

EA Connector for **Trac** **EA** Connector for **Redmine**

EA Connector for Trac/Redmine feature guide

by Sparx Systems Japan

EA Connector for Trac EA Connector for Redmine Feature Guide

Last update: 04-Feb-2019



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1. Introduction

In this document, we introduce EA Connector for Trac/EA Connector for Redmine add-in tools for Enterprise Architect. EA Connector for Trac/Redmine connects Enterprise Architect (EA) elements to Trac/Redmine tickets, provides bi-directional integration between Enterprise Architect and Trac/Redmine, and improves work efficiency.

- EA Connector for Trac

<https://www.sparxsystems.jp/en/forTrac>



- EA Connector for Redmine

<https://www.sparxsystems.jp/en/forRedmine>



2. What is Trac?

Trac is a web-based/open source tool for software project management and bug tracking.

Trac Lightning (2.5.3/3.1.1) and BitNami Trac (0.12.2-1/1.0.15-0/1.1.6-5/1.2.3-0) are used for the operation checks of EA Connector for Trac.

A test Trac server to evaluate EA Connector for Trac has been open at the following URL.

<https://trac.sparxsystems.jp/trac/EnSampleProject>

3. What is Redmine?

Redmine is a web-based/open source tool for software project management and bug tracking.

BitNami Redmine (2.0.2-0 – 4.0.1-0) are used for the operation checks of EA Connector for Redmine.

A test Redmine server to evaluate EA Connector for Redmine has been open at the following URL.

<https://redmine.sparxsystems.jp/redmine/projects/sampleproject>

4. Connect Enterprise Architect to Trac/Redmine

Since Trac/Redmine are web-based tools, they are effective in scenes where a large number of people share topics as a list or make various discussions on one topic represented by one ticket through the network.

On the other hand, Enterprise Architect is effective in showing a base or results of discussions in structured images.

EA Connector for Trac/Redmine enables us to make the best use of the characteristics of both tools by connecting Trac/Redmine tickets to Enterprise Architect elements and converting their attributes bidirectionally. The following Information Utilization can be expected:

- Use information of Trac/Redmine tickets in Enterprise Architect
- Export Enterprise Architect elements to Trac/Redmine tickets for discussions and information sharing

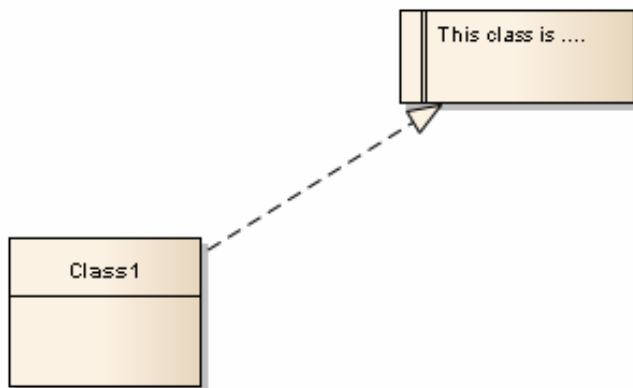
Here are some concrete examples where EA Connector for Trac/Redmine can be effective:

- Discuss Enterprise Architect elements in Trac/Redmine
- Transfer information of development items created in Enterprise Architect (ticket driven development)
- Use Trac/Redmine tickets gathered from a wide range for system designs with Enterprise Architect
- Show relationships between Trac/Redmine tickets with Enterprise Architect diagrams
- And so on...

