property is set to `false`.

### `TestType` — Test case type

character vector

The test case type, returned as a character vector. The test case type can be one of the three types: simulation, equivalence, or baseline.

### `TestFile` — Parent test file

`sltest.testmanager.TestFile` object

Test file that is the parent of the test case, returned as an sltest.testmanager.TestFile object.

### `TestPath` — Test hierarchy

character vector

Test file, test suite, and test case hierarchy, returned as a character vector.

### `Parent` — Parent test suite

`sltest.testmanager.TestSuite` object

Test suite that is the parent of the specified test case, returned as an sltest.testmanager.TestSuite object.

### `Requirements` — Test file requirements

structure array

The requirements that are attached at the test-file level, returned as a structure.

### `RunOnTarget` — Target indicator

cell array

Indicates if the simulation runs on a target, returned as a cell array of Booleans.

## Methods

## Examples

### Create New Test File, Test Suite, and Test Case

```
% Create test file
testfile = sltest.testmanager.TestFile('C:\MATLAB\test_file.mldatx');

% Create test suite
testsuite = sltest.testmanager.TestSuite(testfile,'My Test Suite');

% Create test case
```

```
testcase = sltest.testmanager.TestCase(testsuite,'equivalence',...
    'Equivalence Test Case')

testcase =

  TestCase with properties:

           Name: 'Equivalence Test Case'
       TestFile: [1x1 sltest.testmanager.TestFile]
       TestPath: 'test_file > My Test Suite > Equivalence Test Case'
       TestType: 'equivalence'
    RunOnTarget: {2x1 cell}
         Parent: [1x1 sltest.testmanager.TestSuite]
   Requirements: [0x1 struct]
    Description: ''
        Enabled: 1
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestFile | sltest.testmanager.TestSuite

### Introduced in R2015b

# sltest.testmanager.TestCaseResult class

**Package:** sltest.testmanager

Access test case results data

## Description

Instances of `sltest.testmanager.TestCaseResult` enable you to access the results from test execution performed by the test manager at a test-case level.

## Construction

The function `sltest.testmanager.run` creates a `sltest.testmanager.ResultSet` object, which contains the test case result object. You can also create a test case result directly if you use sltest.testmanager.TestCase.run to execute an individual test case.

## Properties

### `NumPassedIterations` — Number of passed tests

integer

The number of passed tests in an individual test case result, returned as an integer.

### `NumFailedIterations` — Number of failed tests

integer

The number of failed tests in an individual test case result, returned as an integer.

### `NumDisabledIterations` — Number of disabled tests

integer

The number of disabled tests in an individual test case result, returned as an integer.

### `NumIncompleteIterations` — Number of incomplete tests

integer

The number of incomplete tests in an individual test case result, returned as an integer.

### `NumTotalIterations` — Total number of tests

integer

The total number of tests in an individual test case result, returned as an integer.

### `Outcome` — Outcome of test case result

0 | 1 | 2 | 3

The outcome of an individual test case result. The integer `0` means the test case was disabled, `1` means the test case execution was incomplete, `2` means the test case passed, and `3` means the test case failed.

### `TestFilePath` — Test file path

character vector

The path of the test file used to create the test case result.

### `TestCasePath` — Result hierarchy path

character vector

The hierarchy path in the parent result set.

### `TestCaseType` — Type of test case

`'Simulation' | 'Baseline' | 'Equivalence'`

The type of test case from the three available test cases in the Test Manager: simulation, baseline, and equivalence.

### `RunOnTarget` — Target indicator

cell array

Indicates if the simulation runs on a target, returned as a cell array of Booleans.

## Methods

## Examples

### Get Test Case Result From Results Set

```
% Run test file in Test Manager and output results set
```

```
resultset = sltest.testmanager.run;

% Get test file result object
tfr = getTestFileResults(resultset);

% Get test suite result object
tsr = getTestSuiteResults(tfr);

% Get test case result object
tcr = getTestCaseResults(tsr);
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestSuiteResult | sltest.testmanager.TestFileResult

### Introduced in R2015a

# sltest.testmanager.TestFile class

**Package:** sltest.testmanager

Create or modify test file

## Description

Instances of `sltest.testmanager.TestFile` are files that can contain test suites and test cases.

## Construction

`obj = sltest.testmanager.TestFile(filePath,mode)` creates a `sltest.testmanager.TestFile` object with a default test suite and test case as children of the test file. The default test case type is a baseline test case. If the test file exists in the Test Manager, then a new test file is not created.

### Input Arguments

#### `filePath` — File name and path

character vector

The file name and path of the test file, specified as a character vector. The specified file name determines the name of the test file as seen in the Test Manager.

Example: `'C:\MATLAB\TestFile.mldatx'`

#### `mode` — Override existing test files

`'false'` (default) | `'true'`

Indicate if you want to override any test files with the same file name and path, specified as either `'true'` or `'false'`.

## Properties

#### `Description` — Test file description

character vector

Test file description text, specified as a character vector.

### `Dirty` — Unsaved changes indicator

`0 | 1`

Indicates if the test file has any unsaved changes, `0` if there are not any unsaved changes, and `1` if there are unsaved changes.

### `Enabled` — Test file execution indicator

`true | false`

Indicates if test cases that are children of the test file will execute, specified as a logical value `true` or `false`.

### `FilePath` — File path and name

character vector

File path and name of the test file, returned as a character vector.

Example: `'C:\MATLAB\test_file.mldatx'`

### `Name` — Test file name

character vector

Name of the test file without the file path and file extension, returned as a character vector.

### `ReasonForDisabling` — Disabled description

character vector

Description text for why the test file was disabled, specified as a character vector. This property is visible only when the `Enabled` property is set to `false`.

### `Requirements` — Test file requirements

structure array

The requirements that are attached at the test-file level, returned as a structure.

# Methods

# Examples

### Create New Test File

Create a new test file and return the test file object.

```
testfile = sltest.testmanager.TestFile('C:\MATLAB\test_file.mldatx')
```

```
testfile =

  TestFile with properties:

           Name: 'test_file'
       FilePath: 'C:\MATLAB\test_file.mldatx'
          Dirty: 1
   Requirements: [0x1 struct]
    Description: ''
        Enabled: 1
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestCase | sltest.testmanager.TestSuite

### Introduced in R2015b

# sltest.testmanager.TestFileResult class

**Package:** sltest.testmanager

Access test file results data

## Description

Instances of `sltest.testmanager.TestFileResult` enable you to access the results from test execution performed by the Test Manager at a test-file level.

## Construction

The function `sltest.testmanager.run` creates a `sltest.testmanager.ResultSet` object, which contains the test file result object. You can also create a test file result directly if you use sltest.testmanager.TestFile.run to execute tests in an individual test file.

## Properties

### `TestFileResultPath` — Result hierarchy path

character vector

The hierarchy path in the result set.

### `TestFilePath` — Test file path

character vector

The path of the test file used to create the result.

### `NumPassed` — Number of passed tests

integer

The number of passed tests contained in the test file result.

### `NumFailed` — Number of failed tests

integer

The number of failed tests contained in the test file result.

### `NumDisabled` — Number of disabled tests

integer

The number of test cases that were disabled in the test file result.

### `NumIncomplete` — Number of incomplete tests

integer

The number of test cases that did not execute in the test file result.

### `NumTotal` — Total number of tests

integer

The total number of tests in the test file result.

### `NumTestCaseResults` — Number of test case result children

integer

The number of test case results that are direct children of the test file result.

### `NumTestSuiteResults` — Number of test suite result children

integer

The number of test suite results that are direct children of the test file result.

## Methods

## Examples

### Get Test File Result From Results Set

```
% Run test file in Test Manager and output results set
resultset = sltest.testmanager.run;

% Get the test file result object
tfr = getTestFileResults(resultset);
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestSuiteResult | sltest.testmanager.TestCaseResult

**Introduced in R2016a**

# sltest.testmanager.TestInput class

**Package:** sltest.testmanager

Add or modify test input

## Description

Instances of `sltest.testmanager.TestInput` are sets of signal input data that can be mapped to override the inputs in the System Under Test.

## Construction

`obj = sltest.testmanager.TestCase.addInput` creates a `sltest.testmanager.TestInput` object for a test case object.

## Properties

### `Name` — Test input name

character vector

Name of the test input, returned as a character vector.

Example: `'sltestExampleInputs.xlsx'`

### `FilePath` — File path

character vector

File path of the test input, returned as a character vector.

Example: `'C:\MATLAB\sltestExampleInputs.xlsx'`

### `SheetName` — Spreadsheet name

character vector

If the input file is a Microsoft Excel® spreadsheet file, then this is the name of the spreadsheet from which the inputs are derived, specified as a character vector.

Example: `'Acceleration'`

### `MappingStatus` — Input mapping status

character vector

Mapping status to indicate if the inport mapping was successful. For more information about troubleshooting the mapping status, see “Understand Mapping Results”.

Example: `'Successfully mapped inputs.'`

### `InputString` — Input

character vector

Evaluated during test case execution in the `LoadExternalInput` configuration parameter of the System Under Test, specified as a character vector.

Example: `'Acceleration.getElement(1),Acceleration.getElement(2)'`

### `Active` — Enabled indicator

`0 | 1`

Indicates if the input is set to override in the test case, `0` if it is not enabled, and `1` if it is enabled.

## Methods

## Examples

### Add Microsoft Excel Data as Input

You can add data from a Microsoft Excel spreadsheet. The spreadsheet used in this example is located in the example folder directory.

```
% Load example model
open_system('sltestExcelExample');

% Create new test file
tf = sltest.testmanager.TestFile('C:\MATLAB\input_test_file.mldatx');
% Get test suite object
ts = getTestSuites(tf);
% Get test case object
```

```
tc = getTestCases(ts);

% Add the example model as the system under test
setProperty(tc,'Model','sltestExcelExample');

% Add Excel data to Inputs section
input_path = fullfile(matlabroot,'toolbox','simulinktest',...
             'simulinktestdemos','sltestExampleInputs.xlsx');
input = addInput(tc,input_path,1);
% Map the input signals by port order
map(input,3);
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestCase.addInput | sltest.testmanager.TestCase

### Introduced in R2015b

# sltest.testmanager.TestIteration class

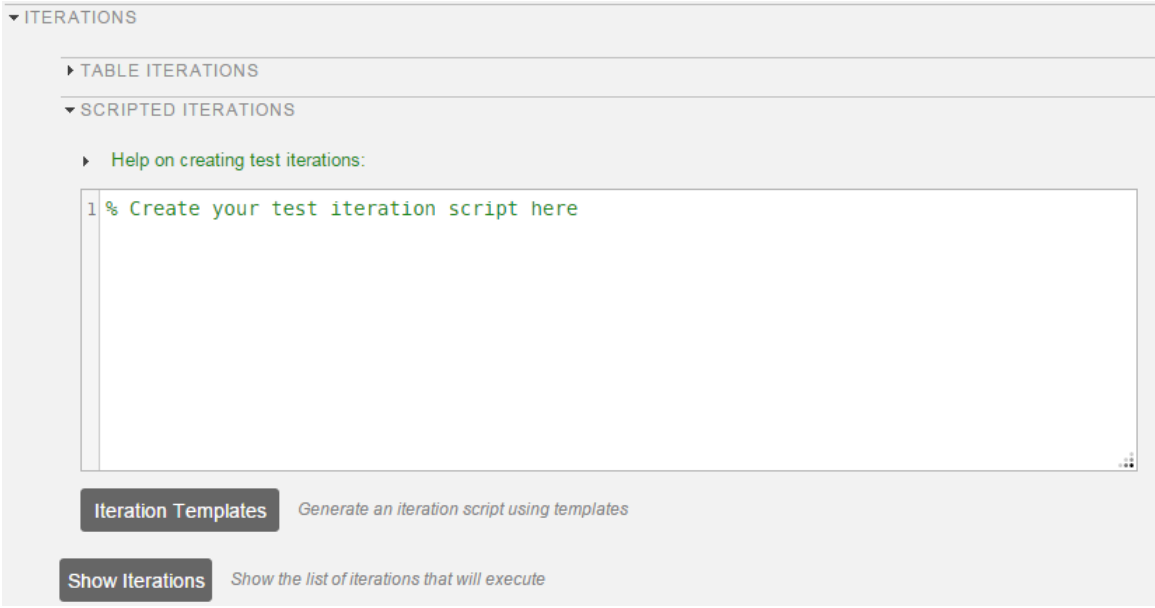
**Package:** sltest.testmanager

Create or modify test iteration

## Description

Iterations let you test a combination of model settings for testing methods such as Monte Carlo and parameter sweeping. Iterations initialize during test execution but before any model callbacks and test callbacks. Once you create a test iteration object, you can override aspects of the test case for each iteration using the class methods.

You create your iteration script in the text window under the **Iterations** section of a test case. Iteration scripts will not run successfully in the MATLAB command window.




The examples scripts in this reference page must be inserted into this section and other sections of the test case must be defined. For more information on iterations and scripted iterations, see “Run Multiple Combinations of Tests Using Iterations”.

## Construction

`iterationObj = sltest.testmanager.TestIteration` returns a test iteration object. The object is used to construct a single iteration in a test case. Each iteration you want to create in the test must use a single iteration object.

You can also create a test iteration within a iteration script using the `sltestiteration` function.

If you use a `for` loop in the MATLAB command window to add many iterations to a test case, then the MATLAB command window might become temporarily unusable. The recommended way to add iterations to a test case using the MATLAB command window is by vectorization. For example:

```
iterations(100) = sltest.testmanager.TestIteration;
addIteration(tc,iterations);
```

## Properties

### `Name` — Iteration name

empty (default) | character vector

Name of the test iteration, specified as a character vector. The iteration name must be unique from other iterations in the test case.

Example: `'Iteration 1a'`

### `ModelParams` — Model parameter overrides

empty (default) | cell array

Set of model parameter overrides for the iteration, returned as a cell array of character vectors.

### `TestParams` — Test parameter settings

empty (default) | cell array

Set of test parameter settings for the iteration, returned as a cell array of character vectors.

### `Variables` — Model variable overrides

empty (default) | cell array

Set of model variable overrides for the iteration, returned as a cell array of character vectors.

# Methods

# Examples

### Model Parameter Sweep

In this example of a scripted iteration, specify the model in the test case to be `sldemo_absbrake`. The iterations are generated during test execution. This section of script is in the **Scripted Iterations** section of the test case. It will execute only in the **Scripted Iterations** section. The `sltest_testCase` is a variable defined for you in the **Scripted Iterations** section, which is the parent test case object of the iteration.

```
% Specify the parameter sweep
vars = 32 : 0.5 : 34;

% Create iteration for each parameter using a loop
for k = 1 : length(vars)

    % Create test iteration object
    testItr = sltest.testmanager.TestIteration;

    % Set the parameter value for this iteration
    setVariable(testItr,'Name','g','Source','base workspace','Value',vars(k));

    str = sprintf('Iteration %d',k);

    % Add the iteration object to the test case
    addIteration(sltest_testCase,testItr,str);
end
```

### Iterate Over Parameter Sets

In this example of a scripted iteration, there must be parameter sets defined in the **Parameter Overrides** section of the test case. The iterations are generated during test execution. This section of script is in the **Scripted Iterations** section of the test case. It will execute only in the **Scripted Iterations** section. The `sltest_testCase` is a

variable defined for you in the **Scripted Iterations** section, which is the parent test case object of the iteration.

```
% Define parameter sets for a test case and add this code in the

% Scripted iterations section of the test case
for k = 1 : length(sltest_parameterSets)

    % Create test iteration object
    testItr = sltest.testmanager.TestIteration;

    % Use the parameter set in this iteration
    testItr.setTestParam('ParameterSet',sltest_parameterSets{k});

    str = sprintf('ParameterSet %d',k);

    % Add the iteration object to the test case
    addIteration(sltest_testCase,testItr,str);
end
```

- "Run Multiple Combinations of Tests Using Iterations"
- "Automate Tests Programmatically"

## Alternatives

If you do not want to use a script to create iterations, then you can use table iterations in the test case. For more information about table iterations, see "Run Multiple Combinations of Tests Using Iterations".

## See Also

sltest.testmanager.TestIterationResult

### Introduced in R2016a

# sltest.testmanager.TestIterationResult class

**Package:** sltest.testmanager

Access test iteration result data

## Description

Instances of `sltest.testmanager.TestIterationResult` enable you to access the results from test execution performed by the Test Manager at a test-iteration level. The hierarchy of test results is Result Set > Test File Result > Test Suite Result > Test Case Result > Test Iteration Result.

## Construction

The function `sltest.testmanager.run` creates a `sltest.testmanager.ResultSet` object, which contains the test case result object.

## Properties

### `Outcome` — Outcome of test iteration result

0 | 1 | 2 | 3

The outcome of an individual test iteration result. The integer `0` means the test iteration was disabled, `1` means the test iteration execution was incomplete, `2` means the test iteration passed, and `3` means the test iteration failed.

### `TestFilePath` — Test file path

character vector

The path of the test file used to create the test iteration result.

### `TestCasePath` — Result hierarchy path

character vector

The hierarchy path in the parent result set.

### `TestCaseType` — Type of test case

`'Simulation' | 'Baseline' | 'Equivalence'`

The type of test case from the three available test cases in the Test Manager: simulation, baseline, and equivalence.

### `RunOnTarget` — Target indicator

cell array

Indicates if the simulation ran on the target or not, returned as an array of Booleans.

## Methods

## Examples

- "Run Multiple Combinations of Tests Using Iterations"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestIteration

### Introduced in R2016a

# sltest.testmanager.TestResultReport class

**Package:** sltest.testmanager

Customize generated results report

## Description

`sltest.testmanager.TestResultReport` is a class that enables you to customize report generation of result from the Test Manager. You can derive the class and override various methods to customize your report. By customizing the methods, you can change the report title, plots, tables, headers, icons, and more.

For more information and examples on customizing reports, see "Customize Generated Reports".

## Construction

`Obj = sltest.testmanager.TestResultReport(resultObjects, reportFilePath)` creates a report generation object.

To use this class, you must inherit from the class. Use the following code as the first lines in your class definition code to inherit from the class.

```
% class definition
classdef CustomReport < sltest.testmanager.TestResultReport
    %
    % Report customization code here
    %
end
```

### Input Arguments

#### `resultObjects` — Results set object

object

Results set object to get results from, specified as an sltest.testmanager.ResultSet object.

### `reportFilePath` — File name and path of the generated report

character vector

File name and path of the generated report. File path must have file extension of pdf, docx, or zip, which are the only supported file types.

Example: `'C:\MATLAB\Report.pdf'`

## Properties

### `AuthorName` — Author name

empty character vector (default)

The name of the author or the generated report, specified as a character vector.

Example: `'Test Engineer'`

### `BodyFontColor` — Body paragraph font color

`'Black'` (default) | character vector

Body paragraph text font color, specified as a character vector.

Example: `'Red'`

### `BodyFontName` — Body paragraph font style name

`'Arial'` (default) | character vector

Body paragraph text font-style name, specified as a character vector.

Example: `'Times New Roman'`

### `BodyFontSize` — Body paragraph font size

`'12pt'` (default) | character vector

Body paragraph text font size, specified in points as a character vector.

Example: `'14pt'`

### `ChapterIndent` — First level indentation width

`'3mm'` (default) | character vector

First level section indentation width, specified in millimeters as a character vector.

Example: `'5mm'`

### `ChapterIndentL2` — Second level indentation width

`'6mm'` (default) | character vector

Second level section indentation width, specified in millimeters as a character vector.

Example: `'8mm'`

### `ChapterIndentL3` — Third level indentation width

`'8mm'` (default) | character vector

Third level section indentation width, specified in millimeters as a character vector.

Example: `'10mm'`

### `CustomTemplateFile` — Template file name and path

empty character vector (default)

The file name and path to a Microsoft Word template file for report customization, specified as a character vector. For more information about using template files, see "Generate Reports Using Templates". The use of this argument is valid only available if you have a MATLAB Report Generator license.

Example: `'C:\MATLAB\CustomReportTemplate.dotx'`

### `HeadingFontColor` — Section heading font color

`'Black'` (default) | character vector

Section heading text font color, specified as a character vector.

Example: `'Blue'`

### `HeadingFontName` — Section heading font style name

`'Arial'` (default) | character vector

Section heading text font-style name, specified as a character vector.

Example: `'Times New Roman'`

### `HeadingFontSize` — Section heading font size

`'14pt'` (default) | character vector

Section heading text font color, specified in points as a character vector.

Example: `'16pt'`

### `IconFileOutcomeDisabled` — Disabled test result icon

empty character vector (default)

File name and path of an icon image for a disabled test result, specified as a character vector. The icon file specified replaces the default icon image. The icon image is reduced to 16x16 pixels.

Example: `'C:\MATLAB\disabled_test_icon.png'`

### `IconFileOutcomeFailed` — Failed test result icon

empty character vector (default)

File name and path of an icon image for a failed test result, specified as a character vector. The icon file specified replaces the default icon image. The icon image is reduced to 16x16 pixels.

Example: `'C:\MATLAB\failed_test_icon.png'`

### `IconFileOutcomeIncomplete` — Incomplete test result icon

empty character vector (default)

File name and path of an icon image for an incomplete test result, specified as a character vector. The icon file specified replaces the default icon image. The icon image is reduced to 16x16 pixels.

Example: `'C:\MATLAB\incomplete_test_icon.png'`

### `IconFileOutcomeMisaligned` — Misaligned test result icon

empty character vector (default)

File name and path of an icon image for a misaligned test result, specified as a character vector. The icon file specified replaces the default icon image. The icon image is reduced to 16x16 pixels.

Example: `'C:\MATLAB\misaligned_test_icon.png'`

### `IconFileOutcomePassed` — Passed test result icon

empty character vector (default)

File name and path of an icon image for a passed test result, specified as a character vector. The icon file specified replaces the default icon image. The icon image is reduced to 16x16 pixels.

Example: `'C:\MATLAB\passed_test_icon.png'`

### `IconFileTestCaseResult` — Test case result icon

empty character vector (default)

File name and path of an icon image for a test case result, specified as a character vector. The icon file specified replaces the default icon image. The icon image is reduced to 16x16 pixels.

Example: `'C:\MATLAB\test_case_result_icon.png'`

### `IconFileTestFileResult` — Test file result icon

empty character vector (default)

File name and path of an icon image for a test file result, specified as a character vector. The icon file specified replaces the default icon image. The icon image is reduced to 16x16 pixels.

Example: `'C:\MATLAB\test_file_result_icon.png'`

### `IconFileTestIterationResult` — Iteration result icon

empty character vector (default)

File name and path of an icon image for an iteration result, specified as a character vector. The icon file specified replaces the default icon image. The icon image is reduced to 16x16 pixels.

Example: `'C:\MATLAB\iteration_result_icon.png'`

### `IconFileTestSuiteResult` — Test suite result icon

empty character vector (default)

File name and path of an icon image for a test suite result, specified as a character vector. The icon file specified replaces the default icon image. The icon image is reduced to 16x16 pixels.

Example: `'C:\MATLAB\test_suite_result_icon.png'`

### `IconModelReference` — Model reference icon

empty character vector (default)

File name and path of an icon image for a model reference in the coverage report, specified as a character vector. The icon file specified replaces the default icon image. The icon image is reduced to 16x16 pixels.

Example: `'C:\MATLAB\model_reference_icon.png'`

**`IconTopLevelModel` — Top-level model icon**
empty character vector (default)

File name and path of an icon image for a top-level model in the coverage report, specified as a character vector. The icon file specified replaces the default icon image. The icon image is reduced to 16x16 pixels.

Example: `'C:\MATLAB\top_level_model_icon.png'`

**`IncludeComparisonSignalPlots` — Include comparison signal plots**
`false` (default) | `true`

Include the signal comparison plots in the report, specified as `true` or `false`.

**`IncludeCoverageResult` — Include coverage results**
`false` (default) | `true`

Include the coverage results in the report, specified as `true` or `false`.

**`IncludeErrorMessages` — Include error messages**
`true` (default) | `false`

Include error messages in the report, specified as `true` or `false`.

**`IncludeMWVersion` — Include MATLAB version**
`true` (default) | `false`

Include the version of MATLAB used to run the tests in the report, specified as `true` or `false`.

**`IncludeSimulationMetaData` — Include simulation metadata**
`false` (default) | `true`

Include simulation metadata in the report, specified as `true` or `false`. The metadata includes: Simulink version, model version, model author, date, model user ID, model path, machine name, solver name, solver type, fixed step size, simulation start time, simulation stop time, and platform.

**`IncludeSimulationSignalPlots` — Include simulation signal plots**
`false` (default) | `true`

Include the simulation signal output plots in the report, specified as `true` or `false`.

**`IncludeTestRequirement` — Include test requirement**
`true` (default) | `false`

Include the test requirements linked to the test file, test suite, or test case in the report, specified as `true` or `false`.

**`IncludeTestResults` — Include all or subset of test results**
`2` (default) | `0` | `1`

Include all or a subset of test results in the report. You can select all results (passed and failed), specified as the value `0`, select only passed results, specified as the value `1`, or select only failed results, specified as the value `2`.

**`LaunchReport` — Open report at completion**
`true` (default) | `false`

Open the report when it is finished generating, specified as a boolean value, `true` or to not open the report, `false`.

**`ReportTitle` — Report title**
empty character vector (default)

Title of the report, specified as a character vector

Example: `'Test Case Report'`

**`SectionSpacing` — Spacing between sections**
`'2mm'` (default) | character vector

Spacing between sections, specified in millimeters as a character vector.

Example: `'5mm'`

**`SignalPlotHeight` — Plot height**
`'600px'` (default) | character vector

Plot height, specified in pixels as a character vector.

Example: `'500px'`

**`SignalPlotWidth` — Plot width**
`'500px'` (default) | character vector

Plot width, specified in pixels as a character vector.

Example: `'400px'`

### `TableFontColor` — Table font color

`'Black'` (default) | character vector

Table font color, specified as a character vector.

Example: `'Blue'`

### `TableFontName` — Table font style name

`'Arial'` (default) | character vector

Table font-style name, specified as a character vector.

Example: `'Times New Roman'`

### `TableFontSize` — Table font size

`'7.5pt'` (default) | character vector

Table font size, specified in points as a character vector.

Example: `'10pt'`

### `TitleFontColor` — Title font color

`'Black'` (default) | character vector

Title font color, specified as a character vector.

Example: `'Blue'`

### `TitleFontName` — Title font style name

`'Arial'` (default) | character vector

Title font-style name, specified as a character vector.

Example: `'Times New Roman'`

### `TitleFontSize` — Title font size

`'16pt'` (default) | character vector

Title font size, specified in points as a character vector.

Example: `'20pt'`

# Methods

# Examples

### Inherit Class and Customize a Report

