



Enterprise Architect

User Guide Series

# Cloud Based Repositories

Modeling via the Cloud? You can access projects in repositories in remote locations globally, using Sparx Systems Enterprise Architect; users need not have database drivers on their machines, but benefit from the security facilities of the web server.

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# Cloud Based Repositories



With a simple connection to the internet or web - the 'Cloud' - you can access and work on projects stored in repositories at remote locations anywhere in the world, or access local repositories from such locations, using the Enterprise Architect installation on your machine. The advantages of working in this way include:

- You, as a user, do not need to have database drivers installed on your machine or to create a database connection, as you do to work directly on projects held on a DBMS server; your system administrator performs the driver set-up and connection once only, during server configuration
- The http and, especially, https connections apply a firewall and all the security facilities provided by the web server - whether Apache or IIS - to your project work, such as URL authorization, domain authentication and IP security
- The Cloud Server can be configured to encrypt all communications using standard TLS/SSL protocols; you can be certain that your data is not intercepted during transmission across insecure networks

Using the Cloud can help to reduce lag time for common tasks such as opening Packages and editing model data. Requests are cached and sent together, rather than individually, which minimizes communication delays.

Using the Cloud server is most beneficial when:

- You and other users want to minimize the set-up requirements each user has on their workstation
- You want to expose models held outside your private network
- You and other users are accessing your models over slow connections

## Notes

- This facility is integrated with the Professional, Corporate, Unified and Ultimate editions of Enterprise Architect
- An enhanced version of Cloud Services, called Pro Cloud Server, is available for purchase under a separate license; this version supports the WebEA facility, in which users can review models through a web browser on various portable devices, without the need for an Enterprise Architect workstation client



# Introducing Cloud Services

The Sparx Systems Cloud Services solution provides seamless access to Enterprise Architect models in repositories held anywhere in the world, providing high performance for remote access, secure encrypted links and optimization for high latency WAN connections.

Cloud-based repositories provide easy access to models, not only for people within your local team but also for remote team members, external customers and consultants with Internet access, anywhere around the world. Collaborative and distributive modeling and design are dramatically enhanced by using a Cloud-based repository, which can provide the shared backbone for a wealth of development scenarios.

This section will:

1. Familiarize you with the concepts of the Cloud Services
2. Discuss considerations of when and where you should use a Cloud server
3. Walk you through the process of setting up a server
4. Walk you through the process of connecting for the first time
5. Highlight some of the additional functionality available through the Cloud server
6. Outline working with Active Directory using IIS

## Overview

Enterprise Architect models are stored in databases, such as MySQL, SQL Server and Oracle. Traditional installations of Enterprise Architect require each user to install the appropriate drivers for each DBMS, and in some cases define an ODBC DSN with the database connection details.

When connecting to a Cloud Server, the procedure for a user to connect to a model is dramatically simplified. For users connecting to models stored in a Cloud Server, the process is as simple as entering a single URL to the provided Cloud repository. No special drivers or further configuration is required.

Connecting to a Cloud Server provides a number of key benefits:

1. Improved performance for models used for distributed development. The Cloud Server provides benefits to connections that involve high latency and reduced data transfer speeds.
2. The process of setting up drivers and connections is performed once by an administrator during the server configuration. The only set-up required on a user machine is to install Enterprise Architect and to connect to a model on the Cloud server.
3. Database servers no longer have to be exposed through a firewall; the Cloud server can be run from inside the corporate firewall. All model connections are created using HTTP, allowing firewalls to completely isolate your database server.
4. A Cloud server can be configured to encrypt all communication. Using standard TLS/SSL protocols, you can be confident that your data is not intercepted during transmission on insecure networks.
5. A Cloud server can be configured to provide HTTP-level authorization to any model taken directly from the model user list. Even when the model is exposed on a public network, you can be assured that only authorized users are able to access your model.
6. A Cloud server can be configured to provide read-only access to any model; for example, for clients required to review a model.

## Security Considerations

The Sparx Systems Cloud Service runs as a Windows Service, accepting network connections from Enterprise Architect clients and sending the data required by the system back over the network. As with any web connected service, there are security concerns that must be addressed when setting up a new service. To help you minimize risks, consider these points:

- If any data is considered private, always use an HTTPS connection and require user authentication; there is an option on each of the service's database configurations to prompt for this
- There is an implicit trust in sharing a model with anyone; security is available in models, which prevents a wide range of possible interactions, but with Enterprise Architect's flexibility determined users can circumvent this

In particular, Model Search SQL queries can be run in a number of places that allow data to be read that would not otherwise be accessible, including user IDs and hashes of their passwords; to block this type of access for a list of users, you could use **Global Authentication** instead of **Model Authentication**, as discussed in the *Cloud Server Configuration* Help topic

## Cloud Services Products

Sparx Systems offer three configurations of their Cloud Services product.

Product	Description
Cloud Services	<p>The core Cloud Services product.</p> <p>Allows you to host an unlimited number of Cloud Models, which can be accessed using a Corporate, Unified or Ultimate edition of Enterprise Architect.</p>
Pro Cloud Express	<p>A light weight version of the Pro Cloud Server, specifically aimed at allowing WebEA access. Offered for free to users with five or more Enterprise Architect licenses (Corporate edition or higher) that are currently in maintenance.</p> <p>Pro Cloud Express license expiry matches the maintenance expiry of the Enterprise Architect licenses.</p> <p>Features:</p> <ul style="list-style-type: none"> <li>• The core Cloud Services functionality</li> <li>• Models can be configured to support WebEA access</li> </ul> <p>There is no limit to the number of models that can have WebEA access enabled; however, the number of concurrent WebEA users is limited based on the number of Pro Cloud Express licenses.</p>
Pro Cloud Server	<p>A separately purchased and licensed product.</p> <p>Features:</p> <ul style="list-style-type: none"> <li>• The core Cloud Services functionality</li> <li>• The Sparx Systems Keystore and floating license server</li> <li>• Models can be configured to support Pro Features (WebEA access, Row-level security, and OSLC restful api access)</li> </ul> <p>The number and type of models that can be configured to support Pro Features is limited based on the edition of Pro Cloud Server; however, there is no limit on the number of concurrent users who can access models (either via Enterprise Architect or WebEA).</p>

## Webinar

Before you go on to set up the Cloud Server, Sparx Systems recommend that you watch the 'Introduction to Sparx Systems Cloud Services' webinar, which you can access by clicking on this link:

<https://sparxsystems.com/resources/webinar/model-repository/cloud/introduction/introduction-cloud-services.html>

You can also watch this second webinar, which demonstrates setting up a MySQL repository on the Amazon Web Services (AWS) Cloud using Amazon Relational Database Services (RDS), and creating and configuring an Enterprise Architect project in the repository via the Cloud connection.

<https://sparxsystems.com/resources/webinar/partners/cloud-server/amazon/deploy-enterprise-architect-model-on-amazon-cloud-aws.html>

# Cloud Server Setup Overview

This is an overview of the typical process for setting up the Cloud Server.

## Typical steps for setting up a Cloud Server

Step	Description
1	Install the Cloud Server.
2	Define the Cloud Service SERVER_PORT and SERVER_PASSWORD in the 'SSCloudServices.config' file.
3	Restart the Cloud Service.
4	Open the Configuration Client.
5	If you are using the Pro Cloud, add your license key.
6	Define Ports to be used for accessing Cloud Models.
7	Define connections to your repositories.
8	Restart the Cloud Service.
9	Configure your Firewall.
10	Test access to models via Cloud Connection from Enterprise Architect.
11	Optionally, if you are using the Pro Cloud Server or Pro Cloud Server Express you could then configure Pro features such as WebEA or Integration Plugins.

# Cloud Server Installation

The basic installation process is quite straightforward and you, as the System or Network Administrator, can install and/or configure some of the components at a later time, allowing you to set up your working service in stages.

As outlined in the [Introducing Cloud Services](#) topic, there are 3 different Cloud Services products available. Each of these products has its own installer. Ensure you use the appropriate installer based on your requirements and licence/s:

## Installers

Product	Access
Sparx Systems Cloud Services (SparxCloud.msi)	This installer can be downloaded from the 'Registered User' section of the Sparx Systems website: <a href="https://sparxsystems.com.au/registered/index.html#cloud-services">https://sparxsystems.com.au/registered/index.html#cloud-services</a>
Sparx Systems Pro Cloud Server Express (SparxProCloudExpress.msi)	If you have requested and received a Pro Cloud Server Express license then you will have received an email with a link to the installer.
Sparx Systems Pro Cloud Server (SparxProCloud.msi)	If you have purchased the Pro Cloud Server you will have received an email with a link to the installer.

## Installation Steps

If you already have the Sparx System WAN optimizer installed on your server we recommend you remove it before starting the Cloud Server Installation.

The installer requires you to have Administration rights; right-click on the installer (msi file), select 'Run as Administrator', then follow these steps:

1. Click on the Next button.
2. Select the option to accept the End User Licence Agreement.
3. Click on the Next button on that page, and on the next two pages of the dialog, to display the 'Select Features' page.
4. For a simple default installation on the one machine, go straight to step 6.
5. If you want to install only specific components, for example, to have different components on separate machines, refer to the *Cloud Server Components* table and the *Installation Options* table, then return here to step 6.
6. Click on the Next button. The system installs the Cloud Services components and displays a message to indicate success.
7. Click on the Finish button. Now refer to the *Cloud Server Configuration Help* topic.

## Cloud Server Components

The 'Custom Setup' page lists the various components that are available in the installer. There is some variation to the component presented depending on which product/edition of the Pro Cloud Server is being installed.

For example the Pro Cloud Server Express will present:

### All Features

- + Pro Cloud Services
- + Management Client
- + WebEA
- IIS Integration

While the "Pro Cloud Server" will present:

### All Features

- + Pro Cloud Services
- + Management Client
- + WebEA
- + Integration Plugins
- + Visibility Levels
- IIS Integration

Each component can be controlled separately by clicking the small image in front of the component name and selecting the option you require.

Component	Description
Cloud Services	<p>This component is the Windows service that will accept connections from Enterprise Architect and the configuration client. For Pro Cloud Server, this includes the Sparx Systems Floating License Server. The default option is to install this component.</p> <p>Generally, the only time you would choose not to install this component is when you have already installed it on one machine and are now installing other components on a different machine.</p>
Management Client	<p>When the Management Client component is selected the Cloud Configuration Client application will be installed, which supports the execution of management tasks, including:</p> <ul style="list-style-type: none"> <li>- setting which databases a Cloud Service can connect to</li> <li>- configuring those database connections</li> <li>- configuring what HTTP/HTTPS ports the Cloud Service will listen on</li> <li>- configuring various server options</li> </ul> <p>The default option is to install the component; Sparx Systems recommends that the Configuration Client should be installed whenever the Cloud Service is installed.</p>
WebEA	<p>(For a Pro Cloud or Pro Cloud Express Installation); this component installs the WebEA application files (PHP, CSS and JavaScript) that enable a web user to view an Enterprise Architect model on a mobile, android or remote desktop machine without having to install Enterprise Architect on that device.</p> <p>The default option is to install this component; you can unselect this component if you do not plan to use WebEA.</p>

Integration Plugins	<p>(For a Pro Cloud installation) Integration Plugins or Server Based Plugin Interface (SBPI); this component installs the SBPI Server and the SBPI Plugins that allow the Pro Cloud Server to read data from external products such as Dropbox, Jira and Team Foundation Server.</p> <p>The default option is to install this component; you can unselect the component if you do not plan to link your Enterprise Architect models to external products.</p>
Visibility Levels	<p>(For a Pro Cloud installation) Visibility Levels; this component installs a set of SQL scripts to be applied to your MS SQL Server 2016 + or Oracle based Enterprise Architect repositories.</p> <p>The default option is install this component; you can unselect this component if you do not plan to use the Visibility Level functionality.</p>
IIS Integration	<p>An optional component providing integration with IIS.</p> <p>The default option is to not install this component; however, if your server requires advanced authentication methods available through IIS then this component should be installed.</p>

## Installing New Versions

If you are installing a newer version of the same Cloud Server product then the new installer will automatically uninstall the old version; if, however, you are installing a different product (for example, you previously had Pro Cloud Express and you are about to install Pro Cloud) then you need to manually uninstall the original product.

If you choose to perform a re-install, typically it is better to manually stop the Sparx System Cloud Server service because the installer might have problems performing this task and will require the machine to be rebooted after the installation is finished.

Note: The installer has been designed to not override any configuration settings of a previous installation.

### Steps

1. Run the installer using the earlier installation steps.
2. The installer will have copied the newest version of WebEA to the location specified during installation; if this location is not being used by your web server, you need to manually copy (and override) all WebEA files (except the includes/webea\_config.ini file) from the installation folder to the web server folder. See *WebEA Note*.

WebEA Note: In regard to WebEA, consider the situation that WebEA was installed to the default location and your website is being served by Apache in C:\Xampp\htdocs\webea, this command would perform the required copy:

```
robocopy "C:\Program Files (x86)\Sparx Systems\Cloud Services\WebEA" "C:\xampp\htdocs\webea" /MIR /e /DCOPY:T /njh /ndl /nfl /xf webea_config*.ini
```

Firewall Note: The installer creates a Firewall rule for the Cloud Service. This rule is removed and re-created during an upgrade. If you had previously modified this rule then you will need to apply these changes again after the Cloud Service installation.

# Cloud Server Configuration

This topic discusses the configuration of the Cloud Server, whether as the original Sparx Systems Cloud Services or as a component of the Pro Cloud Server. If you are installing the Pro Cloud Server, there are several other configuration files associated with the Floating License Server, WebEA and Visibility Levels components of the server. The procedures for editing those files are described in the separate topics for those features.

The `SERVER_PORT` and `SERVER_PASSWORD` need to be set by directly editing the configuration file **SSCloudServices.config**, which is found in your Service directory. To edit the configuration file, open it in a text editor (using the 'Run as administrator' option).

A number of additional general options can be defined in the config file as described here; however, these can typically be left with their default values.

After defining the Server Port/Password, you can open the [Cloud Services Configuration Client](#) and configure Ports and Model/Database connections.

Note: It is important to realize that the Cloud Service only reads the configuration file once, when it starts up. If you manually change the options in the configuration file then the Cloud Service must be restarted.

## Configuration Client Connection Settings

Normally the first settings you will see in the configuration file are to control how the Configuration Client will connect to the server. The default values are:

`SERVER_PORT=803`

`SERVER_PASSWORD=`

Use of the Configuration Client is discussed in the *Cloud Services Configuration Client* topic.

Setting	Description
<code>SERVER_PASSWORD</code>	<b>SERVER_PASSWORD</b> is the password to protect the administration functions of the server.  Note: This can be changed within the Configuration Client, which means a full server restart will not be necessary.
<code>SERVER_PORT</code>	<b>SERVER_PORT</b> is used when you connect to the Configuration Client or opt to use the IIS integration instead of the integrated web-server. For more detail see the <i>Cloud Server Using IIS</i> Help topic.  Note: When changing this, check firewall settings and other services using the port. Additionally, when the service is running on Wine you should not use privileged ports - those below 1024. Under Wine, most applications are only able to listen on ports above 1024.

## General Settings

The next list of settings includes the default global settings across the entire service:

`DBMAN_DEFAULTMAXSIMQUERIES=10`

`AUDIT_TIME_PERIOD=3600`

`TEMP_DIRECTORY=%SERVICE_PATH%\Temp`

`LOGGING_LEVEL=SYSTEM`

`LOGGING_DIRECTORY=%SERVICE_PATH%\Logs`



LOGGING\_FILECOUNT=3

LOGGING\_FILESIZE=1048576

Setting	Description
DBMAN_DEFAULTMAX SIMQUERIES	The default for the maximum number of simultaneous queries that can be run at a time for any configured database. This can be changed directly within the Management Client (see <b>Default Max Simultaneous Queries</b> under <i>Global Server Options</i> in the <i>Cloud Services Configuration Client</i> topic). There is no explicit limit for this default value.  Note: As this can be set directly within the Configuration Client, a full server restart will not be required if you change it.
AUDIT_TIME_PERIOD	The number of seconds between the recording activities by system logs on each database.
TEMP_DIRECTORY	The location to write temporary files before they are sent to clients. You should not generally have to change this.
LOGGING_LEVEL	Determines how verbose the server should be when writing log files. The valid values are: OFF, FATAL, WARNING, INFO and SYSTEM. The value can be changed directly within the Management Client. (See <b>Log Level</b> under <i>Global Server Options</i> in the <i>Cloud Services Configuration Client</i> topic).  Note: As this can be set directly within the Configuration Client, a full server restart will not be required if you change it.
LOGGING_DIRECTORY	Defines where the log files are to be stored. The default is set to: =%SERVICE_PATH%\Logs Note: The =%SERVICE_PATH% refers to the directory where the Cloud service is installed.
LOGGING_FILECOUNT	Determines the maximum number of rolling log files that should be kept. When the file count is exceeded, the oldest file is automatically deleted.
LOGGING_FILESIZE	Determines the maximum file size of each log file. When the logging file size is reached a new log file is created.  For more details on using the logs see the <i>Cloud Server Troubleshooting</i> topic.

## Restarting the Sparx Cloud Service

If you make any changes to the configuration file you must restart the service for the changes to take effect (unless otherwise stated). A service restart is carried out in the Windows Services application.

Depending on the operating system, there are two methods for restarting the Cloud Service:

1) Using Windows Services. This is available in all versions of Windows (see 'Control Panel | Administrative Tools | Services').

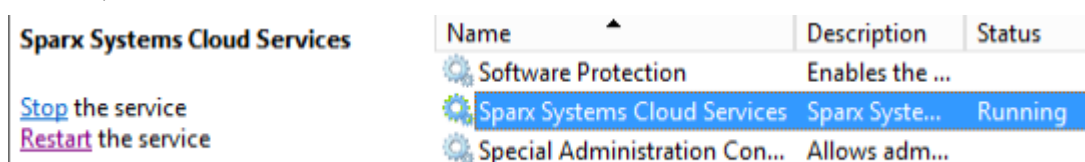
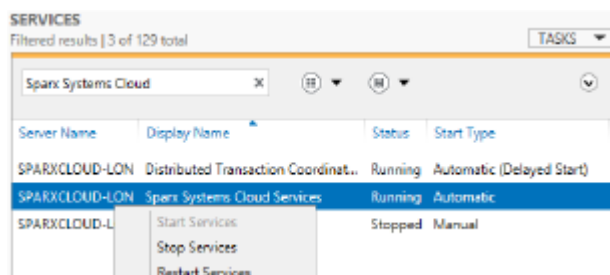


Figure 8: Start and Stop options for Cloud Services in the Windows Services view

## 2) Using the Server Manager on Windows Server 2012.



## Notes

If you need to assign passwords to user IDs for a model or models that will be accessed via the Cloud, then:

1. Open the reference model using a direct connection or via a Cloud connection on a port that does **not** have either `MODEL_AUTHENTICATION` or `GLOBAL_AUTHENTICATION` set.
2. Enable security and assign a new administrator password.
3. Open the Cloud Server Management Client for the new database and set the checkbox 'Require a secure and authenticated connection'. (Now that you have a valid account, this model will no longer be accessible without https and http level authentication.)
4. Connect to the model on a port that **does** have an `_AUTHENTICATION` setting and use the *Maintain Users* procedure to assign passwords to the user IDs in the model.

## Cloud Services Configuration Client

At any point after installation you can configure the Cloud Server using the Configuration Client application; the installer will create a **Cloud Services Configuration Client** shortcut on the desktop (this name might vary slightly depending on which of the Cloud Service Products you installed).

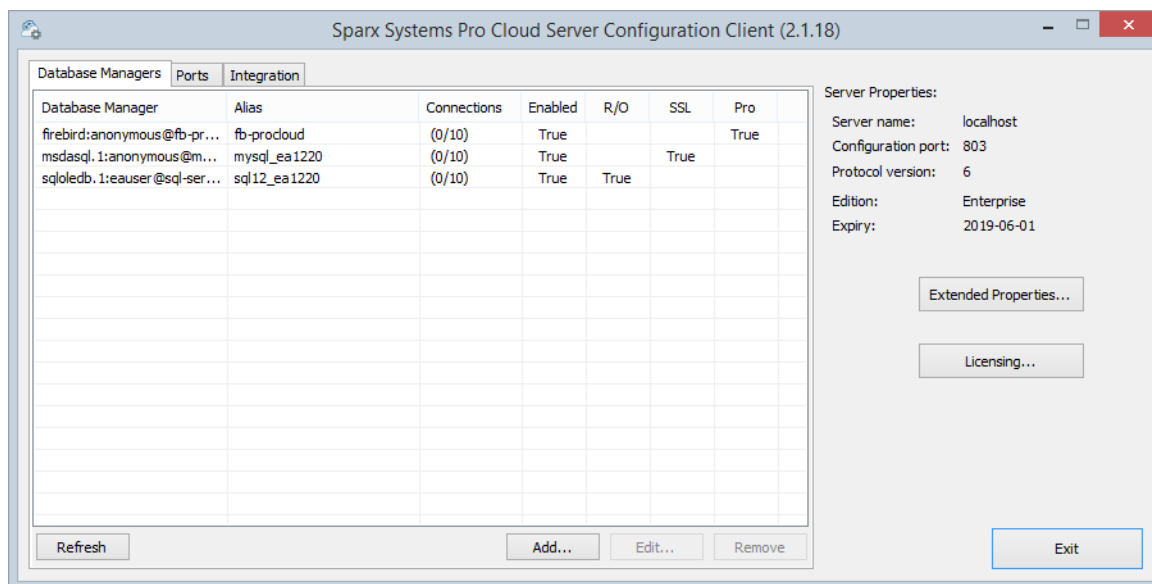
By default the Configuration Client executable is accessible from the 'C:\Program Files (x86)\Sparx Systems\Cloud Services\Client' folder.

The Configuration Client can be used from any machine on your local network; however, communications between it and the Cloud Service are not secure, so it should not be used from outside a secure network.

The Configuration Client is used to configure various settings related to the Cloud Service and the repositories it connects to. When the application first starts, a prompt displays to log into a Cloud Service (see the [Cloud Services Logon Screen](#) topic for details). Once you have logged in, the main screen displays.

### The Main Screen

This screen shows a list of all defined database managers and the details of the connected Cloud Service. It is also the entry point for all management functions; that is, new database connections can be created, existing ones edited and old ones removed.



Sparx Systems Cloud Services support connections to these DBMS products:

- Firebird
- Microsoft SQL Server
- MySQL
- Oracle
- PostgreSQL

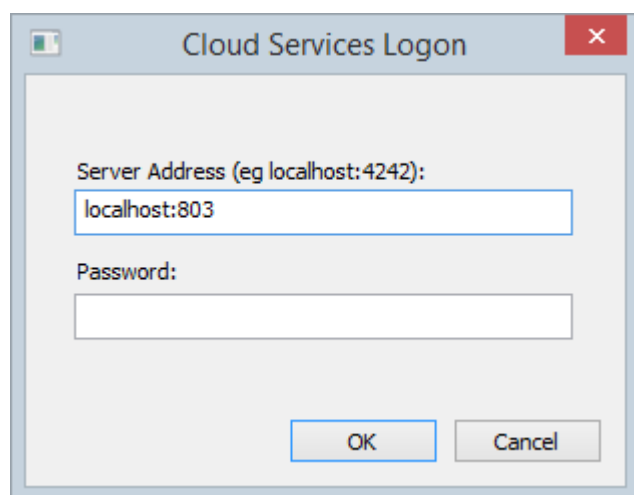
Item	Description
Database Managers	This panel lists the defined repositories that the Cloud Service managers. Each database manager definition contains the details of one database connection and a number of other properties that control how the database connection will be managed. The most important of these properties are displayed as columns in this list:

	<p><b><u>Columns</u></b></p> <p>Database Manager - the database connection string of the repository</p> <p>Alias - a unique name that identifies the repository. On Enterprise Architect's 'Cloud Connection' screen this is the value entered into the 'Model Name' field. An alias can be assigned when a database manager is defined, if this field is left blank the Cloud Service will determine its value.</p> <p>Connections - the number of active user connections and the maximum number of connections possible. Note: typically the number of active user connections is zero, since they are only considered 'active' while a request is being processed, as soon as the data is returned to the client the connection is set to inactive. The number of connections is only refreshed when either the Refresh button is pressed or a change is made to a database manager's definition.</p> <p>Enabled - a flag to indicate if the database manager accepts requests from clients</p> <p>R/O - a flag to indicate if the database manager has been configured as Read-Only</p> <p>SSL - a flag to indicate if the database manager has been configured to only allow secure connections</p> <p>Pro - a flag to indicates if 'Pro features' has been enabled for the repository, this is controlled by the 'Enable Pro Features (OSLC, WebEA and Integration)' option on the Configure Database Manager screen.</p>
Ports	This panel allows you to view and configure Ports which the Cloud Service will use for accessing Models.
Integration	Only available when using the Pro Cloud Server. This panel allows you to configure Cloud Models to use Integration Plugins.
Server Properties	<p>The properties on the right hand side specify the details of the connected Cloud Service.</p> <p><b><u>Main Properties</u></b></p> <ul style="list-style-type: none"> <li>• Server name - the server name hosting the currently connected Cloud Service</li> <li>• Configuration port - the port the Cloud Client is using for communication with the Cloud Service</li> <li>• Protocol version - an internal version number that identifies the message version level the current Cloud service supports</li> <li>• Edition - the edition of the Cloud Service</li> <li>• Expiry - the expiry date for the current license</li> </ul> <p>The Edition and Expiry apply to Pro Cloud licenses. If no license has been added, or the license is invalid, or it has expired, then the Edition will display 'Free' and the Expiry 'Never'</p>
Extended Properties	Click on this button to display the screen that shows all extended properties for the connected Cloud Server. A number of these extended properties can also be modified.
Licensing	Only available when using a Pro Cloud Client. This button allows you to enter the

	license for the Pro Cloud Server.
Edit	Click on this button to display the dialog on which you change the settings for the currently selected database.
Remove	Click on this button to permanently delete the selected database from the Cloud Server.
Refresh	Click on this button to reload the contents of the 'Database Managers' list.
Add	Click on this button to display the dialog on which you define a new database.

## Cloud Services Logon Screen

The Cloud Services Logon screen is the first to be shown when launching the Management Client, and at a minimum requires the address and port of the Cloud Server to connect to.



### Cloud Services Logon

Option	Description
Server Address	<p>The <b>Server Address</b> format is:</p> <p style="text-align: center;"><code>&lt;ServerURI&gt;:&lt;Port&gt;</code></p> <p>The server URI can be 'localhost', an IP address, a DNS name or a machine name; for example, MyWebServer. If you are working on the web server, 'localhost' will be sufficient.</p>
Password	<p>Enter the password you defined in <i>Management Client Connection Settings</i>, in the <i>Cloud Server Configuration</i> topic. By default this password is blank; you can reset it to a new value, as described in the Help topic <i>Global Server Options</i>.</p>
OK	<p>Click on this button to log in to the Management Client.</p>

## Extended Server Properties

The Extended Server Properties screen displays when you click on the 'Extended Properties' button on the Main screen. It helps you to configure the global options applied to the Cloud Server. Each of these options can also be set in the configuration file; however, the service does not require a restart if the options are changed using this screen.

## Options

Option	Description
Audit Time Period	Read-only display showing the number of seconds between audit reports.
Default Max Simultaneous Queries	Provides a default value for the setting of 'Max Simultaneous Queries' when defining new database managers.
Logging File Count	Read-only display showing the number of log files that should be retained. All logging is written to files named 'SparxCloudServicesLog-X.log' where X represents the file number. File 'SparxCloudServicesLog-1.log' is always the current file. When the maximum file size is reached, all existing files are renamed by incrementing the file number and a new 'SparxCloudServicesLog-1.log' created.
Logging File Size	Read-only display showing the maximum file size of each log file. When the file reaches this maximum, a new file is created.
Log Level	Click on the drop-down arrow and select the level of information to be written to the log file. The valid options are: OFF - No logging is performed

	<p>FATAL - Only fatal errors are logged</p> <p>WARNING - Warning are logged</p> <p>INFO - Information messages that provide general message advising what actions are occurring</p> <p>SYSTEM - More detailed messages</p> <p>Log Levels are cumulative, therefore each level includes its own level messages as well of those that are considered 'higher' levels. For example the INFO level includes all messages of type FATAL, WARNING and INFO</p>
Logging Directory	Read-only display showing the physical directory into which the log files are saved.
License Store	Displayed when using the Pro Cloud Server. Displays the path of the license store file, by default this is C:\Program Files (x86)\Sparx Systems\Cloud Services\Service\sskeys.dat
Temp Directory	Read-only display showing the physical path of the temp directory, by default this is C:\Program Files (x86)\Sparx Systems\Cloud Services\Service\Temp.
Set New Password	Select this checkbox to set/change the administrator password for the currently connected Cloud Server. If a Password is set then all users attempting to use the Cloud Configuration Client will be required to provide the specified password.

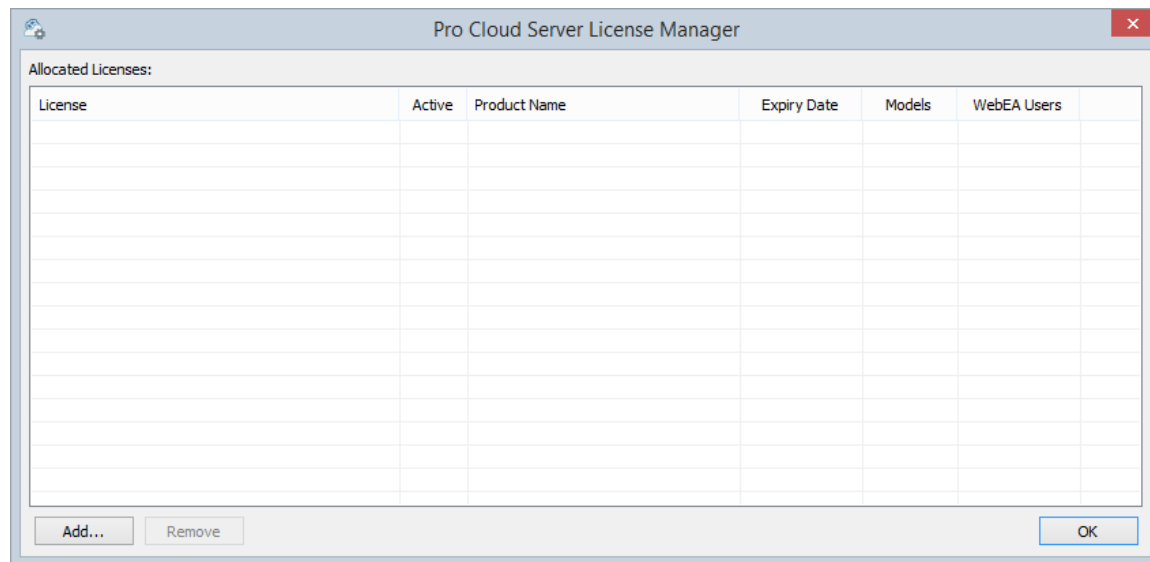


## License Screen

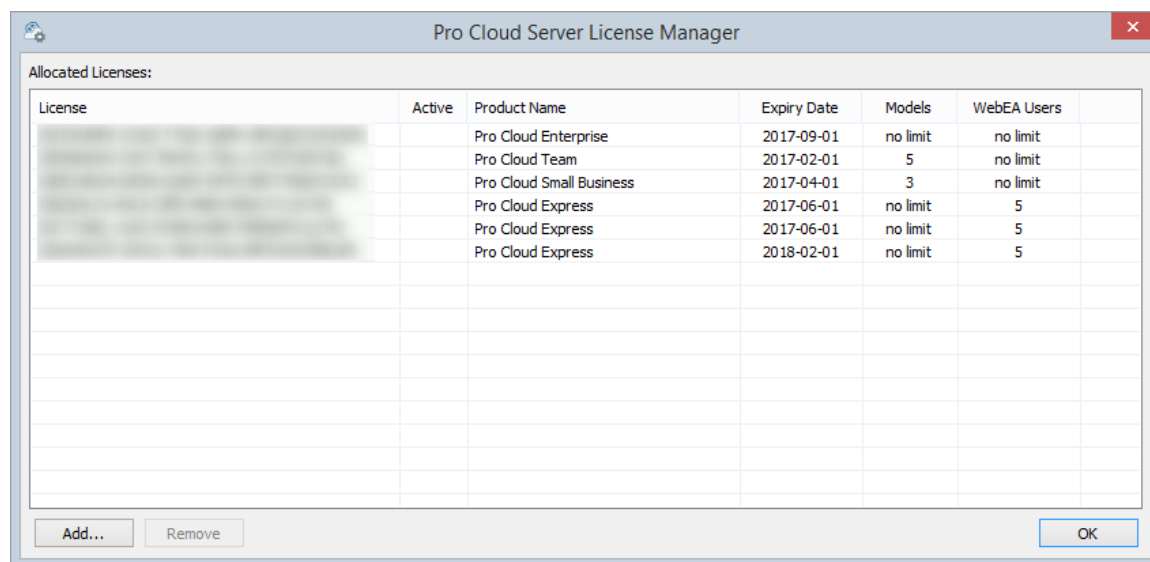
The 'License' screen displays whenever you click on the Licensing button on the Main screen. It allows the user to quickly and easily see what Pro Cloud Server licenses have been defined, and the complete details of each license.

Note: The 'License' screen is only available in the Pro Cloud Server and Pro Cloud Server Express builds of the Sparx Systems Cloud Server.

On a new installation, when the 'License' screen is first shown it should look resemble this:



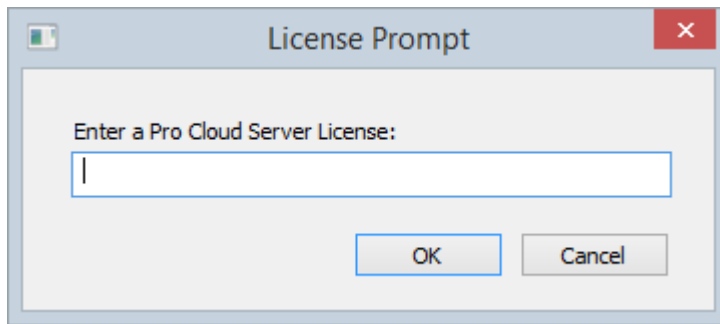
However, over time as your Pro Cloud Licenses expire you will be able to see a complete history of all licenses:



If there are multiple licenses defined, the Pro Cloud Server will determine the 'best' one, or the one with the latest expiry date when licenses are for the same Product. Any license shown with 'True' in the 'Active' column is a license currently being used. In the example, none of the licenses are shown as 'Active' since they have all expired.

### Add a new License

Click on the Add.. button and you will be prompted for the complete license key (including the { and } ),



Enter the License key provided and click OK. If the entered value is a valid Pro Cloud Server license for the current edition then the License is added to the list of allocated licenses.

*Note:* After adding a License to the Pro Cloud Server the Cloud Service should be manually restarted in order for all components to detect the change in license details and potentially start additional components enabled by the new license.

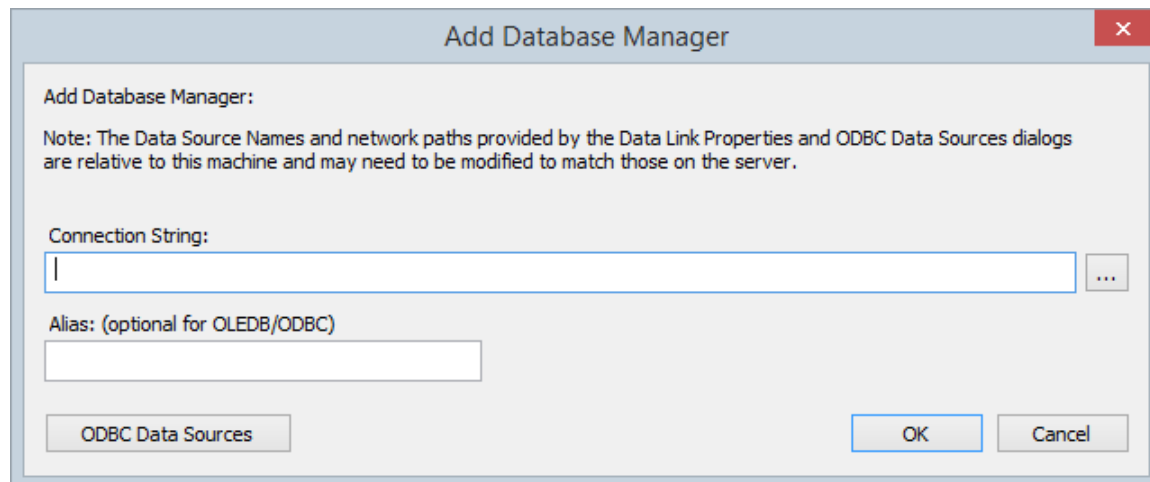
## Remove a License

At any time it is possible to remove an existing license simply by selecting the license in the list and pressing the Remove button. The list of allocated licenses will be refreshed accordingly.

*Note:* After removing a License from the Pro Cloud Server the Cloud Service should be manually restarted in order for all components to detect the change in license details and potentially start/stop components enabled or disabled by the removal of the license.


## Add Database Manager

The Add Database Manager screen displays when you click on the Add button on the 'Sparx Systems Cloud Services Configuration Client' dialog; it helps you to define a new database connection to either a local Firebird repository or a DBMS repository (via ODBC or OLE/DB).



This note is shown on the Add Database Manager screen:

'Note: The Data Source Names and network paths provided by the Data Link Properties and ODBC Data Sources dialogs are relative to this machine and may need to be modified to match those on the server.'

This means if the Cloud Services Client application is running from a remote machine (that is, not the machine running the Cloud Server) the screens that are shown by clicking on the  button and ODBC Data Sources button are relative to the current machine and not the Cloud Server machine, so care should be taken.

By default and as a safety precaution, whenever a new Database is defined it is automatically configured to be disabled. You can enable the database during definition by selecting the 'Enabled' checkbox on the Configure Database Manager screen.

**Configure Database Manager**

Database Manager: firebird:anonymous@fb-procloud

☒ Enabled

Alias: fb-procloud

Database Type: FIREBIRD

Connection String: fb-procloud ---  
DBType=9;Connect=Provider=MSDASQL.1;LazyLoad=1;Extended  
Properties="DRIVER=EA Firebird ODBC driver;DATABASE=C:\Program Files

Max Simultaneous Queries: 10

Minimum EA Build: 0

**Security**

OSLC Access Code:

☐ Require a secure and authenticated connection

☐ Read-only connection

**Features**

☒ Enable Pro Features (OSLC, WebEA and Integration)

☐ Run Scheduled Tasks

OK Cancel

## Adding New Databases

It is important to note that the Cloud Server uniquely identifies Databases by a single identifying value; this value is referred to as the database 'Alias'.

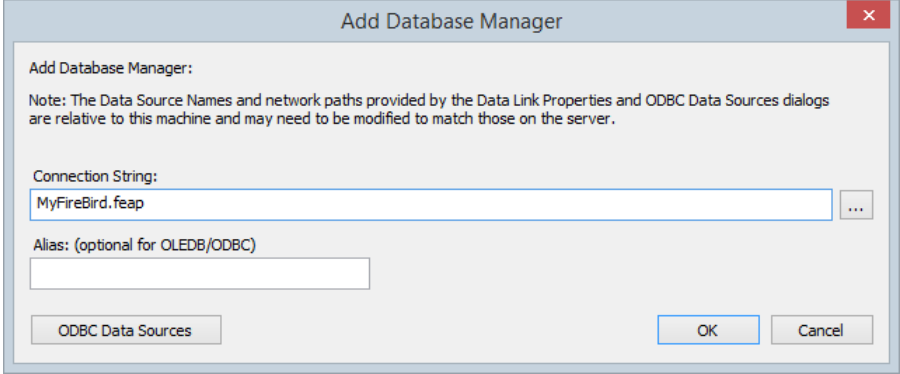

When adding a new database manager, the Alias can be specified using the 'Alias' field on the 'Add Database Manager' dialog.

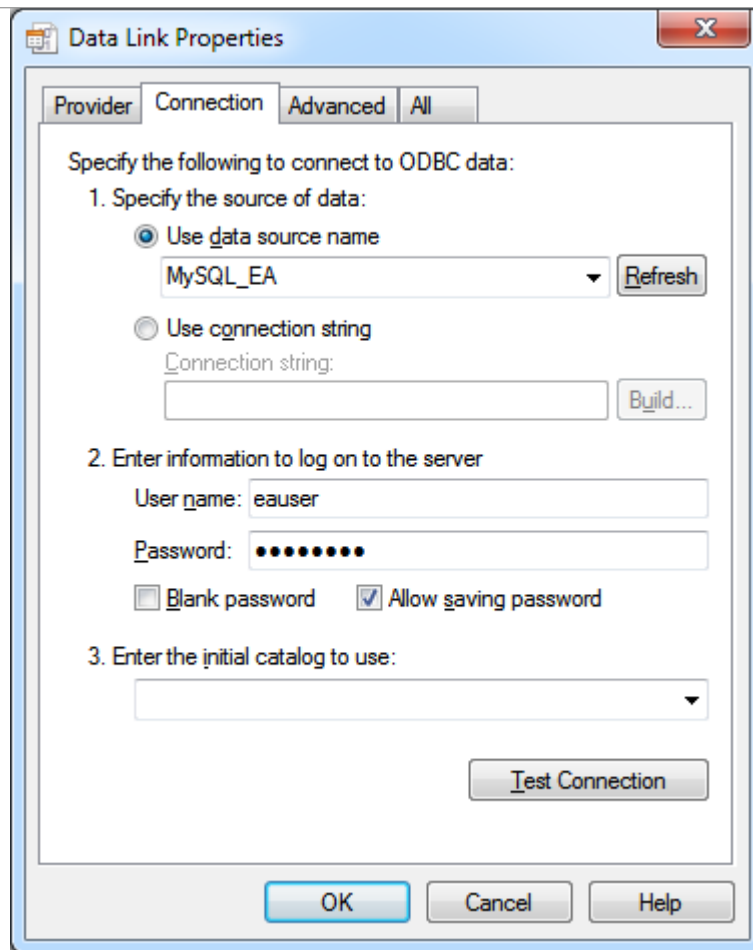
If no Alias is specified, then a default Alias is determined. For:

- Firebird definitions, the 'Alias' is the filename minus the extension
- ODBC based definitions, the 'Alias' is the 'Data Source'
- Oracle OLE DB based definitions, the 'Alias' is the 'net service name'
- SQLServer OLE DB based definitions, the 'Alias' is the 'Initial Catalog'

Therefore, take care when defining database connections, to ensure that you do not create duplicate database aliases. However, if two or more database definitions do share the same alias then all Enterprise Architect clients will connect to the first database found with the requested alias.

Item	Description
Firebird Database	Sparx Systems, in the 'Introduction to Sparx Systems Cloud Services' webinar, demonstrate the Cloud Services with a Firebird database as it is so easy to set up and use, and it works extremely well with Sparx Systems Cloud service technology. Firebird is a free, open source relational database that runs on a variety of platforms.

	<p>Firebird is very sophisticated and offers great concurrency, scalability and performance. It can be used in an enterprise setting and has been used in production systems, under a variety of names, since 1981.</p> <p>To discover more about the Firebird database, please visit this website:</p> <p><a href="http://www.firebirdsql.org/en/about-firebird/">http://www.firebirdsql.org/en/about-firebird/</a></p> <p>You can view the webinar by clicking on this link:</p> <p><a href="https://sparxsystems.com/resources/webinar/model-repository/cloud/introduction/introduction-cloud-services.html">https://sparxsystems.com/resources/webinar/model-repository/cloud/introduction/introduction-cloud-services.html</a></p> <p>You can define a connection to a Firebird database by entering its filename (and extension) only; for example, 'MyFireBird.feap'.</p>  <p>The Cloud Server assumes all Firebird databases physically reside under the directory %SERVICE_PATH%\Models\. The Cloud Server is, by default, installed to the folder of:</p> <p>...\Program Files (x86)\Sparx Systems\Cloud Services\</p> <p>In this case all Firebird models will be located at:</p> <p>...\Program Files (x86)\Sparx Systems\Cloud Services\Models\</p>
ODBC Database	<p>You can define a connection to a database under a DBMS such as MySQL or PostgreSQL, by specifying the connection string to the database. If you are running the Management Client on the same machine as the server you can:</p> <ol style="list-style-type: none"> <li>1. Click on the  button to open the 'Data Link Properties' dialog to build the connection string.</li> <li>2. Select the provider 'Microsoft OLE DB Provider for ODBC Drivers' and click on the Next &gt;&gt; button.</li> <li>3. Select the pre-defined System DSN from the 'Use data source name' field.</li> <li>4. Fill in the user name and password and select the 'Allow saving password' checkbox.</li> </ol>




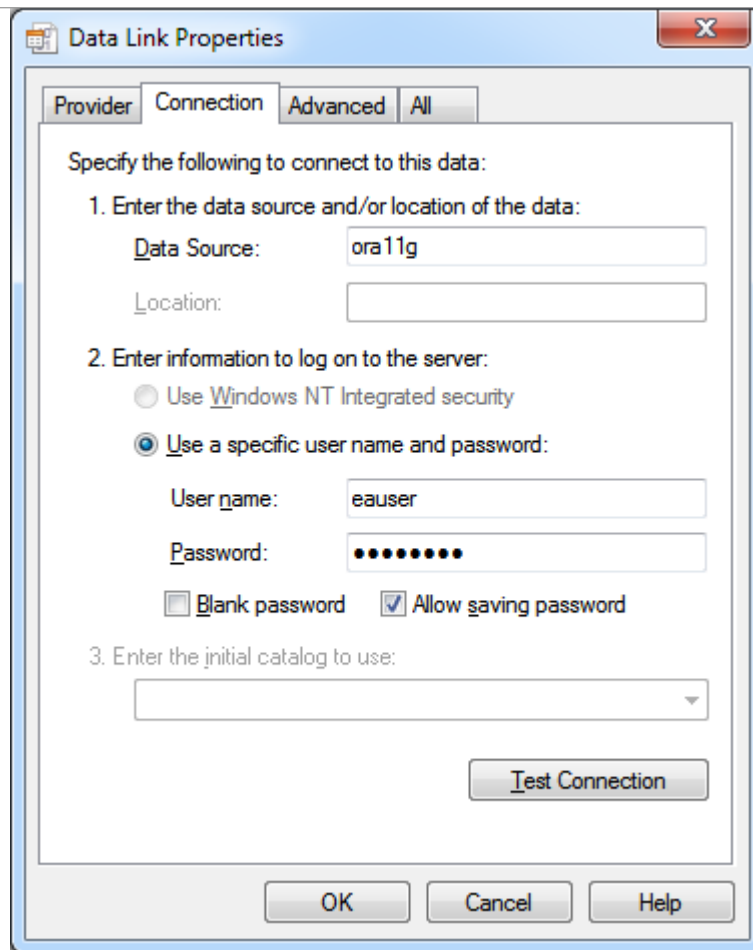
## Notes:

- Define all ODBC DSNs as SYSTEM DSNs, because the Cloud Server runs as a Windows Service and User DSNs might not be available to the Cloud Server
- The step for filling in the user name and password might not be required if the user name and password have been saved with the ODBC DSN
- The ODBC Data Sources button displays the Windows 'ODBC Data Source Administrator' dialog, which you can use to set up a new ODBC system data source to be listed on the 'Data Link Properties' dialog (if you are running the administration client on the same machine as the server); it is particularly helpful because it shows the 32-bit ODBC data source list that matches Enterprise Architect and the Cloud Services

Oracle Database (via OLE DB)

You can define a connection to an Oracle Database (via OLE/DB) by specifying the connection string to the database. If you are running the Management Client on the same machine as the server you can:

1. Click on the  button to open the 'Data Link Properties' dialog to build the connection string.
2. Select the provider 'Oracle Provider for OLE DB' and click on the Next >> button.
3. Type in the name of the 'Data Source'; this is the Oracle net service name as defined in the TNSNAMES.ORA.
4. Fill in the user name and password and select the 'Allow saving password' checkbox.