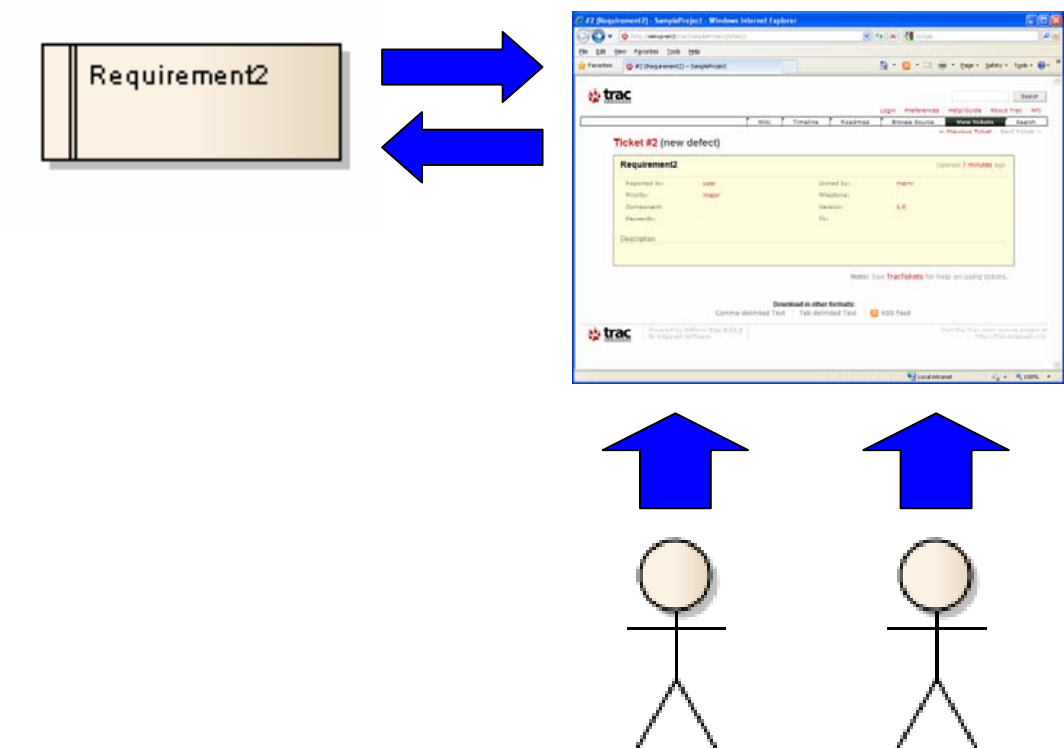
With EA Connector for Trac/Redmine, information in both Enterprise Architect and Trac/Redmine can be easily converted to one another.

4.1. Discuss Enterprise Architect elements in Trac/Redmine

When having discussions on an element such as a class in Enterprise Architect, sometimes a requirement related to the element is used to write comments or discussions on the element.

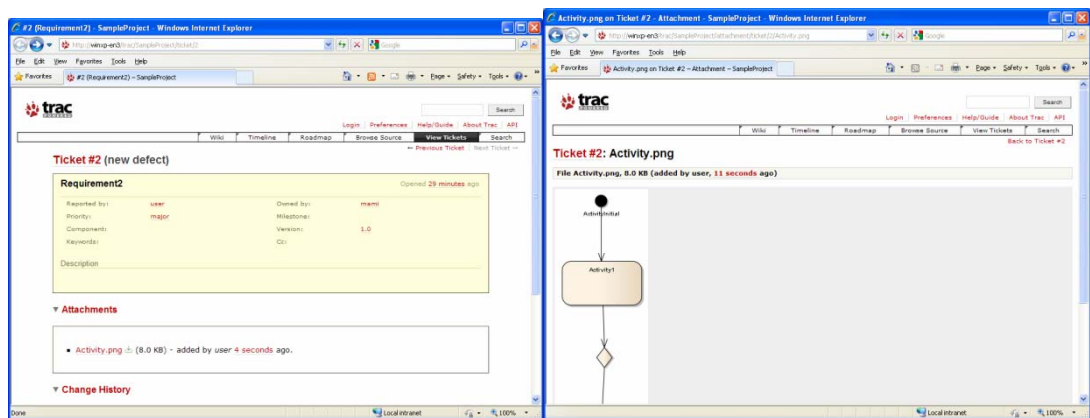


To add comments and discussions, Enterprise Architect needs to be run on the same environment with a target project. Comments and discussions can still be added even if a target project cannot be accessed from your computer. However, in this case you need to export the data from the project. And after making comments and discussions, the data needs to be merged with the project.



EA Connector for Trac/Redmine makes these actions easier. EA Connector for Trac/Redmine can add comments within Trac/Redmine by exporting requirements to Trac/Redmine tickets. Trac/Redmine are web-based services, so it is possible to refer or add comments anytime through the network.

