



ENTERPRISE ARCHITECT

User Guide Series

Integrate Data from External Providers

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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 helps you to create models that relate elements from a wide range of disparate tools, each of which might contain entities such as strategic objectives and Requirements through to implementation statements, work packages and configuration items. Enterprise Architect does not manage the master records 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 integrated with Enterprise Architect, 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
-  Polarion
-  Azure DevOps / 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. Walkthroughs are also available for [Walkthrough: Jira Integration](#) and [Walkthrough: Polarion Integration](#) integration.

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 External Data 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 onwards 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	Specialize > Tools > System Integration > Open External Data To view a list of all elements that are linked to external items: Specialize > Tools > System Integration > Show All Linked Items
Context Menu	In a diagram or the Browser window , for elements that are already linked to an external item: Right-click on element > Specialize > External Properties
Keyboard Shortcuts	Alt+1 > System Integration

Features

Feature	Description
Pro Cloud Server Configuration	Each external provider must be configured on the Pro Cloud Server to enable connection. Multiple configurations can be made for each provider (such as connecting to two separate Jira servers).
Authorization	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. 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.
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 window 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.</p> <p>Ensure that the model has a valid WebEA address set in the model options.</p>
Configuration	<p>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 External Data window toolbar menu.</p> <p>You must have the 'Configure External Data Sources' permission to access this functionality.</p>
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

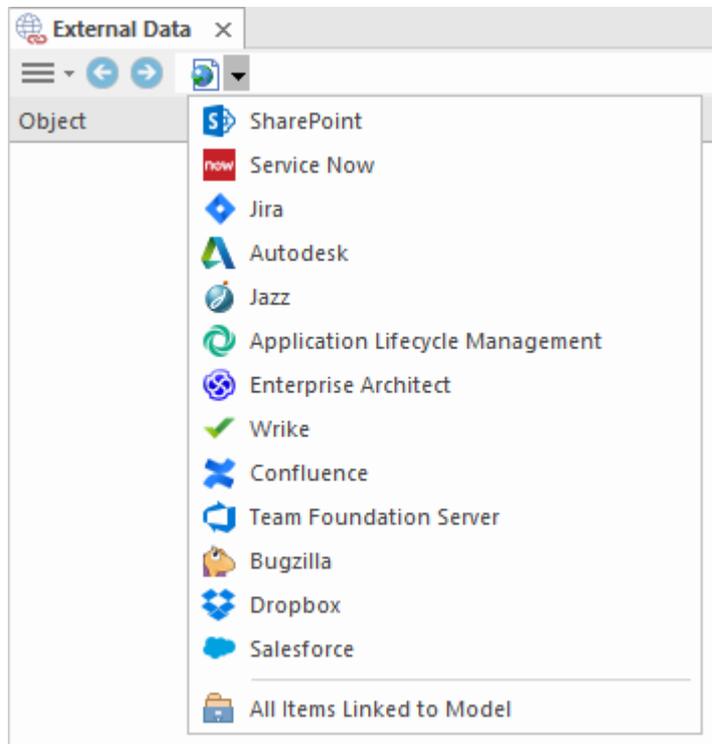
Each Integration Provider can be navigated to show lists of external items that can be linked to Enterprise Architect. Each provider might provide a slightly different mechanism for navigation, based on how it stores its data. Some provide a simple folder hierarchy, whilst others provide for user-defined 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

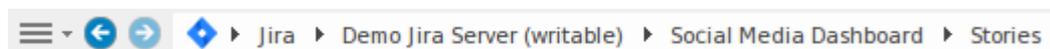
Ribbon	Specialize > Tools > System Integration > Open External Data
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Navigate the Hierarchy

