embarcadero®

Product Documentation

ER/Studio® Portal

User Guide
2nd Edition

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WELCOME TO ER/STUDIO PORTAL

ER/Studio Portal enables you to search for all kinds of data in your ER/Studio Repository database, including ER/Studio Data Architect and ER/Studio Business Architect diagrams, create reports, and then read the generated reports in an easy-to-read format.

In addition, application development teams can use the portal to see what types of data already exist in the company. This eliminates replicating new data or deviating from the standard format data types needed to be implemented in existing applications.

ER/Studio Portal enables you to communicate all the information you need and lets you view the data model diagram as well. You can search for and save frequently-used reports. You will always know where to get the up-to-date information you need.
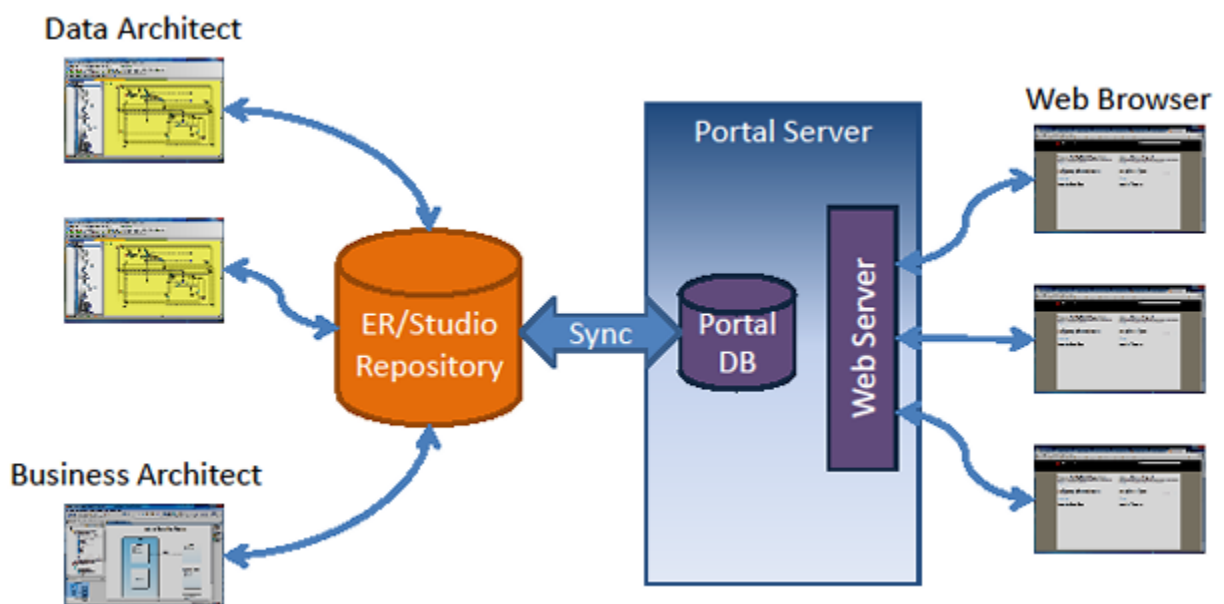
The following gives an overview of the different ways to search for information and the navigation path through new or existing reports.
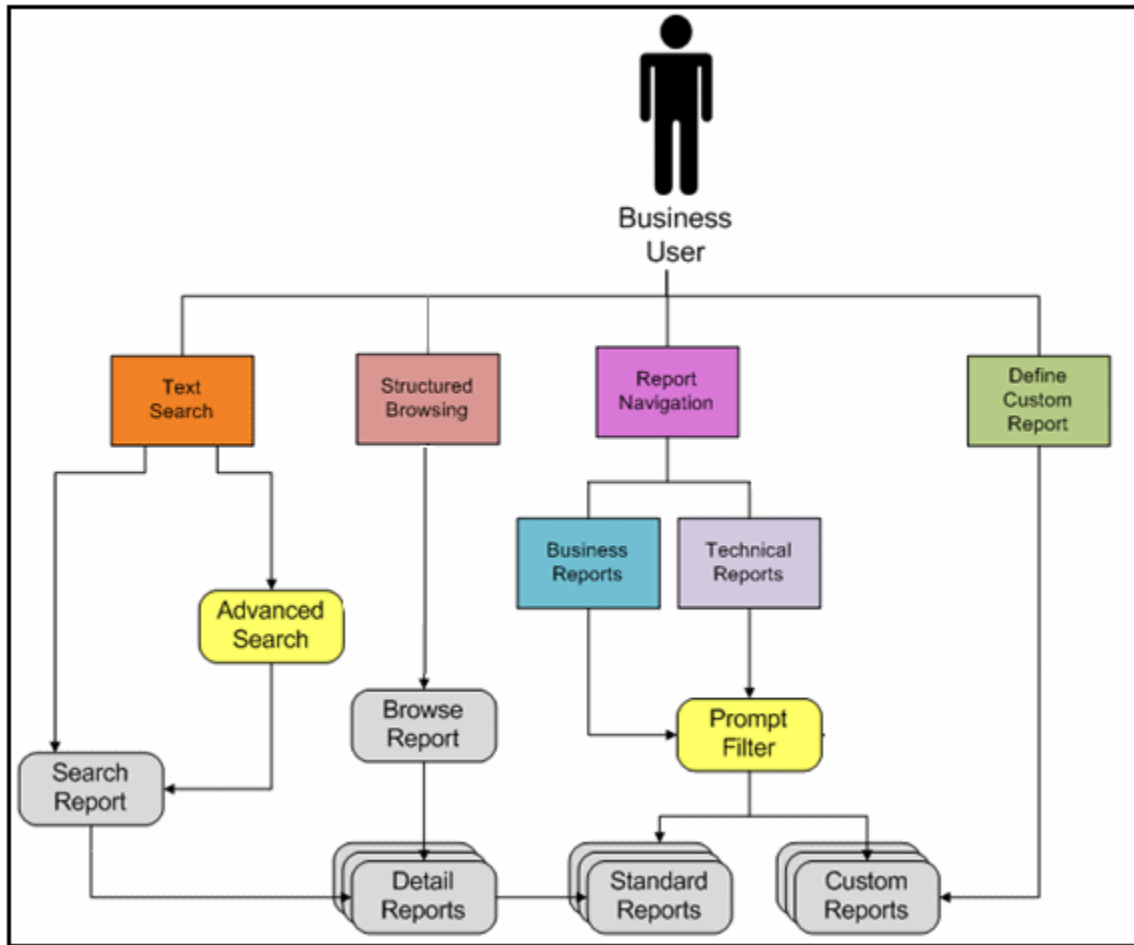
PRODUCT BENEFITS

ER/Studio Portal gives access to metadata information stored in ER/Studio Data Architect and ER/Studio Business Architect models. This browser-based solution allows you to search, browse, and report on ER/Studio Repository information. For example, a business analyst can look up a definition for a business term used in a report or can research data definitions related to a particular project or subject area.

ER/Studio Portal makes it inexpensive, easy, and expedient to access metadata information. With self-service reporting, authorized personnel can have real-time access to data metadata. ER/Studio Portal enables the organization to more effectively visualize, distribute, and communicate their data models and metadata.

Modeling teams of both large and small organizations can share the metadata across their companies. Business analysts, data executives, developers or data stewards no longer have to depend on the Data Modeler to provide access to, reports on, or updated spreadsheets of the latest metadata.

This Web interface:

- Enables you to distribute repository metadata enterprise-wide to developers, database administrators, business analysts, and data analysts.

- Has an easy-to-use console to manage connections and maintain access to portal actions and controls.

- Is easy to use and navigate, with extensive search capabilities.

- Can be customized and integrated into existing intranet portals.

- Eliminates the need for spreadsheets and other stand-alone documents.

- Has standardized HTML reporting of repository metadata.

- Has structured browsing and navigation of repository hierarchy.

- Allows for increased compliance with standards and regulations.

The portal has the following key features:

Feature	Description
Home Page	Interact with ER/Studio Portal through the Home Page. You can navigate to the Business and Technical reports, and create a custom report. You can also access favorite searches and reports to share with other Portal users or to email their results to users and non-users. For more information, see Using the Portal Tabs.
Search	Can search for text within the repository across object properties and object types. Search includes both simple and advanced searches. The simple search searches all text properties of all object types and all diagrams for a match on the search string you supply. The search text you provide is treated as one string by the search engine and is matched accordingly. For more information, see Searching the Reporting Database.
Advanced Search	The advanced search options allow you to refine your query with specific parameters. You can then save these queries to email, print, and share. For more information, see Using the Advanced Search.

Feature	Description
Explore	Browse the contents of the repository. A list of projects and the diagrams contained within each project folder of the repository are available. From this list, browse the contents of any diagram by selecting the diagram you want to navigate. When a diagram is selected, the Diagram Detail Report is displayed for that diagram. From that point, continue to browse the contents of the diagram by navigating the detailed report links. The structured browsing interface allows selection of models and submodels, in addition to diagrams, and provides corresponding detail reports. For more information, see Model Explorer.
Reports	Several standard reports are available that can be executed. Reports are grouped and organized into folders. These folders include: Business Reports and Technical Reports. The following standard reports are available: • Business Reports: Attribute Definitions, Business Rules, and Entity Definitions • Technical Reports: Column Data Lineage; Domain Bindings; Entity, Model, Submodel and Diagram Report; Entity Attachments; Reference Values; and Security Classifications. When choosing to run one of the standard reports, you are prompted to supply parameters that filter and format the results of the report. You can format the report output as HTML, PDF or XLS. By default, all standard reports search the entire reporting database. Alternatively, restrict the report contents by Project, Diagram, Model, Submodel, and Table/Entity. The prompts to filter the reports are interdependent, for example the Diagram filter is dependent on the Project filter value and the Model filter is dependent on the Diagram filter. You can save reports to run later and share them with other users. You can also print and email the reports. For more information, see Shared Reports
Customized Reports	You can create a report and customize the report based on the following criteria: content, format, sort, aggregation, and filter. The generated reports can be saved, shared, and rerun at a later date by you and other users. These are the same directories where standard reports are saved and can be added to by an administrator. The content of the Custom Reports is limited to the structured Business Views created using metadata. The Metadata module generates SQL based on Business Views you specified during development. You can modify the business views using the Pentaho Metadata software. For more information, see Creating a Custom Report.
Export, Print, and Email	Export, print, and email all standard and custom reports.
Labels, Comments, and Watches	Document your reports and communicate your ideas with other Portal users by using labels and comments. Then you can set a watch on the comments made on a report and receive an email whenever another user has added a comment to the watched report. For more information, see Documenting and Organizing Reports Using Comments and Labels.
Usage Reporting	See who is currently logged in to ER/Studio Portal, as well as a historical chart of Website usage. For more information, see Activity.

ABOUT THIS DOCUMENT

This guide focuses on the key features and capabilities of ER/Studio Portal.The table below describes the sections this guide is comprised of:

Section	Description
ER/Studio Portal Overview	Provides a basic overview of the available functions. A link to additional information is provided for each function.
Using ER/Studio Portal	Explains how to use the various dashboards to access and view metadata information stored in ER/Studio models.
Administrator's Reference	Discusses the responsibilities and functions that can only be performed by a system administrator.
Glossary	Defines words used in ER/Studio Portal and this documentation.

For more information, see the Embarcadero website at www.embarcadero.com.

ER/STUDIO PORTAL OVERVIEW

Architecture and Security, two key components of ER/Studio® Portal are covered in this section:

- [Architectural Overview](#)

- [Security Overview](#)

ARCHITECTURAL OVERVIEW

The ER/Studio Repository database is the only source of data for ER/Studio® Portal. A separate reporting database, created by the database Admin, is synchronized with the ER/Studio Repository. The synchronization is scheduled by the ER/Studio® Portal system administrator. For more information, see [Administrator's Reference](#).

The reporting database is optimized for quick and efficient reporting of business-related metadata. Access to the reporting database is provided by JNDI (Java Naming and Directory Interface) connections and allows access to SQL Server, and Oracle, DB2 (among others). All queries and reports are sourced from the Reporting database.

The reporting database contains properties for logical and physical model objects.

> **NOTE:** Initially, physical properties that are specific to a relational database platform and/or version will not be extracted from the ER/Studio Repository or transferred to the reporting database.

The following ER/Studio object types are synchronized between the two databases:

ER/Studio Business Architect Object	ER/Studio Data Architect Model Object	ER/Studio Data Architect Dictionary Object	ER/Studio Data Architect Data Lineage Object
Assignment	Attribute	Attachment Text List	Comment
Attributes	Comment	Attachment Type	Data Flow
Comment	Diagram	Bound Attachment	Data Lineage Column
Incoming/Outgoing Condition	Entity	Bound Domain	Data Lineage Component
Description	Entity Display	Bound Default	Data Lineage Component Display
Entity	Project	Bound Rule	Data Lineage Display
Event	Relationship	Bound Reference Value	Data Lineage Rule
Gateway	Relationship Display	Bound Security Property	Data Lineage Source
Group	Submodel and nested Submodel	Bound User Datatype	Data Lineage Table
Interaction	View	Comment	Data Lineage View
Link	View Column	Domain Dictionary	Data Movement Column Link
Message Flow	View Display	Default	Data Movement Model Link
Model		Dictionary	Data Movement Rule Link
Notes		Reference Value	Data Stream
Project		Reference Value Pair	Transformation Display
Property		Rule	Transformation Field
Process		Security Property	Transformation Object
Relationship		Security Text List	
Sequence Flow		Security Type	
Subject Area		User Datatype	
Task			
Trigger			
Usage (CRUD)			
Verb/Inverse Verb Phrase			
Workspace			

SECURITY OVERVIEW

The Portal authenticates users prior to running queries and reports. Each user must type in a user name and password that is assigned by the ER/Studio Repository administrator and stored in the ER/Studio Repository database. Authentication is performed against the user name and password.

> **NOTE:** The user of the portal does NOT have to be an ER/Studio Data Architect (ER/Studio DA) or ER/Studio Business Architect (ER/Studio BA) user. The licensing for the Portal is separate from that of ER/Studio DA and ER/Studio BA.

All authenticated users are granted access to the following tabs:

- Home
- Model Explorer
- Favorite Reports
- Favorite Searches
- My Reports
- Advanced Search

Security Components

The primary components of security in ER/Studio® Portal are users, groups, and permissions. Users and groups are not defined within ER/Studio® Portal itself, but within the ER/Studio Repository. Permissions are granted based on a role.

> **NOTE:** Permissions in ER/Studio® Portal are specified by role, not user.

Default Roles

Two default roles are provided initially in the ER/Studio Repository. These roles are granted permissions to access actions in ER/Studio® Portal.

Role	Definition
User	Users assigned to this role can execute Shared Custom Reports as well as Business and Technical Reports.
Super User	Users assigned to this role has the ability to run any reports or searches and can perform functions in the Administration console.

Action Security

After authenticated in the platform, each user is restricted to perform actions granted to the user's role, which must be explicitly granted by the Admin. Other users can be assigned to the role of Admin in ER/Studio® Portal at the Admin's discretion. A user with Admin permissions must first grant permission to other groups before the member users of those groups can execute actions.

Object Security

Each user is restricted to accessing the data related to the diagrams that they have access to in the ER/Studio Repository. Upon successful user authentication, the BI Platform runs a query against the ER/Studio Repository to determine the list of diagrams that the user has access to.

Portal Server to Repository Security

For repositories running on the Microsoft SQL Server platform, ER/Studio Portal offers the facility to enable encryption of all communications between the Portal Server and ER/Studio Repository and the ER/Studio Portal Solution and Reporting Repositories.

USING ER/STUDIO PORTAL

This chapter discusses how to share, browse, and report on the data contained in the ER/Studio Repository using the various Web pages, information panels, and wizards. The information is divided into the following topics:

- Starting ER/Studio Portal

- Setting Notification, Search Filter, and Search Results Preferences

- Using the Portal Tabs

- Searching the Reporting Database

STARTING ER/STUDIO PORTAL

Once the installation is complete, open a supported Web browser and browse to `http://<host>:<port>`, where `<host>` and `<port>` are the values you specified during ER/Studio Portal installation. The browser will show the portal Login page. Enter a valid login and password for the ER/Studio Repository as specified in the ER/Studio Portal installer or as provided to you by the ER/Studio Repository Administrator. Select the Remember me option on the login dialog and ER/Studio will auto complete the User Name and Password for you when you choose to log in.

If the Administrator enabled Lightweight Directory Access Protocol (LDAP) support during the installation, you will need to provide your domain name as part of your user name in the format of *domain name\username*. The login must be a user with the Super User role in the ER/Studio Repository to access the Admin functionality in the portal.

> **NOTE:** If, during the login process, an error message displays such as "Template could not be loaded...", the ER/Studio Portal server may need to be restarted. In this case, please contact the ER/Studio Portal Administrator.

SETTING NOTIFICATION, SEARCH FILTER, AND SEARCH RESULTS PREFERENCES

If you want to watch an object for new comments, you need to specify an email address to which the system will send an email to inform you of any new comments. Also, in preferences you can specify the default number of filters that can be active for a search.

1 Click **My Settings** at the top of the any Portal page, and then select **Preferences**.

2 On the **Preferences** page, click **Edit**.

3   *To specify where email notifications for watches you set up should be sent*, enter your email address in the **Notifications** area.

To specify the default number of filters, enter the number of filters in the **Search** area. You can click the colored circle to the right of the filter to turn on and off the filter limitation and display more or fewer filters as desired.

To specify the default number of results per page return for a search, enter the number of results in the **General** area.

4   Click **Apply Changes**.

USING THE PORTAL TABS

The Portal tabs provides access to various information panels. The information that appears depends on which tab or menu item you select.

Link	Information Panel
Home	Gives you access to four frequently used functions in ER/Studio Portal enabling you to browse, create custom reports, perform advanced searches and run shared reports. It also gives quick access to Favorite Searches and Favorite Reports. This is the default page that appears when you first start ER/Studio Portal.
Model Explorerr	Provides both a tree interface for structured browsing and detailed object pages for selected diagrams, models, submodels, data flows, and workspaces.
Favorite Reports	Provides access to both Shared and Custom reports that you have marked as favorites for enabling easier access to them later.
Favorite Searches	Provides access to Advanced Searches that you have marked as favorites for enabling easier access to them later.
My Reports	Shows a lists of reports that you have already run. You can save and delete these reports as you choose. For the administrator, these reports will also include synchronization activities completed.
Shared Reports	Gives you access to existing shared reports: Business and Technical. The Solution Browser, available via the Reports menu item, includes not only the "standard" reports provided by Embarcadero but also any custom reports that have been created for shared use.
Advanced Search	Provides access to the Advanced Search where you can specify several parameters upon which to base the search. For more information, see Using the Advanced Search.

Other Options

Help	Available in the My Settings menu. Click to display online Help.
Preferences	Available in the My Settings menu. Specify your email address and filter preferences. For more information, see <u>Setting Notification, Search Filter, and Search Results Preferences</u> .
<u>Activity</u>	Administrators Only. Available in the My Settings menu. This function is available through the My Settings menu. It displays three information panels displaying login activity, connection activity, and object history. Reports based on this information can be generated and viewed.
<u>Admin</u>	Administrators Only. Available in the My Settings menu. Administrators can manage licenses, permissions, data synchronization, schedules, and refresh the Portal settings on the Admin page.
Logout	Appears on the upper-right corner of the Web page. Click to logout.
Search	The simple and advanced search features also appear on the toolbar. For more information, see <u>Using the Simple Search</u> and <u>Using the Advanced Search.</u>

HOME

The Home dashboard gives you quick access to the major features available in ER/Studio Portal:

Feature	Description
Browse the ER/Studio Repository	You can explore diagrams, models, submodels, and objects of existing ER/Studio Data Architect projects and ER/Studio Business Architect workspaces. For more information, see <u>Model Explorer</u>.
Perform an Advanced Search	Search the ER/Studio Repository with this advanced search feature. Refine your search of the Repository using parameters such as modification date and object type, and various wildcard characters. For more information, see <u>Using the Advanced Search</u>.
<u>Favorite Searches</u>	Save search criteria in a named search that appears in the My Searches list. Saved searches can be shared and when shared will appear to other Portal users in the Shared Searches area. From here you can also email the search results or delete the search.
Create a Custom Report	Create and publish custom reports using a quick and easy wizard. For more information, see <u>Creating a Custom Report</u>.
Run a Shared Report	Displays the Solution Browser where you can run existing Business and Technical reports. Saved custom reports can also be run. For more information, see <u>Generating a Shared Report</u>.
<u>Favorite Reports</u>	Save report parameters in a named report that appears in the My Reports list. Saved reports can be shared and when shared will appear to other Portal users in the Shared Reports area. From here you can also email the reports or delete them.

MODEL EXPLORER

Browse the Repository using the Model Explorer which can be accessed by either clicking **Start Browsing** or by clicking the **Model Explorer** tab. The Model Explore provides a hierarchical-based navigation of the repository projects and workspaces. This hierarchy displays the project name or workspace name, diagram, model, submodel, data dictionary and data lineage of the report repository. As you click the links in the hierarchy, detailed object pages open. From the object pages you can then drill down into detailed object pages. The Portal keeps track of your drill-down navigation details and displays this information in the object page name as shown in the following.

From the navigation details displayed you can see that to arrive at the Employee entity, you first clicked the Adventure Works diagram then the Logical Model and finally the Employee entity, or if you found the object page through the Advanced Search, the breadcrumbs can show you the names of other object pages available in the hierarchy of the object found.

You can also view images of models, submodels, and data flows by hovering over their name in the Repository tree.

1   Click **the Model Explorer** tab.

The hierarchy of the Projects and Workspaces in the Report Repository open.

You can explore and view object pages for ER/Studio DA diagrams, models, submodels, and data lineage data flows, and transformations; and ER/Studio BA workspaces, business projects, business models, and business diagrams. In addition, you can also view an image of ER/Studio DA model, submodel or data flow, and ER/Studio BA diagrams. For ER/Studio DA images, you can then click an object in the image to view an object page of the selected object.

2   Expand the hierarchy to view the models and submodels within a project or workspace.

As you hover over the diagram name, diagram details are displayed. At the bottom of the diagram details example below, from left to right, the details indicate that in the selected diagram, there are three models, 18 submodels, and in the main logical model there are 10 entities, and 85 attributes.
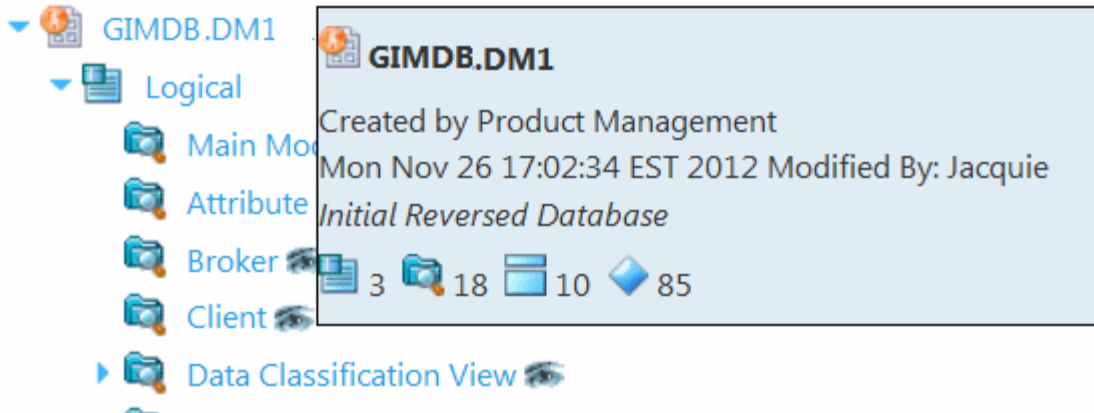
Hovering over the name of an object with an eye icon, such as a model or a submodel, displays a miniature picture of the object as shown in the following snapshot
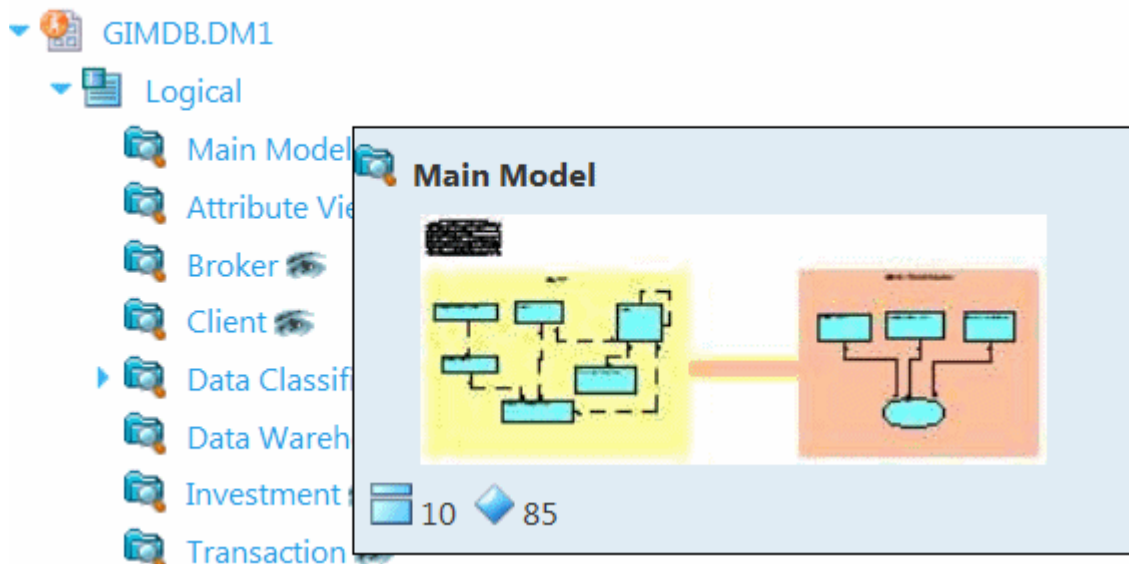
3   To see a list of all comments for an ER/Studio DA diagram, click the Comments icon to the right of the diagram name in the Repository Explorer. Comments can also be added and viewed at the workspace level for ER/Studio Business Architect.
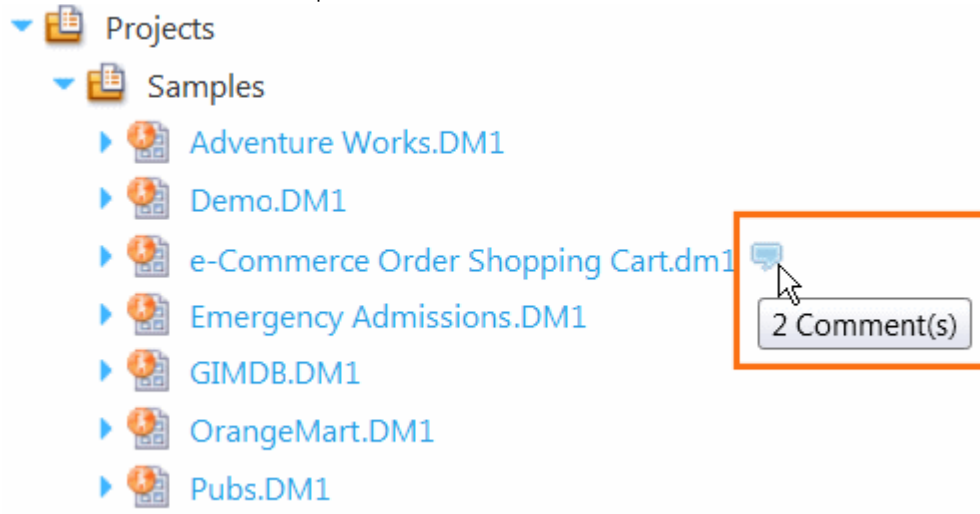
This section contains the following topics:

- ER/Studio Data Architect Object Pages

- ER/Studio Business Architect Object Pages

ER/STUDIO DATA ARCHITECT OBJECT PAGES

From the Model Explorer you can access visual representations of the model available and access the Diagram object page from which you can access many other object pages.