Note:

- The Cloud Server identifies databases by the 'Data Source' value and Oracle OLE DB defines the 'Data Source' as the net service name, so it is only possible to access one Oracle repository per net service name; the workaround to this limitation is to define multiple net service names in TNSNAMES.ORA that differ only by name

SQLServer Database (via OLE DB using SQL Server authentication)


Microsoft SQL Server supports two different forms of database authentication:

- Windows NT authentication, and
- SQL Server authentication

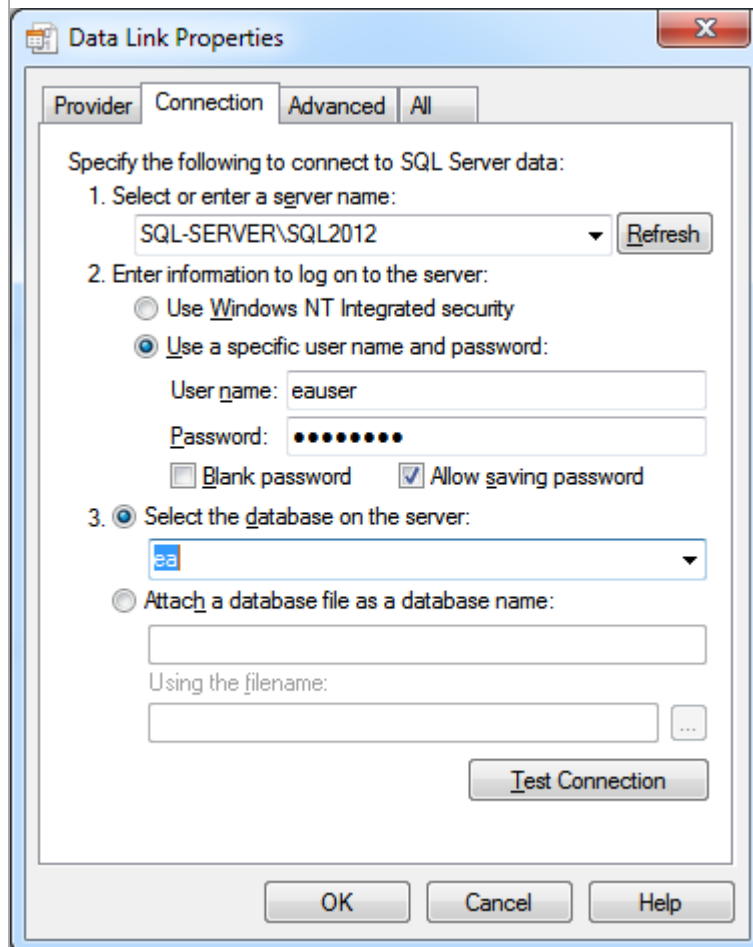
The Cloud Service will work with either, but SQL Server authentication is easier to configure.

Prior to defining the Cloud Service connection, define a SQL Server user with db\_datareader and db\_datawriter roles to the database that will act as the Enterprise Architect repository.

You can define a connection to a SQLServer Database by specifying the connection string to the database. If you are running the Management Client on the same machine as the server you can:

1. Click on the  button to open the 'Data Link Properties' dialog to build the connection string.
2. Select 'Microsoft OLE DB Provider for SQL Server' or 'Microsoft OLE DB Driver for SQL Server' and click on the Next >> button.
3. Select or type in the instance of SQL Server.

4. Select the 'Use a specific user name and password' checkbox and fill in the user name and password, then select the 'Allow saving password' checkbox.
5. Select the database that is the Enterprise Architect repository in 'Select the database on the server'.




SQLServer Database (via OLE DB using Windows authentication)

Microsoft SQL Server supports two different forms of database authentication:

- Windows NT authentication and
- SQL Server authentication

The Cloud Service will work with either, but Windows authentication requires some special consideration. The Cloud Server runs as a Windows Service, and by default all Windows Services run as 'Local System Account'; therefore, if Windows authentication is to be used, the Sparx Systems Cloud Service should be configured to run under a predefined network user (configured with the Windows Services console) and this network user must have access rights to the database (configured with Microsoft SQL Server Management Studio or similar).

You can define a connection to a SQLServer Database by specifying the connection string to the database. If you are running the Management Client on the same machine as the server you can:

1. Click on the  button to open the 'Data Link Properties' dialog to build the connection string.
2. Select the provider 'Microsoft OLE DB Provider for SQL Server' or 'Microsoft OLE DB Driver for SQL Server' and click on the Next >> button.
3. Select or type in the instance of SQL Server.
4. Select the 'Use Windows NT Integrated security' checkbox.
5. Select the database that is the Enterprise Architect repository in 'Select the



database on the server'.

**Data Link Properties**

Provider Connection Advanced All

Specify the following to connect to SQL Server data:

1. Select or enter a server name:  
SQL-SERVER\SQL2012 Refresh
2. Enter information to log on to the server:  
☒ Use Windows NT Integrated security  
☐ Use a specific user name and password:  
User name:   
Password:   
☐ Blank password ☐ Allow saving password
3. ☒ Select the database on the server:  
ea  
☐ Attach a database file as a database name:  
  
Using the filename:  ...

Test Connection

OK Cancel Help

Note:

- Because the Cloud Service is run under a single account, all database access will be under that account, so it will not be possible to keep track of what records are updated in the database by individual users

## Configure Database Manager

The Configure Database Manager screen is shown when you click on the Configure button on the 'Sparx Systems Cloud Services Configuration Client' dialog. It helps you to modify the various options for the selected Database.

### Options

Option	Description
Database Manager	Read-only display showing the description of the database as shown in the 'Database Manager' List. The format of the description quickly describes the database, as shown here: {odbc provider}:{user}@{datasource}
Enabled	Select this checkbox to allow the Cloud service to respond to requests for the connection.
Alias	The database Alias. This is the value all Enterprise Architect clients will need to select in the 'Model Name' field of the 'Cloud Connection' screen. If necessary, you can edit this Alias to enable users to reference it from Enterprise Architect and

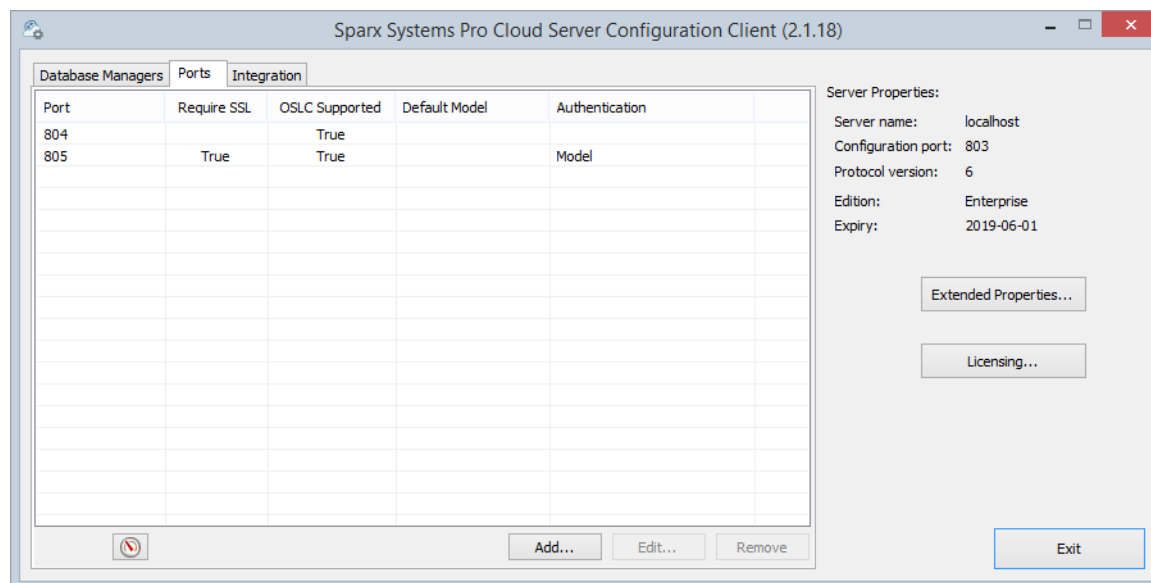
	WebEA.
Database Type	Read-only display showing the DBMS of the database, such as Firebird, MySQL, Postgres, SQLSvr or Oracle.
Connection String	Read-only display showing the connection string used to connect to the database.
Max Simultaneous Queries	<p>Type in the maximum number of connections that can be open. You can use the up/down arrows to adjust this figure to balance resource usage with concurrent user performance.</p> <p>There is no explicit limit for this value, but the higher the value the more resources are consumed on your server, without a matching increase in benefit in user performance. Connections are held so briefly that the reduction in user wait time due to more connections being opened is not usually noticeable. If you are reaching the number of connections you have defined here, increase it by small increments (units) rather than large ones (tens).</p>
Minimum EA Build	Optional. If you want to ensure that all users of the model are on an appropriate build of Enterprise Architect, type in the lowest build number required.
OSLC Access Code	<p>Optional. Type in the access code that all OSLC clients, including WebEA, are required to send in an HTTP header.</p> <p>Leave blank to indicate that the OSLC clients are not required to send an access code.</p>
Require a secure and authenticated connection	Select this checkbox to ensure this database is only used by https connections using http authentication.
Read-only connection	Select this checkbox to prevent users from modifying the database referenced by this connection.
Enable Pro Features (OSLC, WebEA and Integration)	<p>This option is only available in Pro Cloud Server editions. A checked state indicates that the current model has 'Pro Features' enabled, which includes OSLC, WebEA and Integration to external systems.</p> <p>If this option is disabled then the reason for disabling it will be shown in the text. For example:</p> <p><b>Free Edition</b> - The 'Free' version of the Cloud Server does not support Pro Features</p> <p><b>No License</b> - There is no license defined or the license has expired</p> <p><b>Not Firebird</b> - The 'Small' edition of the Pro Cloud Server only allows Firebird models to be configured as Pro-enabled, and the current model is not a Firebird model</p> <p><b>Model Limit Reached</b> - Both the 'Small' and 'Team' editions of the Pro Cloud Server are limited to a certain number of models that can be Pro-enabled; this reason code implies the maximum number of models has already been Pro-enabled</p>
Run Scheduled Tasks	When this option is checked the Cloud Service will update Time Series charts in the current model as a schedule task.
Periodically Generate Diagram Images for WebEA & Prolaborate	This option is only available in Pro Cloud Server editions and when the given Database Manager has Pro Features enabled. When this option is checked the Pro Cloud Server will start the Enterprise Architect Worker process for the current model, so that all modified Diagram Images and Linked Documents are generated at a regular interval. Once checked the 'Configure...' button becomes enabled which when clicked opens the 'Configure Worker' screen. This screen allows you to define

	the interval (in seconds) the EAWorker will wait inbetween generation 'runs'.
OK	Click on this button to save the settings and close the dialog.

## Port Configuration

When setting up the Cloud Service you will need to define at least one Port which will be used for communication between the Cloud Service and Enterprise Architect when accessing a Cloud Model.

Ports can be configured via the Ports tab in the Cloud Configuration client.



### The Ports Tab

The 'Ports' tab provides information and a number of options:

Item	Description
Port List	<p>The main area of the Ports tab provides a list of the existing Port definitions. These Port settings are also covered in more detail in the <a href="#">Add a Port Definition</a> topic.</p> <p><b><u>Columns</u></b></p> <p>Port - The Port Number</p> <p>Require SSL - When True, models can only be accessed on this port via the HTTPS protocol</p> <p>OSLC Supported - Displays True if OSLC support is enabled for this port. OSLC Support is required for WebEA access.</p> <p>Default Model - If the port is configured to open a specific default model, it's name is displayed</p> <p>Authentication - Indicates what type of Authentication is required (if any).</p>

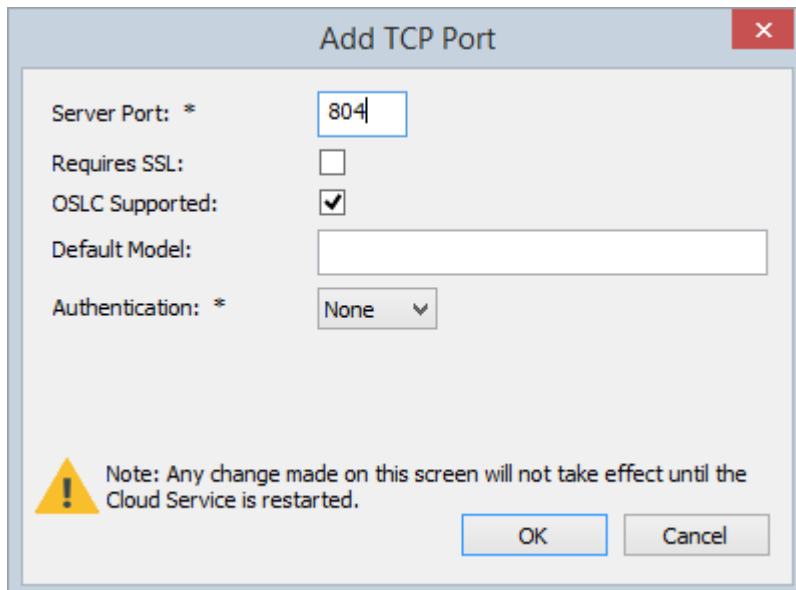
Resource Monitor	<p>Located in the lower left of the Ports Tab, this button can be used to open the Windows Resource Monitor. This allows you to check which Ports are already in use before adding a new Port Definition.</p> <p>Please note: this will open the Windows Resource Monitor for the current machine, which is only relevant if the Configuration Client is running on the machine hosting the Cloud Server.</p>
Add	Click on this button to add a new Port Definition.
Edit	Click on this button to edit the configuration of the selected Port. Editing a Port provides the same options as when adding a new one, however the Port number cannot be changed.
Remove	Click on this button to permanently delete the selected Port Configuration

## Add a Port Definition

As mentioned in the *Port Configuration* topic, when setting up the Cloud Server you will need to define at least one Port for communication between the Cloud Service and Enterprise Architect.

To add a new Port Definition:

- 1) Open the [Cloud Services Configuration Client](#).
- 2) Select the Ports tab.
- 3) Click on the Add button.
- 4) The Add TCP Port dialog will be display. Referring to the table below, enter the Port details, then Click OK.
- 5) Confirm that your [Firewall Settings](#) are correct.
- 6) Restart the Cloud Service so that the changes take effect.



### Add TCP Port

Field	Description
Server Port	<p>Enter the Port number to be used for Cloud Connections.</p> <p>Each defined Port must be unique and not used by any other service or application on the current machine. The standard HTTP Port (80) and HTTPS Port (443) are no different; if they are available, the Cloud Service can be configured to use them. You can use the Windows Resource Monitor (which is accessibly via an icon on the Configuration Client 'Ports' tab) to check which Ports are already in use.</p> <p>Firewall Note: When changing or adding a new Port, check that incoming requests are allowed by the firewall settings at both the local machine and network levels.</p> <p>Wine Note: When the service is running on Wine you should not use privileged Ports - those below 1024; under Wine, most applications are only able to listen on ports above 1024.</p>
Requires SSL	Enabling this option will require all connections on this port to use the HTTPS

	<p>protocol.</p> <p>When you enable this option, a file named <i>server.pem</i>, must also exist in the same directory as the configuration file, and it must contain a valid private key / certificate. For more details on <i>server.pem</i> see the <i>SSL Certificates</i> section.</p>
OSLC Supported	<p>Enable this option to allow OSLC access to Models.</p> <p>Note, WebEA makes use of OSLC. If you intend to access Models via WebEA then this option should be enabled.</p>
Default Model	<p>Optionally, enter the name of a default model which will be used by OSLC.</p> <p>Typically OSLC URL's include the model name. If a default model has been specified then the model name can be omitted from the URL.</p>
Authentication	<p>Select the type of authentication that will be required for this Port:</p> <p>Model - All model connections that use the current port will be forced to request HTTP authorization using the user security defined in the Enterprise Architect model being connected to. Passwords must be explicitly and individually assigned in that model using the <i>Maintain Users</i> procedure; the default administrator password and any passwords imported from Windows Active Directory do not work. Note that if you are not using SSL to connect, the usernames and passwords will be sent in plain text.</p> <p>If the model does not have security enabled, the Cloud user is not prompted for a password.</p> <p>Global - Selecting this option displays an additional Global Model field. In this field enter the name of a model which will be used to provide the security profile to all connections opened with the current port. This is helpful if you want to provide multiple models but only manage one list of users. Passwords must be explicitly and individually assigned in the reference model using the <i>Maintain Users</i> procedure; the default administrator password and any passwords imported from Windows Active Directory do not work.</p>

## SSL Certificates

In order for the Cloud Service's internal Web Server to start a port using SSL, two individual files, **cacert.pem** and **server.pem** are required in the same folder as the Cloud Services configuration file.

- **cacert.pem** - contains a collection of trusted certificates (in .X509 format); that is, CA certificates
- **server.pem** - contains a certificate and private key (in .X509 format) for your server

Sparx Systems do not supply a *server.pem*, because typically SSL certificates have to include the current server's details as well as individual details about your organization. Although this is an additional step, it is a particularly good idea to apply it if you are providing access to external users. Creating and signing a SSL certificate for your Cloud Server should be performed using an appropriate certificate authority (CA).

However, to help with initial setup and testing purposes, or for setups that are entirely within a closed network, you can generate your own self-signed certificate.

In general, self-signed certificates are not trusted by major browsers or operating systems and will generate errors or warnings visible to end users. See the [Self-Signed SSL Certificates](#) section on how to create a self-signed certificate.

To add trust to a self-signed certificate when it is not practical to generate globally trusted certificates, see [Add Trust with a Certificate Authority \(CA\)](#).



Note: If the Cloud Service is started without a valid `server.pem` file and a port is defined with `REQUIRE_SSL=1` then the internal web server will not be able to open the port. If this situation occurs, error messages to this effect will be written to the `.LOG` file.

## Advanced Port Configuration

Optionally, Ports can also be configured by directly editing the Cloud Server's configuration file (`SSCloudServices.config`). This allows some additional settings which are not available in the Cloud Configuration Client.

The definition of a Port is denoted in the configuration file, with open and close parentheses, each on their own lines without any leading whitespace. Inside the parentheses contain a number of supporting options that control and limit how the port can be used. All options except `SERVER_PORT` are optional.

```
(
SERVER_PORT=804
REQUIRE_SSL=0
OSLC_SUPPORT=1
DEFAULT_MODEL=
MODEL_AUTHENTICATION=
GLOBAL_AUTHENTICATION=user model
EA_MINIMUM_BUILD=
EA_MAXIMUM_BUILD=
)
```

## Settings Explained

Setting	Description
<code>SERVER_PORT</code>	<p>This option expects a numeric value (whole number) that defines a Port number; there is no default value.</p> <p>For example, <code>SERVER_PORT=804</code> states that the Cloud Service will listen to HTTP connections on port 804. Each defined port must be unique and not used by any other service or application on the current machine. The standard HTTP port (80) and HTTPS port (443) are no different, if they are available the Cloud Service can be configured to use them.</p> <p>Firewall Note: When changing or adding a new port, check that incoming requests are allowed by the firewall settings at both the local machine and network levels.</p> <p>Wine Note: When the service is running on Wine you should not use privileged ports - those below 1024. Under Wine, most applications are only able to listen on ports above 1024.</p>
<code>REQUIRE_SSL</code>	<p>This option expects either a value of 0 or 1; the default is 0.</p> <p>A value of 1 will enforce the use of SSL on the current port; that is, all connections must be performed using HTTPS, which is useful when connections need to be exposed on public networks.</p> <p>In order for the Cloud Service to be able to successfully configure ports as <code>REQUIRE_SSL=1</code>, a file called <code>server.pem</code> must exist in the same directory as the</p>

	configuration file, and contain a valid private key / certificate. For more details on <i>server.pem</i> see the <i>SSL Certificates</i> section.
OSLC_SUPPORT	<p>This option expects either a value of 0 or 1, the default is 1.</p> <p>A value of 1 defines that connections that use the current port will be able to perform queries using the 'Open Services for Lifecycle Collaboration' standard. This is discussed further in the <i>OSLC Requirements Management</i> topic.</p>
DEFAULT_MODEL	<p>This option expects the alias of a defined database manager, or blank, the default is blank.</p> <p>By defining a value for this option allows a single model to be exposed on a port, making it possible to use a different port for each model. Model names are discussed further in the <i>Connecting Enterprise Architect to a Cloud Server</i> topic.</p>
MODEL_AUTHENTICATION	<p>This option expects either a value of 0 or 1, the default is 0.</p> <p>By defining this option as <b>1</b>, all model connections that use the current port will be forced to request HTTP authorization using the user security defined in the Enterprise Architect model being connected to. Passwords must be explicitly and individually assigned in that model using the <i>Maintain Users</i> procedure; the default administrator password and any passwords imported from Windows Active Directory do not work. Note that if you are not using SSL to connect, the usernames and passwords will be sent in plain text.</p> <p>If the model does not have security enabled, the Cloud user is not prompted for a password.</p> <p>This option is mutually exclusive with <b>GLOBAL_AUTHENTICATION</b>.</p>
GLOBAL_AUTHENTICATION	<p>This option expects the alias of a defined database manager, or blank, the default is blank.</p> <p>By defining this option a single Enterprise Architect model with security enabled can be used to provide the security profile to all connections opened with the current port. This is helpful if you want to provide multiple models but only manage one list of users. Passwords must be explicitly and individually assigned in the reference model using the <i>Maintain Users</i> procedure; the default administrator password and any passwords imported from Windows Active Directory do not work.</p> <p>This option is mutually exclusive with <b>MODEL_AUTHENTICATION</b>.</p>
EA_MINIMUM_BUILD	<p>This option expects a numeric value that represents the minimum Enterprise Architect version that can connect to models using this port. The default is undefined which implies all versions are allowed.</p>
EA_MAXIMUM_BUILD	<p>This option expects a numeric value that represents the maximum Enterprise Architect version that can connect to models using this port. The default is undefined which implies all versions are allowed.</p>

## Advanced SSL

In general, self-signed certificates are not trusted by major browsers or operating systems and will generate errors or warnings visible to end users. See the [Self-Signed SSL Certificates](#) section on how to create a self-signed certificate.

To add trust to a self-signed certificate when it is not practical to generate globally trusted certificates, see [Add Trust with a Certificate Authority \(CA\)](#).

## Add Trust with a Certificate Authority (CA)

In general, it is preferable to use a certificate that has been signed by a globally trusted root Certificate Authority (CA). There are many CAs that are trusted by all major browser and operating systems that can be used to sign certificates for use with a https server.

If the system architecture makes using a globally trusted CA impractical then it is still possible to have client browsers and operating systems set up to trust a self-signed certificate and avoid security errors or showing warnings to end users.

One way is to simply add the certificate to the trust store of the client browser or operating system, however this would need to be done for each certificate generated. A better approach is to create your own root Certificate Authority and use that to sign each server certificate.

To do this, a self-signed SSL certificate needs to be signed with your own Certificate Authority (CA) certificate and key. And the clients (browsers, operating systems) need to be told to trust the CA certificate. The instructions for adding a CA to a client vary by operating system or browser used.

### Create a Certificate Authority

There are many ways to create CA certificates, however, the OpenSSL toolkit is one of the easiest and most comprehensive. As the name suggests, OpenSSL is an open source toolkit for SSL/TLS; see the official [website](#) for details. You will need to download and install the OpenSSL product that suits your environment.

To create a CA there are two steps:

1. Generate new key and certificate request.
2. Self-sign the request to generate a CA certificate.

#### 1. Generate new key and certificate request

This can be done in multiple steps, or generated from an existing key file, but for simplicity a new key and new request can be generated in one command. The example below shows how to create a request for a company named 'My Company'. Change this to something more appropriate for your organisation:

- `openssl req -new -sha256 -nodes -newkey rsa:4096 -subj '/O=My Company/CN=My Company Internal CA' -keyout MyCompanyCA.key -out MyCompanyCA.csr`

#### 2. Self-sign the request to generate a CA certificate

This step self-signs the CA certificate request, and makes the CA valid for 1 year (-days 365). Change 'MyCompany' to match the key and csr request generated in the previous step:

- `openssl x509 -req -sha256 -in MyCompanyCA.csr -signkey MyCompanyCA.key -days 365 -out MyCompanyCA.crt`

### Create a server certificate and use the CA to sign it

Now that the MyCompanyCA.crt is generated, it can be used to sign your own certificates for a cloud server or WebEA.

First, similarly to [Self-Signed SSL Certificates](#), create a new certificate request. The following example creates a new key and certificate request for a server named 'cloud.mycompany.com':

- `openssl req -new -nodes -newkey rsa:4096 -subj '/CN=cloud.mycompany.com' -keyout cloud.mycompany.com.key -out cloud.mycompany.com.csr`

Sign the new certificate request with the CA:

- `openssl x509 -req -CA MyCompanyCA.crt -CAkey MyCompanyCA.key -CAcreateserial -sha256 -days 365 -in cloud.mycompany.com.csr -out cloud.mycompany.com.crt`

The final step for use with a Pro Cloud Server is to concatenate the key and certificate into a 'server.pem' file:

- Windows: `copy /b cloud.mycompany.com.crt+cloud.mycompany.com.key server.pem`
- Linux: `cat cloud.mycompany.com.crt cloud.mycompany.com.key > server.pem`

## Allow clients to trust the root CA

The client operating system or browser now needs to have the CA certificate added to its list of trusted CAs. The instructions vary by operating system and browser but instructions for a few major clients are listed below. For all these steps the 'certificate' referred to is the 'MyCompanyCA.crt' generated in Step 2 above:

Client (Operating System, Browser)	Instructions
Microsoft Windows	Right click the CA certificate file and select 'Install Certificate'. Follow the prompts to add the certificate to the trust store either for the current user only or all users of the computer.
Linux - Ubuntu	<p>Copy CA certificate to /usr/local/share/ca-certificates eg:</p> <ul style="list-style-type: none"> <li>• <code>sudo cp ~/MyCompanyCA.crt /usr/local/share/ca-certificates/</code></li> </ul> <p>Update certificates with the following command:</p> <ul style="list-style-type: none"> <li>• <code>sudo update-ca-certificates</code></li> </ul> <p>The output should show something similar to 'Adding debian:~/MyCompanyCA.pem'.</p> <p>If using Wine then close all Wine programs and restart Wine:</p> <ul style="list-style-type: none"> <li>• <code>wineserver -k</code></li> </ul> <p>See <a href="#">Ubuntu Help</a> for more information.</p>
Firefox	<p>Firefox does not use the operating systems trust store so the CA needs to be added manually.</p> <p>If the certificate has a '.pem' extension, then the simplest way is to drag-and-drop the CA certificate file onto Firefox and a prompt will ask to trust the certificate.</p> <p>Otherwise, manually add certificates and manage added certificates through</p>

	Firefox's Privacy & Security preferences. More information can be found on the <a href="#">Firefox wiki</a>
Chrome/Chromium	Chrome & Chromium do not use the operating system trust store so the CA needs to be added manually. Open Settings > Advanced > Manage Certificates > Authorities, and select Import.
Internet Explorer	Internet Explorer uses the Windows trust store so adding the certificate to Windows (see above) is sufficient to add trust to the browser as well.
WebEA	WebEA uses php to communicate with a Pro Cloud model. If the connection between php and the Pro Cloud uses https, then the CA can be added to php's configuration to allow it to trust the certificate.

# Self-Signed SSL Certificates

## Create a certificate

There are many ways to create SSL certificates; however, we have found the OpenSSL toolkit to be the easiest and most comprehensive. As the name suggests, OpenSSL is an open source toolkit for SSL/TLS; see the official [website](#) for details.

You will need to download and install the OpenSSL product that suits your environment. For the purpose of this document OpenSSL was installed into C:\OpenSSL-Win64. If your OpenSSL is installed into a different directory then these steps will have to be adjusted to suit.

- Create a new command/batch file in C:\OpenSSL-Win64\bin\  
set SRVNAME=localhost  
openssl genrsa -out %SRVNAME%.key 2048  
openssl req -new -x509 -key %SRVNAME%.key -out %SRVNAME%.cert -days 3650 -subj /CN=%SRVNAME%  
copy /b %SRVNAME%.cert+%SRVNAME%.key server.pem
- Change the value 'localhost' in the first line to suit your server's name and save the file
- Run the batch file
- Move the generated 'server.pem' file to the Cloud Service's 'Service' folder (that is, C:\Program Files (x86)\Sparx Systems\Cloud Services\Service\)

In the statements, the 'openssl genrsa' command will use OpenSSL to generate a new SSL private key, and save it to 'localhost.key'.

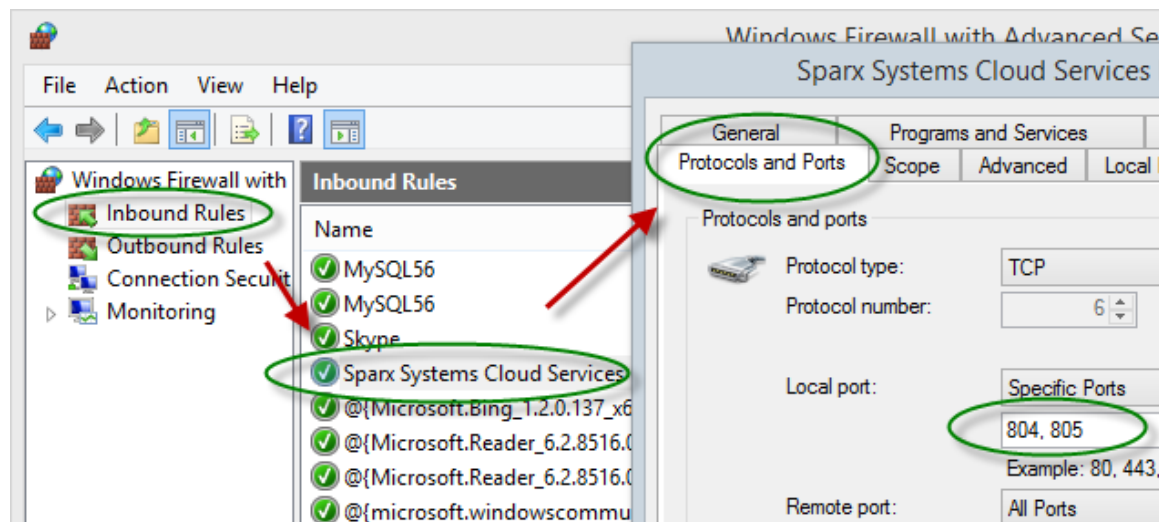
The 'openssl req' command will generate a .X509 self-signed certificate using the key generated, specifying 'localhost' as the common name (CN), setting the expiry to be 10 years from the current date and saving the certificate as 'localhost.cert'.

The final command simply copies the contents of the certificate and key files into the new file 'server.pem'.

## Firewall Settings

When setting up a server, you must check that the Firewall on the server is set to allow the incoming ports for the database connections that you have created.

For example, in the default SSCloudServices.config configuration file the ports 804 and 805 are set as operative. If you have a firewall you must set these ports as enabled for inbound traffic.



For information on creating the Inbound Rule to identify the ports you have specified in the config file (the 'Sparx Systems Cloud Services' rule in the illustration), see the Microsoft Windows online topic [Create an Inbound Port Rule](#).

Note: A common cause of failure is that other services or programs are already using the allocated ports. This is especially likely when using the default http (80) and https (443) ports. Check that no other services are using the allocated ports.



# Using Multiple Configurations

## Using Multiple Configurations

The Sparx Systems Cloud Service can be run multiple times with different configurations by passing these additional arguments.

Argument	Description
--config / -c	<p>The argument following this will be interpreted as the path to the configuration file to read on startup. This allows a secondary instance of the Cloud server to run on a different set of ports, use an altered logging level or different directories.</p> <p>When multiple configurations are being used, you need to ensure that each instance reads a configuration file that specifies different paths. Otherwise only the first instance will start successfully.</p> <p>By default this references SSCloudServices.config in the directory containing the service executable.</p>
--path / -p	<p>The argument following this will be interpreted as the absolute path to search for other resources. Changing this parameter changes where the configuration file is read from, along with all paths in the configuration file that specify %SERVICE_PATH%. Setting this to a directory other than the default is an easy way to separate multiple running instances of the Cloud service.</p>
--registry / -r	<p>The argument following this will be interpreted as a registry path within HKEY_LOCAL_MACHINE where the models the Cloud server provides are specified. Changing this parameter allows using different Cloud servers to provide access to different models.</p> <p>By default this is Software\Sparx Systems\SQLBridge.</p>
standalone	<p>This argument allows starting the SSCloudServices.exe as a standalone executable instead of requiring it to be launched as a Windows service.</p> <p>This can be important if Windows firewall is blocking the service, as it will prompt to create a firewall exception.</p> <p>Additionally, Wine by default closes services automatically when the last user process closes, but using the 'standalone' argument to run the server as an application will ensure that the service isn't terminated when no more user applications are running. Use the command line:</p> <pre>wine SSCloudServices.exe standalone</pre> <p>Or, if you are launching from a terminal and want to close it:</p> <pre>wine SSCloudServices.exe standalone &amp; disown    or nohup wine SSCloudServices.exe standalone</pre> <p>(The 'disown' parameter and 'nohup' command both close the terminal but ignore the 'hangup' message that would otherwise disconnect Cloud Services again.)</p>

## Cloud Service using IIS (Optional)

For most users, the built-in web server provided with the Cloud Service provides all the functionality they require. It is also the easiest method to set up and use.

However, the Cloud Service also provides the option of integrating with Internet Information Services (IIS). This is recommended *only* for users for whom the built-in authentication methods are insufficient, and who want to use Windows Active Directory or certificate-based authentication (see the *Import User IDs from Active Directory* Help topic). Note that the use of IIS does not eliminate the login process, and users must still enter their user IDs and passwords.

To configure IIS to host the Cloud Service, you must first set the SparxCloudLink.sseap file to refer to the Cloud Service, and then in Windows open the Internet Information Services (IIS) Manager and configure it to send requests to the appropriate module. Depending on your preferences you can choose either an HTTP Module or an ISAPI module.

Prior to setting up HTTP or ISAPI, these settings must be made in IIS:

- Application Pool settings
- Feature Settings

For a secure HTTPS setup (optional):

- Set up a Certificate
- Set up HTTPS

### Configuration Settings

Before setting up your HTTP module or ISAPI module, you must first check that the sscloudservices.config file for the service is configured as required, and note the port used so that you can specify it when you go on to set the SparxCloudLink.sseap file to refer to the Cloud Service.

The directory path containing the ISAPI dll also contains the SparxCloudLink.sseap configuration file.

The path should resemble this example:

“C:\Program Files (x86)\Sparx Systems\Cloud Services\ISAPI”

Edit this file in a text editor, running as an Administrator.

The default contents are:

```
[cloud]
server=localhost
port=803
```

#### **server:**

The address to look up the machine running the Cloud Service. In most circumstances it is best to run the HTTP module and the Cloud Service on the same machine. In this case, the default value of localhost can be used. If the Cloud Service is running on a different machine, use the IP address or server name where the service is running.

#### **port:**

The port the Cloud Service is listening on for admin requests. By default this takes the value of 803, but this should be cross-referenced against your service configuration in the sscloudservices.config file.

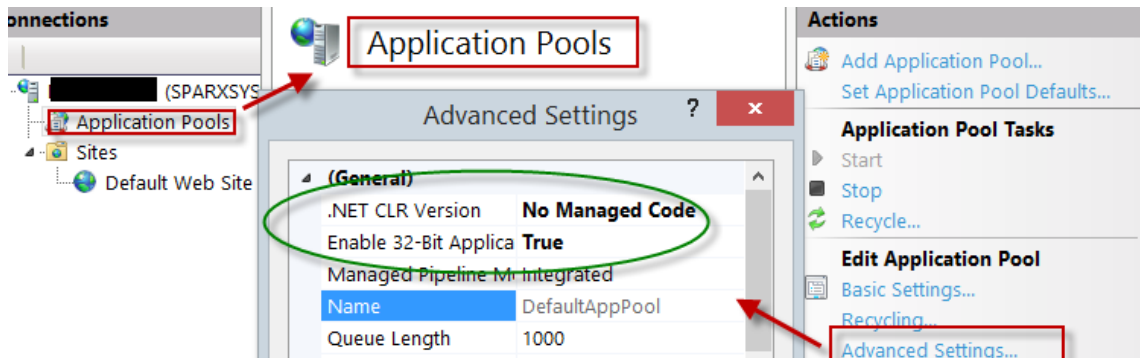
#### **Optional settings**

These points are optional. For testing purposes you might prefer to leave these changes until any issues with IIS are resolved.

1. In the SSCloudServices.config file, remove all the references to ports other than the administration port (default 803). In other words, remove the bracketed entries (...) from the config file.
2. Save the SSCloudService.config file.
3. Restart the Service.

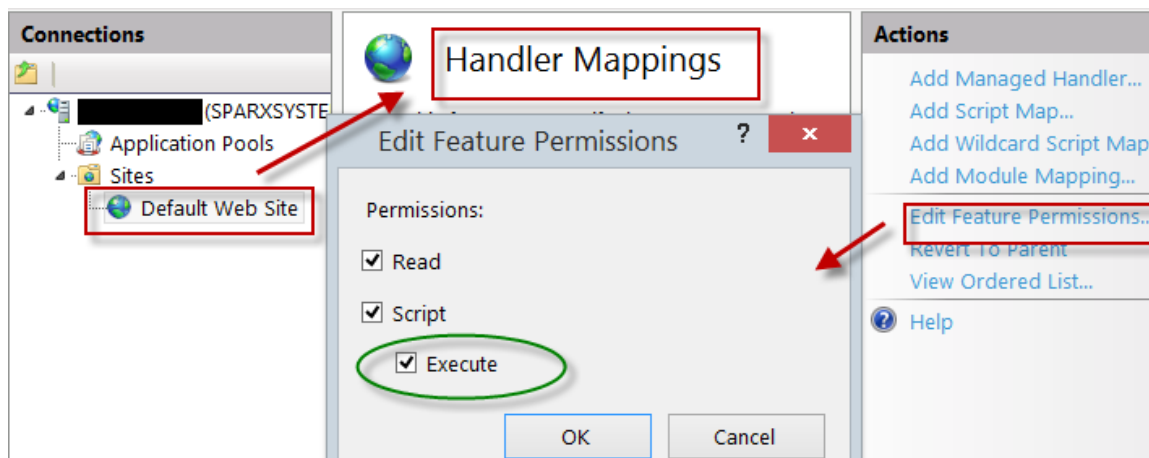
## Application Pool Settings

HTTP or ISAPI will require an Application pool that is 32-bit and not managed code. This illustration shows the settings for 32-bit applications in the IIS Application Pools Advanced Settings view.



## Feature Permissions

This illustration shows the access path and the 'Default Web Site | Handler' mappings to permit Script Execution.

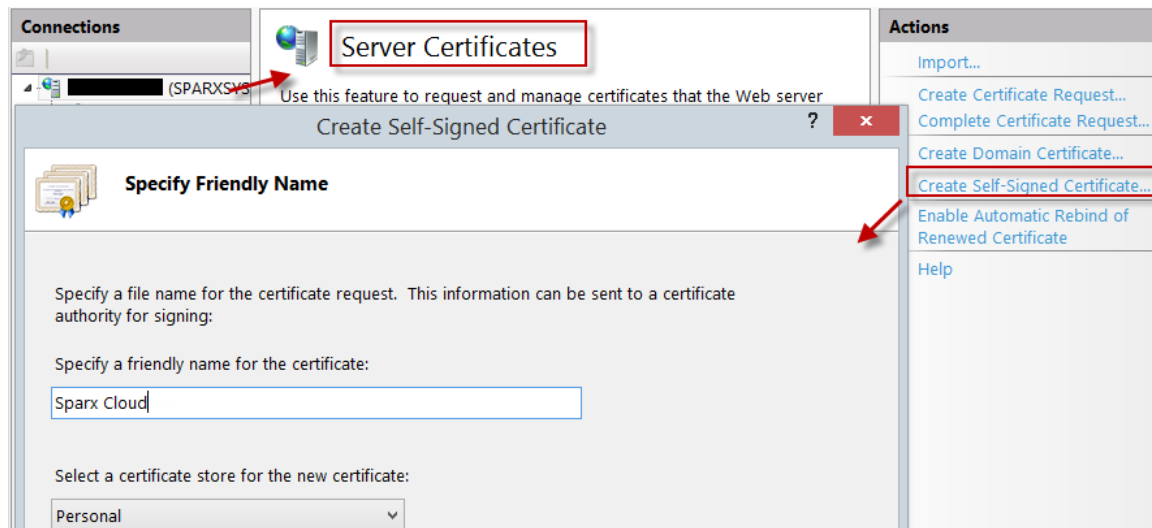


## Setting up a Certificate

In order to run the HTTPS service you must set up a security certificate in IIS.

In the IIS Manager:

1. Under 'Connections', select the root connection (machine name).
2. Double-click on the 'Server Certificates' icon.
3. Click on 'Create Self Signed Certificate'.
4. Specify a simple, user-friendly name for the certificate.

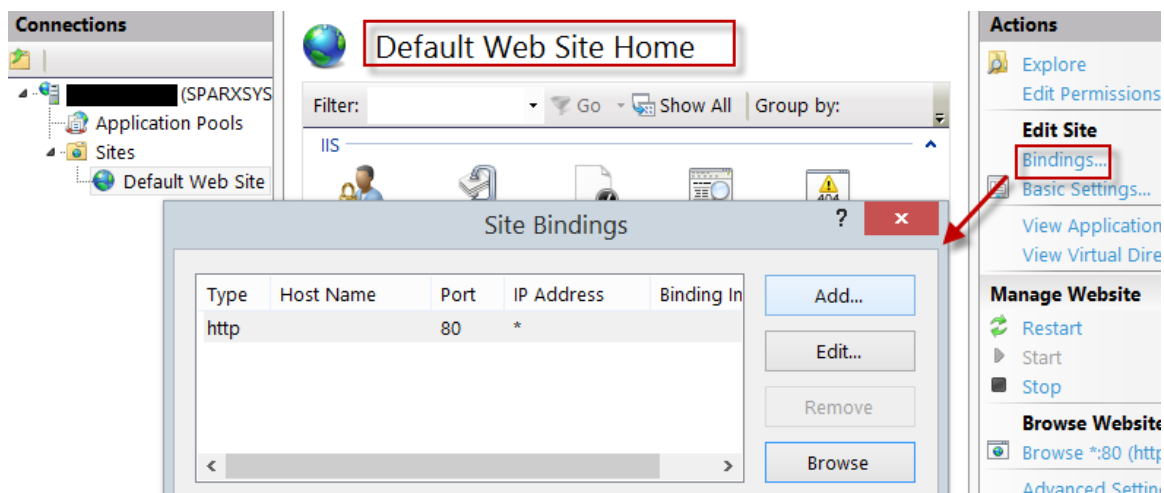


## Setting up HTTPS

To set the bindings through which HTTPS will operate, you must include a port and a certificate in the site bindings.

In the IIS Manager:

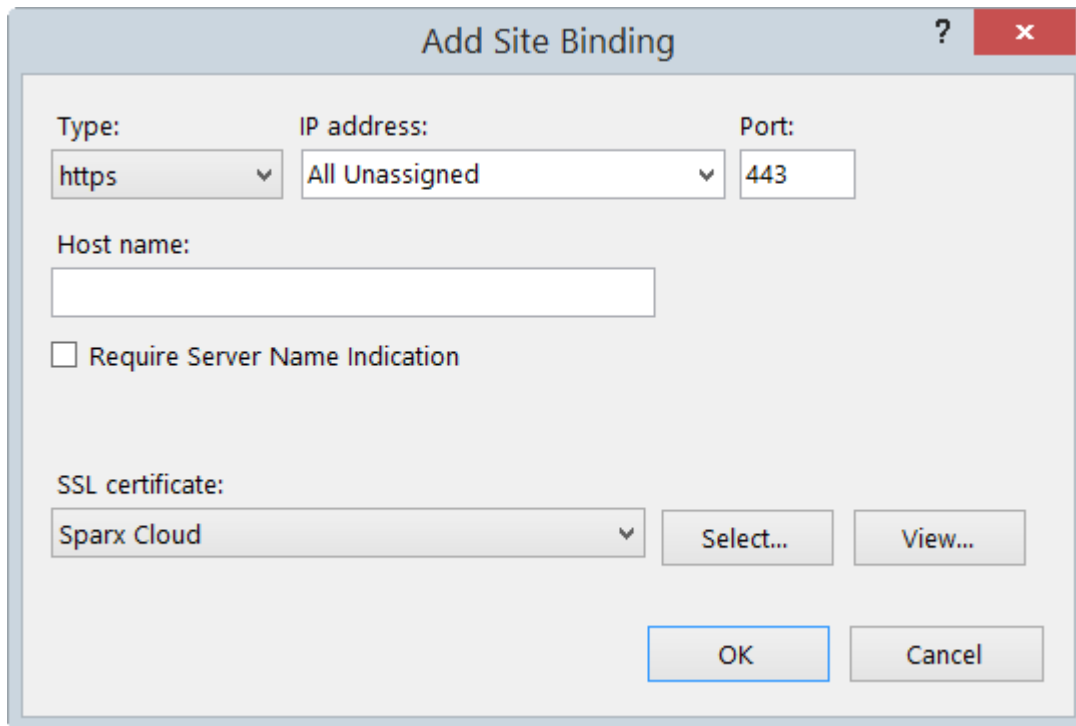
- Under 'Connections', select the 'Default Web Site' option
- Under 'Actions' click on the 'Bindings' option
- In the Site Bindings window click on 'Add'



This will open the Add Site Binding window.

Set these parameters:

- Type: HTTPS
- Port: 443
- SSL Certificate: select the certificate created in *Setting up a Certificate*



**Add Site Binding**

Type: **https** IP address: **All Unassigned** Port: **443**

Host name:

☐ Require Server Name Indication

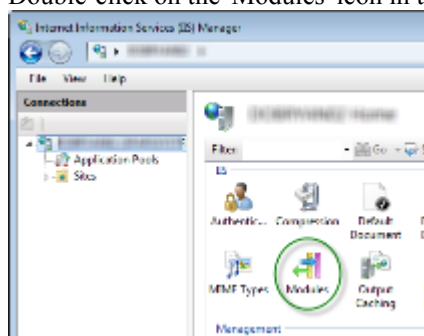
SSL certificate: **Sparx Cloud** **Select...** **View...**

**OK** **Cancel**

## HTTP Module

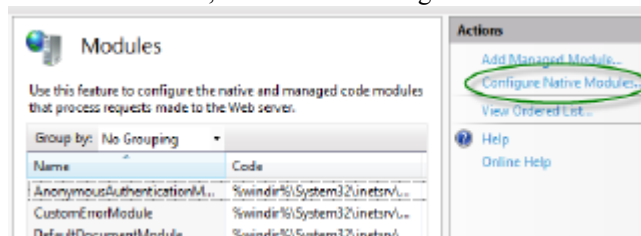
To set up the HTTP module in the Internet Information Services (IIS) Manager:

1. In the 'Connections' panel, select the machine properties (top of the tree).
2. Double-click on the 'Modules' icon in the middle panel.



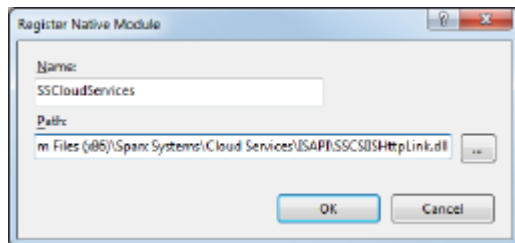
This returns the 'Modules' list and the 'Actions' view.

3. In the 'Actions' list, click on the 'Configure Native Modules...' option.



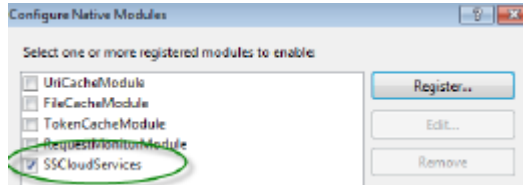
This opens the 'Configure Native Modules' view.

4. Click on the Register button to open the 'Register Native Module' dialog.

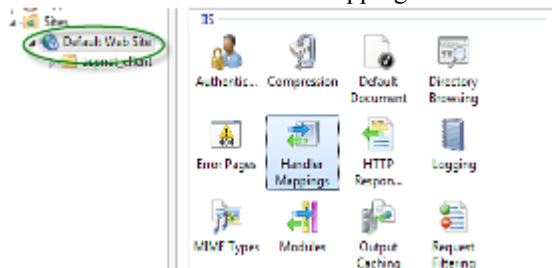


Type in the name and the path of the SSCSIHttpLink.dll file.

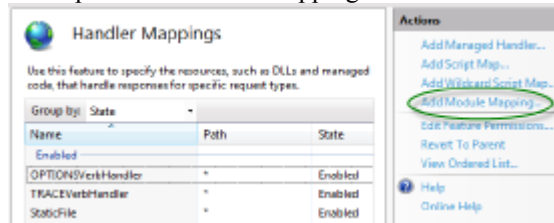
5. Click on the OK button. The 'SSCloudServices' checkbox will now be selected.



