



Enterprise Architect

User Guide Series

Integrate Data from External Providers

Sparx Systems' Pro Cloud Server provides the facility to browse an external provider such as Jira, SharePoint or TFS based on a provider query, and view and retrieve lists of objects to integrate into an Enterprise Architect Cloud model client.

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Date: 2020-01-20

Version: 4.1

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Integrate Data from External Providers

The Pro Cloud Server helps you to integrate the data from external providers into an Enterprise Architect model. Enterprise Architect is a team player and through its powerful server-based integration capability allows models to be created relating elements from a wide range of disparate tools that contain items from strategy and requirements down to implementation, work packages and configuration items. Enterprise Architect does not manage the master-record for these items but rather acts as an accumulator, bringing content into a single repository and allowing the items to be related. A variety of third-party providers can be connected to, including:

-  Application Lifecycle Management (formerly HP Quality Center)
-  Jazz (interacts with:
 - IBM Rational DOORS Next Generation's requirements management tool
 - Rational Rhapsody Design Management (DM)
 - Rational Team Concert Change and Configuration Management (CCM)
 - Rational Quality Manager (QM)
-  Jira and  Confluence
-  Team Foundation Server
-  Wrike

-  ServiceNow
-  Autodesk
-  Bugzilla
-  Salesforce
-  SharePoint
-  Dropbox and
-  Other Enterprise Architect models

See the *Install and Configure* Help topic for information on how to configure each provider.

When an item from an external provider is selected in the list the meta-data for the item will be displayed in the appropriate Enterprise Architect window. So any property-and-value type of information will be displayed in the Properties window, descriptions and comments will be displayed in the Notes window and discussions or posts will be displayed in the Collaborate window. For example, if Jira was the External Data source and the integration was listing User Stories, a Jira User Story property such as *Priority: Medium* would appear in the Properties window, the *Story description* would appear in the Notes window and the *Comments* would appear in the Collaborate window.

Some meta-data such as collaboration information might not be available for all items and integrations, but where it is available the facility provides a uniform, cross-integration view of the meta-data, making it easy for Enterprise Architect users to understand the data from multiple

providers and integrations without the need to leave the tool or grapple with vendor specific terminology. Enterprise Architect is performing the role of an accumulator, allowing information from a wide range of disparate sources to be related to the already rich set of architectural models in the tool, creating a view of how the information in these otherwise unrelated tools can be visualized. This removes the need for the bundle of static spreadsheets that organizations have traditionally used to relate pairs of items such as Test-Cases to Business Drivers, or Stakeholder Concerns to application services, and much more.

All integrations offer support for linking objects and elements from the external system into an Enterprise Architect client. The Integration window supports browsing the external provider's items and retrieving lists of elements and objects based on the provider's queries. Capabilities include:

- Link an Enterprise Architect element to an external object
- View external element properties
- View and in some cases add to, external object discussions
- Export links to WebEA URL's that correspond to the current model
- Open external items in a web browser
- Import elements
- Export elements

From Enterprise Architect Release 14.1 it is possible to link a non-Cloud model to Integration Plug-ins configured on a

Pro Cloud Server.

See the *Cloud Page* Help topic for configuration options.

Access

Ribbon	<p>Specialize > Tools > System Integration > Open External Data</p> <p>To view a list of all elements that are linked to external items:</p> <p>Specialize > Tools > System Integration > Show All Linked Items</p>
Context Menu	<p>In a diagram or the Browser window, for elements that are already linked to an external item:</p> <ul style="list-style-type: none"> • Right-click on element > Specialize > External Properties

Features

Feature	Description
Pro Cloud Server	Each external provider must be configured on the Pro Cloud Server to

Configuration	enable connection. Multiple configurations can be made for each provider (such as connecting to two separate Jira servers).
Authorization	<p>If the Integration Provider requires authorization you are prompted to enter your credentials. If the provider supports it, a new internet browser window will open and prompt you to log in to the Integration Provider and allow Enterprise Architect access to its resources.</p> <p>Alternatively, a simple dialog will pop up asking for your credentials, with the option to securely store them in the current model. If stored in the model the credentials will only be used for the current user.</p>
Navigate External Provider	Find external items to link to by navigating the external provider.
External Item Details	Select an external item from the External Data view to see its properties, notes and discussions in the Properties window, Notes window and Discussions tab of the Collaboration window.