```
% class definition
classdef CustomReport < sltest.testmanager.TestResultReport
    % This custom class used by Test Manager adds a custom message in
    % the title page

    % Class constructor
    methods
        function this = CustomReport(resultObjects, reportFilePath)
            this@sltest.testmanager.TestResultReport(resultObjects,reportFilePath);
        end
    end

    methods(Access=protected)
        function addTitlePage(obj)
            import mlreportgen.dom.*;

            % Add a custom message
            label = Text('Some custom content can be added here');
            append(obj.titlePart,label);

            % Call the superclass method to get the default behavior
            addTitlePage@sltest.testmanager.TestResultReport(obj);
        end
    end
end
```

### Use Custom Report Class to Generate Report

```
% import existing results or use sltest.testmanager.run to run tests
% and collect results
result = sltest.testmanager.importResults('testResults.mldatx');
filePath = 'testreport.zip';
sltest.testmanager.report(result,filePath,...
   'Author','User',...
   'Title','Test',...
   'IncludeMLVersion',true,...
```

```
'IncludeTestResults',int32(0),...
'CustomReportClass','CustomReport',...
'LaunchReport',true);
```

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.ResultSet | `sltest.testmanager.report`

### Introduced in R2016a

# sltest.testmanager.TestSuite class

**Package:** sltest.testmanager

Create or modify test suite

## Description

Instances of `sltest.testmanager.TestSuite` can contain other test suites and test cases.

## Construction

`obj = sltest.testmanager.TestSuite(parent,name)` creates a `sltest.testmanager.TestSuite` object as a child of the specified parent. You can use test files or other test suites as the parent.

### Input Arguments

#### `parent` — Parent test file or test suite

object

Parent object for the test suite to reside in. The parent object can be a test file or a test suite, specified as an sltest.testmanager.TestFile or sltest.testmanager.TestSuite object.

#### `name` — Test suite name

character vector

Name of the test suite, specified as a character vector. If this is empty, a unique name is created.

Example: `'Coverage Test Suite'`

## Properties

#### `Name` — Test suite name

character vector

Name of the test file without the file path and file extension, returned as a character vector.

### `Description` — Test suite description

character vector

Test suite description text, specified as a character vector.

### `Enabled` — Test suite execution indicator

`true` | `false`

Indicates if test cases that are children of the test suite will execute, specified as a logical value `true` or `false`.

### `ReasonForDisabling` — Disabled description

character vector

Description text for why the test suite was disabled, specified as a character vector. This property is visible only when the `Enabled` property is set to `false`.

### `TestFile` — Parent test file

`sltest.testmanager.TestFile` object

Test file that is the parent of the test suite, returned as a sltest.testmanager.TestFile object.

### `TestPath` — Test hierarchy

character vector

Test file and test suite hierarchy, returned as a character vector.

### `Parent` — Parent test file or test suite

object

Test file or test suite that is the parent of the specified test suite, returned as a sltest.testmanager.TestFile or sltest.testmanager.TestSuite object.

### `Requirements` — Test suite requirements

structure array

The requirements that are attached at the test-suite level, returned as a structure.

# Methods

# Examples

### Create New Test File and Suite

```
% Create test file
testfile = sltest.testmanager.TestFile('C:\MATLAB\test_file.mldatx');

% Create test suite
testsuite = sltest.testmanager.TestSuite(testfile,'My Test Suite')
```

```
testsuite =

  TestSuite with properties:

           Name: 'My Test Suite'
       TestFile: [1x1 sltest.testmanager.TestFile]
       TestPath: 'test_file > My Test Suite'
         Parent: [1x1 sltest.testmanager.TestFile]
   Requirements: [0x1 struct]
    Description: ''
        Enabled: 1
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestCase | sltest.testmanager.TestFile

### Introduced in R2015b

# sltest.testmanager.TestSuiteResult class

**Package:** sltest.testmanager

Access test suite results data

## Description

Instances of `sltest.testmanager.TestSuiteResult` enable you to access the results from test execution performed by the Test Manager at a test-suite level.

## Construction

The function `sltest.testmanager.run` creates a `sltest.testmanager.ResultSet` object, which contains the test suite result object. You can also create a test suite result directly if you use sltest.testmanager.TestSuite.run to execute tests in an individual test suite.

## Properties

### `TestSuitePath` — Result hierarchy path

character vector

The hierarchy path in the parent result set.

### `TestFilePath` — Test file path

character vector

The path of the test file used to create the result.

### `NumPassed` — Number of passed tests

integer

The number of passed tests contained in the test suite result.

### `NumFailed` — Number of failed tests

integer

The number of failed tests contained in the test suite result.

**`NumDisabled` — Number of disabled tests**
integer

The number of test cases that were disabled in the test suite result.

**`NumTotal` — Total number of tests**
integer

The total number of tests in the test suite result.

**`NumTestCaseResults` — Number of test case result children**
integer

The number of test case results that are direct children of the test suite result.

**`NumTestSuiteResults` — Number of test suite result children**
integer

The number of test suite results that are direct children of the test suite result.

# Methods

# Examples

### Get Test Suite Result From Results Set

```
% Run test file in Test Manager and output results set
resultset = sltest.testmanager.run;

% Get test file result object
tfr = getTestFileResults(resultset);

% Get test suite result object
tsr = getTestSuiteResults(tfr);
```

- “Automate Tests Programmatically”

## See Also
sltest.testmanager.TestFileResult | sltest.testmanager.TestCaseResult

**Introduced in R2015a**

# Methods — Alphabetical List

# addBaselineCriteria

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Add baseline criteria to test case

## Syntax

```
baseline = addBaselineCriteria(tc,filePath,refreshIfExists)
```

## Description

`baseline = addBaselineCriteria(tc,filePath,refreshIfExists)`
adds a baseline criteria set to the test case and returns a baseline criteria object, sltest.testmanager.BaselineCriteria. This function can be used only if the test type is a baseline test case.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case that you want to add the baseline criteria to, specified as a sltest.testmanager.TestCase object.

### `filePath` — File name and path

character vector

Name and file path of the baseline criteria file, specified as a character vector.

Example: `'C:\MATLAB\baseline_API.mat'`

### `refreshIfExists` — Refresh signal criteria

`false` (default) | `true`

Refresh if the baseline criteria already exists, specified as a Boolean. The Boolean `false` errors if signal criteria is already loaded, and `true` refreshes signal criteria from the file data.

# Output Arguments

### `baseline` — Baseline criteria

`sltest.testmanager.BaselineCriteria` object

Baseline criteria added to the test case, returned as an sltest.testmanager.BaselineCriteria object.

# Examples

### Add Baseline Criteria to Test Case

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Add baseline criteria from file
baseline = addBaselineCriteria(tc,'C:\MATLAB\baseline_API.mat');
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# addInput

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Add input file to test case

## Syntax

```
input = addInput(tc,filePath,simulationIndex)
```

## Description

`input = addInput(tc,filePath,simulationIndex)` adds a file to the Inputs section of the test case and returns a test input object, sltest.testmanager.TestInput.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case that you want to add the test input to, specified as a sltest.testmanager.TestCase object.

### `filePath` — Input file name and path

character vector

Name and file path of the input file, specified as a character vector.

### `simulationIndex` — Test case simulation number

1 | 2

Simulation number that the parameter sets apply to, specified as an integer, 1 or 2. This setting applies to the simulation test case where there are two simulations. For baseline and simulation test cases, the simulation index is 1.

# Output Arguments

**`input` — Test input**
`sltest.testmanager.TestInput` object

Test input, returned as an sltest.testmanager.TestInput object.

# Examples

### Add Microsoft Excel Data as Input

You can add data from a Microsoft Excel spreadsheet. The spreadsheet used in this example is located in the example folder directory.

```
% Load example model
open_system('sltestExcelExample');

% Create new test file
tf = sltest.testmanager.TestFile('C:\MATLAB\input_test_file.mldatx');
% Get test suite object
ts = getTestSuites(tf);
% Get test case object
tc = getTestCases(ts);

% Add the example model as the system under test
setProperty(tc,'Model','sltestExcelExample');

% Add Excel data to Inputs section
input_path = fullfile(matlabroot,'toolbox','simulinktest',...
             'simulinktestdemos','sltestExampleInputs.xlsx');
input = addInput(tc,input_path,1);
% Map the input signals by port order
map(input,3);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# addIteration

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Add test iteration to test case

## Syntax

```
addIteration(tc,iter)
addIteration( ___ ,name)
```

## Description

`addIteration(tc,iter)` adds a test iteration to the test case. The Test Manager gives the iteration a unique name.

`addIteration( ___ ,name)` adds a test iteration to the test case with a specified name, which must be unique.

## Input Arguments

### `tc` — Test case to add iteration to

`sltest.testmanager.TestCase` object

Test case that you want to add the iteration to, specified as a sltest.testmanager.TestCase object.

### `iter` — Test iteration to add

`sltest.testmanager.TestIteration` object

Test iteration that you want to add to the test case, specified as a sltest.testmanager.TestIteration object.

### `name` — Test iteration name

character vector

Test iteration name, specified as a character vector. The name must be unique with respect to other iterations in the test case. This is an optional argument.

Example: `'Test Iteration 5'`

# Examples

### Iterate Over Parameter Sets

In this example, there must be parameter sets defined in the **Parameter Overrides** section of the test case. The iterations are generated during test execution. This section of script is in the Scripted Iterations section of the test case. It will execute only in the Scripted Iterations section.

```
% Define parameter sets for a test case and add this code in the

% Scripted iterations section of the test case
for k = 1 : length(sltest_parameterSets)

    % Create test iteration object
    testItr = sltest.testmanager.TestIteration();

    % Use the parameter set in this iteration
    testItr.setTestParam('ParameterSet', sltest_parameterSets{k});

    str = sprintf('ParameterSet %d', k);

    % Add the iteration object to the test case
    addIteration(sltest_testCase, testItr, str);
end
```

- “Run Multiple Combinations of Tests Using Iterations”
- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestIteration

### Introduced in R2016a

# addParameterOverride

**Class:** sltest.testmanager.ParameterSet
**Package:** sltest.testmanager

Add parameter override to set

## Syntax

```
ovr = addParameterOverride(ps,Name,Value)
```

## Description

`ovr = addParameterOverride(ps,Name,Value)` adds a parameter override to parameter set and returns a parameter override object, sltest.testmanager.ParameterOverride.

## Input Arguments

### `ps` — Parameter set

`sltest.testmanager.ParameterSet` object

Parameter set that you want to add the override to, specified as a sltest.testmanager.ParameterSet object.

### 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 (`' '`). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'Value',5.2`

### `'Name'` — Variable name

character vector

Name of the variable you want to override, specified as a character vector.

**`'Value'` — Variable value**
any value

Value of the variable you want to override.

**`'MaskedBlockPath'` — Masked block path**
character vector

If the parameter you want to override is contained in a masked block, then provide the block path, specified as a character vector.

# Output Arguments

**`ovr` — Parameter override**
`sltest.testmanager.ParameterOverride` object

Parameter override added to the parameter set, returned as an sltest.testmanager.ParameterOverride object.

# Examples

### Add Parameter Override to Parameter Set

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);
```

```
% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);
```

- “Automate Tests Programmatically”

**Introduced in R2015b**

# addParameterSet

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Add parameter set

## Syntax

```
pset = addParameterSet(tc,Name,Value)
```

## Description

`pset = addParameterSet(tc,Name,Value)` adds a parameter set to the test case and returns a parameter set object, sltest.testmanager.ParameterSet.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case that you want to add the parameter set to, specified as a sltest.testmanager.TestCase object.

### 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 (`' '`). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'SimulationIndex',2`

#### `'Name'` — Parameter set name

auto-generated unique name (default) | character vector

Name of the parameter set, specified as a character vector. This name is the label shown in the test case parameter set table. If you do not specify a name, the function creates an auto-generated unique name.

**`'FilePath'` — Parameter set name and file path**
character vector

The full name and path of the MAT-file, which contains the parameter values, specified as a character vector. If no parameter file path is given, then the function creates an empty parameter set.

**`'SimulationIndex'` — Simulation number**
1 (default) | 2

Simulation number that the parameter set applies to, specified as an integer, 1 or 2. This parameter applies to the simulation test case where there are two simulations. For baseline and simulation test cases, the simulation index is 1.

## Output Arguments

**`pset` — Parameter set**
`sltest.testmanager.ParameterSet` object

Parameter set, returned as an sltest.testmanager.ParameterSet object.

## Examples

### Add Parameter Set to Test Case

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');
```

```
% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
```

- “Automate Tests Programmatically”

## Introduced in R2015b

# addReportBody

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Add main report body

## Syntax

```
addReportBody(obj)
```

## Description

`addReportBody(obj)` adds the main body pages to the report.

This method also calls:

- sltest.testmanager.TestResultReport.genResultSetBlock
- sltest.testmanager.TestResultReport.genTestSuiteResultBlock
- sltest.testmanager.TestResultReport.genTestCaseResultBlock

## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

## Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

### See Also

sltest.testmanager.TestResultReport

**Introduced in R2016a**

# addReportTOC

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

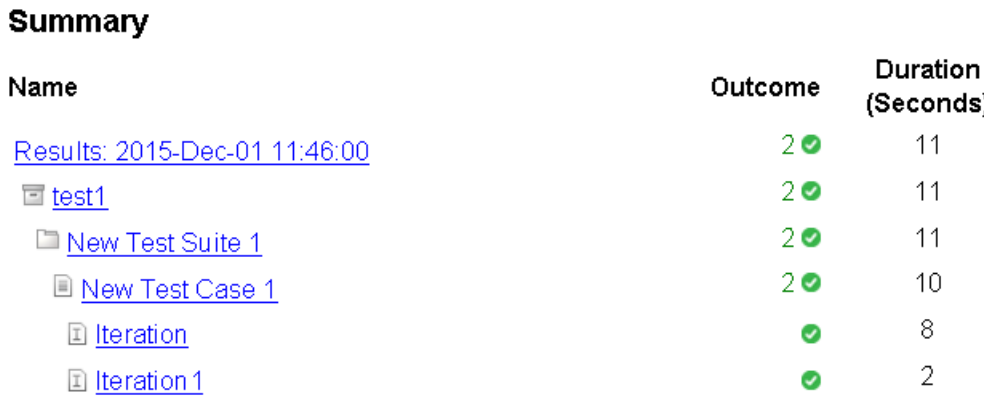
Add report table of contents

## Syntax

```
addReportTOC(obj)
```

## Description

`addReportTOC(obj)` adds the table of contents page to the report.




## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

## Examples

- “Export Test Results and Generate Reports”
- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestResultReport

**Introduced in R2016a**

# addTitlePage

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Add report title page

## Syntax

```
addTitlePage(obj)
```

## Description

`addTitlePage(obj)` adds the title page to the report.


## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

## Examples

- “Export Test Results and Generate Reports”
- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestResultReport

### Introduced in R2016a

# captureBaselineCriteria

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Capture baseline criteria and add to test case

## Syntax

```
baseline = captureBaselineCriteria(tc,filePath,append)
```

## Description

`baseline = captureBaselineCriteria(tc,filePath,append)` runs the System Under Test and captures a baseline criteria set. The function returns a baseline criteria object, sltest.testmanager.BaselineCriteria. This function can be used only if the test type is a baseline test case.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case to capture baseline criteria in, specified as an sltest.testmanager.TestCase object.

### `filePath` — Input file name and path

character vector

Name and file path to save the baseline criteria file to, specified as a character vector.

### `append` — Append baseline criteria

`true` | `false`

Append baseline criteria if criteria already exists, specified as a Boolean. The Boolean `true` appends to existing criteria, and `false` replaces all existing criteria.

# Output Arguments

### `baseline` — Baseline criteria object

object

Baseline criteria added to the test case, returned as an sltest.testmanager.BaselineCriteria object.

# Examples

### Capture Baseline Criteria

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# captureEquivalenceCriteria

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Capture equivalence criteria and add to test case

## Syntax

```
eq = captureEquivalenceCriteria(tc,replaceAll)
```

## Description

`eq = captureEquivalenceCriteria(tc,replaceAll)` runs the System Under Test in Simulation 1 and captures an equivalence criteria set. The function returns an equivalence criteria object, sltest.testmanager.EquivalenceCriteria. This function can be used only if the test type is an equivalence test case.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case to capture equivalence criteria in, specified as an sltest.testmanager.TestCase object.

### `replaceAll` — Replace equivalence criteria

`true` | `false`

Replace existing equivalence criteria if criteria already exists in the test case, specified as a Boolean. The Boolean `true` replaces all existing criteria, and `false` errors if criteria already exists in the test case.

## Output Arguments

### `eq` — Equivalence criteria object

object

Equivalence criteria added to the test case, returned as an sltest.testmanager.EquivalenceCriteria object.

# Examples

### Add Equivalence Criteria to Test Case

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'equivalence','Equivalence Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
% for Simulation 1 and Simulation 2
setProperty(tc,'Model','sldemo_absbrake','SimulationIndex',1);
setProperty(tc,'Model','sldemo_absbrake','SimulationIndex',2);

% Capture equivalence criteria
eq = captureEquivalenceCriteria(tc);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# close

**Class:** sltest.testmanager.TestFile
**Package:** sltest.testmanager

Close test file in Test Manager

## Syntax

```
close(tf)
```

## Description

`close(tf)` closes the test file in the Test Manager and does not save unsaved changes.

## Input Arguments

### `tf` — Test file

`sltest.testmanager.TestFile` object

Test file, specified as a sltest.testmanager.TestFile object.

## Examples

### Close Test File

```
% Create test file in Test Manager
tf = sltest.testmanager.TestFile('My Test File');

% Close test file
close(tf);
```

- "Automate Tests Programmatically"

### Introduced in R2015b

# convertTestType

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Convert test from one type to another

## Syntax

```
convertTestType(tc,testType)
```

## Description

`convertTestType(tc,testType)` converts the test case type to a different type.

If you convert certain test case types to another type, then you can lose information about the original test case:

- Baseline to simulation or equivalence — baseline criteria is lost
- Equivalence to simulation or baseline — equivalence criteria is lost for Simulation 1 and 2

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case that you want to convert to a different type, specified as a sltest.testmanager.TestCase object.

### `testType` — Test case type

`sltest.testmanager.TestCaseTypes.Baseline` |
`sltest.testmanager.TestCaseTypes.Equivalence` |
`sltest.testmanager.TestCaseTypes.Simulation`

Test case type that you want to convert to, specified as a `sltest.testmanager.TestCaseTypes` enumeration. Specify:

- `sltest.testmanager.TestCaseTypes.Baseline` to convert to a baseline test case
- `sltest.testmanager.TestCaseTypes.Equivalence` to convert to an equivalence test case
- `sltest.testmanager.TestCaseTypes.Simulation` to convert to a simulation test case

## Examples

### Change Baseline Test Case to Simulation

```
% Create new test file with test suite and default test case
tf = sltest.testmanager.TestFile('API Test File');
ts = getTestSuites(tf);
tc = getTestCases(ts);

