



An Introduction to Using Sparx Enterprise Architect

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Introduction

This document is aimed at new users and provides guidance on the basic functionality available in Sparx Enterprise Architect (EA). The document covers the functionality the author regards as being most relevant to business analysts and stakeholders, there may be alternative ways of using the tool which users may prefer and additional functionality they may choose to use. The document also includes some guidance on using EA based on past experience of the author.

Future versions of EA may have additional functionality or reimplement existing functionality in different ways.

To find out more about how to EA use the help plus the tutorials and white papers on the Sparx website (there is a link from EA), I find the index tab very useful.

EA provides the ability for analysts to reuse elements in different designs, show how designs have evolved from requirements, track changes as the project progresses, reorganise elements making up the design and provide reports which contain just the information that is required by the target audience.

Opening and Navigating a Project

To open EA Project Files:

- Double click on file,
- use the File Menu
- make a selection from recent projects on the Start Page.

If your project is on a server you will need to ask the system administrator how to access it.

You can only have one project open at a time in EA, but you may have more than one instance of EA open and each instance may have the same or a different project open.

When the project opens it will open a number of panes containing 'views' (EA remembers which views you last had open) of which the key one is the project browser. A later section explains how to change the views you have open and their layout.

Almost everything you can do in EA can be done with a key shortcut. The shortcuts are all available from the help file.

Using the Project Browser

All the models, packages, diagrams and elements that make up a project appear in a hierarchy in the project browser view. The project browser view has a mini tool bar embedded in it for common tasks.

All elements and diagrams appear under packages and packages can have packages underneath them. Diagrams are always first in the list under a package. Each project is likely to have a different structure.

The type of elements and diagrams in a package (e.g. use case and use case diagram) can be deduced from the icons for the elements.

You can expand and contract the hierarchy as you need. There are additional options if you right click on elements, packages and diagrams.

Setting up your working environment

The views menu option enables you to select which information available you want to see. The views are configurable panes. You can save a particular combination of views and how they are opened as a layout via the layouts tool bar. The views can be free floating (undocked) outside of the EA main screen.

- When you are moving panes around blue arrows appear which you put your mouse over to select where you want to place the pane.
 - The location selected is highlighted in blue until you release the mouse key.
 - Views can be placed on top of each other to become tabs within a pane.
- If you want to move a view which is a tab in a pane you need to select the tab at the bottom of the pane.
- Standard and saved layouts can be selected from the start page and the layouts tool bar.

Viewing Diagrams

Diagrams are used to show specific parts of the model. Not every element will necessarily be in a diagram. An element in the project browser may be used in any diagram in the project file.

- Double clicking on a diagram in the project browser to view it.
- Double clicking on a package or element on a diagram which has an associated diagram will launch the diagram.
- There may be more than one diagram under a package or element but only the top one will be automatically launched.
- If you have a number of diagrams open you select them by clicking on the tabs with their name on.

You can zoom in and out of the diagram via the diagram toolbar, pan and zoom view and the slider on the status bar.

Viewing Elements

- Elements with 'spectacles' have a sub diagram which will be launched if you double click on them.
- Double or right click on an element to see its properties window which shows most of the information that can be held on an element. The window is modal so you will have to close it to interrogate another element.
- To see the detail of an element without opening the properties dialogue use views. The key views are: notes, properties, tags, traceability and relationships.
 - The traceability view gives the full hierarchy of links, but it will slow the tool down. The relationship view gives the direct links/associations. This information is also available in the Links section of the properties window.
 - Tags are custom fields for holding additional information about an element and are often project specific.
- Right click on an element in a diagram to see where it is in the project browser or which diagrams it is in.

Viewing changes to elements

If an audit log is being captured you can see changes that have been made to elements. To view changes select the Audit View option on the project menu. The default is to view the change history for what ever is currently selected in the project browser. You can select to view the details of any change, the system highlights the changes made.

You can set the mode so that you see all the changes or only the changes for the currently selected element or package. By right clicking on an element in the list of changes you can choose to find it in diagrams or in the project browser. There are various other options for sorting and filtering the audit events.

To maintain the performance of the database changes may be periodically archived so you may not view old changes, though if the log file has been archived they can be reloaded.

Opening the audit view may slow down the response of the application. Audit changes can also be output in RTF reports.

Searching the model

Project Browser Search

- Binoculars icon in the project browser toolbar, only searches element name
- Highlights each result in turn.

Model search

- Available from the tool bar and the edit menu
- Is customisable and can search any attribute of an element or package.
- Generates a grid containing all the elements found. You can group, sort and order the elements in the grid and change the fields displayed.
- Select 'simple' or 'extended' from the drop down and enter a single search term to be used in the box to the left of the drop down. Simple searches names, aliases and notes. Extended searches pretty much every attribute of an element.
- The search result pane showing all the elements and packages found.
 - Double clicking on a element launches the properties dialogue.
 - Right clicking provides options for finding the element in the project browser or diagrams and generating reports.
- You can run reports against the elements you select in the project. You can select non contiguous elements by using the CTRL key.
- You can choose to see the elements in the hierarchy.