Link External Items	External items can be linked to Enterprise Architect as a generic «ExternalReference» stereotype or as another element type.
Add WebEA Link	<p>Hyperlinks to WebEA can be added to the external item so that you can quickly open the WebEA element from the external source.</p> <p>Right-click on a local linked element in the list and select 'Add WebEA Hyperlink to External Object'. This will update the external item with a link to the WebEA element that is linked to it in Enterprise Architect. Note that not all provider types have a 'link' mechanism. Where none exists, some providers might allow adding the link as a comment on the item. Ensure that the model has a valid WebEA address set in the model options.</p>
Configuration	Each Integration Provider comes with a set of default mapping values which determines what type of local element is created in Enterprise Architect, as well as which fields are copied to the new element. These mappings are configurable via the 'Configure' option on the Integration window toolbar menu.

	Users must have the 'Configure External Data Sources' permission to access this functionality.
Troubleshooting	<ul style="list-style-type: none">• The System Output window will show any errors while attempting to retrieve data from the external providers• The Pro Cloud Server outputs log files for each external provider

Notes

- 'Integration' requires a Pro Cloud Server and is only available to Cloud models
- 'Integration' is currently provided with the Corporate, Unified and Ultimate editions of Enterprise Architect
- If you select two or more elements at the same time, you can perform an operation on all of the selected elements at once
- For WebEA links to work a valid URL must be set for the WebEA address (see the *Cloud Page* Help topic)

Navigate External Data

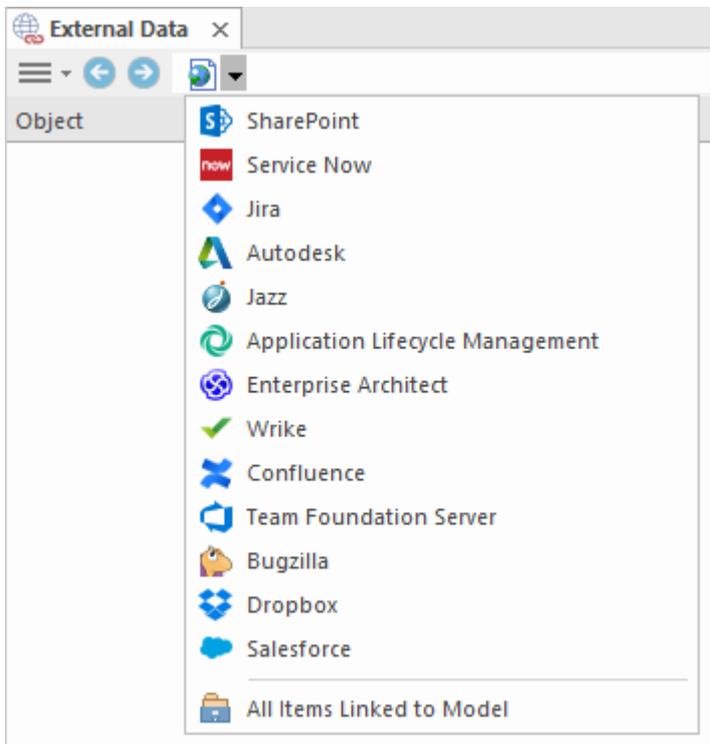
Each Integration Provider can be navigated through to show lists of external items that can be linked to Enterprise Architect. Each provider might provide a slightly different mechanism for navigation, based on how it stores its data. Some provide a simple folder hierarchy, whilst others provide for user-defined filters. See the *What data is returned by Integration Plug-ins* table in the [Install and Configure](#) Help Topic for details of each provider.

Access

Ribbon	Specialize > Tools > System Integration > Open External Data
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Navigate the Hierarchy

Begin navigation by selecting the provider type from the right-hand drop-down menu.

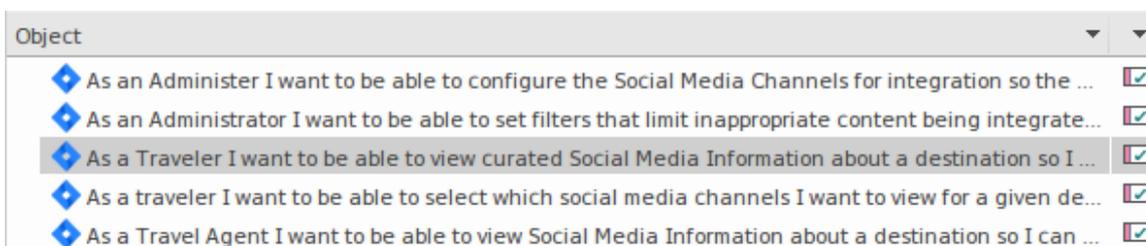


Next, each provider type offers a slightly different navigation system; for example, Dropbox allows for browsing the folder structure, whilst Jira give a list of projects followed by a list of user queries.



Item List

At each navigation level, if available, a list of items corresponding to the navigation level will populate the left-hand panel.



Any local Enterprise Architect elements that are linked to the external item will be shown as a child of the external item.