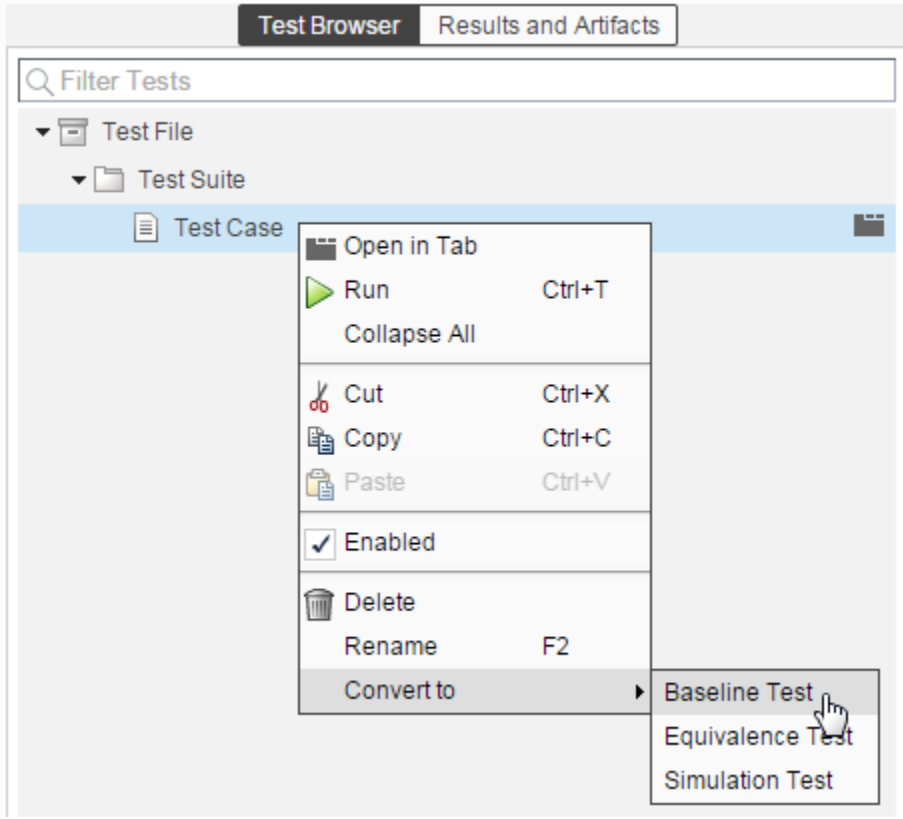
% Assign system under test to test case
setProperty(tc,'Model','sldemo_absbrake');

% Convert test case to simulation type
convertTestType(tc,sltest.testmanager.TestCaseTypes.Simulation);
```

- “Automate Tests Programmatically”

## Alternatives

You can also convert the test case type using the context menu in the **Test Browser** pane. Right-click the test case, select **Convert to**, and then select the test case type you want to convert the test case to.




## See Also

sltest.testmanager.TestCase

**Introduced in R2016b**

# convertTestType

**Class:** sltest.testmanager.TestFile
**Package:** sltest.testmanager

Convert test from one type to another

## Syntax

```
convertTestType(tf,testType)
```

## Description

`convertTestType(tf,testType)` converts the test case type to a different type. The function converts all of the test cases contained in the test file. If you want to convert a single test case, then use the sltest.testmanager.TestCase.convertTestType method.

If you convert certain test case types to another type, then you can lose information about the original test case:

- Baseline to simulation or equivalence — baseline criteria is lost
- Equivalence to simulation or baseline — equivalence criteria is lost for Simulation 1 and 2

## Input Arguments

### `tf` — Test file

`sltest.testmanager.TestFile` object

Test file that contains the test cases you want to convert to a different type, specified as a sltest.testmanager.TestFile object.

### `testType` — Test case type

`sltest.testmanager.TestCaseTypes.Baseline` |
`sltest.testmanager.TestCaseTypes.Equivalence` |
`sltest.testmanager.TestCaseTypes.Simulation`

Test case type that you want to convert to, specified as a `sltest.testmanager.TestCaseTypes` enumeration. Specify:

- `sltest.testmanager.TestCaseTypes.Baseline` to convert to a baseline test case
- `sltest.testmanager.TestCaseTypes.Equivalence` to convert to an equivalence test case
- `sltest.testmanager.TestCaseTypes.Simulation` to convert to a simulation test case

# Examples

### Change Baseline Test Cases to Simulation

```
% Create new test file with test suite and default test case
tf = sltest.testmanager.TestFile('API Test File');
ts = getTestSuites(tf);
tc1 = getTestCases(ts);

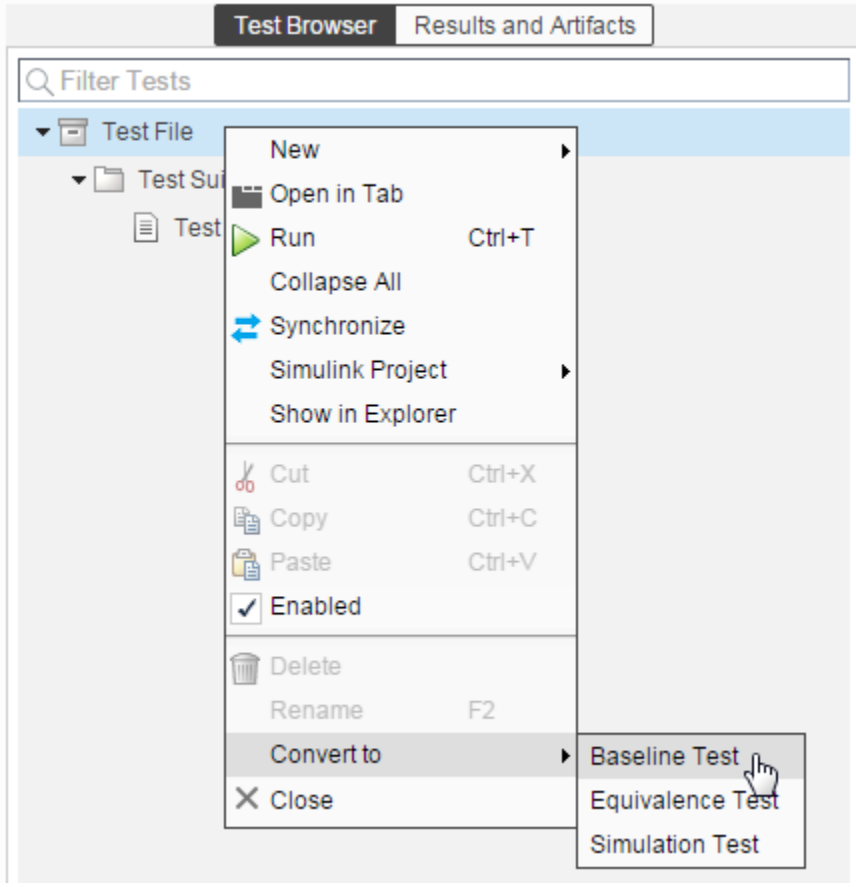
% Create new test case
tc2 = createTestCase(ts,'baseline','API Test Case');

% Convert test cases to simulation type
convertTestType(tf,sltest.testmanager.TestCaseTypes.Simulation);
```

- “Automate Tests Programmatically”

# Alternatives

You can also convert the test case type using the context menu in the **Test Browser** pane. Right-click the test file, select **Convert to**, and then select the test case type you want to convert all of the test cases to.




## See Also

sltest.testmanager.TestCase

**Introduced in R2016b**

# convertTestType

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Convert test from one type to another

## Syntax

```
convertTestType(ts,testType)
```

## Description

`convertTestType(ts,testType)` converts the test case type to a different type. The function converts all of the test cases contained in the test suite. If you want to convert a single test case, then use the sltest.testmanager.TestCase.convertTestType method.

If you convert certain test case types to another type, then you can lose information about the original test case:

- Baseline to simulation or equivalence — baseline criteria is lost
- Equivalence to simulation or baseline — equivalence criteria is lost for Simulation 1 and 2

## Input Arguments

### `ts` — Test suite

`sltest.testmanager.TestSuite` object

Test suite that contains the test cases you want to convert to a different type, specified as a sltest.testmanager.TestSuite object.

### `testType` — Test case type

`sltest.testmanager.TestCaseTypes.Baseline` |
`sltest.testmanager.TestCaseTypes.Equivalence` |
`sltest.testmanager.TestCaseTypes.Simulation`

Test case type that you want to convert to, specified as a `sltest.testmanager.TestCaseTypes` enumeration. Specify:

- `sltest.testmanager.TestCaseTypes.Baseline` to convert to a baseline test case
- `sltest.testmanager.TestCaseTypes.Equivalence` to convert to an equivalence test case
- `sltest.testmanager.TestCaseTypes.Simulation` to convert to a simulation test case

# Examples

### Change Baseline Test Cases to Simulation

```
% Create new test file with test suite and default test case
tf = sltest.testmanager.TestFile('API Test File');
ts = getTestSuites(tf);
tc1 = getTestCases(ts);

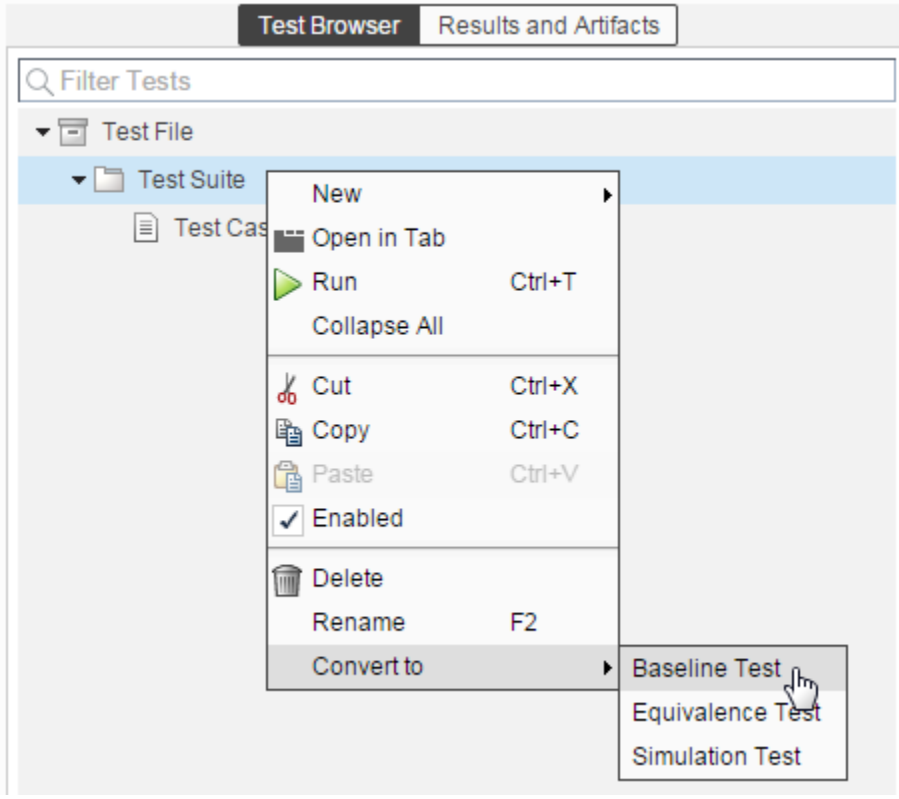
% Create new test case
tc2 = createTestCase(ts,'baseline','API Test Case');

% Convert test cases to simulation type
convertTestType(ts,sltest.testmanager.TestCaseTypes.Simulation);
```

- “Automate Tests Programmatically”

# Alternatives

You can also convert the test case type using the context menu in the **Test Browser** pane. Right-click the test suite, select **Convert to**, and then select the test case type you want to convert all of the test cases to.




## See Also

sltest.testmanager.TestCase

**Introduced in R2016b**

# copySimulationSettings

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Copy simulation setting in equivalence test case

## Syntax

```
copySimulationSettings(tc,fromSimIndex,toSimIndex)
```

## Description

`copySimulationSettings(tc,fromSimIndex,toSimIndex)` copies the simulation setting from one simulation number to another within an equivalence test case. This function works only for equivalence test case types.

## Input Arguments

### `tc` — Equivalence test case

`sltest.testmanager.TestCase` object

Equivalence test case that you want to copy simulation settings in, specified as a sltest.testmanager.TestCase object.

### `fromSimIndex` — Copy from simulation number

`1 | 2`

Simulation number you want to copy the settings from, specified as an integer, `1` or `2`. This is the source simulation.

### `toSimIndex` — Copy to simulation number

`1 | 2`

Simulation number you want to copy the settings to, specified as an integer, `1` or `2`. This is the target simulation.

# Examples

### Copy Simulation Settings in Test Case

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'equivalence','Equivalence Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
% for Simulation 1 and Simulation 2
setProperty(tc,'Model','sldemo_absbrake','SimulationIndex',1);
setProperty(tc,'Model','sldemo_absbrake','SimulationIndex',2);

% Change simulation stop time in Simulation 1
setProperty(tc,'StopTime',100,'SimulationIndex',1);

% Copy simulation setting to Simulation 2
copySimulationSettings(tc,1,2);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# createTestCase

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Create test case

## Syntax

```
tc = createTestCase(ts,type,name,runOnTarget)
```

## Description

`tc = createTestCase(ts,type,name,runOnTarget)` creates a new test case within the test suite. You can specify the test case name and type: baseline, equivalence, and simulation. Also, if you are using the test case for real-time testing, you can specify this using the `runOnTarget` argument.

## Input Arguments

### `ts` — Test suite

`sltest.testmanager.TestSuite` object

Test suite that you want to add a test case to, specified as an sltest.testmanager.TestSuite object.

### `type` — Test case type

`'baseline'` (default) | `'equivalence'` | `'simulation'`

Test case type, specified as a character vector.

### `name` — Test case name

character vector

Test case name, specified as a character vector. If this input argument is empty, then the Test Manager gives the test case a unique name.

### `runOnTarget` — Run simulation on target

cell array of Booleans

Specify if you want to run the test case simulation on a target, specified as a cell array of Booleans. This is an optional argument. For more information on real-time testing, see "Test Models in Real Time".

## Output Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case, returned as an sltest.testmanager.TestCase object.

## Examples

### Create Test Case

```
% Create test file
tf = sltest.testmanager.TestFile('C:\MATLAB\test_file.mldatx');

% Create test suite
ts = sltest.testmanager.TestSuite(tf,'My Test Suite');

% Create test case
tc = createTestCase(ts,'baseline','My Baseline Test')
```

- "Automate Tests Programmatically"

### Introduced in R2015b

# createTestForSubsystem

**Class:** sltest.testmanager.TestFile
**Package:** sltest.testmanager

Create test case for subsystem

## Syntax

```
createTestForSubsystem(tf,subsystemFullPath,testType,inputsLocation,
baselineLocation)
```

## Description

`createTestForSubsystem(tf,subsystemFullPath,testType,inputsLocation,baselineLocation)` creates a new test case for a model susbsystem within the test file in a new test suite. Specify the test case name and type: baseline, equivalence, and simulation. Also, specify where the input and baseline datasets are saved.

## Input Arguments

### `tf` — Test file

`sltest.testmanager.TestFile` object

Test file, specified as an sltest.testmanager.TestFile object.

### `subsystemFullPath` — Subsystem path

character vector

Full path of the subsystem starting at the top model, specified as a character vector.

Example: `'f14/Controller'`

### `testType` — Test case type

`'baseline' | 'equivalence' | 'simulation'`

Test case type, specified as a character vector.

Example: `'baseline'`

### `inputsLocation` — Inputs file location

character vector

File name and path of where to save the inputs data, specified as a character vector. The inputs file is saved as a MAT-file with the extension `.mat`.

Example: `'C:\MATLAB\inputs_data.mat'`

### `baselineLocation` — Baseline file location

character vector

File name and path of where to save the baseline data, specified as a character vector. The baseline file is saved as a MAT-file with the extension `.mat`.

Example: `'C:\MATLAB\baseline_data.mat'`

## Examples

### Create Test For a Subsystem

```
% Load the model
load_system('sldemo_autotrans');

% Create a test file
tf = sltest.testmanager.TestFile('My Test File');

% Create test from subsystem
createTestForSubsystem(tf,'sldemo_autotrans/ShiftLogic','baseline',...
    'C:\MATLAB\inputs_data.mat','C:\MATLAB\baseline_data.mat');
```

- “Automate Tests Programmatically”
- “Generate Test Cases from Model Components”

## See Also

sltest.testmanager.TestFile

### Introduced in R2016a

# createTestForSubsystem

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Create test case for subsystem

## Syntax

```
createTestForSubsystem(tsObj,subsystemFullPath,testType,
inputsLocation,baselineLocation)
```

## Description

`createTestForSubsystem(tsObj,subsystemFullPath,testType, inputsLocation,baselineLocation)` creates a new test case for a model susbsystem within the test suite. Specify the test case name and type: baseline, equivalence, and simulation. Also, specify where the input and baseline datasets are saved.

## Input Arguments

### `tsObj` — Test suite

`sltest.testmanager.TestSuite` object

Test suite, specified as an sltest.testmanager.TestSuite object.

### `subsystemFullPath` — Subsystem path

character vector

Full path of the subsystem starting at the top model, specified as a character vector.

Example: `'f14/Controller'`

### `testType` — Test case type

`'baseline' | 'equivalence' | 'simulation'`

Test case type, specified as a character vector.

Example: `'baseline'`

### `inputsLocation` — Inputs file location

character vector

File name and path of where to save the inputs data, specified as a character vector. The inputs file is saved as a MAT-file with the extension `.mat`.

Example: `'C:\MATLAB\inputs_data.mat'`

### `baselineLocation` — Baseline file location

character vector

File name and path of where to save the baseline data, specified as a character vector. The baseline file is saved as a MAT-file with the extension `.mat`.

Example: `'C:\MATLAB\baseline_data.mat'`

## Examples

### Create Test For a Subsystem

```
% Load the model
load_system('sldemo_autotrans');

% Create a test file and default test suite
tf = sltest.testmanager.TestFile('My Test File');
ts = getTestSuites(tf);

% Create test from subsystem
createTestForSubsystem(ts,'sldemo_autotrans/ShiftLogic','baseline',...
    'C:\MATLAB\inputs_data.mat','C:\MATLAB\baseline_data.mat');
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestSuite

### Introduced in R2016a

# createTestSuite

**Class:** sltest.testmanager.TestFile
**Package:** sltest.testmanager

Create new test suite

## Syntax

```
ts = createTestSuite(tf,suiteName)
```

## Description

`ts = createTestSuite(tf,suiteName)` creates a test suite and adds it to the test file.

## Input Arguments

### `tf` — Test file

`sltest.testmanager.TestFile` object

Test file that you want to create the test suite within, specified as a sltest.testmanager.TestFile object.

### `suiteName` — Test suite name

character vector

Name of the test suite, specified as a character vector.

Example: `'My Test Suite'`

## Output Arguments

### `ts` — Test suite object

object

Test suite, returned as an sltest.testmanager.TestSuite object.

# Examples

### Create a Test Suite

```
% Create a test file
tf = sltest.testmanager.TestFile('My Test File');

% Create a test suite
ts = createTestSuite(tf,'My Test Suite');
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# createTestSuite

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Create test suite

## Syntax

```
tsOut = createTestSuite(ts,suiteName)
```

## Description

`tsOut = createTestSuite(ts,suiteName)` creates a new test suite.

## Input Arguments

### `ts` — Test suite

`sltest.testmanager.TestSuite` object

Test suite that want to add another test suite to, specified as an sltest.testmanager.TestSuite object.

### `suiteName` — Test suite name

character vector

Test suite name, specified as a character vector. If this input argument is empty, then the Test Manager gives the test suite a unique name.

## Output Arguments

### `tsOut` — Test suite

`sltest.testmanager.TestSuite` object

Test suite, returned as an sltest.testmanager.TestSuite object.

# Examples

### Create Test Suite

```
% Create test file
tf = sltest.testmanager.TestFile('C:\MATLAB\test_file.mldatx');

% Create test suite
ts = sltest.testmanager.TestSuite(tf,'My Test Suite');

% Create another new test suite using method
ts2 = createTestSuite(ts,'Baseline Tests')
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# deleteIterations

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Delete test iterations that belong to test case

## Syntax

```
deleteIterations(tc,iter)
```

## Description

`deleteIterations(tc,iter)` deletes one or more test iterations from the test case.

## Input Arguments

### `tc` — Test case to delete iteration from

`sltest.testmanager.TestCase` object

Test case that you want to delete the iteration from, specified as a sltest.testmanager.TestCase object.

### `iter` — Test iteration to delete

`sltest.testmanager.TestIteration` object array

Test iterations that you want to delete from the test case, specified as an array of sltest.testmanager.TestIteration objects.

## Examples

### Delete Test Iteration from Test Case

```
% Create test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('Iterations Test File');
```

```
ts = getTestSuites(tf);
tc = createTestCase(ts,'simulation','Simulation Iterations');

% Specify model as system under test
setProperty(tc,'Model','sldemo_autotrans');

% Set up table iteration
% Create iteration object
testItr1 = sltestiteration;
% Set iteration settings
setTestParam(testItr1,'SignalBuilderGroup','Passing Maneuver');
% Add the iteration to test case
addIteration(tc,testItr1);

% Set up another table iteration
% Create iteration object
testItr2 = sltestiteration;
% Set iteration settings
setTestParam(testItr2,'SignalBuilderGroup','Coasting');
% Add the iteration to test case
addIteration(tc,testItr2);

% Delete first iteration
deleteIterations(tc,testItr1);
```

- “Run Multiple Combinations of Tests Using Iterations”
- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestIteration

### Introduced in R2016a

# genBaselineInfoTable

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Generate baseline dataset information table

## Syntax

```
baselineTable = genBaselineInfoTable(obj,result)
```

## Description

`baselineTable = genBaselineInfoTable(obj,result)` generates a section for the baseline dataset information used in the test case.

**Baseline Information**

Baseline Name: baseline1.mat
Baseline File: Z:\12\aabhishe.Dec1\baseline1.mat

| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|---|---|---|---|---|---|---|
| yout.Ww | double | | Continuous | linear | union | Link |
| yout.Vs | double | | Continuous | linear | union | Link |
| yout.Sd | double | | Continuous | linear | union | Link |
| slp | double | | Continuous | linear | union | Link |

## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `result` — Result set

`sltest.testmanager.TestCaseResult` object | `sltest.testmananger.TestIterationResult` object

Result set, specified as a sltest.testmanager.TestCaseResult or sltest.testmanager.TestIterationResult object.

## Output Arguments

### `baselineTable` — Table

`mlreportgen.dom.FormalTable` object

The test case baseline dataset table generated by the method, returned as a mlreportgen.dom.FormalTable object.

## Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.FormalTable

### Introduced in R2016a

# genCoverageTable

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Generate coverage collection table

## Syntax

```
docPart = genCoverageTable(obj,resultObj)
```

## Description

`docPart = genCoverageTable(obj,resultObj)` generates a section for coverage that was collected during the test.

**Aggregated Coverage Results**

| Model Name | C1 | TBL | Execution |
|---|---|---|---|
| sldemo_absbrake | -- | 100% | 100% |
| sldemo_wheelspeed_absbrake | 100% | -- | 100% |

## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `resultObj` — Result set

`sltest.testmanager.TestResult` object

Result set, specified as a `sltest.testmanager.TestResult` object.

# Output Arguments

**`docPart` — Document part**
`mlreportgen.dom.DocumentPart` object

The coverage section document part generated by the method, returned as a mlreportgen.dom.DocumentPart object.

# Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.DocumentPart

**Introduced in R2016a**

# genHyperLinkToToC

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Generate link to table of contents

## Syntax

```
para = genHyperLinkToToC(obj,indent)
```

## Description

`para = genHyperLinkToToC(obj,indent)` generates link to the report table of contents.

