Enterprise Architect

User Guide Series

Project Management

Author: Sparx Systems
Date: 26/07/2018
Version: 1.0

CREATED WITH ENTERPRISE ARCHITECT

Table of Contents

Project Management 7
Kanban Features 11
MDG Technology for Kanban 25
Kanban Tasks 31
Kanban Diagram Options 43
Kanban Diagram Options - Sub-Lanes 53
Kanban Diagram Options - Appearance 57
Kanban Diagram Options - Advanced 66
Kanban Diagram Options - Filters 70
Default Kanban Diagrams 73
Allocating Resources to Work Items 76
Related Model Elements 88
Managing a Backlog 92
Elaboration and Grooming 101
Alternate Views 104
Other Processes and Methods 111
The Construct Facility 115
Task Management 120
Project Resources 123
Resource Allocation 126
Assign Multiple Resources 132
Effort Management 139
Risk Management 142

Metrics 145
Effort Types 148
Metric Types 151
Risk Types 154
Project Task Allocation 157
The Project Gantt View 158
Resource View 171
Element View 173
Report View 175
Progress Bars 180
Using Progress Bars 182
Personal Tasks 195
Review Allocated Work 197
Monitor Your Tasks 205
Project Management Windows 208
Testing 211
Test Management 213
Create Test Records 217
Show Test Script Compartments 222
Move or Copy Tests Between Test Classes 225
Create Maintenance Item From Test 228
Import Scenario as Test 231
Import Test From Other Elements 237
Import Requirement or Constraint as Test 241
Test Documentation 244
Maintenance 246
Working on Maintenance Items 250

Create Maintenance Items 254
Move or Copy Maintenance Items 259
Create Elements From Maintenance Item 262
Show Maintenance Items in Diagram 265
Changes, Defects and Issues 267
Issues 269
Defects 272
Changes 275
Maintenance Diagram 278
Example Maintenance Diagram 282
Update Package Status 283
Applying Process Guidance 286
The Project Status View 290
Project Tasks 292
Add, Modify and Delete Tasks 294
Project Issues 297
Add, Delete and Modify Issues 299
Report From Project Issues Dialog 303
Report From Project Issues Tab 305
Report Output Sample 307
Use Case Estimation 308
Technical Complexity Factors 310
Environment Complexity Factors 313
Default Hours 316
Estimating Project Size 318
Monitor Change Events 323
Model Watches 326

Project Management

Enterprise Architect has been built from the ground up with the Project Manager in mind. Organizational repositories are valuable corporate assets and must be managed and maintained accordingly. Risk can be modeled and managed in a variety of locations, and project effort can be determined with built in support for Metrics and Estimation. Tasks can be created and assigned to Resources performing particular roles, and these can be conveniently viewed in a built-in Gantt Chart. There is an Audit function that allows changes to be tracked at a fine grained level, and a Team Library facility and Element Reviews and Discussions that allow users to work collaboratively on models.

Each element in Enterprise Architect has a number of default properties that are useful for project management, such as phase, version, status, author and creation and modified dates. Using these, coupled with the powerful reporting engine, the information can be extracted easily even by a novice user. The Project Manager and other users have the ability to create elegant charts that depict the information in the repository in a compelling visual format. For example, a pie chart could be created to show the status of stakeholder requirements for a particular phase of the

project.

Facilities

Facility	Detail
Metrics and Estimation	Project estimation is working out how much time and effort is required to build and deploy a solution. Enterprise Architect provides the Use Case metrics facility as a means of: • Measuring the complexity of a system • Getting an indication of the effort required to implement the model • Getting an indication of the project timescale You base these estimates on carefully-calibrated metrics.
Resource Management	Resources are the people who work on a project. You can assign roles to resources and allocate tasks on specific model elements, which enables tracking of effort and estimation of time to complete.
Project	During a project you monitor and manage

Maintenance	the development and progress of individual model elements. You can record problems, changes, issues and tasks that affect these individual elements as they arise, and document the solution and associated details. Similarly, Enterprise Architect helps you to manage changes and issues that apply to the whole system.
Process Guidance	Developing a model of a system or architecture can include any number of complex processes that require common, structured methods and carefully organized checkpoints at important stages. Enterprise Architect helps you to define and represent the organization of such a process by providing a range of Process Guidance templates, each of which includes stages, annotated steps for the procedures at each stage, links to supporting information, and Checklists to be completed as the required objectives have been achieved.
Project Tasks and Issues	In the course of a project, there are various non-technical tasks that are vital to the successful management and completion of the project, such as

	meetings. Enterprise Architect helps you to record and monitor these, and to manage non-technical project issues as they arise.

Kanban Features

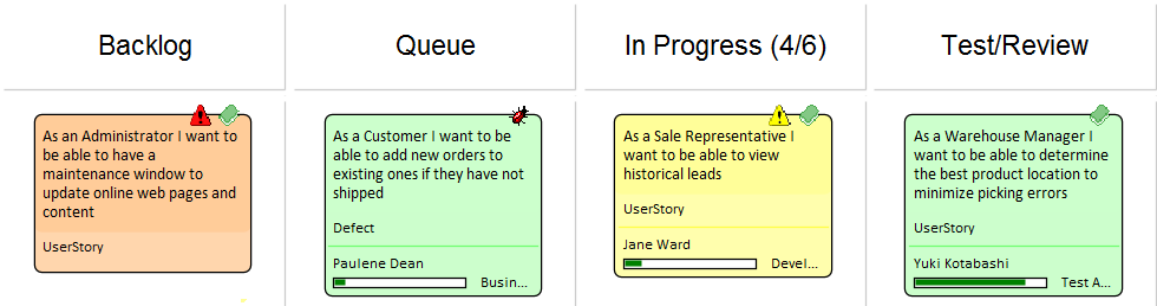
Background

Kanban, which literally translates as Visual (Kan) Card (Ban) or billboard, is an operational method used to increase efficiency. It was originally developed by the industrial engineer Taiichi Ohno while working at Toyota. Ohno analyzed the way supermarket shelves are stocked and applied the lessons learnt to the factory floor, creating unprecedented efficiency. The visual card (Kanban) was used to signal the need for more items to upstream suppliers on the production line. The Kanban method can be applied to any field, including strategic planning, sales and marketing, and human skills management, but more recently Kanban has been applied to the process of developing software-centric solutions in an attempt to ensure that value is delivered to the customer as quickly as possible. The information technology industry has been plagued since its beginning with projects running over schedule and over budget, but more significantly failing to deliver value to customers in a time frame that enables them to compete and be successful. These endemic issues have become a critical element of business in an age dominated by digital disruption and unprecedented change.

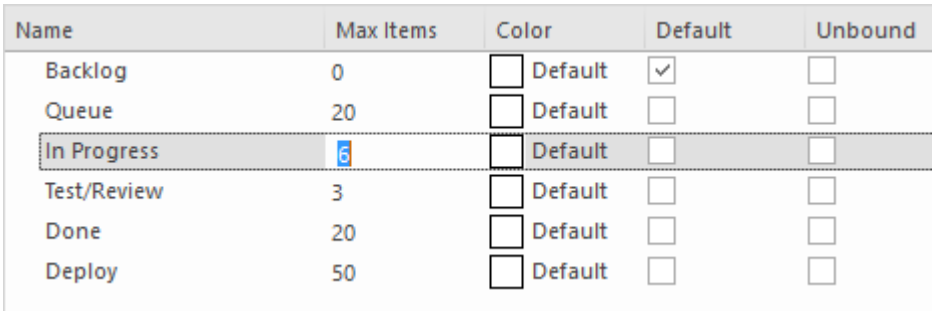
Principles

Kanban is fundamentally very simple and relies on a small number of principles, the origins of which can be attributed to the engineers at Toyota:

- Make work visible
  Traditional project management methods hide the work items from the people who carry out the work; Kanban exposes the work to everyone, allowing any team member to contribute to the way work items flow through the board and ultimately deliver value to the customer

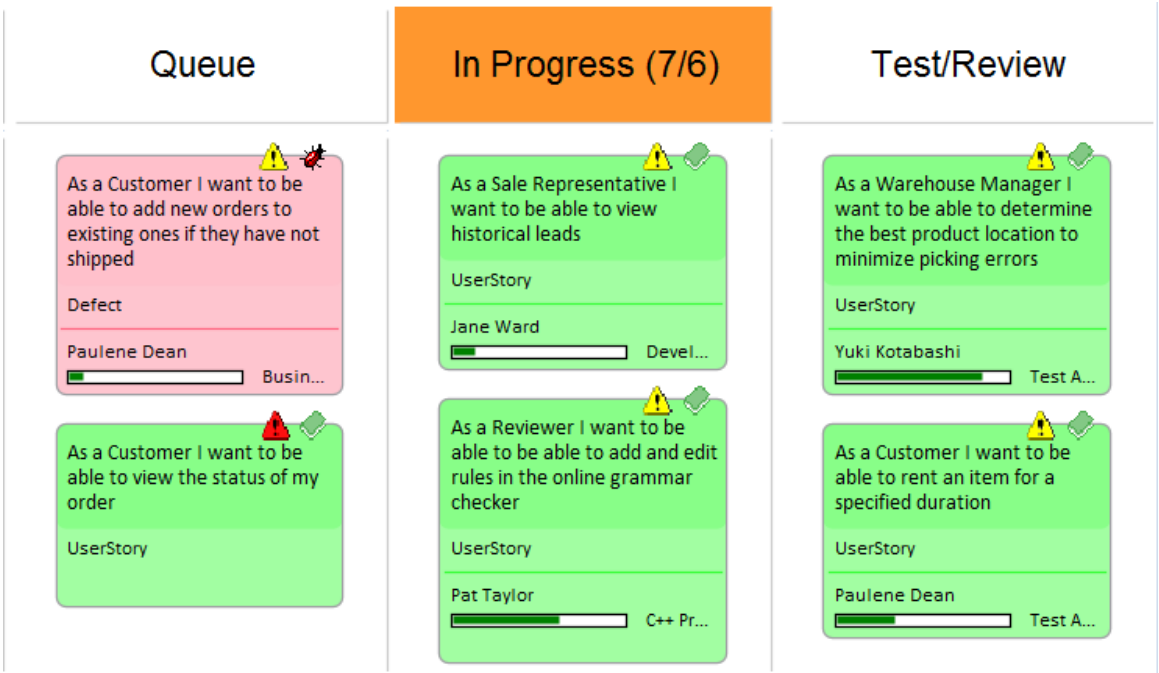


- Limit work in progress
  Project managers and team leads have traditionally been under pressure to get products finished or to include more features, and have responded to this pressure by burdening the team with more work items; this results in lots of focus switching and inevitably half-finished items and reduced efficiency
  Paradoxically, Kanban encourages the number of items in progress to be limited, resulting in greater efficiency and more finished items; the reduced number of in-progress items allows team members to concentrate on one thing at a time without having to switch focus



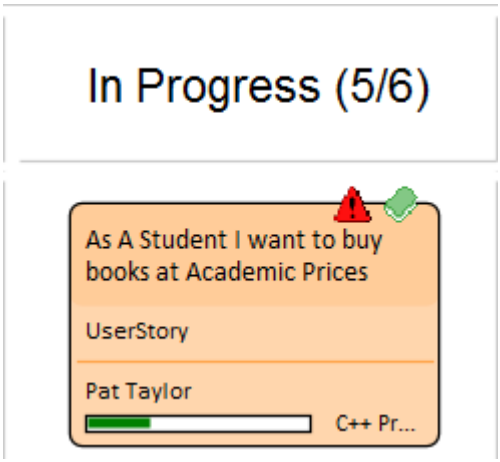
Name	Max Items	Color	Default	Unbound
Backlog	0	Default	✓	
Queue	20	Default		
In Progress	5	Default		
Test/Review	3	Default		
Done	20	Default		
Deploy	50	Default		

- Manage the flow of work
  Using traditional project management methods, bottlenecks or blockers are hard to identify and typically only surface at the time of a post project review, often only after the product is delivered late and missing features
  Using Kanban, the visibility of work and the ability to identify stalled processes - whether because of bottlenecks or lack of work items - allows a flow problem to be identified and rectified quickly
  The next diagram shows the way the Kanban facility in Enterprise Architect responds when the number of items in a lane exceeds the number specified in the max items (Work in Progress or WIP limit) value for that lane; the header is highlighted in a configurable color and the numbers (number of items/max items) also provide a visual cue that will prompt the team to respond by swarming (a number of team members focusing) on the lane to reduce the number of items

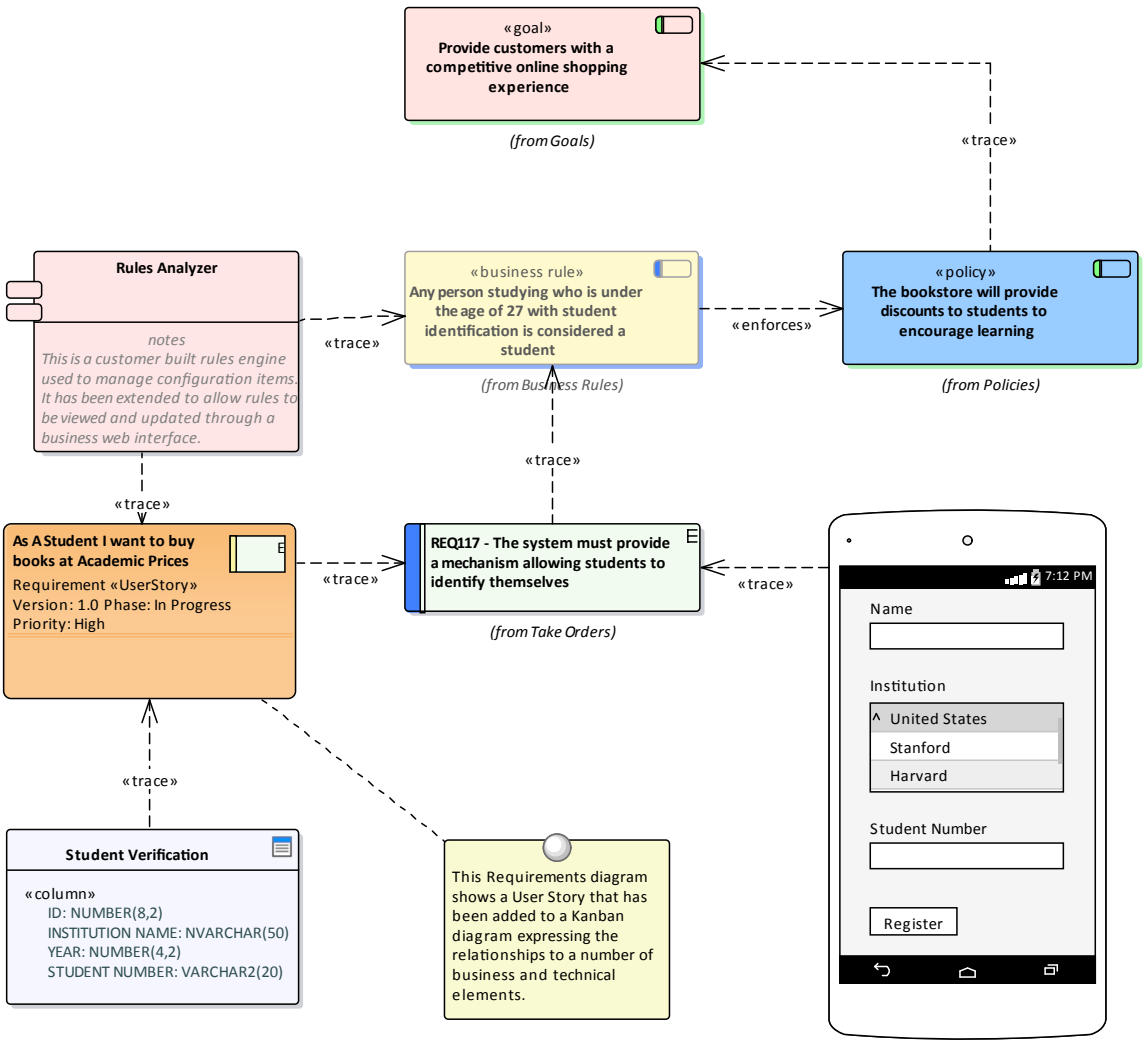


Example

A high priority User Story that is at the top of the backlog could be pulled into the 'In Progress' lane and a developer could immediately commence work on it. The work might entail the coding of business rules, the review of detailed requirements, changes to a database schema or the addition of an element or attribute to an information schema, and the creation of a new or updated deployment environment.

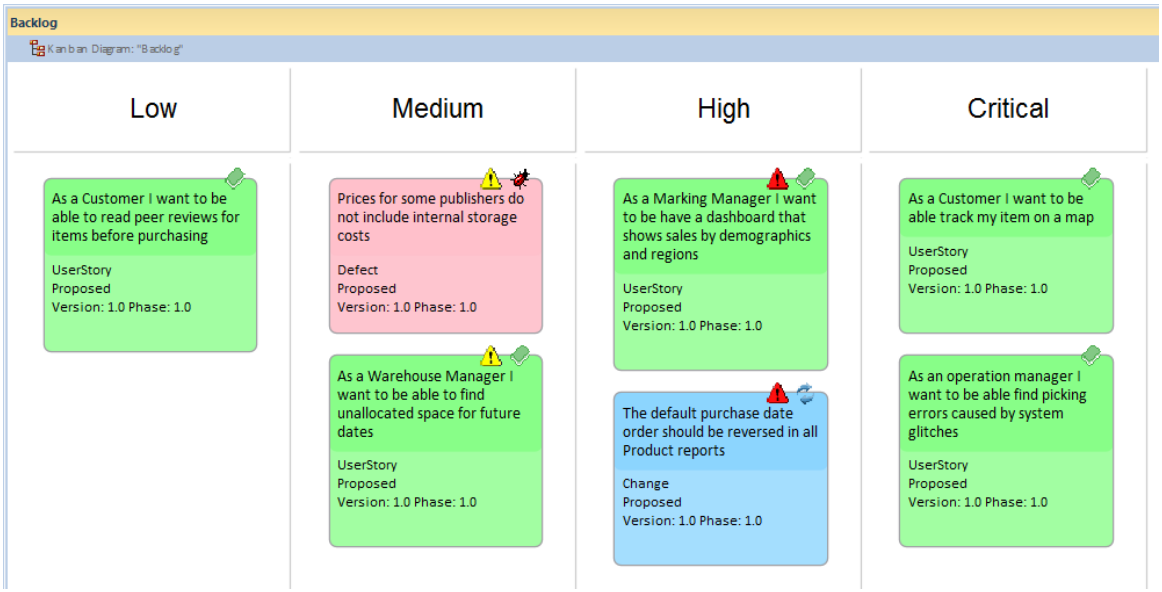


All of these artifacts can be found inside the same repository without the need to launch other tools or schedule meetings to locate the needed information. The strategic drivers can be seen in the context of their business owners, architectural design and principles can be viewed, Business Rules can be visualized in relation to the policies they qualify, a live connection can be made to the databases and their schemas analyzed and altered, XML schemas can be inspected and messages constructed, programming code can be written and deployment targets detailed, and all of this achieved in a single collaborative platform.



Example

This diagram demonstrates a Backlog diagram in a two or three stage workflow. The entire diagram is used to manage the backlog and items can be dragged within a lane to define their order in that lane, or between lanes to define their importance and position in the backlog.



Flexibility

Enterprise Architect has a flexible and integrated Kanban facility built into the core product, allowing projects of any size and vertical market to benefit from the profound efficiencies that come with this simple, elegant and lean project management approach. Regardless of the type of process that is being used, Enterprise Architect's Kanban features can be quickly and seamlessly integrated into any method, creating a compelling visual solution and team collaboration platform that will result in products, services and solutions being delivered to customers with efficiency and in record time - delighting both product owners and customers alike.

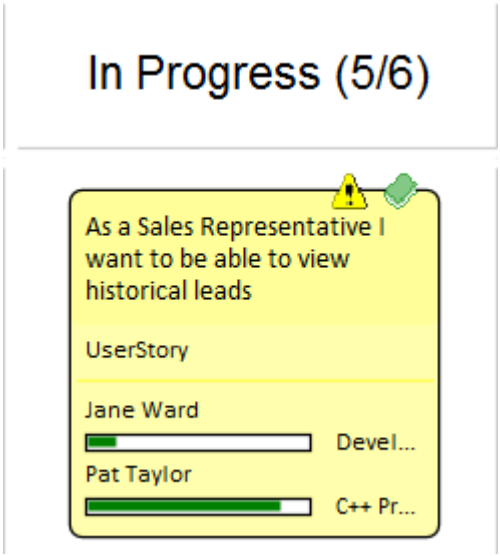
The Kanban features in Enterprise Architect are highly configurable and can be altered to suit any team and process, including Agile, iterative and incremental, and even

waterfall projects. There is a very low barrier to adoption and teams can commence with Kanban immediately. The most basic Kanban board comprises a diagram divided into a small number of lanes; a range of work items can be added to the diagram, including Features, User Stories, Defects, Changes, Use Cases, Requirements and more. Work Items can be drawn with a compelling visual style representing a colored card, and can be dragged anywhere in the diagram to change order in a given lane, or from lane to lane progressing from left to right through the board, representing progress towards value for the customer. The lanes are typically bound to the values of a 'project management aware' property such as status or phase, and as the item is dragged from lane to lane the value of the bound property is automatically changed.

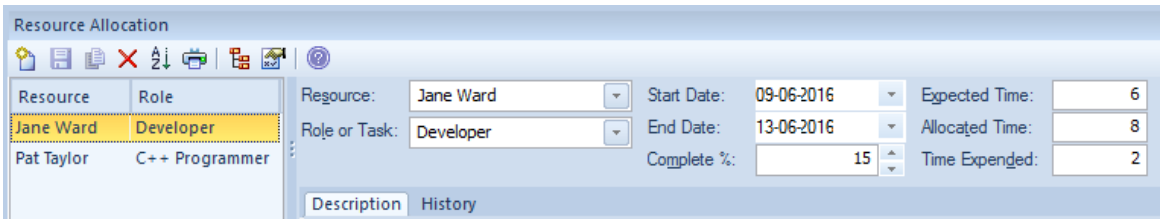
Resource Allocation

Any number of resources, performing specified roles, can be allocated to work items as they flow through the Kanban board, and the progress can be visualized as one or more progress bars displayed at the bottom of the card. The allocation is driven by Enterprise Architect's practical and simple resource allocation facility, which can be used to define the relationship between resources (team members) and work items (cards). Any number of team members can assign themselves to a work item, indicating the role they will perform, and the start date, finish date, and the expected

time can be used to record estimates of how long the task will take.



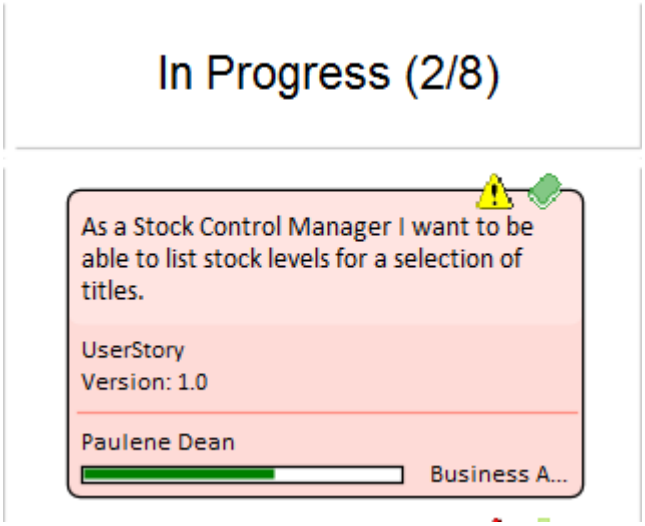
Progress can be updated as a percentage of completion, which can be displayed visually on the card. The Kanban board (like any diagram) can also be displayed as a Gantt chart or a list view, supporting alternative project management representations.



Configuration

The Kanban cards can be configured to display an extensive set of properties, with compelling icons, colors and progress

bars to communicate the important aspects of the work item, resource allocation and work item progress. The properties include the item name, type, status, version, priority, stereotype, phase, author and more.



The names, colors and number of lanes can be configured, in addition to a range of other properties such as the overfill limits, defaults and the definition of sub-lanes. The appearance of the board and the work items can all be configured, using different colors, fonts and styles including a hand-drawn mode that might appeal to teams more accustomed to using a physical board with colored notes. It is also possible to set the chart appearance to highlight elements that come from the same hierarchies.

Enterprise Architect has built-in Kanban diagrams, and a number of workflow Patterns that are pre-built and that can be used 'As-Is' or configured to suit any project or initiative. The workflow Patterns define one, two or three stage workflows; for example, the two stage workflow defines a

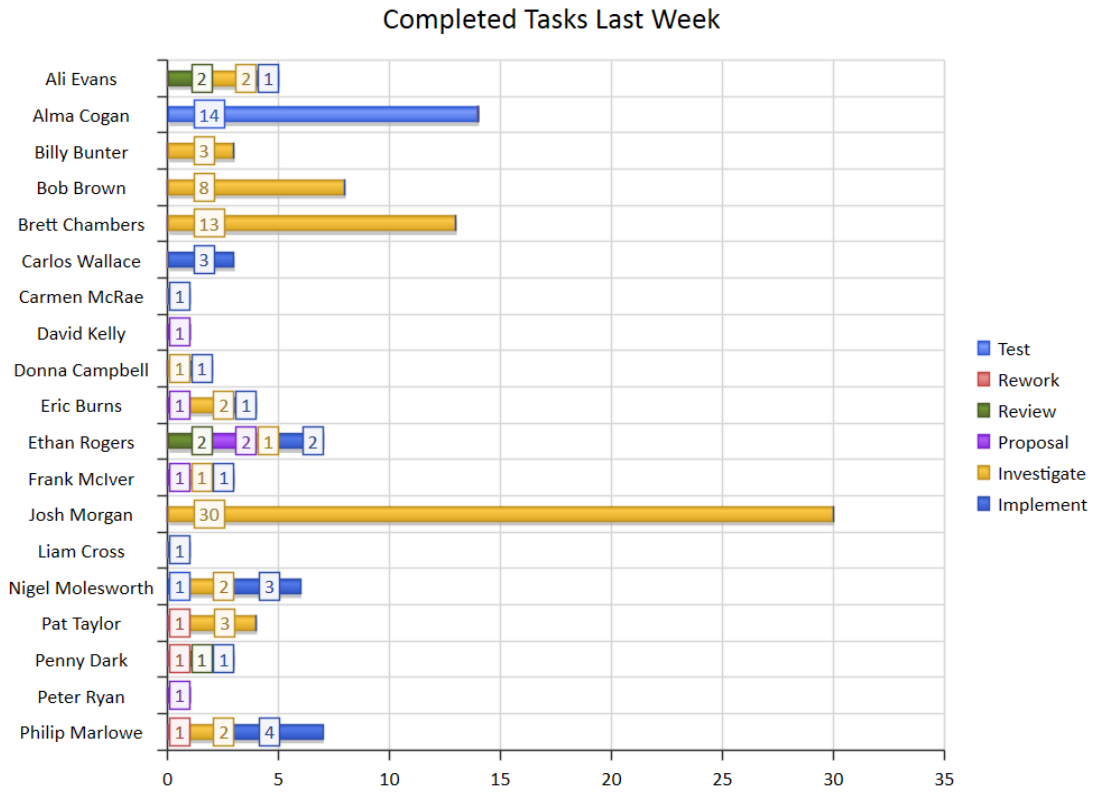
Kanban board solely for managing the prioritization of the backlog, and items from the backlog are then moved from the backlog Kanban to the first lane of the iteration Kanban. If necessary, the Product Owner can use Enterprise Architect's security facility to lock the backlog Kanban, ensuring that the order of items in the backlog is not inadvertently changed.

There are a number of commercial tools that allow Kanban to be used to manage projects visually, but Enterprise Architect's Kanban facility is incredibly powerful because the tool is also a sophisticated modeling platform for strategic and business analysis, architecture, design, implementation, testing and deployment. This means that work items on a Kanban Board can be linked to strategic decisions, business rules, policies, requirements, architecture and design elements, wireframes and UX models, programming code, database tables, procedures, tests, virtual or physical deployment nodes, and more. For the first time everyone in the team can collaborate in the same environment using a toolbox of facilities purpose built for their discipline, while at the same time being able to visualize and manage the value being delivered to the customer in a powerful and visually compelling set of Kanban boards.

Charts and Dashboards

Enterprise Architect has a sophisticated charting facility that

can be used to create powerful and expressive charts and dashboards that will provide insights into the Kanban process and enable Product Owners and other team members to monitor performance and determine ways of fine tuning how the team is working. There is a range of built-in charts including bar and pie charts, heat maps and more but a team is free to create any number of user-defined charts and these can be incorporated into team processes and reviews.



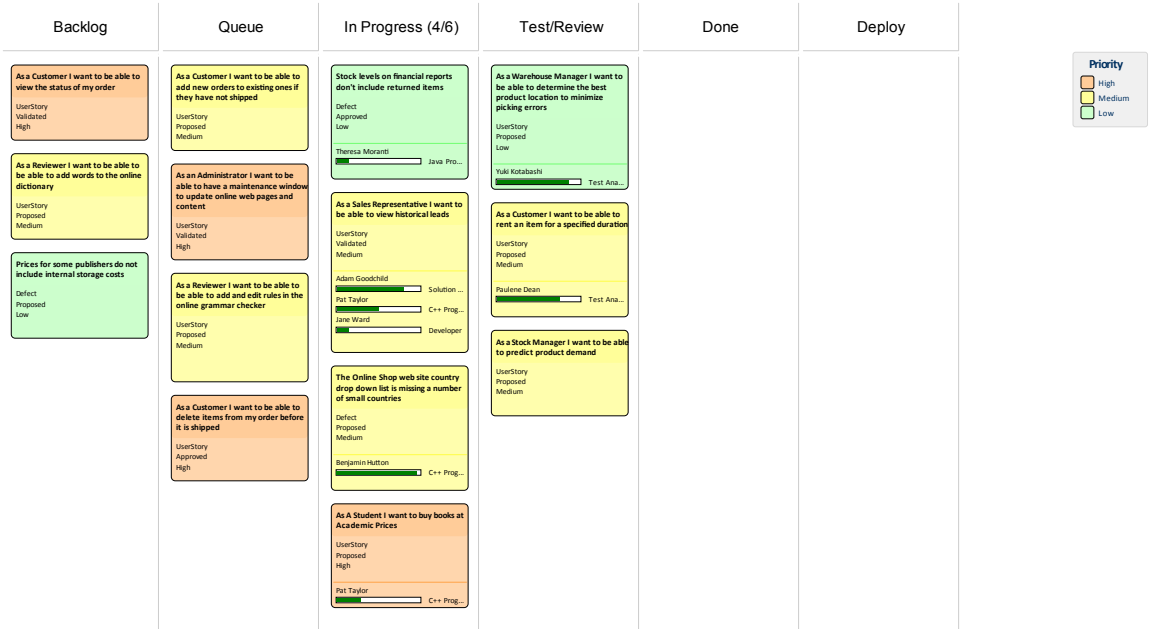
Application

The Kanban project management methodology helps you to

develop a dynamic, easy-to-view progress summary of the stages of development of a project, where the stages are represented as lanes and sub lanes of a diagram - a Kanban Board. In Enterprise Architect, you can apply a form of this methodology to your project administration diagrams to monitor and manage the flow of work in a particular area.

The stages of development can be defined by the value of a project management property of an element, such as Phase, Version or Status, or a user-defined Tagged Value. The elements that represent each task or object of a task are initially placed in the lanes for the earlier stages of the project, and work on the task is reflected by moving the corresponding element to a different lane on the diagram. If a diagram is linked to a project management property, dragging an element from one lane to another automatically changes the value of the property to the value that the lane represents.

In this illustration, the lanes identify what work is being performed in each stage of development.



New tasks will usually begin in the left-most lane, and completed tasks will usually pass through all lanes before coming to rest in the right-most lane and then being moved off the diagram. A typical workflow is to choose the next task that you are going to work on by starting in the right-most lane and seeing if it has any tasks that you are able to progress; if not, move to the next lane and repeat, and so on.

MDG Technology for Kanban

The MDG Technology for Kanban Diagrams provides diagram types and patterns that underpin the creation of Kanban diagrams. Whilst it is possible to create Kanban diagrams from most UML diagram types and design the workflows on them from scratch, these diagram types and patterns help you to generate a Kanban that matches your requirements and then adjust the settings to suit, thus saving time and effort.

Access

On the 'MDG Technologies' dialog, in the 'Technology' panel, select 'Kanban' then click on the 'Enabled' checkbox and on the OK button.

Ribbon	Specialize > Technologies > Manage

Kanban Diagram Types

The MDG Technology for Kanban Diagrams provides four kinds of pre-defined Kanban diagram, as described here. To create one of these diagrams, open the 'New Diagram' dialog, use the 'Select From' header to select the 'Software

Construction > Kanban Perspective' in the left-hand pane and choose one of the diagram types from the right-hand pane.

Diagram Type	Description
Basic	The Basic Kanban diagram contains these lanes: • Backlog • Queue • In Progress • Done The Basic Kanban diagram doesn't have a lane binding to any element property.
Backlog	The Backlog Kanban diagram contains these lanes: • Low • Medium • High • Critical The lanes are bound to the element Priority, so that moving elements between lanes will automatically update their Priority to the name of the lane.
Iteration	The Iteration Kanban diagram contains

	these lanes: • Queue • In Progress • Test/Review • Done The lanes are bound to the element Phase, so that moving elements between lanes will automatically update their Phase to the name of the lane.
Complete	The Complete Kanban diagram contains these lanes: • Ready for Release • Staging • Production • Done The lanes are bound to the element Phase, so that moving elements between lanes will automatically update their Phase to the name of the lane.

Kanban Workflow Patterns

Kanban Workflow model Patterns help you to very quickly set up a one, two or three stage workflow, using and linking

the Backlog, Iteration and Complete Kanban diagrams.

Workflow Pattern	Description
1-stage Workflow Pattern	The 1-stage Workflow Pattern consists of a single Kanban diagram with the Backlog, Queue, In Progress, Test/Review, Done, and Deploy lanes. These lanes are linked to the Phase property of elements, so that moving elements between lanes will automatically update their Phase to the name of the lane.
2-stage Workflow Pattern	The 2-stage Workflow Pattern consists of two related Kanban diagrams: • A Backlog Kanban diagram with Low, Medium, High and Critical lanes linked to the Priority property of elements, so that moving elements between lanes will automatically update the Priority to the name of the lane, and • An Iteration Kanban diagram with Queue, In Progress, Test/Review, Done and Deploy lanes linked to the Phase property of elements, so that moving elements between lanes will automatically update their Phase to the name of the lane

	Each diagram also has a drop zone that helps you to move elements easily between diagrams. Simply drag the elements onto the appropriate zone (having the name of the diagram to move elements to) and select either 'Move to' to move the element to the new diagram, or 'Create link on diagram' to create a link on the second diagram without removing it from the current diagram.
3-stage Workflow Pattern	The 3-stage Workflow Pattern consists of three related Kanban diagrams: • A Backlog Kanban diagram with Low, Medium, High and Critical lanes linked to the Priority property of elements, so that moving elements between lanes will automatically update the Priority to the name of the lane • An Iteration Kanban diagram with Queue, In Progress, Test/Review, and Done lanes linked to the Phase property of elements, so that moving elements between lanes will automatically update their Phase to the name of the lane, and • A Complete Kanban diagram with Ready for Release, Staging and Production lanes linked to the Phase

	property of elements, so that moving elements between lanes will automatically update their Phase to the name of the lane Each diagram also has a drop zone that helps you to move elements easily between diagrams. Simply drag the elements onto the appropriate zone (having the name of the diagram to move elements to) and select either 'Move to' to move the element to the new diagram, or 'Create link on diagram' to create a link on the second diagram without removing it from the current diagram.

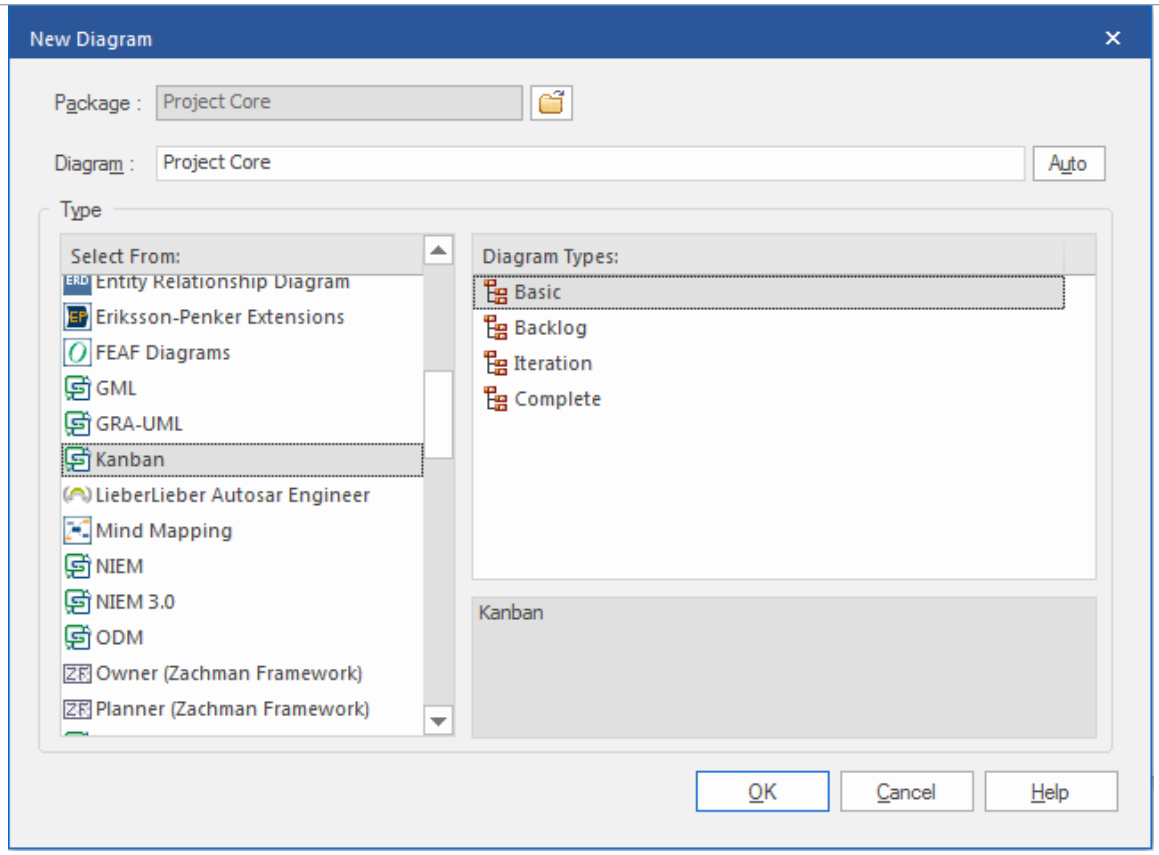
Kanban Tasks

Create a Kanban Diagram

A Kanban diagram is a board that allows team members to visualize work items that are represented as colored cards. The board is divided into a number of lanes and team members move the cards from left to right as work is completed towards providing value to the customer.