1   Click **the Model Explorer tab** to view the Repository hierarchy.

2   Expand the **Projects** hierarchy.

3   *To view details such as the number of models, submodels, entities, and attributes*, hover your mouse over the model or submodel name.

To view a small representation of the model or submodel, hover your mouse over the model or submodel name.

To view a larger representation of the model or submodel, click the view icon (eye) to the right of the model or submodel name. A visual representation of the model or submodel appears.

4   Zoom in to view the details on the diagram.

The zoom behavior is browser-specific. For example, in Internet Explorer, you can use `Ctrl` + the mouse wheel to zoom to an arbitrary level of detail.

From the Diagram object page you can drill down by expanding the various sections to access information and links to other object pages. You can follow the breadcrumbs at the top of each object page to see any object pages in the hierarchy. You can also comment on any of the object pages and label them. For more information, see Documenting and Organizing Reports Using Comments and Labels.

This section provides information about the available object pages in alphabetical order:

Attachment Object Page	Attachment Type Object Page	Attribute/Column Object Page
Bound Attachment Object Page	Bound Data Movement Rule Object Page	Bound Security Object Page
Data Lineage Column Object Page	Data Lineage Source/Target Object Page	Data Lineage Table Object Page
Data Movement Column Object Page	Data Movement Rule Object Page	Default Object Page
Diagram Object Page	Dictionary Object Page	Data Lineage Source/Target Object Page
Data Lineage Table Object Page	Data Movement Rule Object Page	Diagram Object Page
DL Transformation Object Page	Domain Object Page	Entity/Table Object Page
Key/Index Object Page	Lineage Data Flow Object Page	Lineage Data Stream Object Page
Model Object Page	Reference Value Object Page	Relationship Object Page
Security Property Object Page	Security Type Object Page	Submodel Object Page
User Datatype Object Page	View Object Page	View Column Object Page

ATTACHMENT OBJECT PAGE

Accessed from the Attachment Type Object Page, the Attribute/Column Object Page, the Bound Attachment Object Page, the Default Object Page, the Diagram Object Page, the Domain Object Page, the Entity/Table Object Page, the Model Object Page, the Reference Value Object Page, and the Submodel Object Page, this object page provides the following information:

- Drill down details:

    - *Diagram > Attachment*

    - *Diagram > Dictionary > Attachment Type > Attachment*

    - *Diagram > Dictionary > Default> Attachment*

    - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attachment*

    - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Attachment*

    - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Domain > Attachment*

    - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Reference Value > Attachments*

    - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Reference Value > Domain> Reference Value > Attachments*

    - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Submodel (> Submodel) > Attachment*

    - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Domain> Reference Value > Attachments*

    - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index > Reference Value > Domain> Reference Value > Attachments*

    - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index > Reference Value > Attachments*

    - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index> Submodel (> Submodel) > Attachment*

    - *Diagram > Lineage Data Flow > DL Transformation > Model > Submodel (> Submodel) > Attachment*

    - *Diagram > Lineage Data Flow > Entity/Table > Domain> Reference Value > Attachments*

    - *Diagram > Lineage Data Flow > Entity/Table > Key/Index > Attribute/Column > Reference Value > Attachments*

    - *Diagram > Lineage Data Flow > Entity/Table > Attachment*

    - *Diagram > Model > Entity/Table > Attachment*

    - *Diagram > Model > Entity/Table > Attribute/Column > Attachment*

    - *Diagram > Model > Entity/Table > Attribute/Column > Domain > Attachment*

    - *Diagram > Model > Entity/Table > Attribute/Column > Domain> Reference Value > Attachments*

    - *Diagram > Model > Entity/Table > Attribute/Column > Reference Value > Attachments*

    - *Diagram > Model > Entity/Table > Attribute/Column > Reference Value > Domain > Attachments*

- *Diagram > Model > Entity/Table > Attribute/Column > Submodel (> Submodel) > Attachment*

- *Diagram > Model > Entity/Table > Domain> Reference Value > Attachments*

- *Diagram > Model > Entity/Table > Key/Index > Attribute/Column > Reference Value > Attachments*

- *Diagram > Model > Entity/Table > Key/Index > Attribute/Column > Reference Value > Domain> Reference Value > Attachments*

- *Diagram > Model > Entity/Table > Key/Index > Submodel (> Submodel) > Attachment*

- *Diagram > Model > Submodel (> Submodel) > Attachment*

- *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attachment*

- *Diagram > Model > Submodel (> Submodel)> Entity/Table > Attribute/Column > Attachment*

- *Diagram > Model > Submodel (>Submodel)> Entity/Table > Attribute/Column > Domain > Attachment*

- *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Domain> Reference Value > Attachments*

- *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Reference Value > Attachments*

- *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Submodel (> Submodel) > Attachment*

- *Diagram > Model > Submodel (> Submodel) > Entity/Table > Key/Index > Attribute/Column > Reference Value > Attachments*

- *Diagram > Model > Submodel (> Submodel) > Entity/Table > Key/Index > Submodel (> Submodel) > Attachment*

- *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Reference Value > Domain> Reference Value > Attachments*

- *Diagram > Submodel (> Submodel) > Entity/Table > Domain> Reference Value > Attachments*

- *Diagram > Submodel (> Submodel) > Entity/Table > Key/Index > Attribute/Column > Reference Value > Domain> Reference Value > Attachments*

- General Properties

- Definition

- Attachment Bindings, links to object pages of the objects bound to this attachment

ATTACHMENT TYPE OBJECT PAGE

Accessed from the Attachment Type column in the Attachments section of objects bound to the attachment and the Dictionary Object Page, this object page provides the following information:

- Drill down details:

  - *Diagram > Dictionary > Attachment Type*

- Definition

- Attachment Bindings, links to object pages of the objects bound to this attachment

ATTRIBUTE/COLUMN OBJECT PAGE

Accessed from the [Entity/Table Object Page](#), [DL Transformation Object Page](#) and the [Key/Index Object Page](#), this object page provides the following information:

- Drill down details:

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index*

  - *Diagram > Lineage Data Flow > Entity/Table > Key/Index > Attribute/Column*

  - *Diagram > Model > Entity/Table > Key/Index > Attribute/Column*

  - *Diagram > Model > Entity/Table > Attribute/Column*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column*

  - *Diagram > Submodel (> Submodel) > Entity/Table > Key/Index > Attribute/Column*

- General Properties, links to [Domain Object Page](#)

- Definition

- Notes

- Reference Values, links to [Reference Value Object Page](#)

- Attachments, links to [Attachment Object Page](#)

- Security Properties, links to the [Security Property Object Page](#), the [Bound Security Object Page](#), and the [Security Type Object Page](#)

- Where Used, links to

- Submodels, links to [Submodel Object Page](#) and an image of the submodel

BOUND ATTACHMENT OBJECT PAGE

Accessed from the Current value column in the Attachment Bindings section of the [Attachment Object Page](#), this object page provides the following information:

- Drill down details:

  - *Diagram > Attachment > Bound Attachment*

  - *Diagram > Dictionary > Attachment Type > Attachment > Bound Attachment*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Attachment > Bound Attachment*

  - *Diagram > Model > Entity/Table > Attribute/Column > Attachment > Bound Attachment*

  - *Diagram > Submodel > Entity/Table > Attribute/Column > Attachment > Bound Attachment*

  - *Diagram > Submodel > Submodel > Entity/Table > Attribute/Column > Attachment > Bound Attachment*

- General Properties

- Attachment, links to Attachment Object Page

- Bound Object, links to the object page of the object to which the attachment is bound.

BOUND DATA MOVEMENT RULE OBJECT PAGE

Access from the Advanced Search, this object page provides the following information

- Description

- Notes

- Properties

BOUND SECURITY OBJECT PAGE

Accessed from the Attribute/Column Object Page, the Model Object Page, the Security Property Object Page and the Submodel Object Page, this object page provides the following information:

- Drill down details:

  - Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Security Property > Bound Security

  - Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Submodel (> Submodel) > Bound Security

  - Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index> Submodel (> Submodel) > Bound Security

  - Diagram > Lineage Data Flow > DL Transformation > Model > Bound Security

  - Diagram > Lineage Data Flow > DL Transformation > Model > Security Property > Bound Security

  - Diagram > Lineage Data Flow > DL Transformation > Model > Submodel (> Submodel)

  - Diagram > Model > Bound Security

  - Diagram > Model > Entity/Table > Attribute/Column > Security Property > Bound Security

  - Diagram > Model > Entity/Table > Attribute/Column > Submodel (> Submodel) > Bound Security

  - Diagram > Model > Entity/Table > Key/Index > Submodel (> Submodel) > Bound Security

  - Diagram > Model > Security Property > Bound Security

  - Diagram > Model > Submodel (> Submodel) > Bound Security

  - Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Bound Security

  - Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Security Property > Bound Security

  - Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Submodel (> Submodel) > Bound Security

  - Diagram > Model > Submodel (> Submodel) > Entity/Table > Key/Index > Submodel (> Submodel) > Bound Security

- General Properties, links to the Security Property Object Page and to the object page of the object to which this security is bound.

DATA LINEAGE COLUMN OBJECT PAGE

Accessed from the Advanced Search, this object page is associated with the Data Lineage Table Object Page and provides the following information:

- Description

- Notes

- Properties

DATA LINEAGE SOURCE/TARGET OBJECT PAGE

Accessed from the [Diagram Object Page](#) and the [DL Transformation Object Page](#), this object page provides the following information:

- Drill down details:

  - *Diagram > Data Lineage Source/Target*

  - *Diagram > Lineage Data Flow > DL Transformation > Data Lineage Source/Target*

- Description

- Notes

- Properties

DATA LINEAGE TABLE OBJECT PAGE

Accessed from the [DL Transformation Object Page](#) and the [Lineage Data Flow Object Page](#), and associated with the [Data Lineage Source/Target Object Page](#), this object page provides the following information:

- Drill down details:

  - *Diagram > Lineage Data Flow > Data Lineage Table*

  - *Diagram > Lineage Data Flow > DL Transformation > Data Lineage Table*

- Description

- Notes

- Properties

DATA MOVEMENT COLUMN OBJECT PAGE

Accessed from the Advanced Search, this object page provides the following information:

- Description

- Notes

- Properties

DATA MOVEMENT RULE OBJECT PAGE

Accessed from the [Diagram Object Page](#) and the [DL Transformation Object Page](#), this object page provides the following information:

- Drill down details:

  - *Diagram > Data Movement Rule*

  - *Diagram > Lineage Data Flow > DL Transformation > Data Movement Rule*

- Definition

- Notes

- Properties

DEFAULT OBJECT PAGE

Accessed from the Advanced Search and associated with the Dictionary Object Page, this object page provides the following information:

- General Properties

- Attachments, links to Attachment Object Page

- Binding Information, links to the object to which this security property is bound

- Data Lineage, links to Data Movement Rule Object Page, Lineage Data Flow Object Page, and Data Lineage Source/Target Object Page

DIAGRAM OBJECT PAGE

Accessed from the Model Explorer, this object page provides the following information:

- General Properties

- Definition

- Data Model, links to Model Object Page

- Data Lineage, links to Data Movement Rule Object Page, Lineage Data Flow Object Page, and Data Lineage Source/Target Object Page

- Attachments, links to Attachment Object Page

DICTIONARY OBJECT PAGE

Accessed from the Model Explorer, from the Attachment Type column in the Attachments section of objects bound to the dictionary, and associated with the Diagram Object Page, this object page provides the following information:

- Drill down details:

  - *Model Explorer > Diagram > Dictionary*

  - *...|Attachments > Attachment Type*

- Description

- Notes

- Properties

DL Transformation OBJECT PAGE

Accessed from the Lineage Data Flow Object Page, this object page provides the following information:

- Drill down details:

    - *Diagram > Lineage Data Flow > DL Transformation*

- General Properties

- Definition

- Inputs, links to Attribute/Column Object Page, Entity/Table Object Page, and Model Object Page

- Outputs, links to Attribute/Column Object Page, Data Lineage Table Object Page and Data Lineage Source/Target Object Page

- Data Movement Rules, links to Data Movement Rule Object Page

- Parent Objects, links to Entity/Table Object Page

- Child Objects, links to Data Lineage Table Object Page

- Attachments, links to Attachment Object Page

DOMAIN OBJECT PAGE

Accessed from the Advanced Search, the Attribute/Column Object Page, the Entity/Table Object Page and the Reference Value Object Page, and associated with the Dictionary Object Page, this object page provides the following information:

- Drill down details:

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Domain*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Reference Value > Domain*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Domain*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index > Reference Value > Domain*

  - *Diagram > Lineage Data Flow > Entity/Table > Key/Index > Attribute/Column > Reference Value > Domain*

  - *Diagram > Lineage Data Flow > Entity/Table > Domain*

  - *Diagram > Model > Entity/Table > Attribute/Column > Domain*

  - *Diagram > Model > Entity/Table > Attribute/Column > Reference Value > Domain*

  - *Diagram > Model > Entity/Table > Domain*

  - *Diagram > Model > Entity/Table > Key/Index > Attribute/Column > Reference Value > Domain*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Domain*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Reference Value > Domain*

  - *Diagram > Submodel (> Submodel) > Entity/Table > Key/Index > Attribute/Column > Reference Value > Domain*

  - *Diagram > Submodel (> Submodel) > Entity/Table > Domain*

- General Properties

- Definition

- Notes

- Reference Values, links to <u>Reference Value Object Page</u>

- Attachments, links to <u>Attachment Object Page</u>

- Bound Attributes, links to the <u>Attribute/Column Object Page</u> and the <u>Entity/Table Object Page</u>

ENTITY/TABLE OBJECT PAGE

Accessed from the <u>DL Transformation Object Page</u>, the <u>Lineage Data Flow Object Page</u>,the <u>Model Object Page</u>, and the <u>Submodel Object Page</u>, this object page provides the following information:

- Drill down details:

  - *Diagram > Lineage Data Flow > Entity/Table*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Submodel > Entity/Table*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index> Submodel (> Submodel) > Entity/Table*

  - *Diagram > Lineage Data Flow > DL Transformation > Model > Submodel (> Submodel) > Entity/Table*

  - *Diagram > Model > Entity/Table*

  - *Diagram > Model > Entity/Table > Attribute/Column > Submodel (> Submodel) > Entity/Table*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Submodel (> Submodel) > Entity/Table*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Key/Index > Submodel (> Submodel) > Entity/Table*

  - *Diagram > Model > Entity/Table > Key/Index > Submodel (> Submodel) > Entity/Table*

- General Properties

- Definition

- Notes

- Attributes/Columns, links to Attribute/Column Object Page and to the Domain Object Page

- Keys/Indexes, links to Key/Index Object Page

- Attachments, links to Attachment Object Page

- Security Properties, links to the Security Property Object Page, the Bound Security Object Page, and the Security Type Object Page

- DDL

- Submodel, links to Submodel Object Page

KEY/INDEX OBJECT PAGE

Accessed from the Entity/Table Object Page, this object page provides the following information:

- Drill down details:

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index*

  - *Diagram > Lineage Data Flow > Entity/Table > Key/Index*

  - *Diagram > Model > Entity/Table > Key/Index*

  - *Diagram > Submodel (> Submodel) > Entity/Table > Key/Index*

- General Properties

- Key Attributes/Index Columns, links to <u>Attribute/Column Object Page</u>

- Submodels, links to <u>Submodel Object Page</u> and an image of the submodel

LINEAGE DATA FLOW OBJECT PAGE

Accessed from the Model Explorer and the <u>Diagram Object Page</u>, this object page provides the following information:

- Drill down details:

  - *Model Explorer > Diagram > Lineage Data Flow*

  - *Diagram > Lineage Data Flow*

- General Properties

- Transformations, links to <u>DL Transformation Object Page</u>

- Components, links to object pages of source objects such as <u>Entity/Table Object Page</u> and <u>Data Lineage Table Object Page</u>

LINEAGE DATA STREAM OBJECT PAGE

Accessed from the Advanced Search and associated with the <u>Lineage Data Flow Object Page</u>, this object page provides the following information:

- Description

- Notes

- Properties

MODEL OBJECT PAGE

Accessed directly the Model Explorer, the <u>Diagram Object Page</u>, and the <u>DL Transformation Object Page</u>, and provides the following information:

- Drill down details:

  - *Diagram > Lineage Data Flow > DL Transformation > Model*

  - *Diagram > Model*

- General Properties

- Submodels, links to Submodel Object Page and an image of the submodel

- Entities/Tables, links to Entity/Table Object Page

- Relationships, links to parent and child entities Entity/Table Object Page and associated with the Relationship Object Page

- Views, links to View Object Page

- Attachments, links to Attachment Object Page

- Security Properties, links to the Security Property Object Page, the Bound Security Object Page, and the Security Type Object Page

REFERENCE VALUE OBJECT PAGE

Accessed from Advanced Search, the Domain Object Page and associated with the Dictionary Object Page, this object page provides the following information

- Drill down details:

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Reference Value*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Reference Value > Domain> Reference Value*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Domain> Reference Value*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index > Reference Value > Domain> Reference Value*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index > Reference Value*

  - *Diagram > Lineage Data Flow > Entity/Table > Domain> Reference Value*

  - *Diagram > Lineage Data Flow > Entity/Table > Key/Index > Attribute/Column > Reference Value*

  - *Diagram > Model > Entity/Table > Attribute/Column > Reference Value*

  - *Diagram > Model > Entity/Table > Attribute/Column > Domain> Reference Value*

  - *Diagram > Model > Entity/Table > Attribute/Column > Reference Value > Domain*

  - *Diagram > Model > Entity/Table > Domain> Reference Value*

  - *Diagram > Model > Entity/Table > Key/Index > Attribute/Column > Reference Value*

  - *Diagram > Model > Entity/Table > Key/Index > Attribute/Column > Reference Value > Domain> Reference Value*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Domain> Reference Value*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Reference Value*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Key/Index > Attribute/Column > Reference Value*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Reference Value > Domain> Reference Value*

  - *Diagram > Submodel (> Submodel) > Entity/Table > Domain> Reference Value*

  - *Diagram > Submodel (> Submodel) > Entity/Table > Key/Index > Attribute/Column > Reference Value > Domain> Reference Value*

- General Properties

- Definition

- Values

- Attachments, links to [Attachment Object Page](#)

- Binding Information, links to the object pages of objects bound to this reference value, such as the Domain Object Page.

RELATIONSHIP OBJECT PAGE

Accessed from the Advanced Search and associated with the Model Object Page, this object page provides the following information:

- Description

- Notes

- Properties

SECURITY PROPERTY OBJECT PAGE

Accessed from the Attribute/Column Object Page. the Bound Security Object Page, the Model Object Page, and the Submodel Object Page, this object page provides the following information:

- Drill down details:

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Security Property*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Submodel (> Submodel) > Security Property*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index> Submodel (> Submodel) > Security Property*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Security Type > Security Property*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Security Type > Security Property*

  - *Diagram > Lineage Data Flow > DL Transformation > Model > Security Property*

  - *Diagram > Lineage Data Flow > DL Transformation > Model > Submodel (> Submodel) > Security Property*

  - *Diagram > Lineage Data Flow > DL Transformation > Model > Security Type > Security Property*

  - *Diagram > Lineage Data Flow > Entity/Table > Security Type > Security Property*

  - *Diagram > Model > Entity/Table > Attribute/Column > Security Property*

  - *Diagram > Model > Entity/Table > Attribute/Column > Security Type > Security Property*

  - *Diagram > Model > Entity/Table > Attribute/Column > Submodel (> Submodel) > Security Property*

  - *Diagram > Model > Entity/Table > Key/Index > Submodel (> Submodel) > Security Property*

  - *Diagram > Model > Entity/Table > Security Type > Security Property*

  - *Diagram > Model > Security Property*

  - *Diagram > Model > Security Type > Security Property*

  - *Diagram > Model > Submodel (> Submodel) > Security Property*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Security Property*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Submodel (> Submodel) > Security Property*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Key/Index > Submodel (> Submodel) > Security Property*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Security Type > Security Property*

- General Properties

- Definition

- Values

- Binding Information, links to object pages of objects bound to this security property and to the [Bound Security Object Page](#).

SECURITY TYPE OBJECT PAGE

    Accessed from the [Attribute/Column Object Page](#), the [Dictionary Object Page](#), the [Entity/Table Object Page](#), the [Model Object Page](#), and the [Submodel Object Page](#), this object page provides the following information:

- Drill down details:

  - Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Security Type

  - Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Submodel (> Submodel) > Security Type

  - Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index> Submodel (> Submodel) > Security Type

  - Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Security Type

  - Diagram > Lineage Data Flow > DL Transformation > Model > Security Type

  - Diagram > Lineage Data Flow > DL Transformation > Model > Submodel (> Submodel) > Security Type

  - Diagram > Lineage Data Flow > Entity/Table > Security Type

  - Diagram > Model > Entity/Table > Attribute/Column > Security Type

  - Diagram > Model > Entity/Table > Attribute/Column > Submodel (> Submodel) > Security Type

  - Diagram > Model > Entity/Table > Key/Index > Submodel (> Submodel) > Security Type

  - Diagram > Model > Entity/Table > Security Type

  - Diagram > Model > Security Type

  - Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Security Type

  - Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Security Type > Security Property

  - Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Submodel (> Submodel) > Security Type

  - Diagram > Model > Submodel (> Submodel) > Entity/Table > Key/Index > Submodel (> Submodel) > Security Type

  - Diagram > Model > Submodel (> Submodel) > Entity/Table > Security Type

  - Diagram > Model > Submodel (> Submodel) > Security Type

- Definition

- Data Security Properties, links to Security Property Object Page

SUBMODEL OBJECT PAGE

Accessed from the Model Explorer, the Attribute/Column Object Page, the Diagram Object Page, the Key/Index Object Page, the Model Object Page and the Submodel Object Page, this object page provides the following information:

- Drill down details:

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Submodel (> Submodel)*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index> Submodel (> Submodel)*

  - *Diagram > Lineage Data Flow > DL Transformation > Model > Submodel (> Submodel)*

  - *Diagram > Model > Entity/Table > Attribute/Column > Submodel (> Submodel)*

  - *Diagram > Model > Entity/Table > Key/Index > Submodel (> Submodel)*

  - *Diagram > Model > Submodel (> Submodel)*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Submodel (> Submodel)*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Key/Index > Submodel (> Submodel)*

- General Properties

- Definition

- Entities, links to Entity/Table Object Page

- Relationships, links to parent and child entities and the Entity/Table Object Page

- Views, links to View Object Page

- Attachments, links to Attachment Object Page

- Security Properties, links to the Security Property Object Page, the Bound Security Object Page, and the Security Type Object Page

USER DATATYPE OBJECT PAGE

Accessed from the Advanced Search and associated with the Dictionary Object Page, this object page provides the following information:

- Description

- Notes

- Properties

VIEW OBJECT PAGE

Accessed from the Model Object Page and Submodel Object Page. this object page provides the following information:

- Drill down details:

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Attribute/Column > Submodel > View*

  - *Diagram > Lineage Data Flow > DL Transformation > Entity/Table > Key/Index> Submodel (> Submodel) > View*

  - *Diagram > Lineage Data Flow > DL Transformation > Model > View*

  - *Diagram > Lineage Data Flow > DL Transformation > Model > Submodel (> Submodel) > View*

  - *Diagram > Model > Entity/Table > Attribute/Column > Submodel (> Submodel) > View*

  - *Diagram > Model > Entity/Table > Key/Index > Submodel (> Submodel) > View*

  - *Diagram > Model > Submodel (> Submodel) > View*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Attribute/Column > Submodel (> Submodel) > View*

  - *Diagram > Model > Submodel (> Submodel) > Entity/Table > Key/Index > Submodel (> Submodel) > View*

  - *Diagram > Model > View*

- General Properties

- Definition

- Notes

- View Columns, links to View Column Object Page

- Attachments, links to Attachment Object Page

- Security Properties, links to the Security Property Object Page, the Bound Security Object Page, and the Security Type Object Page

- DDL

- Submodels, links to Submodel Object Page and an image of the submodel

VIEW COLUMN OBJECT PAGE

Accessed from the View Object Page, this object page provides the following information:

- Drill down details:

- General Properties

- Submodels, links to Submodel Object Page and an image of the submodel

- Attachments, links to Attachment Object Page

- Security Properties, links to the Security Property Object Page, the Bound Security Object Page, and the Security Type Object Page

ER/STUDIO BUSINESS ARCHITECT OBJECT PAGES

From the Model Explorer you can the workspace and project.