The link appears at the end of sections:


## Input Arguments

### `obj` — Test report

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `indent` — Link indentation

character vector

Space between the left outer boundary of this paragraph and the left inner boundary of the link, specified as a character vector.

The character vector has the format `valueUnits`, where `Units` is an abbreviation for the units in which the indentation is expressed. Use one of these abbreviations for the units for indentation.

- no abbreviation — pixels
- `cm` — centimeters
- `in` — inches
- `mm` — millimeters
- `pi` — picas
- `pt` — points
- `px` — pixels

Example: `'5mm'`

## Output Arguments

### `para` — Paragraph

`mlreportgen.dom.Paragraph` object

The link paragraph generated by the method, returned as a mlreportgen.dom.Paragraph object.

## Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.Paragraph

### Introduced in R2016a

# genIterationSettingTable

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Generate iteration settings table

## Syntax

```
docPart = genIterationSettingTable(obj,result)
```

## Description

`docPart = genIterationSettingTable(obj,result)` generates a section for the iteration settings used to override the parent test case settings.

**Iteration Settings**

**Test Overrides**

| Parameter Name | Value |
|---|---|
| ParameterSet | Parameter Set 1 |

## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `result` — Result set

`sltest.testmanager.ReportUtility.ReportResultData` object

Result set, specified as a `sltest.testmanager.ReportUtility.ReportResultData` object.

## Output Arguments

**`docPart` — Document part**
`mlreportgen.dom.DocumentPart` object

The iteration settings section document part generated by the method, returned as a mlreportgen.dom.DocumentPart object.

## Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.DocumentPart

**Introduced in R2016a**

# genMetadataBlockForTestResult

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Generate result metadata section

## Syntax

```
docPart = genMetadataBlockForTestResult(obj,result,
isTestSuiteResult)
```

## Description

`docPart = genMetadataBlockForTestResult(obj,result, isTestSuiteResult)` generates a result metadata section for a test suite or test case result.

If called from sltest.testmanager.TestResultReport.genTestSuiteResultBlock, then this method also calls:

- sltest.testmanager.TestResultReport.genTableRowsForResultMetaInfo
- sltest.testmanager.TestResultReport.genRequirementLinksTable

If called from sltest.testmanager.TestResultReport.genTestCaseResultBlock, then this method also calls:

- sltest.testmanager.TestResultReport.genTableRowsForResultMetaInfo
- sltest.testmanager.TestResultReport.genRequirementLinksTable
- sltest.testmanager.TestResultReport.genIterationSettingTable

## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

**`result` — Result set**
`sltest.testmanager.ReportUtility.ReportResultData` object

Result set, specified as a `sltest.testmanager.ReportUtility.ReportResultData` object.

**`isTestSuiteResult` — Test suite indicator**
`true` | `false`

Flag to indicate whether the test result metadata block is for a test suite result or not, specified as a Boolean, `true` or `false`.

# Output Arguments

**`docPart` — Document part**
`mlreportgen.dom.DocumentPart` object

The result set section document part generated by the method, returned as a mlreportgen.dom.DocumentPart object.

# Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.DocumentPart

**Introduced in R2016a**

# genParameterOverridesTable

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Generate test case parameter overrides table

## Syntax

```
overridesTable = genParameterOverridesTable(obj,result,simIndex)
```

## Description

`overridesTable = genParameterOverridesTable(obj,result,simIndex)` generates a section for parameter overrides used in the test case.

**Parameter Overrides**

| Workspace Variable | Value | Source | Model Element |
|---|---|---|---|
| Parameter Set 1 | | | |
| Rr | 1.5 | base workspace | sldemo_absbrake/Rr, sldemo_absbrake/Vehicle speed (angular) |

## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

**`result` — Result set**
`sltest.testmanager.TestResult` object

Result set, specified as a `sltest.testmanager.TestResult` object.

**`simIndex` — Simulation index**
`1 | 2`

Simulation number that the test case parameter overrides table applies to, specified as an integer, 1 or 2. This setting applies to the simulation test case.

# Output Arguments

**`overridesTable` — Table**
`mlreportgen.dom.FormalTable` object

The test case parameter overrides table generated by the method, returned as a mlreportgen.dom.FormalTable object.

# Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.FormalTable

**Introduced in R2016a**

# genRequirementLinksTable

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Generate requirement links table

## Syntax

```
reqTable = genRequirementLinksTable(obj,resultObj,isTestSuiteResult)
```

## Description

`reqTable = genRequirementLinksTable(obj,resultObj,isTestSuiteResult)` generates a section for table of requirement links.


## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `resultObj` — Result set

`sltest.testmanager.TestResult` object

Result set, specified as a `sltest.testmanager.TestResult` object.

### `isTestSuiteResult` — Test suite indicator

`true` | `false`

Flag to indicate whether the requirement links table is for a test suite result or not, specified as a Boolean, `true` or `false`.

## Output Arguments

### `reqTable` — Table

`mlreportgen.dom.FormalTable` object

The requirements links table generated by the method, returned as a mlreportgen.dom.FormalTable object.

## Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.FormalTable

**Introduced in R2016a**

# genResultSetBlock

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

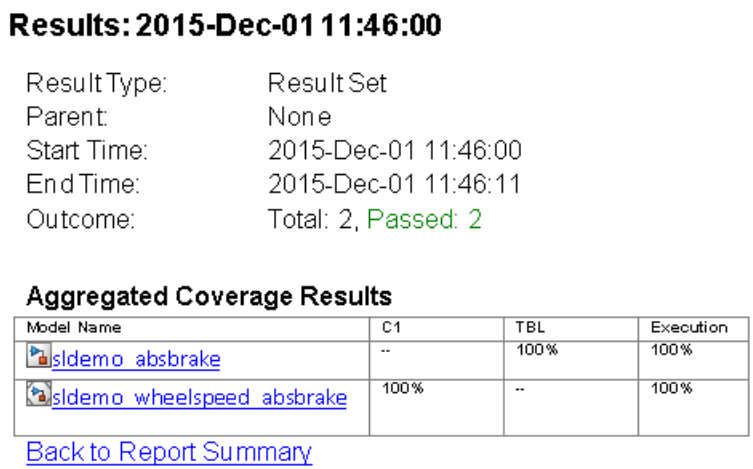
Generate results set section

## Syntax

```
docPart = genResultSetBlock(obj,result)
```

## Description

`docPart = genResultSetBlock(obj,result)` generates the results set section.




This method also calls:

- sltest.testmanager.TestResultReport.genTableRowsForResultMetaInfo
- sltest.testmanager.TestResultReport.genCoverageTable
- sltest.testmanager.TestResultReport.genHyperLinkToToC

# Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `result` — Result set

`sltest.testmanager.ReportUtility.ReportResultData` object

Result set, specified as a `sltest.testmanager.ReportUtility.ReportResultData` object.

# Output Arguments

### `docPart` — Document part

`mlreportgen.dom.DocumentPart` object

The result set section document part generated by the method, returned as a mlreportgen.dom.DocumentPart object.

# Examples

- “Export Test Results and Generate Reports”
- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.DocumentPart

### Introduced in R2016a

# genRunBlockForTestCaseResult

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Generate test case configuration and results section

## Syntax

```
docPart = genRunBlockForTestCaseResult(obj,run,runType,result,
simIndex)
```

## Description

`docPart = genRunBlockForTestCaseResult(obj,run,runType,result, simIndex)` generates a combined section for baseline data, simulation configuration, parameter overrides, simulation output, criteria comparison, and verify run data.

This method also calls:

- sltest.testmanager.TestResultReport.genBaselineInfoTable
- sltest.testmanager.TestResultReport.genSimulationConfigurationTable
- sltest.testmanager.TestResultReport.genParameterOverridesTable
- sltest.testmanager.TestResultReport.genSignalSummaryTable
- sltest.testmanager.TestResultReport.plotOneSignalToFile
- sltest.testmanager.TestResultReport.genHyperLinkToToC

## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `run` — Run data

`Simulink.sdi.Run` object

Test case result run data, specified as a Simulink.sdi.Run object.

**`runType` — Run type**
`sltest.testmanager.RunTypes` object

The run type, specified as a `sltest.testmanager.RunTypes` object.

**`result` — Result**
`sltest.testmanager.ReportUtility.ReportResultData` object

Run result, specified as a
`sltest.testmanager.ReportUtility.ReportResultData` object.

**`simIndex` — Simulation index**
`1 | 2`

Simulation number that the result applies to, specified as an integer, 1 or 2. This setting applies to the simulation test case.

# Output Arguments

**`docPart` — Document part**
`mlreportgen.dom.DocumentPart` object

The result set section document part generated by the method, returned as a mlreportgen.dom.DocumentPart object.

# Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport | Simulink.sdi.Run | mlreportgen.dom.DocumentPart

**Introduced in R2016a**

# genSignalSummaryTable

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Generate signal output and comparison data

## Syntax

```
docPart = genSignalSummaryTable(obj,signalList,isComparison,
isSummaryTable)
```

## Description

`docPart = genSignalSummaryTable(obj,signalList,isComparison, isSummaryTable)` generates a section for signal output and comparison data.

| Name | Data Type | Units | Sample Time | Interp | Sync | Link to Plot |
|---|---|---|---|---|---|---|
| yout.Ww | double | | Continuous | linear | union | Link |
| yout.Vs | double | | Continuous | linear | union | Link |
| yout.Sd | double | | Continuous | linear | union | Link |
| slp | double | | Continuous | linear | union | Link |

## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `signalList` — Signal list

`sltest.testmanager.ReportUtility.Signal` object

Signals in the summary table, specified as an array of `sltest.testmanager.ReportUtility.Signal` objects.

**`isComparison` — Comparison indicator**
`true` | `false`

Flag to indicate whether the signal is from a comparison run or not, specified as a Boolean, `true` or `false`.

**`isSummaryTable` — Summary table indicator**
`true` | `false`

Flag to indicate whether this is for a signal summary table in the report or an individual signal plot, specified as a Boolean. `true` for the signal summary table or `false` for an individual signal plot.

# Output Arguments

**`docPart` — Document part**
`mlreportgen.dom.DocumentPart` object

The signal summary section document part generated by the method, returned as a mlreportgen.dom.DocumentPart object.

# Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.DocumentPart

**Introduced in R2016a**

# genSimulationConfigurationTable

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Generate test case simulation configuration table

## Syntax

```
simCfgTable = genSimulationConfigurationTable(obj,result,simIndex)
```

## Description

`simCfgTable = genSimulationConfigurationTable(obj,result,simIndex)` generates a section for simulation configuration data used in the test case.

**Simulation**

**System Under Test Information**

| | |
|---|---|
| Model: | sldemo_absbrake |
| Simulation Mode | Normal |
| Configuration Set: | Configuration |
| Start Time: | 0 |
| Stop Time: | 14.635438874554231 |
| Checksum: | 1514901952 3523488043 2320696550 3824373991 |
| Simulink Version: | 8.7 |

## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `result` — Result set

`sltest.testmanager.ReportUtility.ReportResultData` object

Result set, specified as a `sltest.testmanager.ReportUtility.ReportResultData` object.

### `simIndex` — Simulation index

`1 | 2`

Simulation number that the test case configuration table applies to, specified as an integer, 1 or 2. This setting applies to the simulation test case.

## Output Arguments

### `simCfgTable` — Table

`mlreportgen.dom.FormalTable` object

The test case simulation configuration table generated by the method, returned as a mlreportgen.dom.FormalTable object.

## Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.FormalTable

### Introduced in R2016a

# genTableRowsForResultMetaInfo

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

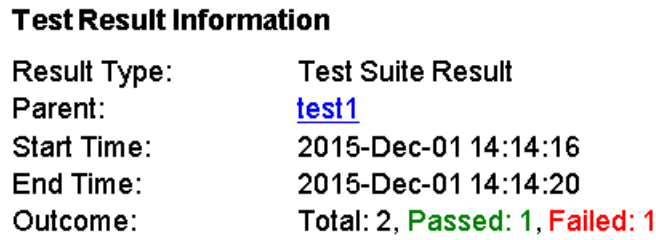
Generate test result metadata table

## Syntax

```
rowList = genTableRowsForResultMetaInfo(obj,result)
```

## Description

`rowList = genTableRowsForResultMetaInfo(obj,result)` generates a section for test result metadata used in a result set, test file, test suite, test case, or test iteration.




## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `result` — Result set

`sltest.testmanager.ReportUtility.ReportResultData` object

Result set, specified as a `sltest.testmanager.ReportUtility.ReportResultData` object.

## Output Arguments

**`rowList` — Table row**
`mlreportgen.dom.TableRow` object

The metadata information table row generated by the method, returned as a mlreportgen.dom.TableRow object.

## Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.TableRow

**Introduced in R2016a**

# genTestCaseResultBlock

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Generate test case result section

## Syntax

```
docPart = genTestCaseResultBlock(obj,result)
```

## Description

`docPart = genTestCaseResultBlock(obj,result)` generates a test case result section.

This method also calls:

- sltest.testmanager.TestResultReport.genMetadataBlockForTestResult
- sltest.testmanager.TestResultReport.genCoverageTable
- sltest.testmanager.TestResultReport.genHyperLinkToToC

## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `result` — Result set

`sltest.testmanager.ReportUtility.ReportResultData` object

Result set, specified as a `sltest.testmanager.ReportUtility.ReportResultData` object.

# Output Arguments

**`docPart` — Document part**
`mlreportgen.dom.DocumentPart` object

The result set section document part generated by the method, returned as a mlreportgen.dom.DocumentPart object.

# Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.DocumentPart

**Introduced in R2016a**

# genTestSuiteResultBlock

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

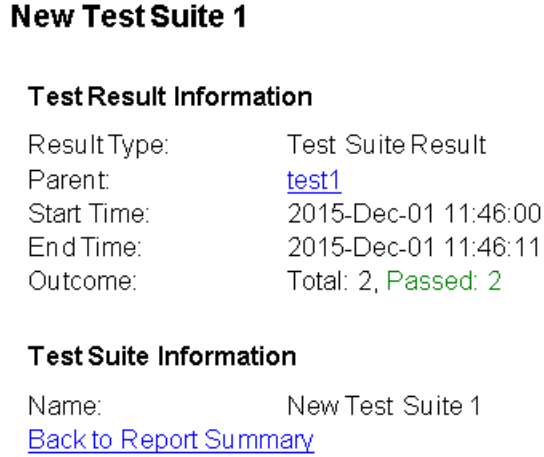
Generate test suite result section

## Syntax

```
docPart = genTestSuiteResultBlock(obj,result)
```

## Description

`docPart = genTestSuiteResultBlock(obj,result)` generates a test suite result section.




This method also calls:

- sltest.testmanager.TestResultReport.genMetadataBlockForTestResult
- sltest.testmanager.TestResultReport.genCoverageTable
- sltest.testmanager.TestResultReport.genHyperLinkToToC

# Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `result` — Result set

`sltest.testmanager.ReportUtility.ReportResultData` object

Result set, specified as a `sltest.testmanager.ReportUtility.ReportResultData` object.

# Output Arguments

### `docPart` — Document part

`mlreportgen.dom.DocumentPart` object

The result set section document part generated by the method, returned as a mlreportgen.dom.DocumentPart object.

# Examples

- “Export Test Results and Generate Reports”
- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestResultReport | mlreportgen.dom.DocumentPart

### Introduced in R2016a

# getBaselineCriteria

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Get baseline criteria

## Syntax

```
baselines = getBaselineCriteria(tc)
```

## Description

`baselines = getBaselineCriteria(tc)` gets all of the baseline criteria sets in a test case and returns them as an array of baseline criteria objects, sltest.testmanager.BaselineCriteria.

## Input Arguments

### `tc` — Baseline test case

`sltest.testmanager.TestCase` object

Baseline test case that you want to get baseline criteria from, specified as a sltest.testmanager.TestCase object.

## Output Arguments

### `baselines` — Baseline criteria object

`sltest.testmanager.BaselineCriteria` object array

Baseline criteria that are in the baseline test case, returned as an array of sltest.testmanager.BaselineCriteria objects.

# Examples

### Get Baseline Criteria

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);

% Set the baseline criteria tolerance for one signal
sc = getSignalCriteria(baseline);
sc(1).AbsTol = 9;

% Get baseline criteria
baselineOut = getBaselineCriteria(tc);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getBaselineRun

**Class:** sltest.testmanager.TestCaseResult
**Package:** sltest.testmanager

Get test case baseline dataset

## Syntax

```
baseline = getBaselineRun(result)
```

## Description

`baseline = getBaselineRun(result)` gets the baseline dataset used in a test case, which belongs to the test case results object. The baseline dataset is saved with the test case result only if the **Save baseline data in test result** check box is selected in the test case under the **Baseline Criteria** section.

To record the baseline data in the test case result, you must set the `SaveBaselineRunInTestResult` test case property to `true`:

```
setProperty(testcase,'SaveBaselineRunInTestResult',true);
```

## Input Arguments

### `result` — Test case result

`sltest.testmanager.TestCaseResult` object

Test case results to get baseline dataset from, specified as a sltest.testmanager.TestCaseResult object.

## Output Arguments

### `baseline` — Baseline dataset

`Simulink.sdi.Run` object

Test case baseline dataset, returned as a Simulink.sdi.Run object. If the **Save baseline data in test result** check box is not selected in the test case, then the function returns an empty array.

# Examples

### Get Baseline Data From Test Case

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria and record baseline
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);
setProperty(tc,'SaveBaselineRunInTestResult',true);

% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);

% Set the baseline criteria tolerance for one signal
sc = getSignalCriteria(baseline);
sc(1).AbsTol = 9;

% Run the test case and return an object with results data
resultsObj = run(tc);

% Get test case result
tcr = getTestCaseResults(resultsObj);

% Get the baseline run dataset
baselineOut = getBaselineRun(tcr);
```

- “Automate Tests Programmatically”

## See Also

Simulink.sdi.Run

**Introduced in R2016a**

# getBaselineRun

**Class:** sltest.testmanager.TestIterationResult
**Package:** sltest.testmanager

Get test iteration baseline dataset

## Syntax

```
baseline = getBaselineRun(resultObj)
```

## Description

`baseline = getBaselineRun(resultObj)` gets the baseline dataset used in a test iteration, which belongs to the test iteration results object. The baseline dataset is saved with the test iteration result only if the **Save baseline data in test result** check box is selected in the parent test case under the **Baseline Criteria** section.

## Input Arguments

### `resultObj` — Test iteration result

object

Test iteration results object to get baseline dataset from, specified as a sltest.testmanager.TestIterationResult object.

## Output Arguments

### `baseline` — Baseline dataset

object

Test iteration baseline dataset, returned as a Simulink.sdi.Run object. If the **Save baseline data in test result** check box is not selected in the parent test case, then the function returns an empty array.

## See Also

Simulink.sdi.Run

## Related Examples

- “Automate Tests Programmatically”

**Introduced in R2016a**

# getComparisonRun

**Class:** sltest.testmanager.TestCaseResult
**Package:** sltest.testmanager

Get test case signal comparison results

## Syntax

```
run = getComparisonRun(result)
```

## Description

`run = getComparisonRun(result)` gets all of the test case comparison results that belong to the test case results object. The results are output to a `Simulink.sdi.Run` object, which contains signal data for each comparison, tolerance, and difference result.

## Input Arguments

### `result` — Test case result

`sltest.testmanager.TestCaseResult` object

Test case results to get comparison results from, specified as a sltest.testmanager.TestCaseResult object.

## Output Arguments

### `run` — Comparison results

`Simulink.sdi.Run` object

Test case comparison signal results, returned as a Simulink.sdi.Run object.

# Examples

### Get Comparison Data From Test Case

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria and record baseline
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);

% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);

% Set the baseline criteria tolerance for one signal
sc = getSignalCriteria(baseline);
sc(1).AbsTol = 9;

% Run the test case and return an object with results data
resultsObj = run(tc);

% Get test case result
tcr = getTestCaseResults(resultsObj);

% Get the baseline run dataset
compOut = getComparisonRun(tcr);
```

- “Automate Tests Programmatically”

# See Also

Simulink.sdi.Run

### Introduced in R2015a

# getComparisonRun

**Class:** sltest.testmanager.TestIterationResult
**Package:** sltest.testmanager

Get test iteration signal comparison results

## Syntax

```
run = getComparisonRun(result)
```

## Description

`run = getComparisonRun(result)` gets all of the test iteration comparison results that belong to the test iteration results object. The results are output to a `Simulink.sdi.Run` object, which contains signal data for each comparison, tolerance, and difference result.

## Input Arguments

### `result` — Test iteration result

`sltest.testmanager.TestIterationResult` object

Test iteration results to get results from, specified as a sltest.testmanager.TestIterationResult object.

## Output Arguments

### `run` — Comparison results

`Simulink.sdi.Run` object

Test iteration comparison results, returned as a Simulink.sdi.Run object.

## See Also

sltest.testmanager.TestIterationResult

## Related Examples

- “Automate Tests Programmatically”

**Introduced in R2016a**

# getCoverageResults

**Class:** sltest.testmanager.ResultSet
**Package:** sltest.testmanager

Get coverage results

## Syntax

```
covResult = getCoverageResults(result)
covResult = getCoverageResults(result,model)
```

## Description

`covResult = getCoverageResults(result)` gets all of the coverage results that belong to the result set object.

`covResult = getCoverageResults(result,model)` gets all of the coverage results that belong to the result set object and the specified model.

## Input Arguments

### `result` — Result set

`sltest.testmanager.ResultSet` object

Result set object to get coverage results from, specified as a sltest.testmanager.ResultSet object.

### `model` — Model name

character vector

Name of a model within the set of coverage results, specified as a character vector.

## Output Arguments

### `covResult` — Coverage results

object array

Coverage results contained in the result set, returned as an array of `cvdata` objects. For more information on `cvdata` objects, see cv.cvdatagroup.

# Examples

### Get Result Set Coverage Results

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'simulation','Coverage Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_autotrans');

% Turn on coverage settings at test-file level
cov = getCoverageSettings(tf);
cov.RecordCoverage = true;

% Enable MCDC and signal range coverage metrics
cov.MetricSettings = 'mr';

% Run the test case and return an object with results data
ro = run(tf);

% Get the coverage results
cr = getCoverageResults(ro);
```

- “Automate Tests Programmatically”
- “Collect Coverage in Tests”

## See Also

sltest.testmanager.CoverageSettings

### Introduced in R2016a

# getCoverageResults

**Class:** sltest.testmanager.TestCaseResult
**Package:** sltest.testmanager

Get coverage results

## Syntax

```
covResult = getCoverageResults(result)
covResult = getCoverageResults(result,model)
```

## Description

`covResult = getCoverageResults(result)` gets all of the coverage results that belong to the test case results object.

`covResult = getCoverageResults(result,model)` gets all of the coverage results that belong to the test case results object and the specified model.

## Input Arguments

### `result` — Test case result

`sltest.testmanager.TestCaseResult` object

Test case results to get coverage results from, specified as a sltest.testmanager.TestCaseResult object.

### `model` — Model name

character vector

Name of a model within the set of coverage results, specified as a character vector.

## Output Arguments

### `covResult` — Coverage results

object array

Coverage results contained in the test case result, returned as an array of `cvdata` objects. For more information on `cvdata` objects, see cv.cvdatagroup.

## Examples

### Get Test Suite Coverage Results

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'simulation','Coverage Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_autotrans');

% Turn on coverage settings at test-file level
cov = getCoverageSettings(tf);
cov.RecordCoverage = true;

% Enable MCDC and signal range coverage metrics
cov.MetricSettings = 'mr';

% Run the test case and return an object with results data
ro = run(tf);

% Get the coverage results
tfr = getTestFileResults(ro);
tsr = getTestSuiteResults(tfr);
tcs = getTestCaseResults(tsr);
cr = getCoverageResults(tcs);
```

- “Automate Tests Programmatically”
- “Collect Coverage in Tests”

## See Also

sltest.testmanager.CoverageSettings

**Introduced in R2016a**

# getCoverageResults

**Class:** sltest.testmanager.TestFileResult
**Package:** sltest.testmanager

Get coverage results

## Syntax

```
covResult = getCoverageResults(result)
covResult = getCoverageResults(result,model)
```

## Description

`covResult = getCoverageResults(result)` gets all of the coverage results that belong to the test file results object.