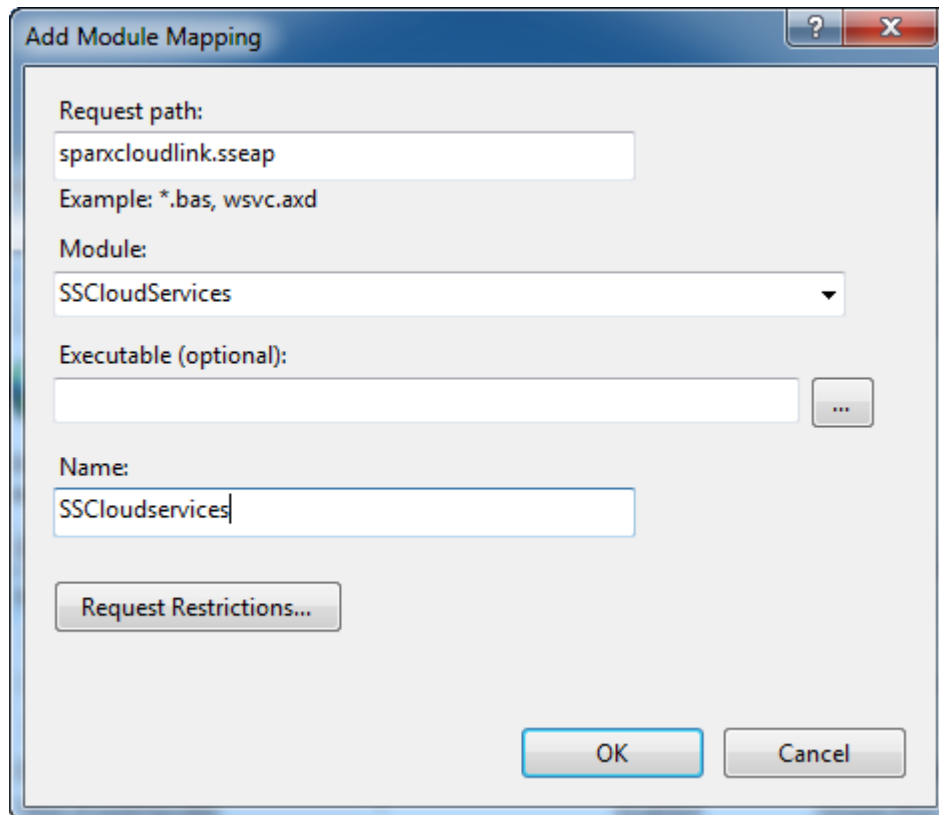
6. Click on the OK button to close the 'Configure Native Modules' dialog.
7. In the 'Connections' panel (see Step 1), click on your web site.
8. Double-click on the 'Handler Mappings' in the middle pane.



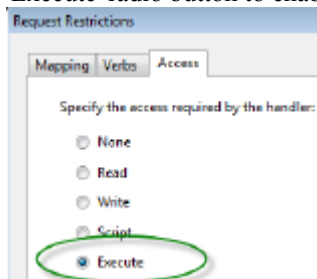
This opens the Handler Mappings view:



9. In the 'Actions' list, click on the 'Add Module Mapping' option to open the 'Add Module Mapping' dialog.
10. As illustrated, set the 'Request path' and 'Name'.
11. In the 'Module' field, click on the drop-down arrow and select the module added in step 4.



12. Click on the Request Restrictions button. On the 'Request Restrictions' dialog, select the 'Access' tab. Select the 'Execute' radio button to enable Execute permission.



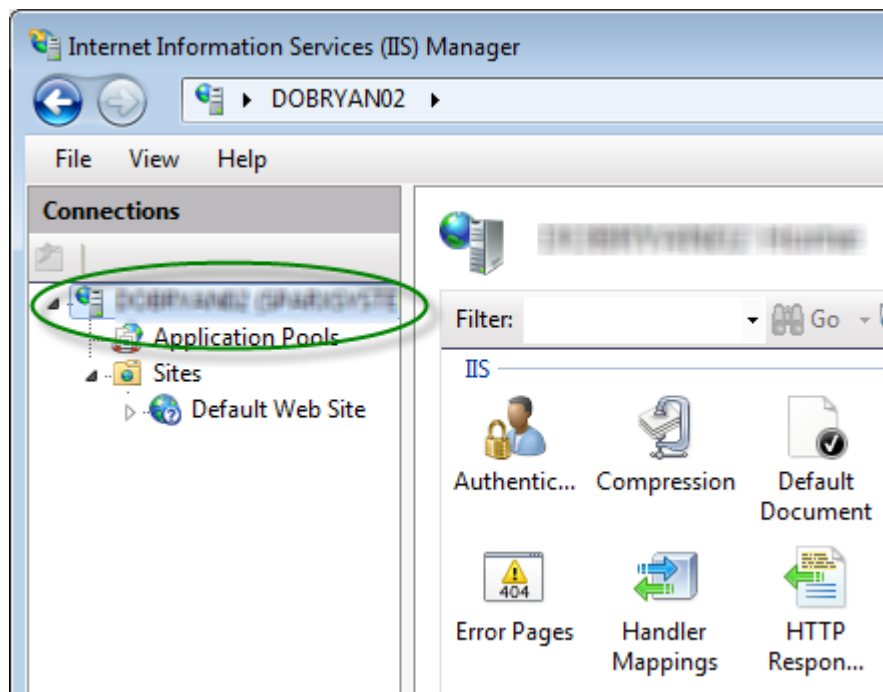
13. Select the 'Mappings' tab and deselect the 'Invoke Handler only if request is mapped to' checkbox.  
14. Click on the OK button.  
15. Close the 'Add Module Mapping' dialog by clicking on the OK button again.

To complete this HTTP module set up, see the *Configuration Settings* section at the start of this topic. You should then be able to connect to a model using Enterprise Architect via your IIS server using the HTTP module.

## ISAPI Module

To configure an ISAPI module instead of the HTTP module:

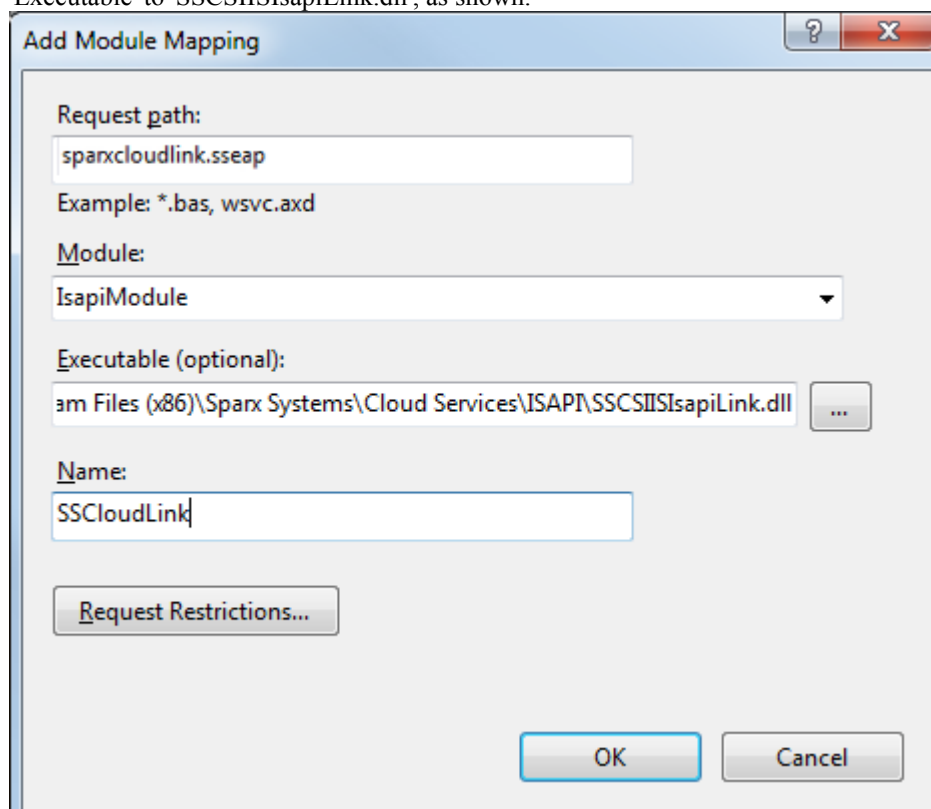
1. In the 'Connections' panel, select the machine properties:



2. Double-click on the 'Handler Mappings' icon:



3. In the 'Actions' list, click on the 'Add Module Mapping' option.
4. In the 'Add Module Mapping' dialog, set 'Request path' to 'sparxCloudLink.sseap', 'Module' to 'IsapiModule', and 'Executable' to 'SSCSIISapiLink.dll', as shown.



5. Click on the OK button to close the dialog. You should now be able to connect to a model using Enterprise Architect via your IIS server using ISAPI.



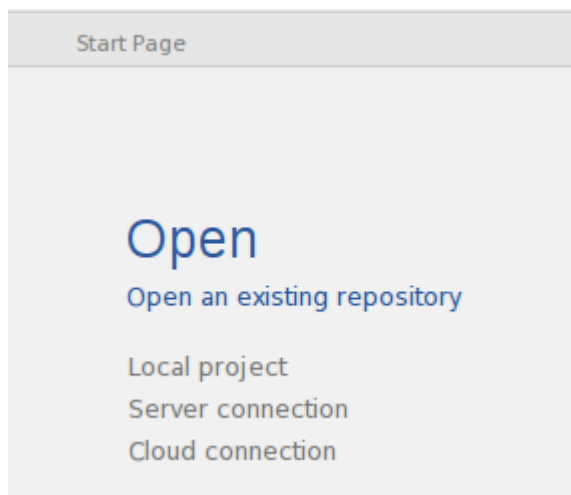


## Connecting Enterprise Architect to a Cloud Service

Once your Cloud Service has been set up with at least one port listening for communication and at least one model you can connect to, you can connect to the model in Enterprise Architect. When you first open Enterprise Architect, the 'Manage Projects' dialog displays. The Connect to Cloud button on the top right provides access to Cloud connections.



In later work sessions you can access this dialog and button by selecting the 'New > Manage projects' option on the Start Page. However, there is also a Cloud Connection link on the 'Start Page' itself.



### Cloud Connection Dialog

The 'Cloud Connection' dialog prompts you for the details of the model.

Option	Action
Name	Type the name to use to refer to this model. It does not have to match any values on

	the server, and will appear in your recent models list.
Protocol	Click on the drop-down arrow and select a secure (https) or insecure (http) connection, as supported by the server you are connecting to. When you select the protocol, the port will be automatically set to match the default for that protocol.
Server	Type in the machine name (sparxcloud.com) or IP address (192.168.0.20) of your server.
Port	Define the port number the service is listening on. This should match the settings in the configuration file on the server. Note: For a server, the default settings will use port 804 for http and port 805 for https.
Model Name	Type in the name of the model available on the server. Note: Generally a system administrator will provide you with a list of available models. However, for those with permission to use the Management Client the model name to access the given database can be found in the read-only 'Alias' field on the Configure Database Manager screen in the Cloud Services Configuration Client application.

## Pro Cloud Server

Sparx Systems Pro Cloud Server is an enhanced, separately purchased and separately licensed edition of Sparx Systems Cloud Services. Once the Cloud Service has been installed and configured, it runs on the installed machine as a Windows service, listening for requests for data from Enterprise Architect.

In order to support the new Pro Cloud Server functionality, the service has these enhancements:

- The ability to define individual database managers as 'Enable Pro Features (OSLC, WebEA and Integration)'
- The main screen of the Configuration Client displays the Pro Cloud Server's edition, the date it expires and' if appropriate, the number of WebEA users licensed (Express edition only)
- The ability to define a 'Default Schema' option against individual database managers

As well as providing all the features and benefits of Sparx Systems Cloud Services, the Pro Cloud Server also includes:

- The Sparx Systems Floating License Server
- Integration Plugins
- WebEA, a web based application that allows users to view and discuss elements in Enterprise Architect models through a web browser, while on portable devices or remote desk-top systems
- Visibility Levels for Oracle and SQL Server 2016 based models, so that it is possible to restrict the access of a user or group of users to parts of the model that are only relevant to them
- Prolaborate, a team Sharing and Collaboration Software package

Sparx Systems Pro Cloud is available in three premium editions, to support small, medium and large projects with differing numbers of models; the editions have the same installer but the License key determines what functionality is enabled:

- Small Business, which supports up to three Firebird repositories; Visibility Levels is not available in this edition, as the feature is for Oracle and SQL Server databases
- Team Server, which supports up to five repositories of any type
- Enterprise Server, which supports any number of repositories of any type, within any restrictions imposed by your server and network

Sparx Systems Pro Cloud Express Edition provides WebEA access for a limited number of concurrent users, based on the number of licenses.

## Installation

The Sparx Systems Pro Cloud Server product is installed using a standard Windows Installer package. While it is possible to change the install location of the Pro Cloud Server, most users elect to keep the default of C:\Program Files (x86)\Sparx Systems\Cloud Services\ (assuming a 64bit machine is being used).

The Pro Cloud Server installer consists of multiple optional components; all but the 'IIS Integration' is installed by default. The installation supports any number and combination of components being installed; for example, it would be possible to run the installer and choose to only install the 'Management Client', which would be useful to users that require the ability to configure the Pro Cloud Server from their desktops. By default each component is installed into a sub-folder immediately under the installation folder; however, some of the components allow their folder to be installed to a different location.

The Pro Cloud Server installation consists of these components:

- **Pro Cloud Service** - installed in *Service* folder, containing the Windows service and sub-folders for log files, local models and various driver/supports files
- **Management Client** - installed in *Client* folder, and will contain separate applications to configure the Pro Cloud Service and the Keystore
- **WebEA** - installed in *WebEA* folder, and will contain the PHP, Javascript and CSS files that make up the WebEA application; typically the entire contents of this folder should be copied to a location that is controlled by your web server

- **Plugin Interface** - installed in the *SBPI* folder, and will contain various executables to support linking elements within an Enterprise Architect model to external products
- **Visibility Levels** - installed in the *VisibilityLevels* folder, and will contain the SQL scripts needed to enable (or disable) visibility levels within Oracle or SQL Server 2016+ models
- **IIS Integration** - installed in the *ISAPI* folder, and will contain the runtime APIs needed by the Cloud Service for IIS integration

To assist you in performing and understanding the installation process, watch the Sparx Systems webinar *Installing the Sparx Systems Pro Cloud Server*. Click on the link to access this [webinar](#).

## WebEA

One of the most requested features from the Enterprise Architect user base recently has been the ability to access Enterprise Architect models on mobile devices or from desktops without the need to install the Enterprise Architect application.

Sparx Systems has developed WebEA using PHP, JavaScript and CSS to provide a solution that can be deployed easily, that runs on the widest variety of systems, and that doesn't require any special hardware or additional licensing.

WebEA has a large array of configuration options that give the Enterprise Architect customer the power to control exactly how each model can be accessed and what types of actions can be performed.

## Plugin Interface

Or Server Based Plugin Interface (SBPI), is a framework developed to extend the Pro Cloud Server via Plugins. In the initial release of SBPI, the plugins developed will enable the Pro Cloud Server to support the ability to link Enterprise Architect elements to elements/objects defined in external products and directly view (and potentially update) the details.

## Floating License Server

The Sparx Systems Floating License Server functionality has been available for many years as the Key Store, providing users of Enterprise Architect with the ability to manage their floating licenses. Up until the creation of Pro Cloud Server, the Key Store was only offered as an independent Windows service. Now that it has been integrated into the Pro Cloud Server, users only need to install, configure and maintain one service for all their Enterprise Architect needs.

## Visibility Levels

The 'Visibility Levels' feature within Enterprise Architect gives model managers the ability to restrict access to certain sections of a model. Only models hosted by a Pro Cloud Server are able to make use of this feature. Visibility Levels are implemented by taking advantage of the Row Level Security feature included in Oracle 8+ and Microsoft SQL Server 2016 (onwards).

Row Level Security is a security feature that controls which users can access which rows of data in a database. Traditional database security only allows for the ability to control which users have access to read, write or delete data down to the table level. Since Row Level Security functionality is implemented by the database, it is impossible for users to bypass security implemented at the application level by writing their own scripts or databases queries. That is, the database ensures that users can only view and update data they are authorized to access.

Since Row Level Security is functionality implemented by the database, most of the changes needed for Enterprise Architect and the Pro Cloud Server to support it are made directly to the database without needing to change the application code base, which means there is less to go wrong from an application point of view.



## Floating License Server

The Sparx Systems Key Store server has been available for many years, providing users of Enterprise Architect with the ability to manage their floating licenses. Up until version 2.1 of Pro Cloud Server, Floating License functionality was only offered as an independent Microsoft Windows service. Now that it has been integrated into the Pro Cloud Server, users only need to install, configure and maintain one Microsoft Windows Service for all their Enterprise Architect needs.

## Install and Config

The Sparx Systems Pro Cloud Server product is installed using a standard Microsoft Windows Installer package that includes a number of components. The Floating License Server is included in the main 'Pro Cloud Services' component, and consists of a number of extra files over the standard Sparx Systems Cloud Service.

It is possible to change the install location of the Cloud Service; however this document assumes the default install location of C:\Program Files (x86)\Sparx Systems\Cloud Services\ (assuming a 64 bit machine is being used).

**Important:** All communications to the Pro Cloud's Floating License Server are performed via HTTPS, therefore to use the Pro Cloud Server's Floating License Server functionality at least one Port has to be configured to REQUIRE\_SSL=1 and a valid certificate/private key file is defined in the Pro Cloud Server's Services folder. See the *Self-Signed Certificate using OpenSSL* section in [Port Configuration](#) for more details.

The main Pro Cloud Server's configuration file (SSCloudService.config) defines two settings related to the Floating License Server, FLOATLIC\_PATH and FLOATLIC\_CONFIG.

The FLOATLIC\_PATH option defines the path and file name of the Key Store file; by default this is:

```
%SERVICE_PATH%\sskeys.dat
```

where "%SERVICE\_PATH%" is replaced with the physical path of the 'Services' folder (that is, 'C:\Program Files (x86)\Sparx Systems\Cloud Services\Service').

The FLOATLIC\_CONFIG option defines the path and file name of the Key Store group file; by default this is:

```
%SERVICE_PATH%\ssflsgroup.config
```

### Floating License Server Group Configuration File

The Pro Cloud Server's Floating License Server component installs a configuration file called ssflsgroup.config into the Service folder (C:\Program Files (x86)\Sparx Systems\Cloud Services\Service\ssflsgroup.config). This file defines 'groups' of users that can obtain Licenses from the Floating License Server, and also controls which Enterprise Architect Product Licenses each group can utilize.

A group is identified by a group name and a set of credentials (user ID and password) which will be used to securely communicate to the Floating License Server over HTTPS.

The Floating License Server's configuration file will typically consist of multiple group definitions, each group definition needs to be defined as shown:

#### GROUP

```
Name=human_resources
```

```
UserName={user name}
```

```
Password={password}
```

```
IsManager=false
```

```
ENTITLEMENT
```

```
    Product=UltimateSuite
```

```
        Academic=false
```

```
    Limit=10
```

```
END ENTITLEMENT
```

```
ENTITLEMENT
```

```
:
```

```
END ENTITLEMENT
```

```
END GROUP
```



## Group Definition Properties

A Group definition begins when the token **GROUP** is encountered on a new line, and extends until the token **END GROUP** is found on a new line.

Property	Description
Name	The common name of the Floating License group.
UserName	Required. Specifies the User ID for the Floating License Group.
Password	Required. Specifies the Password for the Floating License Group.
StartDate	Optional. Used in combination with the EndDate property to define the date range that the Group can be used.
EndDate	Optional. Used in combination with the StartDate property to define the date range that the Group can be used.
Entitlement - Section	<p>Each Group can define multiple Entitlements. An Entitlement definition begins when the token <b>ENTITLEMENT</b> is encountered on a new line, and extends until the token <b>END ENTITLEMENT</b> is found on a new line.</p> <p>Each Entitlement definition accepts each of these sub-properties:</p> <p>Product={Product Code} - The product that this entitlement gives grants access to this group.</p> <p>Academic={true or false} - Determines if this entitlement applies to the academic edition of the specified Product.</p> <p>Limit={number} - Optionally restrict the number of Product keys available to this group.</p> <p>The valid Product codes are:</p> <ul style="list-style-type: none"> <li>• Professional</li> <li>• Corporate</li> <li>• UnifiedSuite</li> <li>• UltimateSuite</li> <li>• EclipseIntegration</li> <li>• MDGCodeAnalysis</li> <li>• MDGDDS</li> <li>• MDGDoors</li> <li>• MDGLinkEclipse</li> <li>• MDGLinkVS</li> <li>• MDGRealTime</li> <li>• MDGSysML</li> <li>• MDGTogaf</li> <li>• MDGUPDM</li> <li>• MDGZachman</li> <li>• RaQuest</li> </ul>

	<ul style="list-style-type: none"><li>• TCSEIntegration</li><li>• TCSESuite</li><li>• VSIntegration</li></ul>
IsManager	Optional. Specifies whether members of this group are permitted to perform management operations (such as add/remove keys) on the keystore. Default Value: false

## Configuration Changes

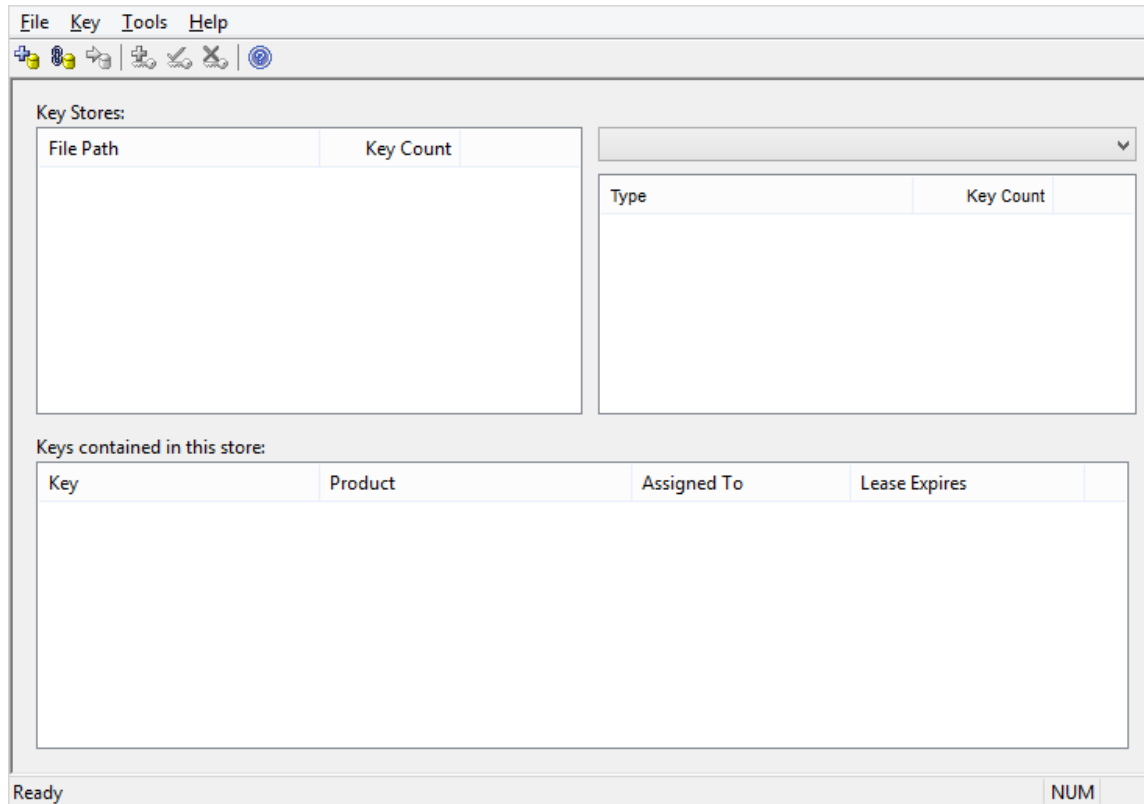
Changes to the Pro Cloud Server's Floating License Group file can be made while the Pro Cloud Server is running, without the need to restart it. The Floating License Server component will detect the last modified time, if the configuration file has changed since it was last read the entire contents of the file is re-read.

## User Guide

This topic (the Floating License Server User Guide) mainly describes how to use the Floating License Configuration Client, a purpose written application which allows environments that use Enterprise Architect to easily manage their floating licenses.

# Floating License Configuration Client

Administration of License keys that are stored in the Pro Cloud Server's Floating License Server are managed by a Windows application installed in the Client folder (C:\Program Files (x86)\Sparx Systems\Cloud Services\Client\SSFloatLicClient.exe).



When the Floating License Configuration Client application is first started it will attempt to open a connection to the most recent Floating License Server or KeyStore, if this is the first time running the Configuration Client, you will be automatically prompted for the connection details of a Floating License Server. See [Floating License Server Connections](#) for more details

The Floating License Configuration Client application is capable of performing actions that can be broadly classified into two different areas. Floating License Server based actions and Key based actions.

The Floating License Configuration Client is capable of connecting and administering multiple Floating License Servers and Shared KeyStores at any given time. The 'Floating License Servers/ Key Stores' list (in the upper left) will display each store that the Configuration Client has a connection to.

Floating License Server based Actions

[Floating License Server Connections](#)

[Set Shared Key Lease Periods](#)

[Migrate Shared Keys between Stores](#)

Selecting a connected store from the 'Key Store' list will enable the user to maintain the keys assigned to that store, using these functions:

Key based Actions

[Add Shared Keys](#)

[Release Shared Keys](#)

[Delete Shared Keys](#)



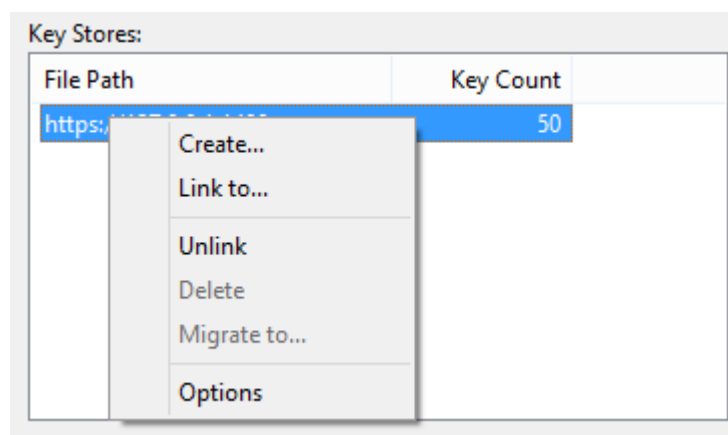
## Floating License Server Connections

The top left corner of the 'Floating License Configuration Client' screen displays a list of connected Floating License Servers and Shared Keystores. Each entry in the list can be one of three different types of store:

1. Floating License Server based (prefix: https://)
2. Shared KeyStore or network based (prefix: ssks://)
3. File based

The type of store can be determined by the connection's prefix (or lack of it); the network and file based keystore types are historical, from earlier versions of the Floating License Server.

Floating License Server actions can be performed by selecting a Floating License Server/KeyStore item in the list and then selecting a menu item from the 'File' menu, or simply right-clicking on an item in the list; the menu options shown are:

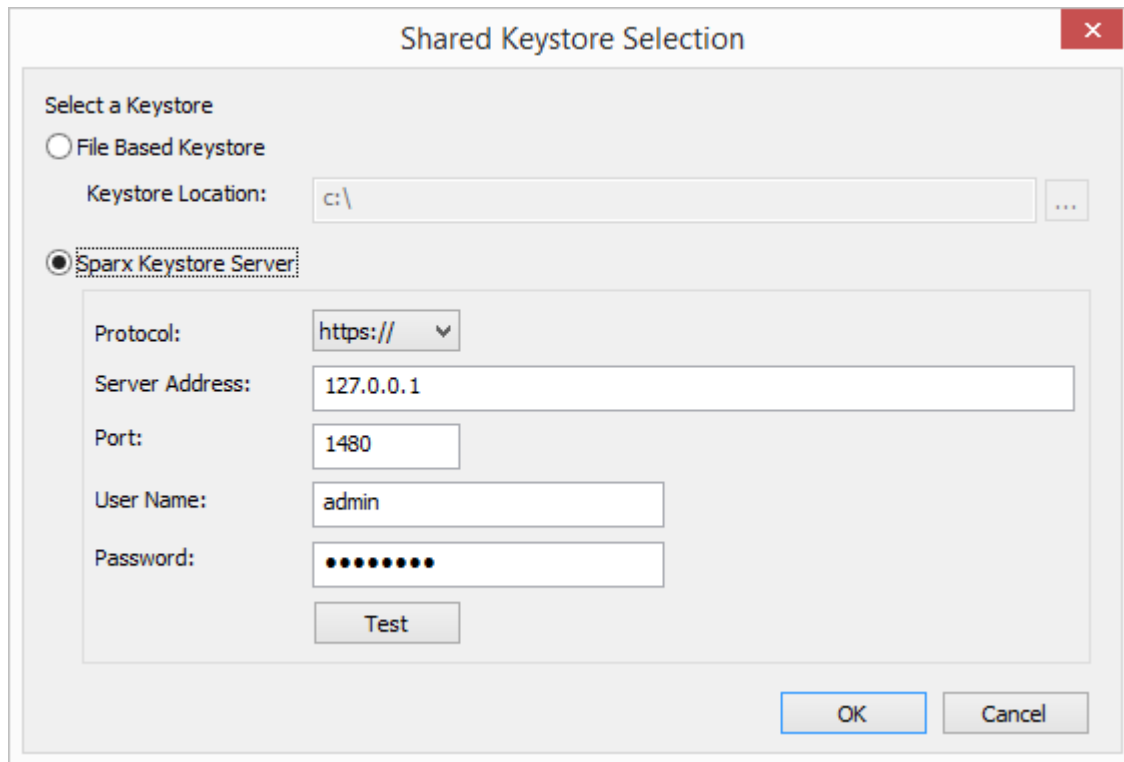


### Create...

Selecting the Create... menu option allows for the creation of a new file based keystore.

### Link to...

Selecting the Link to... menu option will prompt the user for the connection details of a Floating License Server (or key store) to be added to the list of connected stores.



The image shows a 'Shared Keystore Selection' dialog box. It has a title bar with a close button. Inside, there's a section 'Select a Keystore' with two radio buttons: 'File Based Keystore' and 'Sparx Keystore Server'. The 'Sparx Keystore Server' option is selected. Below this, there are fields for 'Keystore Location' (showing 'c:\'), 'Protocol' (a dropdown menu showing 'https://'), 'Server Address' (showing '127.0.0.1'), 'Port' (showing '1480'), 'User Name' (showing 'admin'), and 'Password' (masked with dots). There is a 'Test' button below the password field. At the bottom right, there are 'OK' and 'Cancel' buttons.

## Unlink

Selecting the Unlink menu option while a Floating License Server is selected in the list will release the Floating License Configuration Client's connection to the store and remove it from the list.

## Delete

Selecting the Delete menu option while a file base Key Store is selected in the Key Store list will physical and permanently delete the file used to store the keys. This option is disabled when the selected Keystore is either a Floating License Server or shared network KeyStore.

## Migrate to...

Selecting the Migrate to... menu option while a file base Key Store is selected in the Floating License Server / Key Store list will allow the migration of keys from one store to another. This option is disabled when the selected store is either a Floating License Server or shared network KeyStore based. See [Migrate Shared Keys between Stores](#) section for more details

## Options...

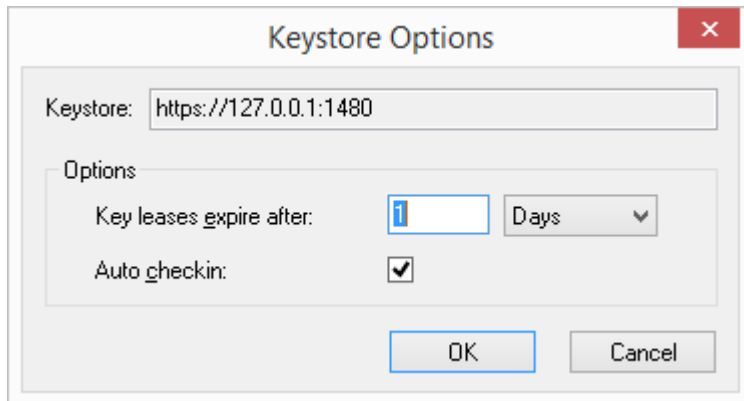
Selecting the Options... menu option will display the Options screen for the selected Floating License Server. See [Set Shared Key Lease Periods](#) section for more details

## Set Shared Key Lease Periods

Normally in an environment that requires licenses to be shared, an Enterprise Architect user 'releases' the license they have 'leased' immediate upon closing the application. However in an environment where Enterprise Architect users work offline for periods of time (for example, using laptops) this type of configuration would not allow an offline user to open Enterprise Architect once they have disconnected from the main network.

For this reason a Floating License Server / Key Store can be configured to have a longer retention period and the 'auto check on exit' option can be disabled.

To administer the lease period of a Floating License Server / Key Store, select a store from the list and then select the 'Tools | Options' menu option. The 'Keystore Options' dialog is then shown.



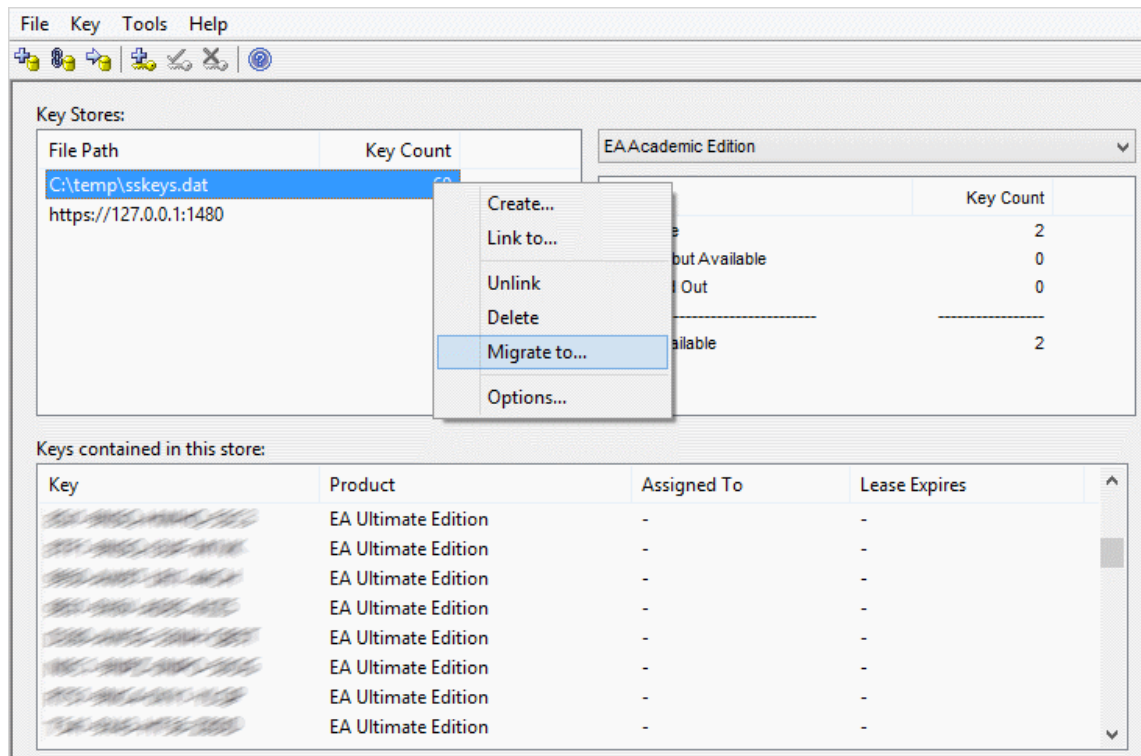
(Alternatively, you can right-click on the Floating License Server / Key Store name in the list and select the 'Options...' context menu item)



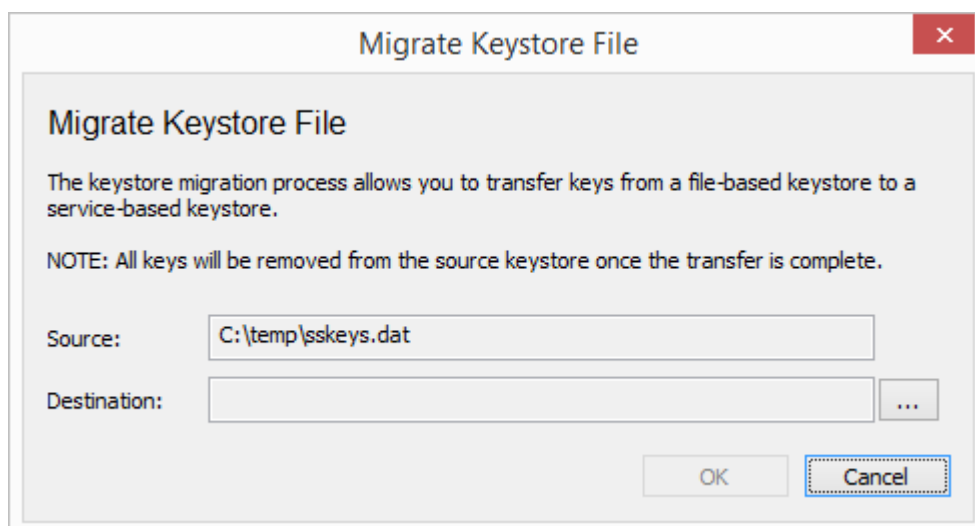
## Migrate Shared Keys between Stores

You might want to upgrade from a legacy file or network based Key Store to a new Pro Cloud Server Floating License Server. This process effectively removes all keys from the original keystore, leaving it empty, and places the keys into the Floating License Server.

To migrate shared keys from other keystores, you will first need to define a connection to each source keystore, using the File | Link To menu item. Then making sure the source keystore is selected in the list, select menu item File | Migrate to...



The 'Migrate Keystore File' screen will be shown:

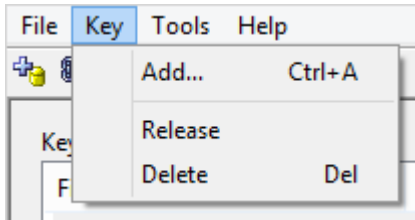


Click on the [ ... ] button on the right of the Destination field, and browse for the details of the Floating License Server

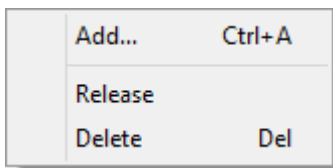
into which the shared keys are to be transferred. Click on the OK button to migrate the shared keys from the source to the destination Floating License Server.

## Add Shared Keys

To add shared keys to a Key Store, select the 'Floating License Server / Key Store' in the list, and then select 'Key | Add... ' from the main menu.



Alternatively, right-click on 'Keys contained in this store' list and select 'Add... '.



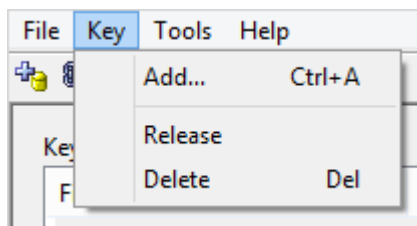
## Release Shared Keys

It is usually not necessary to manually release a shared key from a workstation, as this happens automatically if:

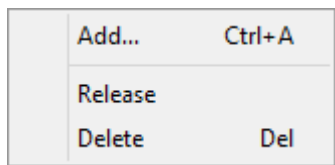
- The keystore's AutoCheckin option has been enabled and you close all running instances of Enterprise Architect on your workstation
- The lease on the key expires.

However, if further users want to access Enterprise Architect and there is some technical anomaly that has prevented the return of a key, you can manually release the key using the Sparx Systems Floating License Configuration Client.

To release a key from its active association with a particular workstation, click on the key in the 'Keys contained in this store' list, and then select the Key | Release menu item.

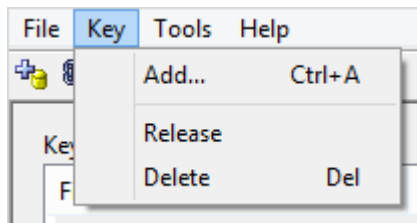


(Alternatively, click on the Release Key icon in the toolbar, or right-click on the key and select the Release context menu option.)

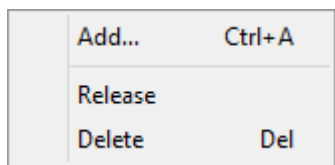


## Delete Shared Keys

To delete a key from the selected Floating License Server / Key Store, open the Floating License Configuration Client, click on the key in the 'Keys contained in this store' list, and then select the Key | Delete menu option.



(Alternatively, click on the Delete Key icon in the toolbar, or right-click on the key and select the Delete context menu option.)



# Troubleshooting

If users experience a problem with the Pro Cloud Server's Floating License Server the error message will either be displayed on the screen for Floating License Configuration Client related errors or written to the Pro Cloud Server's log file when an error occurs within the Cloud Service. This topic provides a list of common Floating License related errors that could occur. Each entry describes the situation that has occurred and provides guidance on how to correct the error.

## Configuration related Floating License Server errors

Issue	Comments
EA Users are not able to connect to a Floating License Group	<p>Enterprise Architect users cannot connect to a defined Floating License Group, even when the entered details exactly match the definition.</p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>The Pro Cloud Server configuration file does not contain a valid PCS license key, therefore all Pro Cloud features will be disabled.</li> <li>If an entitlement in the Floating License Group file is defined with an invalid Enterprise Architect product, the entire Group will be disabled. Check the Cloud Service's log file for error messages, the invalid product will be mentioned by name and line number.</li> </ul>
The Key Store connection screen in EA does not include HTTPS option	<p>In order for Enterprise Architect to connect to the Pro Cloud Server's Key Store, a protocol of HTTPS is required for secure communications.</p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>A version prior to Enterprise Architect version 14 is in use</li> </ul>
The Key Store connection screen in EA cannot perform a successful 'Test'	<p>Your client is not able to communicate with a Pro Cloud Server using the supplied details.</p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>Pro Cloud Service is not installed</li> <li>Pro Cloud Service is not running</li> <li>Pro Cloud Service is not listening on the expected port using HTTPS</li> <li>There is not network connectivity between the client and server</li> <li>A firewall is limiting communications between the client and server</li> </ul>

## Errors while using Floating License Configuration Client

Issue	Comments
Could not open keystore at [FilePath]. The file does not exist and could not be created	<p>The service was unable to open the key store file specified by the FLOATLIC_PATH property in the Cloud Service configuration file (SSCloudServices.config).</p> <p>Ensure that this path exists, and that the user account the Pro Cloud Server Windows Service is running under has the necessary permissions to read and write to the specified file.</p>

The Floating License Configuration Client is not able to connect	<p>The machine running the Floating License Configuration Client is not able to communicate with a Floating License Server using the supplied details.</p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>• Pro Cloud Service is not installed</li> <li>• Pro Cloud Service is not running</li> <li>• Pro Cloud Service is not listening on the expected port using HTTPS</li> <li>• There is no network connectivity between the client and server</li> <li>• A firewall is limiting communications between the client and server</li> <li>• The Pro Cloud Server configuration file does not contain a valid PCS license key, therefore all Pro Cloud features are disabled, including the Floating License Server</li> <li>• The entered user credentials do not match any of the defined Floating License Groups in 'ssflsgroup.config'</li> <li>• The user credentials for the entered Floating License Group have not been defined as 'IsManager=true'</li> <li>• If an entitlement in the Floating License group file is defined with an invalid Enterprise Architect product, the entire Group will be disabled; check the Cloud Service's log file for error messages - the invalid product will be mentioned by name and line number</li> </ul>
Could not open keystore, no keystore file specified	<p>No file path was specified in the property in the configuration file.</p> <p>Type a file path into the FLOATLIC_PATH configuration property that the user account the Pro Cloud Server Windows Service is running under can read and write to.</p>
Invalid or missing keystore file - Keystore file cannot be opened by this version of the service or the file has been corrupted	<p>The keystore file specified by the configuration property FLOATLIC_PATH is either incompatible with the current version of the Floating License Server, or has somehow been corrupted on the file system.</p> <p>Restore the key store file specified in the configuration property FLOATLIC_PATH from a recent backup, or contact Sparx Systems Support for assistance.</p>
Key file has been moved	<p>The key store file specified by the configuration property FLOATLIC_PATH is locked to the serial number of the hard drive it is created on. If the key store file is moved from this hard drive, then other Floating License Servers are unable to open it.</p> <p>If the key store file has been moved, restore the file to its initial location. Certain RAID configurations can affect how the hard drive's serial number is presented to the Floating License Server. Thus, it is recommended that you house the key store file on a non RAID drive, wherever possible.</p>

## Errors while using Enterprise Architect and the Floating License Server

Issue	Comments
Checkout Failure: There are no more available keys for this product in the key	<p>Keys for this product exist; however, they are all checked out to other users.</p> <p>If this error is frequently reported, consider limiting the use of the product across your enterprise or purchasing more keys to meet the demand for the product.</p>

store	
Checkout Failure: The key store does not contain any keys for this product	<p>This keystore does not contain keys for the requested product. Keys for the product might have been provided by the keystore in the past, but have since been removed.</p> <p>Uninstall the product and return any shared keys on the client machine.</p>
Checkin Failure: Key not found in keystore.	<p>The key being checked in has either been deleted since it was checked out, or was checked out from another keystore.</p> <p>Ensure that users return any shared keys to the key store they were leased from before swapping Floating License Servers / key stores.</p>



# WebEA

Sparx System's WebEA is an application designed to display the data from Enterprise Architect models in a web browser, which means users can review and comment on a model in real time, on a range of mobile devices or a remote work station, without needing to install Enterprise Architect.

WebEA is a component of the Sparx Systems Pro Cloud Server, which is a separately-installed and licensed product, to complement Enterprise Architect. WebEA makes use of the PHP, HTML, CSS3 and javascript technologies and requires a web server (such as Apache or IIS) to host it. The topics of this chapter explain how to install and configure WebEA in detail, but if you are interested in getting started quickly see the *WebEA Quick Start Guide* for the necessary steps.

## Requirements

- Users of WebEA require a HTML5 / CSS3 compatible web browser
- The WebEA interface requires JavaScript to be enabled in the web browser
- A client's device will require network connectivity to the web server hosting WebEA
- Users of WebEA will require this information in order to connect to and log into a WebEA model:
  - The complete URL; that is, machine name/IP number and optionally the port number and/or the path to the WebEA files, depending on how the web server has been configured
  - The name of the model to access
  - (Optional) an access code necessary to open a model, if one has been configured
  - (Optional) the user ID and password required to open a model, if user security has been applied

# WebEA Quick Start Guide

The purpose of the WebEA Quick Start Guide is to provide the complete process for quickly installing and configuring WebEA in a new environment using the most common options.

The process is based on these assumptions:

- A clean Windows 7 (or later) based machine has been selected to host both the Pro Cloud Server and Web Server; that is, no other Web Servers or applications are configured to listen on port 80
- The latest version of XAMPP will be used to install Apache as the Web Server
- WebEA will access one brand new Firebird model (because it is the simplest, as it does not require any third party ODBC drivers)
- The Enterprise Architect user base is using Enterprise Architect 13.5 or later

## 1. Download the Pro Cloud Server

Step	Description
1.1	When you purchase the Sparx Systems Pro Cloud Server the sales team will send you a link to download the installer.

## 2. Install the Web Server

Step	Description
2.1	XAMPP is available at <a href="https://www.apachefriends.org/download.html">https://www.apachefriends.org/download.html</a> . Download the latest version for Windows, to the machine's desktop.
2.2	The XAMPP installer should be run with Administration privileges; on the desktop, right-click on the XAMPP installer icon and select 'Run as Administrator'.
2.3	Proceed through the installation process, accepting the defaults until the Select Components screen displays. Deselect these checkboxes: MySQL, FileZilla, Mercury, Tomcat, Perl, phpMyAdmin, Webalizer and Fake Sendmail. WebEA only requires the minimum XAMPP installation of Apache and PHP. Click on the Next button.
2.4	The installation folder should be set to C:\xampp. Click on the Next button until the installation starts. When the installation finishes, select the option to open the Control Panel, then complete the installation.

## 3. Configure the Web Server

With the default XAMPP configuration, the default website will use port 80. Its base folder is C:\xampp\htdocs.

Step	Description
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3.1	Using the XAMPP control panel, start Apache. No errors should be reported at this stage.
-----	--

## 4. Install Pro Cloud Server

Step	Description
4.1	The Pro Cloud Server installer is a standard MSI; double-click on it to start the installation. Note: Depending on a number of factors, you might be prompted for the credentials of a user with elevated permissions; these must be entered before the installation will continue.
4.2	The 'Sparx Systems Pro Cloud Services Setup' dialog displays. Click on the Next button.
4.3	Read the license agreement and select the checkbox for indicating that you accept the terms. Click on the Next button.
4.4	Read the information about the Pro Cloud Server. Click on the Next button.
4.5	The 'Custom Setup' page displays. Click on the Next button to accept the defaults.
4.6	Click on the Install button to run the installation.

## 5. Configure the Pro Cloud Server

The Pro Cloud Server will have installed all of its files to the 'C:\Program Files (x86)\Sparx Systems\Cloud Services\' folder and added a Shortcut to the desktop.

