Connector for Mentor Graphics Expedition Enterprise

User's Guide

3DEXPERIENCE R2020x

DASSAULT SYSTEMES | The 3DEXPERIENCE Company

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Introduction

Connector for Mentor Graphics Expedition Enterprise needs one of the different applications developed by 3DEXPERIENCE, for instance, X-CAD Design Foundation.

Therefore, to install and run the Connector for Mentor Graphics Expedition Enterprise, user needs to install X-CAD Design Foundation from 3DEXPERIENCE.

The connector has two components: A server component, which enhances the X-CAD Design Foundation, a client component, which connects Mentor Graphics to X-CAD Design Foundation.

This document provides information on the Connector for Mentor Graphics Expedition Enterprise. It focuses mainly on the use of connector from the CAD user perspective. The client side (Mentor Graphics side) component of the connector is referred to as **"Client Connector"** hereafter.

Client Connector can be installed on the Mentor Graphics client or server machine. Before installing the Client Connector, it is important to install locally the XCAD Design Connector and the Connector Server Component in 3DEXPERIENCE.

Known limitations

- Mentor Graphics and Client Connector do not support special characters, white spaces etc. in file and folder names. This is also a limitation for the temporary directory of the user (i.e. choose “d:\temp” as temp directory, rather than “d:\temp dir”).

Update and Migration

Loading a design which was created using the previous versions of the Client Connector needs to be migrated in order to be used by the latest version of the connector. Migrating old Meta data to the new format is made very simple by the Client Connector.

Once the user performs a task, the Client Connector brings up below dialog with a message if the user needs to convert the old Meta data to the new format. If the user selects *Yes* and stores the CAD object to 3DEXPERIENCE, then the old Meta data is converted automatically to the format by the Client Connector. If *No* is selected, then migration process and the task is aborted and gives out an error that the migration was aborted by the user.

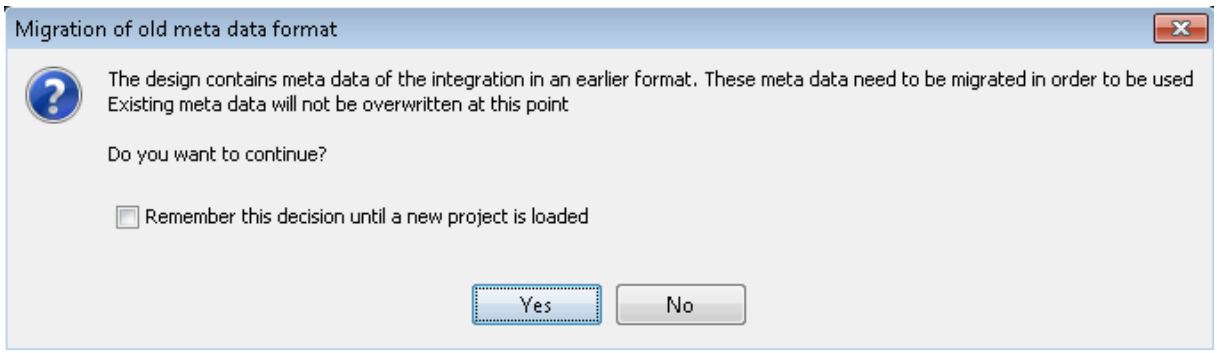


Figure 1 Migration

Remember this decision checkbox:
Selecting this checkbox remembers the user selection until a new project is loaded in the connector.

Create Support Archive

The Support archive contains all the necessary log files for the support team to resolve issues arising from the connector. The support archive can be created by selecting the "Support Archive" context menu from the "SystemTray→Help→Support archive…". Once the user selects this context menu entry, a folder chooser dialog opens up for saving the archive. Clicking the save button in folder chooser dialog, creates the archive under the chosen folder location.

In case of issues with the connector flow, please include the support archive file along with the issue.

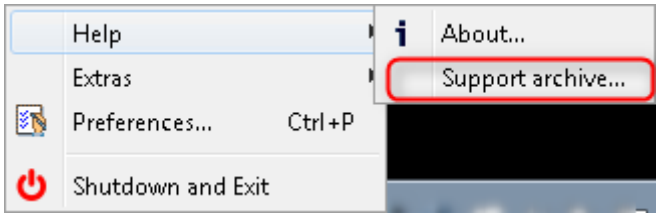


Figure 2 Creating Support archive

After successful creation of the support archive, a dialog opens up with the link to the folder for direct and easy access.

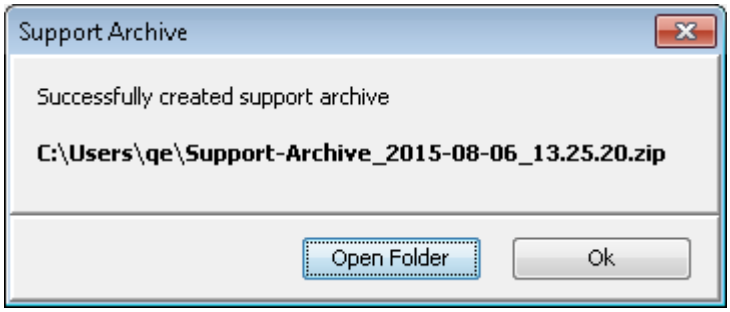


Figure 3 Support Archive

Client Connector

Two separate installers are provided for the Client Connector. One for Design Data Management and another for Component Data Management.

The Design Data Management flow includes the Design and BOM features. The Library flow includes the Component Data Management feature.
Once the Connector is installed, shortcuts are available in Windows Start based on the installed feature.

Following shortcuts are installed for “Connector for Mentor Graphics Expedition Enterprise”:

- Design Data Management Flow
  - *Start New* from 3DEXPERIENCE
  - *Open from 3DEXPERIENCE*
  - Configure *3DEXPERIENCE* Preferences

Following shortcuts are installed for “Connector for Mentor Graphics Expedition Enterprise Library”

- Component Data Management Flow
  - *Connector for Mentor Graphics Expedition Enterprise DxDatabook*

DxDesigner

After successful installation of the Client Connector, the main menu of the DxDesigner will have a pull down "3DEXPERIENCE" menu as shown in the figure below.

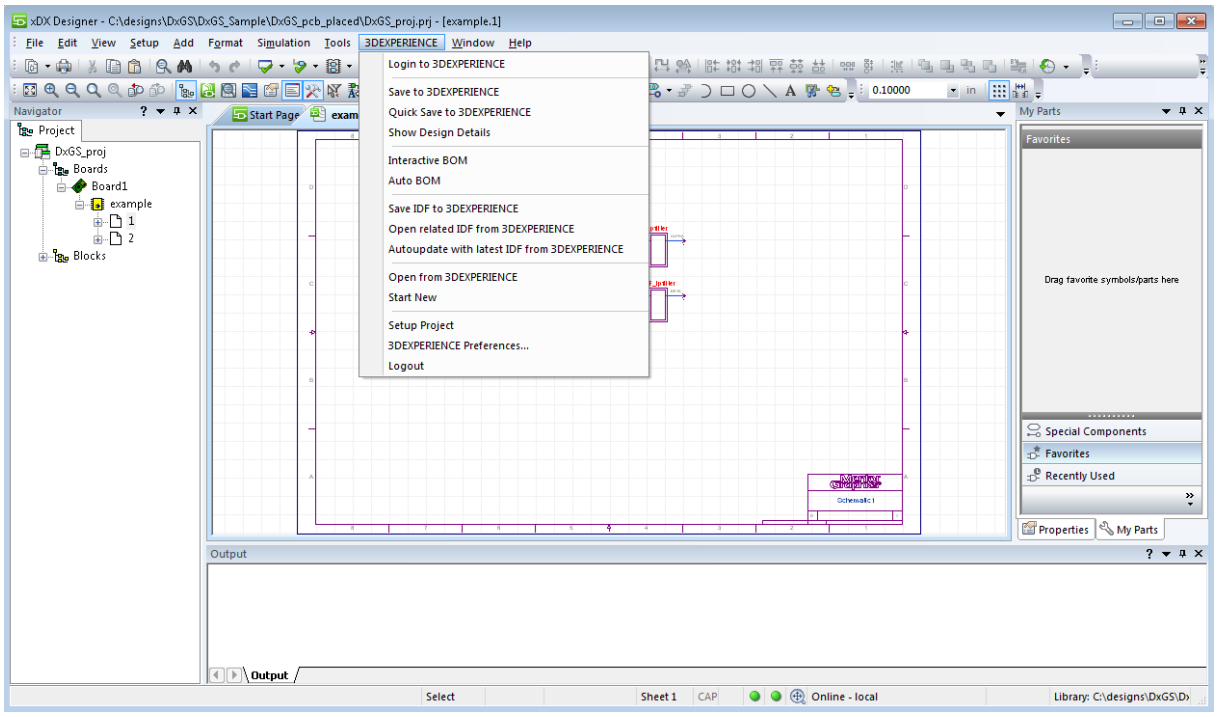


Figure 4 DxDesigner 3DEXPERIENCE menu entry

Important Note: **Microsoft Visual C++ 2008 or higher Redistributable Package needs to be installed to view 3DEXPERIENCE menu entry in the ECAD tool.**

The “3DEXPERIENCE” menu of the Client Connector in DxDesigner will have sub menu entries for all 3DEXPERIENCE related task operations and is explained in a separate chapter.

Following menu entries are installed in DxDesigner:

- Design Data Management Flow
  - *Login to 3DEXPERIENCE*
  - *Start New*
  - *Open from 3DEXPERIENCE*
  - *Save to 3DEXPERIENCE*
  - *Quick Save to 3DEXPERIENCE*
  - BOM Data Management
    - *Auto BOM*
    - *Interactive BOM*
  - Mechanical Collaboration
    - *Save IDF*
    - *Open related IDF*
    - *Autoupdate with latest IDF*
  - *Show Details*
  - *Setup Project*
  - *3DEXPERIENCE* Preferences
  - *Show* Log
  - *Logout from 3DEXPERIENCE*

Client Connector Features

Login to 3DEXPERIENCE

The “Login” operation will join the already existing session, if any. Otherwise, it opens a Login dialog through which the User can specify the login credentials.

When the user hits the “Login to 3DEXPERIENCE” menu entry, the Client Connector brings up a dialog as shown below:

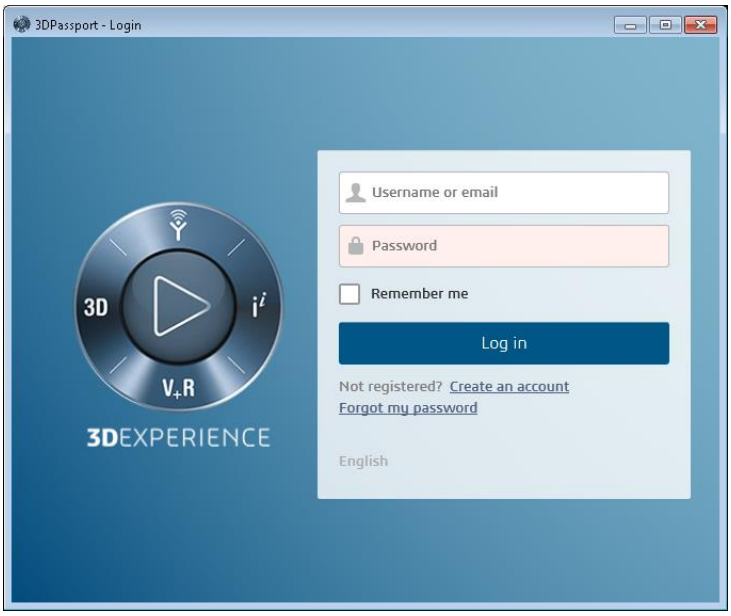


Figure 5 3DEXPERIENCE Login page

On the login page, the user has to specify a valid username, password in order to connect to 3DEXPERIENCE successfully.

The credentials you enter determine the connector functions that you are authorized to perform. The Administrator assigns one or more collaborative spaces to you, and access roles for each space. If more than one collaborative space or access role is assigned to you, choose the required space and appropriate access roles.

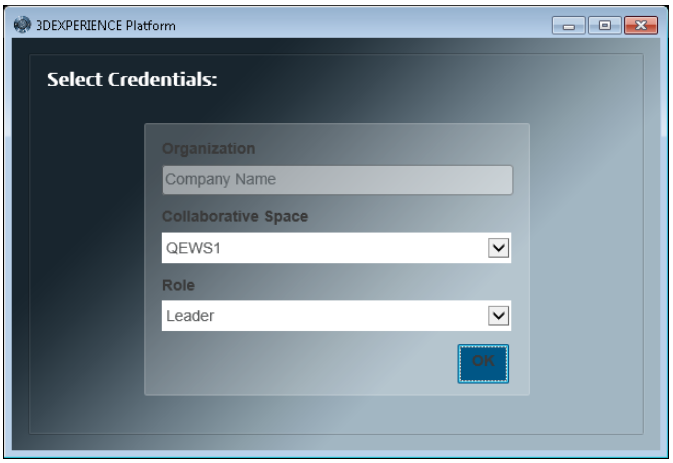


Figure 6 Select Credentials

Selecting credentials logs you in to 3DEXPERIENCE with the selected access role. If you only have one Collaborative Space and one access role assigned, then credentials are automatically selected by the system and the Select Credentials dialog is not displayed.

Logout from 3DEXPERIENCE

The integrated "*Logout from 3DEXPERIENCE*" menu entry disconnects the Client Connector from 3DEXPERIENCE and exit the client connector.

Show Log

The "*Show Log*" menu opens up a log window with the log messages of the client connector.

The user can perform the following operations from the context menu in the log window:

- **Select All** - Select all log message
- **Copy Selected** - Copies the selected contents from the log
- **Clear Log** - Clears all the log messages from the log window but do not delete the contents from log file

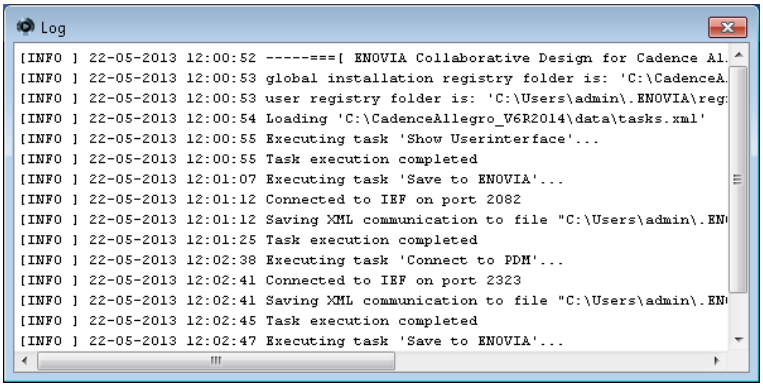


Figure 7 Show Log

Design Data Management Flow

Setup Project

This task helps in preparing the BOM prior to maintaining it in 3DEXPERIENCE. The user can assign an 3DEXPERIENCE Part to be used as the Printed Circuit Board or register 3DEXPERIENCE Part to the ECAD Assembly.

BOM Registration

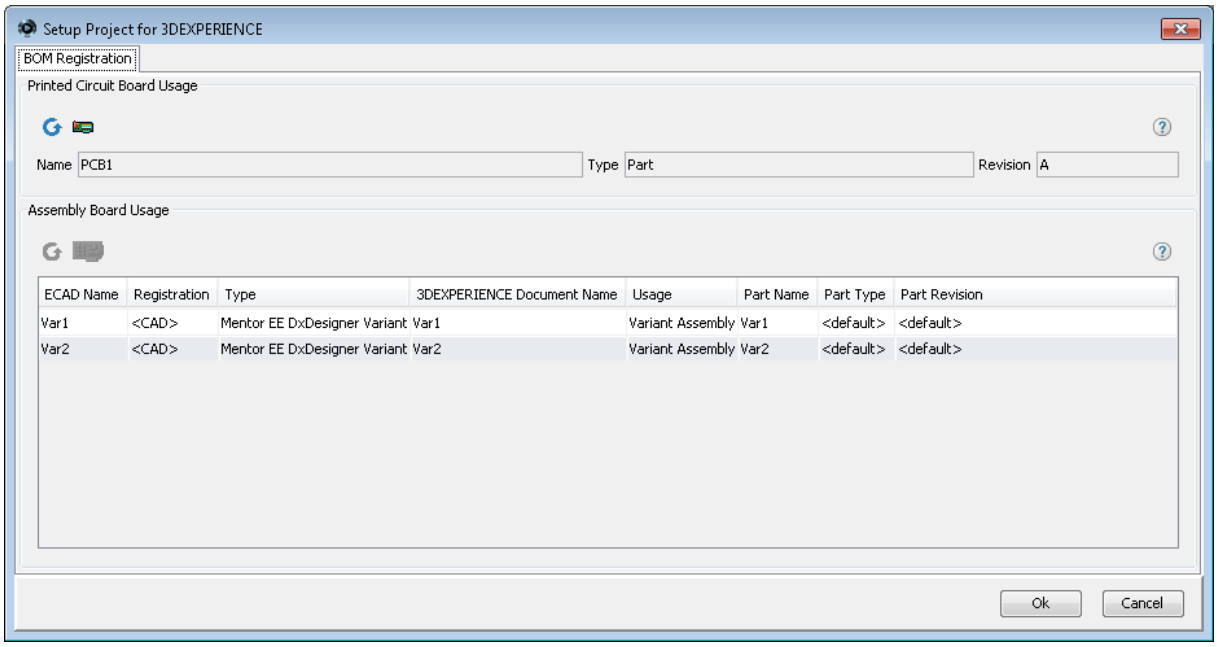


Figure 8 BOM Registration

Printed Circuit Board Usage

- Selecting this button opens the Part Search in 3DEXPERIENCE to select the 3DEXPERIENCE Part to be assigned as the Printed Circuit Board for which the ECAD data is registered.

- This removes the Printed Circuit Board assigned.

Assembly Board Usage

- Selecting this button opens the Part Search in 3DEXPERIENCE to select the 3DEXPERIENCE Part to be assigned as the Assembly Board for which the ECAD data is registered.

- This removes the assigned Assembly Board.

Start New

"Start New" opens a dialog where the user can select CAD object templates (Containing Design Archive) which are stored in 3DEXPERIENCE. Once the template is selected, the user can check out the template to create a new CAD object. Here the user provides a name by using two options. Option 1, the user can specify a name under the Name field or option 2, the user can choose "Autoname Series" from the drop-down menu so that the system automatically assigns a name from the auto name series selected. The user can also specify the directory under which the new CAD object would be created by using the browse button in the Location to create new data field.

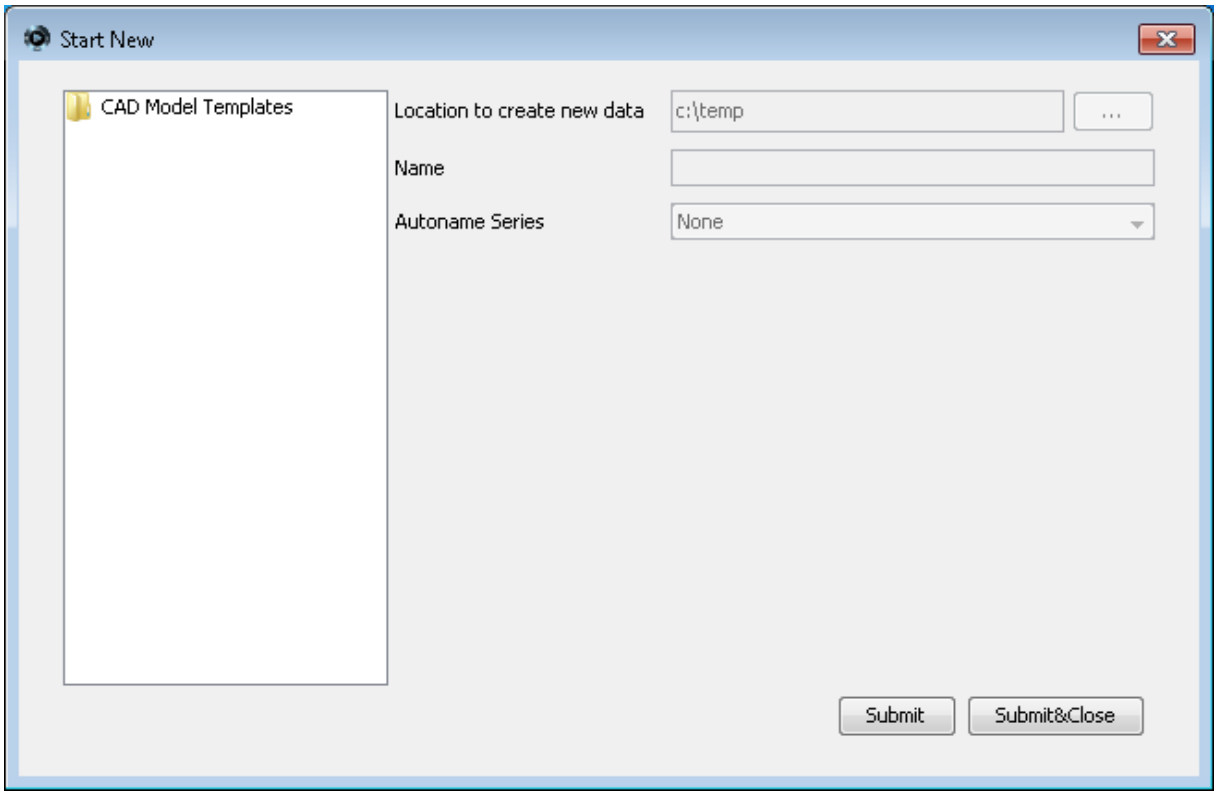


Figure 9 Start New Task

Once the CAD object name is provided, the user selects the Submit button. The template is checked out from 3DEXPERIENCE to the user specified directory and renames it according to the user specified name or Autoname Series selected. Once the archives are extracted to a folder and the archives contain a project, a dialog opens up asking if the checked out project should be open in CAD Tool. "Submit&Close" closes also the "Start New" dialog.

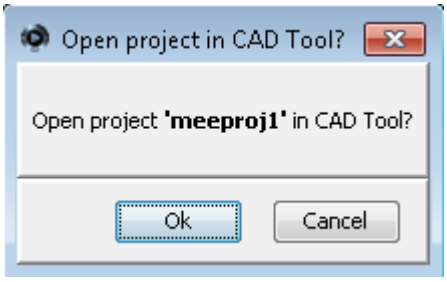


Figure 10 Open project in CAD Tool

Click on OK will load the checked out design into the CAD tool. Cancel will finish the checkout operation without opening the CAD tool.

Open from 3DEXPERIENCE

"Open from 3DEXPERIENCE" task will initiate the checkout process. A login to 3DEXPERIENCE is performed, if the user is not already logged in. Once logged in to 3DEXPERIENCE, the search dialog opens up. The user can specify the search type and click on the Search button to search for a CAD object in 3DEXPERIENCE. The search dialog is shown below.

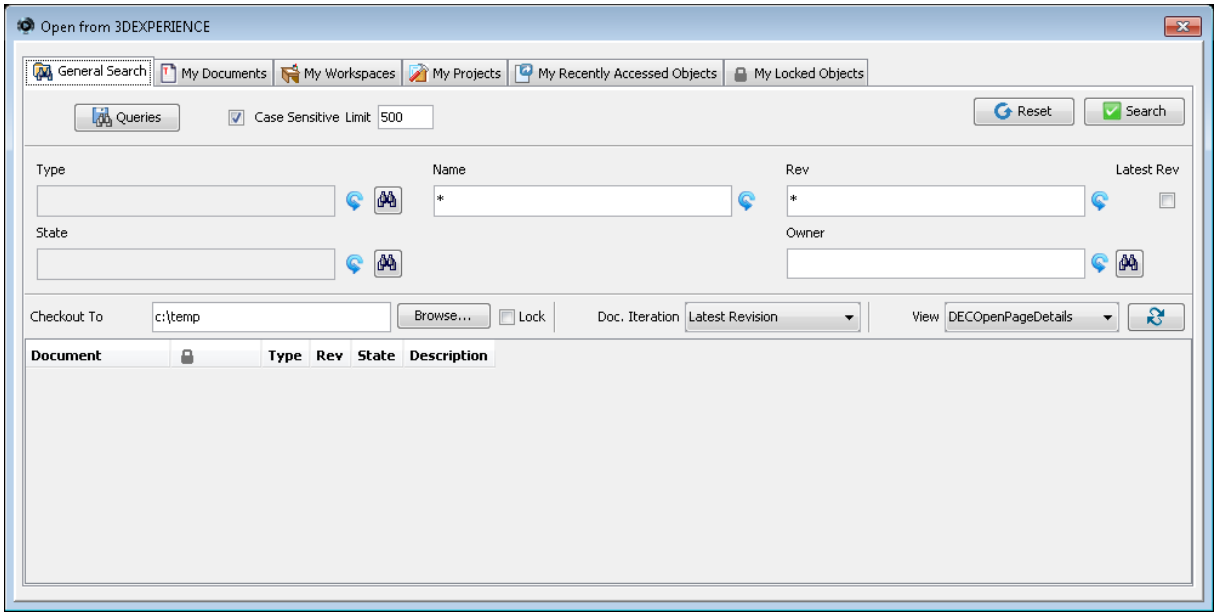


Figure 11 Open from 3DEXPERIENCE

The user has the privilege of searching for the CAD objects in 3DEXPERIENCE using six different options. Each tab in the search dialog represents the search options namely:

General Search	- Basic search which helps in searching the CAD objects in 3DEXPERIENCE
My Documents	- Search for all CAD objects which are created by the current user
My Recently Accessed Objects	- Search for the CAD objects in 3DEXPERIENCE based on the date of access
My Workspace	- Search for all the workspaces available in 3DEXPERIENCE
My Locked Objects	- Search all objects which have been locked by the current user in 3DEXPERIENCE

Basic Search Settings

Clear Search Results:

The Reset button clears all results of the search.

Search Button:

The Search button is used to perform a search of the design in 3DEXPERIENCE based on the criteria specified by the user.

Checkout Directory:
This shows the default checkout directory. To change the checkout directory, user can click on Browse button. It will bring up a directory selection dialog where the user can navigate to the directory. Once user clicks Ok button, the selected directory is returned to the text box. This change is reflected in the search dialog.

Lock:
Selecting this checkbox, locks the design after checkout.

Design Configuration:
To display specific iteration of CAD objects, select one of these options from the Document Iteration drop-down list:

- **Latest Revision**
  Finds the latest revisions of the selected node and its underlying structure.
- **Latest Frozen Revision**
  Finds the latest revision which is in the state frozen.
- **Latest Released Revision**
  Finds the latest released revision of the selected node and its underlying structure. If no object is in the Release state, then the latest revision of the object is displayed.
- **Latest in Work Revision**
  Finds the latest revision which is in the state work.
- **As-Saved**
  Finds the saved structure.
- **As Built**
  Provides the precise structure stored when it was checked in.

View:
The user can select different table views using the drop-down menu. Based on the selection, the table is updated.

Context Menu Entries

Once the user searches for the CAD objects, various operations can be performed through the context menu of the CAD object. The context menu operations are explained below.

Open

User can check out the CAD object from 3DEXPERIENCE using the option **Open**. When the user selects **Open** from the context menu of the CAD object, the CAD object and all related CAD objects of the selection will be checked out from 3DEXPERIENCE to the user specified checkout directory. The user can change the checkout directory by selecting the path of the checkout directory using the **Browse** button in the "Checkout To" field.

The archive of the CAD object is checked out from 3DEXPERIENCE once the **Open** menu is selected. Later the archive is extracted by Client Connector and deletes the local archive files.

During Open when the checked-out CAD object is already present in the checkout directory, then the system opens up a dialog if the data needs to be overwritten or to specify a new folder for checkout.

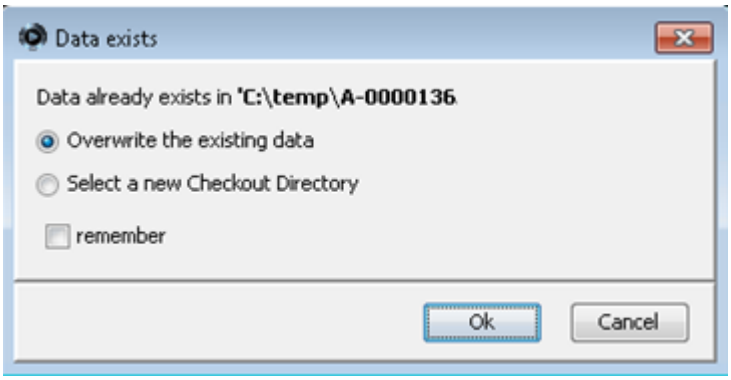


Figure 12 Data exit dialog

Here the user can select **Overwrite the existing data** in order to replace the existing data in the local system or can **Select new Checkout Directory** which opens up a file chooser dialog so that the user can specify a new checkout folder.

Remember: Enabling this checkbox, remembers the user decision for further data in the current run.

Once the archives are extracted to a folder and the archives contain a project, a dialog opens up asking if the checked-out project should be open in CAD Tool.

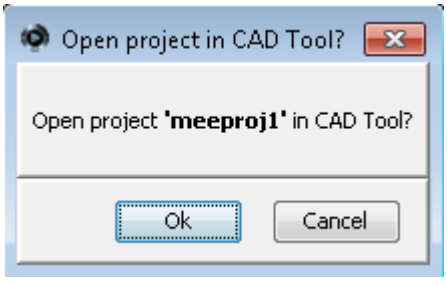


Figure 13 Open project in CAD Tool

Click on **OK** will load the checked-out design into ECAD tool. **Cancel** will finish the checkout operation without opening the ECAD tool.

Open Selected

"Open Selected" menu entry works similar as the "Open" menu entry, but it checks out only selected CAD objects

Lock

"Lock" menu entry help users to lock the selected CAD object in 3DEXPERIENCE. Once the user lock the CAD object, the name of the user who locked the CAD object is displayed in the *"Locked By"* field of the search dialog.

Unlock

"Unlock" menu entry help users to unlock the selected CAD object in 3DEXPERIENCE. Once the user unlocks a CAD object, it is reflected in the "*Locked By"* field of the search dialog.

Show Iterations

The "Show Iterations" menu brings up a new dialog listing all the iterations of the selected CAD object.