1   Click **the Model Explorer tab** to view the Repository hierarchy.

2   Expand the **Workspaces** hierarchy.

3   Click the name of a **Workspace** or a **Project** in the workspace.

From the BM_Workspace object page you can drill down by expanding the various sections to access information and links to other object pages.

You can follow the breadcrumbs at the top of each object page to see any object pages in the hierarchy.

You can comment on any of the object pages and label them. For more information, see Documenting and Organizing Reports Using Comments and Labels.

> **TIP:**   You can also access these object pages through the Advanced Search function, by selecting the Object Type and then scrolling through the search results to find the object you're looking for, or narrow down the search by entering search criteria in the Search Text field.

This section provides information about the available Business Model object pages in alphabetical order:

BM_Annotation Object Page	BM_Assignment Object Page	BM_Association Object Page
BM_BusinessAttribute Object Page	BM_BusinessElement Object Page	BM_BusinessEntity Object Page
BM_BusinessUnit Object Page	BM_DataElement Object Page	BM_DataObject Object Page
BM_DataSource Object Page	BM_DataStore Object Page	BM_Diagram Object Page
BM_Domain Object Page	BM_Event Object Page	BM_Gateway Object Page
BM_Group Object Page	BM_Lane Object Page	BM_Link Object Page
BM_Model Object Page	BM_Message_Flow Object Page	BM_PDiagram Object Page
BM_Pool Object Page	BM_Process Object Page	BM_Project Object Page
BM_Property Object Page	BM_PProperty Object Page	BM_ReferenceColumn Object Page
BM_ReferenceEntity Object Page	BM_Relationship Object Page	BM_Rule
BM_Sequence_Flow Object Page	BM_Steward Object Page	BM_SubjectArea Object Page
BM_Task Object Page	BM_Trigger Object Page	BM_Usage Object Page

BM_Workspace Object Page

BM_ANNOTATION OBJECT PAGE

For Process-type model, accessed from the BM_Process Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Annotation*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Annotation*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Annotation*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Annotation*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Annotation*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Process > BM_Annotation*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Annotation*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Annotation*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_Annotation*

- Description

- Notes

- Categories

- Link's Source, links to a object page of the object which is the source of the link

- Usage (CRUD), links to BM_Usage Object Page

BM_ASSIGNMENT OBJECT PAGE

Accessed from the BM_Event Object Page, the BM_Gateway Object Page, the BM_Process Object Page, the BM_Property Object Page, and the BM_Task Object Page, this object page provides the following information:

- Drill down details

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_Assignment*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_Task > BM_Assignment*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Processs > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Assignment*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Task > BM_Assignment*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Assignment*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Task > BM_Assignment*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Assignment*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Assignment*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Task > BM_Assignment*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Assignment*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Assignment*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Task > BM_Assignment*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Assignment*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Assignment*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Task*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Task > BM_Assignment*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Task*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Task > BM_Assignment*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Assignment*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Assignment*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Process > BM_Assignment*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Processs > BM_Task*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Processs > BM_Task > BM_Assignment*

- *BM_Workspace > BM_Project > BM_Model > BM_Processs > BM_Task*

- *BM_Workspace > BM_Project > BM_Model > BM_Processs > BM_Task > BM_Assignment*

- *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Assignment*

- *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Task*

- *M_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Task > BM_Assignment*

- Description

- Notes

- Assign To Property, links to BM_Property Object Page

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to BM_Usage Object Page

BM_ASSOCIATION OBJECT PAGE

Accessed from the BM_Event Object Page, BM_Gateway Object Page, BM_Model Object Page, BM_Process Object Page, and the BM_Task Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Processs > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Processs > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Processs > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association*

- General Properties, links to object pages of the source and target objects such as the BM_DataObject Object Page and the BM_Message_Flow Object Page

- Description

- Notes

- Categories

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to BM_Usage Object Page

BM_BUSINESSATTRIBUTE OBJECT PAGE

Accessed from the BM_BusinessEntity Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_BusinessEntity > BM_BusinessAttribute*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_BusinessAttribute*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_BusinessEntity > BM_BusinessAttribute*

  -

- Description

- Notes

- Properties

BM_BUSINESSELEMENT OBJECT PAGE

Accessed from the Advanced Search, this object page provides the following information:

- Breadcrumbs: *BM_Workspace > BM_BusinessElement*

- Description

- Notes

- Properties

BM_BUSINESSENTITY OBJECT PAGE

Accessed from the BM_BusinessEntity Object Page BM_Diagram Object Page, BM_Link Object Page, and BM_Model Object Page this object page provides the following information:

- Breadcrumb example:

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity*

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_BusinessEntity*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_BusinessEntity*

- Description

- Notes

- Child Entities, links to <u>BM_BusinessEntity Object Page</u>

- Attribute(s), links to <u>BM_BusinessAttribute Object Page</u>

- Link's Source, links to <u>BM_Link Object Page</u>

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to <u>BM_Usage Object Page</u>

BM_BUSINESSUNIT OBJECT PAGE

Accessed from the Advanced Search, this object page is associated with a particular workspace and provides the following information:

- Breadcrumbs: Links to <u>BM_Workspace Object Page</u>

- Description

- Notes

- Properties

BM_DATAELEMENT OBJECT PAGE

Accessed from the Advanced Search, this object page is associated with a particular workspace and provides the following information:

- Breadcrumbs: Links to <u>BM_DataStore Object Page</u>

- Description

- Notes

- Properties

BM_DATAOBJECT OBJECT PAGE

Accessed from the <u>BM_Association Object Page</u> and the <u>BM_Process Object Page</u>, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_DataObject*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association >
    BM_DataObject*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association >
    BM_Model > BM_Process > BM_DataObject*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity >
    BM_Link > BM_Model > BM_Process > BM_DataObject*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event >
    BM_Association > BM_DataObject*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event >
    BM_Association > BM_Model > BM_Process > BM_DataObject*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway >
    BM_Association > BM_DataObject*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway >
    BM_Association > BM_Model > BM_Process > BM_DataObject*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association
    > BM_DataObject*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association
    > BM_Model > BM_Process > BM_DataObject*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process >
    BM_DataObject*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process >
    BM_DataObject*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity >
    BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_DataObject*

- Description

- Notes

- Categories

- Properties

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to <u>BM_Usage Object Page</u>

BM _DataSource Object Page

Accessed from the Advanced Search and associated with the BM_Workspace Object Page, this object page provides the following information:

- Description

- Notes

- Properties

BM_DataStore Object Page

Accessed from the Target Object section of object pages such as BM_Usage Object Page, the breadcrumbs of the BM_DataElement Object Page and associated with the BM_Workspace Object Page, this object page provides the following information:

- Description

- Notes

- Properties

BM_Diagram Object Page

Accessed from the BM_Model Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Diagram*

- Description

- Notes

- Subject Area Display(s), links to Shared Reports

- Entity Display(s), links to BM_BusinessEntity Object Page

- Group Display(s), links to BM_Group Object Page

BM_Domain Object Page

Accessed from the Workspace, this object page provides the following information:

- Description

- Notes

- Properties

BM_Event Object Page

Accessed from the BM_PDiagram Object Page and the BM_Process Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Event*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Event*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Event*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Event*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Event*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Event*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Event*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Process > BM_Event*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Event*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Event*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_Event*

- Description

- Notes

- Categories

- Trigger, links to BM_Trigger Object Page

- Assignments, links to BM_Assignment Object Page

- Incoming Sequence Flows, links to BM_Sequence_Flow Object Page

- Outgoing Sequence Flows, links to BM_Sequence_Flow Object Page

- Incoming Message Flows, links to BM_Message_Flow Object Page

- Outgoing Message Flows, links to BM_Message_Flow Object Page

- Associations, links to BM_Association Object Page

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage, links to BM_Usage Object Page

BM_GATEWAY OBJECT PAGE

Accessed from the BM_Process Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Gateway*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Gateway*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Gateway*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Gateway*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Process > BM_Gateway*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Gateway*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Gateway*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_Gateway*

- Description

- Notes

- Outgoing Condition

- Incoming Condition

- Categories

- Assignments, links to BM_Assignment Object Page

- Incoming Sequence Flows, links to BM_Sequence_Flow Object Page and the object page of the source object of the sequence flow such as the BM_Task Object Page

- Outgoing Sequence Flows, links to the BM_Sequence_Flow Object Page and the object page of the target object of the sequence flow such as the BM_Task Object Page

- Incoming Message Flows, links to BM_Sequence_Flow Object Page

- Outgoing Message Flows, links to BM_Message_Flow Object Page

- Associations, links to BM_Association Object Page

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link

- Usage, links to BM_Usage Object Page

BM_GROUP OBJECT PAGE

Accessed from the BM_Diagram Object Page and the BM_Model Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM _Group*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM _Group*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM _Group*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Diagram > BM _Group*

- Description

- Notes

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to object pages of the link's target objects

- Usage (CRUD), links to BM_Usage Object Page

BM_LANE OBJECT PAGE

Accessed from the BM_Pool Object Page of a Process Model, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Pool > BM_Lane*

  - *BM_Workspace > BM_Project > BM_Model > BM_BusinessEntity > BM_Link > BM_Pool > BM_Lane*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Pool > BM_Lane*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_BusinessEntity > BM_Link > BM_Pool > BM_Lane*

  -

- Description

- Notes

- Categories

- Children Lanes

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to object pages of the link's target objects

- Usage (CRUD), links to BM_Usage Object Page

BM_LINK OBJECT PAGE

Accessed from the Advanced Search, BM_BusinessEntity Object Page and associated with the BM_Steward Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_BusinessEntity > BM_Link*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_BusinessEntity > BM_Link*

- Description

- Notes

- Verb Phrase

- Inverse Verb Phrase

- Link Source Object, links to the object page the source of the link, such as the BM_Model Object Page and the BM_Steward Object Page

- Link Target Objects, links to the object page of the target of the link, such as the BM_BusinessEntity Object Page and the BM _Pool Object Page

BM_MODEL OBJECT PAGE

Accessed from the Model Explorer, BM_Association Object Page, BM_BusinessEntity Object Page, and the BM_Project Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model*

- General Properties

- Description

- Notes

- Child Models, links to [BM_Model Object Page](#)

- Diagrams, for conceptual models, links to [BM_Diagram Object Page](#)

- Process Diagrams, for process models, links to [BM_PDiagram Object Page](#) and the [BM_Process Object Page](#)

- Subject Areas

- Entities, links to [BM_BusinessEntity Object Page](#)

- Relationships, links to [BM_Relationship Object Page](#)

- Interactions

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to [BM_Usage Object Page](#)

- Groups, links to [BM_Group Object Page](#)

BM_MESSAGE_FLOW OBJECT PAGE

    Accessed from the [BM_Event Object Page](#) the [BM_Gateway Object Page](#), and the [BM_Task Object Page](#), this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Processs > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Processs > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Processs > BM_Task > BM_Message_Flow*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Task > BM_Message_Flow*

- General Properties, links to the object page of the source object, such as the BM_Gateway Object Page and the object page of the target object, such as the BM_Task Object Page

- Description

- Notes

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to BM_Usage Object Page

BM_PDIAGRAM OBJECT PAGE

Accessed from the BM_Model Object Page of a Process Model, this object page provides the following information:

- Drill down details:

  - BM_Workspace > BM_Project > BM_Model > BM_PDiagram

  - BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram

- General Properties

- Description

- Notes

- Process Display, links to BM_Process Object Page

- Task Display, links to BM_Task Object Page

- Event Display, links to BM_Event Object Page

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to BM_Usage Object Page

BM _POOL OBJECT PAGE

Accessed from the Advanced Search, the BM_Process Object Page and the BM_Link Object Page of a Process Model, this object page provides the following information:

- Drill down details:

  - BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Pool

  - BM_Workspace > BM_Project > BM_Model > BM_BusinessEntity > BM_Link > BM_Pool

  - BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Pool

  - BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_BusinessEntity > BM_Link > BM_Pool

- Description

- Notes

- Lanes, links to BM_Lane Object Page

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to BM_Usage Object Page

BM _PROCESS OBJECT PAGE

Accessed from the BM_Model Object Page and the BM_PDiagram Object Page of a
Process Model, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Process*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association >
    BM_Model > BM_Process*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity >
    BM_Link > BM_Model > BM_Process*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event >
    BM_Association > BM_Model > BM_Process*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway >
    BM_Association > BM_Model > BM_Process*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association
    > BM_Model > BM_Process*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity >
    BM_Link > BM_Model > BM_PDiagram > BM_Process*

- General Properties, links to BM_ Pool Object Page

- Description

- Notes

- Sub Process, links to BM_ Process Object Page

- Tasks, links to BM_Task Object Page

- Events, links to BM_Event Object Page

- Gateways, links to BM_Gateway Object Page

- Parameters

- Properties, links to BM_PProperty Object Page

- Assignments, links to BM_Assignment Object Page

- Annotations, links to BM_Annotation Object Page

- Data Objects, links to BM_PDiagram Object Page

BM_PROJECT OBJECT PAGE

    Accessed from the Model Explorer, the BM_Project Object Page, and the BM_Workspace Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project*

  - *BM_Workspace > BM_Project > BM_Project*

- Description

- Notes

- Projects, links to the BM_Project Object Page

- Models, links to the BM_Model Object Page

- Relationships, links to BM_Relationship Object Page

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to BM_Usage Object Page

BM_PROPERTY OBJECT PAGE

    Accessed from the Model Explorer, the BM_Assignment Object Page and the BM_Process Object Page, this object page provides the following information:

- Drill down details:

    - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Assignment > BM_Property*

    - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Property*

    - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Property*

    - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Property*

    - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Property*

    - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Property*

    - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Process > BM_Property*

    - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Property*

    - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Property*

    - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_Property*

- Description

- Notes

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to [BM_Usage Object Page](#)

BM _PPROPERTY OBJECT PAGE

Accessed from the [BM_PDiagram Object Page](#) and the [BM_Process Object Page](#), this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_PProperty*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_PProperty*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_PProperty*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_PProperty*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_PProperty*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Process > BM_PProperty*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_PProperty*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_PProperty*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_PProperty*

- Description

- Notes

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to BM_Usage Object Page

BM_REFERENCECOLUMN OBJECT PAGE

Accessed from the Model Explorer and associated with the BM_ReferenceEntity Object Page, this object page provides the following information:

- Description

- Notes

- Properties

BM_REFERENCEENTITY OBJECT PAGE

Accessed from the Model Explorer and associated with the BM_Workspace Object Page, this object page provides the following information:

- Description

- Notes

- Properties

BM_RELATIONSHIP OBJECT PAGE

Accessed from the [BM_Model Object Page](#) and the [BM_Project Object Page](#) of a conceptual-type model this object page provides the following information:

- Drill down details:

    - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Relationship*

    - *BM_Workspace > BM_Project > BM_Project > BM_Relationship*

    - *BM_Workspace > BM_Project > BM_Relationship*

- Description

- Notes

- Verb Phrase

- Inverse Verb Phrase

- Link's Source, links to the object page of the object which is the source of the link, such as the [BM_BusinessEntity Object Page](#)

- Link's Target, links to the object page of the object which is the target of the link, such as the [BM_BusinessEntity Object Page](#)

- Usage (CRUD), links to [BM_Usage Object Page](#)

BM_RULE

Accessed from the Advanced Search and associated with a [BM_Workspace Object Page](#), this object page provides the following information:

- Desription

- Notes

- Properties

BM_SEQUENCE_FLOW OBJECT PAGE

Accessed from the [BM_Event Object Page](#), [BM_Gateway Object Page](#). and the [BM_Task Object Page](#), this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Processs > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Processs > BM_Task > BM_Sequence_Flow*

  - *BM_Workspace > BM_Project > BM_Model > BM_Processs > BM_Task > BM_Sequence_Flow*

- General Properties links to object pages of source and target objects such as [BM_Task Object Page](#) and [BM_Gateway Object Page](#)

- Description

- Notes

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to BM_Usage Object Page

BM_STEWARD OBJECT PAGE

Accessed from the Advanced Search, and associated with the BM_Link Object Page and the BM_Workspace Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Steward*

  - *BM_Workspace > BM_Project > BM_Model > BM_BusinessEntity > BM_Link > BM_Steward*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Steward*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_BusinessEntity > BM_Link > BM_Steward*

- Description

- Notes

- Properties

BM_SUBJECTAREA OBJECT PAGE

Accessed from the BM_Diagram Object Page and the BM_Model Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model BM_SubjectArea (> BM_SubjectArea)*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_SubjectArea (> BM_SubjectArea)*

- Description

- Notes

- Child Subject Area(s), links to the BM_SubjectArea Object Page

- Mapping, links to the object page of the target of this subject area, such as the BM_BusinessEntity Object Page

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to BM_Usage Object Page

BM_TASK OBJECT PAGE

Accessed from BM_Gateway Object Page, the BM_PDiagram Object Page, the BM_Process Object Page, and the BM_Sequence_Flow Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Processs > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Processs > BM_Task*

  - *BM_Workspace > BM_Project > BM_Model > BM_Processs > BM_Task*

- Description

- Notes

- Properties

- Assignments, links to BM_Assignment Object Page

- Incoming Sequence Flows, links to BM_Sequence_Flow Object Page

- Outgoing Sequence Flow, links to BM_Sequence_Flow Object Page

- Incoming Message Flows, links to BM_Message_Flow Object Page

- Outgoing Message Flows, links to BM_Message_Flow Object Page

- Associations, links to BM_Association Object Page

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to BM_Usage Object Page

BM_TRIGGER OBJECT PAGE

Accessed from the BM_Event Object Page, this object page provides the following information:

- Drill down details:

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Trigger*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Event > BM_Trigger*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Event > BM_Trigger*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Event > BM_Trigger*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Event > BM_Trigger*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Event > BM_Trigger*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Event > BM_Trigger*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Event > BM_Trigger*

  - *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Process > BM_Event > BM_Trigger*

  - *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Event > BM_Trigger*

  - *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Event > BM_Trigger*

  - *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_Event > BM_Trigger*

- Description

- Notes

- Link's Source, links to the object page of the object which is the source of the link

- Link's Target, links to the object page of the object which is the target of the link.

- Usage (CRUD), links to BM_Usage Object Page

BM_USAGE OBJECT PAGE

Accessed from the BM_Annotation Object Page, the BM_DataObject Object Page, the BM_Event Object Page, the BM_Gateway Object Page, the BM_Lane Object Page, the BM_Message_Flow Object Page, the BM_Model Object Page, the BM_PDiagram Object Page, the BM_Pool Object Page, the BM_Project Object Page, the BM_Relationship Object Page, the BM_Sequence_Flow Object Page, the BM_SubjectArea Object Page, the BM_Task Object Page and the BM_Trigger Object Page this object page provides the following information:

- Drill down details:

  - BM_Workspace > BM_Project > BM_Model > BM_BusinessEntity > BM_Link > BM_Pool > BM _Usage

  - BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Event > BM_Trigger > BM_Usage

  - BM_Workspace > BM_Project > BM _Usage

  - BM_Workspace > BM_Project > BM_Model > BM _Usage

  - BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_BusinessEntity > BM_Link > BM_Pool > BM _Usage

  - BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM _Usage

  - BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM _Usage

  - BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Event > BM_Trigger > BM_Usage

  - BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Process > BM_Event > BM_Trigger > BM_Usages

  - BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_PDiagram > BM_Processs > BM_Task > BM _Usage

  - BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Event > BM_Trigger > BM_Usage

  - BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_BusinessEntity > BM_Link > BM_Model > BM_Process > BM_Task > BM _Usage

- *BM_Workspace > BM_Project > BM_Model > BM_Diagram > BM_SubjectArea (> BM_SubjectArea) > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Event > BM_Trigger > BM_Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Process > BM_Task > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_PDiagram > BM_Task > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Annotation > BM_Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Event > BM_Trigger > BM_Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Association > BM_Model > BM_Process > BM_Task > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_DataObject > BM_Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Event > BM_Trigger > BM_Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Association > BM_Model > BM_Process > BM_Task > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Message_Flow > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Sequence_Flow > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Trigger > BM _UsageBM_Workspace > BM_Project > BM_Model > BM_Process > BM_Event > BM_Trigger > BM_Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Event > BM_Trigger > BM_Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Association > BM_Model > BM_Process > BM_Task > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Message_Flow > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Sequence_Flow > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Gateway > BM_Task > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Pool > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Pool > BM_Lane > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Process > BM_Event > BM_Trigger > BM_Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Process > BM_Task > BM_Association > BM_Model > BM_Processs > BM_Task > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_Processs > BM_Task > BM _Usage*

- *BM_Workspace > BM_Project > BM_Model > BM_SubjectArea (> BM_SubjectArea) > BM _Usage*

- *BM_Workspace > BM_Project > BM_Project > BM _Usage*

- *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Event > BM_Trigger > BM_Usage*

- *BM_Workspace > BM_Project > BM_Project > BM_Model > BM_Process > BM_Task > BM _Usage*

- *BM_Workspace > BM_Project > BM_Relationship > BM _Usage*

- General Properties

- Description

- Notes

- Source Object, links to object pages of source objects such as [BM_Steward Object Page](#)

- Target Object, links to object pages of target objects such as [BM_DataStore Object Page](#)

BM_WORKSPACE OBJECT PAGE

Accessed from the Model Explorer, this object page provides the following information:

- Description

- Notes

- Projects, links to [BM_Project Object Page](#)

SHARED REPORTS

The Shared Reports tab displays the Solution Browser. The two sections of the Solution Browser are:

- **Shared Reports** which displays pre-prepared reports installed in the portal as well as any reports created for public use. For more information, see Generating a Shared Report.

- **User Actions** which displays user-created reports and their execution status. *My Reports* shows details of reports that have been scheduled for execution in the background or have already been executed, and *New Report*, which lets you create custom reports. For more information, see Viewing the Status of Reports Running in the Background and Creating a Custom Report.

You can change the appearance of this page by clicking on the View options located in the upper right corner of the Solution Browser:

Command	Description
Icons	Displays an icon and the action or report name for each Solution.
List	Displays an icon, the action or report name, and a description of each Solution. It also displays and Author column showing who created the Solution item.
Default	Displays the same information as the List command.

This topic also covers Favorite Reports and Documenting and Organizing Reports Using Comments and Labels.

GENERATING A SHARED REPORT

The Shared Reports section of the Solution Browser displays standard reports available with the portal as well as any reports created for public use. You can also access these reports by clicking *Run a Shared Report* on the Home page.

Generating a Shared Report

1   Click **Run a Shared Report** on the Dashboard.

2   Click **Business Reports** or **Technical Reports** located in the **Shared Reports** section of the Solution Browser.

3   Click the name of the report you want to run.

> **TIP:** See the notes that follow for descriptions of standard reports.

> **NOTE:** Although other users can see all shared reports, they can only successfully run reports that access objects that their user permissions grant them access to. Attempting to run a shared report that accesses objects to which permission has not been granted will result in an error.

4   On the new Report page that opens, choose the parameters for the report.

5   From the **View as** list, choose the desired type of output for the report results: html, pdf or xls.

6 *To run the report immediately*, click **Run**.

To run the report in the background, click **Run in Background**. You can view the status of reports run in the background by clicking **Reports** dashboard **> User Actions** section **> My Reports** option.

To add the report with your chosen parameters to the Report Favorites section of the Home page, click **Add to Favorites**. In the **Add to Favorites** dialog that opens you have an opportunity to share the report and make it public.

To send the report results to an email address, click **Send by email**. In the **Email Report** dialog that opens, enter the email of the intended recipient.

The following describes the standard types of shared reports and their uses:

Business Reports: There are three available business reports for logical models:

- **Attribute Definitions**: The detail of this report list attribute names and definitions. This report is also accessible from the Logical Model and Logical Submodel reports. If the report is run from the Shared Reports section, you are prompted to supply values for Project, Diagram, Model, and Submodel. Your selection filters the results of the report. If the report is run from any of the detail reports, the values will come from that report.