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

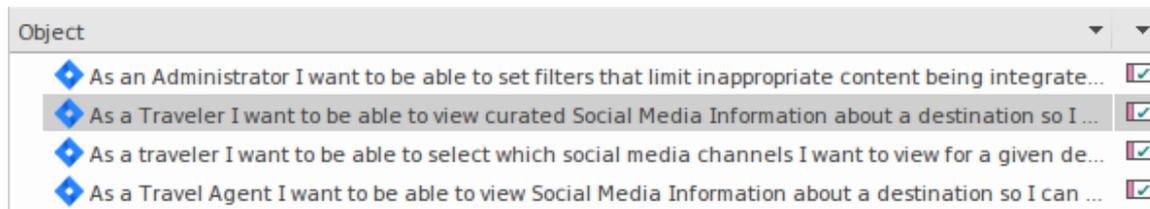


Next, each provider type offers a slightly different navigation system; for example, Dropbox allows for browsing the folder structure, whilst Jira gives a list of projects followed by a list of user queries.



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.

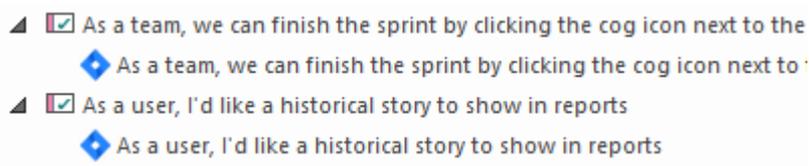


All Items Linked to Model

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.



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 window, the item's details are retrieved and displayed in an 'External' tab of the **Inspector window**, and in External versions of the appropriate Properties, Notes and Collaboration windows.

Inspector Window

The 'External' tab of the **Inspector window** displays only when you are reviewing external items. It behaves in much the same way as the 'Details' tab of the Inspector 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 the 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 the 'Properties' window for an external artifact. The window is titled 'Properties' and has a standard Windows-style title bar with minimize, maximize, and close buttons. Below the title bar, there are icons for home, menu, and a document. The main content area is divided into two sections: 'Mapped Properties' and 'Other Properties'. Both sections contain a table of properties.

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

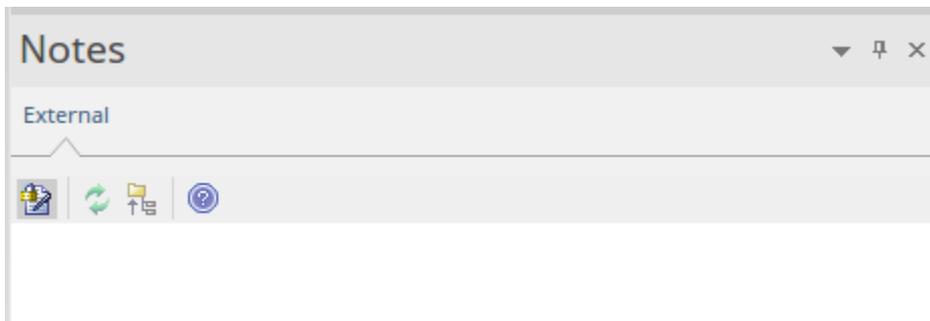
Other Properties	
Type	Artifact
Unique Identifier	el_{E9D04385-7FDA-4f2b-824B-C57FA8DFC700}
Stereotype	document
Language	Java
WebEA URL	https://localcloud:1443?m=1&o=E9D04385-7FDA-4f2b-824B-C57FA8DFC700
Parent Resource Id...	pk_{3B47939A-6E1D-4327-B59E-5FBCB6EC526A}
Parent Resource - T...	Backup Processes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

At the bottom of the window, there are two tabs: 'Properties' (which is active) and 'Toolbox'.

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**.