`covResult = getCoverageResults(result,model)` gets all of the coverage results that belong to the test file results object and the specified model.

## Input Arguments

### `result` — Test file result

`sltest.testmanager.ResultSet` object

Test file results to get coverage results from, specified as a sltest.testmanager.TestFileResult object.

### `model` — Model name

character vector

Name of a model within the set of coverage results, specified as a character vector.

## Output Arguments

### `covResult` — Coverage results

object array

Coverage results contained in the test file result, returned as an array of `cvdata` objects. For more information on `cvdata` objects, see cv.cvdatagroup.

# Examples

### Get Test File Coverage Results

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'simulation','Coverage Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_autotrans');

% Turn on coverage settings at test-file level
cov = getCoverageSettings(tf);
cov.RecordCoverage = true;

% Enable MCDC and signal range coverage metrics
cov.MetricSettings = 'mr';

% Run the test case and return an object with results data
ro = run(tf);

% Get the coverage results
tfr = getTestFileResults(ro);
cr = getCoverageResults(tfr);
```

- “Automate Tests Programmatically”
- “Collect Coverage in Tests”

## See Also

sltest.testmanager.CoverageSettings

### Introduced in R2016a

# getCoverageResults

**Class:** sltest.testmanager.TestIterationResult
**Package:** sltest.testmanager

Get coverage results

## Syntax

```
covResult = getCoverageResults(resultObj)
covResult = getCoverageResults(resultObj,model)
```

## Description

`covResult = getCoverageResults(resultObj)` gets all of the coverage results that belong to the test iteration results object.

`covResult = getCoverageResults(resultObj,model)` gets all of the coverage results that belong to the test iteration results object and the specified model.

## Input Arguments

### `resultObj` — Test iteration result

`sltest.testmanager.TestIterationResult` object

Test iteration results object to get coverage results from, specified as a sltest.testmanager.TestIterationResult object.

### `model` — Model name

character vector

Name of a model within the set of coverage results, specified as a character vector.

Example: `'sldemo_absbrake'`

# Output Arguments

### `covResult` — Coverage results

object array

Coverage results contained in the test iteration result, returned as an array of `cvdata` objects. For more information on `cvdata` objects, see cv.cvdatagroup.

## See Also

sltest.testmanager.CoverageSettings

## Related Examples

- "Automate Tests Programmatically"
- "Collect Coverage in Tests"

### Introduced in R2016a

# getCoverageResults

**Class:** sltest.testmanager.TestSuiteResult
**Package:** sltest.testmanager

Get coverage results

## Syntax

```
covResult = getCoverageResults(result)
covResult = getCoverageResults(result,model)
```

## Description

`covResult = getCoverageResults(result)` gets all of the coverage results that belong to the test suite results object.

`covResult = getCoverageResults(result,model)` gets all of the coverage results that belong to the test suite results object and the specified model.

## Input Arguments

### `result` — Test suite result

`sltest.testmanager.TestSuiteResult` object

Test suite results to get coverage results from, specified as a sltest.testmanager.TestSuiteResult object.

### `model` — Model name

character vector

Name of a model within the set of coverage results, specified as a character vector.

## Output Arguments

### `covResult` — Coverage results

object array

Coverage results contained in the test suite result, returned as an array of `cvdata` objects. For more information on `cvdata` objects, see cv.cvdatagroup.

# Examples

### Get Test Suite Coverage Results

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'simulation','Coverage Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_autotrans');

% Turn on coverage settings at test-file level
cov = getCoverageSettings(tf);
cov.RecordCoverage = true;

% Enable MCDC and signal range coverage metrics
cov.MetricSettings = 'mr';

% Run the test case and return an object with results data
ro = run(tf);

% Get the coverage results
tfr = getTestFileResults(ro);
tsr = getTestSuiteResults(tfr);
cr = getCoverageResults(tsr);
```

- “Automate Tests Programmatically”
- “Collect Coverage in Tests”

## See Also

sltest.testmanager.CoverageSettings

### Introduced in R2016a

# getCoverageSettings

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Get coverage settings

## Syntax

```
covSettings = getCoverageSettings(tc)
```

## Description

`covSettings = getCoverageSettings(tc)` gets the coverage settings for a test case and returns an sltest.testmanager.CoverageSettings object.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case to get coverage settings from, specified as an sltest.testmanager.TestCase object.

## Output Arguments

### `covSettings` — Coverage settings

`sltest.testmanager.CoverageSettings` object

Coverage settings for the test case, returned as ansltest.testmanager.CoverageSettings object.

# Examples

### Get Coverage Settings

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'simulation','Coverage Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_autotrans');

% Turn on coverage settings at test-file level
cov = getCoverageSettings(tf);
cov.RecordCoverage = true;

% Enable MCDC and signal range coverage metrics
cov.MetricSettings = 'mr';

% Get and check coverage settings
covSettings = getCoverageSettings(tc);
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.CoverageSettings

### Introduced in R2016a

# getCoverageSettings

**Class:** sltest.testmanager.TestFile
**Package:** sltest.testmanager

Get coverage settings

## Syntax

```
covSettings = getCoverageSettings(tf)
```

## Description

`covSettings = getCoverageSettings(tf)` gets the coverage settings for a test file and returns an sltest.testmanager.CoverageSettings object.

## Input Arguments

### `tf` — Test file

`sltest.testmanager.TestFile` object

Test file object to get coverage settings from, specified as an sltest.testmanager.TestFile object.

## Output Arguments

### `covSettings` — Coverage settings

object

Coverage settings for the test file, returned as ansltest.testmanager.CoverageSettings object.

# Examples

### Turn On Coverage For a Test File

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'simulation','Coverage Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_autotrans');

% Turn on coverage settings at test-file level
cov = getCoverageSettings(tf);
cov.RecordCoverage = true;
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.CoverageSettings

### Introduced in R2016a

# getCoverageSettings

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Get coverage settings

## Syntax

```
covSettings = getCoverageSettings(ts)
```

## Description

`covSettings = getCoverageSettings(ts)` gets the coverage settings for a test suite and returns an sltest.testmanager.CoverageSettings object.

## Input Arguments

### `ts` — Test suite

`sltest.testmanager.TestSuite` object

Test suite object to get coverage settings from, specified as an sltest.testmanager.TestSuite object.

## Output Arguments

### `covSettings` — Coverage settings

object

Coverage settings for the test suite, returned as ansltest.testmanager.CoverageSettings object.

# Examples

### Turn Off Coverage For a Test Suite

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'simulation','Coverage Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_autotrans');

% Turn on coverage settings at test-file level
cov = getCoverageSettings(tf);
cov.RecordCoverage = true;

% Turn off coverage at test-suite level
cov = getCoverageSettings(ts);
cov.RecordCoverage = false;
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.CoverageSettings

### Introduced in R2016a

# getCustomCriteria

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Get custom criteria that belong to test case

## Syntax

```
customCriteria = getCustomCriteria(tc)
```

## Description

`customCriteria = getCustomCriteria(tc)` creates the custom criteria object `customCriteria` from the test case `tc`.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case to get the custom criteria from, specified as a sltest.testmanager.TestCase object.

## Output Arguments

### `customCriteria` — Test case custom criteria

`sltest.testmanager.CustomCriteria` object

Custom criteria of the test case, returned as an sltest.testmanager.CustomCriteria object.

# Examples

### Get Custom Criteria in Test Case

Create a test case object from the test suite `ts`.

```
tc = ts.getTestCaseByName('Requirement 1.3 Test');
```

Get the custom criteria from the test case `tc`.

```
tcCriteria = getCustomCriteria(tc);
```

- "Apply Custom Criteria to Test Cases"
- "Custom Criteria Programmatic Interface Example"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestIteration

### Introduced in R2016b

# getCustomCriteriaResult

**Class:** sltest.testmanager.TestCaseResult
**Package:** sltest.testmanager

Get custom criteria results from test case result

## Syntax

```
ccResult = getCustomCriteriaResult(tcResult)
```

## Description

`ccResult = getCustomCriteriaResult(tcResult)` creates the custom criteria result object `ccResult` from test case result `tcResult`.

## Input Arguments

### `tcResult` — Test case result

`sltest.testmanager.TestCaseResult` object

Test case result to get the custom criteria result from, specified as a TestCaseResult object.

## Output Arguments

### `ccResult` — Custom criteria result

`sltest.testmanager.CustomCriteriaResult` object

Custom criteria result of the test case result, returned as an CustomCriteriaResult object.

# Examples

### Get Custom Criteria Result from Test Case Result

Create a test case result object from the test case result set `tcResultSet`.

```
tcResult = getTestCaseResults(tcResultSet);
```

Get the custom criteria from the test case result `tcResult`.

```
ccResult = getCustomCriteriaResult(tcResult);
```

- "Apply Custom Criteria to Test Cases"
- "Custom Criteria Programmatic Interface Example"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestIteration

### Introduced in R2016b

# getCustomCriteriaResult

**Class:** sltest.testmanager.TestIterationResult
**Package:** sltest.testmanager

Get custom criteria results from test iteration

## Syntax

```
ccResult = getCustomCriteriaResult(tiResult)
```

## Description

`ccResult = getCustomCriteriaResult(tiResult)` creates the custom criteria result object `ccResult` from test iteration result `tiResult`.

## Input Arguments

### `tiResult` — Test iteration result

`sltest.testmanager.TestIterationResult` object

Test iteration result to get the custom criteria result from, specified as a TestIterationResult object.

## Output Arguments

### `ccResult` — Custom criteria result

`sltest.testmanager.CustomCriteriaResult` object

Custom criteria result of the test case result, returned as an CustomCriteriaResult object.

# Examples

### Get Custom Criteria Result from Test Case Result

Create a test case result object from the test case result set `tcResultSet`.

```
tcResult = getTestCaseResults(tcResultSet);
```

Get the iteration result from the test case result `tcResult`.

```
iterResult = getIterationResults(tcResult);
```

Get the custom criteria from the test case result `tcResult`.

```
ccResult = getCustomCriteriaResult(iterResult);
```

- "Apply Custom Criteria to Test Cases"
- "Custom Criteria Programmatic Interface Example"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestIteration

### Introduced in R2016b

# getDiffRunResult

**Class:** sltest.testmanager.TestCaseResult
**Package:** sltest.testmanager

Get all test case comparison data

## Syntax

```
compData = getDiffRunResult(result)
```

## Description

`compData = getDiffRunResult(result)` gets all of the test case comparison data from the test case results object. This method returns data only for baseline and equivalence test cases. The method returns a `Simulink.sdi.DiffRunResult` object, which contains a `Simulink.sdi.DiffSignalResult` object for each signal compared.

## Input Arguments

### `result` — Test case result

`sltest.testmanager.TestCaseResult` object

Test case results to get comparison results from, specified as a sltest.testmanager.TestCaseResult object.

## Output Arguments

### `compData` — Comparison data

`Simulink.sdi.DiffRunResult` object

Test case comparison data, returned as a Simulink.sdi.DiffRunResult object array.

# Examples

### Get Comparison Data From Test Case

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);

% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);

% Set the baseline criteria tolerance for one signal
sc = getSignalCriteria(baseline);
sc(1).AbsTol = 9;

% Run the test case and return an object with results data
resultsObj = run(tc);

% Get test case result
tcr = getTestCaseResults(resultsObj);

% Get the comparison results
compData = getDiffRunResult(tcr);
```

- “Automate Tests Programmatically”

# See Also

Simulink.sdi.DiffRunResult

### Introduced in R2016b

# getDiffRunResult

**Class:** sltest.testmanager.TestIterationResult
**Package:** sltest.testmanager

Get all test iteration comparison data

## Syntax

```
compData = getDiffRunResult(result)
```

## Description

`compData = getDiffRunResult(result)` gets all of the test iteration comparison data from the test iteration results object. This method returns data only for baseline and equivalence test cases. The method returns a `Simulink.sdi.DiffRunResult` object, which contains a `Simulink.sdi.DiffSignalResult` object for each signal compared.

## Input Arguments

### `result` — Test iteration result

`sltest.testmanager.TestIterationResult` object

Test iteration results to get comparison data from, specified as a sltest.testmanager.TestIterationResult object.

## Output Arguments

### `compData` — Comparison data

`Simulink.sdi.DiffRunResult` object

Test iteration comparison data, returned as a Simulink.sdi.DiffRunResult object array.

## See Also

Simulink.sdi.DiffRunResult

## Related Examples

- “Automate Tests Programmatically”

**Introduced in R2016b**

# getEquivalenceCriteria

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Get equivalence criteria from test case

## Syntax

```
eq = getEquivalenceCriteria(tc)
```

## Description

`eq = getEquivalenceCriteria(tc)` gets the equivalence criteria set from the test case. The function returns an equivalence criteria object, sltest.testmanager.EquivalenceCriteria. This function can be used only if the test type is an equivalence test case.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case to get equivalence criteria from, specified as an sltest.testmanager.TestCase object.

## Output Arguments

### `eq` — Equivalence criteria

`sltest.testmanager.EquivalenceCriteria` object

Equivalence criteria in the test case, returned as an sltest.testmanager.EquivalenceCriteria object.

# Examples

### Get Equivalence Criteria

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'equivalence','Equivalence Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
% for Simulation 1 and Simulation 2
setProperty(tc,'Model','sldemo_absbrake','SimulationIndex',1);
setProperty(tc,'Model','sldemo_absbrake','SimulationIndex',2);

% Capture equivalence criteria
eq = captureEquivalenceCriteria(tc);

% Set the equivalence criteria tolerance for one signal
sc = getSignalCriteria(eq);
sc(1).AbsTol = 2.2;

% Get and check the equivalence criteria
eq = getEquivalenceCriteria(tc);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getInputs

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Get test case inputs

## Syntax

```
inputs = getInputs(tc)
inputs = getInputs(tc,simulationIndex)
```

## Description

`inputs = getInputs(tc)` gets all of the input sets in a test case and returns them as an array of test input objects, sltest.testmanager.TestInput.

`inputs = getInputs(tc,simulationIndex)` gets all of the input sets in a test case and returns them as an array of test input objects, sltest.testmanager.TestInput. If the test case is an equivalence test case, then specify the simulation index.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case to get test inputs from, specified as an sltest.testmanager.TestCase object.

### `simulationIndex` — Test case simulation number

1 | 2

Simulation number that the parameter sets apply to, specified as an integer, 1 or 2. This setting applies to the simulation test case where there are two simulations. For baseline and simulation test cases, the default simulation index is 1.

# Output Arguments

**`inputs` — Test input**
`sltest.testmanager.TestInput` object array

Test inputs that belong to the test case, returned as an array of sltest.testmanager.TestInput objects.

# Examples

### Get Test Inputs

```
% Load example model
open_system('sltestExcelExample');

% Create new test file
tf = sltest.testmanager.TestFile('C:\MATLAB\input_test_file.mldatx');
% Get test suite object
ts = getTestSuites(tf);
% Get test case object
tc = getTestCases(ts);

% Add the example model as the system under test
setProperty(tc,'Model','sltestExcelExample');

% Add Excel data to Inputs section
input_path = fullfile(matlabroot,'toolbox','simulinktest',...
             'simulinktestdemos','sltestExampleInputs.xlsx');
input = addInput(tc,input_path,1);
% Map the input signals by port order
map(input,3);

% Get and check the test inputs
inputsOut = getInputs(tc);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getIterationResults

**Class:** sltest.testmanager.TestCaseResult
**Package:** sltest.testmanager

Get iteration results

## Syntax

```
iterArray = getIterationResults(result)
```

## Description

`iterArray = getIterationResults(result)` returns the test iteration results that are children of the test case result.

## Input Arguments

### `result` — Test case result

`sltest.testmanager.TestCaseResult` object

Test case results to get the iteration results from, specified as a sltest.testmanager.TestCaseResult object.

## Output Arguments

### `iterArray` — Iteration result

`sltest.testmanager.TestIterationResult` object array

Iteration result set, returned as an array of sltest.testmanager.TestIterationResult objects.

# Examples

### Get Test Iteration Results

```
% Create test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('Iterations Test File');
ts = getTestSuites(tf);
tc = createTestCase(ts,'simulation','Simulation Iterations');

% Specify model as system under test
setProperty(tc,'Model','sldemo_autotrans');

% Set up table iteration
% Create iteration object
testItr1 = sltestiteration;
% Set iteration settings
setTestParam(testItr1,'SignalBuilderGroup','Passing Maneuver');
% Add the iteration to test case
addIteration(tc,testItr1);

% Set up another table iteration
% Create iteration object
testItr2 = sltestiteration;
% Set iteration settings
setTestParam(testItr2,'SignalBuilderGroup','Coasting');
% Add the iteration to test case
addIteration(tc,testItr2);

% Run test case that contains iterations
results = run(tc);

% Get iteration results
tcResults = getTestCaseResults(results);
iterResults = getIterationResults(tcResults);
```

- “Automate Tests Programmatically”

# See Also

sltest.testmanager.TestIterationResult

### Introduced in R2016a

# getIterations

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Get test iterations that belong to test case

## Syntax

```
iterArray = getIterations(tc)
iterArray = getIterations(tc,iterName)
```

## Description

`iterArray = getIterations(tc)` get one or more test iteration objects that belong to the test case.

`iterArray = getIterations(tc,iterName)` get one or more test iteration objects with the specified name that belong to the test case.

## Input Arguments

### `tc` — Test case to get iteration from

`sltest.testmanager.TestCase` object

Test case that you want to get the iteration from, specified as a sltest.testmanager.TestCase object.

### `iterName` — Test iteration name

character vector

Test iteration name, specified as a character vector. This is an optional argument.

Example: `'Test Iteration 5'`

# Output Arguments

**`iterArray` — Test iterations**
`sltest.testmanager.TestIteration` object array

Test iterations that belong to the test case, returned as an array of sltest.testmanager.TestIteration objects.

# Examples

### Get Test Iterations in Test Case

```
% Create test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('Iterations Test File');
ts = getTestSuites(tf);
tc = createTestCase(ts,'simulation','Simulation Iterations');

% Specify model as system under test
setProperty(tc,'Model','sldemo_autotrans');

% Set up table iteration
% Create iteration object
testItr1 = sltestiteration;
% Set iteration settings
setTestParam(testItr1,'SignalBuilderGroup','Passing Maneuver');
% Add the iteration to test case
addIteration(tc,testItr1);

% Set up another table iteration
% Create iteration object
testItr2 = sltestiteration;
% Set iteration settings
setTestParam(testItr2,'SignalBuilderGroup','Coasting');
% Add the iteration to test case
addIteration(tc,testItr2);

% Get iterations
iters = getIterations(tc);
```

- “Run Multiple Combinations of Tests Using Iterations”
- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestIteration

**Introduced in R2016a**

# getOutputRuns

**Class:** sltest.testmanager.TestCaseResult
**Package:** sltest.testmanager

Get test case simulation output results

## Syntax

```
runArray = getOutputRuns(result)
```

## Description

`runArray = getOutputRuns(result)` gets all of the test case simulation output results that are direct children of the test case results object.

## Input Arguments

### `result` — Test case result

`sltest.testmanager.TestCaseResult` object

Test case results to get simulation output results from, specified as a sltest.testmanager.TestCaseResult object.

## Output Arguments

### `runArray` — Simulation output results

`Simulink.sdi.Run` object

Test case simulation output results, returned as a Simulink.sdi.Run object array.

## Examples

### Get Simulation Output From Test Case

```
% Create the test file, test suite, and test case structure
```

```
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);

% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);

% Set the baseline criteria tolerance for one signal
sc = getSignalCriteria(baseline);
sc(1).AbsTol = 9;

% Run the test case and return an object with results data
resultsObj = run(tc);

% Get test case result
tcr = getTestCaseResults(resultsObj);

% Get the baseline run dataset
runArray = getOutputRuns(tcr);
```

- “Automate Tests Programmatically”

## See Also

Simulink.sdi.Run

**Introduced in R2015a**

# getOutputRuns

**Class:** sltest.testmanager.TestIterationResult
**Package:** sltest.testmanager

Get test iteration simulation output results

## Syntax

```
runArray = getOutputRuns(resultObj)
```

## Description

`runArray = getOutputRuns(resultObj)` gets all of the test iteration simulation output results that are direct children of the test iteration results object.

## Input Arguments

### `resultObj` — Test iteration result

object

Test iteration results object to get results from, specified as a sltest.testmanager.TestIterationResult object.

## Output Arguments

### `runArray` — Simulation output results

object

Test iteration simulation output results, returned as a Simulink.sdi.Run object array.

## See Also

sltest.testmanager.TestIterationResult

## Related Examples

- “Automate Tests Programmatically”

**Introduced in R2016a**

# getParameterOverrides

**Class:** sltest.testmanager.ParameterSet
**Package:** sltest.testmanager

Get parameter overrides

## Syntax

```
ovrs = getParameterOverrides(ps)
```

## Description

`ovrs = getParameterOverrides(ps)` gets all of the parameter overrides in a parameter set and returns them as an array of parameter override objects, sltest.testmanager.ParameterOverride.

## Input Arguments

### `ps` — Parameter set

`sltest.testmanager.ParameterSet` object

Parameter set that you want to get the override from, specified as a sltest.testmanager.ParameterSet object.

## Output Arguments

### `ovrs` — Parameter overrides

`sltest.testmanager.ParameterOverride` object array

Parameter overrides that are in the parameter set object, returned as an array of sltest.testmanager.ParameterOverride objects.

# Examples

### Add Parameter Override to Parameter Set

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);

% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);

% Check that the parameter override is applied
ovr = getParameterOverrides(ps);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getParameterSets

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Get test case parameter sets

## Syntax

```
psets = getParameterSets(tc)
psets = getParameterSets(tc,simulationIndex)
```

## Description

`psets = getParameterSets(tc)` gets all of the parameter sets in a test case and returns them as an array of parameter set objects, sltest.testmanager.ParameterSet.

`psets = getParameterSets(tc,simulationIndex)` gets all of the parameter sets in a test case and returns them as an array of parameter set objects, sltest.testmanager.ParameterSet. If the test case is an equivalence test case, then specify the simulation index.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case to get test inputs from, specified as an sltest.testmanager.TestCase object.