- **Business Rules**: The detail of this report lists the business rules. This report is also accessible from the Logical Model, Logical Submodel, and shared business reports. If the report is run from the shared reports, you are prompted to supply values for Project, Diagram, Model, and Submodel within the project. Your selection filters the results of the report. If the report is run from any of the detail reports, the values will come from that report.

- **Entity Definitions**: This report lists the entity names and their definitions. The details of this report list entity names and their definitions. This report is also accessible from the Logical Model, Logical Submodel and shared business reports. If the report is run from the shared reports, you are prompted to supply values for Project, Diagram, Model, and Submodel within the project. Your selections will filter the results of the report. Otherwise, if the report is run from any of the detail reports, the values will come from that report.

Technical Reports: When you click the Technical Reports link in the Shared Reports section of the Solution Browser, five different reports are available:

- **Column Data Lineage**: Displays the data lineage for physical columns or logical attributes within a specified entity. This report is part of the technical reports. The details of this report list the column data lineage properties. This report is accessible from the Table Detail report and technical reports. If the report is run from the technical reports, you are prompted to supply values for Project, Diagram, Model, Submodel, and Entity within the project. Your selection filters the results of the report. Otherwise, if the report is run from any of the detail reports, the values will come from that report.

- **Domain Bindings**: Displays information about the attributes or columns bound to a domain within a specified data dictionary. The details of this report list the objects to which the domain is bound. This report is also accessible from the Domain detail report. If the report is run from any of the detail reports, the values will come from that report.

- **Entity, Submodel, Model, Diagram**: Displays the names of the model, submodels, and entities in a specified diagram. The details of this report list information about all of the entities in a selected project, diagram, model, and submodel in the diagram. You are prompted to supply values for Project and Diagrams within that project. Your selection filters the results of the report. Otherwise, if the report is run from any of the detail reports, the values will come from that report.You can navigate to the Models, Submodels, and Entities of that diagram by clicking on the model name, submodel name, or entity.

- **Entity Attachments**: Reports on the attachments bound to a specified entity. The details of this report list the attachments bound to an object. This report is accessible from the Diagram, Logical Model, Logical Submodel, Physical Model, Physical Submodel, Entity, Table, Logical View, Physical View, and Domain reports, and technical reports. If the report is run from the technical reports, you are prompted to supply values for Project, Diagram, Model, Submodel, and Entity within the project. Your selection filters the results of the report. Otherwise, if the report is run from any of the detail reports, the values will come from that report. This report will contain a grouping by attachment type, with attachment types sorted alphabetically.

- **Reference Values**: Displays the reference values for attributes within a specified entity. The details of this report list the reference values of attributes. If the report is run from the technical reports, you are prompted to supply values for Project, Diagram, Model, Submodel, and Entity within the project. Your selection filters the results of the report. Otherwise, if the report is run from any of the detail reports, the values will come from that report.

- **Security Classifications**: Displays information about the security classifications of a specified entity. The details of this report list the security attachments bound to objects. This report is accessible from the Diagram, Logical Model, Logical Submodel, Physical Model, Physical Submodel, Entity, Table, Logical View, Physical View, and Domain reports, and technical reports. If the report is run from the Technical Reports, you are prompted to supply values for Project, Diagram, Model, Submodel, and Entity within the project. Your selection filters the results of the report. Otherwise, if the report is run from any of the detail reports, the values will come from that report.

VIEWING THE STATUS OF REPORTS RUNNING IN THE BACKGROUND

The My Reports command displays the collection of reports you have submitted to run in the background on the server.

To gain access to these reports:

1   Click the **My Reports** tab.

The report is divided into three sections:

Waiting: These are the reports that you have submitted to run in background on the server. The table shows the following data:

- Name of the report
- Date and time the report is scheduled to be run

- Size of the report shown in kilobytes
- Type of report: The completed report can be displayed in either application or PDF
- Action for each report: Cancel

Complete: The reports that have already run.

- Name of the report run
- Date and time the report was run
- Size of the report shown in kilobytes
- Type of report: The completed report can be displayed in either text or HTML
- Action for each report: **View** or **Delete**

Subscriptions: You can cancel ones that have not run yet, and you can view or delete ones that have.

There is also a **Clear Toolbar Alert** command. If you run reports in the background, when the report is finished, a **New Files** message appears. This option removes that message.

CREATING A CUSTOM REPORT

The **Create a Report** command displays a wizard which steps you through the creation of a business model report. Custom reports are created using the Web Adhoc Query and Reporting tool (WAQR), a report generation tool designed to help you easily generate adhoc reports using the BI platform.

1   Click **Create a Report** on the Home tab.

2   Follow the four steps required to create a new report.

- [Step One:](#): Select a Business Model and apply a template
- [Step Two](#): Select elements to include in the report
- [Step Three](#): Set constraints, formatting, calculations, and column sorting options
- [Step Four](#): Configure report appearance settings

Step One: Select a Business Model

1   First, select a business model. Notice that as you select a model, the associated details and descriptions appear in the panels to the right of the Business Models list

2   Select a template for your report. A thumbnail of the selected template appears when you select a template type. The template provides pre-selected values for the report header/footer content and colors, page header/footer content and colors, and header/footer font name, size, text color and alignment.

Step Two: Make Selections

1 Click **Next** to advance to Step Two. The Available Items for the Business Model you selected are listed. You can then use the available items to add data to your report.

2 To add an item to one of the Groups, Details, or Filters lists, begin by clicking on any of the available items shown. If you want to select more than one item, hold down the Ctrl-key while clicking on the items.

3 Then click on one of the arrow buttons next to the Groups, Details, and Filters lists, or drag and drop the item onto the desired list. When you have moved an item, that item appears italicized in the Available Items list boxes.

> NOTE: In the Groups section, if you want to place items in Levels 2-5, you must drag and drop items into those levels. If you select an item and click the right arrow, all items are placed in Level 1.

- Reorder items in a list by selecting the desired item, and clicking the up or down arrows. You can also drag and drop to reorder items in the list. Use drag and drop if you want to move items between the Groups, Details, and Filters lists.
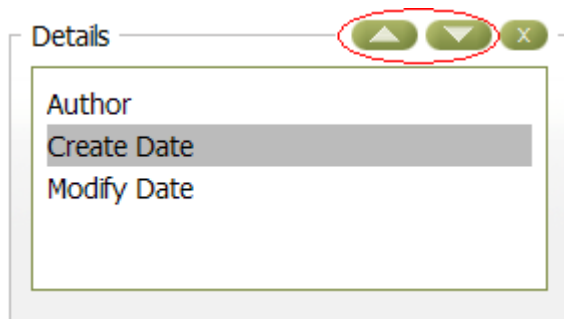
- Delete an item by selecting it and then clicking .

- Select the items you want to include in the Group selections. You can have up to five levels. The group selection determines how the data is grouped. In the following example Level 1 is *Role Name* and Level 2 is *Datatype*.

- The Details selections determine what data is to be generated in each column for the report. In the following example, the Company, Project Name, Create Date, and Modify Date items were selected.

Company	Project Name	Create Date	Modify Date
Embarcadero Technologies	Back Office	5/23/2008 12:29:18 PM	5/23/2008 12:29:39 PM
Embarcadero Technologies	Back Office	5/23/2008 12:32:45 PM	5/23/2008 12:33:09 PM
Embarcadero Technologies	Back Office	5/23/2008 12:35:36 PM	5/23/2008 12:37:32 PM
Embarcadero Technologies	Data Warehouse	5/23/2008 12:25:19 PM	5/23/2008 12:27:51 PM
Embarcadero Technologies	Investments	10/18/2005 12:17:56 PM	5/23/2008 9:59:03 AM
Embarcadero Technologies, Inc.	Back Office	5/23/2008 12:23:56 PM	5/23/2008 12:31:24 PM
Embarcadero Technologies, Inc.	Work In Progress	5/23/2008 12:24:33 PM	5/23/2008 12:30:46 PM

NOTE: The only requirement for a valid report is to have at least one column in the Details list. When you add a column to the details list, the Go, Save, and Save As buttons become enabled.

NOTE: You can preview your report as you create it. From the **Preview As** drop-down box, select the type you want the report displayed in (HTML, PDF, Excel, and CSV). When you have selected the **Preview As** type, click **Go** and the report preview appears.

- Filters provide a mechanism for identifying columns that you can apply constraints to, but that do not appear in the report. A constraint limits the set of values returned for the constrained column. You can apply constraints to filters in the next step.

Step Three: Customize Selections

In Step Three you can set constraints, formatting, calculations, and column sorting options. You can also customize the appearance of your selections. Your selected items are shown on the left side of the page.

1 Click **Next** to advance to Step three.

2 Do the following to set constraints for each data item to filter what information appears in the report.

- Select the data item in the Filters box

- Click **Add a Constraint**

- Select the constraint you want to set from the drop-down list: exactly matches, contains, ends with, begins with, or does not contain.

- Enter the information that determines the constraint.
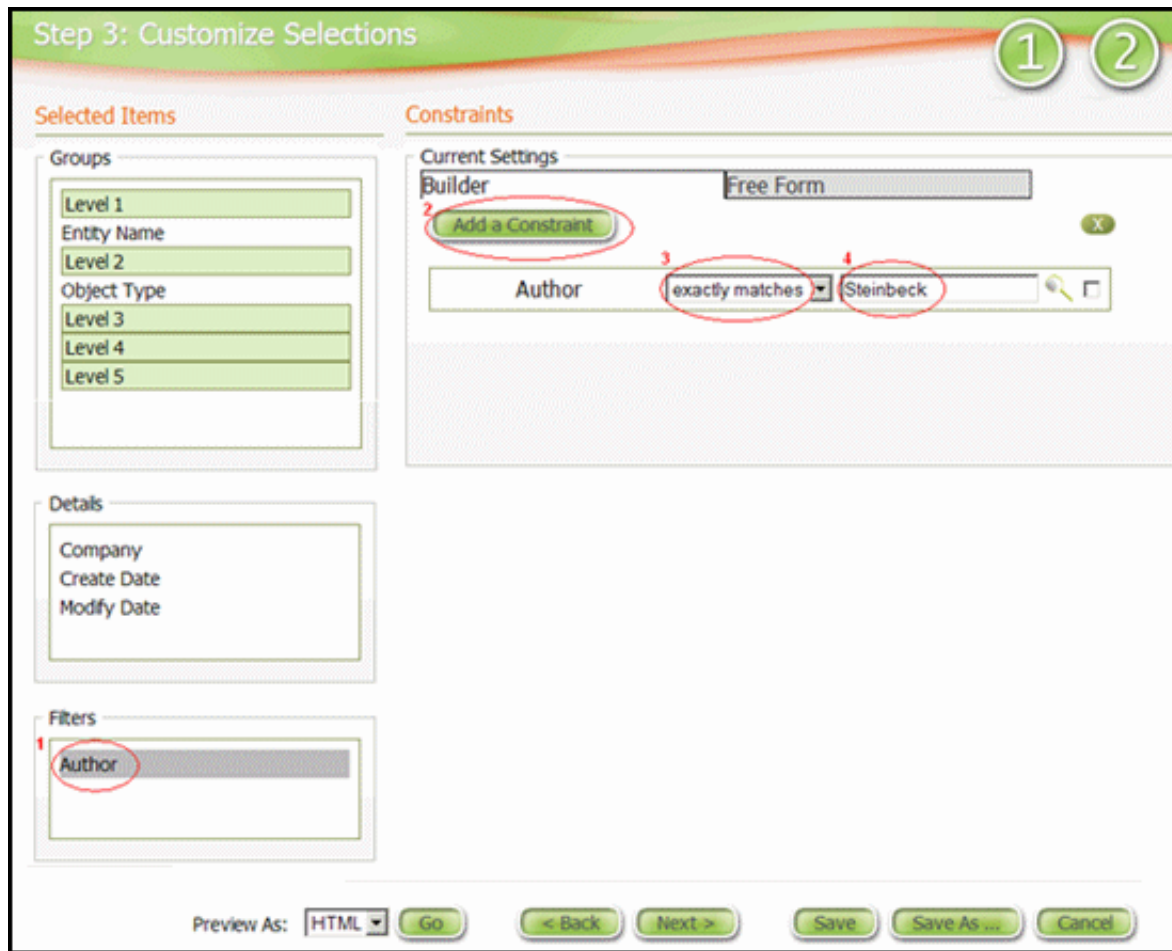
3   In the Groups section you can customize how you want each level to appear in the report. Click on a level, for example Level 1, and General options for customizing these levels appears.

 • Enter a level name in the text box.

 • In the Options section, you can choose to repeat the group header and/or show the group summary. If you select the Show Group Summary option, you can enter a label in the Group Summary Label text box.

 • You can format where if you want group page breaks, and if so, where you want those breaks placed.

4   You can set formatting and calculations for selected items.

 • Select an item in the Groups box. In the following example "Entity Key" is selected.

 • In the Formatting panels, if your item is a number, select the numeric format you want to use.

 • Select Alignment for where you want the Level name (if previously entered), and Level item placed on the report.
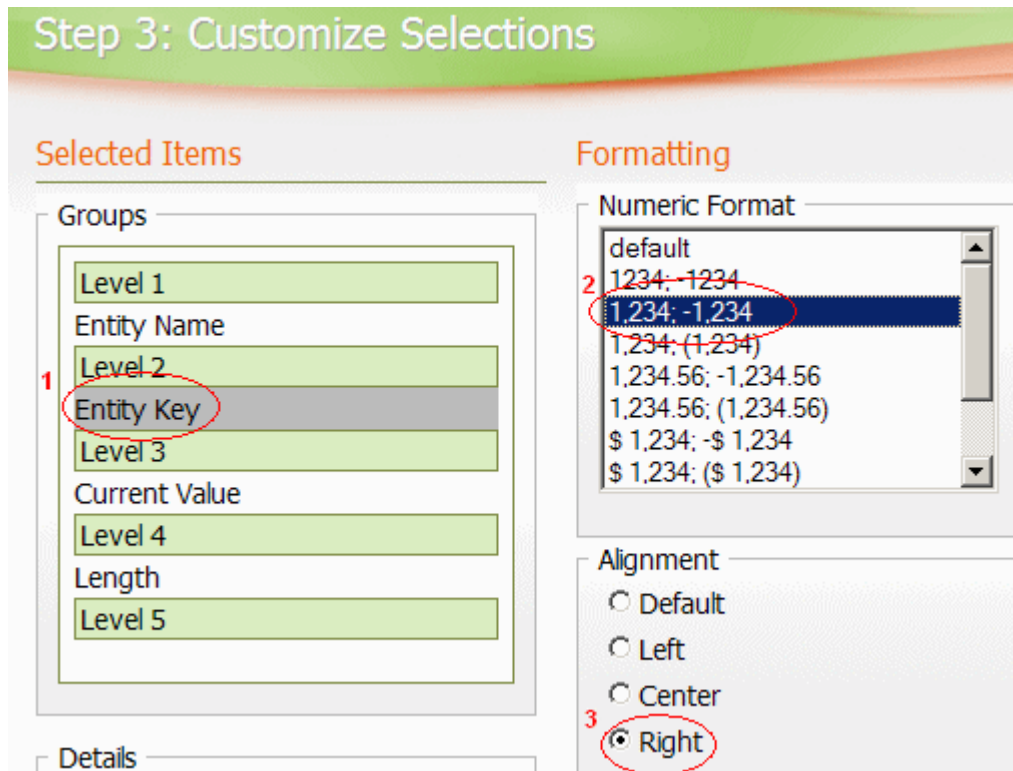
5   You can also set sort orders for column.

- In either the Groups or Details areas, select the item you want to set sort orders for.

- Click **Add** in the Sort Detail Columns panel and select the sort either ascending or descending from the drop-down box.
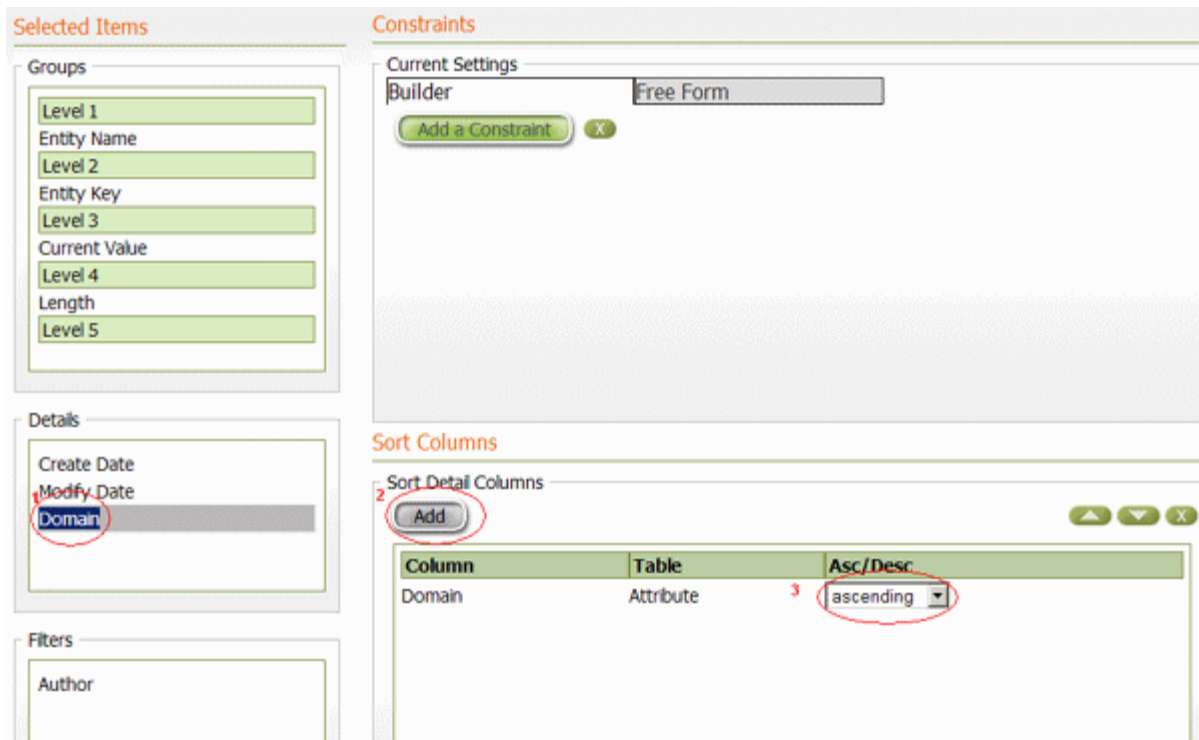
Step Four: Configure Report Settings

1 Click **Next** to advanced to Step Four where you configure the appearance of the report.

2 To configure the appearance of the report:

   • Orientation of the report - how you want the paper to appear in the portrait or landscape orientation.

   • Paper size - select the desired size from the drop-down list.

   • Report description appears with the report on the Solutions Browser page.

   • Header for the report and a header for the page.

   • Footer for the report and a footer for the page.

3 When you have entered all the information you can do one of the following commands:

Action	Description
Preview As	Select the type you want the report displayed in (HTML, PDF, Excel, or CSV) and click Go.
Back	Returns you to the previous page where you can make changes to the report setup, etc.
Save	Displays the Save As dialog the first time you save the report. After the report has been saved, clicking Save just saves the report.
Save As	Displays the Save As dialog.
Cancel	Cancels the custom report creation process.

4   Enter the required information in the **Save As** dialog and then click **OK**.

When you save a report definition, three files are generated:

- An .xreportspec file, an XML file describing the report definition so existing reports can be edited and modified. This file has the extension `.xreportspec`.

- A JFreereport file, an XML file created from the xreportspec. This file is used by the JFreereport engine to generate the report. This file has the extension `.xml`.

- An Action Sequence file, an XML file allowing the BI Platform to generate a user interface that facilitates the creation of the report. This file has the extension `.xaction`.

So if you saved your report as "myReport", three files are created on the server:

- myReport.xreportspec

- myReport.xml

- myReport.xaction.

The saved report now appears on the Solution Browser page in the folder where you saved it, for example, in the Shared Reports > Business Reports. Custom reports are automatically shared to all users, unless the administrator has changed the permissions of the report. You can find and run custom reports using the Run a Shared Report function. For information on restricting access to your custom reports, see Administering Permissions.

FAVORITE REPORTS

You can save the parameters of a standard shared report, by running the report and then adding it to your favorite reports. This can be done for any of the standard reports.

1   On the **Home** tab, click **Shared Reports**

2   Click **Business Reports** or **Technical Reports**, and then click the name of the report you want to run.

3   On the report page, make your parameter selections and then click **Add to Favorites** as follows.

4 Complete the **Add to favorites** dialog; enter a name and description of the report, click **Shared**, and then click **Submit**.

5 Return to the **Home** page where you will see your report listed in the **Favorite Reports** section as follows:
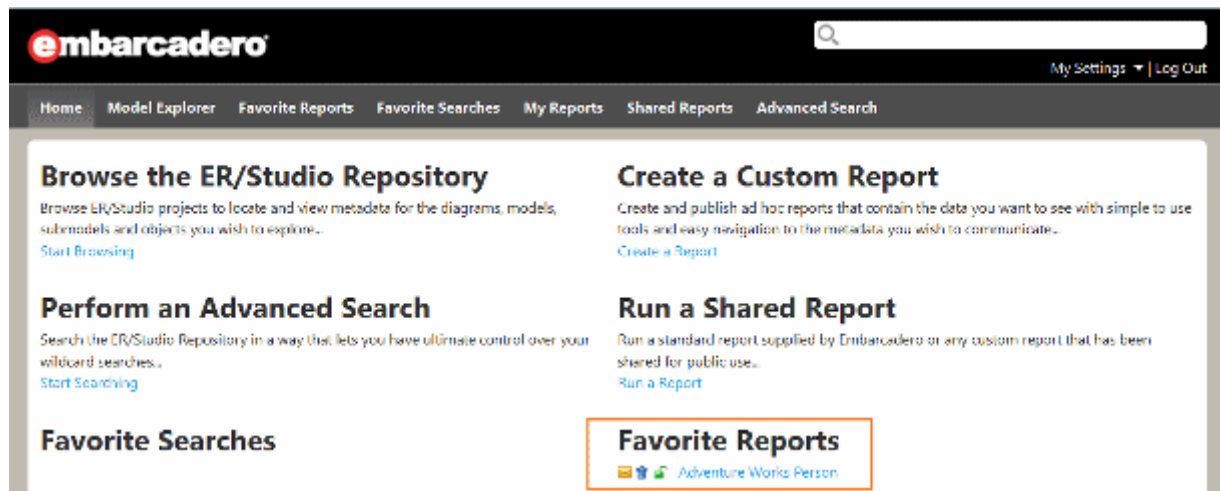
Now, you can run the named report whenever you want. Other users will see standard shared reports in the Shared Reports area of Favorite Searches. Custom reports are automatically shared to all users, unless the administrator has changed the permissions of the report. You can find and run custom reports using the Run a Shared Report function. For information on restricting access to custom reports, see <u>Administering Permissions</u>.

NOTE: Although other users can see all shared reports, they can only successfully run reports that access objects that their user permissions grant them access to. Attempting to run a shared report that accesses objects to which permission has not been granted will result in an error.

Documenting and Organizing Reports Using Comments and Labels

At the bottom of detailed reports, such as the Entity detail report, there are options to Add Labels and Add Comments. You can use labels to organize your reports or to otherwise mark them in another way. Comments you add can describe the purpose of the report and highlight certain features you want to draw attention to. You may want to use comments to provide feedback to the author of the model. You can also watch a report, which when activated sends an email to you whenever comments are added to the report by other users. Labels are not monitored, so you can add anything you like in a label. However, depending on how the Administrator configured the Interaction Settings, your comments may be monitored by an administrator who will decide whether to allow your comment or not. The Administrator can approve and delete user comments. For information on administering comments, see [Moderating Comments](#).

Working with Labels

> *To add a new Label,* at the bottom of the detail report, click **Add Labels**. Enter the label text in the box provided and then click **Add**. You can add another label if you like. When you are finished adding labels, click **Done**.

> *To add an existing label*, at the bottom of the detail report, click the check mark next to the label you want to add to the selected report.

> *To remove a label*, at the bottom of the detail report, in the **Current labels** area click **X** next to the label you want to remove from the report.