- ▲  As a developer, I'd like to update story status during the sprint >> ...
-  As a developer, I'd like to update story status during the sprint ...

All Items Linked to Model

At each navigation level there is an option to show all local Enterprise Architect elements that are linked to the selected external data source. Select 'All Items Linked to Model' and choose the number of days prior to today (7, 30 or 90 days, or 'All') from which to collect the information.

Choose 'All Items Linked to Model' on the root navigation level to see the linked items for all external providers.

This view differs from the regular list as it shows the local Enterprise Architect element on top, and the external linked item as a child of the local element. All the same context menu items are available in the view.

- ▲  As a team, we can finish the sprint by clicking the cog icon next to the
-  As a team, we can finish the sprint by clicking the cog icon next to
- ▲  As a user, I'd like a historical story to show in reports
-  As a user, I'd like a historical story to show in reports

Show Items Linked to Current Context

In the integrations menu, select 'Items Linked to Current

Context' to show only the external items that are linked to the currently selected local element. That is, select an item in the Browser window and see the external items that are linked to it.

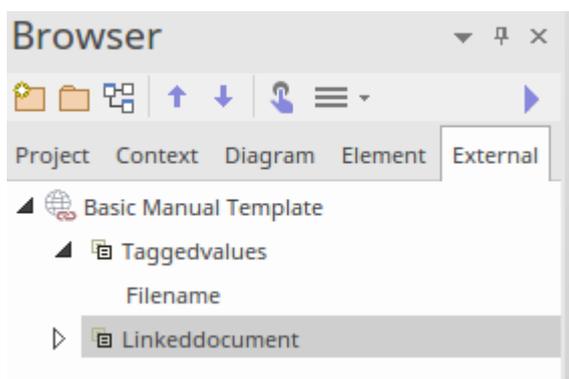
This view is the same as for 'All Items Linked to Model'.

External Item Details

When an external item is selected in the External Data View, the item's details are retrieved and displayed in an 'External' tab of the Browser window, and in External versions of the appropriate Properties, Notes and Collaboration windows.