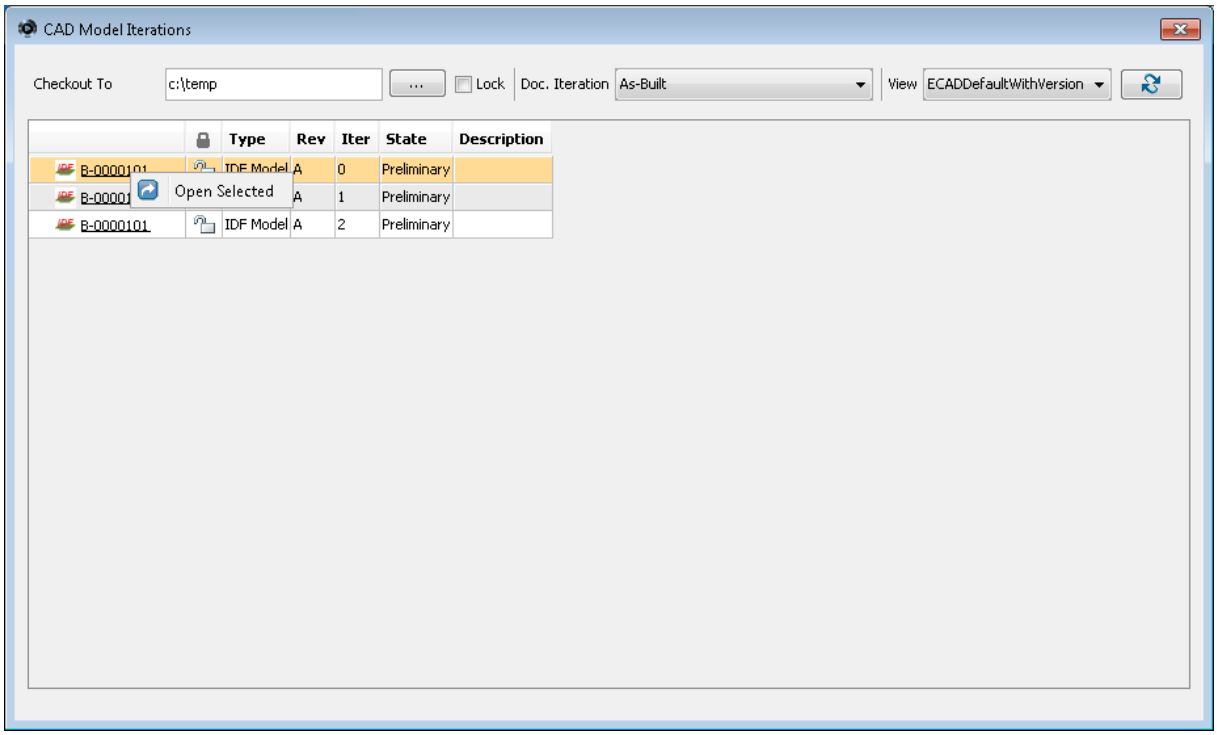


Figure 14 Show Iterations

The user can see all the iterations of the selected CAD object. Here the user can perform certain operations namely:

- *Open Selected*

The hyperlink on the CAD object functions the way as *Explore In 3DEXPERIENCE*.

Remove CAD Model

The user has the possibility to remove the selected CAD objects permanently from the database. Selecting this menu brings up a confirmation dialog as shown below.

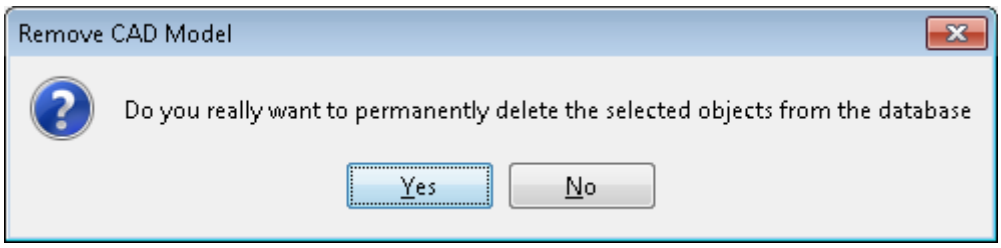


Figure 15 Remove CAD Model

In **My Workspace** view the user also has the possibility to remove the selected CAD object from the Workspace but leave them in the database or to delete it permanently from the database. Selecting this menu brings up a confirmation dialog as shown below.

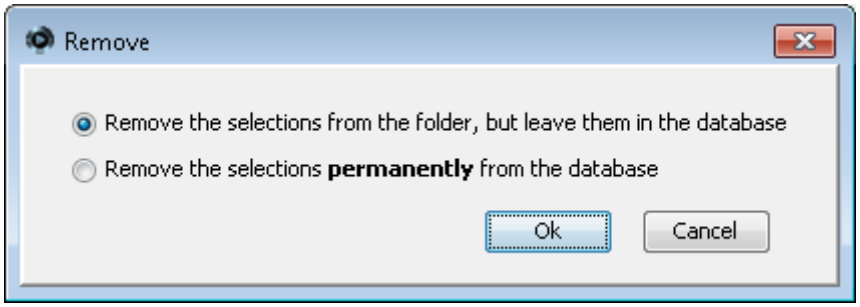


Figure 16 Remove CAD Model in My Workspace

Remove the selections from the folder but leave them in the database:
Selecting this option removes all the selected CAD models from the current workspace but does not delete them from the database. The CAD Models are removed only from the current workspace and other existence of the same CAD models in different workspaces or folders are not removed.

Remove the selections permanently from the database:
Selecting this option, deletes the selected CAD models permanently from the database. This operation cannot be undone.

Show Details

This helps in showing all the details related to the selected CAD object.

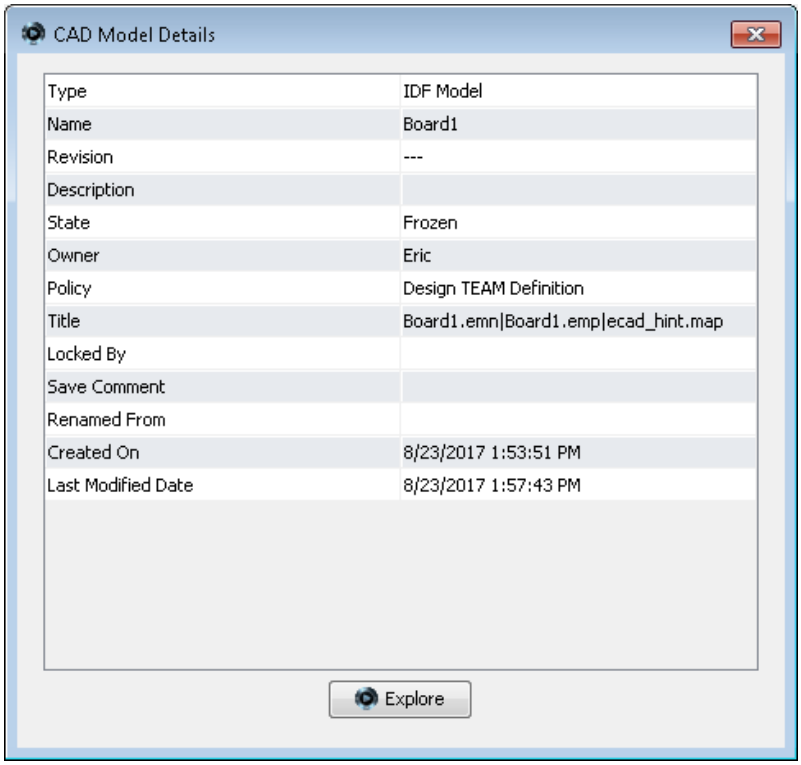


Figure 17 Show Details

Explore In 3DEXPERIENCE

"Explore in 3DEXPERIENCE" explore the CAD object in 3DEXPERIENCE with the web browser. When this menu is selected, the Client Connector opens up a web browser and requests the user to login to 3DEXPERIENCE using the login credentials. Once logged in, the CAD object is opened in 3DEXPERIENCE web browser.

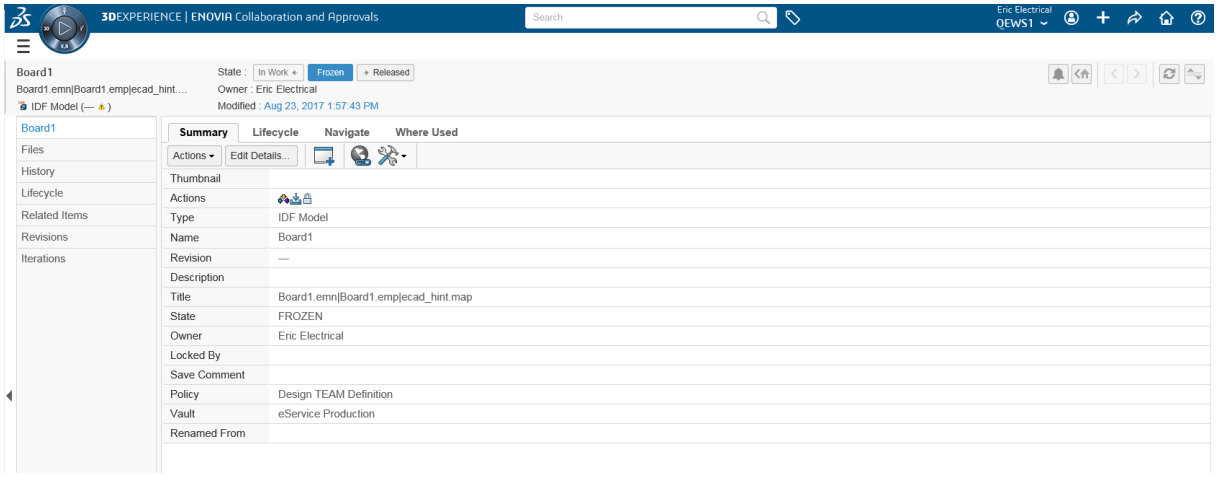


Figure 18 Explore in 3DEXPERIENCE

General Search

The "*General Search*" is also the basic search which helps in searching the CAD objects in 3DEXPERIENCE based on various options. The general search dialog is shown below.

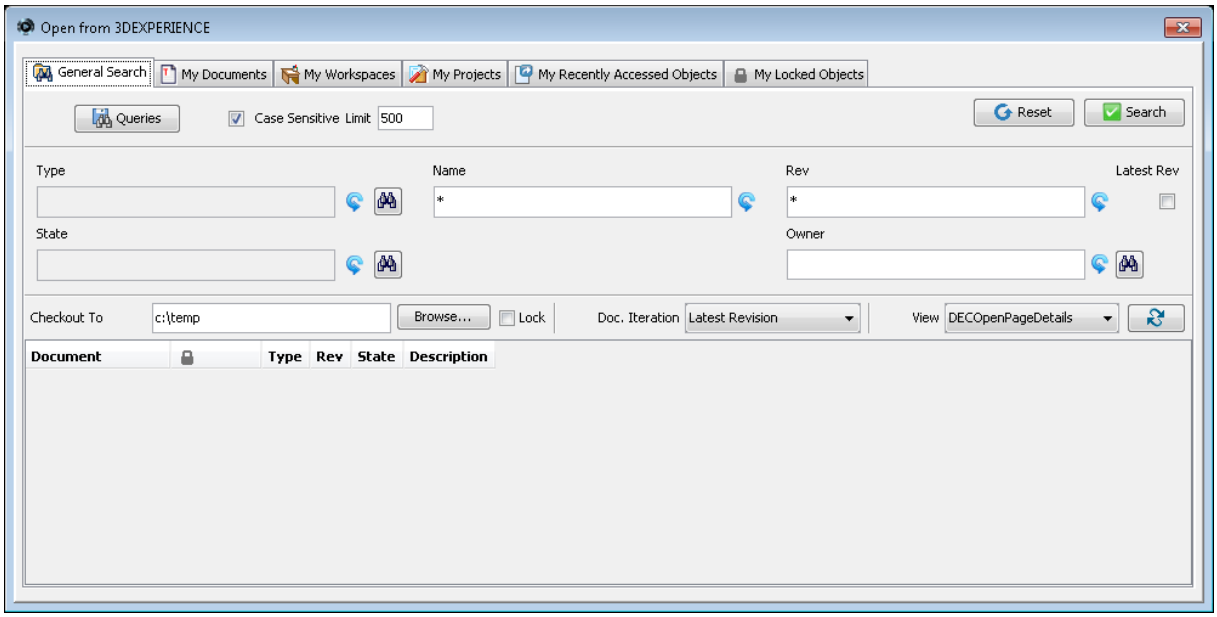


Figure 19 Search: General

After searching for the design, the user can perform various operations on the design using the context menu namely:

Context Menu entries of General Search:

- *Open*
- *Lock*
- *Unlock*
- *Show Iterations*
- *Remove CAD Model*
- *Show Details*
- *Explore In 3DEXPERIENCE*

The hyperlink on the CAD object functions the same way as *Explore In 3DEXPERIENCE.*

Criteria settings

The user can search for an object based on various criteria

Type:
The user can select the type of the object to search for using the browse button in the Type field.

Name:
If the user knows the name of the design to be searched, then it can directly be specified in the Name field. It also accepts a wild card character (*) which will return all the CAD objects.

Case sensitive:
The user has the possibility to search for a name based on case sensitive search. If this checkbox is enabled, then the search is case sensitive and if the checkbox is de-selected, then the search is not case sensitive.

Revision:
If the user specifies the revision of the object to be searched, connector returns all the CAD objects belonging to the specified Revision.

Latest Revision:
This check box is used to return all the latest revision of the objects in 3DEXPERIENCE. When this checkbox is selected, the Revision text field is disabled.

Owner:
The user can specify the name of the user, if the user intends to search for all the CAD objects owned by the particular user. The user also has the possibility to search for the users in 3DEXPERIENCE using the extended search functionality. Clicking on the browse button opens up a dialog for searching users in 3DEXPERIENCE.

Figure 20 Search for Person

The user can search for users based on four criteria.

- **User Name**
  Enter a username to search for a user. Multiple entries are allowed which are entered using comma separated entries. A wild card character returns all the available users in 3DEXPERIENCE.
- **First Name**
  Enter the first name of a user to search for in 3DEXPERIENCE. Multiple entries are not allowed. Wild card returns all the available users in 3DEXPERIENCE.

- **Last Name**
  Enter the last name of a user to search for in 3DEXPERIENCE. Multiple entries are not allowed. Wild card returns all the available users in 3DEXPERIENCE.

- **Organization**
  Enter the organization name. Multiple entries are allowed which are entered using comma separated entries. Wild card returns all the available users in 3DEXPERIENCE. It returns all the users belonging to the specified organization.

- **Add Button**
  The user selects the available persons returned and clicks on Add button to return the selected users to the Owner field of the "Open from 3DEXPERIENCE" dialog. Multiple selections of the results are possible using Ctrl button.

- **Search Button**
  Clicking on the search button returns all the results based on the entered criteria.

Vault:
The user can specify the vaults using the browse button in order to search for all CAD objects in the specified vault.

State:
The user can search for the objects based on the states of the object namely Release, Approved, Review, and Preliminary.

Limit:
The user can restrict the number of results to be returned using the Search Limit field. Client Connector returns the number of objects specified in the search limit.

Once the user has specified all the criteria, the actions buttons are used to perform a search of the design in 3DEXPERIENCE.

Queries

The Queries button opens up the Available Queries dialog. The user has the possibility to save a new search query or load the existing queries and also delete the existing ones.

Figure 21 Available Queries

A search mechanism is implemented for ease of use which highlights the available queries in grey color showing the available matches to the specified name by the user as shown below.

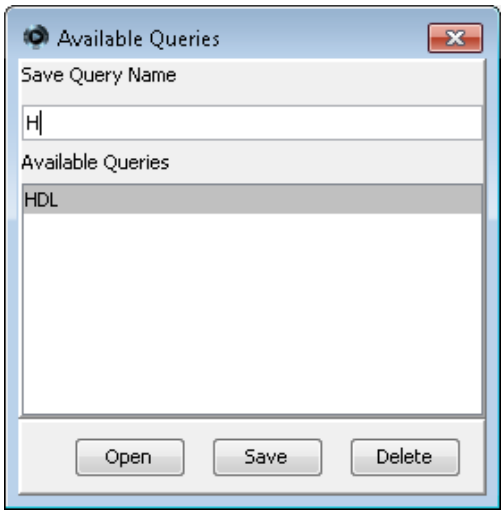


Figure 22 Available Queries: similar available queries

If the user types the exact available query name, then it is highlighted in blue color.

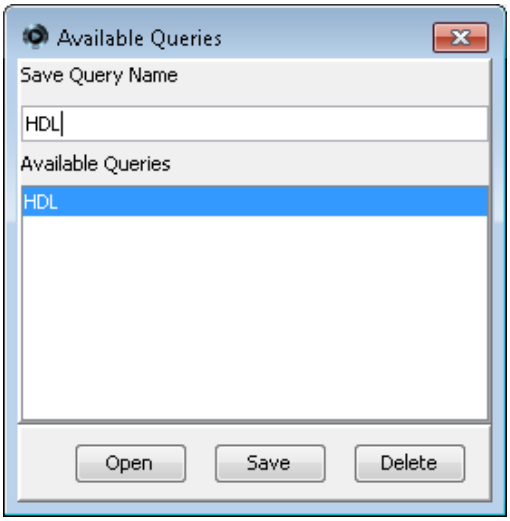


Figure 23 Available Queries: matching Query

Save:
The **Save** button is used to save the current search criteria as a predefined query into 3DEXPERIENCE.
User can specify a name for storing the defined criteria as a query which can later be loaded from the **Open** button.
Here the user can save by typing a new name or replace an existing query by selecting it.
If the user types the exact available query name, then it is highlighted in blue color and upon acceptance from the user by clicking the **OK** button, the available query is overwritten by the new query.

Open:
The **Open** button allows the user to select a predefined query which was previously saved. The user can load the saved query by selecting this button.

Delete:
The **Delete** button is used to delete the existing queries available. The user can select the desired query from the available Queries or type the name and click on the Delete button to delete the query. The deleted query is removed from the available query list.

My Documents

"My Documents" searches all created CAD objects in 3DEXPERIENCE based on the currently logged in user. The *"My Documents"* dialog is shown below.

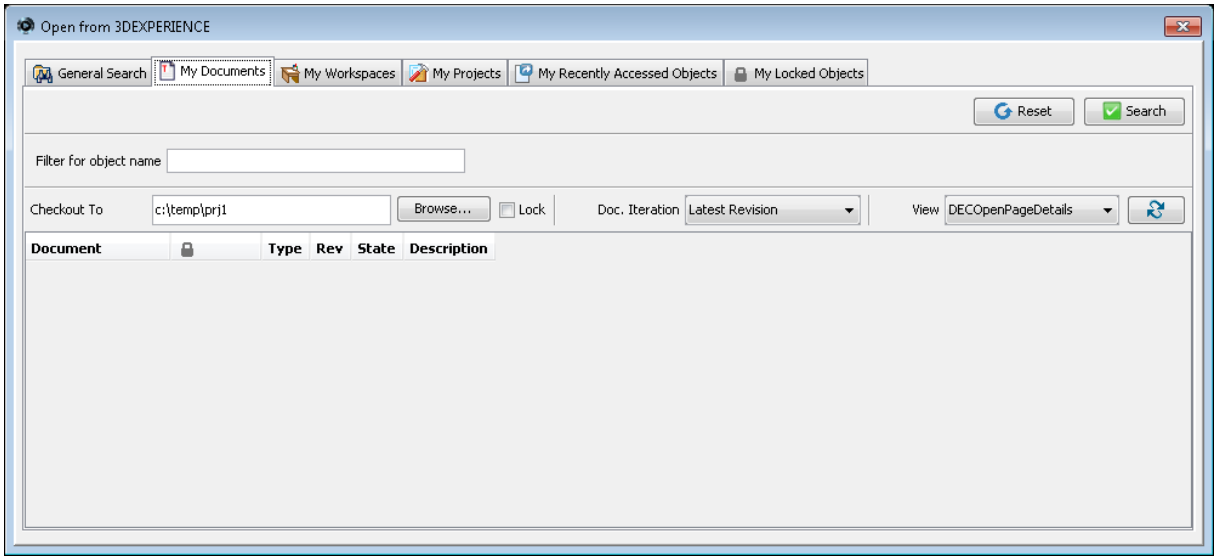


Figure 24 My Documents

Filter for object name:
The user can filter the search result with any string. The string is not case sensitive.

Context Menu Entries of My Documents:

- *Open*
- *Lock*
- *Unlock*
- *Show Iterations*
- *Remove CAD Model*
- *Show Details*

The hyperlink on the CAD object functions the same way as *Explore In 3DEXPERIENCE*.

My Workspace

This helps the user to search for all the workspaces available in 3DEXPERIENCE and the CAD objects which have been checked in to the respective workspaces. The user clicks on the **Search** button to retrieve all the workspaces in 3DEXPERIENCE.

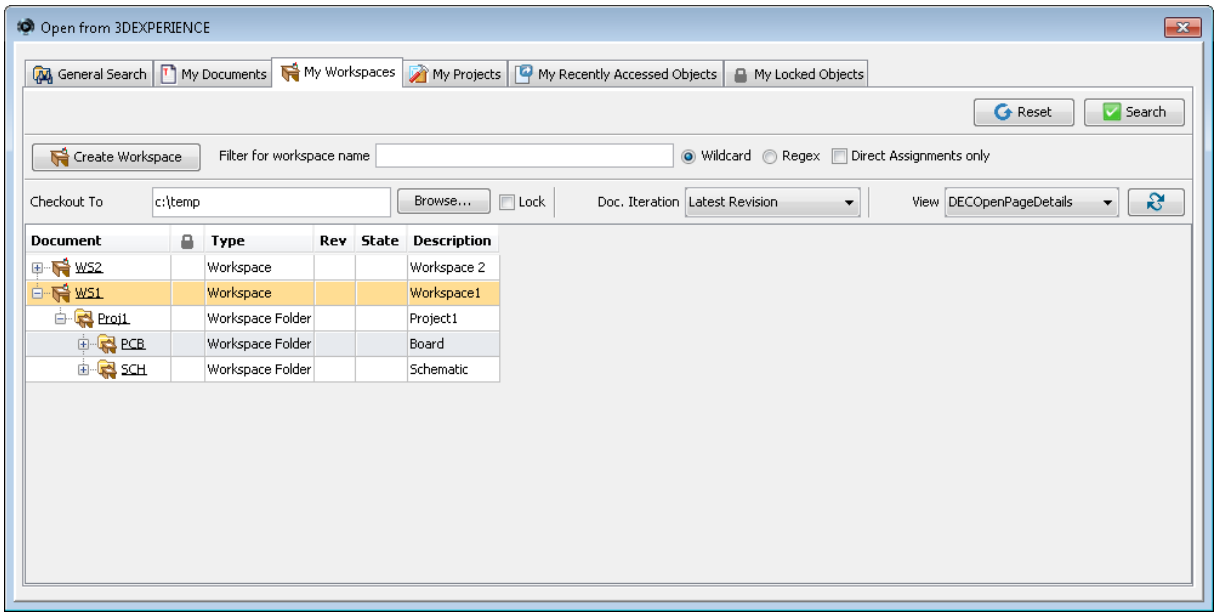


Figure 25 Search: Workspace

The user can expand the tree of the workspace to browse through the design documents under each workspace. The user can perform similar operations like the one in the "General" search using the context menu on the CAD object.

Create Workspace
This button is used to create workspaces in 3DEXPERIENCE directly from the connector. Clicking on this button opens up a dialog for workspace creation.

Creating a workspace is more explained in the chapter *Workspace Management*.

Filter for Workspace name
The user has the possibility to search for Workspaces by defining regular expression or through wildcard. The user needs to choose **Wildcard** or **Regex** radio button for corresponding filter and provide the name in the text field based on the selection. Clicking on the search button returns the workspaces.

Direct Assignments only
Selecting this checkbox returns the workspaces which are directly assigned to the user and not through implicit role assignment.

My Workspaces Context Menu Entries:

- *Create Workspace Folder*
- *Delete Workspace/-Folder*
- *Remove all CAD Models from Folder*
- *Move Folder*
- *Rename*

Context Menu Entries on CAD Objects:

- *Open*
- *Lock*
- *Unlock*
- *Show Iterations*
- *Remove CAD Model*
- *Show Details*

The hyperlink on the CAD object functions the same way as *Explore in 3DEXPERIENCE*.

Workspace Management

The user has the possibility to create and manage workspaces directly from the Client Connector.

The access permissions for the created Workspace needs to be configured in 3DEXPERIENCE. Currently it is not available from the connector.

Create Workspace

This button is used to create workspaces in 3DEXPERIENCE directly from the Client Connector. Clicking on this button opens up a dialog for workspace creation.

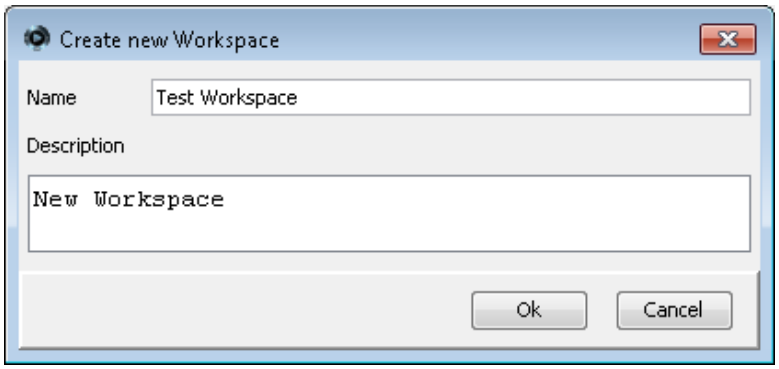


Figure 26 Create new Workspace

Name:
Specify a name for the Workspace.

Description:
Specify a description for the workspace.

OK:
A click on the *OK* button creates the workspace in 3DEXPERIENCE. The workspace is created with the specified name and for the current user. The created workspace is returned to the *My Workspace* search dialog.

The workspace name is unique so when the user tries to create a workspace with the same name as the existing one, an error is thrown as shown below.

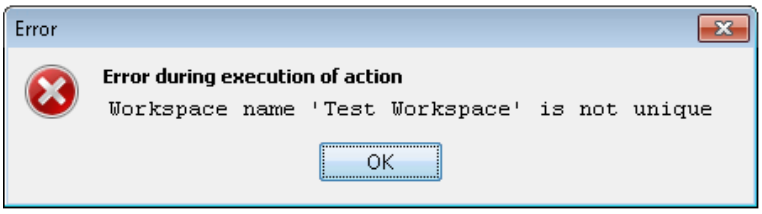


Figure 27 Workspace name not unique

Cancel:
Cancel button aborts the workspace creation process and closes the dialog.

Create Workspace Folder

The user can create workspace folder once the workspace is created using the context menu. The user can create multiple folders and subfolders under a workspace.

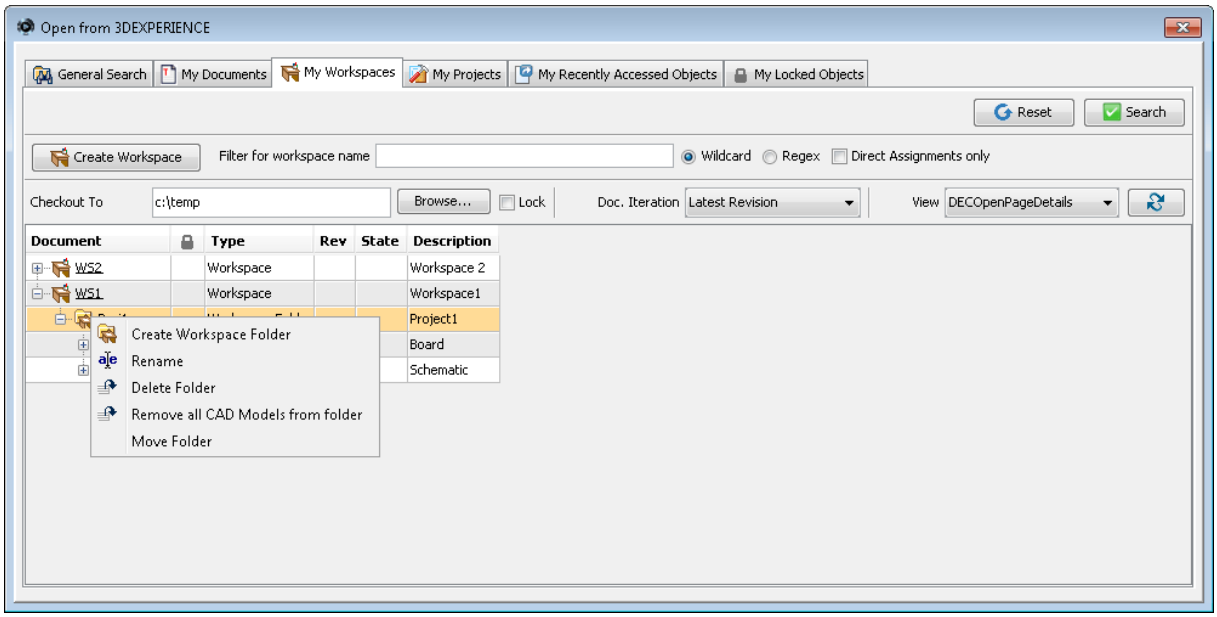


Figure 28 Created Workspace Folder

This context menu opens up the dialog for the folder creation as shown below.

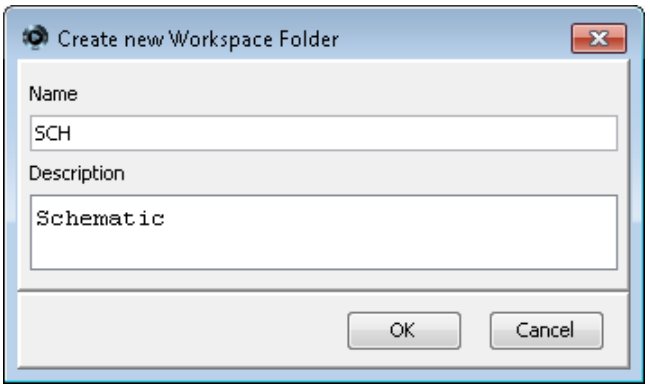


Figure 29 Create new Workspace Folder

Name:
Specify a name for the workspace folder.

Description:
Specify a description for the workspace folder.

Ok:
Click on the Ok button to create the workspace folder under the selected workspace in 3DEXPERIENCE. The workspace folder is created with the specified name and for the current user. The created workspace folder is returned to the *My Workspace* search under the selected workspace.