You can create a Kanban diagram by taking an existing diagram and setting its Kanban properties, but it is easier to use one of the diagram types provided by the MDG Technology for Kanban Diagrams as a starting point and then change its properties to suit your own project.

Step	Action
1	In the Project Browser, right-click on the parent Package and select the 'Add Diagram' command.
2	In the 'New Diagram' dialog, use the 'Select From' header to select the 'Software Construction > Kanban Perspective' in the left-hand pane and choose one of the diagram types from the right-hand pane (Basic, Backlog, Iteration and Complete). Give the new diagram a name in the 'Diagram' field and click on the OK button.

	
3	If you cannot find 'Kanban' in the list, you must enable the Kanban MDG Technology.

Add Elements to a Kanban Diagram

Work items are represented visually on a Kanban diagram but first must be added to the diagram. They can be elements that already exist in the repository or new elements dragged from the Kanban toolbox and dropped onto the diagram. Any element type can appear on a Kanban board but the most typical types are Features, User Stories, Defects and Changes, Use Cases, Scenarios and

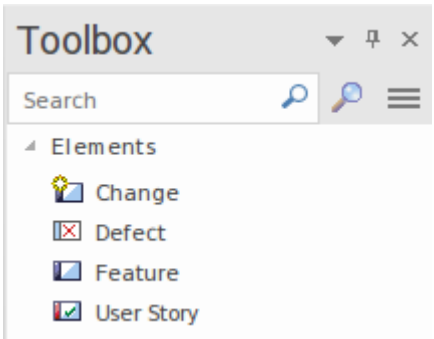
Requirements are also sometimes added.

When you drop an element onto a Kanban diagram, the lane it is added to depends on whether the diagram has a property value defined, and also whether it has a default lane. If the Kanban diagram has a property value defined and the new element's property matches one of the lanes, then it will be added to that lane. Otherwise, it will be moved into the default lane, or to the right of the last lane if no default lane has been nominated.

You can define the Default lane on the 'Lanes' page of the 'Kanban Options' dialog.

The Kanban Toolbox page will open automatically whenever you open a diagram created from the MDG Technology for Kanban Diagrams. The Toolbox page provides a default set of elements that you can use to represent units of work on your Kanban diagrams, but any type of element can be added.

Step	Action
1	Open your Kanban diagram. The Diagram Toolbox should appear with the Kanban page selected automatically. • If the Diagram Toolbox doesn't appear, click on the >> button in the top left corner of your diagram • If the Kanban page isn't automatically selected, click on to display the 'Find Toolbox Item'

	dialog and specify 'Kanban'
2	Drag elements from the Kanban page onto the Kanban diagram. The page provides these element types: 

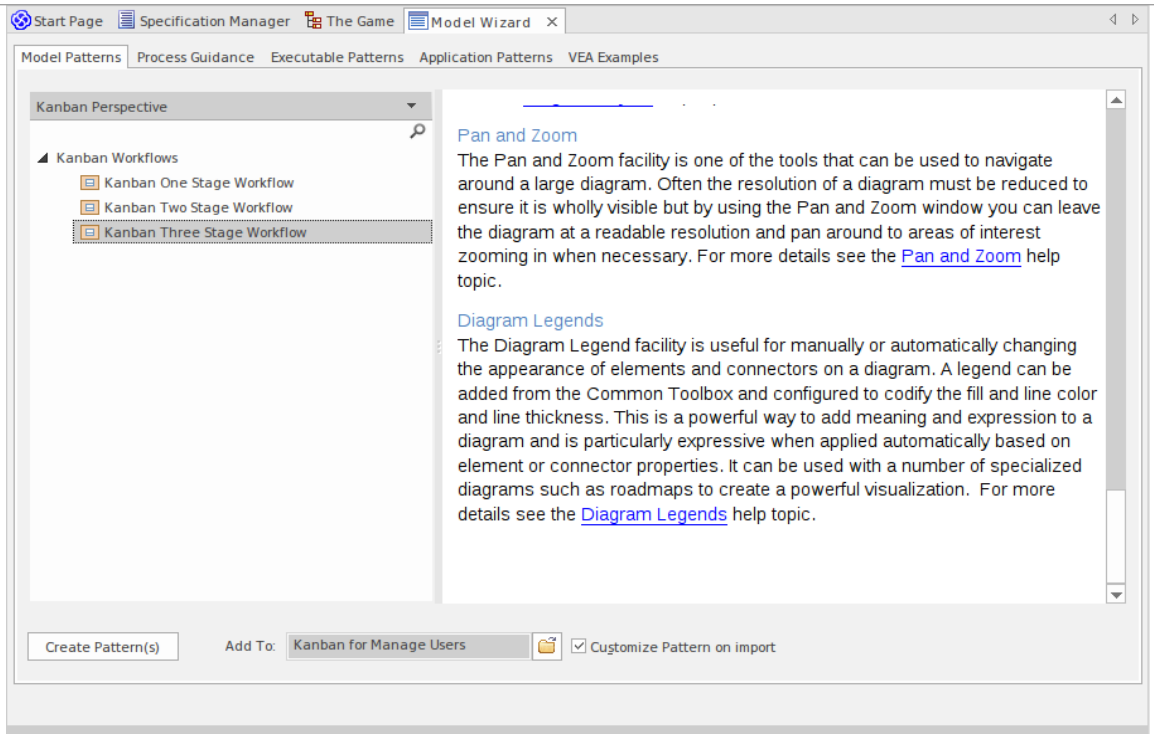
Import a Kanban Workflow Pattern

Each organization or team will typically want to define their own workflow that is appropriate for the initiatives they work on and each might have a number of workflows defined for different types of initiatives. While this can be done from scratch it is much easier to use one of the built-in Patterns, either 'As-Is' or as a starting point. A workflow can be made up of any number of Kanban boards linked together into a single workflow, for example a three stage workflow would contain three separate boards. Each board can be configured with any number of lanes and sub-lanes representing the stages in that part of the workflow. Team members can move Work Items between lanes in a single board and also between the boards that make up the entire

workflow.

Kanban Workflow model Patterns help you to very quickly set up a one-, two- or three-stage workflow, using and linking the Backlog, Iteration and Complete Kanban diagrams.

Step	Action
1	In the Project Browser, select the Package under which to create the Workflow Pattern.
2	Click on the Project Browser header and select the 'New Model from Pattern' option, or press Ctrl+Shift+M. The Model Wizard window displays.
3	Select the 'Model Patterns' tab, then click on the Perspective drop-down arrow and select 'Project Management > Kanban'. The panel header changes to 'Kanban Perspective' and the panel shows the three workflow patterns you can select. • Kanban One Stage Workflow • Kanban Two Stage Workflow • Kanban Three Stage Workflow When you click on one of the patterns, the right hand panel displays an example diagram and several sections of useful information on using the pattern.

	
4	If you have the 'Customize Pattern on import' checkbox selected, prompts display to select the Packages to import in the Patterns. Each Pattern contains one Package, which is automatically selected. Click on the OK button for each Pattern.
5	Open each of the new diagrams and consider whether they fit with your own workflow preferences. The diagrams provided can be changed to suit your style of working.

Moving Kanban Items

Work Items flow through Kanban boards typically from left

to right as work is performed, moving the item closer to delivering business value for the customer. In a one stage workflow, work items will be move through a series of lanes through a single board, but in workflows that consist of more than one Kanban board the items will also jump from one board to the next. For example, in a two stage workflow there is a backlog board and items will be prioritized in the board based on their priority. The work items that have the highest priority in the Backlog then need to be moved to the Iteration Board, where implementers will pull them into the In-Progress lanes.

Moving Items in a Kanban Diagram

Moving items within a Kanban diagram is simple and intuitive and can be achieved by dragging and dropping a work item from one location to another. If an item is moved within the same lane its position is simply changed in that lane. If an item is dragged to a different lane and the lanes are bound to an element property or user defined Tagged Value the value of the item's property or tag will also be changed.

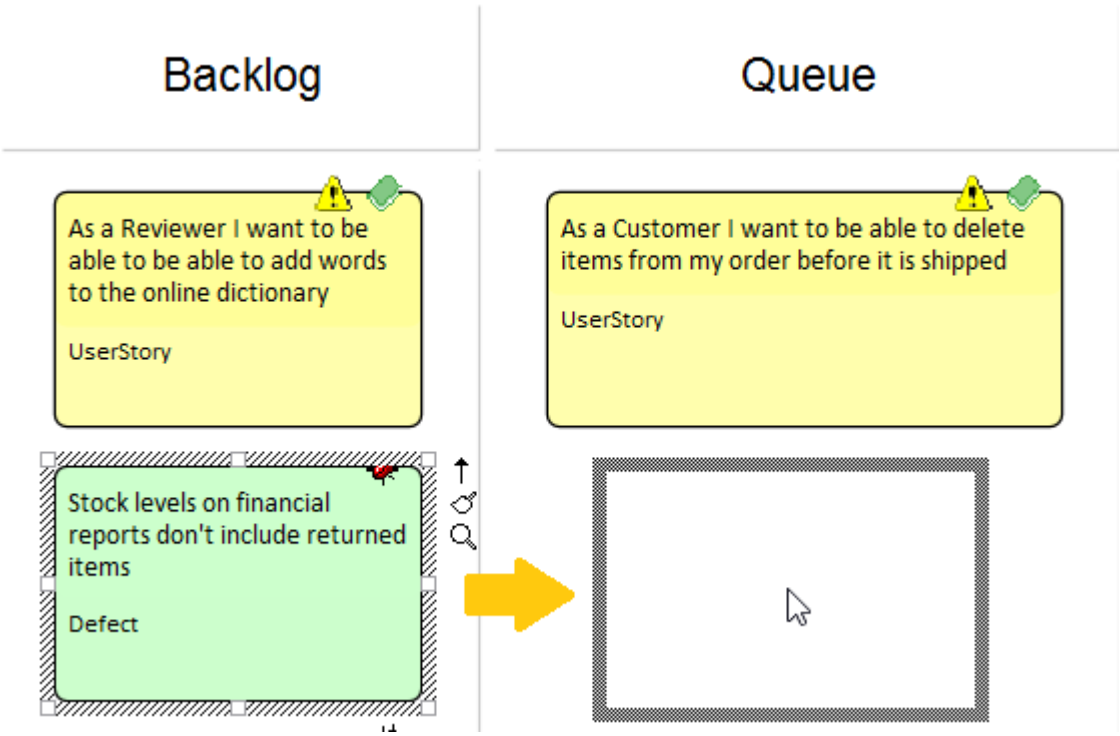
Step	Action
1	Select the item in the Kanban diagram

2	Drag and drop it into a new position either in the same lane or a different lane

Notes

When an item is moved between lanes and the lanes are bound to a property or Tagged Value the value of the property or Tag will be automatically changed.

Example



Moving Items between Kanban Diagrams

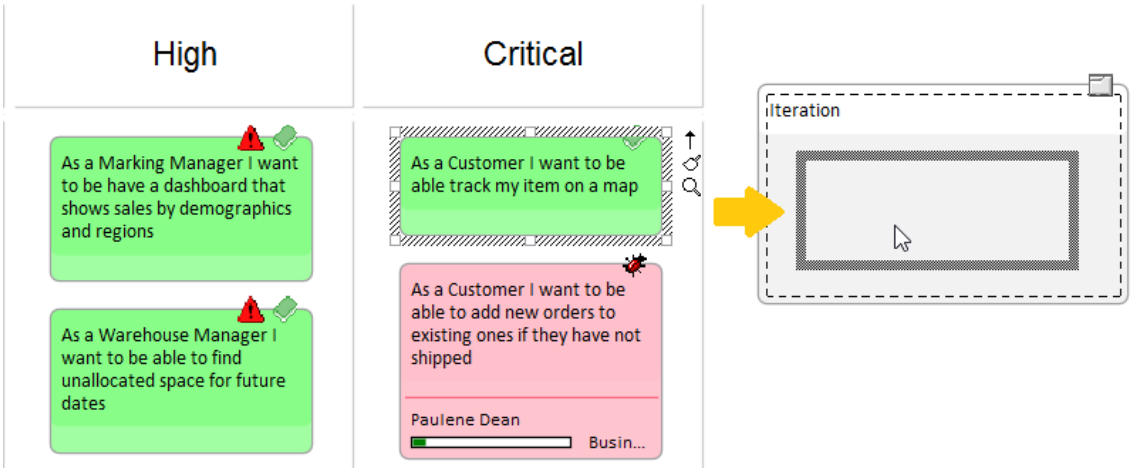
Items can be moved between Kanban boards by using a drop zone positioned to the right of the diagram. The drop zones have the name of the other diagrams in the workflow and elements on the current board can simply be moved by dragging and dropping them on the drop zone.

To move the work item to another Kanban board simply drag it onto the appropriate zone (with the same name as the diagram you are moving elements to) and select 'Move to' to move the element to the new diagram or 'Create link on diagram' to create a link on the second diagram without removing it from the current diagram.

Step	Action
1	Select the item in the Kanban diagram.
2	Drag the item to the right of the Kanban diagram Lanes.
3	Drop the item on the appropriately named drop zone element.
4	Select 'Move to' to move the element to the new diagram or 'Create link on diagram' to create a link on the second diagram without removing it from the current diagram

Example

In this diagram a work item representing a defect is being moved from the critical lane of a Backlog Kanban board to the Iteration board.



Search for Kanban Diagrams

A well organized repository will assist in quickly locating specific Kanban diagrams, but in large and complex initiatives it is common for some team members to need to search for Kanban Boards. Enterprise Architect has an easy-to-use yet sophisticated search facility with a built-in search to find all Kanban diagrams in the repository. Having located a diagram the user can continue moving objects from left to right across the board, contributing to the team's

effort focused on providing value to the customer.

Step	Action
1	Select the 'Construct > Task Management > Kanban > Find Kanban Diagram' ribbon option. The search is immediately executed and the located diagrams are listed in the Find in Project view.
2	Double-click on any Kanban diagram that you want to open.

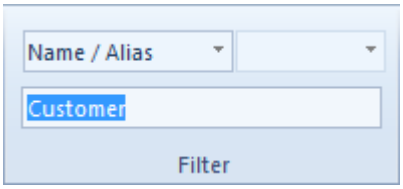
Layout Filter Panel

A project of any appreciable size will typically have a large number of in-flight work items, and product owners and team members will often want to filter the selection of items based on a set of conditions, such as high priority requirements or those applying to particular stakeholders or people. This can be achieved using filters at two levels; either the expedient ribbon Filter or the more sophisticated and persistent Diagram Filters facility.

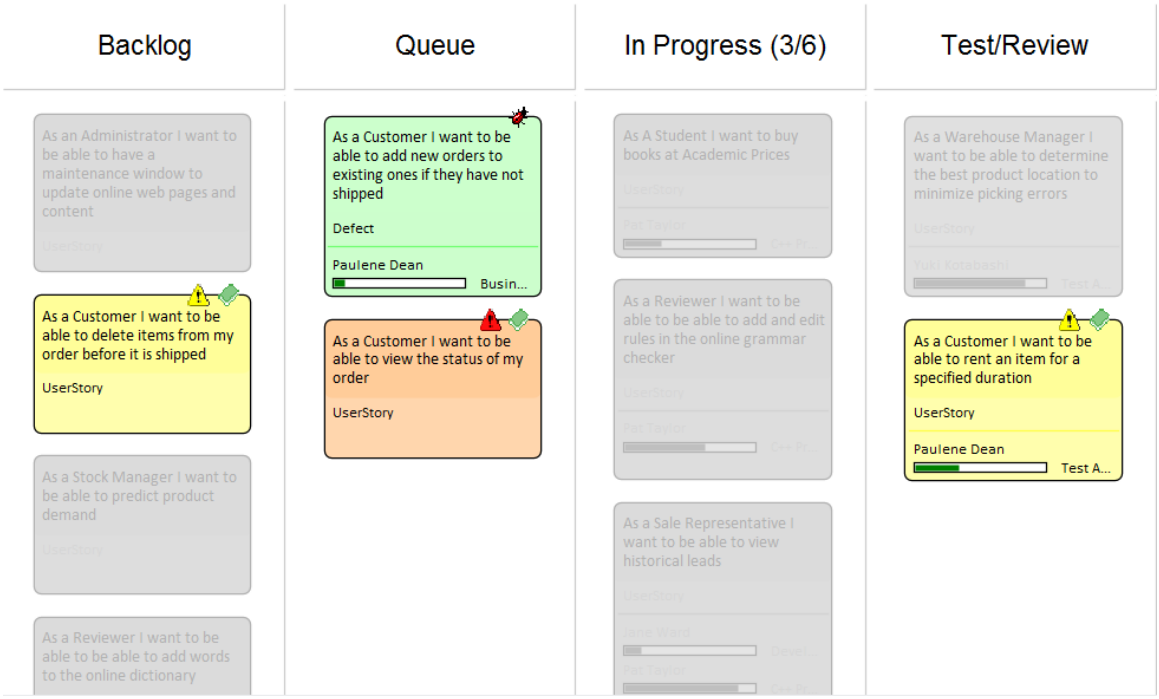
Kanban diagrams with a large number of elements can be quickly filtered in real time using the Layout ribbon Filter panel.

1. Access the Filter panel.

2. Select the Filter property and the operator (if appropriate), and specify a search term.



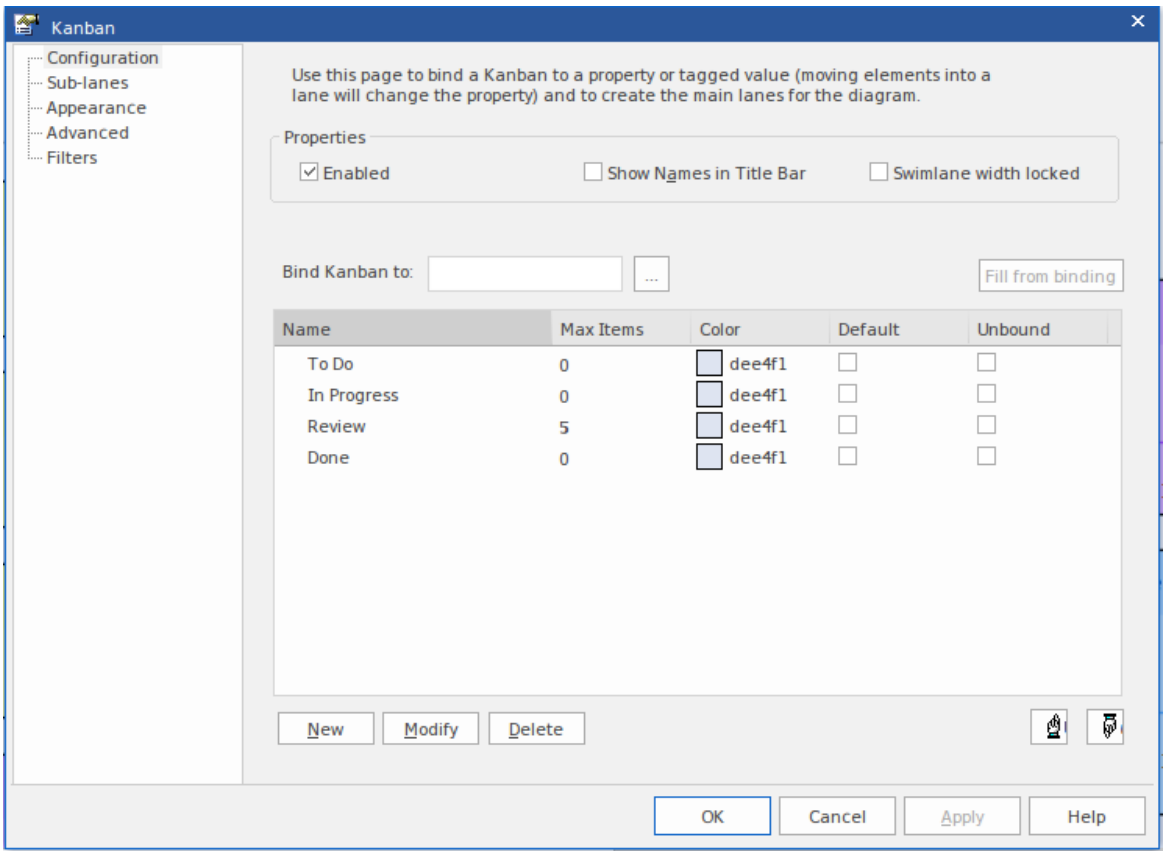
Elements not matching the specified condition will be obscured in the filtered diagram.



Kanban Diagram Options

Enterprise Architect provides a number of options for generating a new Kanban diagram or for opening an existing Kanban diagram. Having opened the diagram, you can define its structure, content and appearance. It is also possible to configure a diagram of any other type to be a Kanban diagram, by simply adding Kanban properties to it. This powerful design feature means that a diagram containing, for example, a set of User Stories could simply be changed to a Kanban diagram and the team could immediately begin using this flexible, lean, project management method.

To define the structure, content and appearance of a Kanban diagram, you use the 'Kanban' dialog.



When you display the 'Kanban' dialog, it defaults to the 'Configuration' page. You use this page to:

- Set up basic Kanban properties, such as whether Kanban is enabled on the diagram, if the names are shown in the title bar of the diagram and if the width of each swimlane is locked, and
- Create, modify and delete the primary lanes on a Kanban diagram; you can:
  - Create the lanes manually, or define a property that the lanes bind to, so that the lanes are generated automatically from that property when you click on the Fill from binding button
  - Add lanes that are not bound to the property

  For each lane you can define:
  - The maximum number of elements that can be placed in the lane before triggering the 'Overfilled' indicator
  - The fill color of the lane
  - Whether it is the default lane that new elements are added to

Access

Ribbon	Construct > Task Management > Kanban > (options to generate and/or open a Kanban diagram) or

	Start > Collaborate > My Kanban (displays personal default Kanban diagram) Then Design > Diagram > Edit > Kanban (on an open Kanban diagram)
Context Menu	On a Kanban diagram, double-click on a lane On any other type of diagram, right-click on background | Kanban

Configuration Options

Option	Action
Enabled	Select the checkbox to apply any of the Kanban functionality to the diagram. If the checkbox is not selected, the diagram will behave as a non-Kanban diagram.
Show Names in Title Bar	Select this checkbox to display the lane names (but not the sub-lane names) in the diagram title bar, above the lanes. These will be visible once the lanes are defined.

Swimlane width locked	Select this checkbox to prevent the lanes in the diagram from being made narrower or wider.
Bind Kanban to	Click on the ... button and select the property to bind lanes to. This will be one of: • Element, or • Tagged Value (enumeration or string types only), or • None (makes all lanes unbound). If you select 'Element', also select one of the properties 'Phase', 'Version', 'Priority' (for Requirement-type elements), 'Status' or 'Author'. If you select 'Tagged Value', also choose to either 'Create' a new tag (and simply type in the name) or 'Select' an existing one. In the latter case, the 'Kanban tagged value selection' dialog displays, on which you click on the appropriate radio button to select either from a list of 'Global Tagged Values', or from a list of 'Tagged Values from a selected element'. Click on the Select Element button to browse for the element anywhere in the model. The Global Tagged Values or those from

	the element are provided to the 'Tagged Value' field. Click on the drop-down arrow on the right of the field and select the reference Tagged Value from those listed. Click on the OK button. The 'Bind Kanban to' field now displays either the element property or the Tagged Value you have selected.
Fill from binding	If you have chosen an element property to bind the Kanban lanes to, click on the Fill from binding button to fill the lane list with existing values of that property. This will delete all old lanes before creating a new lane for each of the new values. Once the lanes have been created in this way, they can be renamed, reordered and added to.
Name	The name of each lane can be filled automatically using the Fill from binding button. You can overtype the names; these do not have to be unique but they cannot be blank.
Max Items	You can set the maximum number of elements that can be placed in each lane. If someone tries to move an element into a lane that has reached or exceeded its

	maximum number, the heading of the lane will be displayed in the 'Overfilled' color you define and enable on the 'Appearance' page. This gives an visual indication that action might have to be taken to clear what appears to be a bottleneck in the workflow process.
Color	Several or all of the lanes can have the same fill color, or you can set a different color for each lane independent of the other lanes. Either: • Leave the 'Color' value set to 'Default' (set on the 'Preferences' dialog, 'Gradients and Background' page), or • Overtype 'Default' with the hex code number for the required color, or • Click on the drop-down arrow and select a color from the displayed palette The actual color is shown in the box at the left of the field.
Default	You can nominate one of your lanes as the default; that is, the lane to which new elements are added if they don't match the binding property. For example, if a Kanban diagram is bound to 'Priority' and has the lanes 'Low', 'Medium' and 'High', with 'Low' as the default, when an

	element with a Priority of 'Undetermined' is added, it will be placed into the default 'Low' lane. You can only select one 'Default' checkbox; clicking on a checkbox clears any previously-selected checkbox.
Unbound	The Unbound property essentially makes a primary lane the same as a sub-lane. Moving an element into an unbound lane will set the element's bound property to the left most bound lane. Consider a 'Phase' Kanban diagram with these lanes, in order: • To Do (Default, Unbound) • Implement (Bound) • To Do (Unbound) • Review (Bound) • To Do (Unbound) • Deploy (Bound) Newly added elements will be added to the left-most 'To Do' lane with whatever priority value they previously had. Moving them to the 'Implement' lane will then set the phase to 'Implement'. When the implementation is complete, the element can be moved to the 'To Do' lane before 'Review' without updating the

	element's phase until it is moved into the 'Review' lane.
New	Click on this button to define a new lane on the Kanban diagram.
Modify	Click on a line in the 'Lanes' list and click on this button to position the cursor in the 'Name' field in update mode, and to highlight the lane you are modifying to make it easier to focus on the fields you might change.
Delete	Click on a line in the 'Lanes' list and click on this button to delete the lane.
	Click on an entry in the 'Lanes' list and click on this button to move the entry one line up in the list, and one lane to the left on the diagram.
	Click on an entry in the 'Lanes' list and click on this button to move the entry one line down in the list, and one lane to the right on the diagram.

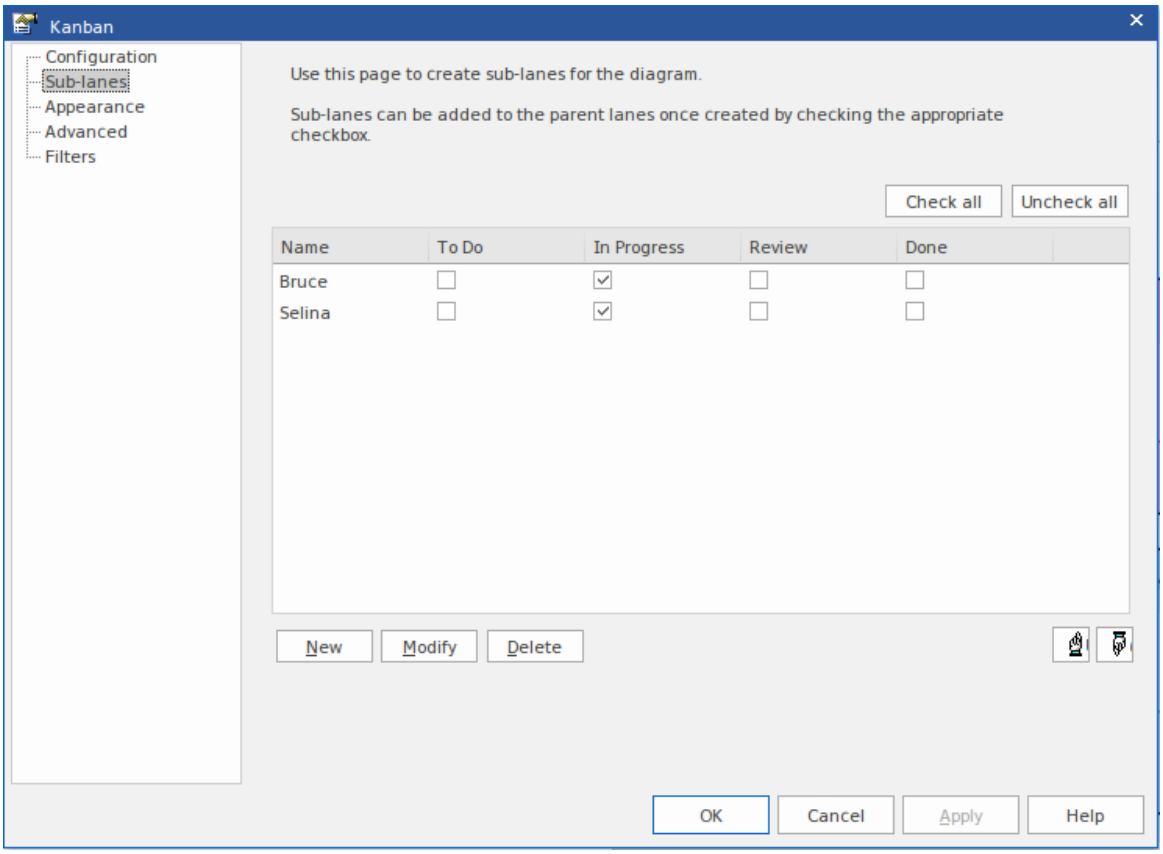
Notes

- The elements in a Kanban diagram individually represent work in progress; you cannot create connectors between elements on the diagram
- If you apply a Kanban definition to a current diagram, all connectors on the diagram are hidden; when you de-activate the definition, the connectors are shown again
- When you first set up a Kanban diagram, any element on the diagram that does not have one of the defined property values is moved to the right-hand side of the diagram
- Moving an element into a lane automatically sets the appropriate property of that element to the value represented by the lane; for a Tagged Value, if the element does not have that tag, adding the element to the lane adds the tag and sets it to the lane value
- Elements on a Kanban diagram are automatically adjusted to match the width of the lane they are in, both when the element is moved into a lane and when the lane width is changed
- Certain types of element are automatically excluded from a Kanban diagram search; these are:
  - Constraint
  - Port
  - ProvidedInterface
  - RequiredInterface
  - Boundary
  - Hyperlink

- State Node (such as Choice and Junction)
- Text
- Win32
- Wireframing
- Package
- Diagram Frame
- Activity Region
- Sequence Element
- Note
- Standard Chart
- Model View
- Time Series Chart

Kanban Diagram Options - Sub-Lanes

Sub-lanes are a useful device for defining another level in the workflow; for example, you might want to divide the 'In-Progress' lane into a number of sub-lanes representing the individual developers, or any lane into 'In-Progress' and 'Complete'. The 'Sub-lanes' page helps you to quickly and easily create any number of new sub-lanes for a Kanban diagram.



Access

Ribbon	Construct > Task Management > Kanban > (options to generate and/or open a Kanban diagram) or Start > Collaborate > My Kanban (displays personal default Kanban diagram) Then Design > Diagram > Edit > Kanban > Sub-lanes (on an open Kanban diagram)
Context Menu	On a Kanban diagram, double-click on a lane > Sub-lanes On any other type of diagram, right-click on background | Kanban > Sub-lanes

Creating Sub-Lanes

You add sub-lanes simply by clicking on the New button and, in the 'Name' column, typing the sub-lane name. Alternatively, you can leave the default string '<anonymous>' to create an un-named sub-lane, which can be useful for organizing lanes that have lots of elements. The names of the lanes on the diagram are then automatically added across the panel.

Once you have created sub-lanes, you apply each one to one or more parent lanes, by selecting the checkbox under the

name of each lane that is to contain the sub-lane. To assign every sub-lane to every lane, you can click on the Check all button, and to clear this total assignment click on the Uncheck all button. You can also change the order of the sub-lanes across all their parent lanes in the Kanban diagram, by clicking on the sub-lane names and on the up-hand and down-hand buttons.

Within a specific parent lane column you can apply custom sorting to the sub-lanes, so that the sub-lanes in that lane are in a different sequence to the same sub-lanes in a different lane. For a column that has assigned sub-lanes (that is, it contains selected checkboxes) right-click on the header and select the 'Set lane order' option. A small dialog displays, in which you click on the sub-lane names and use the up-hand and down-hand buttons to put them in the required sequence. Click on the OK button to clear the dialog and apply the sub-lane. If a sub-lane order has been customized, you can return it to the 'across-the-board' order by right-clicking the header again and selecting the 'Reset lane order' option.

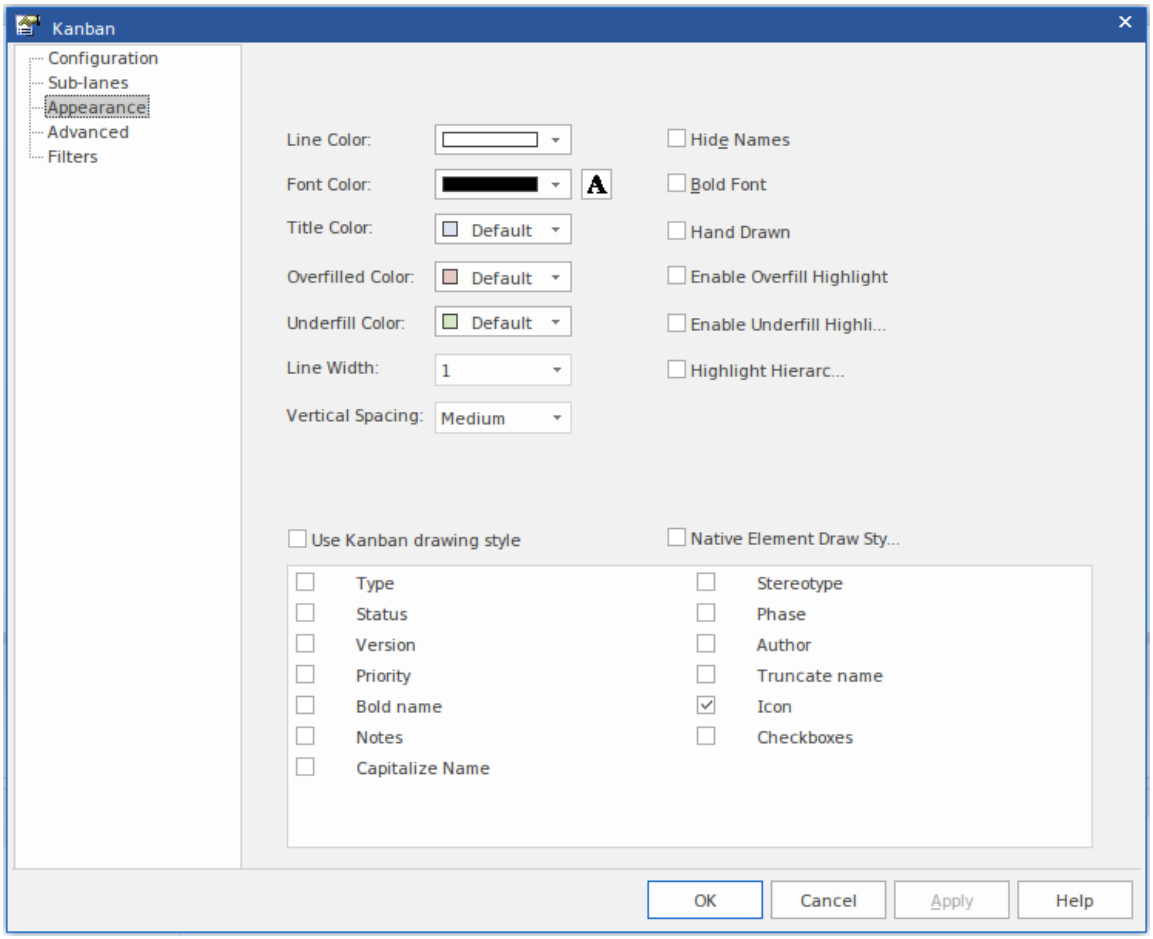
Notes

- Sub-lanes are not backwards compatible with earlier releases of Enterprise Architect; if you open a Kanban diagram containing sub-lanes in a release of the system earlier than Release 12.1, the sub-lanes will be permanently deleted from the diagram

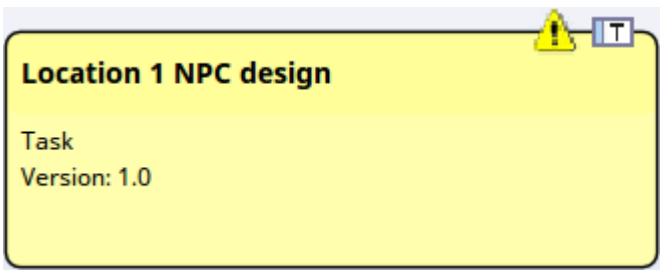
- Elements on a Kanban diagram are automatically adjusted to match the width of the sub-lane they are in, both when the element is moved into a sub-lane and when the sub-lane width is changed

Kanban Diagram Options - Appearance

Using the 'Appearance' page, you can set the Kanban diagram appearance options, such as the line and font colors and use of the Hand Drawn mode.



Objects on a Kanban diagram are, by default, drawn using the **Info View style**.



