



Enterprise Architect

User Guide Series

# Model Navigation

How to navigate repositories? In Sparx Systems Enterprise Architect the Project Browser shows model structure. Model Searches and browsers locate items by type. A Navigator bar shows a drill-out breadcrumb trail. Traceability shows relationship chains.

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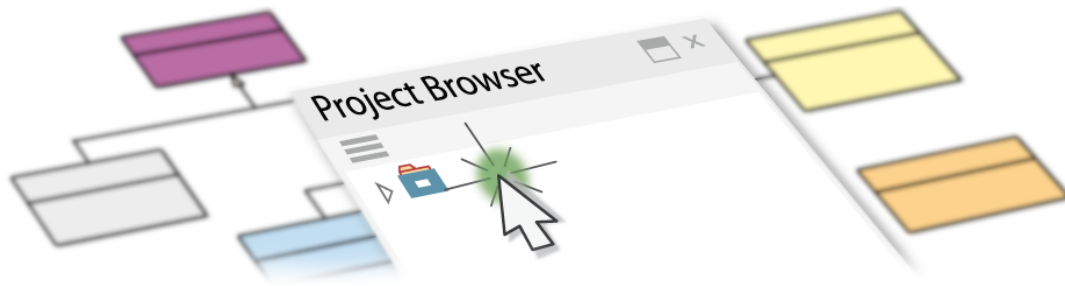
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# Model Navigation



Enterprise Architect stores valuable organizational information in a repository, and over time these repositories will become large and will often contain many thousands of elements and connectors. It is critical to be able locate entities in the repository, and Enterprise Architect provides a rich set of features for this purpose.

The Project Browser contains a hierarchical view of the repository elements, features and diagrams; knowledge of the Package hierarchy will help you to navigate through the repository and drill into and out of Packages, locating what you are looking for. There are also Package, element and resources browsers that help you to find items in the repository.

A Navigator Toolbar helps you to navigate the hierarchy of Packages in the repository using a textual breadcrumb control, showing you the current Package location.

As models become larger, using the powerful and flexible search function will make it easy to find an entity or a set of entities that meet defined criteria. There are a large number of built-in searches, but there is no limit to the searches that can be created and even novice users can define powerful and time-saving searches.

Elements in well-formed models are articulated together using relationships that create a graph of elements. The ability to traverse this graph is often termed traceability, and Enterprise Architect has a series of features such as the Traceability Window that make it easy to visualize this graph of interconnected elements, bringing the repository to life.

## Facilities

Facility
The use of the Project Browser and Package Browser to navigate and explore your model
How Model Views provide different perspectives and 'entry points' into a model.
Finding elements and relationships using the Model Search tools and custom queries
Traceability tools to help track completeness, dependencies and other behavioral and structural relationships
Use of the Diagram List or Package Browser to view model elements in a conventional list based manner
Use of the Relationship Matrix to understand and track relationships between model elements in a spreadsheet view
Using Diagram Filters to highlight information in diagrams
Using the Traceability window to explore model dependencies
Finding and working with Element Relationships

## Navigate: Exploring Your Model



Navigating is the ability to explore the hierarchical content of a repository, using the tree view windows such as the project, Package, resources and element browsers, the Traceability window, and the list view windows such as the Package and diagram lists. There is a wide range of other views that help you to navigate through content stored in a repository, such as the Gantt Chart for exploring how elements are affected over time, and the Resources Browser that stores assets such as templates, patterns and matrices. The Navigator toolbar also shows a bread crumb view of the Package hierarchy. These features are particularly useful when you have some familiarity with the structure of a repository, but you can always use the powerful search features to find random content.

### Tools

Tool
The <b>Project Browser</b> , the main interface element for exploring and navigating your model
The Package Browser - a tabular, editable view of elements in a selected Package, which can be displayed in the main workspace.
The <b>Diagram List</b> - a tabular, editable view of elements in a selected diagram, which can be displayed in the main workspace
<b>Model Views</b> provide different perspectives and 'entry points' into your model
A <b>Diagram Slide Show</b> displays a number of related diagrams in a presentation, for illustration and comparison of features of your model.
The <b>Pan and Zoom</b> window helps you to navigate around very large diagrams.
<p>The Summary View window shows a brief, read-only summary of the general properties of the currently selected:</p> <ul style="list-style-type: none"> <li>• Element (including Packages)</li> <li>• Attribute</li> <li>• Operation</li> <li>• Test</li> <li>• Maintenance item</li> <li>• Resource</li> </ul> <p>The Summary View immediately displays general information on the item in context, so you can quickly scan a number of items to locate and check those of interest to you.</p> <p>You can highlight a section of text or the complete content, and copy it to be pasted into an external document.</p> <p>The Summary View does not display details for Views, Model Packages, diagrams, instances or connectors.</p> <p>Select the 'Start &gt; Explore &gt; Properties &gt; Summary' ribbon option.</p>



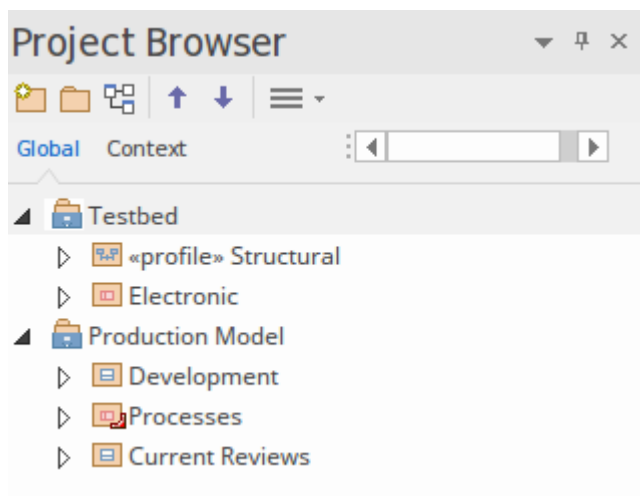
## The Project Browser

The Project Browser is a window that displays Packages, diagrams, elements and element features in a tree-like structure, reflecting the arrangement of elements and Packages within your model. The Project Browser is the primary mechanism for browsing and exploring your model and is the jumping off point for many of the most important features in Enterprise Architect. You can use it to navigate through the Enterprise Architect project space and:

- Review the structure, content and organization of your model
- Drill down to specific elements
- Drag and drop elements and Packages within the model
- Copy (duplicate) whole Packages
- Import/export model information
- Set up Version Control, locking, execution analysis and many other aspects of the model tied to a particular Package
- Document models
- Import code, xmi and csv files, database schema and other external data sources

The Project Browser provides a range of context menus through which you can perform additional actions such as adding new Packages, creating diagrams, renaming items, creating documentation and other reports, and deleting model elements. You can also edit the name of any item in the Project Browser by selecting the item and pressing F2.

The full model structure is represented in the 'Global' tab of the Project Browser.



You can also select a View, Package or element at any level and focus the display on just the portion of the structure underneath that object, in the 'Context' tab. See the *Using the Context Tab* Help topic.

The illustration shows, in the Project Browser tab bar, a horizontal scroll bar. You can select an option to show or hide this scrollbar, from the 'Application Look' dialog. See the *Visual Styles* Help topic.

### Access

Ribbon	Start > Explore > Browse > Project Browser or Show > Portals > Window > Explore > Project Browser
Keyboard Shortcuts	Alt+0

## Views

The Project Browser can be divided into Views, each of which contains diagrams, Packages and other elements. A default View hierarchy is described here, but you can create different Views to suit your requirements.

View	Description
Use Case View	The functional and early analysis View, containing Business Process and Use Case models.
Dynamic View	The dynamics of your system, containing State Charts, Activity and Interaction diagrams.
Logical View	The Class Model and Domain Model View.
Component View	A View for your system components. The high level view of what software is to be built (such as executables, DLLs and components).
Deployment View	The physical model; what hardware is to be deployed and what software is to run on it.
Custom View	A work area for other Views, such as formal requirements, recycle bin, interview notes and non-functional requirements.

## Selective Collapse to the parent element or Package

When you are working on an expanded project in the Project Browser, you might want to locate the parent element or Package of an item, and/or collapse the structure under that parent element or Package.

Step	Action
1	Position the cursor on an item within the element or Package.
2	Press the right-arrow key on the keyboard to highlight the parent.
3	Press the same key again to collapse the structure under that parent element or Package.

## Adding elements from the Diagram Toolbox

When you have a structure in the Project Browser, you can add elements to it by picking them up from the Diagram Toolbox and dropping them onto the parent element or Package. To do this, you:

- Click on the element icon in the Diagram Toolbox, then click on the parent Package or element in the Project Browser to select it, and click again to drop the element under the parent

You cannot add objects that do not display in the Project Browser, such as Note elements, Text elements, connectors or Boundaries.

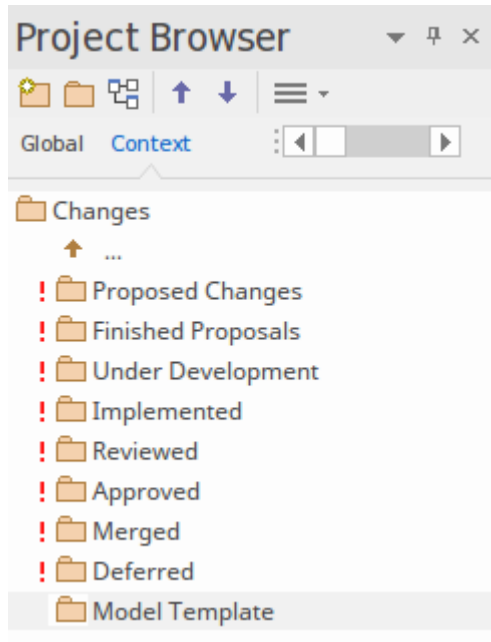
If an element is of a type that cannot be added as a child of the object in the Project Browser, an error message displays.





## Using the Context Tab

In the Project Browser, the 'Context' tab provides a simplified, focused view of a section of the model, separated from the full structure. This helps you to concentrate on the area of the model you are working on, and is very useful when you are re-organizing that section as it reduces the risk of dragging objects into the wrong area of the model.




### Access

Ribbon	Start > Explore > Browse > Context Browser or Start > Explore > Browse > Project Browser > Context or Show > Portals > Window > Explore > Context Browser
Keyboard Shortcuts	Alt+0 > Context

### Functionality

The tab shows the View, Package or element currently selected in the 'Global' tab, and its subordinate objects. It also displays the child objects of subordinate elements, but not of subordinate Packages. To display the child objects of one of these Packages, you double-click on it to make it the focus of the tab.

If the selected object is a Package or element without child objects, or a diagram, the tab has that object's parent in focus at the top, rather than the object itself.

If the currently selected object is not a model Root Node, then the second item in the 'Context' tab is a  ... icon. Double-clicking on this switches focus to the next level up in the model.

Clicking on an object in the 'Context' tab will cause Enterprise Architect to navigate to that object, displaying its properties and features in other windows that are open.

Double-clicking on a child object that itself has subordinate objects in the 'Context' tab makes that object the focus of the tab, displaying it at the top of the tab. If it does not contain other objects, the 'Properties' dialog displays.

Right-clicking on an object in the 'Context' tab displays the same context menu as in the 'Global' tab of the Project Browser.

The 'Context' tab works very well in combination with the Navigator toolbar, which displays the full hierarchy path of any object you highlight in the 'Context' tab. As you change the object in focus on one of these tools, the other is automatically updated as well. The 'Context' tab is another view of the selected section of the model, and any changes you make through the tab are reflected in all other views of the model, such as the 'Global' tab.

## Project Browser Header Bar

The Project Browser header provides access to several operations you can perform on your project structure and content, including opening the project in the first place. You can use the options in the header bar to create a new model through the Model Wizard, add Packages and diagrams to an existing model, and move objects up and down within their object groups and parent structures. These and additional options are also available through the menu displayed by the 'Hamburger' icon.



When you first open Enterprise Architect, all the icons except for the 'Hamburger' are grayed out. You can either select a model from the 'Recent' list on the Start page, or you can click on the 'Hamburger' and select the 'Open Project' option. This option displays the 'Manage Projects' dialog, through which you can locate and open the required project.

### Access

Ribbon	Start > Explore > Browse > Project Browser or Show > Portals > Window > Explore > Project Browser
Keyboard Shortcuts	Alt+0

### Icon Options

Option	Action
New Model from Pattern	Click on this icon to create a new Model Package in the project, underneath a selected Root Node. Shortcut: Ctrl+Shift+M
New Package	Click on this icon to create a new child Package under the selected Package.
New Diagram	Click on this icon to create a new child diagram under the selected Package or element.
Move Object Up	Click on this icon to move the selected object further up the Project Browser, within its parent Package.
Move Object Down	Click on this icon to move the selected object further down the Project Browser, within its parent Package.
Hamburger	Click on this icon to display a drop-down menu of options to perform various operations on the model, as described in the <i>Menu Options</i> table.

### Menu Options

Name	Action
New Model From Pattern	Select this option to create a new Model Package in the project, underneath a selected Root Node. Shortcut: Ctrl+Shift+M
New Package	Select this option to create a new child Package under the selected Package.
New Diagram	Select this option to create a new child diagram under the selected Package or element.
Open Project	Select this option to open an existing project, or to create a new project from scratch or from a base template project. Shortcut: Ctrl+O
Reload Project	Select this option to close and reload the current project, refreshing the Project Browser (in a multi-user environment, to bring in changes made by other users sharing the project). Shortcut: Ctrl+Shift+F11
New Element	Select this option to create a new child element under the selected Package or element.
Find in Project Browser	Select this option to perform a simple search for a text string in the Project Browser.
Documentation	Select this option to display a submenu from which you can select to generate, on the selected Package in the Project Browser, a: <ul style="list-style-type: none"> <li>• Document report</li> <li>• Web report</li> <li>• Joomla! Article or</li> <li>• Diagram Only report</li> </ul> Shortcuts: F8 Shift+F8 Ctrl+Shift+F8
Code Generation	Select this option to display a submenu from which you can select to: <ul style="list-style-type: none"> <li>• Generate source code</li> <li>• Generate DDL</li> <li>• Import a source directory</li> <li>• Import a binary module</li> <li>• Import a Resource Script</li> <li>• Import a database schema</li> <li>• Generate Package contents to synchronize with Package code</li> <li>• Reset the source code language</li> </ul> All these options operate on the selected Package. Shortcut: Ctrl+Alt+K Ctrl+Shift+U

	Ctrl+Alt+M
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## Project Browser Context Menus

The Project Browser provides a wide range of options to work on the objects it contains. These options are presented through a number of context-sensitive menus.

## Model (Root Node) Context Menu

The Root Node in the Project Browser is the Model element. You can have more than one Root Node and hence more than one Model element. The first level Packages beneath the Model node are sometimes referred to as Views as they commonly divide a model into categories such as Use Case Model and Logical Model. You can perform a wide range of operations on the Model nodes of your project, by selecting options from the Model context menu in the Project Browser.

### Access

Context Menu	Right-click on the Model Node
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### Options

Option	Action
Specialize	Select this option to access two sets of functions: <ul style="list-style-type: none"><li>Scripts - scripts created using the Scripting facility, to be executed on Model Nodes; click on a script name to execute it (this option is not shown if no appropriate scripts have been created)</li><li>Extensions - a list of the enabled technologies on the system, each of which provides options for performing technology-specific operations on the Package; these options are available in the Professional, Corporate, Unified and Ultimate editions of Enterprise Architect</li></ul>
Add a Model using Wizard	Select this option to add further models using the Model Wizard. The list of available Model Pattern Technologies includes the MDG Technology Builder, which creates a Model Package containing templates that you can use to generate a new MDG Technology containing a set of Profiles. Shortcut: Ctrl+Shift+M
Add Root Node	Select this option to create a new model root, without any subordinate structure or content. A prompt for the model name displays.
Add View	Select this option to create a new View (Package) underneath the model root node. The 'Create New View' dialog displays.
Package Control	Select this option to access the Package Control submenu, which provides these options: <ul style="list-style-type: none"><li>Lock Package (if the project has User Security enabled); the 'Lock/Unlock Package(s)' dialog displays</li><li>Import a Model Branch, and</li><li>Version Control Settings</li></ul>
Full Structure for	Copy the element(s) of the selected Package to the clipboard in XMI format.



Duplication	(Shortcut: Ctrl+Shift+C)
Paste Package from Clipboard	Select this option to paste a child Package from the clipboard into the selected Package.
Clone Structure as New Version	Select this option to build a clone of your current Root Node hierarchy, including diagrams, and update each object with a user defined version number. All diagram elements contained in a clone diagram are included only as linked elements (references).
Delete Project Root	Select this option to delete the Model Root node, after you have already deleted all of its subordinate Views and Packages. A prompt displays for you to confirm the deletion.
Help	Select this option to display the Help topic for the Project Browser.

## Package Options in the Project Browser

The 'Package' context menu in the Project Browser provides a wide range of options for displaying, organizing and operating on the Packages in your model.

### Access

Context Menu	Project Browser   Right-click on Package or View
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### Options

Option	Action
Specialize	<p>Select this option to access two sets of functions:</p> <ul style="list-style-type: none"> <li>Scripts - scripts created using the Scripting facility, to be executed on Views and Packages; click on a script name to execute it (this option is not shown if no appropriate scripts have been created)</li> <li>Extensions - a list of the enabled technologies on the system, each of which provides options for performing technology-specific operations on the Package; these options are available in the Professional, Corporate, Unified and Ultimate editions of Enterprise Architect</li> </ul>
Collaborate	Displays a short menu of options to exchange electronic notes with team colleagues, in the form of Reviews, Discussions and, if User Security is enabled, Chats and Model Mail messages.
Properties	Select this option to display the 'Properties' sub-menu for the Package element.
Open Package In	Select this option to display the contents of the Package either as a text description in the Specification Manager, a list of objects with their selected properties, or a Gantt chart showing resource allocations and progress.
Add a Model using Wizard	<p>Select this option to add another Model Package to the model or View, using the Model Wizard.</p> <p>Shortcut: Ctrl+Shift+M</p>
Add a Package	<p>Select this option to add another Package to the selected Package.</p> <p>Shortcut: Ctrl+W</p>
Add Diagram	Select this option to add a new diagram to the selected Package.
Add Element	<p>Select this option to add a new element to the selected Package.</p> <p>Shortcut: Ctrl+M</p>
Package Control	Select this option to access the Package Control submenu, which provides these options:

	<ul style="list-style-type: none"><li>• Lock the Package (if the project has User Security enabled)</li><li>• Import a Model Branch, and</li><li>• Version Control Settings</li></ul>
Clone Structure as New Version	Select this option to build a clone of your current Package hierarchy, including diagrams, and update each object with a user defined version number. All diagram elements contained in a clone diagram are included only as linked elements (references).
Copy/Paste	Select this option to access a menu of options for copying and moving the Package contents to other areas of the model.
Contents	Select this option to reorganize the Package contents after making changes.
Set View Icon	Select this option to display the 'Set View Icon' dialog, on which you select one of the six standard View-type icons to display beside the View name.
Delete <packagename>	Select this option to delete the selected Package and its contents. A prompt displays to confirm the deletion.
Help	Select this option to display the Help topic for the Project Browser.

## Properties Sub-Menu

The Package 'Properties' context menu provides a range of options for displaying and updating the properties, notes, Tagged Values and Linked Document of a Package element, and for locating the Package in any diagrams that contain it.

### Access

Context Menu	Project Browser   Right-click on Package   Properties
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### Options

Option	Description
Properties	Displays the Properties window for the Package element, which you can use to view and modify the element properties.
Special Action	Displays the 'Properties' dialog for the selected Package.
Notes	Displays the Notes window, showing any notes that have been written for the Package element.
Tagged Values	Displays the Tagged Values window, showing any Tagged Values (extended properties) that have been created for the Package element.
Linked Document	Displays the 'Linked Document' tab of the Document window showing the Linked Document for the Package, if one exists.

## Package Control Sub-Menu

The Package 'Package Control' context menu has two forms:

- The 'Controlled Package' form when the Package is not under Version Control, that provides options for locking a Package, importing a model branch into another model and setting up Version Control
- The 'Package Version Control' form that provides a wider range of options for managing the Package when it is under Version Control

### Access

Context Menu	Project Browser > Right-click on Package > Package Control
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## Copy/Paste Sub-Menu

The Package 'Copy/Paste' context menu provides a range of options for copying or moving Packages between parent Packages or between models, within the Project Browser. It also provides options for pasting copied elements and diagrams into a Package.

### Access

Context Menu	Project Browser   Right-click on Package   Copy/Paste
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### Options

Option	Action
Cut	Select this option to remove the selected Package from its parent Package, to be pasted under another Package. The selected Package remains where it is until the Paste operation is invoked. Shortcut: Ctrl+X
Paste	Select this option to paste a cut Package under the selected Package. If the selected Package is not a valid target, the 'Paste' option is grayed out. (This option is not available for copied Packages - use the 'Paste Package from Clipboard' context menu option.) Shortcut: Ctrl+V
Copy to Clipboard	Select this option to copy the selected element(s) (including the Package element) to the clipboard. You select one of two sub options: <ul style="list-style-type: none"><li>ID for Pasting as Link - copy the element IDs to the clipboard to be pasted into a diagram as links to the actual elements (Shortcut: Ctrl+C)</li><li>Full Structure for Duplication - copy the element(s) of the selected Package to the clipboard, in XMI format for pasting as new duplicate elements in another Package (Shortcut: Ctrl+Shift+C)</li></ul>
Paste Package from Clipboard	Select this option to paste a Package from the clipboard into the selected Package. Shortcut: Ctrl+V
Paste Element(s) from Clipboard	Select this option to paste elements copied to the clipboard into the selected Package. Shortcut: Ctrl+V
Paste Diagram	If you have copied a diagram from another Package, select this option to paste the diagram into the currently-selected Package.
Copy Documentation Bookmark	When using the Legacy Report Generator, if you want to create a complex document that consists of sections of one or more document reports, rather than one complete report, you can create a master document in Microsoft Word™ and within

	<p>it create links to the report sections using their bookmarks.</p> <p>Select this menu option to copy the bookmark on the selected Package to the clipboard, to be pasted into a search or other reference to the bookmark.</p>
Copy Node Path to Clipboard	Select this option to copy the Package's node path (hierarchy structure) to the Enterprise Architect clipboard, as a reference.
Copy Node GUID to Clipboard	Select this option to copy the Package's node GUID to the Enterprise Architect clipboard, as a reference.

## Contents Sub-Menu

The 'Contents' sub-menu of the Project Browser Package context menu provides options for collapsing and expanding the contents of a Package, bookmarking the elements of a Package, and restoring the default sort order of the Package.