Step	Description
5.1	Run the 'Pro Cloud Config Client' or 'Pro Cloud Express Configuration Client' shortcut which was added to your desktop.
5.2	Enter the Server address of "localhost:803" and click on the <b>OK</b> button.
5.3	Click on the <b>Licensing</b> button, then <b>Add</b> .  Enter your Pro Cloud server License key, then click <b>OK</b> .  Click on <b>OK</b> to close the Pro Cloud Server License Manager dialog.
5.4	Select the Ports tab  Select Port "804" from the list and click on the <b>Edit</b> button.  Tick the checkbox <b>OSLC Supported</b> , then click <b>OK</b> .

5.5	<p>Select the Database Managers tab, then click on the <b>Add</b> button.</p> <p>Type the name 'fb-procloud.feap' in the connection string field, then click on the <b>OK</b> button.</p> <p>Select the new entry in the list and click on the <b>Edit</b> button.</p> <p>On the Configure Database Manager screen, select the <b>Enabled</b> and <b>Enable Pro Features (OSLC, WebEA and Integration)</b> checkboxes.</p> <p>Click on the <b>OK</b> button.</p> <p>For a more in depth explanation of how to add database managers, see the Help topic <a href="#">Add Database Manager</a>.</p>
5.6	<p>Open the standard Windows Services console (command "services.msc"), locate and select the service "Sparx Systems Professional Cloud", then restart it.</p>

## 6. Copy WebEA files to Website

Step	Description
6.1	Copy the folder C:\Program Files (x86)\Sparx Systems\Cloud Services\WebEA\ to C:\xampp\htdocs.

## 7. Configure WebEA to access the model

To give a better demonstration of the WebEA options, we will define three different WebEA model connections. All will connect to the same physical Firebird database.

Each model connection will have its own set of options that control how users will be able to interact with the data.

Step	Description
7.1	Open the file 'C:\xampp\htdocs\WebEA\includes\webea_config.ini' with a text editor.
7.2	<p>In the "[model_list]" section, remove the 'model4' and 'model5' lines. Edit the remaining model names to:</p> <p>model1 = "Pro Cloud Model (no updates)"</p> <p>model2 = "Pro Cloud Model with discussions"</p> <p>model3 = "Pro Cloud Model with access code"</p>
7.3	In the "[model1 : settings]" section change the SSCS_DB_ALIAS option to "fb-procloud". The remaining default options should remain unchanged.
7.4	In the "[model2 : settings]" section change the SSCS_DB_ALIAS option to "fb-procloud". The remaining default options should remain unchanged.
7.5	Delete the "[model3 : settings]" and "[model5 : settings]" sections, rename the "[model4 : settings]" section


	header to [model3 : settings]", then set these options as shown: sscs_db_alias = "fb-procloud" sscs_port = "804" sscs_use_ssl = "false" sscs_model_user = "" ssc_model_pwd = "" auth_code = "password01". login_prompt = "false"
7.6	Save the changes to the file webea_config.ini in C:\xampp\htdocs\WebEA\includes.

## 8. Configure your firewall(s) to allow client access

Step	Description
8.1	Firewall rules will have to be adjusted to allow traffic between the [Client] and [Web Server], on ports 80 and 443.
8.2	Firewall rules will have to be adjusted to allow traffic between the [Web Server] and [Pro Cloud Server], on ports 804 and 805.

## 9. Use Enterprise Architect to add content

The initial Firebird model we created earlier will be empty. The easiest way to add content to the model is with Enterprise Architect.

Step	Description
9.1	On a client machine with access to the web server, open Enterprise Architect v13.5 or later.
9.2	From the main menu select 'Open Project...' or, from the ribbon, select the  > Open Project' option.
9.3	Click on the Connect to Cloud button.
9.4	On the 'Cloud Connection' screen set these parameters: Name: fb-procloud Protocol: http:// Server: {your servername} Port: 804 Model Name: fb-procloud  Click on the OK button.

9.5	<p>Open the 'Configure &gt; Model &gt; Options &gt; Cloud' options and tick these checkboxes:</p> <ul style="list-style-type: none"> <li>• Auto create Diagram Image and Image Map (each time a Diagram is saved)</li> <li>• Auto create HTML Page (each time a Linked Document is saved)</li> </ul> <p>These options ensure diagrams and Linked Documents are saved in a format that allows them to be viewed in WebEA.</p>
9.6	Create a sample set of Model Views, Packages, diagrams and elements, so that they can be viewed in WebEA later.

## 10. Test WebEA access

Step	Description
10.1	<p>On a client machine, open an internet browser and enter the URL <code>http://{yourwebserver}/WebEA/login.php</code>, where the value '{yourwebserver}' is either the name or IP number of the machine hosting the WebEA website. The WebEA login screen displays, listing the three model connections we defined earlier:</p> <ul style="list-style-type: none"> <li>• Pro Cloud Model (no updates)</li> <li>• Pro Cloud Model with discussions</li> <li>• Pro Cloud Model with access code</li> </ul>
10.2	<p>Select the first model connection - Pro Cloud Model (no updates) - and click on the Next button. This connects you to the model and displays the model views that are defined.</p> <p>From here you should be able to navigate through the model by selecting Packages, diagrams and elements. When you select an element, its complete details are displayed. Because of the way this model connection is defined, the bottom of the properties section will NOT contain the 'Discussions' section.</p>
10.3	<p>Click on the 'hamburger' icon in the top right corner of the display, and select the 'Logout' option. Then select the second model connection - Pro Cloud Model with discussions - and click on the Next button. You should see the same model views as before; now navigate to an element and confirm that the 'Discussions' section is visible.</p>
10.4	<p>Once again, click on the 'hamburger' icon in the top right corner, and select the 'Logout' option.</p> <p>Select the third model connection, 'Pro Cloud Model with access code' and click on the Next button. This time you should be presented with a prompt for the Access Code; enter 'password01' (as we defined in step 7.5) and click on the Login button. You should see the same model views as before. Navigate to an element; this time there should be a blue 'hamburger' menu in the element details area that allows the creation of element features such as tests and resource allocations. There should also be a pencil icon next to the element notes area that, when clicked on, will allow the modification of element notes.</p>

## Complete

This quick start procedure is now complete. It has shown you how to install and configure a basic installation of WebEA. The Sparx System's online Help documentation has more detailed instructions and explains all possible options that can be configured. See the section *Model Repository | Cloud Based Repositories | Pro Cloud Server* in the Enterprise Architect online Help.



# WebEA Quick Start Guide - IIS

The purpose of the WebEA Quick Start Guide - IIS is to provide the complete process for quickly installing and configuring WebEA in a new IIS environment using the most common options.

The process is based on these assumptions:

- A clean Windows Server 2012 (or later) based machine has been selected to host both the Pro Cloud Server and Web Server; that is, no other Web Servers or applications are configured to listen on port 80
- IIS will be used as the Web Server
- WebEA will access one brand new Firebird model (because it is the simplest, as it does not require any third party ODBC drivers)
- The Enterprise Architect user base is using Enterprise Architect 13.5 or later

## 1. Download the Pro Cloud Server

Step	Description
1.1	When you purchase the Sparx Systems Pro Cloud Server the sales team will send you a link to download the installer.

## 2. Install the Web Server

Step	Description
2.1	Enable IIS on Windows Server by running the Server Manager and selecting 'Add roles and features'
2.2	Proceed through the installation process, accepting the defaults until the Server Roles screen displays. Select the 'Web Server (IIS)' checkbox. Continue through the installation, accepting defaults.
2.3 - Install PHP	Install PHP for IIS with 'Microsoft Web Platform Installer', available from: <a href="https://www.microsoft.com/web/downloads/platform.aspx">https://www.microsoft.com/web/downloads/platform.aspx</a> Run Microsoft Web Platform Install and select 'Products > Frameworks'. Select the version of PHP required (for example, 'PHP 7.2.2 (x64)'). Click on the Add button and Install button. (This will download the required files and install them for use with IIS.)

## 3. Configure the Web Server

With the default IIS configuration, the default website will use port 80. Its base folder is %SystemDrive%\inetpub\wwwroot which is normally C:\inetpub\wwwroot.

Step	Description
------	-------------



3.1	No additional configuration is required. Test the connection by browsing to server address from another computer. "Internet Information Services" landing page should display.
-----	--

## 4. Install Pro Cloud Server

Step	Description
4.1	The Pro Cloud Server installer is a standard MSI; double-click on it to start the installation. Note: Depending on a number of factors, you might be prompted for the credentials of a user with elevated permissions; these must be entered before the installation will continue.
4.2	The 'Sparx Systems Pro Cloud Services Setup' dialog displays. Click on the Next button.
4.3	Read the license agreement and select the checkbox for indicating that you accept the terms. Click on the Next button.
4.4	Read the information about the Pro Cloud Server. Click on the Next button.
4.5	The 'Custom Setup' page displays. Click on the Next button to accept the defaults.
4.6	Click on the Install button to run the installation.

## 5. Configure the Pro Cloud Server

The Pro Cloud Server will have installed all of its files to the 'C:\Program Files (x86)\Sparx Systems\Cloud Services\' folder and added a Shortcut to the desktop.

Step	Description
5.1	Run the 'Pro Cloud Config Client' or 'Pro Cloud Express Configuration Client' shortcut which was added to your desktop.
5.2	Enter the Server address of "localhost:803" and click on the <b>OK</b> button.
5.3	Click on the <b>Licensing</b> button, then <b>Add</b> .  Enter your Pro Cloud server License key, then click <b>OK</b> .  Click on <b>OK</b> to close the Pro Cloud Server License Manager dialog.
5.4	Select the Ports tab  Select Port "804" from the list and click on the <b>Edit</b> button.  Tick the checkbox <b>OSLC Supported</b> , then click <b>OK</b> .

5.5	<p>Select the Database Managers tab, then click on the <b>Add</b> button.</p> <p>Type the name 'fb-procloud.feap' in the connection string field, then click on the <b>OK</b> button.</p> <p>Select the new entry in the list and click on the <b>Edit</b> button.</p> <p>On the Configure Database Manager screen, select the <b>Enabled</b> and <b>Enable Pro Features (OSLC, WebEA and Integration)</b> checkboxes.</p> <p>Click on the <b>OK</b> button.</p> <p>For a more in depth explanation of how to add database managers, see the Help topic <a href="#">Add Database Manager</a>.</p>
5.6	<p>Open the standard Windows Services console (command "services.msc"), locate and select the service "Sparx Systems Professional Cloud", then restart it.</p>

## 6. Copy WebEA files to Website

Step	Description
6.1	Delete the default IIS files from C:\inetpub\wwwroot
6.2	Copy the folder C:\Program Files (x86)\Sparx Systems\Cloud Services\WebEA\ to C:\inetpub\wwwroot.

## 7. Configure WebEA to access the model

To give a better demonstration of the WebEA options, we will define three different WebEA model connections. All will connect to the same physical Firebird database.

Each model connection will have its own set of options that control how users will be able to interact with the data.

Step	Description
7.1	Open the file 'C:\inetpub\wwwroot\WebEA\includes\webea_config.ini' with a text editor.
7.2	<p>In the "[model_list]" section, remove the 'model4' and 'model5' lines. Edit the remaining model names to:</p> <p>model1 = "Pro Cloud Model (no updates)"</p> <p>model2 = "Pro Cloud Model with discussions"</p> <p>model3 = "Pro Cloud Model with access code"</p>
7.3	In the "[model1 : settings]" section change the SSCS_DB_ALIAS option to "fb-procloud". The remaining default options should remain unchanged.
7.4	In the "[model2 : settings]" section change the SSCS_DB_ALIAS option to "fb-procloud". The remaining


	default options should remain unchanged.
7.5	Delete the "[model3 : settings]" and "[model5 : settings]" sections, rename the "[model4 : settings]" section header to "[model3 : settings]", then set these options as shown: <pre> sscs_db_alias = "fb-procloud" sscs_port = "804" sscs_use_ssl = "false" sscs_model_user = "" ssc_model_pwd = "" auth_code = "password01". login_prompt = "false" </pre>
7.6	Save the changes to the file webea_config.ini in C:\inetpub\wwwroot\WebEA\includes.

## 8. Configure your firewall(s) to allow client access

Step	Description
8.1	Firewall rules will have to be adjusted to allow traffic between the [Client] and [Web Server], on ports 80 and 443.
8.2	Firewall rules will have to be adjusted to allow traffic between the [Web Server] and [Pro Cloud Server], on ports 804 and 805.

## 9. Use Enterprise Architect to add content

The initial Firebird model we created earlier will be empty. The easiest way to add content to the model is with Enterprise Architect.

Step	Description
9.1	On a client machine with access to the web server, open Enterprise Architect v13.5 or later.
9.2	From the main menu select 'Open Project...' or, from the ribbon, select the  > Open Project' option.
9.3	Click on the Connect to Cloud button.
9.4	On the 'Cloud Connection' screen set these parameters: Name: fb-procloud Protocol: http:// Server: {your servername} Port: 804 Model Name: fb-procloud

	Click on the OK button.
9.5	<p>Open the 'Configure &gt; Model &gt; Options &gt; Cloud' options and tick these checkboxes:</p> <ul style="list-style-type: none"> <li>• Auto create Diagram Image and Image Map (each time a Diagram is saved)</li> <li>• Auto create HTML Page (each time a Linked Document is saved)</li> </ul> <p>These options ensure diagrams and Linked Documents are saved in a format that allows them to be viewed in WebEA.</p>
9.6	Create a sample set of Model Views, Packages, diagrams and elements, so that they can be viewed in WebEA later.

## 10. Test WebEA access

Step	Description
10.1	<p>On a client machine, open an internet browser and enter the URL <code>http://{yourwebserver}/WebEA/login.php</code>, where the value '{yourwebserver}' is either the name or IP number of the machine hosting the WebEA website. The WebEA login screen displays, listing the three model connections we defined earlier:</p> <ul style="list-style-type: none"> <li>• Pro Cloud Model (no updates)</li> <li>• Pro Cloud Model with discussions</li> <li>• Pro Cloud Model with access code</li> </ul>
10.2	<p>Select the first model connection - Pro Cloud Model (no updates) - and click on the Next button. This connects you to the model and displays the model views that are defined.</p> <p>From here you should be able to navigate through the model by selecting Packages, diagrams and elements. When you select an element, its complete details are displayed. Because of the way this model connection is defined, the bottom of the properties section will NOT contain the 'Discussions' section.</p>
10.3	<p>Click on the 'hamburger' icon in the top right corner of the display, and select the 'Logout' option. Then select the second model connection - Pro Cloud Model with discussions - and click on the Next button. You should see the same model views as before; now navigate to an element and confirm that the 'Discussions' section is visible.</p>
10.4	<p>Once again, click on the 'hamburger' icon in the top right corner, and select the 'Logout' option.</p> <p>Select the third model connection, 'Pro Cloud Model with access code' and click on the Next button. This time you should be presented with a prompt for the Access Code; enter 'password01' (as we defined in step 7.5) and click on the Login button. You should see the same model views as before. Navigate to an element; this time there should be a blue 'hamburger' menu in the element details area that allows the creation of element features such as tests and resource allocations. There should also be a pencil icon next to the element notes area that, when clicked on, will allow the modification of element notes.</p>

## Complete

This quick start procedure is now complete. It has shown you how to install and configure a basic installation of WebEA on IIS. The Sparx System's online Help documentation has more detailed instructions and explains all possible options

that can be configured. See the section '*Model Repository | Cloud Based Repositories | Pro Cloud Server*' in the Enterprise Architect online Help.

# WebEA Installation and Configuration

The Sparx Systems Pro Cloud Server product is installed using a standard Microsoft Windows Installer package that includes a number of optional components. WebEA is one of these components and is installed by default. It is possible to change the install location of WebEA; however, if the defaults are used WebEA will be installed into the C:\Program Files (x86)\Sparx Systems\Cloud Services\WebEA\ folder (assuming a 64 bit machine is being used).

See the *Cloud Server Installation* and *Cloud Service Configuration* Help topics for a full description of how to install and configure the Sparx Systems Cloud Service.

**Important:** If you are installing the Pro Cloud Server on a machine that already has the Sparx Systems Cloud Services or Sparx Systems WAN Optimizer installed then these should be uninstalled first.

## WebEA Server Requirements

In order to run WebEA in your environment you must have:

- A Web Server (Apache or IIS) capable of hosting PHP v7.0 (or later)
- A Web Server with these standard PHP extensions installed and enabled: core, curl, date, gettext, hash, json, libxml, mbstring, pcre, session, standard and tokenizer
- A Web Server with PHP sessions enabled
- Communication between the web server and the server hosting the Pro Cloud Server
- A base folder (on the web server) to store the WebEA website pages

## Configuration Steps

The installation of the WebEA application should have already been completed by following the steps outlined in the *Cloud Server Installation* topic, making sure that the WebEA component was installed.

In addition to installing the Pro Cloud server, WebEA also needs a web server to host it. In the simplest configuration the web server would be installed on the same machine as the Pro Cloud Server.

Configuring WebEA applies these steps:

Step	Action
1	<p>Decide what models are going to be available to WebEA users.</p> <p>At the same time it is worth considering these points, which will determine the configuration options of each model.</p> <ul style="list-style-type: none"> <li>• Is user security currently configured on the model?</li> <li>• Should WebEA users be prompted for their model user and password?</li> <li>• Should WebEA users be able to view element discussions?</li> <li>• Should WebEA users be able to add element discussions?</li> <li>• Should WebEA users be able to join and participate in reviews?</li> <li>• Should WebEA users be able to insert new objects, and if so, what types?</li> <li>• Should WebEA users be able to add new element features, and if so, what types?</li> <li>• Should WebEA users be able to edit element notes?</li> <li>• Should WebEA users be able to edit element tests?</li> <li>• Should WebEA users be able to edit element resource allocations?</li> <li>• What is the default list of watchlist items for the model?</li> </ul>

2	Ensure a database manager is defined for each model decided on in step 1, in the Cloud Service's database manager list. The process to do this is as outlined for the core Sparx Systems Cloud Service, in <i>Add Database Manager</i> .
3	Enter your License key into the SSCloudServices.config file (by default found in the 'C:\Program Files (x86)\Sparx Systems\Cloud Services\Service' folder). To edit this file you will require Administrator privileges. <b>Tip:</b> Add this line, replacing the zeroes with your license key. LICENSE={00000000-0000-0000-0000-000000000000}
4	For each of the Cloud Services ports that will be accessed by WebEA models, check that the option 'OSLC_SUPPORT' is set to '1' in the SSCloudServices.config file, and save any changes. <b>Tip:</b> Add/edit the OSLC_SUPPORT option to enable OSLC on the given port. OSLC_SUPPORT=1
5	Ensure that the Windows service 'Sparx Systems Professional Cloud' has been restarted since making changes to the configuration file (in the previous steps), so that new options are loaded.
6	For each of the models decided on in step 1, select the model on the 'Sparx Systems Cloud Services Configuration Client', click on the Configure button and select the 'Enable Pro Features (OSLC, WebEA and Integration)' checkbox.
7	Check that you can access the model(s) in Enterprise Architect using the 'Connect to Cloud' option. After opening each model in Enterprise Architect, enable the 'Data Cache' options and click on the Create button to generate the initial set of viewable diagrams and Linked Documents. See the <i>Model Configuration</i> topic for details.
8	Download/install and configure your web server for PHP, according to your requirements. <b>Tip:</b> XAMPP is the most common Apache/PHP web server that includes all the required components; it is available for Windows/Linux and OS X at <a href="https://www.apachefriends.org/download.html">https://www.apachefriends.org/download.html</a> . WebEA has been tested on all of the currently available versions of PHP, but if your environment has no special requirements then Sparx Systems would recommend v7.1.1 for Windows. All further Quick Start points will assume this configuration.  Note: WebEA only requires the minimum XAMPP installation, Apache and PHP; it does not require MySQL, FileZilla Mercury, Tomcat or any of the other optional components, so if you have no need for these components Sparx Systems would recommend to not install them.
9	Define and configure a website for WebEA in your web server. As there are many different web servers and configurations, configuring the web site for WebEA, deciding what port the web server will listen to, and making sure the website is secure from external attacks, are all outside the scope of this documentation. <b>Tip:</b> Using the default XAMPP configuration, the port for the default website is 80 and the base folder is at 'C:\xampp\htdocs'. XAMPP will already have added files to this folder; WebEA does not require these files, so if you have no need for them, move them to a backup location.
10	Copy the contents of the entire WebEA installation folder ('C:\Program Files (x86)\Sparx Systems\Cloud Services\WebEA\') to the base folder of the website. <b>Tip:</b> Copy WebEA folder from 'C:\Program Files (x86)\Sparx Systems\Cloud Services\WebEA\' to 'C:\xampp\htdocs'. <b>Special Note regarding reinstalls:</b> before updating the WebEA files, take a backup of the files you have modified, ie \includes\webea_config.ini and \includes\webea_strings.ini.
11	Due to the sensitive nature of some of the information contained in the WebEA configuration file, we

	<p>recommend that the '\includes\' folder within the WebEA folder is severely restricted so that only PHP can access the files within. For example, in Apache this is achieved with this entry in the Apache configure file:</p> <pre>&lt;Directory "{website_path}/includes"&gt;     AllowOverride none     options none     Require all denied &lt;/Directory&gt;</pre> <p>Once your web server is configured and the WebEA application files copied into the base folder, restart/start the web server.</p> <p><b>Tip:</b> Using the XAMPP control panel, Stop/Start Apache.</p>
12	<p>Edit the '\includes\webea_config.ini' file and define each model decided on in step 1.</p> <p>See the <i>How to configure WebEA models</i> Help topic for more details on what each option means in WebEA's config file.</p> <p><b>Tip:</b> Edit 'C:\xampp\htdocs\includes\webea_config.ini' file, and update all parameters with the prefix 'SSCS_' to that of a defined repository in your Cloud Service.</p> <p><b>Special Note regarding reinstalls:</b> if you have a previous backup of the '\includes\webea_config.ini' file and wish to use the same configuration, you can simply restore the backup file.</p>
13	<p>On a remote machine, open an internet browser and enter the URL of <code>http://{yourwebserver}/login.php</code>, where the value '{yourwebserver}' is either the name or IP number of the machine hosting the WebEA website. This should display the WebEA login screen that lists the models which are defined in the webea_config.ini file.</p>
14	<p>Other considerations:</p> <ul style="list-style-type: none"> <li>• If you require different lists of models (or different options) for different user bases, then it is possible to define multiple websites, each with their own dedicated port and base folder, using Apache's virtual hosts. This could mean user group A could access its set of models with the URL <code>http://{yourwebserver}:180/</code> while user group B would use the URL <code>http://{yourwebserver}:200/</code></li> <li>• Firewall rules will have to be adjusted to allow traffic between the [Client] and [Web Server]</li> <li>• Firewall rules will have to be adjusted to allow traffic between the [Web Server] and [Pro Cloud Server]</li> </ul>

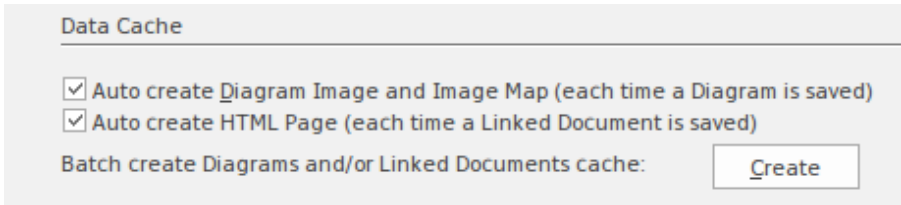
## HTTPS and SSL

If the models have SSL enabled and are using self-signed certificates, then see [Advanced SSL](#) for advanced configuration of WebEA.

## Model Configuration

Action	Description
Configure Enterprise Architect model options	By default, diagrams and Linked Documents are not saved in a format that is viewable by web browsers. In order for users of WebEA to view these components, Enterprise Architect must be configured to generate (and store) viewable versions of them whenever changes are made. The options to generate viewable diagrams



	<p>and Linked Documents are defined at the model level.</p> <p>With the model open in Enterprise Architect, select the 'Configure &gt; Model &gt; Options' ribbon option. On the 'Manage Project Options' dialog, refer to the 'Data Cache' options on the 'Cloud' page.</p>  <p>The first option (if enabled), in addition to saving a diagram normally will also generate and save a static image of the diagram.</p> <p>The second option (if enabled), in addition to saving a Linked Document normally will also generate and save the document in HTML format.</p> <p>If these options are not enabled, diagrams and Linked Documents will not be viewable from within WebEA.</p> <p>When initially configuring a model to auto create viewable diagrams and Linked Documents, it is advisable to click on the Create button to generate the initial set of viewable diagrams and Linked Documents. While this is not mandatory, viewable versions of all existing diagrams and Linked Documents will not exist until they are saved.</p> <p>Note: This approach is relevant when all Enterprise Architect users are using a build later than 1350. If, however, some of your user base is using older versions of Enterprise Architect then updates to diagrams and Linked Documents will not be reflected immediately when saved.</p> <p>See the <i>How to configure automatic viewable components</i> Help topic for the recommended approach to overcome this situation.</p>
Configure model users	<p>It is possible for WebEA users to connect to user security enabled models in one of two ways:</p> <ul style="list-style-type: none"> <li>• Using their model User Login and Password; that is, the same credentials they use when connecting to the model with Enterprise Architect, or</li> <li>• If the model has been configured in WebEA to not require login credentials then all users will be logged in under the one user account (using the <code>sscs_model_user</code> and <code>sscs_model_pwd</code> defined in the 'webea_config.ini' file)</li> </ul>

## Acknowledgements

WebEA incorporates certain components developed by third parties. Sparx Systems acknowledges the contribution made to the WebEA product by these components.

- jQuery v1.12.3 - jQuery Foundation
- NicEdit ©2007-2008, Brian Kirchoff, under license from MIT
- Date Picker for jQuery v5.1.1, Keith Wood, under license from MIT

# How to configure automatic viewable components

While Sparx Systems recommend that users should always use the latest release of Enterprise Architect, we do acknowledge that in some situations this is hard to achieve. Therefore, in order for WebEA (and the Pro Cloud Server) to function correctly when users are using builds of Enterprise Architect earlier than 1350, the Pro Cloud Server includes a custom version of Enterprise Architect (referred to as the EA Worker) that will automate the generation of WebEA viewable diagrams and Linked Documents.

Each instance of an EA Worker is capable of connecting to a single model, and typically runs on the same server as the Pro Cloud Service.

## How to run EA Worker

The 'EA Worker' application does not have a GUI of any kind, therefore it is started with two command line options:

1. `cloudupdate`: - the frequency (measured in seconds) of how often the application should check for new or modified diagrams and Linked Documents.
2. A connection string to the model, defined as a .EAP file.

An example command line is:

```
C:\> EA.exe /cloudupdate:30 "C:\EA\shortcuts\model1.eap"
```

Typically the easiest and most efficient method to run the EA Worker is with a Windows batch/command file.

## Model shortcuts for EA Worker

Within Enterprise Architect it is possible to save model connections (no matter what type of DBMS is in use) as a .EAP file. These model shortcuts are not .EAP file databases, but plain text files that contain a connection string to a model.


An example .EAP shortcut to a model without security:

```
EAConnectString:model1 --- ;Connect=Cloud=protocol:http,address:localhost,port:804;Data Source=model1;
```

However, when the model has security enabled the connection string requires a USER and PASSWORD parameters:

```
EAConnectString:model1 --- ;Connect=Cloud=protocol:http,address:localhost,port:804,user:fred,pwd:pwdxxx;Data Source=model1;
```

## EA Worker Configuration Steps

Step	Description
1	<p>Create a .EAP shortcut to the model.</p> <p>The creation of a .EAP shortcut file can be achieved by either:</p> <p>1) Manually creating a plain text file, renaming its extension to .EAP and entering the complete connection string as shown (making sure to replace all values enclosed in {}):</p> <pre>EAConnectString:{modelname} --- ;Connect=Cloud=protocol:http,address:{servername},port:{port},user:{username},pwd:{password};Data Source={modelname};</pre> <p>or</p> <p>2) In Enterprise Architect, open a Cloud connection to the model in question and then choose 'Save As Shortcut...' from the  drop-down menu.</p>

2	<p>Create a batch/command file.</p> <p>Create a plain text file, give it a meaningful name, and change its extension to .CMD. Then edit the file and enter this text, making sure to replace {seconds} with the number of seconds and {filepath} with the location of the fully qualified .EAP created in the previous step:</p> <pre>"C:\Program Files (x86)\Sparx Systems\Cloud Services\Worker\EA.exe" /cloudupdate:{seconds} "{filepath}"</pre>
3	<p>Run the batch/command file.</p> <p>Double-click on the file created in the previous step.</p> <p>Sparx System recommends that this batch/command file is added to Startup so that it is automatically run when the server starts.</p>

## Lifecycle of EA Worker

The EA Worker application is designed to connect to the specified model automatically when it starts; if there is a problem with the connection the application ends. If the connection string is valid and the EA Worker connects to the model it will run continually until the server is restarted or until the process is manually terminated.

# How to configure WebEA models

All WebEA configuration is controlled by a single file, which must reside in the 'includes\' folder and which must have the name 'webea\_config.ini'.

The configuration file is a plain text file. Options are grouped under section headers, which are enclosed by square brackets. Each option must be defined on a separate line and follow the syntax:

```
{option name} = "{option value}"
```

Note that:

- Option values are enclosed by double quotes
- The configuration file supports comments; the semi-colon character starts a comment
- The default 'webea\_config.ini' file included in the installation package contains samples of how models can be configured

## Why are there so many options?

In order to offer the greatest level of flexibility in how WebEA models can be accessed and used, Sparx Systems provides a large number of configuration options, which can be daunting when the complete list is viewed for the first time. However, to minimize your effort in understanding and managing the options, most are also grouped by prefix (sscs, login, add, edit and wl), which helps you to quickly understand what a particular option is used for.

## The Model List

The first section in the configuration file is '[model\_list]'; this section defines the model names that will be displayed to WebEA users on the 'Login' page. There is no limit to the number of models that can be defined; however, when there are more than ten models the login screen will automatically show a vertical scroll bar.

The model names have no direct link to the physical server or database name of the models they are describing, so you are free to use any meaningful name.

For example:

```
[model_list]
model1 = "Model One (no updates)"
model2 = "Model One with discussions"
model3 = "Model Two with user login"
model4 = "Model Three with all options"
model5 = "Sparx Systems Sample Model"
```

Note: it is important that the 'modelx' definitions are consecutive; any out-of-sequence model numbers will be ignored and no further models will be added to the WebEA Login page.

## Model options

For each numbered model found in the '[model\_list]' section a matching '[modelx : settings]' section is expected, further down the configuration file. All options within this section relate to that model only; that is, options can not be shared between models.

For example:

```
[model1 : settings]
```

```

sscs_protocol = "http"
sscs_server = "localhost"
sscs_port = "80"
sscs_db_alias = "model1"
auth_code = ""
login_prompt = "false"
default_diagram = ""
show_discuss = "false"

```

## Model connection settings

Probably the most important settings for any model are the connection-related ones, prefixed with `sscs_` (which stands for 'Sparx Systems Cloud Service'). This group of settings defines how WebEA will connect and communicate with the Cloud Service for data retrieval.

All communication between WebEA and the Cloud Service is performed via the PHP cURL library, therefore some of the connection settings relate directly to the cURL options.

Option	Description
<code>sscs_protocol</code>	<p>Defines the protocol to be used to connect to the Sparx Systems Cloud Service.</p> <p><b>Options:</b> http or https</p> <p><b>Default:</b> http</p> <p><b>Example:</b> <code>sscs_protocol = "http"</code></p> <p>Note: When using the https protocol the configuration should also include <code>sscs_use_ssl = "true"</code>. If you are using a self-signed certificate then <code>sscs_enforce_certs = "false"</code> should also be included.</p>
<code>sscs_port</code>	<p>Defines the TCP port used to connect to the Sparx Systems Cloud Service. This port number must match one of the ports the Sparx Systems Cloud Service is listening to or, in the case of an IIS setup, the IIS port servicing this repository.</p> <p><b>Default:</b> 80</p> <p><b>Example:</b> <code>sscs_port = "804"</code></p>
<code>sscs_server</code>	<p>Defines the fully qualified machine name or IP address of the server hosting the Cloud Service.</p> <p><b>Default:</b> localhost</p> <p><b>Example:</b> <code>sscs_server = "sparxpublic.com"</code> or <code>sscs_server = "197.168.0.10"</code></p>
<code>sscs_use_ssl</code>	<p><i>As of WebEA version 3.01.23.1690 (included in Pro Cloud Server 3.0.23) this option is no longer used, instead WebEA determines this value dynamically based on the protocol in use, HTTP - <code>sscs_use_ssl=false</code> and HTTPS - <code>sscs_use_ssl=true</code>.</i></p> <p>WebEA versions prior to 3.0.23.1690 uses this value to defines if all communications between WebEA and Cloud Services should use SSL (secure socket layer). When this value is true, the protocol should be set to "https".</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p> <p><b>Example:</b> <code>sscs_use_ssl = "false"</code></p>
	Defines the database alias name of the model repository hosted on the Cloud

sscs_db_alias	<p>Service. This corresponds to the 'Database Alias' identified in the Cloud Services Configuration Client or the 'Model Name' on the Enterprise Architect's Cloud Connection screen. The value is case sensitive.</p> <p><b>Default:</b> ea</p> <p><b>Example:</b> sscs_db_alias = "RepositoryName"</p>
sscs_enforce_certs	<p>When SSL is set to true this option defines whether or not cURL will enforce that the certificate installed in Cloud Services is correctly signed by a Certificate Authority.</p> <p>Note: If you are using a self-signed certificate for Cloud Services, this option must be set to false.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> true</p> <p><b>Example:</b> sscs_enforce_certs = "false"</p>
sscs_model_user	<p>Defines the model user login (as defined in Enterprise Architect User Security) that will be used in combination with the <b>sscs_model_pwd</b> option to login to a security enabled model.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>Starting in Pro Cloud Server version 3.0.23 - When set, all other authentication schemes are bypassed, including Windows Authentication, OpenID and basic username/password login.</li> <li>Sparx Systems would recommend the use of this option only on a model that has been configured as read only, since all updates made by WebEA users in this configuration will be identified as the same user.</li> </ul> <p><b>Default:</b></p> <p><b>Example:</b> sscs_model_user = "webuser"</p>
sscs_model_pwd	<p>Defines the password (as defined in Enterprise Architect User Security) that will be used in combination with the <b>sscs_model_user</b> option to login to a security enabled model.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>Starting in Pro Cloud Server version 3.0.23 - When set, all other authentication schemes are bypassed, including Windows Authentication, OpenID and basic username/password login.</li> <li>Sparx Systems would recommend the use of this option only on a model that has been configured as read only, since all updates made by WebEA users in this configuration will be identified as the same user.</li> </ul> <p><b>Default:</b></p> <p><b>Example:</b> sscs_model_pwd = "pwdxxx"</p>

## Model general settings

These options define how WebEA users can access and display objects within the model.

Option	Description
auth_code	Defines the authorization code all WebEA users must enter before they can access the model. If this value is blank, WebEA users are not prompted to enter a code.

	<p>This option is only used for basic username/password authentication and is not used for Windows Authentication or OpenID.</p> <p>It's possible to set this option and also set <code>sscs_model_user</code>. In this case the user will be required to enter the access code only and will not be prompted for a username or password.</p> <p><b>Options:</b> text</p> <p><b>Default:</b> blank</p> <p><b>Example:</b> <code>auth_code = "JWG478"</code></p>
navigate_to_diagram	<p>As of WebEA version 3.01.23.1690 (included in Pro Cloud Server 3.0.23) the default selection of some objects on diagrams has changed to match Enterprise Architect behavior. This applies to i) Composite Elements and ii) Package elements that contain a diagram.</p> <p><b>Composite Elements</b></p> <p>A composite element on a diagram will navigate directly its composite diagram.</p> <p><b>Package Elements</b></p> <p>A Package element on a diagram will navigate to the first child diagram contained within the selected Package. If the selected Package does not contain any diagrams then the package's properties are displayed.</p> <p>When <code>navigate_to_diagram</code> is set to false, selecting either a composite element or package element on a diagram will display the selected elements properties.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> true</p> <p><b>Example:</b> <code>composite_navigates = "false"</code></p>
login_prompt	<p><i>This option is no longer used as of WebEA version 3.0.23.1690 (included in Pro Cloud Server 3.0.23). Basic authentication username and password fields will show for models that allow basic authentication (that is, are not restricted to SSO logins).</i></p> <p>The basic authentication (username/password) will show for security enabled models that have not set <code>sscs_model_user</code>.</p> <p>Windows Authentication, if enabled for the model, will be attempted automatically when selecting the model.</p> <p>OpenID authentication, if enabled in the model, will show above any basic authentication prompt.</p> <p>For older versions of WebEA the option is used to define whether or not all WebEA users must enter a model user/password before they can access the model.</p> <p>Note: When this option is set to false and the model has security enabled, the <code>sscs_model_user</code> and <code>sscs_model_pwd</code> options must also be used to specify the logon credentials.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p> <p><b>Example:</b> <code>login_prompt = "false"</code></p>
login_allow_blank_pwd	<p>When the 'login_prompt' option is set to true, this option defines whether or not WebEA will attempt to send blank passwords to the Cloud Services for validation.</p> <p><b>Options:</b> true or false</p>

	<p><b>Default:</b> false</p> <p><b>Example:</b> login_allow_blank_pwd = "false"</p>
miniprops_navigates	<p>When the 'miniprops_navigates' option is set to true selecting certain 'navigable' elements will cause WebEA to navigate to the target of these elements. Examples of such 'navigable' elements are Hyperlinks and Navigation Cells. For all other elements, selecting them will display the properties of the element in the Properties View. This option has no effect when the Properties View is not shown.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> true</p> <p><b>Example:</b> miniprops_navigates = "false"</p>
participate_in_reviews	<p>When set to true, 'participate_in_reviews' allows users of WebEA to Join reviews that will automatically assign all discussions to the joined review. In order to make full use of this option show_discuss and add_discuss would also have to be set to true.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p> <p><b>Example:</b> participate_in_reviews = "false"</p>
recent_search_days	<p>Defines the number of days the predefined 'Recent ...' searches should consider. For example if this value was set to '7' then whenever a user invokes the search for 'Recent elements', all elements modified in the previous 7 days will be returned.</p> <p><b>Options:</b> any positive integer value</p> <p><b>Default:</b> 3</p> <p><b>Example:</b> recent_search_days = "10"</p>
use_avatars	<p>When the 'use_avatars' option is set to true, all discussion messages are displayed with the creating user's avatar. When set to false a set of generic images representing discussions and replies is used instead.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> true</p> <p><b>Example:</b> use_avatars = "false"</p>
prop_sec_<section>_visible	<p>Defines whether or not a property section (or "feature") is accessible.</p> <p>If a feature is not visible then the button to display that feature will not be available in the Main View, and the Feature will not be listed in the 'Select Feature' menu in the Properties View.</p> <p>&lt;section&gt; can be one of:</p> <ul style="list-style-type: none"> <li>• location</li> <li>• instances</li> <li>• relationships</li> <li>• taggedvalues</li> <li>• testing</li> <li>• resourcealloc</li> <li>• attributes</li> <li>• operations</li> <li>• runstates</li> <li>• changes</li> </ul>



	<ul style="list-style-type: none"> <li>• defects</li> <li>• issues</li> <li>• tasks</li> <li>• events</li> <li>• decisions</li> <li>• efforts</li> <li>• risks</li> <li>• metrics</li> </ul> <p><b>Options:</b> true or false  <b>Default:</b> true  <b>Example:</b> prop_sec_testing_visible = "true"</p>
prop_sec_<section>_expanded	<p><i>This option is no longer used as of WebEA version 3.0.23.1690 (included in Pro Cloud Server 3.0.23). Property sections are no longer displayed as expandable/collapsible panels.</i></p> <p>Defines whether or not a property section is expanded by default when the model is opened.</p> <p>The property view includes numerous sections that can be optionally expanded or collapsed; these options set the default values for the model.</p> <p>&lt;section&gt; can be one of:</p> <ul style="list-style-type: none"> <li>• info</li> <li>• location</li> <li>• instances</li> <li>• relationships</li> <li>• taggedvalues</li> <li>• testing</li> <li>• resourcealloc</li> <li>• attributes</li> <li>• operations</li> <li>• runstates</li> <li>• changes</li> <li>• defects</li> <li>• issues</li> <li>• tasks</li> <li>• events</li> <li>• decisions</li> <li>• efforts</li> <li>• risks</li> <li>• metrics</li> </ul> <p><b>Options:</b> true or false  <b>Default:</b> false for all sections except 'info' and 'location', which are true  <b>Example:</b> prop_sec_testing_expanded = "true"</p>
default_diagram	<p>Defines the GUID of the diagram that should be automatically loaded when users log onto the model. If this option is not defined or an empty value is specified,</p>

	<p>WebEA assumes that no diagram should be loaded and displays the model root instead. The GUID of any diagram can be obtained from WebEA by loading the diagram properties.</p> <p>Note: The entire GUID (including {}) must be used.</p> <p><b>Example:</b> <code>default_diagram = "{C89E174A-19B0-47c7-B4A8-8A98071CD838}"</code></p>
default_main_layout	<p>Defines the default layout of container items for the current model. WebEA can display child items of a container in one of three layouts. Either Icon view (the default), Notes view (resembling the Enterprise Architect Specification Manager view) or List view.</p> <p><b>Options:</b> icon, notes or list</p> <p><b>Default:</b> icon</p> <p><b>Example:</b> <code>default_main_layout = "list"</code></p>
navigate_to_diagram	<p>Defines whether or not the first child Diagram of a Package element should be automatically loaded, if the selected Package Element does not have any child diagrams defined then the selected Package's details are loaded.</p> <p>This option was added in WebEA version 3.0.23.1690, prior versions would simply open the details of the selected Package.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> true</p> <p><b>Example:</b> <code>navigate_to_diagram = "true"</code></p>
show_discuss	<p>Defines whether or not discussions on Packages and elements should be displayed within the WebEA interface.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p> <p><b>Example:</b> <code>show_discuss = "true"</code></p>

## Model update settings

This group of settings determine what insert/edit options are available to WebEA users.

Note: Within the Cloud Service it is possible to configure a model as 'Read-only'; this setting in the Cloud Service will override any WebEA update setting, forcing them to false.

Option	Description
add_discuss	<p>Defines whether or not new discussions on Packages and elements can be added to the model. Note: This option is forced to false if 'show_discuss' has been set to false.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p> <p><b>Example:</b> <code>add_discuss = "true"</code></p>
add_objects	<p>Defines whether or not new objects can be added to the model.</p> <p>Note: this option will be internally set and restricted to 'false' for Pro Cloud Server Express installations.</p> <p><b>Options:</b> true or false</p>

	<p><b>Default:</b> false</p> <p><b>Example:</b> add_objects = "true"</p>
add_diagrams	<p>Defines whether or not new diagrams can be added to the model.</p> <p>Note: this option will be internally set and restricted to 'false' for Pro Cloud Server Express installations.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p> <p><b>Example:</b> add_diagrams = "true"</p>
add_objecttype_<type>	<p>Defines whether or not elements of the given object type can be added to the model. These options are forced to false if 'add_objects' has been set to false.</p> <p>&lt;type&gt; can be one of:</p> <ul style="list-style-type: none"> <li>• package</li> <li>• review</li> <li>• actor</li> <li>• change</li> <li>• component</li> <li>• feature</li> <li>• issue</li> <li>• node</li> <li>• requirement</li> <li>• task</li> <li>• usecase</li> </ul> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p> <p><b>Example:</b> add_objecttype_actor = "true"</p>
add_object_features	<p>Defines whether or not element features can be added to the model.</p> <p>Note: this option will be internally set and restricted to 'false' for Pro Cloud Server Express installations.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p> <p><b>Example:</b> add_object_features = "true"</p>
add_objectfeature_<type>	<p>Defines whether or not element features of the given type can be added to the model.</p> <p>These options are forced to false if 'add_object_features' has been set to false.</p> <p>&lt;type&gt; can be one of:</p> <ul style="list-style-type: none"> <li>• tests</li> <li>• resources</li> <li>• changes</li> <li>• defects</li> <li>• issues</li> <li>• tasks</li> <li>• risks</li> </ul>

	<b>Options:</b> true or false <b>Default:</b> false <b>Examples:</b> add_objectfeature_changes = "true"
edit_objectfeature_resources	<p>Defines whether or not the details of element resource allocations can be edited in the model.</p> <p>Note: this option will be internally set and restricted to 'false' for Pro Cloud Server Express installations.</p> <b>Options:</b> true or false <b>Default:</b> false <b>Example:</b> edit_objectfeature_resources = "true"
edit_objectfeature_tests	<p>Defines whether or not the details of element tests can be edited in the model.</p> <p>Note: this option will be internally set and restricted to 'false' for Pro Cloud Server Express installations.</p> <b>Options:</b> true or false <b>Default:</b> false <b>Example:</b> edit_objectfeature_tests = "true"

## Model watchlist settings

The watchlist functionality allows users to quickly see a wide variety of objects that have changed recently in the model. WebEA users can configure their personal preferences to control what sort of objects they are interested in 'watching'.

All watchlist settings are prefixed by 'wl\_' and represent the default value for the model. However, once a user saves their own watchlist settings the model defaults will no longer be used.

In order to persist the watchlist preferences across sessions, WebEA saves them in a browser cookie. If the user's browser does not allow the saving of cookies, personal watchlist settings can not be persisted across sessions.

Option	Description
cookie_retention	<p>Defines the period over which a WebEA user's set of Watch list options are stored. The value is the number of days that the cookies will be retained for.</p> <b>Options:</b> any positive integer value <b>Default:</b> 365 <b>Example:</b> cookie_retention = "180"
wl_period	<p>Defines the default activity period of the model watchlist. The value is a number of days; for example, look for activity in the last 10 days.</p> <b>Options:</b> any positive integer value <b>Default:</b> 0 <b>Example :</b> wl_period = "10"
wl_recent_discuss	<p>Define whether or not the watch list should display a count of elements that have had discussions during the activity period.</p> <b>Options:</b> true or false <b>Default:</b> false
	<p>Define whether or not the watch list should display a count of review elements that</p>

wl_recent_reviews	<p>have been added or modified during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_recent_diagram	<p>Define whether or not the watch list should display a count of added/modified diagrams during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_recent_element	<p>Define whether or not the watch list should display a count of added/modified elements during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_resalloc_active	<p>Define whether or not the watch list should display a count of elements with active resource allocations during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_resalloc_today	<p>Define whether or not the watch list should display a count of elements with resource allocations ending during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_resalloc_overdue	<p>Define whether or not the watch list should display a count of elements with resource allocations that fall overdue during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_test_recentpass	<p>Define whether or not the watch list should display a count of elements with tests that passed during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_test_recentfail	<p>Define whether or not the watch list should display a count of elements with tests that failed during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_test_recentdefer	<p>Define whether or not the watch list should display a count of elements with tests that were deferred during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_test_recentnotchk	<p>Define whether or not the watch list should display a count of elements with tests that were not checked during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
	<p>Define whether or not the watch list should display a count of elements with tests</p>

wl_test_notrun	that were not run during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_change_verified	Define whether or not the watch list should display a count of elements with verified changes during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_change_requested	Define whether or not the watch list should display a count of elements with requested changes during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_change_completed	Define whether or not the watch list should display a count of elements with changes completed during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_change_new	Define whether or not the watch list should display a count of elements with new changes added during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_change_incomplete	Define whether or not the watch list should display a count of elements with incomplete changes during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_defect_verified	Define whether or not the watch list should display a count of elements with verified defects during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_defect_requested	Define whether or not the watch list should display a count of elements with defects reported or 'requested' during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_defect_completed	Define whether or not the watch list should display a count of elements with defects completed during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_defect_new	Define whether or not the watch list should display a count of elements with defects added during the activity period. <b>Options:</b> true or false <b>Default:</b> false
	Define whether or not the watch list should display a count of elements with

wl_defect_incomplete	incomplete defects during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_issue_verified	Define whether or not the watch list should display a count of elements with verified issues during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_issue_requested	Define whether or not the watch list should display a count of elements with issues reported or 'requested' during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_issue_completed	Define whether or not the watch list should display a count of elements with issues completed during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_issue_new	Define whether or not the watch list should display a count of elements with issues added during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_issue_incomplete	Define whether or not the watch list should display a count of elements with incomplete issues during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_task_verified	Define whether or not the watch list should display a count of elements with verified tasks during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_task_requested	Define whether or not the watch list should display a count of elements with requested tasks during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_task_completed	Define whether or not the watch list should display a count of elements with tasks completed during the activity period. <b>Options:</b> true or false <b>Default:</b> false
wl_task_new	Define whether or not the watch list should display a count of elements with tasks added during the activity period. <b>Options:</b> true or false <b>Default:</b> false
	Define whether or not the watch list should display a count of elements with

wl_task_incomplete	<p>incomplete tasks during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_event_requested	<p>Define whether or not the watch list should display a count of elements with requested events during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_event_completed	<p>Define whether or not the watch list should display a count of elements with events completed during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_event_high	<p>Define whether or not the watch list should display a count of elements with events set to high during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_decision_verified	<p>Define whether or not the watch list should display a count of elements with verified decisions during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_decision_requested	<p>Define whether or not the watch list should display a count of elements with requested decisions during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_decison_completed	<p>Define whether or not the watch list should display a count of elements with decisions completed during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_decision_new	<p>Define whether or not the watch list should display a count of elements with decisions added during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>
wl_decision_incomplete	<p>Define whether or not the watch list should display a count of elements with incomplete decisions during the activity period.</p> <p><b>Options:</b> true or false</p> <p><b>Default:</b> false</p>



# How to configure WebEA Localization

The physical text values of all labels and messages within WebEA are defined in a single file that is read when the web pages are being built. This allows WebEA customers to tailor the content of web pages displayed to their users.