This style displays an icon on the top right corner of the element, representing the element type, with a triangular icon to the left of it representing the priority - red for High priority, and yellow for Medium priority. No icon shows for Low priority. The Priority, as for various other element properties, is also represented by a line of text in the body of the element. You can specify which properties are shown by selecting the appropriate checkbox from the list at the bottom of the 'Appearance' page.

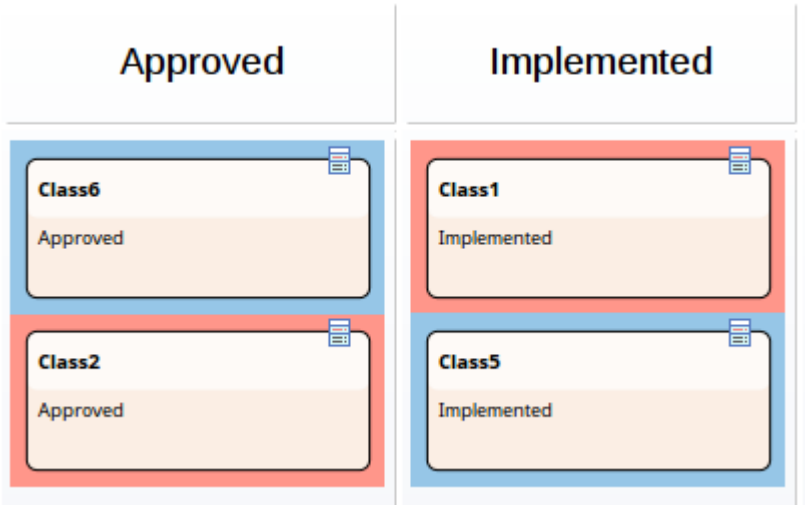
Appearance Options

Option	Action
Line Color	Click on the drop-down arrow and select the color in which to display **lane** borders. This color does not apply to **sub lane** borders, which are automatically set to a pale or dark color to contrast with the lane fill color. If the color you require is not shown, click on the Other button and either select from a wider range of standard colors or define a custom color. The border style is automatically set to the 'chiseled' effect to give the appearance of 3D blocks on a

	background, the color of the background being the line color. The effect is more obvious if you set the line to a pale color and not black.
Font Color	Click on the drop-down arrow and select the color in which to display the text in the Kanban lane and sub lane headings. If the color you require is not shown, click on the Other button and either select from a wider range of standard colors or define a custom color.
A	Click on this button to display the 'Font' dialog, through which you define the font and the style, size and effects of the text in the Kanban lane and sub lane headings. If you also change the text color here, it overrides the setting of the 'Font Color' field.
Title Color	Click on the drop-down arrow and select the color to use across the lane heading cells (separate from the fill colors you can apply individually to each of the lanes themselves). If the color you require is not shown, click on the Other button and either select from a wider range of standard colors or

	define a custom color.
Overfilled Color	Click on the drop-down arrow and select the color with which to fill a lane heading cell if the lane contains more than the maximum number of elements. You set the maximum number of elements when you define the lanes to work with, in the 'Lanes' page. If the color you require is not shown, click on the Other button and either select from a wider range of standard colors or define a custom color.
Underfill Color	Click on the drop-down arrow and select the color with which to fill a lane heading cell if the column contains fewer than the maximum number of elements, in other words there is available capacity. You set the maximum number of elements when you define the lanes to work with, in the 'Lanes' page. If the color you require is not shown, click on the Other button and either select from a wider range of standard colors or define a custom color.
Line Width	Click on the drop-down arrow and select the line width of the Kanban lane borders

	- either 1 (thinnest), 2 or 3 (thickest).
Vertical Spacing	Set this to 'Small', 'Medium' or 'Large' to define the degree of vertical separation between elements in a Kanban lane.
Hide Names	Select this checkbox to hide the lane names and the column heading cells.
Bold Font	Select this checkbox to display the lane headings in bold (if their font definition does not already set them to bold).
Hand Drawn	Select this checkbox to display the Kanban lanes and the elements on the diagram in 'Hand-drawn' mode.
Enable Overfill Highlight	Select this checkbox to apply the 'overfilled' color to the lane header cell if it contains more elements than the defined maximum number (see *New*).
Enable Underfill Highlight	Select this checkbox to apply the 'underfilled' color to the lane header cell if the lane contains fewer elements than the defined maximum number; that is, if it has any spare capacity.
Highlight	Select this checkbox to highlight

Hierarchies	elements on the Kanban diagram that are part of the same hierarchy, by drawing a colored rectangle behind each element. If there are elements from two or more hierarchies on the same diagram, each hierarchy is represented by background rectangles of a different color to the others. In this illustration, Class 1 and Class 2 are both in one hierarchy, and Class 5 and Class 6 are both in a second hierarchy. 
Use Kanban drawing style	Select this option if you want to apply the Kanban style to the elements on this Kanban diagram. Also, select the checkbox against each element property or characteristic to be shown in the elements: • Type - displays the element type • Status - displays the element status • Version - displays the element version

	• Priority - displays the element priority • Bold name - displays the element name in bold • Notes - displays element notes in the elements on the Kanban diagram • Capitalize Name - displays element names in capitals on the Kanban diagram • Stereotype - displays the element stereotype • Phase - displays the element phase • Author - displays the name of the element's author • Truncate name - cuts off the element name as it approaches the element border, instead of allowing it to wrap around • Icon - selected by default; deselecting this checkbox hides the Type and Priority icons in the top right corner of the element • Checkboxes - when Checklist elements are displayed on the Kanban diagram, show the Checklist checkboxes and items; Checklist Artifacts can be bound to Priority on a Kanban diagram, and this option makes it easy to view any Checklists organized by Priority

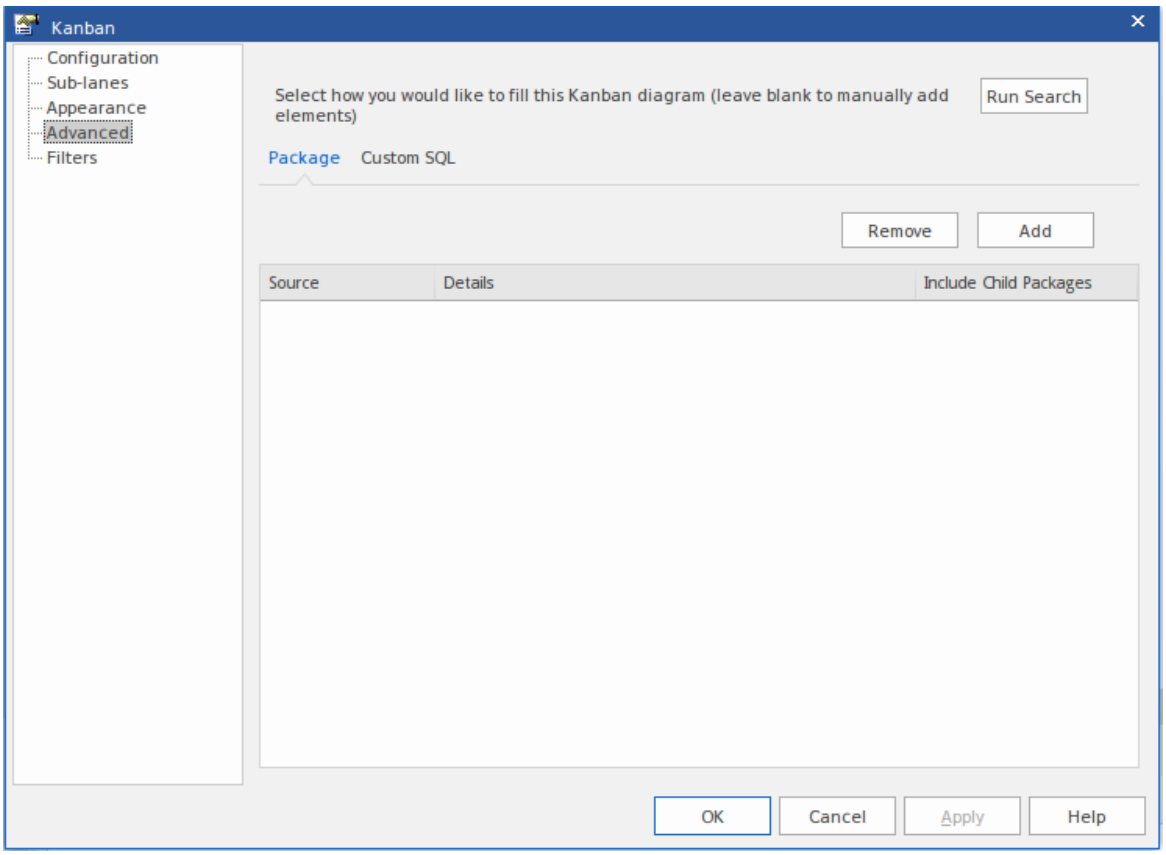
	The property checkboxes are directly linked to the 'Use Kanban drawing style' option. If you do not select the option, the element on the Kanban diagram has a more basic appearance with no properties shown other than the author and element names.
Native Element drawing style	Select this option to render the elements on the Kanban diagram in their native, rectangular notation style, displaying any compartments the elements might have. The Resources compartment is particularly useful for Kanban elements, if compartments are to be shown. This compartment lists allocated resources, including those that are 100% complete. Note that the element width is limited by the width of the lane the element is in, so features in compartments might be shown truncated.

Notes

- All elements added to a Kanban diagram initially have the same height and spacing, but the height can change as displayable information is added to an element
- In a Kanban diagram, the normal element appearance option is not operational; only the Kanban appearance options take effect

Kanban Diagram Options - Advanced

If you do not want to manually add elements to a Kanban diagram, you can use the 'Advanced' page to set up either Package searches or SQL searches to automatically fill the diagram. It is not possible to use both a Package search and a custom SQL search at the same time; if both are specified, the Package search is ignored.



The dialog automatically opens at the 'Package' tab. If you want to create a SQL Search, click on the 'Custom SQL' tab.

Access

Ribbon	Construct > Task Management > Kanban > (options to generate and/or open a Kanban diagram) or Start > Collaborate > My Kanban (displays personal default Kanban diagram) Then Design > Diagram > Edit > Kanban > Advanced (on an open Kanban diagram)
Context Menu	On a Kanban diagram, double-click on a lane > Advanced On any other type of diagram, right-click on background | Kanban > Advanced

Kanban Options - Advanced

To fill a diagram based on a Package, simply click on the Add button and on the 'Add Package' option, then select the required Package or Packages from the 'Select a Package' browser.

If you want to include elements from child Packages, select the 'Include Child Packages' checkbox against each Package in the list. Click on the Run Search button. This will automatically add elements, based on the search. The search

is additive and will only add elements not currently on the diagram; it will not remove elements that no longer match the search. You can refine the Package search by creating it on the 'Filters' page and adding filters (see the *Kanban Diagram Options - Filters* Help topic).

To fill the diagram from the results of a custom SQL search, click on the 'Custom SQL' tab and type or paste the appropriate SQL. In order for the diagram to be filled, you must include in the SQL Select statement:

Object_ID as Element_ID

For example:

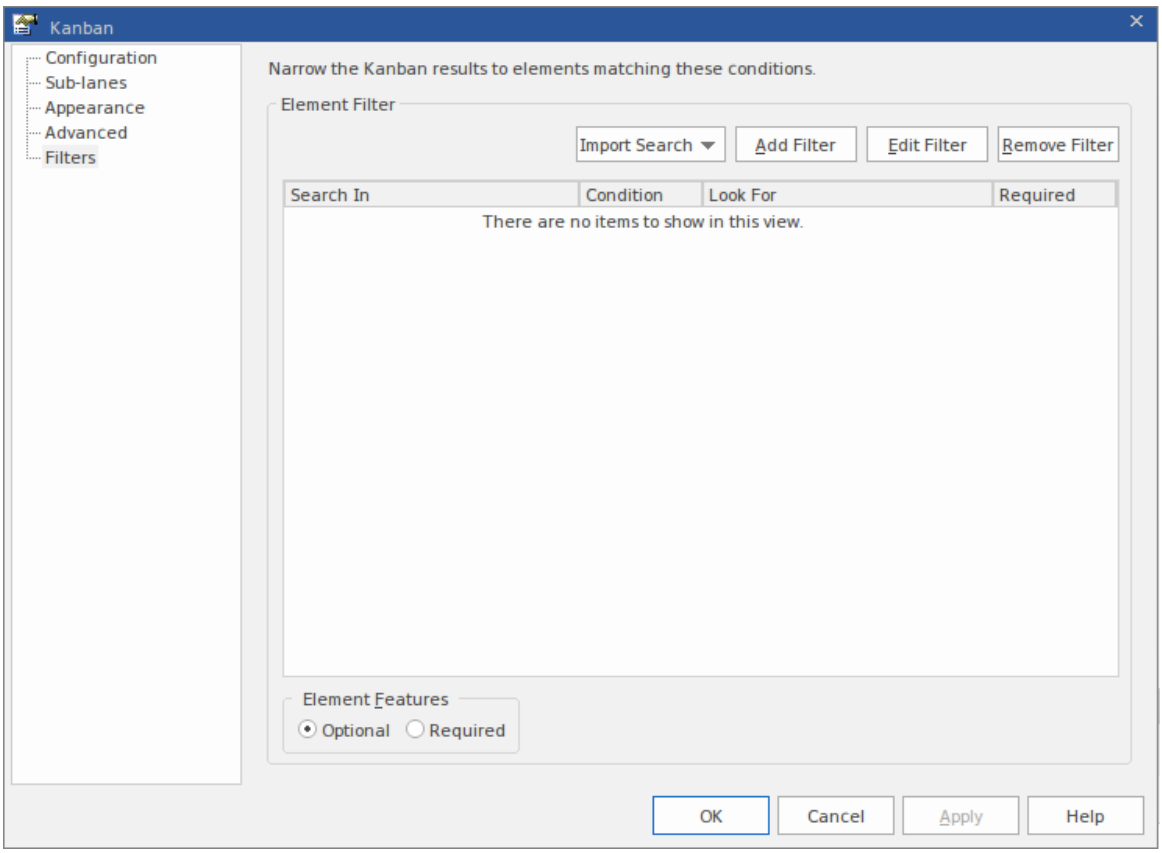
Select Object_ID as Element_ID From t_object Where Object_Type = 'Requirement'

Option	Action
Run Search	When you have set up either a Package search or a custom SQL search, click on the Run Search button to fill the diagram. All elements found by the SQL search are added to the diagram. If you have not applied a filter to a Package Search, all elements from the selected Packages are added to the diagram. If you have used a filter, only those elements that meet the filter criteria are added. A 'Progress' dialog displays during the search. If the search is taking a long time

	or is finding too many elements, click on the Cancel button; any objects already added to the diagram are removed.
Add	On the 'Package' tab, if you are using a search or filter (from the 'Filters' page of the dialog) you must define a Package or Packages for the search or filter to work on. You do this by clicking the Add button and choosing either 'Add Package' to browse to a selected Package, or 'Search Model' to search or filter from all elements in the current model.
Remove	If you want to clear a Package from the list (or the whole-model selection) click on the item line and click on this button.
Include Child Packages	If you have selected a Package with a child structure, select this checkbox to also include the elements from the structure in the Kanban diagram, or clear the checkbox to include elements from the selected Package only.

Kanban Diagram Options - Filters

The 'Filters' page can be used in conjunction with the Package search defined on the 'Advanced' page, should you want to apply additional filtering.



It is possible to import a Model Search that has already been created, or to create new filters here exactly as you would for any other Model Search.

When adding any of these searches or filters, you must also select at least one Package for the search or filter to work in; you do this on the 'Advanced' page of this 'Kanban' dialog.

Access

Ribbon	Construct > Task Management > Kanban > (options to generate and/or open a Kanban diagram) or Start > Collaborate > My Kanban (displays personal default Kanban diagram) Then Design > Diagram > Edit > Kanban > Filters (on an open Kanban diagram)
Context Menu	On a Kanban diagram, double-click on a lane > Filters On any other type of diagram, right-click on background | Kanban > Filters

Filter Options

Option	Action
Import Search	Click on this button to import a search from either an external XML file ('From File') or from the current model ('From EA').

Add Filter	Click on this button to define the properties of elements that you want to be added automatically to your Kanban diagram. • Note that not all element types will be added to Kanban diagrams; the list of excluded types includes Constraint, Note, Port, ProvidedInterface, RequiredInterface, Boundary, Hyperlink, StateNode, Text, GUIElement, Package, UMLDiagram, InterruptibleActivityRegion and ExpansionRegion
Edit Filter	Click on this button to edit the currently selected filter in the list.
Optional / Required	Choose 'Optional' if the filters will be applied with a logical OR relationship. Choose 'Required' if the filters will be applied with a logical AND relationship.
Remove Filter	Click on this button to delete the currently selected filter from the list.

Default Kanban Diagrams

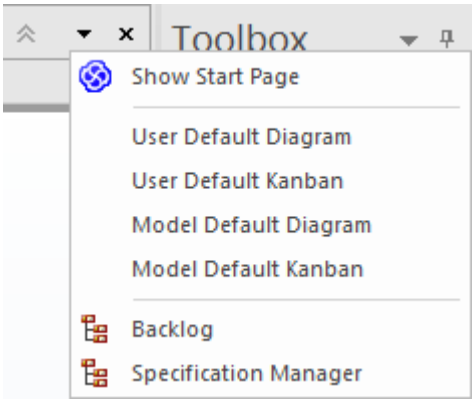
A default Kanban diagram can be set for the entire repository, and each individual user can also set their own default Kanban diagram; in both cases there are specific options to locate and open the diagrams. These defaults help you to quickly and easily get access to a Kanban board and immediately start contributing to work items that will deliver value to the customer.

To track your own work, you can select:

- The 'Start > Collaborate > My Kanban' ribbon option, or
- The 'Construct > Task Management > Kanban > Open My Kanban' ribbon option, or
- The 'User Default Kanban' menu option from the diagram Caption Bar

To track the team's work, you can select:

- The 'Construct > Task Management > Kanban > Open Project Kanban' option or
- The 'Model Default Kanban' menu option from the diagram Caption Bar



Set the Model Default Kanban

A default model Kanban diagram can help you to visually track a range of work items and their current stage of development through an initiative. This feature ensures that all team members can visualize the important work items in a consistent way and allows them to track the work items as they move from an idea in the backlog through to completion ultimately delivering business value to the customer.

Step	Action
1	Ensure the preferred Kanban diagram is open in the main view.
2	Select the 'Configure > Security > Administer > User Settings > Set User Default Kanban' ribbon option.

Set My Default Kanban

In a shared security-enabled model environment it is possible to set a user-specific default Kanban diagram. A personalized Kanban diagram can help each member of a team to visually keep track of a range of elements of particular relevance to them, and their current stage of development.

Step	Action
1	Ensure your preferred Kanban diagram is open in the main view.
2	Select the 'Configure > Security > Administer > User Settings > Set User Default Kanban' ribbon option.

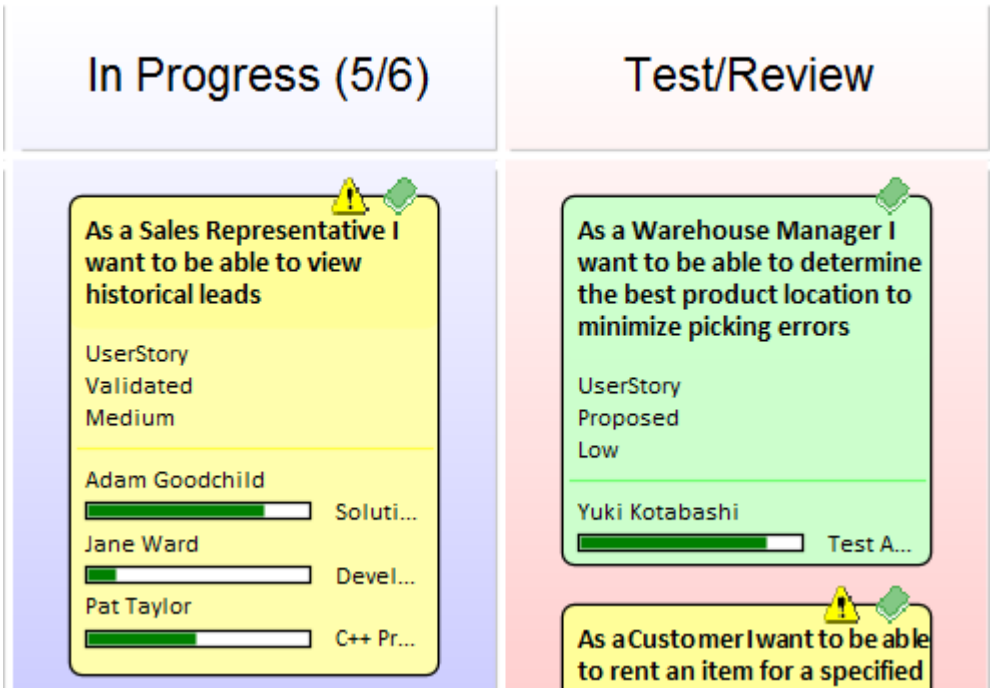
Notes

- The model must have user security enabled in order to define a user default Kanban diagram

Allocating Resources to Work Items

Enterprise Architect not only helps you to define the work items for a Kanban diagram or workflow but also acts as a sophisticated platform for the allocation and management of resources and the flow of items through the board. This functionality uses both Kanban diagrams and the Resource Allocation features.

Resources are the people who work on a project; they can be assigned roles and allocated tasks, and these roles and tasks can be visualized on a Kanban diagram.



This example shows a number of Kanban work items, one with three resources allocated to it. The tasks performed by the resources are at varying stages of completion,

represented by the green progress bars that show the percentage of the work completed.

When a resource allocation is set to 100% complete, it will no longer be displayed in the Kanban object. When all tasks have been set to 100%, it might be time to move the task to the next Kanban lane, changing its status so that the next resources can be allocated. In this example, that might be resources with a 'Review' or 'Testing' role.

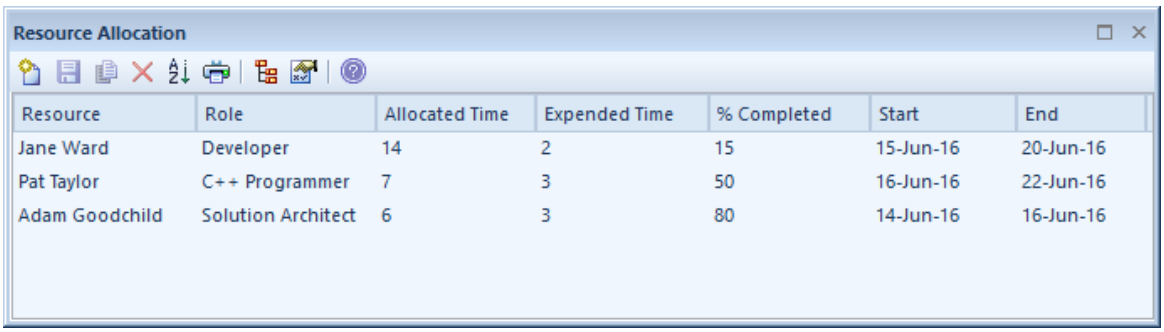
Resource Allocation

To allocate a resource to a Kanban object, you must first open the Resource Allocation window ('Construct > Task Management > Resources'). You then select the object on the Kanban diagram or in the Project Browser and click on the 'New' icon in the Resource Allocation window. Add these details as necessary:

- Resource
- Role or Task
- Start Date
- End Date
- Complete %
- Expected Time
- Allocated Time
- Time Expended
- Description
- History

Click on the Save icon to create the resource allocation - a progress indicator will instantly appear on the work item in the Kanban diagram. This is an important visual cue to show that a resource has been assigned to work on this task or has chosen it themselves. Other team members will immediately be able to see the allocation on the Kanban diagram and make decisions about what work items they will work on. Therefore, it is important not to allocate resources too early as this could slow down the workflow.

The resource allocations for the Kanban Work Item in the previous diagram are shown in this example:



Resource	Role	Allocated Time	Expended Time	% Completed	Start	End
Jane Ward	Developer	14	2	15	15-Jun-16	20-Jun-16
Pat Taylor	C++ Programmer	7	3	50	16-Jun-16	22-Jun-16
Adam Goodchild	Solution Architect	6	3	80	14-Jun-16	16-Jun-16

Completed Tasks

Once you have completed a task, you set its 'Complete %' value to 100. This has the effect of preventing the task's progress bar from being drawn in the object in the Kanban diagram. As well as setting the completion percentage on the task, you might also want to fill in other information, such as the end date and time expended. It might also be time to move the object into the next Kanban lane.

Resource Tracking

The Kanban features in Enterprise Architect can be used with any project management method. How the features are used will depend largely on what works best for individual teams; the teams might be self organizing without any formal project management controls and other teams might work with a more formal structure. Either way Enterprise Architect provides a number of facilities that will assist with visualizing resources and their allocations to work items.

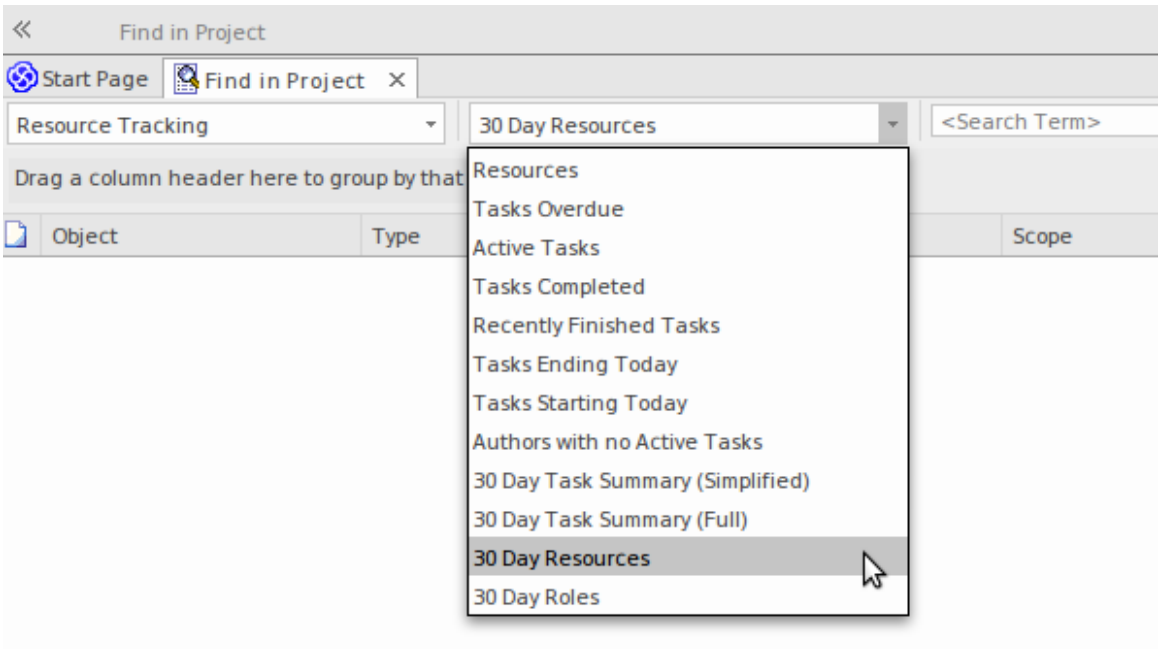
Enterprise Architect provides searches to allow you to track resources. You can get a list of tasks that each resource is working on, overdue tasks, recently completed tasks, summaries, and more. A team or individual can also write their own custom searches to retrieve any required information from the repository.

Access

Ribbon	Construct > Task Management > Active Tasks Construct > Task Management > Completed Tasks Construct > Task Management >

	Summary

Resource Tracking Searches



Search	Description
Active Tasks	Searches the project for elements with assigned resources, where the end date is in the future and the percentage completion is less than 100. The output lists all elements with currently active tasks, and shows the details of the resource allocation to each task.

Tasks Ending Today	Searches the project for elements with assigned resources, where the task end date is today. 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.
Tasks Starting Today	Searches the project for elements with assigned resources, where the task start date is today. The output lists all elements with tasks starting today, and shows the details of the resource allocation to each task.
Overdue Tasks	Searches the project for elements with assigned resources, where the end date is in the past and the percentage completion is less than 100. The output lists all elements with overdue tasks, and shows the details of the resource allocation to each task.
Recently Completed	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.

	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.
All Completed	Searches the project for elements with assigned resources, where the percentage completion is 100. The output lists all elements with completed tasks, and shows the details of the resource allocation to each task.
30 Day Task Summary (Brief)	Provides a brief summary of the tasks performed by resources over the previous month. The output groups tasks with similar project role and calculates for each resource: the count, the sum of expected time, and the sum of expended time for all tasks that have started in the last 30 days. To look at or change the master list of project roles that this search uses for grouping tasks, select 'Configure > Reference Data > Project Types > People > Project Roles'. Grouping by similar project role means that, for example,

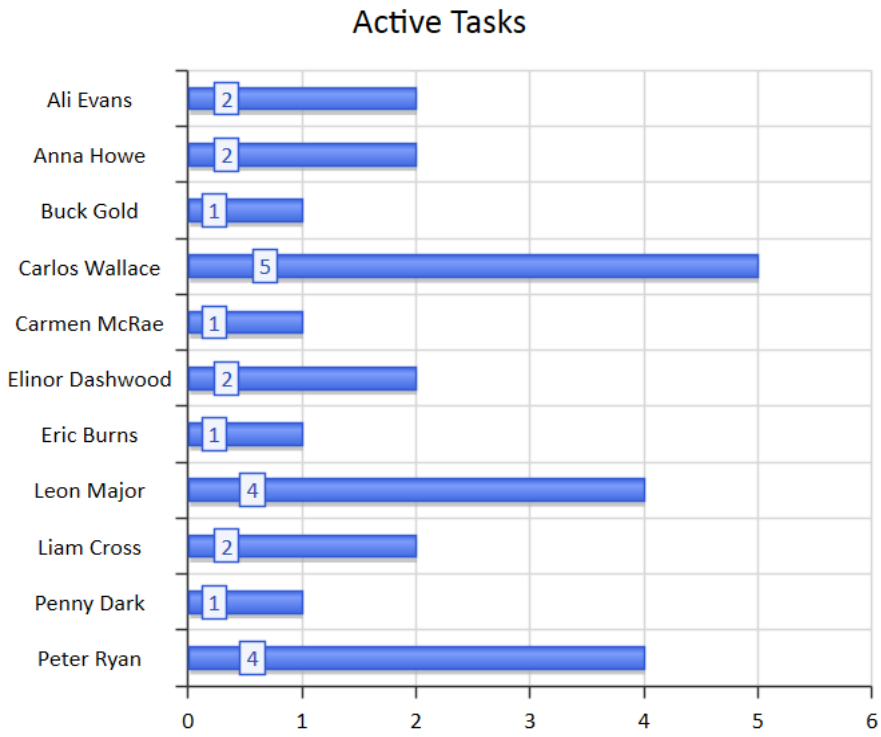
	'Review 1' and 'Review 2' would be grouped together under 'Review' if and only if the current project's list of project roles includes one called 'Review'.
30 Day Task Summary (Full)	Provides a full summary of the tasks performed by resources over the previous month. The output groups tasks by project role and resource, and lists the count, sum of expected time, and sum of expended time for all tasks that have started in the last 30 days.
30 Day Resources	Searches the project for tasks that have started in the last 30 days where the resource name matches (fully or partially) the text in the <Search Term>.
30 Day Roles	Searches the project for tasks that have started in the last 30 days where the role name matches (fully or partially) the text in the <Search Term>.

Charts and Dashboards

Enterprise Architect has a sophisticated charting facility that allows a wide range of charts to be created, through which you can visualize and analyze repository information. This is particularly useful with Kanban diagrams and resource allocations, and provides an alternative view of the Kanban cards, allowing a Product Owner, Project Manager or other team member to get a visual image of things such as the Number of Active Tasks by developer, the Phases the Work Items are in by developer, the Number of Work Items at each stage of a Kanban Board and much more. The charts can provide powerful information that will help improve the teams performance and ultimately result in high value product or service features being available to customers in the shortest possible time frame. Any number of charts can be created from built-in Patterns, but a team is also free to create user defined charts, dashboards and reports.

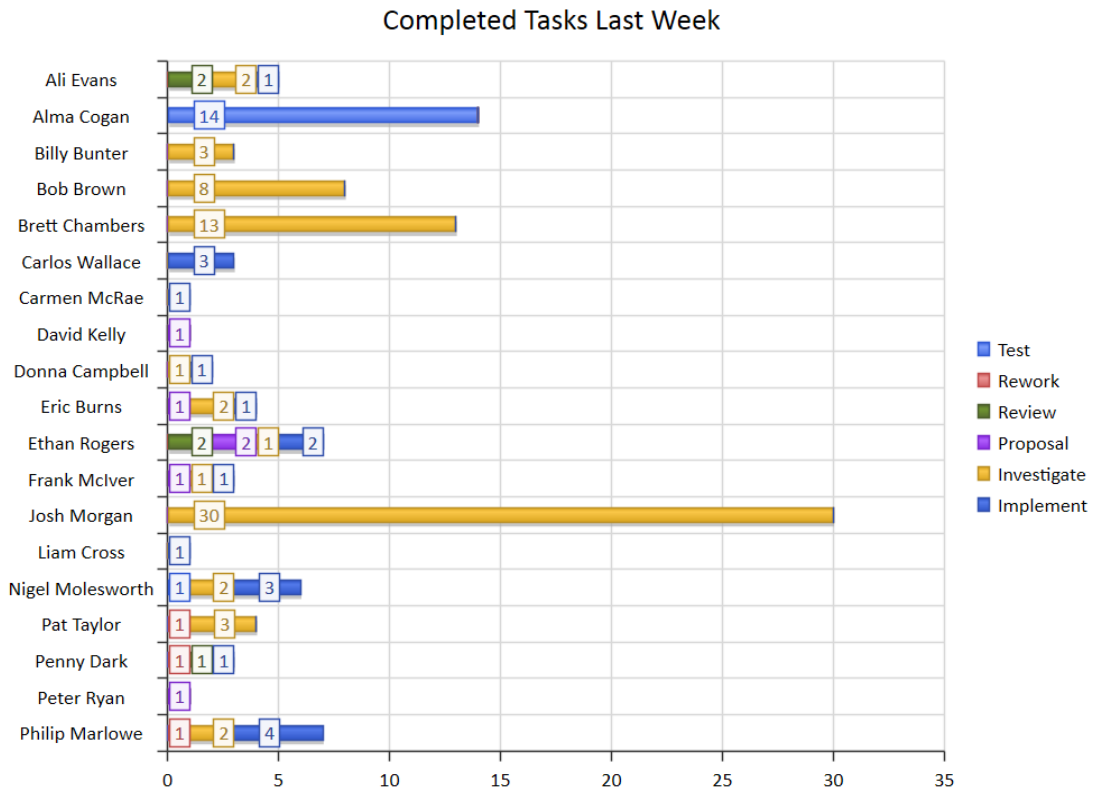
Example - Active Work Items by Team Member

This bar chart shows the number of active tasks by team member. The names of the team members are listed on the vertical axis and the Number of Tasks on the horizontal axis. A small numerical value indicates the number of active tasks allocated to each team member.



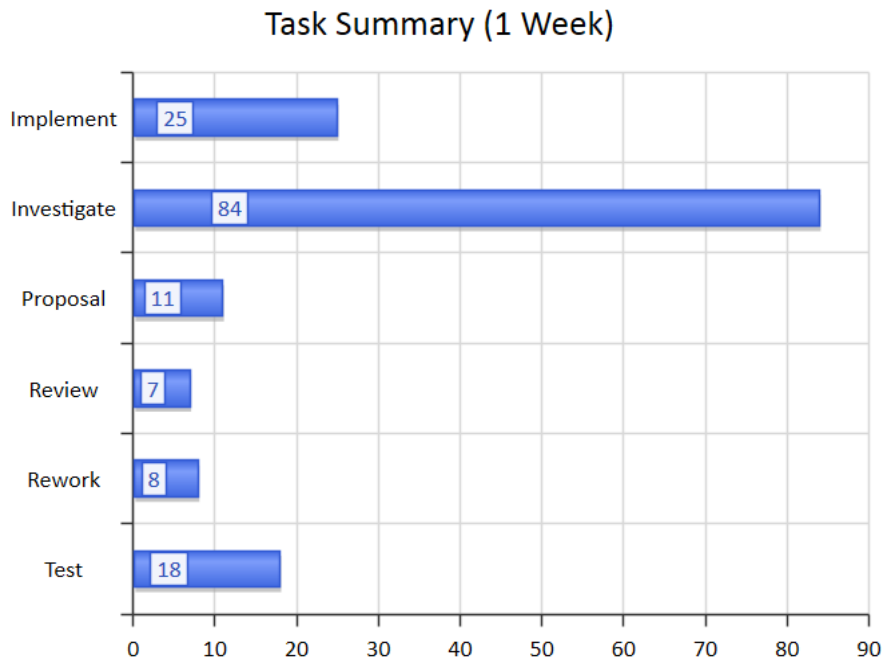
Example - Completed Work Items by Team Member

This compelling bar chart shows the number of work items completed by the members of a team in a particular phase of the process. The team members are represented on the vertical axis and the number of completed work items on the horizontal axis. Color has been used to help visualize the work items completed in a given phase; a Diagram Legend lists the relationship between color and phase. A small numeric indicator indicates the number of items completed in each phase for each team member.