### Access

Context Menu	Project Browser   Right-click on Package   Contents
--------------	---

### Options

Option	Action
Bookmarks	Select this option to bookmark all elements in the selected folder.
Expand Branch	Select this option to expand the complete contents of this branch of the Project Browser.
Collapse Branch	Select this option to collapse all items in this branch of the Project Browser.
Reset Sort Order	Select this option to return sorting of Package contents to list the child elements, child Packages and the contents of each child Package, in alphabetical order.
Reload Current Package	Select this option to refresh the current Package in the Project Browser.



## Element Options in the Project Browser

The element context menu in the Project Browser is available for all types of element. It provides options for performing a wide range of operations on both individual elements and multiple elements, including adding element properties and features, and moving the element around the project or between projects.

### Access

Context Menu	Project Browser   Right-click on element
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### Options (Single element)

Option	Description
Specialize	<p>Select this option to access two sets of functions:</p> <ul style="list-style-type: none"> <li>Scripts - scripts created using the Scripting facility, to be executed on elements; click on a script name to execute it (this option is not shown if no appropriate scripts have been created)</li> <li>Extensions - a list of the enabled technologies on the system, each of which provides options for performing technology-specific operations on the element; these options are available in the Professional, Corporate, Unified and Ultimate editions of Enterprise Architect</li> </ul>
Collaborate	Select this option to display a short menu of options to exchange electronic notes on the selected element with team colleagues, in the form of Reviews, Discussions and, if User Security is enabled, Chats and Model Mail messages.
Properties	Select this option to display the element 'Properties' sub-menu, to view and modify the element properties, notes, Tagged Values and Linked Document.
Features	<p>Select this option to display a short submenu for managing Attributes and Operations (both via the Features window) and - for a Class element with attributes - to pre-define initial values for attributes that can be used to override existing defaults.</p> <p>Shortcuts: F9 (Attributes) F10 (Operations) Ctrl+Shift+R (Attribute Initializers)</p>
Add	Select this option to access a submenu of options for creating a child element and diagram (Classifier elements) or a connector to another element.
Copy/Paste	Select this option to access a menu of options for copying and moving the Package contents to other areas of the model.
Find in all Diagrams	<p>Locates the element in any diagram that contains it. If the element is in a single diagram, the diagram displays. If the element is not in any diagram, or is in more than one diagram, the 'Element Usage' dialog displays. You can select the diagram containing the instance of the element you require.</p> <p>This option also operates on Port and Part Property Type Classifiers.</p>

Locate in Current Diagram	Select this option to select the element in the currently-visible diagram. If the element is not in the diagram, this option is grayed-out.
Lock	Select this option to apply or release a lock for editing the selected element. (The option is displayed only when user security is enabled in User/Group locking mode)
View Audit History	Select this option to open the Audit View to see a history of changes made to the selected element.
Delete <element Name>	Select this option to delete the element. A prompt displays for you to confirm the deletion.
Help	Select this option to display the Help topic for the Project Browser.

## Options (Multiple elements)

Option	Description
Scripts	Lists any scripts created using the Scripting facility, to be executed on multiple elements; click on a script name to execute it (this option is not shown if no appropriate scripts have been created).
Collaborate	This option displays if User Security is enabled on the model. It provides the single suboption 'Send Message', which displays the 'Create Message' dialog to create and send a message containing a hyperlink to each of the selected objects.
Print Diagram(s)	This option enables you to print the diagram or diagrams that contain the selected elements.
Generate Documentation	Select this option to display the 'Generate Documentation' dialog, through which you can generate a report on the selected elements.
Copy to Clipboard	Select this option to copy the selected elements to the clipboard. You select one of two sub options: <ul style="list-style-type: none"> <li>ID for Pasting as Link - copy the element IDs to the clipboard to be pasted into a diagram as links to the actual elements (Shortcut: Ctrl+C)</li> <li>Full Structure for Duplication - copy the elements to the clipboard in XMI format, for pasting as new duplicate elements in another Package (Shortcut: Ctrl+Shift+C)</li> </ul>
Delete selected item(s)	Select this option to delete the selected group of objects from the Project Browser and the model. A prompt displays for you to select whether to delete each item in turn (click on the Yes button) or all items together (click on the Yes to All button).

## Properties Sub-Menu

The element 'Properties' context menu provides a range of options for displaying and updating the properties, notes, Tagged Values and Linked Document of an element, and for locating the element in any diagrams that contain it.

### Access

Context Menu	Project Browser   Right-click on element   Properties
--------------	---

### Options

Option	Description
Properties	Displays the Properties window for the element, which you can use to view and modify the element properties.
Special Action	Displays either the 'Properties' dialog for the element or, for specialized elements, the dialog that defines their action. For example, if this option is selected for a Checklist Artifact, the 'Checklist Items' dialog displays for defining the checkbox items in the list.
Notes	Displays the Notes window, showing any notes that have been written for the element.
Responsibilities	Displays the Responsibilities window, through which you can add and update internal Requirements (Responsibilities), Scenarios and Constraints on the element.
Tagged Values	Displays the Tagged Values window, showing any Tagged Values (extended properties) that have been created for the element.
Summary	<p>Displays the Summary View of the selected element, which provides a brief, read-only summary of the general properties of the currently selected:</p> <ul style="list-style-type: none"><li>• Element (including Packages)</li><li>• Attribute</li><li>• Operation</li><li>• Test</li><li>• Maintenance item</li><li>• Resource</li></ul> <p>The display refreshes immediately as you select different objects and items. You can highlight a section of text or the complete content, and copy it to be pasted into an external document.</p> <p>The Summary View does not display details for Views, Model Packages, diagrams, instances or connectors.</p>
Linked Document	Displays the 'Linked Document' tab of the Document window showing the Linked Document for the element, if one exists.




## Add Sub Menu

The element 'Add' submenu provides a list of appropriate elements that can be added as child elements to the selected element. It also provides options for creating child diagrams, including Composite diagrams, and for adding connectors.

### Access

Context Menu	Project Browser   Right-click on element   Add
--------------	--

### Options

Option	Description
Port	Select this option to add a Port element to the border of the selected element.
Composite Structure Diagram	Select this option to set the selected element as a Composite Element and create a new Composite Structure diagram (if none exists). If the selected element already contains a child diagram, the existing diagram will instead be referenced as the element's Composite diagram.
Select Composite Diagram	Select this option to set the selected element as Composite and link it to a specified diagram. The linked diagram could exist anywhere within the current repository.
Activity	Select this option to add an Activity behavior element and one of its associated diagrams to the selected classifier element.
Interaction	Select this option to add an Interaction behavior element and one of its associated diagrams to the selected classifier element.
StateMachine	Select this option to add a StateMachine Behavior element and one of its associated diagrams to the selected classifier element.
RuleFlow Activity	Select this option to add a Rule Flow Activity element and associated diagram to a Class, in Business Rule Modeling.
Construction Diagram	Select this option to create a Construction rendition of the element on a Construction diagram. The Construction rendition is a rectangular element outline with a  in the bottom right corner, and compartments automatically enabled; the compartments show various Project Management items with Progress Bars where appropriate, as you define them in the Construct window.
Add Diagram	Select this option to create a diagram to explain or expand on the selected classifier element, using the 'New Diagram' dialog.
Add Custom Reference	Select this option to set up cross references between elements in a diagram and the selected element in the Project Browser.

Create Link	Select this option to create a connector to another element.
-------------	--

## Notes

- Elements such as Actors, Classes and Activities can define a large amount of information that can be conveniently represented by or expanded in a child diagram; the 'Add' sub-menu for these elements provides all of the options listed
- Elements such as Timing, Exit and History have much more specific functions that do not require expansion; the 'Add' sub-menu for these elements only provides the 'Create Link' option

## Element Copy/Paste Submenu

The element 'Copy/Paste' context menu provides a range of options for copying or moving elements between Packages or between models, within the Project Browser.

### Access

Context Menu	Project Browser   Right-click on element   Copy/Paste
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### Options

Option	Description
Copy to Clipboard	<p>Select this option to copy the selected element and any sub-structure to the clipboard. You select one of two sub options:</p> <ul style="list-style-type: none"> <li>ID for Pasting as Link - copy the element ID to the clipboard to be pasted into a diagram as link to the actual element (Shortcut: Ctrl+C)</li> <li>Full Structure for Duplication - copy the element(s) to the clipboard in XMI format, for pasting as new duplicate elements in another Package (Shortcut: Ctrl+Shift+C)</li> </ul>
Cut	<p>Select this option to remove the selected element from its parent Package, to be pasted under another element or Package. The selected element remains where it is until the Paste operation is invoked.</p> <p>Shortcut: Ctrl+X</p>
Paste	<p>Select this option to paste a cut element under the selected element or Package. If the selected element is not a valid target, the 'Paste' option is grayed out.</p> <p>(This option is not available for copied elements - use the 'Paste Package from Clipboard' menu option in the Package context menu.)</p> <p>Shortcut: Ctrl+V</p>
Copy Documentation Bookmark	<p>When using the Legacy Report Generator, if you want to create a complex document that consists of sections of one or more document reports, rather than one complete report, you can create a master document in Microsoft Word™ and within it create links to the report sections using their bookmarks.</p> <p>Select this menu option to copy the bookmark to the clipboard, to be pasted into a search or other reference to the bookmark.</p>
Paste Diagram	<p>Select this option to paste an existing diagram as a child of the selected element.</p> <p>The diagram would have been copied to the clipboard by right-clicking on the diagram in the Project Browser and selecting the 'Copy Diagram' menu option.</p>
Copy Node Path to Clipboard	<p>Select this option to copy the Package's node path (hierarchy structure) to the Enterprise Architect clipboard, as a reference.</p>

Copy Node GUID to Clipboard	Select this option to copy the Package's node GUID to the Enterprise Architect clipboard, as a reference.
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## Diagram Menu - Project Browser

The diagram context menu in the Project Browser is available for all types of diagram. It provides options for performing a wide range of operations on one diagram or several diagrams, and for moving a diagram around the project or between projects.

### Access

Context Menu	Project Browser   Right-click on Diagram
--------------	--

### Options

Option	Action
Specialize	<p>Select this option to access two sets of options:</p> <ul style="list-style-type: none"> <li>Scripts - a list of scripts created using the Scripting facility, to be executed on diagrams; click on a script name to execute it (this option is not shown if no appropriate scripts have been created)</li> <li>Extensions - a list of the enabled technologies on the system, each of which provides options for performing technology-specific operations on the diagram; these options are available in the Professional, Corporate, Unified and Ultimate editions of Enterprise Architect</li> </ul>
Collaborate	Select this option to display a short menu of options to exchange electronic notes on the selected diagram with team colleagues, in the form of Reviews, Discussions and, if User Security is enabled, Chats and Model Mail messages.
Properties	This option provides access to the Properties window for the diagram.
Open	Select this option to open the diagram in the Diagram View. (You can also double-click on the diagram name in the Project Browser.)
Lock Diagram	Select this option to display the 'Lock Diagram' dialog, on which you can set, change and release the editing lock on the selected diagram.
Show Diagram Versions	<p>When a diagram is cloned, a custom reference is added to the diagram (in the <code>t_xref</code> table). This custom reference provides information on the clone, through the 'Show Diagram Version' dialog.</p> <p>Select this option to display the 'Show Diagram Versions' dialog.</p>
Copy / Paste	Select this option to access a menu of options for copying and moving the diagram to other areas of the model.
Print Diagram(s)	<p>Select this option to print the currently-selected diagram or diagrams (hold Ctrl or Shift while selecting).</p> <p>The 'Print' dialog displays, on which you specify the print parameters.</p> <p>By de-selecting the 'Printable' option on an element on a diagram, you can omit that</p>

	element and its connectors from the printed diagram. Shortcut: Ctrl+P
Delete '<diagram name>'	Select this option to delete the selected diagram. A prompt displays to confirm the deletion.
Help	Select this option to display the Help topic for the Project Browser.

## Diagram Copy/Paste Menu

The diagram 'Copy/Paste' context menu provides a range of options for copying or moving diagrams between Packages or between models, within the Project Browser.

### Access

Context Menu	Project Browser   Right-click on diagram   Copy/Paste
--------------	---

### Options

Option	Action
Cut	<p>Select this option to remove the selected diagram from its current location, to be pasted under another Package or element. The selected diagram remains where it is until the 'Paste Diagram' operation is invoked.</p> <p>To paste the diagram, use the:</p> <ul style="list-style-type: none"><li>'Copy/Paste   Paste Diagram' option on the Package context menu, or element context menu</li></ul> <p>Shortcut: Ctrl+X</p>
Paste	Not used.
Copy Diagram	Select this option to copy the diagram for pasting into another location.
Copy Documentation Bookmark	<p>When using the Legacy Report Generator, if you want to create a complex document that consists of sections of one or more document reports, rather than one complete report, you can create a master document in Microsoft Word™ and within it create links to the report sections using their bookmarks.</p> <p>Select this menu option to copy a bookmark on the diagram to the clipboard, to be pasted into a search or other reference to the bookmark.</p>
Copy Node Path to Clipboard	Select this option to copy the diagram's node path (hierarchy structure) to the Enterprise Architect clipboard, as a reference.
Copy Node GUID to Clipboard	Select this option to copy the diagram's GUID to the Enterprise Architect clipboard, as a reference.

## Operation or Attribute Menu - Project Browser

The separate but almost identical 'Operation' and 'Attribute' context menus in the Project Browser provide options for performing a number of tasks on the features (operations and attributes) of an element.

### Access

Context Menu	Project Browser   Right-click on Feature
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### Options







Option	Action
Specialize	<p>Provides access to two sets of functions:</p> <ul style="list-style-type: none"> <li>Scripts - scripts created using the Scripting facility, to be executed on attributes and operations; click on a script name to execute it (this option is not shown if no appropriate scripts have been created)</li> <li>Extensions - a list of the enabled technologies on the system, each of which provides options for performing technology-specific operations on the attribute or operation; these options are available in the Professional, Corporate, Unified and Ultimate editions of Enterprise Architect</li> </ul>
Collaborate	Select this option to display a short menu of options to exchange electronic notes on the selected feature with team colleagues, in the form of Reviews, Discussions and, if User Security is enabled, Chats and Model Mail messages.
Properties	<p>Displays a short sub-menu providing these options:</p> <ul style="list-style-type: none"> <li>Properties - Displays the Properties window showing details for the selected feature</li> <li>Notes - (For attributes) Displays the notes recorded on the attribute, in the Notes window</li> <li>Tagged Values - (For attributes) Displays the Tagged Values recorded for the attribute, in the Tagged Values window</li> <li>All Features - Displays the Features window to access other types of feature on the same parent element</li> </ul>
Copy Reference	<p>Select this option to copy a reference to the feature to the Enterprise Architect clipboard.</p> <p>Select the appropriate sub-option to copy the:</p> <ul style="list-style-type: none"> <li>Selected hierarchy structure (Node Path)</li> <li>Node GUID</li> </ul>
View Source Code	<p>Select this option to open the Source Code Viewer and display the code for the feature.</p> <p>Shortcut: F12</p>

Cut	<p>Select this option to cut the feature from its current element and paste it into another element. The feature does not move from the original element until you paste it into the target.</p> <p>Use the element 'Copy/Paste   Paste' menu option to paste the feature into its new parent.</p>
Paste	Not used.
Delete Attribute / Operation	<p>Select this option to delete the feature.</p> <p>The feature is immediately removed from the element.</p>
Help	Select this option to display the Help topic for the Project Browser.

## Project Browser Icon Overlays



The Project Browser displays the status of each Package in the model by overlaying status icons on the Package icon. The meaning of each overlaid icon is provided here.


### Icon Overlays

Icon Overlay	Indicates that...
	This Package is controlled and is represented by an XMI file on disk; Version Control either is not being used or is not available. You can edit the Package.
	This Package is Version Controlled and checked out to you, therefore you can edit the Package.
	This Package is Version Controlled and not checked out to you, therefore you cannot edit the Package (unless you check the Package out).
	This Package is Version Controlled, but you checked it out whilst not connected to the Version Control server. You can edit the Package but there could be version conflicts when you check the Package in again.
	This Package is a namespace root, which denotes where the namespace structure starts; Packages below this point are generated as namespaces to code.
	The version-controlled Package has been flagged as Read Only, using a Package control method applied through the Automation Interface - as a script, for example. The padlock icon displays with other Package control icons except for the 'blue box' (third item in the list), which takes precedence. The Read Only flag can be applied to Packages whether they are checked-in or checked-out.
	MDG Add-Ins specify their own icon to denote that this branch of the model belongs to that Add-In. All Packages connected to an MDG Add-In correspond to a namespace root, so the namespace root icon is not displayed.

### Feature Scope

Similarly, the Project Browser indicates attribute and operation scope status with icons.

Icon Overlay	Indicates that...
 	The attribute or operation is scoped as protected.

	The attribute or operation is scoped as private.
---	--

## Notes

- In the Corporate, Unified and Ultimate editions, if project User Security is on, the Project Browser also has element locking indicators (red and blue exclamation marks) that indicate the lock status of individual elements and Packages  
The availability of these elements for editing depends on whether user locks are required or not

## Order Package Contents

Ordering elements is very important when it comes to structuring your model, especially Packages. Report documents honor any custom ordering when printing documentation. You can change the order of elements listed in the Project Browser.

By default, elements are first listed in:

- Order of type, then
- Order of set position, then
- Alphabetically

You can use the Project Browser toolbar arrows to move an element up or down within its type, but not outside its type. This means you can re-sequence Packages or diagrams or Use Cases, but you cannot mix up elements.

However, you can change this default behavior to allow elements to be re-ordered within the Package, regardless of type.



## Set Default Behavior

The 'General' page of the 'Preferences' dialog provides options for altering the behavior of the Project Browser.

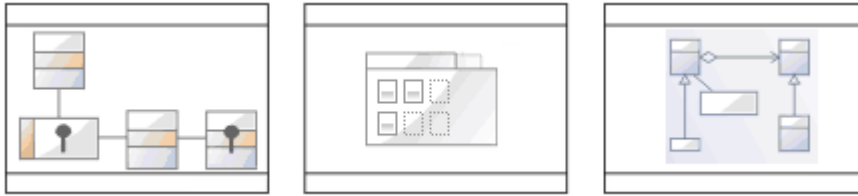
### Access

Ribbon	Start > View > Preferences > General
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### Options

Panel	Option
Project Browser	<p>Select the appropriate checkboxes to engage particular facilities in the Project Browser:</p> <ul style="list-style-type: none"><li>• 'Confirm Deletes' - This checkbox defaults to selected to display a confirmation prompt whenever you delete a model component; only clear the checkbox to bypass the prompt if you are an experienced user and have taken other measures to identify and recover from accidental deletes</li><li>• 'Allow Free Sorting' - Select this checkbox to be able to re-order elements listed within a Package regardless of type, in the Project Browser</li><li>• 'Show Stereotypes' - Select this checkbox to display element stereotype names in front of the element name, in the Project Browser (you must shut down and restart Enterprise Architect for this change in setting to take effect); you assign a stereotype to an element in its 'Properties' dialog</li></ul>

## Model Views












The Model Views facility captures information on the objects in your model from different aspects that you define yourself, helping you to encapsulate your model under the areas you are interested in.

### Access

Ribbon	Show > Portals > Window > Explore > Model Views or Start > Explore > Browse > Model Views
Keyboard Shortcuts	Ctrl+Shift+F5

### Features

Feature	Detail
View Root Nodes	<p>There are three types of View root-node available:</p> <ul style="list-style-type: none"> <li>Model Views - stored in the model and visible to all users; you can have many of these</li> <li>My Views - stored locally on your machine and visible only to you; you can have only one of these</li> <li>Technology-defined Views - read only; each View is stored with and populated by the corresponding active MDG Technology</li> </ul> <p>Additionally, there is a Recent Team Library folder that contains current correspondence from the Team Library concerning items that are held in any of the Views; this folder has a separate repository of postings for each Team Library server connection you access through the model. You can control how recent these postings must be, and how many are to be listed.</p> <p>When you open the Model Views window for the first time on a project, a Model Views root section, My Views root section and Recent Team Library folder are added for you. These can not be deleted or renamed; however, you can create further Model View root nodes that you can modify and delete.</p>
Subordinate Folders	<p>Under the My Views root node you can add a single level of View folders, which enable you to group Search View folders as best suit your requirements.</p> <ul style="list-style-type: none"> <li>A Search View is a folder of elements or structures that you assemble by assigning a model search to the folder; when you double-click on or expand the folder, the search runs and refreshes the folder contents</li> <li>You can also set a search to refresh at a defined interval, and to notify you if new results are found</li> </ul>

	<p>Under a Model View root node you can create Views folders that can contain Search View folders, Slideshow folders and Favorites folders.</p> <ul style="list-style-type: none"> <li>• A Slideshow folder contains diagrams only, which you can display as a slide show with diagrams being shown in the sequence in which they are listed in the folder</li> </ul> <p>One folder represents one slide show - you can run the slide show automatically or manually; in either case the diagrams are closed after they have been displayed</p> <ul style="list-style-type: none"> <li>• A Favorites folder gives you easy access to commonly-used items in the Project Browser; to create hyperlinks in a Favorites folder to the required items in the Project Browser, drag items from the Project Browser into the Favorites folder</li> </ul> <p>You can also export all of the View folders containing Views from any root section as an XML file, and import a Views XML file as an additional, editable Model View root node.</p> <p>These are single-level items; if you drag a Package into the Favorites folder, you cannot expand that Package there.</p> <p>To select specific items inside a Package, expand it in the Project Browser and then drag the items into the Favorites folder.</p>
Key to Model View Contents	<p>Items on the model view can be identified by their accompanying icons:</p> <ul style="list-style-type: none"> <li> - A Model Views root node</li> <li> - A View Folder</li> <li> - A Favorites Folder</li> <li> - A View (search-based)</li> <li> - A Slideshow Folder</li> <li> - The My Views root node</li> <li> - The Recent Team Library folder</li> <li> - A repository of documents from a selected Team Library, concerning elements in the Model Views</li> <li> - The recent posts folder for the selected Team Library</li> </ul> <p>MDG Technologies can define their own Model Views, in which case they will display their own technology-specific icon</p>
Accessing Operations	<p>To perform operations on the Model View contents, you can use the:</p> <ul style="list-style-type: none"> <li>• Model Views window Toolbar or the</li> <li>• Item context menus</li> </ul> <p>Each level of the Model Views hierarchy has a slightly different context menu.</p>

# Model Views Toolbar

This material walks through the functions and capabilities of the Model Views toolbar.