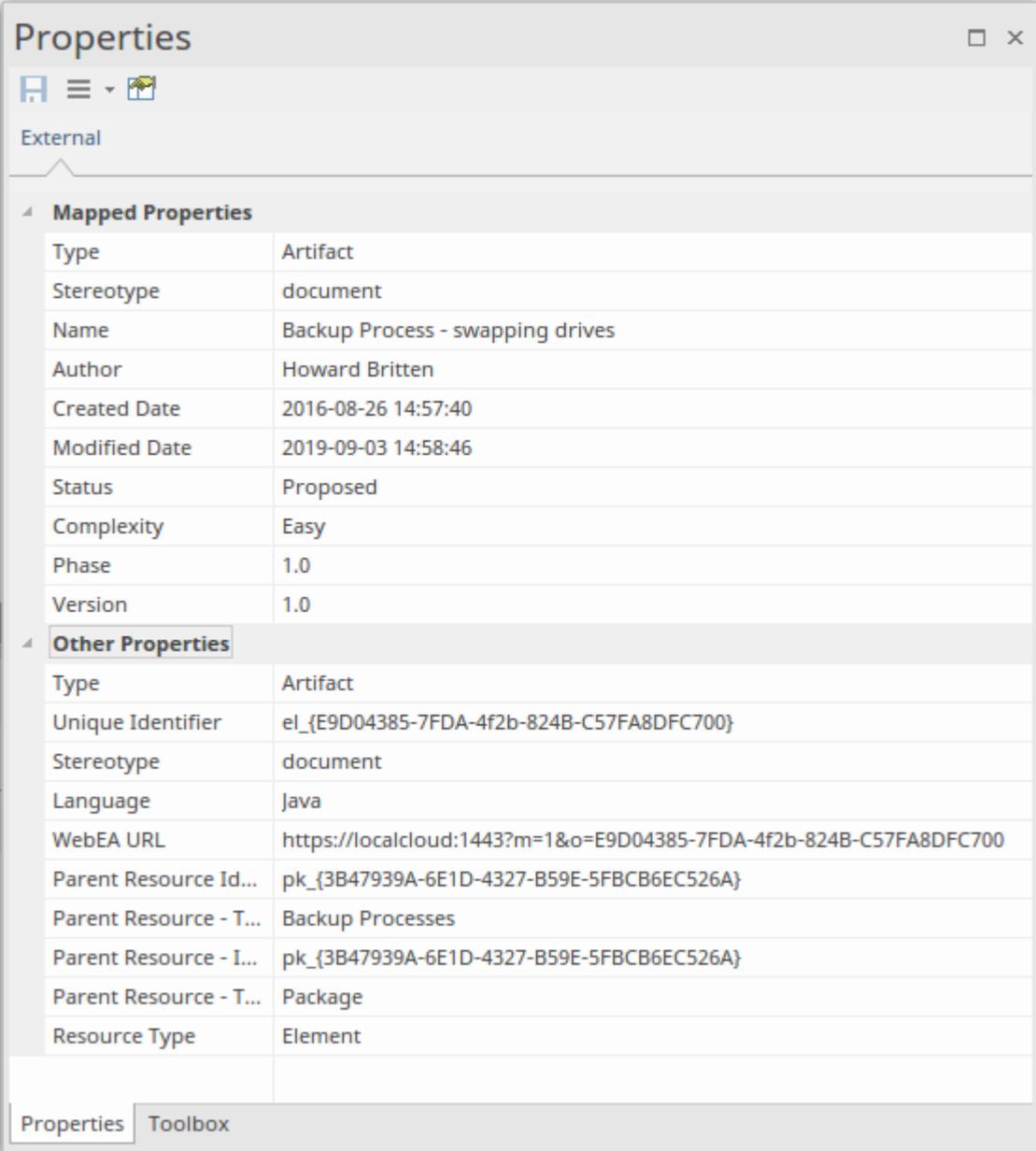
Browser Window

The 'External' tab of the Browser window displays only when you are reviewing external items. It behaves in much the same way as the 'Element' tab of the Browser window, revealing the external element's relationships, features, requirements, Tagged Values, project maintenance items and related files. However, the 'External' tab shows only categories for which items exist, and does not list all possible but empty categories.



Properties

Click on an external item in the list to view its properties in the 'External' version of the Properties window. This window shows all available properties of the external item, as defined by the external provider.



The screenshot shows a 'Properties' window with a tab labeled 'External'. The window is divided into two main sections: 'Mapped Properties' and 'Other Properties'. Each section contains a table of key-value pairs.

Mapped Properties	
Type	Artifact
Stereotype	document
Name	Backup Process - swapping drives
Author	Howard Britten
Created Date	2016-08-26 14:57:40
Modified Date	2019-09-03 14:58:46
Status	Proposed
Complexity	Easy
Phase	1.0
Version	1.0

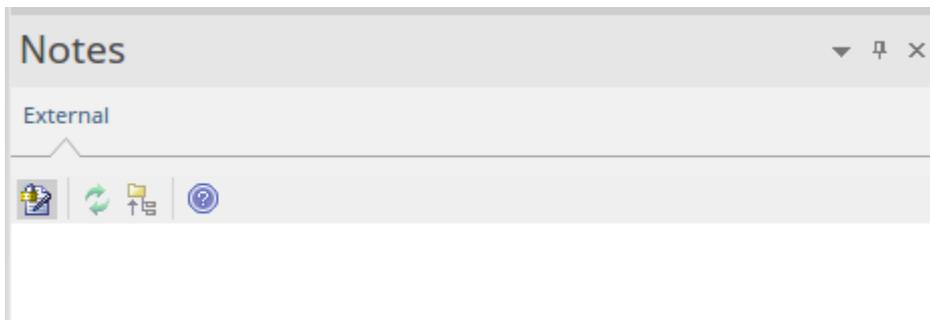
Other Properties	
Type	Artifact
Unique Identifier	el_{E9D04385-7FDA-4f2b-824B-C57FA8DFC700}
Stereotype	document
Language	Java
WebEA URL	https://localcloud:1443?m=1&o=E9D04385-7FDA-4f2b-824B-C57FA8DFC700
Parent Resource Id...	pk_{3B47939A-6E1D-4327-B59E-5FBCB6EC526A}
Parent Resource - T...	Backup Processes
Parent Resource - I...	pk_{3B47939A-6E1D-4327-B59E-5FBCB6EC526A}
Parent Resource - T...	Package
Resource Type	Element

Properties that will be used when creating a linked local element are shown in the top group 'Mapped Properties', while all other properties are grouped in 'Other Properties'. The property mapping can be configured, as described in the

Configuration Help topic.

Notes

The external item's 'Notes' or 'Description' text is shown in the 'External' version of the Notes window.



Note that not all external providers have 'Notes' or 'Description' fields.

