



Enterprise Architect

User Guide Series

Project Maintenance

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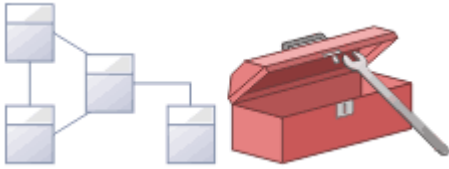
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Project Maintenance



The repository is an important data store that must be maintained to ensure that it is running efficiently and that the information it contains has integrity. Enterprise Architect has built-in features that allow you to keep the repository in good health. These include tools to maintain the database itself, such as Repair and Compact functions (for file based repositories), and a series of tools to manage the data and models, such as model validation and data integrity checks. Reference data can be imported and exported from the repository, and can be shared between repositories, ensuring consistency. The Browser window allows repositories to be refactored easily by dragging and dropping Packages, elements, features and diagrams to new locations. The Discussion and Library features allow the model to be critically analyzed and reviewed.

Facilities

Facility	Detail
Check the integrity of	If you have a failed XMI import, network crash or other unforeseen event that could

the data in a project	disrupt the integrity of information in the model, it is recommended that you run a Project Integrity Check.
Reset Auto Increment Columns in Tables	XML Import and Export can affect the table auto increment column values and push them towards their maximum allowed value; you can re-sequence the columns to avoid this problem.
Upgrade an old project to enable use of new features	The structure of Enterprise Architect project files is occasionally changed to support more features; when this happens, existing project files must be upgraded to the new format to ensure correct operation and to take advantage of all the new features.
Rename a project	If you want to rename an Enterprise Architect file-based project, you can do so through Windows Explorer.
Compact a project	As with many relational database products .EAP/.EAPX files do not physically release allocated space after data is deleted, therefore from time to time it can be beneficial to perform a 'compact', to reduce the physical size of the project file.

<p>Repair a project if it did not close properly</p>	<p>If a .EAP/.EAPX project has not been closed properly, such as during system or network outages, it is possible that the project will reports inconsistencies errors the next time it is opened. To resolve such issues a 'Repair' can be performed to correct any potential problems.</p>
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Notes

- You can only rename, compact and repair models created as .EAP/.EAPX files with Enterprise Architect. While most DBMS products provide similar functionality, they typically require an elevated level of permissions and therefore usually performed by your Database Administrator (DBA).

Maintenance Overview

An Enterprise Architect repository is continuously evolving as you add new items or change or delete existing items. During this evolution events can occur that have some minor internal impact on the integrity of the records stored in the database. New product enhancements are also made as a result of the company's strong commitment to innovation and from feedback from customers. These enhancements need to be incorporated into existing product installations so that customers continue to derive the benefit and value from the tool. In this topic you will learn about some of the remedial functions that can be used to keep you repository in good health and operating at optimal speed as listed below:

- Check Project Data Integrity - perform a health check
- Reset Auto Increments - reset the auto-increment column on system tables
- Upgrade a Project - augment the files to support new features or enhancements
- Run SQL Patches - run a SQL script to correct or enhance a database
- Rename a Project - change the name of a project file
- Compact a Project - decrease the size of a file based database
- Repair a Project - correct a problem due to file corruption from an unexpected network shutdown

Check Data Integrity

Over time as the models in your repository evolve small aberrations can occur in the database typically as a result of badly formed XMI imported from third-party systems or network crashes or other unforeseen events that disrupt the integrity of information in the repository. To ensure your repository is in good-health it is recommended that you run the Project Integrity Check function to check that your project data is structurally complete.

You can select a variety of items to check. The integrity check examines all database records and ensures there are no 'orphaned' records or inaccurate or unset identifiers. This function does NOT check UML or other modeling language conformance, only the data relationships and repository structure. So it will check that all attributes have identifiers but it will NOT check that you have used the correct relationship between a Use Case and an Actor.

`project-integrity-check-report`

You can conveniently run the integrity checker first in Report mode to discover and analyze problems located by the Integrity Checker. Once you have looked through the list of Problems that the check has found and viewed the proposed actions you can and then run it again in 'Recover/Clean' mode.

Other than for quite small repositories It is recommended that you don't run all the available checks at the same time as this can take some time to complete. Either run them individually or in small sets.