Also, EA Connector for Trac has a feature to attach elements diagrams to Trac tickets. Since the diagrams are attached as images, Trac tickets can show all the related elements visually.



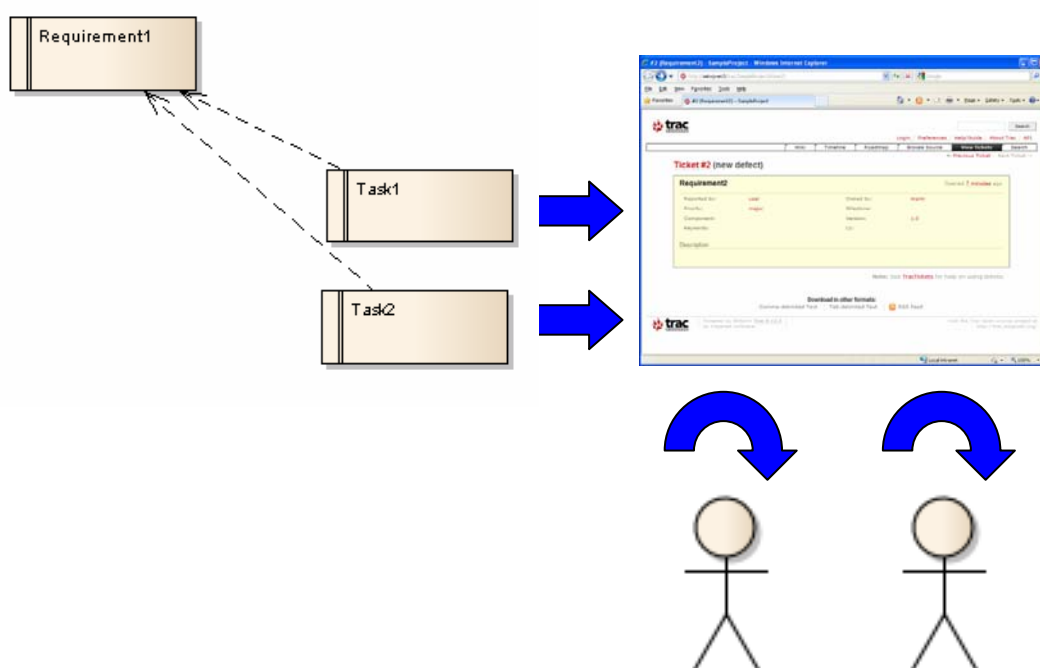
Using EA Connector for Trac/Redmine, comments added to Trac/Redmine tickets can be referred by opening the corresponding Trac/Redmine tickets, or by restoring their attributes to Enterprise Architect requirements.

4.2. Transfer information of development items created in Enterprise Architect (ticket driven development)

Ticket driven development is described as "a development style which divides efforts into tasks, and manages them by allocating to tickets of BTS, like Trac/Redmine."

In accordance with the idea of ticket driven development, Enterprise Architect can create effort lists and tasks from a system design.

EA Connector for Trac/Redmine can convert these tasks created in Enterprise Architect to Trac/Redmine tickets.



(As described in 4.1, EA Connector for Trac has the feature to attach elements diagrams to Trac tickets so that it shows the related elements visually and it is also useful for this kind of development.)

With this feature, developers can do their job by referring only the development items of Trac/Redmine tickets.

During the course of development work, the developers will have to review/change the statuses of Trac/Redmine development items (tickets).

Although Trac/Redmine gathers these statuses of development items and shows them as the status of the whole project, EA Connector for Trac/Redmine enables more

centralized status management.