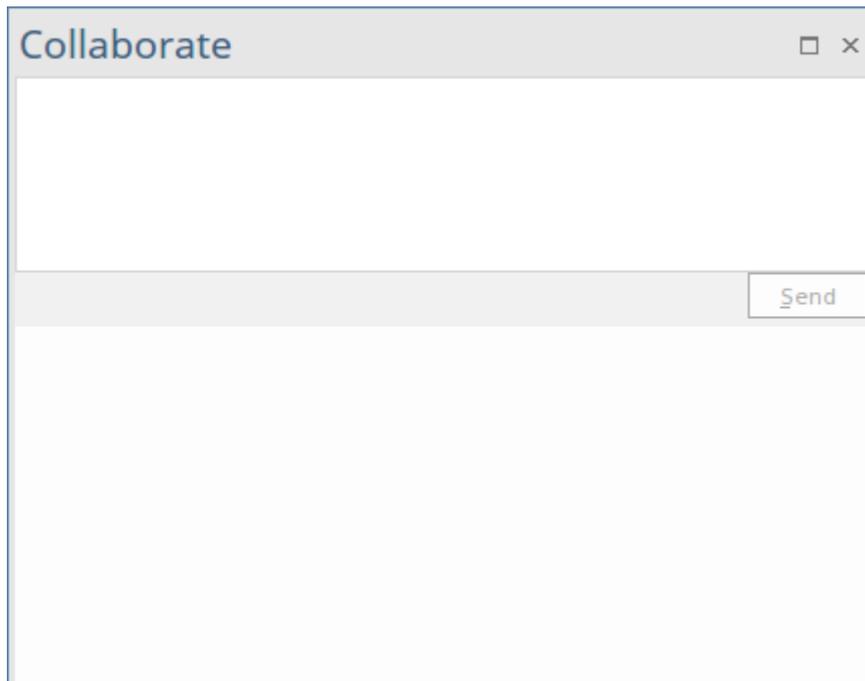
This version of the Notes window has a different toolbar, containing icons to:

- Toggle the editing lock on the notes
- Synchronize the notes in the Enterprise Architect view and the external source
- Push the edited note text to the external source
- Display the online Enterprise Architect User Guide

Discussion

Select an external item from the list to view and participate in its Discussions in an independent version of the

Collaboration window - this version has no tabs to switch between Discussions, Chats or The Journal. It resembles the 'Chat' tab but does not require you to specify a recipient user group.



New discussions can be posted by typing into the top box and pressing 'Send'. The username used will be the one that is authorized on the Integration Provider. If generic credentials have been added to the server configuration then the local model's user name will be added to the start of the comment as well.

Show or hide the discussions by clicking the X icon in the top-right corner.

Note:

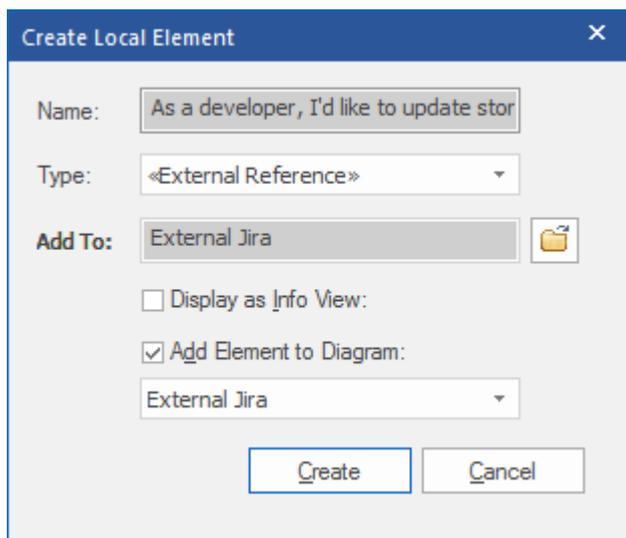
- To post an external discussion the Integration Provider must be configured to allow this on the Pro Cloud Server (allowed by default)
- Not all external providers have discussions or comments

Linking Items

Create Linked Element in Enterprise Architect

To create a new element in the Enterprise Architect model linked to the external item:

- Right-click on an external item in the list
- Select 'Create Local Element'
- Select either the default type or «ExternalReference» (which ignores any Type Mapping; see the [Configuration Help](#) topic)
- Select which Package the element will be created in
- Optionally add the new element to an open diagram



The local element will be filled in with the values defined in Field Mapping, described in the [Configuration Help](#) topic.

Once linked, the local element will show under the external

item:



Note: Select multiple items to create multiple elements at the same time. All elements will be created with either the default type or «ExternalReference»

Link an Existing Enterprise Architect Element

An existing element in Enterprise Architect can be linked to an existing item in the External Provider by dragging the local element from the Browser window and dropping it onto the external item.

Create a Linked Item in the External Provider

Existing local elements in Enterprise Architect can be added to the External Provider in this way:

1. Select the local Enterprise Architect element (in the Browser window).
2. Browse the External Provider and select the required destination location.
3. In the 'External Data' menu, select 'Create Linked Item'.