### `simulationIndex` — Test case simulation number

`1` | `2`

Simulation number that the parameter sets apply to, specified as an integer, `1` or `2`. This setting applies to the simulation test case where there are two simulations. For baseline and simulation test cases, the default simulation index is `1`.

## Output Arguments

**`psets` — Parameter set**
`sltest.testmanager.ParameterSet` object array

Parameter sets that belong to the test case, returned as an array of sltest.testmanager.ParameterSet objects.

## Examples

### Get Parameter Sets

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);

% Get and check the parameter set
psets = getParameterSets(tc);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getProperty

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Get test case property

## Syntax

```
val = getProperty(tc,propertyName)
val = getProperty( ___ ,simulationIndex)
```

## Description

`val = getProperty(tc,propertyName)` gets a test case property.

`val = getProperty( ___ ,simulationIndex)` gets a test case property. If the test case is an equivalence test case, then specify the simulation index.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case to get test setting property from, specified as an sltest.testmanager.TestCase object.

### `propertyName` — Test case property

character vector

Test suite property names, specified as a character vector. The properties are set using thesltest.testmanager.TestCase.setProperty method. The available properties are:

- `'Model'` — name of the model to be tested
- `'SimulationMode'` — simulation mode of the model during the test
- `'HarnessName'` — harness name used for the test
- `'HarnessOwner'` — harness owner name

- `'OverrideStartTime'` — override start time
- `'StartTime'` — start time override value of simulation
- `'OverrideStopTime'` — override stop time
- `'StopTime'` — stop time override value of simulation
- `'OverrideInitialState'` — override initial state
- `'InitialState'` — character vector evaluated to specify the initial state of the system under test
- `'PreloadCallback'` — character vector evaluated before the model loads and any model callbacks
- `'PostloadCallback'` — character vector evaluated after the system under test loads and `PostLoadFcn` callback completes
- `'PreStartRealTimeApplicationCallback'` — character vector evaluated before the real-time application is started on target computer
- `'CleanupCallback'` — character vector evaluated after simulation completes and all model callbacks have run
- `'UseSignalBuilderGroups'` — use signal builder groups for test input
- `'SignalBuilderGroup'` — signal builder group name to use
- `'OverrideModelOutputSettings'` — override model output settings
- `'SaveOutput'` — save simulation output
- `'SaveState'` — save model states during simulation
- `'SaveFinalState'` — save final state of simulation
- `'SignalLogging'` — log signals
- `'DSMLogging'` — log data store
- `'ConfigsetOverrideSetting'` — value to determine override of configuration set
- `'ConfigsetName'` — configuration set override name
- `'ConfigsetFileLocation'` — path to a MAT-file that contains a configuration set object
- `'ConfigsetVarName'` — name of the variable in `ConfigsetFileLocation` that is a configuration set
- `'IterationScript'` — character vector evaluated for test case iteration script
- `'SimulationIndex'` — determines which simulation a property applies to, applicable to the equivalence test case type

- `'FastRestart'` — indicates if test iterations run using fast restart mode
- `'SaveBaselineRunInTestResult'` — enable saving the baseline run used in the test case, saved in the test result
- `'LoadAppFrom'` — location to load real-time application from
- `'TargetComputer'` — target computer name
- `'TargetApplication'` — target application name

### `simulationIndex` — Test case simulation number

1 | 2

Simulation number that the property applies to, specified as an integer, 1 or 2. This setting applies to the simulation test case where there are two simulations. For baseline and simulation test cases, the simulation index is 1.

## Output Arguments

### `val` — Property content

character vector | logical | scalar

The content of the test case property, returned as a character vector, logical, or scalar value.

## Examples

### Get Test Case Property

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Get and check the system under test model
getProperty(tc,'Model');
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.TestCase.setProperty

**Introduced in R2015b**

# getProperty

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Get test suite property

## Syntax

```
val = getProperty(ts,propertyName)
```

## Description

`val = getProperty(ts,propertyName)` gets a test suite property.

## Input Arguments

### `ts` — Test suite

`sltest.testmanager.TestSuite` object

Test suite object to get the property from, specified as an sltest.testmanager.TestSuite object.

### `propertyName` — Test suite property

character vector

Test suite property names, specified as a character vector. The available properties are `'SetupCallback'` and `'CleanupCallback'`.

## Output Arguments

### `val` — Property content

character vector

The content of the test suite property, returned as a character vector.

# Examples

### Get Test Suite Property

```
% Create a test file and new test suite
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');

% Get the setup callback property
propName = getProperty(ts,'SetupCallback');
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getSignalCriteria

**Class:** sltest.testmanager.BaselineCriteria
**Package:** sltest.testmanager

Get signal criteria

## Syntax

```
sigCriteria = getSignalCriteria(bc)
```

## Description

`sigCriteria = getSignalCriteria(bc)` gets the list of the signal criteria in a baseline criteria set and returns them as an array of signal criteria objects, sltest.testmanager.SignalCriteria.

## Input Arguments

### `bc` — Baseline criteria

`sltest.testmanager.BaselineCriteria` object

Baseline criteria that you want to get signal criteria from, specified as a sltest.testmanager.BaselineCriteria object.

## Output Arguments

### `sigCriteria` — Signal criteria object

object array

Signal criteria that are in the baseline criteria object, returned as an array of sltest.testmanager.SignalCriteria objects.

# Examples

### Add Baseline Criteria and Change Tolerance

In this example, a signal data set is capture for the baseline criteria, and the absolute tolerance is changed from 0 to 9.

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);

% Set the baseline criteria tolerance for a signal
sc = getSignalCriteria(baseline);
sc(1).AbsTol = 9;
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getSignalCriteria

**Class:** sltest.testmanager.EquivalenceCriteria
**Package:** sltest.testmanager

Get signal criteria

## Syntax

```
sigCriteria = getSignalCriteria(eq)
```

## Description

`sigCriteria = getSignalCriteria(eq)` gets the list of the signal criteria in an equivalence criteria set and returns them as an array of signal criteria objects, sltest.testmanager.SignalCriteria.

## Input Arguments

### `eq` — Equivalence criteria

`sltest.testmanager.EquivalenceCriteria` object

Equivalence criteria that you want to get criteria from, specified as a sltest.testmanager.EquivalenceCriteria object.

## Output Arguments

### `sigCriteria` — Signal criteria object

object array

Signal criteria that are in the equivalence criteria object, returned as an array of sltest.testmanager.SignalCriteria objects.

# Examples

### Remove Equivalence Criteria

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'equivalence','Equivalence Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
% for Simulation 1 and Simulation 2
setProperty(tc,'Model','sldemo_absbrake','SimulationIndex',1);
setProperty(tc,'Model','sldemo_absbrake','SimulationIndex',2);

% Add a parameter override to Simulation 1 and 2
ps1 = addParameterSet(tc,'Name','Parameter Set 1','SimulationIndex',1);
po1 = addParameterOverride(ps1,'Rr',1.20);

ps2 = addParameterSet(tc,'Name','Parameter Set 2','SimulationIndex',2);
po2 = addParameterOverride(ps2,'Rr',1.24);

% Capture equivalence criteria
eq = captureEquivalenceCriteria(tc);

% Set the equivalence criteria tolerance for one signal
sc = getSignalCriteria(eq);
sc(1).AbsTol = 2.2;

% Check that signal criteria was added
sigCrit = getSignalCriteria(eq);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getTestCaseByName

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Get test case object by name

## Syntax

```
tc = getTestCaseByName(ts,name)
```

## Description

`tc = getTestCaseByName(ts,name)` returns a test case with the specified name.

## Input Arguments

### `ts` — Test suite

`sltest.testmanager.TestSuite` object

Test suite with the test case you want to get, specified as an sltest.testmanager.TestSuite object.

### `name` — Test suite name

character vector

The name of the test case within a test suite object, specified as a character vector. If the name does not match a test case, then the function returns an empty test case object.

## Output Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case, returned as an sltest.testmanager.TestCase object. If the name does not match a test case, then the function returns an empty test case object.

# Examples

### Get Test Case Object

```
% Create a test file with default test suite and case
tf = sltest.testmanager.TestFile('My Test File');

% Get test suite
ts = getTestSuites(tf);

% Get the test case object by test case name
tc = getTestCaseByName(ts,'New Test Case 1');
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getTestCaseResults

**Class:** sltest.testmanager.ResultSet
**Package:** sltest.testmanager

Get test case results object

## Syntax

```
testCaseResultArray = getTestCaseResults(result)
```

## Description

`testCaseResultArray = getTestCaseResults(result)` gets all of the test case results that are direct children of the results set object.

## Input Arguments

### `result` — Results set

`sltest.testmanager.ResultSet` object

Results set to get test case results from, specified as a sltest.testmanager.ResultSet object.

## Output Arguments

### `testCaseResultArray` — Test case results

`sltest.testmanager.TestCaseResult` object array

Test case results, returned as an array of sltest.testmanager.TestCaseResult objects. The function returns objects that are direct children of the results set object.

# Examples

### Get Test Case Result Data

Use the function`sltest.testmanager.run` to return a result set that contains test file, test suite, and test case results.

```
% Run all tests in the test manager
result = sltest.testmanager.run;

% Get the test file results
testFileResultArray = getTestFileResults(result);

% Get the test suite results
testSuiteResultArray = getTestSuiteResults(result);

% Get the test case results
testCaseResultArray = getTestCaseResults(result);
```

- “Automate Tests Programmatically”

### Introduced in R2015a

# getTestCaseResults

**Class:** sltest.testmanager.TestSuiteResult
**Package:** sltest.testmanager

Get test case results object

## Syntax

```
testCaseResultArray = getTestCaseResults(result)
```

## Description

`testCaseResultArray = getTestCaseResults(result)` gets all of the test case results that are direct children of the test suite results object.

## Input Arguments

### `result` — Test suite result

`sltest.testmanager.TestSuiteResult` object

Test suite results to get test case results from, specified as a sltest.testmanager.TestSuiteResult object.

## Output Arguments

### `testCaseResultArray` — Test case results

`sltest.testmanager.TestCaseResult` object array

Test case results, returned as an array of sltest.testmanager.TestCaseResult objects. The function returns objects that are direct children of the test suite results object.

# Examples

### Get Test Case Result Data

Use the function`sltest.testmanager.run` to return a result set that contains test file, test suite, and test case results.

```
% Run all tests in the test manager
result = sltest.testmanager.run;

% Get the test file results
testFileResultArray = getTestFileResults(result);

% Get the test suite results
testSuiteResultArray = getTestSuiteResults(testFileResultArray);

% Get the test case results
testCaseResultArray = getTestCaseResults(testSuiteResultArray);
```

- “Automate Tests Programmatically”

### Introduced in R2015a

# getTestCases

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Get test cases at first level of test suite

## Syntax

```
tcArray = getTestCases(ts)
```

## Description

`tcArray = getTestCases(ts)` returns an array of test case objects that are at the first level of the specified test suite.

## Input Arguments

### `ts` — Test suite

`sltest.testmanager.TestSuite` object

Test suite with the test cases you want to get, specified as an sltest.testmanager.TestSuite object.

## Output Arguments

### `tcArray` — Test case array

object array

Array of test cases at the first level of the specified test suite, returned as an array of sltest.testmanager.TestCase objects.

# Examples

### Get Test Case Object

```
% Create a test file with default test suite and case
tf = sltest.testmanager.TestFile('My Test File');

% Get test suite
ts = getTestSuites(tf);

% Get the test case object
tc = getTestCases(ts);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getTestSuiteByName

**Class:** sltest.testmanager.TestFile
**Package:** sltest.testmanager

Get test suite object by name

## Syntax

```
ts = getTestSuiteByName(tf,name)
```

## Description

`ts = getTestSuiteByName(tf,name)` returns a test suite with the specified name.

## Input Arguments

### `tf` — Test file

`sltest.testmanager.TestFile` object

Test file that contains the test suite, specified as a sltest.testmanager.TestFile object.

### `name` — Test suite name

character vector

The name of the test suite within the test file, specified as a character vector. If the name does not match a test suite, then the function returns an empty test suite object.

Example: `'Test Suite 5'`

## Output Arguments

### `ts` — Test suite object

object

Test suite, returned as an sltest.testmanager.TestSuite object. If the name does not match a test suite, then the function returns an empty test suite object.

# Examples

### Get Test Suite Object

```
% Create a test file with default test suite
tf = sltest.testmanager.TestFile('My Test File');

% Get the test suite object by test suite name
ts = getTestSuiteByName(tf,'New Test Suite 1');
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getTestFileResults

**Class:** sltest.testmanager.ResultSet
**Package:** sltest.testmanager

Get test suite results object

## Syntax

```
testFileResultArray = getTestFileResults(result)
```

## Description

`testFileResultArray = getTestFileResults(result)` gets all of the test file results that are direct children of the results set object.

## Input Arguments

### `result` — Results set

`sltest.testmanager.ResultSet` object

Results set to get test file results from, specified as a sltest.testmanager.ResultSet object.

## Output Arguments

### `testFileResultArray` — Test file results

`sltest.testmanager.TestFileResult` object array

Test file results, returned as an array of sltest.testmanager.TestFileResult objects. The function returns objects that are direct children of the results set input object.

# Examples

### Get Test File Result Data

Use the function`sltest.testmanager.run` to return a result set that contains test file, test suite, and test case results.

```
% Run all tests in the test manager
result = sltest.testmanager.run;

% Get the test file results
testSFileResultArray = getTestFileResults(result);

% Get the test suite results
testSuiteResultArray = getTestSuiteResults(result);

% Get the test case results
testCaseResultArray = getTestCaseResults(result);
```

- “Automate Tests Programmatically”

## See Also

sltest.testmanager.ResultSet | sltest.testmanager.TestSuiteResult | sltest.testmanager.TestCaseResult

### Introduced in R2016a

# getTestSuiteByName

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Get test suite object by name

## Syntax

```
tsOut = getTestSuiteByName(tsIn,name)
```

## Description

`tsOut = getTestSuiteByName(tsIn,name)` returns a test suite with the specified name.

## Input Arguments

### `tsIn` — Test suite

`sltest.testmanager.TestSuite` object

Test suite, specified as an sltest.testmanager.TestSuite object.

### `name` — Test suite name

character vector

The name of the test suite within a test suite object, specified as a character vector. If the name does not match a test suite, then the function returns an empty test suite object.

## Output Arguments

### `tsOut` — Test suite

`sltest.testmanager.TestSuite` object

Test suite, returned as an sltest.testmanager.TestSuite object. If the name does not match a test suite, then the function returns an empty test suite object.

# Examples

### Get Test Suite Object

```
% Create a test file and new test suite
tf = sltest.testmanager.TestFile('API Test File');
ts = getTestSuiteByName(tf,'New Test Suite 1');

% Create new test suite
createTestSuite(ts,'API Test Suite');

% Get test suite by name
ts2 = getTestSuiteByName(ts,'API Test Suite');
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getTestSuites

**Class:** sltest.testmanager.TestFile
**Package:** sltest.testmanager

Get test suites at first level of test file

## Syntax

```
tsArray = getTestSuites(tf)
```

## Description

`tsArray = getTestSuites(tf)` returns an array of test suite objects that are at the first level of the test file.

## Input Arguments

### `tf` — Test file

`sltest.testmanager.TestFile` object

Test file that contains the test suites, specified as a sltest.testmanager.TestFile object.

## Output Arguments

### `tsArray` — Test suite array

object array

Array of test suites at the first level of the test file, returned as an array of sltest.testmanager.TestSuite objects.

## Examples

### Get Test Suite Object

```
% Create a test file with default test suite
```

```
tf = sltest.testmanager.TestFile('My Test File');

% Get the test suite object from the test file
ts = getTestSuites(tf);
```

- “Automate Tests Programmatically”

**Introduced in R2015b**

# getTestSuites

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Get test suites at first level of test suite

## Syntax

```
tsArray = getTestSuites(ts)
```

## Description

`tsArray = getTestSuites(ts)` returns an array of test suite objects that are at the first level of the specified test suite.

## Input Arguments

### `ts` — Test suite

`sltest.testmanager.TestSuite` object

Test suite that contains the test suite you want to get, specified as an sltest.testmanager.TestSuite object.

## Output Arguments

### `tsArray` — Test suite array

object array

Array of test suites at the first level of the specified test suite, returned as an array of sltest.testmanager.TestSuite objects.

# Examples

### Get Test Suite Object

```
% Create a test file with default test suite
tf = sltest.testmanager.TestFile('My Test File');

% Get the default test suite
ts1 = getTestSuites(tf);

% Add a test suite to default test suite
ts2 = createTestSuite(ts1,'New Test Suite 2');

% Get the test suite object from the test file
% as a new object
tsNew = getTestSuites(ts1);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# getTestSuiteResults

**Class:** sltest.testmanager.ResultSet
**Package:** sltest.testmanager

Get test suite results object

## Syntax

```
testSuiteResultArray = getTestSuiteResults(result)
```

## Description

`testSuiteResultArray = getTestSuiteResults(result)` gets all of the test suite results that are direct children of the results set object.

## Input Arguments

### `result` — Results set

`sltest.testmanager.ResultSet` object

Results set to get test suite results from, specified as a sltest.testmanager.ResultSet object.

## Output Arguments

### `testSuiteResultArray` — Test suite results

`sltest.testmanager.TestSuiteResult` object array

Test suite results, returned as an array of sltest.testmanager.TestSuiteResult objects. The function returns objects that are direct children of the results set object.

# Examples

### Get Test Suite Result Data

Use the function`sltest.testmanager.run` to return a result set that contains test file, test suite, and test case results.

```
% Run all tests in the test manager
result = sltest.testmanager.run;

% Get the test file results
testSFileResultArray = getTestFileResults(result);

% Get the test suite results
testSuiteResultArray = getTestSuiteResults(result);

% Get the test case results
testCaseResultArray = getTestCaseResults(result);
```

- “Automate Tests Programmatically”

### Introduced in R2015a

# getTestSuiteResults

**Class:** sltest.testmanager.TestFileResult
**Package:** sltest.testmanager

Get test suite results object

## Syntax

```
testSuiteResultArray = getTestSuiteResults(result)
```

## Description

`testSuiteResultArray = getTestSuiteResults(result)` gets all of the test suite results that are direct children of the test file results object.

## Input Arguments

### `result` — Test file results

`sltest.testmanager.TestFileResult` object

Test file results to get test suite results from, specified as a sltest.testmanager.TestFileResult object.

## Output Arguments

### `testSuiteResultArray` — Test suite results

`sltest.testmanager.TestSuiteResult` object array

Test suite results, returned as an array of sltest.testmanager.TestSuiteResult objects. The function returns objects that are direct children of the test file results input object.

# Examples

### Get Test Suite Result Data

Use the function`sltest.testmanager.run` to return a result set that contains test file, test suite, and test case results.

```
% Run all tests in the test manager
result = sltest.testmanager.run;

% Get the test file results
testFileResultArray = getTestFileResults(result);

% Get the test suite results
testSuiteResultArray = getTestSuiteResults(testFileResultArray);
```

- “Automate Tests Programmatically”

### Introduced in R2016a

# getTestSuiteResults

**Class:** sltest.testmanager.TestSuiteResult
**Package:** sltest.testmanager

Get test suite results object

## Syntax

```
testSuiteResultArray = getTestSuiteResults(result)
```

## Description

`testSuiteResultArray = getTestSuiteResults(result)` gets all of the test suite results that are direct children of the test suite results object.

## Input Arguments

### `resultObj` — Test suite results

`sltest.testmanager.TestSuiteResult` object

Test suite results to get test suite results from, specified as a sltest.testmanager.TestSuiteResult object.

## Output Arguments

### `testSuiteResultArray` — Test suite results

`sltest.testmanager.TestSuiteResult` object array

Test suite results, returned as an array of sltest.testmanager.TestSuiteResult objects. The function returns objects that are direct children of the test suite results input object.

# Examples

### Get Test Suite Result Data

Use the function`sltest.testmanager.run` to return a result set that contains test file, test suite, and test case results.

```
% Run all tests in the test manager
result = sltest.testmanager.run;

% Get the test file results
testFileResultArray = getTestFileResults(result);

% Get the test suite results
testSuiteResultArray = getTestSuiteResults(testFileResultArray);

% Get the next level of test suite results
testSuite2ResultArray = getTestSuiteResults(testSuiteResultArray);
```

- “Automate Tests Programmatically”

### Introduced in R2015a

# getVerifyRuns

**Class:** sltest.testmanager.TestCaseResult
**Package:** sltest.testmanager

Get test case verify statement

## Syntax

```
dataset = getVerifyRuns(result)
```

## Description

`dataset = getVerifyRuns(result)` gets the verify statement dataset from a test case result. Verify statements are constructed in the Test Sequence or Test Assessment blocks in the system under test.

## Input Arguments

### `result` — Test case result

`sltest.testmanager.TestCaseResult` object

Test case results to get verify statement dataset from, specified as a sltest.testmanager.TestCaseResult object.

## Output Arguments

### `dataset` — Verify statement dataset

`Simulink.sdi.Run` object array

Test case verify statement dataset, returned as an array of Simulink.sdi.Run objects.

# Examples

### Get Verify Output From Test Case

```
% File paths and model names
filePath = fullfile(matlabroot,'toolbox','simulinktest','simulinktestdemos');
topModel = 'TestAndVerificationAutopilotExample';
reqDoc = 'RollAutopilotRequirements.txt';
rollModel = 'RollAutopilotMdlRef';
testHarness = 'RollReference_Requirement1_3';
testFile = 'AutopilotTestFile.mldatx';
harnessLink = ['http://localhost:31415/matlab/feval/rmiobjnavigate?arguments='...
    '[%22RollAutopilotMdlRef:urn:uuid:523e5d2d-bb86-43b2-a187-43c52a2bc174.'...
    'slx%22,%22GIDa_3fe26a28_ee1e_4aff_b1cd_3303ca12539c%22]'];

% Open the main model
open_system(fullfile(filePath,rollModel));

% Open the test file in the test manager
open(fullfile(filePath,testFile));

% Open the test harness
web(harnessLink)

% Open harness and highlight requirements links
sltest.harness.open([rollModel '/Roll Reference'],testHarness)
rmi('highlightModel','RollReference_Requirement1_3')

% Open test sequence and test assessment blocks
open_system('RollReference_Requirement1_3/Test Sequence')
open_system('RollReference_Requirement1_3/Test Assessment')

% Run the test file
ro = sltest.testmanager.run;

% Gett the test results
tfr = getTestFileResults(ro);
tsr = getTestSuiteResults(tfr);
tcr = getTestCaseResults(tsr);

% Get the verify output
verifyOut = getVerifyRuns(tcr);
```

- “Automate Tests Programmatically”

## See Also

Simulink.sdi.Run

### Introduced in R2016a

# getVerifyRuns

**Class:** sltest.testmanager.TestIterationResult
**Package:** sltest.testmanager

Get test iteration verify statement

## Syntax

```
dataset = getVerifyRuns(result)
```

## Description

`dataset = getVerifyRuns(result)` gets the verify statement dataset from a test iteration result. Verify statements are made in the Test Sequence or Test Assessment blocks in the system under test.