## Access





Ribbon	Show > Portals > Window > Explore > Model Views > Toolbar or Start > Explore > Browse > Model Views > Toolbar
Keyboard Shortcuts	Ctrl+Shift+F5 > Toolbar

## Toolbar Options



The availability of the Model Views toolbar options depends on the type of object selected. The options are, from left to right:

Icon	Action
	Click on this icon to display the appropriate 'Properties' dialog for the selected item. Shortcut: Double-click on the item, or press the Enter key
	Click on this icon to locate the selected object in any diagrams in which it has been used in the model, and either: <ul style="list-style-type: none"> <li>• Display the single diagram with the object highlighted or</li> <li>• List the several diagrams in which the object has been located</li> </ul>
	Click on this icon to locate and highlight the selected object in the Project Browser.
	Click on this icon to create a new Model View root node, and to display the 'New Model View' dialog in which you enter the root node name.
	Click on this icon to create a new Views folder in the currently-selected root node.
	Click on this icon to create a new Favorites folder in the currently-selected Views folder.
	Click on this icon to create a new Slideshow folder in the currently-selected Views folder.
	Click on this icon to create a new View in the currently-selected Views folder, and to display the 'Create New View' dialog to define the search that populates the View.
	Click on this icon to refresh the selected Model Views root node, folder, View or

	Favorites; for a View, this runs the Model Search defined in the View properties.
	Click on this icon to move the currently-selected object up or down within its type; you cannot move - for example - a Package below a diagram, or a View above a Favorites folder.
	<p>Click on this icon to delete the selected object and - if appropriate - its contents. A prompt displays to confirm deletion.</p> <p>You cannot delete the original Model Views, My Views or Recent Team Library root nodes, or any technology-defined Views.</p>
	Click on this icon to display Help on the Model Views.

## Model Views Context Menus

This section details the options available from the Model Views context menu.

### Access

Ribbon	Show > Portals > Window > Explore > Model Views : Right-click on object or Start > Explore > Browse > Model Views : Right-click on object
Keyboard Shortcuts	Ctrl+Shift+F5 : Right-click on object

### Options

The Model Views window context menus display different options, depending on which level of the Model Views hierarchy you right-click on.

Menu Option	Action
Properties	<p>(Not for the My Views, Recent Team Library, initial Model Views or Technology-defined root nodes.)</p> <p>Display the appropriate 'Properties' dialog for the selected object.</p> <p>You can edit any of the properties, if required; changes to objects populated from the model are reflected in all other views (Properties window, diagrams, reports) of that object.</p> <p>The 'Properties' option for the Documents and Comments folder displays the 'Recent Post Options' dialog, which enables you to specify the number of days back from which to extract postings from the Team Library, and the number of postings to list.</p> <p>The 'Properties' option for a Slideshow folder displays the 'Slideshow Properties' dialog, which enables you to automate the slide show and set the number of seconds for which each diagram is displayed.</p> <p>If you deselect the 'Enable' checkbox, you must press Spacebar to display each diagram.</p>
New Views Folder	<p>(Root node only)</p> <p>Display a prompt for the Views folder name and create the folder in the selected root node.</p>
Import Views From XML	<p>(Root node only)</p> <p>Prompt for the XML file location and create a new Model Views node to hold the imported Views.</p>
Export to XML (Views Only)	<p>(Root node only)</p> <p>Prompt for a file path and name, and copy all Views under the selected root node to an XML file at that location.</p>
Remove Model View	<p>(Not for the My Views, initial Model Views or Technology-defined root nodes)</p>

	Display a prompt to delete the selected user-defined Model View and, if confirmed, delete the root node and all contents.
New Search Folder	(View folder only) Display the 'Create New View' dialog (similar to the 'View Properties' dialog) for you to define the search that populates the View.
New Favorites Folder	(View folder only) Display the 'Create a new favorites based folder' dialog, which prompts for the folder name.
New Slideshow	(Model View, View folder only) Display the 'Create a new slideshow' dialog, in which you type the name of the slide show. You must use the 'Properties' dialog to define the properties of the slide show.
Open Search	(View only) Display the Model Search screen in the main work area, listing the full results of the search and giving access to all the facilities of the Model Search. Shortcut: Shift+Space
Refresh	Refresh the search and open the View or Documents and Comments repository to show the elements or documents retrieved by the search. Shortcut: Space
Double Click Opens Search	Enable you to perform the 'Open Search' function by double-clicking on the View. If you deselect this option, double-click refreshes the search and opens the View to show the elements retrieved by the search.
Edit Connections	Display the 'Team Documents Server Connections' dialog, to select which model to open.
Remove Folder	(View folder only) Display a prompt to delete the selected Views folder and, if confirmed, delete the folder and all contents.
Remove View	Display a prompt to delete the selected View and, if confirmed, delete the View and all contents.
Remove Favorites	Display a prompt to delete the selected Favorites folder and, if confirmed, delete the folder and all contents.
Remove Slideshow	Display a prompt to confirm deletion of the selected slide show and, if confirmed, delete the slide show and all its diagrams.
Run Slideshow	Run the slide show in the Diagram View.
Run Slideshow Full Screen	Run the slide show in full screen mode, so that the slide show fills the whole screen.
Stop Slideshow	Cancel execution of the slide show running in the Diagram View. Shortcut: <b>Esc</b>

In Project Browser	(An element, diagram or Package object only) Highlight the selected item in the Project Browser.
In Diagrams	(An element or child Package object only) Locate the selected object in any diagrams in which it has been used in the model, and either: <ul style="list-style-type: none"><li>• Display the single diagram with the object highlighted or</li><li>• List the several diagrams in which the object has been located</li></ul>
Remove Linked Item	(An element, diagram or Package object only) Display a prompt to delete the selected object and, if confirmed, remove the object from the folder. This has no effect on the object in the Project Browser or any diagrams. You would not delete an object in a View, as it is replaced the next time the View is refreshed.
Help	Display Help on Model Views.




# Model Views Operations

From the Model Views window you can perform a number of operations to define the information you extract from the model and to further process that information, as described here.

## Access

Ribbon	Show > Portals > Window > Explore > Model Views or Start > Explore > Browse > Model Views
Keyboard Shortcuts	Ctrl+Shift+F5

## Operations

Operation	Detail
Define View Search	<p>When you:</p> <ul style="list-style-type: none"> <li>Create a View, the 'Create New View' dialog displays</li> <li>Display the View properties, the 'View Properties' dialog displays</li> </ul> <p>These dialogs are identical.</p> <p>In the 'Name' field, type a name for the View.</p> <p>In the 'Search' field, either:</p> <ul style="list-style-type: none"> <li>Click on the drop-down arrow and select an existing search from the lists, or</li> <li>Click on the  button to display the 'Manage Searches' dialog, edit an existing search or define a new one, then close the dialog and select that search name in the 'Search' field</li> </ul> <p>A custom SQL search statement should return the GUID and type of the object found so that the system can search for the selected item in the Project Browser. The SELECT statement is case-sensitive and should be typed as shown:</p> <pre>SELECT ea_guid AS CLASSGUID, Object_Type AS CLASSTYPE, Name FROM t_object</pre> <p>If required, in the 'Search Term' field type a specific value to search for.</p> <p>If you are working with the Corporate or extended versions of Enterprise Architect, and you want the search to run automatically and refresh the results, select the 'Refresh this search' checkbox.</p> <p>The 'Frequency' field has three sections, for hours, minutes and seconds; click on the appropriate section and use the up and down arrows at the end of the field to set the interval for refreshing the search results.</p> <p>You can also set the refresh to display a pop-up notification if the search results change. To do this, select the 'Notify me when new results found' checkbox.</p> <p>Click on the OK button; the View is created (or updated) in a collapsed state. When you expand the View, the search executes and populates the View.</p>
Display Recent Postings	If a new document is added to the Team Library, or an existing document is

	<p>updated, that document is also added automatically to the <i>Recent Team Library</i>   <i>&lt;Connection&gt;</i>   <i>Documents and Comments</i> folder in the Model View.</p> <p>To open a document, double-click on the entry; the 'Team Document' tab displays, showing the selected message.</p> <p>You can control how many documents are displayed, and for what period of time, using the 'Model Views' context menu for the <i>Recent Team Library</i> folder.</p>
Move Objects Into Favorites	<p>Drag any required Package, diagram or element from the Project Browser into the required Favorites folder.</p>
Move Objects Between Views	<p>Views and Favorites folders are fixed in the Views folder in which you create them, and you cannot move them.</p> <p>However, you can:</p> <ul style="list-style-type: none"> <li>• Copy (by dragging) objects from any View into any Favorites folder, and</li> <li>• Move (by dragging) objects between any two Favorites folders</li> </ul>
Use Objects From Model Views	<p>To make use of an element, diagram or Package held in any View or Favorites folder, click on the item and drag it into a diagram or a Team Library posting</p> <p>The item behaves in the same way as if you dragged it from the Project Browser.</p>
Create Documents containing Objects	<p>A very useful feature of the Model Views facility is the ability to drag separate items from the Views into an existing Linked Document.</p> <p>To do this you create your Linked Document, generate your Model View, and open the document and Model View as docked windows. You then drag the items - individually or as a multiple selection - from the View into the document, selecting one of two options:</p> <ul style="list-style-type: none"> <li>• 'Insert as Hyperlink(s)' and</li> <li>• 'Render as RTF'</li> </ul> <p>If you select 'Insert as Hyperlink(s)', a hyperlink is embedded in the document for each dragged object, linking to the object in the Project Browser.</p> <p>If you select 'Render as RTF', a prompt displays for you to select the RTF template (if any) from which to generate a small report on the dragged objects. You can select different templates for different objects. However, there must be compatibility between the selected object type (such as Diagram) and the RTF template used (such as Diagram report).</p> <p>You can have hyperlinked objects and RTF-rendered objects in the same document.</p>
Export/Import Views	<p>You export Views to create an XML file that you can:</p> <ul style="list-style-type: none"> <li>• Import into another model as a user-created Model View or</li> <li>• Call from an MDG Technology Selection (MTS) file to access the Technology-defined View provided by the active MDG Technology</li> </ul> <p>The export and import functions are available from the Model Views root-node context menus.</p> <p>When you use the export function, it acts on the complete set of View folders in the selected 'My Views' root node, Model Views root node, or user-generated root node; you cannot export individual Views, nor can you export <i>Favorites</i> folders.</p> <p>The function displays the 'Save As' dialog, on which you browse for the directory location for the exported XML file, and specify the file name.</p> <p>When you use the import function, it displays the 'Select Import Filename' dialog on which you browse for the directory and XML file you want to import; the import creates a new Model View folder with the same name as the copied root node.</p>

<p>Set Up a Technology-Defined View</p>	<p>To set up the Technology-defined View for an MDG Technology, you:</p> <ol style="list-style-type: none"><li>1. Create a user-generated Model View in Enterprise Architect while using the technology.</li><li>2. Populate it with the required View folders and Views.</li><li>3. Export the Views from that Model View as an XML file to an appropriate location.</li><li>4. Create a call to the file from the technology's MTS file.</li></ol> <p>Thereafter, any model for which the MDG Technology is active automatically displays those Views in a Technology-defined View.</p>
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## Diagram Slide Show

The slide show facility in the Model Views window enables you to create and run screen-based presentations of sets of diagrams. When you run a slide show, it displays the diagrams in the folder in the sequence in which they are listed in the folder. After each diagram has been displayed, it is closed. You can use this facility to:

- Create a slide show as a folder within a Views folder under a Model View node
- Run a slide show manually
- Run a slide show automatically with each diagram displaying for a period that you define
- Display a slide show within the Enterprise Architect work area
- Display a slide show in full screen mode
- Delete a slide show

### Access

Ribbon	Show > Portals > Window > Explore > Model Views or Start > Explore > Browse > Model Views
Keyboard Shortcuts	Ctrl+Shift+F5

### Create a slide show





Step	Action
1	Under a Model Views node, click on the Views folder to contain the slide show.
2	Either: <ul style="list-style-type: none"> <li>• Right-click on the <i>Views</i> folder and select the 'New Slideshow' option or</li> <li>• Click on the 'New Slideshow folder' icon in the Model Views toolbar</li> </ul> The 'Create a New Slideshow Folder' dialog displays.
3	In the 'Name' field, type the name of the slide show.
4	Click on the OK button. The new slide show folder is added to the selected View folder.
5	Dock the Project Browser window separately from the Model Views window.
6	Drag the diagrams to be displayed as part of the slide show from the Project Browser into the new slide show folder. Organize the diagrams in the order in which they are to be displayed, using the up/down green arrows in the Model Views toolbar. To remove a diagram that is not required, right-click on it in the slide show folder and select the 'Remove Linked Item' option.





	The diagram items in the slide show folder are links to the diagrams in the Project Browser, not copies of the diagrams or the diagrams themselves; any actions you take in the slide show have no impact on the original diagrams.
7	Close the folder.

## Define how the slide show is to operate - automated or manual

Step	Action
1	Right-click on the slide show folder and select the 'Properties' option. The 'Slideshow Properties' dialog displays.
2	To automate the slide show, select the 'Enable' checkbox. To run the slide show manually, deselect the checkbox.
3	If you are automating the slide show, in the 'Time' field type the number of seconds that each diagram is to remain on display.
4	Click on the OK button.

## Run a slide show of diagrams, in either Diagram View or full screen

Step	Action
1	Right-click on the slide show folder and select either the: <ul style="list-style-type: none"> <li>'Run Slideshow' option, to run the slideshow in the Diagram View</li> <li>'Run Slideshow Fullscreen' option to run the slideshow using the full screen</li> </ul> The first diagram in the slide show displays.
2	If you have set up the slide show to run automatically, you can leave it to display the diagrams as defined. You can also moderate the slide show using manual commands.
3	If you are controlling the slide show manually, right-click on a slide. This toolbar displays: 
4	Control the slide show using these toolbar icons and other aids: <ul style="list-style-type: none"> <li>Display the next slide - , (Spacebar) or (→)</li> <li>Display the previous slide - , (←)</li> <li>Display the first slide - , (↑)</li> </ul>

	<ul style="list-style-type: none"><li>• Display the final slide - , (↓)</li><li>• Pause the slide show - </li><li>• Resume the slide show - </li><li>• Stop the slide show -  or, in Diagram View, right-click on the slide show folder and select the 'Stop Slideshow' option</li></ul>
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## Delete a slide show

Step	Action
1	Right-click on the slide show folder and select the 'Remove Slideshow' option. Enterprise Architect prompts you to confirm the deletion.
2	Click on the Yes button. The folder and its list of links to diagrams in the model is removed.

## Package Browser

If you want to quickly create and operate on elements in a Package, you can use the Package Browser as a workbench. The Package Browser is a tabular, editable view of the elements in a selected Package, which can be displayed either in the main View or as a floating window, and as either a List display or a Gantt chart. It can be particularly useful for setting up a Package for a specific purpose, such as when an Analyst creates and maintains formal requirement definitions within the model. When you have checked the contents of the Package, you can either print the list of elements or generate a document report on all or a subset of the elements.

You can open more than one instance of the Package Browser, to review different Packages at the same time. Each instance of the Package Browser is a separate window, identified by the Package name.

The Package Browser is related to, and can be used in conjunction with, the:


- Diagram List, which lists the elements in a selected diagram, and
- Specification Manager, which is a document-based interface to the Package, providing the means of creating and reviewing elements as text representations of model objects in that Package

### Access

Ribbon	Design > Package > List Design > Package > Gantt
Context Menu	Right-click on Package   Open Package in   List View Right-click on Package   Open Package in   Gantt View
Keyboard Shortcuts	Ctrl+Alt+R (view as list)

### Features

Feature	Detail
Select List View or Gantt View	<p>When you select one of these menu paths, you select either the List View of the Package Browser, or the Gantt View.</p> <ul style="list-style-type: none"> <li>• List View lists all the elements in the Package, with their properties; you can manipulate this display using various menu options</li> <li>• Gantt View lists all the elements in the Package, grouped by model hierarchy, but showing the work timeline for each element and for each resource assigned to work on the element, and the percent-completion of all tasks associated with each element</li> </ul> <p>Once you have displayed one of these views, you can switch to the other by right-clicking on the display and selecting the appropriate context menu option:</p> <ul style="list-style-type: none"> <li>• Switch to List View or</li> <li>• Switch to Gantt View</li> </ul>
Switch List View Formats	The Package Browser has a separate version of the Navigator toolbar, through which you can change the Package being investigated and, in 'List View', the content shown.

	<p>In 'List View', the Package Browser has two formats that influence the use of other options on the display:</p> <ul style="list-style-type: none"> <li>• User Defined format, initially a flat list, where you can define how the element information is grouped on the screen using the value-grouping band below the toolbar</li> <li>• Hierarchy format, where the elements are already organized into their Package and element hierarchies in the display (the value-grouping band is disabled)</li> </ul> <p>To set the format, click on the  icon in the toolbar and select (for Hierarchy format) or deselect (for User Defined format) the 'Show Element Hierarchy' option.</p>
Change Standard View display	<p>It is possible to reorganize the information in the Package Browser in a number of ways:</p> <ul style="list-style-type: none"> <li>• In User Defined format, sort the items by any column value in ascending or descending order, by clicking on the column header; initially the elements are listed in numerical order (if level numbering is turned on in the Project Browser) or alphabetical order within type</li> <li>• Change the sequence of columns by dragging column headers left or right</li> <li>• In Hierarchy format, the 'Name' column is always on the left; you cannot move any other column into that position, although you can rearrange the sequence of the rest of the columns</li> </ul> <p>Because of this, if you group or sort information in User Defined format and switch to Hierarchy format your information structure is altered, and it is not restored when you switch back to User Defined format</p>
Show Elements in a Child Package	Double-click on the child Package in the list to re-focus the display, showing the contents of that Package only.
Display Element Properties	<p>Double-click on the element line to display the element 'Properties' dialog, or press Ctrl+Enter.</p> <p>If the Properties window is open, click on any element to make it the focus of the Properties window.</p>
Select Items	<p>Select:</p> <ul style="list-style-type: none"> <li>• An element by clicking on it</li> <li>• A specific value by clicking twice on it (not double-clicking); either the value becomes directly editable (overtyping or select from drop-down) or the 'Properties' dialog displays in which you can edit the value</li> <li>• Several individual elements by holding Ctrl as you click on them</li> <li>• A range of elements by holding Shift as you click on the first and last in the range</li> </ul>
Add new items to the Package	<p>Click on a listed element and press Ctrl+N or the Insert key, or right-click and select the 'Add New Element' option. The 'New Element' dialog displays; complete the fields and click on the Create button.</p> <ul style="list-style-type: none"> <li>• In Model Hierarchy format, the new element is inserted as a sibling of the selected element, in its parent Package</li> <li>• In User Defined format, the new element is added to the root Package selected for display in the Package Browser</li> </ul>
Add a child element to the selected element	<p>Click on the selected element and press Ctrl+Shift+N.</p> <p>The 'New Element' dialog displays; complete the fields and click on the Create</p>



	<p>button.</p> <ul style="list-style-type: none"> <li>• In Model Hierarchy format, the new element is inserted as a child of the selected element</li> <li>• In User Defined format, the new element is added to the root Package selected for display in the Package Browser</li> </ul>
Add elements to the Package Browser	<p>Drag the required elements from anywhere in the Project Browser. The element is listed in the Package Browser, and moved into the target Package in the Project Browser.</p> <p>You can also drag elements from the Package Browser into a Package in the Project Browser, in either List view or Gantt view.</p>
Add elements to a diagram from the Package Browser	<p>In either List view or Gantt view, you can drag one or more elements from the Package Browser onto a diagram to immediately create an instance of each element on the diagram (and in the Project Browser for the diagram's parent Package).</p> <p>Click each element (pressing Ctrl or Shift for multiple selections) to select it before dragging it onto the diagram.</p> <p>One advantage of dragging elements from the Gantt view is that it provides the additional filter on task or resource, so that you can isolate elements to be copied to a diagram or Package specific to a task or resource.</p>
Delete elements from the list	<p>Select the item and press Ctrl+D. This deletes the element from all diagrams and from the model itself.</p> <p>In Model Hierarchy format, you cannot delete a parent element until all its child elements have been removed or deleted.</p>
Include each element's notes (documentation)	<p>Notes are shown underneath the element.</p> <p>To add or edit notes, click on the item and press Ctrl+Shift+Space to transfer control to the Notes window, in which you create or edit the note text.</p> <p>Alternatively, right-click on the element line and select the 'Edit Notes' option.</p>
Further Work	<p>You can do further work on the Package Browser using the toolbar and context menu options.</p>

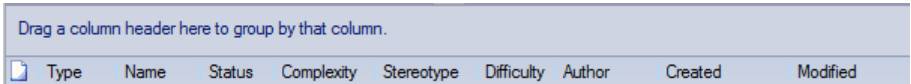
## List Header

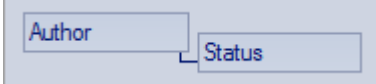
In your work on your project you might use any of a number of 'listing' reports in which information is organized in several columns. Such reports include the:

- Package Browser
- Specification Manager
- Diagram List
- Model Search
- Model Mail view
- 'Feature' dialog, 'Attributes' and 'Operations' pages
- 'Find Toolbox Item' dialog in the Diagram Toolbox
- 'Testing' and 'Maintenance' tabs of the 'QA Reports and Metrics' view
- The Gantt View
- The Project Management windows

In these reports, you can quickly and easily reorganize the sequence and combination of columns to present the information in the most appropriate format to suit your needs, and filter the data according to the values of the text strings displayed in the column fields.