Working with Comments

To view a list of all comments for a diagram, click the Comments icon to the right of the diagram name in the Model Explorer. You can reorder the comments by clicking one of the order options in the Order By area.
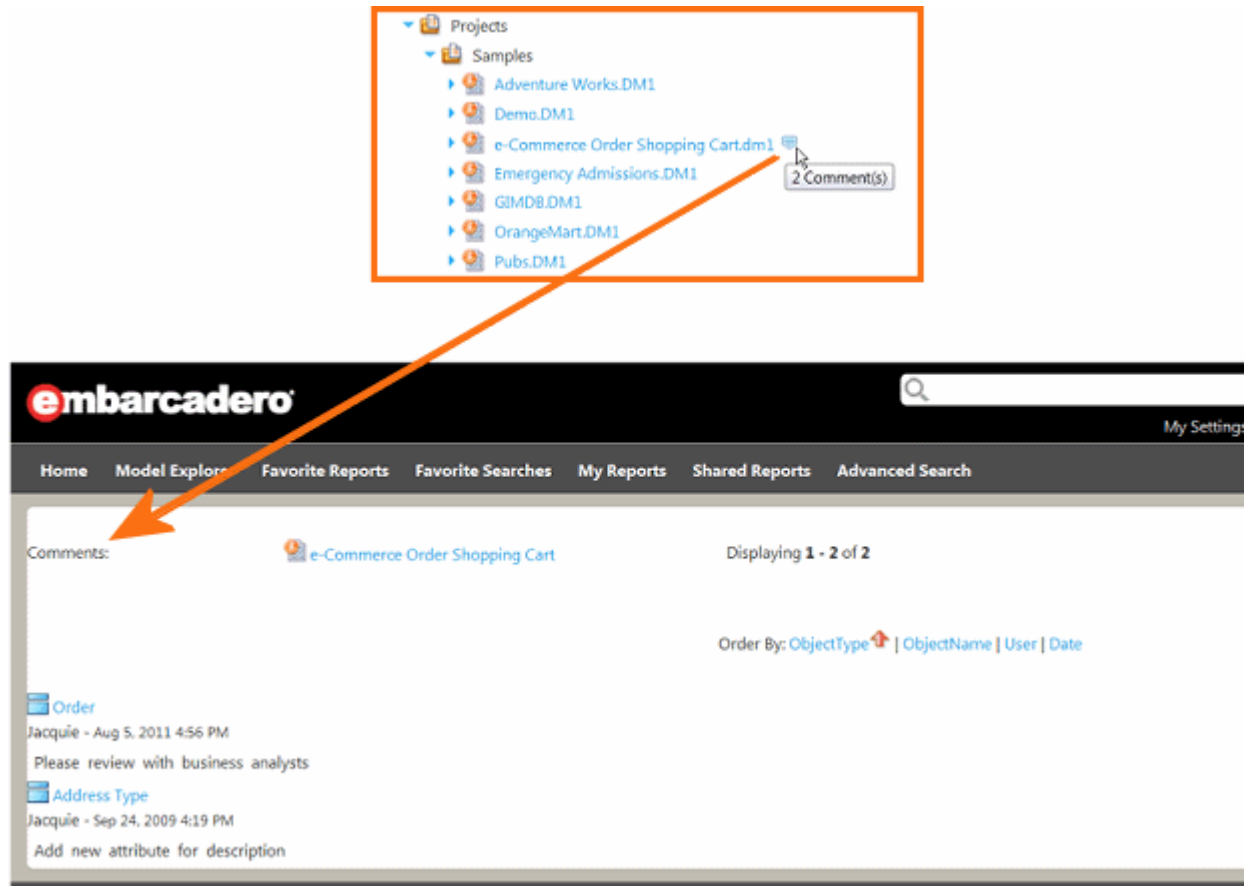
To specify the email address where comments watch notifications should be sent, click **My Settings** next to the **Log Out** link near the top of the browser page. From the list of options that appears, select **Preferences**. On the Portal preferences page that appears, click **Edit**. In the space provided enter your email address and then click **Apply Changes**.

To add a new comment, at the bottom of a detail report, click **Add Comment.** Enter the comment in the **Add Comment** area and then click **Add**. The comment can be seen by any user viewing this report, once the moderator has accepted the comment. If the administrator hasn't set the **Interaction Settings** to require administrative approval for comments, then you can simply click the check mark next to the comment name to enable other users to view the comment, otherwise, you will have to wait for the administrator to approve the comment before it is available for general viewing.

To view the comments in a report, at the bottom of a detail report, click the plus sign (**+**) to the left of **Comments** to expand the comments and view all accepted comments.

To delete a comment, at the bottom of a detail report, click the plus sign (**+**) to the left of **Comments** to expand the comments, and then click **X** next to the comment you want to remove.

For information on approving comments, see [Moderating Comments](#).

NOTE: Comments made in the Portal are synchronized with the Repository when the diagram is synchronized and at the same time, any comments added to be Repository by ER/Studio DA or ER/Studio BA user are also synchronized with the Portal. This enables ER/Studio Portal to fully share comments with ER/Studio DA and ER/Studio BA users.

ACTIVITY

The Activity dashboard provides three information areas allowing you to view and track various activities that have taken place by you and other users. For more information, see

- [Login Activity](#)

- [Updated Objects](#)

- [Connection Activity](#)

NOTE: When specifying the start and end dates for an activity period, keep in mind that the start date is inclusive and the end date is exclusive. Using the same date for both start date and end date will produce no results.

LOGIN ACTIVITY

Track and report on all login activity for ER/Studio Portal for a given time period. The Login Activity information panel displays a count of successful users' logins per day for the last 15 days. You can change the time frame by entering the start date and end date criteria and refresh using the browser facility. The results and title of the information panel adjust accordingly. When you hover the pointer over a bar or a part of a bar representing activity for a specific day, the Portal displays information about the bar, such as the number of logins represented and whether the logins were exclusive or concurrent, as shown in the graphic below. When you click a bar representing a particular day, a detailed report of all user logins is displayed in a new window.
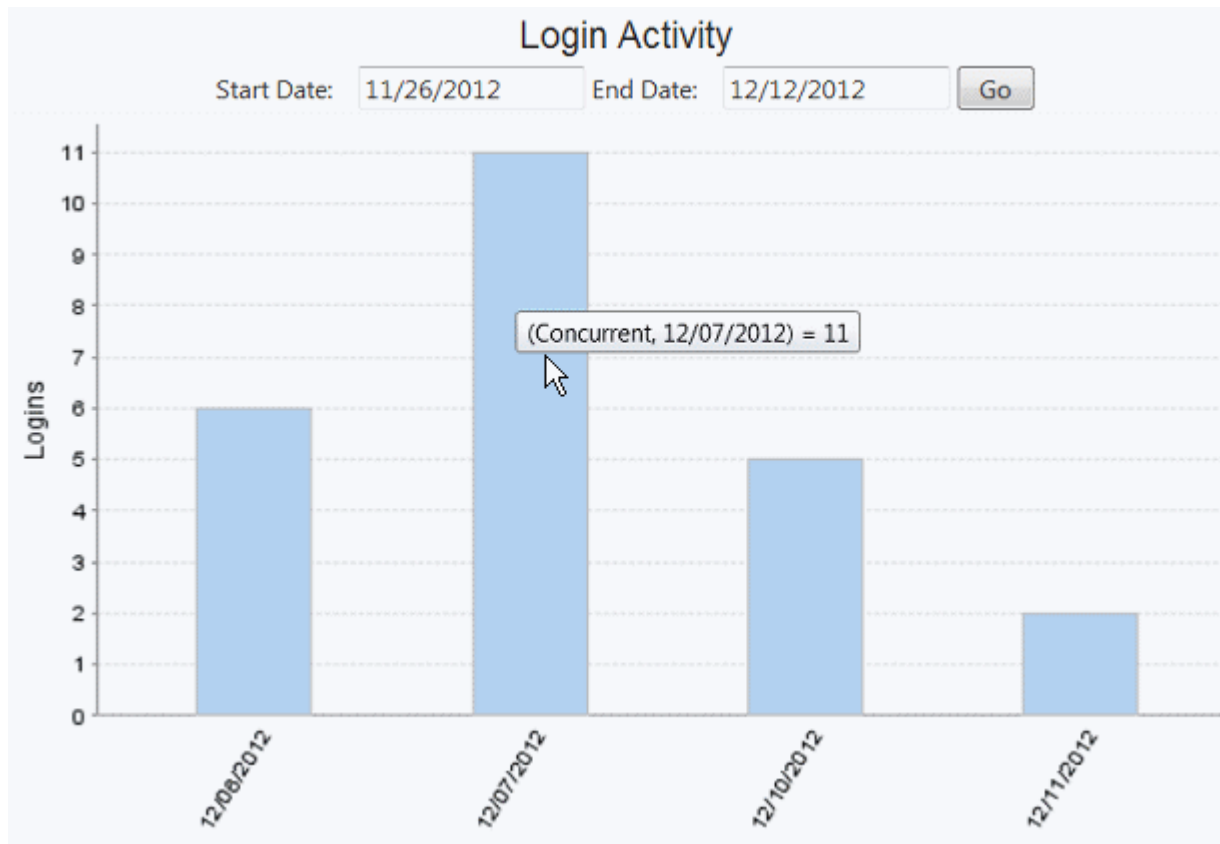
NOTE: The graphic above illustrates the text displayed at two different times when the pointer hovered over part of a bar.

Using the Login Activity Feature

1   If the Login Activity panel is not showing on the Dashboard, click **Activity**.

2   Enter the **Start Date** and **End Date** and click **Go**. A chart displaying a bar for each day is displayed.

3   Click the bar for the date you want to view and a report appears showing the User Name, User Description, Login Time, and Connection Type for all users on that date.

4   The report displays by default in HTML format, which you can save and print as usual. You can also view or save your report in either PDF or XLS formats by clicking the appropriate View as link.

View as   View as xls
pdf

Login Activity Details

Activity Date: 12/07/2012

User Name	User Description	Login Time	Connection Type
jacquie		06:05:54.807	Concurrent
jacquie		06:06:04.433	Concurrent

5   The report is opened on a separate page, so close it to return to the Activity page.

UPDATED OBJECTS

The Updated Object information panel displays a count of each Object Type in the ER/Studio Repository database updated in the time frame specified. The default is 15 days, with the current day as the end date. You can adjust the time frame and the types of objects displayed. If you click on a particular object type in the graph, such as Attachment, a report listing each object of that type, that was modified during the time frame is displayed. From this list, you can drill down into the appropriate detail report for that object.
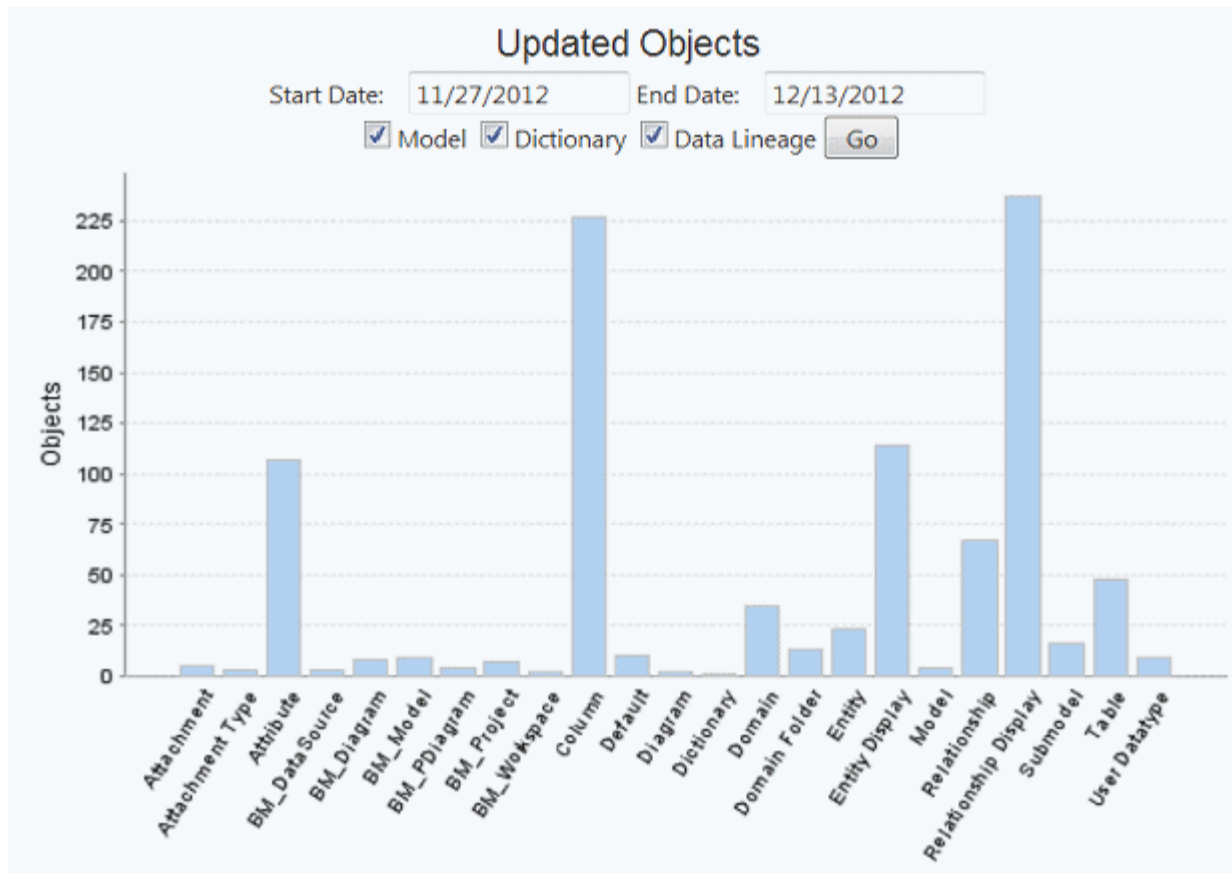
The filters for the updated objects contain the following objects listed in the following order:

- **Model Objects:** Attachment, Attachment Type Attribute, BM_DataSource, BM_Diagram, BM_Model, BM_PDiagram, BM_Workspace, Column, Default, Diagram, Entity, Entity Display, Model, Reference Value, Relationship, Relationship Display, Submodel, Table, View, View Column, and View Display.

- **Dictionary Objects**: Dictionary, Domain, Domain Folder, Security Property, Security Objects, and User Datatype.

- **Data Lineage Objects**: Data Lineage Source, Data Lineage Table, Data Lineage Column.

Using the Updated Objects Feature

1 If the Object Details panel is not showing on the Dashboard, click **Activity**.

2 In the Updated Objects information panel, enter the Start and End Dates you want included in the report.

3 Select the business model object types you want included (model, dictionary, and/or data lineage) and then click Go.

    A chart displaying a bar for each updated object appears.

4 Click the bar for the object you want to view and an Updated Object Details page appears.

5   A report appears showing the Event Date, Parent Name, Name, User Name, and Operation for the selected object. The following sample report shows all the Entity details that have changed for the selected time frame.

View as pdf   View as xls
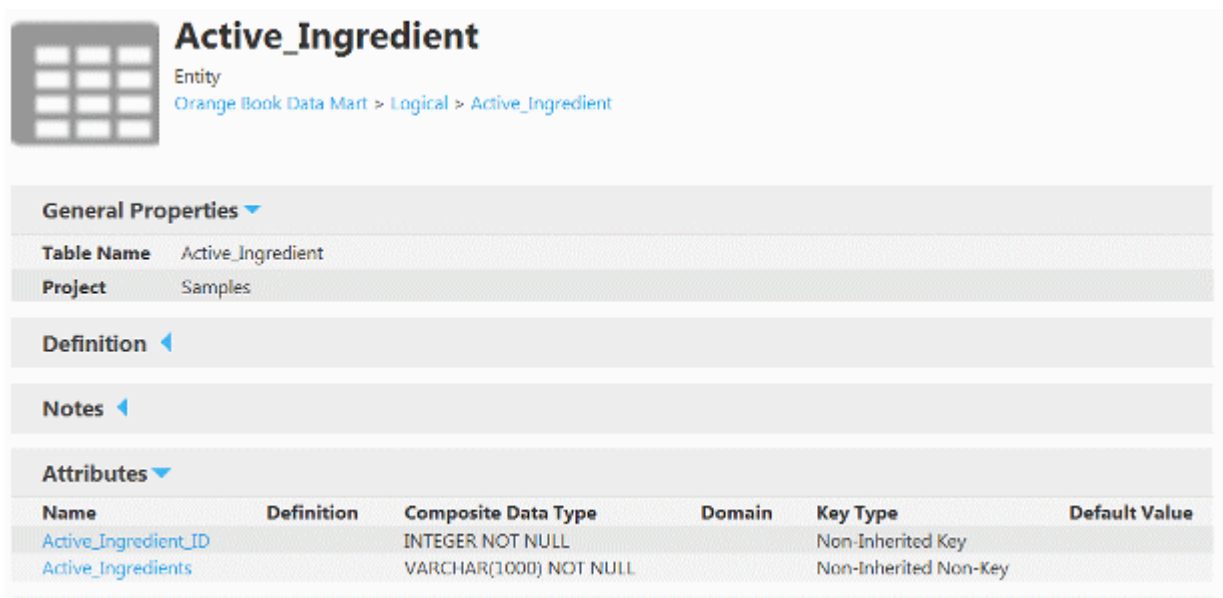
Updated Object Details

Start Date:	11/27/2012
End Date:	12/13/2012
Object Type:	Attribute

Event Date	Parent Name	Name	User Name	Operation
2012-11-27 13:43:32.0	Active_Ingredient	Active_Ingredient_ID	Jacquie	Add_Object

> **NOTE:**   If there are a large number of objects in the selected type, it may take some time to generate a report.

6   Click an object name in the report and an additional report appears showing the detail for that object. The following example shows the report for the object name, "Active_Ingredient".

Notice that the navigation trail is displayed in the report name, allowing you to go back to a previous detail report if desired.

The report displays by default in HTML format, which you can save and print as usual. You can also view or save your report in either PDF or XLS formats by clicking the appropriate View as link.

CONNECTION ACTIVITY

You can track and report on all connection activity for ER/Studio Portal for a given time period. The Connection Activity information panel displays a chart of that activity for the last 15 days. You can change the time frame by entering the start date and end date criteria and refresh using the browser facility. The results and title of the information panel adjust accordingly. When you hover the pointer over a bar or a part of a bar representing activity for a specific day, the Portal displays information about the bar, such as the number of connections represented and whether the logins were exclusive or concurrent, as shown in the graphic below. When you click on the bar representing a particular day, a detailed report of all connections is displayed in a new window or tab.
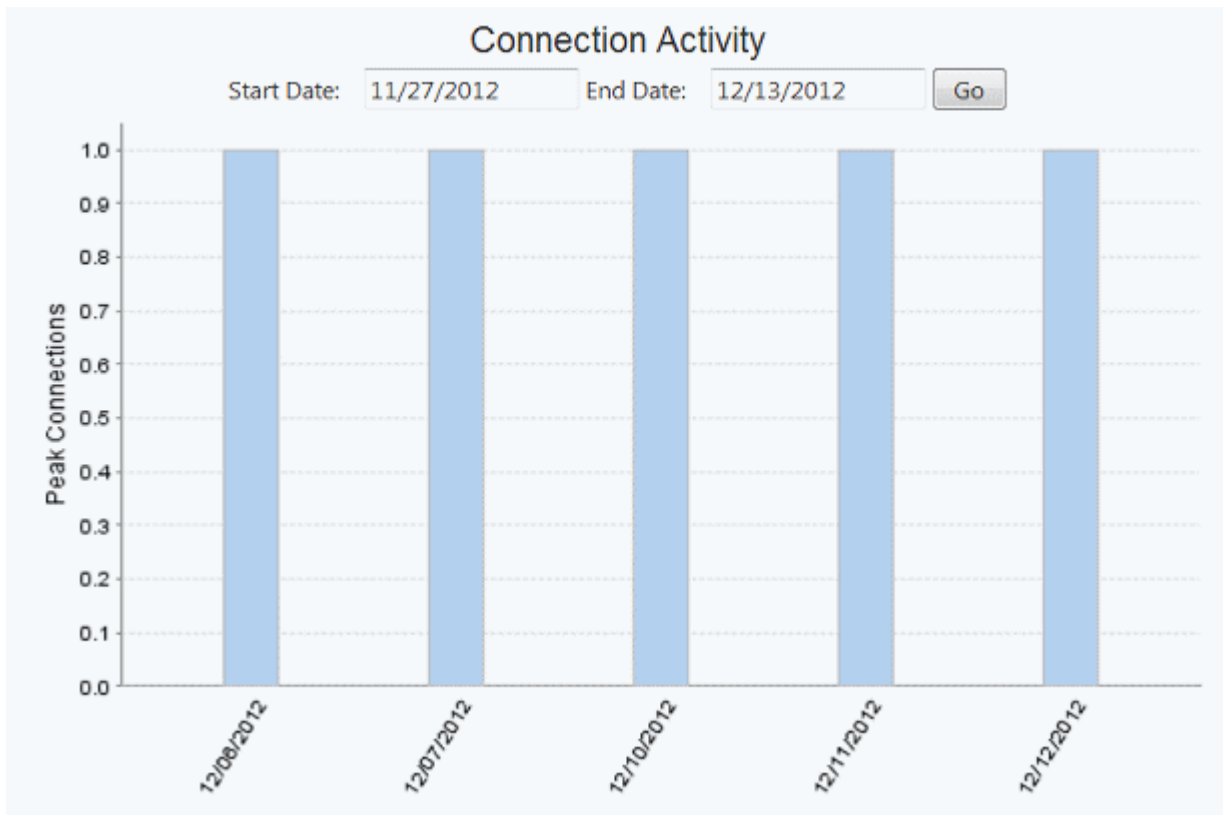
NOTE: The graphic above illustrates the text displayed at two different times when the pointer hovered over part of a bar.

Using the Connection Activity

1   If the Connection Activity panel is not showing on the Dashboard, click **Activity**.

2   Enter the Start and End Dates you want included in the report, and click **Go**. A chart displaying a bar for each day is displayed.

3   Click the bar for the date you want to view and a report appears showing the User Name, Host, IP, Login Time, Logout Time, and Connection Type for the selected day. The following sample report shows all the details for the selected dates.

    NOTE: If there are a large number of connections, it may take some time to generate a report.

View as pdf   **View as xls**

Connection Activity Details

Activity Date: 12/06/2012

User Name	Host	IP	Login Time	Logout Time	Connection Type
jacquie			06/12/2012 12:39	06/12/2012 14:24	Concurrent
jacquie			06/12/2012 15:31		Concurrent

4   The report displays by default in HTML format, which you can save and print as usual. You can also view or save your report in either PDF or XLS formats by clicking the appropriate View as link.

SEARCHING THE REPORTING DATABASE

Use the Search feature to search for text strings within the Reporting database across diagrams, object properties, and object types. The search text you enter is treated as one string by the search engine and is matched accordingly. The Search features has both a simple and an advanced search ability.

- Using the Advanced search, you can save the parameters of the search. Access saved searches from the Favorite Searches area of the Home page.

- Internet Explorer users can also generate a new search engine using the Keyword Search by following directions provided by Microsoft with Internet Explorer 7.

- Searches can be executed immediately with results returned to the browser.

- Both simple and advanced searches are executed against the search index where all searchable text properties are stored as property values. The Admin can place entries into an XML configuration file that will remove object properties from the search index.

Creating Special Search Strings (Using the Query Parser)

To make your searches more precise and to get more useful results, numerous operators are supported in the search string, including the following.

Operator	Search criteria	Example
AND	Contains ALL the search terms entered	apples AND oranges AND bananas
OR	Contains at least one of the words entered	cats OR dogs
" "	Contains the exact phrase entered	"exactly this"
NOT	Does NOT contain some of the words entered	apples NOT oranges NOT bananas
+	Must contain a term and may contain another	+apples oranges
-	Must contain a term and must not contain another	+apples -oranges
?	Matches with a single character replaced	c? (matches cat but not coat
*	Matches zero or more characters	do* (matches do, dog, dogs, dogsled) fo** (matches fool, foal, food, formula)
~	Terms are spelled similarly	land~ (matches land, sand, band)
" "~	Terms are found in close proximity to each other	"diagram update"~10 (matches objects where diagram and update appear within 10 words of each other)

The Portal uses Apache Solr to enable these search string operators. There are some special characters that when used within the syntax must be escaped. The following are special characters:

+ - && || ! ( ) { } [ ] ^ " ~ * ? : \

To escape these characters, enter a backslash (\) before the special character.

For more details on the Apache Solr Query Parser, see http://lucene.apache.org/solr/.

USING THE SIMPLE SEARCH

The simple search will search all text properties of all object types and all diagrams for a partial match on the search string you supply. The only parameter you can supply is the text to search for a match. The simple search is displayed in the banner and is accessible from all navigation (non-content) pages, as illustrated in the following screenshot:
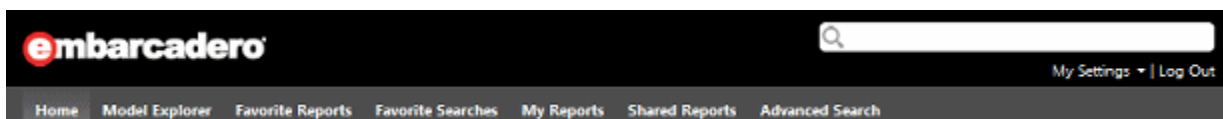
The following example displays some of the search results for the text string "customer."
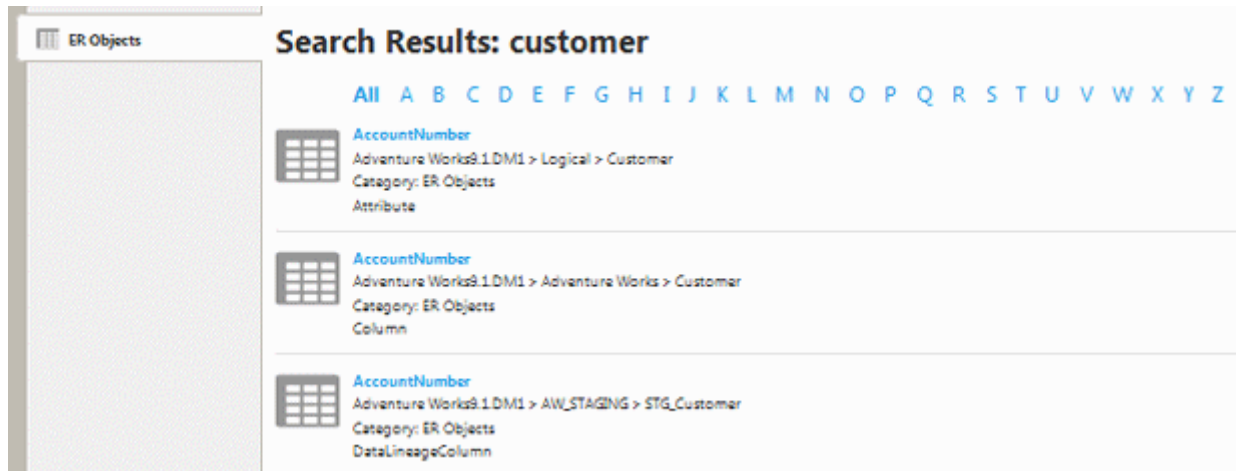
On the **Search Results** page, you can click any letter in the alphabet to see only objects beginning with that letter.