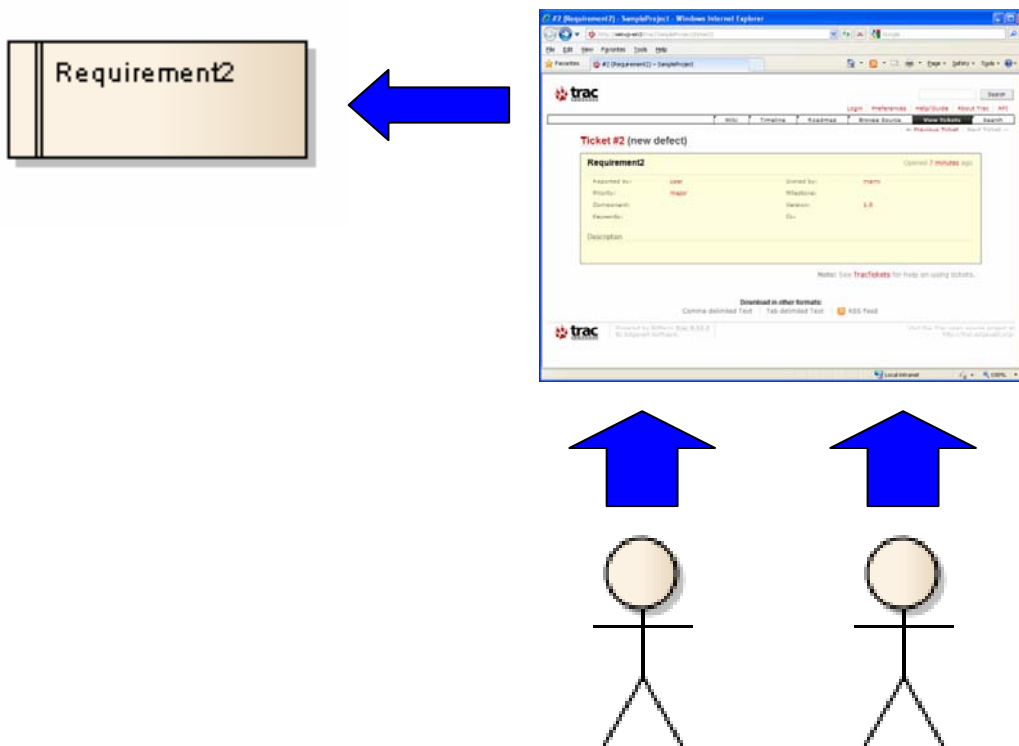
Using EA Connector for Trac/Redmine to import Trac/Redmine tickets statuses as Enterprise Architect elements statuses, it is possible to confirm the statuses of both development items and their source requirements in Enterprise Architect. The information aggregated in Enterprise Architect is useful for the better project management.

4.3. Use Trac/Redmine tickets gathered from a wide range for system designs with Enterprise Architect

Since bugs and requests arise/occur anytime during system developments or system operations, it is common to manage them by tickets of web-based tools like Trac/Redmine.

These bugs and requests are gathered extensively and will be managed as Trac/Redmine tickets, which are used as a base consideration of the system amendments or new system creation.

In that sense, Trac/Redmine tickets are the base information for system designing in Enterprise Architect.

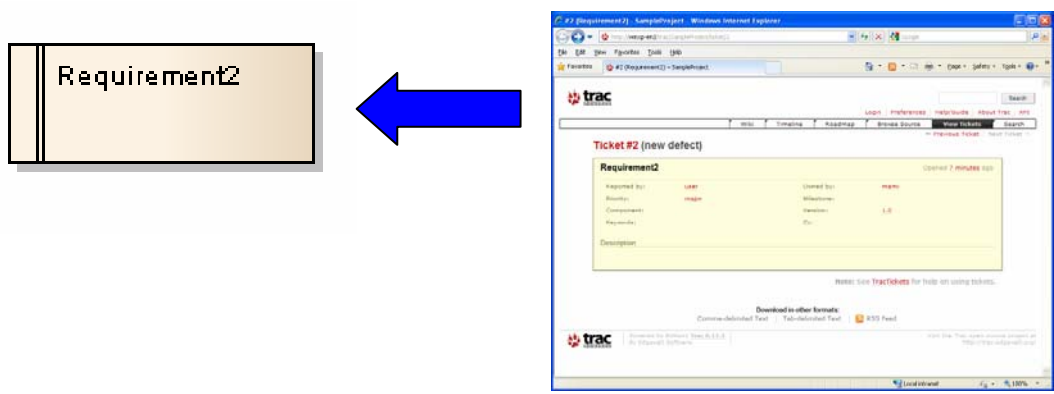


EA Connector for Trac/Redmine can convert tickets, that is requests for a system gathered in Trac/Redmine, to requirements elements in Enterprise Architect. The development efficiency improves by designing based on these converted requirements.