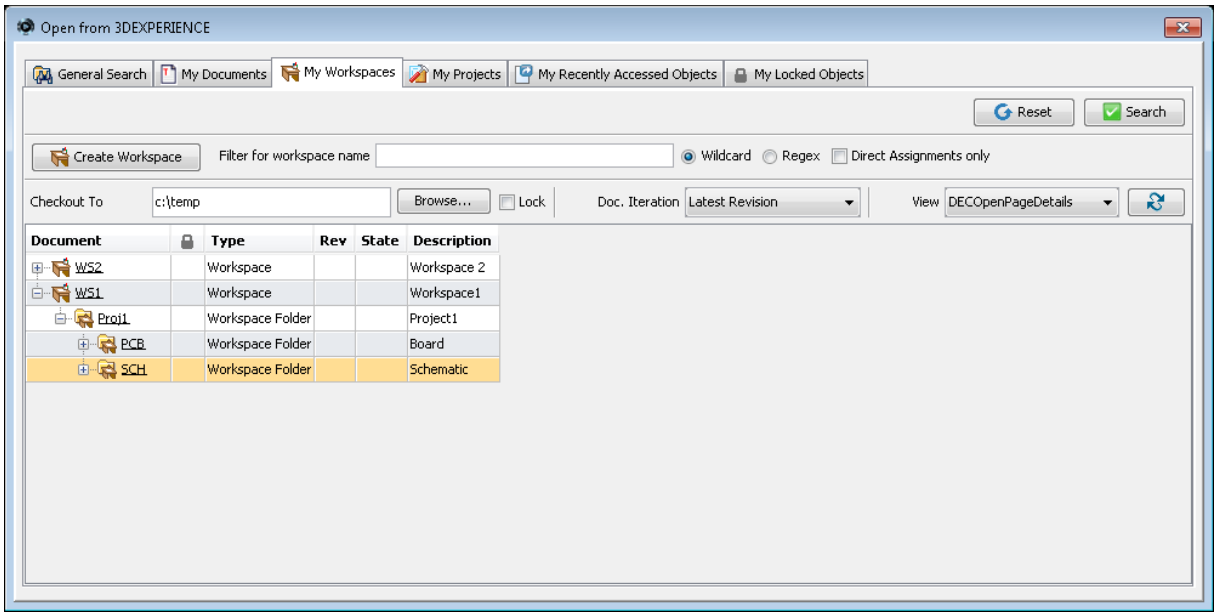


Figure 30 Created Workspace Folder

Cancel:
Cancel button aborts the workspace folder creation process and closes the dialog.

Rename

This menu is used to rename the existing workspace or folders. Selecting this menu opens up a dialog for specifying a new name for the workspace of folders.

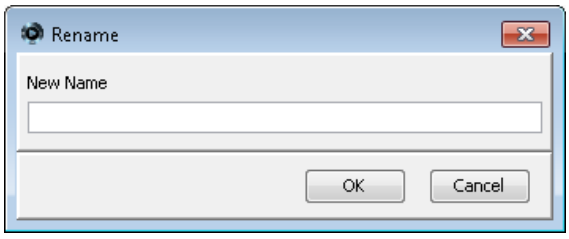


Figure 31 Rename Workspace

Ok:
Click on the *Ok* button, renames the workspace in 3DEXPERIENCE and displays the updated name under *My Workspace* search.

Cancel:
Cancel button aborts the rename operation and closes the dialog.

Delete Workspace/-Folder

This menu is used to delete the workspace, selected folder and all folders underneath in 3DEXPERIENCE.

Selecting this menu brings up a confirmation dialog.

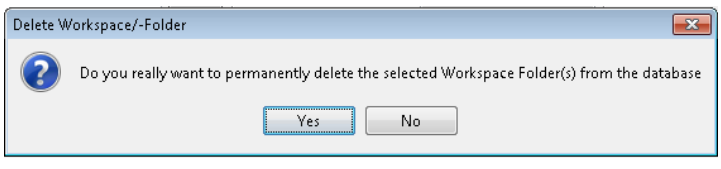


Figure 32 Remove Workspace

Yes:
This deletes the workspace/folder and also all the folders underneath from 3DEXPERIENCE.

No:
Aborts the deletion process and returns to the previous dialog.

Remove all CAD Models from Folder

This menu is used to remove all the CAD models existing in the selected folder. It does not consider the CAD models present in the sub folders. Selecting this menu brings up a confirmation dialog.

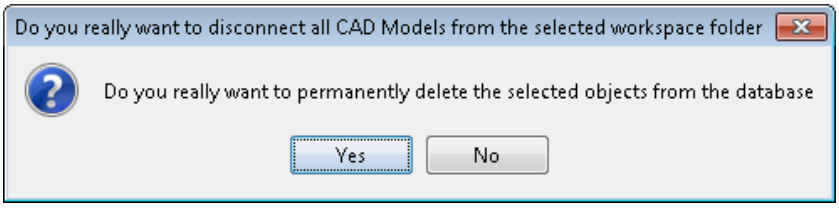


Figure 33 Remove all CAD Models from folder

Yes:
Disconnects all the CAD models from the folder but does not delete them from 3DEXPERIENCE.

No:
Aborts the remove operation and returns to the previous dialog.

Move Folder

The user can move a folder from one workspace to another workspace or from one folder to another folder under the same workspace or to different workspace folder. Selecting this menu opens up the Workspace Folder Selection dialog, where the user can select the target Workspace / Folder.

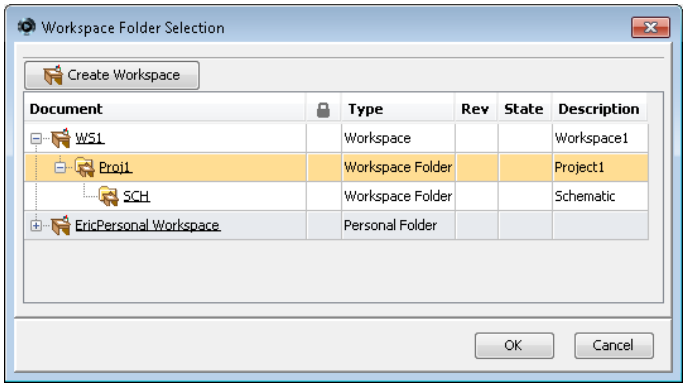


Figure 34 Workspace Folder Selection

Ok:
Selecting the target workspace or folder and clicking **Ok** button, moves the currently selected folder along with all the subfolders into the target selected by the user. All the CAD models existing in the folder and subfolders are also moved to the new location.

Cancel
This aborts the move operation.

Explore in 3DEXPERIENCE

This option lets the user to explore the Workspace/folder in ENVOVIA. When this menu is selected, the Client Connector opens up 3DEXPERIENCE in a web browser and requests the user to login to 3DEXPERIENCE using the login credentials. Once logged in, the workspace/folder is opened in 3DEXPERIENCE browser.

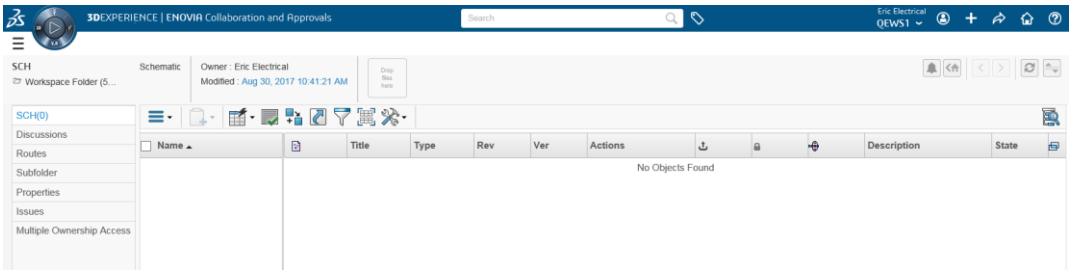


Figure 35 Explore in 3DEXPERIENCE

My Projects

This helps the user to search for all the projects available in 3DEXPERIENCE and the CAD objects, which have been checked in to the respective projects. The user clicks on the **Search** button to retrieve all the projects in 3DEXPERIENCE.to which the user has access

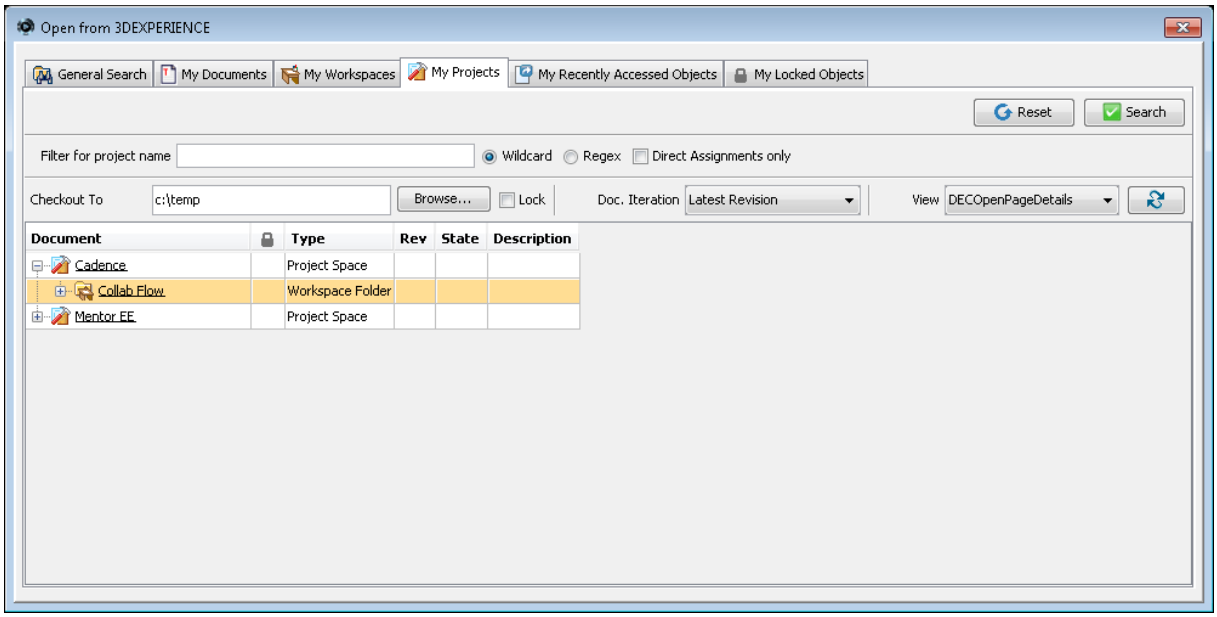


Figure 36 Search: My Projects

Projects must be created in 3DEXPERIENCE to be viewed in the Connector. The user can expand the tree of the Projects to browse through the Folders underneath and design documents under each Folder. The user can perform similar operations like the one in the “General” search using the context menu on the CAD object.

Filter for project name
The user has the possibility to search for Projects by defining regular expression or through wildcard. The user needs to choose **Wildcard** or **Regex** radio button for corresponding filter and provide the name in the text field based on the selection. Clicking on the search button returns the Projects.

Direct Assignments only
Selecting this checkbox returns the projects which are directly assigned to the user and not through implicit role assignment.

My Workspaces Folder Context Menu Entries:

- *Create Workspace Folder*
- *Delete Workspace/-Folder*
- *Remove all CAD Models from Folder*
- *Move Folder*
- *Rename*

Context Menu Entries on CAD Objects:

- *Open*

- *Lock*
- *Unlock*
- *Show Iterations*
- *Remove CAD Model*
- *Show Details*

The hyperlink on the CAD object functions the same way as *Explore in 3DEXPERIENCE*.

My Recently Accessed Objects

In *"My Recently Accessed Objects"* search, the user can search the CAD objects in 3DEXPERIENCE based on the date of access.

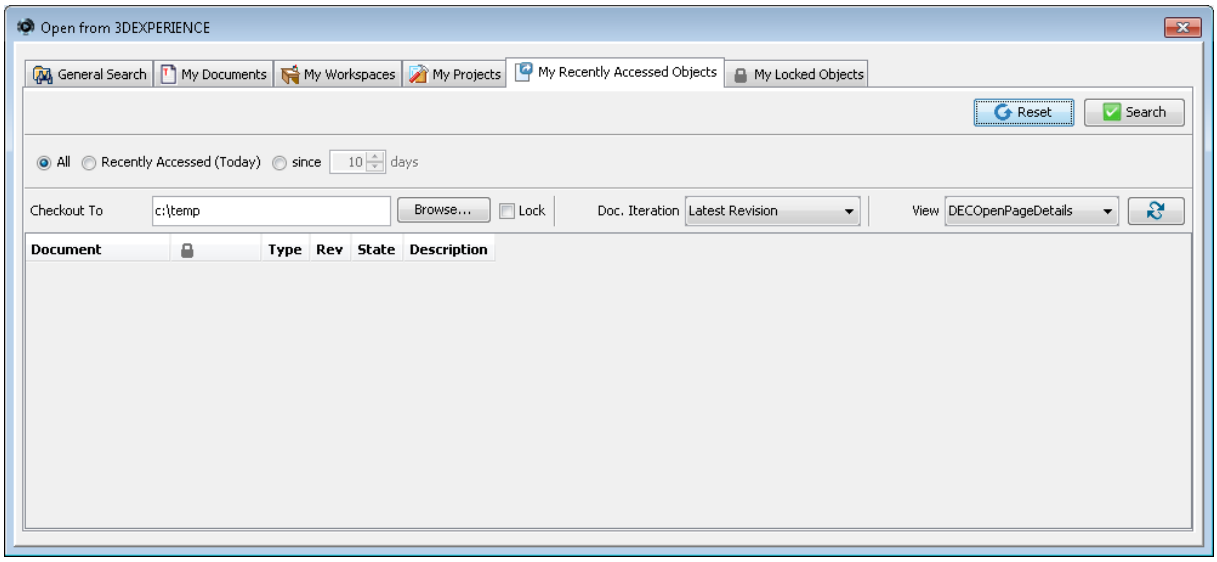


Figure 37 Search: Recently accessed objects

The user can select the predefined days of accessed CAD objects from the criteria and click on the S**earch** button to retrieve the results from 3DEXPERIENCE. The user has the option to search for the CAD objects which have been accessed during a period of 60 days. Once the results are retrieved, the user can perform similar operations like the one in the "General" search using the context menu on the CAD object.

Context Menu Entries:

- *Open*
- *Lock*
- *Unlock*
- *Show Iterations*
- *Remove CAD Model*
- *Show Details*

The hyperlink on the CAD object functions the same way as *Explore In 3DEXPERIENCE*.

My Locked Objects

This search results in retrieving all the CAD objects which have been locked by the current user in 3DEXPERIENCE.

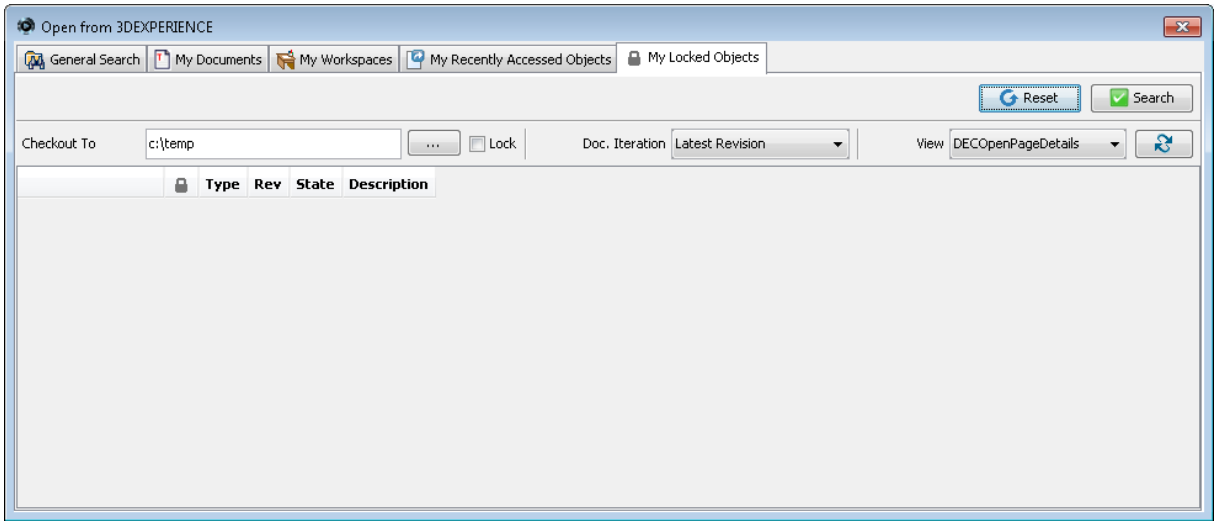


Figure 38 Search: My Locked Objects

The user can perform similar operations like the one in the *"General Search"* using the context menu on the CAD object.

Context Menu Entries:

- *Open*
- *Lock*
- *Unlock*
- *Show Iterations*
- *Remove CAD Model*
- *Show Details*

The hyperlink on the CAD object functions the same way as *Explore In 3DEXPERIENCE*.

Show Details

"Show Details" shows all the details of the selected CAD object as shown figure below. A login to 3DEXPERIENCE is performed, if the user is not already logged in. The Feature *"Show Details"* provides the user to view the details of the selected project in 3DEXPERIENCE.

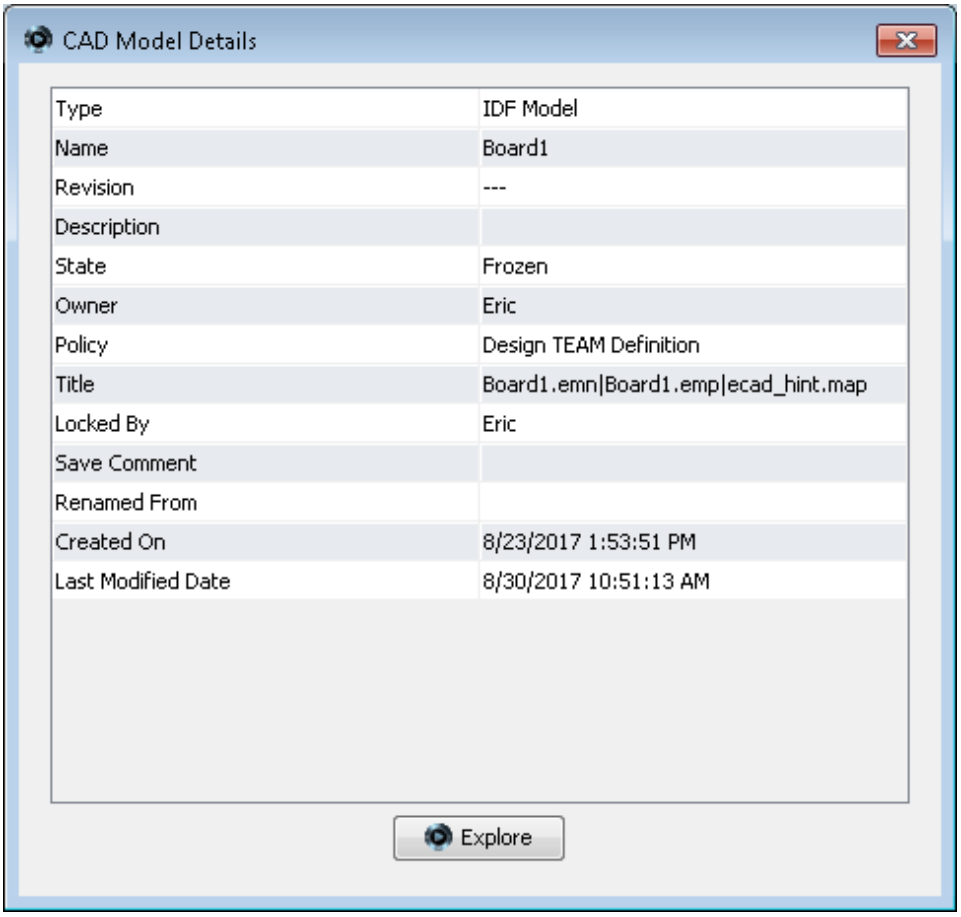


Figure 39 Show Details dialog

Explore*:*
This button lets the user to explore the CAD object in 3DEXPERIENCE. The Client Connector opens up 3DEXPERIENCE in a web browser and requests the user to login to 3DEXPERIENCE using the login credentials. Once logged in, the selected CAD object is opened in 3DEXPERIENCE browser. See also *Explore In 3DEXPERIENCE*.

Save to 3DEXPERIENCE

The "*Save to 3DEXPERIENCE*" task will bring up the 3DEXPERIENCE check in dialog as shown below. A login to 3DEXPERIENCE is performed, if the user is not already logged in. The feature "*Save to 3DEXPERIENCE*" provides the user to transfer the CAD Data from the local client to 3DEXPERIENCE.

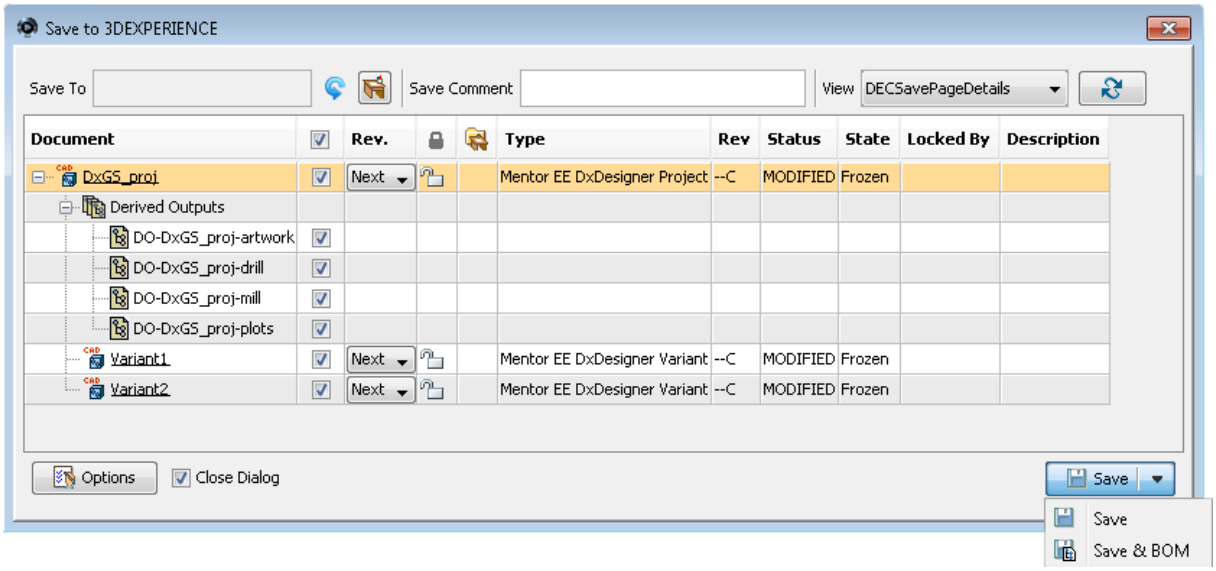


Figure 40 Save to 3DEXPERIENCE

The check-in page has a tree table for the CAD objects. The tree table for the objects selected has various columns displaying the information specific to object in each row.

The hyperlink on the CAD object functions the same way as *Explore In 3DEXPERIENCE*.

Revise:
A new revision of the object can be created in 3DEXPERIENCE using this drop-down menu. The user can select *"Next"* to create a new revision of the object or edit this field using his own revision.

Selection checkbox:
The column allows the user to select the objects for check-in.

Type:
This column specifies the type of the object namely Design, variant, etc.

Revision:
This column specifies the current revision of the object in 3DEXPERIENCE.

Status:
The "Status" column displays the status of the object as in 3DEXPERIENCE:

- *"New":* if the object does not exist in 3DEXPERIENCE
- "*Exists":* if the object exists in 3DEXPERIENCE
- "*Modified":* if the object was modified in Mentor
- *"Obsolete":* if the design in the local system is older than the one in 3DEXPERIENCE

Locked By:
This column specifies the user who holds the lock to the object 3DEXPERIENCE.

Save To:
The *"Save To"* field lets the user to assign workspace folder in 3DEXPERIENCE to which the object will be checked in.

Check in comment:
User can enter any comment during the check in operation. This will go as an attribute in the CAD object in 3DEXPERIENCE.

Views:
The user can select different views of the page using the drop-down box. The user can have any number of customized views.

Save:
The Save button helps in checking in all selected CAD objects to 3DEXPERIENCE.

During checkin when the manual derived outputs are selected, a file upload browser opens up as explained in chapter *Derived Outputs Settings*.

For each derived output a separate file chooser browser opens up. The checkin is continued once the user clicks O**k**. If the user clicks **Cancel** no files for the desired derived output are checked in to 3DEXPERIENCE. For automatic derived output, Client Connector creates all selected derived outputs automatically during checkin. The user can only select either Manual or Automatic derived outputs and not both at the same time.

Save&BOM
Save&BOM button has the same functionality of the Save button additionally the BOM creation is initiated automatically after checkin. The BOM editor dialog opens up after successful Save. The BOM for the selected design objects under Save to 3DEXPERIENCE dialog are automatically extrcated under BOM Editor. The behavior is more described in *Create BOM during Checkin*.

Lock:
The **Lock** button helps in locking all selected CAD objects in 3DEXPERIENCE.

Unlock:
The **Unlock** button helps in unlocking all selected CAD objects in 3DEXPERIENCE.

Cancel:
If the user cancels the operation, the check-in operation is terminated by closing the checkin dialog.

Close Dialog:
Selecting this checkbox closes the save dialog at runtime after successful save operation. This setting is active only for the current session of the Save dialog. The setting is dropped when the dialog is closed.

Options:
The **Options** button opens up the preference dialog which is explained in the *3DEXPERIENCE Options* chapter.

The user can perform certain task from the context menu of the CAD object.

Context Menu Entries of Save to 3DEXPERIENCE:
- *Lock*
- *Unlock*
- *Revise To NEXT*
- *Revise To MANUAL*
- *Explore In 3DEXPERIENCE*
- *Show Details*
- *Select Derived Outputs*
- *Add to Workspace*

Context Menu Entries:

Lock

"Lock" menu entry help users to lock the selected CAD object in 3DEXPERIENCE from the CAD Tool. Once the user locks the object, the name of the user who locked the object is displayed in the "Locked By" field of the search dialog.

Unlock

"*Unlock"* menu entry help users to unlock the selected CAD object in 3DEXPERIENCE from the CAD Tool. Once the user unlocks the object, it is reflected in the "Locked By" field of the search dialog.

Revise To NEXT

Selecting the menu changes the Revision of all CAD objects to "Next". This helps in the easy creation of a new revision of the entire project when the user performs a Save.

Revise To MANUAL

This menu opens up a dialog where the user can specify the Revision which would be used as the new revision during checkin to 3DEXPERIENCE.

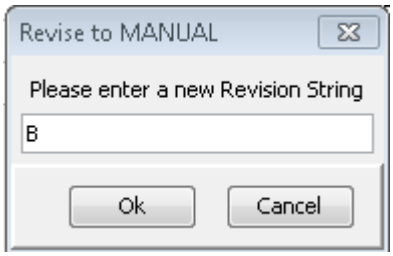


Figure 41 Revise to MANUAL

Once the user clicks on the Ok button, the revision is applied to all the CAD objects in the Save to 3DEXPERIENCE dialog. Cancel button cancels the operation and returns to the Save to 3DEXPERIENCE dialog.

Explore In 3DEXPERIENCE

This option lets the user to explore the design in 3DEXPERIENCE. When this menu is selected, the Client Connector opens up 3DEXPERIENCE in a web browser and requests the user to login to 3DEXPERIENCE using the login credentials. Once logged in, the CAD object is opened in 3DEXPERIENCE browser.

Show Details

This helps in showing all the details related to the selected design document in dialog.

Select Derived Outputs

This option opens up the Derived Output selection dialog where the user can select various derived outputs for checking in to 3DEXPERIENCE.

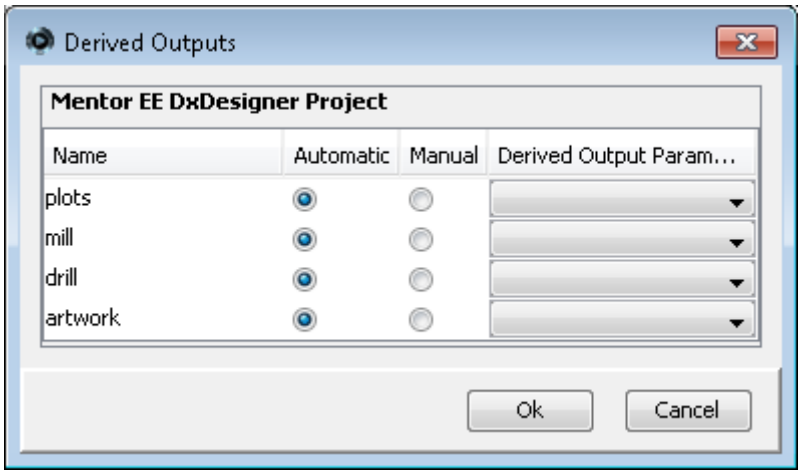


Figure 42 Context menu: Derived Output Selection Dialog

Derived Outputs are more explained in chapter *Derived Outputs Settings*.

Selecting a derived output shows the selected ones in the checkin dialog. It also indicates if the selection is based on Auto or Manual creation as shown below.