When Enterprise Architect 'Cleans' the model, it attempts to recover any lost Packages and Elements, and generates a new Package called `_Recovered_`. Check through any elements that are found and, if required, drag them back to where they belong in the Browser window. If they are not required, you can choose to delete them or export them as an XMI export to serve as a backup.

Access

Ribbon	Settings > Model > Integrity > Project Integrity
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Check the data integrity of your project

Step	Action
1	Open the project.

2	<p>Select the 'Project Integrity Check' menu option. The 'Project Integrity Check' dialog displays.</p>
3	<p>Select the checkbox for each check to run:</p> <ul style="list-style-type: none">• Package Structure• Object Structure• Object Features• All GUIDs• Cross References• Connectors• UML 2.0 Migration
4	<p>Select either:</p> <ul style="list-style-type: none">• The 'Report Only' option to just view a report on the state of your model, or• The 'Recover/Clean' option to recover and clean your project; before selecting this option, back up your project file first
5	<p>To write a log of the integrity check, click on the Save Results button and select a log file.</p>
6	<p>Click on the Go button to run the check. If you want to display the resulting information in a more readable layout, you can resize the dialog and its columns.</p>

UML 2.0 Migration

The UML 2.0 Migration check enables you to migrate the project from UML 1.3 semantics to UML 2.0 semantics. The migration process currently converts activities that are invocations of operations into called operation actions as per the UML 2.0 specification.

The UML 2.0 Migration option is an exclusive process that does not enable any of the other checks to be selected. When you click on the Go button to perform the migration, a prompt displays for you to confirm the operation.

Notes

- In the Corporate, Unified and Ultimate Editions of Enterprise Architect, if security is enabled you must have 'Check Data Integrity' permission to perform a data integrity check

Reset Auto Increments

Enterprise Architects models are natively stored in tables in a relational database and the tool uses the auto-increment feature of these database system to when inserting new rows in its system tables. There are a number of operations such as bulk imports and exports from XML files that can cause a table's auto-increment column to approach its largest allowed value. This topic explains how to correct this issues and to re-sequence the values in any affected tables .

Impacts

Impact Due To	Impact
XML Export/Import	<p>XML Export/Import can cause gaps in the numbering sequence of auto increment columns.</p> <p>Each XML Import deletes rows from several tables; the import then adds rows starting from the largest previous value of the auto increment column.</p> <p>Repeated XML imports can result in the value of the auto increment approaching the maximum value of the database datatype; for example, SQL Server's int</p>

	<p>datatype has a maximum value of 2,147,483,647.</p>
<p>Replication</p>	<p>Large auto increment values can also arise where the project originated as an EAP replica or design master.</p> <p>The Jet engine assigns random values for auto increment columns with each XML Import into the project.</p> <p>These random values can approach the maximum range of the repository data type, which could present a problem when the EAP project is transferred to a repository.</p>

Access

<p>Ribbon</p>	<p>Settings > Model > Integrity > Reset IDs</p>
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Re-sequence auto increment columns

Ste	Action
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1	Open the project.
2	<p>Select the 'Reset IDs' menu option.</p> <p>A dialog displays listing all non-empty tables that contain an auto increment or identity column.</p> <ul style="list-style-type: none">• The 'Rows' column shows the number of rows in the table• The 'Maximum ID' column shows the current maximum value of the auto increment column• The 'Action' column shows either 'No Action' or 'Reset', depending on how close the column value is to the datatype's maximum <p>Tables requiring a reset are automatically selected in the list.</p>
3	Click on the Go button to reset the auto increment column values.

Notes

- Connection to the project must be via a **direct** connection; IDs cannot be reset while the connection to the repository is via Pro Cloud Server

- Project Auditing must be disabled before IDs can be reset
- MySQL repositories will require re-starting of the MySQL server so that the reset auto increment columns start from the reset value
- While strict not necessary, Sparx System would recommend that this task is performed when all users are not actively using the Project
- Sparx System recommend that a backup of the Project should be done both before and after performing a Reset of Table Auto Increment columns
- In the Corporate, Unified and Ultimate Editions of Enterprise Architect, if security is enabled you must have 'Check Data Integrity' permission to reset IDs

Upgrade a Project

The structure of Enterprise Architect project files is occasionally changed to support new features. In such cases, the project might have to be upgraded. Upgrading to the new file structure is a simple and quick process that brings your project to the current level to:

- Ensure correct operation and
- Support all the latest Enterprise Architect features

Initial Check

When you load a project that was created in an earlier release of Enterprise Architect (for example, an archived project) using a recent release of Enterprise Architect, the system determines whether the project should be upgraded and, if the upgrade is necessary, displays the Upgrade Wizard.