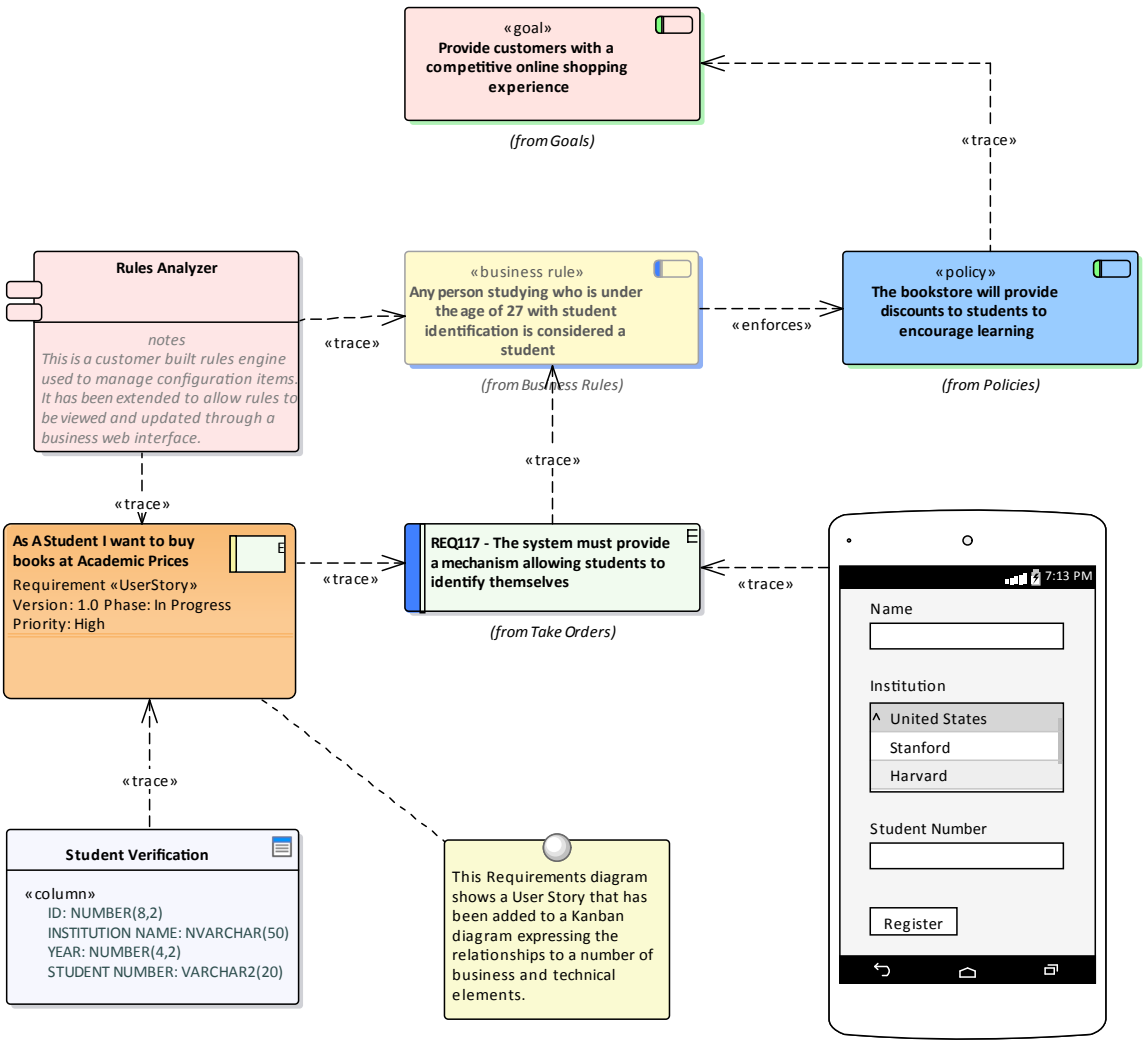
Example - Weekly Work Item Summary by Phase

This expressive bar chart provides a weekly summary of the number of Work Items completed by phase. The Phases are represented on the vertical axis and the Number of Work Items on the horizontal axis. The chart can provide powerful information that will help improve the teams performance.


Task Summary (1 Week)
Implement
25
Investigate
84
Proposal
11
Review
7
Rework
8
Test
18
0
10
20
30
40
50
60
70
80
90

Related Model Elements

There is a wide range of tools that allow teams to create Kanban diagrams, but Enterprise Architect stands on its own as a tool that not only allows a team to use the powerful Kanban features but is also a sophisticated platform for managing the work products of every discipline working on Enterprise, Business or Technology initiatives. This means that instead of having to access other tools or out-of-date documentation or schedule meetings the information related to a work items is immediately available inside the same repository. An analyst, developer, tester or other team member working on a User Story, Feature, or Defect can locate the related Requirements, Business Rules Policies, Standard Operating Procedures, Strategies, Drivers, Goals, Stakeholders Requirements, Architectural designs, Principles, Programming Code, Database and Information Schemas, XML definitions, Messages, Test Cases, Applications, Deployment Targets and Specifications and more.



Relating Model Elements

Enterprise Architect allows a user to create any number of connections between model elements, using the connectors that form part of the chosen modeling language. Any item that appears in a Kanban diagram can be dragged onto any other diagram and then connections can be added. For example, a User Story that is coming to the top of a backlog or is in a Queue lane in a Kanban diagram could be added to a Business or Stakeholder Requirements diagram, and Trace relationships could be added between the User Story and the

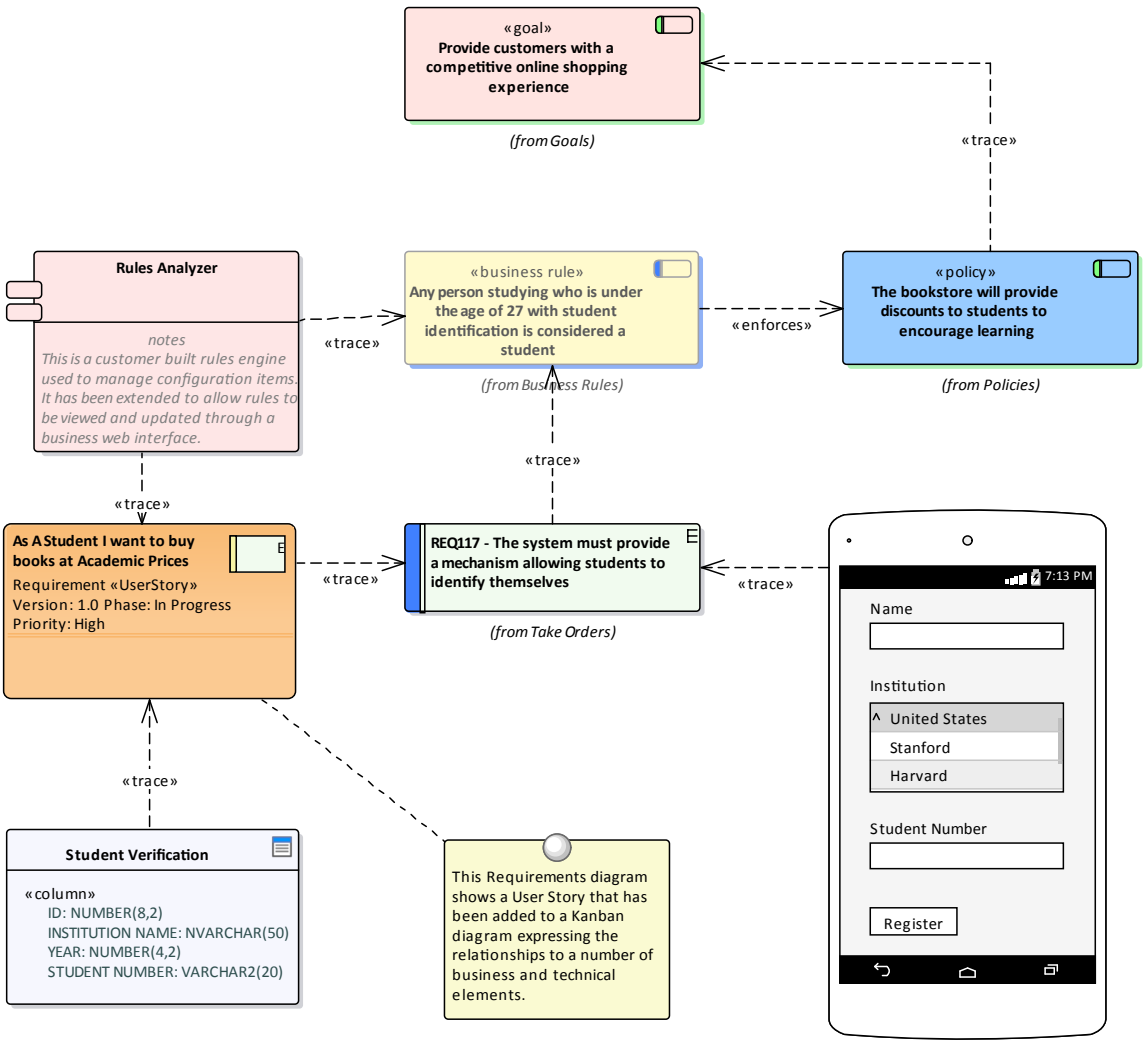
Requirements, indicating which requirements relate to the Story.

Finding Related Model Elements

The work items in a Kanban board can be related to any other elements in the model, allowing a powerful and expressive graph to be defined. While it is possible to add your own connections, quite typically other team members working in related disciplines and parts of the repository will have already added relationships to other model elements, which in turn will be related to still other elements and so on.

These connections can all be visualized in existing diagrams, but a modeler can create a new diagram and place the work item in the center of the diagram, choosing the Insert Related Elements feature to insert the graph of related elements that can be configured to draw an expressive diagram reaching out to the very corners of the repository.

This diagram shows the result of using the Insert Related Elements feature to find the important information needed when working on a User Story.


«goal»
Provide customers with a competitive online shopping experience
(from Goals)
«trace»
Rules Analyzer
notes
This is a customer built rules engine used to manage configuration items. It has been extended to allow rules to be viewed and updated through a business web interface.
«trace»
«business rule»
Any person studying who is under the age of 27 with student identification is considered a student
(from Business Rules)
«enforces»
«policy»
The bookstore will provide discounts to students to encourage learning
(from Policies)
«trace»
«trace»
As A Student I want to buy books at Academic Prices
Requirement «UserStory»
Version: 1.0 Phase: In Progress
Priority: High
«trace»
REQ117 - The system must provide a mechanism allowing students to identify themselves
(from Take Orders)
«trace»
7:13 PM
Name
Institution
United States
Stanford
Harvard
Student Number
Register
«trace»
Student Verification
«column»
ID: NUMBER(8,2)
INSTITUTION NAME: NVARCHAR(50)
YEAR: NUMBER(4,2)
STUDENT NUMBER: VARCHAR2(20)
This Requirements diagram shows a User Story that has been added to a Kanban diagram expressing the relationships to a number of business and technical elements.

Managing a Backlog

The Backlog (or Product Backlog, as it is called by some Agile methods such as Scrum) is an ordered list of items that will deliver business value to the customer. It can comprise a heterogeneous list of item types ranging from Features, User Stories and Requirements (including Non-functional Requirements) to Defects, Changes and more. In fact, in Enterprise Architect any element can be placed onto a Backlog; the ones that are listed and those that appear in the Toolbox are simply the most common. The Backlog is an ordered list based on the business value, with the higher value items percolating to the top of the list. The list is owned and managed by the Product Owner or their equivalent; that is, someone acting as a surrogate for the customer.

Ordering Items in a Backlog Lane

When working with a one stage workflow the Backlog items will typically be contained in the first lane of the Kanban and can be dragged to a new location in the lane to change the order of items in the backlog.

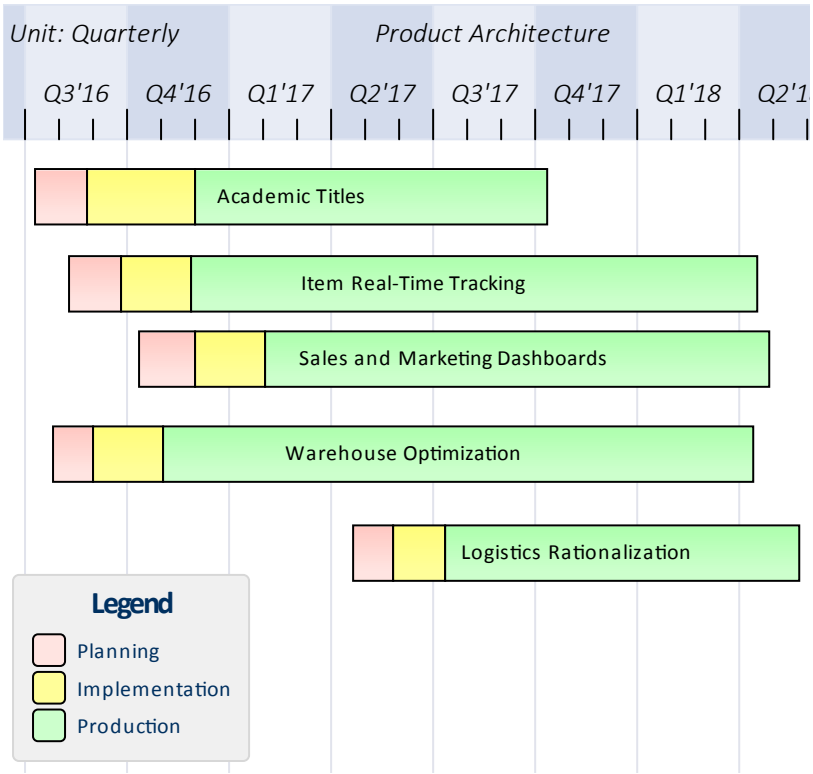
Step	Action
1	Select the Item to be moved in the Backlog diagram.

2	Drag-and-drop it into a new location in the backlog lane.

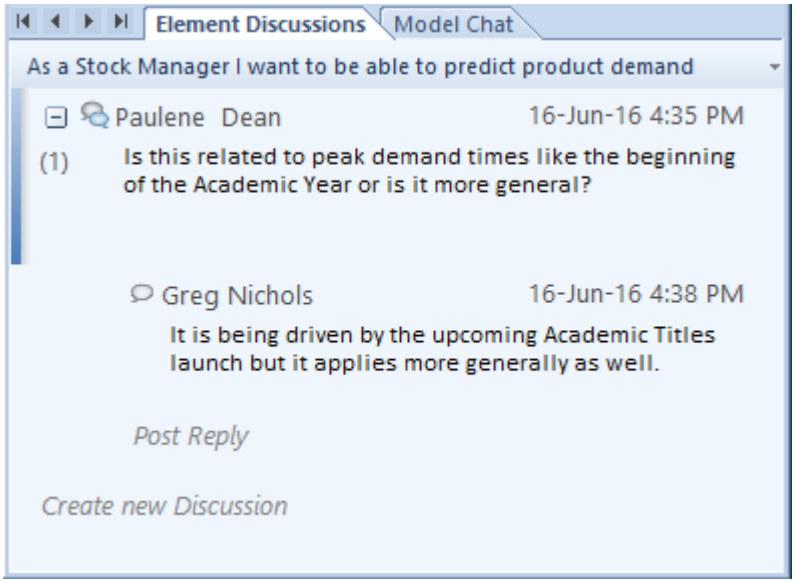
Prioritizing a Backlog

The order of the items in the Backlog typically is carefully and thoughtfully determined by the Product Owner and reflects the business value - the items promising high business value are located at the top. The prioritization of the Backlog is the Product Owner's responsibility, but it is not decided in isolation from other team members and the Product Owner relies on access to important information from a range of stakeholders, from senior executive level stakeholders, business and operation managers, requirements and business analysts down to implementation teams.

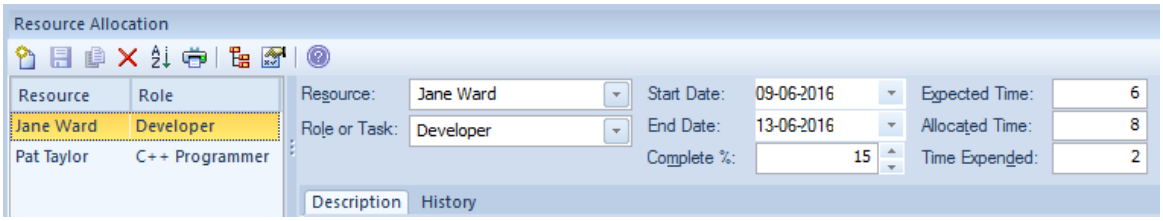
A range of strategic diagrams and materials provide a source for many of the prioritization decisions. These include: Strategy Maps, Business Drivers, Goals and Objectives, and Roadmap diagrams that describe the time-based sequencing of packages of work. The example Roadmap diagram could be used by the Product Owner as an input to what is of high priority to the Business, or what has been planned by the Enterprise or Business Architecture teams. The diagram will prove useful in discussions with both the business stakeholders and the implementers, who can gain a business context for the work they are completing.



Implementers' and other stakeholders' comments will also provide a valuable source of information and input into the prioritization of the backlog. Enterprise Architect has a Collaborate window, which is a highly collaborative facility through which any team member can enter discussion posts against an element and other users can reply and join the discussion. This can create a rich and useful tapestry of knowledge that will not only help the Product Owner in deciding the item's position in the backlog list but will also assist implementers when they are ready to implement the item.

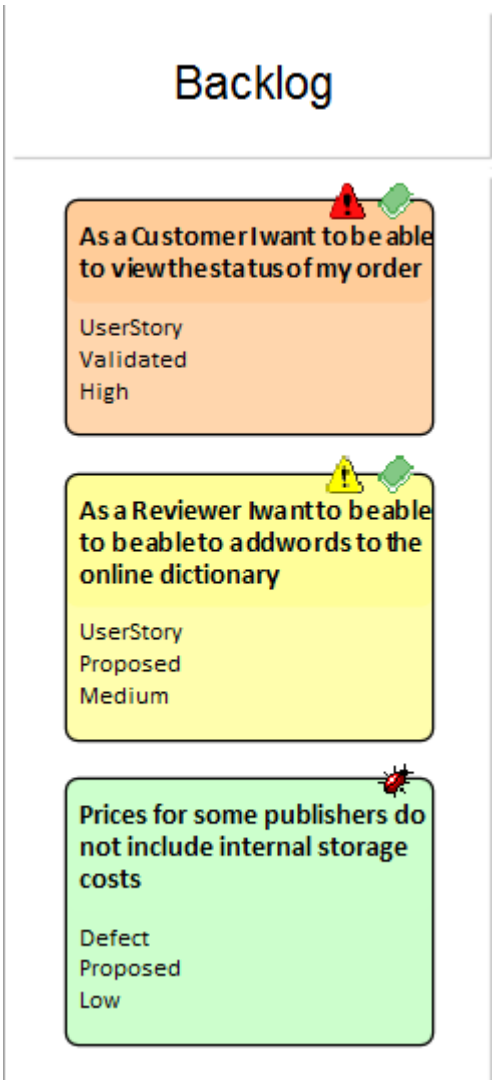


Another critical piece of information that will help the Product Owner is the item estimates completed by implementers, who make their best estimation of how long the item is likely to take. Agile teams using User Stories tend to use Story Points, but any unit of measure can be used as long as the team agrees upon a standard. Some teams will use actual times based on units such as number of hours, whilst others will use effort-based estimates. Enterprise Architect has a flexible and integrated resource allocation facility where team members can add estimates, allowed time, actual times, completion percentages and more. This will be invaluable for the Product Owner, who might have a broad idea of the time required to complete an item but who relies heavily on the details supplied by the team. The time estimate can be entered in the 'Expected Time' field of the Resource Allocation window.



Example

This diagram shows how a backlog can be defined in a one-stage workflow, allowing items to be dragged and dropped in a single column to define the order of the items in the backlog.



Ordering Items in a Backlog Diagram

When working with two or three stage workflows the Backlog items are contained in a Kanban board representing the entire Backlog, allowing them to be moved between lanes from low to medium, high or critical or using any user defined lane names or bound property.

Step	Action
1	Ensure the Backlog Kanban diagram is open.
2	Select the work item to be prioritized in the diagram.
3	Drag and drop the item into a new location, either in the containing lane or in another lane.

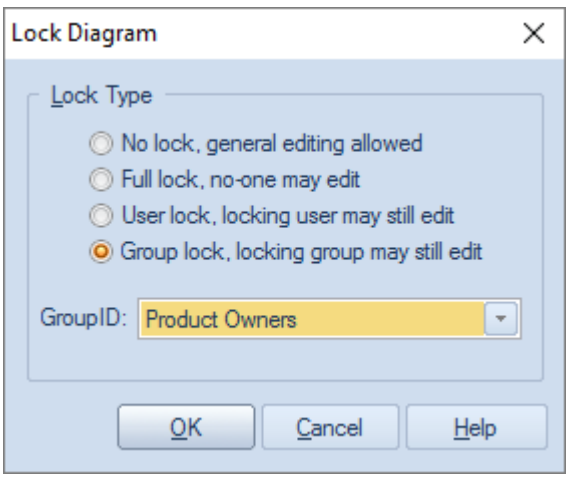
Securing a Backlog

The Backlog is a communication tool that insulates the implementers from the need to decide what they should be working on. It is owned and managed by the Product Owner, who ultimately decides what should be on the Backlog and the order of the items it contains. It therefore

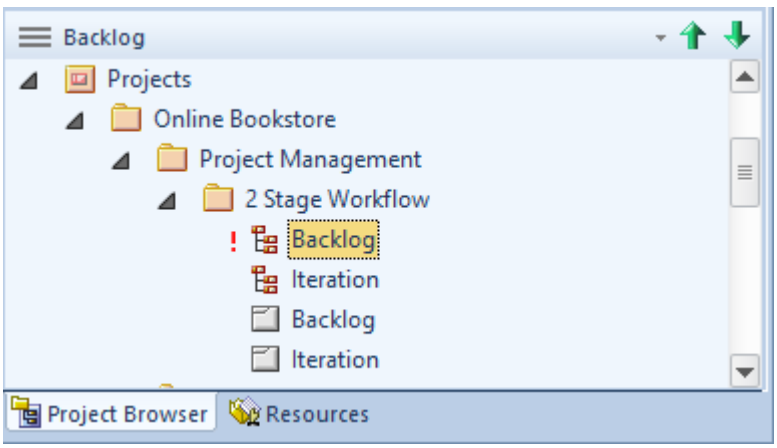
must be secured from inadvertent changes. The implementation team should have access to the Backlog, but for the purposes of pulling items from a work queue to the In-Progress lane, which could be continuous flow-based (Kanban) or time-boxed (such as a Sprint). The development team also need to provide time estimates for the items in the Backlog, which will help the Product Owner decide upon the order of items, particularly when two or more items have comparable business value. The item with the lowest completion estimate will typically be given a higher position. Developers are also expected and encouraged to comment on the items in the Backlog so that the Product Owner can understand any issues or have access to learning from prior initiatives or insights.

Enterprise Architect's security system can be used to lock the Backlog while still allowing people to make the necessary contributions of time estimates and comments in the form of discussions.

With the Security System enabled and either a group for Product Owners or individual users who are Product Owners added, a Backlog diagram can be locked by the individual Product Owner user or a member of the Product Owner group. This example shows the Backlog being locked by the Product Owner group, but for a repository that is accessed by a number of Product Owners it could be more expedient to lock the diagram to an individual.



When the Backlog diagram has been locked by the Product Owner, other team members will be able to view the diagram but a small red marker to the left of the diagram name in the Project Browser will indicate that it is locked. The Project Manager will see a blue marker indicating that they have access to edit the diagram.



Securing a Backlog Diagram

Secure a Backlog diagram, remembering that it can be locked at a user or a group level.

Step	Action
1	Locate and select the Backlog diagram in the Project Browser.
2	Right-click on the diagram name and select the 'Lock Diagram' option. The 'Lock Diagram' dialog displays.
3	Select the 'User Lock' or 'Group Lock' option from the 'Lock Type' list.
4	Select the User, or the Group from the 'Group ID' drop-down list.
5	Click on the OK button to save the changes.

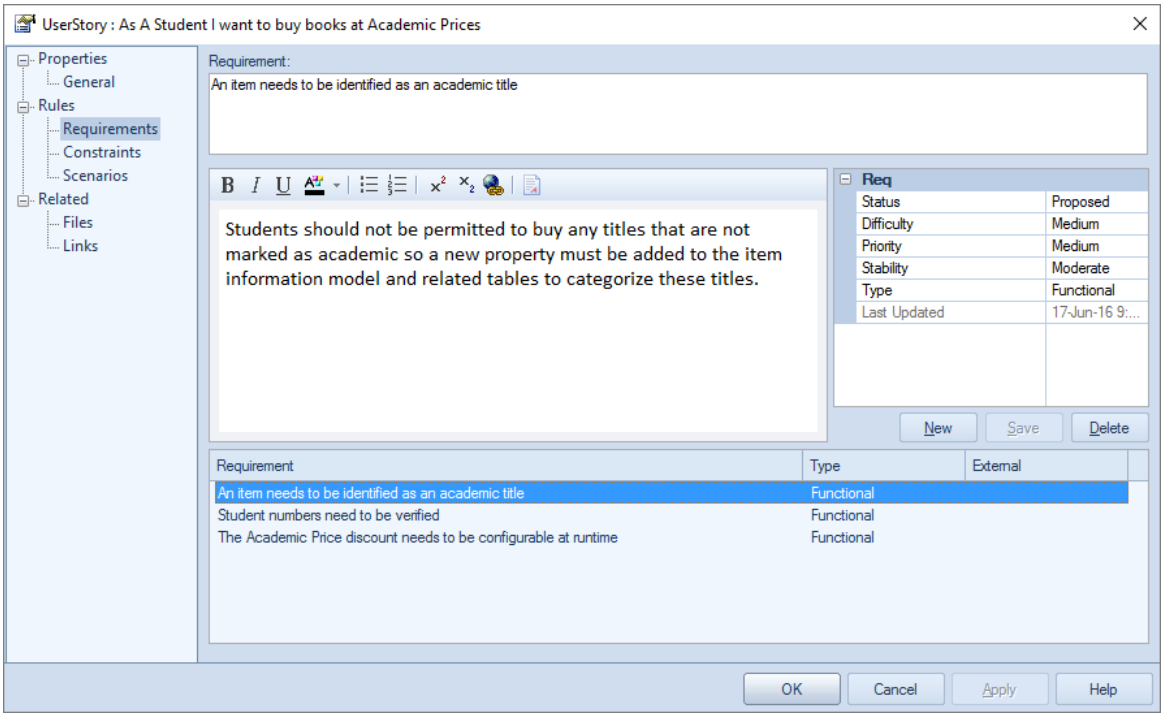
Notes

- The model must have user security enabled in order to lock the backlog Kanban diagram
- To secure a Backlog a two or three stage workflow is required where the Backlog is a separate Kanban diagram

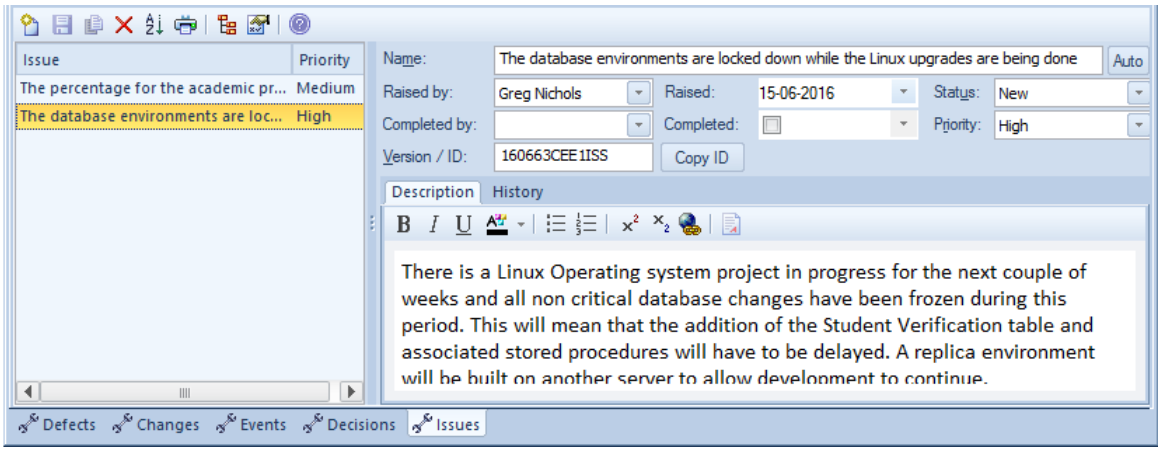
Elaboration and Grooming

During the process of prioritizing the backlog and as work items move closer to the top of the Backlog or onto the work Queue they must be prepared for the In-Progress stages of the workflow - in traditional methods this process is termed 'elaboration', but is known as 'grooming' in Agile methods. Enterprise Architect has a number of facilities that can assist with the grooming of work items so that when they are pulled onto an In-Progress lane the right information is available for an implementor to immediately start work.

Enterprise Architect has a form of requirement that is internal to an element and allows supplementary and more specific requirements to be added to a Work Item. These requirements are created in addition to the business, stakeholder, functional and non functional requirements that might exist for the work item.

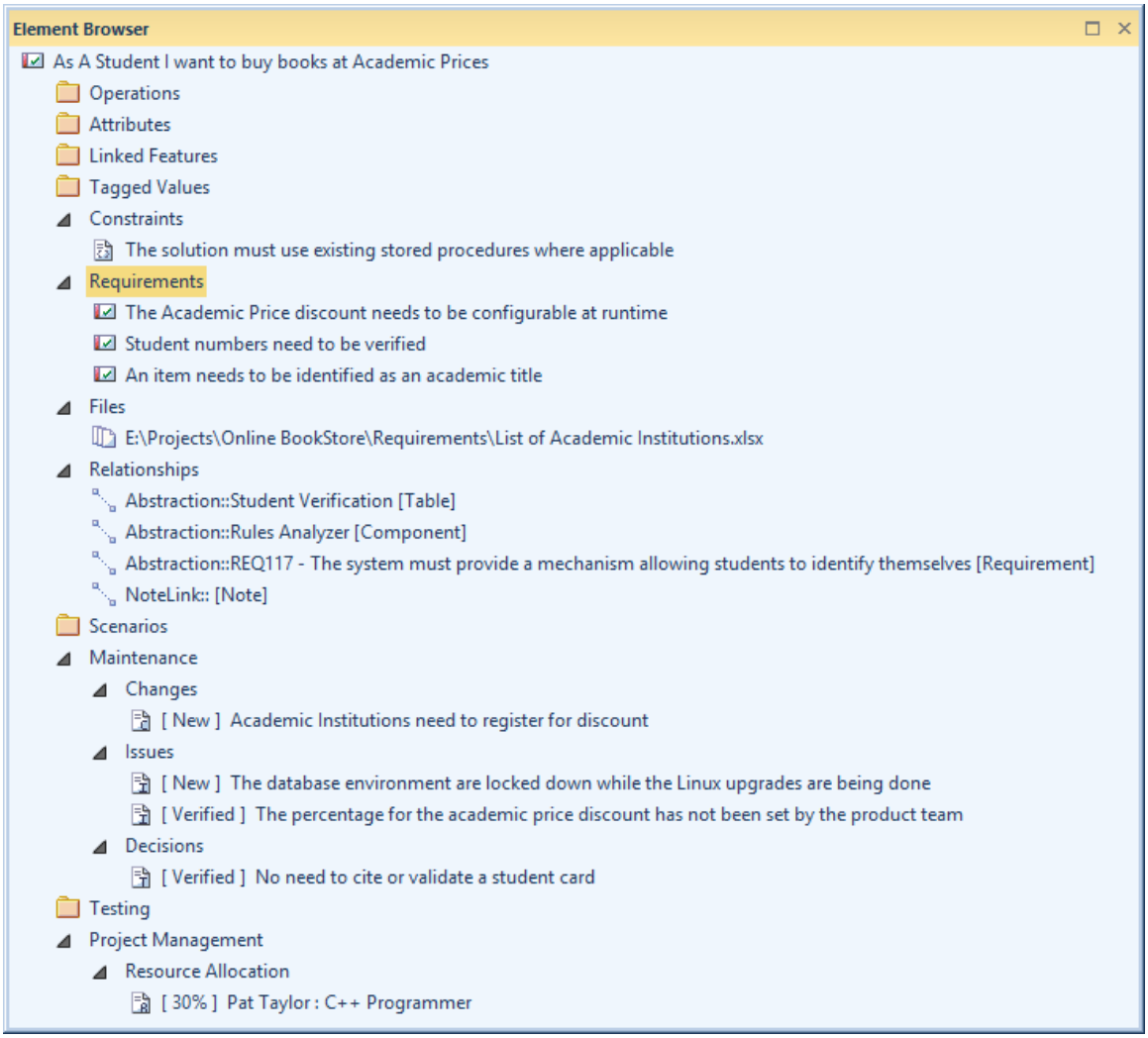


There is also a wide range of information that can be entered as Change Management Items for a selected Kanban Work Item. These items include Changes, Defects, Issues, Tasks, Events, Decisions, Effort, Risk and Metrics, and add rich additional information that will assist all team members including the Product Owner and the Implementation team.



Enterprise Architect also has an Element Browser that is a

convenient tool for viewing all the related information about an element in a single place. The Element Browser can be kept open as a docked window and items can be selected in a Kanban diagram, List, Gantt chart or the Project Browser, and the Work Item's specific information will be displayed.



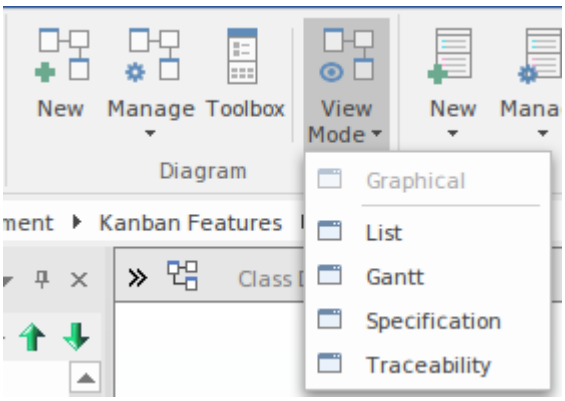
Alternate Views

Enterprise Architect is a powerful modeling platform that can be used by any number of stakeholders ranging from high level executives to implementation teams, providing a variety of communication devices suitable for each stakeholder group. There are four other views of a Kanban diagram that will be appealing to many stakeholders, particularly project managers, schedulers, development managers and product owners; these can be viewed by simply toggling from view to view:

- Gantt View
  This view provides a visualization of the work items and the assigned resources in a Gantt Chart, which is particularly useful for people who might be more familiar with this more traditional representation or who want to get an overview of the schedule of tasks
- List View
  This view is a spreadsheet representation, where the work items are the rows and the properties and Tagged Values are the columns
- Specification Manager View
  This view lists the work items with the contents of each element's Notes field
- Traceability Window
  This view helps a team member to quickly review dependencies and other relationships between work items to any depth, and to locate the items in other diagrams

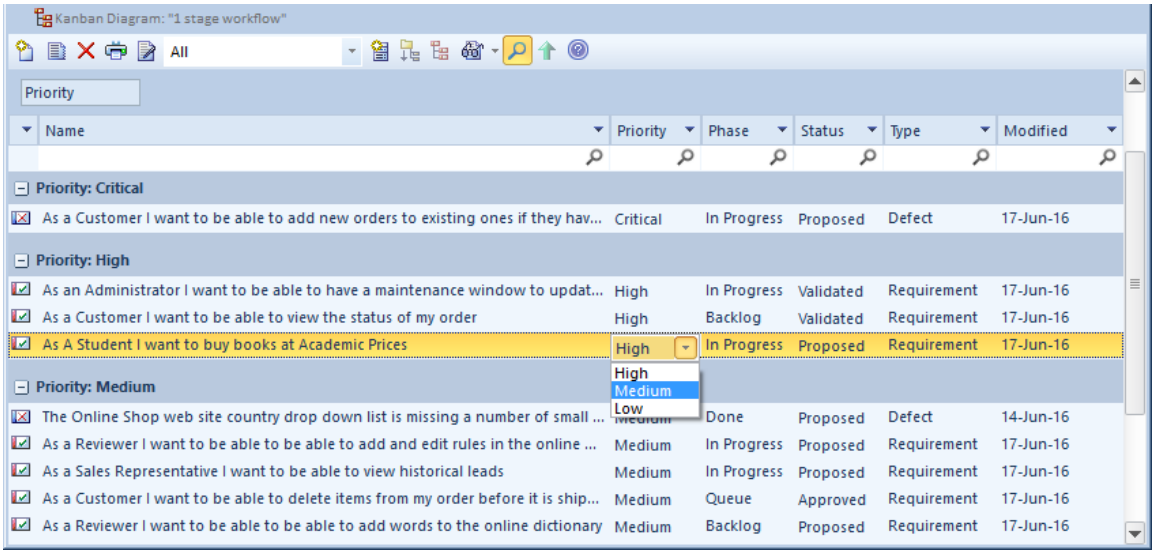
Switching between Views

A Kanban diagram, like all diagrams, can be switched to an alternative view and, once in this view, can be switched to any other view without affecting the underlying layout of the diagram.

Step	Action
1	Ensure the diagram is the active tab or has focus.
2	Ribbon: Design > Diagram > View As > Graphical / List / Gantt / Specification  Context Menu (open diagram): Open Diagram in | Gantt View / List View /Specification Manager

List View

The List View provides a spreadsheet-like visualization of the work items and their properties and Tagged Values. It allows properties to be viewed and compared across the entire corpus of work items that make up the diagram and allows properties such as status to be edited inline using drop-down lists of values where they apply. It also has a clever mechanism that allows the list to be grouped by property down to any number of levels and a filter that is useful when wanting to restrict the view of work items with a particular property or name - for example, all work items relating to the Warehouse Manager.