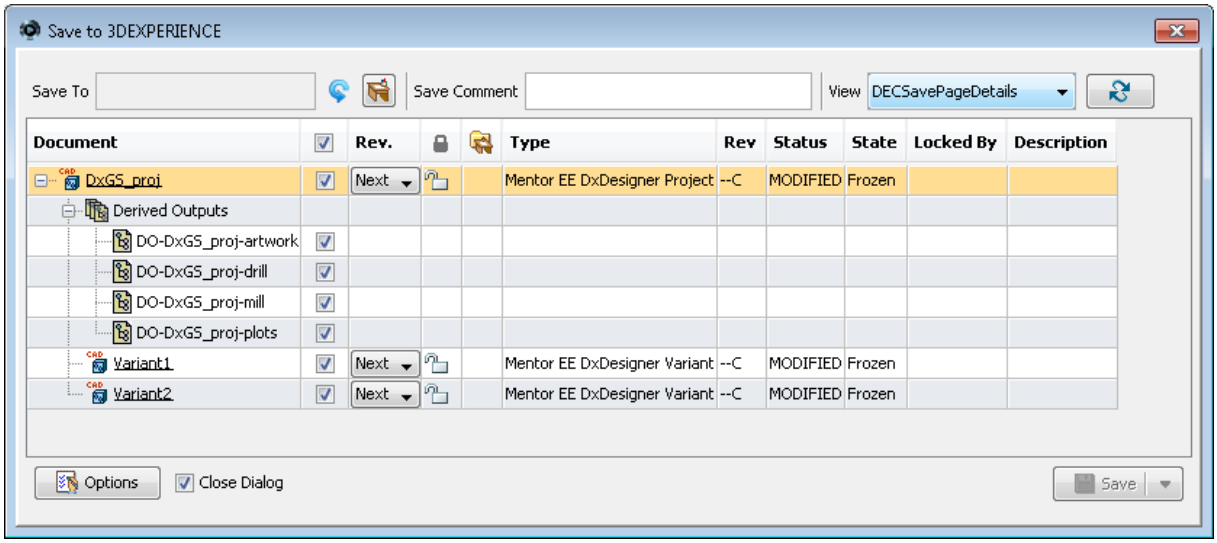


Figure 43 Auto Derived Output

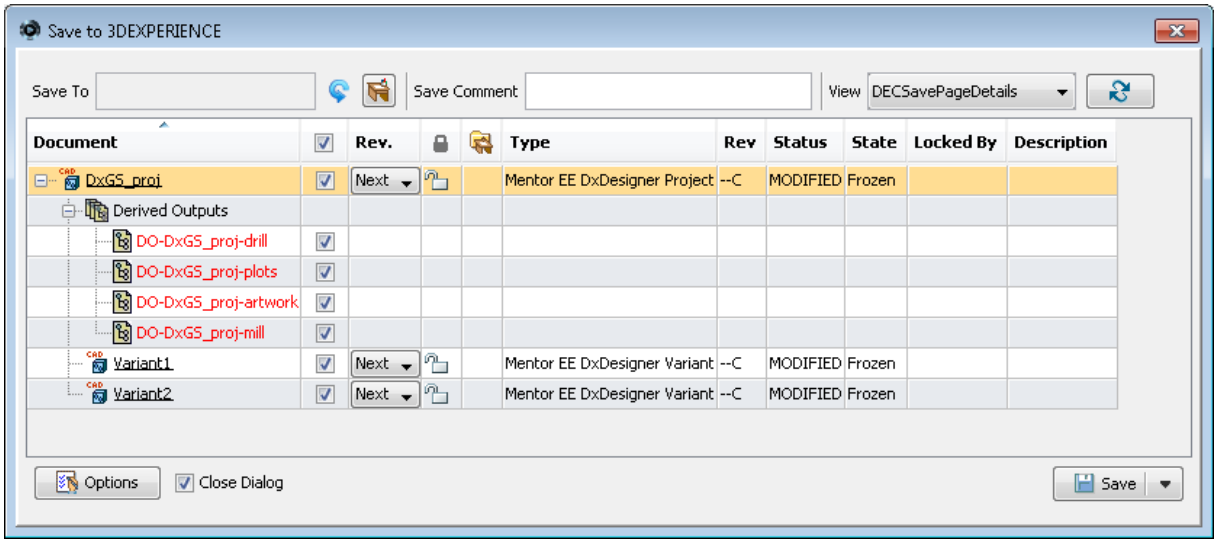


Figure 44 Manual Derived Output

A manual selection gives the user the flexibility to add files before checkin using the context menu as shown below.

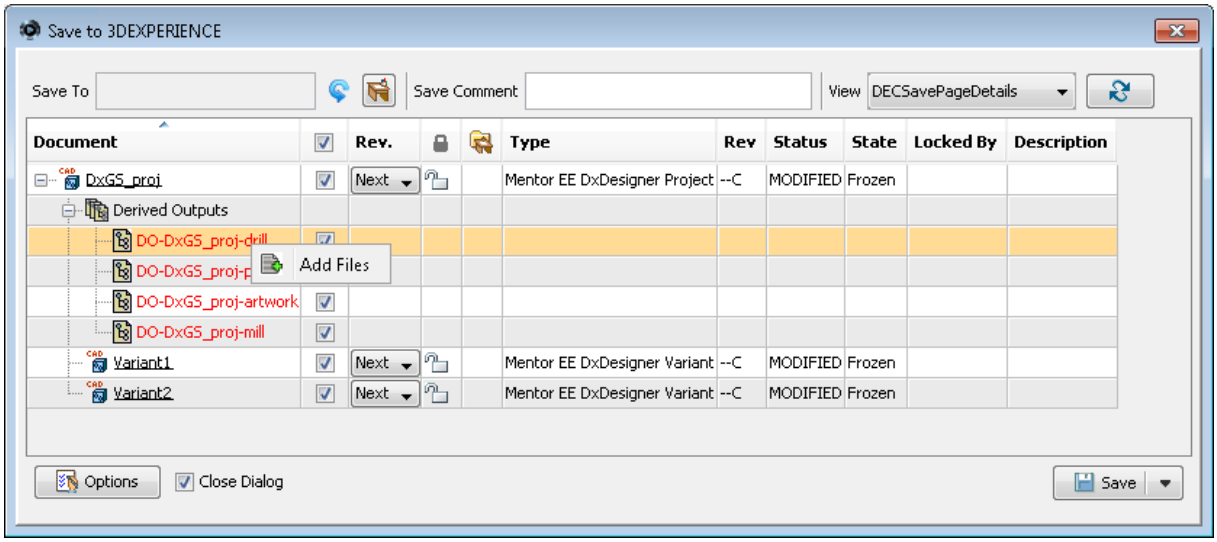


Figure 45 Manual Derived Output - Add Files

The color of the text shows Red when no files are added to the derived output. Adding files using the context menu changes the color to Black. If no files are added to the derived output and if it is selected for checkin, then the manual selection dialog opens up during checkin as shown below. The files added are remembered for the current session of the checkin dialog.

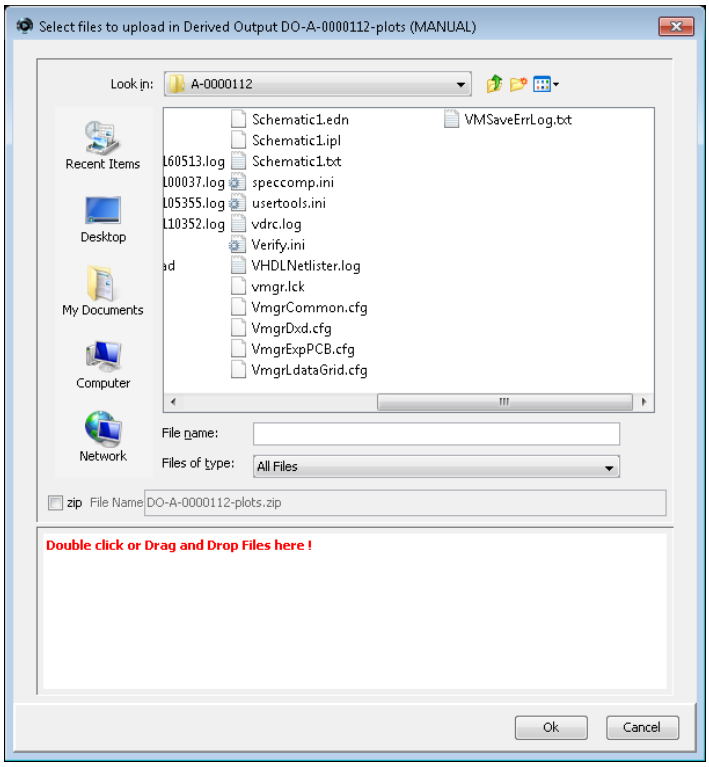


Figure 46 Manual Derived Output - Select Files

After adding files, the Ok button is clicked to proceed with checkin.

Add to Workspace

The CAD Models could be directly assigned to a workspace folder using this menu. Selecting this menu opens up the Workspace Folder Selection dialog.

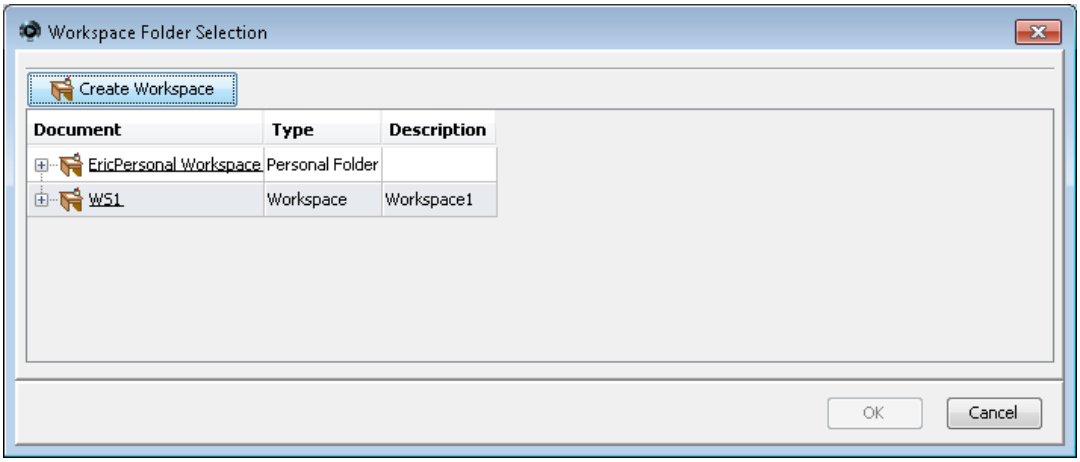


Figure 47 Workspace Folder Selection

The user can select the desired workspace folder and click *Ok* button to assign the selected CAD Models to the workspace folder. CAD Models could be assigned to multiple workspace folders but can select only one at a time. Cancel aborts the assignment and returns to the Save to 3DEXPERIENCE dialog.

Create Workspace
This button is used to create workspaces in 3DEXPERIENCE directly from the Client Connector. Clicking on this button opens up a dialog for workspace creation.

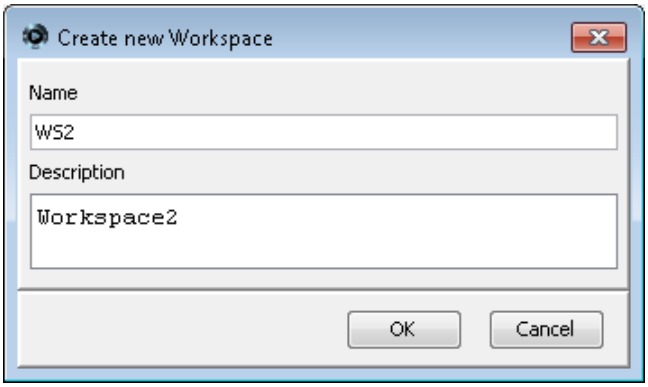


Figure 48 Create new Workspace

Name:
Specify a name for the Workspace.

Description:
Specify a description for the workspace.

OK:
A click on the *OK* button creates the workspace in 3DEXPERIENCE. The workspace is created with the specified name and for the current user as shown in figure below. The created workspace is returned to the *My Workspace* search dialog.

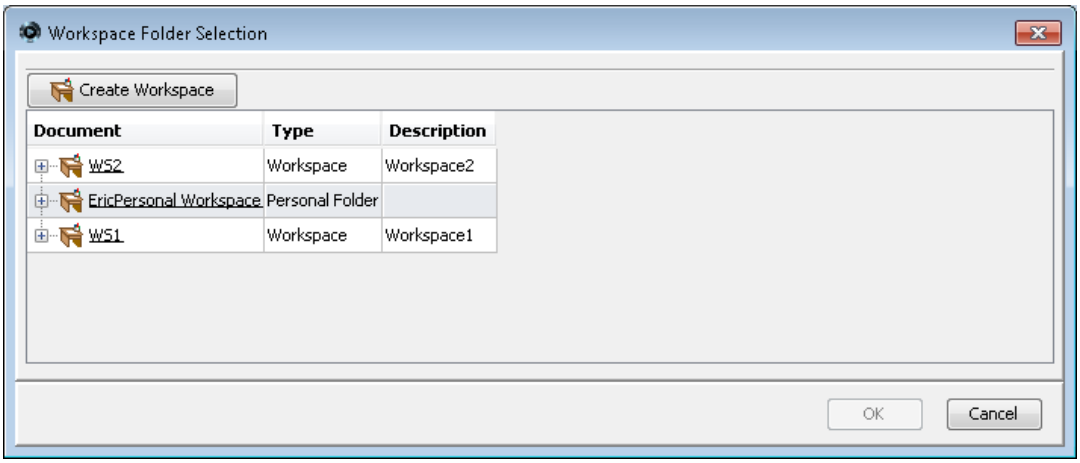


Figure 49 New created Workspace

The workspace name is unique so when the user tries to create a workspace with the same name as the existing one, an error is thrown as shown below.

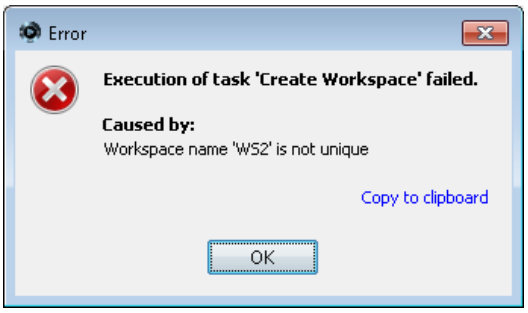


Figure 50 Workspace name not unique

Cancel:
Cancel button aborts the workspace creation process and closes the dialog.

Create BOM during Checkin

The User has the possibility to directly execute a BOM creation process after checkin. The administrator will be able to control if the BOM creation is enabled during checkin and if it is mandatory or not. Even if the BOM process is flagged as mandatory, the user can abort the BOM creation by closing the BOM Editor.

If no BOM capable CAD objects are selected, the BOM creation process is not carried out and following dialog is displayed.

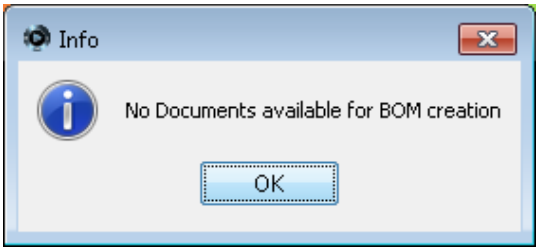


Figure 51 No Documents available for BOM creation

Performing a "*Save&BOM*" of the selected CAD object to 3DEXPERIENCE checks in the CAD object and later brings up a BOM Editor dialog and the BOM of the selected CAD object is automatically extracted.

The BOM selection checkboxes are disabled for user selection as shown in below figure. The BOM could be created in 3DEXPERIENCE using the **Create** button or the process could be aborted using **Close** button.

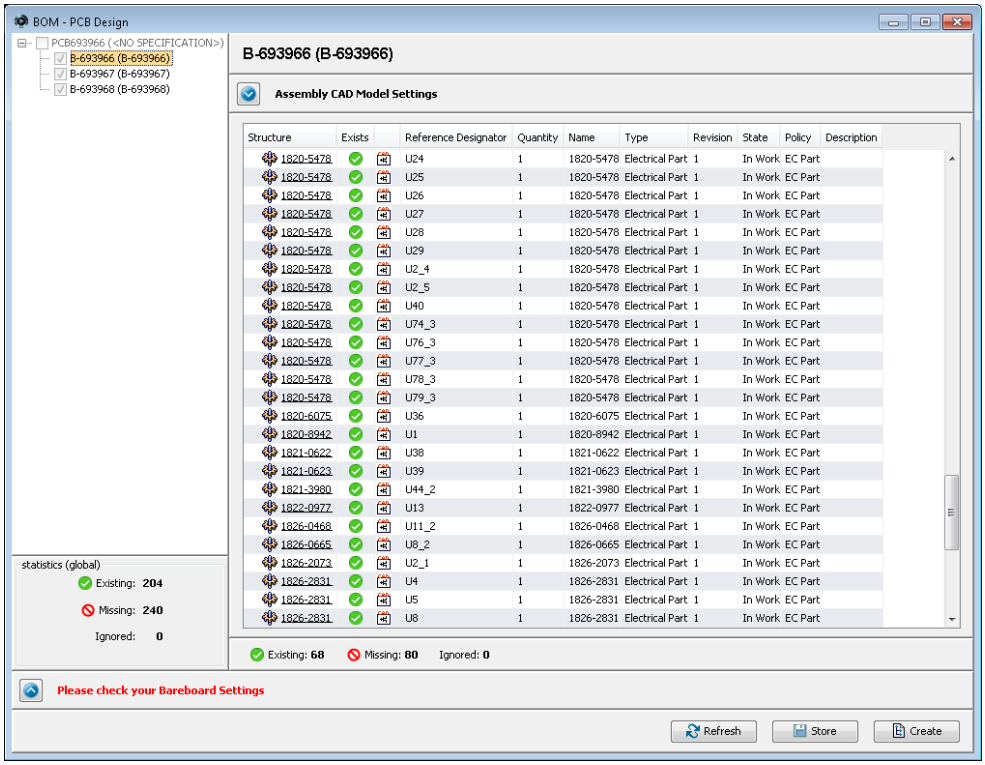


Figure 52 BOM Editor in Interactive Mode

Quick Save to 3DEXPERIENCE

The *"Quick Save to 3DEXPERIENCE"* task is intended to check in the design into 3DEXPERIENCE without any user interaction.

A login to 3DEXPERIENCE is performed, if the user is not already logged in. The Feature *"Quick Save to 3DEXPERIENCE"* provides the user to transfer the CAD objects from the client to 3DEXPERIENCE with as less as possible User interaction.

Once the design is loaded, an archive of CAD objects is created and checked in to 3DEXPERIENCE along with the selected derived outputs from the preference settings. After saving process the user gets a feedback and a dialog comes up to inform the user that the saving process to 3DEXPERIENCE is succeeded.

If BOM Creation during *"Quick Save to 3DEXPERIENCE"* is enabled, all BOMs are automatically extracted from the design and checked in to 3DEXPERIENCE without any user interaction. The user cannot abort the BOM creation.

Mechanical Collaboration

Save IDF

The *"Save IDF"* is used to check in an IDF data to 3DEXPERIENCE. The "Save IDF" task will bring up a check in dialog for the user to save an IDF model to 3DEXPERIENCE.

The *"Save IDF"* menu will bring up the 3DEXPERIENCE check in dialog as shown below.

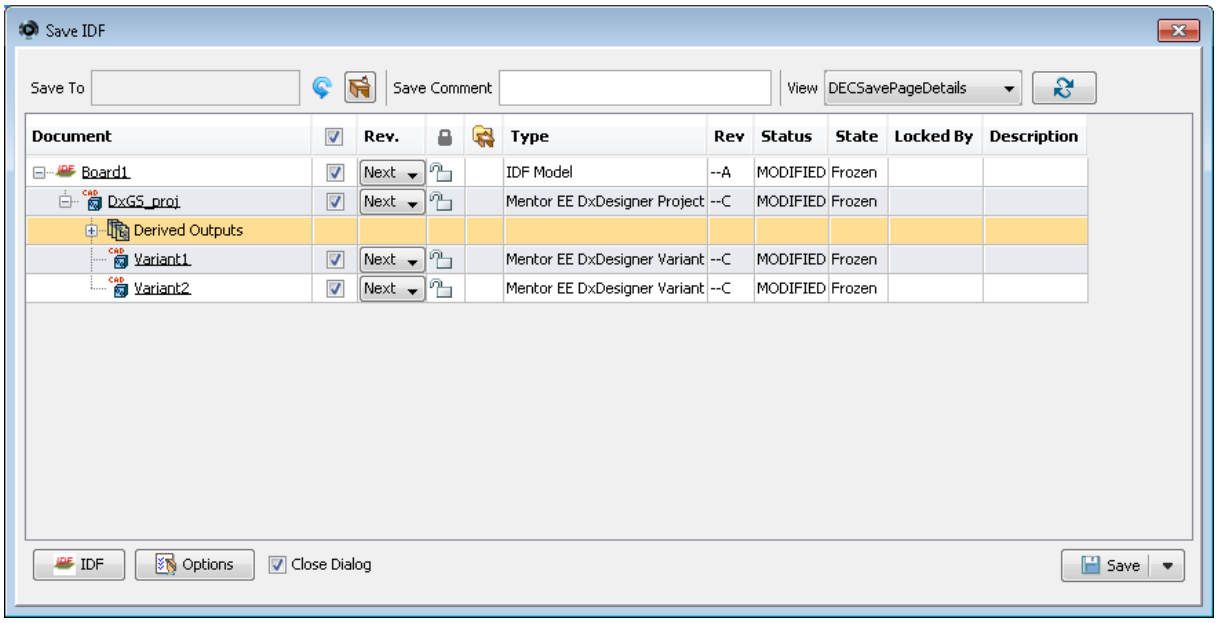


Figure 53 Save IDF

The check-in page has a tree table for the CAD objects. The tree table for the objects selected has various columns displaying the information specific to object in each row. The hyperlink on the CAD object functions the same way as *Explore In 3DEXPERIENCE*.

Revise:
A new revision of the object can be created in 3DEXPERIENCE using this drop-down menu. The user can select "Next" to create a new revision of the object or edit this field using his own revision.

Selection checkbox:
The column allows the user to select the objects for check-in.

Type:
This column specifies the type of the object namely IDF Model.

Revision:
This column specifies the current revision of the object in 3DEXPERIENCE.

Status:
The *"Status"* column displays the status of the object as in 3DEXPERIENCE:

- *"New":* if the object does not exist in 3DEXPERIENCE
- *"Exists":* if the object exists in 3DEXPERIENCE.
- *"Modified":* if the object was modified in Mentor.
- *"Obsolete":* if the design in the local system is older than the one in 3DEXPERIENCE

Locked By:
This column specifies the user who holds the lock to the object in 3DEXPERIENCE.

Save To:
The *"Save To"* field lets the user to assign workspace folder in 3DEXPERIENCE to which the object will be checked in.

Check in comment:
User can enter any comment during the check-in operation. This will go as an attribute in the CAD object in 3DEXPERIENCE.

Views:
The user can select different views of the page using the drop down box. The user can have any number of customized views.

The bottom panel of the check in page shows buttons: *"Select Modified"*, *"Check-in"* and *"Cancel"*.

Save:
The **Save** button helps in checking in all selected CAD objects to 3DEXPERIENCE.

Lock:
The **Lock** button helps in locking all selected CAD objects in 3DEXPERIENCE.

Unlock:
The **Unlock** button helps in Unlocking all selected CAD objects in 3DEXPERIENCE.

Cancel:
If the user **Cancels** the operation, the check-in operation is terminated by closing the checkin dialog.

Options available on check-in:
The **Options** button opens up the preference setting dialog which are explained in the *3DEXPERIENCE Options* chapter.

The user can perform certain task from the context menu of the CAD object as shown below.

Context Menu Entries:

- **Lock**
  This help users to lock the selected CAD object in 3DEXPERIENCE from the CAD Tool. Once the user locks the object, the name of the user who locked the object is displayed in the Locked By field of the search dialog.
- **Unlock**
  This help users to unlock the selected CAD object in 3DEXPERIENCE from the CAD Tool. Once the user unlocks the object, it is reflected in the Locked By field of the search dialog.
- **Revise To NEXT**
  Selecting the menu changes the Revision of all CAD objects to "Next". This helps in the easy creation of a new revision of the entire project when the user performs a Save.
- **Revise To MANUAL**
  This menu opens up a dialog where the user can specify the Revision which would be used as the new revision during checkin to 3DEXPERIENCE.

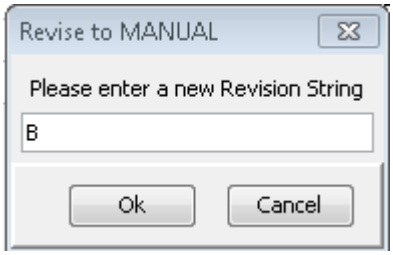


Figure 54 Revise to MANUAL

Once the user clicks on the Ok button, the revision is applied to all the CAD objects. Cancel button cancels the operation and returns to the Save to 3DEXPERIENCE dialog.

- **Show Details**
  This helps in showing all the details related to the selected design document.

The user selects the object to be checked in to 3DEXPERIENCE and clicks on the **Save** button to perform a check in. The IDF Model is checked in to 3DEXPERIENCE.

Open related IDF

"Open related IDF" initiates a checkout process. This menu opens up a checkout dialog with all iterations of the related IDF model belonging to the current design.

A login to 3DEXPERIENCE is performed, if the user is not already logged in. Once logged in to 3DEXPERIENCE, the Checkout dialog opens up. The figure below shows the checkout dialog with the related IDF model.

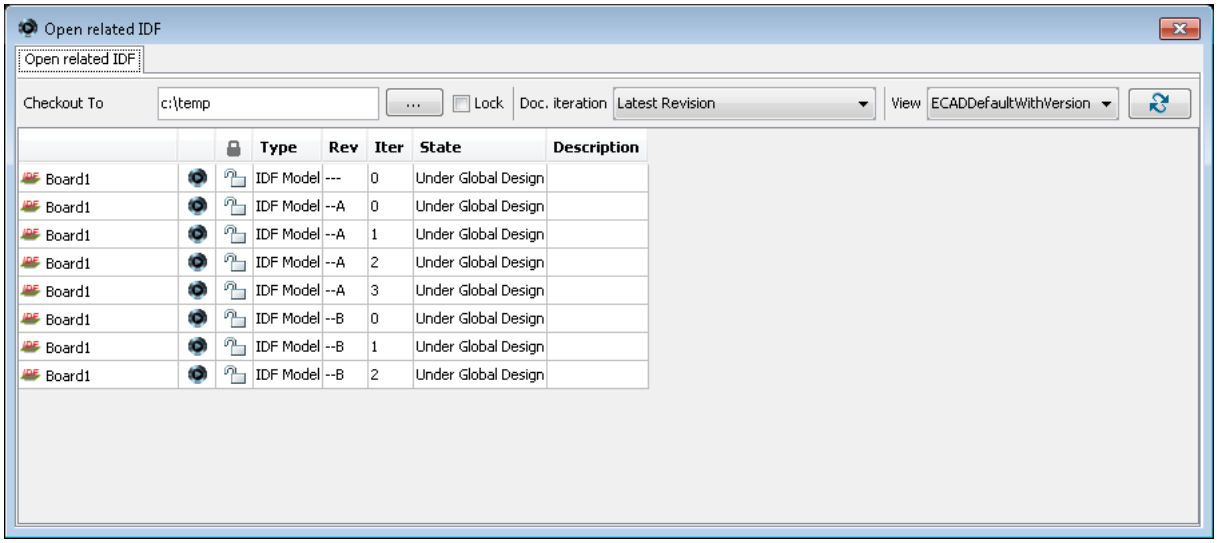


Figure 55 Open related IDF

The user can perform various operations on the IDF model by using the context menu namely.

Open Selected

User can check out the IDF Model from 3DEXPERIENCE using the option *"Open"*. When the user selects this menu from the context menu of the IDF, the files for the selected object will be checked out to the user's checkout directory specified in the checkout dialog. The user can change the checkout directory by selecting the path of the checkout directory using the browse button in the "Checkout To" field. The IDF Model is checked out from 3DEXPERIENCE into the local checkout directory specified.

Once the IDF Model is checked out, system opens up a dialog asking the user if the checked-out files should be placed directly to the currently opened design. When the user clicks "Ok", it is placed in the design directly and if the user clicks "Cancel" it is checked out to the checkout folder specified.

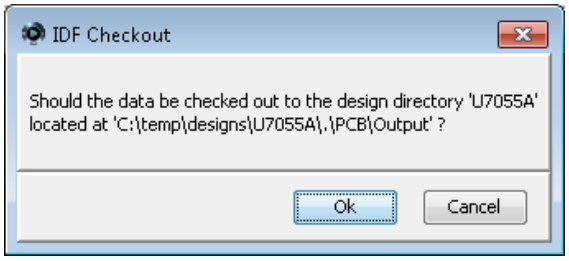


Figure 56 IDF checkout

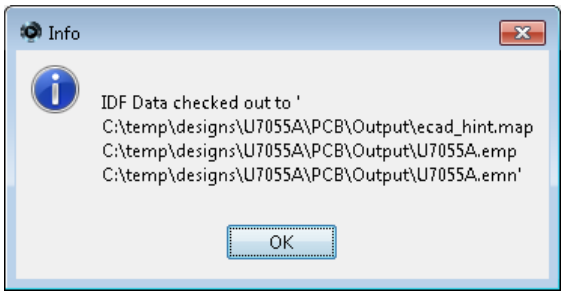


Figure 57 IDF checkout message

Explore In 3DEXPERIENCE

This option lets the user to explore the design in the 3DEXPERIENCE. When this menu is selected, Client Connector opens up 3DEXPERIENCE in a web browser and requests the user to login to 3DEXPERIENCE using the login credentials. Once logged in, the CAD object is opened in 3DEXPERIENCE browser.

Autoupdate with latest IDF from 3DEXPERIENCE

The “Autoupdate with latest IDF from 3DEXPERIENCE” will initiate the checkout process for IDF model data. This menu automatically checks out the latest IDF from 3DEXPERIENCE without any user interaction and opens up a dialog asking the user if the checked-out files should be placed directly to the currently opened design folder. When the user clicks “Ok”, then it is placed in the design folder directly and if the user clicks “Cancel” it is checked out to the checkout folder specified.

BOM Data Management

The BOM Data Management tasks are used to extract the BOM from the design and the associated variant to be checked in to 3DEXPERIENCE. The user has the flexibility to manipulate and modify the extracted components before checking it in to 3DEXPERIENCE.

Interactive BOM

This task opens up the BOM Editor dialog as shown in the figure below. The BOM editor dialog consists of several panels namely.