## Input Arguments

### `result` — Test iteration result

`sltest.testmanager.TestIterationResult` object

Test iteration results to get verify statement dataset from, specified as a sltest.testmanager.TestIterationResult object.

## Output Arguments

### `dataset` — Verify statement dataset

`Simulink.sdi.Run` object

Test iteration verify statement dataset, returned as a Simulink.sdi.Run object.

## See Also

Simulink.sdi.Run

## Related Examples

- “Automate Tests Programmatically”

**Introduced in R2016a**

# layoutReport

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

Incorporates parts of report into one document

## Syntax

```
layoutReport(obj)
```

## Description

`layoutReport(obj)` incorporates all of the report parts into one document. The report is divided into three main parts: title page, table of contents, and the main body.

This method also calls:

- sltest.testmanager.TestResultReport.addTitlePage
- sltest.testmanager.TestResultReport.addReportTOC
- sltest.testmanager.TestResultReport.addReportBody

## Input Arguments

### `obj` — Test report object

`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

## Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestResultReport

### Introduced in R2016a

# map

**Class:** sltest.testmanager.TestInput
**Package:** sltest.testmanager

Maps test input to System Under Test

## Syntax

```
map(input,mode,customFunction)
```

## Description

`map(input,mode,customFunction)` maps the test input data to the System Under Test.

## Input Arguments

### `input` — Test input

`sltest.testmanager.TestInput` object

The test input that you want to map, specified as a sltest.testmanager.TestInput object.

### `mode` — Mapping mode

`0 | 1 | 2 | 3 | 4`

Mapping mode, specified as an integer.

- `0` — Block name
- `1` — Block path
- `2` — Signal name
- `3` — Port order (index)
- `4` — Custom

For more information on mapping modes, see “Map Root Inport Signal Data”.

### `customFunction` — Custom mapping function name

character vector

Name of function used for custom mapping, specified as a character vector. This argument is optional and valid only when `mode` is set to `4`, custom.

## Examples

### Add Microsoft Excel Data as Input

You can add data from a Microsoft Excel spreadsheet. The spreadsheet used in this example is located in the example folder directory.

```
% Load example model
open_system('sltestExcelExample');

% Create new test file
tf = sltest.testmanager.TestFile('C:\MATLAB\input_test_file.mldatx');
% Get test suite object
ts = getTestSuites(tf);
% Get test case object
tc = getTestCases(ts);

% Add the example model as the system under test
setProperty(tc,'Model','sltestExcelExample');

% Add Excel data to Inputs section
input_path = fullfile(matlabroot,'toolbox','simulinktest',...
             'simulinktestdemos','sltestExampleInputs.xlsx');
input = addInput(tc,input_path,1);

% Map the input signals by port order
map(input,3);
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# plotOneSignalToFile

**Class:** sltest.testmanager.TestResultReport
**Package:** sltest.testmanager

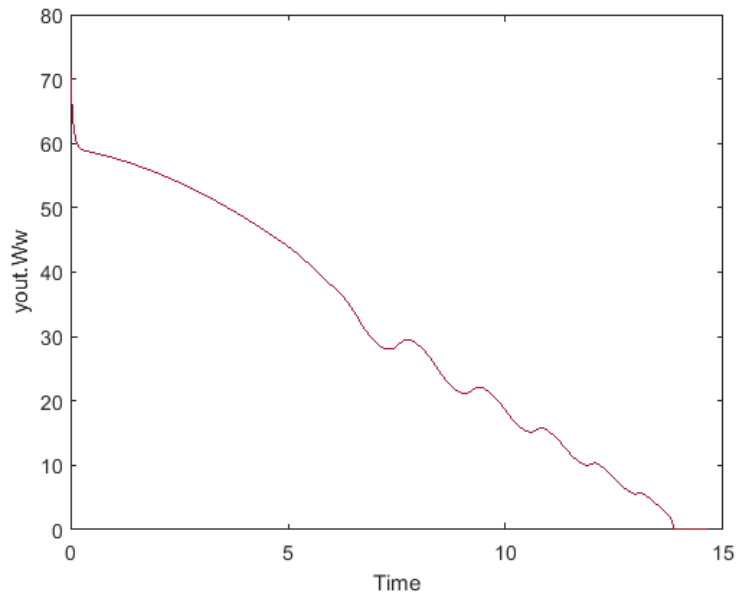
Save signal plot to file

## Syntax

```
plotOneSignalToFile(obj,filePath,onesig,isComparison)
```

## Description

`plotOneSignalToFile(obj,filePath,onesig,isComparison)` saves a signal plot to a PNG image file. If the signal plot is a comparison, then the baseline signal, the difference, and the tolerance are plotted in the same plot.



# Input Arguments

### `obj` — Test report object
`sltest.testmanager.TestResultReport` object

Test report, specified as a sltest.testmanager.TestResultReport object.

### `filePath` — Image file path
character vector

File path and name of the image you want to save, specified as a character vector.

### `onesig` — Result signal
`sltest.testmanager.ReportUtility.Signal` object

The result signal, specified as a `sltest.testmanager.ReportUtility.Signal` object.

### `isComparison` — Comparison indicator
`true` | `false`

Flag to indicate whether the signal is from a comparison run or not, specified as a Boolean, `true` or `false`.

# Examples

- "Export Test Results and Generate Reports"
- "Automate Tests Programmatically"

## See Also
sltest.testmanager.TestResultReport

### Introduced in R2016a

# remove

**Class:** sltest.testmanager.BaselineCriteria
**Package:** sltest.testmanager

Remove baseline criteria

## Syntax

```
remove(bc)
```

## Description

`remove(bc)` removes the baseline criteria from a test case. The baseline criteria object is empty after a call to this function.

## Input Arguments

### bc — Baseline criteria

`sltest.testmanager.BaselineCriteria` object

Baseline criteria that you want to remove from a test case, specified as a sltest.testmanager.BaselineCriteria object.

## Examples

### Remove Baseline Criteria

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);
```

```
% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);

% Remove baseline criteria;
remove(baseline);
```

- “Automate Tests Programmatically”

## Introduced in R2015b

# remove

**Class:** sltest.testmanager.EquivalenceCriteria
**Package:** sltest.testmanager

Remove equivalence criteria

## Syntax

```
remove(eq)
```

## Description

`remove(eq)` removes the equivalence criteria from a test case. The equivalence criteria object is empty after a call to this function.

## Input Arguments

### eq — Equivalence criteria

`sltest.testmanager.EquivalenceCriteria` object

Equivalence criteria that you want to remove from a test case, specified as a sltest.testmanager.EquivalenceCriteria object.

## Examples

### Remove Equivalence Criteria

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'equivalence','Equivalence Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);
```

```
% Assign the system under test to the test case
% for Simulation 1 and Simulation 2
setProperty(tc,'Model','sldemo_absbrake','SimulationIndex',1);
setProperty(tc,'Model','sldemo_absbrake','SimulationIndex',2);

% Add a parameter override to Simulation 1 and 2
ps1 = addParameterSet(tc,'Name','Parameter Set 1','SimulationIndex',1);
po1 = addParameterOverride(ps1,'Rr',1.20);

ps2 = addParameterSet(tc,'Name','Parameter Set 2','SimulationIndex',2);
po2 = addParameterOverride(ps2,'Rr',1.24);

% Capture equivalence criteria
eq = captureEquivalenceCriteria(tc);

% Set the equivalence criteria tolerance for one signal
sc = getSignalCriteria(eq);
sc(1).AbsTol = 2.2;

% Remove second signal criteria from baseline
remove(eq);
```

- “Automate Tests Programmatically”

## Introduced in R2015b

# remove

**Class:** sltest.testmanager.ParameterOverride
**Package:** sltest.testmanager

Remove parameter override

## Syntax

```
remove(po)
```

## Description

`remove(po)` removes the parameter override from the parameter set. The parameter override object is empty after a call to this function.

## Input Arguments

### po — Parameter override

`sltest.testmanager.ParameterOverride` object

Parameter override that you want to remove from a parameter set, specified as a sltest.testmanager.ParameterOverride object.

## Examples

### Remove Parameter Override from Parameter Set

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);
```

```
% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);

% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);

% Remove parameter override from parameter set
remove(po);
```

- “Automate Tests Programmatically”

**Introduced in R2015b**

# remove

**Class:** sltest.testmanager.ParameterSet
**Package:** sltest.testmanager

Remove parameter set

## Syntax

```
remove(ps)
```

## Description

`remove(ps)` removes the parameter set from a test case. The parameter set object is empty after a call to this function.

## Input Arguments

### ps — Parameter set

`sltest.testmanager.ParameterSet` object

Parameter set that you want to remove from a test case, specified as a sltest.testmanager.ParameterSet object.

## Examples

### Remove Parameter Set from Test Case

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);
```

```
% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);

% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);

% Remove parameter set from test case
remove(ps);
```

- “Automate Tests Programmatically”

**Introduced in R2015b**

# remove

**Class:** sltest.testmanager.SignalCriteria
**Package:** sltest.testmanager

Remove signal criteria

## Syntax

```
remove(sc)
```

## Description

`remove(sc)` removes signal criteria from the baseline or equivalence criteria set. The signal criteria object is empty after a call to this function.

## Input Arguments

### sc — Signal criteria

`sltest.testmanager.SignalCriteria` object

Signal criteria that you want to remove from a baseline or equivalence criteria set, specified as a sltest.testmanager.SignalCriteria object.

## Examples

### Remove Signal from Baseline Criteria Set

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);
```

```
% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');

% Capture the baseline criteria
baseline = captureBaselineCriteria(tc,'baseline_API.mat',true);

% Test a new model parameter by overriding it in the test case
% parameter set
ps = addParameterSet(tc,'Name','API Parameter Set');
po = addParameterOverride(ps,'m',55);

% Set the baseline criteria tolerance for one signal
sc = getSignalCriteria(baseline);
sc(1).AbsTol = 9;

% Remove second signal criteria from baseline
remove(sc(2));
```

- “Automate Tests Programmatically”

**Introduced in R2015b**

# remove

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Remove test case

## Syntax

```
remove(tc)
```

## Description

`remove(tc)` removes the test case. The test case object is empty after a call to this function. All parameter overrides, baseline criteria, or equivalence criteria associated with the test case become invalid.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case to remove, specified as an sltest.testmanager.TestCase object.

## Examples

### Remove Test Case

```
% Create test file
tf = sltest.testmanager.TestFile('C:\MATLAB\test_file.mldatx');

% Create test suite
ts = sltest.testmanager.TestSuite(tf,'My Test Suite');

% Create test case
tc = sltest.testmanager.TestCase(ts,'equivalence',...
```

```
'Eq Test Case');

% Remove the test case
remove(tc);
```

- “Automate Tests Programmatically”

## Introduced in R2015b

# remove

**Class:** sltest.testmanager.TestInput
**Package:** sltest.testmanager

Remove test input

## Syntax

```
remove
```

## Description

`remove` removes the test input from a test case. The test input object is empty after a call to this function.

## Input Arguments

### `input` — Test input

`sltest.testmanager.TestInput` object

The test input that you want to remove, specified as a sltest.testmanager.TestInput object.

## Examples

### Remove Test Input Data

```
% Load example model
open_system('sltestExcelExample');

% Create new test file
tf = sltest.testmanager.TestFile('C:\MATLAB\input_test_file.mldatx');
% Get test suite object
ts = getTestSuites(tf);
% Get test case object
```

```
tc = getTestCases(ts);

% Add the example model as the system under test
setProperty(tc,'Model','sltestExcelExample');

% Add Excel data to Inputs section
input_path = fullfile(matlabroot,'toolbox','simulinktest',...
             'simulinktestdemos','sltestExampleInputs.xlsx');
input = addInput(tc,input_path,1);

% Map the input signals by port order
map(input,3);

% Remove test input
remove(input);
```

- “Automate Tests Programmatically”

**Introduced in R2015b**

# remove

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Remove test suite

## Syntax

```
remove(ts)
```

## Description

`remove(ts)` removes the test suite. The test suite object is empty after a call to this function.

## Input Arguments

### `ts` — Test suite

`sltest.testmanager.TestSuite` object

Test suite that you want to remove, specified as an sltest.testmanager.TestSuite object.

## Examples

### Remove Test Suite

```
% Create test file
tf = sltest.testmanager.TestFile('C:\MATLAB\test_file.mldatx');

% Create test suite
ts = sltest.testmanager.TestSuite(tf,'My Test Suite');

% Remove the test suite
remove(ts);
```

- "Automate Tests Programmatically"

**Introduced in R2015b**

# run

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Run test case

## Syntax

```
resultObj = run(tc)
```

## Description

`resultObj = run(tc)` runs the test case and returns a results set object.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case you want to run, specified as an sltest.testmanager.TestCase object.

## Output Arguments

### `resultObj` — Results set object

object

Test results, returned as a results set object, sltest.testmanager.ResultSet.

## Examples

### Run a Test Case

```
% Create the test file, test suite, and test case structure
```

```
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'simulation','Coverage Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_autotrans');

% Run the test case and return an object with results data
ro = run(tc);
```

- “Automate Tests Programmatically”

**Introduced in R2015b**

# run

**Class:** sltest.testmanager.TestFile
**Package:** sltest.testmanager

Run test cases in test file

## Syntax

```
resultObj = run(tf)
```

## Description

`resultObj = run(tf)` runs all of the enabled test cases in the test file and returns a results set object.

## Input Arguments

### `tf` — Test file

`sltest.testmanager.TestFile` object

Test file with the test cases you want to run, specified as an sltest.testmanager.TestFile object.

## Output Arguments

### `resultObj` — Results set object

`sltest.testmanager.ResultSet` object

Test results, returned as a results set object, sltest.testmanager.ResultSet.

## Examples

### Run a Test File

```
% Create the test file, test suite, and test case structure
```

```
tf = sltest.testmanager.TestFile('My Test File');
ts = createTestSuite(tf,'My Test Suite');
tc = createTestCase(ts,'simulation','Simulation Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_autotrans');

% Run the test file and return an object with results data
ro = run(tf);
```

- “Automate Tests Programmatically”

**Introduced in R2015b**

# run

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Run test cases in test suite

## Syntax

```
resultObj = run(ts)
```

## Description

`resultObj = run(ts)` runs all of the enabled test cases in the test suite and returns a results set object.

## Input Arguments

### `ts` — Test suite

`sltest.testmanager.TestSuite` object

Test suite with the test cases you want to run, specified as an sltest.testmanager.TestSuite object.

## Output Arguments

### `resultObj` — Result set

`sltest.testmanager.ResultSet` object

Test results, returned as a sltest.testmanager.ResultSet results set object.

## Examples

### Run a Test Suite

```
% Create the test file, test suite, and test case structure
```

```
tf = sltest.testmanager.TestFile('My Test File');
ts = createTestSuite(tf,'My Test Suite');
tc = createTestCase(ts,'simulation','Simulation Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_autotrans');

% Run the test suite and return an object with results data
ro = run(ts);
```

- “Automate Tests Programmatically”

**Introduced in R2015b**

# saveToFile

**Class:** sltest.testmanager.TestFile
**Package:** sltest.testmanager

Save test file

## Syntax

```
saveToFile(tf)
saveToFile(tf,filePath)
```

## Description

`saveToFile(tf)` saves the changes to the test file.

`saveToFile(tf,filePath)` saves the test file to the specified file path.

## Input Arguments

### `tf` — Test file

`sltest.testmanager.TestFile` object

Test file, specified as a sltest.testmanager.TestFile object.

### `filePath` — File path

character vector

The file path and name to save the test file at, specified as a character vector.

Example: `'C:\MATLAB\New Test File.mldatx'`

## Examples

### Save Test File With Changes

```
% Create the test file, test suite, and test case structure
```

```
tf = sltest.testmanager.TestFile('C:\MATLAB\My Test File.mldatx');
ts = createTestSuite(tf,'My Test Suite');
tc = createTestCase(ts,'simulation','Simulation Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_autotrans');

% Save the test file
saveToFile(tf);

% Save test file object as another test file
saveToFile(tf,'C:\MATLAB\New Test File.mldatx');
```

- “Automate Tests Programmatically”

**Introduced in R2015b**

# setModelParam

**Class:** sltest.testmanager.TestIteration
**Package:** sltest.testmanager

Set model parameter for iteration

## Syntax

```
setModelParam(obj,modelObject,paramName,value)
```

## Description

`setModelParam(obj,modelObject,paramName,value)` sets a model parameter for the test iteration object.

## Input Arguments

### `obj` — Test iteration object

object

Test iteration that you want to set the model parameter, specified as a sltest.testmanager.TestIteration object.

### `modelObject` — Name or handle of a model or block

character vector | handle

Handle or name of a model or block, specified as a numeric handle or a character vector. A numeric handle must be a scalar. You can also set parameters of lines and ports, but you must use numeric handles to specify them.

Example: `'vdp/Fcn'`

### `paramName` — Model or block parameter name

character vector

Model or block parameter name, specified as the comma-separated pair consisting of the parameter name, specified as a character vector, and the value, specified in the

format determined by the parameter type. Case is ignored for parameter names. Value character vectors are case sensitive. Values are often character vectors, but they can also be numeric, arrays, and other types. Many block parameter values are specified as character vectors, but two exceptions are these parameters: `Position`, specified as a value vector, and `UserData`, which can be any data type.

For more information on parameter name and value pairs, see the function reference page for `set_param`.

Example: `'Solver','ode15s'`

Data Types: `char`

# Examples

### Override Gain Value

```
setModelParam(obj,[sltest_bdroot '/Mu'],'Gain','1000')
```

- "Run Multiple Combinations of Tests Using Iterations"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestIteration | `set_param`

### Introduced in R2016a

# setProperty

**Class:** sltest.testmanager.TestCase
**Package:** sltest.testmanager

Set test case property

## Syntax

```
setProperty(tc,Name,Value)
```

## Description

`setProperty(tc,Name,Value)` sets a test case property.

## Input Arguments

### `tc` — Test case

`sltest.testmanager.TestCase` object

Test case to set property, specified as an sltest.testmanager.TestCase object.

### 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 (`' '`). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'StopTime',100`

#### `'Model'` — System Under Test model name

empty character vector (default)

The model name in the System Under Test section, specified as a character vector.

Example: `'sldemo_absbrake'`

### `'SimulationMode'` — Simulation mode

empty character vector (default) | `'Normal'` | `'Accelerator'` | `'Rapid Accelerator'` | `'Software-in-the-Loop (SIL)'` | `'Processor-in-the-Loop (PIL)'`

The simulation mode of the model or harness, specified as a character vector. To return to the default model settings, specify an empty character vector, `''`.

Example: `'SimulationMode','Rapid Accelerator'`

### `'OverrideStartTime'` — Override model start time

`false` (default) | `true`

Indicate if the test case overrides the model start time, specified as a Boolean, `true` or `false`.

### `'StartTime'` — Model start time

`0` (default) | scalar

Model start time, specified as a scalar value.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

### `'OverrideStopTime'` — Override model stop time

`false` (default) | `true`

Indicate if the test case overrides the model start time, specified as a Boolean, `true` or `false`.

### `'StopTime'` — Model stop time

`10` (default) | scalar

Model stop time, specified as a scalar value.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

### `'OverrideInitialState'` — Override model initial state

`false` (default) | `true`

Indicate if the test case overrides the model initial state, specified as a Boolean, `true` or `false`.

**`'InitialState'` — Model initial state**
empty character vector (default)

Model initial state from a workspace variable, specified as a character vector.

**`'HarnessName'` — Test harness name**
empty character vector (default)

Name of a test harness to use in the System Under Test section, specified as a character vector.

**`'HarnessOwner'` — Test harness owner name**
empty character vector (default)

Name of the test harness owner, specified as a character vector.

**`'UseSignalBuilderGroup'` — Override Signal Builder group**
`false` (default) | `true`

Indicate if the test case overrides the model and uses a different Signal Builder group in the Inputs section, specified as a Boolean, `true` or `false`.

**`'SignalBuilderGroup'` — Signal Builder group name**
empty character vector (default)

Signal Builder group name, specified as a character vector. To return to the default model settings, specify an empty character vector, `''`.

**`'OverrideModelOutputSettings'` — Override model output settings**
`false` (default) | `true`

Indicate if the test case overrides the model settings under the Outputs section, specified as a Boolean, `true` or `false`.

**`'SaveOutput'` — Override saving output**
`false` (default) | `true`

Indicate if the test case overrides saving model output, specified as a Boolean, `true` or `false`.

### `'SaveState'` — Save output state values

`false` (default) | `true`

Indicate if the test case is set to save output state values, specified as a Boolean, `true` or `false`.

### `'SignalLogging'` — Log signals

`true` (default) | `false`

Indicate if the test case is set to log signals marked for logging in the model, specified as a Boolean, `true` or `false`.

### `'DSMLogging'` — Log Data Store variables

`true` (default) | `false`

Indicate if the test case is set to log Data Store variables, specified as a Boolean, `true` or `false`.

### `'SaveFinalState'` — Save final state

`false` (default) | `true`

Indicate if the test case is set to store final state values, specified as a Boolean, `true` or `false`.

### `'SimulationIndex'` — Equivalence test case simulation

1 (default) | 2

Simulation number that the property applies to, specified as an integer, 1 or 2. This setting applies to the simulation test case.

### `'ConfigSetOverrideSetting'` — Configuration setting override

1 (default) | 2 | 3

Override the configuration settings, specified as an integer.

- 1 — No override
- 2 — Use a named configuration set in the model
- 3 — Use a configuration set specified in a file

### `'ConfigSetName'` — Configuration set name

empty character vector (default)

Name of the configuration setting in a model, specified as a character vector.

**`'ConfigSetVarName'` — Configuration set variable name**
empty character vector (default)

Variable name in a configuration set file, specified as a character vector.

**`'ConfigSetFileLocation'` — Configuration set file path**
empty character vector (default)

File name and path of the configuration set, specified as a character vector.

**`'PreloadCallback'` — Pre-load callback script**
character vector

Pre-load callback script, specified as a character vector.

**`'PostloadCallback'` — Post-load callback script**
character vector

Post-load callback script, specified as a character vector.

**`'CleanupCallback'` — Cleanup callback script**
character vector

Test-case level cleanup callback script, specified as a character vector. The function deletes any existing callback script and replaces it with the specified character vector.

Example: `'clear a % clear value from workspace'`

**`'PreStartRealTimeApplicationCallback'` — Real-time pre-start callback**
character vector

Character vector evaluated before the real-time application is started on the target computer, specified as a character vector. For more information on real-time testing, see "Test Models in Real Time".

**`'IterationScript'` — Iteration script**
character vector

Iteration script evaluated to create test case iterations, specified as a character vector. For more information about test iteration scripts, see "Run Multiple Combinations of Tests Using Iterations".

**`'FastRestart'` — Run iterations using fast restart**
`false` (default) | `true`

Indicate if the test iterations run using fast restart mode, specified as a Boolean, `true` or `false`.

**`'SaveBaselineRunInTestResult'` — Save baseline in test result**
`false` (default) | `true`

Indicate if the test case saves the baseline used in the test result after test execution, specified as a Boolean, `true` or `false`.

**`'SaveInputRunInTestResult'` — Save input in test result**
`false` (default) | `true`

Enable saving external input run used in test result, specified as a Boolean, `true` or `false`.