Note:

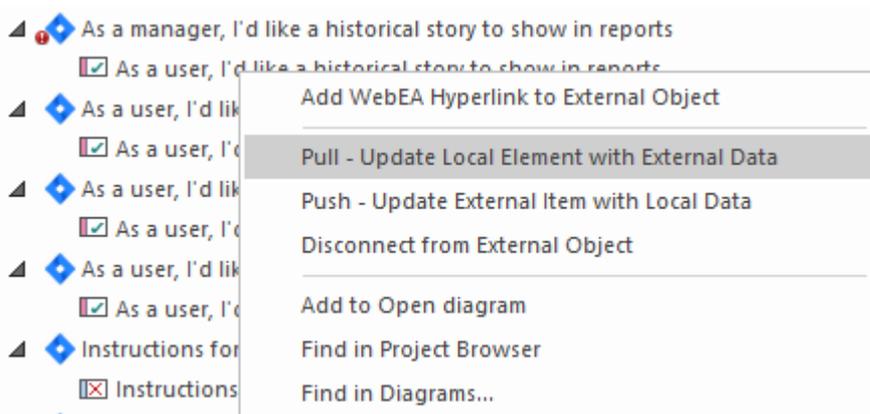
- To create a new external item, the Integration Provider

must be configured to allow this on the Pro Cloud Server (it is disallowed by default)

- Not all providers allow for creation of new items

Update Local Element ('Pull' changes)

If either the local element or external item have been modified since the items were created or linked, an indicator will be shown on top of the item's icon. Right-click on the linked Enterprise Architect element and select the 'Pull - Update Local Element with External Data' option.

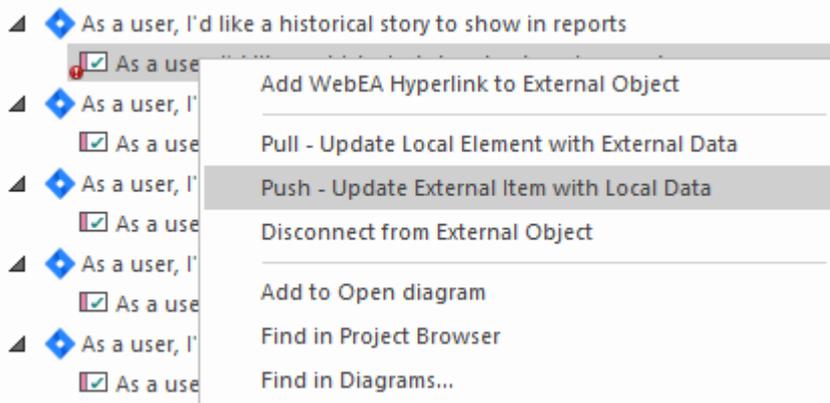


Note: If the local element has been modified since the link was created then its changes will be overwritten with the external data

Update External Item ('Push' changes)

If either the local element or external item have been modified since the items were created or linked, an indicator

will be shown on top of the item's icon. Right-click on the Enterprise Architect element and select 'Push - Update External Item with Local Data'.



Note:

- If the external element has been modified since the link was created then its changes will be overwritten with the local data
- To update an external item the Integration Provider must be configured to allow this on the Pro Cloud Server (disallowed by default)

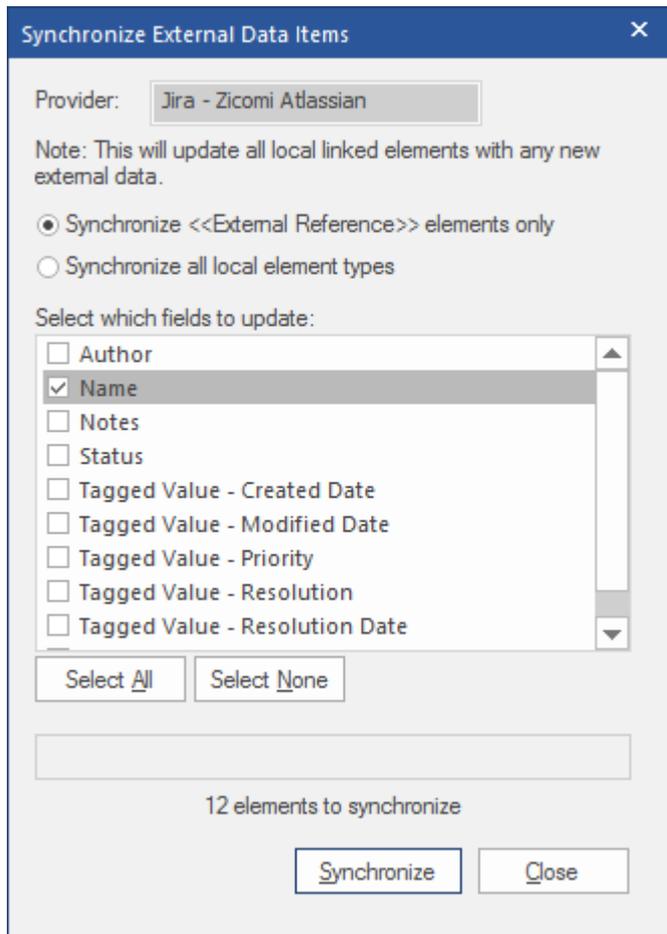
Synchronize All Local Elements

All local linked elements from a provider can be quickly updated with new data from the External Provider's items.