## Reorganize layout of display


Tool	Description
View Header	 <p>The View Header defines the columns of information that are presented by the report, and the order in which data items are presented.</p> <p>To review the column headings:</p> <ul style="list-style-type: none"> <li>• Right-click on the header and select the 'Field Chooser' option; the 'Field Chooser' dialog displays</li> </ul> <p>You can use this dialog to add columns to or remove columns from the output; between them, the View Header and 'Field Chooser' dialog show the full range of column headers available.</p> <p>To add a column heading to the View Header:</p> <ul style="list-style-type: none"> <li>• Drag it from the 'Field Chooser' dialog onto the header to the position you want the column of data to display</li> <li>• When you have selected the column headings you require, click on the red cross in the top right corner of the 'Field Chooser' dialog to close it</li> </ul> <p>To remove a column from the output:</p> <ul style="list-style-type: none"> <li>• Drag the column heading downwards out of the View Header</li> </ul> <p>To change the sequence of columns:</p> <ul style="list-style-type: none"> <li>• Drag the required column header left or right, as appropriate</li> </ul>
Value Grouping	<p>For most reports, if the Package Browser or Diagram List does not have the 'Show Element Hierarchy' option selected, you can organize the reported data according to the value of one or more of the column categories, as identified in the 'Group Box'</p>

	<p>above the column headings. If the 'Group Box' is not already displayed, right-click on the column headings and select the 'Enable Group Box' option.</p> <p>You might organize the data by 'Type', and within each 'Type' by 'Name'; if you then click on any other column heading, the data within this grouping is further sorted with the values of the selected column (for example, 'Created') in ascending or descending order.</p> <p>To set up the value grouping, drag the column heading representing the primary grouping (such as 'Author') into the 'Group Box'.</p> <p>Now drag the column heading for the next level of grouping (such as 'Status') to the right of the first heading; the two heading titles display as connected blocks, as shown:</p>  <p>You can, if required, add further levels of grouping by dragging other column headings onto the hierarchy (such as 'Created'), and restructure the order by dragging existing or additional headings into the level you want them to hold.</p> <p>For example, you could make 'Type' the secondary grouping by dragging it to the right of 'Author', or drop 'Status' between 'Author' and 'Type'.</p> <p>To remove a grouping level, drag the appropriate column heading out of the sequence and below the View header; any subordinate groupings move up a level.</p>
Filter Bar	<p>The Filter Bar displays underneath the column headings; you can hide or show it using the 'Toggle Filter Bar' context menu option on the column headings.</p> <p>The Filter Bar consists of a row of fields, one field per column; as you type a value into one of these fields, the item lists are automatically filtered to show entries with a value in the corresponding column that contain the text string in the field.</p> <p>For example:</p> <ul style="list-style-type: none"> <li>• If you type the letter 'F' in the Filter Bar field under the 'Author' column, the results immediately reduce to entries for which the letter 'F' occurs anywhere in the name (Fred, Fitzgibbon, Rufus, Wolf)</li> <li>• If you then go on to type 'Fi', the results immediately reduce again to entries for which the combination 'fi' appears in the name (Fitzgibbon, Amalfi)</li> </ul> <p>For reports and displays that identify the percentage completion of a task or piece of work, you can specify a percentage value or a range to display items that match that value. In the Filter Bar, in the field under the '%Completed or Complete' field, type:</p> <ul style="list-style-type: none"> <li>• &lt;x to display items less than x percent complete; for example, &lt;30 (all items less than 30 percent complete, but not those exactly 30 percent complete)</li> <li>• &gt;x to display items more than x percent complete; for example, &gt;30 (all items more than 30 percent complete, but not those exactly 30 percent complete)</li> <li>• x to display items exactly x percent complete; for example, 30 (all items exactly 30 percent complete)</li> <li>• -x to display items exactly x percent complete and less than that; for example, -30 (all items less than 30 percent complete and those exactly 30 percent complete)</li> <li>• x- to display items exactly x percent complete and more than that; for example, + 30 (all items more than 30 percent complete and those exactly 30 percent complete)</li> <li>• x-y to display items between x-1 percent complete and y+1 percent complete; for example 30-45 (all items between 30 and 45 percent complete, including those exactly 30 percent and 45 percent complete)</li> </ul>




## Package Browser Options

In building and managing your model you can use the Package Browser as a workbench to perform many operations, such as reorganizing the Package structure, adding new Packages and elements, and generating reports on the Package contents. You can also modify the display in a number of ways.

To perform all of these operations, you select options from the drop-down menu available through the  icon on the Package Browser toolbar or through the context menu.

### Access

Toolbar	Package Browser List View toolbar : 
Context Menu	Right-click on Package Browser List View

### Menu Options

Option	Action
Add New	Add a new element to the Package. The 'New Element' dialog displays. Shortcut: Ctrl+N
Edit Notes	Display the Notes window, to add or edit notes for the selected element. The cursor is positioned at the start of the text entry area of the window. Shortcut: Ctrl+Shift+Space
Print	Print the current contents of the Package Browser. The 'Print' dialog displays, on which you specify the print job.
Generate Report	Display the 'Generate Documentation' dialog, to create one document report on the selected element(s). You can apply the full facilities of this dialog to tailor the report to your requirements.
Show Nested Package Content	Toggle the display between: <ul style="list-style-type: none"> <li>• Including child Packages and their contents in the list, and</li> <li>• Showing only the first-level contents of the selected diagram or Package</li> </ul>
Show Element Hierarchy	Toggle the display between: <ul style="list-style-type: none"> <li>• Hierarchy format and</li> <li>• User-Defined, value-grouping format</li> </ul>
Show Filter Bar	Display or hide the Filter Bar fields underneath the column headings, in any of which you can type a text string to filter the data in the corresponding column to show only data containing the typed string.

Show Group Bar	Display or hide the Group Bar (Drag a column header here to group by that column).
Note Options	<p>Display a short menu from which you can select to:</p> <ul style="list-style-type: none"> <li>• Hide the contents of the Notes compartment of each element</li> <li>• Display the first few words as a preview, or</li> <li>• Display the full text of each note</li> </ul>

## Context Menu Options

Right-click on an item in the list of elements and Packages.

Option	Description
Properties	Display the 'Properties' dialog for the selected element.
Edit Notes	<p>Add or edit notes on the element, in the Notes window.</p> <p>Shortcut: Ctrl+Shift+Space</p>
Create Linked Document (Edit Linked Document)	<p>Create (or edit) a Linked Document.</p> <p>(Corporate, Unified and Ultimate editions.)</p> <p>Shortcut: Ctrl+Alt+D</p>
Delete Linked Document	<p>(If the element has a Linked Document.)</p> <p>Delete the existing Linked Document.</p>
Add New Element	The 'New Element' dialog displays, through which you create an element of any type (after setting the appropriate toolset).
Find in Diagrams	<p>Display:</p> <ul style="list-style-type: none"> <li>• The diagram that uses the element, or</li> <li>• If the element is used in multiple diagrams, the 'Element Usage' dialog, which lists the diagrams that contain the element</li> </ul>
Find In Project Browser	Highlight the selected element in the Project Browser.
Bookmark Item	Bookmark the element.
Switch to Gantt View	If in Standard (or List) View format, switch the display to Gantt View format.
Documentation	<p>Generate a document report; you have two options:</p> <ul style="list-style-type: none"> <li>• Generate a separate report on each selected object in the report</li> <li>• Generate one report on all selected objects</li> </ul> <p>In either case, the 'Generate Documentation' dialog displays. If you have selected to generate separate reports, the 'Generate Documentation' dialog displays separately for each report in turn.</p> <p>You also have the option to print the Package Browser list itself.</p>

Sort Contents	<p>In Hierarchy format, synchronize the list with the Project Browser hierarchy, to ensure that all element and Package hierarchies and sequences are - if necessary - updated.</p> <p>Normally changes are updated automatically, but there can be delays if changes are made outside the Package Browser.</p>
Reload	Reload the list of elements to refresh the order and content with any recent changes.
Add Tag Value Column	Add a column to show the values for a selected Tagged Value, for each element in the list (see <i>Add Tagged Value Column</i> ).
Columns Layout	<p>Preserve, apply or delete a profile of the column layout of the Package Browser display. A layout consists of the number of columns and (where the workstation screen layout permits) the column widths.</p> <p>When you mouse-over this option, a submenu displays:</p> <ul style="list-style-type: none"> <li>• Load Columns Layout - displays a dialog in which you select to apply the default layout (all possible columns) or one that you have previously saved; click on the OK button to apply the layout</li> <li>• Save Columns Layout - displays a dialog in which you specify the name under which to save the layout - you can replace an existing layout by clicking on the drop-down list and selecting the name, or save as a new layout by typing a new name</li> <li>• Delete Columns Layout - displays a dialog in which you specify the layout profile to delete; when you click on the OK button, the profile is deleted (and cannot be retrieved again) but if that profile was in use when it was deleted, the layout persists until it is specifically changed, even if you close and re-open the Package Browser</li> </ul>
Print	<p>Print the contents of the Package Browser.</p> <p>The 'Print' dialog displays, on which you specify the print job.</p>
Delete Selected	<p>Delete the selected element from the Package Browser.</p> <p>A confirmatory prompt displays; click on the Yes button.</p>

## Add Tagged Value Column

If you want to show the value that any element in the list has for a particular tag, you can add a read-only column for the tag. There are two ways in which to do this:

Method	Action
1	Open the Tagged Values window for the element and drag the tag onto the Package Browser; a new column is added for each tag you drag onto the list.
2	<p>Either:</p> <ul style="list-style-type: none"> <li>• Right-click on the element in the Package Browser or Diagram List, or</li> <li>• Right-click on the column headings</li> </ul> <p>Then select the 'Add Tag Value Column' option; the 'Add Tag Value Column' dialog displays.</p> <p>Either type the tag name into the 'Tagged Value' field, or select one of the two</p>

	<p>options:</p> <ul style="list-style-type: none"><li>• Global Tagged Values - populates the 'Tagged Value' drop-down list with all global Tagged Values in the project; this enables you to select a Tagged Value that is applicable to a large number of elements</li><li>• Tagged Values from the selected element - populates the 'Tagged Value' drop-down list with the Tagged Values defined for the selected element (as listed on the Tagged Values window for that element); this enables you to filter the initial selection to a specific set of tags</li></ul> <p>When you have selected the required tag, click on the OK button to insert a column for that tag into the Package Browser or Diagram List header.</p>
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## Notes

- In the Corporate, Unified and Ultimate editions of Enterprise Architect, if Auditing is turned on and the Package Browser is open, you can view a history of changes to any selected element or connector, in the 'Audit History' tab of the System Output window (if Security is enabled, you must have at least 'Audit View' permissions to display the audit history)



## Search: Finding Information



Enterprise Architect has a powerful and easy to use search facility that helps you to find elements in a model, based on any criteria including name, the date of creation or modification, type, textual notes and more. There are a number of built in searches, but even a novice user can easily extend the functionality by defining powerful and parameterized searches that can be stored and rerun. When run, the searches return a set of elements that can be located within the hierarchy of the repository or in any diagrams in which they appear; they can even be included in reports. This powerful feature ensures that, regardless of the structure of the Project Browser or how large the repository is, you will always be able to locate the information you are looking for.

### Facilities

Facility
Model Search - how to use the searching capability within Enterprise Architect to find and display various kinds of information
Create and Modify Searches - how to modify and work with search definitions
Adding Filters - further modifications to searches
Diagram Filters- how to suppress or highlight information in a diagram using customizable filtering mechanisms based on element properties such as status and complexity

## Model Search




The Model Search facility helps you to quickly navigate to or find modeling elements within your model. It lists each object that meets the search criteria you specify within the search terms and search type. Many different kinds of searches are already built into the system, and it is possible to create detailed and specific searches of your own. It is also possible to export and share your favorite searches. Having obtained the results of a Model Search, you can perform a range of operations on them to either modify their presentation or to extract and/or report on further levels of detail.




You specify, run and manage the model searches through the toolbar at the top of the view.

### Access

Ribbon	Start > Explore > Search > Model Design > Element > Edit > Search Model
Keyboard Shortcuts	Ctrl+F or Ctrl+Alt+A

### Specify a Search

Option	Action
Search Category	Use the default Common Searches group to filter the types of search you might select from, to the commonest searches used.  If you want to use a search from a different functional set, including searches you have created or imported yourself, click on the drop-down arrow and select the appropriate group.  Individual searches you have created are contained in the My Searches group. Searches imported as part of a Technology are grouped under the Technology name.
Search	Simple is the first, and most general, of the system-supplied searches in the Common Searches group. If you want to execute a different search in this group, click on the drop-down arrow and select the search from the list.  The drop-down list is populated from the search group selected in the first field in the toolbar. To list and execute different searches, change the group in the first field.
Search Term	Type in the word, phrase or characters to search on.
Search in Model 	Click on this icon to run the selected search using the search term you have provided.
New Search 	Click on this icon to display the 'New Search' dialog, through which you can create your own search in the <i>My Searches</i> group.
Copy Search 	If you want to copy an existing search to edit into a new search, select the existing

	<p>search and click on this icon.</p> <p>The Enter Search Name prompt displays, in which you type a new name for the copied search. The search is automatically copied into the My Searches group. You can now edit this copy to suit your requirements.</p>
<p>Edit Search</p> 	<p>After creating a new or copied search, you can edit the search definition.</p> <p>Click on this icon to open the Query Editor underneath the toolbar. You can use search filters to modify the searches on a search term in order to locate model elements having specific characteristics.</p>
<p>Delete Search</p> 	<p>Click on this icon to delete the search definition from the My Search group and its associated Search drop-down list.</p> <p>The icon is not available for system defined searches or technology-defined searches.</p>
<p>Documentation and QA</p> 	<p>Click on this icon to display a submenu of these options for acting on the results of a Model Search:</p> <ul style="list-style-type: none"> <li>• Edit Notes - select this option to open the Notes window to edit the text of any notes a selected element might have</li> <li>• Generate Documentation - select this option to display the 'Generate Documentation' dialog, through which you can generate a report on one or more selected items from the search results</li> <li>• CSV Import/Export - select this option to specify the CSV export file location into which to export the search results</li> <li>• View Notes - select this option to specify whether to: <ul style="list-style-type: none"> <li>- Hide the text of any Notes each item might have</li> <li>- Display a summary (the first line) of any Notes each item might have</li> <li>- Display the full text of any Notes each item might have</li> </ul> </li> <li>• Import Search - select this option to display the 'Windows Directory Explorer Open' dialog, to import searches as XML Search files from an external directory; these searches would have been exported from another user's model or project</li> <li>• Export Search - select this option to display the 'Export Searches' dialog, on which you select the checkbox against each search in your model that you want to export to an external directory as an XML Search file; other users can then import this file into their models, to make the same searches available to them</li> <li>• Dock in Output Bar - select this option to move the 'Find in Project' tab to the System Output window</li> <li>• Dock in Main View - select this option to return the 'Find in Project' tab to the main view in the center of the screen</li> </ul>
<p>Result List</p>	<p>The results of the search display in the view area, under a set of column headings that you can reduce, add to and rearrange to better display the information you need.</p> <p>You can also operate on the items in the search results using the Model Search context menu.</p>

## Keyboard Options

When the search has produced results, you can perform a number of simple operations on them using the keyboard keys:

- Display the 'Properties' dialog for the element (double-click or press the Enter key)
- Drag item(s) onto a diagram (Ctrl+drag selected items) - a prompt displays for you to specify how to render the element on the diagram
- Open the Linked Document window for the selected element (Ctrl+Alt+D)

## Notes

- You can access the Model Search facilities and perform specific searches indirectly, from Add-Ins, from MDG Technologies, from a hyperlink and from a shortcut to access your model; this entails setting up a search profile either in the appropriate tool, or as an XML file accessed by the tool

Searching from
An MDG Technology
A Login Shortcut
An Add-In
A Hyperlink

## Pre-defined Searches

Enterprise Architect provides a range of pre-defined searches, grouped according to type. Each search is briefly explained here.

### Access

Ribbon	Start > Explore > Search > Model Design > Element > Edit > Search Model
Keyboard Shortcuts	Ctrl+F or Ctrl+Alt+A
Other	There are many points throughout Enterprise Architect where you can invoke a specific pre-defined search, either to execute immediately without input from you, or to display the Find in Project view where you enter a search term before executing the search. For example, the 'Start > Explore > Search > Diagram', or 'Package' ribbon options.

### Common Searches

Search	Description
Simple	Searches the 'Name', 'Alias' and 'Notes' fields of all elements for the given search term.
Extended	Searches many additional fields relating to the element, including Attributes, Operations, Tagged Values and Test Cases.
Element Name	Searches for an exact match against the element name, alias, method or operation; the default search in the 'Search in Model' menu option in the Code Editor.
Attribute Details	Searches for elements with attributes relating to the search term, including Tagged Values, constraints, and common attribute data fields.
Method Details	Searches for elements with operations and methods relating to the search term, including Tagged Values, constraints and common operation and method data fields.
Recently Modified Elements	Searches for elements that have been recently modified, anywhere in the project. The search term relates to any common element field. The default is to show elements modified in the last three days, but you can set an alternative interval by typing the appropriate number of days in the 'Search Term' field.
Find Operations by Name	Searches for the use of a named operation anywhere in the model.

Find Attributes by Name	Searches for the use of a named attribute anywhere in the model.
Find Package	Searches for a named Package in the model.
Find Scenarios	Lists all elements in the project containing defined scenarios.
Schema Profiles	Lists all elements containing Schema Profiles held in the project. You can filter the list by element name, in the 'Search String' field.
Recently Modified Schema Profiles	Locates all elements in the project containing Schema Profiles modified within the previous n days; you specify n in the 'Search String' field.
Recently Modified Linked Documents	Locates all elements in the project containing Linked Documents modified within the previous n days; you specify n in the search string field.
Recently Modified Decision Tables	Locates all elements in the project containing Decision Tables modified within the previous n days; you specify n in the search string field.
Linked Documents	Lists all elements in the project having Linked Documents and having the search term in the element name.
Decision Tables	Locates all elements containing Decision Tables in the project.
Find Baselines	Lists all Packages having Baselines in the project.

## Diagram Searches

Search	Description
Find Orphans	Searches for orphaned elements throughout the model, with the ability to filter on common element fields using a search term. An 'orphaned' element is an element that does not appear on any diagram in the model.
Find Bookmarked Elements	Searches for elements that have been bookmarked, anywhere in the project.
Recently Modified Diagrams	Searches for diagrams that have been recently modified, anywhere in the project. The search term relates to any common diagram properties field. The default is to show diagrams modified in the last three days, but you can set an alternative interval by typing the appropriate number of days in the 'Search Term' field.
Diagram Details	Lists the diagrams that have the value specified in the 'Search Term' field in one or more of the diagram details fields.
Diagram Name	Lists the diagrams that have a name containing the term specified in the 'Search Term' field.

Find Kanban Diagrams	Lists all Kanban diagrams in the model and identifies who created them, when they were created and when they were last modified.
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## Test and Verification Searches

Search	Description
Failed Internal Tests	<p>Searches the project for elements containing one or more internal test cases where the 'Status' value is 'Fail' and the search term is in any common Test Case field.</p> <p>The output lists the elements and shows their properties; use the 'Construct &gt; Testing &gt; Test Windows &gt; All' ribbon option to examine the test records for a selected element.</p>
Tests on Recently Modified Elements	<p>Searches the project for recently modified elements that have test records. In the 'Search Term' field you can specify the number of days over which to check back. If you do not specify a number of days, the search uses a value of 1 day.</p> <p>The output lists the elements that have test records and that have been modified during the specified period, and shows the details of each test record on each element. Double-click on an item to display the 'Test Details' dialog for that test.</p>
Tests Not Run	<p>Searches the project for elements having test records where the 'Status value' is any of: 'Not Run', 'Cancelled' or 'Deferred'. In the 'Search Term' field you can specify the number of days over which to check back. If you do not specify a number of days, the search uses a value of 1 day.</p> <p>The output lists the elements that have test records that have:</p> <ul style="list-style-type: none"> <li>• Been updated during the specified period and</li> <li>• Have a status other than 'Pass' or 'Fail'</li> </ul> <p>The output shows the details of each test record on each element. Double-click on the item to display the 'Test Details' dialog for the test.</p>
Tests Not Checked	<p>Searches the project for elements having test records that have no 'Checked By' value. In the 'Search Term' field you can specify the number of days over which to check back. If you do not specify a number of days, the search uses a value of 1 day.</p> <p>The output lists the elements that have test records that have:</p> <ul style="list-style-type: none"> <li>• Been updated during the specified period and</li> <li>• Have an empty 'Checked By' field</li> </ul> <p>The output shows the details of each test record on each element. Double-click on the item to display the 'Test Details' dialog for the test.</p>
Passed Tests	<p>Searches the project for elements having test records where the 'Status' value is 'Pass'. In the 'Search Term' field you can specify the number of days over which to check back. If you do not specify a number of days, the search uses a value of 1 day.</p> <p>The output lists the elements that have test records that have:</p> <ul style="list-style-type: none"> <li>• Been updated during the specified period and</li> <li>• Have the status 'Pass'</li> </ul> <p>The output shows the details of each test record on each element. Double-click on the item to display the 'Test Details' dialog for the test.</p>

Failed Tests	<p>Searches the project for elements having test records where the 'Status' value is 'Fail'. In the 'Search Term' field you can specify the number of days over which to check back. If you do not specify a number of days, the search uses a value of 1 day.</p> <p>The output lists the elements that have test records that have:</p> <ul style="list-style-type: none"> <li>• Been updated during the specified period and</li> <li>• Have the status 'Fail'</li> </ul> <p>The output shows the details of each test record on each element. Double-click on the item to display the 'Test Details' dialog for the test.</p>
Deferred Tests	<p>Searches the project for elements having test records where the 'Status' value is 'Deferred'. In the 'Search Term' field you can specify the number of days over which to check back. If you do not specify a number of days, the search uses a value of 1 day.</p> <p>The output lists the elements that have test records that have:</p> <ul style="list-style-type: none"> <li>• Been updated during the specified period and</li> <li>• Have the status 'Deferred'</li> </ul> <p>The output shows the details of each test record on each element. Double-click on the item to display the 'Test Details' dialog for the test.</p>
Recently Run Tests	<p>Searches the project for elements having test records where the 'Run Date' field has a value. In the 'Search Term' field you can specify the number of days over which to check back. If you do not specify a number of days, the search uses a value of 1 day.</p> <p>The output lists the elements that have test records that have a 'Run Date' value within the specified period, and shows the details of each test record on each element. Double-click on the item to display the 'Test Details' dialog for the test.</p>

## Requirements

Search	Description
Internal Requirements	<p>Searches the project for elements with internal requirements where the search term relates to any common requirement field.</p> <p>The output lists the elements that have requirements containing the search term value, and shows the element properties. To review the requirements, double-click on an item to display the element 'Properties' dialog and select the 'Requirements' page.</p>
Requirements	<p>Searches the project for Requirement element types where the search term occurs in any common element field.</p> <p>The output lists the Requirement elements containing the search term. Double-click on an item to display the 'Properties' dialog for that element.</p>
Recently Discussed Elements	<p>Searches the project for any element that has a recent entry in the Collaborate window. In the 'Search Term' field you can specify the number of days over which to check back. If you do not specify a number of days, the search uses a value of 3 days.</p> <p>The output lists the elements that have recent discussions, and their properties. You</p>



	can display the discussions themselves by selecting the 'Start > Collaborate > Discussions > Discuss' ribbon option and clicking on the individual entries in the search output.
Recent Element Posts	<p>Searches the project for any element that has a recent entry in the Collaborate window. In the 'Search Term' field you can specify the number of days over which to check back. If you do not specify a number of days, the search uses a value of 3 days.</p> <p>The output lists the elements that have recent discussions, and the date of the most recent <b>post</b> on each element. You can display the discussions themselves by selecting the 'Start &gt; Collaborate &gt; Discussions &gt; Discuss' ribbon option and clicking on the individual entries in the search output.</p>

## Resource Tracking

Search	Description
Resources	<p>Searches the project for elements with assigned resources, where the search term is the value of any common Resource field.</p> <p>The output lists all elements with assigned resources containing the text string specified as the search term, and shows the properties of each element. To see the assigned resources for an element, click on the item and select the 'Construct &gt; Task Management &gt; Resource Allocation' ribbon option.</p>
Tasks Overdue	<p>Searches the project for elements with assigned resources, where the end date is in the past and the percentage completion is less than 100.</p> <p>The output lists all elements with overdue tasks, and shows the details of the resource allocation to each task.</p>
Active Tasks	<p>Searches the project for elements with assigned resources, where the end date is in the future and the percentage completion is less than 100.</p> <p>The output lists all elements with currently active tasks, and shows the details of the resource allocation to each task.</p>
Tasks Completed	<p>Searches the project for elements with assigned resources, where the percentage completion is 100.</p> <p>The output lists all elements with completed tasks, and shows the details of the resource allocation to each task.</p>
Recently Finished Tasks	<p>Searches the project for elements with assigned resources, where the end date is in the recent past and the percentage completion is 100. In the 'Search Term' field, specify the number of days over which to check back.</p> <p>The output lists all elements with tasks completed within the specified period, and shows the details of the resource allocation to that task. The output does not include tasks that have already been finished in advance of a future completion date.</p>
Tasks Ending Today	<p>Searches the project for elements with assigned resources, where the task end date is today.</p> <p>The output lists all elements with tasks ending today, whether the task is complete or not, and shows the details of the resource allocation to each task.</p>

Tasks Starting Today	<p>Searches the project for elements with assigned resources, where the task start date is today.</p> <p>The output lists all elements with tasks starting today, and shows the details of the resource allocation to each task.</p>
Authors with no Active Tasks	<p>Searches the project for authors who have not been assigned as a resource to any task that is currently active.</p> <p>The output lists all defined authors who have not been assigned to any task that:</p> <ul style="list-style-type: none"> <li>• Is currently less than 100 percent complete or</li> <li>• Has a start date that is not in the future</li> </ul>
30-Day Task Summary (Simplified)	<p>Provides a brief summary of the work allocated to each resource over the last 30 days - how many tasks, how much time they took and how much time they were expected to take. Tasks can be grouped into Series, so a resource might have more than one entry in the report, summarizing the work for each series.</p>
30-Day Task Summary (Full)	<p>Provides a brief summary of the work allocated to the resources over the last 30 days, in order of task Group Name. There can be many entries for each resource, depending on the tasks and task groups they have been allocated to.</p>
30 Day Resources	<p>Provides a breakdown of each resource allocation record created or updated during the last 30 days. If you specify search text, the report shows records where the text is included in the <b>resource</b> name.</p>
30 Day Roles	<p>Provides a breakdown of each resource allocation record created or updated during the last 30 days. If you specify search text, the report shows records where the text is included in the <b>role</b> name.</p>

## Project Status

Search	Description
My Checked Out Packages	Searches the project for Packages under Version Control that are marked as checked out under your user ID.