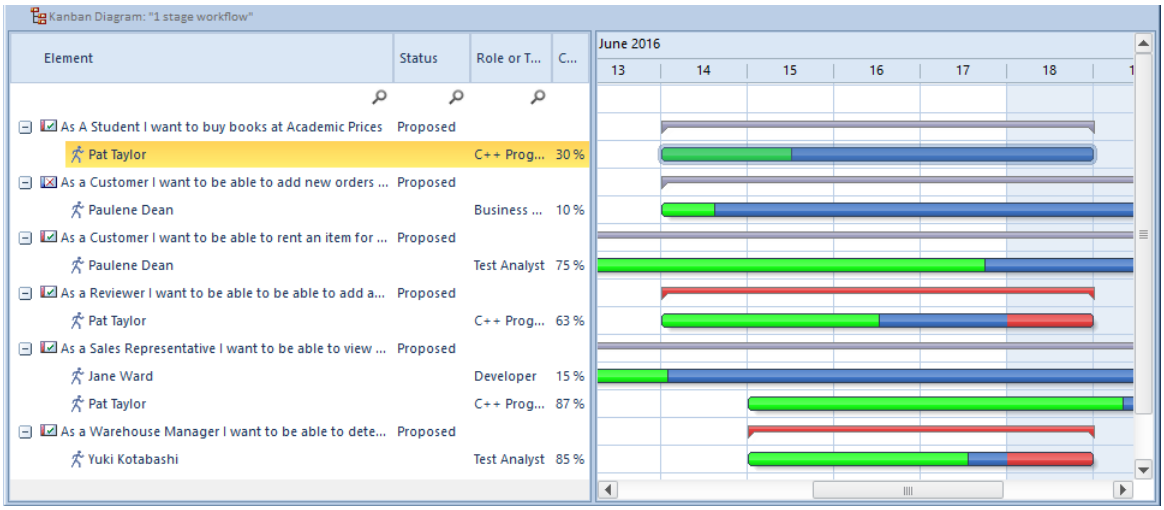
Access

Ribbon	Design > Diagram > View As > List
Context	Right-click on diagram background |

Menu	Open Diagram in | List View

Gantt View

The Gantt View provides a traditional Gantt Chart in the form of bar chart representing the scheduling of the work items including: their start and finish times and the percentage complete. It is a graph that provides a time oriented view of the work items and is useful for project managers and project schedulers or other team members who want to view all the work items in a single view.



Access

Ribbon	Design > Diagram > View As > Gantt

Context Menu	Right-click on diagram background | Open Diagram in | Gantt View

Specification Manager View

The Specification Manager is a simple document-based interface to a selected diagram (or Package) in the model, providing the means of creating and reviewing elements as text representations of objects in the model, using a process that is familiar to all users including business professionals and management, who might not have expertise in model development.

The Specification Manager is also an interactive reporting tool for displaying, in icon form, the status of various other features against each entry and providing access to edit each feature.

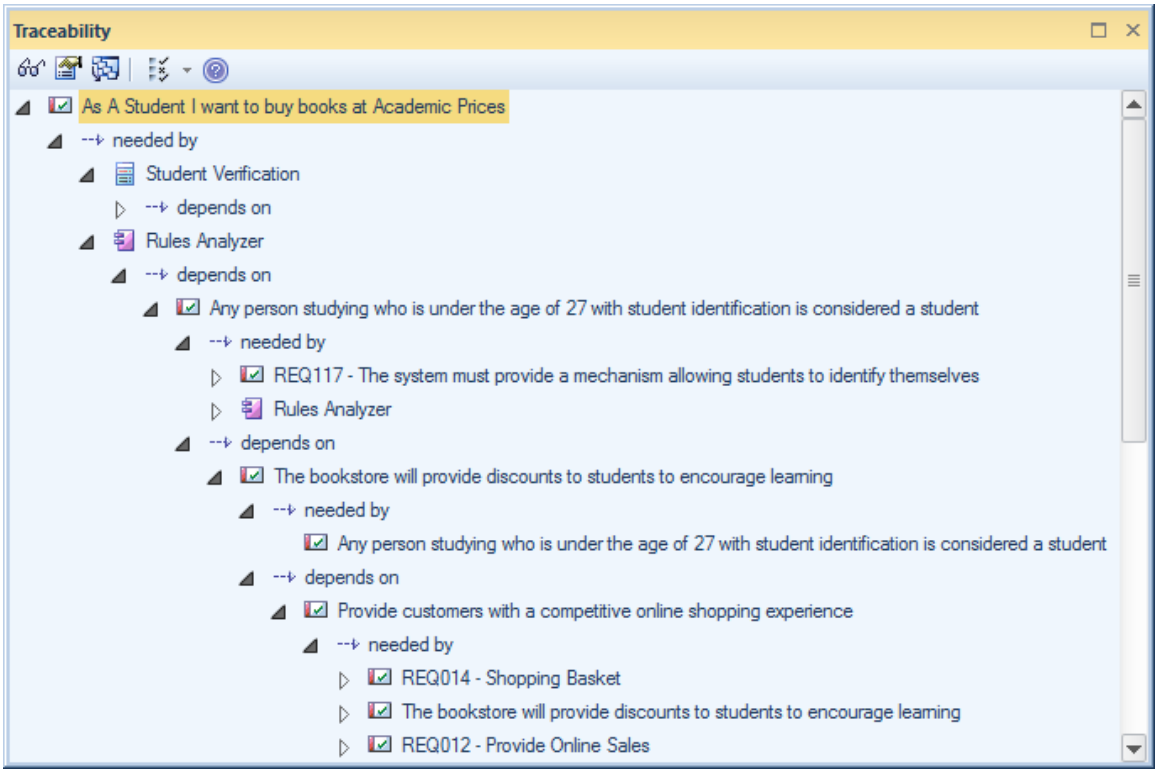
Access

Ribbon	Design > Diagram > View As > Specification
Context	Right-click on diagram background |

Menu	Open Diagram in | Specification Manager

Traceability View

The Traceability Window provides an insightful view of how a work item is connected to other elements in the model including other work items and how these connected elements are themselves connected down to any level. It is a general purpose mechanism and so can be used with any type of element but is particularly useful when working with Kanban boards and for product owners and other team members who need to understand the dependenies between work items and to find the related information that will help with the analysis, grooming, testing and implementation of a work item.



Access

Ensure a Work Item is selected in a diagram or other view.

Ribbon	Design > Impact > Traceability

Other Processes and Methods

Kanban is not a process in traditional classification but more of a way of visualizing work items, and a method for creating efficiencies and ensuring customer value is delivered as soon as possible. Kanban can be used in isolation or in combination with any existing processes, including Scrum, Iterative and Incremental and Waterfall Processes. Each of these processes has their place and can be used with Kanban even though much of the literature about process is currently focused on iterative families of processes such as Agile.

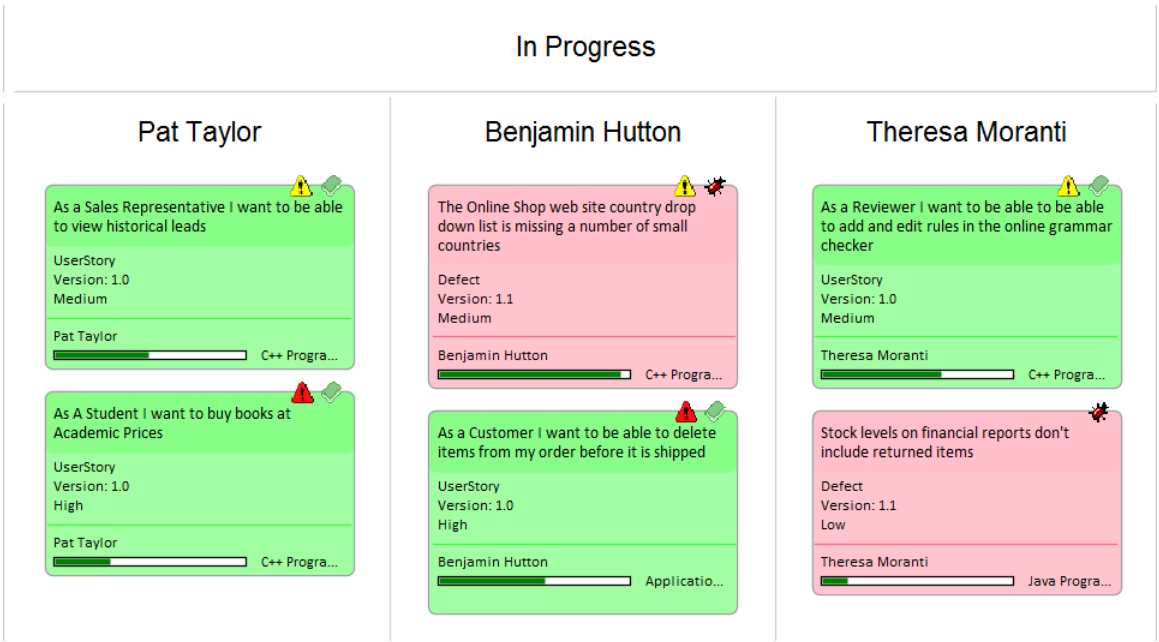
The compelling thing about Kanban is that it provides a visualization of the flow of Work Items from the ideas stage through to delivering demonstrable value to the customer transparently to every team member.

Scrumban

Scrumban is a hybrid methodology combing aspects of Scrum and Kanban. Scrum teams can typically work with the same process they have always used, including Sprints, Standups, Retrospectives and Demos, but incorporate Kanban as a way of visualizing the Work Items, allowing just-in-time planning and benefiting from being able to set Work-In-Progress (WIP) Limits. The work items that have been selected for the Sprint or Iteration can be pulled from a Backlog Kanban board onto the Queue lane of an Iteration

Kanban board.

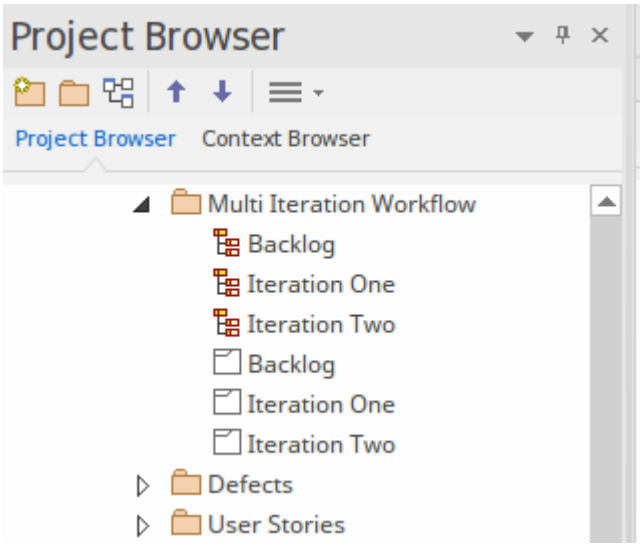
Using Scrumban overcomes limitations or issues that some Scrum teams experience such as: excessive time required in Sprint planning, a loss of focus due to implementers working concurrently on too many User Stories, Defects or other items and information being forgotten over the period of the Sprint. The built-in one, two or three stage workflows would all be suitable for Scrumban but a team is free to define their own workflow, create their own Kanban boards and define their own lanes and sub-lanes.



Iterative Methods

Iterative and incremental methods have been in use since the mid nineteen seventies and have been incorporated into a number of waterfall processes as well as being used in isolation These processes can all benefit from the use of

Kanban diagrams as a way of visualizing the work items in an iteration and any number of Kanban diagrams can be created to manage concurrent iterations.



Waterfall

Waterfall or modified methods have been in use since the mid nineteen-seventies and have been baked into a number of standards, particularly in industries such as the military, aviation, travel and finance, where outcomes typically need to be determined in advance of a development cycle. Waterfall methods are often used when requirements are locked down and scope is determined in advance, the product is stable and the technology platforms are well known and understood. These processes can all benefit from the use of Kanban diagrams as a way of visualizing the work items as they flow from phase to phase.

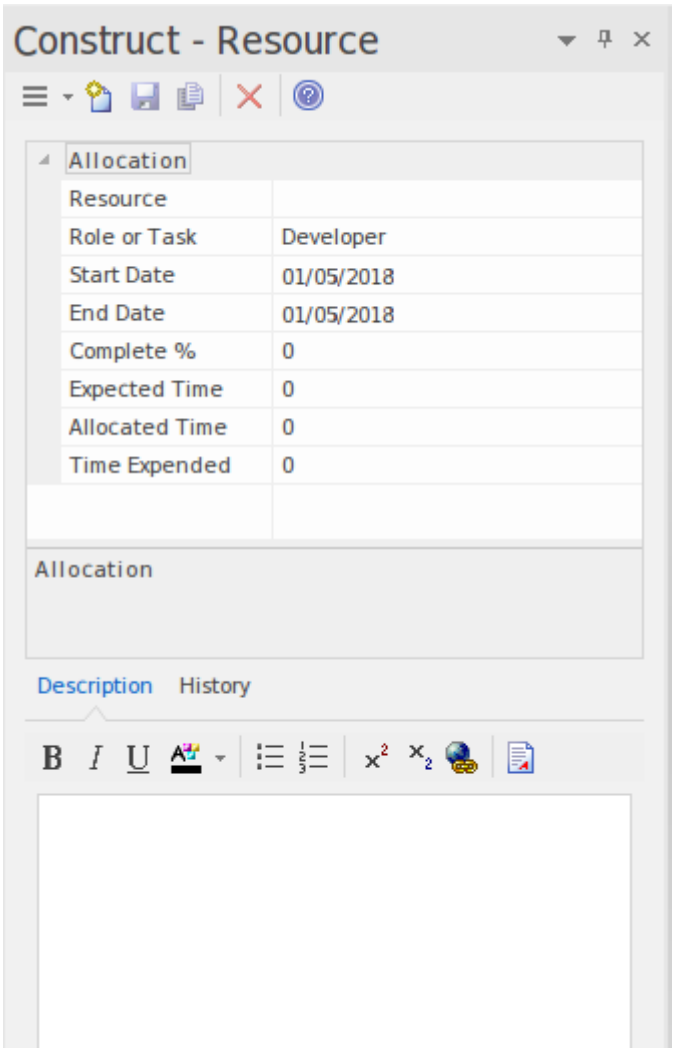
The Construct Facility

The Construction Facility is an aide to Project Management, helping you to quickly define the resource, metric, test and maintenance items of any element in the model, and to generate a visible representation of those items. The facility has two main components:

- The Construct window - which you use to define items of these types for the element:
  - Resource Allocations
  - Effort
  - Risk
  - Metrics
  - Tests
  - Maintenance
- The Construction diagram - which you generate as a child of the element to show a rendering of the element with compartments automatically enabled; the compartments show various Project Management items with Progress Bars where appropriate, as you define them in the Construct window

There are a number of Project Management resource, test and maintenance windows that you can also display (through the 'Construct' ribbon) to list and display the items allocated to the element.

Access (Construct window)

Ribbon	Start > Explore > Properties > Construct The Construct window displays, defaulting to the 'Resource Allocation' page. 

Access (Construction diagram)

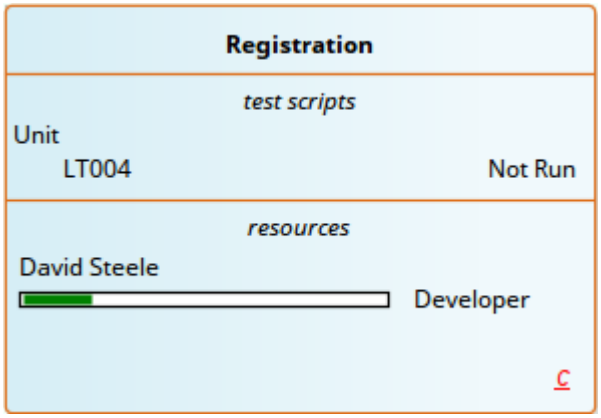
Context Menu	In Project Browser, right-click on the element | Add | Construction Diagram In a diagram, right-click on the element | New Child Diagram | Construction Diagram The Construction diagram for the element displays; note the 'C' in the bottom right corner of the element, indicating that it is the Construction rendition of the element.

Creating an item

The Construct window has a toolbar of icons that you use to create and delete item records for the selected element. Your use of these icons is explained here.

Item Type	Click on this icon to display a two-level menu of item types, starting with the main groupings of 'Resources', 'Tests' and 'Maintenance', each opening to a list of specific types.

	The window heading changes to reflect the type of item you select. For example, 'Construct - Acceptance Testing'.
New Item	Click on this icon to clear the fields of record-specific data so that you can define a new item. For instructions on how to complete the fields for the type of icon you have selected to create, click on the Help icon ( ). Items display on the Construct window one at a time, so you can no longer see the previous item. To see all existing items on the element, select the 'Construct' ribbon and: • The 'Task Management > Resources' option, or • The 'Testing > Tests > <test type> option', or • The appropriate icons in the 'Change Management' panel, further selecting the 'Show <itemtype> Window' option where displayed If you select an item from any of the lists, the item details are shown in the Construct window, where you can edit them.
Save	When you have finished entering or

	updating field values, click on this icon to save the data. As you save each item, it is added to the appropriate compartment of the element in the Construction diagram. 
Delete 	If you do not need an existing item you have displayed by selecting it from the relevant list window, or the new item you have just saved, click on this icon to delete the item. Depending on the type of item, a confirmatory prompt might display; in this case, click on the Yes button to complete the deletion.
Help 	Click on this icon to display the Help topic appropriate to the type of item you have selected to create or display. The topic will explain how to populate the fields for that specific type of item.

Task Management

In the life cycle of a project, there are various non-technical tasks that are vital to the successful management and completion of the project, such as allocation of resources and allocation of time to the tasks and to meetings. Enterprise Architect helps you as a project manager or as a team member to record and monitor such tasks.

Facilities

Enterprise Architect provides a range of project management facilities as described in this table.

Facility	Description
Manage Project Resources	Resources are the people who work on a project. You can assign roles and allocate tasks to them, which helps you to track effort and estimate time to complete tasks. You can also define the effort, risks and metrics to support resource management. You add, modify and delete resources using the Resource Allocation window.
The Gantt View	In Enterprise Architect, you can visualize elements and assigned project resources

	easily in a Gantt Chart format, to review the breakdown of work for a specific project and for specific sections of the project. The Project Gantt View illustrates a project schedule by showing the start and finish dates of assigned resources, so that you as Project Manager can quickly see the current project status using the percent-complete bar shading and the percent-complete, resource name and status columns. Information can be filtered, and overdue items can quickly be highlighted and identified. You can also access specialized versions of the Gantt View from diagrams, Packages and the Personal Tasks list.
Project Task Allocation	A particular feature of the Project Gantt View is the facility to review the allocation of work to elements in the project, focusing on either the elements that require work, or the resources required to perform the work.
Review Personal Tasks	Using the Personal Tasks view, each team member can record, review and manage their personal work within the project.

Project Management Windows	Enterprise Architect provides four specialized windows to help you to define each of the management quantities associated with an element in the model, namely: • Resources - the people who work on a project, who can be assigned roles and allocated tasks • Effort - the effort expended in work on the element • Risks - the risks associated with the element, and • Metrics - the metrics measured for an element

Notes

- In the Corporate, Unified and Ultimate editions of Enterprise Architect, if User Security is enabled, you must have 'Manage Project Settings' permission to perform Resource Allocation

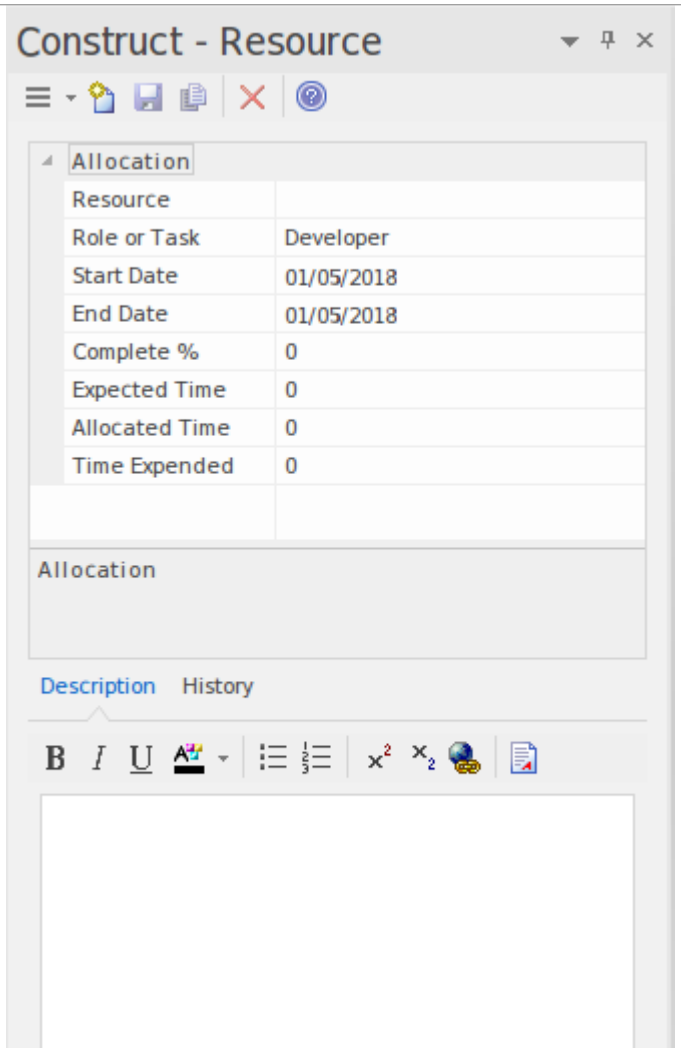
Project Resources

Resources are the people who work on a project. They can be assigned roles and allocated tasks, which enables tracking of effort and estimation of time to complete. You also define the effort, risks and metrics to support resource management.

You allocate resources and update and delete the allocations using the Construct window. You can also review and delete listed allocated resources using the Resource Allocation window.

Access

Ribbon	Start > Explore > Properties > Construct The Construct window displays, defaulting to the 'Resource Allocation' page.



Construct > Task Management > Resources

Uses

Use to
Allocate a resource to an element.

Record additional project management information for an element.
Obtain a report of resource allocation details.
Configure Project Management data and populate the drop-down lists used on the Project Management widows.

Notes

- In the Corporate, Unified and Ultimate editions of Enterprise Architect, if User Security is enabled, you must have 'Manage Project Settings' permission to perform Resource Allocation and to update and manage project resources, effort, metrics and risks

Resource Allocation

In developing a model, people (or resources) in a number of roles might perform tasks on model structures. As a Project Manager, you can assign resources to tasks on elements (including Packages) in the model, planning and monitoring the work that they do within the timeframe you have allocated for that work to be completed. You can do this using the Project Gantt View and/or Construct facilities.

If you want to assign more than one resource to the role or task on the element, follow the procedure in the *Assign Multiple Resources* Help topic.

Access

First, select an element, then:

Ribbon	Start > Explore > Properties > Construct : | Resources | Allocation : Construct > Task Management > Resources : - clears Construct window ready to add resource or Construct > Task Management > Gantt > Element View > Click on element - clears Construct window ready to add resource

Enter resource allocation details for an element

Resource	Either: • Type in the name of the resource being assigned to work associated with the element, or • Click on the drop-down arrow and click on the name of the resource;
Role or Task	Either: • Type in the role name or task performed by the selected resource, or • Click on the drop-down arrow and click on the role to be performed by the resource
Start Date	This field defaults to today's date. If you want to assign a different start date for the task: 1. Click on the drop-down arrow. 2. If necessary, click on the Left or Right Arrow to select the previous or next month.

	3. Click on the appropriate day of the month as the start date. The field immediately changes to the selected date.
End Date	This field defaults to today's date. If you want to assign a different end date for the task: 1. Click on the drop-down arrow. 2. If necessary, click on the Right Arrow to select the next month. 3. Click on the appropriate day of the month as the end date. The field immediately changes to the selected date.
Complete %	If the task is already in progress, type in the current percentage completion.
Expected Time	Type in the number of whole time units the task is expected to take. (The value must be an integer, so you cannot record part units.) The unit of time you adopt is by agreement within the project, and depends on the granularity of the work being recorded. Most tasks are completed in a number of hours or a number of days;

	use the smallest practical unit that you can record as a whole number. Apply the same units as used for the 'Allocated Time' and 'Time Expended' fields.
Allocated Time	Type in the number of time units the task can be spread over. (The value must be an integer, so you cannot record part units.) The unit of time you adopt is by agreement within the project, and depends on the granularity of the work being recorded. Most tasks are completed in a number of hours or a number of days; use the smallest practical unit that you can record as a whole number. Apply the same units as used for the 'Expected Time' and 'Time Expended' fields.
Time Expended	(When the task is eventually 100% complete, you will type in the number of time units it actually took. The value must be an integer, so you cannot record part units.) The unit of time you adopt is by agreement within the project, and depends on the granularity of the work

	being recorded. Most tasks are completed in a number of hours or a number of days; use the smallest practical unit that you can record as a whole number. Apply the same units as used for the 'Expected Time' and 'Allocated Time' fields.
Description	Type (and, if you prefer, format) a description of the work being done by the resource.
History	(As the task progresses, you add text to this tab to record the activities, progress, problems and outcomes of the task.)
Save	Click on this icon to save the data you have entered and to add the entry to the Resource list in the Project Gantt View, Element Browser and Resource Allocation window.
Help	Click on the icon to display this Help topic.

Notes

- In the Corporate, Unified and Ultimate editions of Enterprise Architect, if User Security is enabled, you must have 'Manage Project Settings' permission to perform Resource Allocation
- If you allocate resources to Use Cases, the information you enter contributes to the Use Case Estimation calculation for estimating the project size in terms of time, resources and cost
- To edit existing Resource Allocation items for this element, display the allocation in the (already open) Construct window by either:
  - Clicking on the 'Construct > Task Management > Resources' ribbon option and on the required item in the Resource Allocation window
  - Clicking on the item in the *Project Management > Resource Allocation* folder in the Element Browser window or
  - Clicking on the item in the Element View of the Project Gantt Chart
- To delete existing Resource Allocation items for an element, click on the item in the Construct window or Resource Allocation window and click on in the window toolbar

Assign Multiple Resources

When you have a large unit of work associated with an element - such as a Package element - you might want to assign several resources to that element to perform that unit of work. You can assign each person individually, but if the resources have the same role or task you can assign all of them together in one operation, using the 'Assigned Resources' dialog.

Access

First, select an element, then:

Ribbon	Construct > Task Management > Gantt > Element View > right-click on element > Assign Resource

Assign multiple resources to an element

Option	Action
Resource	(To assign a single resource, simply type in the name or click on the drop-down

	arrow and select the name from the list. In Project Management, it is simpler to assign single resources directly through the Construct window.) For multiple resources, click on the ... button to display the 'Assign Resource' dialog. 1. Select the checkbox against each resource to assign to the element; to select all resources listed, click on the Select All button. 2. Click on the OK button to close the dialog and to add the selected resources to the 'Resource' field. The 'Resource' field now shows the selected resources, but grayed out. The drop-down arrow also is not active. To change the resources in the field, click on the ... button again and select/clear the appropriate checkboxes.
Role or Task	Either: • Type in the role name or task that is common to all the selected resources, or • Click on the drop-down arrow and click on the role that is common to all the resources

Start Date	This field defaults to today's date. If you want to assign a different start date for the task: 1. Click on the drop-down arrow. 2. If necessary, click on the Left or Right Arrow to select the previous or next month. 3. Click on the appropriate day of the month as the start date. The field immediately changes to the selected date.
End Date	This field defaults to today's date. If you want to assign a different end date for the task: 1. Click on the drop-down arrow. 2. If necessary, click on the Right Arrow to select the next month. 3. Click on the appropriate day of the month as the end date. The field immediately changes to the selected date.
Complete %	If the task is already in progress, type in the current percentage completion.
Expected Time	Type in the number of time units the task is expected to take. (The value must be an

	integer, so you cannot record part units.) The unit of time you adopt is by agreement within the project, and depends on the granularity of the work being recorded. Most tasks are completed in a number of hours or a number of days; use the smallest practical unit that you can record as a whole number. Apply the same units as used for the 'Allocated Time' and 'Time Expended' fields.
Allocated Time	Type in the number of time units the task can be spread over. (The value must be an integer, so you cannot record part units.) The unit of time you adopt is by agreement within the project, and depends on the granularity of the work being recorded. Most tasks are completed in a number of hours or a number of days; use the smallest practical unit that you can record as a whole number. Apply the same units as used for the 'Expected Time' and 'Time Expended' fields.
Time Expended	(When the task is eventually 100% complete, you will type in the number of

	time units it actually took. The value must be an integer, so you cannot record part units.) The unit of time you adopt is by agreement within the project, and depends on the granularity of the work being recorded. Most tasks are completed in a number of hours or a number of days; use the smallest practical unit that you can record as a whole number. Apply the same units as used for the 'Expected Time' and 'Allocated Time' fields.
Description	Type (and, if you prefer, format) a description of the work being done by the resources.
History	(As the task progresses, you add text to this tab to record the activities, progress, problems and outcomes of the task.
Apply	Click on this button to apply the changes to the currently-displayed element on a diagram, without closing the dialog.
New	Click on this button to clear the fields on the dialog so that you can define a new resource allocation.

Previous	Click on this button to display the previous resource record in the sequence.
Next	Click on this button to display the next resource record in the sequence.
OK	Click on this button to save the data you have entered, and close the dialog.
Close	Click on this button to discard the data you have entered, and close the dialog.
Help	Click on this button to display this Help topic.

Notes

- When the resource details are displayed on the Project Gantt Chart or Resource Allocation window, each resource has their own record containing, initially, the same data; however, each resource can be monitored and their progress recorded separately
- If you assign resources that are already in a multiple resource assignment to the selected element, a prompt displays for you to confirm that you are updating the

assignment of that resource, or now omitting that resource from the existing assignment

Effort Management

In Enterprise Architect, the Project Manager can allocate effort (as time) to work on a given model element. To select the element to which to allocate effort, click on the required element in the Project Browser or a diagram.

Access

Ribbon	Start > Explore > Properties > Construct : | Resources | Effort Construct > Change Management > Effort : - clears Construct window ready to add effort

Enter effort allocation details for an element

Effort	Type the name or a brief description of the effort.
Type	Type in the effort type or click on the

	drop-down arrow and select the type. The selection list is drawn from the global Effort Type list, but any new efforts you type in this field are not added to the list.
Time	Type in the amount of time the effort is expected to expend.
Description	Type in any additional notes or description of this effort.
	Click on this icon to save the data you have entered and to add the entry to the Effort list in the Element Browser and Effort window.

Notes

- To edit existing Effort items for this element, display the record in the (already open) Construct window by either:
  - Clicking on the 'Construct > Change Management > Effort' ribbon option and on the required item in the Effort window, or
  - Double-clicking on the item in the *Project Management > Effort* folder in the Element Browser window

- To delete existing Effort items for an element, click on the item in the Construct window or Effort window and click on in the window toolbar
- Although Enterprise Architect does not currently provide detailed reports on effort within a model, you can use the Automation Interface or similar tools to create your own custom reports based on effort information you enter

Risk Management

In Enterprise Architect, the Project Manager can allocate the possible weighting of defined risks that might impact work on a given model element.

To select the element to which to allocate risk weightings, click on that element in the Project Browser or a diagram.

Access

Ribbon	Start > Explore > Properties > Construct : | Resources | Risks Construct > Change Management > Risks : - clears Construct window ready to add risk

Enter risk details for an element

Risk	Type the name or a brief description of the risk.
Type	

	Type in the risk type or click on the drop-down arrow and select the type. The selection list is drawn from the global Risk Type list, but any new risks you type in this field are not added to the list. If there are no global risk types defined, the drop-down arrow is not displayed.
Weight	Defaults to the weighting for the defined type. You can change this weighting if necessary.
Description	Type in any additional notes or description of this risk. You can use the Notes Toolbar at the top of the field to format the text, if you prefer.
	Click on this icon to save the data you have entered and to add the entry to the Risk list in the Element Browser and Risk window.

Notes

- The risks described here are not the same as those

represented by Risk elements; the risks are properties of a single element, whilst the Risk element represents something that can impact a range of other elements

- If you select a global risk type from the 'Type' drop-down list and the associated 'Weight' field is empty, the default Weight value is allocated to the 'Weight' field on the Construct window
- To edit existing Risk items for this element, display the record in the (already open) Construct window by either:
  - Clicking on the 'Construct > Change Management > Risk' ribbon option and on the required item in the Risk window, or
  - Double-clicking on the item in the *Project Management > Risk* folder in the Element Browser window
- To delete existing Risk items for an element, click on the item in the Construct window or Risk window and click on in the window toolbar
- Although Enterprise Architect does not currently provide detailed reports on risks within a model, you can use the Automation Interface or similar tools to create your own custom reports based on risk information you enter

Metrics

The Project Manager can allocate the possible weighting of defined metrics to work on a given model element.

To select the element to which to allocate a metric weighting, click on the required element in the Project Browser.

Access

Ribbon	Start > Explore > Properties > Construct : | Resources | Metrics Construct > Change Management > Metrics : - clears Construct window ready to add metric

Enter metric details for an element

Metric	Type the name or a brief description of the metric.
Type	

	Type in the metric type or click on the drop-down arrow and select the type. The selection list is drawn from the global Metric Type list, but any new metrics you type in this field are not added to the list. If there are no global metric types defined, the drop-down arrow is not displayed.
Weight	Defaults to the weighting for the defined type. You can change this weighting if necessary.
Description	Type in any additional notes or description of this metric. You can use the Notes Toolbar at the top of the field to format the text, if you prefer.
	Click on this icon to save the data you have entered and to add the entry to the Metrics list in the Element Browser and Metrics window.

Notes

- If you select a global metric type from the 'Type' drop-down list and the associated 'Weight' field is empty, the default Weight value is allocated to the 'Weight' field in the Construct window
- To edit existing Metric items for this element, display the record in the (already open) Construct window by either:
  - Clicking on the 'Construct > Change Management > Metric' ribbon option and on the required item in the Metric window, or
  - Double-clicking on the item in the *Project Management > Metrics* folder in the Element Browser window
- To delete existing Metric items for an element, click on the item in the Construct window or Risk window and click on in the window toolbar
- Although Enterprise Architect does not currently provide detailed reports on metrics within a model, you can use the Automation Interface or similar tools to create your own custom reports based on metric information you enter

Effort Types

When setting up the project management parameters for monitoring work on elements, you can create types of effort to add to the global list of effort types that can be assigned to any element in the model. You can also select and edit existing effort types. The global list of effort types displays in the 'Type' drop-down list on the 'Effort' page of the Project Indicators window.

Access

Open the 'Project Indicators' dialog using one of the methods outlined here, then select the 'Effort' tab.

Ribbon	Configure > Reference Data > Project Types > Project Indicators : Effort

Add a new effort type to the global list

Click the 'New' button to define a new Effort type

Option	Action
Effort	Type the name of the effort type. (Or, to

	edit an existing effort type, click on the effort name in the Defined Effort Types panel.)
Description	Type a short description of the effort type.
Weight	Type the default weighting to apply to the effort type.
<note>	Type any additional information on the effort type.
Save	Click on this button to save the changes that you have made to the dialog.
New	Click on this button to clear the data fields ready to define a new effort type.
Delete	Click on an entry in the Defined Effort Types panel, and click on this button to immediately delete the effort type.
Close	Click on this button to close the 'Project Indicators' dialog. If you have not saved your changes, the system prompts you to save or abort those changes.

Notes

- Although Enterprise Architect does not currently provide detailed reports on effort within a model, you can use the Automation Interface or similar tools to create your own custom reports based on effort information you enter
- You can transport effort types between models, using the 'Configure > Model > Transfer > Export Reference Data' and 'Import Reference Data' ribbon options

Metric Types

Enterprise Architect enables you to add a metric type to the global list of metric types that can be assigned to any element in the model. The global list of metric types displays in the 'Type' field drop-down list on the Metrics window.

Access

Open the 'Project Indicators' dialog using one of the methods outlined here, then select the 'Metric' tab.

Ribbon	Configure > Reference Data > Project Types > Project Indicators : Metric

Add a new metric type to the global list

Click the 'New' button to define a new Metric

Option	Action
Metric Type	Type the name of the metric type. (Or, to edit an existing metric type, click on the metric name in the Defined Metrics

	panel.)
Description	Type a short description of the metric type.
Weight	Type the default weighting to apply to the metric type.
<note>	Type any additional information on the metric type.
Save	Click on this button to save the changes that you have made to the dialog.
New	Click on this button to clear the data fields ready to define a new metric type.
Delete	Click on an entry in the Defined Metrics panel, and click on this button to immediately delete the metric type.
Close	Click on this button to close the 'Project Indicators' dialog. If you have not saved your changes, the system prompts you to save or abort those changes.

Notes

- Although Enterprise Architect does not currently provide detailed reports on metrics within a model, you can use the Automation Interface or similar tools to create your own custom reports based on metric information you enter
- You can transport metric types between models, using the 'Configure > Model > Transfer > Export Reference Data' and 'Import Reference Data' ribbon options

Risk Types

Using Enterprise Architect you can add a risk type to the global list of risk types that can be assigned to any element in the model. The global list of risk types displays in the 'Type' field drop-down list on the 'Risks' page of the Project Indicators window.

Access

Open the Project Indicators window using one of the methods outlined here, then select the 'Risk' page.

Ribbon	Configure > Reference Data > Project Types > Project Indicators : Risk

Add a new risk type to the global list

Click on the New button to define a new Risk

Option	Action
Risk Type	Type the name of the risk type. (Or, to edit an existing risk type, click on the risk name in the 'Defined Risks' panel.)

Description	Type a short description of the risk type.
Weight	Type the default weighting to apply to the risk type.
<note>	Type any additional information on the risk type.
Save	Click on this button to save the changes that you have made to the dialog.
New	Click on this button to clear the data fields ready to define a new risk type.
Delete	Click on an entry in the 'Defined Risks' panel, and click on this button to immediately delete the risk type.
Close	Click on this button to close the 'Project Indicators' dialog. If you have not saved your changes, the system prompts you to save or abort those changes.

Notes

- Although Enterprise Architect does not currently provide detailed reports on risks within a model, you can use the Automation Interface or similar tools to create your own custom reports based on risk information you enter
- You can transport risk types between models, using the 'Configure > Model > Transfer > Export Reference Data' and 'Import Reference Data' ribbon options

Project Task Allocation

Using the Project Gantt View, you can review the allocation of work to elements in the project, focusing on either the elements that require work, or the resources required to perform the work. The view primarily shows information that is entered through other windows and dialogs, but once a record exists in the view you can edit it and, for example, add to or change the resources on an element.