1. Browse to the external provider to be synchronized.
2. In the 'External Data' menu, select 'Synchronize Local Linked Elements'.
3. Tick the fields that should be updated with any new data from the external item. Note that any local changes in the

Enterprise Architect element in these fields will be overwritten with the external data.

4. The bottom of the window indicates how many local elements will be updated (note that it is unknown at this point if there have been any changes to the external item).
5. Click on the Synchronize button.



Configuration

Each Integration Provider comes with a set of default mapping values that determines firstly what type of local element is created in Enterprise Architect, and secondly which fields are copied to the new element. These mappings are configurable for each client model.

Permission

Users must have the 'Configure External Data Sources' permission to access this functionality.

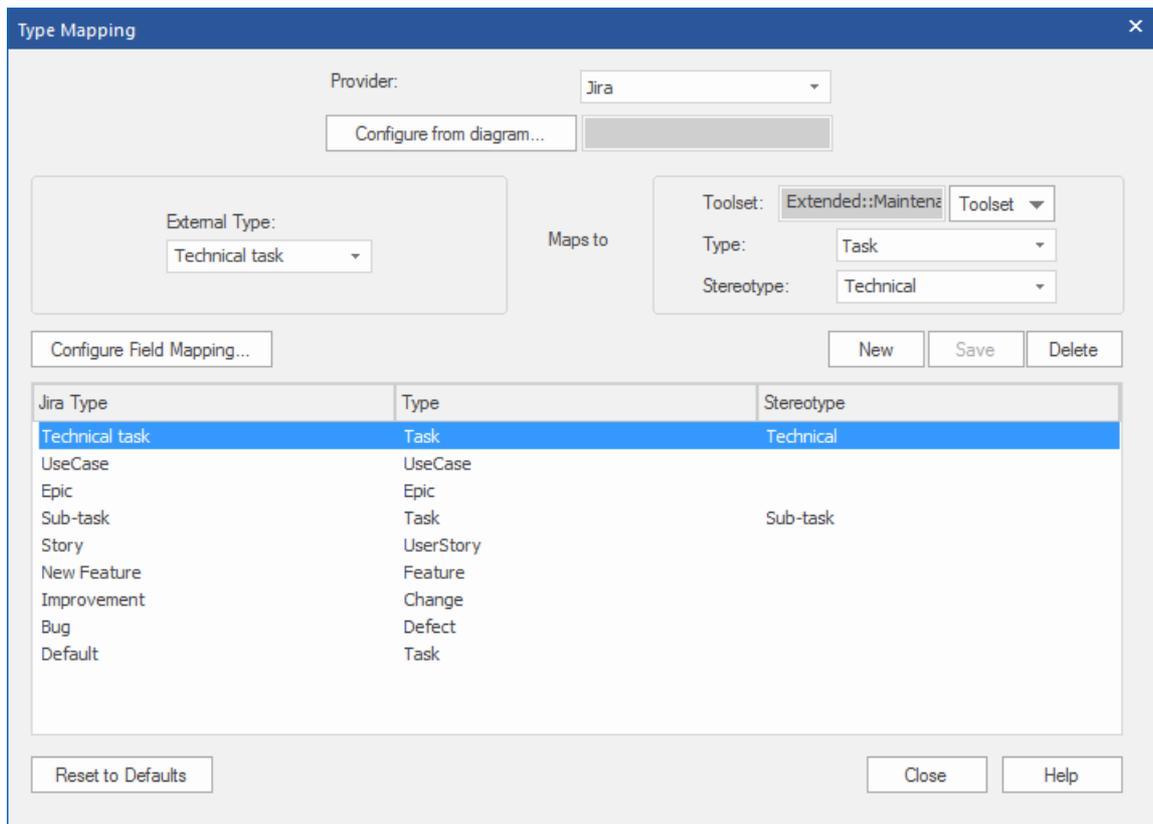
Access

Integration window toolbar	'Hamburger' Menu > Configure
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Type Mapping

The 'Type Mapping' dialog defines the element type that

will be created when users select the 'Create Local Element' option for an external element.