WebEA's default language is English. As pages are built on the server, the WebEA application will check whether there is a defined localization for a string and use that. If a localized version of the string is not defined then WebEA will use the default English value.

The WebEA localization definitions are saved in the file 'webea\_strings.ini' in the 'includes\' folder. The localization file is saved in plain text format with each localized string being defined on a separate line with the syntax:

```
{default_english_string} = "{localized_string}"
```

Note that:

- Localized string values are enclosed by double quotes
- The configuration file supports comments; the semi-colon character starts a comment
- The supplied 'webea\_strings.ini' file includes a definition of all strings used within the WebEA application, therefore there is no need to add any new lines to the file

For example, on the login page the first label is "Select Model" in the English version; however, a French user would want to change this text to:

Select Model = "Sélectionnez le modèle"

## Replacements

The wording of some labels/messages within WebEA requires the names of items to be added to the string displayed. Such replacements are denoted by the %s placeholder. The localized versions of these strings should also include the %s placeholder in the appropriate position.

The other standard replacement that WebEA supports is the replacement of %NN% with a number. For example, in the Watchlist when WebEA detects that elements have been modified recently, this message is used:

```
%NN% recently modified element%S% = "%NN% recently modified element%S%"
```

%NN% will be replaced with a count of recently modified elements.

## Plurals

Given the nature of the English language, some of the localized strings support the ability to display words in their plural form. WebEA supports the special substitution of %S% which will replace, %S% with 's' when the supplied number is greater than 1. Using our example, when a single element has been modified recently the message displayed on the watchlist page is:

1 recently modified element

However, when there are five recently modified elements, WebEA would generate the message:

5 recently modified elements

# Advanced SSL

## Adding trust to a Self-Signed Certificate

A self-signed SSL certificate can be signed with your own Certificate Authority (CA). This allows trust to be added to clients to avoid security warnings. The instructions for adding a CA to a client vary by operating system or browser used.

See [Add Trust with a Certificate Authority \(CA\)](#) for instructions on generating a CA and using it to sign server certificates.

WebEA uses PHP and cURL to communicate with a Pro Cloud Server. To enable PHP/curl to trust a new CA:

Add/edit 'curl.cainfo' in php.ini to point to either a single root CA certificate or a CA bundle file (this is multiple crt files concatenated together).

[curl]

; A default value for the CURLOPT\_CAINFO option. This is required to be an

; absolute path.

curl.cainfo="C:\xampp\php\MyCompanyCA.crt"

Restart Apache/PHP.

# WebEA User Guide

Sparx System's WebEA is an external interface to Enterprise Architect models through which users can review and comment on a model, in real time via the web, on a range of mobile devices or a remote work station, without needing to install Enterprise Architect. The reviewer can be anywhere in the world, and does not need to be in an office, just somewhere where internet access is available. It is ideal for stakeholders and clients to see the work in which they are invested, and to comment on and discuss aspects of the model.

WebEA models can be configured to allow users to update element notes, add element features (such as tests and resource allocations) and even create Project Management elements (to record issues, changes and similar), or Use Cases, Requirements and system components.

WebEA is the interface to the model, so although you are using your web browser, the data shown is the same as that shown when you use Enterprise Architect. This means that all model updates occur in real time, so WebEA users can be confident that they are seeing the latest version of the model structure.

## How to Open WebEA

Open the web browser on your device and, in the address bar, type in the complete WebEA URL. Press the Enter key or tap the Go key.

These are some examples of the complete URL that might be needed to open WebEA.

`http://demo.sparxpublic.com`

In the case where the web server has the IP of 11.22.33.44 and has been configured to use the non-standard port of 800, the complete URL would be:

`http://11.22.33.44:800`


If the WebEA application files were placed in a sub-folder called 'WebEA' under the web server's root folder, then the complete URL would be:


`http://11.22.33.44:800/WebEA/`


If the entered URL is a valid, the WebEA Login page is shown, which will show all the models that are available.

## Select Model

☐ London  
☐ Chicago  
☐ Tokyo  
☐ Sydney  
☐ Sydney with security

 Mobile >

 Tablet >

 Desktop >

## Acknowledgements

WebEA incorporates certain components developed by third parties. Sparx Systems acknowledges the contribution made to the WebEA product by these components.

- jQuery v1.12.3 - jQuery Foundation
- NicEdit ©2007-2008, Brian Kirchoff, under license from MIT
- Date Picker for jQuery v5.1.1, Keith Wood, under license from MIT

# Login

WebEA websites are configured to allow access to one or more Enterprise Architect models, each of which can be configured independently to only grant access to users with valid logon credentials. WebEA user validation supports two forms of security: 1) an access code and 2) standard Enterprise Architect model security. These two validation methods can be used independently or in combination in each model.

## Prerequisites

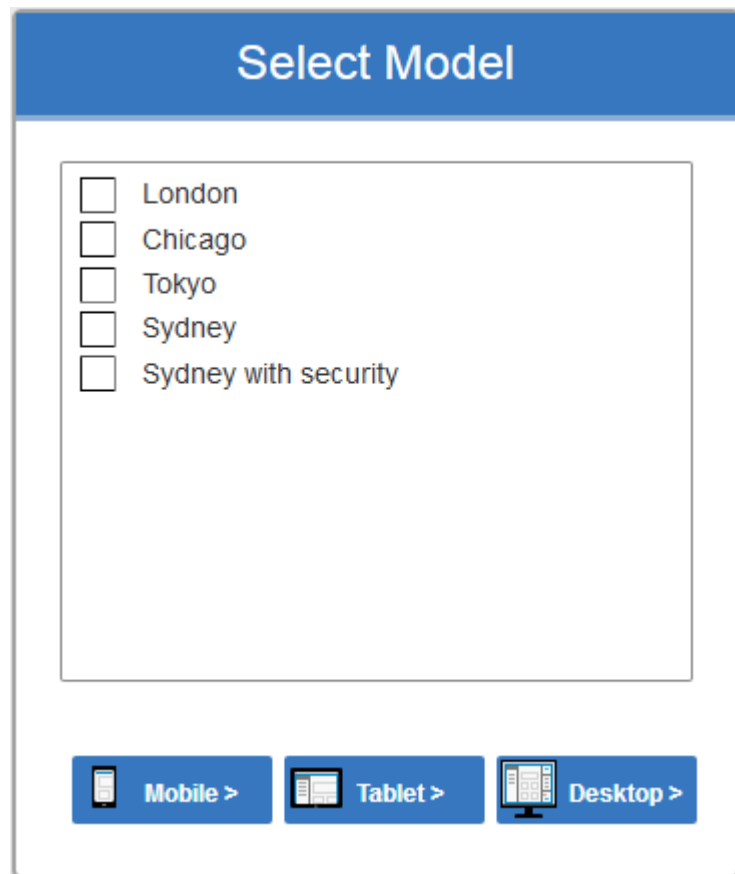
Users of WebEA will need to be advised of their login credentials for each model, which will include:

- An access code, or
- A user ID and password, or
- Possibly all three

This data will be provided to you by your Web Administrator or by the Project Manager responsible for the model.

## Logging In

The first page that is displayed in WebEA is the 'Login' page, which lists the models available to you.



The screenshot shows a web interface titled "Select Model". It features a list of five models, each with an unchecked checkbox: "London", "Chicago", "Tokyo", "Sydney", and "Sydney with security". Below the list, there are three blue buttons labeled "Mobile >", "Tablet >", and "Desktop >", each accompanied by a small icon of a mobile phone, tablet, or desktop monitor respectively.

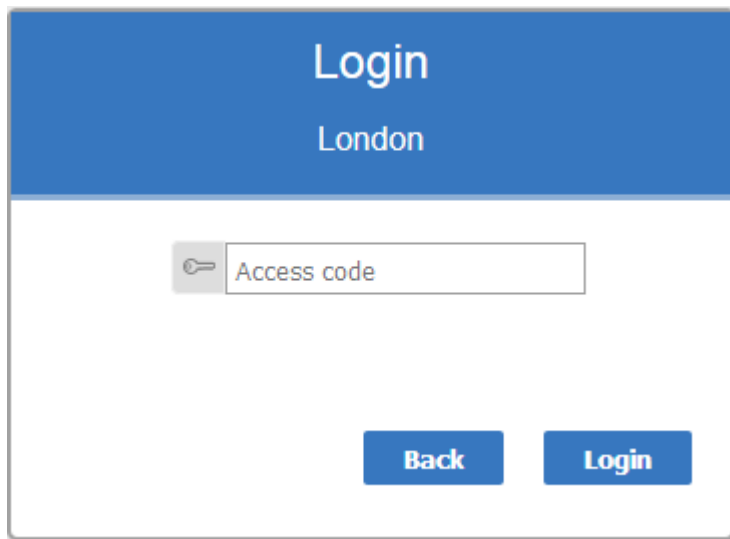
Select the model you want to open, then click or tap on either the Mobile, Tablet, or Desktop button. The button selected determines whether the Browser and Properties View will be enabled by default.

If access to your model requires only an access code, then the 'Login' page prompts you for this.

Note:

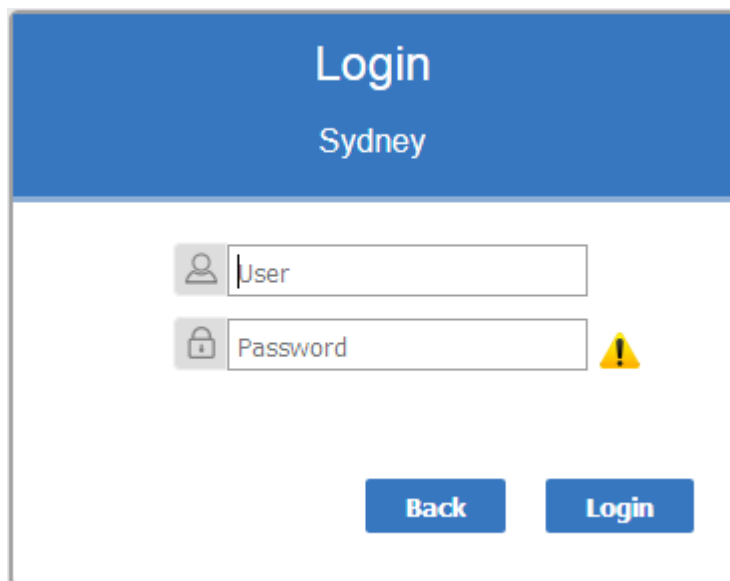
- The red asterisk (\*) denotes a mandatory field.

- Access Codes are not required for Windows Authentication or OpenID authentication.



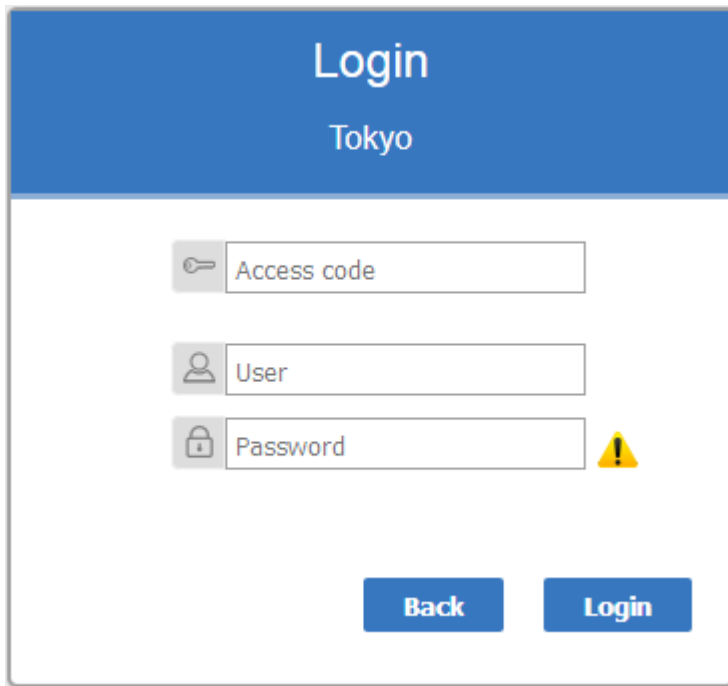
The image shows a login interface for 'London'. It has a blue header with the text 'Login' and 'London'. Below the header, there is a white box containing a key icon and a text input field labeled 'Access code'. At the bottom of the white box, there are two blue buttons: 'Back' and 'Login'.

If User Security has been applied to the model, the 'Login' page prompts you for your user ID and password.



The image shows a login interface for 'Sydney'. It has a blue header with the text 'Login' and 'Sydney'. Below the header, there is a white box containing two text input fields. The first field has a user icon and is labeled 'User'. The second field has a lock icon and is labeled 'Password'. To the right of the 'Password' field, there is a yellow warning triangle icon. At the bottom of the white box, there are two blue buttons: 'Back' and 'Login'.

If the model requires both an access code and a user id/password, the 'Login' page prompts for both together:



The screenshot shows a web login page titled "Login Tokyo". It features three input fields: "Access code" (with a key icon), "User" (with a person icon), and "Password" (with a lock icon). A yellow warning triangle is positioned to the right of the Password field. At the bottom of the form are two blue buttons labeled "Back" and "Login".

### Single Sign On

This feature is available from Enterprise Architect Release 14.1 and Pro Cloud Server Release 3.0 build 23.

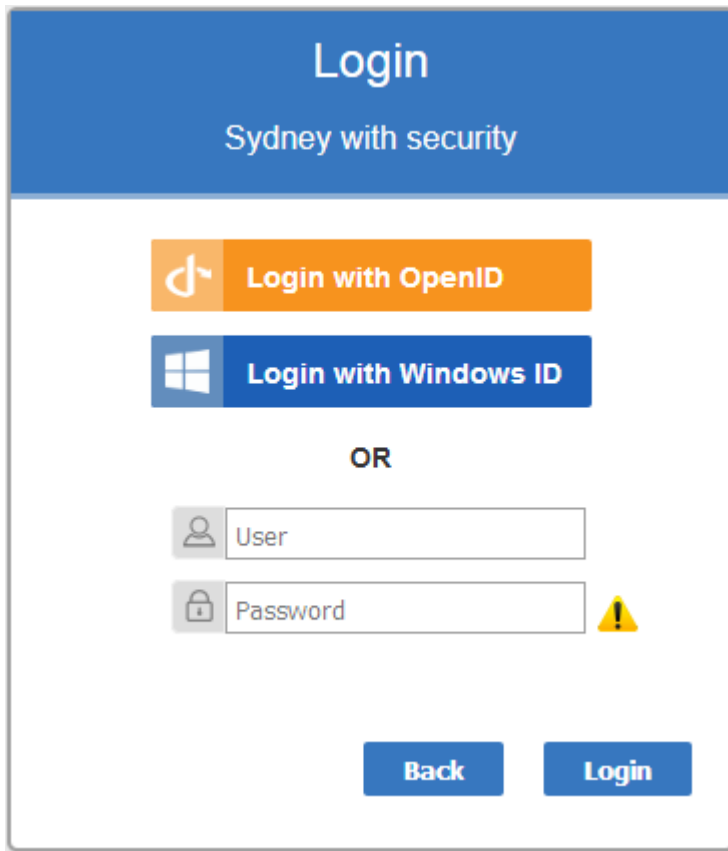
If the Enterprise Architect model has been configured for Windows and/or OpenID authentication then the 'Login' page will show the relevant single sign buttons 'Login with OpenID' or 'Login with Windows ID'. Clicking the OpenID login button will redirect the user to the OpenID Server Authentication page. After authenticating with OpenID the browser will automatically return to WebEA and log the user in.

If the user is already authenticated with OpenID, the OpenID website might not be displayed, and the user will simply be logged in.

If the model is configured to also allow manual login then both the Single Sign On buttons and manual login fields will be visible on the Login page. If the option 'Restrict access to Windows & OpenID users only' is checked then the manual login fields will not be available.

See:

- [Single Sign-On \(SSO\) Options](#)



The login screen features a blue header with the text "Login" and "Sydney with security". Below the header, there are two large buttons: "Login with OpenID" (orange) and "Login with Windows ID" (blue). A separator "OR" is placed between these buttons. Below the separator, there are two input fields: "User" (with a person icon) and "Password" (with a lock icon). A yellow warning triangle is positioned to the right of the Password field. At the bottom, there are two blue buttons: "Back" and "Login".

If you do not have the authorization data, click or tap on the Back button to go back and select another model. Otherwise, type in your access code and/or user ID and password, and click on the Login button.

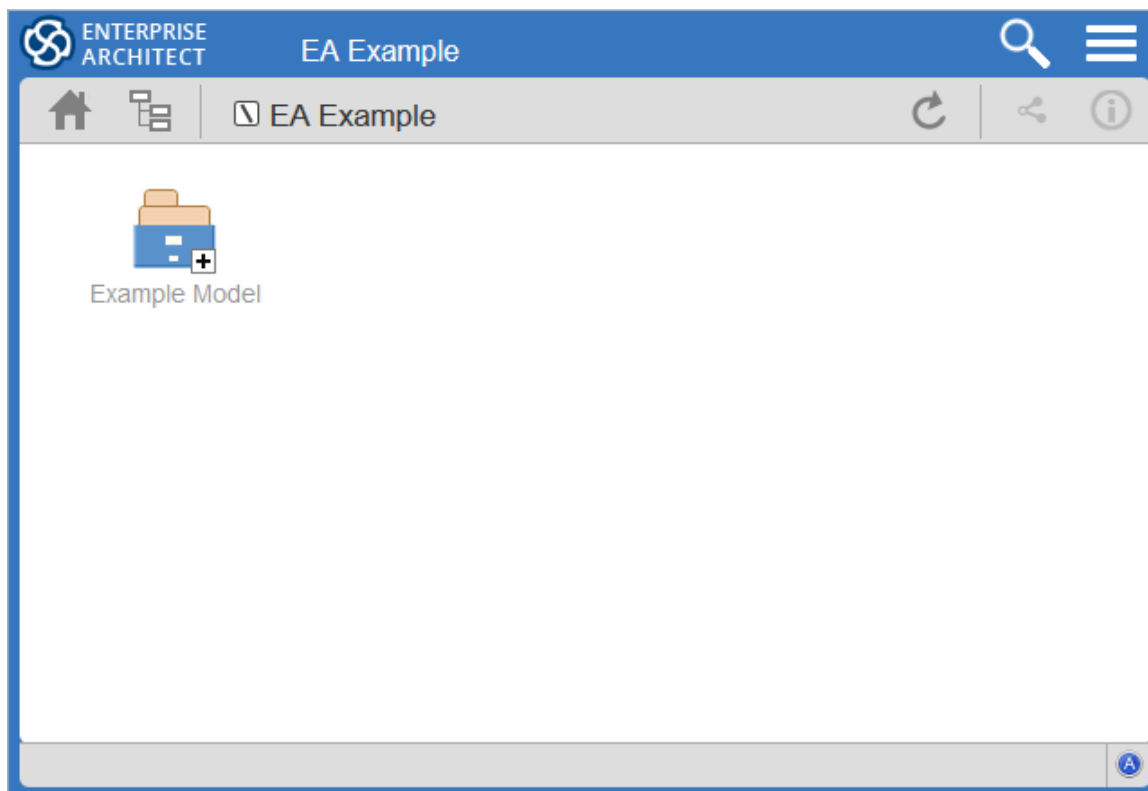


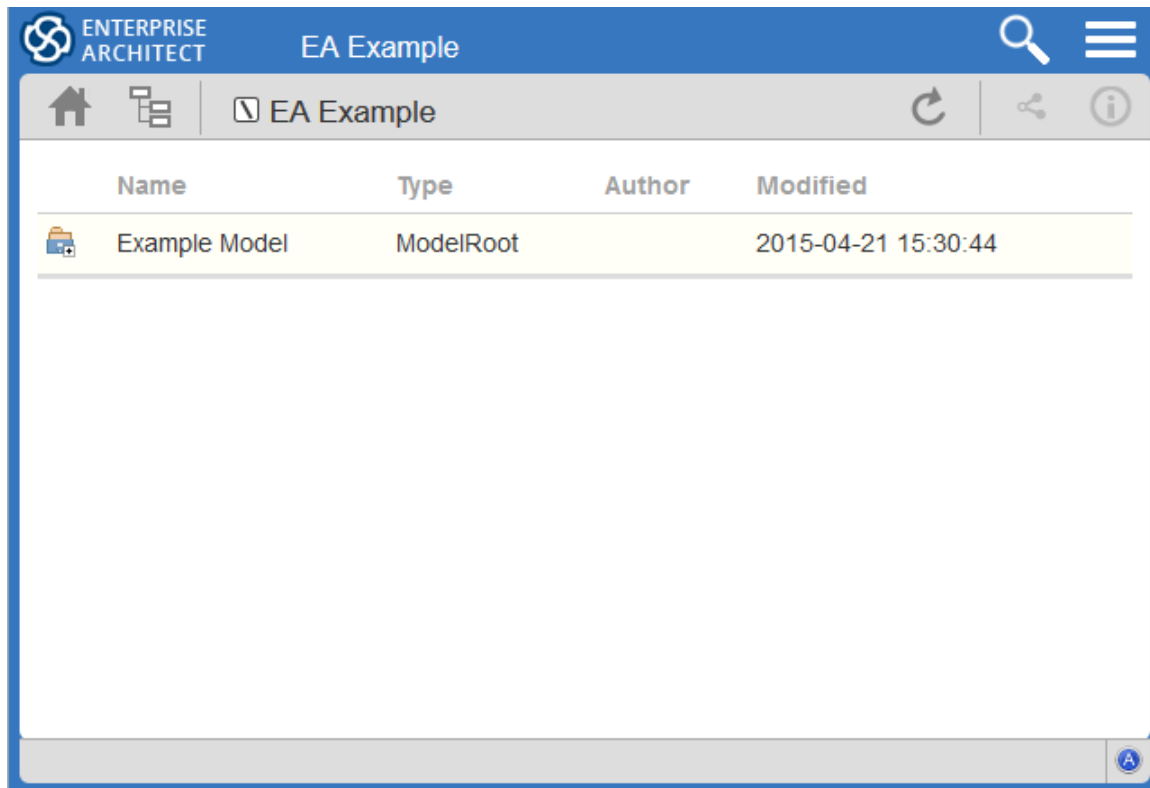
## WebEA's layout

Having logged on to a model in WebEA, and depending on how the model has been configured to display on opening, you will be initially shown the model root icons; a simple specification list of the model root nodes; a list showing the root node names, types and last modification date; or a default diagram (if one is defined for the model). From this point you can start navigating the model by selecting objects or links, review the organization and contents of the model elements, and read and add to discussions or reviews of particular structures.

Note: WebEA only supports single click when using a PC, or single touch when using a touch-enabled device.

These images show the WebEA screen when the root node of the example model is displayed in Icon and List views.

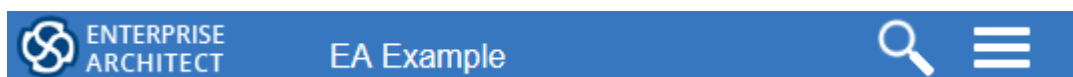




The WebEA view can be broken into four sections: heading, navigation bar, content area and status bar.

Note: In order to support small screen devices, some layout sections move or merge with others to minimize the amount of screen real estate needed. For example, the heading section merges with the Navigation bar when the screen height goes below 400 pixels.

## Heading











WebEA's heading area displays the application logo in the top right corner, the name of the currently opened model, a search icon and a 'hamburger' icon. The search and 'hamburger' icons contain further options that are accessible when selected.

## Search



The search icon provides access to the search functionality offered by WebEA. The functionality includes a number of standard searches, the Watchlist and the custom search.





Icon	Description
	Select to display the 'Goto WebEA item' dialog, into which you paste (Ctrl+V) a WebEA item's unique ID that you have copied earlier, using the 'Direct Link' icon in the page Navigation Bar (see the <i>Navigation Bar</i> table in this topic). Click on the Go button to load the details of the specified object.
Reviews	





	Select to display a list of all recently modified Review elements. Note: The number of days that are considered 'recent' is defined as a configuration option for the model.
Discussions 	Select to display a list of all elements to which a Discussion item has been recently added.
Diagrams 	Select to display a list of all recently modified diagrams.
Elements 	Select to display a list of all recently modified elements (new Discussion items are not regarded as modifications to the element).
Watchlist 	Select to display the 'Watchlist summary'. The Watch List facility in WebEA helps you to quickly identify recent activity in the model.
Matrix 	Select to display the 'Matrix Profiles' page, which helps you to select any matrix profile defined in the model and to display the associated Relationship Matrix.
Custom search 	Select to display the 'Custom Search' dialog. WebEA provides a facility that enables you to search through the model for a specific item or group of items that have certain characteristics.

## Hamburger

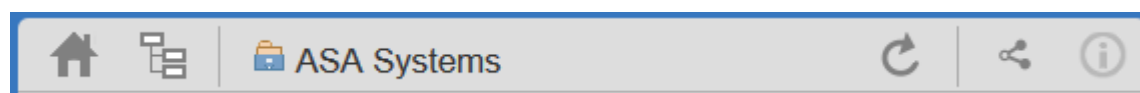


The hamburger icon provides access to these options:





Icon	Description
Browser 	Choose this option if you prefer to display a 'context browser' view on the left side of the main content area. This area will contain the currently selected object and a list of all of its child objects. Between the object name and the name of the first child object is a   icon; clicking on this icon refreshes the display to show the next-highest level of the hierarchy. Note: This option is disabled when the screen is less than 800 pixels in width.
Properties 	Choose this option to display the 'Properties View' on the right side of the main content area. When viewing a diagram the Properties View allows you to access properties of an element without navigating away from the diagram. When viewing an element, the Properties View allows you to have a Split View of the element's properties, displaying one feature in the Main View while also showing another in the Properties View (for example, you could add Discussions in the Main View while referring to the element's notes in the Properties View). Note: This option is disabled when the screen is less than 800 pixels in width. Note: By enabling this option, links in the Diagram View are changed to populate the Properties View instead of navigating to the selected object. It is important to realize that selecting objects in the Diagram View while the Properties View is displayed will not affect the navigation history, so you can select as many objects


	as you need in the current view and see their properties without navigating away from the current diagram.
Icon view 	Choose this option if you prefer the display of the model content to be in icon format (as illustrated at the start of this topic).
List view 	Choose this option if you prefer the display of the model content to be in list format (as illustrated at the start of this topic).
Notes view 	Choose this option to display the model content to be displayed as a list of element names and notes (if present). This is similar to the Enterprise Architect Specification Manager display.
Logout 	Choose this option if you want to disconnect from the current model. After the logout process has run, the 'Login' dialog automatically displays.

## Navigation Bar



The Navigation bar provides information and buttons that assist in navigating an Enterprise Architect model. The various buttons available in the Navigation bar are explained in this table.

Icon	Description
Home 	Click on this button to return focus to the 'home' object for the current model. The home object is either the model's default diagram (if defined in the configuration file) or the model root Package.
Object Path 	<p>Click on this button to display the complete path of parent nodes, Views, Packages and elements for the current object, all the way to the model's root node.</p> <p>You can click on any item in the list (except for the last one, which is the current object) and navigate directly to that object.</p> <p>Note: When viewing the root node there will be only one entry, which is not selectable.</p>
Current object	This is a read-only text field that displays the name and object type (displayed as an image) of the current object.
Refresh 	Click on this button to refresh the current view. For example, if you are currently viewing a diagram and a user in Enterprise Architect has made changes to it since you opened it, simply click the Refresh button; WebEA will display the newly updated diagram.
Direct Link 	<p>Click on this button to display the 'Link to WebEA item' dialog, which shows the current item's unique ID and full URL. You can highlight the ID and press Ctrl+C to copy it, then at a later point use it in the 'Goto WebEA item' dialog to return directly to that page, as described in the <i>Search</i> table earlier.</p> <p>Alternatively, you can copy the full URL and send it to another user if you want them look at a particular item.</p>
Properties	

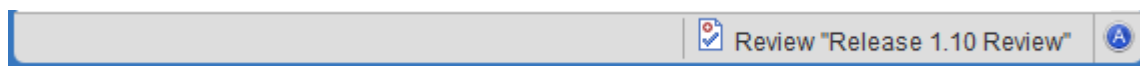
	<p>Click on this button to display the properties of the currently opened Package or diagram.</p> <p>Note: This button is only enabled when properties can be shown for the current item.</p>
---	---

## Content Area

WebEA's content area adjusts and adapts to display a custom layout for the currently selected item, depending on its type. For example, when a diagram is selected the content area consists entirely of the diagram image, but when a Package is selected the content area displays a view of child objects in that Package.

See the *Content Area* section later in this guide for more details.

## Status bar



The WebEA Status bar is displayed at the very bottom of the page, and is an area reserved for the display of information about the application. However, typically it will only consist of a single 'A' button in the right corner which, when clicked or tapped, will display the 'WebEA About' screen.

### Review element

If you have joined a review, the name of the Review element will display in the Status bar on the left side of the About button, as shown in the image.

### iOS Scrolling

When accessing WebEA via iPad or iPhone the status bar will display "iPad Diagram Scrolling: Off" or "iPhone Diagram Scrolling: Off" respectively. Touch this text to toggle the option On/Off.

Typically images can be scrolled on mobile devices by touching/dragging on the image, however iOS browsers will not scroll if you are touching a clickable area (such as an element on a diagram). This could make scrolling difficult on diagrams which are densely populated with clickable elements.

iPad/iPhone Diagram Scrolling: On

Diagram elements will not be selectable, allowing you to scroll by touching/dragging anywhere on the diagram.

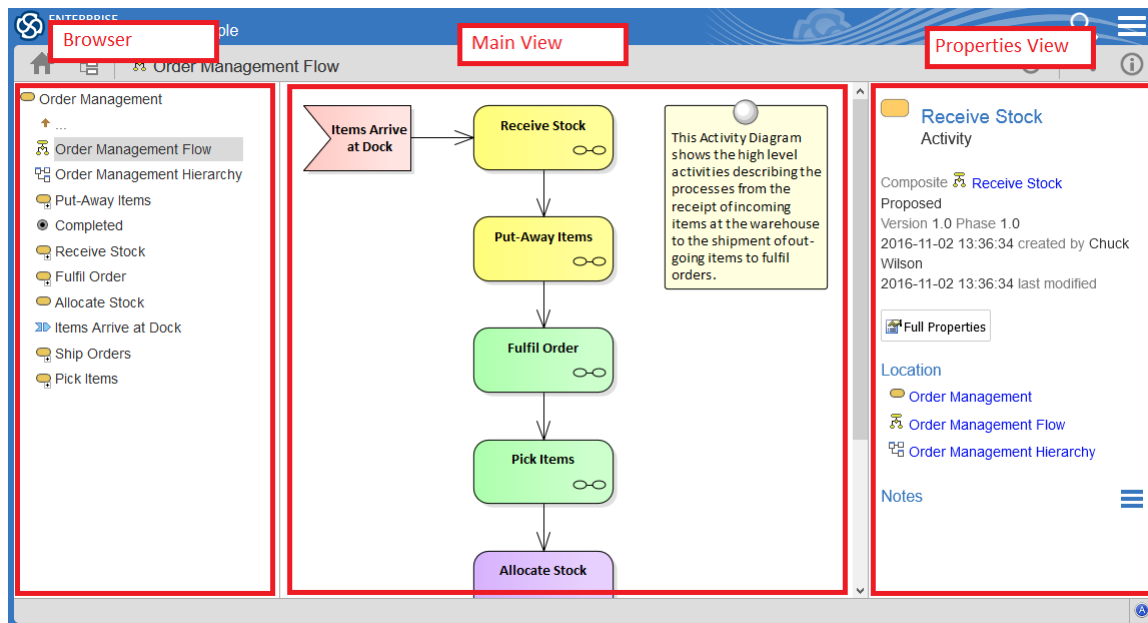
iPad/iPhone Diagram Scrolling: Off

Diagram elements will be selectable, however to drag the diagram image you will need to ensure you are not touching a selectable element.

## Content Area

The main content area of WebEA consists of:

- The Main View in the center. This is used for displaying such things as diagrams and element properties
- Optionally, the Browser on the left. This is used to assist in navigating the model.
- Optionally, the Properties View on the right. This allows you to view properties of an element while simultaneously viewing something else (such as a diagram) in the main view.



## Details

Main View	<p>The Main View typically displays these types of content:</p> <ul style="list-style-type: none"> <li>- A <b>Diagram</b> Image</li> <li>- The <b>Properties</b> of an element</li> <li>- A <b>list</b> of objects that are contained in a specific Package (or objects that are children of a specific element). This object list is only accessible when the Browser is not displayed (as the Browser functions as an alternative).</li> </ul>
Browser	The Browser assists with Navigation, and provides context for the object which is currently displayed in the Main View
Properties View	The Properties View displays properties of a selected object. When viewing a Diagram, it allows you to view some properties of an element without navigating away from the diagram.

## Main View - Object List

In Main View's Object List the child objects of a container are represented in one of three viewing styles: Icon, List or Notes view.

It is possible to define a default viewing style for a model, in the configuration file. However, you can also change the style for the current session using the menu items in the 'Hamburger' menu; see the *WebEA's Layout Help* topic.

### Icon View

In Icon view, each object is represented by an image and object name. As an example, a root node with the name 'ASA Finance' would be represented by:




A View object with the name 'Class Model' would be represented by:




### List View

In List view each object is represented as a row in a table, which includes columns for name, type, author and modified date. The earlier examples would be represented in List view like this:

	Name	Type	Author	Modified
	ASA Finance	ModelRoot		2017-01-20 17:21:03

	Name	Type	Author	Modified
	Class Model	Package	admin	2017-11-15 10:40:54

### Notes View

In Notes view each object is represented by the object name and any text from the object's 'Notes' field.

### Display Order

In Object View, objects are displayed in the predefined order: Packages, diagrams and elements; if there are multiples of



any object type then they will be sorted in alphabetical order. This is different to Enterprise Architect's behavior, which can allow elements to be manually ordered.

As an example:




## Additional Symbols

While navigating the model structure with WebEA you might see a number of symbols applied to the object images.

Each symbol has a meaning: the  symbol indicates that the object contains children, whilst the  symbol indicates the object is locked to the current user.

The action taken when an item is selected is dependent on the object type of the item.


- For Packages, the default action is to navigate down one level of the Project Browser and display the child objects contained within that Package
- For diagrams the default action is to open the diagram image
- For elements the default action is to display the Properties for the selected element

To open the properties of a Package while viewing it in the Object View, click on the  button in the Navigation bar. If you navigate to a Package that does not have children, the message 'No child element(s)' will be displayed.

## Adding New Elements

If the model has been configured to allow the addition of elements and the current user has the required permissions, the



 icon will be shown as the last element of a Package's object view. For more details see the *Object Creation in WebEA* Help topic.

## Notes

- WebEA's [WebEA - Browser](#) acts as an alternative to the Object List. If the WebEA Browser is displayed then the Object List is not accessible.



## Main View - Diagram

When a diagram is selected, the Main View content area displays the entire diagram as a single image. As an example, this is the default diagram in the EAExample model:



Objects on the diagram are selectable and, based on the object type and if the 'Properties View' is visible, will behave slightly differently.


The behavior when the 'Properties View' is not visible:

- Packages: opens the select Package in the Object View mode
- Diagrams: opens the selected diagram image
- Elements: opens the selected element in the Main View
- Hyperlinks to external URLs: navigates away from WebEA and loads the external URL

The behavior when the 'Properties View' is visible:

- Packages: main properties are displayed in the 'Properties View'
- Diagrams: main properties are displayed in the 'Properties View'
- Elements: main properties are displayed in the 'Properties View'
- panel
- Hyperlinks: navigate to link target

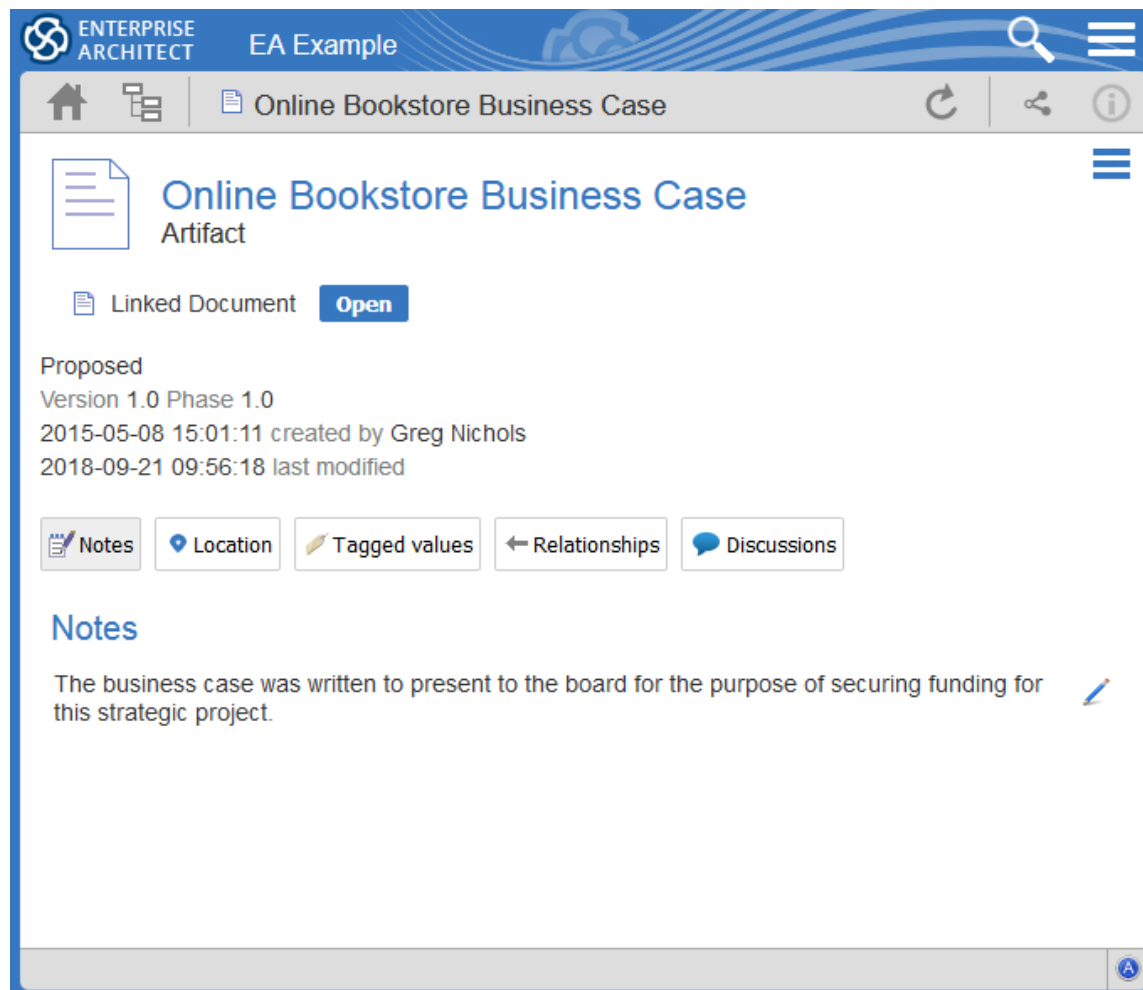
## Notes

- To open the properties of a diagram while viewing the diagram image click the  button in the Navigation bar



## Main View - Object Properties

When selecting an element in WebEA its properties are displayed in the Main View. The Main View Properties consist of a section at the top with common element properties, followed by a row of feature buttons (Notes, Relationships, etc) which can be used to access specific features. By default the Notes are displayed.



### Common Properties

The common properties section displays an image representing the object's type, and its name, type and stereotype. This is followed by general information about the object, such as author, time and date created and last modified, the version, phase and status. Note, the Properties View can also be enabled and displayed alongside the Main View's Object Properties. In this case the author, version, and other characteristics will only be displayed in the Properties View.



## Online Bookstore Business Case

Artifact



Linked Document

Open

Proposed

Version 1.0 Phase 1.0

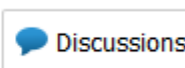
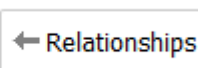
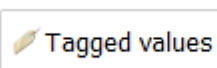
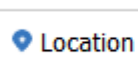
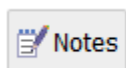
2015-05-08 15:01:11 created by Greg Nichols

2018-09-21 09:56:18 last modified

- If the model has been configured to allow it, there will be an element 'Hamburger' icon that allows the creation of object features; see the *Object Creation in WebEA* Help topic for further details
- If the element has a regular Linked Document applied, a line with 'Linked Document' and an Open button will be displayed immediately under the object's name and type fields; clicking on the Open button will display the contents of the Linked Document
- If the element has an encrypted Linked Document applied, in addition to the 'Linked Document' label and Open button a password textbox displays; if you enter the correct password and click or tap on the Open button the contents of the encrypted document will be displayed
- If the element has a stored Document applied, a Download button (along with the label 'Stored Document') will be displayed; clicking on the Download button will save the document to the user's machine where they can use the appropriate application to view it
- If the element has an image asset applied, a Download button (along with the label 'Image Asset') will be displayed; clicking on the Download button will save the image to the user's machine where they can use the appropriate application to view it

## Selectable Features

After the Common Properties a number of buttons are displayed that allow you to view other features of the object (including Location, Tagged Values, Attributes and Operations). By default, the element Notes will be selected and displayed. Clicking on one of the other buttons will display the relevant details.



Buttons are available for displaying these features:

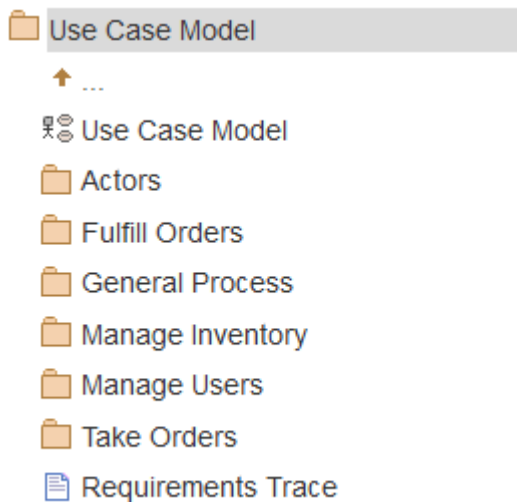
- Notes: the notes of the current object
- Location: information relating to the current object's parent, any diagrams that the element appears on, and a list of instances that the element is a classifier of
- Tagged Values: a list of defined Tagged Values for the current object
- Relationships: a list of incoming and outgoing connections for the current object; clicking on the connector type will display the connector's properties
- Attributes: a list of all defined attributes for the current object
- Operations: a list of all defined operations for the current object
- Requirements: a list of all defined internal requirements (responsibilities) for the current object
- Constraints: a list of all defined constraints for the current object
- Scenarios: a list of all defined scenarios for the current object
- Tests: a list of all defined tests for the current object. Selecting a test from the list will display more information. If

you have the required permissions and the model has been configured correctly, clicking or tapping the pencil icon will allow you to edit the details of the selected test

- **Resources:** a list of all defined Resource Allocations for the current object. Selecting a resource from the list will display more information. If you have the required permissions and the model has been configured correctly, clicking or tapping the 'Pencil' icon will allow you to edit the details of the selected resource allocation
- **Changes:** a list of all defined changes for the current object. Selecting a change from the list will display more information.
- **Defects:** a list of all defined defects for the current object. Selecting a defect from the list will display more information.
- **Issues:** a list of all defined issues for the current object. Selecting an issue from the list will display more information.
- **Tasks:** a list of all defined tasks for the current object. Selecting a task from the list will display more information.
- **Events:** a list of all defined events for the current object. Selecting an event from the list will display more information.
- **Decisions:** a list of all defined decisions for the current object. Selecting a decision from the list will display more information.
- **Effort:** a list of all defined effort items for the current object
- **Risks:** a list of all defined risks for the current object
- **Metrics:** a list of all defined metrics for the current object
- **Discussions:** a list of all formal review discussions and informal discussions on the element; if the current model has been configured to allow it, you can contribute to discussions on the current object - for further information on these facilities, see the *Reviews in WebEA* and *Discussions in WebEA* Help topics

## WebEA - Browser

The WebEA 'Browser' displays a context sensitive view of a Package or Element and its children. It can be enabled via the 'Browser' option in the main 'Hamburger' menu which is located in the upper right corner of WebEA. When enabled, the Browser displays on the left side of WebEA's Main View.



If the currently selected object is a Package, or an element with children, then the Browser displays the object at the parent level, and the children below it.

If the currently selected object is a diagram or an element without children, then the Browser displays the object's parent, then its children (which include the current object and its siblings)

If the currently selected object is not the root, then the second item in the Browser is an up arrow, allowing navigation to the next level up. Selecting an object in the 'Browser' panel will cause WebEA to navigate to that object.

### Notes

- The Browser panel is only visible if the screen is greater than 800 pixels wide.
- The Browser acts as an alternative to viewing the object list in WebEA's Main View. When the Browser is enabled the Main View - Object List is not accessible.

## WebEA - Properties View

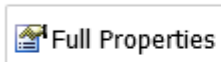
The WebEA 'Properties View' displays a context sensitive view of a Package or element and its children. It can be enabled via the 'Properties' option in the main 'Hamburger' menu which is located in the upper right corner of WebEA. When enabled, the Properties View displays on the right side of WebEA's Main View.

The 'Properties View' displays the principle property details of the object currently selected in the main content area, these being the name, type, notes, creation and modification dates, version and location details.

By default, the 'Properties View' will also display the element Notes; however, you can select a different feature to display in this location by using the 'Select Feature' Hamburger menu (to the right of the 'Notes' heading).



Proposed  
Version 1.0 Phase 1.0  
2005-03-07 21:47:21 created by Frank McIver  
2005-12-20 15:29:34 last modified



### Location

 [Manage Users](#)

 [Manage Users](#)

 [Traceability Diagram](#)

 [View Account details](#)

### Notes





The Client's goal is to view the details of past bookstore transactions, if any.

The main purpose of the 'Properties View' is to allow users to quickly and easily see details of elements without navigating away from a diagram.

The 'Properties View' is also displayed while viewing the Full Properties of an object in WebEA's Main View. This allows you to access one feature of the element (such as Notes) in the 'Properties View' while also accessing another (such as Discussions) in the Main View.

## Navigation Buttons

When appropriate, the Properties View will also include navigation buttons that allow you to either display the object's full properties in WebEA's Main View, or view the element/Package's children.

Button	Description
 Full Properties	This can be used to navigate to the object, showing its full properties in the Main View.
 View Contents	If you have selected a Package or an Element with children, and the Browser is not currently enabled then an additional icon is displayed. This allows you to view the object's children in the object list/icon view.

## Navigation Element Behavior

Within Enterprise Architect it is possible to define a number of different element types that make it easier to navigate your model (Hyperlinks, Navigation Cells, etc). By default selecting one of these objects in WebEA will navigate directly to the target (instead of displaying its properties in the Properties View).

If necessary, you can change this behavior using the '[How to configure WebEA models](#)' configuration option.

## Notes

- The Properties View is only visible if the screen is greater than 800 pixels wide.
- Selecting elements on a diagram while the Properties View is shown will not effect the browsing history.



## Object Creation in WebEA

Depending on how the current model has been configured in the WebEA configuration file and your security access to the model, you might have the ability to create a range of objects in the model through WebEA. These objects include: Packages and diagrams; elements such as Use Cases, Requirements, Components, Changes and Issues; and features of elements such as Tests, Decisions, Defects and Events. You can therefore define additional scope or problems that have arisen, directly in the model, with precision and in detail, adding to the accuracy and quality of the solution that the model represents.

The Project Manager responsible for the model should guide you in how to create objects and in the purpose of you doing so.

In addition to adding new elements you might also be able to edit the Notes of any object regardless of type, and the details of element Tests and Resource Allocations for any element in the model, whether you have created it or not. See the *Edit Objects* Help topic.