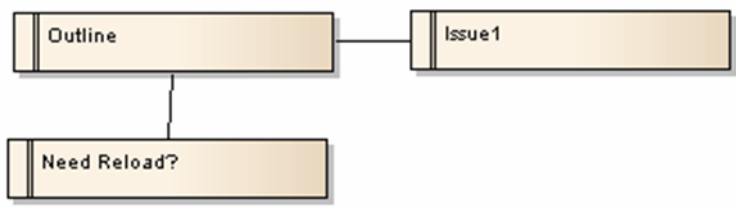
4.4. Show relationships (TracLinks) between Trac tickets with Enterprise Architect diagrams

As described in 4.3, bugs and requests during the system development or system operation arise/occur anytime, so that it is common to manage them by tickets of web-based tools such as Trac.

Generally, related tickets information such as IDs will be written in the comment field of the Trac ticket. However, it does not indicate the directions of the relationships so that we cannot grasp the whole image.



EA Connector for Trac solves this issue. While importing Trac tickets, EA Connector for Trac refers to tickets' IDs written in the comment fields of the imported tickets, looks up the corresponding elements by the IDs, and makes the relationships in Enterprise Architect.



With EA Connector for Trac, we can use Enterprise Architect diagrams to understand the relationships between Trac tickets.

5. About EA Connector for Trac/Redmine

EA Connector for Trac/Redmine are add-in tools to connect elements in UML Modeling Tool Enterprise Architect with Trac/Redmine tickets and convert their attributes bidirectionally. Enterprise Architect elements include Requirements, Changes, Use Cases, Test items, Issues, Features, Tasks, Tests, and Defects.

EA Connector for Trac/Redmine are developed as add-ins for Enterprise Architect.

5.1. About EA Connector for Trac



EA Connector for Trac has the following functions:

- Export elements created in Enterprise Architect to Trac tickets
- Import Trac tickets to Enterprise Architect elements
- Convert attributes of Enterprise Architect elements to the attributes of the Trac tickets
- Convert attributes of Trac tickets to the attributes of the Enterprise Architect elements
- Convert links beginning with "#" or "ticket:" in descriptions and comment fields to the relationships in Enterprise Architect, when importing Trac tickets to the Enterprise Architect elements or converting attributes of Trac tickets to those of the Enterprise Architect elements
- Convert child diagrams of Enterprise Architect elements to image files attached to the Trac tickets
- Output the links beginning with "#", if an Enterprise Architect element has relationships with other elements linked to Trac tickets.
- Customizable Attribute Mapping

Default Attribute Mapping

EA Elements Attributes	Direction	Trac Tickets Attributes
Name or Short Description with ID	Bidirectional	Summary
Notes (HTML format)	Bidirectional	Description
Notes	←	Change History
Author	Bidirectional	Owned by
Version	Bidirectional	Version

Key Words	Bidirectional	Keywords
TracReporter (TaggedValue)	←	Reported
TracMilestone (TaggedValue)	Bidirectional	Milestone
TracComponent (TaggedValue)	Bidirectional	Component
TracCc (TaggedValue)	Bidirectional	Cc
TracType (TaggedValue)	←	Type
Priority	←	Priority
TracPriority (TaggedValue)	Bidirectional	Priority
Status	←	Status
TracStatus (TaggedValue)	←	Status
Child diagrams	→	Attachments
Linked document	→	Attachments
Association Relationships	←	Links to tickets in the description
Association Relationships	←	Links to tickets in the comments
Association Relationships	→	Description

5.2. About EA Connector for Redmine



EA Connector for Redmine has the following functions:

- Export elements created in Enterprise Architect to Redmine tickets
- Import Redmine tickets to Enterprise Architect elements
- Convert attributes of Enterprise Architect elements to attributes of the Redmine tickets
- Convert attributes of Redmine Tickets to attributes of the Enterprise Architect elements
- Convert links to parent tickets in Redmine, into the parent-child relationships, when importing Redmine tickets to Enterprise Architect elements or converting attributes of Redmine tickets to those of the Enterprise Architect elements
- Convert links to related tickets in Redmine, into the relationships, when importing Redmine tickets to Enterprise Architect elements or converting attributes of Redmine tickets to those of the Enterprise Architect elements
- Customizable Attribute Mapping