To create a new mapping:

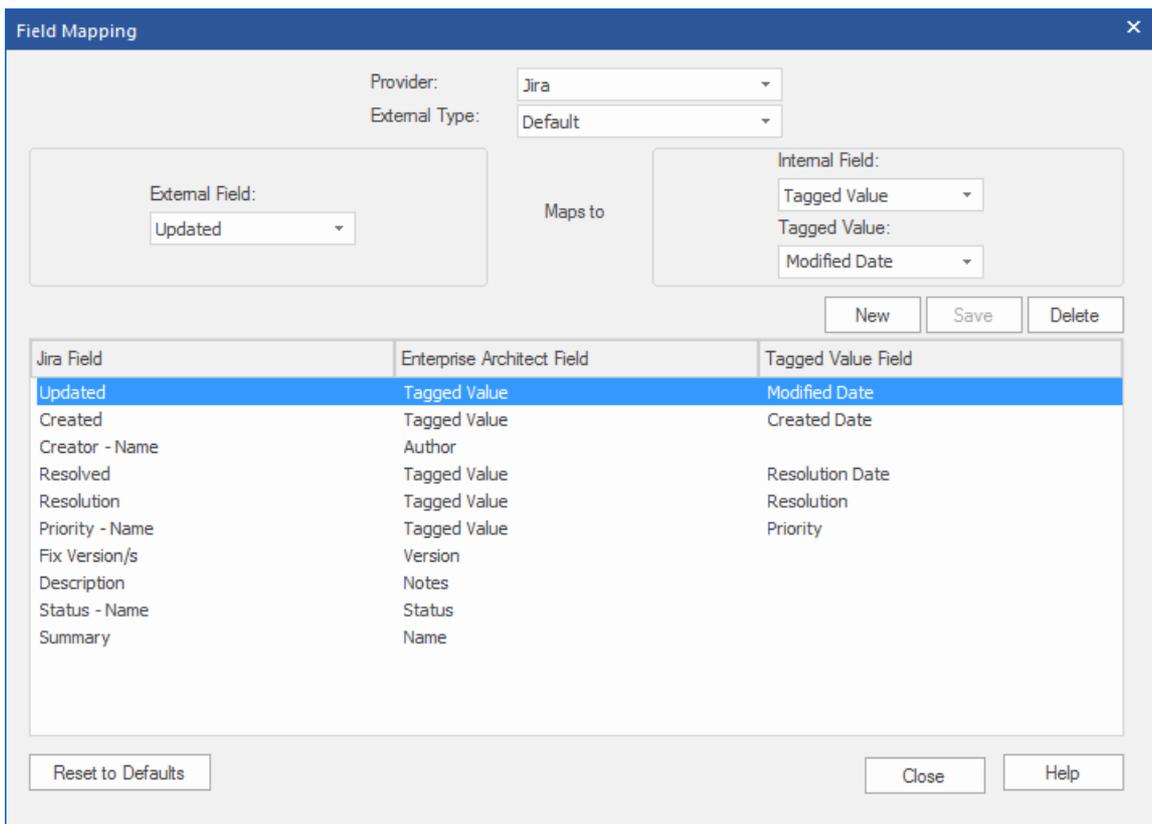
1. Click on the New button, then click on the 'External Type' drop-down arrow and select the type of the element to map from the external source.
2. Click on the 'Toolset' drop-down arrow and select the appropriate Enterprise Architect Toolset, then click on the 'Type' drop-down arrow and select the Enterprise Architect element type that the external element type maps to.
3. If appropriate, also click on the 'Stereotype' drop-down arrow and select the stereotype for the extended Enterprise Architect element type that the external element type maps to.

4. Click on the Save button.

Note that if the external element type has been linked as an <<ExternalReference>> element, any Type Mapping settings are ignored; see the [Linking Items](#) Help topic.

Field Mapping

The 'Field Mapping' dialog defines the element fields that will be updated for a mapped element when users select the 'Create Local Element' option. You display this dialog by clicking on the Configure Field Mapping button on the 'Type Mapping' dialog, having mapped an external element type to an Enterprise Architect element (or selected an existing mapped element type).



The process generally maps the fields for a specific type of element; however, if you want to map certain fields for all types of element, click on the 'External Type' drop-down arrow on the 'Field Mapping' dialog, and select the value 'Default'.

To map the fields:

1. Click on the New button, then click on the 'External Field' drop-down arrow and select the name of the field to map from the external source.
2. Click on the 'Internal Field' drop-down arrow and select the appropriate Enterprise Architect field name that the external element field maps to.
3. If the internal field is a Tagged Value field, also click on the 'Tagged Value' drop-down arrow and select the Tagged Value that the external element field maps to.
4. Click on the Save button.

Notes

- Each mapping can be reset to default values by clicking on the Reset to Defaults button
- If no type mapping is defined for a given element type, then the mapping for type 'Default' will be used