See Also

[Viewing, Ordering, and Filtering Search Results](#)

USING THE ADVANCED SEARCH

In the Advanced Search you have more control of the search than with the Simple Search.

1   Click **Advanced,** located to the right of the Search text box.

2   Specify your search criteria in the following areas and then click **Search**.

> **TIP:**   To access the advanced search page, you can also click Perform an Advanced Search or Start Searching on the Home page.

The following provides additional information on the fields and options of the Advanced Search.

- **Search Text**: Specify that the property value starts with, contains, ends with, or is an exact match to the text. You can also search for text that sounds like the search string by selecting *Include matches for similar-sounding words*.

- **Scope in**:

    - *To search through all objects in the Repository*, click **All**.

    - *To search through ER/Studio Data Architect objects only*, click **Data**.

    - *To search through ER/Studio Business Architect objects only*, click **Business**.

- **Modification**: Filter the results by either the modification date or the name of the last person to modify the object, or by both date and name.

- **Object Type**: Set filters to include all or only specific object types. You can select multiple individual items in the list by holding down the Ctrl key and clicking the items you want included.

- **Property**: Return results only with properties matching or excluding the specified values. Click the check mark (mandatory) to return only results matching the specified value. If the check mark is not clicked, the search string is considered to be optional, and not required for a match. Clicking the crossed-out circle excludes the specified value from the search results.

- **Sorting**: Set how you want the search results sorted.

- **Pagination**: Set the number of result entries to display per page. At the bottom of the results page you can click a page number to display a different page of results or click *Next* to go to the Next page.

  The results of the advanced search are displayed by default in HTML format. To view the results in table format, click.*View as table* at the top left-hand side of the results page.

  At the bottom of the Search Results page you can specify other search criteria and search again to further refine the search.

See Also

[Viewing, Ordering, and Filtering Search Results](#)

VIEWING, ORDERING, AND FILTERING SEARCH RESULTS

When you execute an advanced search, by default 10 results are rendered as one page in the browser. You can change this default by changing the value in the **Results per page** field of the **Preferences** page accessed from the **My Settings** menu.
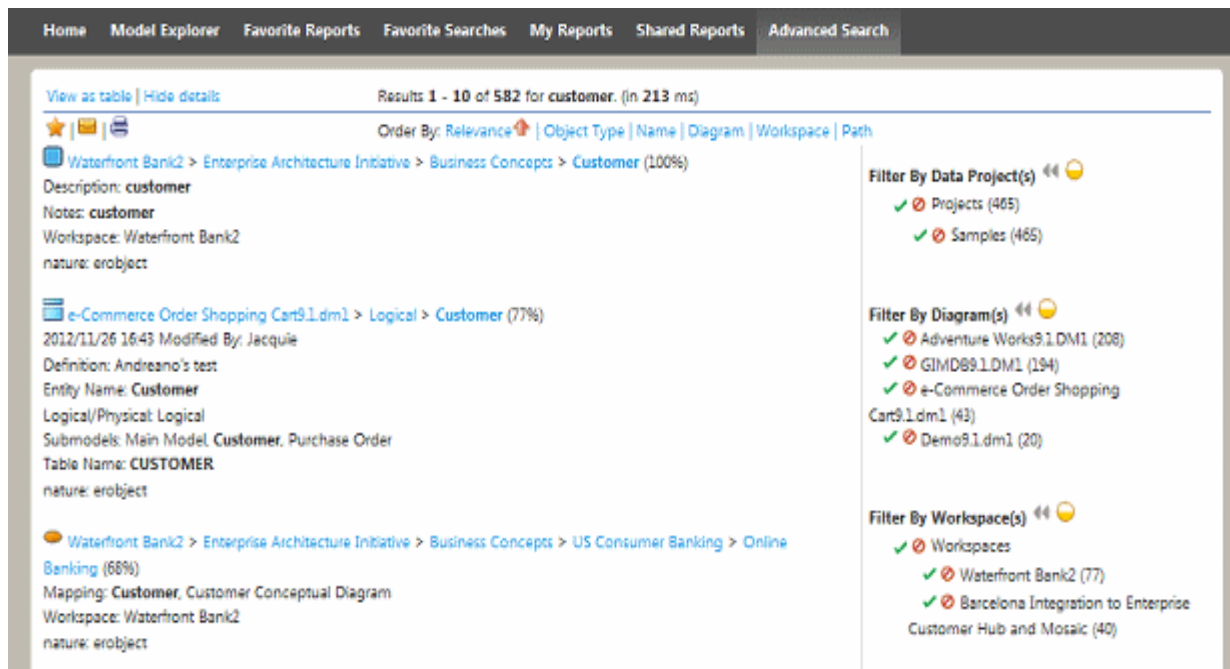
Notice the following in the search results shown above:

- **View as table**: Click to view the results as a table. The default as shown is to display the results in HTML format. You can configure the column order if you choose when viewing the results in table format. For more information, see Customizing the Search Results Report.

- **Hide details**: Click to view one line of information for each result. The following shows the results displayed when the details are hidden.
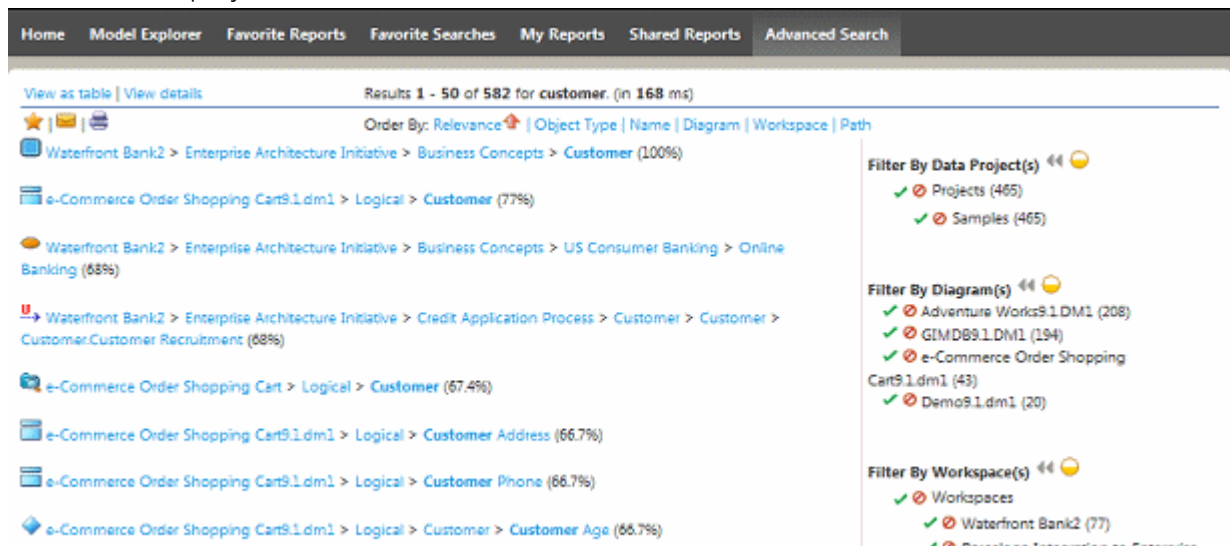
- **Star icon**: Click to save the current search criteria into the list of your favorite searches. Settings include the search string, Order By settings, and filter. For more information, see Favorite Searches.

- **Envelope icon**: Email the results by clicking the **envelope** icon.

- **Printer icon**: Print the results by clicking the **printer** icon.

- **Order By**: Change how the results are ordered. but you can change the order of the results by clicking **Relevance, Object Type**, **Name**, **Diagram**, **Workspace**, or **Path** and the results will be listed in alphabetical order accordingly. The default is to order the results by relevance.

- **Filter By ...:** Filter the results to show only the search results meeting specific criteria by clicking the icons in the **Filter By Data Project(s)**, **Filter By Diagram(s), Filter By Workspace(s)** or **Filter By Object Type(s)** areas. Clicking the check mark next to the filter will only include matches that satisfy the filter, whereas clicking the circle with the line through it will exclude all matches that satisfy the filter. If you choose a filter, another area appears showing **Currently Active Filter(s)**. *Filtering By Workspaces* enables you to include or exclude results pertaining to ER/Studio Business Architect workspaces or models.

  By default, up to 15 filters per Filter By... category display. You can change this default in your preferences. For more information, see [Setting Notification, Search Filter, and Search Results Preferences](),

  NOTE: The yellow or blue circle next to the filter category indicates whether or not all possible filters for that filter category are displayed. Click the double arrows left of the circle to view or hide the filters. Click the colored circle to view the default number of filters (yellow) or to view all the filters (green).

  NOTE: You can configure search filters via RepoRpt.xml, which is found in the solutions\etl\config directory of the Portal installation folder. This enables you to exclude certain object types and properties from the search index. For more information, see [Customizing Search Filters using RepoRpt.xml]().

- **HTML links (blue, underlined text)**: Click on the linked information and the related report appears.

If you select View as table, you will see a table with each row representing a match to your search text. You can drill down to the details of each diagram from the search results report.

For more information, see [ER/Studio Data Architect Object Pages]() and [ER/Studio Business Architect Object Pages]().

The following fields are displayed for each matching row:

- **Object Name**: Name of the object whose property matches the search text.

- **Object Type**: Name of the object type that matches the search text.

- **Relevance**: The probability that this result matches the search criteria.

- **Modification Date**: When the object was last modified.

- **User Name**: The name of the user who last modified the object

- **Path**: The path to the object in the format: diagram name > model name > object type node.

- **Property Type**: Name of the object property that matches the search text

- **Property Value**: The full text of the property that contains a match for the search text

  An advanced search result in table format is shown below for the text "customer."

  At the bottom of the Search Results page you can specify other search criteria and search again to further refine the search.

CUSTOMIZING SEARCH FILTERS USING REPORPT.XML

Using RepoRprt.xml, which is included in the Portal installation directory, you can add filters for object types and properties which result in their exclusion from the search index. Once configured, search terms will not be matched against these objects and properties. An object or property which has been filtered via RepoRpt.xml will not appear in the search results nor in the filters shown to the right of the search results. Wildcards are not supported for search filters in RepoRpt.xml.

There are two ways to exclude information from the search index:

- Exclude an object and all its properties by specifying an object type. For example, to exclude all Table object types, uncomment the following line in RepoRpt.xml:

  ```
  <Object OBJECT_TYPE="Table" SEARCH="FALSE"/>
  ```

- Exclude a specific property from an object. For example, to exclude the Datatype property for Table objects, uncomment the following line in RepoRpt.xml:

  ```
  <Object OBJECT_TYPE="Column" PROPERTY_TYPE="DataType" SEARCH="FALSE"/>
  ```

All the various objects types and object type/property combinations have been included in RepoRpt.xml. All you have to do is uncomment the appropriate line in the file to create a search filter.

> **NOTE:** After changing `RepoRpt.xml` to effect the changes you must update the search index via the Admin dashboard. For more information, see [Administrative Tasks](#).

CUSTOMIZING THE SEARCH RESULTS REPORT

1 Once you have the results of a search operation, at the top of the search results click **View as table**.

2 *To order the results by column*, click a column name.

3 The results are reordered and an arrow appears after the column name indicating the order, ascending or descending. Click the column name again to change the order.

Object Type ⬆

From the configuration page you can also reorder columns, shifting them to the left or right.

> **NOTE:**   Any customizations you make to the search results are retained and used until you click Restore Defaults to revert to the original result presentation.

At the bottom of the Search Results page you can specify other search criteria and search again to further refine the search.

FAVORITE SEARCHES

Favorite searches consist of:

- **My Searches**: Searches you create for private or public use.

- **Shared Searches**: Searches other Portal users have made public.

After completing and running an advanced search, you can name and save the search for later use. You can either keep it private or share it with others when you name it. If you save a search, it appears in the Favorite Searches area of the Home page. From the Home page you can share and restrict a search. You can also choose to delete the search or email the search results.

- *To create a favorite search*, click **Perform an Advanced Search**, enter the search criteria, and then run the search. Once the search results appear, you can click the star icon to add the search to the list of searches displayed on the Home page in the **Favorite Searches** area.

- *To share/restrict a favorite search*, click the lock icon next to the name of the search in the **My Searches** area. The shared search appears with an open lock icon next to its name. Clicking the open lock will make the search private. Shared searches appear in My Searches for the creator and in Shared Searches for all other users.

ADMINISTRATOR'S REFERENCE

Administrators can perform actions such as manage licenses, permissions, data synchronization, schedules, and refresh the Portal settings on the Admin page.

ADMIN

The Administrative tasks are accessible from the **My Settings** menu by clicking **Admin**. For more information, see [Administrative Tasks](#).

DATA SYNCHRONIZATION OVERVIEW

The data shared between the ER/Studio Repository database and the ER/Studio® Portal Reporting database can be synchronized on demand or scheduled with the Pentaho BI platform scheduler and can be run continuously or periodically at the system administrator's discretion. As diagram objects are added, deleted, or updated in the ER/Studio Repository, the most recent version of the diagram must be synchronized with the reporting portal.

> **NOTE:** Upgrading ER/Studio Data Architect (DA) and the Repository software may require the file format of existing diagrams to be updated which is accomplished in an automated fashion when the diagrams are opened. If the ER/Studio DA application update requires file format conversion, you must synchronize Reporting Database with the Repository.

Synchronization Steps

The process of synchronization is broken down into five separate steps:

1   Decide which diagrams should be synchronized. The synchronization decision is made based on the synchronization action specified on the Synchronization Admin page and the filters and exceptions in the XML configuration file, RepoRpt.xml on the BI Server.

- **Synchronization Action** specified on the Synchronization Admin page for selected diagrams and projects can be any one of the following:

   - **Ignore**: Changes in the Repository are ignored and the Portal Reporting repository is not updated.

   - **Update**: Changes in the Repository are propagated to the Portal Reporting repository.

   - **Delete**: The diagram or project is deleted from the Portal Reporting repository.

- **Filters and exceptions in the RepoRpt.xml configuration file**

  NOTE: This method should only be used in extreme cases, such as if a diagram is damaged and should never appear in the reporting repository.

  You can filter the content that flows from the ER/Studio Repository to the Reporting Data Base by diagram via the XML configuration file, *RepoRpt.xml* on the BI Server. You can exclude diagrams from processing by placing an entry into *RepoRpt.xml*. You can use wildcard characters such as * and ? when specifying diagram names and can also specify exceptions to the filters. Diagrams that are excluded from the synchronization process are not written to the reporting database and will not appear on the Synchronization Admin page. No further processing is performed on those diagrams, with the exception of removing their data from the reporting database. For example,

  To process only diagram names ending with 1, use `<Diagram FILE_NAME="*1.dm1" FILTER="TRUE" /`

  To process only diagram names such as `CorDM2_v6B.dm1, D2.dm1, D1.dm1,` *and* `CorDM_v6B.dm1,` use `<Diagram FILE_NAME="???dm*.dm1" FILTER="TRUE" />`.

  You can also create an exception, which uses a filter value of false, such as FILTER="FALSE". Exceptions take precedence over other filters. Using regular filters and exceptions in combination makes it easier, for example, to filter all diagrams whose names start with the letter 'D' except for the diagram named 'Diagram123. For this case, the entries in RepoRpt.xml would be:

  `<Diagram FILE_NAME="Diagram123.dm1" FILTER="FALSE" />`

  `<Diagram FILE_NAME="D*.dm1" FILTER="TRUE" />`

2 Detect Changes

  The system can detect changes when the synchronization process is running and when it is not running.

- **Synchronization Not Running**: The Synchronization Admin page shows the updated diagrams with "Version in ER/Studio Repository" number in bold. If the version was deleted, the number will be red.

- **Synchronization Running**: The diagrams that are selected for synchronization are marked with a status of "Queued" displayed next to them on the Synchronization Admin page.

3   Extract Latest Diagram Information

> **NOTE:**   If diagram extraction takes longer than three hours, the system presumes an error has occurred and terminates the extraction.

- A separate Java Virtual Machine (JVM) invocation is used for the synchronization process. When a diagram change is detected, another JVM instance is spawned for each diagram. This allows diagrams to be processed one at a time so that access to a given diagram becomes available within the portal as soon as possible.

- Diagrams with changes since the synchronization are selected.

- For each diagram in the XML file, the diagram is retrieved from the ER/Studio Repository to a local DM1 file by using the *RepoGetDiagram* function.

- An XML file is created for each diagram containing the latest data for all in-scope objects in the diagram.

- For each submodel in the diagram, a .JPG image file is created and stored on the application server.

- The image is not stored in the database and is retrievable via the model and submodel detail reports.

The extraction of data from the ER/Studio Repository relies on invoking ERSTUDIO.EXE, or its equivalent, to access the ER/Studio object API. During the data extraction, object metadata is output in XML format by using Microsoft's XML v6 parser.

The following ER/Studio object types are saved into the XML file for synchronization:

ER/Studio Business Architect Object	ER/Studio Data Architect Model Object	ER/Studio Data Architect Dictionary Object	ER/Studio Data Architect Data Lineage Object
Assignment	Attribute	Attachment Text List	Comment
Attributes	Comment	Attachment Type	Data Flow
Comment	Diagram	Bound Attachment	Data Lineage Column
Incoming/Outgoing Condition	Entity	Bound Domain	Data Lineage Component
Description	Entity Display	Bound Default	Data Lineage Component Display
Entity	Project	Bound Rule	Data Lineage Display
Event	Relationship	Bound Reference Value	Data Lineage Rule
Gateway	Relationship Display	Bound Security Property	Data Lineage Source
Group	Submodel	Bound User Datatype	Data Lineage Table
Interaction	View	Comment	Data Lineage View
Link	View Column	Domain Dictionary	Data Movement Column Link
Message Flow	View Display	Default	Data Movement Model Link
Model		Dictionary	Data Movement Rule Link
Notes		Reference Value	Data Stream
Project		Reference Value Pair	Transformation Display
Property		Rule	Transformation Field
Process		Security Property	Transformation Object
Relationship		Security Text List	
Sequence Flow		Security Type	
Subject Area		User Datatype	
Task			
Trigger			
Usage (CRUD)			
Verb/Inverse Verb Phrase			
Workspace			

4   Synchronize Security Objects

Changes made to permissions in the ER/Studio Repository, such as the addition of new users and roles, or modifications to existing users and roles, are not reflected in the Portal until a synchronization of the Reporting and the Repository databases is performed. You can refresh the user list from the ER/Studio Repository from the Exclusive Connection Administration page.

5   Synchronize Reporting Repository

Each diagram is represented by an XML file on the server, including items in the search index. Each XML file is processed in the following manner:

- Remove all current data, if any, in the Reporting database for that diagram. This includes purging the submodel image files on the server and the properties from the search index.

- Populate the appropriate table(s) for each object.

- Populate the search index as appropriate for each text field that is searchable. By default, all text properties are searchable. You can exclude object Property Types from being processed by placing an entry into the XML configuration file on the server.

- Archive the diagram XML files to a backup folder.

6   Synchronize Comments

Comments made in the Portal are synchronized with the Repository when the diagram is synchronized and at the same time, any comments added to be Repository by ER/Studio DA or ER/Studio BA user are also synchronized with the Portal. This enable ER/Studio Portal to fully share comments with ER/Studio DA and ER/Studio BA users.

ADMINISTRATIVE TASKS

Administrators can manage schedules and refresh and change the Portal settings on the Administration page.

1   From the **My Settings** menu, click **Admin** and the Administration dashboard appears.

   NOTE: This dashboard is available only if you are signed on as an Administrator.
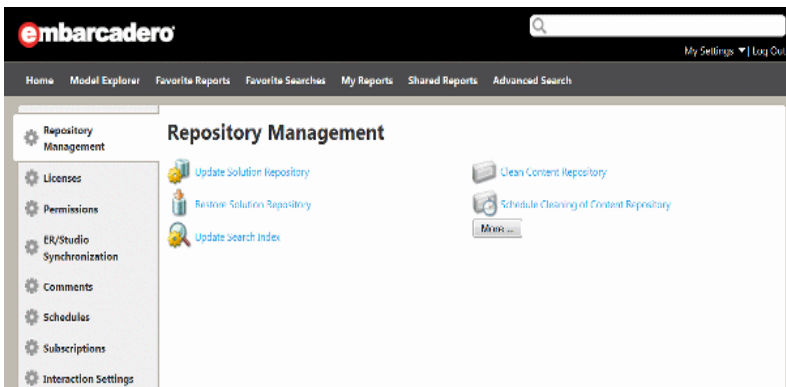
2   The following describes the features and how they are used:

Action	Description
Repository Management	
Update Solution Repository	Reads all of the solution files and updates the Portal repository. This can be used to add new content to your repository or refresh the repository from the file system.
Restore Solution Repository	Reloads all repository files from the file system and restores all Access Control Lists (ACL) to the defaults stored in `Pentaho.xml`. This can be used to reset your repository to the default state.
Update Search Index	Rebuilds the search index based on the data in the Reporting repository. The search index is updated automatically at the end of a synch process but should also be manually updated under the following conditions: • You have upgraded the Portal and chosen to connect to an existing Reporting repository. • You have reconfigured the Reporting repository using the Configuration Manager. • You have updated the search filters in RepoRpt.xml.
Clean Content Repository	Removes files from the content repository that are more than 180 days old. The content repository consists of temporary files, such as runtime and history information maintained by the Pentaho platform. For more information, see Cleaning the Content Repository.
Schedule Cleaning of Content Repository	Schedules the Clean Content Repository action to run daily.
Licenses	Manages the ER/Studio® Portal licenses. For more information, see Administering Licenses.
Permissions	Maintains Access Control Lists (ACL) for group permissions to content, such as reports. Content permissions are: subscribe, execute, or write. For more information, see Administering Permissions.
ER/Studio Synchronization	This tab allows you to manage the ER/Studio Repository synchronization. You can schedule or execute the synchronization, and also see and refresh the synchronization status. For more information, see Optimizing the Synchronization Process, Scheduling the Synchronization Process, Executing the Synchronization Process, and Data Synchronization Overview.
Comments	This tab allows the administrator to act as a moderator to review, approve, and delete the comments other users have attached to diagrams and their objects. For more information, see Moderating Comments.
Schedules	Checks the status of the scheduler and gets a list of the current jobs that are scheduled. From this page the Administrator can check the status of the scheduler, suspend the scheduler, resume from suspend, or see a list of the schedule jobs. For more information, see Administering Schedules.
Subscriptions	A subscription binds an administrative function such as cleaning or synchronizing the repository to a schedule. Use the Subscription feature to create and manage subscriptions, subscription schedules, and scheduled jobs. For more information, see Administering Subscriptions.
Interaction Settings	This page allows the administrator to manage user interaction settings, where you can allow/disallow users to moderate comments, provide the email address of the moderator, enable/disable sending of email for search results and reports. For more information, see Managing User Interactions.

3   Click **More** in the **Repository Management** tab and the Publisher Administration table appears.

Publisher	Description	Actions
Refresh System Settings	Refresh all of the system settings from the documents on the file system.	Publish
Execute Global Actions	Execute all of the global system actions defined in pentaho.xml.	Publish
Refresh Reporting Metadata	Metadata used for ad hoc reporting.	Publish

4   When you click **Publish** for any of these actions, the action takes place immediately and a message appears telling you that the chosen action has been completed.

In addition to the administrative functions available on the Admin page, the Administrator can also stop, start, and restart ER/Studio® Portal using the Tomcat configuration application. The Administrator can also change configuration options, such as the email address configured during installation, without reinstalling the Portal. For more information on these tasks, see Using the Tomcat Configuration Application and Using the ER/Studio® Portal Configuration Manager.

USING THE TOMCAT CONFIGURATION APPLICATION

Use the Tomcat configuration utility to start, stop and restart the application server and to change Tomcat configuration parameters such as the amount of memory assigned to Tomcat for the application server.

1   From Windows, click **Start** > **Programs** > **ERStudio Portal X.X** > **Configure ERStudio Portal**.

2   Complete the changes on the Embarcadero **ERS Portal Properties** dialog that appears and then click **OK**.

The configuration parameters on the Properties sheet that appears are straight forward, but the following provides some additional information on the available options:

General tab

- **Startup** type: Click the list to change how the Portal starts up.

- **Service Status**: Use the options available to start or stop the Portal.

Logging tab

- **Level**: Click the list to change the logging level. By default, only error messages are logged.