Note: the ability to Create objects is only possible in the Premium (Small Business, Team and Enterprise) editions of the Pro Cloud Server.

### Adding Objects

You can quickly establish if you have the ability to create objects in WebEA by checking the [WebEA - Browser](#) or the [Main View - Object List](#).

If you are able to create objects then the final item in the list will be a '<new>' button.

For example:



Click on this button to display the 'Add Object' page.

Add object to System

### Add Object

Element type \*

Technology \*

Diagram type \*


Name \*

Notes

**B I U**

Add


Field	Description
Element type	<p>Click on the drop-down arrow and select the type of object to create. Depending on your security permissions and the model's options, you can create some or all of these objects:</p> <ul style="list-style-type: none"> <li>• Package</li> <li>• Diagram</li> <li>• Review</li> <li>• Actor</li> <li>• Change</li> <li>• Component</li> <li>• Feature</li> <li>• Issue</li> <li>• Node</li> <li>• Requirement</li> <li>• Task</li> <li>• Use Case</li> </ul>
Technology	<p>This is an optional field that is only visible when 'Diagram' is selected as the element type. It allows the selection of a Technology that provides an additional set of diagram types.</p>
Diagram Type	<p>This is an optional field that is only visible when 'Diagram' is selected as the element type. Click on the drop-down arrow and select the type of diagram to</p>

	create.
Name	Type in an appropriate name for the object, preferably giving some indication of its purpose or function.
Notes	<p>Type in a more detailed description of the element, such as why you are creating it and what other elements it might be associated with.</p> <p>You can format this text using the facilities provided in the Notes toolbar. These are:</p> <ul style="list-style-type: none"> <li>• Bold</li> <li>• Italic</li> <li>• Underline</li> <li>• Numbered list</li> <li>• Bulleted list</li> <li>• Superscript text</li> <li>• Subscript text</li> <li>• Set color of selected text</li> </ul>
Add	<p>Click on this button to add the new object to the Package in which you are creating it. This message displays:</p> <p>Object added</p> <p>Either:</p> <ul style="list-style-type: none"> <li>• Work through the fields again, defining another new object in this Package, or</li> <li>• Click on the  icon and select the Package line to return to the 'Hierarchy' view of the Package, now containing the new element</li> </ul>

## Adding Element Features

You can, again, quickly establish if you have the ability to create element features in WebEA, by displaying the

Properties of an element in WebEA's [Main View - Object Properties](#); if the  icon displays in the right corner of the element name/notes panel, you can add element features.

Display the Properties of the element to which you want to add a feature, and click on the  icon. A menu displays offering options to add to the element each feature that you have the access permissions to create. These features might include:

- Other Objects
- Tests
- Resources
- Changes
- Defects
- Issues
- Tasks, or
- Risks

Select the appropriate option; a dialog displays in which you complete the fields to define the feature for the element. Each type of feature has a different dialog; refer to these topics for the details appropriate to each dialog.

- *Add Test Records*
- *Add Resource Records*
- *Add Change Requests*
- *Add a Defect*
- *Add an Issue Notification*
- *Add a Task*
- *Add a Risk*


## Notes

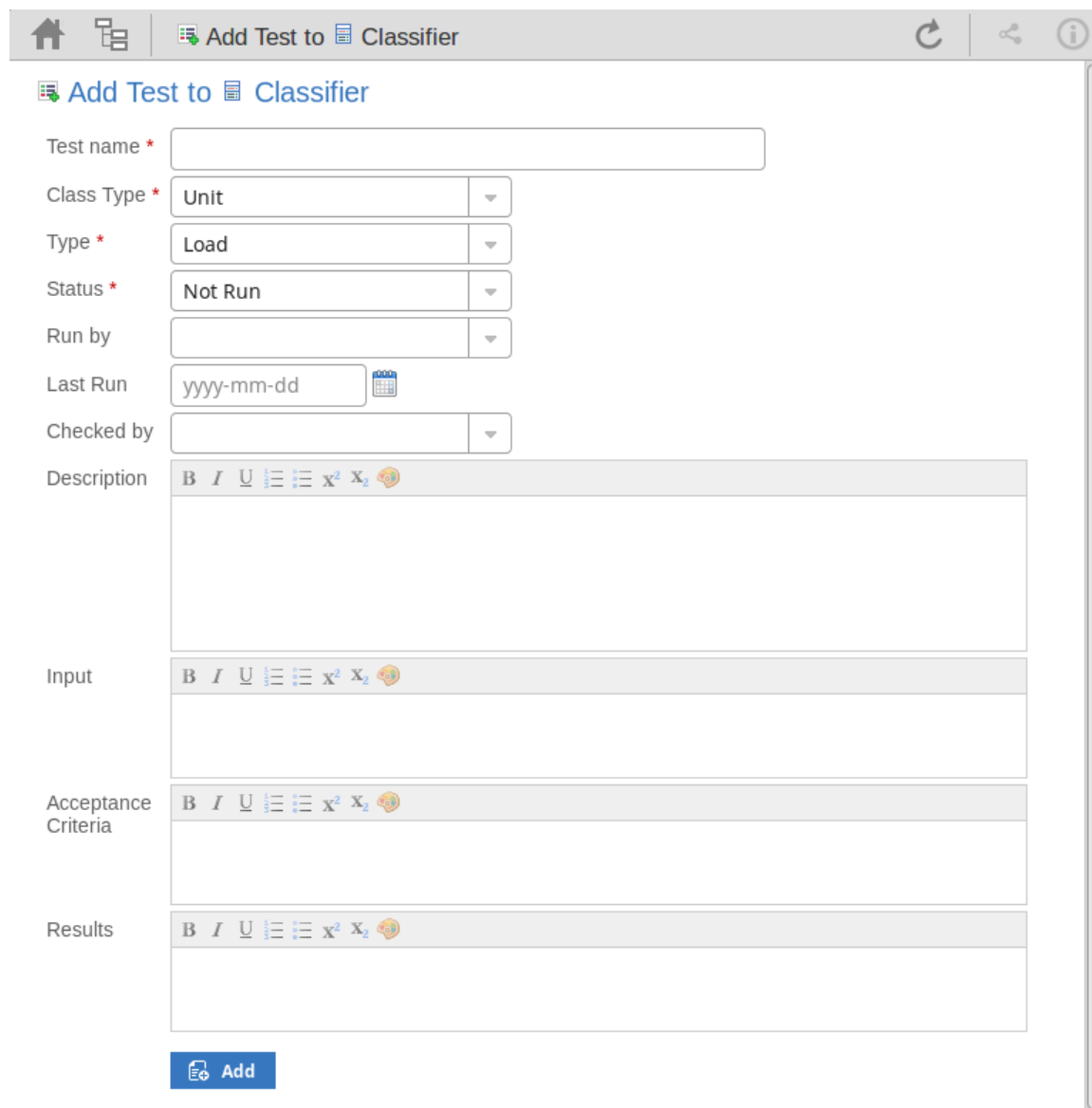
- As suggested in the *Adding Element Features* section, you can also add an object to a Package or to another object within the Main View's Object Properties page; click on the 'Hamburger' icon and select the 'Add Object' option, and complete the 'Add Object' page as described at the start of this topic

## Add Test Records

Within an element, you can create a record for each Test that you want to add to the element.

### Add a Test

Display the Properties of the element to which you want to add the Test record, and click on the  icon. A menu displays offering options to add various features to the element. Select the 'Add Test' option. The 'Add Test to <element name>' dialog displays.



Mandatory fields on the dialog are indicated by a red asterisk (\*).

Complete the fields as directed here.

Field	Action
Test name	Type an appropriate and meaningful name for the Test.


Class Type	<p>Click on the drop-down arrow and select the appropriate test group; that is:</p> <ul style="list-style-type: none"> <li>• Unit</li> <li>• Integration</li> <li>• System</li> <li>• Acceptance</li> <li>• Scenario, or</li> <li>• Inspection</li> </ul>
Type	<p>Click on the drop-down arrow and select the appropriate test type; that is:</p> <ul style="list-style-type: none"> <li>• Load</li> <li>• Regression or</li> <li>• Standard</li> </ul>
Status	<p>Click on the drop-down arrow and select the appropriate test status; that is:</p> <ul style="list-style-type: none"> <li>• Not Run (the most likely value for a new record from you)</li> <li>• Pass</li> <li>• Fail</li> <li>• Deferred or</li> <li>• Cancelled</li> </ul>
Run by	<p>If the test has been run, click on the drop-down arrow and select the name of the person who ran it.</p>
Last Run	<p>If the test has been run, click on the calendar icon and select the date on which the test was most recently run.</p>
Checked by	<p>If the test has been run, click on the drop-down arrow and select the name of the person who checked the test execution and results.</p>
Description	<p>Type in a description of the test, what it is intended to show and why it is necessary.</p> <p>You can format this text using the facilities provided in the Notes toolbar. These are:</p> <ul style="list-style-type: none"> <li>• Bold</li> <li>• Italic</li> <li>• Underline</li> <li>• Numbered list</li> <li>• Bulleted list</li> <li>• Superscript text</li> <li>• Subscript text</li> <li>• Set color of selected text</li> </ul>
Input	<p>Type a description of what actions or parameters are required as input to this test.</p> <p>You can format this text using the facilities provided in the Notes toolbar.</p>
Acceptance Criteria	<p>Type a description of what criteria must be satisfied to indicate that the test has passed.</p>

	You can format this text using the facilities provided in the Notes toolbar.
Results	Type a description of the expected and/or actual results of this test. You can format this text using the facilities provided in the Notes toolbar.
Add	Click on this button to submit the details and create the Test record on the selected element. This message is displayed: Test <name> was successfully added to <element name>. Either: <ul style="list-style-type: none"><li>• Work through the fields again, defining another new Test on this element, or</li><li>• Click on the browser's Back button to return to the 'Properties' view of the element, which will be refreshed to show the new record in the 'Testing' panel</li></ul>

## Add Resource Records

Within an element, you can create a record for each Resource that you want to add to the element.

### Add a Resource


Display the Properties of the element to which you want to add the Resource record, and click on the  icon. A menu displays offering options to add various features to the element. Select the 'Add resource' option. The 'Add resource allocation to <element name>' dialog displays.




**Add resource allocation to Classifier**





Resource \*


Role \*

Start date \*  

End date \*  

% Complete

Description **B I U**     

 **Add**

Mandatory fields on the dialog are indicated by a red asterisk (\*).

Complete the fields as directed here.

Field	Action
Resource	Click on the drop-down arrow and select the name of the person to be allocated as the resource.
Role	Click on the drop-down arrow and select the role of the resource in this work; for example: <ul style="list-style-type: none"> <li>• Application Analyst</li> <li>• Business Analyst</li> <li>• C++ Programmer</li> <li>• Project Manager</li> </ul>
Start date	Click on the calendar icon and select the date on which the resource is expected to start the assigned work.
	Click on the calendar icon and select the date on which the resource is expected to











End date	complete the assigned work.
% Complete	Click on the up and down arrows to change the field value to the percentage completion of work that the resource has achieved.
Description	<p>Type in a description of the resource allocation - what the work is, why this (kind of) resource is required to do it, and any criteria that must be satisfied.</p> <p>You can format this text using the facilities provided in the Notes toolbar. These are:</p> <ul style="list-style-type: none"><li>• Bold</li><li>• Italic</li><li>• Underline</li><li>• Numbered list</li><li>• Bulleted list</li><li>• Superscript text</li><li>• Subscript text</li><li>• Set color of selected text</li></ul>
Add	<p>Click on this button to submit the details and create the Resource Allocation record on the selected element.</p> <p>This message is displayed:</p> <p>Resource allocation for &lt;name&gt; was successfully added to &lt;element name&gt;.</p> <p>Either:</p> <ul style="list-style-type: none"><li>• Work through the fields again, defining another new Resource Allocation on this element, or</li><li>• Click on the browser's back button to return to the 'Properties' view of the element, which will be refreshed to show the new record in the 'Resource Allocation' panel</li></ul>



## Add Change Requests

Within an element, you can create a record for each Change Request that you want to add to the element.

### Add a Change Request

Display the Properties of the element to which you want to add the Change Request, and click on the  icon. A menu displays offering options to add various features to the element. Select the 'Add change' option. The 'Add change to <element name>' dialog displays.



 Add change to  Classifier
 




 Add change to  Classifier

Name \*


Status \*

Priority \*

Requested by





Requested on  

Completed by





Completed on  


Version

Description 

B I U    x<sup>2</sup> x<sub>2</sub> 

History 

B I U    x<sup>2</sup> x<sub>2</sub> 

 Add

Mandatory fields on the dialog are indicated by a red asterisk (\*).

Complete the fields as directed here.

Field	Action
Name	Type an appropriate and meaningful name for the requested change.
Status	Click on the drop-down arrow and select the appropriate request status; that is: <ul style="list-style-type: none"> <li>New</li> <li>Verified, or</li> </ul>


	<ul style="list-style-type: none"> <li>• Complete</li> </ul>
Priority	<p>Click on the drop-down arrow and select the appropriate priority value; that is:</p> <ul style="list-style-type: none"> <li>• High</li> <li>• Medium, or</li> <li>• Low</li> </ul>
Requested by	<p>Click on the drop-down arrow and select the name of the person requesting the change.</p>
Requested on	<p>Click on the calendar icon and select the date on which the request was made.</p>
Completed by	<p>If the change has been completed, click on the drop-down arrow and select the name of the person who completed it.</p>
Completed on	<p>Click on the calendar icon and select the date on which the requested change was completed.</p>
Version	<p>Type in a version number or letter to indicate any evolution of the same change. Generally, '1.0' indicates the first instance of a change.</p>
Description	<p>Type in a description of the change, what it is intended to be and why it is necessary.</p> <p>You can format this text using the facilities provided in the Notes toolbar. These are:</p> <ul style="list-style-type: none"> <li>• Bold</li> <li>• Italic</li> <li>• Underline</li> <li>• Numbered list</li> <li>• Bulleted list</li> <li>• Superscript text</li> <li>• Subscript text</li> <li>• Set color of selected text</li> </ul>
History	<p>If there is any background to this change, such as previous versions, document them here (you might copy the 'Description' from the last version or iteration of this change, for example). It is recommended that you include a date stamp and user initials in the entry.</p> <p>You can format this text using the facilities provided in the Notes toolbar.</p>
Add	<p>Click on this button to submit the details and create the change request on the selected element.</p> <p>This message is displayed:</p> <p>Change &lt;name&gt; was successfully added to &lt;element name&gt;.</p> <p>Either:</p> <ul style="list-style-type: none"> <li>• Work through the fields again, defining another new change request on this element, or</li> <li>• Click on the browser's back button to return to the 'Properties' view of the element, which will be refreshed to show the new record in the 'Changes' panel</li> </ul>










## Add a Defect

Within an element, you can create a record for each defect that you want to add to the element.

### Add a Defect Record

Display the Properties of the element to which you want to add the defect record, and click on the  icon. A menu displays offering options to add various features to the element. Select the 'Add defect' option. The 'Add defect to <element name>' dialog displays.



Add defect to  Classifier




Add defect to  Classifier

Name \*

Status \*

Priority \*


High

Reported by

4 user

Reported on


2017-11-21



Resolved by

Resolved on


yyyy-mm-dd




Version

1.0

Description



History



Add

Mandatory fields on the dialog are indicated by a red asterisk (\*).

Complete the fields as directed [here](#).


Field	Action
Name	Type an appropriate and meaningful name for the defect.
Status	Click on the drop-down arrow and select the appropriate record status; that is: <ul style="list-style-type: none"> <li>• New</li> <li>• Verified, or</li> <li>• Complete</li> </ul>








Priority	<p>Click on the drop-down arrow and select the appropriate priority value; that is:</p> <ul style="list-style-type: none"> <li>• High</li> <li>• Medium, or</li> <li>• Low</li> </ul>
Reported by	Click on the drop-down arrow and select the name of the person reporting the defect.
Reported on	Click on the calendar icon and select the date on which the record was made.
Resolved by	If the defect has been resolved, click on the drop-down arrow and select the name of the person who resolved it.
Resolved on	Click on the calendar icon and select the date on which the recorded defect was fixed.
Version	Type in a version number or letter to indicate any evolution of the same defect. Generally, '1.0' indicates the first instance of a defect.
Description	<p>Type in a description of the defect, what it is, what the solution might be, and why it is a problem.</p> <p>You can format this text using the facilities provided in the Notes toolbar. These are:</p> <ul style="list-style-type: none"> <li>• Bold</li> <li>• Italic</li> <li>• Underline</li> <li>• Numbered list</li> <li>• Bulleted list</li> <li>• Superscript text</li> <li>• Subscript text</li> <li>• Set color of selected text</li> </ul>
History	<p>If there is any background to this defect, such as previous occurrences, document them here (you might copy the 'Description' from the last version or iteration of this defect record, for example). It is recommended that you include a date stamp and user initials in the entry.</p> <p>You can format this text using the facilities provided in the Notes toolbar.</p>
Add	<p>Click on this button to submit the details and create the defect record on the selected element.</p> <p>This message is displayed:</p> <p>Defect &lt;name&gt; was successfully added to &lt;element name&gt;.</p> <p>Either:</p> <ul style="list-style-type: none"> <li>• Work through the fields again, defining another new defect record on this element, or</li> <li>• Click on the browser's back button to return to the 'Properties' view of the element, which will be refreshed to show the new record in the 'Defects' panel</li> </ul>



## Add an Issue Notification

Within an element, you can create a record for each issue notification that you want to add to the element.

### Add an Issue

Display the Properties of the element to which you want to add the issue notification, and click on the  icon. A menu displays offering options to add various features to the element. Select the 'Add issue' option. The 'Add issue to <element name>' dialog displays.



 Add issue to  Classifier
 




 Add issue to  Classifier

Name \*


Status \*

Priority \*

Raised by










Raised on  

Completed by










Completed on  


Version

Description
 

B I U         

History
 

B I U         

 Add

Mandatory fields on the dialog are indicated by a red asterisk (\*).

Complete the fields as directed here.

Field	Action
Name	Type an appropriate and meaningful name for the reported issue.
Status	Click on the drop-down arrow and select the appropriate issue status; that is: <ul style="list-style-type: none"> <li>New</li> <li>Verified, or</li> </ul>

	<ul style="list-style-type: none"> <li>• Complete</li> </ul>
Priority	<p>Defaults to 'High'. If necessary, click on the drop-down arrow and select the appropriate priority value; that is:</p> <ul style="list-style-type: none"> <li>• Medium, or</li> <li>• Low</li> </ul>
Raised by	<p>Defaults to the first name in the list of project users. If necessary, click on the drop-down arrow and select the name of the person raising the issue.</p>
Raised on	<p>Defaults to today's date. If necessary, click on the calendar icon and select the actual date on which the issue was raised.</p>
Completed by	<p>If the issue has been resolved, click on the drop-down arrow and select the name of the person who resolved it.</p>
Completed on	<p>Click on the calendar icon and select the date on which the issue was resolved.</p>
Version	<p>Type in a version number or letter to indicate any evolution of the same issue. Defaults to '1.0', indicating the first instance of an issue.</p>
Description	<p>Type in a description of the issue, what it is, what the solution might be, and why it is a problem.</p> <p>You can format this text using the facilities provided in the Notes toolbar. These are:</p> <ul style="list-style-type: none"> <li>• Bold</li> <li>• Italic</li> <li>• Underline</li> <li>• Numbered list</li> <li>• Bulleted list</li> <li>• Superscript text</li> <li>• Subscript text</li> <li>• Set color of selected text</li> </ul>
History	<p>If there is any background to this issue, such as previous occurrences, document them here (you might copy the 'Description' from the last version or iteration of this issue, for example). It is recommended that you include a date stamp and user initials in the entry.</p> <p>You can format this text using the facilities provided in the Notes toolbar.</p>
Add	<p>Click on this button to submit the details and create the issue report on the selected element.</p> <p>This message is displayed:</p> <p>Issue &lt;name&gt; was successfully added to &lt;element name&gt;.</p> <p>Either:</p> <ul style="list-style-type: none"> <li>• Work through the fields again, defining another new issue on this element, or</li> <li>• Click on the browser's back button to return to the 'Properties' view of the element, which will be refreshed to show the new record in the 'Issues' panel</li> </ul>




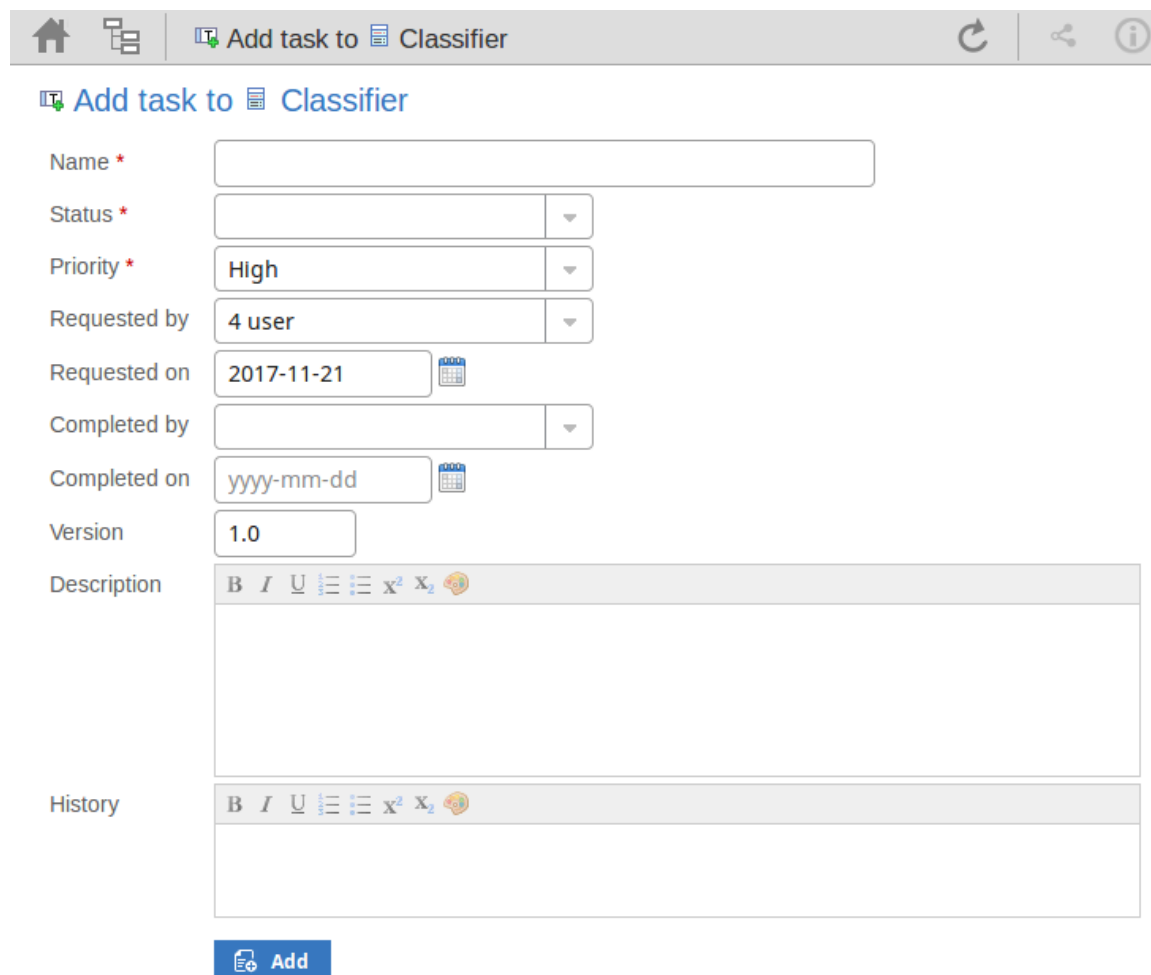


## Add a Task

Within an element, you can create a record for each task that you want to add to the element.

### Add a Task Record

Display the Properties of the element to which you want to add the task record, and click on the  icon. A menu displays offering options to add various features to the element. Select the 'Add task' option. The 'Add task to <element name>' dialog displays.



**Add task to Classifier**

Name \*

Status \*

Priority \*

Requested by

Requested on

Completed by

Completed on

Version

Description

History

**Add**

Mandatory fields on the dialog are indicated by a red asterisk (\*).

Complete the fields as directed here.

Field	Action
Name	Type an appropriate and meaningful name for the new task.
Status	Click on the drop-down arrow and select the appropriate task status; that is: <ul style="list-style-type: none"> <li>New</li> <li>Verified, or</li> </ul>

	<ul style="list-style-type: none"> <li>• Complete</li> </ul>
Priority	<p>Defaults to 'High'. If necessary, click on the drop-down arrow and select the appropriate priority value; that is:</p> <ul style="list-style-type: none"> <li>• Medium, or</li> <li>• Low</li> </ul>
Requested by	<p>Click on the drop-down arrow and select the name of the person requesting the task. This defaults to the name selected for the previous record.</p>
Reported on	<p>Defaults to today's date. If necessary, click on the calendar icon and select the correct date on which the request was made.</p>
Completed by	<p>If the task has been completed, click on the drop-down arrow and select the name of the person who completed it.</p>
Completed on	<p>Click on the calendar icon and select the date on which the task was completed.</p>
Version	<p>Type in a version number or letter to indicate any evolution of the same task. Defaults to '1.0', indicating the first instance of a task.</p>
Description	<p>Type in a description of the task, what it is, what the objective might be, and why it is a required.</p> <p>You can format this text using the facilities provided in the Notes toolbar. These are:</p> <ul style="list-style-type: none"> <li>• Bold</li> <li>• Italic</li> <li>• Underline</li> <li>• Numbered list</li> <li>• Bulleted list</li> <li>• Superscript text</li> <li>• Subscript text</li> <li>• Set color of selected text</li> </ul>
History	<p>If there is any background to this task, such as previous occurrences, document them here (you might copy the 'Description' from the last version or iteration of this task, for example). It is recommended that you include a date stamp and user initials in the entry.</p> <p>You can format this text using the facilities provided in the Notes toolbar.</p>
Add	<p>Click on this button to submit the details and create the task record on the selected element.</p> <p>This message is displayed:</p> <p>Task &lt;name&gt; was successfully added to &lt;element name&gt;.</p> <p>Either:</p> <ul style="list-style-type: none"> <li>• Work through the fields again, defining another new task request on this element, or</li> <li>• Click on the browser's Back button to return to the 'Properties' view of the element, which will be refreshed to show the new record in the 'Tasks' panel</li> </ul>




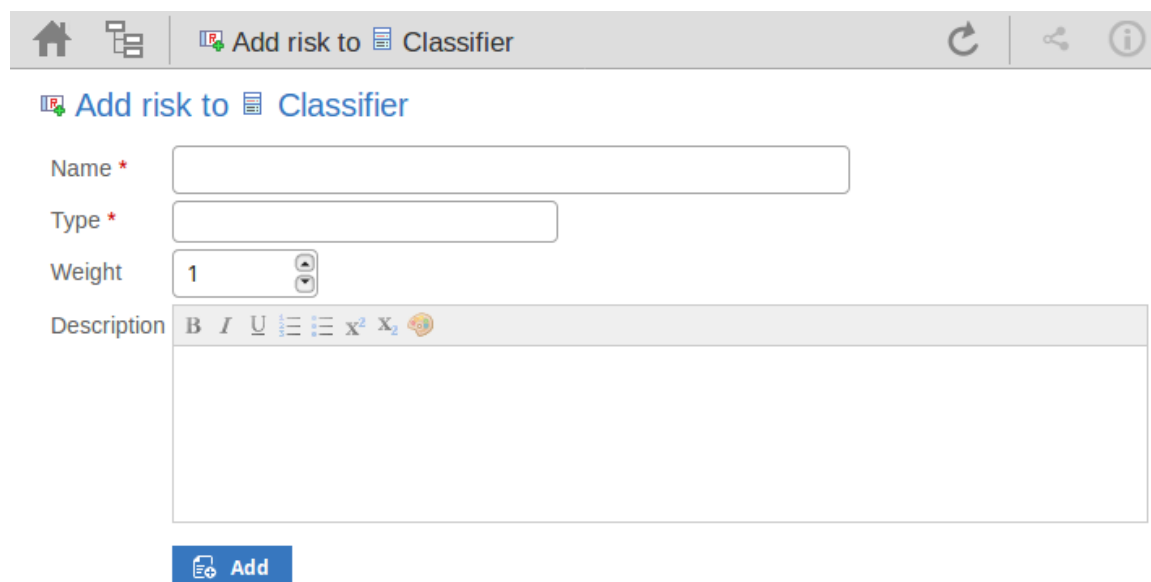
## Add a Risk

A Risk is a condition that could cause the disruption, loss or compromise of a system. It can refer to either technical or business risks.

Within an element, you can create a record for each risk that you want to record against the element.

### Add a Risk Record

Display the Properties of the element to which you want to add the risk record, and click on the  icon. A menu displays offering options to add various features to the element. Select the 'Add risk' option. The 'Add risk to <element name>' dialog displays.




Mandatory fields on the dialog are indicated by a red asterisk (\*).

Complete the fields as directed here.

Field	Action
Name	Type an appropriate and meaningful name for the new risk.
Type	Type in the risk type.
Weight	Defaults to 1. Click on the up and down arrows to set a different weighting on the risk. There is no limit to the value that you can set, but within Enterprise Architect the usual value is a small number between, say, 1.0 (normal) and 5.0 (heavily weighted).
Description	Type in a description of the risk, what it is and what the mitigation might be. You can format this text using the facilities provided in the Notes toolbar. These are: <ul style="list-style-type: none"> <li>• Bold</li> <li>• Italic</li> </ul>


	<ul style="list-style-type: none"><li>• Underline</li><li>• Numbered list</li><li>• Bulleted list</li><li>• Superscript text</li><li>• Subscript text</li><li>• Set color of selected text</li></ul>
Add	<p>Click on this button to submit the details and create the risk record on the selected element.</p> <p>This message is displayed:</p> <p>Risk &lt;name&gt; was successfully added to &lt;element name&gt;.</p> <p>Either:</p> <ul style="list-style-type: none"><li>• Work through the fields again, defining another new risk on this element, or</li><li>• Click on the browser's back button to return to the 'Properties' view of the element, which will be refreshed to show the new record in the 'Risks' panel</li></ul>

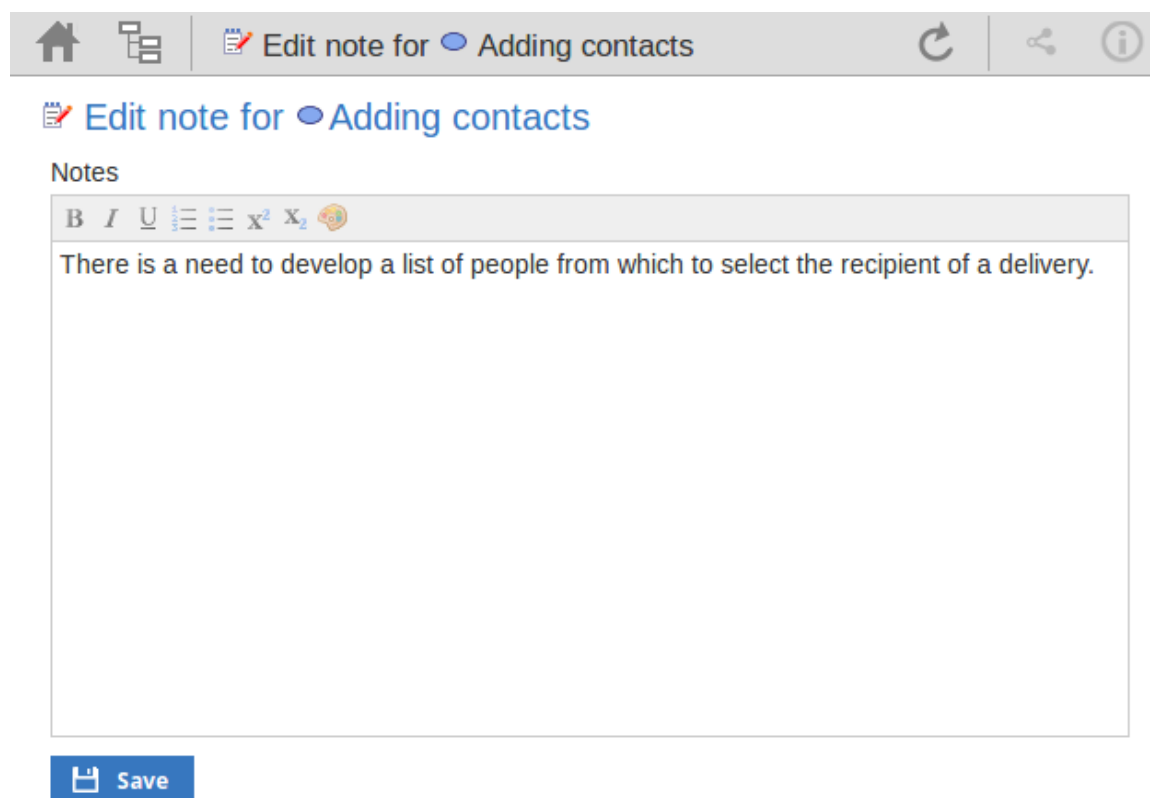
## Edit Objects

Within any model in which you have the security permissions to create elements, you can also edit the Notes, Resource Allocation and Testing details of any object in which they occur. On the right of the item field for these three properties you will see a  icon, which indicates that you have the ability to edit that property.

Note: the ability to Edit objects is only possible in the Premium (Small Business, Team and Enterprise) editions of the Pro Cloud Server.

## Edit Notes

To edit the notes of an object, click on the  icon for the field. The 'Edit note for <object type>' page displays.



You can add, delete and change text, and use the formatting tools in the Notes toolbar; that is, for a selected text string, add:

- Bold
- Italic
- Underline
- Numbered List
- Bulleted List
- Superscript
- Subscript

- Text color

You can also right-click on the selected text and select options from the browser context menu to:

- Undo the last change
- Move (cut) the text string into the buffer for pasting
- Copy the text string into the buffer for pasting
- Paste text from the buffer into the 'Notes' field
- Delete the selected text
- Select all the text in the 'Notes' field
- Search for the selected text string on the internet
- Turn spell-checking on and off (if on, possibly misspelt text is underlined in red)
- Add a different language dictionary to check spelling against (this would probably have been done already for your web browser)


Whilst you can edit the text of a hyperlink and delete the hyperlink, you cannot change the linked object or add a new hyperlink. The browser context menu also provides options for working with the hyperlink, but the WebEA interface cannot support these functions.

When you have finished editing the text, click on the Save button. A confirmation message briefly displays and you are returned to the object 'Properties' view.

## Edit Tests

The tests assigned to an element support a range of situations including user acceptance and scenario. You could be asked to define or perform tests on parts of a model of relevance to you as a customer or user, or you might want to add information obtained from other people you have asked to perform an evaluation. Therefore, you might need to edit test records to update them with your information.

To edit a test record, display the appropriate element in WebEA's Main View, click the feature button to display 'Tests' then select the appropriate test from the list.

Once the test is displayed click on the  icon. The 'Edit Test for <element name>' page displays.



Edit Test for Adding contacts

Edit Test for Adding contacts

Test name \*

Class Type \*  ▼

Type \*  ▼

Status \*  ▼

Run by  ▼

Last Run

Checked by  ▼

Description

B I U x<sup>2</sup> x<sub>2</sub>

Input

B I U x<sup>2</sup> x<sub>2</sub>

Acceptance Criteria

B I U x<sup>2</sup> x<sub>2</sub>

Results

B I U x<sup>2</sup> x<sub>2</sub>

Save

## Edit Test for <<element name>> page

Mandatory fields on the dialog are indicated by a red asterisk (\*).

Complete the fields as directed here.

Field	Action
Test name	If necessary, type a new name for the Test.
Class type	<p>In necessary, click on the drop-down arrow and select a different test group for the test; that is:</p> <ul style="list-style-type: none"> <li>• Unit</li> <li>• Integration</li> <li>• System</li> <li>• Acceptance</li> </ul>

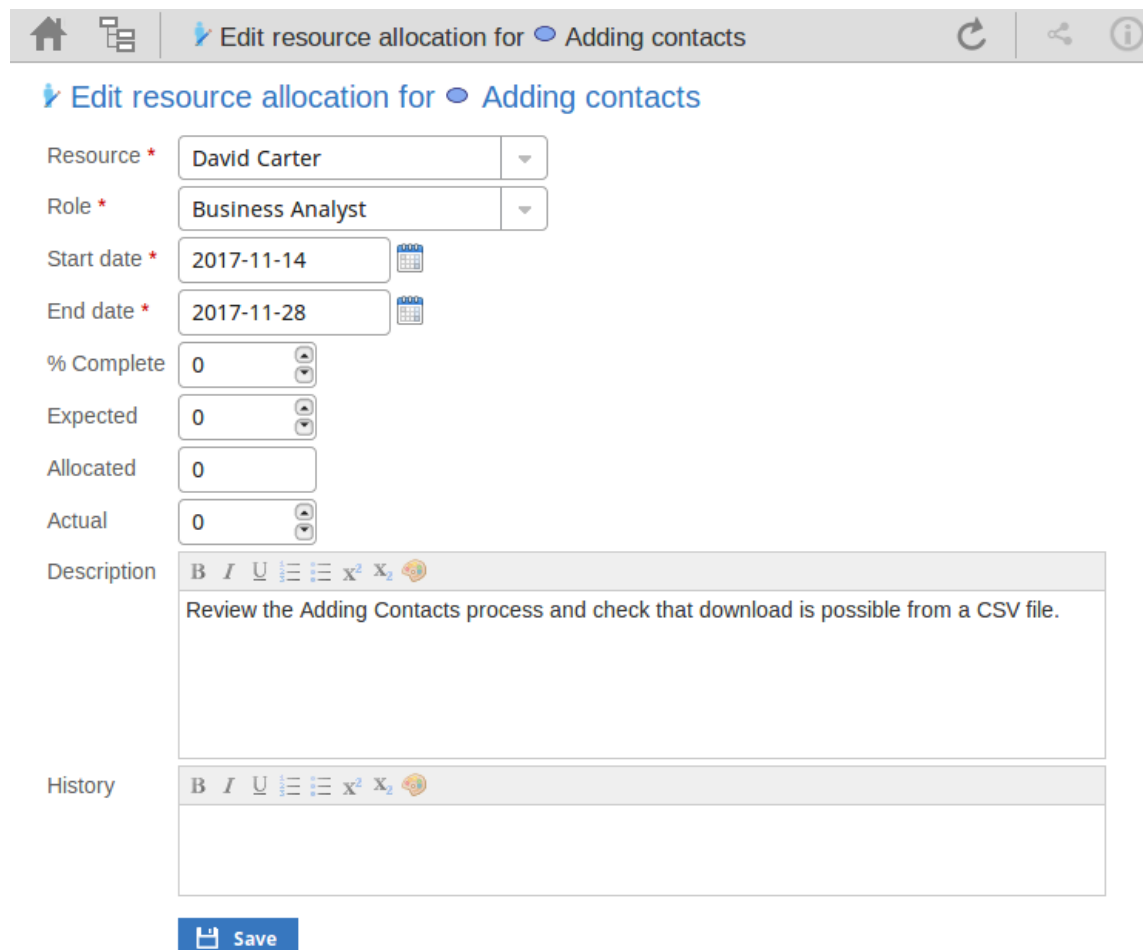
	<ul style="list-style-type: none"> <li>• Scenario, or</li> <li>• Inspection</li> </ul>
Type	<p>If necessary, click on the drop-down arrow and select a new test type; that is:</p> <ul style="list-style-type: none"> <li>• Load</li> <li>• Regression or</li> <li>• Standard</li> </ul>
Status	<p>If necessary, click on the drop-down arrow and select a new test status; that is:</p> <ul style="list-style-type: none"> <li>• Not Run</li> <li>• Pass</li> <li>• Fail</li> <li>• Deferred or</li> <li>• Cancelled</li> </ul>
Run by	<p>If the test has been run, click on the drop-down arrow and select the name of the person who ran it.</p>
Last Run	<p>If the test has been run, click on the calendar icon and select the date on which the test was most recently run.</p>
Checked by	<p>If the test has been run, click on the drop-down arrow and select the name of the person who checked the test execution and results.</p>
Description	<p>Type in a description of the test, what it was intended to show and - if the test has been run - what the test situation and results were.</p> <p>You can format this text using the facilities provided in the Notes toolbar, as described in the <i>Edit Notes</i> section.</p>
Input	<p>Type a description of what actions or parameters are or were required as input to this test.</p> <p>You can format this text using the facilities provided in the Notes toolbar, as described in the <i>Edit Notes</i> section.</p>
Acceptance Criteria	<p>Type a description of what criteria must be or were satisfied to indicate that the test has passed.</p> <p>You can format this text using the facilities provided in the Notes toolbar.</p>
Results	<p>Type a description of the expected and/or actual results of this test.</p> <p>You can format this text using the facilities provided in the Notes toolbar.</p>
Save	<p>Click on this button to submit the details and update the Test record on the selected element.</p> <p>A confirmation message briefly displays and you are returned to the object 'Properties' view</p>

## Edit Resource Allocation

The resources allocated to an element can include reviewers in various roles, and you might be allocated as a resource yourself. Alternatively, you could have allocated another person as a reviewer. Therefore, you might need to edit a resource allocation to record either your own progress in a review, or the progress of the resource you have allocated.

To edit the resource allocation, display the appropriate element in WebEA's Main View, click the feature button to display 'Resources' then select the appropriate test from the list.

Once the resource is displayed click on the  icon. The 'Edit resource allocation for <element name>' page displays.



**Edit resource allocation for Adding contacts**

Resource \*

Role \*

Start date \*

End date \*

% Complete

Expected

Allocated

Actual

Description

History

**Save**

## Edit Resource Allocation for <element name> page

Notice that this page has a few more fields than the initial 'Add resource allocation ...' page.

Mandatory fields on the dialog are indicated by a red asterisk (\*).

Complete the fields as directed here.

Field	Action
Resource	If necessary, click on the drop-down arrow and select the name of a different person

	to be allocated as the resource.
Role	If necessary, click on the drop-down arrow and select a different role for the resource in this work.
Start Date	If necessary, click on the calendar icon and select a different date on which the resource started or is expected to start the assigned work.
End Date	If necessary, click on the calendar icon and select a different date on which the resource completed or is expected to complete the assigned work.
% Complete	Click on the up and down arrows to change the field value to the percentage completion of work that the resource has achieved.
Expected	<p>Type in the number of whole time units the task is expected to take. The value must be an integer; you cannot record part units.</p> <p>The unit of time you use will be identified by the Project Manager, 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, and use the same units for the expected, allocated and actual times.</p>
Allocated	Type in the number of whole time units the task can be spread over. For example, you might expect the task to take 2 days of work performed at any point over a period of 5 days.
Actual	If the task is 100% complete, type in the number of whole time units it actually took.
Description	<p>If necessary, edit the description of the resource allocation, perhaps to explain the changes you have made to earlier fields.</p> <p>You can format this text using the facilities provided in the Notes toolbar, as explained in the <i>Edit Notes</i> section.</p> <p>Before changing the text, you might want to copy it to paste into the 'History' field for editing there.</p>
History	Optionally, paste or type in an explanation of what has previously taken place with this Resource Allocation. You can also format this text, using the facilities in the Notes toolbar.
Save	<p>Click on this button to submit the details and update the Resource Allocation record on the selected element.</p> <p>A confirmation message briefly displays and you are returned to the object 'Properties' view.</p>

## Reviews in WebEA

Review elements are a convenient way for groups of users to collaboratively discuss one or more model objects and capture those discussions as a formal review. A Review element is a custom element that captures all discussions that you participate in over a period of time. That period begins when you select to 'join' the review, and ends either when you select to leave the review, or when you log out of the current model. You can also return to the review in a subsequent work session and your continuing discussions are also captured. The Review element would typically have a start and end date set to define the duration of the review.

When a Review element is created, a child diagram is also created, automatically. Both Enterprise Architect and WebEA consider any element added to this diagram as requiring comment during the Review. When the properties of the Review element are loaded in WebEA the 'Objects in Review' section will contain a list of all elements that have already been commented on or have been added to the Review diagram. This list provides a convenient way to quickly navigate to each element in the Review.

When the properties of a Review element are loaded in WebEA's Main View, the default feature which is displayed is a Summary of the Review. This includes the status, start and end dates, number of elements discussed and yet to be discussed, and a break down of review topics based on priority and status, as illustrated here:

**Bookstore Review**  
Artifact «EAReview»

[+ Join Review](#) [- Leave Review](#)

[Summary](#) [Notes](#) [Location](#) [Tagged values](#) [Discussions](#)

### Review Summary

Status	
Start	15/05/2018
End	28/07/2018
Discussed	1
Not discussed	2
Discussion Topics	1
<u>Priority</u>	
High	0
Medium	0
Low	0
<none>	1
<u>Status</u>	
Open	1
Awaiting Review	0
Closed	0

The Summary is followed by 'Review Diagrams' and 'Objects in Review' sections.

## Review Diagrams


 Bookstore Review

## Objects in Review

 Go To Checkout

 Search for Books

 Client

 Can we add a description for this actor please?

2018-07-25 03:56:53 PM Simon Catching



The 'Review Diagrams' section provides links to the diagram which are associated with the review (I.e. those which are children of the Review Element).

The 'Objects in Review' section displays a list of elements to be discussed during the review. Elements that have not yet been discussed are presented first in the list, followed by elements that have been commented on, showing each review topic. The name of the object acts as a hyperlink to that object.

## Locating Reviews

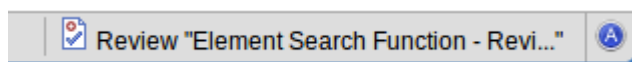
There are a number of ways in which to locate existing Review elements to join, or to switch to your active review (the review that you have already joined).

To check on recent Review elements available in the model, click on the 'Search' icon in the WebEA header and select the 'Reviews' option. This conducts a search for recent Review elements and lists them in the 'Search Results' view, with the most recently changed element at the top of the list.

Search Results (2)			
Name	Type	Author	Modified
 Element Search Function - Review0117	Artifact	roy chester	2017-05-02 10:23:47
 Review of Add	Artifact	roy chester	2017-04-26 16:09:04

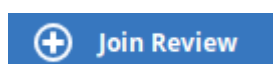
You can click on the name of a Review in the list to load the details of the selected Review element, and then join or leave the Review as appropriate.

The name of your active Review is displayed in the WebEA's Status bar, and you can click on the name (in the Status bar) to load the details of the active Review element.



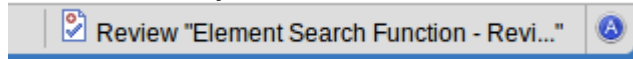
## Join a Review

While the property details of a Review element are loaded, the Join Review button will be enabled.



Clicking on this button will join you to the review and link your discussions to the Review element. The display will automatically be adjusted to the change of state. These changes include:

- The addition of the joined Review element's name to the status bar



- The 'Review' section filtering elements to the current Review element only
- The 'Discussion' section's update/add actions being disabled
- The Join Review button being disabled, and the Leave Review button being enabled

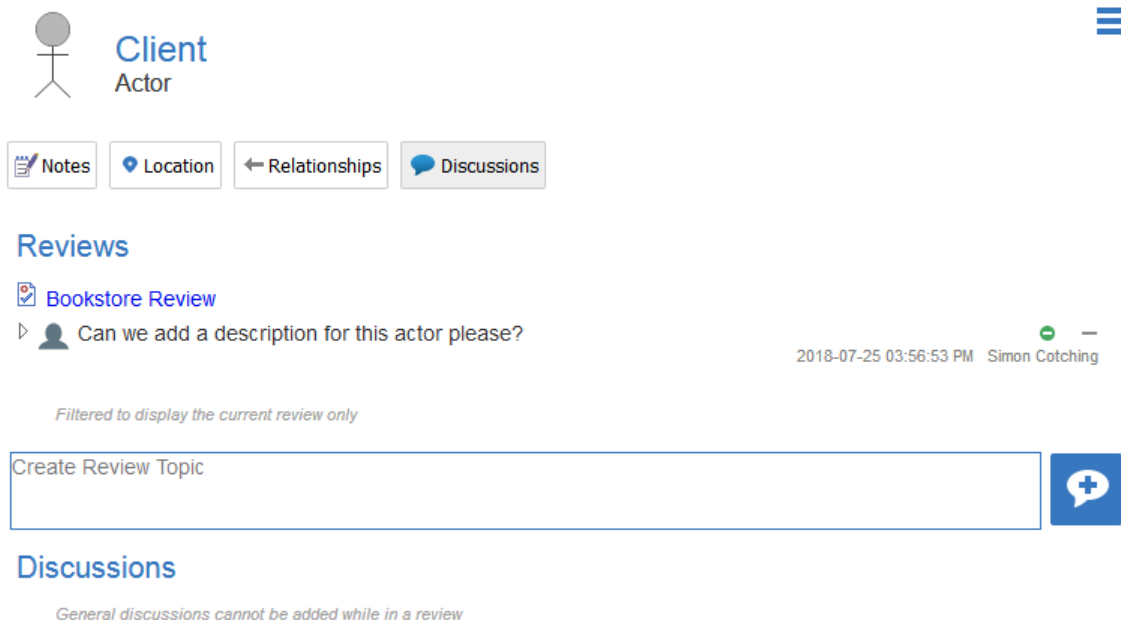
The Join Review button might be disabled, for these reasons:

- You are already joined to a review on a different Review element
- The loaded Review is closed

The Join Review button and Leave Review button are only visible on Review elements when the 'participate\_in\_review' configuration option is set to true for the current model. See the *How to configure WebEA models* Help topic for more information.