## Simulation

Search	Description
StateMachine Diagrams	Lists all StateMachine diagrams that exist in the current model, and their properties.
Activity Diagrams	Lists all Activity diagrams that exist in the current model, and their properties.
Recent StateMachine Diagrams	<p>Lists all StateMachine diagrams that you have opened recently.</p> <p>The default is to show diagrams opened in the last seven days, but you can set an alternative interval by typing the appropriate number of days in the 'Search Term'</p>

	field.
Recent Activity Diagrams	Lists all Activity diagrams that you have opened recently. The default is to show diagrams modified in the last seven days, but you can set an alternative interval by typing the appropriate number of days in the 'Search Term' field.
Executable StateMachines	Lists all Executable StateMachine elements (Artifacts with the <<executable statemachine>> stereotype) in the project, with their element properties.
SysMLSim Configuration	Lists all SysMLSim Configuration elements (Artifacts with the <<SysMLSimConfiguration>> stereotype) in the project, with their element properties.
BPSim Report	Lists all the simulation report results (as BPSim Result Artifacts) in the project, with their element properties.
BPSim Chart	Lists all BPSim Chart elements (both standard and customized) in the project, with their element properties.
BPSim	Lists all BPSim elements (Artifacts with the <<BPSim>> stereotype) in the project, with their element properties.

## Changes

Search	Description
Verified Changes	Lists the elements in the project having internal change records that have the status 'Verified' and that are not completed.
Recently Requested Changes	Lists the elements having change records for recent requests that might or might not have been acted on. In the 'Search term' field type the number of days previous to check (the report defaults to 7).
Recently Completed Changes	Lists the elements having change records that were given the status 'Complete' recently. In the 'Search term' field type the number of days previous to check (the report defaults to 7).
New Changes	Lists the elements having change records that have the status 'New' (that is, no action has been taken on them yet).
Incomplete Changes	Lists the elements having change records that do not have the status 'Complete'.

## Defects

Search	Description

Verified Defects	Lists the elements in the project having internal defect records that have the status 'Verified' and that are not completed.
Recently Reported Defects	Lists the elements having recently reported defect records that might or might not have been acted on. In the 'Search term' field type the number of days previous to check (the report defaults to 7).
Recently Resolved Defects	Lists the elements having recently resolved defect records that were given the status 'Complete'. In the 'Search term' field type the number of days previous to check (the report defaults to 7).
New Defects	Lists the elements having defect records that have the status 'New' (that is, no action has been taken on them yet).
Unresolved Defects	Lists the elements having defect records that do not have the status 'Complete'.

## Issues

Search	Description
Verified Issues	Lists the elements in the project having internal issue records that have the status 'Verified' and that are not completed.
Recently Reported Issues	Lists the elements having recently reported issue records that might or might not have been acted on. In the 'Search term' field type the number of days previous to check (the report defaults to 7).
Recently Resolved Issues	Lists the elements having recently completed issue records that were given the status 'Complete'. In the 'Search term' field type the number of days previous to check (the report defaults to 7).
New Issues	Lists the elements having issue records that have the status 'New' (that is, no action has been taken on them yet).
Unresolved Issues	Lists the elements having issue records that do not have the status 'Complete'.

## Tasks

Search	Description
Verified Tasks	Lists the elements in the project having internal task records that have the status 'Verified' and that are not completed.
Recently Requested Tasks	Lists the elements having recently requested task records that might or might not have been acted on. In the 'Search term' field type the number of days previous to check (the report defaults to 7).

Recently Completed Tasks	Lists the elements having recently completed task records that were given the status 'Complete'. In the 'Search term' field type the number of days previous to check (the report defaults to 7).
New Tasks	Lists the elements having task records with the status 'New' (that is, no action has been taken on them yet).
Incomplete Tasks	Lists the elements having task records that do not have the status 'Complete'.

## Events

Search	Description
Recently Reported Events	Lists the elements having recently created event records that might or might not have been acted on. In the 'Search term' field type the number of days previous to check (the report defaults to 7).
Recently Completed Events	Lists the elements having recently resolved event records (the 'Resolved' checkbox is selected). In the 'Search term' field type the number of days previous to check (the report defaults to 7).
High Priority Events	Lists the elements having event records with a 'Priority' setting of 'High', that have not been resolved.
Open Events	Lists the elements having event records that have not been resolved or completed.

## Decisions

Search	Description
Verified Decisions	Lists the elements in the project having internal decision records that have the status 'Verified' and that are not completed.
Recently Created Decisions	Lists the elements having recently-created records for decisions that might or might not have been acted on. In the 'Search term' field type the number of days previous to check (the report defaults to 7).
Recently Effective Decisions	Lists the elements having records for decisions that have recently become effective. In the 'Search term' field type the number of days previous to check (the report defaults to 7).
New Decisions	Lists the elements having decision records that have the status 'New' (that is, no action has been taken on them yet).
Unresolved Decisions	Lists the elements having decision records that do not have the status 'Complete'.

## Test Points

Search	Description
Test Suites	Lists the Test Suite elements that exist in the model. Type a text string in the Search Term field to filter for Test Suite elements with that string in the element name.
Test Sets	Lists the Test Set elements that exist in the model. Type a text string in the Search Term field to filter for Test Set elements with that string in the element name.
Test Cuts	Lists the Test Cut elements that exist in the model. Type a text string in the Search Term field to filter for Test Cut elements with that string in the element name.

## Database Engineering





Search	Description
Data Models	Searches the project for data model Packages (Packages with the string 'DataModel' in the 'Stereotype' field). The output lists the DataModel Packages with their basic properties.
Database Objects	Searches the project for database objects; that is, Class elements with any of the database object stereotypes. You can filter the list by specifying one of the stereotypes in the 'Search Term' field, or a text string to match text in the 'Alias', 'Name' or 'Notes' fields. The output lists the database object elements with their element properties.
Functions	Searches the project for database Functions; that is, Class elements with the string 'function' in the 'Stereotype' field. You can filter the list by specifying a text string in the 'Search Term' field, to match text in the 'Alias', 'Name' or 'Notes' fields. The output lists the database Function elements with their element properties.
Procedures	Searches the project for database Procedures; that is, Class elements with the string 'procedure' in the 'Stereotype' field. You can filter the list by specifying a text string in the 'Search Term' field, to match text in the 'Alias', 'Name' or 'Notes' fields. The output lists the database Procedure elements with their element properties.
Sequences	Searches the project for database Sequences; that is, Class elements with the string 'sequence' in the 'Stereotype' field. You can filter the list by specifying a text string in the 'Search Term' field, to match text in the 'Alias', 'Name' or 'Notes' fields. The output lists the database Sequence elements with their element properties.
Table Column Datatypes	Searches the project for database Tables that have data types containing the string you specify in the 'Search Term' field. This field must contain a value. The output lists Table elements that have data types containing the specified string, and shows the element properties of each Table. To see the data types, double-click on the item to display its 'Properties' dialog, click on the 'Table Detail' tab and on the Columns button, and review the data types

	of the columns on the 'Columns and Constraints' dialog.
Table Columns	<p>Searches the project for database Table columns that contain the string you specify in the 'Search Term' field. This field must contain a value.</p> <p>The output lists Table elements that have columns containing the specified string, and shows the element properties of each Table.</p> <p>To see the columns, double-click on the item to display its 'Properties' dialog, click on the 'Table Detail' tab and on the Columns button, and review the columns on the 'Columns and Constraints' dialog.</p>
Table Foreign Keys	<p>Searches the project for database Tables that have Foreign Keys (constraints). You can filter the search by specifying a text string in the 'Search Term' field.</p> <p>The output lists Table elements that have Foreign Keys, and shows the element properties of each Table.</p> <p>To see the Foreign Keys, double-click on the item to display its 'Properties' dialog, click on the 'Table Detail' tab and on the Constraints button, and review the constraints of type FK on the 'Columns and Constraints' dialog.</p>
Table Indexes	<p>Searches the project for database Tables that have Indexes (constraints). You can filter the search by specifying a text string in the 'Search Term' field.</p> <p>The output lists Table elements that have Indexes, and shows the element properties of each Table.</p> <p>To see the Indexes, double-click on the item to display its 'Properties' dialog, click on the 'Table Detail' tab and on the Constraints button, and review the constraints of type Index on the 'Columns and Constraints' dialog.</p>
Table Primary Keys	<p>Searches the project for database Tables that have Primary Keys (constraints). You can filter the search by specifying a text string in the 'Search Term' field.</p> <p>The output lists Table elements that have Primary Keys, and shows the element properties of each Table.</p> <p>To see the Primary Keys, double-click on the item to display its 'Properties' dialog, click on the 'Table Detail' tab and on the Constraints button, and review the constraints of type PK on the 'Columns and Constraints' dialog.</p>
Tables	<p>Searches the project for database Tables; that is, Class elements with the string 'table' in the 'Stereotype' field. You can filter the list by specifying a text string in the 'Search Term' field, to match text in the 'Alias', 'Name' or 'Notes' fields.</p> <p>The output lists the database Table elements with their element properties.</p>
Triggers	<p>Searches the project for Table Trigger elements. You can filter the list by specifying a text string in the 'Search Term' field, to match text in the 'Alias', 'Name' or 'Notes' fields.</p> <p>The output lists the Table Trigger elements with their element properties.</p>
Views	<p>Searches the project for database Views; that is, Class elements with the string 'view' in the 'Stereotype' field. You can filter the list by specifying a text string in the 'Search Term' field, to match text in the 'Alias', 'Name' or 'Notes' fields.</p> <p>The output lists the database View elements with their element properties.</p>


## Create Search Definitions

If you want to define your own searches, you can do so using the SQL Editor, Query Builder or an Add-In, through the 'New Search' dialog. User-defined searches are stored in the user application data for the machine being used, and not in the project repository.

### Access

Ribbon	Start > Explore > Search > Model :  or Design > Element > Edit > Search Model : 
Keyboard Shortcuts	Ctrl+F :  or Ctrl+Alt+A : 

### Create a new search definition

Field/Button	Action
Name	Type a name for the search.
Query Builder	Click on this radio button to create your search through the internal search editor.
SQL Editor	Click on this radio button to create your search by directly writing SQL statements. (For advanced users.)
Add-In Search	Click on this radio button to define the search as a function of an Add-In.
Add-In Name and Method	(Available if you have selected the 'Add-In Search' radio button) Type in: <ul style="list-style-type: none"> <li>• The name of your Add-In</li> <li>• A period (full stop) and</li> <li>• The name of the method to be called whenever the search is run (for example, MyAddin.RunThisMethod); this search can be exported and distributed as a part of your Add-In</li> </ul>
OK	Click on this button to create the new search and close the dialog. The search builder panel opens underneath the toolbar. For: <ul style="list-style-type: none"> <li>• An Add-In search, no further action is required; click on the  icon to close the search builder panel</li> <li>• A Query Builder search, the panel defaults to the 'Query Builder' tab and you can start adding filters and constructing the search; see the <i>Define and Modify</i></li> </ul>



	<p><i>Searches</i> topic</p> <ul style="list-style-type: none"> <li>An SQL search, the panel defaults to the 'Query Builder' tab and you can start to create the SQL statement for the search, as in <i>Create SQL Search</i></li> </ul> <p>The Search Builder also provides an 'SQL Scratch Pad' tab, which you can use to create and test SQL statements before copying them across to the 'Query Builder' tab.</p> <p>SQL statements on the 'SQL Scratch Pad' are not attached to any search and are not the focus of any operations initiated from the 'Find in Project' toolbar.</p>
Cancel	Click on this button to abort the search creation and close the dialog.

## Create SQL Search

You can create SQL statements using the SQL Editor through the 'Query Builder' tab. The SQL editor is based on the common Code Editor, and provides an Intelli-sense autocompletion list populated from the Enterprise Architect repository structure.

To display the autocompletion list, position the cursor after a command and press Ctrl+Spacebar.

A simple search might be to locate an object from a table, given a search term that the user enters in the 'Search Term' field, such as:

```
SELECT * FROM t_object WHERE NAME='<Search Term>'
```

In the WHERE statements you can also use #xxx# macros as string replacers, so that the same search can be used by different people in different environments. These macros are all case-sensitive. They include:

Macro	Description
#Author#	Takes the user name from the 'Author' field in the 'Preferences' dialog 'General' page, so the defined search can be performed on objects created by that user (this value can be manually re-set in the 'Preferences' dialog).
#Branch#	Gets the IDs of the child Packages of the currently-selected Package, working recursively down to the lowest level of sub-Package. For example: <ul style="list-style-type: none"> <li>t_object.Package_ID IN (#Branch#)</li> </ul>
#Concat value1, value2 ...#	Provides a method of concatenating two or more SQL terms into one string, independent of the database type.
#Datepart <field>, column#	Provides a method of querying one part of the Date, independent of the database type. The value of <field> can be one of: <ul style="list-style-type: none"> <li>year</li> <li>month</li> <li>day</li> <li>dayofyear</li> <li>weekday</li> <li>week</li> <li>dayname</li> </ul>
#CurentElementGUID#	Gets the ea_guid for the currently-selected element. For example: <ul style="list-style-type: none"> <li>t_object.ea_guid LIKE #CurrentElementGUID#</li> </ul>

#CurrentElementID#	Gets the Object_ID for the currently selected element. For example: <ul style="list-style-type: none"> <li>t_object.Object_ID=#CurrentElementID#</li> </ul>
#DB=<DBNAME>#	<p>&lt;DBNAME&gt; can be one of:</p> <ul style="list-style-type: none"> <li>MYSQL</li> <li>JET</li> <li>ACCESS2007</li> <li>ORACLE</li> <li>SQLSVR</li> <li>ASA</li> <li>POSTGRES</li> <li>FIREBIRD</li> </ul> <p>This only uses the section of code between two matching #DB=&lt;DBNAME&gt;# macros if the current database type matches the specified DBNAME; it can be used where a section of the SQL might require special handling depending upon the current database type. For example:</p> <p>#DB=ORACLE# t_object.ModifiedDate &gt;= (SYSDATE - INTERVAL '&lt;Search Term&gt;' DAY) #DB=ORACLE#</p>
#Now#	<p>Inserts the current date plus or minus a specified number of hours or days; the default is days (the date format is adjusted to suit the database in use) as in:</p> <ul style="list-style-type: none"> <li>t_object.ModifiedDate &gt;=#Now &lt;Search Term&gt;#</li> </ul> <p>For example:</p> <ul style="list-style-type: none"> <li>t_object.ModifiedDate &gt;= #Now -4d# d is days</li> <li>t_object.ModifiedDate &gt;= #Now -5h# h is hours</li> <li>t_object.ModifiedDate &gt;= #Now +3#</li> <li>t_object.ModifiedDate &gt;= #Now#</li> </ul>
#Package#	Gets the Package_ID for the currently-selected Package. For example: <p>t_object.Package_ID = #Package#</p>
#UserName#	Gets the name of the person logged into Version Control. This example is from the built in search 'My Checked Out Packages'. <ul style="list-style-type: none"> <li>t_package.PackageFlags LIKE '#WC#VCCFG=#WC#CheckedOutTo=#UserName##WC#'</li> </ul>
#WC#	Gets the appropriate wild card for the current database, so the search can be performed on models on different databases. For example: <p>t_object.Name LIKE '#WC#Test#WC#'</p>

## The GUID and Type

For all functions in which you use a custom SQL statement (including Document Reporting and Model Views) the statement must return the guid and type of the object found so that the system can search for the selected item in the Project Browser. The SELECT statement is case-sensitive and should be typed as shown:

- SELECT ea\_guid AS CLASSGUID, Object\_Type AS CLASSTYPE, Name FROM t\_object

You can extend the usability of your SQL searches using the aliases CLASSGUID and CLASSTYPE, so that you can

display the 'Properties' dialog, Tagged Values and icon for elements, connectors, attributes or operations, as well as selecting them in the Project Browser. Some simple examples for using these aliased fields are:

- `SELECT ea_guid AS CLASSGUID, Object_Type AS CLASSTYPE, Name FROM t_object`
- `SELECT ea_guid AS CLASSGUID, 'Operation' AS CLASSTYPE, Name FROM t_operation`
- `SELECT ea_guid AS CLASSGUID, 'Attribute' AS CLASSTYPE, Name FROM t_attribute`

Queries for connectors and diagrams can both return types that match the default association to object types. For these tables, you should also return a CLASSTABLE field to allow them to be distinguished from the similar object type.

- `SELECT ea_guid AS CLASSGUID, Connector_Type AS CLASSTYPE, 't_connector' as CLASSTABLE, Name FROM t_connector`
- `SELECT ea_guid AS CLASSGUID, Diagram_Type AS CLASSTYPE, 't_diagram' as CLASSTABLE, Name FROM t_diagram`




You can enable your search users to drag and drop elements from the search results onto a diagram, by including one of these in your search SELECT statement:

- `(t_object.Object_ID and t_object.Object_Type) or`
- `t_object.ea_guid AS CLASSGUID`


When you have defined the SELECT statement, click on the Save button in the 'Query Builder' toolbar to save this search; the search is then available from the 'Search' drop-down list.

## SQL Scratch Pad Toolbar buttons

The 'SQL Scratch Pad' tab provides a small number of facilities through its toolbar.

Icon	Description
	Click on this icon to test the search you have defined. The results display in the main panel of the 'Find in Project' view.
	Click on this icon to save the current SQL search as a new search. A prompt displays for the new search name. When you click on the OK button, the system switches to the 'Query Builder' tab, copies the SQL Statement to the tab, and puts the search name into the 'Search' field.
	Click on this icon to clear the 'SQL Scratch Pad' of the current search definition.

## Notes

- When you create a custom SQL search on the 'Query Builder' tab, the only two icons that are available in the Toolbar are the Save icon and the Remove Filter icon ; the Remove Filter icon is effectively a Delete icon that removes the search content (the SQL statement)





## Define & Modify Searches

Having created a new Query Builder search, you can define the actions of the search using a series of filters on the 'Query Builder' tab of the search editor. A filter is a statement instructing the search to extract objects of a certain type with a specific property having a specific value or a value within a defined range. You can have a number of filters within one search. If you have copied an existing search as a base for the new search, the tab will contain filters already. If the search is completely new, the tab will be empty.




You build up the search definition in two areas:


- The 'Add Filters' dialog, where you can configure the filters to whatever level of precision you require
- The 'Query Builder' tab, where you can modify the filter settings, define how specific a part of the model to search, and test the search

### Access

Ribbon	Start > Explore > Search > Model   <select search> :  > Query Builder or Design > Element > Edit > Search Model   <select search> :  > Query Builder
Keyboard Shortcuts	Ctrl+F   <select search> :  > Query Builder or Ctrl+Alt+A   <select search> :  > Query Builder



### Build a Search

Step	Action
1	Click on the  ('Add Filter') icon to display the 'Add Filters' dialog, and select and define a set of filters.  If you already have filters in the search, you can add others of the same filter set by selecting the filter set label (such as 'Attribute') before you click on the icon. The filter items are then refined to that filter set on the 'Add Filters' dialog.
2	If necessary (for example, if you are modifying a copy of an existing search) remove selected filter items. Click on either the filter itself or the filter set heading and click on the  (Remove Filter) icon. <ul style="list-style-type: none"> <li>• If you selected a filter item, it is immediately removed</li> <li>• If you selected the filter set heading, a prompt displays to confirm the deletion; when you click on the Yes button, all filters in the set are removed</li> </ul>
3	If you have edited a system-provided search prior to saving it as your own search, and you have decided that the changes are not appropriate, you can 'roll back' to the original settings. Click on the  (Restore Default) icon in the toolbar.


4	Click on the  ('Search Options') icon to set the level of the model to search, and the interaction of the filters.
---	---

## Edit Search on Query Builder tab

On the 'Query Builder' tab, you can activate, deactivate and modify the individual filters within the search. This is especially useful for 'tweaking' the search as you test it.