The Upgrade Project Wizard

The Upgrade Project Wizard takes you through the upgrade process and:

- Advises you of the necessity to upgrade
- Advises you to back up the current project; it is essential

to back up before any changes are made

- Checks which upgrade path is required
- Guides you through the steps to perform the upgrade
- Opens the newly converted project

Notes

- If you are using replication in your models, and the upgrade wizard detects that the project you are opening is a replica and not a Design Master, a different upgrade path is required
- Once upgraded, the project cannot be opened with the version of Enterprise Architect in which it was created

Upgrade Replicas

Models that have replication features added might have to be upgraded differently from regular projects.

- If the model is a Design Master (the root model of all other replicas) then you can upgrade the model to suit the current version of Enterprise Architect; after upgrading a Design Master you should re-create the replicas, rather than synchronizing
- If the model is not a Design Master, you must first remove the replication features, then upgrade the project in the normal manner; the Upgrade Wizard guides you through the steps

Run SQL Patches

Enterprise Architect is a robust platform and there are many internal checks that are applied to ensure that the integrity of the information in the repository is maintained.

Occasionally an issue might arise and Sparx Systems may choose to release a patch to that to rectify the problem.

The patch generally checks how many records are to be updated, and reports on what is to be done.

Access

Ribbon	Settings > Model > Integrity > Run Patch
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Run SQL Patch

1	Open Enterprise Architect and load the Project that requires the patch applied.
2	Select the 'Run Patch' option.

	The 'Run Patch' dialog displays.
3	Click the Browse button and select the supplied patch file (*.XML) in the file browser. Upon loading the select file, the Description will then be loaded with the explanation of what action the patch will perform.
4	Click the Run button to apply the patch to the current Project.

Rename a Project

Occasionally the purpose of your repository may change, or you may for any number of reason want to change its name. While you can change the name of the root package in the repository to change the name of the repository itself you will need to rename the file at the Windows file system level, using Windows Explorer.

Rename an Enterprise Architect project file

Step	Action
1	If you have the project open, close it.
2	Ensure no other users have the file open.
3	Open Windows Explorer and navigate to the project.
4	Rename the project file using Windows Explorer.
5	You should keep the file extension to preserve compatibility with the default project type, as installed in the registry at installation time.

Compact a Project

After a period of time, through general use, a project .eap file might occupy more disc space than necessary. You can move the project to a local drive and compact the file to recover the unused space.

Access

Ribbon	Settings > Model > Integrity > Manage .EAPX/.EAP File > Compact .EAPX/.EAP File
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Compact a project

Step	Action
1	If you have the project open, shut it down.
2	Ensure no other users have the file open.
3	Select the 'Compact .EAPX/.EAP File...' menu

	option.
4	Follow the on-screen instructions to complete the process.

Notes

- Always compact projects on a local drive, never on a network drive
- In the Corporate, Unified and Ultimate Editions of Enterprise Architect, if security is enabled you must have 'Administer Database' permission to compact a project

Repair a Project

If a project has not been closed properly, such as during system or network outages or on poor network connections, on rare occasions the .eap file does not re-open correctly. A message displays informing you the project is of an unrecognized database format or is not a database file. In such cases, you can move the project file to a local drive and repair it.

Access

Ribbon	Settings > Model > Integrity > Manage .EAPX/.EAP File > Repair .EAPX/.EAP File
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Repair a project that was not closed properly

Step	Action
1	Ensure that all users are logged off the project you are attempting to repair.

2	Copy the project file to a local drive on your workstation.
3	Close and restart Enterprise Architect - you do not need to open any model, including the one you are repairing.
4	Select the 'Repair .EAPX/.EAP File...' menu option, and follow the on-screen instructions.
5	Once you have repaired the project, it is recommended that you perform a data integrity check.

Notes

- Always repair projects on a local drive, never on a network drive
- The 'Compact a Project' option can also repair corrupt .eap files
- In the Corporate, Unified and Ultimate Editions of Enterprise Architect, if security is enabled you must have 'Administer Database' permission to repair a project