Java tab

- **Initial memory pool**, **Maximum memory pool**, and **Thread stack size**: Change the amount of memory the Portal can use. The maximum amount of memory the JVM can use is 1.5 GB. You may need to increase or decrease the amount of memory allocated depending on the log messages written out to the log file, pentaho.log in the Portal installation directory.
  Increase Memory Required: For example, if the application does not have enough memory and cannot use more because of the startup limitations you will see logs like:
  ```
  OutOfMemoryError
  2010/03/26 13:11:58 - Diagram XML.0 - ERROR (version 3.0.2, build 538
  from 2008/02/06 13:13:19) : java.lang.OutOfMemoryError: Java heap space
  ```
  In this case, the solution is to increase the memory limit as much as possible, up to a maximum of 1.5GB.
  Decrease Memory Required: The application cannot start because there is not enough contiguous memory in the OS that can be allocated for the app. For example, you are using a Virtual Machine and have more memory allocated to the Portal than is available on the VM. In this case you will see logs like:
  ```
  2010/03/03 15:31:42 - SyncDiagram.bat (stdout) - Error occurred during
  initialization of VM
  2010/03/03 15:31:42 - SyncDiagram.bat (stdout) - Could not reserve enough
  space for object heap
  2010/03/03 15:31:42 - SyncDiagram.bat (stderr) - Could not create the
  Java virtual machine.
  ```
  In this case you must decrease the memory allocated to the JVM until there is enough to start.

USING THE ER/STUDIO® PORTAL CONFIGURATION MANAGER

Use the Portal Configuration Manager to change settings chosen during the installation process.

1 Ensure the Portal is not running.

   Click **Start** > **Programs** > **ERStudio Portal X.X** > **Configure ERStudio Portal** and then in the **Service Status** area of the **General** tab, click **Stop**. If **Start** is the only option, the service is already stopped.

2 From Windows, click **Start > Programs > ERStudio Portal X.X > ERStudio Portal Configuration Manager**.

3 Complete the changes on the configuration manager that appears and then click **OK**.

   Now you can restart the Portal. For more information, see "Starting ER/Studio® Portal" in the *Quick Start Guide*.

   NOTE: Depending on the nature of the changes made, such as changing the location of the reporting repository, you may need to perform other administrative actions from the Admin dashboard, such as running the synchronization process, updating the solution repository and updating the search index.

   The following describes the options available on the ER/Studio Portal Configuration Manager:

Application Server tab

- **Server Host**: The value in the Host field must be the host name of the server that will run the Portal application; such as `DEWKBROW01`; or the fully qualified network name, such as `DEWKBROW01.embarcadero.com`; or the IP address of the system you are installing on, such as `10.10.23.281`.

- **Server Port**: The default port number is 80. If another application such as another browser-based application is already using port 80 on this system, enter an unused port number between 0 and 65535. For example, 0 and 139 are used for the NetBios Session Service in Windows. The ports in use depend on the platform and the services installed on the system. A commonly-used alternative is 8, although using a high number such as 10000 will probably reduce the chance of a conflict.

- **Shutdown Port**: This is the port the Portal listens to for the shutdown command. The default is 8006 but you can change it here if there's a conflict.

- **Enable Security Communication (Https)**: Select to enable Hyptertext Transfer Protocol Secure (HTTPS) which is a combination of the Hypertext Transfer Protocol with the Secure Socket Layer (SSL)/Transport Layer Security (TLS) to provide encryption and secure identification of the server. Selecting this option will provide a secure channel between the browser and the Portal application server used when passing login information from the client to the server.

    - **Http Secure Port**: The port number to use for secure communications between the application server and the browser.

    - **KeyStore Password**: The password necessary to read the keys from the keystore. The keystore is the file that contains the private and public keys used for ssl encryptions, this file is password protected.

    - **Path to KeyStore ...**: The path where the keystore file is located.

Email Server tab

Enable Sending of Email

- **Host**: The value in the Host field must be the host name of the email server; such as `MSMAILOW01`; the fully qualified network name, such as `MSMAILOW01.embarcadero.com`; or the IP address of the email server, such as `10.10.23.281`.

- **Port**: The port number the email server host is listening on. The default is 25.

- **From Address**: The email address you want to use as the originator of emails sent from the Portal application. You may want to set up a special email address on your email server for just this purpose.

    You will also have the option to use Authenticated SMTP (Simple Mail Transfer Protocol). If you select this option, more fields appear for you to specify the particulars of the SMTP sever.

Use Authenticated SMTP

- **User Name**: The network user name to be verified by the SMTP server for all outgoing email messages.

- **Password**: The password for the above.

LDAP Server tab

Enable LDAP Authentication

- **LDAP UR**L: The URL of the server running LDAP, such as `ldap://10.40.40.94:389`.

- **Manager DN**: The domain name for the administrative user that is used in order to authenticate users. This is the account that the portal will use to connect to the LDAP server to validate the user's credentials, for example, `CN=User1,OU=Users,OU=ER STUDIO,DC=Torlabdomain,DC=com`.

- **Manager Password**: In order to search for users, uses this password.

- **Search Base DN**: Name of the root node in LDAP from which to search for users, such as `OU=Users,OU=ER STUDIO,DC=Torlabdomain,DC=com`.

- **Search Attribute**: The attribute in LDAP holding the user's login name, such as `sAMAccountName` (for ActiveDirectory).

- **Test User/Password**: A sample user/password to attempt to authenticate against LDAP server, such as `user/password`. The installer uses this information to validate the given LDAP information.

ER/Studio Repository tab

Repository Server

- **Host**: Specify the name of the machine where the ER/Studio Repository is installed.

- **Super User Login**: Specify the user name for a user with the Super User role in the ER/Studio Repository.

- **Password**: Specify the password for a user with the Super User role in the ER/Studio Repository.

Repository Database:

- **Enable Encrypted Connection**: This option is available for the Microsoft SQL Server only. Select to enable Secure Sockets Layer (SSL) communication protocol which encrypts messages between the Portal user and the ER/Studio Repository.

- **DBMS Host/Port**: Specify the host name of the machine that contains the ER/Studio repository database. This information is supplied by the DB Administrator.

  For SQL Server only, if the ER/Studio Repository runs on a SQL Server database that is a named instance, specify the host name in the format of *HostName\NamedInstanceName*, such as `DEWKBOW01.embarcadero.com\RepositoryServer`.

- **DataBase Name**: Enter the name of the ER/Studio Repository database.

- **User Name**: Enter the user name for the ER/Studio Repository database.

- **Password**: Enter the password for the ER/Studio Repository database.

  NOTE: The password fields are preserved when navigating back and forth during the installation process.

Report Repository tab

- **Enable Encrypted Connection**: This option is available for the Microsoft SQL Server only. Select to enable Secure Sockets Layer (SSL) communication protocol which encrypts messages between the Portal user and the Report Repository.

- **Host/Port**: Enter the host name and port number of the DBMS Service. The DB Administrator can provide you with this information.

  For SQL Server only, if the Reporting Repository will run on a SQL Server database that is a named instance, specify the host name in the format of *HostName\NamedInstanceName*, such as `DEWKBOW01.embarcadero.com\ReportingRepository`.

- The information requested depends on the server type selected:

Database Name (if MSSQL is selected)

SID (if Oracles is selected)

Database Name (if IBM DB2 is selected)

This information is supplied by the DB Administrator.

- • *For IBM DB2 Server only*, an additional field appears where you must enter Tablespace information. With DB2, the tablespace must exist in the database and must be usable by this user with the input database name.

- • *For Oracle Server only,* an additional field appears asking for Tablespace information. With Oracle, the tablespace must exist in the database and it can be used by the input admin user.

- **Admin User**: This information is supplied by the DB Administrator. The Admin User must have the privilege to create reporting database tables, etc.

- **Admin Password**: This information is supplied by the DB Administrator.

- **Same as Admin**: (This is only available for the MSSQL database.)

  If the **Same as Admin** is not checked (default setting), you need to enter a User Name and Password for read/write access to the reporting database and click **Next**.

  If the **Same as Admin** is checked the User Name/Password fields disappear and the Admin Name and Password are used as User Name and Password.

- **User Name**: (This is only available for the MSSQL database.) Enter the User Name necessary to access ER/Studio Portal's Reporting Repository.

- **Password**: (This is only available for the MSSQL database.) Enter the Password necessary to access ER/Studio Portal's Reporting Repository.

  Connection Options

- **Initialize an existing, empty database**: Select this option to create a new Report Repository database. This option assumes that a Report Repository exists and is empty and that the "Admin" user has the privileges required to create the Report Repository schema.

- **Connect to an existing Repository database**: Select this option for the Portal Application server to connect to existing Report Repository. This assumes that the Report Repository exists and that all the Report Repository tables are ready to be accessed by ER/Studio Portal.

  NOTE: If you are upgrading your Portal installation, select this option to retain your connection to the ER/Studio Repository. Permissions will be preserved but some of the solution repository information such as logs, will become obsolete. If you choose this option, after the installation you must update the solution repository via the Admin dashboard. If inherited roles were used, you must synchronize the repository.

- **Reinitialize current Repository database**: Select this option to reinitialize the current Repository database. This option will cause all solution tables to be dropped and a new Reporting schema to be created. The "Admin" must have the privilege to drop the tables and create the Reporting Repository schema.

Solution Repository tab

- **Enable Encrypted Connection**: This option is available for the Microsoft SQL Server only. Select to enable Secure Sockets Layer (SSL) communication protocol which encrypts messages between the Portal user and the Solution Repository.

- **Host/Port**: Enter the host name and port number of the DBMS Service. The DB Administrator can provide you with this information.

  For SQL Server only, if the Solution Repository will run on a SQL Server database that is a named instance, specify the host name in the format of *HostName\NamedInstanceName*, such as `DEWKBOW01.embarcadero.com\SolutionRepository`.

- Information requested here depends on the server type selected:

  Database Name (if MSSQL is selected)

  SID (if Oracles is selected)

  DBName (if IBM DB2 is selected)

  This information is supplied by the DB Administrator.

  - • *For IBM DB2 Server*, an additional field appears where you must enter Tablespace information. With DB2, the tablespace must exist in the database and must be usable by this user with the input database name.

  - • If you select the Server Type Oracle an additional field appears asking for Tablespace information. With Oracle, the tablespace must exist in the database and must be usable by the input admin user.

- **Admin User**: This information is supplied by the DB Administrator. The Admin User must have the privilege to create solution database tables, etc.

- **Admin Password**: This information is supplied by the DB Administrator.

- **Same as Admin**: (This is only available for the MSSQL database.)

  If *Same as Admin* is not selected (default setting), you need to enter a User Name and Password for read/write access to the solution database and click Next.

  If *Same as Admin* is selected, the User Name/Password fields disappear and the Admin Name and Password are used as User Name and Password.

- **User Name**: (This is only available for the MSSQL database.) Enter the User Name necessary to access the ER/Studio Portal Solution repository.

- **Password**: (This is only available for the MSSQL database.) Enter the Password necessary to access the ER/Studio Portal Solution repository.

  Connection Options

- **Initialize an existing, empty database**: Select this option to create a new Solution Repository database. This option assumes that a Solution Repository exists and is empty and that the "Admin" user has the privileges required to create the Solution Repository schema.

- **Connect to an existing Repository database**: Select this option for the Portal Application server to connect to an existing Solution Repository. This assumes that the Solution Repository exists and that all the Solution Repository tables are ready to be accessed by ER/Studio Portal.

  NOTE: If you are upgrading your Portal installation, select this option to retain your connection to the ER/Studio Repository. Permissions will be preserved but some of the solution repository information such as logs, will become obsolete. If you choose this option, after the installation you must update the solution repository via the Admin dashboard. If inherited roles were used, you must synchronize the repository.

- **Reinitialize current Repository database**: Select this option to reinitialize the current Repository database. This option will cause all solution tables to be dropped and a new Solution schema to be created. The "Admin" must have the privilege to drop the tables and create the Reporting Repository schema.

OPTIMIZING THE SYNCHRONIZATION PROCESS

By default the Synchronization process runs at least two instances of PortalIntf.exe so that smaller diagrams can be processed asynchronously with large diagrams.

You can control the number of PortalInf.exe processes that run as follows:

In `<install dir>/tomcat/webapps/ersportal/web-inf/ersportal-app.xml:`, locate the lines:

```
<bean id="syncProperties"
class="com.embarcadero.embarcadero.erstudio.portal.etl.parallelrun.SyncProperties">
            <property name="maxThreads" value="2" />
            <property name="filterSubModelImages" value="true" />
```

You can update `maxThreads` value to any number to create more PortalInf.exe threads. Setting `maxThreads` to 1 will disable the multi-threading.

You can change `filterSubModelImages` value to false to turn off the selective Submodel Export functionality. In this case, the query won't run and, therefore, all submodel images will be generated.

SCHEDULING THE SYNCHRONIZATION PROCESS

Synchronizing the ER/Studio Reporting database with the ER/Studio Repository is necessary to obtain the latest ER/Studio Data Architect and ER/Studio Business Architect model and configuration information. For example, when a user is assigned to a role in the ER/Studio, the user's new permissions will not be available to that user when he logs in to the Portal, until a synchronization is performed. Similarly, a new user added to the Portal will not have access to Repository models he has permissions to access until the Repository is synchronized with the Portal. You can schedule a complete repository update or update individual projects or diagrams as required. You can also choose control how and when the synchronization occurs, immediately in the background, at some specific time in the future or immediately in the foreground.

When you select the Schedule Synchronization Process option, a job is created with a built-in schedule of running the synchronization process daily at midnight.

1   From the **My Settings** menu, choose **Admin** to open the Admin Services page.

2   Click **ER/Studio Synchronization** and the synchronization page appears listing the available actions and the synchronization status of existing processes.

The synchronization page also displays the status of the most recent execution of the synchronization process. Each item listed is a diagram or workspace in the ER/Studio Repository that may or may not be (depending on filters) synchronized with the Reporting repository. The list of items is sorted in descending order of status update date, that is, the items whose status have changed most recently appear at the top.

Possible statuses for selected Projects and diagrams include the following:

* **Not Synchronized**: This is the initial status of new repository objects until the state changes to another status. An object can also have this status if it was queued for synchronization but the synchronization was stopped.

* **Queued**: The selected object is scheduled to be synchronized during the current ETL synchronization.

- **Fully Synchronized**: The version in the Portal is the same as the version in the Repository, and the images are also synchronized.

- **Partially Synchronized**: The version in the Portal is the same as the version in the Repository, but the images are not synchronized.

- **Deleted**: The selected object has been deleted from the reporting database but it is still in the Repository database.

- **Queued**: The selected object has been selected for synchronization when the next synchronization process is run.

- **Processing**: Synchronization of the object is in progress.

- **Success**: Synchronization of the object has completed without error.

- **Error**: Synchronization of the object has finished with an error.

3 Select objects to synchronize.

To synchronize all repository workspaces, projects, and diagrams, click the highest level checkbox.

To synchronize individual workspaces, projects or diagrams, click the checkbox next to the object.

4 Select the action to perform for selected repository diagrams or projects:

- **Update** is the default action and when chosen updates the Portal repository with information from the ER/Studio Repository.

- **Ignore** when chosen will not change the Portal repository information for the specified object, regardless of whether changes were made in the ER/Studio Repository for the object or not.

- **Delete** when chosen will delete the object from the Portal repository. This has no effect on ER/Studio Repository content.

5 Select whether or not you want to synchronize images by selecting or deselecting the **Images** checkbox.

6 To save the actions selected, click **Apply Changes**; otherwise, your choices will be in effect only for this synchronization session.

7 Choose how and when the synchronization should occur:

- *To execute the synchronization immediately in the background*, click **Execute Synchronization Process**.

- *To schedule the synchronization for sometime in the future*, click **Schedule Synchronization**.

- *To synchronize select objects immediately*, click **Synchronize Selected**.

Click **Schedule Synchronization Process** and message page appears telling you "Job scheduled, check Scheduler Administrator to verify status."

8   Close the message and click **Schedules** to view the scheduled jobs and their statuses

Schedules

You can use the pages to suspend or resume the scheduler. You can check the status of the scheduler and get a list of the current jobs that are scheduled.

Job - Group / Name	Trigger - Group / Name	Description	Fire Time - Last / Next	State	Action
DEFAULT Synchronization-Process	DEFAULT ErsRepoSyncTrigger		Never Fri Dec 07 00:00:00 EST 2012	Normal	Suspend Delete Run Now

Actions Scheduler Status | Resume | Suspend | List Jobs

There are three different options available for each scheduled job: suspend it, delete it from the schedule, or run it immediately.

The following actions are also available for all scheduled jobs:

• **Schedule Status**: Displays a page indicating the status, running or suspended, for all jobs.

• **Resume**: Resets any suspended jobs to the status of 'Resumed'.

• **Suspend**: Pauses the running of the job until it is resumed by the Administrator.

• **List Jobs**: Displays the table of all scheduled jobs.

NOTE: You can view the latest log entries detailing the synchronization commands run and their status, by clicking Latest Logs next to the Synchronization Status area of the ER/Studio Synchronization page. When the databases are synchronized, a new log is created in a separate folder whose name is the timestamp of the log creation and the previous log is archived in a zip file.

EXECUTING THE SYNCHRONIZATION PROCESS

The Execute Synchronization Process command immediately executes the following steps to populate your reporting database:

- Extracts data from source databases

- Transports the data

- Transforms the data

- Loads the data into a data warehouse

1   From the **My Settings** menu, choose **Admin**.

2   Click **ER/Studio Synchronization** and the synchronization page appears listing the available actions and the synchronization status of existing processes.

3   Click **Execute Synchronization Process** and a message displays informing you that a "job is scheduled for background execution, with the option to **View All Scheduled Content**.

4   Click **View All Scheduled Content** and a table showing displays all the reports you have submitted to run in the background.

Any report listed in the Subscriptions or the Waiting portions of the table can be canceled by clicking **Cancel** in the Actions area. You can also view or delete any reports listed in the Complete portion of the table.

This page shows reports that you have submitted to run in background on the server. You can cancel ones that have not run yet, and you can view or delete ones that have.
Clear Toolbar Alert
Waiting

Name	Date	Size	Type	Actions
Synchronize	12/6/12 6:46 PM			Cancel

Complete

Name	Date	Size	Type	Actions
Synchronize	12/6/12 12:44 PM	2kb	text/html	View | Delete
Synchronize	12/6/12 1:48 PM	2kb	text/html	View | Delete

Subscriptions

Name	Schedule/Date	Size	Type	Actions

VIEWING SYNCHRONIZATION LOGS

Depending on the size of the ER/Studio Repository, this action may take many hours to execute. You can view the status of the synchronization on the **My Reports** page.

You can view the logs of the synchronization process via the ER/Studio Synchronization page. There are two types of logs:

- **Latest Logs.** You can view these logs regardless of whether the synchronization process is running or is stopped. If a synchronization is in progress, then the logs are the live logs from the current process. These logs contain only the pre- and post-diagram synchronization information and minimal information about the synchronized diagrams.

ER/Studio Synchronization

Use this page to manage synchronization of data between the ER/Stu

Actions

Refresh | Execute Synchronization Process | Schedule Synchronizatior

Synchronization Status: Not Running | Latest Logs ←

- **Detailed individual logs for synchronizations**. On the My Reports page, you can click the View button to see the log for a specific synchronization.

Home	Model Explorer	Favorite Reports	Favorite Searches	My Reports	Shared Reports	Advanced Search

This page shows reports that you have submitted to run in background on the server. You can cancel ones that have not run yet, and you can view or delete ones
Clear Toolbar Alert
Waiting

Name	Date	Size	Type	Actions

Complete

Name	Date	Size	Type	Actions
Synchronize	12/6/12 12:44 PM	2kb	text/html	View | Delete
Synchronize	12/6/12 6:46 PM	2kb	text/html	View | Delete
Synchronize	12/6/12 1:48 PM	2kb	text/html	View | Delete

Subscriptions

| Name	Schedule/Date	Size	Type	Actions

The following describes the logs available.

- **Error**: This log is available only when the object synchronization fails. This is the error messages indicating why the synchronization failed.

- **Diagram Log**: The diagram synchronization log.

- **Macro Log**: The logs produced during export of the diagram from the ER/Studio Repository.

Notes

- Logs are located in `<installdir>\etlvar\log\`.

- Each synchronization process has its own directory called `log_<timestamp>`, such as `<installdir>\etlvar\log\log_20081119210946`.

- The previous synchronization logs are zipped up in order to save disk space and the respective log directory is deleted. For example, during the next synchronization `<installdir>\etlvar\log\log_20081119210946` becomes `<installdir>\etlvar\log\log_20081119210946.zip`

- Because previous synchronization logs are zipped, you can only see the logs for the diagrams in error if the synchronization of the diagram failed in the latest synchronization. Logs from synchronization executions other than the most recent are only accessible from the portal server file system.

STOPPING THE SYNCHRONIZATION PROCESS

Stopping the synchronization process via the 'Cancel' option on the ER/Studio Synchronization page is the only clean way of stopping the ETL. This option interfaces with the Windows task manager to gracefully kill the two Java processes related to the synchronization.
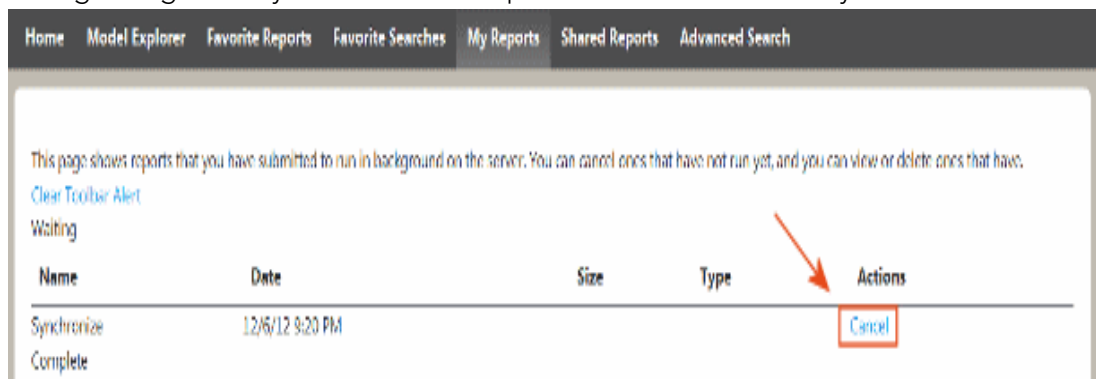
Once the synchronization process is running (having been started either via the *Execute Synchronization Process* option or as a scheduled synchronization), it can be stopped from the Synchronization Administration page by clicking *Stop Synchronization Process*. Invoking this option changes the synchronization status to Stopping and the synchronization process is stopped as soon as processing of the current diagram is complete. This may take a while, depending on the size of the diagram currently being processed. Once stopped, the synchronization status will then be displayed as Not Running.

MODERATING COMMENTS

You can use this page to review the comments other users have attached to diagrams and see those comments in context. From this page you can accept or reject the comment. Accepting the comment makes it available to other users to view from the Diagram details report. Rejecting a comment deletes it from the system.

> **NOTE:** Before you can moderate comments, you must have enabled sending of email during the Portal installation or on the ERStudio Portal Configuration Manager and you must also enable comment moderation on the Admin > Interaction Settings page. For more information, see Managing User Interactions.

1 Click **My Settings** and choose **Admin**.

2 Click the **Comments** tab.

   The comment moderation page appears.

3 *To view a comment in context*, click the underlined comment name. At the bottom of the report that opens you can choose to accept or delete the comment as required.

   To delete a comment, select the checkbox next to the comment name and then click the delete symbol (X).

   T*o accept a comment*, select the checkbox next to the comment name and then click the accept symbol (√).

   > **TIP:** You can delete or accept all listed comments by selecting the Comments checkbox and then clicking the delete or accept symbol next to Comments.

ADMINISTERING SCHEDULES

You can use the Schedules page to suspend or resume the scheduler. You can also check the status of the scheduler and get a list of the current jobs that are scheduled.

1   Click **My Settings** and choose **Admin**.

2   Click the **Schedules** tab.

   The following page appears

   The table displays the following information:

| Column Name	Description
Job - Group/Name	This is the name of the job.
Trigger - Group/Name	This is the name of the trigger.
Description	Displays the description of the subscription that was entered at the time the subscription was set up.
Fire Time - Last/Next	Displays the last time the subscription was run and the next time it is scheduled to run.
State	Displays the job process state: **Normal**: The job will run at its predetermined schedule **Paused**: The job has been paused and the schedule must be resumed before the job will again be scheduled to process.
Action	You have three choices: **Suspend**: Immediately suspends the scheduled run. When you select this option, it is replaced by the Resume command. **Delete**: Deletes the scheduled subscription from the table. **Run Now**: Runs the scheduled item immediately

There are four different actions shown at the bottom of the scheduled jobs table:

Action	Description
Scheduler Status	Shows the current state of the scheduler: running, suspended, or stopped.
Resume	If the scheduler has been stopped, restarts all scheduled jobs.
Suspend	Suspends all jobs until they are manually restarted.
List Jobs	Displays a table with all scheduled jobs.

ADMINISTERING SUBSCRIPTIONS

A subscription binds an administrative function such as cleaning or synchronizing the repository to a schedule.

1   Click **My Settings** and choose **Admin**.

2   Click the **Subscriptions** tab and the following appears.

Subscriptions

Use this page to create and manage subscriptions, subscription schedules and scheduled jobs
Scheduler Status:
Scheduler Status:Normal
Actions
Suspend|Add Schedule|Set Content|Import Schedules and Content|Refresh|Show Subscriptions

Scheduled Subscriptions

Job - Name / Title	Description	CRON Expression	Fire Time - Last / Next	# Subs	State	Action
Routine Daily	Run workdays	0 15 10 ? * MON-FRI	2012-12-10 10:15:00.023 Tue Dec 11 10:15:00 EST 2012	0	Normal	Suspend Run Now Edit

Subscription Content

Action Sequence	Action
dashboards/activity/ObjectActivityNested.xaction	Edit | Delete

This tab displays the following information:

Information	Description
Actions	Six different actions are available: Suspend, Add Schedule, Set Content, Import Schedules and Content, Refresh, and Show Subscriptions.
Warning	This tells you if you have any subscriptions that are not scheduled to run.
Scheduled Subscriptions	Lists all scheduled subscriptions. You can choose to suspend or run the subscription immediately. You can also edit a subscription.
Subscriptions without scheduled jobs	Displays all subscriptions that are not scheduled to execute. You can choose to schedule them individually or select the **Schedule All** command to synchronize the schedules with the subscriptions
Subscription Content	This table displays all action sequences for the content you have selected via the **Set Content** command. You can choose to edit or delete each subscription. When you click Edit a screen appears where you can modify, delete or add new action sequences. If you have modified an existing subscription, or added a new one you can set the schedules for this content.