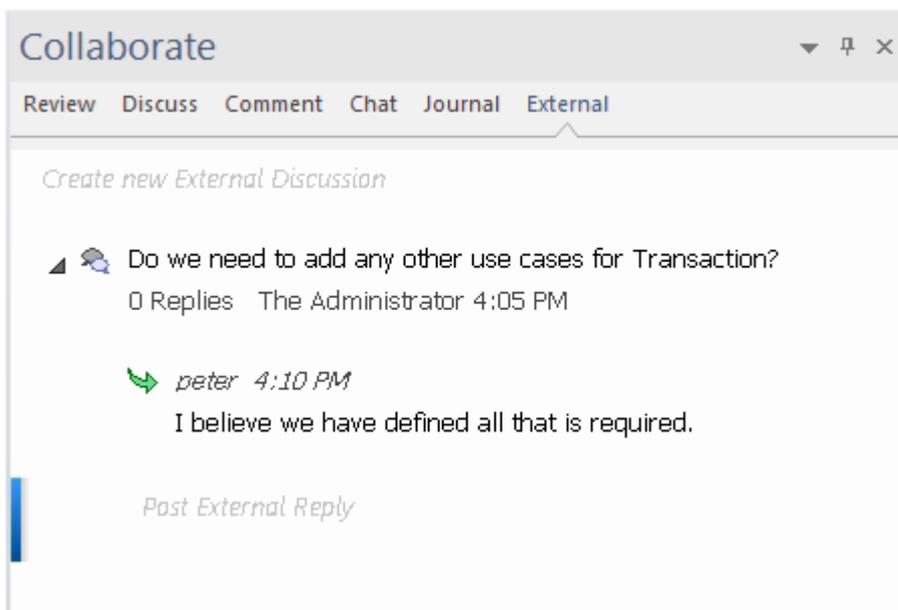
Note that not all external providers have 'Notes' or 'Description' fields.

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 the 'External' tab of the Collaboration window. The 'External' tab resembles the 'Discuss' tab and behaves in the same way.



New discussions can be posted by double-clicking on the *Create new External Discussion* text, or by right-clicking in the tab and selecting the 'Create New External Discussion' menu option.

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

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

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

Access

External Data 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.

The 'Type Mapping' dialog box is shown with the following configuration:

- Provider: Jira
- External Type: Technical task
- Maps to: Task (Type), Technical (Stereotype)

Jira Type	Type	Stereotype
Technical task	Task	Technical
UseCase	UseCase	
Epic	Epic	
Sub-task	Task	Sub-task
Story	UserStory	
New Feature	Feature	
Improvement	Change	
Bug	Defect	
Default	Task	

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).

Jira Field	Enterprise Architect Field	Tagged Value Field
Updated	Tagged Value	Modified Date
Created	Tagged Value	Created Date
Creator - Name	Author	
Resolved	Tagged Value	Resolution Date
Resolution	Tagged Value	Resolution
Priority - Name	Tagged Value	Priority
Fix Version/s	Version	
Description	Notes	
Status - Name	Status	
Summary	Name	

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

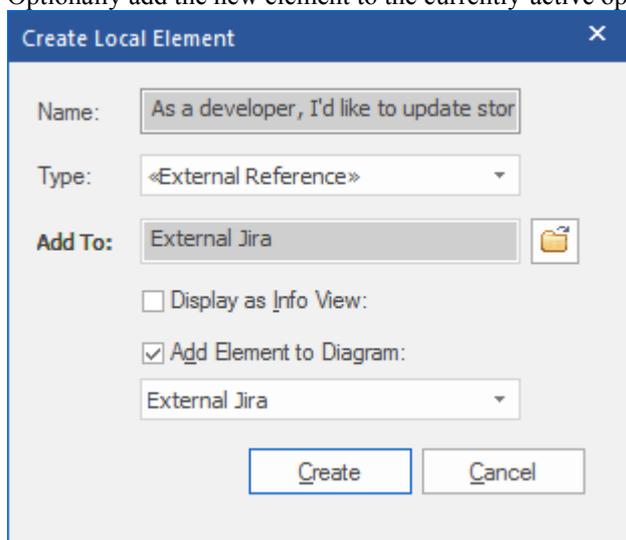
- Each mapping can be reset to default values by clicking on the **Reset to Defaults button**
- If no type mapping is defined for a given element type, then the mapping for type 'Default' will be used

Linking Items

Create Linked Element in Enterprise Architect

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

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



The local element properties will be created from the values defined in the 'Field Mapping' dialog, 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. So in our example:



The Enterprise Architect element 'As a developer, I'd like to update story status during the sprint' was dragged from the Browser window and dropped onto the Jira item of the same name, creating a link between the two.