Column	Action
Search In	<p>If the Search contains many filters in a number of filter sets, you can collapse the filter sets you don't want to review, and expand those you do. Click on the expansion box ( ) next to the filter set name, as necessary.</p> <p>Click on the checkbox next to an object property to select it for inclusion in the search, or clear it and omit it from the search.</p>
Condition	<p>If you want to change the condition that the property value must satisfy, click twice on the field to display the drop-down list and select the new Condition.</p> <p>The available options are 'Contains', 'Equal To', 'Not Equals' and 'One Of'.</p>
Look for	<p>In most cases, this field is initially set to &lt;Search Term&gt; to accept a value that the search user types into the 'Search Term' field.</p> <p>If necessary, overtype the current value with one or more specific values to perform the conditional search on.</p> <p>This value should match the selected filter type; for example, the value would be a date for 'DateCreated' or a text value for 'Name'.</p> <p>The search term can consist of multiple values, separated by commas.</p>
Required	<p>Select the checkbox to indicate whether the field is mandatory - that is, whether the search results must only include elements with your search term in that field.</p> <p>These examples show uses of the 'Required' checkbox in the default Simple search, which checks the 'Name', 'Alias' and 'Notes' fields of all elements:</p> <ul style="list-style-type: none"> <li>• If the 'Required' checkbox is not selected for any field, then if the search term is found in the 'Name', 'Alias' OR 'Notes' field for an element, that element is listed in the results</li> <li>• If the 'Required' checkbox is ticked for all fields in the search, then the search term must be found in all of those fields before the element is listed in the results; that is: 'Name' AND 'Alias' AND 'Notes'</li> <li>• If the 'Required' checkbox is ticked for some fields but not others, the search term must be found in all fields for which the checkbox is ticked, and at least one of the fields in which the checkbox is not ticked; that is: Name AND (Alias OR Notes)</li> </ul> <p>These checkboxes help you to define the filters on a specific feature (such as Element, Diagram or Attribute). You can also set up a filter to check for a defined value in <i>every</i> feature included in a search (an AND filter) or in <i>any</i> feature included in the search (an OR filter).</p>

## Notes



- When you have set up your search, click on the Save Search icon in the Query Builder toolbar and then the  (Search in Model) icon to run the search and test it

## Add Filters

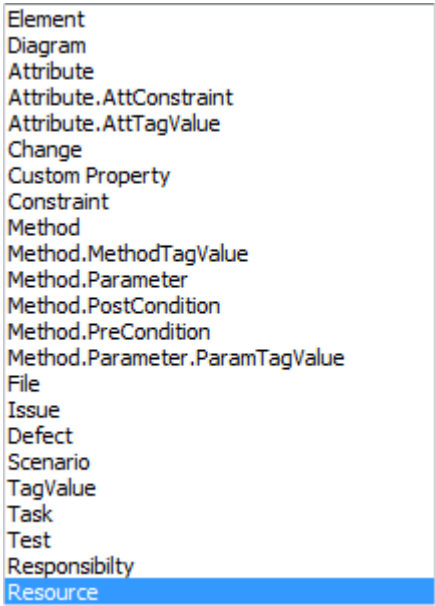
A filter is a statement instructing a search to extract objects of a certain type with a specific property having a specific value or a value within a defined set. You can add a number of filters to a Model Search or Document Generation, to more precisely define the objects or information to extract from the model.


### Access

Filters can be applied to a model search, and also to document generation to filter the elements that are reported on.

Model Search	In search window   <select search> :    Query Builder : 
Document Generation	In 'Generate Documentation' dialog   Element Filters : Add Filter

### Add filter criteria to a model search or a document report template

Option	Action
Active Filter Set	<p>Click on the drop-down arrow and select the type of object to search for. Initially, when there are no other filters selected, the drop-down list provides the full range of top-level objects.</p>  <p>The object type defines the filter set and once you have selected the object type the drop-down list subsequently only includes objects subordinate to that set. For example:</p> <ul style="list-style-type: none"> <li>• If the initial selection is set to search on 'Element', the drop-down list for subsequent filters on the search will show a list of element properties that you can filter more specifically on</li> <li>• If the initial filter is set to search on 'Diagram', the list for any subsequent filters for the search only contains the 'Diagram' option, as there are no other</li> </ul>

	filters that can be applied to a search on diagrams
Add Filter	Select the checkbox corresponding to each field that the search is to evaluate.
Required	Select the checkbox if the object must have this property to be included in the search results.
Field	Provides the name of the field to be checked in the search.
Condition	<p>Click on the drop-down arrow and select the condition that the field value has to satisfy. That is, the field value:</p> <ul style="list-style-type: none"> <li>• Contains</li> <li>• Is exactly Equal to</li> <li>• Is anything other than (Not Equals) or</li> <li>• Is one of a subset of values from</li> </ul> <p>the text string in the '&lt;Search Term&gt;' field for the search, or a more specific value defined in the 'Value' field.</p>
Value	<p>If the search is to look for a value provided by the person running the search, leave this field at the default value of '&lt;Search Term&gt;'.</p> <p>Otherwise over-type the field with a specific value or, if the 'Condition' is 'One Of...', type a selection of values separated by commas.</p> <p>For some filters and conditions, the 'Value' field contains the  button. Click on this to display a selection dialog. This dialog varies dependant on the information required.</p>
Check All	<p>Click on this button to select all of the 'Add Filter' checkboxes to include all filters in the search definition.</p> <p>You might then deselect specific checkboxes to remove a small number of filters from the search.</p>
Uncheck All	<p>Click on this button to clear all selected 'Add Filter' checkboxes to omit all filters from the search definition.</p> <p>You might then select specific checkboxes to include only a small number of filters in the search.</p>
OK	<p>Click on this button to apply the filters to the search definition.</p> <p>The selected filters are displayed in the 'Query Builder' tab for the search definition.</p>
Cancel	Click on this button to close the dialog and cancel the changes you have made.

## Notes

- You can add multiple search definitions as necessary; however, if you select the 'Required' field in multiple definitions the search rapidly becomes impractical
- Multiple search definitions are better for 'and/or' searches



## Advanced Search Options



The advanced search options help you to apply greater control over how your customized search operates on your model.

You can set values and checkboxes in your search definition to find specific criteria within a feature, for example, element properties. However, you can also set filters to run the search across the whole model or a specific Package, and to locate objects that have a specified value in:

- All features (for example, the value exists in an element's properties and one of its attributes' properties) or
- Any one of its features (for example, the value exists in an element's properties or any of its attributes' properties)

The filters for each feature operate on a database table. In the system-supplied searches, for example, filters on element properties operate on the `t_element` table, filters on attribute properties operate on `t_attribute`, and filters on method parameters operate on `t_operationparams`.

### Access

From the 'Find in Project' Search window, select a search, then click on the  icon in the Search window toolbar, select the 'Query Builder' tab, then click on the  icon in the Query Builder toolbar.

Other	<select search> :    Query Builder : 
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### Options

Option	Action
Return matching items for the entire model	Defaults to selected, to run the search across the entire model. The search checks every Package in the model, and returns items that match the search criteria from wherever they are located.
Return matching items for the selected Package	Click on this radio button to run the search on a specific Package that the user selects in the Project Browser. If the user runs a search and then selects a different Package in the Project Browser, the search results do not change until they click on the Search in Model icon again; that is, to search different areas of the project: <ul style="list-style-type: none"> <li>• Click on the first required Package in the Project Browser</li> <li>• Click on the Search in Model icon</li> <li>• Check the result</li> <li>• Click on another Package in the Project Browser</li> <li>• Click on the Search in Model icon</li> </ul>
All Tables	Click on this radio button to list objects that have a match in every feature table checked in the search. For example, only list elements where both the element and one or more of its attributes have the same stereotype name.
	Defaults to selected to list objects that have a match in at least one of the feature

At Least One Table	tables checked in the search. For example, list elements that either have the specified stereotype name, or have attributes that have the specified stereotype name.
OK	Click on this button to apply the settings and close the dialog.
Cancel	Click on this button to cancel any changes you have made and close the dialog.

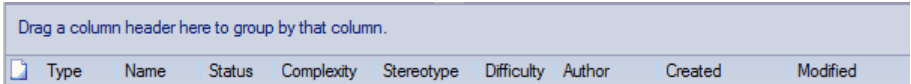
## Customizing the Search View


After you have executed a search and displayed a list of results, you can reorganize the display to show items in a different sequence, add or remove columns for particular characteristics, group the items according to one or more characteristics, and/or select various items from the results.

### Access

Ribbon	Start > Explore > Search > Model > Results pane or Design > Element > Edit > Search Model > Results pane
Keyboard Shortcuts	Ctrl+F > Results pane or Ctrl+Alt+A > Results pane

### Reorganization Options

Option	Detail
Sort and Select	<p>In the Model Search you can:</p> <ul style="list-style-type: none"> <li>Sort the items by any column value in ascending or descending order, by clicking on the column header and on the blue arrowhead at the right of that header</li> <li>For a system-supplied search, display the properties of a selected item of any type, by double-clicking on the item</li> <li>Select: <ul style="list-style-type: none"> <li>An item by clicking on it</li> <li>Several individual items by holding Ctrl as you click on them</li> <li>A range of items by holding Shift as you click on the first and last in the range</li> <li>All items in the list by pressing Ctrl+Shift+Alt+A</li> </ul> </li> </ul>
Change and Resequence Columns using the View Header	 <p>The View Header defines the columns of information that are presented by the Model Search, and the order in which data items are presented.</p> <p>To review the column headings:</p> <ul style="list-style-type: none"> <li>Right-click on the header and select the 'Field Chooser' option; the 'Field Chooser' dialog displays</li> </ul> <p>From this dialog, you can add columns to or remove columns from the output; between them, the View Header and 'Field Chooser' dialog show the full range of column headers available.</p> <p>To add a column heading to the View Header:</p> <ul style="list-style-type: none"> <li>Drag it from the 'Field Chooser' dialog onto the header to the position you want the column of data to display in</li> </ul>

	<ul style="list-style-type: none"> <li>When you have selected the column headings you require, click on the red cross in the top right corner of the 'Field Chooser' dialog to close it</li> </ul> <p>To remove a column from the output:</p> <ul style="list-style-type: none"> <li>Drag the column heading downwards out of the View Header</li> </ul> <p>To change the sequence of columns:</p> <ul style="list-style-type: none"> <li>Drag the required column header left or right, as appropriate</li> </ul>
Value Grouping	<p>You can organize the reported data hierarchically according to the value of one or more of the column categories.</p> <p>You might organize the data by 'Type', and within each 'Type' by 'Name'; if you then click on any of the other column headings, the data within this grouping is further sorted with the values of the selected column (for example, 'Created') in ascending or descending order.</p> <p>To set up the value grouping, drag the column heading representing the primary grouping (such as 'Author') onto the 'Drag a column header here to group by that column' field.</p> <p>Now drag the column heading for the next level of grouping (such as 'Status') to the right of the first heading; the two heading titles display as connected blocks, as shown:</p>  <p>You can, if required, add further levels of grouping by dragging other column headings onto the hierarchy (such as 'Created'), and restructure the order by dragging existing or additional headings into the level you want them to hold.</p> <p>For example, you could make 'Type' the secondary grouping by dragging it to the right of 'Author', or drop 'Status' between 'Author' and 'Type'.</p> <p>To remove a grouping level, drag the appropriate column heading out of the sequence and below the View header; any subordinate groupings move up a level.</p> <p>When you have a report with grouped results, you can toggle between the expanded hierarchy and the collapsed (top-level item only) grouping by right-clicking on the View Header and clicking on the 'Collapse All' option.</p>
Filter Bar	<p>The Filter Bar displays underneath the column headings; you can hide or show it by right-clicking on the column headings and clicking on the 'Toggle Filter Bar' option.</p> <p>The Filter Bar consists of a row of fields, one field per column; as you type a value into one of these fields, the Model Search results are automatically filtered to show entries in the corresponding column that contain the value in the field.</p> <p>For example:</p> <ul style="list-style-type: none"> <li>If you type the letter 'F' in the Filter Bar field under the 'Author' column, the results immediately reduce to entries for which the letter 'F' occurs anywhere in the name (Fred, Fitzgibbon, Rufus, Wolf)</li> <li>If you then go on to type 'Fi', the results immediately reduce again to entries for which the combination 'fi' appears in the name (Fitzgibbon, Amalfi)</li> </ul>

## Model Search Context Menu

You can select elements or diagrams in the results of a Model Search and perform various operations on them, as well as simply dragging the item into a Team Library document or Linked Document. You can:

- Generate reports from search results
- Print search results
- Copy and work with search results
- Manage elements returned by a search

For Packages that are presented in the search results, you can also select an option to open the Package in the Specification Manager.

### Access

Context Menu	When you have executed a search, right-click on an item in the search results
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### Menu Options

Option	Action
Scripts	<p>Click on this option to display a list of any Model Search scripts you have created, which can be executed on the selected item.</p> <p>This option displays only if:</p> <ul style="list-style-type: none"><li>• You have created Model Search scripts in a Model Search Script Group folder, and</li><li>• The item results from a successful Query search, or</li><li>• The item results from a successful SQL search that includes CLASSGUID and CLASSTYPE</li></ul>
Properties	Click on this option to display the 'Properties' dialog for the element.
Copy Selected to Clipboard	<p>Click on this option to copy the selected item to the MS Windows clipboard so that it can be pasted as a link into a diagram, document, spreadsheet or email.</p> <p>Shortcut: Ctrl+C</p>
Documentation	<p>Click on this option to generate a document report on the selected item(s); you have two options:</p> <ul style="list-style-type: none"><li>• 'Generate a separate report on each selected object in the Model Search'</li><li>• 'Generate one report on all selected objects'</li></ul> <p>In either case, the 'Generate Documentation' dialog displays.</p> <p>If you generate the report using a custom SQL search, the SQL must include 'ea_guid AS CLASSGUID' and the object type.</p>
Create Linked Document	Click on this option to create (or edit) a Linked Document on the selected element.

(Edit Linked Document)	(Available in the Corporate, Unified and Ultimate editions). Shortcut: Ctrl+Alt+D
Delete Linked Document	Click on this option to delete an existing Linked Document. (This option only displays if the element has a Linked Document.) A prompt displays to confirm the deletion. Click on the Yes button.
Print	Click on this option to print out the results as currently displayed. The 'Print' dialog displays, on which you select the printer and define the print run.
Clear Results	Click on this option to clear the search results from the display.
Find in Diagrams	Click on this option to display the diagram that depicts the element or, if the element is used in multiple diagrams, display a list of diagrams to choose from.
Find in Project Browser	Click on this option to highlight the element in the Project Browser. (Some reportable objects are not shown in the Project Browser; if you select one of these, this option is not available.)
Specification Manager	(For a selected Package in the search results.) Click on this option to open the Specification Manager and display the Package contents in it. If you generate the report using a custom SQL search, the SQL must include 'ea_guid AS CLASSGUID and Object_Type AS CLASSTYPE' in order for the Specification Manager to display the Package.
Bookmark Item	Click on this option to add or clear a bookmark on the element. A small dialog displays on which you select the appropriate radio button to set the bookmark on or off. If you set the bookmark on, a red triangle (or red Delta symbol) is displayed on the element icon in the results. If you clear the bookmark, the red triangle is removed.
Delete Selected	Click on this option to delete the selected element from the Model Search results. A prompt displays to confirm the deletion; click on the Yes button.
Help	Display the Help topic on the Model Search.

## Add Items To Linked Document

A very useful feature of the Model Search facility is the ability to drag separate items from the Search results into an existing Linked Document.

To do this you create your Linked Document, run the Model Search, and open the document and Model Search view as docked windows. You then drag the items - individually or as a multiple selection - from the search results into the document. You are prompted to select one of two options:

- 'Insert as Hyperlink(s)' and
- 'Render as RTF'

If you select 'Insert as Hyperlink(s)', a hyperlink is embedded in the document for each dragged object, linking to the object in the Project Browser.

If you select 'Render as RTF', a prompt displays for you to select the RTF template (if any) from which to generate a

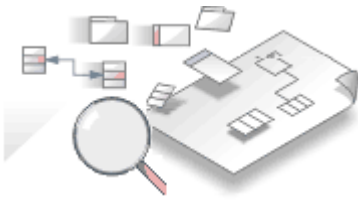
small report on the dragged objects. You can select different templates for different objects. However, there must be compatibility between the selected object type (such as Diagram) and the RTF template used (such as Diagram report), otherwise nothing is shown in the document.

You can have hyperlinked objects and RTF-rendered objects in the same document.

## Notes

- Running a custom or diagram-based search disables some context menu options

# Traceability



A repository contains a graph of elements connected by relationships; traceability is the ability to explore this graph from a particular starting point in any direction. Modelers commonly think of traceability as just applying to requirements, and the ability to find which elements in the model realize (implement) the requirements; the term is, however, much broader than this and can be applied to any model element. The requirements, for example, could be traced to stakeholders, which in turn could be traced to a set of drivers and goals, and these could be traced to a set of regulatory constraints. Enterprise Architect provides flexible and expressive features that help you to explore and traverse this graph of connections, including the Traceability Window and the Relationship Matrix. Enterprise Architect extends the UML by allowing users to trace between model features such as attributes and operations, which is a powerful mechanism for the analyst.

## Traceability Tools

Enterprise Architect provides a number of tools for tracing the definition and implementation of a process, from initial requirement to generated code or technical deployment, or vice versa. Such tools include the:

- Traceability window
- Relationship Matrix
- Gap Analysis Matrix
- Relationships window
- Project Browser, and
- Traceability diagrams

The Traceability window, in particular, is designed to provide very detailed information on an element's relationships and dependencies, both immediate and distant.

## Tracing Transformations

If you have performed any transformations in developing your model and code, Enterprise Architect automatically creates Transformation Dependency connectors that you can trace - using the Traceability window - to establish what objects and code have been generated from each PSM element, or what the initial PSM element was for a generated object.


Whether you use transformations or develop the stages of the model in other ways, you can build up a range of Traceability diagrams (Custom diagrams) to identify the development pathway and the dependencies between entities such as Requirements, Use Cases, Classes, Packages, Test Cases and other model artifacts, or even between these entities and the overall business process model.



# Traceability Tools

The structure of your model and a Traceability diagram act as the starting points for tracing the definition, design and implementation of a specific feature of a system or process. By applying tools such as the Relationship Matrix and Traceability window, you can follow threads through the model to determine how the feature is implemented and tested. You can also obtain information on what elements realize and are realized by the elements in a given Package, using the Dependency report and Implementation report, respectively.

## Principal Tools

Tool	Detail
Traceability window	<p>The Traceability window is a very useful and versatile traceability tool; starting with a Traceability diagram or a Package structure in the Project Browser, you can use the Traceability window to quickly explore the relationship chain of which any element is a component.</p> <ul style="list-style-type: none"> <li>• When you click on an element, it immediately becomes the top point in the Traceability window</li> <li>• When you click on the background of a diagram, all elements in the diagram are listed in the Traceability window, and you can follow the threads starting at each element through the diagram</li> </ul> <p>If you require a rapid, broad-brush view of relationship flows in the project structure, starting with a general list of - say - all functional Requirements, you can use a combination of Model Search, Project Browser and Traceability window; this is a powerful means of scanning your project, identifying how elements have been organized, and seeing how they interact. For example, the Model Search would list all the Requirements. You could rapidly click on each element and immediately see in the Project Browser where it has been grouped, and at the same time - in the Traceability window - how that element interacts with other elements in the model.</p> <p>By moving the cursor around a diagram or the Project Browser, and/or changing the relationship type combinations in the Traceability window, you can quickly see how elements are connected and how they influence each other. For example, you could see that - say - REQ017 is realized by two Use Cases, so you might then explore what else influences and is influenced by these two Use Cases. The Traceability window takes you well beyond what is likely to be depicted on any single diagram.</p> <p>If you have used transformations to develop your model, you can also follow the Transformation Dependencies that exist between an element in a PIM and elements in the PSMs.</p>
Relationship Matrix	<p>Using the Relationship Matrix, you can both create and study the relationships between, for example, the Requirements and Use Cases of a module.</p> <p>You might identify the 'theme' Package (such as Manage Users) as the source Package in the Requirements model and the target Package in the Use Case model, and explore the likely element and connector types in the Packages; this, similar to the Traceability diagram, identifies which Requirements are (or should be) realized by which Use Cases.</p> <p>You can then perform similar checks with the Manage Users Packages in, say, the Use Case and Implementation models.</p> <p>Using the 'Source' and 'Target' field browsers () you can examine child Packages within the 'theme' Package, and obtain further detail on how the feature at this stage is defined.</p>

Relationships window	<p>The Relationships window shows a single level of relationships from the currently selected element.</p> <p>Each line corresponds to a single relationship, providing information about that relationship and the element at the other end of the relationship.</p>
Dependency report	<p>The Dependency report provides a list of dependencies for all elements in the model.</p>
Implementation report	<p>The Implementation report provides a list of all elements in the model that have to be implemented, and the elements that implement them.</p>

# The Traceability Window

Using the Traceability window you can quickly see how elements are connected and how they influence each other. You can:

- Locate related elements in the Project Browser
- View the properties of related elements
- Open the diagrams in which related elements are used
- Add related elements to the current diagram
- View the source code for related elements
- Change the display using the window toolbar options

When an element is selected, it immediately becomes the top point in the Traceability window. When a diagram is selected, all elements in the diagram are listed in the Traceability window, so you can use any of them as a starting point.

## Access

Ribbon	Design > Impact > Traceability
Keyboard Shortcuts	Ctrl+Shift+4

## Traceability window toolbar options

Option/Icon	Action
Locate Element	Click on this icon to make the selected element the focus of the Traceability window and to show all relationships and elements with which the selected element forms a relationship chain. Click on the diagram to list all elements in the diagram.
Related Element Properties	Click on this icon to display the element 'Properties' dialog for the currently-selected element in the Traceability window.
Find Element Usage	Click on this icon to display the 'Element Usage' dialog, listing all diagrams in which the currently-selected element is used. (Shortcut keys: Ctrl+U)
(Relationship selector)	Click on the drop-down arrow and select the checkbox against each relationship type to include in the trace shown in the window: <ul style="list-style-type: none"><li>• Generalizations</li><li>• Aggregations</li><li>• Nesting</li><li>• Realizations</li><li>• Dependencies</li><li>• Transitions</li></ul>

	<p>Other (unspecified) links such as:</p> <ul style="list-style-type: none"> <li>• Associations</li> <li>• Use Cases</li> <li>• Delegates</li> <li>• Assemblies</li> <li>• Deployments</li> <li>• Information Flows</li> <li>• Manifests</li> <li>• Classifiers - where an element is used as the classifier of another element</li> <li>• Embedded Element Re-uses - where a Port or Part is also represented in another part of the model</li> <li>• Transformations - where an element is created by running a Transformation from another element</li> <li>• Custom References that have been added between elements</li> <li>• Tagged Value References - showing elements that are the targets of Tagged Value references</li> <li>• Qualified Names - element names including the names of owning objects</li> </ul>
Help	Click on this icon to display this Help topic.