**`'LoadAppFrom'` — Application location**
1 (default) | 2 | 3

Location from which to load the application, specified as an integer. This property is available only in real-time test cases.

- 1 — Model
- 2 — Target application
- 3 — Target computer

For more information on real-time testing, see "Test Models in Real Time".

**`'TargetComputer'` — Target computer name**
character vector

Name of the target computer, specified as a character vector. This property is available only in real-time test cases. For more information on real-time testing, see "Test Models in Real Time".

**`'TargetApplication'` — Target application name and path**
character vector

Name and path of the target application, specified as a character vector. This property is available only in real-time test cases. For more information on real-time testing, see "Test Models in Real Time".

# Examples

### Set Model as System Under Test

```
% Create the test file, test suite, and test case structure
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');
tc = createTestCase(ts,'baseline','Baseline API Test Case');

% Remove the default test suite
tsDel = getTestSuiteByName(tf,'New Test Suite 1');
remove(tsDel);

% Assign the system under test to the test case
setProperty(tc,'Model','sldemo_absbrake');
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# setProperty

**Class:** sltest.testmanager.TestSuite
**Package:** sltest.testmanager

Set test suite property

## Syntax

```
setProperty(ts,Name,Value)
```

## Description

`setProperty(ts,Name,Value)` sets a test suite property.

## Input Arguments

### `ts` — Test suite

`sltest.testmanager.TestSuite` object

Test suite object to set the property, specified as an sltest.testmanager.TestSuite object.

### 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 (`' '`). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

Example: `'SetupCallback','a = 300; % set nominal value'`

#### `'SetupCallback'` — Setup callback script

empty (default) | character vector

Test-suite level setup callback script, specified as a character vector. The function deletes any existing callback script and replaces it with the specified character vector.

Example: `'a = 300; % set nominal value'`

### `'CleanupCallback'` — Cleanup callback script

empty (default) | character vector

Test-suite level cleanup callback script, specified as a character vector. The function deletes any existing callback script and replaces it with the specified character vector.

Example: `'clear a % clear value from workspace'`

## Examples

### Set Test Suite Property

```
% Create a test file and new test suite
tf = sltest.testmanager.TestFile('API Test File');
ts = createTestSuite(tf,'API Test Suite');

% Set the setup callback property
setProperty(ts,'CleanupCallback','clearvars % Clear variables');
```

- “Automate Tests Programmatically”

### Introduced in R2015b

# setTestParam

**Class:** sltest.testmanager.TestIteration
**Package:** sltest.testmanager

Set test case parameter

## Syntax

```
setTestParam(obj,Name,Value)
```

## Description

`setTestParam(obj,Name,Value)` sets the test iteration parameter with additional options specified by one or more `Name,Value` pair arguments.

## Input Arguments

### `obj` — Test iteration object

object

Test iteration object that you want to apply the test parameter to, specified as a sltest.testmanager.TestIteration object.

### 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 (`' '`). You can specify several name and value pair arguments in any order as `Name1,Value1,...,NameN,ValueN`.

### `'ParameterSet'` — Parameter set

Current test case setting (default) | character vector

Parameter set name, specified as the comma-separated pair consisting of `'ParameterSet'` and a character vector. Parameter set overrides are setup in the **Parameter Overrides** section of the test case.

Example: `'ParameterSet','Param Set 1'`

### `'Baseline'` — Baseline criteria dataset

Current test case setting (default) | character vector

Baseline criteria dataset name, specified as the comma-separated pair consisting of `'Baseline'` and a character vector. Baseline criteria datasets are setup in the **Baseline Criteria** section of the test case. It is available only for baseline test cases.

Example: `'Baseline','BaselineSet_High'`

### `'Input'` — External input

Current test case setting (default) | character vector

External input name, specified as the comma-separated pair consisting of `'Input'` and a character vector. External input overrides are setup in the **Inputs** section of the test case.

Example: `'Input','Run1'`

### `'ConfigSet'` — Configuration setting

Current test case setting (default) | character vector

Configuration setting name, specified as the comma-separated pair consisting of `'ConfigSet'` and a character vector. Configuration setting overrides are setup in the **Configuration Settings Overrides** section of the test case.

Example: `'ConfigSet','Solver 3'`

### `'SignalBuilderGroup'` — Signal Builder group

Current test case setting (default) | character vector

Signal Builder group input name, specified as the comma-separated pair consisting of `'SignalBuilderGroup'` and a character vector. Signal Builder group overrides are setup in the **Inputs** section of the test case.

Example: `'SignalBuilderGroup','Acceleration'`

### `'PreLoadFcn'` — Pre-load callback script

Current test case setting (default) | character vector

Pre-load callback script, specified as the comma-separated pair consisting of `'PreLoadFcn'` and a character vector. The pre-load callback script is setup in the **Callbacks** section of the test case.

### `'PostLoadFcn'` — Post-load callback script

Current test case setting (default) | character vector

Post-load callback script, specified as the comma-separated pair consisting of `'PostLoadFcn'` and a character vector. The post-load callback script is setup in the **Callbacks** section of the test case.

### `'PreStartRealTimeApplicationFcn'` — Pre-start real-time application callback script

Current test case setting (default) | character vector

Pre-start real-time application callback script, specified as the comma-separated pair consisting of `'PreStartRealTimeApplicationFcn'` and a character vector. The pre-start real-time application callback script is setup in the **Callbacks** section of the test case.

### `'CleanupFcn'` — Cleanup callback script

Current test case setting (default) | character vector

Cleanup callback script, specified as the comma-separated pair consisting of `'CleanupFcn'` and a character vector. The cleanup callback script is setup in the **Callbacks** section of the test case.

### `'Description'` — Description

Current test case setting (default) | character vector

Test description text, specified as the comma-separated pair consisting of `'Description'` and a character vector. The Description is setup in the **Description** section of the test case.

Example: `'Description','Test the autopilot controller for wind gusts'`

## Examples

### Set Test Parameter

```
setTestParam(obj,'Description','Test the autopilot controller for wind gusts');
```

- "Run Multiple Combinations of Tests Using Iterations"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestIteration

**Introduced in R2016a**

# setVariable

**Class:** sltest.testmanager.TestIteration
**Package:** sltest.testmanager

Set model variable override

## Syntax

```
setVariable(obj,'Name',varName,'Source',srcName,'Value',value)
```

## Description

`setVariable(obj,'Name',varName,'Source',srcName,'Value',value)` sets a model variable override for the test iteration. Specify the sltest.testmanager.TestIteration object, and then specify the variable name, source, and override value. The method overrides the variable in the test iteration and does not permanently change the model variable.

## Input Arguments

### `obj` — Test iteration object

object

The test iteration you want to apply the override to, specified as a sltest.testmanager.TestIteration object.

### `varName` — Variable name

character vector

Name of the variable you want to override, specified as a character vector.

### `srcName` — Variable source

`'base workspace'` | `'model workspace'` | `'mask workspace'` | data dictionary name | model element paths

The source of the variable to override, specified as a character vector. For non-real-time test cases, the possible sources can be `'base workspace'`, `'model workspace'`, `'mask workspace'`, or the name of a data dictionary, such as `'data.sldd'`.

For real-time test cases, the possible sources are model element paths, which might be an empty character vector.

### `value` — Override value

scalar

Value of the variable you want to override, specified as a scalar value.

Data Types: `single` | `double` | `int8` | `int16` | `int32` | `int64` | `uint8` | `uint16` | `uint32` | `uint64`

## Examples

### Set Variable in Base Workspace

```
setVariable(obj,'Name','g','Source','base workspace','Value',33);
```

- "Run Multiple Combinations of Tests Using Iterations"
- "Automate Tests Programmatically"

## See Also

sltest.testmanager.TestIteration

### Introduced in R2016a

# Blocks — Alphabetical List

# Test Assessment

Specify test assessments, steps, and actions in tabular format


## Description

Use this block to define test assessments in a tabular series of steps. Like the Test Sequence block, the Test Assessment block uses MATLAB as the action language.

## Test Sequence Editor

### Default Configuration

Double-click the Test Assessment block to open the Test Sequence Editor, displaying the default test step layout. The top-level step of a Test Assessment block uses When decomposition transition by default. To change the transition type to a standard transition, right-click the top-level step and clear **When decomposition**.

### Adding, Deleting, and Editing Test Steps

To add a test step, right-click a step in the editor and select **Add step before** or **Add step after**. Select **Add sub-step** to create test steps in a lower hierarchy level. Select **Delete step** to delete the selected step.

To cut or copy a test step, select the step and type **Ctrl+X** or **Ctrl+C**. To paste the test step, select another test step, type **Ctrl+V**, and select whether to paste before or after the step.

### Actions and Transitions

The step names are the first lines in the **Step** column. To enter new step names, overwrite the default names. You can undo and redo test sequence edits using the undo and redo buttons on the toolbar. The Test Sequence Editor offers common Simulink keyboard shortcuts, such as save, update diagram, and start simulation.

A test step consists of actions and transitions. Use test step actions to define assessments and signals. Use transitions to define conditions at which the test sequence exits the test step and enters another test step. For a When decomposition sequence, `when` statements accompany the test step name and define the active step.

Initialize the output signals in the first test step. Outputs are automatically initialized when you use a Test Sequence block in a test harness that compiles the main model.

## Test Sequence Hierarchy and Transitions

You can arrange test sequences in a hierarchy of parent steps and substeps. Substeps can activate only when the parent step is active. For each sequence level, you can define the transition type as a standard transition or a When decomposition.

### Standard Transition

In a standard transition, the default step is the first step listed in the sequence. The sequence progresses according to the transition conditions and next steps. To create a sequence using standard transitions:

- Add new steps to the sequence.
- Define outputs and assessments in the **Step** cell. For example, this code sets `on_off` to `false` and verifies that the `FanOn` signal is `true`.

```
on_off = false;
verify(FanOn == true);
```

- For each step that requires a transition, hover over the **Transition** cell and click **Add transition**. Define the step exit conditions in the transition. For example, this code transitions to another step after the current step has been active for 20 seconds.

  ```
  after(20,sec)
  ```

- Choose the next test step in the **Next Step** cell.

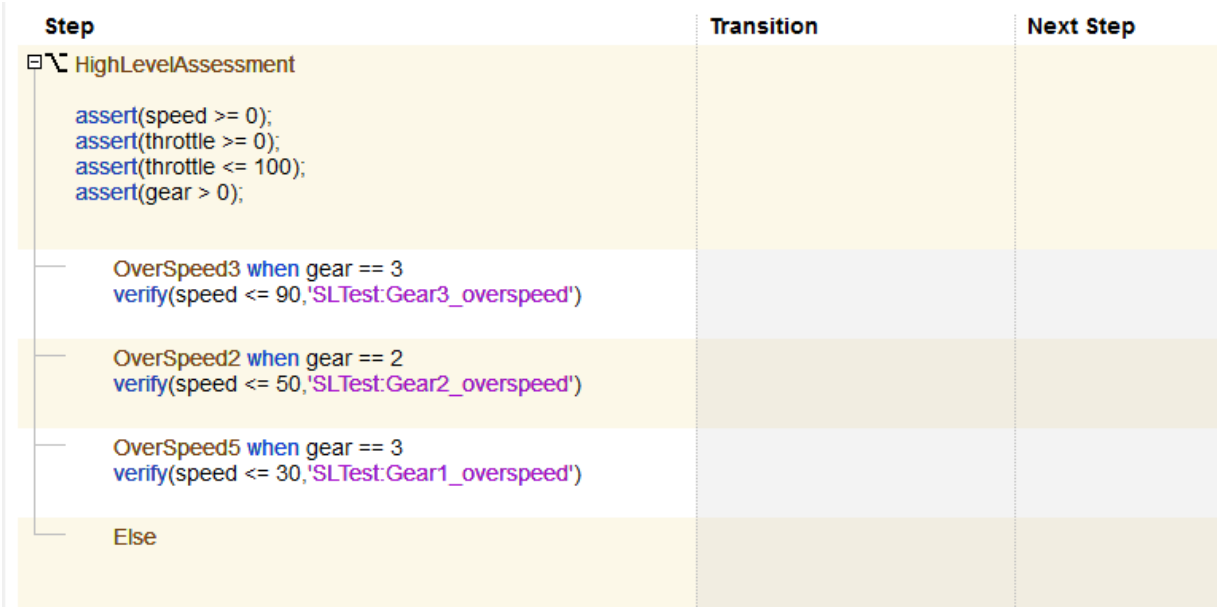

## When Decomposition

In a **When decomposition** sequence, steps activate based on a signal condition defined on the same line as the test step name, preceded by the `when` operator. For example, a step named `OverSpeed2` activates when the signal `gear` is `2`:

```
OverSpeed2 when gear == 2
```

A **When decomposition** requires a parent step. To change to a **When decomposition** sequence, right-click the parent step and select **When decomposition**. The parent step displays the When decomposition icon ⌥. Add substeps to define the `when` conditions.

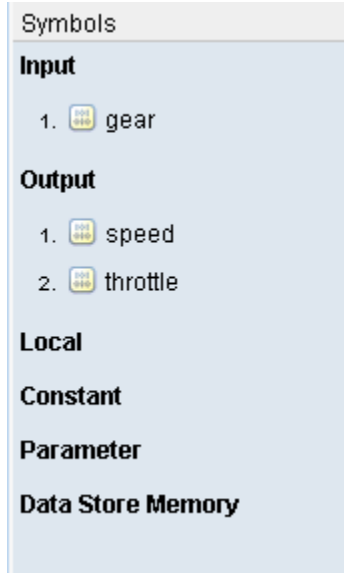
At each time step, the `when` statements evaluate from top to bottom, and the first step with a valid statement executes. The final step in a When decomposition cannot include a `when` condition. The final step handles situations in the simulation which do not match another `when` condition in the sequence. Conceptually, this is analogous to including an `Else` condition in an `if-then-else` construct.




## Input, Output, and Data Management

Manage inputs, outputs, and data objects using the **Symbols** sidebar of the Test Sequence Editor. Click the symbols sidebar button on the toolbar to show or hide the sidebar. To add a symbol, mouse over the symbol type and click **Add**. To edit or delete a data symbol, mouse over the data symbol and click **Edit** or **Delete**.

If you add a symbol to the test sequence block, you can access that symbol from test steps at any hierarchy level. For information on using messages, see “Test Sequence Action and Transition Operations”.




| Symbol Type | Description | Procedure for Adding |
|---|---|---|
| Input | Inputs can be data or messages. | Click **Add** in the sidebar and enter the input name. |
| Output | Outputs can be data, messages, or function calls. | Click **Add** in the sidebar and enter the output name. |
| Local | Local data entries are available inside the test sequence block in which they are defined. | Add a local variable in the sidebar and initialize the local variable in the first test step. |
| Constant | Constants are read-only data entries available inside the test sequence block in which they are defined. | Add a constant in the sidebar. Click **Edit** and enter the constant value in the dialog box, in the **Initial Value** field. |

| Symbol Type | Description | Procedure for Adding |
|---|---|---|
| Parameter | Parameters are data available inside and outside the Test Sequence block. | Using the Model Explorer, add a parameter in the workspace of the model containing the Test Sequence block. Then add the parameter name to the **Parameter** symbols. |
| Data Store Memory | Data Store Memory entries are available inside and outside the Test Sequence block. | Using the Model Explorer, add a Simulink.signal entry in the workspace of the model containing the Test Sequence block. Alternatively, add a Data Store Memory block to the model. Then add the data store memory name to the **Data Store Memory** symbols. |

## See Also

"Syntax for Test Sequences and Assessments" | "Debug a Test Sequence"

## Related Examples

- "Test Sequence Action and Transition Operations"
- "Generate Function-Based Test Signals"
- "Assess Simulation Using Logical Statements"

### Introduced in R2016a

# Test Sequence

Specify test steps, actions, and assessments in tabular format


## Description

Use this block to define a test sequence using a tabular series of steps. Like the Test Assessment block, the Test Sequence block uses MATLAB as the action language.

## Test Sequence Editor

### Default Configuration

Double-click the Test Sequence block to open the Test Sequence Editor, displaying the default test step layout.

| Step | Transition | Next Step |
|---|---|---|
| step_1 | 1. *true* | step_2 ▼ |
| step_2 | | |

You can undo and redo test sequence edits using the undo and redo buttons on the toolbar. The Test Sequence Editor offers many Simulink keyboard shortcuts, such as save, update diagram, and start simulation.

### Adding, Deleting, and Editing Test Steps

To add a test step, right-click a step in the editor and select **Add step before** or **Add step after**. Select **Add sub-step** to create test steps in a lower hierarchy level. Select **Delete step** to delete the selected step.

To cut or copy a test step, select the step and type **Ctrl+X** or **Ctrl+C**. To paste the test step, select another test step, type **Ctrl+V**, and select whether to paste before or after the step.

### Actions and Transitions

The step names are the first lines in the **Step** column. To enter new step names, overwrite the default names. You can undo and redo test sequence edits using the undo and redo buttons on the toolbar. The Test Sequence Editor offers common Simulink keyboard shortcuts, such as save, update diagram, and start simulation.

A test step consists of actions and transitions. Use test step actions to define assessments and signals. Use transitions to define conditions at which the test sequence exits the test step and enters another test step. For a When decomposition sequence, when statements accompany the test step name and define the active step.

Initialize the output signals in the first test step. Outputs are automatically initialized when you use a Test Sequence block in a test harness that compiles the main model.

## Test Sequence Hierarchy and Transitions

You can arrange test sequences in a hierarchy of parent steps and substeps. Substeps can activate only when the parent step is active. For each sequence level, you can define the transition type as a standard transition or a When decomposition.

### Standard Transition

In a standard transition, the default step is the first step listed in the sequence. The sequence progresses according to the transition conditions and next steps. To create a sequence using standard transitions:

- Add new steps to the sequence.
- Define outputs and assessments in the **Step** cell. For example, this code sets `on_off` to `false` and verifies that the `FanOn` signal is `true`.

  ```
  on_off = false;
  verify(FanOn == true);
  ```
- For each step that requires a transition, hover over the **Transition** cell and click **Add transition**. Define the step exit conditions in the transition. For example, this code transitions to another step after the current step has been active for `20` seconds.

```
after(20,sec)
```

- Choose the next test step in the **Next Step** cell.


## When Decomposition

In a **When decomposition** sequence, steps activate based on a signal condition defined on the same line as the test step name, preceded by the `when` operator. For example, a step named `OverSpeed2` activates when the signal `gear` is `2`:

```
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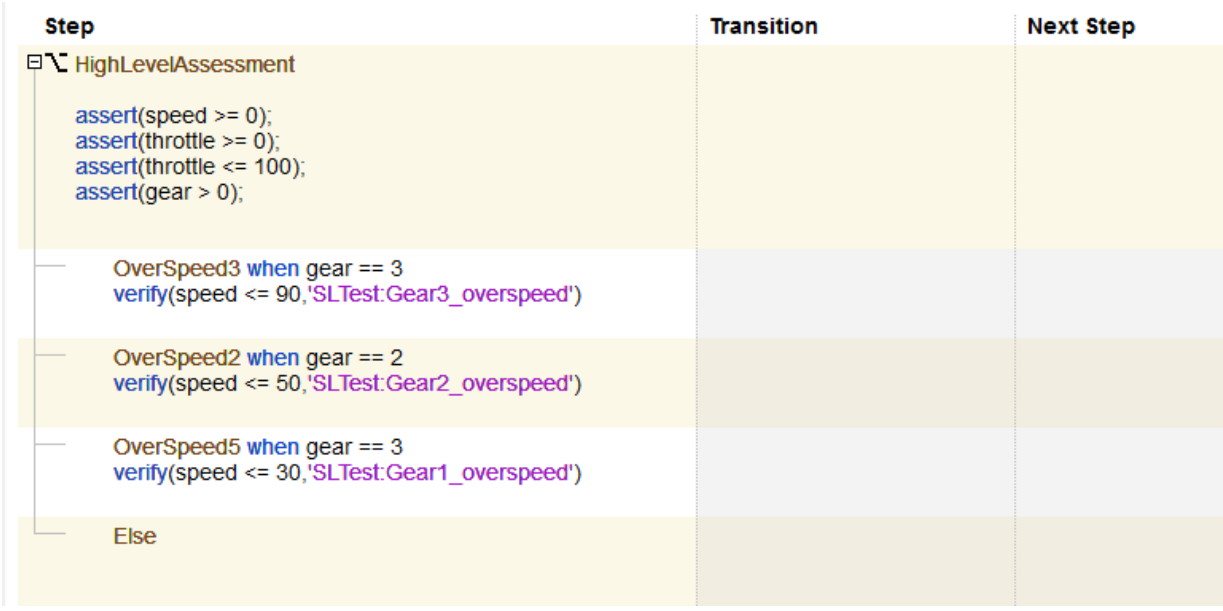
A **When decomposition** requires a parent step. To change to a **When decomposition** sequence, right-click the parent step and select **When decomposition**. The parent step displays the When decomposition icon ⌥. Add substeps to define the `when` conditions.

At each time step, the `when` statements evaluate from top to bottom, and the first step with a valid statement executes. The final step in a When decomposition cannot include a `when` condition. The final step handles situations in the simulation which do not match another `when` condition in the sequence. Conceptually, this is analogous to including an `Else` condition in an `if-then-else` construct.

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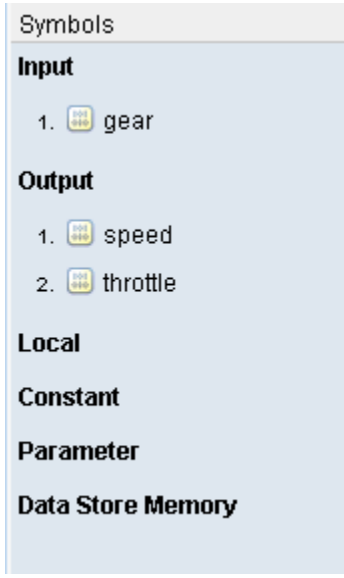


| Symbol Type | Description | Procedure for Adding |
|---|---|---|
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| Local | Local data entries are available inside the test sequence block in which they are defined. | Add a local variable in the sidebar and initialize the local variable in the first test step. |
| Constant | Constants are read-only data entries available inside the test sequence block in which they are defined. | Add a constant in the sidebar. Click **Edit** and enter the constant value in the dialog box, in the **Initial Value** field. |
| Parameter | Parameters are data available inside and outside the Test Sequence block. | Using the Model Explorer, add a parameter in the workspace of the model containing the Test Sequence block. Then add the |

| Symbol Type | Description | Procedure for Adding |
|---|---|---|
| | | parameter name to the **Parameter** symbols. |
| Data Store Memory | Data Store Memory entries are available inside and outside the Test Sequence block. | Using the Model Explorer, add a Simulink.signal entry in the workspace of the model containing the Test Sequence block. Alternatively, add a Data Store Memory block to the model. Then add the data store memory name to the **Data Store Memory** symbols. |

## See Also

"Syntax for Test Sequences and Assessments" | "Debug a Test Sequence"

## Related Examples

- "Test Sequence Action and Transition Operations"
- "Generate Function-Based Test Signals"
- "Assess Simulation Using Logical Statements"

### Introduced in R2015a