Default Attribute Mapping

EA Elements Attributes	Direction	Redmine Tickets Attributes
Name or Short Description with ID	Bidirectional	Subject
Notes (HTML format)	Bidirectional	Description
Author	←	Author
Status	←	Status
RedmineStatus (TaggedValue)	Bidirectional	Status
RedmineProject (TaggedValue)	Bidirectional	Project
RedmineTracker (TaggedValue)	Bidirectional	Tracker
Priority	←	Priority
RedminePriority (TaggedValue)	Bidirectional	Priority
RedmineCategory (TaggedValue)	Bidirectional	Category
RedmineAssignee (TaggedValue)	←	Assignee
Parent-Child Hierarchy	Bidirectional	Parent task
Aggregation Relationship	←	Parent task
Association Relationships	←	Related issues

6. Settings for EA Connector for Trac/Redmine Trial Version

1. Download the installer

- EA Connector for Trac

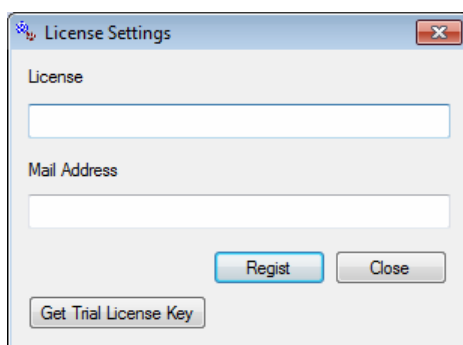
<https://www.sparxsystems.jp/en/forTrac/#installer>

- EA Connector for Redmine

<https://www.sparxsystems.jp/en/forRedmine/#installer>

2. Get a trial license key

After the add-in installation, click on the "Get Trial License Key" button to open the web page and get a license key.

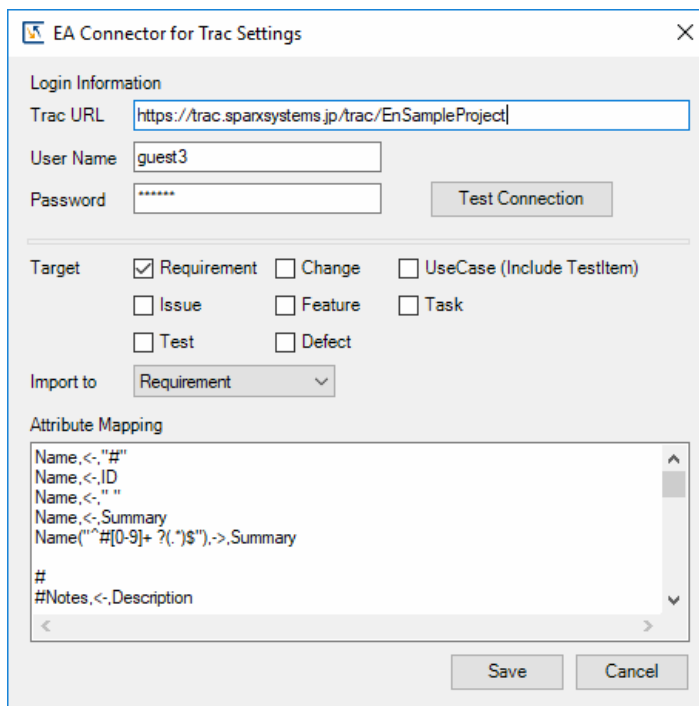


3. Connecto to Trac/Redmine

The test Trac/Redmine of Sparx Systems Japan have been open for the evaluation. Use the the following settings to connect to the test servers. (Data will be cleared every Monday.)