## Traceability Window Context Menu Options

Right-click on an element or connector in the main panel. All options listed here act on elements only, except for the 'Properties' option which acts on connectors.

Option	Description
Switch to Related Element	Make the selected element the focus of the Traceability window. The element displays at the top of the window.
View Related Element Properties	Display the 'Properties' dialog for the selected element. You can also display the element's 'Properties' dialog by double-clicking on it.
Find in all Diagrams	Display the 'Element Usage' dialog, listing all diagrams in which the currently-selected element is used.
Place element(s) in diagram	This option is available if the selected element is not used in the diagram that is the current focus. Select the option to add the element and its child structure to the diagram. You can also simply drag the element (with its structure) onto the diagram from the Traceability window.
View Source Code	Display the generated source code for the selected element, in the Source Code Editor.
Properties	(For a connector) Display the 'Properties' dialog for the connector. (Double-clicking on a connector expands and collapses any structure beneath it, rather than displaying the 'Properties' dialog.)

## Notes

- To make it easier and faster to find the elements you are interested in, restrict the relationship types shown to the smallest set of relevant types
- As an alternative view, or to include the traceability information in documentation, you can develop a Traceability diagram using the Traceability window
- The Traceability window does not currently recognize extended relationship types defined by Technologies such as BPMN or ArchiMate; relationships defined by a Profile or Technology are identified using their base UML type, so, for example, ArchiMate 'Realization' and 'UsedBy' relationships are each reported as UML 'Dependency' relationships

## Relationship Matrix

When you need to visualize or manage relationships quickly and definitively, you can use the Relationship Matrix - a convenient and simple tool for reporting and working on all the relationships in a selected structure. The Relationship Matrix is a spreadsheet display of relationships between model elements within a Package, or between elements in two different Packages. You can filter the selection of relationships shown, according to:

- The element type of the source and target elements in each relationship
- The relationship type and direction
- The Package(s) in which the source elements and target elements are held

The matrix shows all the relationships of a specified type between source and target elements by:

- Listing the source Package elements down the side of the matrix
- Listing the target Package elements across the top of the matrix, and
- If a relationship exists between a source and target element, displaying an arrow indicating the direction of the relationship

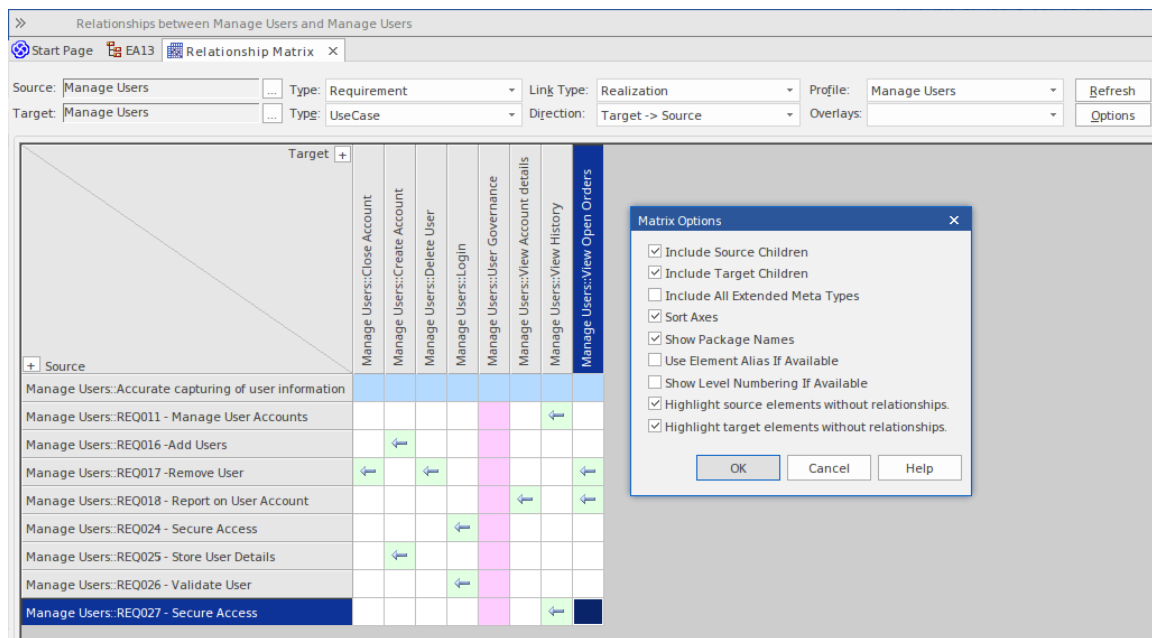
The direction is a reflection of which element is the source element and which the target (it does not indicate the 'Direction' property of the connector, as defined in the connector 'Properties' dialog). The display might also show a 'bent arrow' icon, indicating that the same kind of connectors exist in both directions between the source and target elements.

The squares or cells of the matrix can have different fill colors, depending on the existence of relationships and the lock status of the Package containing the source element. If the cell is:

- White - there is no relationship between the source element in this row and the target element in this column
- Pale Blue - the source element on this row has no relationships at all (if the Matrix Option 'Highlight source elements without relationships' is selected)
- Pale Pink - the target element in this column has no relationships at all (if the Matrix Option 'Highlight target elements without relationships' is selected); if there is an intersection of blue rows and pink columns, the blue takes precedence
- Green - with a direction arrow, the elements in the source row and target column have a relationship and the source element is not locked (the parent Package has not been checked in under Version Control)
- Dark Pink - with a direction arrow, the source element is locked (the parent Package has been checked in)
- Dark Blue - the selected cell, the source element or the target element have been selected as the object of an action within the Relationship Matrix; if just the cell is selected, the source and target element names are also highlighted

Right-clicking on a square gives you the options of creating, modifying and deleting relationships between elements with a single mouse click - a quick way to set up complex sets of element relationships with a minimum of effort.

You can also create additional elements in the source and target Packages, and quickly add relationships to and/or from them.



## Access

Ribbon	Design > Impact > Matrix
Context Menu	Project Browser   Right-click on Package   Relationship Matrix   (As Source, As Target or As Both)

## Operations

Operation	Detail
Specify the element types	<p>The Relationship Matrix defaults to show all element types. If you want to examine relationships between specific types of element, you can filter for those types.</p> <p>You define the element types - if necessary - as the first step in configuring the Relationship Matrix.</p> <p>Click on the drop-down arrow in the 'Type' field in the 'Source' row, and/or in the 'Target' row, and in each case click on the required element type in the list.</p> <p>The Relationship Matrix display immediately refreshes.</p>
Specify the connector type and direction	<p>The Relationship Matrix requires a relationship type and direction to operate on.</p> <p>In the 'Link Type' field, click on the drop down arrow and on the type of relationship to show.</p> <p>In the 'Direction' field, click on the drop-down arrow and on one of the connector directions to show, or on 'Both' to show relationships in any direction.</p> <p>In each case, if any relationships of that type exist they are immediately shown on the Relationship Matrix.</p>
Select the Source and	You need to set the source and target Packages in order to display relationships, but

Target Packages	you do this after setting the connector and element types; as the Matrix automatically refreshes after each change, this is usually faster.
Update, delete and create relationships	Having seen what relationships currently exist between the selected elements, you can review the relationship and element properties, modify them, add more relationships or delete relationships that are no longer applicable.
Create new elements	<p>If the source or target element 'Type' field is set to a specific element type, you can add elements of that type to the matrix and the model.</p> <p>In the top left corner of the matrix itself, the 'Target' and 'Source' labels have a + button. When you click on this button, the element 'Properties' dialog displays, through which you can define a new element of the corresponding (target or source) type.</p> <p>If there are stereotyped elements of the type (such as Actors as defined in UML, TOGAF and ArchiMate) you are prompted to select the variant that you need.</p> <p>This option is not available for the target or source axis if the corresponding 'Type' field is set to '&lt;All&gt;'.</p>
Modify the display of information	It is possible to tailor the display of information to, for example, list the Package elements in alphabetical order, show elements from the Package hierarchy, highlight elements with no relationships, and hide or show additional element name components such as level numbering, aliases and parent Package names.
Toggle Between relationship direction and CRUD formats	You can switch the display between the connector direction format and a CRUD matrix format. The CRUD (or other, customized) indicators are defined in an overlay that you create.
Export the contents of the Relationship Matrix	After reviewing the Relationship Matrix, you can export the contents to a CSV file, or capture the image of the contents as a .png file or a .emf graphics file.
Print the contents of the Relationship Matrix	You can also send the contents of the Relationship Matrix to a printer, after previewing the print format if necessary. The printout can be on as many pages as it takes, or you can scale the print format so that the file occupies a specific number of pages.
Capture the Matrix settings	If you want to use the same Relationship Matrix settings repeatedly to, for example, monitor development of the same source and target Packages, it is possible to save the settings as a profile that can be called to reapply those settings.
Investigate Source and Target elements in relationships	<p>Having identified relationships that might be of significance to you, you can check details of the elements in those relationships. For example, you can look at:</p> <ul style="list-style-type: none"> <li>• The diagrams that the elements are used in</li> <li>• The properties of the elements, or</li> <li>• What other elements might have relationships with the selected element</li> </ul>



## Set Element Type

The Relationship Matrix defaults to show all element types in both Source and Target Packages. You can also select to list elements of one specific type in the Source Package or the Target Package or both. For example:

- Any (<All>) types of element in the Source Package linked to Use Cases in the Target Package
- Use Cases in the Source Package linked to any (<All>) types of element in the Target Package
- Requirements in the Source Package linked to Use Cases in the Target Package
- Classes in the Source Package linked to Classes in the Target Package

Having set the element type for an axis, you can create further elements of that type within the Relationship Matrix,

### Set the source and/or target element type

Step	Action
1	Click on the drop-down arrow in the 'Type' field for the Source Package, or for the Target Package.
2	Find the required element type in the list and click on it. The Relationship Matrix content automatically refreshes.
3	If necessary, repeat the process to select a specific element type in the other Package.

## Set Connector Type and Direction

The Relationship Matrix shows relationships of a specific type and direction, which you define after selecting the element type(s) to show, and before you specify the Source and Target Packages to search in.

### Set the connector type and direction

Step	Action
1	Click on the drop-down arrow in the 'Link Type' field.
2	Locate and click on the required connector type in the list.
3	Click on the drop-down arrow in the 'Direction' field.
4	Click on the required direction in the list. The Relationship Matrix content automatically refreshes.

### Notes

- If you set the 'Direction' field to 'Both', each relationship is indicated by two arrows - a From-To arrow and a To-From arrow
- The direction is a reflection of which elements are the source elements and which are the target; it does not indicate the 'Direction' property of the connector, as defined in the connector 'Properties' dialog

## Set Source and Target Package

Before you display relationships on the Relationship Matrix, you set both the source and target Packages containing the elements between which the relationships might exist. However, you set the source and target Packages after setting the element and connector types/details; as the Relationship Matrix refreshes after each change, this is usually faster. You can set the same Package as the source and target, to investigate relationships within a Package, or different source and target Packages to investigate relationships between Packages.

When deciding on which Packages to investigate and how to filter the matrix contents, consider that:

- The Relationship Matrix includes all child elements in each Package, within the criteria you specify; in a large model, with less-specific filters, this can expand the matrix with a large number of elements
- On the other hand, if you want to examine relationships within the Package structure, you can select options to include elements in child Packages under either the source Package or the target Package, or both

### Access

Ribbon	Design > Impact > Matrix
Context Menu	Project Browser   Right-click on Package   Relationship Matrix   (As Source, As Target or As Both)

### Set source and target Packages (method 1)

In all cases, the Relationship Matrix immediately:

- Populates the axes with the elements identified in the 'Source Package' and 'Target Package' or searches that meet the selection criteria, and
- Shows any relationships between the sets of elements that also meet the selection criteria

If you select the first access option:

Step	Action
1	In the Project Browser, click on the required source Package, then press and hold Ctrl and click on the required target Package, to select the two Packages together.
2	Drag the selected Packages over the 'Source' and 'Target' fields. The first-selected Package name displays in the 'Source' field, and the second-selected Package name displays in the 'Target' field.


### Set source and target Packages (method 2)

Or, if you use the second access option:

Step	Action
1	Select and drag a single Package name over the remaining 'Source' OR 'Target'

	<p>field, to change just the source or the target Package.</p> <p>If you drop the Package name anywhere else on the Relationship Matrix, the system prompts you to specify whether to add it to the 'Source' or 'Target' field, or both.</p>
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## Set source and target Packages (method 3)

Step	Action
1	<p>Click on the  button at the end of the 'Source' or 'Target' field.</p> <p>A short menu displays, with options to:</p> <ul style="list-style-type: none"> <li>• Locate a Package using the 'Browse Project' dialog or</li> <li>• Select a Model Search from a drop-down list and run the search on a search term; the name of the search is displayed in the 'Source' or 'Target' field</li> </ul> <p>The target of the search depends on whether the 'Return matching items for the selected Package' option is selected in the 'Search' definition; if it is selected, the search operates on the current Package, otherwise the search operates on the whole model</p> <p>It is possible to browse for a Package in one field and run a search in the other.</p>
2	<p>Select the required Package, or the required Model Search and search term, and click on the OK button.</p>

## Notes

- Custom SQL searches are supported if they are returning elements; the SQL must include ea\_guid AS CLASSGUID (case sensitive)
- Using ORDER BY in a SQL search will not affect the order of the Relationship Matrix

## Matrix Overlays

The Relationship Matrix indicates the existence of connectors between elements by displaying an arrow in the cell at the intersection of the source element row and target element column.

If you prefer, you can toggle the display to a CRUD matrix overlay, where the presence of a connector is indicated by the appropriate value or combination of CRUD values in the intersection cell. You define the actual values that are entered and displayed, so the characters can refer to whatever interpretation of CRUD your organization uses, or they can be another standard set of indicators such as BREAD, or your own custom set of indicators. The values can, therefore, be a selection of these, or anything else you might use:

- C reate
- A dd
- B rowse
- L ist
- R ead, R etrieve
- U pdate
- E dit
- M odify
- D elete, D estroy

### Toggle between the two display formats

Click on the 'Overlays' field drop-down arrow and select either:

- '<None>' to use the direction arrow Relationship Matrix format
- The name of your overlay, to use the Matrix overlay format, or
- '<New Overlay>' to create and use a new Matrix overlay

The overlay values display if they have been specifically applied to the relationship via the intersection cell on the Relationship Matrix.

## Create a Matrix Overlay

When you create a Matrix Overlay to apply to the cells of the Relationship Matrix, you define the values that can be assigned under that overlay, and whether the values must be single or can be set in a combination. The overlay definition is actually created as a Tagged Value on the connector, of the predefined Tagged Value Type MatrixOverlay.

### Access

Ribbon	Design > Impact > Matrix : Overlays drop-down arrow   <New Overlay>
Context Menu	Project Browser   Right-click on Package   Relationship Matrix   (As Source, As Target or As Both) : Overlays drop-down arrow   <New Overlay>

### Create an Overlay

Field/Button	Action
Overlay Name	Type an appropriate name for the overlay. This also becomes the tag name.
Allowable Values	Type in the allowable values for the overlay/tag, not separated by any punctuation or spaces (for example, CRUD); the matrix cell is case sensitive, so type the values exactly as they are to be entered.
Mutually Exclusive	If you want only one allowable value to be set in a matrix cell at a time, select this checkbox. (This makes the Tagged Value an Enum type.) If you want to allow any combination of values to be set in a matrix cell at a time, clear the checkbox. (This makes the Tagged Value a Custom type.)
OK	Click on this button to save the new overlay/Tagged Value. You can now view the overlay on the 'Tagged Value Types' tab of the 'UML Types' dialog, in the format: Type=Enum;Values=C,R,U,D;MatrixOverlay=true;

### Notes

- You cannot change an existing overlay on the Relationship Matrix; because the overlay is defined by a Tagged Value of type MatrixOverlay, you can delete the overlay or edit the values and/or the 'Mutually Exclusive' setting by deleting or editing the Tagged Value on the 'Tagged Value Types' tab of the 'UML Types' dialog

## Apply an Overlay to a Cell

You can apply overlays (one overlay at a time) to the cells of the Relationship Matrix. After you select the required overlay in the 'Overlays' field, you can:

- Apply an overlay value or values to a cell that identifies an existing relationship
- Create a new relationship in a cell, and immediately apply overlay values to that relationship
- Change the overlay values currently applied, or
- Remove the overlay from the cell

### Access

Ribbon	Design > Impact > Matrix : right-click on cell
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### Context Menu - Overlay Options

Option	Action
Apply overlay	<p>(On a cell that has an arrow icon, or the value of a different type of overlay.)</p> <p>Displays the 'Allowable values &lt;values&gt;' dialog. Type in the required value or values and click on the OK button.</p> <ul style="list-style-type: none"> <li>• If you have entered more than one value and the overlay is set to mutually exclusive, only a single value is permitted and an error message displays; click on the OK button and type in a single character</li> <li>• If the overlay is not set to mutually exclusive, you can type in any individual value, or any combination of values in any sequence</li> </ul>
Create new relationship with overlay	<p>(On a cell that has no relationship indicated in it.)</p> <p>If necessary, change the 'Link Type' field to show the type of connector to create.</p> <p>When you click on the menu option, a submenu of variations of the selected relationship type might display. Click on the variation to create.</p> <p>The 'Allowable values &lt;values&gt;' dialog displays; type in the required value or values and click on the OK button.</p> <p>A relationship of the selected type is created between the source and target elements, and the selected overlay values are displayed in the cell.</p>
Edit overlay	<p>(On a cell showing a value of the current overlay.)</p> <p>Displays the 'Allowable values &lt;values&gt;' dialog, showing the current value. Overtyping this with the new value or values and clicking on the OK button.</p> <p>The new value(s) display in the selected cell.</p>
Remove overlay	<p>(On a cell showing a value of the current overlay.)</p> <p>Clears the overlay value and restores the appropriate connector direction arrow symbol to the cell.</p>

## Notes

- You cannot apply different overlays to the matrix at the same time; if you select a different overlay in the 'Overlays' field, any values in the cells revert to either the value set under that overlay, or the direction arrow if no value is set under that overlay



## Matrix Profiles

You can use the Relationship Matrix as a monitoring tool, to help in tracking the development of elements and relationships in particular Packages or pairs of Packages over time. In this case you would re-use the same combinations of field settings many times. It is very easy to store a combination of settings as a matrix profile, so that later you can recall it for use whenever you need it.

### Access

Ribbon	Design > Impact > Matrix
Context Menu	Project Browser   Right-click on Package   Relationship Matrix   (As Source, As Target or As Both)

### Save a Relationship Matrix configuration as a named profile

Step	Action
1	Set up the Relationship Matrix with the required: <ul style="list-style-type: none"><li>• Source and target element types</li><li>• Connector type and direction</li><li>• Source and target Packages or Model Searches, and</li><li>• Overlay name or &lt;None&gt; selected</li></ul>
2	Click on the Options button on the Relationship Matrix and select 'Profiles   Save as New Profile'. The 'Enter name for new profile' dialog displays.
3	In the 'Enter Value' field, type a profile name of up to 12 characters. Click on the OK button.
4	Once you have created a profile, you can select it by clicking on the Profile drop-down arrow at the top of the Relationship Matrix screen and selecting the profile name from the list.  Profiles are also listed in the Matrix Profiles folder of the Resources window; double-click on a profile in the folder to display the Relationship Matrix with that profile active.

### Notes

- You can modify an existing profile by:
  - Selecting the profile name from the 'Profile' drop-down list
  - Changing the field values, then
  - Selecting 'Options: Profiles | Update Current Profile'
- To delete an existing profile, select it in the 'Profile' drop-down list and select 'Options: Profiles | Delete Current'
- You can capture Relationship Matrix profiles in document reports

- In the Corporate, Unified and Ultimate editions of Enterprise Architect, if security is enabled you must have 'Configure Resources' permission to Save, Update, or Delete matrix profiles

## Creating and Deleting Relationships

Having reviewed existing relationships on the Relationship Matrix, you can use the Matrix to quickly modify or delete those relationships and create others between the elements. This is a very useful facility for maintaining a large number of relationships in a short space of time. As you can filter for specific types of connector and source and target element, you can create a logical set of relationships without having to specify the type of each object every time.

### Access

Ribbon	Design > Impact > Matrix
Context Menu	Project Browser   Right-click on Package   Relationship Matrix   (As Source, As Target or As Both)

### Create a new relationship

Step	Action
1	In the 'Link Type' field, select the type of relationship you want to create, and in the 'Type' fields select the types of source and target element between which to create the relationships.
2	Right-click on the empty square at the intersection of the appropriate source row and target column. You can select and operate on several squares (creating several relationships) at once. Either: <ul style="list-style-type: none"> <li>Press Ctrl as you click on each intersecting square, then right-click on one of the selected squares, or</li> <li>Click on the first square in the required row, column or block, then press Shift as you click on the final square in the required row, column or block; right-click on one of the selected squares</li> </ul>
3	Select either the: <ul style="list-style-type: none"> <li>'Create new relationship' option, if no overlay is to be applied</li> <li>'Create new relationship with overlay' option, to apply an overlay as you create the relationship</li> </ul> If the 'Direction' field is set to 'Both', you are offered the choice of creating the relationship to the Source element or to the Target element. A further submenu might display, listing any variations on the type of relationship you can create; in this case, click on the required type of relationship.
4	A connector of the selected type is created between the two elements, and the appropriate indicator displays in the matrix cell.