SUBSCRIPTION CONTENT ACTIONS

You have six different actions you can perform:

Action	Description
Suspend	All scheduled jobs are paused until manually restarted.
Add Schedule	Use this page to add a new schedule. The following information is required: • Group • Name • Title • Description • Cron Expression
Set Content	You can select subscription content from all available action sequences. All sequences you select can be subscribed. When all desired sequences are selected, click Set Content.
Import Schedules and Content	You can create subscription schedules and content in XML using a template. When you have created this file you can then upload it. **Note**: Schedules can be added and modified via the import function but cannot be deleted.
Refresh	Updates the Subscription Content list to show any additions or changes.
Show Subscriptions	Displays the User, Title, Action Sequence, and Schedule of any active subscriptions. You have the option to delete subscriptions here.

For more information, see Creating Subscriptions and Administering Subscriptions.

CREATING SUBSCRIPTIONS

Create a schedule

1   Click **Admin > Subscriptions > Add Schedule**.

2   A page appears requesting information for the item to be scheduled.

3   Complete all fields; all are required.

• **Group**, **Name**, **Title**, **Description**: These are descriptive fields that you can use to differentiate the various subscriptions you set up.

- **Cron Expression**: This expression determines when the subscription should run. A cron expression is a string of six or seven fields separated by white space. Supply a chronological expression in the format of *Seconds Minutes Hours Day_of_month Month Day_of_week Year*, such as 0 0 0 ? 1 1; specifying the year is optional. For more information, see [Specifying a Chronological Expression in a Subscription](#).

4   Click **Add**. A confirmation page appears briefly and then you are returned to the page where you entered the scheduling information.

Select content allowed for the schedule

5   Click **Subscriptions** and then click **Set Content**.

6   Expand the action group and then select the action sequence you want to subscribe to. For example, if you wanted to run a synchronization action, expand **etl : actions :** and then select the **Synchronize.xaction** option. For information on actions, see [Subscription Content Actions](#).

> **NOTE:**   You can select subscription content from the admin and etl:actions levels. Choose only one of the following actions to subscribe to per subscription:
> ```
> admin: clean_repository.xaction
> etl:actions:Synchronize.xaction
> ```

7   At the bottom of the page, click **Set Content** and a page appears briefly indicating that the request completed successfully and then you are returned to the page where you chose the xaction to subscribe to.

Bind the content to the schedule

8   Click **Subscriptions**.

9   In the **Action** column of the **Scheduled Subscriptions** area, click **Edit** next to the scheduled subscription for which you want to set the content.

Subscriptions

Use this page to select the content that can be used with this schedule.
Select the content that can be used with this schedule. To remove content for this schedule, deselect it

Action Sequence

☐	admin/clean_repository.xaction
☐	admin/schedule-clean.xaction
☐	admin/schedule-etl.xaction
☐	dashboards/activity/ObjectActivity.xaction
☐	dashboards/activity/ObjectActivityNested.xaction
☐	dashboards/activity/ObjectHistoryDetail.xaction
☐	dashboards/activity/PeakActivity.xaction
☐	dashboards/activity/PeakActivityDetail.xaction
☐	dashboards/activity/SessionActivity.xaction
☐	dashboards/activity/UserActivityDetail.xaction
☐	etl/actions/Synchronize.xaction
☐	etl/actions/SynchronizeDebug.xaction
☐	etl/actions/SystemInit.xaction
☐	reports/query/CommonAttributeDefinitions.xaction
☐	reports/query/CommonBusinessRulesDefinitions.xaction

10   Verify that the schedule particulars are as you expected.

> **TIP:**   On this page you can modify the schedule if you want to.

11   Click **Set Content for this schedule**, select the action sequences you created earlier and then at the bottom of the page click **Submit**.

A page appears briefly indicating that the request has been completed successfully.

12   Click Subscriptions again and then click **Edit** next to the subscription you just edited to view the full details of the subscription.

13   In the **Action Sequence** area, make note of the full name of the action sequence, for example, `etl/actions/Synchronize.xaction`.

Subscribe the changes

In order to subscribe the changes you need to follow an http link editing the url in regards to your configuration.

For example, for the sequence action `etl\actions\Synchronize.xaction`, you would enter a URL similar the following:

```
http://PortalServerName:PortNumber/
ViewAction?&solution=etl&path=actions&action=Synchronize.xaction&subscribepage=y
es
```

And, for the sequence action `admin\clean_repository.xaction` you would enter a URL similar the following:

```
http://PortalServerName:PortNumber/
ViewAction?&solution=admin&path=&action=clean_repository.xaction&subscribepage=yes
```

> **NOTE:** You do not need to specify the Portal sever port number unless you are using a port other than the default port number, which is 80.

14 Enter a URL similar to one of the above examples. Press **Enter**.

The Synchronize Web page appears. The name of the sequence action appears at the top of the page.

15 In the **Schedule This Report** area, click **Show Scheduling Options**, and enter a name for the scheduled report.

16 From the **Schedule For** list, select the name of the schedule you just added, and then click **Save**. You will get a subscription saved/created message page. Close this page.

17 Click **Reports > My Reports** to open the My Reports page. Notice that your subscription appears on this page. If the subscription just created has already run, you can view the report from this page.

> **TIP:** You can manually run a subscription at any time from the My Reports page.

18 To view the scheduled subscription, click **Admin > Subscriptions** and all scheduled subscriptions are listed in a table format. You can suspend or run immediately the scheduled subscriptions. You can also edit them from this page.

Notes

- *To delete a subscription*, click *Edit* next to its name in the *Scheduled Subscriptions* area, click *Remove content from subscription* and then click *Delete* in the *Action* column of the Subscription you want to delete.

SPECIFYING A CHRONOLOGICAL EXPRESSION IN A SUBSCRIPTION

The chronological (cron) expression in the Subscriptions of the Subscription administration page is used to create a trigger for the subscription. The cron expression takes the format of *Seconds Minutes Hours Day_of_month Month Day_of_week Year*. Cron expressions can be as simple as * * * * ? * or as complex as 0 0/5 14,18,3-23,? JAN,MAR,SEP MON-FRI 2002-2010. Use the following rules to create a cron expression.

Field Name	Mandatory?	Allowed Values	Allowed Special Characters
Seconds	YES	0-59	, - * /
Minutes	YES	0-59	, - * /
Hours	YES	0-23	, - * /
Day of month	YES	1-31	, - * ? / L W
Month	YES	1-12 or JAN-DEC	, - * /
Day of week	YES	1-7 or SUN-SAT	, - * ? / L #
Year	NO	empty, 1970-2099	, - * /

Notes

- You must specify either *Day of month* or *Day of week*, but not both. Insert a question mark (?) as a placeholder for the one not specified.

- If you do not specify the year, the year will be automatically determined by taking into consideration whether the date (month and day) inserted has already passed when compared to the systems current date. If the date has not already passed, the current year is inserted. If the date has already passed, the next year is inserted.

- The names of months and days of the week are not case sensitive. MON is the same as mon.

Special character usage

The following describes the legal special characters and how they can be used in a cron expression.

- ***** (all values): Selects all values within a field. For example, * in the minute field selects "every minute".

- **?** (no specific value): Used to specify something in one of the two fields in which the character is allowed, but not the other. For example, to make the trigger fire on a particular day of the month (say, the 10th), when it does not matter what day of the week that happens to be, put `10` in the day-of-month field, and `?` in the day-of-week field.

- **-** (range): Used to specify ranges. For example, `10-12` in the hour field selects the hours 10, 11 and 12.

- **,** (comma): Used to specify additional values. For example, `MON,WED,FRI` in the day-of-week field means the days Monday, Wednesday, and Friday.

- **/** (forward slash): Used to specify increments. For example, `0/14` in the seconds field means the seconds 0, 14, 28, and 42; and 2/14 in the seconds field means the seconds 2, 16, 30, and 44.

- **L** (last): Used differently in each of the two fields in which it is allowed. In the day-of-month field, `L` selects the last day of the month, which is 31 for January and 29 for February on leap years. When used in the day-of-week field by itself, it means 7 or SAT. But if used in the day-of-week field after another value, `L` selects the last xx day of the month. For example, `6L` selects the last Friday of the month. When using the `L` special character, do not specify lists, or ranges of values, because this may give confusing results.

- **W** (weekday): Used to specify the weekday (Monday-Friday) nearest to the given day. For example, if you specify `15W` as the value for the day-of-month field, the nearest weekday to the 15th of the month is selected. So if the 15th is a Saturday, Friday the 14th is selected. If the 15th is a Sunday, Monday the 16th is selected. If the 15th is a Tuesday, Tuesday the 15th is selected. However if you specify `1W` as the value for day-of-month, and the 1st is a Saturday, Monday the 3rd is selected, as the selection rules do not allow for crossing over the boundary of a month's days to the previous or the subsequent month. The `W` character can only be used to specify a single day, not a range or list of days.

  NOTE: The `L` and `W` characters can also be combined in the day-of-month field to yield `LW`, which translates to "last weekday of the month".

- **#**: Used to specify the nth XXX (or XX) day of the month. For example, the value `6#FRI` or `6#3` in the day-of-week field means the third Friday of the month (6 or FRI = Friday, and "#3" = the 3rd one in the month).

Cron Expression Examples

Cron Expression Example	Creates Trigger that Fires at
0 0 12 * * ?	12 pm (noon) every day
0 15 10 ? * *	10:15 am every day
0 15 10 * * ?	10:15 am every day
0 15 10 * * ? *	10:15 am every day
0 15 10 * * ? 2005	10:15 am every day during the year 2005
0 * 14 * * ?	Every minute starting at 2 pm and ending at 2:59 pm, every day
0 0/5 14 * * ?	Every 5 minutes starting at 2 pm and ending at 2:55 pm, every day
0 0/5 14,18 * * ?	Every 5 minutes starting at 2 pm and ending at 2:55 pm, AND fires every 5 minutes starting at 6 pm and ending at 6:55 pm, every day
0 0-5 14 * * ?	Every minute starting at 2 pm and ending at 2:05 pm, every day
0 10,44 14 ? 3 WED	2:10 pm and at 2:44 pm every Wednesday in the month of March.
0 15 10 ? * MON-FRI	10:15 am every Monday, Tuesday, Wednesday, Thursday and Friday
0 15 10 15 * ?	10:15 am on the 15th day of every month
0 15 10 L * ?	10:15 am on the last day of every month
0 15 10 ? * 6L	10:15 am on the last Friday of every month
0 15 10 ? * 6L	10:15 am on the last Friday of every month
0 15 10 ? * 6L 2002-2005	10:15 am on every last friday of every month during the years 2002, 2003, 2004 and 2005
0 15 10 ? * 6#3	10:15 am on the third Friday of every month
0 0 12 1/5 * ?	12 pm (noon) every 5 days every month, starting on the first day of the month
0 11 11 11 11 ?	Every November 11th at 11:11 am.

MANAGING USER INTERACTIONS

The Administrator can use the Interaction Settings to control whether a moderator must accept or reject comments, and whether users can email search and report results.

1   Click **Admin > Interaction Settings**.

Interaction Settings

Use this page to manage settings related to user interaction within the ER/Studio Portal.

Actions
Edit

Comments	
Enable Comment Moderation	☑
Moderator Email Address	ioana.schiopu@embarcadero.com

Reports	
Enable Sending of Standard Reports by Email	☑

Searches	
Enable Sending of Search Results by Email	☑

2   Complete the Interaction Settings page as required by selecting the options you want to enable and clearing the checkboxes of options you want to disable.

3   If you want comment alerts sent to a specific user, enter their email address in the **Comments** area.

> **TIP:**   Email server information, for sending emails of search results or reports, is configured during Portal installation. These options can be overridden in the Configuration Manager. For more information, see <u>Using the ER/Studio® Portal Configuration Manager</u>.

ADMINISTERING LICENSES

As Administrator you can view the status of all user sessions.

ER/Studio® Portal has a standard concurrent license that allows one administrator connection. You do not need to purchase licenses for ER/Studio users. Their ER/Studio license includes Portal use. The Portal uses three connection types:

- **Base Administrator Connection**: This is the grace connection that comes standard with the Portal.

- **Concurrent User Connection**: The total number of connections at one time is restricted to the number purchased. There is no restriction on a login name being used more than once simultaneously to instantiate multiple user sessions.

- **Exclusive User Connection**: The total number of connections at one time is restricted to the number of ER/Studio licenses, including node locked and floating licenses. Exclusive user connections are assigned to an ER/Studio user and the user cannot have more than one user session running at any one time.

  NOTE: The way sessions are managed is browser specific and depending on the browser in use, you may not be able to log in using the same name for two different sessions or using two different logins. Some browsers treat windows and tabs of the application as one instance and will not allow you to run two sessions simultaneously. However, you can open multiple instances of Internet Explorer and log in multiple time using the same concurrent user connection, or create several different sessions using a mix of concurrent and exclusive connections.

Add-on licenses can be either exclusive or concurrent licenses and have a serial number that must be registered for validation. You can also purchase additional add-ons with 5, 10, 20, or 50 connections.

You can also set up an Evaluation License.

Understanding the User Login Authorization Process

When an administrator or non-administrator attempts to log in to the Portal, the system determines whether or not to authorize the user, and the type of license to use, according to the following rules:

For Administrators:

1 If the user has been assigned an exclusive connection, the exclusive connection is used. If the exclusive connection is already in use, login fails.

2 If the user has not been assigned to an exclusive connection, and a concurrent connection is available, the concurrent connection is used. If a concurrent connection is unavailable, the grace connection is used. If the grace connection is already in use, login fails.

For Non-Administrators:

1 If the user has been assigned an exclusive connection, the exclusive connection is used. If the exclusive connection is already in use, login fails.

2 If the user has not been assigned an exclusive connection, and a concurrent connection is available, the concurrent connection is used. If no concurrent connections are available, login fails.

Additional License Information

Inactive users are automatically timed out 30 minutes after the last user interaction. This is so licenses/connections are freed up even if a user forgets to close the browser or logout.

The Administrator can view the current sessions logged into the portal on the License Admin interface.

The License Admin interface displays the amount of time the users have been inactive.

The user activity is archived so that the Admin can see activity over time and determine if more licences need to be purchased. The Activity Dashboard shows information on both Login and Connection activity that can help you determine whether new licenses need to be purchased.

MANAGING LICENSES

The elements of the License Administration page are explained below:

1 Displays the license Add-on Status that indicates how many user sessions are allowed. There are two user session license types available:

• **Concurrent user sessions**: Number of connections available to use concurrently. Concurrent licenses do not restrict the number of Portal connections made by the same user.

• **Exclusive user sessions**: Number of exclusive user sessions licensed. Exclusive user licenses restrict the user to one Portal connection and can be assigned to ER/Studio users.

2 Lists all registered and activated license add-ons.

3 There are four Actions links:

• **Refresh**: Updates the licensing module by rereading the license file from the disk.

• **Register Add-on License**: Opens the registration page and populates the registration code with a unique number that identifies the machine on which the portal is installed and is generated by the licensing module.

• **Manager Exclusive Connections**: Opens the Exclusive Connection Administration page where the administrator can allocate exclusive licenses to ER/Studio users, up to the maximum number shown in the License Add-on Status.

• **Manage Users**: Here you can enable and disable user accounts. Only enabled accounts can be used to log in to the Portal.

4 Lists the users that are can use the application. The License Type column displays Exclusive or Concurrent depending on the license type the user is using for this connection.

NOTE: If the maximum number of connections is reached, the next login attempt will get the following error message: "Too many open sessions, please contact your administrator or Key@embarcadero.com to purchase more licenses."

The Enabled column in this section allows to the administrator to log off (disconnect) users. The current user cannot disconnect himself.

Register Add-On License

1 Log in to the application as an Administrator.

2 On the Dashboard, click **Admin** to open the Admin Services page and then click **License Admin.**

3 Under Actions, click **Register add-on license** and a Product Registration Page appears.

4 Enter the serial number that you received from Key@embarcadero.com and click Next.

   NOTE: You will have a serial number for each add-on. For example, if you bought 25 licenses you would receive two serial numbers, one for 20 connections and one for five. You have to register each serial number in order to have the 25 connections. You must complete all the licensing steps for each serial number to register each add-on.

5 The Registration Code is a number that identifies the machine and is generated by the licensing module.

6 On the Embarcadero Product Registration Login page, you can login to your existing Developer Network account or create a new account.

   • If you have an existing account enter your Login name or e-mail address, the password, and click **Next**.

   • Click **Create Account** if you need a new user account. Fill in the required information and click **Next**.

7 Review the Product, Serial Number, and Registration Code information on the Product Registration page and then select either to download or e-mail the activation file.

8 If you select **Download**, a File Download dialog appears. Click **Save** and save the file in the appropriate folder WIndows folder: [product install folder]\license (for example `C:\Program Files\ERStudioPortalX.X\license`)

9 If you select **e-mail**, you will get an auto-generated message from Embarcadero-licensing. Open the e-mail and save the attached *reg*.txt* file in the appropriate WIndows folder: [product install folder]\license (for example `C:\Program Files\ERStudioPortalX.X\license`).

10 Close the Product Registration Page.

11 Click **Refresh** on the License Administration page and the add-on license information is updated.

ADMINISTERING PERMISSIONS

The Roles to be used in Permissions are read directly from the ER/Studio Repository. Changes to permissions, roles, and users in ER/Studio are not updated until the ER/Studio Repository is synchronized with the Portal Reporting repository.

You can assign Roles to various activities and reports to limit their use.

By default, the Super User is given administrative permissions. The users assigned to the Super User role in ER/Studio can then assign permissions to other groups using this interface. It is recommended that you do not restrict access to anything that isn't a top-level element, for example the Activity dashboard.

NOTE: Users must be first created and assigned to a role in ER/Studio before they can access the Repository through the Portal.

1 Click **My Settings > Admin** to open the Admin Services page.

2 Click **Permissions** and the associated Web page appears.

3 In the **Solution Repository** area, expand the hierarchical table and select the folder or content you want to set the permission for.

NOTE: ACL entries can be created at each folder or content item level. Higher level entries provide the default setting for lower level entries. Lower level entries override the higher level entries.

4 In the **Settings** area you can set the levels of permission for each user. Select **Subscribe**, **Execute**, and/or **Write** options. Click **Update** to set the changes.

5 Click **Add** to add another user and the **Add New Permission** area appears, which displays all Roles and Users available.

6 Select the desired role and then set the permission level by selecting the **Subscribe**, **Execute**, and/or **Write** options in the same panel. Click **Add** and the new Role has been added to the list of roles in the Setting pane.

7   You can also reset the list to the default settings or add a new user at this point.

Setting a Permission

A potential use case would be to hide the Activity dashboard from the Authenticated users.

1   Click **My Settings > Admin** and then click **Permissions** (   ) and the associated Web page appears.

2   In the **Solution Repository** pane, expand the hierarchical table and select the folder **Activity**.
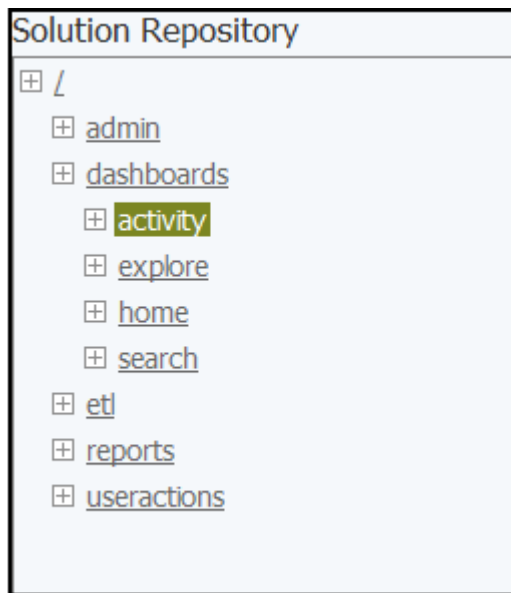
3   In the **Settings** panel change the levels of permissions for the **Authenticated** user by deselecting the **Execute** option (circled in red below).
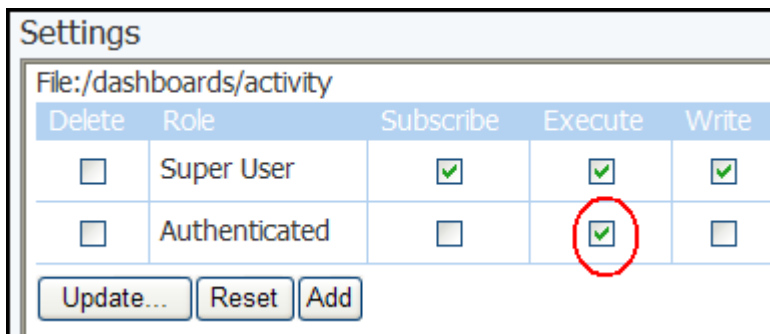
4   Click **Update** to set the changes.

> **NOTE:**   You can also set levels of permission on a user-by-user basis.

See Also

Data Synchronization Overview

Scheduling the Synchronization Process

Executing the Synchronization Process

CLEANING THE CONTENT REPOSITORY

1   Click **Admin** to open the Admin Services page.

2   Click **Clean Repository** (   ) and the associated Web page appears.

3   A new Web page appears telling you that your "Action Successful! Found and deleted 0 file(s) more than180 days old."

MODIFYING THE PORTAL IDLE TIMEOUT PERIOD

The default timeout period for an idle portal user session is 30 minutes. You can change this period if you like.

You can reconfigure the `web.xml` file from `..\ERStudio Portal2.0\tomcat\conf` to reduce the session down from 30 minutes to 10 minutes by changing the session-timeout parameter as follows.

```
<session-config>
        <session-timeout>5</session-timeout>
    </session-config>
```

After restarting the Portal, this change will be in effect all sessions.

CLEANING UP THE DISK AFTER SYNCHRONIZATION

After the Portal synchronizes with the Repository, there will be some .dm1 files in the following directories that you can delete if you're running out of disk space on the host system:

`..\ERStudio Portal2.0\PortalInf`

`...\ERStudio Portal2.0\etlvar\data\backup`

GLOSSARY

Business Reports: There are three reports available: Attribute Definitions, Business Rules, and Entity Definitions.

Diagram: A graphical presentation of a collection of model elements.

Connection Types: The Portal uses three connection types:

- **Base Administrator Connection**: This is the grace connection that comes standard with the Portal.

- **Concurrent User Connection**: The total number of connections at one time is restricted to the number purchased. There is no restriction on a login name being used more than once simultaneously to instantiate multiple user sessions.

- **Exclusive User Connection**: The total number of connections at one time is restricted to the number of ER/Studio licenses, including node locked and floating licenses. Exclusive user connections are assigned to an ER/Studio user and the user cannot have more than one user session running at any one time.

CRUD: Create, Read, Update, Delete usage relationships.

Extraction, Transformation and Load (ETL): A process in data warehousing that involves extracting data from other sources, transforming it to fit business need, and then loading it into an end target, such as the data warehouse.

Logical Model: A logical entity-relationship model conforms to relational theory and contain only fully-normalized entities. For a logical data model to be normalized, it must include the full population of attributes to be implemented and those attributes must be defined in terms of their domains or logical data types.

A logical data model requires a complete schema of identifiers or candidate keys for unique identification of each occurrence in every entity. Since there are choices of identifiers for many entities, the logical model indicates the current identify selection.

Pentaho Business Intelligence Platform: The Business Intelligence (BI) platform fields all user data requests and sends the results to the browser for presentation.

Permissions: Gives a user the ability to access the Reporting Database. The Roles to be used in Permissions are read directly from the ER/Studio Repository. By default, the Super User is given administrative permissions. The users assigned to the Super User role in ER/Studio can then assign permissions to other groups using this interface.

Physical Model: A complete physical data model includes all the database artifacts required to create relationships between tables and achieve performance goals, such as indexes, constraint definitions, linking tables, partitioned tables, and clusters.

Roles: Default roles are provided in the ER/Studio® Portal. These roles are granted permissions to access actions. The default roles are Authenticated and Super User.

Repository: A database where data is stored and maintained. For ER/Studio® Portal, the database, or repository, is associated with the ER/Studio application.

Security: All users are authenticated before they are able to run queries and reports. Each user must have a user name and password that is stored in the ER/Studio Repository database.

Solution: A set of documents defining the processes and activities required to solve a specific business intelligence problem.

Solution Repository: The Solution Repository is the location where solutions and the metadata they rely on is stored and maintained. Requests made to the platform to have actions executed rely on the action being defined in the Solution Repository.

Scheduler: Administrative function to schedule and monitor synchronization of the ER/Studio Repository with the Reporting Database.

Technical Reports: ER/Studio® Portal has six technical reports: Column Data Lineage; Domain Bindings; Entity, Submodel, Model, Diagram Report; Entity Attachments; Reference Values; and Security Classifications.

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