Alternative ways of viewing elements

Elements in Diagrams

Right click on a diagram and select 'View diagram as' and then 'list view' (or right click on a open diagram and select 'view as grid') to see all the elements on diagram in a grid. This works the same way as the model search grid. The advantage is that you can see the information about all the elements in the diagram regardless of the package they are in.

The Package Browser

Right click on a package and select 'Package Browser' or click on the package browser icon in the toolbar to see the contents of the package in a grid. This works the same way as the model search grid.

The Element Browser

Available from the views menu. View information about a selected element in the project browser in a structure rather than via a view or the properties dialogue. Where information is available a + appears beside the appropriate heading.

Generating documentation

HTML Reports

Right click on a root node or any package underneath it that you want to create a HTML report for. The HTML report is in effect a browser version of EA constrained to everything below the point you selected to create it.

The HTML report should be saved into a specific directory and can be launched by clicking on the index.htm file in the normal way from Windows.

RTF Reports

Select a package or element and press F8 to generate a report for it

Reports can also be run from:

- The context menu
- project browser tool bar
- project menu.
- Tool bars on search and other windows.

The availability of reporting options is not consistent across these ways of accessing the reporting window in particular running a report against a single element rather than a package..

I recommend always using the same file name for output. You can subsequently rename it or open it and copy it into another file.

You can view the layout of a report before running it by choosing the edit option, but do not make any changes without first saving the file with a new name.

You can filter what is shown in the report without changing it by making selections on the 'options', 'advanced', 'element filters' and 'other filters' tabs.

Create a New RTF Report

If you want to change an existing report format save it with a different name first as you may not be able to get back to the original otherwise.

Use a structured naming convention to group together similar report templates.

You can view the output either within EA or by launching the file using Windows in the normal way.

There are 2 ways of generating a RTF report: You can run a single report template against a selected template or element. The alternative is to build a virtual document in which a master document format is a container for other report templates which generate the content, this is a powerful way of generating complete documents.

Create diagram images

You can copy an open diagram as an image either to the clip board or to a file via the diagram menu.

Creating A Model

Creating, Deleting and Editing Elements

Locking

If the project is so configured you will need to lock an element in order to edit it or create a new element or diagram underneath it.

- Red exclamation mark indicates that someone else has locked an element or package.
- Blue exclamation mark indicates things that you have locked.
- To lock or unlock something right click on it and select 'apply/release user lock' option.
- If you apply or release a lock without selecting the item first, i.e. you just right click on it, you will need to navigate on and off it for the selection to be put into effect.
- To view your locks or all locks across a project use the Project Menu and the security option. You will be able to release your locks but not other peoples locks.
- You can add elements to diagrams and link them to locked elements as long as they are not locked.
- You can lock a diagram or element even if security is not enabled, but anyone can unlock it.

Creating an Element

In the Project Browser

- Select a package or element, click on the 'add element' icon in the project browser tool bar. Creates a sub element. BEWARE: the dialogue defaults to the last element type you selected
- Select element or package, right click, select add and a list of options will be given.

On a Diagram

- Select an element, press CTRL and then drag and release to create an identical element. A dialogue box will open for you to rename it.
- Select an element and use the quick linker. This will create the element using the default sizing, better used for linking rather than creating elements.
- Drag from the diagram tool box on to the diagram.
- Right click and select 'New element or connector'.

Auto numbering of elements may be in effect for a project. This occurs automatically if you create the element from the toolbox, but if a dialogue opens which has an 'auto' button you will need to click it before entering the name of the element. You should check what auto numbering is in place for the project you are creating elements in.

Deleting Elements

- You can only delete a diagram, element or package by right clicking on it in the project browser.
- Deleting an element on a diagram only removes it from the diagram. All the connections it has also remain.

Editing Elements

- You can edit the attributes of elements and packages via the properties windows or via any views that are open in the EA workspace.
- If security is enabled the OK button on the properties window will be greyed out until you lock the element. You will be able to make changes but not save them.
- The 'Create Link' option can be used for creating other links between elements, e.g. generalisations between classes.
- You can link a requirement to a use case or class by either opening a diagram with the element in it and dragging the requirement from the project browser on to the element or by right clicking on the element in the project browser and selecting 'Add' and 'Create Link' to create an outgoing realisation link to the relevant requirement.

Diagrams

A diagram is a view on the project hierarchy and there is no limit on the number you use.

Creating Diagrams

- When a package is created, check or uncheck the tick box.
- Under a package or element by clicking on the add diagram icon on the project browser toolbar.
- Right click on an element in a diagram and make it composite.
- Selecting to make a new element a composite element.

Arranging Diagrams

- Do not bother with the auto layout functionality.
- To set elements to the same size select them, right click on the one you want them to match and select the option you want.
- You can move selected elements around the screen with the arrow keys and SHFT.
- Right click allows you to align elements
- You can select multiple specific elements by holding down the CTRL key whilst clicking on them.

Replicate a diagram

- Select the diagram in the EA project browser
- Right click on it in the browser and select 'copy diagram'
- Right clicking on the destination package and select 'Paste Diagram'.
- Select shallow copy to reuse existing objects. Select deep copy to create a duplicate of every element in the diagram (Deep copy is the exception, usually used because a new model root node is being populated).
- If the diagram had any objects on it they will be replicated even if shallow copy is selected.