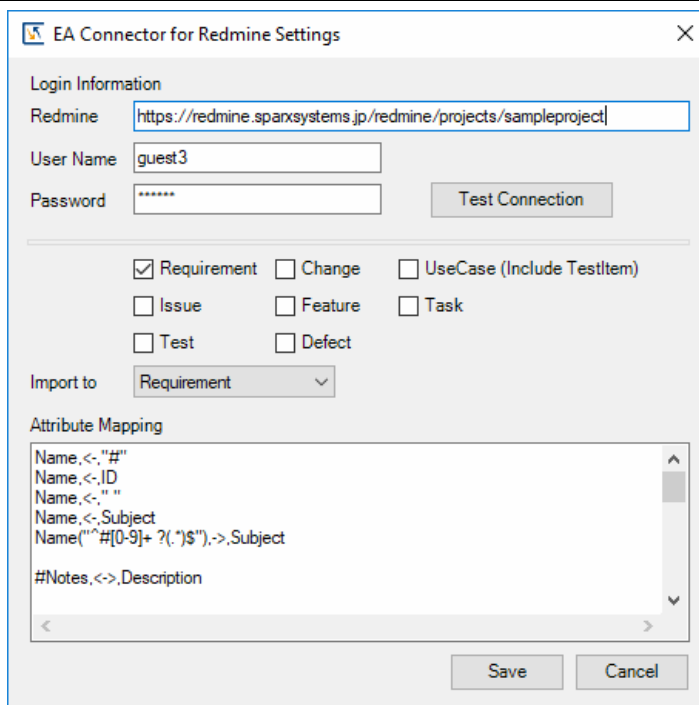
- EA Connector for Trac

Trac URL	https://trac.sparxsystems.jp/trac/EnSampleProject
Log-in information	(send with a trial license key)



- EA Connector for Redmine

Redmine URL	project specified	https://redmine.sparxsystems.jp/redmine/projects/sampleproject
	repository specified	https://redmine.sparxsystems.jp/redmine/
Log-in information		(send with a trial license key)



7. Steps (Settings) to use EA Connector for Trac/Redmine

1. Configure API settings.
 - Trac

To enable a user in a project to use XML-RPC, grant XML-RPC permission from that user in that project.
 - Redmine

Set Redmine to use Rest API (put a check in Administration | Settings | API | Enable REST web service).
2. Run Enterprise Architect and open a project.
3. Select “SPECIALIZE Ribbon | Add-Ins | EA Connector for Trac/Redmine | EA Connector for Trac/Redmine Settings” to set and save the following items.
 - URL

Trac: `https://<host_name>/trac/<project_name>`

Redmine project specified:
https://<host_name>/<arbitrary path>/projects/<project_name>

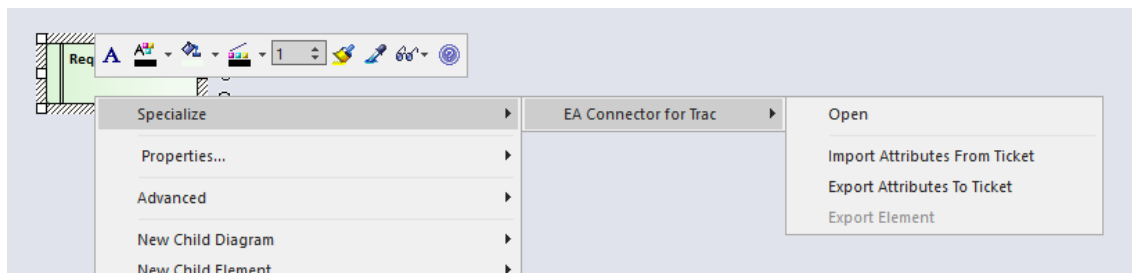
Redmine repository specified:
https://<host_name>/<arbitrary path>
 - User Name/Password

(URL information is saved for each Enterprise Architect project. Log-in information is saved for each log-in user of PC for each Enterprise Architect project.)

- Target: Enterprise Architect element types which show the menu of EA Connector for Trac/Redmine. When only Requirement is checked, Use Case or Issue do not show the menu of EA Connector for Trac/Redmine.
 - Import to: Enterprise Architect element type which is created when importing Trac/Redmine tickets.
4. Select one of the following to use EA Connector for Trac/Redmine:
- Select an element, such as a requirement, and then select a desired action from the context menu “Specialize | EA Connector for Trac/Redmine”.
 - Select an Enterprise Architect diagram, and then select a desired action from the context menu “Specialize | EA Connector for Trac/Redmine”.
 - Select a package, and then select a desired action from the context menu “Specialize | EA Connector for Trac/Redmine”.