## Add topics to a Review

When you have opened and read through the contents of a Review element, you can add your own review topics or respond to existing points. To do this you click on the name of the object you want to comment on, then select the 'Discussions' feature button.



Note, whilst you are joined to a review - the contents of the panel are filtered to show only the review comments for that review.

### Add a Review Topic

To create a review topic on a new point, simply type into the 'Create Review Topic' field. When you have finished typing









your message, submit it by clicking on this button:

Note: WebEA does not support editing (or deleting) review comments, therefore you should take care to type messages

in clearly the first time, and double check before submitting.

Depending on how the WebEA model is configured, you might connect to it using your personal user ID, or as a single generic User that is shared by multiple people. In the second case, Sparx Systems recommends that each user identifies themselves in each message, either at the beginning or at the end.

Whilst you are adding comments to a review, at any point you can return to a posted topic and add or change its status and priority. To the right of the review topic text are two icons. The first is the 'Status' icon, and the second is the 'Priority' icon. The appearance of the icons depends on the current setting for status and priority. To set a status or priority, simply click on the appropriate icon and select from the listed options. These are:

- Status
    -  Open
    -  Awaiting Review
    -  Closed
  - Priority
    -  High
    -  Medium
    -  Low
- <none>

### Add a reply to a comment

If you want to respond to either a review topic or a reply to that topic, click or tap on the appropriate message. A blank field and button underneath the conversation thread will appear; type in your message and click or tap on this button:



Your reply is added to the end of the thread.

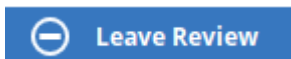
Note: Currently the review threads are only read from the model when the page is loaded, which means if other users make additional comments they will not be displayed until the page is reloaded or refreshed.

### Review another element

Click on the name of the Review element in the 'Reviews' panel or in the page footer, to display the Properties view for that review element. Select another element in the review from the list.

## Leave the current Review

When you have finished contributing to the review, you can either return to the Review element Properties view and click on the Leave Review button, or log out of the current model.



The Leave Review button will only be enabled when the details of the currently joined Review element are loaded.

## Creating a Review



Typically, only a Project Manager will create Review elements in Enterprise Architect, notifying the relevant users of their location so that each user can join and leave the review(s) as necessary.

However, a WebEA user might create a Review element as a direction to the Project Manager to set up. In this case you create the Review element by clicking on the 'New' icon in the Package hierarchy view, selecting 'Review' as the element type. The procedure is as described in the *Add Elements and Features in WebEA* Help topic.

You require specific access permissions to create a Review element; those permissions are totally separate from the permission to join a review.

## Discussions in WebEA

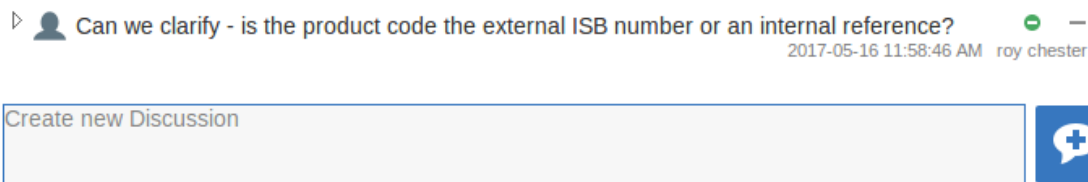
Enterprise Architect has a Discussion facility through which users can post short messages to have informal discussions with other users on a specific element or Package. As a WebEA user, if the model has been configured to allow Discussions to be viewed and added, you can also read and participate in these Discussions. The facility is very useful in informal reviews, as you can comment or respond immediately on a specific point as you come across it, without having to collate a list of comments and compose a relatively long document or email, or schedule a telephone call.

To access Discussions, when viewing the properties of an object in WebEA's main view, select the 'Discussions' feature button.

Note that if you are joined to a formal review, you can read existing Discussion points but you cannot respond to them or add new topics.

The input area shows as a blank field and a 'Discussion' button to save the entered text; if there has already been some discussion on the element, the comments of each Discussion display above the input field.

### Discussions



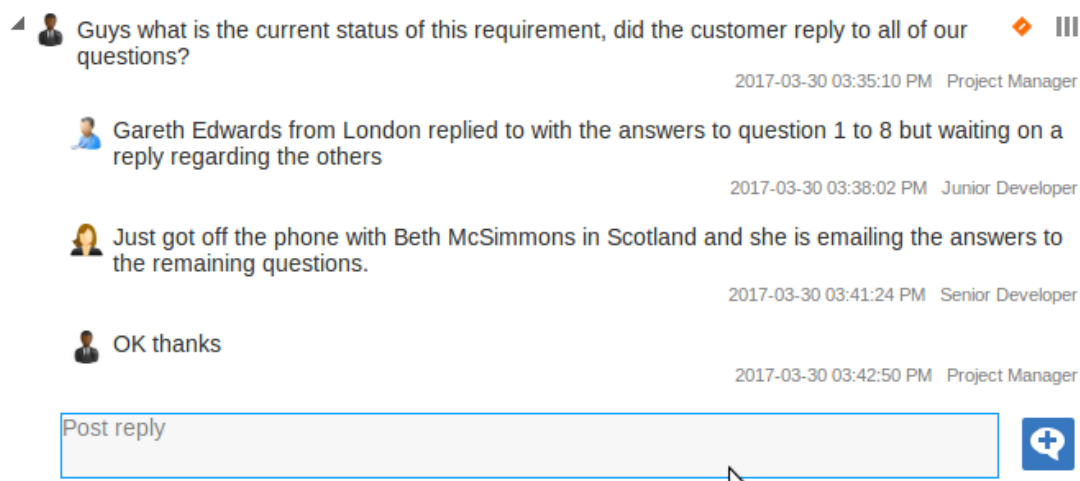
There are two types of discussion messages, an initial message (usually called a Discussion) and replies. Replies are responses to an initial message, and are displayed as child items.

### Avatars

In Enterprise Architect there is an application option for the current users that controls if avatars of security users are displayed with each Discussion item. In WebEA this option is defined for a model in the configuration file; see the option *use\_avatars*.

When a model has been configured to 'use avatars' and the model has security enabled, then instead of displaying generic blue speech bubbles the author's avatar is displayed, as shown here:

### Discussions



## Starting a discussion

To start a discussion on a new point, simply start typing in the blank field. If you want to have separate paragraphs, press

the Enter key to start each new line.



When you have finished typing your message, submit it by clicking on this button:

Note: WebEA does not support editing (or deleting) discussions, therefore you should take care to type messages in clearly the first time, and double check before submitting.

Depending on how the WebEA model is configured, you might connect to it using your personal user ID, or as a single generic User that is shared by multiple people ('Web User' in the first illustration). In the second case, Sparx Systems recommends that each user identifies themselves in each message, either at the beginning or at the end.

## Replying to a discussion

If you are reading an existing discussion and want to respond to either the opening point or a reply to that point, click or tap on the appropriate message. A blank field and button underneath the conversation thread will display; type in your



message and click or tap on this button:

Your reply is added to the end of the thread.

Note: Currently the discussion threads are only read from the model when the page is loaded, which means if other users make additional comments they will not be displayed until the page is reloaded or refreshed.

## Status and Priority

If you are adding comments to a discussion, at any point you can return to a posted topic or reply and add or change its status and priority.

To the right of the discussion text are two icons. The first is the 'Status' icon, and the second is the 'Priority' icon. The appearance of the icons depends on the current setting for status and priority. To set a Status or Priority, simply click on the appropriate icon and select from the listed options. These are:

- Status
    - Open
    - ◆ Awaiting Review
    - Closed
  - Priority
    - III High
    - II Medium
    - I Low
- 
- <none>

## Notes

- As a WebEA user you cannot delete discussions or replies; however they can be deleted using of Enterprise Architect



## Create and check Watch Lists

The Watch List facility in WebEA helps you to quickly identify recent activity in the model. Each user can tailor their Watch List to monitor activity in any of a wide range of objects and features with various characteristics. Whenever the Watch List Summary is generated, all object types of interested are checked for recent activity and a count of matched objects displayed. All matched object counts can be clicked on to display the list of objects that match the particular activity type.







Note: Each model has a default set of activity types that have been enabled in the WebEA configuration file; each user can override the model defaults and save their customized settings.



### Watch Lists Summary

You can select the Watch List facility by selecting the 'Watchlist' option in the 'Search' menu. This immediately displays the 'Watchlist summary' view that shows:

- Any activity that has recently been detected, for
- All objects and features that are to be monitored


If there is no activity for a configured activity type, that activity type is omitted from the 'Watchlist Summary'. The display might look like this:

 Watchlist


 Watchlist summary

**Recent**


- [2](#) recent discussions
- [3](#) recently modified elements

**Resource Allocations** 


- [1](#) active resource task
- [12](#) resource tasks overdue

**Tests** 


- [1](#) Test recently passed
- [1](#) Test recently not checked
- [24](#) Tests not run

**Changes** 

- [1](#) recently verified change
- [1](#) recently requested change
- [3](#) recently added changes
- [4](#) incomplete changes

**Defects** 

- [1](#) recently added defect
- [1](#) incomplete defect

**Issues** 

- [1](#) recently verified issue
- [1](#) recently requested issue
- [1](#) recently added issue
- [2](#) incomplete issues

OK

Every type of object on the report is represented by a line providing the number of objects that match the given criteria. The number of objects is a link which, if you click or tap it, displays a results page listing the specific objects that match the given criteria.

Watchlist results (3)			
Type	Name	Author	Modified
UseCase	Corporate car lease - add employee	roy chester	2017-11-21 12:22:27
Package	Class Model	admin	2017-11-15 10:40:54
UseCase	UseCase1	roy chester	2017-11-15 07:40:51

The watch list results page is the same as the custom search results page, in that if you then click or tap on an individual item in the list, the 'Properties' view will be displayed for the selected object. See the *WebEA's Layout* Help topic.




If you have finished checking the 'Watchlist summary', you can click on the OK button to return to the WebEA view you were displaying previously.


Alternatively, you can tailor the Watch List to provide information relevant to you; see *Configure the Watchlist*.

## Configure the Watchlist

If you want to customize the activity types monitored in your Watchlist summary, click or tap the configure button located in the Watchlist summary header. The 'Watchlist configuration' page displays.



 |  Watchlist configuration




## Configure the Watchlist


**Activity Period**  
Number of days

**Recent**


Discussions	<input checked="" type="checkbox"/>
Active reviews	<input checked="" type="checkbox"/>
Modified diagrams	<input checked="" type="checkbox"/>
Modified elements	<input checked="" type="checkbox"/>

**Resource Allocations** 

Active	<input checked="" type="checkbox"/>
Ending today	<input checked="" type="checkbox"/>
Overdue	<input checked="" type="checkbox"/>

**Tests** 

Recently passed	<input checked="" type="checkbox"/>
Recently failed	<input checked="" type="checkbox"/>
Recently deferred	<input checked="" type="checkbox"/>
Recently not checked	<input checked="" type="checkbox"/>
Not run	<input checked="" type="checkbox"/>

[Select All](#) [Deselect All](#)  **Save**

In the 'Number of days' field, type the number of days that should be considered. This might be the number of days since you last used WebEA, or the number of days in a reporting period that you want to compare with.

For the remaining fields, select the checkbox against all items that you want to monitor and include in your watch list. The complete list is:

- Recent:
  - Discussions
  - Active reviews
  - Modified diagrams
  - Modified elements
- Resource Allocations:
  - Active
  - Ending today
  - Overdue



- Tests:
  - Recently passed
  - Recently failed
  - Recently deferred
  - Recently not checked
  - Not run
- Changes, Defects, Issues, Tasks and Decisions:
  - Verified
  - Recently requested
  - Recently completed
  - New
  - Incomplete
- Events:
  - Recently requested
  - High Priority
  - Incomplete

The Select All and Deselect All options can be used to select or deselect all checkboxes.

Once you have finished choosing which items to monitor, click or tap on the Save button to save the configuration and redisplay the Watch List summary.

Note:

- All watch list options are saved based on current model and User ID for the current browser, and stored as cookies (where possible) so that the options are remembered between sessions
- If your browser does not allow the saving of cookies, then your customized watch list setting will only last as long as the current session

## Relationship Matrix

The Matrix facility in WebEA enables you to view the Relationship Matrix generated from any Relationship Matrix profile that has been defined in the model.

The Relationship Matrix is a spreadsheet display of relationships between model elements within a Package, or between elements in two different Packages. It is a convenient and simple tool for reporting and working on all the relationships in a selected structure. The relationships shown can be filtered according to:

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

Those parameters can be defined in a Relationship Matrix profile; to display a matrix in WebEA you select one of the available profiles.


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

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

Clicking on a square containing an arrow displays the Relationship Properties screen for the relationship represented by that arrow. On that screen you can click on the source or target element names and display the Element Properties screen for those elements.



### Access



On the WebEA header, click on the  icon and select the 'Matrix' option. The 'Matrix Profiles' page displays.


### Matrix Profiles

The 'Matrix Profiles' page provides a drop-down field that you use to list and select from the matrix profiles defined within Enterprise Architect. You cannot add to or edit these profiles.

 **Matrix Profiles**

## Matrix Profiles

Select Profile



**Source**


Package: Requirements Model  
Type: Requirement

**Target**

Package: Use Case Model  
Type: UseCase

**Link**

Type: Realisation  
Direction: Both

 **View Matrix**

When you select a matrix profile, the rest of the fields on the page will be populated with the values defined in the profile. Click on the View Matrix button to load the relationships selected under the profile, in a Relationship Matrix grid.



WebEA is only able to load complete matrix profiles; if an incomplete matrix profile is requested, this error message will be displayed:


**This Matrix profile is incomplete. Use EA to save the profile with values in all fields**


If this message is displayed, ask the Project Manager to update the Matrix Profile.

## Matrix

This is a sample Relationship Matrix as displayed by WebEA. It is almost identical to what would be displayed in Enterprise Architect.




 **Matrix - Manage Inventory**

Source:  Requirements Model

Type: Requirement

Link Type: Realisation

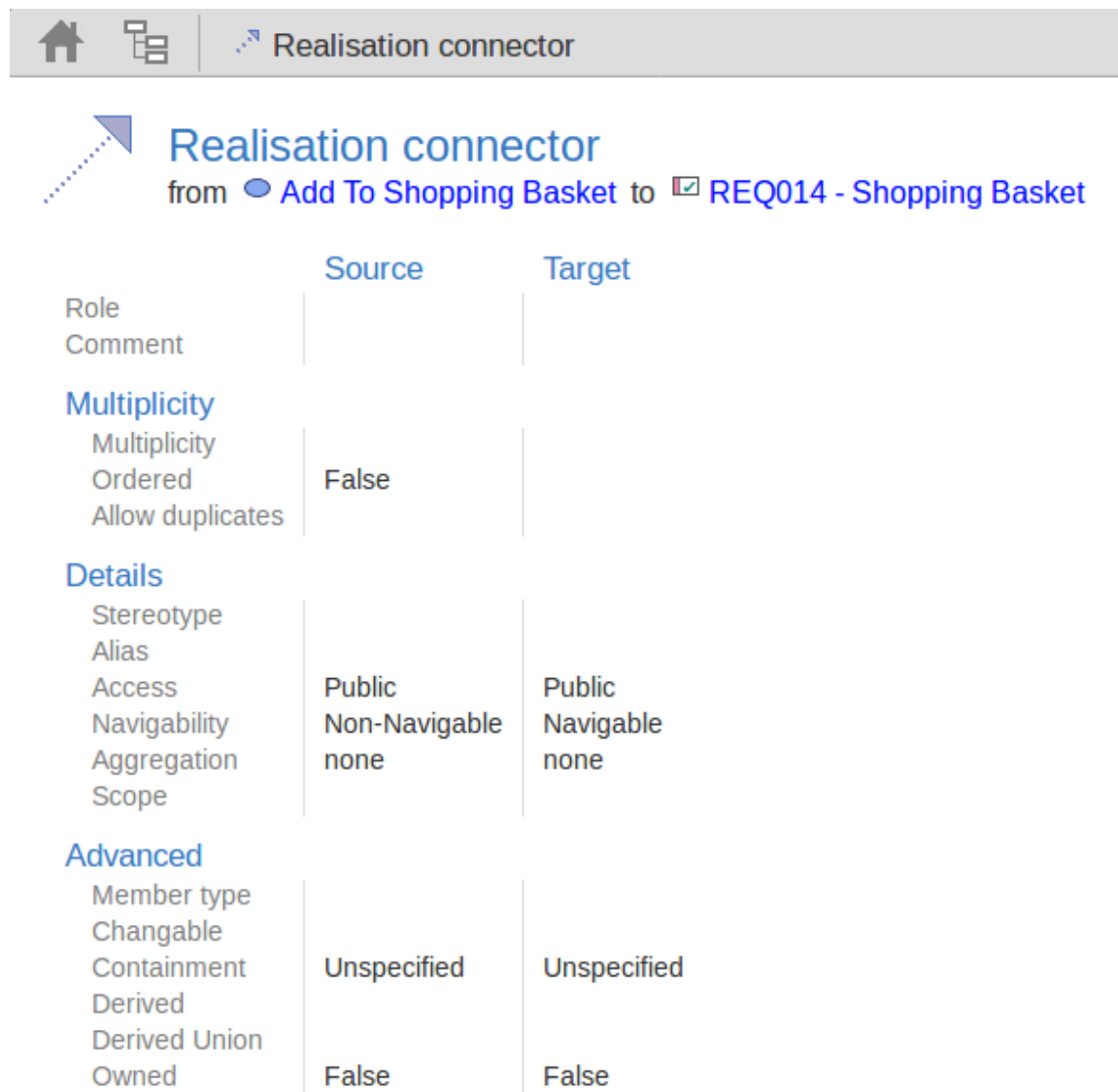
Target:  Use Case Model

Type: UseCase

Direction: Both

Use Case Model													
	Add New Titles	Add To Shopping Basket	Close Account	Create Account	Create Orders	Delete User	Edit Titles	Express Checkout	Go To Checkout	List Current Orders	List Stock Levels	Login	Manage Publishers
Requirements Model													
REQ011 - Manage User...													
REQ012 - Provide Onlin...													
REQ013 - Manage Deliv...													
REQ014 - Shopping Ba...		←											
REQ015 - Process Cred...													
REQ016 - Add Users				←									
REQ017 - Remove User			←			←							
REQ018 - Report on Us...													
REQ019 - Manage Inve...													

When you click on a relationship arrow - such as, in the example, the 'Add To Shopping Basket' to 'REQ014 - Shopping Basket' arrow - the Relationship Properties screen displays.



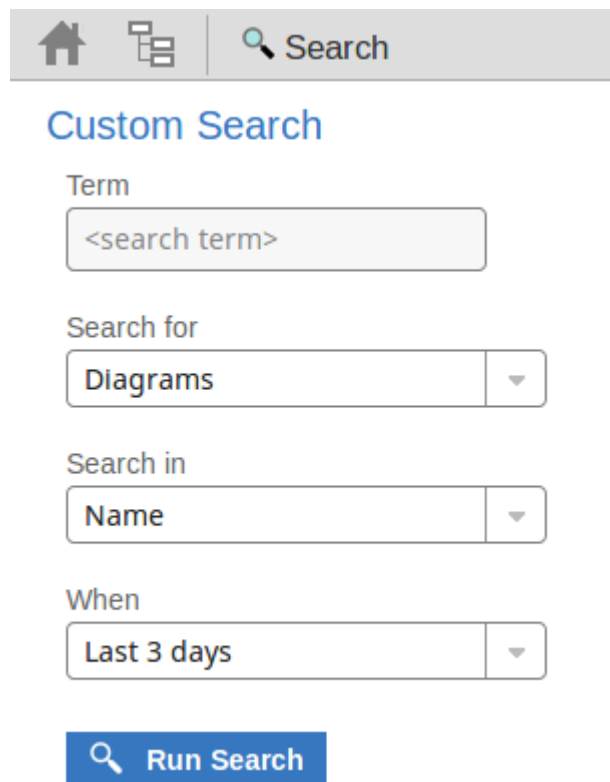
## Notes

- A Matrix Profile can also be accessed via a Hyperlink or a Matrix Specification Artifact on a diagram.
- Matrix Profiles which use a Model Search to populate the source or target elements are not supported in WebEA.

## Search the model

WebEA provides a facility that enables you to search through the model for a specific item or group of items that have certain characteristics. This can help you to quickly locate objects of importance, such as elements you have created yourself (if you have the access privileges to do so).

You access the Search facility by clicking on the 'spyglass' icon in the WebEA header and selecting the 'Custom search' option.



The screenshot shows the WebEA search interface. At the top is a header bar with a home icon, a document icon, and a search icon labeled 'Search'. Below this is a section titled 'Custom Search'. It contains four input fields: 'Term' with a placeholder '<search term>', 'Search for' with a dropdown menu showing 'Diagrams', 'Search in' with a dropdown menu showing 'Name', and 'When' with a dropdown menu showing 'Last 3 days'. At the bottom of this section is a blue button with a magnifying glass icon and the text 'Run Search'.

### Search Specification





Define your search using these options.

Option	Description
Term	Type or paste in the string of characters or digits you want to locate - name, Notes text or the complete object ID. Be aware that for some DBMSs - such as Firebird or Oracle - searches are case-sensitive.
Search for	<p>Select one of these object types to search:</p> <ul style="list-style-type: none"><li>• Diagrams</li><li>• Elements</li><li>• Packages</li><li>• Discussions, or</li><li>• Reviews</li></ul> <p>If you select 'Discussions', the 'Search in' and 'Term' options are not relevant and so are grayed out and unavailable. The search is for elements having active discussions within the specified time period.</p>

	Note: the 'Discussions' option is only available in models that have the <i>show_discuss</i> parameter set to 'true' in the WebEA configuration file, and the 'Reviews' option is only available when the <i>participate_in_reviews</i> parameter is set to 'true'.
Search in	<p>Select from the list of fields to search:</p> <ul style="list-style-type: none"> <li>• Name</li> <li>• Name, Alias and Notes (the proper name, an assigned alternative name, and any text written in the object's 'Notes' field)</li> <li>• Author (the person who created the object)</li> <li>• ID (the GUID of the object, displayed as the last item in the 'Properties' panel when you expand it)</li> </ul>
When	<p>Select the period of time that should be searched. You can select to search for objects modified:</p> <ul style="list-style-type: none"> <li>• Today</li> <li>• Within the last 3 days</li> <li>• Within the last 7 days</li> <li>• Within the last 14 days</li> <li>• Within the last 30 days</li> <li>• Within the last 12 months</li> <li>• At any time</li> </ul>
Run Search	Click or tap this button to execute the search and locate the objects that meet the search criteria.

## Search Results

When you execute the search the results are displayed in the main content area.

Search Results (4)			
Name	Type	Author	Modified
 Order	Class	Pat Taylor	2017-11-23 16:42:02
 Internet Order	Class	Pat Taylor	2017-11-23 16:40:46
 Shop Front Order	Class	Pat Taylor	2017-11-23 16:40:14
 Order	Class	Pat Taylor	2017-11-23 16:39:41

The results provide the object name, type, author and last-modified date of each object that matches the search criteria. If you click on an item, the 'Properties' view will be loaded for that object.

# Troubleshooting WebEA

If WebEA users experience a problem, an error message will be displayed on the screen. This topic provides a list of common WebEA error messages that could occur. Each entry describes the situation that has occurred and provides guidance on how to correct the error.

## WebEA Configuration Test

On initial set up, these steps can be performed to help identify configuration issues:

Step	Action
1	<p>On the Web Server machine, open a web browser and test access to the WebEA login page. E.g. <code>http://localhost/webea/login.php</code></p> <p>Failing this, check that the Web Server has been set up as described in the <i>WebEA Installation and Configuration</i> topic.</p>
2	<p>On a client machine test access to the WebEA login page. E.g. <code>http://&lt;server name&gt;/webea/login.php</code></p> <p>Failing this suggests there is a network/communication issue between the client and the web server.</p>
3	<p>Before attempting to access a model via WebEA, confirm you can successfully open the model using Enterprise Architect's 'Connect to Cloud' option.</p> <p>Failing this, refer to the <i>Cloud Server Troubleshooting Help</i> topic.</p>
4	<p>In the <code>webea_config.ini</code> file, add a model connection with the minimum required options, as outlined here. Ensure these match the settings used when connecting via Enterprise Architect. Note, the 'sscs_db_alias' should match the value entered in the 'Model Name' field.</p> <pre>sscs_protocol = "&lt;Protocol&gt;" sscs_server = "&lt;Server Name or IP address&gt;" sscs_port = "&lt;Port&gt;" sscs_db_alias = "&lt;Model Name&gt;" auth_code = "" ;leave this empty</pre> <p>If the Project has Enterprise Architect User Security enabled then also include:</p> <pre>login_prompt = "true"</pre> <p>If the Protocol being used is HTTPS then also include:</p> <pre>sscs_use_ssl = "true"</pre> <p>If you are using HTTPS with a Self-signed certificate then also include:</p> <pre>sscs_enforce_certs = "false"</pre>
5	<p>Try accessing the model in WebEA. Failing this, the error returned by the WebEA login screen might help identify the cause of the issue.</p>



## WebEA Error Messages

Issue	Comments
Server could not be found	<p><i>Server could not be found on the network!</i></p> <p>This error usually occurs when WebEA does not receive any kind of response from the specified server name (or IP number).</p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>• The server is turned off</li> <li>• The server is behind a firewall and WebEA is unable to make a connection to it</li> </ul>
Connection refused	<p><i>There was no response from the server, check that Pro Cloud Service is running!</i></p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>• Pro Cloud Service is not installed</li> <li>• Pro Cloud Service is not running</li> <li>• Pro Cloud Service is not listening on the expected port</li> </ul>
OSLC not supported	<p><i>Your server is not configured to support OSLC.</i></p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>• WebEA communicates with Sparx Systems Cloud Service via OSLC, but the defined Sparx Systems Cloud Service has been configured to not allow OSLC requests for this Port.</li> </ul> <p>Using the Cloud Configuration Client, check the configuration for the Port which you are using to access this model. Ensure the "OSLC Supported" option is enabled.</p>
Protocol Mismatch	<p><i>Protocol and Port mismatch. Check that the correct protocol and port have been configured.</i></p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>• There is a mismatch between the connection settings; for example, 'sscs_use_ssl' has been set to true but a protocol of HTTP was specified</li> </ul>
Incorrect login details	<p><i>The specified login details were not valid for the current model!</i></p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>• The supplied user ID and password combination did not match any user credentials defined in the model</li> </ul>
Connection timed out	<p><i>Request Error: Connection timed out after 5001 milliseconds.</i></p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>• Invalid Cloud Server settings (sscs_*), WebEA cannot connect to the defined server/port</li> <li>• Apache/PHP web server requires a proxy server to reach the Cloud Service machine and the proxy settings defined in the .config file are incorrect or invalid</li> </ul>
Failed to Connect	<p><i>Request Error: Failed to connect to xxx.xxx.xxx.xxx port yy: Connection refused</i></p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>• The 'sscs_port' option in the webea_config.ini file does not match the port</li> </ul>

	<p>setting in your Pro Cloud Service configuration file (SSCloudServices.config); make them the same</p> <p>Note that, if the Cloud Service is being re-directed via IIS, you must ensure this matches the IIS port used for the Pro Cloud Service.</p>
The configured database is not defined	<p><i>The configured database is not defined in the Cloud Service.</i></p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>The 'sscs_db_alias' option in the webea_config.ini file does not correspond to the 'Database Alias' defined in <i>Add Database Manager</i>; correct the values so that they do correspond</li> </ul>
Problem reading the model root	<p><i>Problem reading the model root.</i></p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>The WebEA options for the current model do not match a Pro Cloud Server configuration</li> <li>You are attempting to access a DBMS repository which has not had a Project transferred into it. See Step 4 on the Server Based Repositories help page.</li> </ul>
No response when selecting an Object	<p>After WebEA loads the initial page (the model root or default diagram), there is no response to selecting objects.</p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>Your browser does not have javascript enabled; re-enable it</li> <li>The cURL PHP module/extension is not installed and enabled on the server; install/enable cURL on your web server</li> <li>The PHP version is wrong; it must be greater than PHP 5.0 with all extensions supported</li> </ul>
An unexpected response was received	<p><i>An unexpected response was received, check the cloud service configuration!</i></p> <p>This error normally occurs while attempting to login or connect to a model from the initial page. The error message will display whenever the response from the configured Cloud Service does not return the expected XML message.</p> <p>Check that the defined Sparx Systems Cloud Service server name and port are the details of an actual Cloud Service and not those of a web server.</p>
The selected database does not have Pro Features enabled	<p><i>The selected database does not have Pro Features enabled.</i></p> <p>This error normally occurs if the selected model does not have 'Pro Features' enabled.</p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>In the Cloud Service Configuration Client, the Database Manager for this model does not have the 'Enable Pro Features (OSLC, WebEA and Integration)' option enabled</li> <li>The Pro Cloud Server's license has expired and the server is now operating as the free, core edition of the Cloud Service</li> <li>The License key entered is invalid and the Pro Cloud Server is operating as the core edition</li> </ul> <p>Using the Cloud Service Configuration Client, check the Database Manager configuration. Ensure that the 'Enable Pro Features (OSLC, WebEA and Integration)' option is enabled.</p>
Diagram image not found	<p><i>Diagram image not found.</i></p> <p>This error indicates that the diagram exists in the model, but the image of the</p>

	<p>diagram has not been generated.</p> <p>Possible reasons:</p> <ul style="list-style-type: none"> <li>• The model does not have the 'Auto create Diagram Image and Image Map' option enabled in model-specific options</li> <li>• The diagram was created in Enterprise Architect, but has not yet been saved</li> <li>• Or, the user is on an old version (prior to build 1350) of Enterprise Architect and the Worker application is not running for this model (it has not been configured, it is not currently running, or has not run since the diagram was saved)</li> </ul> <p>Open the model in Enterprise Architect (build 1350 or later), enabled the 'Data Cache' options, and click on the 'Create' button as described in the 'Model Configuration' section of the 'WebEA Installation and Configuration' topic.</p> <p>Alternatively, ensure that the Worker application is running for this model. See the 'How to configure automatic viewable components' topic for details.</p>
Resource not found	<p><i>404 - Resource with identifier 'XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX' could not be found</i></p> <p>The item (element, Package or diagram) with this GUID could not be found in the current model.</p> <p>Possible Reasons:</p> <ul style="list-style-type: none"> <li>• The item has been deleted from the model.</li> </ul> <p>To confirm that the item has been deleted, check the parent Package (or parent element) in WebEA.</p> <p>If the error occurred when selecting an item on a diagram, the diagram image might have to be regenerated.</p>
SSL Error	<p><i>Error: SSL certificate problem: unable to get local issuer certificate</i></p> <p>This error suggests you are attempting an HTTPS connection without having SSL enabled.</p> <p>Possible Reasons:</p> <ul style="list-style-type: none"> <li>• The webea_config.ini file does not include <code>sscs_use_ssl = "true"</code> for this Model. Try adding this, then attempt to access the Model again.</li> </ul>
Self signed certificate error	<p><i>Request Error: SSL certificate problem: self signed certificate</i></p> <p>This error suggests you are attempting an HTTPS connection with SSL using a self-signed certificate, however WebEA has not been configured to allow self-signed certificates.</p> <p>Possible Reasons:</p> <ul style="list-style-type: none"> <li>• The webea_config.ini file does not include <code>sscs_enforce_certs = "false"</code> for this Model. Try adding this, then attempt to access the Model again.</li> </ul>
No credentials provided	<p><i>400 - User Security is enabled, however no credentials were provided.</i></p> <p>Possible Reasons:</p> <ul style="list-style-type: none"> <li>• The Project has Enterprise Architect user security enabled; however, WebEA is not configured to either show a login prompt or automatically login with specific credentials</li> </ul> <p>Check that the webea_config.ini contains:</p> <p><code>login_prompt = "true"</code></p>

	<p>Or, all of these:</p> <pre>login_prompt = "false" sscs_model_user = "&lt;user id&gt;" sscs_model_pwd = "&lt;password&gt;"</pre>
Version Mismatch	<p><i>Warning - WebEA / OSLC Version mismatch</i></p> <p>Each release of the Pro Cloud Service includes an OSLC component and the WebEA component (php files). If you are using the OSLC component from one release and the WebEA component from another, then WebEA might not function as intended.</p> <p>Possible Reasons:</p> <ul style="list-style-type: none"> <li>A new version of the Pro Cloud Service was installed, however the new version of WebEA was not copied to the Web Server</li> </ul> <p>When updating the Pro Cloud Service to a newer version, ensure that WebEA is also updated. That is, after performing the installation of the Pro Cloud Server, copy the new WebEA files from the Cloud Server installation to the relevant location on your web server.</p>
Basic login fields not shown	<p>The basic login fields will not be visible when attempting to log in to a model under these circumstances:</p> <ul style="list-style-type: none"> <li>The webea_config.ini has sscs_model_user defined</li> <li>The model has the user option 'Restrict access to Windows &amp; OpenID users only' enabled</li> </ul>

## Problems loading pages

Issue	Comments
No response when clicking on diagram elements	<p>When clicking on an element on a diagram nothing happens.</p> <p>Possible reason:</p> <ul style="list-style-type: none"> <li>The element properties are being loaded in the Properties View, however the Properties View is automatically hidden due to a narrow screen/browser width (less than 800px).</li> </ul> <p>From the hamburger menu at the top right of WebEA, select 'Properties' to turn off the Properties View.</p>
Pages don't load correctly	<p>After the server has been updated to a new version of WebEA, clients experience problems with pages loading incorrectly.</p> <p>Possible reason:</p> <ul style="list-style-type: none"> <li>The user's browser is using a cached version of WebEA's client side files, which is causing unpredictable results</li> </ul> <p>The solution is to clear the browser cache, to force the browser to download the latest version of the application files from the server; the process for clearing the cache is different for each browser/device - consult the user manual for your browser</p>
Login page in Internet Explorer	<p>The 'Login' page is not drawn correctly and appears different to other browsers; that is, the selection boxes next to each model name are not square.</p>

	<p>All login attempts to models with authentication fail saying 'No model selected!'</p> <p>Possible reasons:</p> <ul style="list-style-type: none"><li>• IE is running in 'Compatibility View' mode, which does not support HTML5 and CSS3; turn off 'Compatibility View' at least for the server hosting WebEA</li></ul>
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# Prolaborate

The Enterprise Architect set of tools to deliver world-class modeling and design solutions to business, industry and companies around the world has been significantly expanded with the inclusion of Prolaborate in the Pro Cloud Server offering.

Prolaborate represents the next step in effectively delivering rich models to a much-expanded set of consumers. Whilst Enterprise Architect has become the pre-eminent modeling and design solution globally for modelers and designers wanting to visualize and understand complex systems, software and architecture, Prolaborate is the next step in delivering those models and designs to the broader community and in enabling high level executives, business process managers, process implementers, consultants, customers and other stakeholders to see their personal and curated view of the model in a way that they are personally comfortable with!

Prolaborate is a tailored set of views that reduce complexity, focus attention and increase the accessibility of model information for non-modelers and others who are more concerned with consuming the model than directly editing it (although this can occur). Prolaborate provides a social platform 'outside the model' that supports talking about the model from a different viewpoint to those actively engaged 'within the model'. Prolaborate also provides dashboards, impact analysis and other 'outside the model' features that derive information from the model or provide unique windows into the model for a custom audience (such as Chief Executive Officers, Chief Information Officers and customers).

## Benefits:

- Takes the next step - beyond modeling
- A social and collaborative tool for everyone
- Highly focused and customized model views
- New ways of seeing and interacting with Enterprise Architect models
- New tools for decision and impact analysis based on model content
- A platform for 'out of model' reviews and discussions
- For C-level executives looking for critical and strategic information
- For model consumers reviewing or implementing process flows
- For customers and other stakeholders who want to review and discuss the model
- For developers and software teams
- For those unfamiliar with modeling who want to understand and share their viewpoint
- A rich and evocative environment tailored for individual domains
- Discover the hidden value in your Enterprise Architect models
- Engage with a broader audience - present and discuss at the 'right level'

## For further information

Full documentation on Prolaborate is provided on the website. You can access this documentation by clicking on this link (Javascript must be enabled on your web browser).

<https://prolaborate.sparxsystems.com/resources/documentation>

## Integration Plugins

The Integration Plugins components represent a set of plugins (or extensions) for the Pro Cloud Server that enable data from external providers to be displayed within Enterprise Architect. This component is only available in the 'premium' editions of Sparx System Pro Cloud Server, ie Small Business, Team and Enterprise editions.

The Integration Plugins component is also known by name Server Based Plugin Interface (SBPI).

# Install and Configure

The Sparx Systems Pro Cloud Server product is installed using a standard Microsoft Windows Installer package that includes a number of optional components. One of these components is Integration Plugins, which is installed by default into the C:\Program Files (x86)\Sparx Systems\Cloud Services\SBPI\ folder (assuming a 64bit machine is being used).

## Requirements

In order to install a particular Integration Plugin you must have:

- A licensed Pro Cloud Server
- Physical network access to a server hosting the external data
- User credentials to access the external data
- Enterprise Architect Corporate, Unified or Ultimate edition v14 or later

## What is in the Package?

The Integration Plugins folder initially consists of a Integration Server executable (SBPI.exe), a separate executable (\*SBPI.exe) for each supported external product, a sample configuration file and a text file describing the manual installation and configuration steps.

Task	Script
Integraton (SBPI) Server	The SBPI.exe application acts as the interface between the Pro Cloud Server and each of the plugins by translating Enterprise Architect requests, forwarding them to the appropriate plugin and then returning the generated response to Enterprise Architect.
Application Lifecycle Manager Plugin	The ALMSbpi.exe plugin interacts with the MicroFocus Application Lifecycle Manager product (previously known as HP Quality Center).
Autodesk Plugin	The AutodeskSbpi.exe plugin interacts with AutoCAD's file and management component AutoDesk.
Bugzilla Plugin	The BugzillaSbpi.exe plugin interacts with the web based defect/bug tracking system that was originally developed and used by the Mozilla project and is now licensed under the Mozilla Public License agreement.
Confluence Plugin	The ConfluenceSbpi.exe plugin interacts with Atlassian's Team Collaboration Software.
Dropbox Plugin	The DropboxSbpi.exe plugin interacts with Dropbox's web based file hosting service.
EA plugin	The EASbpi.exe plugin interacts with external Sparx Systems's Enterprise Architect Cloud-based repositories.
Jazz Plugin	The JazzSbpi.exe plugin interacts with IBM Rational DOORS Next Generation's requirements management tool.
Jira Plugin	The JiraSbpi.exe plugin interacts with Atlassian's issue tracking system.



ServiceNow Plugin	The ServiceNowSbpi.exe plugin interacts with ServiceNow's asset management component of its Cloud-based enterprise management system.
SharePoint Plugin	The SharePointSbpi.exe plugin interacts with Microsoft's web-based collaborative platform, SharePoint.
Team Foundation Server (TFS) Plugin	The TFSSbpi.exe plugin interacts with Microsoft's source code management.
Wrike Plugin	The WrikeSbpi.exe plugin interacts with Wrike's project management system.

## How to Set Up

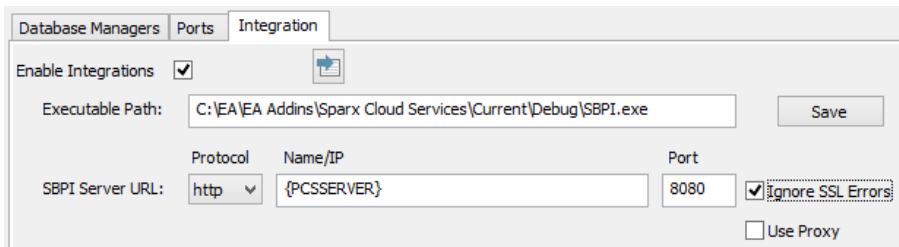
The Integration framework consists of an Integration server (SBPI.EXE) application that starts one or more plugins (such as DropboxSbpi.exe and JiraSbpi.exe). The Integration Server and each Integration plugin can be configured to run either on the same machine as the Pro Cloud Server or on completely different machines. In the simplest configuration the Integration server and all Integration Plugins are installed on a single server. There are two main advantages with this configuration:

1. The Pro Cloud Server will automatically start (and stop) all configured plugins whenever its Windows service is started (or stopped).
2. The Integration configuration GUI inbuilt into the Cloud Configuration client can be used to completely manage all aspects of the Integration configuration; see the *Steps - Simple* table.

However if you elect to run the Integration Server or Integration plugins on different machine(s) to the Pro Cloud Server, each of the individual plugins must be manually configured as well as configured to start as Windows services with the correct parameters. See the *Steps - Manual* table.

## Steps - Simple

The Integration configuration GUI included in the Cloud Configuration client removes most of the complexity involved in configuring the Integration Server and Data Provider(s), therefore this is the recommended method for most users. However this configuration method is restricted to running all Integration components (\*SBPI.exe) on the same server as the Pro Cloud Server.

Step	Description
Configuring Pro Cloud Server for Integration	<p>Each installation of Sparx Systems Pro Cloud Server can be configured to communicate with a single Integration Server; the configuration options of this definition are defined as a series of registry settings, however the 'Integration' tab in the Cloud Configuration Client allows the definition and maintenance of the Integration Server options without the need for you to manually manipulate the registry.</p> <p>This image shows the definition of an Integration Server with the default settings:</p>  <p>The screenshot shows the 'Integration' tab in the Cloud Configuration Client. It includes a 'Database Managers' tab, a 'Ports' tab, and an 'Integration' tab. The 'Integration' tab is active, showing a 'Save' button and a 'Enable Integrations' checkbox which is checked. Below this, the 'Executable Path' is set to 'C:\EA\EA Addins\Sparx Cloud Services\Current\Debug\SBPI.exe'. The 'SBPI Server URL' is set to 'http' with a dropdown menu, and the 'Name/IP' is set to '{PCSSERVER}'. The 'Port' is set to '8080'. There is a checkbox for 'Ignore SSL Errors' which is checked, and a checkbox for 'Use Proxy' which is unchecked.</p>

Configuring Integration Data Providers	Each Data Provider (or Plugin) is defined as both a series of registry entries in [HKEY_USERS\DEFAULT\Software\Sparx Systems\SQLBridge\SBPI\Plugins\{unique} and settings within a configuration file. Again the Integration tab in the Cloud Configuration Client allows the definition and maintenance of Integration Data Provider details without the need for the user to manually manipulate the registry and configuration files.
Configuring the Firewall	The Integration server (SBPI.exe) typically needs to be granted access through any local firewall so that Enterprise Architect clients can connect to it. The Pro Cloud Server installer will automatically create a Firewall exception that allows any incoming requests to be passed through to SBPI.exe; however, the default settings should be reviewed and adjusted to suit your environment.

## Steps - Manual

Important: these steps are only needed if the Integration components need to run on different machine(s) to the Pro Cloud Server, otherwise the *Steps - Simple* table should be used.

Step	Description
Configuring Pro Cloud Server for Integration	<p>Each installation of Sparx Systems Pro Cloud Server can be configured to communicate to a single Integration (or SBPI) server. These configuration options are defined as a series of registry settings.</p> <p>This is an example of all valid options for the Integration server:</p> <pre>[HKEY_USERS\DEFAULT\Software\Sparx Systems\SQLBridge\SBPI\Server] "Arguments"="-port 8080" "Port"=dword:00001f90 "Path"="C:\Program Files (x86)\Sparx Systems\Cloud Services\SBPI\SBPI.exe" "Protocol"="http" "Server"="yourdomain.com"</pre> <ul style="list-style-type: none"> <li>• <b>Arguments</b> - the arguments that are used to start the SBPI server, which include the port the server should listen to; for example, "-port 8080"</li> <li>• <b>Port</b> - a hexadecimal value, representing the port number that the SBPI server should be listening to, which value should match the value specified in the arguments; for example, dword:00001f90 (decimal 8080)</li> <li>• <b>Path</b> - the full path to the SBPI server's EXE; for example: "C:\Program Files (x86)\Sparx Systems\Cloud Services\SBPI\SBPI.exe" When SBPI.EXE and the Pro Cloud Server are running on the same machine, PCS will attempt to start the SBPI.exe in this location</li> <li>• <b>Protocol</b> - the protocol that should be used to communicate to the machine hosting the SBPI server; that is, http or https</li> <li>• <b>Server</b> - the name (or IP number) of the machine hosting the SPBI server (for example, yourdomain.com); it is important to realize that this address is forwarded to the client (Enterprise Architect) so that it can make direct requests, which means the name or IP must be resolvable from the client machines</li> </ul> <p><b>Note:</b> The SBPI server typically needs to be granted access through any local</p>

	<p>firewall so that clients can connect to it. The ProCloudServer installer will automatically create a Firewall exception that allows any incoming request to be passed through; however, the default settings should be reviewed and adjusted to suit your environment.</p>
Configuring External Data Sources	<p>Each External Data Source is defined as a series of registry entries in [HKEY_USERS\DEFAULT\Software\Sparx Systems\SQLBridge\SBPI\Plugins\{unique}], where {unique} is a unique UUID for the data source. This is an example of a complete External Data Source definition:</p> <pre>[HKEY_USERS\DEFAULT\Software\Sparx Systems\SQLBridge\SBPI\Plugins\{853489C1-4C22-4bad-9A8E-3098D07A3FC1}] "Arguments"="-port 8081 -config Jira1.config" "Name"="Sparx Systems Sample account" "Path"="C:\Program Files (x86)\Sparx Systems\Cloud Services\SBPI\JiraSbpi.exe" "Port"=dword:00001f91 "Prefix"="jira" "Protocol"="http" "Server"="127.0.0.1" "Type"="Jira"</pre> <p><b>Arguments</b> - the arguments that should be used to start the plugin, which include the port the plugin should listen to and the name of the configuration file; for example, "-port 8081 -config Jira1.config"</p> <p><b>Name</b> - a 'friendly' project name to describe the external data source, which is displayed to all Enterprise Architect users; for example 'Sparx Systems Sample account'</p> <p><b>Path</b> - the full path to the plugin's EXE; for example, C:\Program Files (x86)\Sparx Systems\Cloud Services\Service\JiraSbpi.exe</p> <p><b>Port</b> - a hexadecimal value representing the port number that the external data source expects to receive requests on, which value should match the value specified in the arguments; for example, dword:00001f91</p> <p><b>Prefix</b> - a short unique name that is meaningful to the users and prefixes each link stored within the Enterprise Architect model; for example, jira::10001 (where 10001 is the Jira object ID)</p> <p><b>Protocol</b> - the protocol that should be used to communicate to the machine hosting the plugin, such as http or https</p> <p><b>Server</b> - the name (or IP number) of the machine hosting the plugin (for example, yourdomain.com or 127.0.0.1); it is important to realize that this address is relative to the machine hosting the SBPI server, therefore the name or IP must be resolvable from the SBPI host machine</p> <p><b>Type</b> - a generic name to 'group' external data sources within Enterprise Architect</p> <p>Each External Data Source requires its own set of options to define the details of how the configured Plugin connects to the External Data Source. These settings are stored in a .CONFIG file that resides in the same location as the Plugin's .EXE file. For example, using the above definition a 'Jira1.config' would need to be created, and would contain information similar to this:</p> <pre>SERVER=example.com PROTOCOL=https PORT=443 BASEURL=myproject</pre>

	<p> <b>USERNAME=</b>  <b>PASSWORD=</b>  <b>CREATEITEMS=false</b>  <b>MODIFYITEMS=false</b>  <b>POSTDISCUSSIONS=true</b>  <b>PROXY=10.0.0.0:3128</b>  <b>PROXYBYPASS=&lt;local&gt;;10.*</b>  <b>IGNORESSLERRORS=true</b> </p> <p> <b>SERVER</b> - the name (or IP number) of the external data source's server, such as example.com  <b>PROTOCOL</b> - the communicate protocol, such as https  <b>PORT</b> - the port the external data source is configured to listen on, such as 443  <b>BASEURL</b> - when the external data source supports multiple 'projects', the BaseURL property identifies which should be used; for example, for Enterprise Architect SBPI the BaseURL is the DB Alias as defined in the PCS  <b>USERNAME</b> - optional - see Note1  <b>PASSWORD</b> - optional - see Note1  <b>CREATEITEMS</b> - defines if Enterprise Architect users can create items in the External Data Source - see Note2; default value: false  <b>MODIFYITEMS</b> - defines if Enterprise Architect users can modify existing items in the External Data Source - see Note2; default value: false  <b>POSTDISCUSSIONS</b> - defines if Enterprise Architect users can add Discussions to items within the External Data Source - see Note2; default value: true  <b>PROXY</b> - optional - the server name or IP number and port of the proxy server, such as 10.0.0.0:3128  <b>PROXYBYPASS</b> - optional - a semi colon separated list of IP numbers that should not be sent through the proxy; for example, &lt;local&gt;;10.*  <b>IGNORESSLERRORS</b> - optional - a boolean value to ignore any SSL certificate errors </p> <p> <b>Note1</b>          If the external server supports OAuth 2 authentication (Autodesk, Dropbox and Wrike), when accessing from within Enterprise Architect, a browser window will open and prompt you to log in to the external account and allow Enterprise Architect to access your account.          Enterprise Architect never sees your credentials in this process, instead it is provided with a unique token to access the external account.          If the external server allows basic authentication, then the username and password can be optionally set in the configuration file.          If the username and password are not specified in the configuration file, Enterprise Architect will prompt you for credentials to access the external data. </p> <p> <b>Note2</b>          Not all external products support the creation and modification of their objects, for example Dropbox. </p>
Configuring Models for External Data Sources	<p>             In order for users of an Enterprise Architect model to connect to a given External Data Source, a 'binding' between the Enterprise Architect model and the External Data Source must be configured. This is performed by a series of registry settings in </p>

	<p>[HKEY_USERS\DEFAULT\Software\Sparx Systems\SQLBridge\SBPI\Bindings\{unique}] for each model/external data source combination. In this string, {unique} is an 8 hexadecimal digit number uniquely identifying the binding. For example:</p> <p>[HKEY_USERS\DEFAULT\Software\Sparx Systems\SQLBridge\SBPI\Bindings\B6EE6851]</p> <p>"LocalModel"="eaexample"</p> <p>"Plugin"="{853489C1-4C22-4bad-9A8E-3098D07A3FC1}"</p> <p><b>LocalModel</b> - the DB Alias of the model, such as eaexample</p> <p><b>Plugin</b> - the UUID of the external data source; for example, {853489C1-4C22-4bad-9A8E-3098D07A3FC1}</p>
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## Special Notes

### Using SSL at the Integration Server or Provider Level

If you choose to implement the HTTPS protocol at either the Intergration Server or Integration Provider levels the Integration Executables (\*SBPI.EXE) will require a 'server.pem' file in the same folder as themselves, therefore if using the default installation path this would mean 'server.pem' should be placed into the C:\Program Files (x86)\Sparx Systems\Cloud Services\SBPI\ folder.