### Modify or delete a relationship on the Relationship Matrix

Step	Action

1	<p>Right-click on the required highlighted relationship cell on the matrix, and select the appropriate context menu option:</p> <ul style="list-style-type: none"><li>• Apply overlay - apply the CRUD overlay, if one is selected</li><li>• Edit overlay - change the overlay values assigned to the cell</li><li>• Remove overlay - take the overlay off this cell only, and revert to the connector direction arrow icon</li><li>• View relationship - open the 'Properties' dialog for the selected relationship</li><li>• Source element properties - open the 'Properties' dialog for the source element</li><li>• Target element properties - open the 'Properties' dialog for the target element</li><li>• Delete relationship - remove the relationship from between the elements</li></ul>
2	<p>If you have selected 'Delete relationship', Enterprise Architect prompts you to confirm this action. Click on the Yes button.</p> <p>The 'Delete relationship' option is not available if:</p> <ul style="list-style-type: none"><li>• The source element (that is, the owner) is locked</li><li>• You have selected 'Both' in the 'Direction' field - you are effectively trying to delete half a relationship</li></ul>
3	<p>If you have selected one of the other options, modify the properties in the dialog fields as required. Click on the OK button to save the changes.</p>

## Relationship Matrix Options

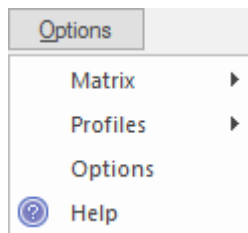
When you have displayed information on the Relationship Matrix, you might want to capture the display in some way, or modify the output. There are a number of options that you can select to, for example:

- Output the information on the Relationship Matrix to the printer or to a metafile, .png file or .csv file
- Create and update profiles of the configurations of the matrix that you have designed
- Define local settings to control what the Relationship Matrix displays

### Access

Ribbon	Design > Impact > Matrix : Options
Context Menu	Project Browser   Right-click on Package   Relationship Matrix   (As Source, As Target or As Both) : Options

### Options



Option	Action
Print Relationship Matrix	Click on the 'Matrix   Print' menu option. The 'Print' dialog displays, on which you select the output printer and specify the printer properties, the range of pages to print, and the number of copies. The output is a WYSIWYG representation of the Relationship Matrix contents.
Display a preview of the printout	Click on the 'Matrix   Print Preview' menu option. The 'Print Preview' screen displays, showing the Relationship Matrix printout.
Scale the printout	When you print the Relationship Matrix, by default it prints on as many pages wide and long as the Matrix requires. You can scale the printout into a fixed number of pages wide; the row height is automatically adjusted to maintain the proportions of the Matrix. This reduces the overall size of the printout and improves appearance, especially when used in conjunction with the 'Landscape' option in the printer properties. For example, a 16-page printout without scaling can, with a scaling of 2 pages wide, be reduced to 6 pages. To set the page scaling: 1. Click on the 'Matrix   Scale Setting' menu option. The 'Scale Matrix' dialog displays.

	<ol style="list-style-type: none"> <li>2. Select the 'Scale Matrix Width Into Pages' checkbox, and type or select the number of pages in width to scale to.</li> <li>3. Click on the OK button to apply the setting.</li> </ol>
Save Relationship Matrix as graphic file	<p>Click on the 'Matrix   Save as Metafile' or 'Matrix   Save as PNG' menu options. A browser dialog displays on which you select the target file location and specify the filename of the .emf or .png file in which to save the output.</p> <p>You can incorporate these files in a document or web report, as either a hyperlinked file or an included file.</p>
Export output to CSV file	<p>The contents of the Relationship Matrix can be exported to a CSV file, which provides a convenient mechanism for moving the matrix data to a spreadsheet environment such as Microsoft Excel.</p> <p>This option is also active in the 'Lite', read-only version of Enterprise Architect.</p> <p>To export the Matrix to CSV:</p> <ol style="list-style-type: none"> <li>1. Select the 'Matrix   Export to CSV' menu option. The Windows 'Browser' dialog displays.</li> <li>2. Browse to the required file location and type in a .csv filename to export to.</li> <li>3. Click on the Save button to export the data.</li> </ol>
Create and manage matrix profiles	<p>If you use a particular combination of field values often, you can save that combination as a profile to make it easier to recall them for use.</p> <p>You can also include a Relationship Matrix Profile in a document report, to pull in specific relationship details using the Matrix.</p>
Manage display content	<p>You can extend the information shown by the Relationship Matrix to include related elements and/or additional properties of each element. You can also re-organize the display to list the element names in alphabetical order.</p> <p>Select the 'Options' menu option. The 'Matrix Options' dialog displays. Select one or more of these checkboxes to define the information you want to display:</p> <ul style="list-style-type: none"> <li>• 'Include Source Children' - to recursively include child Packages and contents under the Source</li> <li>• 'Include Target Children' - to recursively include child Packages and contents under the Target</li> <li>• 'Include All Extended Meta Types' - to include elements that are extensions of a specified meta-type; for example, if there are Block elements (extending Class) in the Package, selecting this option and specifying the type Class includes Class and Block elements, and any further derivatives of Class in the matrix</li> <li>• 'Sort Axes' - to display the element names in alphabetical order</li> <li>• 'Show Package Names' - to hide or show the elements' parent Package names in the Relationship Matrix; this is useful for shortening the displayed texts, especially in circumstances where Packages have long names</li> <li>• 'Use Element Alias If Available' - to display an element's alias instead of the element name, if an alias has been defined</li> <li>• 'Show Level Numbering If Available' - to reproduce level numbering in the Relationship Matrix, if it is turned on in the Project Browser</li> <li>• 'Highlight source elements without relationships' - to display, in pale blue, all cells in a row belonging to a source element that has no relationships</li> <li>• 'Highlight target elements without relationships' - to display, in pale pink, all cells in a column belonging to a target element that has no relationships</li> </ul>



## Review Source and Target Elements

As you review the information on relationships in the Relationship Matrix, you can also obtain information on the source and target elements in any of the relationships.

### Access

Ribbon	Design > Impact > Matrix
Context Menu	Project Browser   Right-click on Package   Relationship Matrix   (As Source, As Target or As Both)

### Review the elements

Action	Detail
Identify other elements in relationships with a source or target element	<p>Click on the source or target element name in the row or column titles.</p> <p>The entire row or column is highlighted.</p> <p>Scroll across or down the highlighted row or column and quickly identify where the relationships are; this is very useful if the row or column is long.</p>
Display the 'Properties' dialog for the selected element	<p>Right-click on the element name and select the 'Properties' option.</p>
Identify diagrams in which the element is used	<p>Right-click on the element name and select the 'Find in Diagrams' option.</p> <p>Either:</p> <ul style="list-style-type: none"><li>• The only diagram in which the element is used displays, with the element highlighted, or</li><li>• A list of the diagrams in which the element is used displays; you then double-click on the required diagram to open it</li></ul>
Highlight the element name in the Project Browser	<p>Right-click on the element name and select the 'Locate in Project Browser' option.</p> <p>The Project Browser expands to the location of the element, and the element name is highlighted.</p>
Make the element the focus in any docked screens or windows that are open	<p>Right-click on the element name and select the 'Set Context Item' option; the selected element becomes the subject of any other windows or screens that are open.</p>



## The Relationships Window

If you want a quick overview of all the relationships of one or more elements in the model, you can obtain this from the Relationships window. This window lists all the relationships of the elements currently selected in a diagram or the Project Browser, showing:

- The relationship type
- The direction, or navigability, of the relationship
- Any stereotype on the relationship
- The names of the source and target elements in the relationship (names in parentheses indicate that the element is not shown on the currently-open diagram); the selected elements can be either source or target in the relationship
- Characteristics of the source and target elements, such as type, stereotype, role, cardinality

This information is presented in a series of columns that you can display or hide to show only the characteristics you require, and organize in whatever sequence suits your requirements. You can also group the information (for example, by source or target element) and filter the information to show only items having particular values.

The Relationships window has a 'View' column which, if the row contains the value 'Visible' or 'Hidden', indicates that the related element is present in the currently open diagram and the relationship to it is visible or hidden. If the related element is not in the current diagram (the row has no value), you can add it.

You can perform operations on each relationship using the options from a context menu.

### Access

Ribbon	Show > Portals > Window > Trace > Relationships Start > Explore > Trace > Relationships
Keyboard Shortcuts	Ctrl+Shift+2

### Facilities

Facility	Detail
Reorganize display	You can click on and drag column headings across the display to arrange them in a different sequence.  You can also right-click on the column headings and set up the types and values of information to display, using the Field Chooser, Group Box and Filter Bar.
Display Connector Properties	Either: <ul style="list-style-type: none"> <li>• Double-click on a relationship in the list</li> <li>• Click on the relationship and press the G key, or</li> <li>• Right-click and select 'General Properties'</li> </ul> The '<connector type> Properties' dialog displays showing the 'General' tab, on which you can view and edit the connector properties.
Display Properties of Source Role	Either: <ul style="list-style-type: none"> <li>• Double-click on a relationship in the list and select the 'Role(s)' tab</li> </ul>

	<ul style="list-style-type: none"> <li>Click on the relationship and press the S key, or</li> <li>Right-click and select 'Source Role'</li> </ul> <p>The '&lt;connector type&gt; Properties' dialog displays showing the 'Roles' tab, on which you can view and edit the properties of the Source Role defined in the relationship.</p>
Display Properties of Target Role	<p>Either:</p> <ul style="list-style-type: none"> <li>Double-click on a relationship in the list and select the 'Role(s)' tab</li> <li>Click on the relationship and press the T key, or</li> <li>Right-click and select 'Target Role'</li> </ul> <p>The '&lt;connector type&gt; Properties' dialog displays showing the 'Roles' tab, on which you can view and edit the properties of the Target Role defined in the relationship.</p>
Hide / Show connector on diagram	<p>If the related element exists on the current diagram, and the connector is shown (the 'View' column has the value 'Visible'), you can hide it. Right-click on the item line and select 'Hide Relation'.</p> <p>If the related element exists on the diagram and the connector is hidden (the 'View' column has the value 'Hidden'), you can re-display it. Right-click on the item line and select 'Show Relation'.</p>
Apply Appearance to One or More Connectors On the Current Element on the Current Diagram	<p>Select one or more relationships, then right-click and select 'Appearance'.</p> <p>On the 'Connector Appearance' dialog, click on the drop-down arrow in the:</p> <ul style="list-style-type: none"> <li>'Line Color' field, and select the color to apply to the connector lines</li> <li>'Line Thickness' field, and select the line thickness of the connector lines</li> </ul> <p>Click on the OK button to apply the settings to all the selected connectors on the element.</p> <p>For the selected connectors, you can also right-click and select 'Line Style', and one of the listed styles. The style is immediately applied to the connectors on the diagram.</p>
Display the properties of the Source element	<p>Either:</p> <ul style="list-style-type: none"> <li>Right-click on the relationship item and select 'Source Properties', or</li> <li>Click on the item line and press the Enter key</li> </ul> <p>The element 'Properties' dialog displays for the source element in the relationship.</p>
Display the attributes or operations of the Source element	<p>Right-click on the relationship item and select 'Source Features   Attributes' or 'Source Features   Operations'. (Alternatively, click on the item and press F9 or F10, respectively).</p> <p>The Features window displays for the source element, showing the 'Attributes' or 'Operations' tab as appropriate.</p>
Display the properties of the Target element	<p>Either:</p> <ul style="list-style-type: none"> <li>Right-click on the relationship item and select 'Target Properties', or</li> <li>Click on the item line and press Shift+Enter</li> </ul> <p>The element 'Properties' dialog displays for the target element in the relationship.</p>
Display the attributes or operations of the Target element	<p>Right-click on the relationship item and select 'Target Features   Attributes' or 'Target Features   Operations'. (Alternatively, click on the item and press Shift+F9 or Shift+F10, respectively).</p> <p>The Features window displays for the target element, showing the 'Attributes' or 'Operations' tab as appropriate.</p>

Find Related Element in Project Browser	<p>Right-click on the item line and select 'Locate Source' or 'Locate Target' as appropriate.</p> <p>The related element is highlighted in the Project Browser.</p>
Add Related elements to current diagram	<p>If any related elements are not shown on the current diagram, then:</p> <ul style="list-style-type: none"> <li>• The 'View' column has no value and</li> <li>• The related element name is in parentheses ()</li> </ul> <p>You can select the relevant relationships and add the elements to the diagram.</p> <p>Select the item line(s), then right-click and select 'Place Element(s) in Diagram'.</p> <p>The cursor changes to the 'drop element' symbols (small rectangle and arrow with a boxed plus sign); move the cursor to the point in the diagram at which to drop the related elements, and click the mouse button.</p> <p>This facility is useful in building up a picture of how an element interacts with the rest of the model, especially when reverse engineering an existing code base.</p>
Locate Related Elements in Diagrams	<p>Right-click on the item line and select the 'Find in all Diagrams' option.</p> <p>If the related element exists only in one diagram, that diagram is displayed with the related element highlighted. The focus of the Relationships window switches to the related element.</p> <p>If the related element exists in more than one diagram, the 'Element Usage' dialog displays, listing the diagrams. Click on one of the diagrams and on the Open button to display the selected diagram with the related element highlighted.</p>
Delete Relationship	<p>Right-click on the item line and select the 'Delete Connection' option.</p> <p>A prompt displays to warn you that the selected items will be deleted from all diagrams and from the model, and that the action cannot be reversed. This message refers to the relationship only - the source and target elements remain in the diagram and in the model.</p> <p>Click on the Yes button to proceed with the deletion.</p>

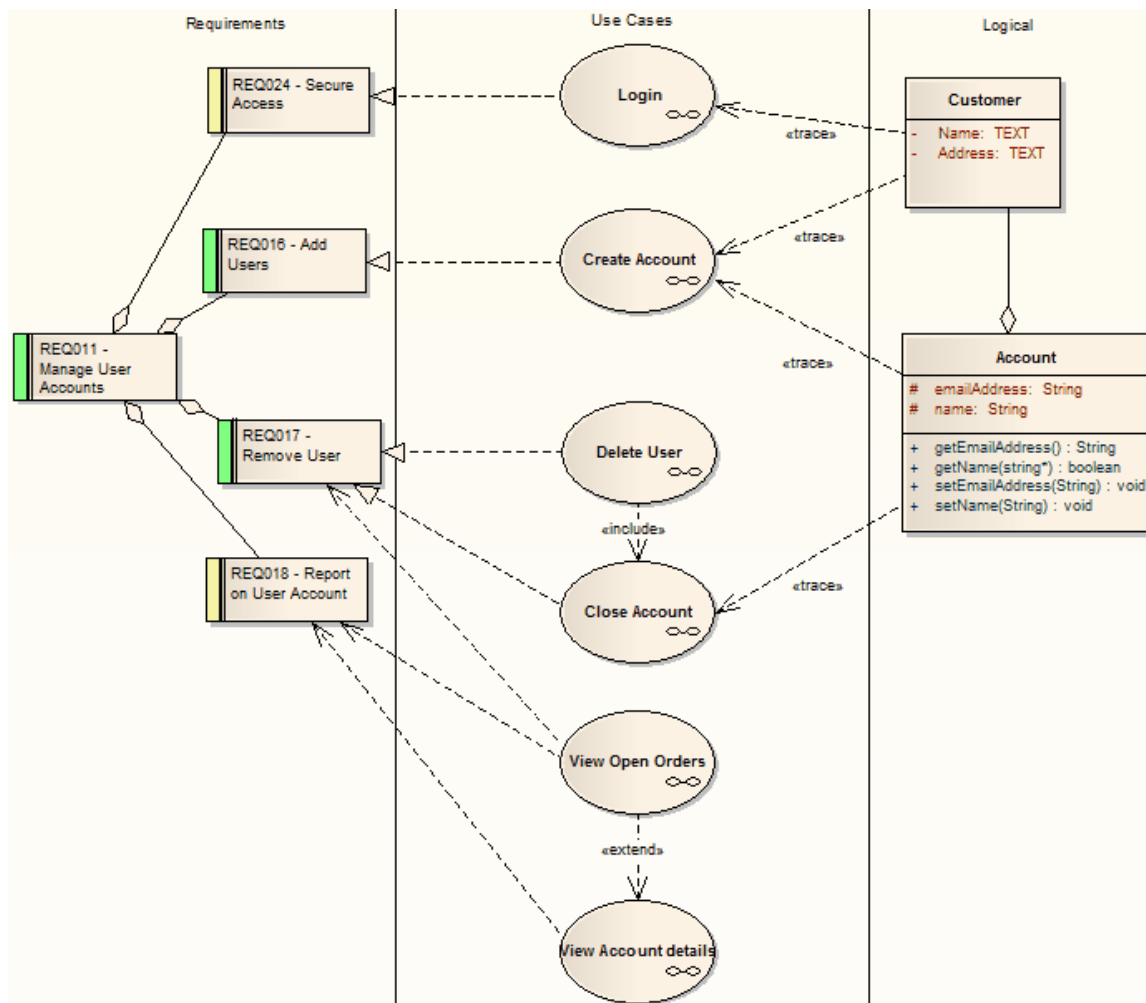
## Notes

- In the Corporate, Unified and Ultimate editions, with security enabled, the diagram and the source and target elements must be free for editing before these options are available for use
- Adding a related element from the Relationships window to the diagram does not change the focus of the window to that related element; the originally-selected element (and the original subject of the Relationships window) remains in context, and you continue working with that element

## Example Traceability Diagram

You can create Traceability diagrams to show a wide variety of relationships, and you are not restricted to having either a single element type or elements from a single phase on a diagram. Therefore, you can create appropriate relationships (such as Realize or Trace) to elements where no relationship was previously defined.

Consider this diagram, which shows how a series of Requirements are traced to Use Cases and then Classes:



The diagram instantly shows:

- That two levels of Requirements are realized by Use Cases
- Which Requirement is realized by which Use Case(s)
- How some of the Use Cases are implemented by Class elements

You can drill down on each Use Case (or, in other Traceability diagrams, any other composite element) to display more detailed diagrams showing how the Use Case meets the Requirement; the Close Account Use Case, for example, is a composite element containing a Communication diagram and a Sequence diagram.

You can tailor your Traceability diagrams to depict any level of granularity and any stages of development that are appropriate; for example, you might:

- Narrow the example diagram to show development from just the Remove User Requirement, or
- Extend it to include Interfaces, Components, Test Case elements or any other facet of the system or process

### Building a diagram

A number of tools are available for updating diagrams to show traceability:

- On the diagram, right-click on an element and select the context menu option 'Insert Related Elements' to automatically add elements linked to the selected element
- On the Relationships window, use the context menu option 'Place Related Element in Diagram' to add elements to the diagram that are directly linked to the selected element
- On the Traceability window, add elements that are indirectly linked

## Notes

- Whilst the Traceability diagram itself provides information on the definition, design and implementation of a business process feature, much more information can be obtained using the Traceability tools

## Gap Analysis Matrix

The Gap Analysis Matrix is a convenient tool for analyzing model artifacts to identify potential gaps between solution architectures.

The idea is to highlight a shortfall between the Baseline Architecture and the Target Architecture; that is, items that have been deliberately omitted, accidentally left out, or not yet defined. You can then model the gaps in the repository, which can later be addressed and assigned as tasks; the identified gaps can also be used to prioritize activities.

On the Gap Analysis Matrix, you select the:

- Target Architecture Package
- Baseline Architecture Package
- Type of Target Architecture artifact
- Type of Baseline Architecture artifact
- Type of element to model the gap


### Access

Ribbon	Design > Impact > Gap Analysis
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### Operations

Once you open the Gap Analysis Matrix, you can:

- Create, update and delete Gap Matrix Profiles to monitor development of the Baseline and Target Packages
- Edit Gap notes during a discussion session for Gap analysis
- Create elements to address gaps
- Add links to existing elements to address gaps
- Remove links to existing elements modeled as gaps

Operation	Description
Select Package	Click on the  button at the end of the 'Target Architecture' or 'Baseline Architecture' field. The 'Browse Project' dialog displays. Select the required Package and click on the OK button; by default all the elements under the Package are displayed.
Set Element Type	Click on the drop-down arrow in the 'Filter' field for the Target Architecture Package, and/or for the Baseline Architecture. Find the required element type in the list and click on it; Enterprise Architect refreshes the matrix content.
Set Gap Type	Click on the drop-down arrow in the 'Record Gap As' field. Find the required element type in the list and click on it. When you create a gap, the specified type of element is created; for example, if you

	want to address the gap with an issue element then select 'Issue' for this field.
Baseline Architecture	The Baseline Architecture artifacts are listed along the rows of the matrix. The last row is for capturing the new elements in the target architecture along the columns but not in the baseline architecture, hence the name 'New'.
Target Architecture	The Target Architecture artifacts are listed along the columns of the matrix. The last column is for capturing the missing or intentionally eliminated elements in the baseline architecture along the rows but not in the target architecture; hence the name Missing / Eliminated.
Modeling Gap	Right-click on a cell in the 'New' row or 'Missing / Eliminated' column. The context menu displays options to: <ul style="list-style-type: none"> <li>• 'Create a Gap element'</li> <li>• 'Add a link to an existing Gap element'</li> </ul> If a link to Gap element already exists in the cell, these options are displayed: <ul style="list-style-type: none"> <li>• 'Edit Gap element'</li> <li>• 'Find in Project Browser...'</li> <li>• 'Remove Gap element link'</li> </ul>
Create Gap	Right-click on the cell and select the 'Create Gap Element' option. The 'Browse Project' dialog displays. Select the Package in which to create the Gap element and click on the OK button; a Gap element is created in the selected Package and its 'Properties' dialog displays to enable you to enter the element name and other required properties.
Link to Existing Gap	If you intend to use a Gap element that is already available in the model, right-click on the appropriate cell in the 'Missing / Eliminated' column or 'New' row and select the 'Link to Existing Gap Element' option. The 'Select Classifier' dialog displays, enabling you to select the existing Gap element.
Remove Link to Gap	If you intend to remove a link to the Gap element in a cell, right-click on the appropriate cell in the 'Missing / Eliminated' column or 'New' row and select the 'Remove Link to Gap Element' option. The link is removed from the cell but the element still exists in the Project Browser.
Review Gap Element	Right-click on the appropriate cell in the 'Missing / Eliminated' column or 'New' row and select the 'Edit Gap Element' option. The 'Properties' dialog displays, enabling you to edit the selected Gap element. To locate the element in the Project Browser select the 'Find in Project Browser...' context menu option, which highlights the element in the Project Browser.
Gap Analysis Matrix Profiles	On the Gap Analysis Matrix, you can create and manage profiles to save commonly-used combinations of Target Architectures, Baseline Architectures and stereotypes. To work on Gap Analysis Matrix profiles, click on the Options button in the top right corner of the matrix; a submenu displays, listing options to: <ul style="list-style-type: none"> <li>• Create / Save the current matrix settings and content</li> <li>• Update the currently selected profile in the 'Profile' field</li> </ul>

	<ul style="list-style-type: none"><li>• Delete the currently selected profile in the 'Profile' field</li></ul>
Open a saved Profile	The 'Profile' field drop-down list shows all the saved Gap Analysis Matrix profiles. Click on the drop-down arrow in the 'Profile' field, find the required Profile in the list and click on it to load the content of the selected profile in the matrix.

## Notes

- The Gap Analysis Matrix is available in the Corporate, Unified and Ultimate editions of Enterprise Architect
- You can transport your Gap Analysis Matrix profiles between projects, using the 'Configure > Model > Transfer > Export Reference Data' and 'Import Reference Data' ribbon options



## Edit Gap Notes

The Gap Analysis Matrix provides a way to record notes during the initial phase or during a discussion session for Gap Analysis. These notes are saved in profiles, which can later be reviewed and the appropriate model elements created to address these gaps.

### Edit gap notes

Step	Action
1	Right-click on the cell at the intersection of a Target and Baseline element and select the 'Edit Gap Note' option. Alternatively, double-click on the cell. The 'Gap Note' dialog displays.
2	Edit the notes as required and click on the OK button.
3	The edited notes display in the selected cell in the matrix.
4	Update or save the matrix to retrieve it when the Gap Matrix profile is loaded at a later stage.