Access

Ribbon	Construct > Task Management > Gantt

The Project Gantt View

In Enterprise Architect, you can visualize elements and assigned project resources in a Gantt Chart format, to review the breakdown of work for a specific project and for specific sections of the project. The Project Gantt View illustrates a project schedule by showing the start and finish dates of assigned resources, so that a Project Manager can quickly see the current project status using the percent-complete bar shading and the percent-complete, resource name and status columns. Information can be filtered, and overdue items can quickly be highlighted and identified.

You can also access specialized versions of the Gantt View from diagrams, Packages and the Personal Tasks list.

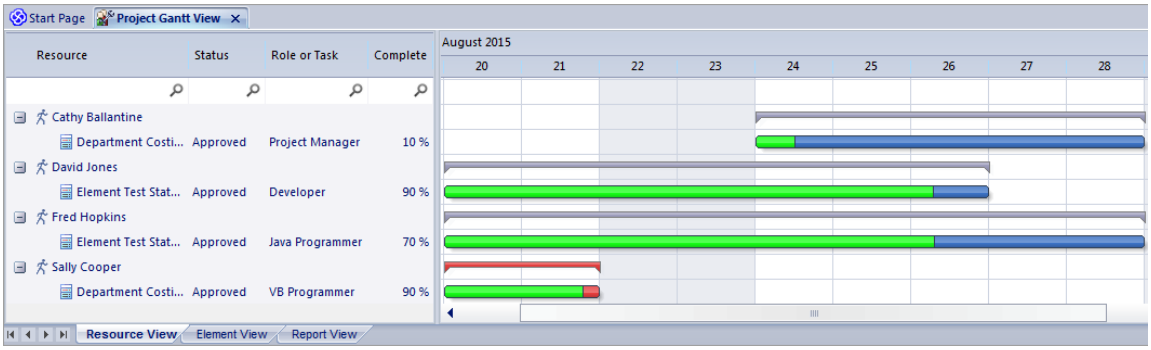
Access

Ribbon	Construct > Task Management > Gantt

Gantt View

This example shows four resources, two of whom are working in different capacities on one task, and two on another task. The resource names and roles are listed in the

left panel of the chart, together with the actual percentage completion of each person's work on the task. In the right panel of the chart, completed work is indicated by the green section of the bar, work yet to be completed but not yet due is indicated in blue, and work not completed and overdue is indicated in red (as a result of the option to highlight overdue work being applied).



Tabs of the Gantt View

The Project Gantt View has three tabs, the first two of which use the Gantt chart itself to show the progress of work against the resources performing the work or the elements having the work performed on them. (Other variations of the Gantt chart do not have these separate tabs.)

View	Detail
Resource View	When you initially open the Gantt View, it defaults to the 'Resource View' tab, in which the focus is on the current commitments of each allocated resource in the project.

Element View	The Element View lists the elements in the project that have resources assigned to them, and the resources assigned to each element.
Report View	A Resource report shows how your resources are deployed in your project, displaying a list of all elements that have resources allocated to them.

Gantt View Facilities

The facilities of the Project Gantt View are common to the Resource and Element Views, and in some cases to all three tabs, as described here.

Option	Action
Display tasks for today only, or for another day only	Right-click on the display and select the option: • 'Show Only Active Tasks for Today' - to show only tasks that are in progress today • 'Show Only Active Tasks for Other Day' - to show only tasks that were in progress on a specific day in the past,

	or that are scheduled to be in progress on a day in the future; a calendar dialog displays from which you select the day to examine
Display the properties of the element to which a resource is assigned	Right-click on the element entry and select the 'Show Element Properties' option. The 'Properties' dialog for the element displays.
Display the Resource Allocation details for an element or resource	Right-click on the entry and select the 'Show Task Properties' option. The 'Assigned Resources' dialog displays; you can edit the details and, if necessary, change the resource allocated to the element.
Display the Resource Allocation records for an element	(Also available in the Report View.) Right-click on the entry and select either of the context menu options: • 'Show Element Resource Allocation window' (if the window is closed or hidden) • 'Find Task in Element Resource Allocation window' (if the window is visible but showing the details of another element)

	The Resource Allocation window displays, with the details of the selected entry shown in the fields and the other resource allocations for the element listed in the left-hand panel. You can edit the details and, if necessary, change the resource allocated to the element.
Assign a new resource to an element	Right-click on an element in the display, and select the 'Assign Resource' option. The 'Assigned Resources' dialog displays; complete this as for the Resource Allocation window.
Change the scale of the display	By default, the Gantt Chart shows periods of time in units of days of the month, each date column being approximately one centimetre wide. Weekends have a darker fill color. You can change the scale of the date columns by clicking on the column header, pressing Ctrl and rolling the mouse wheel. As you do this: • At one extreme the date columns expand to approximately 2.5 centimetres, and the date header shows the full date in dd/mm/yyyy format • Rolling to the other extreme changes

	the scale of the column from date through week, labeled month, numbered month and labeled year to numbered segments of a decade This allows you to represent a wide range of tasks on a single chart and to condense or expand the view - in conjunction with filters - to investigate the short term and longer term work clearly.
Change the duration of a task, on the Gantt Chart	You might want to make broad adjustments to the timeline of an event, which you can easily do on the Gantt Chart itself. For example, the resource is ill, or another resource has taken over other tasks that the resource was allocated to. In neither case has the task itself changed, but in the first case the resource needs a longer elapsed time in which to complete the task, and in the second they have less other work to do and can finish the task sooner. To make these adjustments, you simply drag the right end of the time bar further or back along the chart. This changes the task end date to wherever you drag the time line to, and adjusts the division into complete and incomplete/overdue work to maintain the percentage completion

	value. The work time allocated to the task does not change. If you drag the left end of the time line, this moves the whole line without changing its length or proportions; you are just indicating that the task started earlier or later and will finish earlier or later by the same amount of time.
Grouped work	A resource is likely to be allocated to several tasks either simultaneously or consecutively. In the Resource View the tasks assigned to a resource are grouped under the resource name, and a narrow group bar displays in gray on the chart against the name, spanning the period from when work is scheduled to begin on the first task to when work is scheduled to finish on the final task. Similarly, a body of work, represented by an element, might involve several resources starting and finishing at different points. The resources are grouped under the element name and the group bar displays on the chart against the element name, spanning the period from when the first resource is scheduled to start work to when the last resource is scheduled to complete work on the task.

	If any adjustments are made that impact the initial start point or final completion point of the work, the end of the group bar automatically adjusts. If any task or resource in the group is overdue, the group bar turns red to reflect that there is a potential problem in the allocated work.
Filter the display to exclude elements by status	(This feature takes effect under your user ID.) Right-click on the window and select the 'Apply Element Status Filter' option. The 'Excluded Status Types' dialog displays; select the checkbox against one or more statuses to exclude elements having those statuses from the list. You can select every checkbox at once by clicking on the Select All button, and clear all selections by clicking on the Clear All button. Click on the OK button to immediately apply the filter, which stays in effect until you specifically change it.
Filter the display to include elements having	Right-click on the list and select the 'Show Filter Bar' option. The Filter Bar displays underneath the heading bar. Type a text string in the field above a column to immediately filter the

certain properties	list for entries that have the text string in the values in that column. To delete a filter string altogether, click on the blue cross at the right of the field. If you no longer want to use the filter bar, right-click on the list and select the 'Hide Filter Bar' option.
Filter the display by Start or Completion date	The display default is to show current tasks for which the end date has not yet occurred. Right-click on the list and select one of the options: • 'Include Completed Tasks Within the Last ...' - to display incomplete tasks and tasks completed only within the specified period; you can set this period to 7, 30 or 90 days, or you can include all completed tasks, or hide all completed tasks • 'Include Future Tasks Starting in ...' - to display current incomplete tasks and completed tasks (depending on the setting of the 'Include Completed Tasks Within the Last ...' option) and future tasks that have been recorded and are due to start within the next period; you can set this period to 7, 30 or 90 days, or you can show all tasks that have been recorded but are not yet due to

	start
Identify overdue tasks	Right-click on the display and select the 'Display Highlight For Overdue items' option and one of its sub-options: • 'Show in Red' - to display the uncompleted percentage of the task bars for overdue items on the Gantt chart in red • 'Show in Red to Current Date' - to extend the task bars of the overdue items to today's date, and display them in red • 'None' - to cancel any overdue item highlighting that has been set
Display ONLY overdue tasks	Right-click on the display and select the 'Show Overdue Items Only' option. The display shows only those items for which the end date has passed but that are not 100% complete. These items do not have red highlighting.
Refresh the report	Right-click on the entry and select the 'Refresh' option. The content of the display is refreshed and collapsed to element or resource level.

Reposition the Gantt chart to automatically show the end date of a selected allocation	Right-click on the display and select the 'Go to | Auto Sync with Task End Date' option. Whilst this option is selected (with a tick next to it), whenever you click on an allocation the display adjusts to show the end date of the task in the center of the chart.
Reposition the Gantt chart to show the start date or end date of an allocation, or today's date	Right-click on the entry and select the required option: • Go To | Task Start Date • Go To | Task End Date • Go To | Today's Date The display shifts to put the required date in the center of the chart.
Locate the element in the Project Browser	(Also available in the Report View.) Right-click on the element name and select the 'Find in Project Browser' option. The area of the Project Browser containing the element is brought into focus and expanded, and the element is highlighted.
Send a Model	It is possible to send a Model Mail

Mail to the resource	directly from the Project Gantt View to a selected resource if the resource's Author name matches their: • Enterprise Architect security user ID (Security has been enabled) or • Their workstation login ID (Security has not been enabled) Right-click on the resource or one of their activities and select the 'Post Model Message' option. This opens a Model Mail message addressed to the resource, for you to complete and send.
Save an image of the Gantt chart to file	Right-click on the tab and select the 'Save Image to File' option. The 'Save As Image' dialog displays, on which you specify the file name, location and graphics file type to save to.
Save an image of the Gantt chart to the clipboard	Right-click on the tab and select the 'Copy Image to Clipboard' option. You can paste the image from the clipboard into your preferred graphics package.

Notes

- Items in the list pane can be filtered; right-click on the column headings in the list pane to toggle the Filter Bar between hidden or shown, or to edit the filter

Resource View

The 'Resource View' tab shows the current commitments of each allocated resource in the project as a list of allocation records and a Gantt chart of the progress of the allocations.

The display initially shows the resources and their overall commitment; click on the 'plus-box' to the left of the name of the resource to expand the entry to show the elements and the allocation period for each element.

The display shows both complete allocations and those that are still in progress; an internal filter hides completed allocations two weeks after the end date, and incomplete allocations one month after the end date. Tasks you can perform include checking the:

- Dates on which specific resources or all resources are currently allocated
- Elements to which each resource is allocated
- Dates on which a resource is allocated to work on a specific element
- General progress of the resource in completing the work
- Specific details of the allocation of a resource to an element and task or role

Access

Ribbon	Construct > Task Management > Gantt : Select the 'Resource View' tab

Element View

The 'Element View' tab of the Project Gantt View lists the elements in the project that have resources assigned to them. It shows the resources assigned to each element as a list of allocation records and as a Gantt chart of the progress of the allocations. An allocation can be partial, in that a role or task is assigned but no specific resource has been identified.

The display initially shows the elements and their overall resource commitment; click on the 'plus-box' to the left of the name of the element to expand the entry to show the resources and the allocation period for each resource. You can then:

- Check the dates on which specific elements have resources currently allocated
- Check which resources are currently allocated to an element
- Assign further resources to the element
- Check the dates on which a resource is allocated to work on a specific element
- Check the general progress of the resource in completing the work
- Check the specific details of the allocation of a resource to an element and task or role

The display shows both complete allocations and those that are still in progress; an internal filter hides completed allocations two weeks after the end date.

The 'Element View' complements the 'Resource View' and 'Personal Tasks View' of work allocation on the project.

Access

Ribbon	Construct > Task Management > Gantt or Design > Diagram > View As > Gantt
Context Menu	Project Browser right-click on an open diagram | Open Diagram in |Gantt View In diagram, right-click on background | Open Diagram in | Gantt View Project Browser | Right-click on Package |Open Package in | Gantt View

Report View

The Report View shows how your resources are deployed in your project, displaying:

- A list of all elements that have resources allocated to them, and the type of each element
- The resource allocated, and the role played by that resource
- The start and end dates of the allocation
- The time allocated, expected and expended
- The percentage completion of the allocation

You can tailor the displayed information by:

- Hiding columns of information
- Grouping types of information
- Filtering the data by status
- Filtering the data by start date or end date
- Filtering any column to show only a specific value

Having displayed the information you require, you can print it.

Access

Ribbon	Construct > Task Management > Gantt : Select the 'Report View' tab

Report View Options

Option	Action
Run the report	Click on the first icon in the Report View toolbar (the rotating arrows). The report results display. If you have the report open for a while, you can update the information; either: • Run the report again or • Right-click on the content and select the 'Refresh' option
Adjust column headings	Drag and drop column headings into the sequence you require. Right-click on the column headings and select the 'Field Chooser' option, to add or remove columns using the 'Field Chooser' dialog.
Group entries by column heading	Right-click on the column headings and select the 'Enable Group Box' option, to cluster the report information according to your preferred hierarchy of column

	headings.
Filter columns	Either: • Click on the third toolbar icon from the right (the spy glass), or • Right-click on the column headings and select the 'Toggle Filter Bar' option The filter field displays at the top of every column. Type in whatever text string you require in the appropriate column to filter the report to show only entries containing that text string in that column.
Filter by degree of completion	In the first field in the toolbar, click on the drop-down arrow and select one of these values: • 'All' - Display all entries regardless of degree of completion • 'Completed' - Display only those entries where the allocation is 100% completed • 'Above cut-off' - Display only those entries that are more than a certain percentage complete • 'Below cut-off' - Display only those entries that are less than a certain percentage complete

	In the second field in the toolbar, either type a threshold value or increment to the value using the up/down arrows, to set the percentage completion for the 'Above/Below cut-off' options.
Filter according to start/end date	Click on the fourth toolbar icon from the right (the funnel). The 'Resource Filters' dialog displays. In the 'Start Date' and/or 'End Date' field, click on the drop-down arrow and select the appropriate qualifier: • 'After' • 'Before' • 'Equal To' • 'Not Equals' In the date fields, click on the checkbox to activate the fields and either type in the day, month and year or click on the drop-down arrow to select the date from a calendar. The fields have an AND relationship; an entry must satisfy both date criteria before it is displayed.
Print the report	Either: • Click on the second toolbar icon from the right (the printer) or

	• Right-click on an entry in the report and select the 'Print' option The 'Print' dialog displays, on which you specify the printer to use and the characteristics of the print job.

Progress Bars

Progress bars are horizontal bands that show the degree of completion of a task or process. They give a quick indication of the current status of, for example, projects, tasks or budgets, which can be useful for checking how close a task or project is to completion or if a project is coming close to hitting its total allowed budget.

Progress bars can be especially useful in large projects that consist of multiple smaller projects, as you can display within one element separate bars showing the degree of completion of each sub-project and of the main project, giving you an overview of progress at a single glance. Separate elements within the diagram can contain further progress bars for the metrics of the individual projects, adding levels of detail that can, again, be assessed in a brief review.

In Enterprise Architect, progress bars are implemented using Tagged Values on elements. They are automatically added to elements on a Kanban diagram or Construction diagram, where progress or resource consumption are indicated.

Release 10.2.5
Total Completion
59%
Budget
Total Cost
$270,000
Projects
Project Anubis
Project Hades
Project Hades
Cost
$150,000
Progress
37% complete
Tasks
Deploy
Design
Help Topics
Implement
Project Anubis
Cost
$180,000
Progress
82% complete
Tasks
Deploy
Help Topics

Using Progress Bars

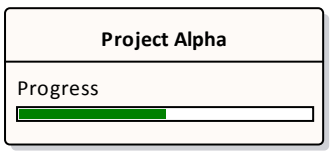
You can add progress bars to any element that can show compartments and that can display any numerical value within a range, when displayed on a diagram.

Progress bars can be used to display things such as:

- The current progress of a task or project
- How much of project's budget has been used

By default a progress bar will display a value between 0 and 100 (inclusive); however, it is possible to adjust both the minimum and maximum values to set any range of values required.

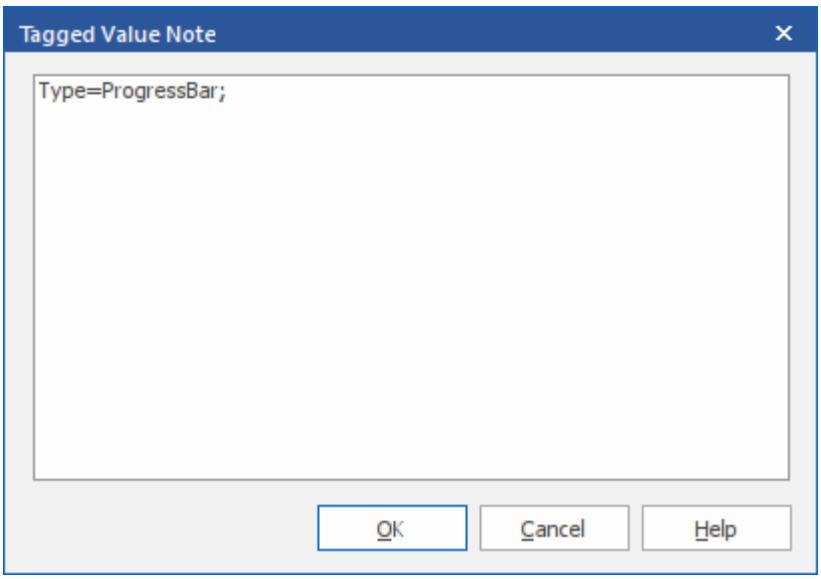
This illustration shows an example of a default progress bar:



Creating a Progress Bar using a new Tagged Value

Use this procedure to create a progress bar using a simple Tagged Value that you create immediately from scratch.

Step	Action
1	On a diagram, create an element that can display

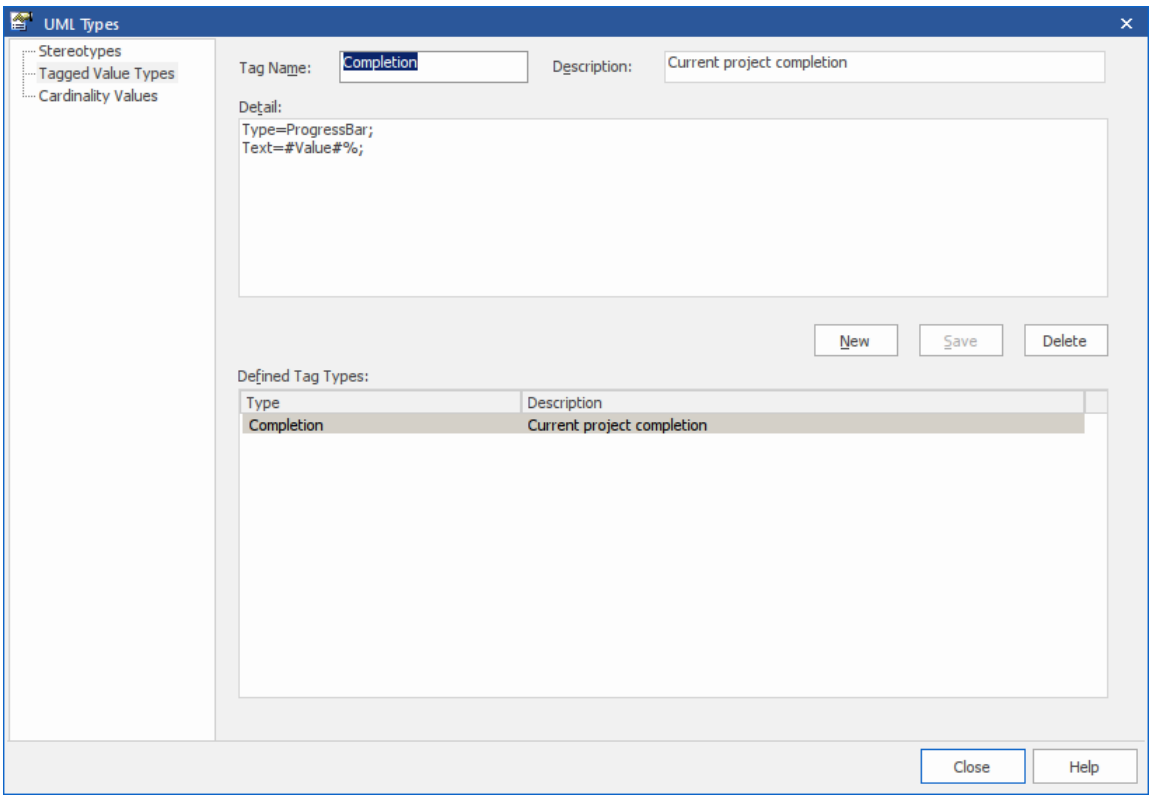
	compartments (such as a Requirement or Feature) and add a simple Tagged Value to it.
2	From the Tagged Values window open the tag's notes and add 'Type=ProgressBar;' (including the semi-colon) and then click on the OK button.  (You can add further options to the Tagged Value, as described in the *Additional Progress Bar Options* table.)
3	Click on the element and either press Ctrl+Shift+Y or right-click and select the 'Compartment Visibility' option. The 'Compartment Visibility' dialog displays.
4	Select the 'Tags' checkbox in the 'Show Element Compartments' panel, then click on the OK button. The progress bar will now be shown on the element on the diagram, with the Tagged Value name above

	the bar.
5	In the Tagged Values window, indicate progress by typing a number between 1 and 100 into the 'Value' field for the tag. On the diagram, the appropriate length of the progress bar is filled in green.

Creating a Progress Bar from the 'UML Types' dialog

You can also define a progress bar Tagged Value from the 'UML Types' dialog that can then be applied to any element, without having to set the Tagged Value notes each time.

Step	Action
1	Select the 'Configure > Reference Data > UML Types' ribbon option to display the 'UML Types' dialog and click on the 'Tagged Value Types' tab.
2	In the 'Tag Name' and 'Description' fields, type a name and description for the Tagged Value. In the 'Detail' field type the option parameters and their values for the Tagged Value. Click on the Save button and on the Close button.



(The option parameters are described in the *Additional Progress Bar Options* table.)

3	Select the 'Start > Explore > Properties > Tagged Values' ribbon option to open the Tagged Values window (if it is not already open). On a diagram select an element, then in the Tagged Values window click on the (New Tagged Value) button. In the 'Tag' field of the Tagged Value dialog, click on the drop-down arrow and select the Tagged Value you created in step 2, then click on the OK button.
4	On the diagram, right-click on the element and select

	the 'Compartment Visibility' option to display the 'Compartment Visibility' dialog.
5	Select the 'Tags' checkbox and click on the OK button.
6	In the Tagged Values window, change the number in the 'Value' field a few times, clicking off the field each time. Notice the effect this has on the progress bar.

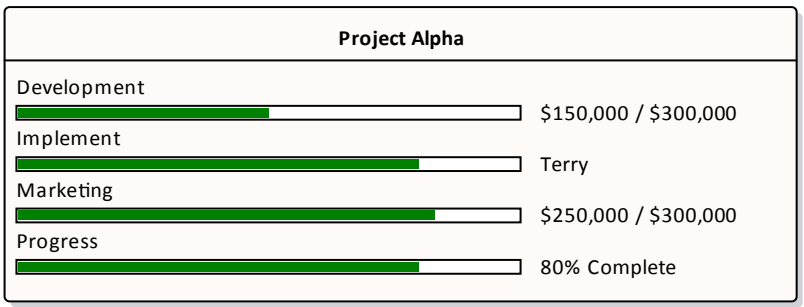
Additional Progress Bar Options

A default progress bar will show the Tagged Value name and reflect values in the range 0-100. You can change the range values if required, and display text to the right of the bar if more information has to be provided. The background, border and fill colors of the progress bar are, by default, determined by the currently-applied inbuilt diagram theme. However, you can apply your own colors to one of more of these properties.

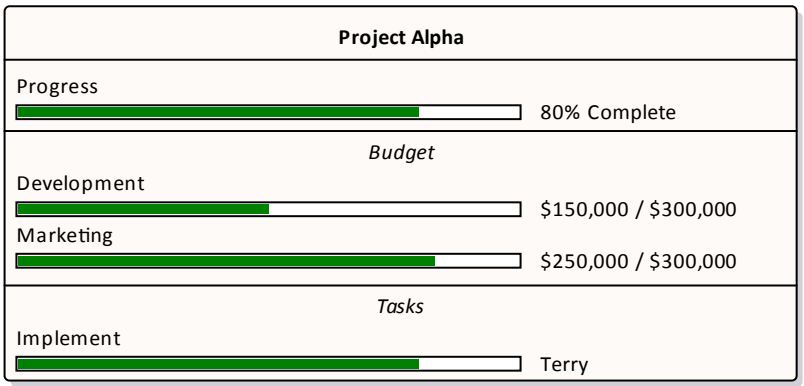
Use these parameters to enhance the progress bar.

Parameter	Description
MinVal	Use the MinVal option to set the lowest allowed value to be represented on the

	progress bar. • Syntax: MinVal=<number>; A progress bar with the setting MinVal=10; will start at 10. Values lower than 10 will not be shown on it. If a maximum value (MaxVal) has been defined, the progress bar will show any values between MinVal and MaxVal (inclusive); otherwise, the maximum value will default to MinVal + 100. So, if MinVal=10, the progress bar can show values between 10 and 110 (inclusive).
MaxVal	Use the MaxVal option to set the highest allowed value to be represented on the progress bar. • Syntax: MaxVal=<number>; A progress bar with the setting MaxVal=300; will show values up to and including 300. Values higher than 300 will not be shown. If a minimum value (MinVal) has been set, the progress bar will show any values between MinVal and MaxVal (inclusive); otherwise the minimum value will default to 0. So, if MaxVal=300 the progress bar can show values between 0 and 300 (inclusive).

Text	Use the Text option to define additional text to display on the right hand side of the progress bar. The text might be a resource name or the current take up of the total allowed budget of a project. • Syntax: Text=<text>; - displays the defined text string, such as 'David Brown's Tasks' • Syntax: Text=#Value#; - displays the value of the progress bar Tagged Value, such as '462' (where the Tagged Value name itself might indicate the type of value or unit) • Syntax: Text=<text> #Value# <text>; - displays the value of the progress bar Tagged Value with text before and/or after it, such as '$<value> of $100,000' This illustration shows a number of examples of using the Text option. 
Compartment	By default, progress bars in an element display together in a separate compartment from other types of Tagged Value (provided that the diagram and/or

	element are set to display tag compartments). When there are several progress bars on an element, each relating to a different factor of the project, it can become harder to distinguish between them. In these cases it is possible to set the progress bars to display in specific compartments in order to increase clarity. This also provides an additional level of labeling. So you might have an element relating to costs, and two or more compartments that indicate costs of different departments, where the department name is reflected in the compartment name. Or compartments that each contain two or more progress bars indicating, say, the costs and percentage completion of tasks in each department. • Syntax: Compartment=<name>; To add multiple progress bars to the same compartment simply give the progress bars the same compartment name. This example shows the element from the Text parameter example, but with the use of compartments to aid in readability.

	
BackClr	Use the BackClr option to override the color used for the unfilled portion of the progress bar. • Syntax: BackClr=<color>; <color> can be one of a variety of values, such as the RGB value **rgb(198,198,198)** for a light gray color. See the *Progress Bar Color Options* table for a full list of available values when setting colors.
FillClr	Use the FillClr option to override the color used for the filled portion of the progress bar. • Syntax: FillClr=<color>; <color> can be one of a variety of options, such as the hex value **#0000ff** for a bright red. See the *Progress Bar Color Options* table for a full list of available values when setting colors.

BorderClr	Use the BorderClr option to override the color that is drawn around the edges of the progress bar. • Syntax: BorderClr=<color>; <color> can be one of a variety of options, such as the keyword **elementtext** to select the same color as the current element's text color. See the *Progress Bar Color Options* table for a full list of available values when setting colors.

Progress Bar Color Options

This table lists the different types of value that can be used with the options BackClr, FillClr and BorderClr when setting custom colors for a progress bar.

Value	Description
rgb(red,green,blue)	Using rgb values you can set the red, green and blue color components to create the color you require. **Example**: BackClr=rgb(46, 139, 87); //Sets the unfilled portion of the progress bar to a sea green color.

	• The red, green and blue values each have a range of 0 to 255 This option can be useful in conjunction with the color pickers from the 'Layout' tab as they give an RGB value for the currently selected color.

hsl(hue, saturation, luminosity)	Using hsl is very similar to using rgb. Unlike rgb, however, it is easier to create a lighter or darker version of the same color by simply adjusting the luminosity, or to increase or decrease the intensity of the color by adjusting the saturation.
	example: FillClr=hsl(197, 71, 73); //Sets the filled portion of the progress bar to a sky blue color.
	• The hue value has a range of 0 to 360
	• The saturation and luminosity values each have a range of 0 to 100

Hex Values	Colors can also be defined using a hex value.
	example: BorderClr:#000000; //Sets the border color of the progress bar to black.
	• Hex values range from #000000 to #ffffff

HTML Color	It is also possible to use the standard web

Names	color names when defining a color for progress bars.
	example:fillclr=aliceblue; //Sets the filled portion of the progress bar to the standard color 'aliceblue'
	• Enterprise Architect supports the 140 standard HTML color names.

Element Colors	Using ElementFill, ElementLine or ElementText will set the color value to the fill, line or text color of the currently-selected element (that is, ElementFill will apply the element's current fill color). Colors set this way can be further refined by using the modifiers **s:=<value>** and **l:=<value>** to modify the color's saturation and luminosity, making the color assigned to the progress bar a slightly altered version of the currently selected element color. These settings can be useful if the element is expected to change color (such as from the use of a Diagram Legend) to keep the progress bars themed correctly with the element. **example:**backclr=elementfill:s=-10:l=20: ; //Sets the unfilled portion of the progress bar to be the same as the

	element's fill color but with a 10% decrease in the color's saturation and a 20% increase in the luminosity. • **s** and **l** can be any value; however, the results can vary depending on the currently selected color (for example, a luminosity increase of 20% might not be as noticeable on a very light color compared to a darker color)
none	The none keyword is used to indicate that no color should be applied to the selected field. **example:**borderClr=none; //Removes the border from the progress bar.

Progress Bars with MDG Technologies

Progress bars can also be created within MDG Technologies to define a consistent set of progress bars for use with multiple projects.

Personal Tasks

Using the Personal Tasks view, you can record and manage your personal work within the project. This view displays information based upon your identity as a defined Author on the project.

Access

Ribbon	Start > Collaborate > My Gantt

Work Category

Category	Detail
Allocated Work	Presents a Gantt chart on which you record the work that you are currently engaged in.
Project Tasks	Enables you to monitor and maintain the work tasks that have been assigned to you, or that you have created yourself.

Review Allocated Work

The 'Allocated Work' tab lists the elements to which your model Author ID has been allocated as a resource, where your Author ID is the same as:

- Your Enterprise Architect security user ID, if security has been enabled, or
- Your workstation login ID if security has not been enabled

For each element, the tab:

- In the left-hand panel lists the roles or tasks assigned to you as a resource on that element, for which the 'Complete %' field value is less than '100'
- In the right hand panel displays a Gantt chart showing your progress in performing each role or task

You can add further work items for an element through the 'Allocated Work' tab; however, you cannot delete any records. A record is no longer listed when the 'Complete %' field value is '100'.

You or your supervisors can also add records through the Resource Allocation window.

Access

Ribbon	Start > Collaborate > My Gantt >

	Allocated Work

Select Allocated Work options

Option	Action
Review element properties	Double-click on the element name. (Alternatively, right-click on the element name and select the 'Show Element Properties'option.) The 'Properties' dialog for the element displays; review the pages as required.
Review resource task details	Double-click on the task item. (Alternatively, either: • Double-click on the progress bar for the item on the Gantt chart, or • Right-click on the task or role name and select the 'Show Task Properties' option) The 'Assigned Resources' dialog displays, which has the same content, format and functions as the Resource Allocation window, in 'Item' mode. Should it be necessary to reassign the

	item to another resource, click on the drop-down arrow on the 'Resource' field and select the appropriate 'Author ID'; when you save the changes, the item no longer appears in the list of tasks assigned to you.
Create new task item	Right-click on the element name and select the 'Add Resource' option. The 'Assigned Resources' dialog displays, with your Author ID in the grayed-out 'Resource' field. Complete the dialog as for the Resource Allocation window.
Refresh display to incorporate changes	Your work item can be edited in a number of places in Enterprise Architect, such as the Project Task Allocation window and the 'Resource Allocation' tab; the element to which it is assigned can be edited in these and many other areas. To refresh the display with any changes made elsewhere, right-click on the display and select the 'Refresh' option.
Display the Resource Allocation	Right-click on the entry and select either of the options: • 'Show Element Resource Allocation

records for the element	window' (if the window is closed or hidden) • 'Find Task in Element Resource Allocation window' (if the window is visible but showing the details of another element) The Resource Allocation window displays, with the details of the selected entry shown in the fields and the other resource allocations for the element listed in the left-hand panel. You can edit the details and, if necessary, change the resource allocated to the element.
Display tasks for today only, or for another day only	Right-click on the display and select the option: • 'Show only Active tasks for today' - to show only tasks that are in progress today • 'Show only Active tasks for another day' - to show only tasks that were in progress on a specific day in the past, or that are scheduled to be in progress on a day in the future; a calendar dialog displays from which you select the day to examine
Filter the	The display default is to show current

display by Start or Completion date	tasks for which the end date has not yet occurred. Right-click on the list and select one of the options: • 'Include Completed Tasks Within the Last ...' - to display incomplete tasks and tasks completed only within the last period; you can set this period to 7, 30 or 90 days, or you can include all completed tasks, or hide all completed tasks • 'Include Future Tasks Starting in ...' - to display current incomplete tasks and completed tasks (depending on the setting of the option above) and future tasks that have been recorded and are due to start within the next period; you can set this period to 7, 30 or 90 days, or you can show all tasks that have been recorded but are not yet due to start
Identify overdue tasks amongst the items	Right-click on the display and select the 'Display Highlight For Overdue items' option and one of its sub-options: • 'Show in Red' - to display the uncompleted percentage of the task bars for overdue items on the Gantt chart in red • 'Show in Red to Current Date' - to

	extend the task bars of the overdue items to today's date, and display them in red • 'None' - to cancel any overdue item highlighting that has been set
Display ONLY overdue tasks	Right-click on the display and select the 'Show Overdue Items Only' option. The display shows only those items for which the end date has passed but that are not 100% complete. These items do not have red highlighting.
Locate the element in the Project Browser	Right-click on either the element or the work item and select the 'Find in Project Browser' option. The appropriate Package hierarchy expands in the Project Browser, and the selected element is highlighted.
Reposition the Gantt chart to automatically show the end date of a selected allocation	Right-click on the display and select the 'Go to | Auto Sync with Task End Date' option. Whilst this option is selected (with a tick next to it), whenever you click on an allocation in the 'Allocated Work' tab the display adjusts to show the end date of the task in the center of the chart.

Expose hidden sections of the work item progress	Some items might operate over a long period of time, and you might not be able to display the complete progress line for the item in the Gantt chart. To locate the start point, expected end point, or today's date on the progress line for an item, right-click on either the item or the progress line and select the appropriate option: • Go To | Task Start Date • Go To | Task End Date • Go To | Today's Date The Gantt chart shifts left or right to position the required point in the center of the display.
Execute Scripts	If scripts have been defined for analyzing the task data, click on the 'Scripts' option to display the list of script names. Click on the appropriate name to execute the script on the selected item or items.
Filter the work items	You can refine the list of work items to show only those containing text that matches the filter item. Right-click on the tab and select the 'Show Filter Bar' option. The filter bar displays at the top of the

	panel; type in the filter text. As you type, the items listed and the Gantt chart are filtered to show only items where the item names match the text string. The filter does not operate on the element names. If you do not want to use the filter, right-click on the tab and select the 'Hide Filter Bar' option.
Capture an image of the Allocated Work data as a graphics file	Right-click on the tab and select the 'Save Image to File' option. The 'Save As Image' dialog displays, on which you specify the file name, location and graphics file type to save to.
Copy an image of the Allocated Work data to the clipboard	Right-click on the tab and select the 'Copy Image to Clipboard' option. You can paste the image from the clipboard into your preferred graphics package.

Monitor Your Tasks

The 'Project Tasks' tab lists the tasks that you either:

- Own, or
- Are assigned to

You can use the tab to review the status and progress of tasks that you are responsible for, and to modify and filter the display of task information. You can create the tasks through the:

- 'Project Tasks' tab itself
- 'Tasks' tab of the Project Status window
- Project Tasks view of the Resource Calendar

Access

Ribbon	Start > Collaborate > My Gantt > Project Tasks

Make selections from the options

Option	Action

Add or Modify a task	You add or modify a task through the 'Task Detail' dialog, which displays when you double-click on an entry (edit) or blank line (create).
Delete a task	Right-click on the message and select the 'Delete' option. You are prompted to confirm the deletion.
Select columns	Right-click on the column headings and select the 'Field Chooser' option, which enables you to add or remove specific columns from the display. You can also click on the column headings and drag them across the header bar to reposition the columns in a different sequence.
Reorganize tasks in the list	Either: • Click on the column heading and click on the arrow head to list items in order or reverse order, or • Right-click on the column headings and select the 'Enable Group Box' option to organize the messages into groups You can also use the filter bar to filter the display on an appropriate column value,

	such as the value 'New' in the 'Status' column; to display or hide the filter bar, right-click on the column headings and select the 'Toggle Filter Bar' option.
Set persistent Status filter	Right-click on the tab and select the 'Set term filter' option. The 'Filter by Status' dialog displays, which enables you to select to list tasks of any status or only of one specific status. The filter you set persists when you close the Personal Tasks window or exit from Enterprise Architect.
Print the task list	Right-click on the tab and select the 'Print List' option. The 'Print' dialog displays, on which you specify the local printer and the print characteristics.

Project Management Windows

The Project Management windows show the records of these quantities associated with an element contained in the model:

- Resources - the people who work on a project, who are assigned roles and allocated tasks
- Effort - effort expended in work on the element
- Risks - risk associated with the element
- Metrics - metrics measured for an element

A separate window displays for each of the four quantities.