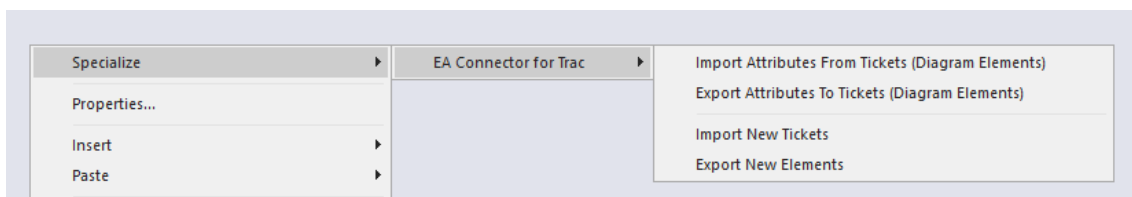
8. Actions of EA Connector for Trac/Redmine

- Actions for element(s)



- Open
Open the corresponding ticket of the element by a browser.
- Import Attributes From Ticket
Import the attributes of the corresponding ticket to the element.
- Export Attributes To Ticket
Export the attributes of the element to the corresponding ticket.
- Export Element
Create a new ticket corresponding to the element and then export the attributes to the new ticket.

- Actions for a diagram



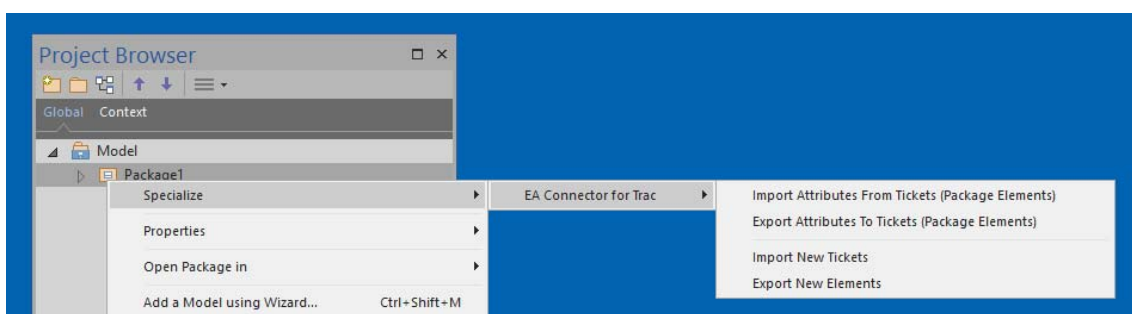
- Import Attributes From Tickets (Diagram Elements)
When elements on the selected diagram have the corresponding tickets, import attributes of the tickets to those of the elements.
- Export Attributes To Tickets (Diagram Elements)
When elements on the selected diagram have the corresponding tickets, export attributes of the elements to those of the ticket.
- Import New Tickets
When tickets have ticket IDs which do not match any ticket ID possessed by

elements existing in the current Enterprise Architect project, create new elements corresponding to the tickets and show the elements on the selected diagram.

➤ **Export New Elements**

When elements on the selected diagram do not have the corresponding tickets, create new tickets, connect the elements to the tickets, and export attributes of the elements to those of the tickets.

● **Actions for a package**



➤ **Import Attributes From Tickets (Package Elements)**

When elements under the selected package have the corresponding tickets, import attributes of the tickets to those of the elements.

➤ **Export Attributes To Tickets (Package Elements)**

When elements under the selected package have the corresponding tickets, export attributes of the elements to those of the tickets.

➤ **Import New Tickets**

When tickets have ticket IDs which do not match any ticket ID possessed by elements existing in the current Enterprise Architect project, create new elements corresponding to the tickets and put the elements in a selected package.

➤ **Export New Elements**

When elements under the selected package do not have the corresponding tickets, create new tickets, connect the elements to the tickets, and export attributes of the elements to those of the tickets.