- *Design Structure Panel*
- *Design BOM Panel*
- *Bareboard Document Panel*
- *Bareboard Panel*
- *Assembly Document Panel*
- *Process Action Panel*
- *Statistics Panel*
- *Global Statistics Panel*

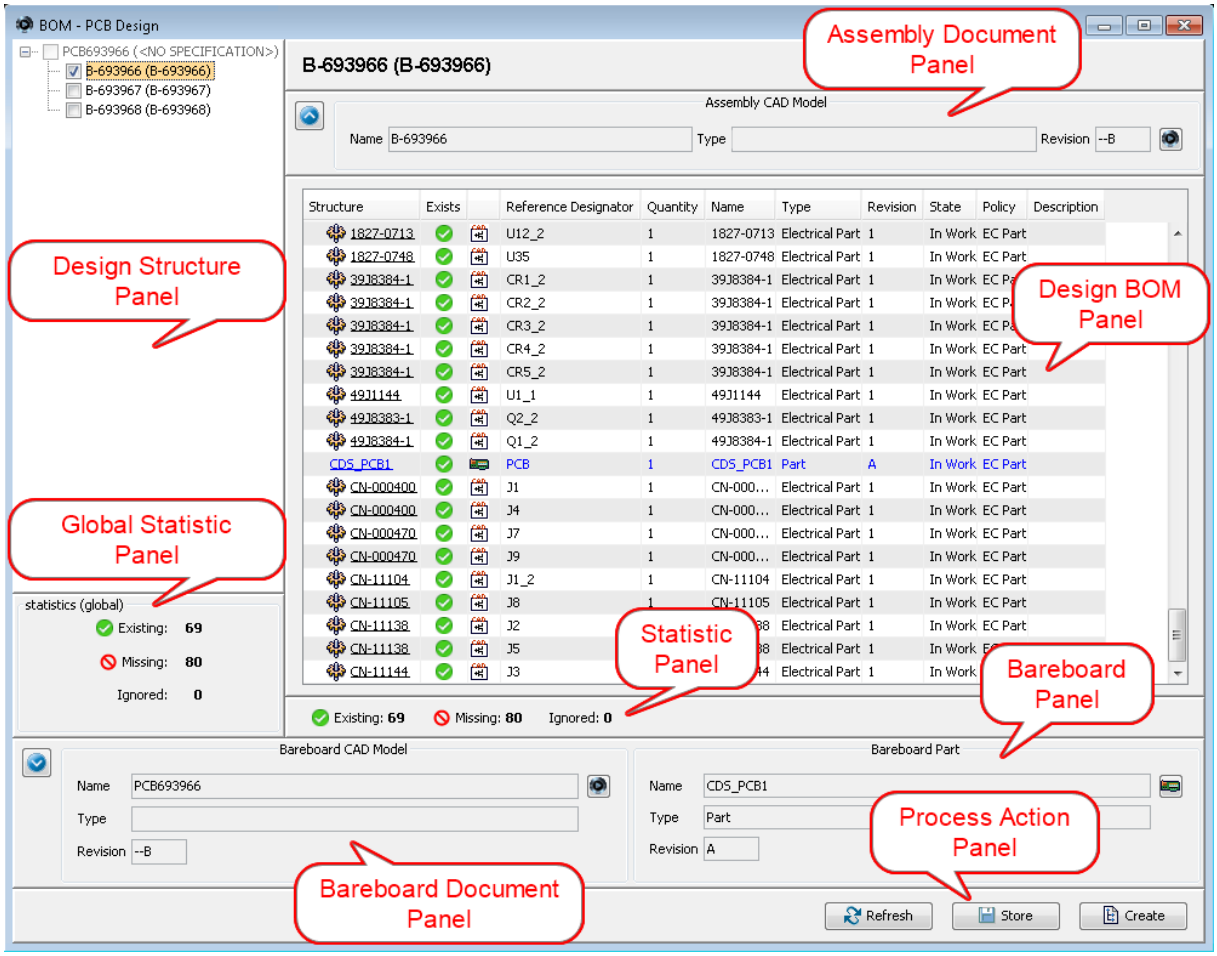


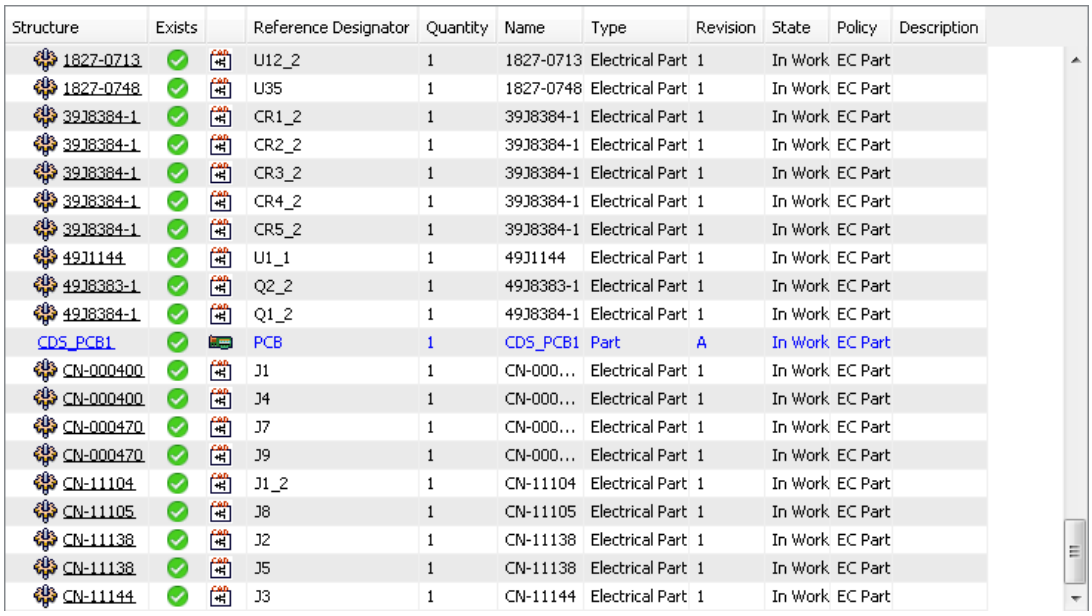
Figure 58 BOM Editor

Design Structure Panel

The "*Design Structure Panel"* shows the design along with the variants in a tree structure. Here the user can choose the design scope or the variant scope. Based on the selection, Connector extracts the BOM and loads it in the Design BOM panel.

Design BOM Panel

The BOM Panel shows the structure of the extracted BOM based on the selection in the Design Panel. The hyperlink on the CAD object functions the same way as *Explore in 3DEXPERIENCE*.



Structure	Exists		Reference Designator	Quantity	Name	Type	Revision	State	Policy	Description
1827-0713	✓		U12_2	1	1827-0713	Electrical Part	1	In Work	EC Part	
1827-0748	✓		U35	1	1827-0748	Electrical Part	1	In Work	EC Part	
39J8384-1	✓		CR1_2	1	39J8384-1	Electrical Part	1	In Work	EC Part	
39J8384-1	✓		CR2_2	1	39J8384-1	Electrical Part	1	In Work	EC Part	
39J8384-1	✓		CR3_2	1	39J8384-1	Electrical Part	1	In Work	EC Part	
39J8384-1	✓		CR4_2	1	39J8384-1	Electrical Part	1	In Work	EC Part	
39J8384-1	✓		CR5_2	1	39J8384-1	Electrical Part	1	In Work	EC Part	
49J1144	✓		U1_1	1	49J1144	Electrical Part	1	In Work	EC Part	
49J8383-1	✓		Q2_2	1	49J8383-1	Electrical Part	1	In Work	EC Part	
49J8384-1	✓		Q1_2	1	49J8384-1	Electrical Part	1	In Work	EC Part	
CDS_PCB1	✓		PCB	1	CDS_PCB1	Part	A	In Work	EC Part	
CN-000400	✓		J1	1	CN-000...	Electrical Part	1	In Work	EC Part	
CN-000400	✓		J4	1	CN-000...	Electrical Part	1	In Work	EC Part	
CN-000470	✓		J7	1	CN-000...	Electrical Part	1	In Work	EC Part	
CN-000470	✓		J9	1	CN-000...	Electrical Part	1	In Work	EC Part	
CN-11104	✓		J1_2	1	CN-11104	Electrical Part	1	In Work	EC Part	
CN-11105	✓		J8	1	CN-11105	Electrical Part	1	In Work	EC Part	
CN-11138	✓		J2	1	CN-11138	Electrical Part	1	In Work	EC Part	
CN-11138	✓		J5	1	CN-11138	Electrical Part	1	In Work	EC Part	
CN-11144	✓		J3	1	CN-11144	Electrical Part	1	In Work	EC Part	

Figure 59 BOM Editor: Design BOM Panel

Connector extracts all the components from the design and variant. The structure shows the Assembly as the root node under which all the other components are connected. The table contains information for each component. Various font formats and color codes are used to explain more about the extracted nodes. The structure field in the table shows the structure of the extracted BOM.

Bold Black
→ Marked as a mandatory entry (Assembly Node)

Red
→ Component needs to be assigned to a part in 3DEXPERIENCE

Normal Black
→ Component is assigned to a part in 3DEXPERIENCE

A right click on components opens a context menu with various actions namely:

- *Enable Component* (only for materials)
- *Disable Component* (only for materials)
- *Assign 3DEXPERIENCE Part* (only for materials)
- *Add Existing From 3DEXPERIENCE* (only for assembly)
- *Remove Selected* (only for added materials)
- *Remove All Imported* (only for added materials)
- *Import External Partlist* (only for assembly)

Import External Partlist

The user can manually import components to be used for BOM creation. The import of external parts will only be allowed on assembly or subassembly based nodes. Parts from external system like MCAD Tools or any other applications can be imported to the BOM Editor by loading a predefined textual list of parts. The format of the text file to be imported is defined by the usage of various importers. A CSV Importer will is available which allows importing parts based on CSV files. It will not be possible to select a standard part as the new parent of the imported parts. The "Import External Partlist" menu entry displays the configured mapping files from the external partlist preferences as shown below.

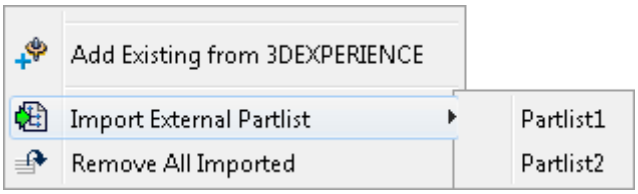


Figure 60 Import External Partlist – Context menu

Selecting a mapping configuration opens up a file chooser dialog, where the user can browse for the partlist file. Once the user selects the file, all the nodes are imported to the selected parent object.

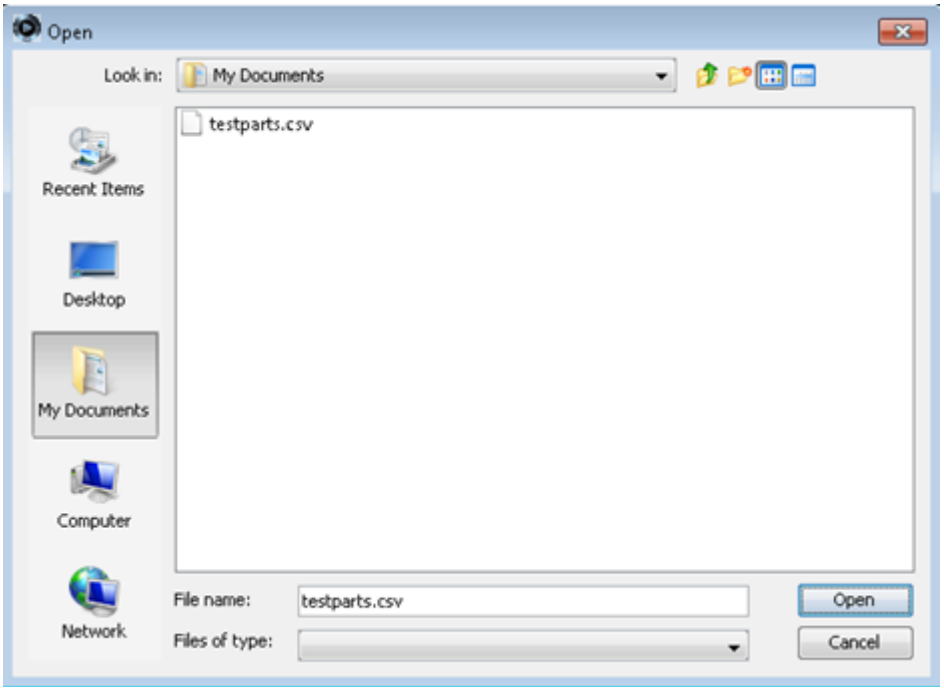


Figure 61 Import External Partlist – Open dialog

Enable Component

This menu is visible when the "*Allow Disabling of EDA parts*" setting in the BOM preference is set to true. Enabling a node makes the component to be considered for BOM creation.

Disable Component

This menu is visible when the "Allow Disabling of EDA parts" setting in the BOM preference is set to true. Disabling a node ignores the selected node for BOM creation.

Assign 3DEXPERIENCE Part

This menu is used to assign a part from 3DEXPERIENCE to the selected ECAD component. A part search dialog is opened when the user selects this menu. It is more explained in the chapter dedicated for *Part Search*.

Explore in 3DEXPERIENCE

This option lets the user to explore the part in 3DEXPERIENCE. When this menu is selected, the Client Connector opens up 3DEXPERIENCE in a web browser and requests the user to login to 3DEXPERIENCE using the login credentials. Once logged in, the part is shown in 3DEXPERIENCE browser.

Add Existing From 3DEXPERIENCE

This menu adds the already existing parts from 3DEXPERIENCE. Parts could be added only to an Assembly. This menu opens up the search dialog to search for the parts in 3DEXPERIENCE. This search is the same as the Part Search dialog explained under *Part Search* chapter.

Remove Selected

This menu is used to remove a part from the extracted components. Only user added parts could be removed. Trying to remove an EDA part results in a warning message as shown below.

Figure 62 Remove part: Error Dialog

Remove All Imported

This menu is used to remove all the components which the user has imported using the “Import External Partlist” menu.

Bareboard Document Panel

The *"Bareboard Document Panel"* is used to show a bare board document as a Specification Document to the PCB Component. The existence of a previously added bare board document is checked by Client Connector. If the meta data information is found in the project directory, the 3DEXPERIENCE will be queried for information of this document.

The PCB information is automatically updated in case that the bare board document exists in 3DEXPERIENCE. If the bare board document does not exist in 3DEXPERIENCE, a message is shown to the User, resulting in a removal of the bare board document information from the UI.

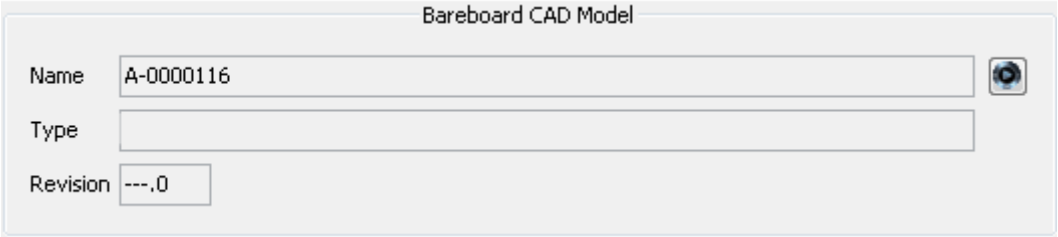


Figure 63 Bareboard Document panel

Explore:
This button lets the user to explore the bare board document in 3DEXPERIENCE. When this button is selected, the Client Connector opens up 3DEXPERIENCE in a web browser and requests the user to login to 3DEXPERIENCE using the login credentials. Once logged in, the document is shown in 3DEXPERIENCE browser.

Bareboard Panel

The Bareboard Panel is used to show an 3DEXPERIENCE Part as a PCB to the BOM. The existence of a previously added PCB is checked by Client Connector. If the Meta data information is found in the project directory, 3DEXPERIENCE will be queried for information of this PCB.

The PCB information is automatically updated in case that the PCB exists in 3DEXPERIENCE. If the PCB does not exist in 3DEXPERIENCE, a message is shown to the User, resulting in a removal of the persisted PCB data on the local client. The user can add a new PCB at any time. The user can add a new PCB at any time in Project Setup.

Figure 64 Bareboard panel

Name:
This field specifies the name of the PCB component retrieved by the search.

Type:
This field specifies the type of the PCB component retrieved by the search.

Revision:
This field shows the revision of the PCB component retrieved by the search.

Locates the bare board in the BOM: Selecting this button highlights the bare board in the BOM.

Assembly Document Panel

The *"Assembly Document Panel"* is used to show an assembly document as a specification document to the assembly component. The Assembly Panel will be available in each Assembly BOM Scope and is scope specific. The existence of a previously added assembly document is checked. If the meta data information is found in the project directory, 3DEXPERIENCE will be queried for information of this assembly document.

The Assembly information is automatically updated in case that the assembly document exists in 3DEXPERIENCE. If the assembly document does not exist in 3DEXPERIENCE, a message is shown to the User, resulting in a removal of the assembly document information from the user interface. The user can add a new assembly document at any time in Project Setup.

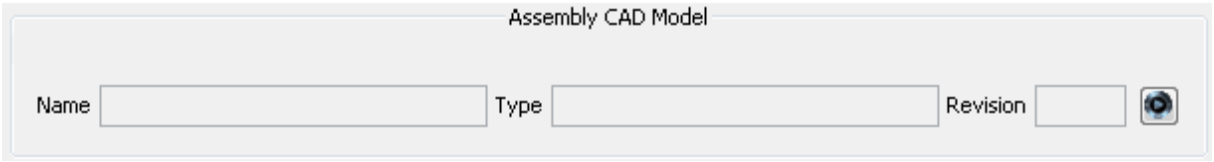


Figure 65 Assembly panel

Explore

This button lets the user to explore the assembly document in 3DEXPERIENCE. When this button is selected, the Client Connector opens up 3DEXPERIENCE in a web browser and requests the user to login to 3DEXPERIENCE using the login credentials. Once logged in, the document is shown in 3DEXPERIENCE browser.

Process Action Panel

This panel contains buttons which are useful in processing the BOM to be transferred to 3DEXPERIENCE.

: This button refreshes the status of the parts with the actual information in 3DEXPERIENCE.

: This button stores the structure of the BOM in the design project for later use.

: This buttons creates the BOM in 3DEXPERIENCE and also stores the BOM in the design project.

Statistics Panel

This panel gives an overview of the status of the components. The various states of the components are shown in the figure below.

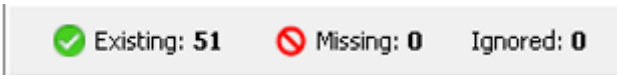


Figure 66 Statistics panel

For the ease of use, the user can has the option to click on each of the status buttons which opens up a separate dialog containing all the components belonging to that particular state from the extracted BOM.

Ignore: This specifies the number of components which are ignored for BOM creation. The components are ignored based on the regular expression specified by the user under the" Ignored EDA Part Expression" in the BOM preference settings. Clicking on the Ignored button opens up the dialog with all the components which are ignored for BOM creation.

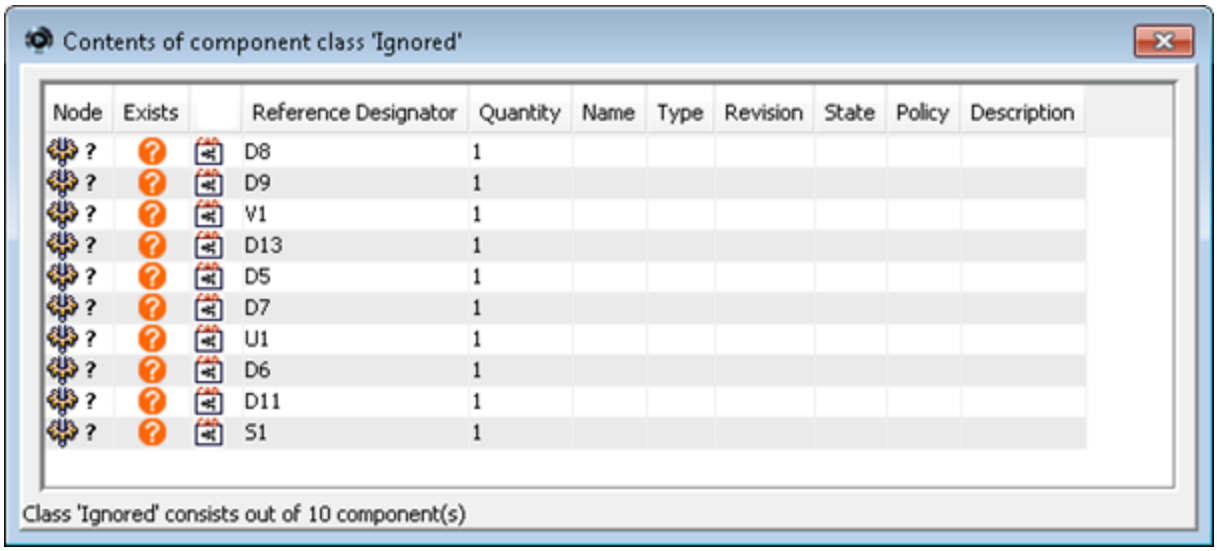


Figure 67 Statistics panel: Ignored

Missing: This specifies the number of components which are not yet available in 3DEXPERIENCE. Clicking on the Missing button opens up the dialog with all the missing components in 3DEXPERIENCE. The user has option to assign a part using the context menu.

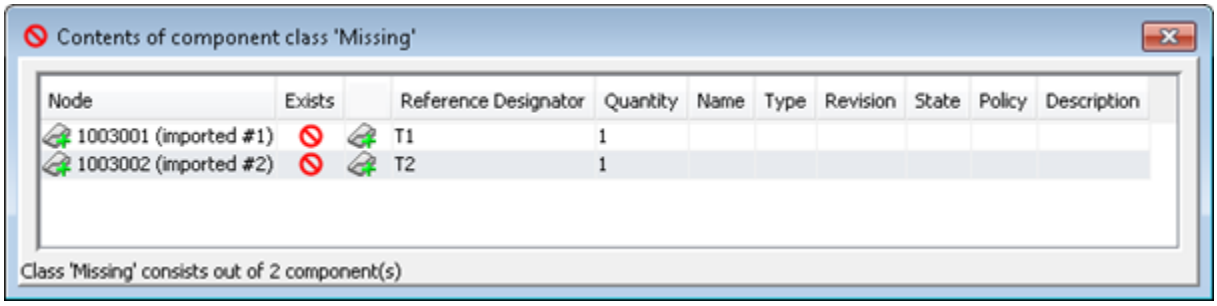


Figure 68 Statistics panel: Missing

Existing: This specifies the number of components which are available in 3DEXPERIENCE and have been assigned a part in 3DEXPERIENCE. Clicking on the Existing button opens up the dialog with all the existing components in 3DEXPERIENCE. The user has option to explore the part in 3DEXPERIENCE using the context menu.

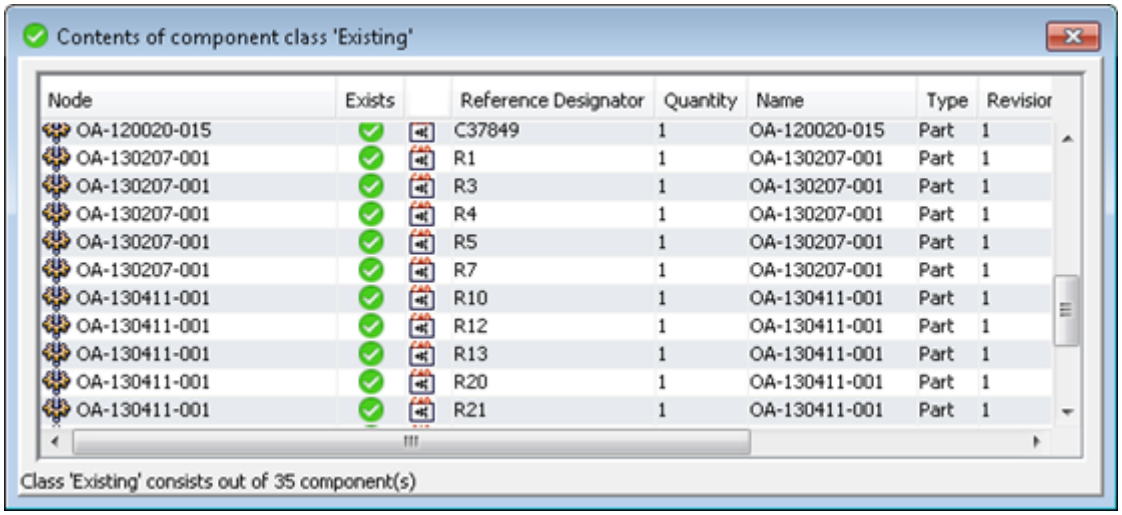


Figure 69 Statistics panel: Existing

Global Statistics Panel

The global statistics shows the overall status of all components from the design and the variants selected. The various states of the components are shown in the figure below.

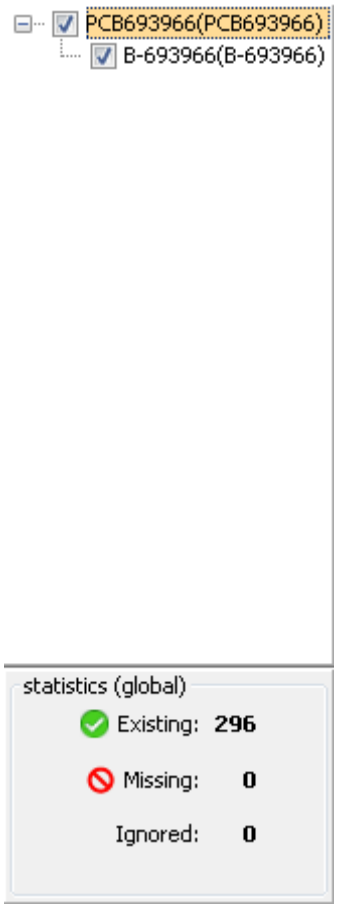


Figure 70 Global Statistics panel

Part Search

The search helps in searching the parts in 3DEXPERIENCE based on various options. The search dialog is shown below.

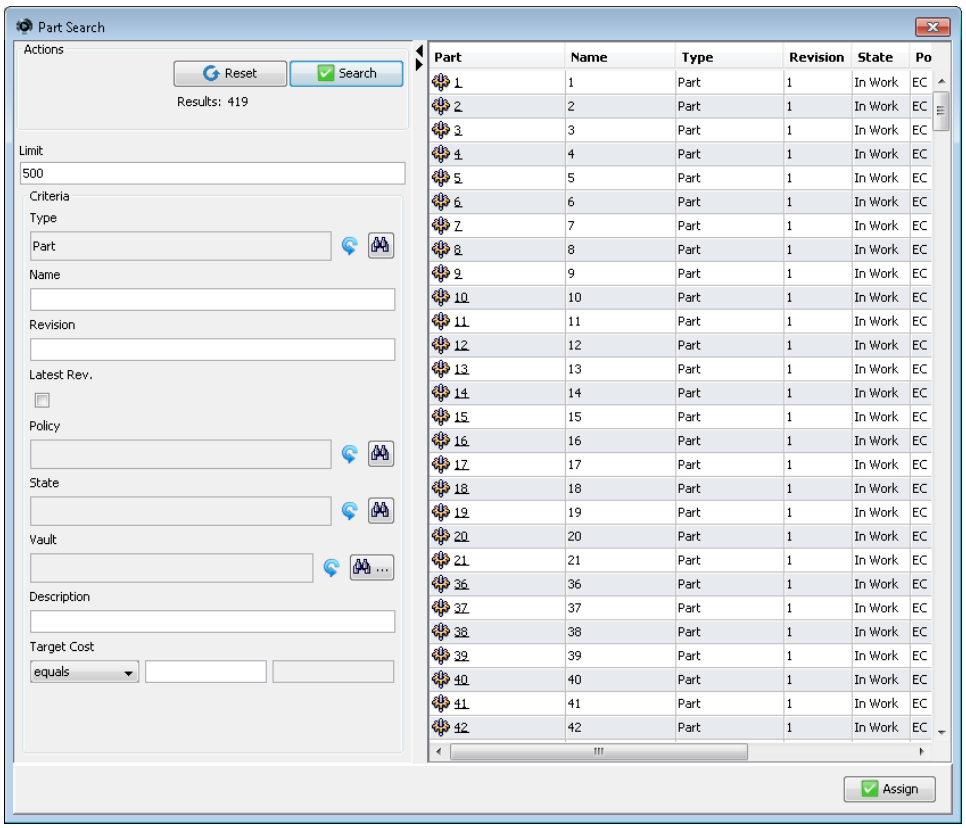


Figure 71 Part Search

The user can search for an object based on the criteria explained below.

Criteria

Type: The user can select the type of the part to search for using the browse button in the Type field. Here the user can select the types to be searched for and then click on the ok button to return the selected part types to the Type field.

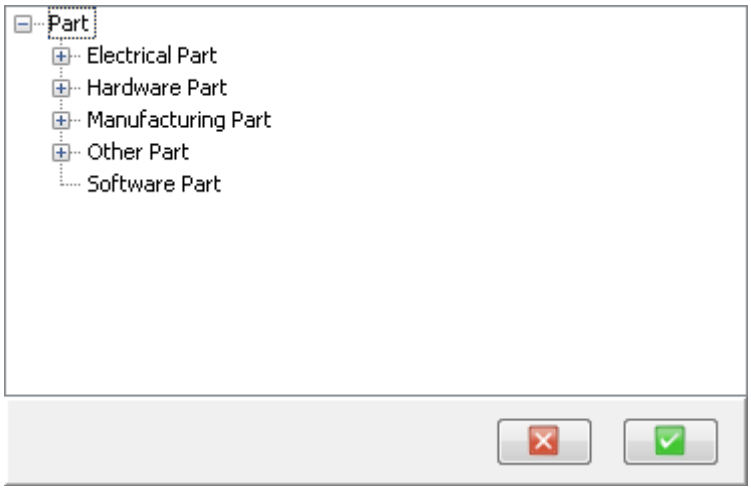


Figure 72 Part Search: Type

Name: If the user knows the name of the part to be searched then, it can directly be specified in the Name field. It also accepts a wild card character (*) which will return all the parts. An empty field also returns all the parts existing in 3DEXPERIENCE.

Revision: If the user specifies the revision of the object to be searched, Client Connector returns all the parts belonging to the specified revision.

Latest Revision: This check box is used to return all the latest revision of the objects in 3DEXPERIENCE. When this checkbox is selected, the Revision text field is disabled.

Policy: The user can select the policy of the part to search for using the browse button in the policy field. Here the user can select the policy of the part to be searched for and then click on the ok button to return the selected policies to the policy field.

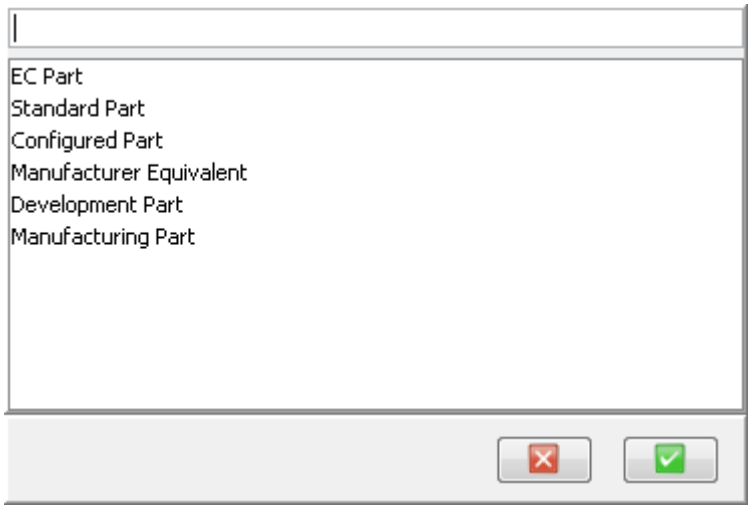


Figure 73 Part Search: Policy

State: The user can search for the parts based on the states of the parts namely. Search is made using a click on the browse button in the state field. Here the user can select the state of the part to be searched for and then click on the ok button to return the selected states to the state field.