Create a Linked Item in the External Provider

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

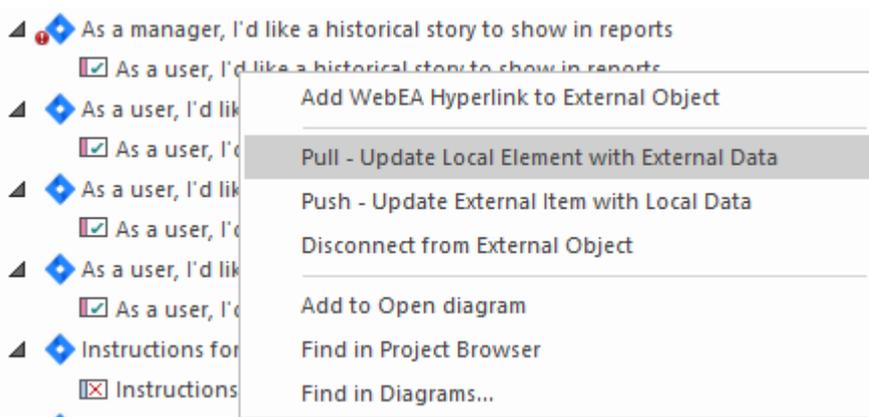
1. Select the local Enterprise Architect element (in the **Browser window**).
2. Browse the External Provider and select the required destination location.
3. In the 'External Data' menu, select 'Create Linked Item'.

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)

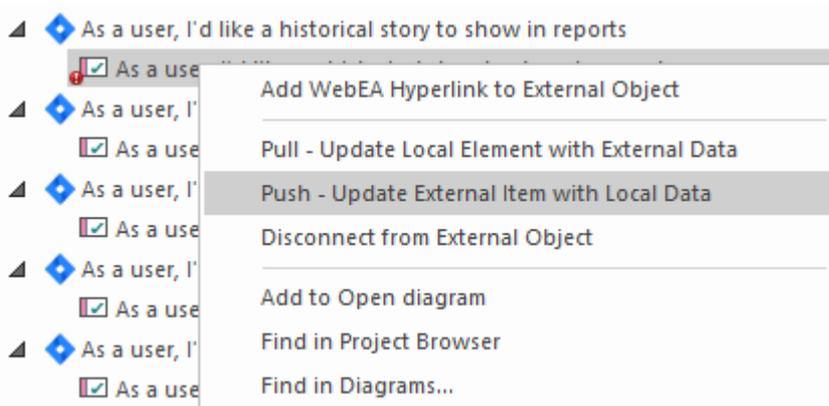
If either the local element or the external data item have been modified since the items were created or linked, an 'exclamation mark' indicator will display on top of the icon next to the name of the changed item. Right-click on the linked Enterprise Architect element and select the 'Pull - Update Local 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 the external data item have been modified since the items were created or linked, an 'exclamation mark' indicator will display on top of the icon next to the name of the changed item. Right-click on the Enterprise Architect element and select the 'Push - Update External Item with Local Data' option.



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 in Enterprise Architect can be quickly updated with new data from the linked items in the External Data Provider.

1. In the External Data window, display the data from the External Data Provider to be synchronized.
2. Click on the 'Hamburger' icon in the toolbar, and select the 'Synchronize Local Linked Elements' option.
3. On the 'Synchronize External Data Items' dialog, select the checkbox against each property field that should be updated with 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**.