Access

Ribbon	Construct > Task Management > Resource Allocation Construct > Change Management > Effort Construct > Change Management > Risks Construct > Change Management > Metrics

Toolbar Options

You can add or delete individual items in any of the four Project Management windows, using the window toolbar options.

Icon	Action
New	Create a new item, calling the Construct window at the appropriate page.
Delete	Delete the selected item from the list.
Print	Print the list of items.
Help	Show this Help topic for this window.

Notes

- Click on an element in the Project Browser to switch to the project management items for that element in the Project Management windows
- Columns in the item list can be reorganized, added, removed, grouped, filtered and sorted using the options provided in the List Header facilities
- Right-click on the list to view the context menu, which

you can use to also add and delete items in the window

Testing

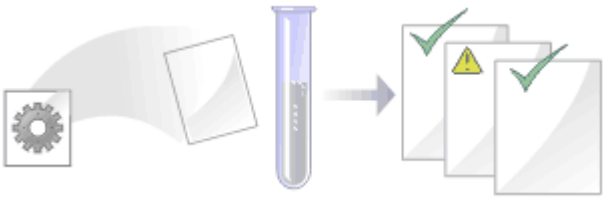
It is important in any project to perform quality control of both the process and the output of the project; Enterprise Architect provides several facilities for testing and validating your model structure and content, including Integration with the unit testing tools JUnit and NUnit.

Facilities

Facility	Description
Testing	Create and manage test scripts for model elements. Explore the Testing UI supporting unit, integration, scenario, system, acceptance and inspection tests.
Model Validation	Check UML elements, diagrams or Packages against known UML rules (identified in configuring validation) and constraints defined within the model, using the Object Constraint Language (OCL). Define your own checks against custom rules and constraints. See the

	Model Validation topic for more information on setting up model validation rules.
Testpoint Management	Pass or fail application tasks, viewing test results in real time as the program executes and results are saved. See the section on Testpoints management for more information on setting up and running automated tests.

Test Management



Enterprise Architect is not only a UML Modeling environment, it is also a complete Test Management environment. Using Enterprise Architect you can create and manage test scripts for model elements, developing unit, integration, scenario, system, acceptance and inspection tests; these can include test cases generated from xUnit testing and Testpoint Management.

You can also import tests from other elements, generate them from scenarios, and generate test documentation and reports; you can indicate the presence of tests on an element by displaying test information on the element in a diagram.

It is simple to attach even complex tests to any model element. Keeping the model elements and the testing documentation in one integrated model significantly improves the communication between the test-team and the software developers and architects.

The system's detailed search facilities make it easy to find failing test cases, test cases not run and test cases that have been passed; using the testing and search capabilities, it is easy to navigate through the model and quickly locate problem spots, design flaws and other critical issues.

Test Tasks

Tasks	Detail
Create Tests	You initially create tests in the Construct window. Typically, you create: • Unit tests for things that are being built, such as Classes and components • Integration tests to test how components work together • System tests to ensure the system meets business requirements • Acceptance tests to test user satisfaction • Scenario tests to test the end-to-end suitability and functionality of the application • Inspection tests for peer review of things that are being built using a well defined process These test categories are otherwise referred to as test Classes; the type of Class is internally identified by a value from 1 to 6 corresponding to the test types in the order listed above.

Using Tests	Tasks that you might perform via the Testing window when working with tests include: • Import a scenario as a test • Move or copy tests between test classes • Import a test from other elements • Import an internal requirement or constraint as a test • Create a maintenance item from a test • Generate a Test Details report • Show test script compartments • Create test documentation

Notes

- Most of the tasks identified above relate to a tests for a single element
- You can display the Testing window for an element on a diagram, by clicking on the element and pressing the T key
- You can make a set of tests available to a number of elements by performing the above tasks on a Test Case element and then associating that Test Case with each of the other elements; the Test Case element also helps to make tests more visible in diagrams, the Project Browser,

windows and searches

Create Test Records

When you need to create or edit a test record on an element, for any of the six types of test, you can do so using the Construct window.

Whichever type of test you are recording, you complete effectively the same fields.

Access

Ribbon	Start > Explore > Properties > Construct : | Tests | <test class> : Start > Explore > Browse > Element Browser > Testing > Add New <test class> (complete Construct window fields) Construct > Testing > Tests > <test class> : (complete Construct window fields)
Keyboard Shortcuts	Alt+3 : <test class> (complete Construct window fields) Click on the element on a diagram | Press T

Create a test record

Field/Button	Action
Test	Type the name of the test. This can be any alphanumeric text string you want to use.
Auto	As an alternative to typing in the name, click on ... to insert predefined auto-counter text; if you do not have auto-counter text configured, an information message displays. If you already have some text in the 'Test' field, it is over-written by the auto-counter text.
Type	Click on the drop-down arrow and select the value indicating the type of test (Load, Regression or Standard).
Run Date	Click on the drop-down arrow and select the date on which the test is to be run (or when it was last run).
Result	Click on the drop-down arrow and select

	the value indicating the current status of the test (Not Run, Pass, Fail, Deferred or Canceled).
Run By	Click on the drop-down arrow and select the name of the person who is to run, or has run, the test. (Possible values are derived from the Project Author definitions in the 'People' dialog - select the 'Configure > Reference Data > Project Types > People > Project Authors' ribbon option.)
Check By	Click on the drop-down arrow and select the name of the person who is to check, or has checked, the test run.
Description	Type a description of the test; you can format the text using the Notes toolbar at the top of the field.
Input	Type in the input data provided to the test; you can format the text using the Notes toolbar at the top of the field.
Acceptance Criteria	Type the acceptance or test success conditions; you can format the text using the Notes toolbar at the top of the field.

Results	Type the results of the last test; you can format the text using the Notes toolbar at the top of the field.
Save	Click on this icon to save the data you have entered and to add the entry to the Testing window and the Project Browser

Notes

- On the Construct window you can quickly add a series of tests of one type or several types, using the icon or the icon
- To access an existing item for editing, display the Testing window for the element and click on the item; the details display in the Construct window where you can edit them
- To delete an item, click on it on the Testing window or Construct window and click on the Delete icon in the window toolbar; in response to the confirmation prompt, click on the Yes button
- A further possibility for generating and editing Test items is to right-click on the *Testing* folder in the Element Browser - or the required item within the folder - and select menu options to perform the required operation in the Construct window
- To change the element for which to create or edit test

items, click on the element in a diagram or the Project Browser

- In the Corporate, Unified and Ultimate editions of Enterprise Architect, if security is enabled you must have 'Manage Tests' permission to add, update and delete test records

Show Test Script Compartments

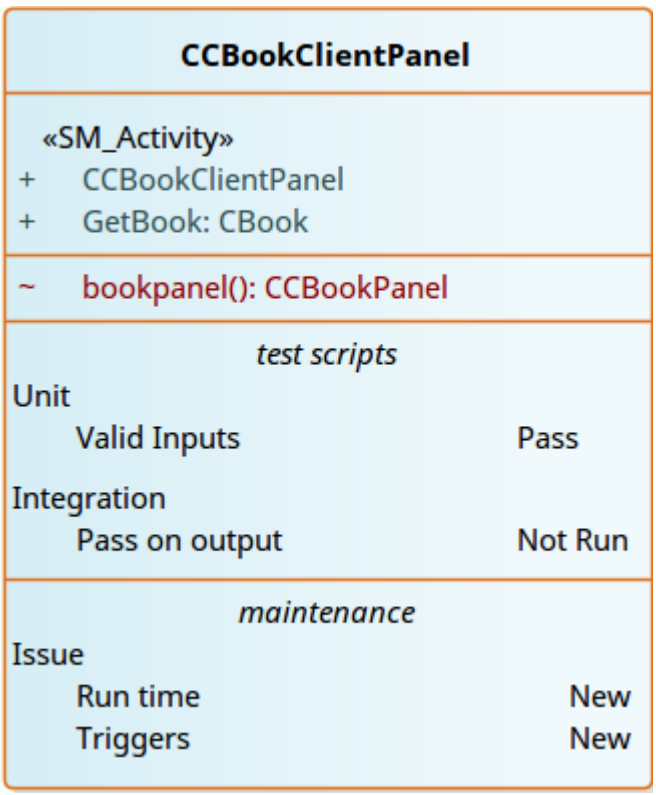
When you have created a Test record, it is useful to make the test visible on its parent element. You can do this by displaying the test within a Test Script compartment on the element as it displays in a diagram. Any element that is capable of displaying a compartment, and that has a test assigned to it, can show test scripts in a diagram.

Show the Test Scripts on an element in a diagram

Step	Action
1	Open a diagram containing the element with the attached test items.
2	Double-click on the diagram background to display the diagram 'Properties' dialog. Click on the 'Elements' tab.
3	In the 'Show Compartments' panel, select the 'Testing' checkbox.
4	Click on the OK button to save the setting.

	Each test item now appears in the test scripts compartment of the diagram element. Items of each type are grouped together so that, for example, all Unit Tests on the element are grouped under the heading 'Unit', and all Integration Tests on the element are grouped under the heading 'Integration'. If you click on a test item and the Construct window is open, the test details are immediately displayed in the window. If the Construct window is not open, click twice on the item.

Example



Move or Copy Tests Between Test Classes

After you define a test within one test class (Unit, Integration, System, Acceptance, Inspection or Scenario), you might decide that the test either is better suited to another test class, or forms a good template for tests in other classes. If so, you can either move or copy the test to the other class lists.

Access

Click on the element containing the test records.

Ribbon	Construct > Testing > Tests > <test class> > Right-click on test to move/copy Start > Explore > Browse > Element Browser > Testing > <test class> > Right-click on test
Keyboard Shortcuts	Alt+3 : right-click on test to move/copy

Move or copy a test

Step	Action
1	Click on the appropriate option - 'Move to' or 'Copy to'. A list of test classes displays.
2	Click on the test class to which to move or copy the test. A confirmatory prompt displays.
3	Click on the Yes button to confirm the move or copy.
4	In the 'Test Class' field in the Testing window toolbar, click on the drop-down arrow and select the test class you moved/copied the test into, to check that the test has been added. Open the Construct window (the 'Start > Explore > Properties > Construct' ribbon option) and make any necessary changes to the test record.
5	If you are copying the test to more than one other test class, repeat steps 1 to 4 for the next class to copy to.

Notes

- If you move or copy a test into the Scenario class, some unassociated data could be lost

Create Maintenance Item From Test

If an element fails a test, one likely consequence is that a Defect (Issue) item has to be raised in model maintenance to correct the problem. You can generate this Defect item directly from the test that failed.

Access

- Select the element containing the failed test, then use one of the methods outlined here to display the Testing window or Element Browser

Ribbon	Construct > Testing > Tests > <test class> > Right-click on test > Create a Maintenance Defect from this test Start > Explore > Browse > Element Browser > Testing > <test class> > Right-click on test > Create a Maintenance Defect from this test Design > Element > Properties > Element Browser > Testing > <test class> > Right-click on test > Create a Maintenance Defect from this test
Keyboard Shortcuts	Alt+3 : <test class> | Right-click on test | Create a Maintenance Defect from this

	test Alt+9 : Testing > <test class> > Right-click on test > Create a Maintenance Defect from this test

Create a Maintenance item from a test

Step	Action
1	The system immediately creates the Defect item and displays a confirmation message box. Click on the OK button to clear the message.
2	Open the Defects window (the 'Construct > Change Management > Defects > Show Defects Window' ribbon option). The window shows a Defect item having the same name as the test.
3	Double-click on the Defect item to open it in the Construct window, and edit the item as necessary - you might provide values for the 'Reported By', 'Status' and 'Priority' fields.

Notes

- You can create Maintenance Defect items from several Test items at once; press and hold Shift as you select the Test items, and then right-click and proceed as above - each selected Test item then generates a Defect item

Import Scenario as Test

If you are creating a test for a scenario from either a single element or many elements in a Package, you do not have to manually re-type the scenario details into the test record in the Construct window. You can generate the test into the 'Scenario' tab of one element from one or more scenarios in any element in the model.

Within the Scenario test record, the scenario description is copied to the 'Description' tab. If a scenario contains a Structured Specification, its Action steps are also copied to the 'Description' tab under the heading 'Structured Specification'.

Access

Click on the element containing the test records.

Ribbon	Construct > Testing > Tests > <test class> > right-click on test > Import element scenario(s) or Construct > Testing > Tests > <test class> > right-click on test > Import Package Scenarios or Start > Explore > Browse > Element Browser > Testing > <test class> > Right-click on test > Import element

	scenario(s) Start > Explore > Browse > Element Browser > Testing > <test class> > Right-click on test > Import Package Scenarios
Keyboard Shortcuts	Alt+3 : right-click on test | Import element scenario(s) or Alt+3 : right-click on test | Import Package Scenarios

Import a scenario from a single element

The 'Import Scenario' dialog displays.

Field/Button	Action
Select element	If you are copying scenarios from a different element to the target element, click on the drop-down arrow and select the source element. The list identifies elements that have scenarios that can be imported. Otherwise, leave this field blank.
Show related elements	Select this checkbox to restrict the list of selectable elements to those that are

only	related to the target element.
Limit selection to these Object Types only	If you want to restrict the list of selectable elements to only those of specific types, type in those element types in a comma-separated list.
Refresh	Click on this button after changing any of the above field values, to refresh the list of available elements in the 'Select element' field drop-down.
Select items to import	Lists the scenarios defined in the source element. Select the scenario(s) to import. If you do not use the 'Select element' field, any scenarios listed are from the current element to which this test record belongs. If you have selected a different element, the scenarios come from that element.
Import As	Defaults to the test class of the test you selected to populate from the scenario. If you need to change this, click on the drop-down arrow and select a different test class from the list.
All	Click on this button to select all scenarios listed in the 'Select items to import' field.

None	Click on this button to clear the selection of scenarios listed in the 'Select items to import' field.
Import	Click on this button to import the selected scenario(s).

Import scenarios from the elements in a Package

Field/Button	Action
Limit selection to these Object Types only	If you want to restrict the selected elements to only those of specific types, type in those element types in a comma-separated list. This version of the 'Import Scenario' dialog lists all scenarios against all elements in the Package; it does not enable you to select a specific element, but does enable you to filter the list of scenarios to those from specific types of element.
	Click on this button after changing the

Refresh	'Limit Selection...' field value, to refresh the list of available elements in the 'Select items to import' field.
Select Items to import	Lists the scenarios defined in the selected elements in the Package. Select the scenario(s) to import.
All	Click on this button to select all scenarios listed in the 'Select items to import' field.
Import As	Defaults to the test class of the test you selected to populate from the scenario. If you need to change this, click on the drop-down arrow and select a different test class from the list.
None	Click on this button to clear the selection of scenarios listed in the 'Select items to import' field.
Import	Click on this button to import the scenarios from each element as Scenario tests.

Notes

- In the Corporate, Unified and Ultimate editions of Enterprise Architect, if security is enabled you must have 'Manage Tests' permission to add, update and delete test records

Import Test From Other Elements

If you have created useful tests in one element, you can import those tests into any other element through the Testing window or Element Browser, and so avoid having to duplicate the test information manually. You open the Testing window for the empty, target element and then select the source element that contains the tests to import.

Access

Select target element, then:

Ribbon	Construct > Testing > Tests > <test class> | Right-click on tests | Import tests from other element Start > Explore > Browse > Element Browser > Testing > <test class> > Right-click on tests | Import tests from other element
Keyboard Shortcuts	Alt+3 : Right-click on tests | Import tests from other element or Alt+9 : Testing folder | Right-click on tests | Import tests from other element

Import a test

The 'Import Element Tests' dialog displays.

Field/Button	Action
Select element	Click on the drop-down arrow and locate and select the source element. This list identifies elements that have tests that can be imported.
Show related elements only	Select this checkbox to restrict the list of selectable elements to those that are related to the target element.
Limit selection to these Object Types only	If you want to restrict the list of selectable elements to only those of specific types, type in those element types in a comma-separated list.
Refresh	Click on this button after changing any of the above field values, to refresh the list of available elements in the 'Select element' field.
Select items to import	Lists the tests defined in the source element. Select the test(s) to import. If you have not used the 'Select element'

	field, any tests listed are from the current element to which this test record belongs. There is no purpose in importing these.
Import As	Defaults to the test class of the test you selected to populate from the other element. If you need to change this, click on the drop-down arrow and select a different test class from the list.
All	Click on this button to select all tests listed in the 'Select items to import' field.
None	Click on this button to clear the selection of tests listed in the 'Select items to import' field.
Import	Click on this button to import the selected test(s).

Notes

- In the Corporate, Unified and Ultimate editions of Enterprise Architect, if security is enabled you must have 'Manage Tests' permission to add, update and delete test records

Import Requirement or Constraint as Test

If you are creating a test against an internal requirement or internal constraint of an element, you do not have to manually re-type the details into the test record in the Construct window. You can generate a testing record on the element from the requirement or constraint.

The test record is generated into the Construct 'test-type' window that you currently have open, and the requirement or constraint description is copied to the 'Description' tab for the test record.

Access

Select an element, then use one of the methods outlined here to display the Testing window or Element Browser.

Ribbon	Construct > Testing > Tests > <test class> > Right-click on test list > Import element constraint(s) or Import element requirement(s) Start > Explore > Browse > Element Browser > Testing > <test class> > Right-click on test > Import element constraint(s) or Import element requirement(s)

	Design > Element > Properties > Element Browser > Testing > <test class> > Right-click on test > Import element constraint(s) or Import element requirement(s)
Keyboard Shortcuts	Alt+3 : <test class> | Right-click on test list | Import element constraint(s) or Import element requirement(s) Alt+9 : Testing > <test class> > Right-click on test > Import element constraint(s) or Import element requirement(s)

Import a requirement or constraint as a test

Step	Action
1	On the 'Import Constraint' or 'Import Requirements' dialog (the two dialogs are identical) review the list of internal requirements or constraints in the selected element.
2	Click on one of the items to import as a test, or press Ctrl+click on more than one to import several.

	The 'Import As' field defaults to the test class of the test into which you are importing the requirement or constraint details. If you need to change this, click on the drop-down arrow and select a different test class.
3	Click on the OK button. Each item is added to the list of tests in the Testing window, under the appropriate <test-type>, as a standard, 'Not Run' test. Double-click on one item to open the Construct window to edit the test details; thereafter, just click once on the next test item to edit that in the Construct window.

Notes

- In the Corporate, Unified and Ultimate editions of Enterprise Architect, if security is enabled you must have 'Manage Tests' permission to add, update and delete test records

Test Documentation

After you have recorded a number of test scripts and results against elements in the model, you can output the information as a report in Rich Text Format, using the 'Generate Test Documentation' dialog. You can select the types of test to include or exclude in the report and whether to include child Packages, and enter the file location to which to generate the report.

Click on the Generate button to produce the report.

You can also run a number of searches to show the results - where generated - of tests:

- Not Run
- Not Checked
- Recently run
- Recently Passed
- Recently Failed
- Recently Deferred
- Run on recently modified elements
- Run in the last week
- Run in the last 30 days

Access

Select a Package, then use the ribbon options:

Ribbon	Construct > Testing > Report (to display the 'Generate Test Documentation' dialog) Construct > Testing > Not Run Construct > Testing > Not Checked Construct > Testing > Test Results > <report type>

Maintenance

In the course of your team's work on a model, changes and issues can arise at a number of levels, for problems that apply system-wide through areas of the model and down to within a specific element. A Change, very broadly, defines an addition or alteration to a requirement, whilst an Issue identifies either a failure to meet a requirement, or a risk in meeting the requirement.

There are two mechanisms that can be used to identify a change or issue, and the work required to resolve it:

- Change and Issue (or Defect) elements - structured comments that identify a problem at system-level, although they can also be attached to a specific element from which a problem arises; both types of element can be linked by relationships such as Association, Dependency and Realize to one or more other elements that have to be reviewed, and for complex problems can form hierarchies or groups
- Maintenance items - properties raised against a specific element and recorded for that element in the Maintenance window; these provide a distinction between Defects (a failure to meet a requirement) and Issues (a risk factor that might affect satisfying the requirement) and also include Tasks, which record work items associated with the

element

Maintenance items are very specific, but if an item begins to have a wider impact on other elements or the system in general, you can translate that item into a Change, Issue, or any other type of element that best identifies the problem and its solution

Maintenance items are defects, changes, issues, tasks, events and decisions that apply at the model element level. They are properties of individual model elements that can be used to record and capture problems, changes, issues, tasks, events and decisions as they arise, and document the solution and associated details.

Maintenance Tasks

Task Area	Detail
Maintenance Items - Element-level	You create maintenance items in the Construct window. Typically you create: • A defect to record a failure to meet a requirement for the current model element • A change to record a change in requirement for the current model element • An issue to record a risk factor that might affect the project being recorded

	for the current model element • A task to record work in progress and work outstanding for the current model element • An event to record the action taken for the current model element • A decision to record the choice taken for the current model element
Creating and Editing Maintenance Items	Tasks that you might perform when working with maintenance items include: • Moving or copying maintenance items between maintenance types • Generating new items of one type from an item of a different type • Creating elements from maintenance Items • Showing maintenance items on elements in a diagram • Adding a maintenance item directly to an element via in-place editing • Generating a report on the status of maintenance items of specific types or all types
Maintenance - System-level	To represent changes, defects and issues that apply to the model you can create Change and Issue elements with - if

	necessary - subordinate structures. To represent issues and tasks that apply to the progress of the project as a whole and that are not related to model structures, you create Project Status records in Project Management.

Working on Maintenance Items

Creating, viewing and modifying the Maintenance items - changes, issues, defects, tasks, events and decisions - associated with a particular model element is quick and convenient, using the Construct window and the Maintenance windows. If a Maintenance window is open, when you select an element in a diagram or in the Project Browser, the appropriate maintenance items for that element are immediately listed in the window, and you can select them there to modify in the Construct window. The Maintenance windows provide several facilities for managing the maintenance items.

You can include the maintenance items in the document and web reports generated on your model. The 'Document Setup' dialog has checkboxes to show or hide element maintenance items.

Access

Ribbon	Start > Explore > Properties > Construct Construct > Change Management > Changes > Show Changes Window Construct > Change Management > Defects > Show Defects Window Construct > Change Management >

	Issues > Show Issues Window Construct > Change Management > Tasks > Show Tasks Window Construct > Change Management > Events > Show Events Window Construct > Change Management > Decisions > Show Decisions Window

Facilities

Facility	Detail
Maintenance Item Types	The six types of Maintenance Item you can create records for are each listed on a separate Maintenance window: • Defects - each recording a failure to meet a requirement for the current model element • Changes - each recording a change in requirement for the current model element • Issues - each recording a risk factor that might affect the project, associated with the current model element • Tasks - each recording work in

	progress and work outstanding for the current model element • Events - each recording the action taken on a requirement of the current model element • Decisions - each recording the choice made on a requirement of the model element Similarly, the Construct window reflects the type of item you have selected, and you can click on the icon in the Construct window toolbar to select the type of maintenance item to create ('Maintenance > <item type>').
Adding New Items	To add new items, click on the icon in the window toolbar on either the Maintenance window or the Construct window. In either case, the appropriate fields for the item type are displayed on the Construct window, where you create the item. The fields you complete for each type of maintenance item are very similar.
Applying Automatic Naming/Numbering	On the Construct window you can apply an automatic naming/numbering convention that you have previously defined, to each new item record. To do

	this, simply click on the icon next to the 'Name' field. If you already have some text in the 'Name' field, it is over-written by the auto-counter text.
Element Browser	You can also use the Element Browser window to select and display specific items on the Construct window; select the 'Start > Explore > Browse > Element Browser > Maintenance > <maintenance type>' ribbon option and double-click on the required item.

Notes

- Columns in the item list can be reorganized, added, removed, grouped, filtered and sorted using the options provided in the List Header facilities

Create Maintenance Items

When you need to create a new maintenance record for an element, you can do so by selecting the 'New' option from the toolbar of the Maintenance window or the Construct window.

Access

Use one of the ribbon paths outlined here to display the Maintenance window for the type of maintenance item to create, then click on (the 'New' icon) to display the Construct window for that item type.

Alternatively, display the Construct window directly ('Start > Explore > Properties > Construct > > Maintenance > <maintenance item type> :)

Ribbon	Construct > Change Management > Changes > Show Changes Window Construct > Change Management > Defects > Show Defects Window Construct > Change Management > Issues > Show Issues Window Construct > Change Management > Tasks > Show Tasks Window Construct > Change Management > Events > Show Events Window

	Construct > Change Management > Decisions > Show Decisions Window

Create maintenance items

Option	Action
Name / Event / Decision	Type the name or a short description of the defect, change, task, issue, event or decision.
Auto	As an alternative to typing in the name, click on the ... button to insert predefined auto-counter text. If you already have some text in the 'Name' field, it is over-written by the auto-counter text.
Reported by / Requested by / Raised by	Click on the drop-down arrow and select the user name of the person who initiated the maintenance item.
Date	Defaults to today's date as the date on which the maintenance item was raised; if necessary, change this by clicking on the drop-down arrow and selecting a different

	date.
Status	Click on the drop-down arrow and select the appropriate status of the maintenance item, such as 'New' or 'Complete'.
Resolved by / Implemented by / Completed by	Click on the drop-down arrow and select the user name of the person who completed and closed the maintenance item.
Date Resolved / Date implemented / Date Completed	Defaults to today's date as the date on which the maintenance item was completed; click on the checkbox to select today's date or, if necessary, change the field by clicking on the drop-down arrow and selecting a different date.
Priority	Click on the drop-down arrow and select the priority for completing the maintenance item.
Version / ID	Type the version number associated with this defect, change, task, event, decision or issue.
Description	Type a longer description of the

	maintenance item; you can format the text using the Notes toolbar at the top of the field.
History	Enter any notes or references to previous occurrences of this maintenance item; you can format the text using the Notes toolbar at the top of the field.
Save	Click on this button to save the record data.

Notes

- To edit an item, click on it on the Maintenance window; the item details display in the Construct window for editing
- To delete an item, click on it on either the Maintenance window or the Construct window and click on the icon in the window toolbar; in response to the confirmation prompt, click on the Yes button
- A further possibility for editing and deleting items is to right-click on items in the Element Browser window and select menu options there; select the 'Start > Explore > Browse > Element Browser > Maintenance > <maintenance type>' ribbon option

- To change the element for which to create or edit maintenance items, click on the new element in the Project Browser

Move or Copy Maintenance Items

After you define a maintenance item of one type (Defect, Change, Issue, Event, Decision or Task), you might decide that the item either is better suited to another type or forms a good template for items of other types. If so, you can either move or copy the item to the other types.

Access

Display the appropriate Maintenance window using one of the methods outlined here.

In the Maintenance window:

- Right-click on a maintenance item | Move to | <item type> or
- Right-click on a maintenance item | Copy to | <item type>

Ribbon	Construct > Change Management > Changes > Show Changes Window Construct > Change Management > Defects > Show Defects Window Construct > Change Management > Issues > Show Issues Window Construct > Change Management > Tasks > Show Tasks Window Construct > Change Management >

	Events > Show Events Window Construct > Change Management > Decisions > Show Decisions Window

Move or copy a maintenance item

Step	Action
1	Click on the appropriate option - 'Move to' or 'Copy to'. A list of maintenance item types displays.
2	Click on the item type to which to move or copy the item. A confirmatory prompt displays.
3	Click on the Yes button to confirm the move or copy.
4	Switch to the appropriate type version of the Maintenance window to ensure that the item has been added, double-click on the item to open it in the Construct window and make any necessary changes.

5	If you are copying the item to more than one other item type, repeat steps 1 to 4 for the next item type to copy to.

Create Elements From Maintenance Item

A maintenance item identifies a defect, change, issue, event, decision or task concerning an element. The maintenance item could itself be represented by an element if it has wider implications for the project or identifies - for example - an actor, activity or action that requires further definition.

You can create one or more elements from any maintenance item, using the Maintenance window. The new element is connected to the maintenance item's parent element by a Dependency connector. The original maintenance item remains unchanged as a characteristic of its parent element.

Access

Use one of the methods outlined here to display the Maintenance window appropriate to the maintenance item from which to create a model element.

In the Maintenance window: Right-click on the maintenance item > Create as New Element

Ribbon	Construct > Change Management > Changes > Show Changes Window Construct > Change Management > Defects > Show Defects Window Construct > Change Management >

	Issues > Show Issues Window Construct > Change Management > Tasks > Show Tasks Window Construct > Change Management > Events > Show Events Window Construct > Change Management > Decisions > Show Decisions Window

Create an element from a maintenance item

Step	Action
1	On the 'New Element' dialog, complete the fields. In the 'Type' field, select the required element type; you might create: • An Issue element for a Defect or Issue maintenance item • A Change element for a Change item, or • An Action for a Task item You can, however, create a wide range of other element types should any of these be more appropriate. When you click on the Save button, the new element is added to the Project Browser. You can drag and

	drop it onto a diagram from there.

Show Maintenance Items in Diagram

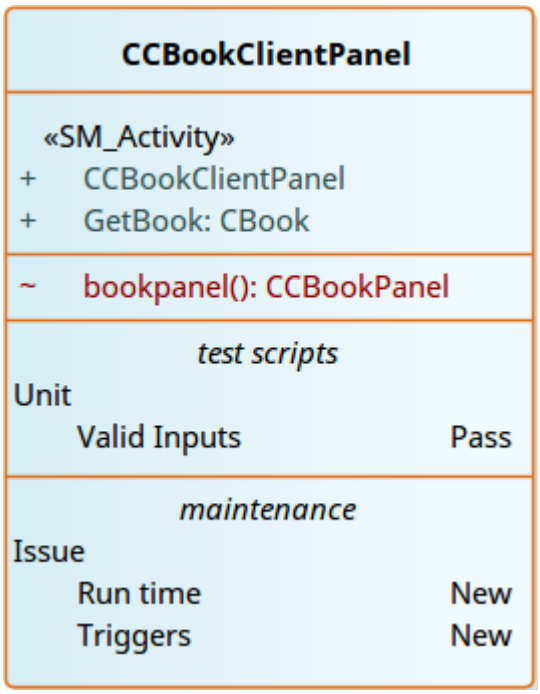
When you have created a maintenance item, it is useful to make the record visible on its parent element. You can do this by displaying the record within a maintenance compartment on the element as it displays in a diagram. Any element that is capable of displaying a compartment, and that has maintenance items assigned to it, can show the items in a diagram.

Show maintenance items in a diagram

Step	Action
1	Open a diagram containing the element with the attached maintenance items.
2	Double-click on the diagram background to display the diagram 'Properties' dialog. Click on the 'Elements' tab.
3	In the 'Show Compartments' panel, select the 'Maintenance' checkbox.
4	Click on the OK button to save the setting. Each maintenance item now appears in the

	maintenance compartment of the diagram element. Items of each type are grouped together so that, for example, all Issues on the element are grouped under the heading 'Issue', and all Tasks on the element are grouped under the heading 'Task'. If you click on a maintenance item and the Construct window is open, the item details are immediately displayed in the window. If the Construct window is not open, click twice on the item.

Maintenance Compartment - Example



Changes, Defects and Issues

If your work in managing a project identifies issues, defects or required changes in the model rather than internal to a single element, you can represent these using Change, Issue or Defect elements as structured comments with which you can track and manage the problems.

- A Change element corresponds to a change in requirements for the current system
- An Issue element corresponds to a failure to match the requirements for the current system due to newly arisen organizational or legal factors such as staffing problems, changes in laws or guidelines, or business unit restructuring
- A Defect element corresponds to a failure to match the requirements for the current system due to a flaw in the model, system or process, such as a missing element or module, or no inclusion of a necessary actor

You can also define any specific work to be done in researching or resolving the problem using Task elements, and assign resources to these or directly to the Change, Issue or Defect elements internally, in Resource Allocation, or externally as Actors.

The use of maintenance elements provides a broad scope for managing changes, defects and issues, providing the facility to fully define the problem and its resolution with linked documents, both internal and external Notes, and Composite Structure diagrams including Interaction and Activity

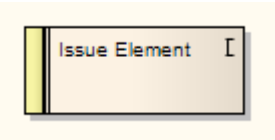
diagrams.

You can create Change, Defect and Issue elements in various UML diagrams (especially Maintenance diagrams) and connect them using Realization, Dependency, Aggregation and other relationships to show what model elements each problem affects and how each is resolved. Within the element 'Properties' dialog for Changes, Defects and Issues you can identify the problem as the element name and record relevant management details, such as owner and dates.

A useful tool in managing problems and changes is the Relationship Matrix, in which you might - for example - link staff (Actors) through Realization connectors to Issues. Each highlighted square in the Matrix indicates the responsibility of a staff member to work on or correct a named Issue.

Issues

In your modeling, issues concerning the development of the system or model might arise; more formally, you encounter a failure to meet defined requirements for the current system. You can represent this failure using an Issue element, which is a structured comment containing information about the issue and the measures taken to manage it. The element is rendered as shown.



You can link Issues to model elements that are responsible for the issue, using Realize connectors. You can also create a hierarchy of related Issues using Aggregation connectors. Each Issue element has a status band at the left end, which is color coded to visually represent the value of the 'Status' field in the element properties. The element has an identifying 'I' in the top right corner, which you can hide if you prefer not to show it.

You can create Issue elements on most types of diagram, although the Maintenance diagram is specifically designed for displaying and managing them. You can also create your own issue-management diagram as a Custom diagram. You can add the Issue (and other) elements to the diagram from the Diagram Toolbox, or directly to a Package in the Project Browser.

Add an Issue to the model using the Toolbox

Step	Action
1	Open the Maintenance or Custom (or other) diagram to define the problem.
2	From the 'Custom' pages or 'Common' page of the Diagram Toolbox, drag the Issue icon onto the diagram.
3	If the Properties window is not already displayed, press Alt+1 on the element. Record the name and details of the Issue, in the Properties window.

Add an Issue to the model using the 'New Element' dialog

Step	Action
1	Identify the Package in which to record the Issue, in the Project Browser. Right-click on this Package and select the 'Add

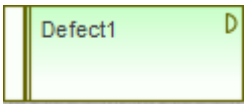
	Element' option.
2	Complete the fields on the 'New Element' dialog - in the 'Type' field, click on the drop-down arrow and select 'Issue'.
3	When you have created the element, record the name and details of the Issue, in the Properties window.

Notes

- To toggle display of the letter 'I' in the top right corner of the element, select or deselect the 'Show stereotype icon for requirements' checkbox on the 'Preferences' dialog, 'Objects' page

Defects

In your modeling, problems in the development of the system or model might arise; more formally, you encounter an obstacle to meeting defined requirements for the current system, through a defect of the model, system or process. You can represent this failure using a Defect element, which is a structured comment containing information about the defect and the measures taken to manage it. The element is rendered as shown.



You can link Defects to model elements that are responsible for the problem, using Realize connectors. You can also create a hierarchy of related Defects using Aggregation connectors. Each Defect element has a status band at the left end, which is color coded to visually represent the value of the 'Status' field in the element properties. The element has an identifying 'D' in the top right corner, which you can hide if you prefer not to show it.

You can create Defect elements on most types of diagram, although the Maintenance diagram is specifically designed for displaying and managing them. You can also create your own defect-management diagram as a Custom diagram. You can add the Defect (and other) elements to the diagram from the Diagram Toolbox, or directly to a Package in the Project Browser.

Add a Defect to the model using the Toolbox

Step	Action
1	Open the Maintenance or Custom (or other) diagram to define the problem.
2	From the 'Custom' pages of the Diagram Toolbox, drag the Defect icon onto the diagram.
3	If the Properties window is not already displayed, press Alt+1. Record the name and details of the Defect, in the Properties window.

Add a Defect to the model using the 'New Element' dialog

Step	Action
1	Identify the Package in which to record the Defect, in the Project Browser. Right-click on this Package and select the 'Add

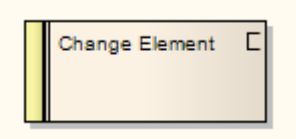
	Element' option.
2	Complete the fields on the 'New Element' dialog - in the 'Type' field, click on the drop-down arrow and select 'Defect'.
3	When you have created the element, record the name and details of the Defect, in the Properties window.

Notes

- To toggle display of the letter 'D' in the top right corner of the element, select or deselect the 'Show stereotype icon for requirements' checkbox on the 'Preferences' dialog, 'Objects' page

Changes

In your modeling it might become necessary to change an aspect of the system or model; more formally, you need to request and manage a change in the defined requirements for the current system. You can represent this change request using a Change element, which is a structured comment containing information about the change and the measures taken to manage it. The element is rendered as shown.



You can link Changes to model elements that are impacted by the change, using Realize connectors. You can also create a hierarchy of related Changes using Aggregation connectors. Each Change element has a status band at the left end, which is color coded to visually represent the value of the Status field in the element properties. The element has an identifying C in the top right corner, which you can hide if you prefer not to show it.

You can create Change elements on most types of diagram, although the Maintenance diagram is specifically designed for displaying and managing them. You can also create your own change-management diagram as a Custom diagram. You can add the Change (and other) elements to the diagram from the Diagram Toolbox, or directly to a Package in the Project Browser.

Add a Change to the model using the Toolbox

Step	Action
1	Open the Maintenance or Custom (or other) diagram in which to define the problem.
2	From the 'Custom' or 'Common' pages of the Diagram Toolbox, drag the Change icon onto the diagram.
3	If the Properties window is not already displayed, press Alt+1. Record the name and details of the Change, in the Properties window.

Add a Change to the model using the 'New Element' dialog

Step	Action
1	Identify the Package in which to record the change,

	in the Project Browser. Right-click on this Package and select the 'Add Element' option.
2	Complete the fields on the 'New Element' dialog - in the 'Type' field, click on the drop-down arrow and select 'Change'.
3	When you have created the element, record the name and details of the Change, in the Properties window.