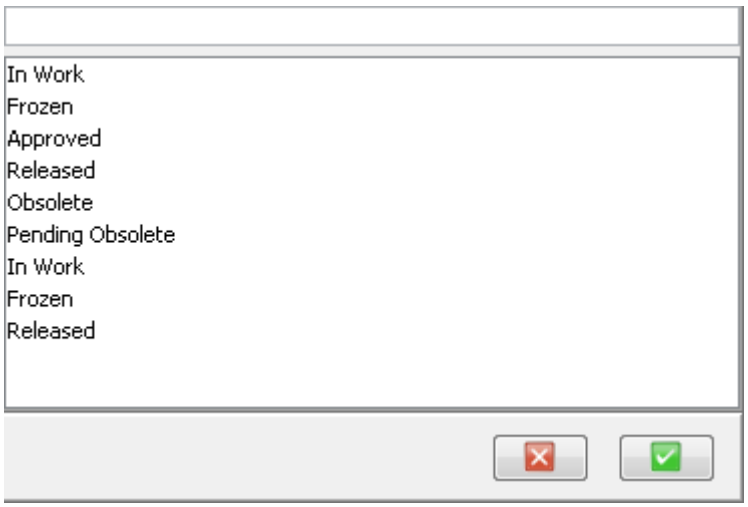


Figure 74 Part Search: State

Vault: The user can specify the vaults using the browse button in order to search for all parts in the specified vault.

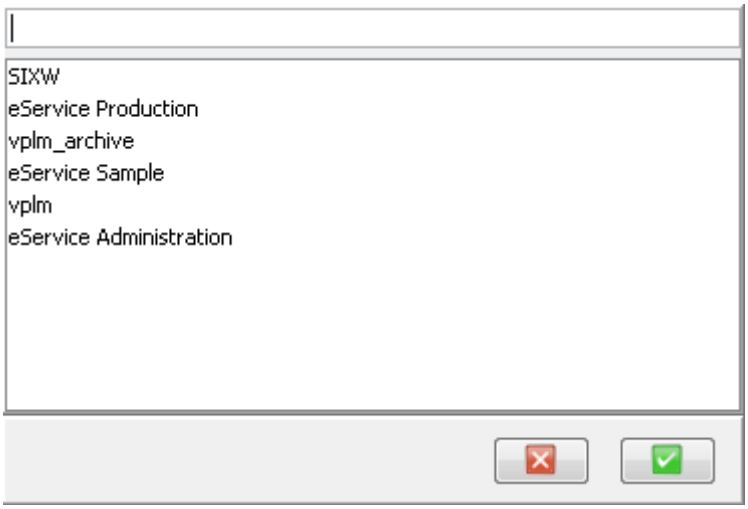


Figure 75 Part Search: vault

Description: The user can search for a part using the description specified during part creation.

Search Limit: The user can restrict the number of results to be returned using the Search Limit field. Client Connector returns the number of objects specified in the search limit.

Operator Field

The user has the functionality to search based on additional operators. The operators are shown in a drop-down menu.

Based on the type of the attribute different operators are available.

String type:

Begins With	This operator returns the parts which has an attribute value starting with the string entered by the user.
Ends With	Search based on this operator returns the parts which has an attribute value ending with the user specified string.
Includes	This operator returns the parts which includes the string entered by the user as any part of the attribute value.
Is exactly	This operator returns the parts which has an attribute value exactly as the one entered by the user.
Is not	This operator returns the parts which do not have the string value entered by the user.
Matches	This operator returns the parts which has an attribute value matching the string entered by the user.

Numeric type (integer/float):

Is at least	This operator returns the parts which has an attribute value of at least the specified numeric value.
Does not equal	This operator returns all the parts which have an attribute value except the specified numeric value.
Equals	This operator returns the parts which have an attribute value equaling the numeric value specified.
Is between	This operator returns the parts which has an attribute value lying between the specified numeric values.
Is Less than	This operator returns the parts which have an attribute value less than the specified numeric value.
Is more than	This operator returns the parts which have an attribute value more than the specified numeric value.

Actions

Search:

Once the user clicks on the **Search** button, the results of the search are displayed in the right pane of the search dialog based on the criteria specified by the user. The user can select the part and click on the ok button to assign the selected part to the component in the BOM editor dialog. Pressing the cancel button closes the search dialog and aborts the search operation.

Reset:

This clears all the search results.

Auto BOM

The *"Auto BOM"* task is intended to create BOM in 3DEXPERIENCE without any user interaction.

A login to 3DEXPERIENCE is performed, if the user is not already logged in. The Feature "Auto Create BOM" provides the user to extract the BOM from the design and create this BOM in 3DEXPERIENCE with as less as possible user interaction. Once the BOM is created, the user gets a success message.

To execute BOM creation in 3DEXPERIENCE, a minimum of the Root Assembly must exist in 3DEXPERIENCE. Connector does not create Root Assembly and PCB. This must exist in 3DEXPERIENCE.

Connector for Mentor Graphics Expedition Enterprise DxDatabook

This chapter provides information on the **Connector for Mentor Graphics Expedition Enterprise DxDatabook**. It focuses mainly on the use of connector from the CAD user perspective. The client side (Cadence OrCAD CIS side) component of the connector is referred to as **"Library Connector"** hereafter.

Connector must be installed on the machine which runs Mentor Expedition Enterprise. Before installing the Connector, it is important to install the Connector Server Component in 3DEXPERIENCE and Web service is set up for 3DEXPERIENCE.

Component Data Management Flow

Component Data Management (CDM) is a feature which helps the Librarian to synchronize the components between the ECAD Library and 3DEXPERIENCE. The user can not only synchronize the components but also create new components in 3DEXPERIENCE using CDM feature.

A "Mentor Library Project File .lmc" is needed to enable the component data management tasks. The user can open this file using the menu "File → Open Project" which opens the file browser for the user to specify the path of the file. If the "Mentor Library Project" is open, all the CDM tasks in the connector are enabled.

Parts in 3DEXPERIENCE can be classified either by using **3DEXPERIENCE Engineering BOM Management types** or by **3DEXPERIENCE Part and IP Classification Libraries**. This setting is selectable in the Setup Synchronization task of the CDM. Based on the selection either 3DEXPERIENCE Engineering BOM Management types or 3DEXPERIENCE Part and IP Classification Part Libraries will be used for the synchronization.

Connector for Mentor Graphics Expedition Enterprise DxDatabook

The Connector for Mentor Graphics Expedition Enterprise DxDatabook is a separate installation and this shortcut opens up the Component Data Management User Interface where the "*Setup Synchronization*" and "*Execute Synchronization*" tasks can be executed.

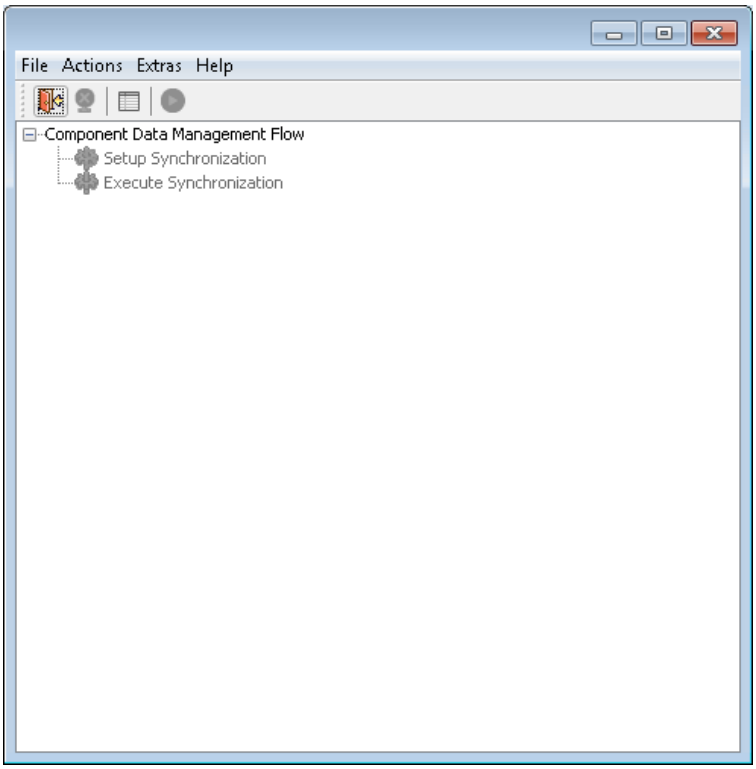


Figure 76 Connector for Mentor Graphics DxDatabook

Following tasks are available:

- Component Data Management Flow
  - *Setup Synchronization*
  - *Execute Synchronization*

Connection Settings for 3DEXPERIENCE Web Services

To use Component Data Management, it is necessary to Login to 3DEXPERIENCE through Web Services.

The following Preferences will show up the 3DEXPERIENCE Web Service connection settings.

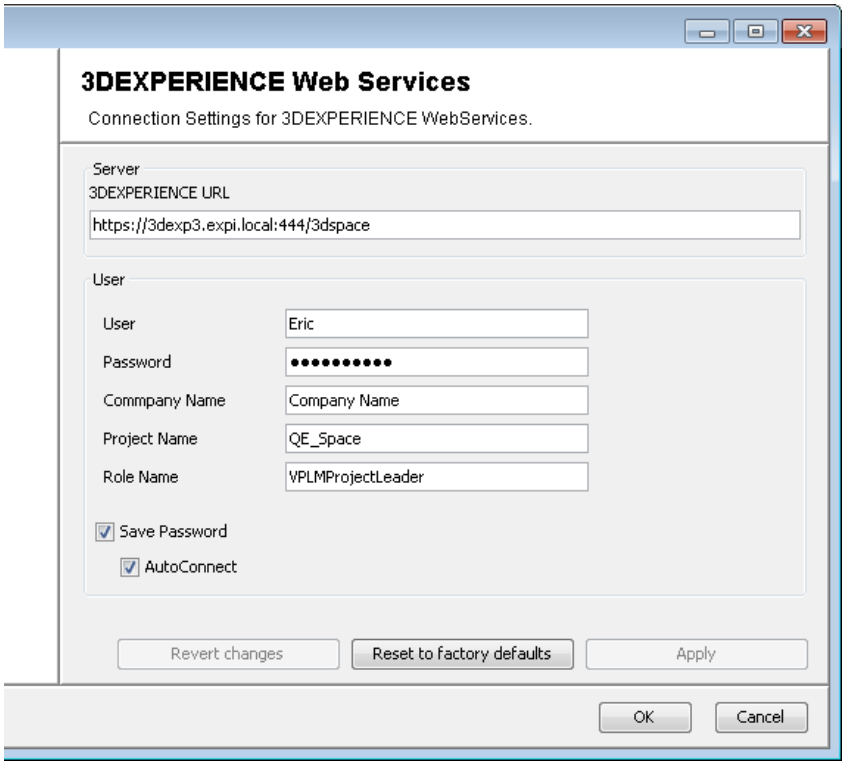


Figure 77 3DEXPERIENCE Web Services

3DEXPERIENCE Webservices URL	- The host name and the port number of the 3DEXPERIENCE Webservices Server
User	- The username to connect to 3DEXPERIENCE
Password	- The password associated with the specified username
Company Name	- The name of the company that the user belong to
Project Name	- This is the project (collaborative space) to which the user is assigned.
Role Name	- The role assigned to the user on the specified project
Save Password	- This saves the specified password
AutoConnect	- Selecting this checkbox enables automatic login process with the saved login credentials. In background synchronization, this checkbox needs to be enabled.

Description of the other preferences:

- *General Settings*
- *Messaging Settings*
- *Communication Settings*
- *Expedition Enterprise Settings*
- *General Settings*
- *PDB Settings*
- *Configuration Settings*
- *Update Settings*

JDBC Connection Configuration

The configuration must be manually created by the user. The configuration file should have the same name as the **". dbc"** file with an extension of ***". jdbc.ini"*** and under the same directory as the library.

Example: In case the database name is ***DxLib.dbc***, please create a new file under the same directory as ***DxLib.jdbc.ini***

Once the file is created, please use a text editor to open it. The structure of the INI file has 2 global Keys namely [URL] and [DRIVER]

URL- This is the central part of the configuration. The connection URL is specified as shown
Example: Syntax

```
url=jdbc:ucanaccess:// C:\temp\DxLib\DxLib.mdb
url=jdbc:sqlserver://
```

Driver- This contains the driver class name to establish a connection to the data source
Example: Syntax

```
driver=net.ucanaccess.jdbc.UcanaccessDriver
driver=sun.jdbc.odbc.JdbcOdbcDriver
```

The driver configuration is only necessary if there are two drivers in the system that feel responsible for the same URL schema. If no driver is specified (the key driver does not exist) then the first driver that feels responsible will take effect.

An additional Key named [Properties] contains driver specific settings.

Example: Syntax

```
url= jdbc:ucanaccess://C:\temp\DxLib\DxLib.mdb
[Properties]
user=Test
password=test
CharacterSet=UTF-8
```

Since DxDatabook has the possibility to configure for each EdaPartCategory a different data source, two additional sections namely [Name] and [Name properties], where Name is replaced with the DxDatabook Library. In this case, DxDatabook Library first loads the Global setting and later Library specific settings.

Example: Syntax

```
[Properties]
user=Test
password=test

[Capacitor]
url=jdbc:ucanaccess://C:\temp\DxLib\Capacitor.mdb

[Capacitor Properties]
CharacterSet=UTF-8

[Resistor]
url=jdbc:ucanaccess://C:\temp\DxLib\Resistor.mdb

[Resistor Properties]
CharacterSet=Windows-1252
```

Setup Synchronization

To synchronize components between ECAD library and 3DEXPERIENCE, the user has to first run the *"Setup Synchronization"*. The *"Setup Synchronization"* task helps in settings up the mappings between ECAD library to 3DEXPERIENCE and vice versa. A login to 3DEXPERIENCE is performed, if the user is not already logged in.

The user needs to choose the appropriate mapping file for **3DEXPERIENCE Engineering BOM Management** and **3DEXPERIENCE Part and IP Classification Libraries**.

Once the user executes the *"Setup Synchronization"* task the setup dialog opens up for the user to continue with the setup. The steps for setting up the mappings are shown below.

1. The first dialog is the information window which explains the usage of CDM setup. Click on the next button to continue.

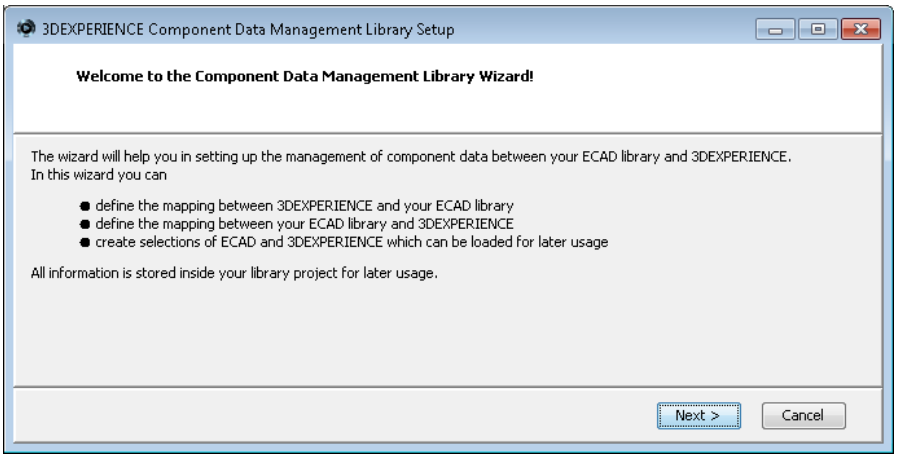


Figure 78 CDM setup wizard: Introduction

2. The user needs to specify the General Settings and click next button to continue with the setup.

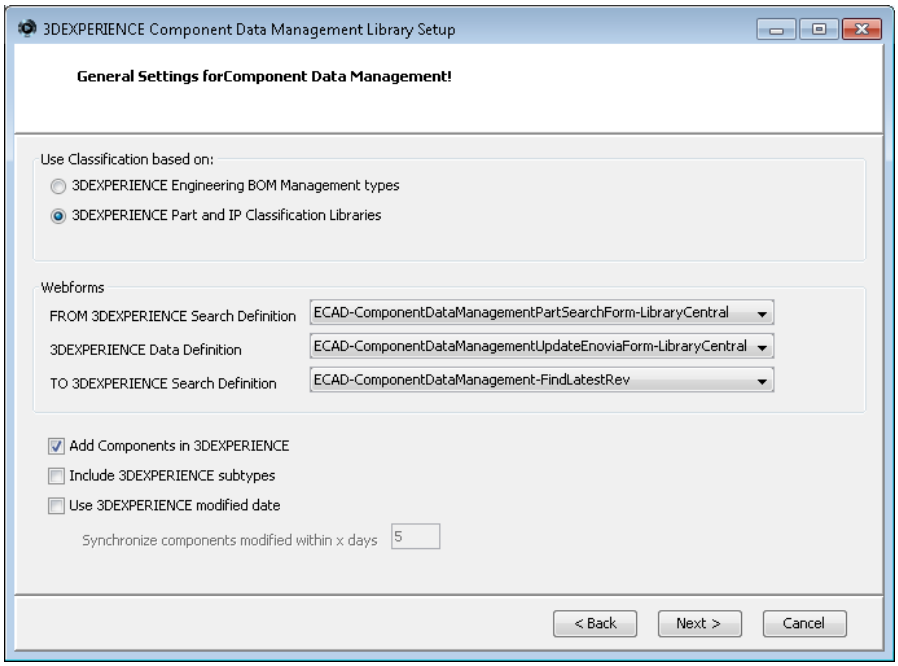


Figure 79 CDM setup wizard: General Settings for Component Data Management

Use Classification based on:		
3DEXPERIENCE Engineering BOM Management type		3DEXPERIENCE Engineering BOM Management Types will be used for the synchronization.
Part and IP Classification Libraries		Part and IP Classification Libraries and/or Part Families will be used for the synchronization.
Webforms		
Search Definition		Select the Webform which defines the search criteria's when retrieving parts from 3DEXPERIENCE.
3DEXPERIENCE data definition	-	Select the Webform used to update the components for Component Data Management in 3DEXPERIENCE or retrieve the data from 3DEXPERIENCE.
3DEXPERIENCE Existence Check	-	Select the Webform used to verify if a component does exist in 3DEXPERIENCE.
Add Components in 3DEXPERIENCE	-	Allow creation of new component if they do not exist in 3DEXPERIENCE.
Include 3DEXPERIENCE sub types	-	Selecting this checkbox automatically considers all the subtypes of the selected types. If unchecked only the selected type is considered and the subtypes are left out.
Use 3DEXPERIENCE modified date	-	Defines the number days since the components must have been to become considered for synchronization

3. The user needs to specify a mapping file between ECAD-3DEXPERIENCE and 3DEXPERIENCE-ECAD. Click on the browse button and specify the mapping file in the file chooser dialog. Once the mapping files are selected click on the next button to continue with the setup.

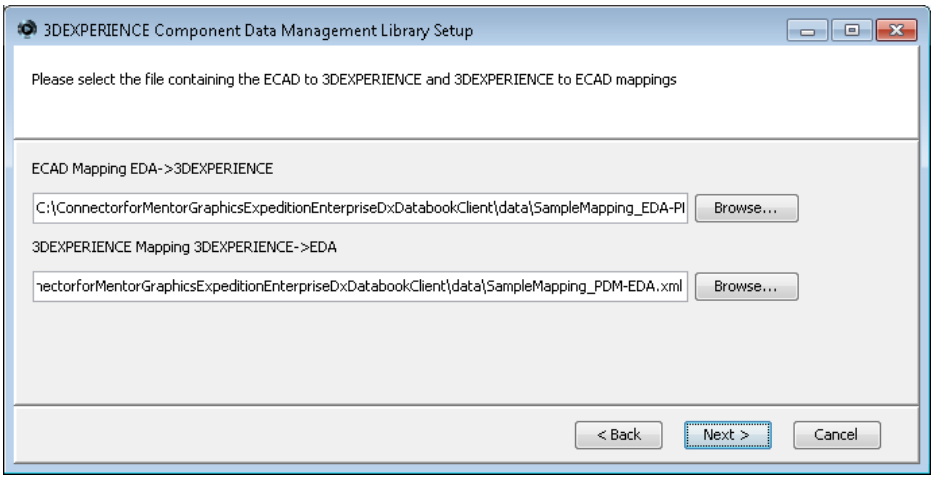


Figure 80 CDM setup wizard: Mapping Configuration

4. The user can create some pre selection of the classes and store it under a single group using *New* button. Once the group is created the user can make this group as default so that the connector automatically uses this set during the synchronization.

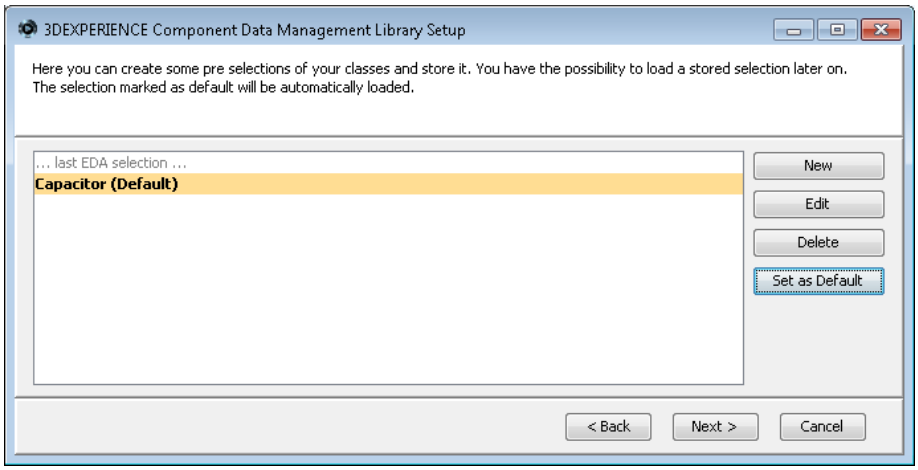


Figure 81 CDM setup wizard: Class selection

New: This button opens up the class selection dialog as shown below. The user can select all the classes to be grouped together and enter a "*Selection Name*" in the text field. By clicking the ok button the selected classes are stored in the group name specified and returned to the previous screen.

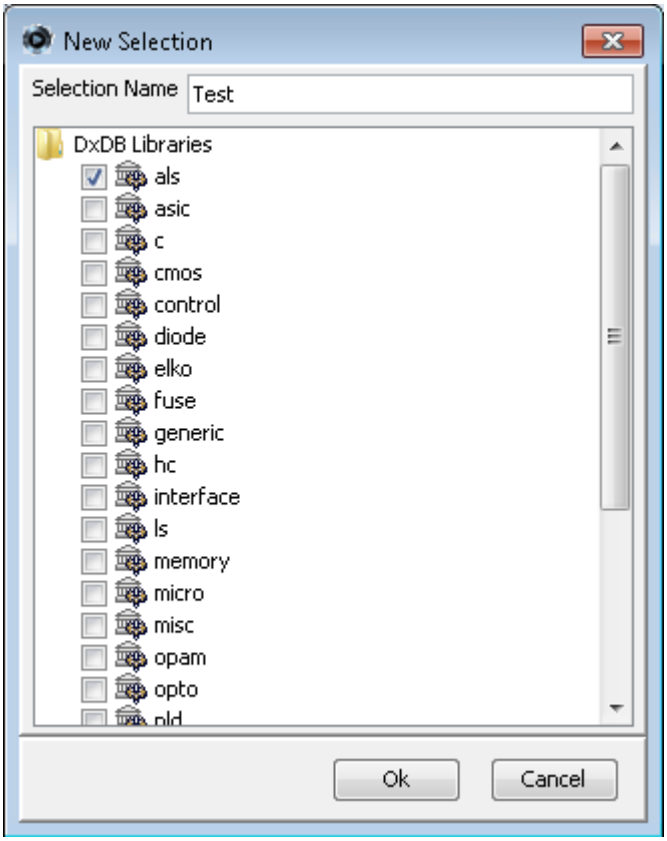


Figure 82 CDM setup wizard: New

Edit: This button helps in editing the created class group. The user can edit the selections by selecting the selection name and clicking the *Edit* button. This opens up the Edit selection dialog for the user to modify the selections and clicking the *ok* button saves the selections.

Delete: This button deletes the class group created. A warning dialog opens up if the Selection should be deleted. If the user clicks *Yes* button, then the selection group is deleted. Click on the *No* button cancels the deletion and returns to the previous screen.

Figure 83 CDM setup wizard: Delete

Set as Default: This button helps in setting the Current selection group as the default selection for the connector to use automatically during synchronization. The user needs to select the Selection group created and then click on the "*Set as default*" button.

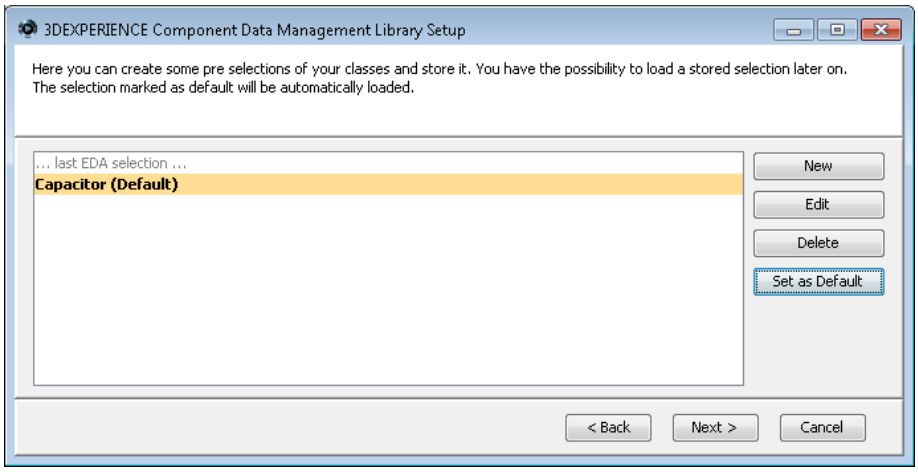


Figure 84 CDM setup wizard: Set as default

5. The user can create some pre-selection of the Part type and store it under a single group using *New* button. Once the group is created the user can make this group as default so that the connector automatically uses this set during the synchronization.

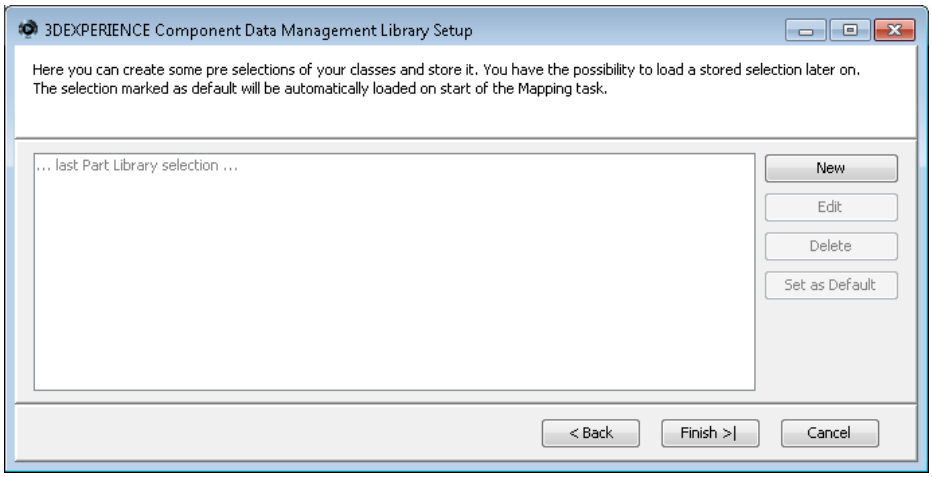


Figure 85 CDM setup wizard: Class selection

New: This button opens up the 3DEXPERIENCE class selection dialog as shown below. The user can select all the part classes to be grouped together and enter a "*Selection Name*" in the text field. By clicking the ok button the selected classes are stored in the group name specified and returned to the previous screen.

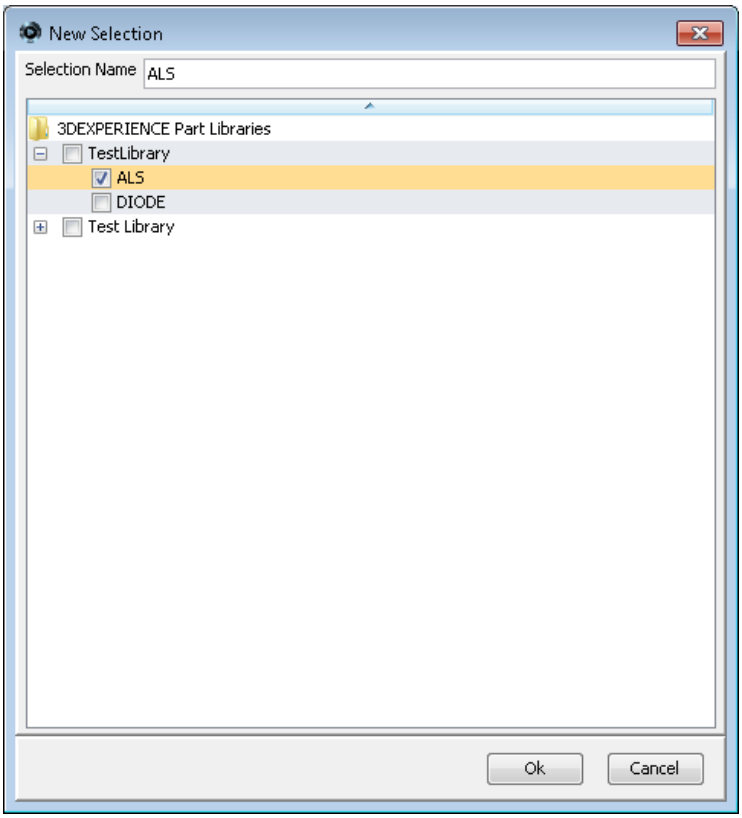


Figure 86 CDM setup wizard: New

Edit: This button helps in editing the created part group. The user can edit the selections by selecting the selection name and clicking the *Edit* button. This opens up the Edit selection dialog for the user to modify the selections and clicking the *ok* button saves the selections.

Delete: This button deletes the part type group created. A warning dialog opens up if the Selection should be deleted. If the user clicks *Yes* button, then the selection group is deleted. Click on the *No* button cancels the deletion and returns to the previous screen.

Figure 87 CDM setup wizard: Delete

Set as Default: This button helps in setting the Current selection group as the default selection for the connector to use automatically during synchronization. The user needs to select the Selection group created and then click on the "*Set as default*" button.