See sections *SSL Certificates* and *Self-Signed Certificate using OpenSSL* on the page [Add a Port Definition](#) for more information on how to create a valid 'server.pem' file.

### The Integration Plugin for Enterprise Architect requires

- the BaseURL is the model's DB Alias
- the defined model must be configured as 'Enabled' and 'Enable Pro Features (OSLC, WebEA and Integration)' in the Pro Cloud Server

## What data is returned by Integration Plugins

Each of the Integration plugins developed by Sparx Systems returns information based on a 'Filter' or position within the product's external data. Some products, such as Enterprise Architect, Jira and TFS, provide a mechanism to customize the data returned, whilst others simply return all information at a particular position within the data.

Note: For Enterprise Architect, Jira or TFS the filters must be configured prior to Enterprise Architect requesting that an Integration Plugin should connect to them.

Provider	Information returned
Application Lifecycle Manager	Information returned based on the internal list for Defects, Requirements and Tests.
AutoDesk	Information returned based on the contents of: Hubs   Projects   Folders
Bugzilla	Information returned based on the contents of: Product   Component   <all items in component>
Dropbox	Information returned based on the contents of: Folders

EA	Presents a list of 'External Model' searches as defined in the local model. see screen 'Find in Project'   External Models
Jazz	Information returned based on the contents of: (DoorsNG) - Folders
Jira	Presents a list of 'Favorite Filters'. See menu option Issues   Manage Filters
ServiceNow	Presents a list of user defined filters, grouped by the table they are based on.
Team Foundation Server	Presents a list of TFS global and 'My ...' queries
Wrike	Information returned based on the contents of: Accounts   Folders

## User Guide

The 'Integration Plugins' component of the Pro Cloud Server runs as a series of executables (.EXE) that do not have a graphical user interface (GUI) themselves; however, this User Guide describes the configuration editor screen(s) that are included in the Pro Cloud Server's Configuration Client that can be used to configure the Integration Plugins.

The main screen of the Configuration Client (installed as part of the Pro Cloud Server) includes an 'Integration' tab that is divided into two main sections. The top half defines the details of the Integration Server (or SBPI Server) with the lower half displaying the details of the various 'Data Providers'; each of these sections is described in greater detail in this topic.

Note 1: The 'Integration' tab of the Configuration Client is only available in the premium editions of the Pro Cloud Server; that is, the Small Business, Team and Enterprise editions

Note 2: Any changes to the Integration Server or Plugins (made either through the Configuration Client or manually) will require a restart of the Pro Cloud Server

### Integration Server

All requests for external data from Enterprise Architect are sent to the Integration Server (via the Pro Cloud Server), which decides which Data Provider (or SBPI Plugin) needs to action the request.

Note: the Integration Server settings are only mandatory, when the Enabled flag is checked. The combination of Protocol, Name and Port need to match the machine hosting the Integration Server (in this case the Pro Cloud Server) in order for Enterprise Architect clients to be able to communicate to it.

Item	Description
Enable Integrations	<p>Default value: Checked</p> <p>This checkbox enables (or disables) Integration Plugins for the current Pro Cloud Server installation.</p> <p>When this value is checked it implies that the other fields (Protocol, Name, Port and Path) are now mandatory and the Integration Server definition can not be saved without a value in each field.</p>
Load Defaults	<p>This button loads the default values for the Integration Server settings into any empty field.</p> <p>Note: if a field already has a value, then the 'Load Default' button will not change or update this existing value.</p>
Executable Path	<p>Default value: {PCS installation folder}\SBPI\SBPI.exe</p> <p>This value defines the complete path for the Integration Server's executable, and if defined, implies that the Pro Cloud Server should automatically start this application when it's own service starts up (assuming the Integration Server Enabled flag is checked).</p> <p>If the Pro Cloud Server is installed into the default location then this value should</p>

	be C:\Program Files (x86)\Sparx Systems\Cloud Services\SBPI\SBPI.exe.
Save	This button saves any pending changes to the Integration Server settings and is only enabled when there are unsaved changes.
Protocol	<p>Default value: HTTP</p> <p>When the 'Use Proxy' option is unchecked, this value defines both the Protocol the Integration Server will listen on and the Protocol Enterprise Architect client will use to communicate to the Integration Server.</p> <p>When the 'Use Proxy' option is checked, this value defines the Protocol that the Integration server will listen with.</p>
Name/IP	<p>Default value: {blank}</p> <p>This value defines the machine name or IP of the server hosting the Integration Server.</p> <p>When the 'Use Proxy' option is unchecked, this value defines both the machine name hosting the Integration Server and the machine name Enterprise Architect client will send their Integration related requests to. It is important to remember that this value is supplied to the Enterprise Architect clients so the Name/IP must be resolvable by them and not the current machine.</p> <p>When the 'Use Proxy' option is checked, this value defines the Server Name/IP of the machine hosting the Integration Server, the Proxy is responsible for converting the client Name/IP requested by Enterprise Architect to this value.</p>
Port	<p>Default value: 8080</p> <p>When the 'Use Proxy' option is unchecked, this value defines both the Port that the Integration Server will listen on and the Port Enterprise Architect clients will send requests to.</p> <p>When the 'Use Proxy' option is checked, this value defines the Port that the Integration server will listen on.</p>
Ignore SSL Errors	<p>Default value: unchecked</p> <p>This value defines if SSL related errors that occur while communicating to the Integration Server component should be ignored. The most common SSL errors are related to self signed certificates, by default a client does not treat self signed certificates as being secure, therefore in order to connect to server that use self signed certificates this option should be checked.</p>
Use Proxy	<p>Default value: unchecked</p> <p>This value defines if the Integration Server is operating behind a proxy and if Enterprise Architect clients are required to connect to one URL, but the Integration Server is physically listening for requests on a completely different URL. In most environments this option should be set to the default value of unchecked.</p> <p>This option was introduced in Pro Cloud Server 3.0.23, earlier versions were not capable of working in an environment that used a Proxy.</p>
Client Protocol	<p>Default value: {Protocol} - as set when the 'Use Proxy' option is checked</p> <p>This value is only available when the 'Use Proxy' option is checked and defines the Protocol that Enterprise Architect client will use to communicate to the Integration Server.</p>
Client Name/IP	<p>Default value: {Name/IP} - as set when the 'Use Proxy' option is checked</p> <p>This value is only available when the 'Use Proxy' option is checked and defines the</p>



	machine name or IP of the server clients should send Integration requests to. It is important to remember that this value is supplied to the Enterprise Architect clients so the Name/IP must be resolvable by them and not the current machine.
Client Port	<p>Default value: {Port} - as set when the 'Use Proxy' option is checked</p> <p>This value is only available when the 'Use Proxy' option is checked and defines the Port that Enterprise Architect clients will send requests for the Integration Server to, this implies that when the Integration Server starts, it will configure itself to start listening on the specified port.</p>

## Data Providers

A single Pro Cloud Server can support any number of external Data Providers, and in turn each of the external Data Providers can be available to as many models as are supported by the installations license. Please note only Pro-enabled repositories (or database managers) can access external data providers. A Pro-enabled database manager is one that has the 'Enable Pro Features (OSLC, WebEA and Integration)' option checked.

Defined Providers	<p>This list defines a summary of all defined external Data Providers.</p> <p>Double-clicking an existing item will display the 'Edit Data Providers' screen.</p>
Add...	<p>This button displays the "Add Data Provider" screen to allow the entry of a new external Data Provider. See <a href="#">Add/Edit Data Provider</a></p>
Edit...	<p>This button displays the Edit Data Provider screen to allow the modification an existing external Data Provider definition. See the <a href="#">Add/Edit Data Provider</a> Help topic.</p>
Remove	<p>This button permanently deletes the selected Data Provider and all of its Bindings.</p> <p>Note: this button is only enabled when there is a Data Provider selected.</p>
Bindings	<p>This control displays a check list of all Database Managers that are Pro enabled (that is, the 'Enable Pro Features (OSLC, WebEA and Integration)' option is selected). A checked Database Manager allocates the current Data Provider to the given repository.</p>
Check All	<p>This button is a quick and easy way to allocate all defined Pro enabled Database Managers to the currently selected Data Provider.</p>
Uncheck All	<p>This button is a quick and easy way to unallocate all defined Pro enabled Database Managers from the currently selected Data Provider.</p>

## Add/Edit Data Provider

The 'Add/Edit Data Provider' screen will be shown whenever you request to create a new Data Provider or edit an existing one. The screen's behavior will be identical in either mode, the one difference being that the details of the selected Data Provider will be displayed when the screen loads in Edit mode.

When you choose to add a new Data Provider, the screen will initially display as shown:

**Add Data Provider**

Data Provider:  
 Name: \*   
 Provider: \*  Prefix: \*

Integration Plugin  
 Protocol: \*  Server Name/IP: \*  Port: \*   
 Executable Path: \*   
 Config filename: \*  Ignore SSL Errors: ☐

Provider Server  
 Protocol: \*  Server Name/IP: \*  Port: \*   
 Base URL:  Link Base:   
 User Name:  Password:   
 Create Items: ☐ Modify Items: ☐ Post Discussions: ☒ Ignore SSL Errors: ☐

Logging  
 File Count:  Max File Size:  Level:   
 Directory:

Proxy  
 Server Name/IP:   
 Bypass:   
 User Name:  Password:

\* Denotes a value is required

OK Cancel

Wherever possible the 'Add/Edit Data Provider' screen will fill each field with a default value in order to make it easier for you; if the default values are not correct, simply overwrite them. To this end, whenever the 'Provider' value is changed, a number of other fields will be set to the default values for the new Provider, such as the Data Provider's Prefix, the Integration Plugins' Executable Path and config filename, as shown here when Enterprise Architect is selected:

**Add Data Provider**

Data Provider:

Name: \*

Provider: \* Enterprise Architect Prefix: \* ea

Integration Plugin

Protocol: \* http Server Name/IP: \* localhost Port: \* 8081

Executable Path: \* C:\Program Files (x86)\Sparx Systems\Cloud Services\SBPI\EASbpi.exe

Config filename: \* ea01.config Ignore SSL Errors: ☐

Provider Server

Protocol: \* http Server Name/IP: \* Port: \* 80

Base URL: Link Base:

User Name: Password:

Create Items: ☐ Modify Items: ☐ Post Discussions: ☒ Ignore SSL Errors: ☐

Logging

File Count: 3 Max File Size: 1048576 Level: WARNING

Directory: C:\Program Files (x86)\Sparx Systems\Cloud Services\SBPI\Logs\

Proxy

Server Name/IP: Bypass: User Name: Password:

\* Denotes a value is required

OK Cancel

Note: When defining a Data Provider there are a number of mandatory fields (denoted with a '\*') that require a value before a Data Provider can be saved.

## Data Provider settings

Item	Description
Name	This value represents the friendly name for the current Data Provider, it will be shown to users of Enterprise Architect.
Provider	This value specifies the Provider type of the current Data Provider; only supported values can be used. As mentioned, whenever this value is changed a number of other fields can be automatically updated to make data entry easier for the user.
Prefix	This value represents a short unique name to identify the current Data Provider. This value will be saved against every Enterprise Architect element that is linked to an external element.

## Integration Plugin settings

This group of settings related to the physical location of the Integration Plugin relative to the Integration Server, the combination of Protocol, Server Name and Port must be resolvable by the machine hosting the Integration Server, so that requests can be forwarded to it. In the simplest case the Integration Plugin will reside in the same folder as the Integration Server, ie C:\Program Files (x86)\Sparx Systems\Cloud Services\SBPI

Item	Description
Protocol	This value represents the protocol that the Integration Server should use to communicate to the Integration Plugin, in the simplest configuration this will be HTTP.
Server Name/IP	This value represents the Server Name or IP that the Integration Server should use to communicate to the Integration Plugin, in the simplest configuration this will be localhost (or 127.0.0.1).
Port	This value represents that the Integration Server should use to communicate to the Integration Plugin. Each Integration Plugin requires a unique Port number. The application automatically initializes this to 8081.
Executable Path	This value represents the physical path to the Integration Plugin executable file. If a value is specified the Integration Server will attempt to start this executable during its own startup routine.
Config filename	This value represents the physical filename of the configuration file for the current Integration Plugin, which must reside in the same folder as the Integration Plugin's executable.

## Provider Server settings

This group of settings relate to the details of the external data provider, ie Dropbox, Jira or TFS. The Integration Plugin will use the defined details to connect to the remote system and retrieve data from it so that it can be sent back to Enterprise Architect. The combination of Protocol, Server Name and Port must be resolvable by the server hosting the Integration Plugin, which in the simplest case is the Pro Cloud Server.

Item	Description
Protocol	This value represents the protocol that the Integration Plugin should use to communicate to the external Data Provider.
Server Name/IP	This value represents the Server Name/IP that the Integration Plugin should use to communicate to the external Data Provider.
Port	This value represents the port that the Integration Plugin should use to communicate to the external Data Provider.
Base URL	Some external Data Providers allow for the concept of multiple repositories at a single location, for such Data Providers this field acts as a filter. For example it is possible to use another Enterprise Architect model as an external data source, in the case of Enterprise Architect the Protocol, Server & Port determine the Pro Cloud Server, the Base URL is the DB Alias of the repository.
Link Base	Some external Data Providers allow for the concept of elements providing a direct external link to themselves, for such Data Providers this field acts as a base URL that the individual element's unique identifier can be appended to. In the case of an Enterprise Architect external Data Provider, the Link Base field defines the WebEA address (including the model number) for the external data provider. ie "http://192.168.0.10?m=2"

User Name	This value represents the user name that should be used (in combination with the password) to access the data within the external system. If a value is defined in this field all Enterprise Architect users of the current Data Provider will use the same set of credentials to read the external system. Otherwise if the user name field is left empty, Enterprise Architect will prompt each user independently for their credentials.
Password	This value represents the matching password for the specified user name.
Create Items	Default value: unchecked This checkbox controls if Enterprise Architect users are able to create new items within the external system.
Modify Items	Default value: unchecked This checkbox controls if Enterprise Architect users are able to modify the details of external items within the external system.
Post Discussions	Default value: checked This checkbox controls if Enterprise Architect users are able to create discussions against elements within the external system.
Ignore SSL Errors	Default value: unchecked This checkbox controls if the Integration Plugin should ignore SSL related errors that occur as a result of communicating to the external system.

## Logging settings

This group of settings relate to the how the Integration Plugin will create entries in it's log file(s). Since the Integration Plugins run without user intervention, it is important for them to be able to write to any messages or potential problems to a log file. However special consideration must be made to ensure that performance isn't impacted by writing to such files, which is possible if the log file continually grows without limits. It is also unreasonable to expect that manual intervention should be required to ensure that the size and number of log files don't impact performance. For these reasons each Integration Plugin has it's own set of log files and configuration options to manage its log files.

The current log file will always include a '1' on the end of its filename. A new log file will be created whenever the Integration Plugin is started or the physical size of the current log file reaches the Max File Size. When this occurs all existing files will be 'rolled over', meaning their file numbers will be incremented and a new '{filename} 1.log' created. If the roll over process causes more files to exist than the 'File Count' setting allows, these additional files will be deleted.

Item	Description
File Count	Default value: 3 This value represents the 'rolling' number of log files that should be retained for the current Integration Plugin.
Max File Size	Default value: 1048576 This value represents the maximum number of bytes a log file can be before a new one is created.
Level	Default value: WARNING

	This value represents what maximum level of messages that should be written to the log file. The levels are: OFF, FATAL, WARNING, INFO and SYSTEM. A defined log level is inclusive of all lower levels, therefore if a Plugin is set to a log level of INFO then all FATAL, WARNING and INFO messages will be written to its log file.
Directory	(READ-ONLY) This field displays the physically location of where the log files for the current Data Provider will be saved.

## Proxy settings

This group of settings relate to how the Integration Plugin should communications to the External Data Provider when they are separated by a Proxy Server.

Item	Description
Server Name/IP	The server name (or IP) and port number of the Proxy Server. ie proxyserver.com:3131
Bypass	This field provides a mechanism for certain addresses to bypass the proxy; it accepts multiple values separated by semi-colons (;). For example, 192.168.*;*.localdomain.com;www.mydomain.com
User Name	If the Proxy Serer requires credentials, then enter the user name into this field.
Password	If the Proxy Serer requires credentials, then enter the password into this field.

# Troubleshooting

## Integration Server messages

There are a number of error messages that could display during the definition of the Integration Server settings; most are self explanatory. This table describes the most common error messages.

Error Message
<p>"Please enter a value for [field_names]. The Integration Server can only be saved (while enabled) when all mandantory fields have a value."</p> <p>Reason: When the Enabled flag is checked, all remaining Integration Server fields are mandatory. This message occurs when one or more Integration Server fields are empty and the Enabled flag has been checked. [field_names] represents a placeholder for a comma separated list of field names that are empty.</p>
<p>"The executable name of SBPI.EXE was expected."</p> <p>Reason: The 'Executable Path' field has a value but it does not include the filename "...\\SBPI.exe", which is the only valid filename that can be used.</p>
<p>"The specified Integration Server path of [full_path] does not exist or is invalid"</p> <p>Reason: The 'Executable Path' field has a value but the path portion of the specified value is not valid or does not exist on the Pro Cloud Server machine.</p>
<p>"The specified Port is a duplicate of [duplicate_plugin_name]"</p> <p>Reason: The 'Port' field has been assigned a Port number, however it is a duplicate of a port being used by the Integration Data Provider with the name [duplicate_plugin_name].</p>

## Integration Data Provider messages

There are a numerous error messages that could display during the definition of a Integration Data Provider; most are self explanatory. This table describes the most common error messages.

Error Message
<p>"Please enter a value for [field_names]. An Integration Provider cannot be saved without all mandatory fields being assigned a value."</p> <p>Reason: To minimize the chance of defining an invalid Data Provider the application ensures that all mandatory fields are given a value. [field_names] represents a placeholder for a comma separated list of field names that are empty.</p>
<p>"The specified execution path for the provider does not exist or is invalid, [full_path]"</p> <p>Reason: The 'Execution Path' for the data provider has been assigned a value, however either the path, filename or</p>

both cannot be found on the local machine.
<p>"Ports needs to be unique across all Providers, the port value of [new_port] has already been used by [other_provider]"</p> <p>Reason: A Port number has be defined for the current Data Provider, however the value is a duplicate of another provider's port.</p>
<p>"The specified Port is a duplicate of the Integration Server"</p> <p>Reason: A Port number has be defined for the current Data Provider, however the value is a duplicate of port used by the Integration Server.</p>
<p>"Failed to rename config file [old_filename] to [new_filename]"</p> <p>Reason: When the user changes the config filename of an existing Data Provider the Cloud Server must rename the old filename to the new one. This message will be shown if the rename task is not successful, (which can occur if the file is in use by another process) and this case manual intervention is the only way to resolve this issue.</p>
<p>"Prefixes needs to be unique across all Providers, the prefix value of [new_prefix] has already been used by [other_provider]"</p> <p>Reason: A Prefix has be defined for the current Data Provider, however the value is a duplicate of prefix used by another provider.</p>
<p>"Config filenames needs to be unique across all Providers, the config filename of [new_filename] has already been used by [other_provider]"</p> <p>Reason: A Config filename has be defined for the current Data Provider, however the value is a duplicate of config filename used by another provider.</p>

## General Troubleshooting

This table provides general advice to help identify and resolve common issues with the Integration component of the Pro Cloud Server.

Error Message
<p>Problem: After making changes to the Integration definitions of the Server or Data Providers, the Enterprise Architect users do not notice any differences.</p> <p>Reason: After changing the Integration configuration was the Pro Cloud Server restarted? If not restart the Pro Cloud Server.</p>
<p>Problem: A newly configured Integration Data Provider is not listed in the navigation breadcrumb of Enterprise Architect (after the Pro Cloud Server has been restarted).</p> <p>Reason: Confirm that the currently open Model has a Binding entry for the Data Provider. See the Bindings item in <a href="#">User Guide</a> topic for details.</p>



Problem: Selecting items within the Integration navigation breadcrumb of Enterprise Architect seem to have no effect.

Reason: It is possible that errors (or warnings) are occurring which are logged to the System Output Window, therefore make sure the System Output Window is shown while using the Integration window.

Problem: General errors seem to be occurring however no useful information is shown in the System Output Window.

Resolution: Each Integration Data Provider has the capability to write detailed entries to a log file, to ensure that the most detailed information is written, change the log level for the Data Provider to SYSTEM (restart the Pro Cloud Server) and then retry the same action in Enterprise Architect. Then review the Data Provider's log file, ie in C:\Program Files (x86)\Sparx Systems\Cloud Services\SBPI\Logs on the Pro Cloud Server.

## Visibility Levels

The 'Visibility Levels' feature within Enterprise Architect provides the ability to restrict access to certain sections of a model. Only models hosted by a Pro Cloud Server are able to make use of this feature. Visibility Levels are implemented by taking advantage of the Row Level Security feature included in Oracle 8+ and Microsoft SQL Server 2016 (onwards).

Row Level Security is a security feature that controls which database users can access which rows of data in a database. Traditional database security only provides the ability to control which users have access to read, write or delete data down to the table level. Since Row Level Security functionality is implemented by the database, it is impossible for users to bypass security implemented at the application level, by writing their own scripts or databases queries. That is, the database ensures that users can only view and update data they are authorized to access.

Since Row Level Security is functionality implemented by the database, most of the configuration for Enterprise Architect and the Pro Cloud Server to support it is performed directly in the database without needing to change the application code base, which means there is less to go wrong from an application point of view.

### Database / Application Users

It is important to understand the distinction between database and application users. The introduction mentions that visibility levels are based on Database User permissions. In the Sparx System Cloud Server environment, each Database Manager is defined with all of its connection details (including the user and password) to a given database. It is the database user, the user identified in the connection details, that visibility levels are based on.

This concept is not to be confused with Enterprise Architect model users; that is, the user ID/password that is entered when accessing a security enabled model. This is an application user.

Note: Enterprise Architect's model security is not mandatory, whereas all DBMSs require a database user to be defined in order to access data within the database.

### How it works

In addition to their normal permissions, database users are granted access to one or more visibility levels. A new column, VIS\_LVL (Visibility Level), is added to 24 critical tables within the Enterprise Architect database. This field stores the visibility level that is needed to view/update this record.

For each of the 24 tables a security policy is defined that ensures each database user only sees records that their assigned visibility level is authorized to view.

Database triggers are then used to maintain the value of the VIS\_LVL columns in all tables for all child objects and elements. For example, setting the visibility level of a Package in Enterprise Architect's Project Browser will update the selected Package and all of its children to the entered visibility level.

Note: The base scripts supplied by Sparx Systems support 20 'levels' of security (that is, 1 to 20); however this can easily be adjusted by manually changing the number of rows that are inserted into the T\_VISIBILITYLEVELS table at the beginning of the script. Level 0 is a special case, representing the default value; it implies that all database users (even those without an assigned visibility level) can view or update records of this level.

### The Drawback

As with most things, the Visibility Levels functionality comes at a cost when compared to the same model without Visibility Levels enabled. Both SQL Server's and Oracle's Row Level Security functional imposes extra processing on the database server that needs to be performed whenever data is selected, this extra processing takes time, how much time depends on the type and amount of data being selected, so it is very hard to estimate. Sparx System's implementation of Visibility Levels has attempted to design its solution in the most efficient way possible however it is unavoidable that models with Visibility Levels will perform slower than models without.



# Install and Configure

The Sparx Systems Pro Cloud Server product is installed using a standard Microsoft Windows Installer package that includes a number of optional components. One of these components is Visibility Levels, which is installed by default into the C:\Program Files (x86)\Sparx Systems\Cloud Services\RLS\ folder (assuming a 64bit machine is being used). If necessary, you can change the install location of the Visibility Levels files.

## Requirements

In order to use Visibility Levels you must have:

- A licensed Pro Cloud Server
- An Oracle 8+ or SQL Server 2016+ based Enterprise Architect model/repository that uses the EA1220 schema definition
- An SQL based management console tool that supports the execution of SQL scripts
- Enterprise Architect build 14.0 or later
- Enterprise Architect Ultimate Edition for assignment of Visibility Level on a Package

## What is in the Package?

The Visibility Levels folder consists of a number of SQL script files that will either apply or remove the required database changes to an Enterprise Architect model so that it can support the DBMS's native Row Level Security feature.

The implementation of Row Level Security in Oracle is completely different to the implementation in SQL Server. While the end result behaves the same way, the physical objects that are needed by each DBMS are sufficiently different for each to need its own creation script.

Task	Script
Apply Visibility Level changes to Oracle model	<u>EASchema_VL_Updates_Oracle_1220.sql</u> - Oracle SQL script that will update an existing Enterprise Architect Oracle based repository so that it supports Visibility Levels, by creating a set of functions, procedures, policies, triggers and columns.
Apply Visibility Level changes to SQL Server model	<u>EASchema_VL_Updates_SQLServer_1220.sql</u> - SQLServer specific SQL script that will update an existing Enterprise Architect MS SQL Server based repository so that it supports Visibility Levels, by creating a set of functions, procedures, policies, triggers, roles and columns.
Remove Visibility Level changes from Oracle model	<u>EASchema_VL_Removal_Oracle_1220.sql</u> - Oracle SQL script that will remove the functions, procedures, policies, triggers, roles and additional columns that were added to support Enterprise Architect's Visibility Levels. Note: All basic Enterprise Architect modeling data will remain unchanged by the removal script.
Remove Visibility Level changes from SQL Server model	<u>EASchema_VL_Removal_SQLServer_1220.sql</u> - SQLServer SQL script that will remove the functions, policies, triggers, roles and additional columns that were added to support Enterprise Architect's Visibility Levels. Note: All basic Enterprise Architect modeling data will remain unchanged by the removal script.

## How to execute

In order for an Enterprise Architect model to support Visibility Levels, the appropriate update script must be executed on that model's database. The script is standard SQL, so any tool can be used; however, you must connect using an ID with owner privileges because updates will be made to the physical schema.

### Script Execution for Oracle

1. Identify the Enterprise Architect model database to which to apply Visibility Levels.
2. Ask all users to log out of the model.
3. (Optional step) Physically stop any further user access to the database; for example, disconnect the server from the network.
4. Perform a complete backup of the database.
5. Open your SQL console of choice and connect to the database as the owner.
6. Load the Oracle script ('EASchema\_RLS\_Updates\_Oracle\_1220.sql') into the console.
7. Review the comments at the top of the script, in particular the section that outlines the tasks that need to occur before running the script.
8. Make the needed adjustments to the script for your environment/preferences.
9. Execute the script.
10. Follow the set of instructions documented at the top of the script in the 'Do the following AFTER running this script' section
11. Perform a second complete backup of the database, as a restore point.
12. Define the Database Managers in the Pro Cloud Server (refer to the *Defining Visibility Level Aware Database Managers* table in the *Visibility Levels User Guide*).
13. (Optional step) If Step 3 was performed, re-enable regular user access to the database.
14. Open Enterprise Architect Ultimate edition, connect to the Pro Cloud model with the highest Visibility Level (as defined in step 12) and set the Visibility Level on all Packages to their required values.

### Script Execution for MS SQL Server

1. Identify the Enterprise Architect model database to which to apply Visibility Levels.
2. Ask all users to log out of the model.
3. (Optional step) Physically stop any further user access to the database; for example, disconnect the server from the network.
4. Perform a complete backup of the database.
5. Open your SQL console of choice and connect to the database as the owner.
6. Load the SQL script ('EASchema\_RLS\_Updates\_SQLServer\_1220.sql').
7. Review the comments at the top of the script, in particular the section that outlines the tasks that need to occur before running the script.
8. Make the needed adjustments to the script for your environment/preferences.
9. Execute the script.
10. Follow the set of instructions documented at the top of the script in the 'Do the following AFTER running this script' section
11. Perform a second complete backup of the database, as a restore point.

12. Define the Database Managers in the Pro Cloud Server (refer to the *Defining Visibility aware Database Managers* table in the *Visibility Levels User Guide*).
13. (Optional step) If Step 3 was performed, re-enable regular user access to the database.
14. Open Enterprise Architect Ultimate edition, connect to the Pro Cloud model with highest Visibility Level (as defined in step 12) and set the Visibility Level on all Packages to their required values.

## User Guide

The functionality of the Visibility Levels feature is primarily restricted to System Administrators, in order to set up and configure models to limit access to certain Packages in a model. Generally, users will not be aware of Visibility Levels; they simply will not see certain Packages in the model.

### Defining Visibility Level Aware Database Managers

For the most part, defining Database Managers in the Professional ('Pro Cloud') version of Sparx Systems Cloud Service Configuration Client is the same process as for the regular version. These are the exceptions:

DBMS	Discussion
Oracle	<p>All Oracle connections require a 'DefaultSchema={schema_name};' option manually added to the connection string, where {schema_name} is the physical name of the schema that owns the Enterprise Architect tables. For example:</p> <p>Provider=OraOLEDB.Oracle.1;Password=pass;Persist Security Info=True;User ID=user1;Data Source=ORA_SN;DefaultSchema=owner_user;</p> <p>In a typical Oracle connection to an Enterprise Architect model the 'User ID' option is both the owner of the tables and the user credentials that are being used to access the data. However, in a model using the Visibility Levels feature, these options are different, so the 'DefaultSchema' option has been added to define the table owner.</p>
Microsoft SQL Server	<p>All SQL Server connections require an 'Alias' field value that uniquely identifies the database manager on the current server. The 'Alias' value is the name by which Enterprise Architect users know the model.</p> <p>In previous versions of the Cloud Service, the database manager alias for SQL Server-based connections was automatically determined by the database name, which meant that each SQL Server database could only ever have one database manager defined in the Cloud Service. Now with the use of the 'Alias' field a single database can have an unlimited number of database managers defined.</p>

### Enabling the Extended OLSC Interface on a Database Manager

In order for the Pro Cloud Server to allow the use of Visibility Levels in a model the 'Enable Pro Features (OSLC, WebEA and Integration)' option must be selected. This is achieved by opening the Sparx Systems Cloud Services Configuration Client application (SSProCloudClient.exe) connecting to the appropriate server. You then select the database manager in the list and click on the Configure button. On the resulting Configure Database Manager screen select the 'Enable Pro Features (OSLC, WebEA and Integration)' checkbox.

### Visibility Level Administration

When the Ultimate edition of Enterprise Architect is used to connect to a model that has Visibility Levels configured, there is an additional menu item, 'Set Visibility Level...' available under the 'Package Control' context menu of each Package object in the Project Browser.

If your model has security enabled, then all application users that require access to the 'Set Visibility Level...' menu item will need to be allocated the 'Visibility Level Admin' or 'Administer Database' security permission, using standard Enterprise Architect permission assignment.

## Set a Package's Visibility Level

From within the Ultimate edition of Enterprise Architect, the Visibility Level of a Package can be set using the Project Browser context menu item 'Package Control | Set Visibility Level...!.

This menu item will only be available in models that have been set up for Visibility Levels, are being accessed via a Pro Cloud server connection and the user has a Ultimate License.

Once a Visibility Level has been set on a Package, that Package and all of its children can be viewed, accessed and updated only by users with the corresponding access level.

To remove a visibility level from a Package (and all its children), simply set the Visibility Level back to unrestricted.

## Visibility Levels users can apply

Users can only set the Visibility Levels on Packages to levels the current database user has access to. For example, an Enterprise Architect client connected to a Cloud connection that uses a database user that has been assigned levels 3 & 4 can update the Visibility Level of any Package to the levels unrestricted, 3 or 4.



# Troubleshooting

## 'Set Visibility Level' menu is not available

The 'Set Visibility Level' menu item can be hidden from users for a number of reasons:

- You are not connecting to the model via a Cloud connection
- You are not using Enterprise Architect release 14 (or above)
- You are not using the Ultimate edition of Enterprise Architect
- The Cloud Server you are connected to has an expired license and is now operating as the free edition
- The model you are connecting to is NOT Oracle or MS SQL Server based
- The model in the Cloud Server you are connecting to is not configured with the 'Enable Pro Features (OSLC, WebEA and Integration)' option
- The model you are connecting to has not been configured/adjusted for Visibility Levels (that is, the update script has not been run against the database)
- The currently logged on application user has not been granted access to the 'Visibility Level Admin' Enterprise Architect security permission.

## Additional Functionality Using the Cloud

The Cloud Services provides the facility of connecting to models over a secure http connections (HTTPS). It also makes it possible to use these additional facilities on or within your models:

- Open Services for Lifecycle Collaboration (OSLC)
- Reusable Asset Service (RAS)
- Scheduled Tasks

### OSLC

OSLC is an initiative to provide easier integration between Requirement Management tools. It uses HTTP to list, add, modify and delete requirements. The service provider definition to direct any OSLC client to is:

*<protocol>://<server>:<port>/<model\_name>/oslc/sp/*

For example, if you were connecting to a server running on your own machine using the default settings, the connection would be:

*http://localhost:804/model/oslc/sp/*

### OSLC v2

With the release the Pro Cloud Server a second OSLC interface was introduced which provides external tools access to a much greater range of Enterprise Architect information. This new version is referred to as OSLC Architecture Management. The base URL for OSLC v2 is :

*<protocol>://<server>:<port>/<model\_name>/oslc/am/*

For example, if you were connecting to a server running on your own machine using the default settings, the connection would be:

*http://localhost:804/model/oslc/am/*

### Reusable Asset Service (RAS)

The RAS portion of the Cloud Server helps you to define Packages that can be used in any model. When a Package is requested, Enterprise Architect and the Cloud Server will track cross-Package dependencies and make available everything required by that Package.

### Scheduled Tasks

The Cloud Server includes optional support for running time-based updates to data. Currently, this is applied to updating a Time Series chart automatically to provide a dynamic view of how a model is changing over time. You can set different time scales for these updates, such as daily, weekly or monthly.

### Notes

- This facility is available through the Corporate, Unified or Ultimate editions



# Cloud Server Troubleshooting

## Browser Test

For a simple check that the Cloud Service is operating on the specified Ports defined in the configuration file, you can enter this address into a web browser:

`<protocol>://<machineName>:<port>`

For example, on the Cloud Server:

`http://localhost:804/`

Or

`https://sparxcloud.com`

If the port is enabled this message is returned:

*Sparx Systems Cloud Server*

*Congratulations, your server is now ready to host your models. Connect through the configuration client to add or remove models.*

If this message is not displayed, confirm the server and port name, check for other services listening on the specified port and check the server log file for error messages.

## Errors shown in Enterprise Architect System Output

Error Message	Meaning
HTTP Status 401 Access Denied	Indicates a failure to authenticate with the server. With the built-in web server, this error will occur if an invalid username or password was provided, or no username or password were provided.
HTTP Status 403	Indicates an attempt to access a model that is marked on the server as 'Require authenticated and secure connection'. This might indicate that you are connecting using an <i>http</i> protocol instead of <i>https</i> , or that the port you are using is not providing authentication to the model you are connecting to. Check that you are using <i>https</i> . Check with the system administrator that the security authentication option is pointing to a model with security enabled.
HTTP Status 500 Unable to connect to service	The connection is not being accepted. <ul style="list-style-type: none"> <li>• Check the server name</li> <li>• Check the firewall settings on the client and server</li> <li>• Check the ports the server is listening on</li> </ul>
The database manager for this database was shut down	Enterprise Architect established a connection to a Cloud Service, and requested to connect to a known repository, but the repository is currently disabled. Ask your system administrator to check the 'Enabled' option for the database in question.
There is no database	Enterprise Architect established a connection to a Cloud Service, but the model

manager configured for the requested repository	<p>name requested does not match any defined database on the server.</p> <p>When accessing the model via Cloud Connection, ensure that the Model Name which is entered matches the Alias which is shown in the Cloud Configuration Client.</p>
Unable to connect to Database	<p>Enterprise Architect established a connection to a Cloud Service and requested to connect to a known repository; however, when the server attempted to open a connection to the database using the supplied details, it failed.</p> <p>Note: Whenever this error occurs, a Warning-level message that contains more detailed information will be written to the Cloud Server logs.</p> <p>If the repository is:</p> <ul style="list-style-type: none"> <li>• Using ODBC, ask your System Administrator to check that an ODBC connection is defined as a System DSN (and not a User DSN) on the server, that all connection parameters are correct, and that the database username and password have been saved into the ODBC DSN or the connection string</li> <li>• Oracle, ask your System Administrator to verify that the user name and password were saved with the connection string and that all other options in the connection are correct</li> <li>• SQL Server connecting via OLE DB and Windows authentication, ask your System Administrator to verify that the user name the Cloud Service is running under has been granted permission to the SQL Server database (at a minimum it will need the roles db_datareader and db_datawriter) and that all other options in the connection are correct</li> <li>• SQL Server connecting via OLE DB and SQLServer authentication, ask your System Administrator to verify that the defined user name has been granted permission to the SQL Server database (at a minimum it will need the roles db_datareader and db_datawriter), that the option to save the password with the connection string was enabled, and that all other options in the connection are correct</li> </ul>
After Reinstall Enterprise Architect no longer works	<p>Your environment was working correctly, then you updated to the latest version of the Cloud Server and now Enterprise Architect clients are not able to connect to your Cloud models.</p> <p>During the reinstall process the Cloud Server installer actually uninstalls the original version and then installs the new one. As a result of this the Firewall exception that is automatically added by the installer is removed and re-created. The problem with this is if someone manually adjusted the Firewall exception (after the original install) any manually changes are lost when the installer re-creates the Firewall exception. One method of stopping this from occurring in the future is to create a completely new firewall exception (with a different name) that is a copy of the one created by the installer, and make any manual changes to that exception.</p>

## Reading Server Logs

As mentioned earlier the Sparx Systems Cloud Service is a Windows Services application and as such it needs to conform to some basic rules. When it comes to troubleshooting the most important rule for Services is that they can be run independently of user input/interaction and as such do not contain screens/GUI of any kind. For this reason the Sparx Systems Cloud Service writes any potential message to Log files.

The Cloud Service configuration file contains a number of settings that control where, how many and how large log files can be. By default the Cloud Service will save all log files to a \Logs\ folder under \Services\ (C:\Program Files (x86)\Sparx Systems\Cloud Services\Service\Logs), and it will keep up to 3 files. A new file will be created whenever

the Cloud Service is started or whenever the maximum file size is reached. Filename 'SparxCloudServicesLog-1.log' will always be the most recent log file and each time a new file is created the older ones are renamed by increasing the number. ie SparxCloudServicesLog-2.log is renamed to SparxCloudServicesLog-3.log.

The configuration file also contains a setting that controls the level of logging that is performed, see the logging related options in '[Extended Server Properties](#)' for more details. When troubleshooting, it is recommended that the Cloud Services LOG\_LEVEL property be set to the highest level, SYSTEM.

```

SparxCloudServicesLog-1.log - Notepad
File Edit Format View Help
2014-04-04 09:37:44 [INFO] #####
2014-04-04 09:37:44 [INFO] # Sparx Systems Cloud Services
2014-04-04 09:37:44 [INFO] #
2014-04-04 09:37:44 [INFO] # Protocol Version: 5.0
2014-04-04 09:37:44 [INFO] # Start Time: 2014-04-04 09:37:44
2014-04-04 09:37:44 [INFO] # Operating System: Windows 6.01 Service Pack 1
2014-04-04 09:37:44 [INFO] #
2014-04-04 09:37:44 [INFO] # Service Path: C:\Program Files (x86)\Sparx Systems\Cloud Services\Service #
2014-04-04 09:37:44 [INFO] # Logging dir: C:\Program Files (x86)\Sparx Systems\Cloud Services\Service\Logs #
2014-04-04 09:37:44 [INFO] # Temp dir: C:\Program Files (x86)\Sparx Systems\Cloud Services\Service\Temp #
2014-04-04 09:37:44 [INFO] #####
2014-04-04 09:37:44 [INFO] ** Starting up!
2014-04-04 09:37:44 [SYSTEM] SUCCESS Added database manager firebird:anonymous@myfirebird
2014-04-04 09:37:44 [SYSTEM] SUCCESS Started database manager firebird:anonymous@myfirebird.
2014-04-04 09:37:44 [SYSTEM] SUCCESS Added database manager firebird:anonymous@myfirebird.
2014-04-04 09:37:44 [SYSTEM] SUCCESS Added database manager firebird:anonymous@newmodel
2014-04-04 09:37:44 [SYSTEM] SUCCESS Started database manager firebird:anonymous@newmodel.
2014-04-04 09:37:44 [SYSTEM] SUCCESS Added database manager msdsql.1:anonymous@regression test
2014-04-04 09:37:44 [SYSTEM] SUCCESS Management thread started
2014-04-04 09:37:44 [SYSTEM] SUCCESS Bound and listening on port 803
2014-04-04 09:37:44 [SYSTEM] SUCCESS Socket acceptor thread started
2014-04-04 09:37:44 [INFO] ** Now listening for connections
2014-04-04 09:37:44 [WARNING] Unable to create secure server on port 805. Keyfile not found at C:\Program Files (x86)\Sparx Systems\Cloud Services\Service\server.pem
2014-04-04 09:37:44 [SYSTEM] SUCCESS Bound and listening on port 804
2014-04-04 10:51:10 [INFO] [AUDIT] Start, Period: 2014-04-04 10:51:10 to 2014-04-04 10:51:10 (0d, 1h 13m 26s)
2014-04-04 10:51:10 [INFO] [AUDIT] firebird:anonymous@myfirebird Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 10:51:10 [INFO] [AUDIT] firebird:anonymous@myfirebird Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 10:51:10 [INFO] [AUDIT] firebird:anonymous@newmodel Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 10:51:10 [INFO] [AUDIT] msdsql.1:anonymous@regression test Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 10:51:10 [INFO] [AUDIT] End.
2014-04-04 12:01:14 [INFO] [AUDIT] Start, Period: 2014-04-04 12:01:14 to 2014-04-04 12:01:14 (0d, 1h 10m 4s)
2014-04-04 12:01:14 [INFO] [AUDIT] firebird:anonymous@myfirebird Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 12:01:14 [INFO] [AUDIT] firebird:anonymous@myfirebird Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 12:01:14 [INFO] [AUDIT] firebird:anonymous@newmodel Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 12:01:14 [INFO] [AUDIT] msdsql.1:anonymous@regression test Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 12:01:14 [INFO] [AUDIT] End.
2014-04-04 13:01:15 [INFO] [AUDIT] Start, Period: 2014-04-04 13:01:15 to 2014-04-04 13:01:15 (0d, 1h 0m 1s)
2014-04-04 13:01:15 [INFO] [AUDIT] firebird:anonymous@myfirebird Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 13:01:15 [INFO] [AUDIT] firebird:anonymous@myfirebird Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 13:01:15 [INFO] [AUDIT] firebird:anonymous@newmodel Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 13:01:15 [INFO] [AUDIT] msdsql.1:anonymous@regression test Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 13:01:15 [INFO] [AUDIT] End.
2014-04-04 14:05:56 [INFO] [AUDIT] Start, Period: 2014-04-04 14:05:56 to 2014-04-04 14:05:56 (0d, 1h 4m 41s)
2014-04-04 14:05:56 [INFO] [AUDIT] firebird:anonymous@myfirebird Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 14:05:56 [INFO] [AUDIT] firebird:anonymous@myfirebird Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 14:05:56 [INFO] [AUDIT] firebird:anonymous@newmodel Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 14:05:56 [INFO] [AUDIT] msdsql.1:anonymous@regression test Free: 0 Max Active: 0 Acquisitions: 0
2014-04-04 14:05:56 [INFO] [AUDIT] End.

```

Each log entry will consist of the Time, Log Level and Message, if an error occurs the Message will normally contain a description of the problem and from this the appropriate action can be undertaken.

Log Message	Explanation
Log File Header	Each time new Log file is created the Cloud Service will write out a summary of the main settings, this information is particular useful if you are requesting support from Sparx Systems.
Started database managers	<p>When a Cloud Service is initially started, and the Log Level is set to INFO (or lower) it will log out a summary of each configured model which includes the connection string of the model.</p> <p><i>[INFO]: Added database manager - ConnectionStr: 'eaexample --- Connect=Provider=MSDASQL.1;...</i></p> <p>If the Log level is lower than INFO, additional log entries will be written for each model, for example:</p> <p><i>[SYSTEM]: SUCCESS Started database manager firebird:anonymous@eaexample</i></p>
House keeping	<p>The Cloud Service performs regular 'house keeping' tasks, the frequency of which is controlled by the AUDIT_TIME_PERIOD setting in the Cloud Service configuration file.</p> <p>When the log level is set to INFO, each time house keeping is performed the Cloud Service will log out a summary of connections for each defined database manager and report how many are currently available, the maximum number used concurrent and total number of uses since the last audit.</p> <p><i>[AUDIT] firebird:anonymous@eaexample   Free: 0   Max Active: 3   Acquisitions: 192  </i></p>

	Normally these entries can be ignored as they are purely reference information only.
Open port list	<p>When a Cloud Server is initially started, and the Log Level is set to SYSTEM, it will log out a success message for each configured port, which includes the management port (803) and any http/https ports, you should see a line such as:</p> <p><i>[SYSTEM] SUCCESS Bound and listening on port 804.</i></p> <p>If the log file is missing any lines, or if the message doesn't read 'SUCCESS' this might indicate a problem with the server port.</p> <p>A common error here is:</p> <p><i>Unable to create secure server on port 443.</i></p> <p>Possible causes of this are:</p> <ul style="list-style-type: none"> <li>• Certificate/Private Key file not found at C:\Program Files (x86)\Sparx Systems\Cloud Services\Service\server.pem</li> <li>• The server.pem file does not contain a valid certificate and private key</li> <li>• Certificate Authority file not found or invalid at C:\Program Files (x86)\Sparx Systems\Cloud Services\Service\cacert.pem</li> </ul>
Unable to connect to database	<p>During operation, the server will write to the log file any failed attempts to open a model. This will generally not occur until a user attempts to connect to the database. Errors that can occur here are:</p> <p><i>REQUEST_CONNECT FAIL. Error (5): Unable to connect to database</i></p> <p>This means that the server attempted to open a connect but it failed. If you see this message, review the list of potential reasons outlined in the <i>Errors shown in Enterprise Architect System Output</i> table.</p>