Notes

- To toggle display of the letter 'C' in the top right corner of the element, select or deselect the 'Show stereotype icon for requirements' checkbox on the 'Preferences' dialog, 'Objects' page

Maintenance Diagram

A Maintenance diagram is a type of Custom diagram, an extension to the UML model. It is a change management tool, used to record:

- Requests for change to the model structure or project process, as Change elements
- Issues that impact the development and progress of the project, as Issue elements, and
- Groups of tests that can be applied to many elements rather than specific elements, as Test Cases

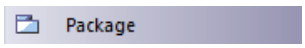
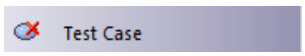
Each Change, Issue or Test Case element can link to other model elements in the project, to illustrate how they contribute to or are impacted by the item, and how they must be modified, removed, applied or extended to provide a solution. This includes identifying areas of work, represented by Task elements, to which resources can be allocated as either external (Actor) elements or internal properties (resource allocation).

You generate Maintenance diagram elements and connectors from the 'Maintenance' pages of the Diagram Toolbox, although you might also make frequent use of connectors from other pages.

Example Diagram

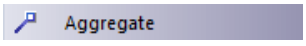
Example Maintenance Diagram

Maintenance Diagram Element Toolbox Icons

Icon	Description
	A Package is a namespace as well as an element that can be contained in other Package's namespaces.
	Issue elements represent a failure to meet defined requirements for the current system.
	This element represents a change in the defined requirements for the current system and can be used to request and manage the change process.
	A Task element represents a task that must be performed in relation to an element.
	A Test Case is a stereotyped Use Case element. You might use it to extend the facilities of the Testing window, by applying element properties and

	capabilities to the tests of a feature represented by another element or - more appropriately - set of elements.
	An Entity is a stereotyped Object that models a store or persistence mechanism that captures the information or knowledge in a system.
	A Test element represents a step in the Basic, Alternate and Exception Paths of a Scenario created in a Use Case or other element.
	The defect element represents an obstacle to meeting defined requirements for the current system.

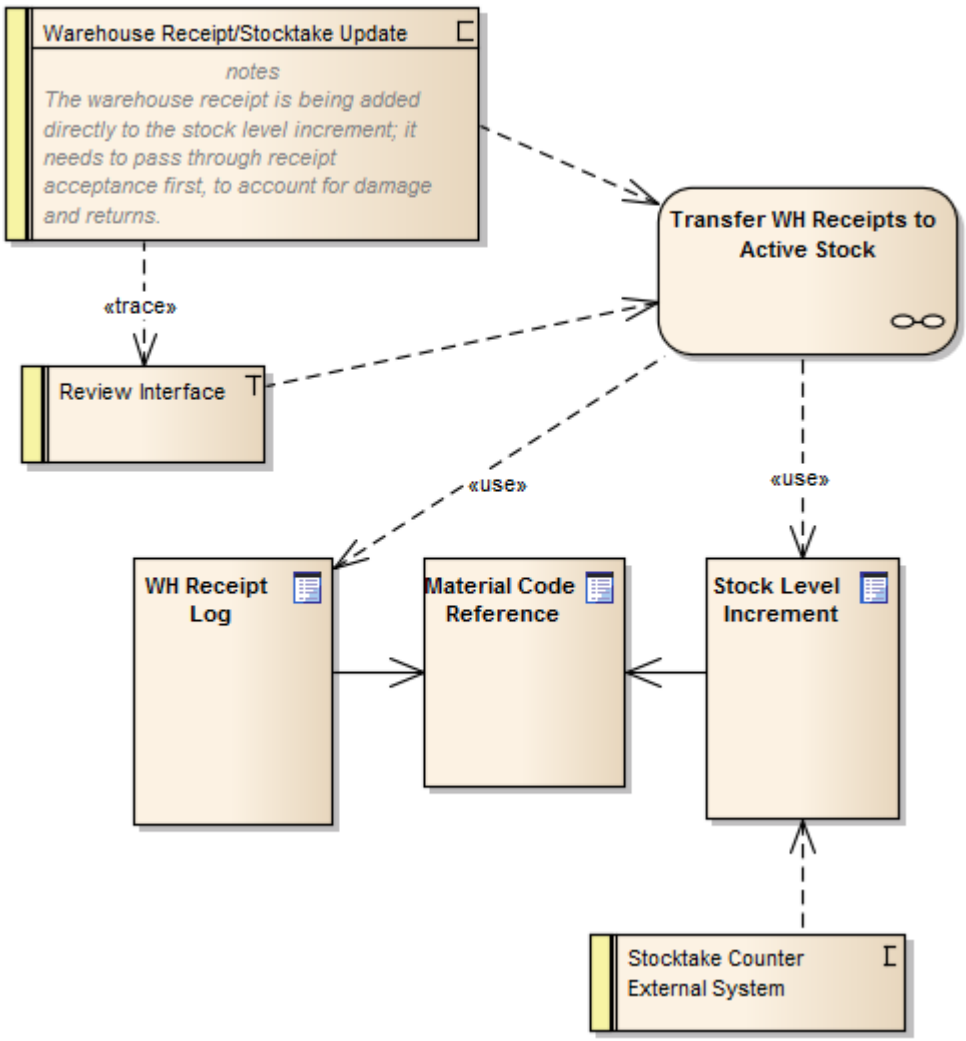
Maintenance Diagram Connector Toolbox Icons

Icon	Description
	An Aggregation connector is a type of association that shows that an element contains or is composed of other

	elements.

Example Maintenance Diagram

Very simply, this example diagram depicts a request for a change (C) to a process represented by an Activity element (Transfer WH Receipts to Active Stock). The change currently involves the Task (T) of reviewing the interface between two recording systems, one of which could be affected by an Issue (I) concerning an external stocktaking system.



Update Package Status

Often a complete Package structure moves from one status to another (such as for release) in one operation. To help facilitate this, Enterprise Architect supports a 'bulk' update of Package and element Status, Phase, and Version, which also provides the option of defining the scope of the update.

Access

Ribbon	Design > Package > Edit > Advanced > Update Status

Update Status across a Package

Field	Action
New Status	Type in or select the new status of the Package.
New Phase	Type the new phase.
New Version	Type the new version.

Modified Date	System set; you cannot change this field.
Set Date	Defaults to selected to apply the Modified Date; if necessary, deselect to ignore the date stamp on the change.
Recursively update all child packages	Select to apply the changes through all child Packages of the selected Package; deselect to apply the changes to only the selected Package.
Include Elements	Defaults to selected; if the changes are to apply only to Package elements, deselect the checkbox.
Include Element Requirements	Defaults to selected, to update the element requirements' 'Status' field; deselect to ignore this field.
Include Element Constraints	Defaults to selected, to update the constraints' 'Status' field; deselect to ignore this field.
OK	Click on this button to update all required elements to the new status.

Applying Process Guidance

Developing a model of a system or architecture can include any number of complex processes that require common, structured methods and carefully organized checkpoints at important stages. Enterprise Architect helps you to quickly set up the organization of such a process by providing a range of Process Guidance templates, each of which includes stages, annotated steps for the procedures at each stage, links to supporting information, and Checklists to be completed to ensure all the required objectives have been achieved before starting the next stage.

Each Process Guidance template consists of an Activity diagram, with Actions describing each step of the activity and one or more Checklists next to each Action listing the sub-steps. You generate a Package in the model, from a selected Pattern, and tailor the structure to match your own procedures. Users can then follow the procedures, starting from the initial node and working through each step, checking off each item on its checklists until the task is complete.

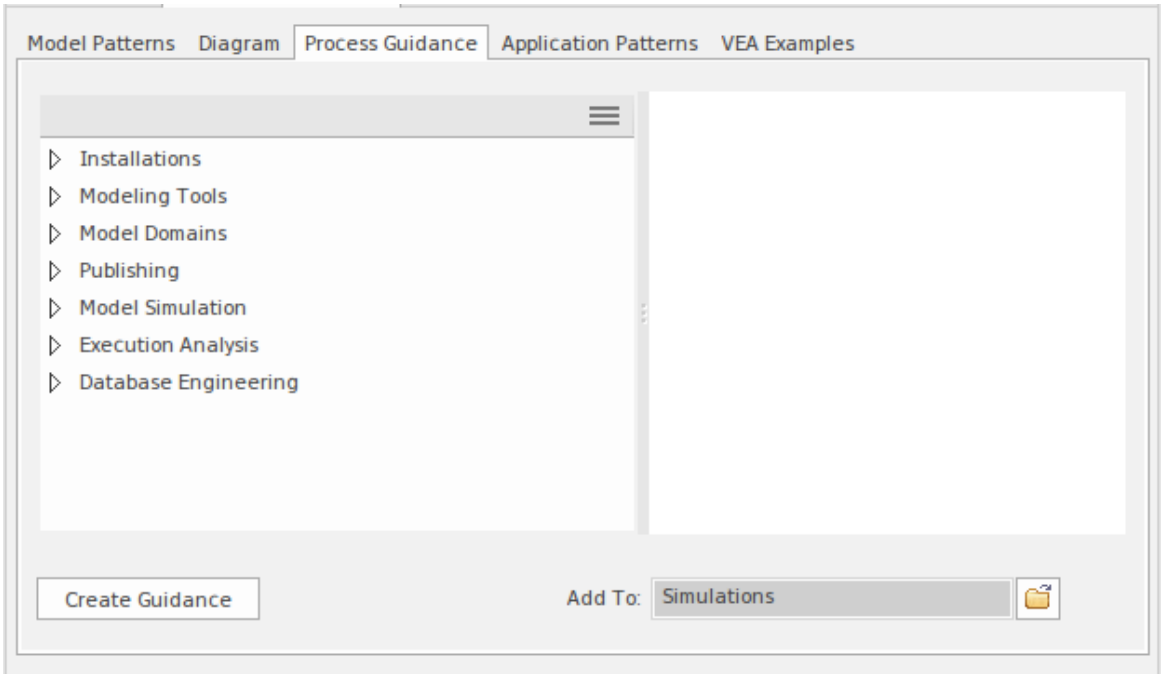
The range of process areas and procedures supported by this feature is extensive, and will be continually added to over time.

Access

Ribbon	Design > Package > Insert > Insert using Model Wizard > Process Guidance
Other	Project Browser caption bar : > Management > Process Guidance Project Browser caption bar : > New Model from Pattern > Management > Process Guidance
Context Menu	Right-click on Package | Add a Model using Wizard > Management > Process Guidance
Keyboard Shortcuts	Ctrl+Shift+M > Management > Process Guidance

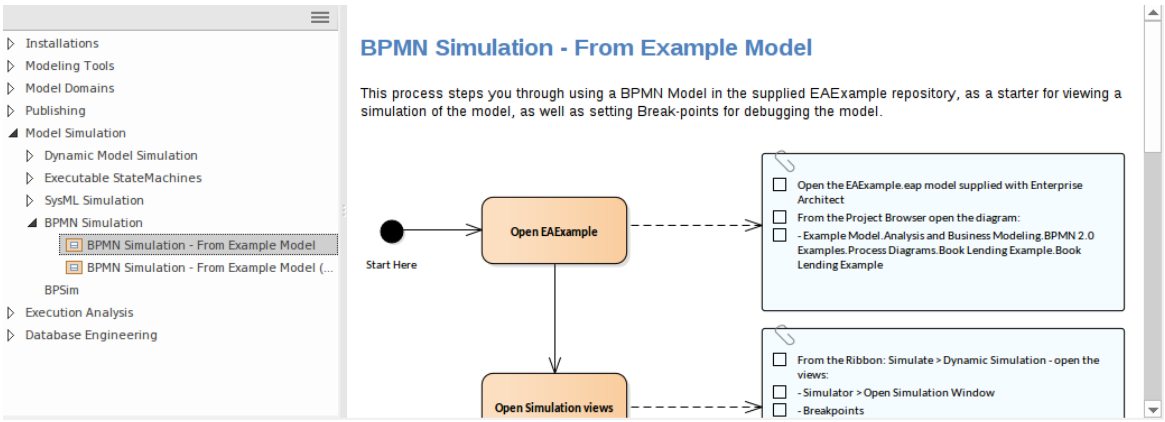
Apply a Process Guidance Pattern

Using a Process Guidance Pattern to set up task guidelines is very easy.

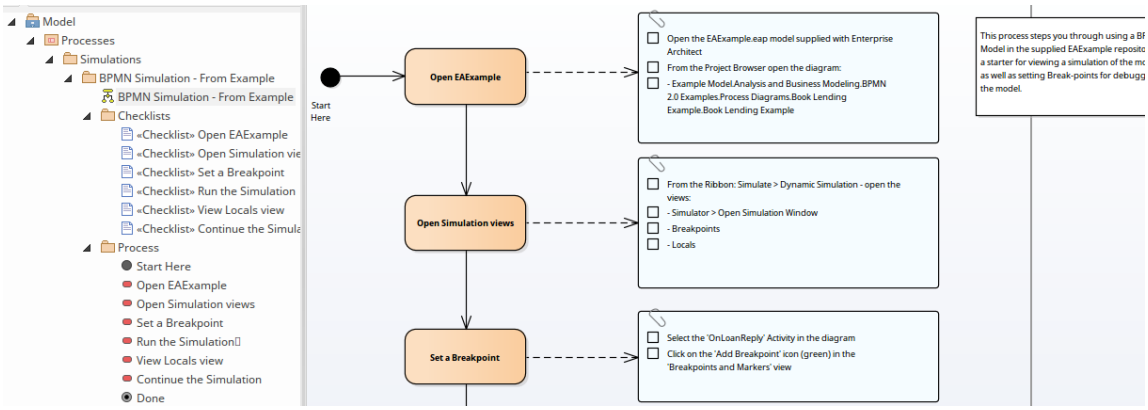


In the 'Add To' field, click on the icon, and locate and select the Package to hold the task guidelines.

Then, in the main panel, click on the white arrow against the process area to select from, and expand the groups of Patterns until you locate the one to use. The corresponding Pattern diagram displays in the right-hand panel.



Click on the Create Guidance button. In the Project Browser, the Pattern generates a Package and an Activity diagram named after the Pattern, and two child Packages containing the Checklist elements and process elements. You can edit these objects to tailor them to your specific process.



You can reduce the number of Patterns shown in the 'Process Guidance' tab, by filtering the list of Pattern groups displayed. Click on the icon in the panel heading to display the 'Filter Groups' dialog, on which you can clear or select checkboxes against each of the seven Pattern groups to show or hide them on the tab.

The Project Status View

The Project Status view documents tasks and issues that relate directly to the current project, and lists the statistics of the project.

Access

Ribbon	Construct > Status > Tasks and Issues > [Project Status tab page]

Tabs

Tab	Detail
Tasks	Review major project tasks that require attention.
Issues	Review events, occurrences and situations that impact on project development and delivery. You can also generate a document report on these issue items.

Project Statistics	Review the project statistics, on the 'Project Statistics' tab. This simply lists the numbers of Packages, diagrams, elements, connectors, elements of each type and element features of each type in the project. For certain items, such as element risks, metrics and effort, if there are no instances of that particular object type it is still listed but with a count of 0.

Notes

- You can add or work on an item in the 'Project Status' view by right-clicking (context menu) or double-clicking on the blank or completed item line
- The 'Project Status' view context menu has options for filtering tasks and issues by status; you can also rearrange the sort-order by clicking in the title bar of the column that the items are to be indexed on

Project Tasks

The 'Tasks' tab of the Project Status view provides a convenient 'To Do' list of major project work items that are not recorded elsewhere, and can be used to track events such as requests or corrections.

Access

Ribbon	Construct > Change Management > Status > Project Status (Tasks & Issues) > Tasks

Notes

- Right-click on the list to view the context menu, and select to add, modify or delete tasks, or to set a status filter
- You can re-organize the display of the listed tasks using the List Header facilities for reported information
- To print out the currently displayed items, select the 'Print List' context menu option
- You can transport task definitions between models using

the 'Configure > Model > Transfer > Export Reference Data' and 'Import Reference Data' options

Add, Modify and Delete Tasks

This topic explains how to add, edit and delete project tasks.

Access

Ribbon	Construct > Status > Task & Issues Start > Collaborate > Calendar > Project Tasks mode

Maintain Tasks

Step	Action
1	If creating a new task: • Double-click in a blank area of the 'Tasks' tab, or on a cell of the Calendar If editing an existing item: • Double-click on the item on the 'Tasks' tab or Calendar The 'Task Detail' dialog displays.

2	Enter or update these details of the task, selecting a value from the field's drop-down list where appropriate: • The task name • Automatic naming - if you have set up automatic naming conventions, click on the Auto button to insert the predefined element name and counter text; if you already have some text in the 'Name' field, it is over-written by the automatic naming text • The task type • The task owner • The expected start and end date for the task (select the checkboxes to activate the dates) • The current status of the task • The person this task has been assigned to • The task priority: high, medium or low • The expected total time for the task and the actual time expended (in complete units; the type of unit must be agreed across the project) • The percentage completion • The phase associated with this task • A description of the task • Any progress history appropriate to the task
3	Click on the Apply button.

4	To create another entry click on the New button or, to close, click on the OK button.
5	To delete a task: • Right-click on the task and select the 'Delete' option • Click on the Yes button on the confirmation prompt

Notes

- 'Owner' and 'Assigned' fields are filled from the Project Authors, Resources and Project Clients

Project Issues

Any identified issues can be recorded against the current project, using the 'Issue Detail' dialog from the 'Issues' tab of the Project Status view. For each Issue, you record the description, date, owner and status.

Access

Ribbon	Construct > Change Management > Status > Project Status (Tasks & Issues) > Issues

Operations

Operation
Add, edit and delete Issues
Generate and view a rich text format report of your issue list

Notes

- You can transport these issue definitions between models, using the 'Configure > Model > Transfer > Export Reference Data' and 'Import Reference Data' ribbon options
- To print out the currently displayed items, select the 'Print List' context menu option
- You can re-organize the display of the listed tasks using the List Header facilities for reported information
- In the Corporate, Unified and Ultimate editions of Enterprise Architect, if security is enabled you must have 'Manage Issues' permission to update and delete Issues records

Add, Delete and Modify Issues

You can maintain project issue records using either the:

- 'Issue Detail' dialog from the 'Issues' tab of the Project Status view, or
- 'Project Issues' dialog

These two dialogs have very similar fields.

Access

Ribbon	Construct >Change Management > Status > Project Status (Tasks & Issues) > Issues

Maintain Project Issues

Step	Action
1	If creating a new issue: • On the 'Issues' tab of the 'Project Status' view, double-click in a blank area to display the 'Issue Detail' dialog, click on the New button

	or • On the 'Project Issues' dialog, click on the New button If editing an existing item: • On the 'Issues' tab of the 'Project Status' view, double-click on an item to display the 'Issue Detail' dialog or • On the 'Project Issues' dialog, click on the item within the 'Project Issues & Discussion' list
2	Enter or update these issue details, selecting a value from the field's drop-down list where appropriate: • The issue name • Automatic naming - if you have set up automatic naming conventions, click on the Auto button to insert the predefined element name and counter text; if you already have some text in the 'Name' field, it is over-written by the automatic naming text • The issue priority • The date the issue was raised • The issue status • The issue owner • A description of the issue • The name of the person who resolved the issue • The date on which the issue was resolved (select

	the checkbox to activate the date) • Any comments on the resolution
3	Click on the Apply button or Save button.
4	If the issue is closed (and all the 'Resolution' fields are completed), click on the Close Issue button.
5	To create another entry click on the New button or, to close, click on the OK button or (on the 'Project Issues' dialog) the Close button.
6	To delete an issue: • On the 'Issues' tab, right-click on the entry and select the 'Delete' option, then click on the Yes button on the confirmation prompt or • On the 'Project Issues' dialog, click on the item in the 'Project Issues & Discussion' list, ensure that the 'Resolution' fields are complete, then click on the Delete button

Notes

- You cannot delete a Closed issue through the 'Project Issues' dialog

- You can filter the list of issues by status, to include or exclude:
  - On the 'Issues' tab, all issues or just Open, Closed or Under Review issues, using the 'Set Term Filter' context menu option
  - On the 'Project Issues' dialog, closed issues, using the 'Show Closed Issues' checkbox

Report From Project Issues Dialog

This topic explains how to generate a document report on your project issue records, from either the Project Status window, or from the 'Project Issues' dialog.

Access

Ribbon	Construct > Change Management > Status > Project Status (Tasks & Issues) > select 'Issues' tab > right-click and choose 'Create Report'

Generate a Project Issues report

Step	Action
1	On the Project Status window, click on the 'Issues' tab to show the 'Issues' page.
2	Right-click anywhere on the 'Issues' page and from the context menu, choose 'Create Report'.

	The 'Save As' dialog displays.
3	Browse for and select the appropriate file location. In the 'File name' field, type the file name for the report.
4	Click on the Save button. A status message displays when the report has been generated.

Report From Project Issues Tab

This topic explains how to generate a document report on your project issue records using the 'Issues' tab of the Project Status view.

Access

Ribbon	Construct > Change Management> Status > Project Status (Tasks & Issues) > Issues > Right-click on Issues list > Create Report

Generate your project issues report

Step	Action
1	Right-click on the 'Issues' tab and select the 'Create Report' option. The 'Save As' dialog displays.
2	Browse for and select the appropriate file location.

	In the 'File name' field, type the file name for the report.
3	Click on the Save button. A status message displays when the report has been generated.
4	Click on the OK button and then on the View RTF button. The report displays in your default viewer.

Use to

- Generate and view a document report on project issues

Report Output Sample

This is an example of the output from an Issues report.

List of Project Issues: 24-Jul-2010 9:47:00 AM

Issue	Date/Owner	Description	Resolution
Test servers will be delayed	24/07/2014 Eloise Norman	The test server builds have been delayed because the particular (unusual) memory requirements to match the customer's site are not available on shore. They are being sourced from Singapore but it will delay the builds and delivery of the machines.	Closed: 24/07/2014 Geoffrey Sparks The machines will be built and delivered using standard memory and the proprietary memory will be added later. All performance tests will be delayed until the memory is available.
Public Holidays	24/07/2014 Joanna Stoat	The schedule includes staff working on public holidays. A number of staff have indicated that contrary to what they stated earlier they are not available.	Open: 24/07/2014
Compiler Version disparity	24/07/2014 Eloise Norman	A number of the developers have downloaded different versions of a number of the compilers. This has lead to unpredictable builds impacting on testing.	Under Review: 24/07/2014

Use Case Estimation

Project estimation is the task of working out how much time and effort is required to build and deploy a solution.

The Use Case metrics facility in Enterprise Architect provides a starting point for estimating project effort; using this facility you can get a rough measure of the complexity of a system and some indication of the effort required to implement the model. Like all estimation techniques, Use Case metrics requires some experience with previous projects to 'calibrate' the process.

There is additional information available on Use Case metrics on the Sparx Systems website.

Access

Ribbon	Configure > Reference Data > Project Types > Estimation Factors

Processes

Process	Description

Calibrating	These values must be carefully calibrated in order to gain the best possible estimates: • Technical Complexity Factors, which are values that attempt to quantify the difficulty and complexity of the work in hand • Environment Complexity Factors, which are values that attempt to quantify non-technical complexities such as team experience and knowledge • Default Hour Rate, which sets the number of hours per Use Case point
Estimating	Once you have entered all the calibration values, you can estimate the project timescale through the 'Use Case Metrics' tab of the QA ReportsView. The estimation process also draws on information on Use Cases recorded on the 'Resource Allocation' tab.

Technical Complexity Factors

Technical Complexity Factors (TCFs) are used in the Use Case Metrics estimation technique.

The EABase.eap model contains a default set of TCFs, which you can add to or modify using the 'Estimation Factors' dialog. This set of factors should include all factors that could affect the technical complexity of the project environment.

Access

Ribbon	Configure > Reference Data > Project Types > Estimation Factors > Technical Complexity Factors

Maintain Technical Complexity Factors

Step	Action
1	On the 'Technical Complexity Factors' tab, either: • Click on the New button to add another TCF, or

	• Click on the required factor in the 'Defined Technical Types' list to edit it (go to step 3)
2	In the 'Factor Number' field, type the appropriate TCF number.
3	In the 'Description' field, type or edit the TCF description.
4	In the 'Weight' field, type or edit the technical complexity weighting. This indicates how much technical complexity you assign to a factor; for example, 'the system is to be developed in ADA' might warrant a higher weight than 'the system is to be a shell script'.
5	In the 'Value' field, type or edit a value representing the degree of influence the factor has on the project. As a suggested gauge: • 0 indicates no influence • 3 indicates average influence • 5 indicates strong influence
6	Click on the Save button.
7	Examine the 'Defined Technical Types' list, and scroll across it to show the 'Ex Value' column

	(Weight x Value). The summed Ex Values yield the 'Unadjusted TCF value' (at the bottom of the dialog). The 'Unadjusted TCF value' is combined with the Environment Complexity Factors to skew the overall complexity up or down, depending on the level of technical complexity and the corresponding level of environmental support.

Notes

- The TCF Weight evaluates its respective factor, but is irrelevant to a project; the 'Value' field assesses each factor's role within a project and, for most purposes, is the only field requiring adjustment
- The supplied factors and their associated weights are defined by the Use Case Points Method, although they can be adjusted to suit a project's specific requirements
- You can transport the Technical Complexity Factors between models, using the 'Configure > Model > Transfer > Export Reference Data' and 'Import Reference Data' ribbon options

Environment Complexity Factors

Environment Complexity Factors (ECFs) are used in the Use Case Metrics estimation technique.

The EABase.eap model contains a default set of ECFs, which you can add to or modify using the 'Estimation Factors' dialog. This set of factors should include all factors that could affect the general design and development environment, including team experience and knowledge, team size, expertise and other non-functional environmental factors.

Access

Ribbon	Configure > Reference Data > Project Types > Estimation Factors > Environment Complexity Factors

Maintain Environment Complexity Factors

Step	Action

1	On the 'Environment Complexity Factors' tab, either: • Click on the New button to add another ECF, or • Click on the required factor in the 'Defined Environment Types' list to edit it (go to step 3)
2	In the 'Factor Number' field, type the appropriate ECF number.
3	In the 'Description' field, type or edit the ECF description.
4	In the 'Weight' field, type or edit the environment complexity weighting. This indicates how much complexity you assign to a factor.
5	In the 'Value' field, type or edit a value representing the degree of influence the factor has on the project. As a suggested gauge: • 0 indicates no influence • 3 indicates average influence • 5 indicates strong influence
6	Click on the Save button.
7	Examine the 'Defined Environment Types' list, and scroll across it to show the 'Ex Value' column (Weight x Value).

	The summed Ex Values yield the 'Unadjusted ECF' value (at the bottom of the dialog). The Unadjusted ECF value is combined with the Technical Complexity Factors to skew the overall complexity up or down, depending on the level of technical complexity and the corresponding level of environmental support.

Notes

- The ECF Weight evaluates its respective factor, but is irrelevant to a project; the 'Value' field assesses each factor's role within a project and, for most purposes, is the only field requiring adjustment
- The supplied factors and their associated weights are defined by the Use Case Points Method, although they can be adjusted to suit a project's specific requirements
- You can transport the Environment Complexity Factors between models, using the 'Configure > Model > Transfer > Export Reference Data' and 'Import Reference Data' ribbon options

Default Hours

Setting an hourly rate is the most difficult factor in an accurate estimation. Typical ranges can vary from 10 to 30 hours per Use Case point.

Studying the Use Case Points Method, from which this variable is defined, can help you to understand its role in the estimation and facilitate selection of a suitable initial value.

The best way to estimate this value is through analysis of previous completed projects. By calculating the project estimation on a completed project for which the Use Cases and environment are configured within Enterprise Architect, you can adjust the hour rate to render an appropriate value for your unique work environment.

Access

Ribbon	Configure > Reference Data > Project Types > Estimation Factors > Default Hour Rate

Set the default hour rate per adjusted Use Case point

Step	Action
1	In the 'Duration' field, type the number of hours per Use Case Point.
2	In the 'Hourly Rate' field, type the cost per hour.
3	Click on the Close button.

Notes

- The values you enter are stored as local settings on your computer only
- This option is also active in the 'Lite', read-only version of Enterprise Architect

Estimating Project Size

Enterprise Architect uses a simple estimation technique based on the established:

- Number of Use Cases to be built
- Difficulty level of those Use Cases
- Project environment factors and
- Build parameters

This technique is of value only once you have developed a couple of known projects to use as a baseline. Please DO NOT use the provided 'guesstimates' as a real world measure until you have some real world base lines to measure against.

Access

Ribbon	Click on the required Package in the Project Browser, then: Construct > Status > QA Reports > Use Case Metrics

Complete a Use Case Metrics Estimation

Field	Action
Root Package	Confirm the root Package in the hierarchy. All Use Cases under this Package could potentially be included in the report.
Reload	Re-run the load from the selected Package, usually after you change the filter criteria.
Phase like	Include Use Cases with a phase that matches the wildcard value in the field. Use * to match any characters, for example 1.* for 1.1 and 1.2.
Keyword like	Include Use Cases with a keyword that matches the wildcard value in the field. Use * to match any characters.
Bookmarked	Include all Use Cases, or only those that are tagged, or those that are not tagged.
Use Cases	Check the total count of Use Cases in the estimate. The Use Cases and their parameters are listed in the panel underneath this field.

Include Actors	Select to include Actors in the estimate.
Technical Complexity Factor	Review the parameters that describe the degree of technical complexity of the project. While the 'Unadjusted TCF Value' comes from the 'Technical Complexity Factors' tab of the 'Estimation Factors' dialog, the other values compose the Use Case Points Method formula. Modify these fields with caution. The final project estimate is directly proportional to the TCF.
Environment Complexity Factor	Review the parameters that calculate the degree of environmental complexity of the project, from factors such as programmer motivation or experience. The listed parameters compose the formula calculating the ECF, defined by the Use Case Points Method; the only parameter affected by the project is the Unadjusted ECF Value, derived from the 'Environment Complexity Factors' tab of the 'Estimation Factors' dialog. The final project estimate is directly proportional to the ECF.

Unadjusted Use Case Points (UUCP)	Check the sum of the Use Case complexity numbers.
Ave Hours per Use Case	Check the average number of hours assigned to easy, medium and difficult Use Cases. You cannot change these figures.
Total Estimate	Review the detailed breakdown of the final figure. You must tailor the hours per Use Case Point figure to the level that matches your type of project and capability based on known previous project outcomes.
Default Rate	Set the default number of hours to be fed into the final calculation.
Re-Calculate	Re-run the estimate, usually after you change the hours or Use Case point number.
Report	Produce a rich text formatted report from the current estimate.
View Report	Display the last-generated report.

Monitor Change Events

You can automatically monitor work events in your project, using the Model Views facility.

Guide

Aspect	Detail
Model Views	This facility enables you to: • Automatically refresh a search in a View at an interval that you define • Notify you if the results of the search change between two consecutive searches You can therefore use Model Views to monitor various events in the development project, depending on how you set up the search in a View.
Example	You could set up a search to detect: • Change items, or Issue items, so that Enterprise Architect would notify you as new items were created • Element Status, Type, Phase, Version, Priority and/or date of last update, so that Enterprise Architect would notify

	you as items were progressed to: - Fall in to the level of work represented by the search categories - Move out of the categories into the next level of work • Tagged Values, so that - again - as items were changed to satisfy the criteria of a sequence of searches, the progression of items through a set of stages could be checked and managed
Personalization	People responsible for different stages in a process could have their own Model View searches so that: • As a development, validation or authorization task falls due the responsible person is automatically notified, and • When the work is complete both the next person in line and the overseeing manager are notified

Notes

- This facility is available in the Enterprise Architect Corporate, Unified and Ultimate editions

Model Watches

Enterprise Architect provides you with the facility to watch for a range of activities linked to your user ID, across not just one project but any or all of those to which you have access. This helps you to stay up to date with changes, developments and conversations in the projects in which you are working or have an interest.

Specifically, you can set up a Watch list to notify you of:

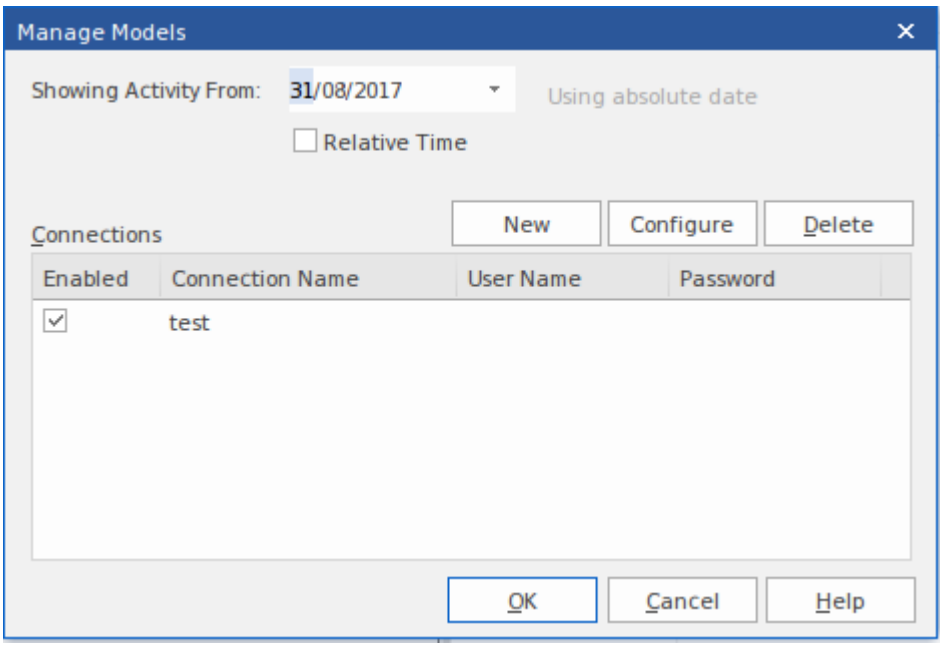
- New model chats
- New model messages
- Recent element discussions
- Recent team reviews
- Recently flagged watched items
- Recently modified diagrams
- Recently modified elements
- Active tasks
- Tasks ending today, and/or
- Tasks overdue

You can monitor for these events in the project or projects from a specific date onwards, or over a rolling interval of time such as the previous seven days.

Access

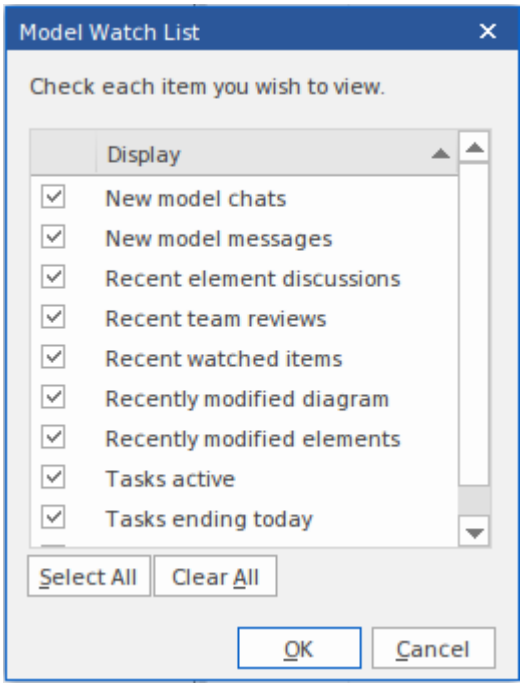
Other	Start page > Recent drop-down arrow > Configure Watched Models

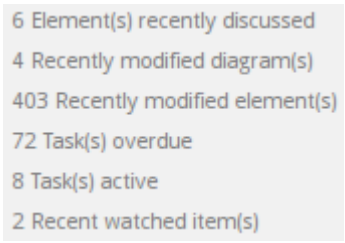
Configure a Watch List



Step	Description
1	In the 'Showing Activity From' field, click on the drop-down arrow and select the date from which to start monitoring events. If you want to accumulate information over time, leave the 'Relative Time' checkbox unselected to collect the data starting from the set date as the absolute date.

	If you want to show information gathered only over the previous fixed interval, select the checkbox. The system then calculates the interval between the set date and today, displaying the length of that interval next to the date field. Adjust the selected date to give you the interval you require. The system will then provide information gathered only during that interval, rolling forward.
2	Click on the New button to add a project to the watch list. A short menu displays, offering options to access the project through a: • Local file path - a browser displays through which you locate and select the project file • Connection Wizard - the Windows 'Data Link Connection' dialog displays through which you can open a model on a DBMS • Cloud Connection - the 'Cloud Connection' dialog displays; ensure that all the connection details are correct • Connection string that you have copied - the 'Connection String' dialog displays; paste the copied string into the 'Enter Value' field and click on the OK button The name of the project displays in the 'Connections' panel, with the 'Enabled' checkbox automatically selected. At any point, if you want to drop the project out of the watch, you can simply de-select the 'Enabled' checkbox.

	In the 'User Name' and 'Password' fields, type the login parameters necessary for the system to open the watched model under your ID.
3	Click on the connection name and then on the Configure button. The 'Model Watch List' dialog displays.  Click on each checkbox to select the items to monitor, or to clear selected items as required. You can also use the Select All button or Clear All button to act on all items at once, and then select or clear individual items. When you have made your selection, click on the OK button to save the changes. On the 'Manage Models' dialog, click on the OK button to save the model Watch and close the dialog.
4	To check for any events picked up by your watchlist,

	on the Start page click on the 'Models' drop-down arrow and select the 'Watched' option. The list of recently-accessed projects is updated to show just those included in your watchlist. The message 'Querying watched models' displays, followed by a login prompt for each project that has controlled access. Type in your login parameters. Under each project name, a summary list of the watched items and events is displayed.  You can review the flagged items by clicking on the watched model name and running the appropriate Model Search or displaying the Discussions window. This closes the original project in which you checked the watchlist.
5	After you have checked the Watched projects, and if necessary, you can click on the 'Models' drop-down arrow and select the 'Configure Watched Models' option to update the watchlist configuration, as in steps 1, 2 and 3. If it is necessary to remove a project entirely from the watchlist, on the 'Manage Models' dialog click on the project name and on the Delete button. If you have finished working with the watchlist,

	click on the 'Models' drop-down arrow and select the 'Recently Used' option to restore the model list to the full list of recently-accessed models.