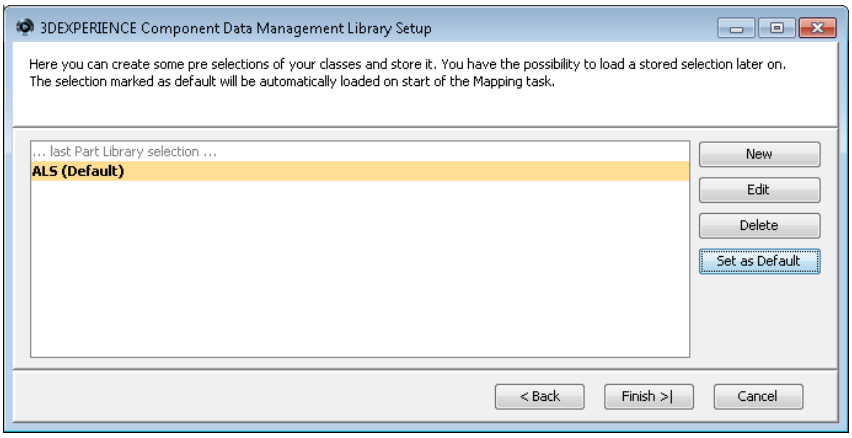


Figure 88 CDM setup wizard: Set as default

Click *Finish* button to complete the setup. Once the user clicks on the *Finish* button, PED files are created in the *".enoviastore"* under the Library Project directory. There is a dedicated PED file for all the pre-selections made and another which stores the path of the mapping file and other CDM setup. The settings made here are used when the user runs the CDM task. The connector loads all the settings automatically from the PED files into the CDM synchronization dialog.

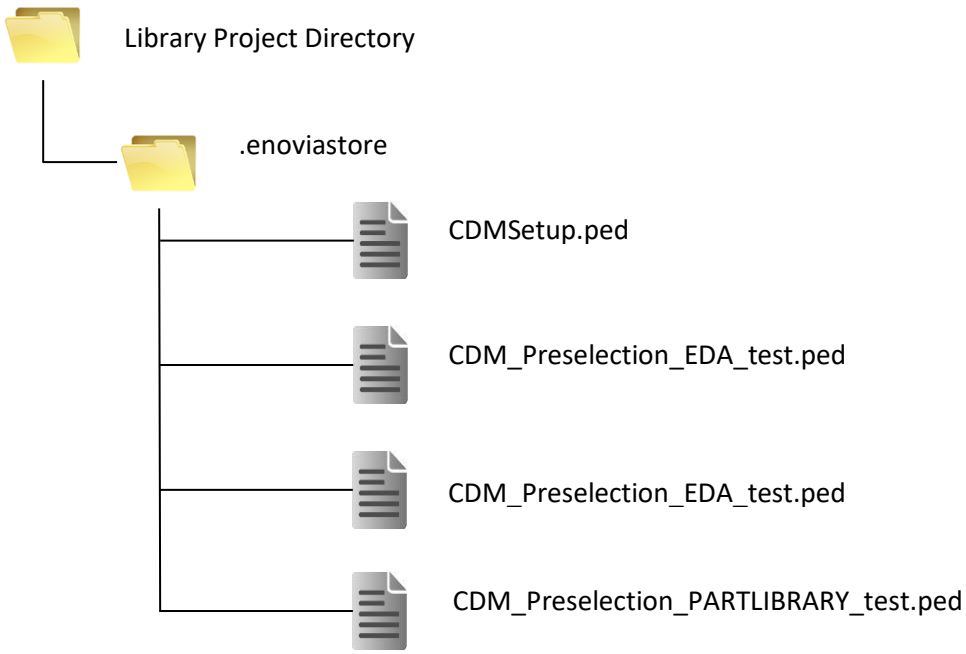


Figure 89 Library Project Directory

Execute Synchronization

Running the task opens up the Component Data Management dialog. A login to 3DEXPERIENCE is performed, if the user is not already logged in. This feature allows the user to synchronize the components between *"ECAD to 3DEXPERIENCE"* and *"3DEXPERIENCE to ECAD"*. All the pre-selections made are automatically loaded by the connector in the CDM dialog. The user can use two different views for synchronizing components.

DxDatabook View

This view shows the classes from the ECAD library.

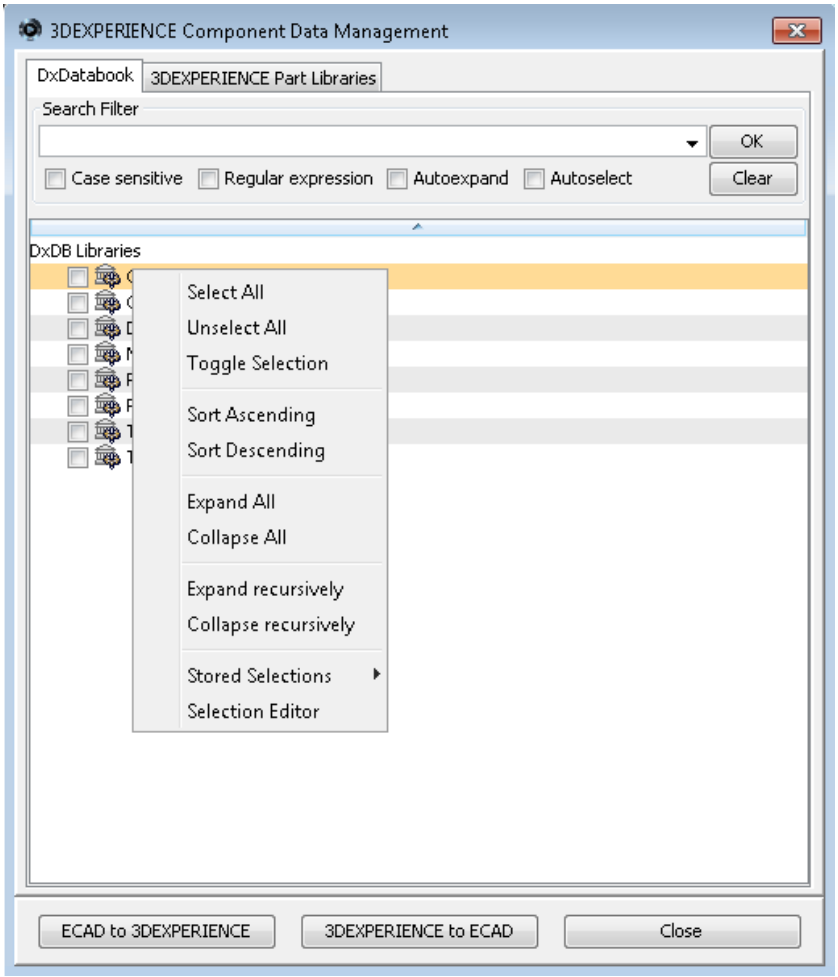


Figure 90 CDM: DxDatabook View

3DEXPERIENCE Type Classes/ Part Library View

This view shows the 3DEXPERIENCE classes based on the selection by the user to use **3DEXPERIENCE Engineering BOM Management types** or **3DEXPERIENCE Part and IP Classification Libraries** for the part creation. Selecting **3DEXPERIENCE Engineering BOM Management** shows the *3DEXPERIENCE Type Classes* and *3DEXPERIENCE Part Libraries* are shown when **3DEXPERIENCE Part and IP Classification Libraries** is selected.

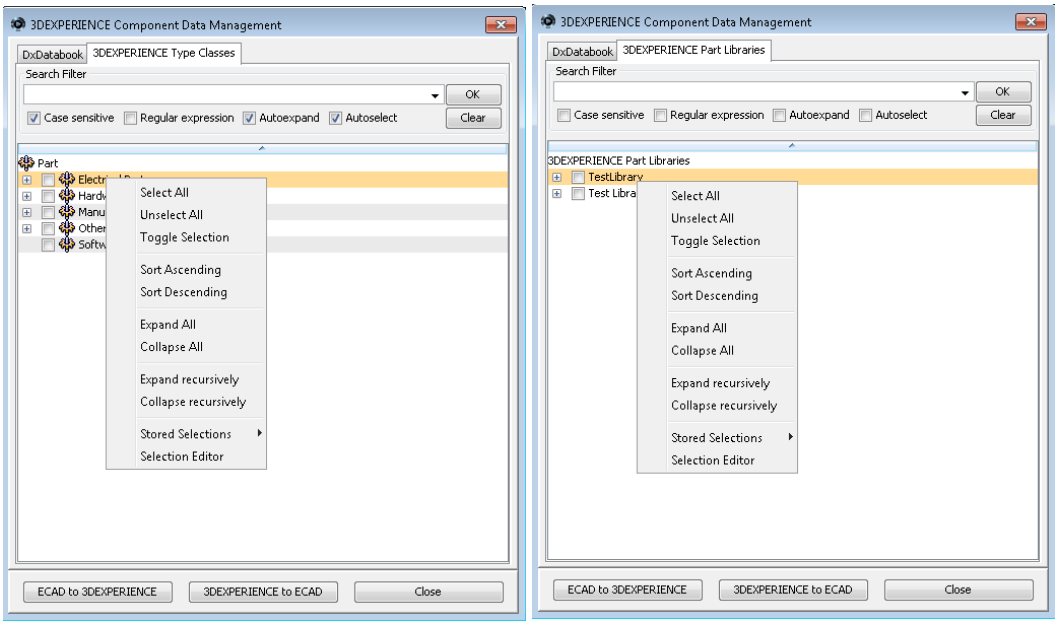


Figure 91 CDM: 3DEXPERIENCE Type Classes / Part Library View

In either case, the user has the possibility to have different selections from the context menu.

Select All:
This menu selects all the class types for synchronization.

Unselect All:
This menu de-selects all the class types from the list.

Toggle Selection:
This menu toggles between the previous and the new selection made by the user.

Sort Ascending:
This menu sorts the classes in ascending order.

Sort Descending:
This menu sorts the classes in descending order.

Expand All:
This menu expands the entire tree

Collapse All:
This menu collapses the entire tree

Expand Recursively:
This menu expands the current root node at which the action is performed

Collapse Recursively:
This menu collapses the current root node at which the action is performed.

Stored Selections:

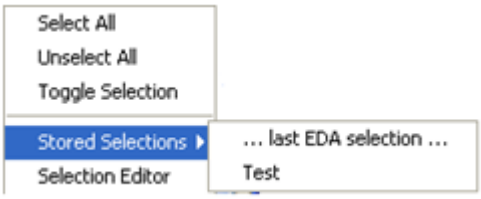


Figure 92: Context menu

This menu shows the entire selection group created using CDM setup wizard. The user can also select the last EDA selection used.

Selection Editor:
This menu opens the *"Edit Selection"* dialog where the user can create a new selection group or edit the existing selection group. This menu is provided for the ease of use so that the user can easily access the pre-selection group.

Advanced Search

Due to the amount of classification possible either in ECAD or 3DEXPERIENCE View, it is getting difficult to make selections. A new simple search possibility is added to the classification trees.

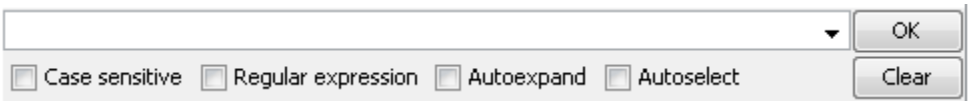


Figure 93: Advance Search

The user can type the search string in the textfield provided and click on the Ok button to perform a search.

Case sensitive:
The user has the possibility to search based on case sensitive search. If this checkbox is selected, then the search is case sensitive and if the checkbox is de-selected, then the search is not case sensitive.

Regular Expression:
Selecting this checkbox enables the user to search based on regular expression. The user can enter a regular expression in the textfield and click ok button to perform a regular expression search.

Autoexpand:
Selecting this checkbox expands the tree so that the search result is visible to the user. The user can select this checkbox and enter a search string and click Ok button. The system automatically expands the tree and highlights the search result.

Autoselect:
Selecting this checkbox automatically enables the Autoexpand checkbox. When the user performs a search, the tree not only expands automatically but the search result is also selected.

OK:
This button helps in performing the search operation. The user needs to enter a search string and click on the Ok button in order to perform the search operation.

Clear:
Selecting this button clears the search string entered in the textfield.

ECAD to 3DEXPERIENCE

The user can select two views for synchronizing components between ECAD Library to 3DEXPERIENCE. If the user selects the DxDatabook view, then the ECAD libraries are shown. Here the user can select one or more libraries for synchronization and then click on "*ECAD to 3DEXPERIENCE*" button. This calls the mapping file specified and runs the configuration under the mapping settings to synchronize the components between the ECAD library and 3DEXPERIENCE. All the components under the selected libraries are extracted and the rules specified in the mapping configuration are applied by the connector for synchronization.

Selecting the 3DEXPERIENCE Type Classes/Part Library view shows all the available classes in 3DEXPERIENCE. Here the user can select the class which needs to be synchronized and click on "*ECAD to 3DEXPERIENCE*" button. This calls the mapping file specified and runs the configuration under the mapping settings to synchronize the components between the ECAD library and 3DEXPERIENCE. All the components from the library are extracted. Then the rules specified in the mapping configuration are applied by the connector and all components belonging to the selected classes in 3DEXPERIENCE are synchronized. A confirmation dialog opens up after successful synchronization.

3DEXPERIENCE to ECAD

Synchronizing from 3DEXPERIENCE to ECAD is very similar to the synchronization from ECAD to 3DEXPERIENCE. The user can select two views for synchronizing components between 3DEXPERIENCE to ECAD Library. If the user selects the DxDatabook view, then the ECAD Libraries are shown. Here the user can select one or more libraries for synchronization and then click on "*3DEXPERIENCE to ECAD*" button. This calls the mapping file specified and runs the configuration under the mapping settings to synchronize the components between the 3DEXPERIENCE and ECAD library. All the components from 3DEXPERIENCE are extracted and the rules specified in the mapping configuration are applied by the connector and all parts belonging to the selected libraries in ECAD are synchronized.

Selecting the 3DEXPERIENCE Type Classes/Part Library view shows all the available part types in 3DEXPERIENCE. Here the user can select the type which needs to be synchronized and click on "*3DEXPERIENCE to ECAD*" button. This calls the mapping file specified and runs the configuration under the mapping settings to synchronize the components between the 3DEXPERIENCE and ECAD library. All the components under the selected type classes are extracted. Then the rules specified in the mapping configuration are applied by the connector and synchronized to the ECAD Library. A confirmation dialog opens up after successful synchronization. A detailed report file is created in the project folder, if the user synchronize materials from 3DEXPERIENCE to the ECAD library. In this file the user can see the materials are added, removed, modified attributes and materials with no change.

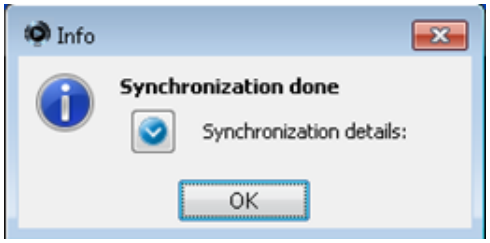


Figure 94: Synchronization Confirmation Dialog

The user has the possibility to look for synchronization details by clicking on the drop down button. The synchronization details are shown in the same dialog as shown below.

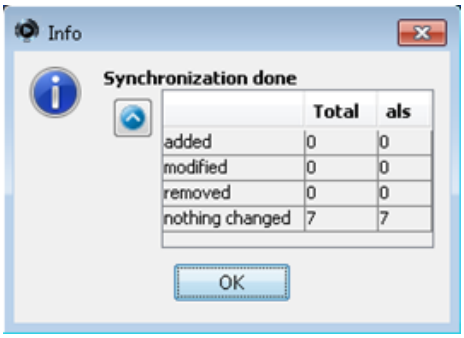


Figure 95: Synchronization Details

Background Synchronization

The Component Data Management can also be used as a background synchronization process. This is extremely helpful when the ECAD library or the parts in 3DEXPERIENCE should be synchronized on a frequent base without any user interaction.

Typically, such synchronization will be done once a day to make sure, that the latest changes go into the ECAD Library or into 3DEXPERIENCE.

A detailed report file is created in the project folder, if the user synchronizes materials from 3DEXPERIENCE to the ECAD library. In this file the user can see materials added, removed, attributes modified and materials with no changes.

The configuration and execution of the background synchronization is explained in detail under Administrator's Guide.

Client Connector User Interface

Library Client Connector User Interface

The Library Client Connector User Interface is minimized to simplify its use:

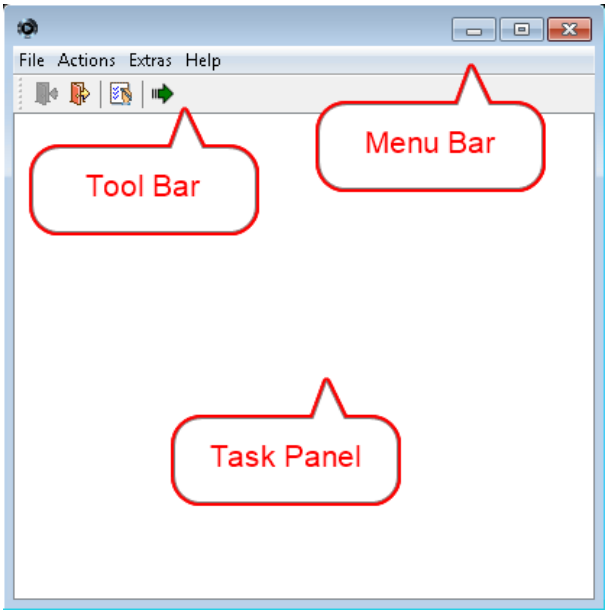


Figure 96 Connector User Interface

Menu Bar
The items found in the menu bar of the Design Management for Mentor Graphics Expedition Enterprise application are explained in chapter *Menu Bar Items*

Tool Bar
The tool bar icons are used for fast execution of the important menu entries in the menu bar:

- - Connect to 3DEXPERIENCE
- - Disconnect
- - Displays the client preferences dialog
- - Executes the task currently selected

Task Panel
The task panel displays all “tasks” of Library Client Connector. Some tasks are activated only if a project is loaded in the connector or if the connector is connected to the 3DEXPERIENCE.

Menu Bar Items

File

The figure below shows the contents of the File menu.

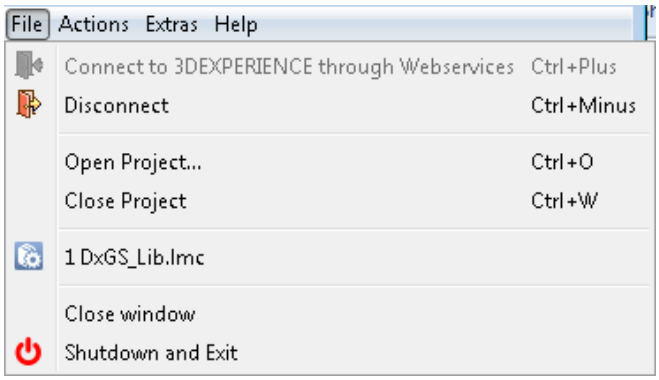


Figure 97 File Menu

Connect to 3DEXPERIENCE
Connect to 3DEXPERIENCE starts a session to the 3DEXPERIENCE server.

Disconnect
Disconnect from 3DEXPERIENCE closes the session to the 3DEXPERIENCE server.

Open Project
Open project opens the file browser so that the user can specify the project to be used for check-in.

Close Project
Close project closes the currently opened project.

Recent Projects
The last four recently opened projects are shown below the menu items so that the user can select it in order to load the project in connector. This feature reduces the efforts for opening a project and increases the ease of use.

Shutdown and Exit
The Shutdown and Exit menu entry shutdowns the plugin, closes the Library Client connector and disconnects the session to 3DEXPERIENCE application server.

Actions

The figure below shows the contents of the Action menu.

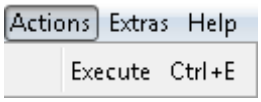


Figure 98 Actions Menu

Execute
This menu item executes the task based on the inputs provided in the Task Panel. It is only activated when a task is selected.

Extras

The figure below shows the contents of the Extra menu.

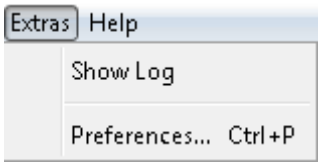


Figure 99 Extras Menu

Show Log
The contents of the log file are shown in the log window. It shows all messages – normal log messages, warnings, errors, and debug messages.

Preference
The preference menu entry opens a new dialog, which helps in configuring Client Connector settings. The chapter *3DEXPERIENCE Preferences* explains the configuration.

Help

The figure below shows the contents of the Help menu.

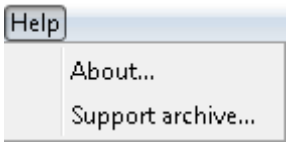


Figure 100 Help Menu

About
The about dialog provides information about the Client Connector itself

- Version
- Release Date
- Copyright

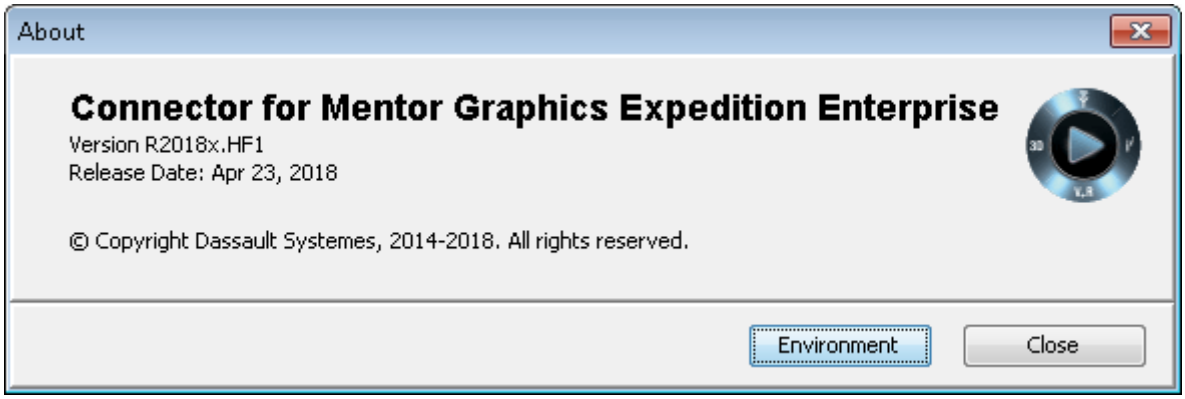


Figure 101 About Dialog

The **Environment** button opens up a new window with three tabs showing the local System Properties, Environment Variables and Additional Info. In the **Additional Info** tab there are links to have a fast access to the user home, the log files and the created support archive file as shown below.

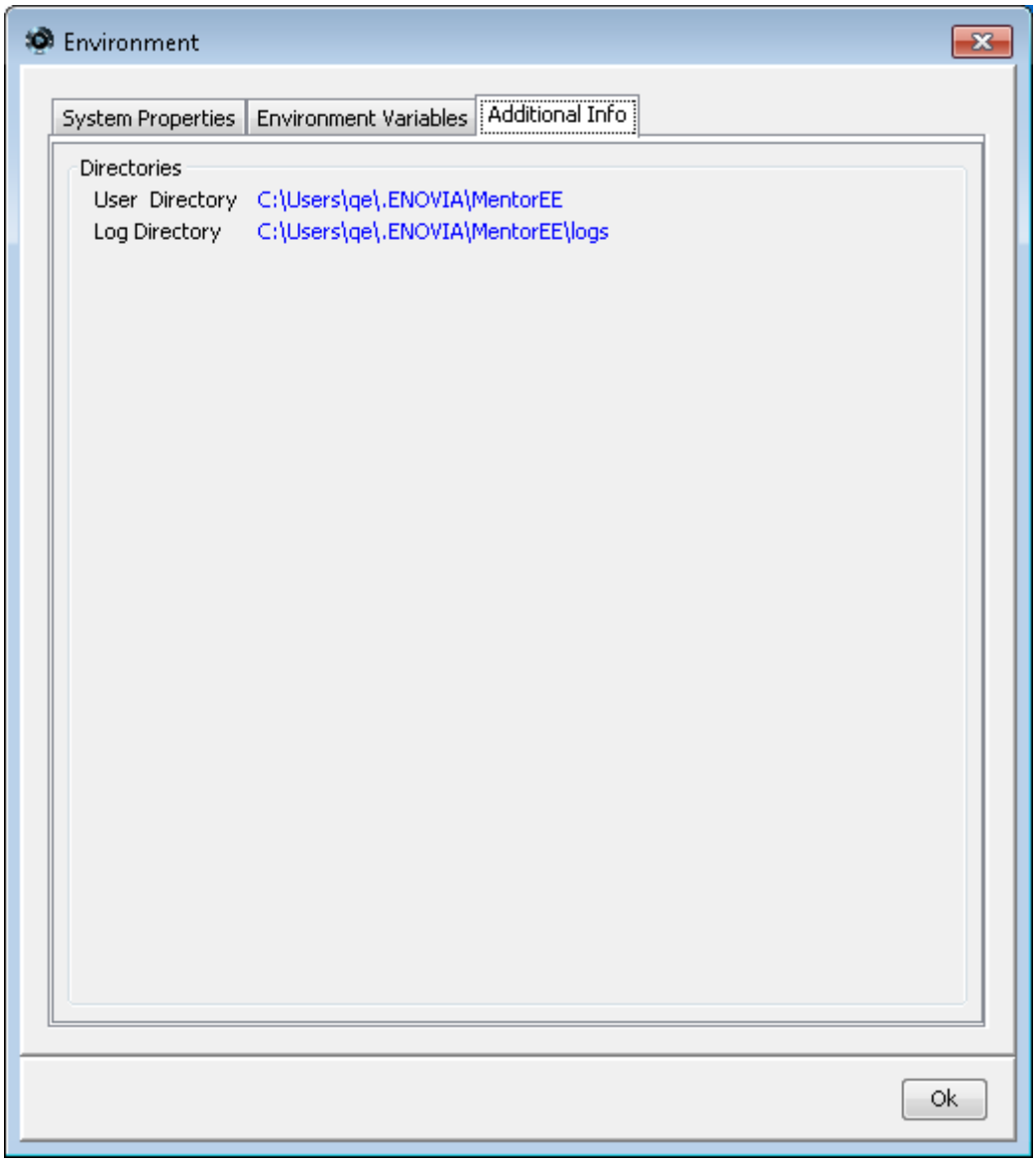


Figure 102 Environment Details Dialog

Support Archive

The support archive can be created by selecting the **Support Archive** context menu and is more described in chapter *Create Support Archive*.

System Tray Icon

In order to have a better interaction between the user and the Client Connector, an icon is shown in the system tray once the Client Connector is started. The system tray icon gives access to functionalities which is in the next chapter explained. A double click on the system tray icon shows the connector connection status. The connection status namely Connected and Disconnected are shown using different icons as shown in the figures below.

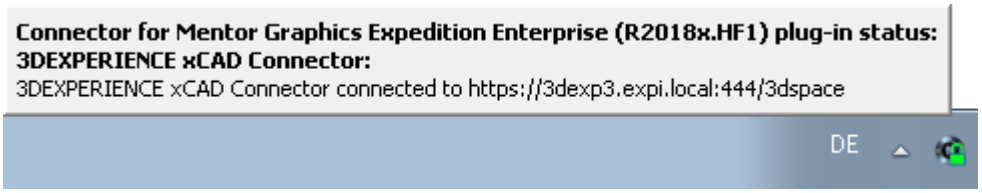


Figure 103 System Tray Icon- Logged in

Figure 104 System Tray Icon – Logged out

System Tray Menu Entries

A right click on the "System Tray Icon" opens the context menu, which gives access to all the functionalities provided by the connector.

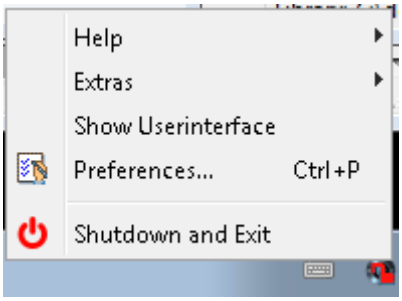


Figure 105 System Tray Menu Entries

Help

About

The *"About…"* menu entry of the system tray opens the *"About"* dialog of the connector.

Support Archive

With this menu entry a "support archive" can be created and is described in chapter *Create Support Archive*.

Extras

Show Log

When the log window is closed the user can select the Show Log menu to display the log window.

Show Userinterface

This menu entry opens up the user interface of the connector. (Only in Library Client Connector)

Preferences

The *"Preference"* menu entry opens up a new dialog, which helps in configuring General settings, Plug-ins settings and Modules settings. It is further explained in the *3DEXPERIENCE Preferences* chapter.

Shutdown and Exit

The Shutdown and Exit menu entry shutdowns the plugin, closes the Library Client connector and disconnects the session to 3DEXPERIENCE application server.

3DEXPERIENCE Preferences

This chapter explains each settings of the Client Connector. The user needs to configure the preferences to execute the tasks from the Client Connector. Below figure displays the preferences dialog.

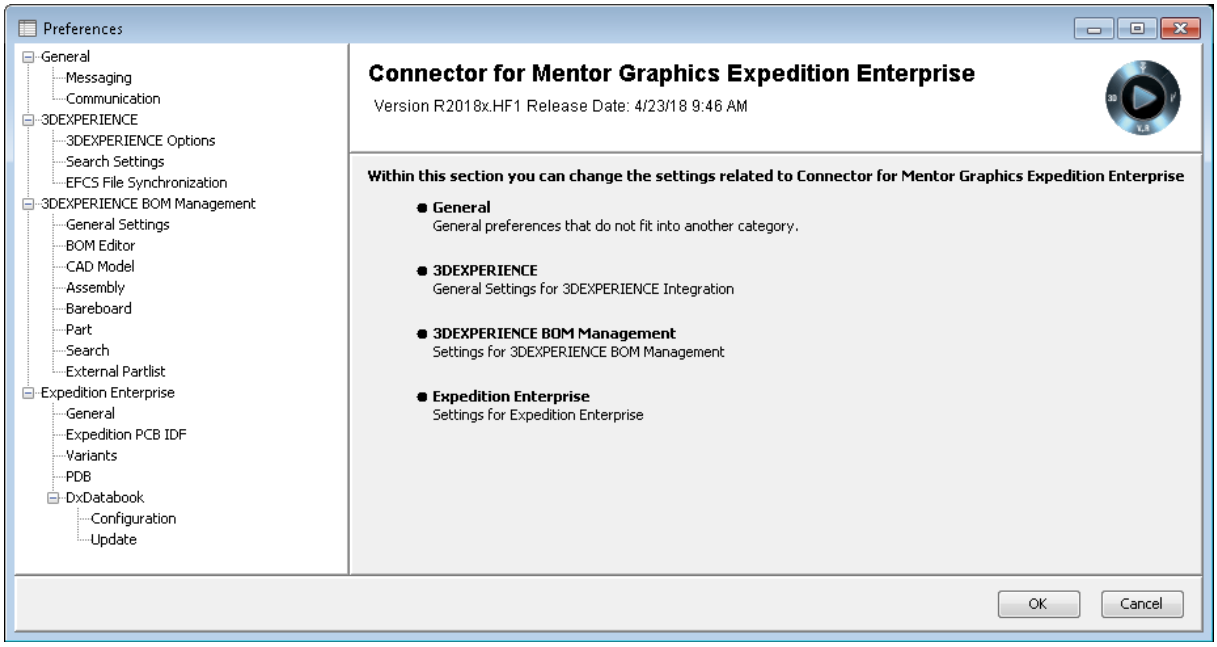


Figure 106 Preferences Dialog of the Client Connector

General Settings

The general settings hold the common settings for all plug-ins.

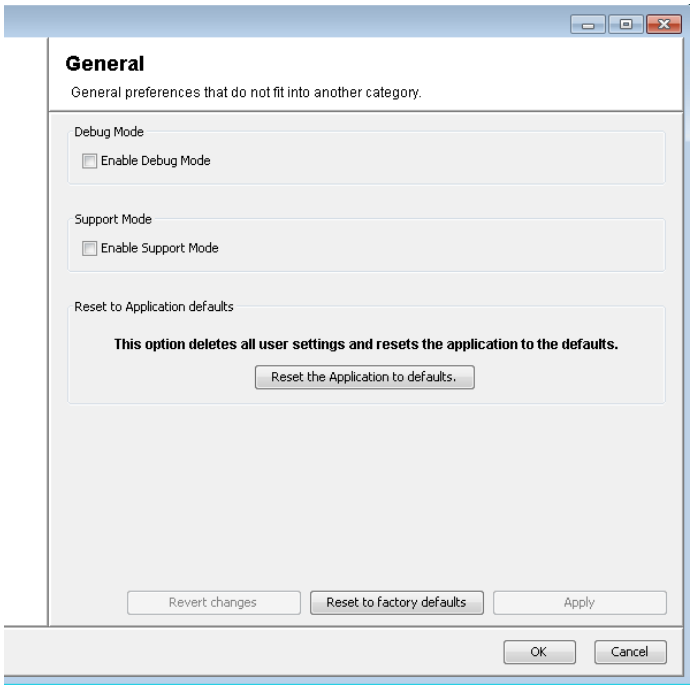


Figure 107 General Settings Dialog

Enable Debug Mode
This checkbox enables the debug mode for application error analysis.

Enable Support Mode
This checkbox enables the support mode of the application.

Reset to application defaults
Reset to application defaults deletes all user settings and resets the application to the default settings.

Messaging Settings

The connector logs all events into the log panel. It is also possible to write the log events into a log file. This log file can be configured by the user.

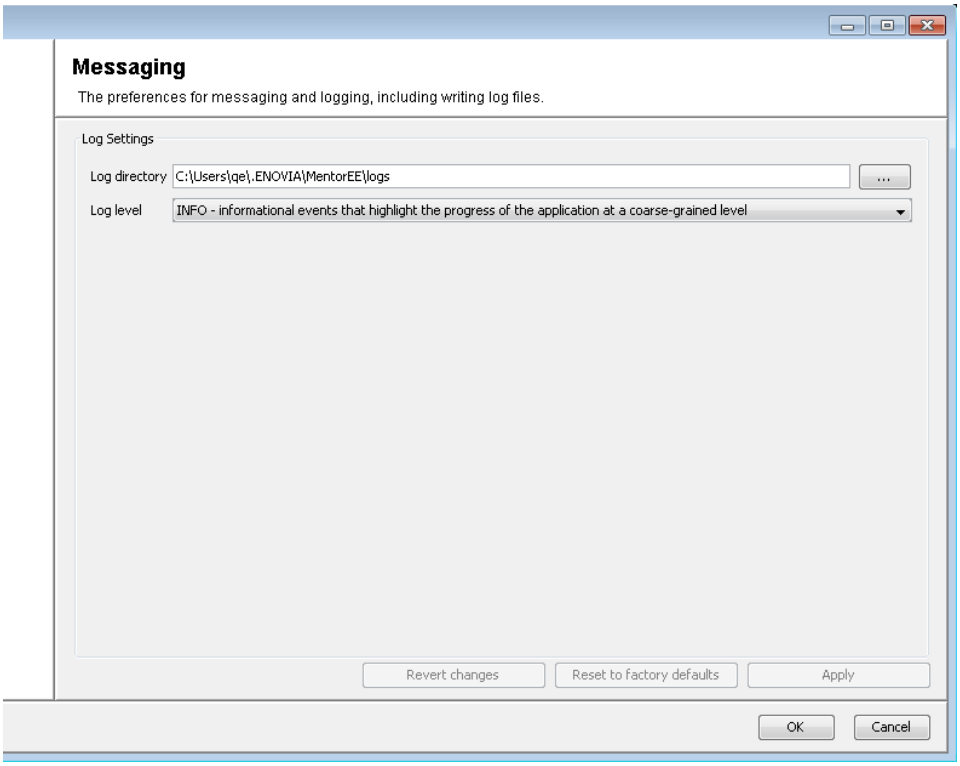


Figure 108 Log Setup Dialog

Log directory
The user can specify the location where the Log file has to be created by clicking on the **Browse** button which will guide in specifying the path of the log file. Default store location of the log file is %USERHOME%\.ENOVIA\logs. In the Additional tab of the Environment Details from the "About" dialog is a fast access to all stored files.

Log Level
The user has the possibility to use several log levels. Each level has its own characteristics that may be important for the user or the support team. Following are the log level explained.

- INFO –Log additional information
  - INFO is the default log level. This level creates also WARN and ERROR information.
- WARN – Log error and warnings
  - WARN log level creates also ERROR information, but INFO information are not any more created
- ERROR - Log only error messages
  - ERROR log level creates only error information

- DEBUG – Log debug information (more verbose)
    - DEBUG log level is imported for the support team.

Communication Settings

The figure below shows the Communication settings for the client communication port.

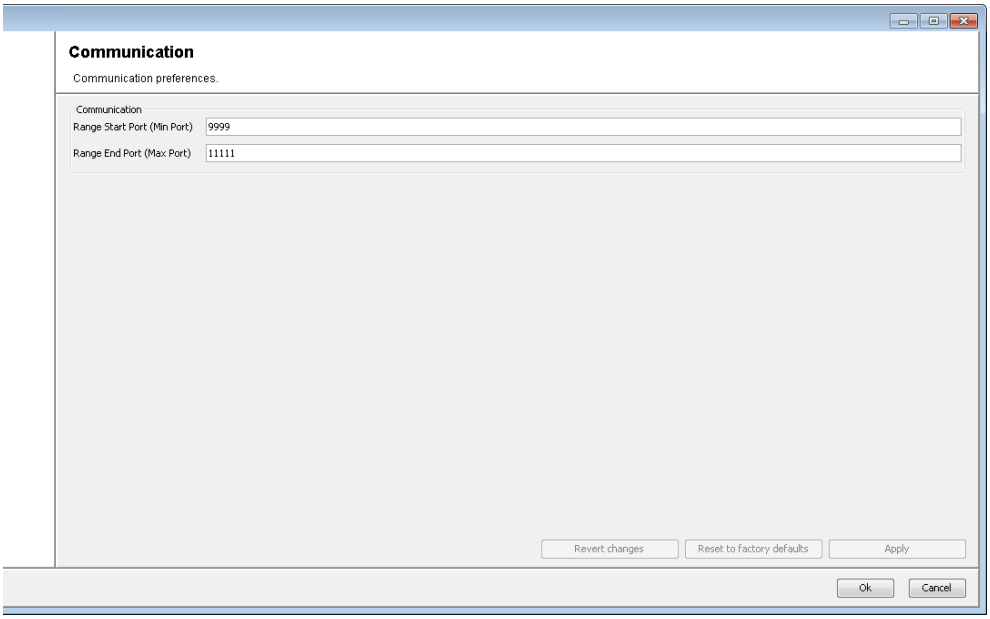


Figure 109 Communication Settings Dialog

Communication settings

This port is for the internal communication of the connector. Only to be changed if requested by the support organization. The standard port is 9999.

3DEXPERIENCE Settings

3DEXPERIENCE Options

The 3DEXPERIENCE User Preferences settings are intended to modify the user preferred settings globally for check-in, checkout operations. The user also selects the derived outputs which are indented to be checked in during checkin of the CAD object into 3DEXPERIENCE system. The user is needed to be logged in to 3DEXPERIENCE in order to modify the settings.

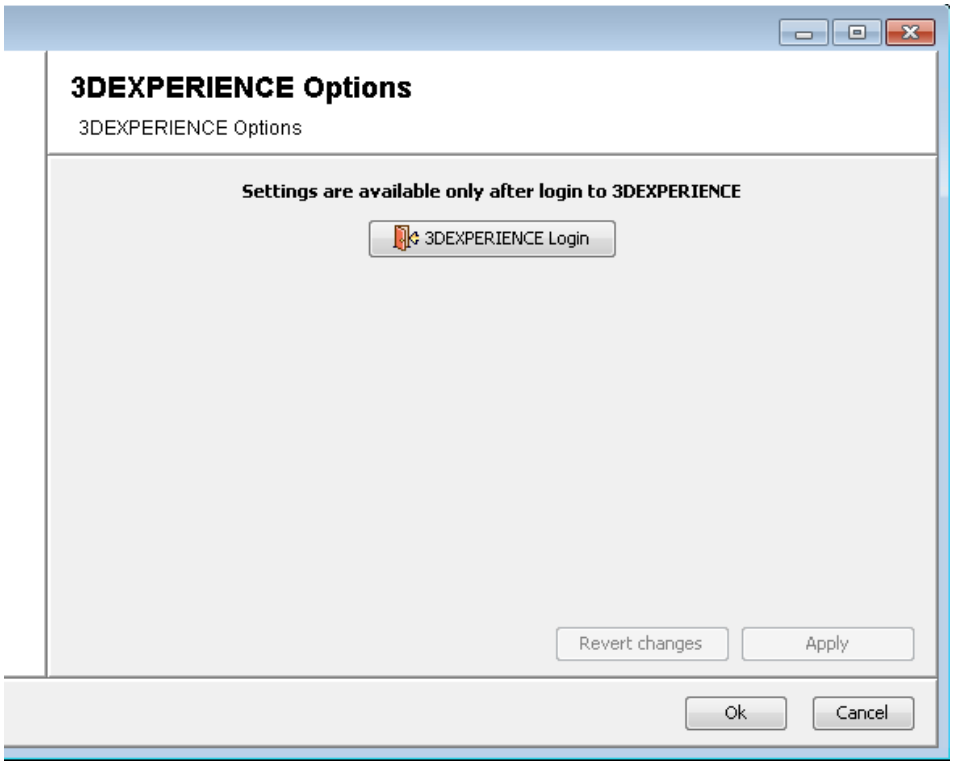


Figure 110 3DEXPERIENCE Option – Not logged in to 3DEXPERIENCE

The user can login to 3DEXPERIENCE using the 3DEXPERIENCE Login button. Once logged in to 3DEXPERIENCE, the user can modify the 3DEXPERIENCE user preferences.

Open Settings

The user can set the desired settings for checkout operation.

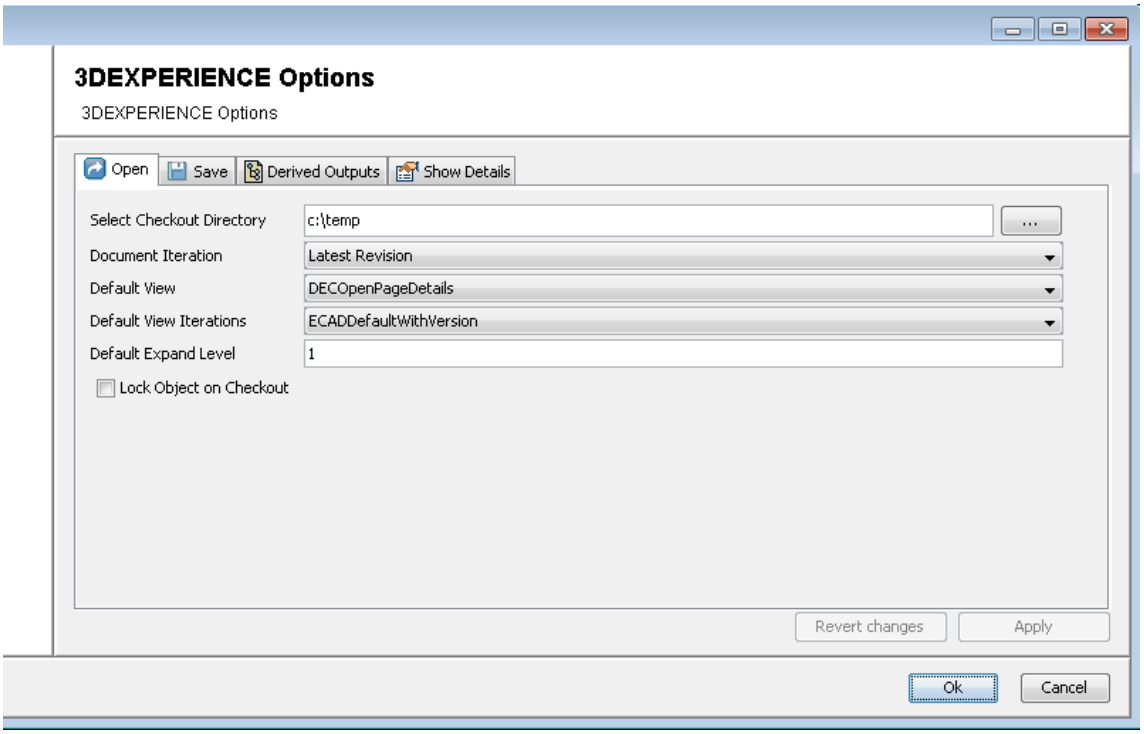


Figure 111 3DEXPERIENCE Option – Open Settings

Checkout Directory
This shows the default checkout directory. To change the checkout directory, user can click on **Browse**. It will bring up a directory selection dialog where the user can navigate to the directory of his choice. Once user clicks **OK**, the directory is returned to the text box. This change is reflected in the search dialog.

Design Configuration:
To display specific iteration of CAD objects, select one of these options from the Document Iteration drop-down list:

- **Latest Revision**
  Finds the latest revisions of the selected node and its underlying structure.
- **Latest Frozen Revision**
  Finds the latest revision which is in the state frozen.
- **Latest Released Revision**
  Finds the latest released revision of the selected node and its underlying structure. If no object is in the Release state, then the latest revision of the object is displayed.
- **Latest in Work Revision**
  Finds the latest revision which is in the state work.
- **As-Saved**
  Finds the saved structure.
- **As Built**
  Provides the precise structure stored when it was checked in.

Default Table View
The user can select the default table view using the drop-down menu which will be used during checkout.

Lock Objects on Checkout
Enabling this checkbox helps in holding or retaining the lock on the checked-out CAD object by the current user in 3DEXPERIENCE after checking it out from 3DEXPERIENCE.

Save Settings

The user can set the desired settings for checking operation.

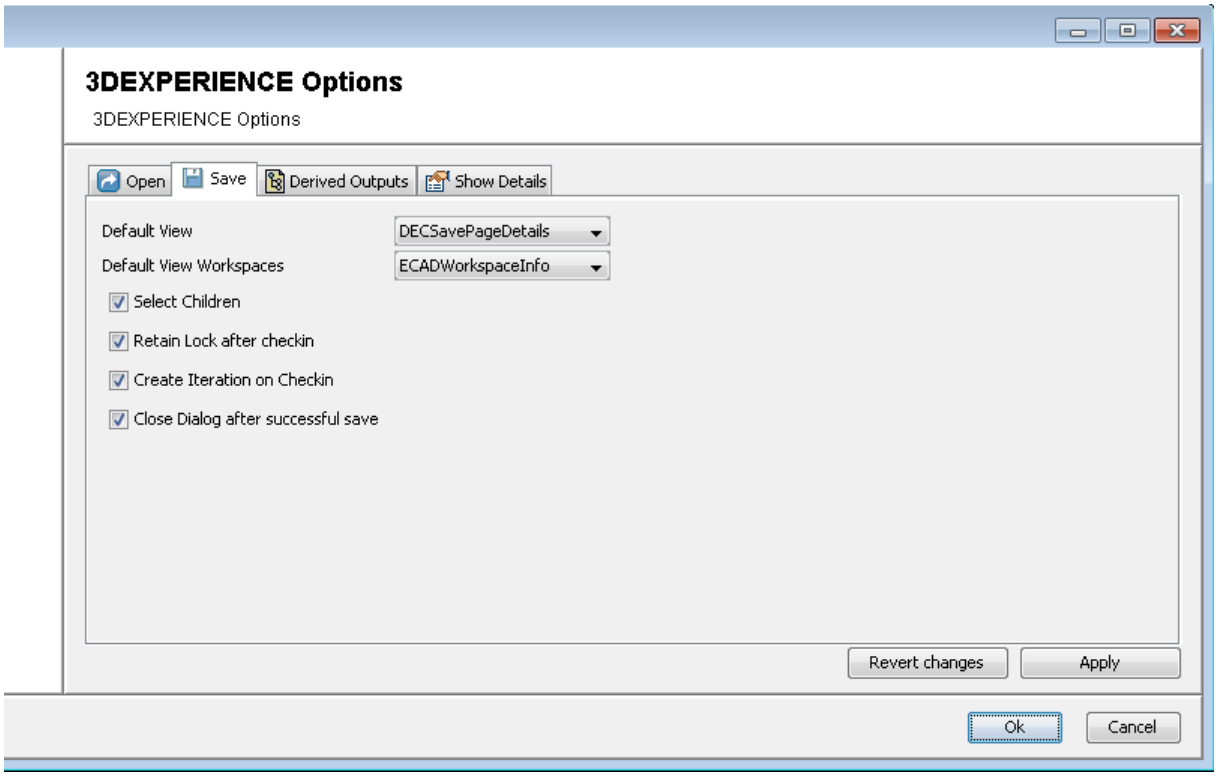


Figure 112 3DEXPERIENCE Option – Save Settings

Default View
The user can select the default table view using the drop-down menu which will be used during checkin. The selected table view is used during checking in the design to 3DEXPERIENCE.

Default View Workspace
The user can select the default table view using the drop-down menu which will be used by the Workspace.

Select Children
When this checkbox is selected, all Childs of the root node are also selected.

Retain Lock After Checkin
Enabling this checkbox helps in holding or retaining the lock on the checked in CAD object by the current user in 3DEXPERIENCE after checking it in to 3DEXPERIENCE.

Create Iteration On Checkin
Enabling this checkbox leads to the creation of a new iteration of the CAD object under the current revision each time the design is checked in to 3DEXPERIENCE. When this checkbox is disabled, no new iteration of the CAD object is created and it overwrites the existing iteration of the current revision in 3DEXPERIENCE.

Important Note:
Note that this check box is not considered if a new object is being checked in. The connector will in this case always create a new iteration in 3DEXPERIENCE.

Close Dialog after successful save
Enabling this checkbox closes the Save to 3DEXPERIENCE Dialog after successful save.

Derived Outputs Settings

Here the user can select the derived outputs for checking in to 3DEXPERIENCE. The selected derived outputs are checked in to 3DEXPERIENCE during a check in operation.

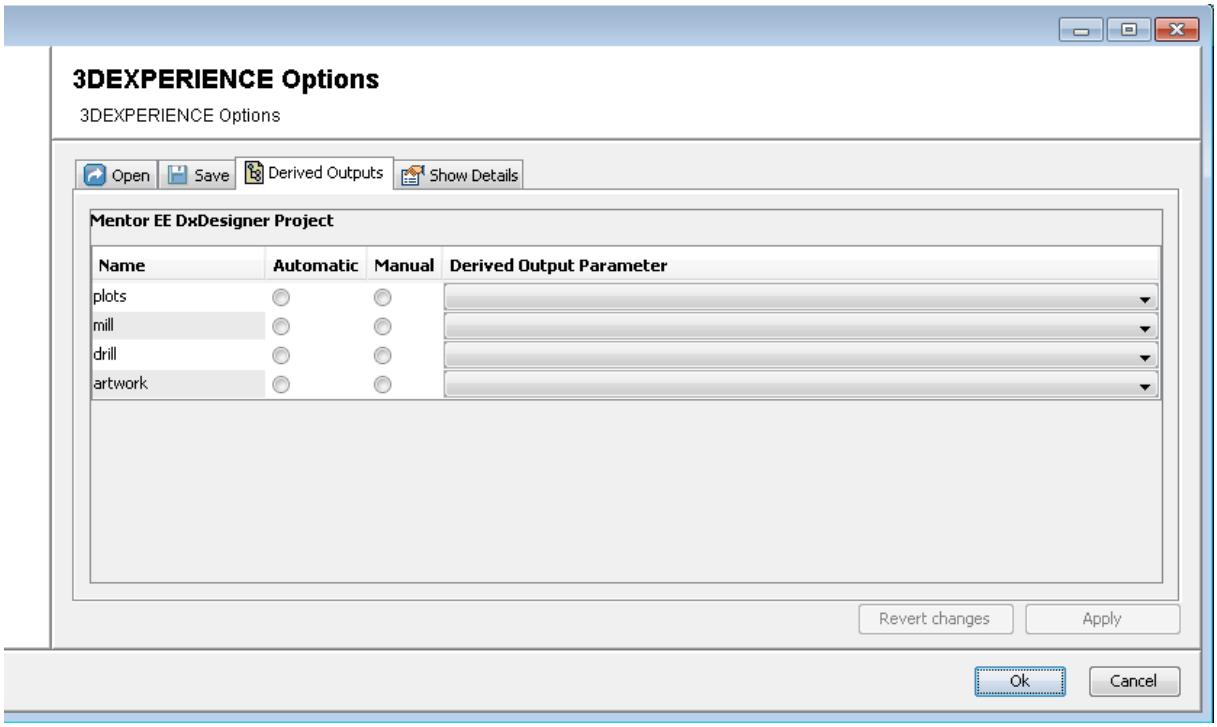


Figure 113 3DEXPERIENCE Option – Derived Outputs Settings

Mentor EE DxDesigner Project:

- plots : Plots of the design
- drill : drilling data
- artwork : artwork data
- mill : milling data

Derived Output Parameter:

Parameter object could be used to provide additional information to create Derived Outputs while checkin operation. Once the user selects the parameter object, during the creation of its corresponding derived output, the connector downloads the file and executes it. Connector then creates the Derived output files using the downloaded parameter files and attribute values of Parameter Objects.

Automatic/Manual Settings:
The user has the option to checkin the derived outputs in two ways namely Automatic or Manual. If Automatic derived outputs are selected, then Client Connector creates the derived outputs automatically during checkin. If the user selects manual derived outputs, then a file chooser dialog opens up during checkin for the user to select the derived outputs as shown below.

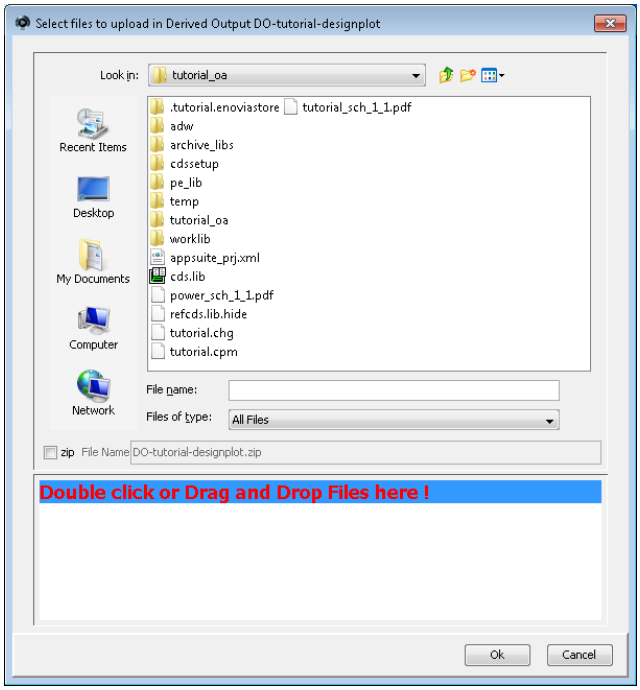


Figure 114 3DEXPERIENCE User Preferences – Derived Outputs upload

Here the user can drag and drop multiple files for checkin to 3DEXPERIENCE. If the zip check-box is selected, then an archive of the selected files will be created. Otherwise, each file will be checked in as is.

Show Details Settings

Default View

The user can select the default table view using the drop-down menu which will be used for show details task.

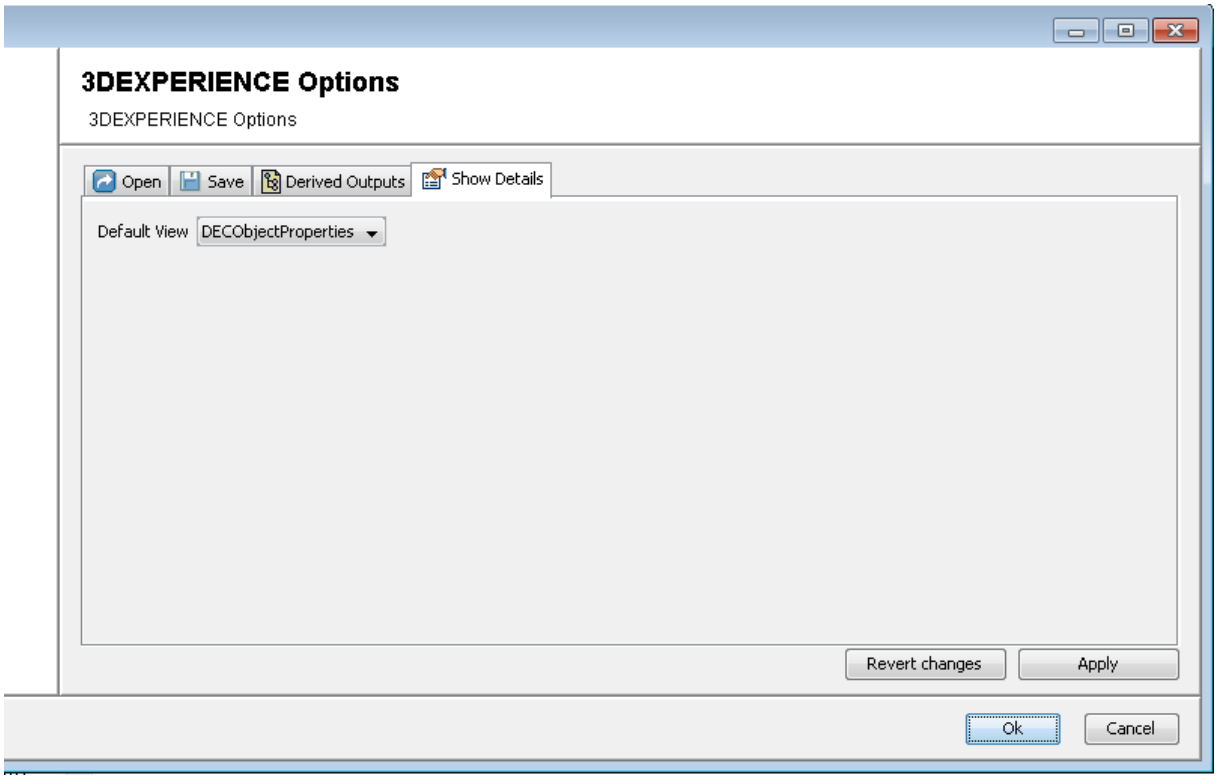


Figure 115 3DEXPERIENCE Option – Show Details settings

Search Settings

The user can specify the default search limit which is returned to the search limit field in the search dialog.

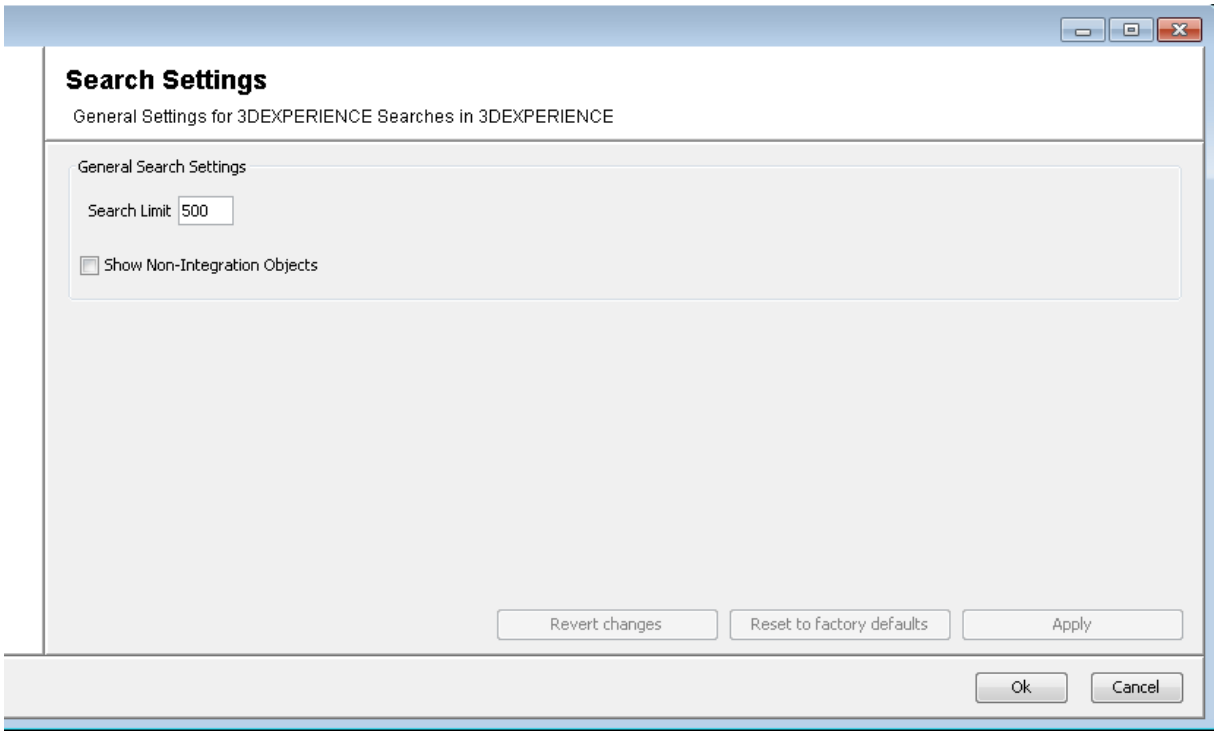


Figure 116 3DEXPERIENCE – Search Settings

Show Non-Connector Objects:
Selecting this checkbox shows all the objects which are not directly assigned to the current Connector. These objects could be found under the workspace search of the “Open from 3DEXPERIENCE” task.

EFCS File Synchronization Setting

These settings handles the File Synchronization behavior during a checkout if your data is located on an EFCS server.

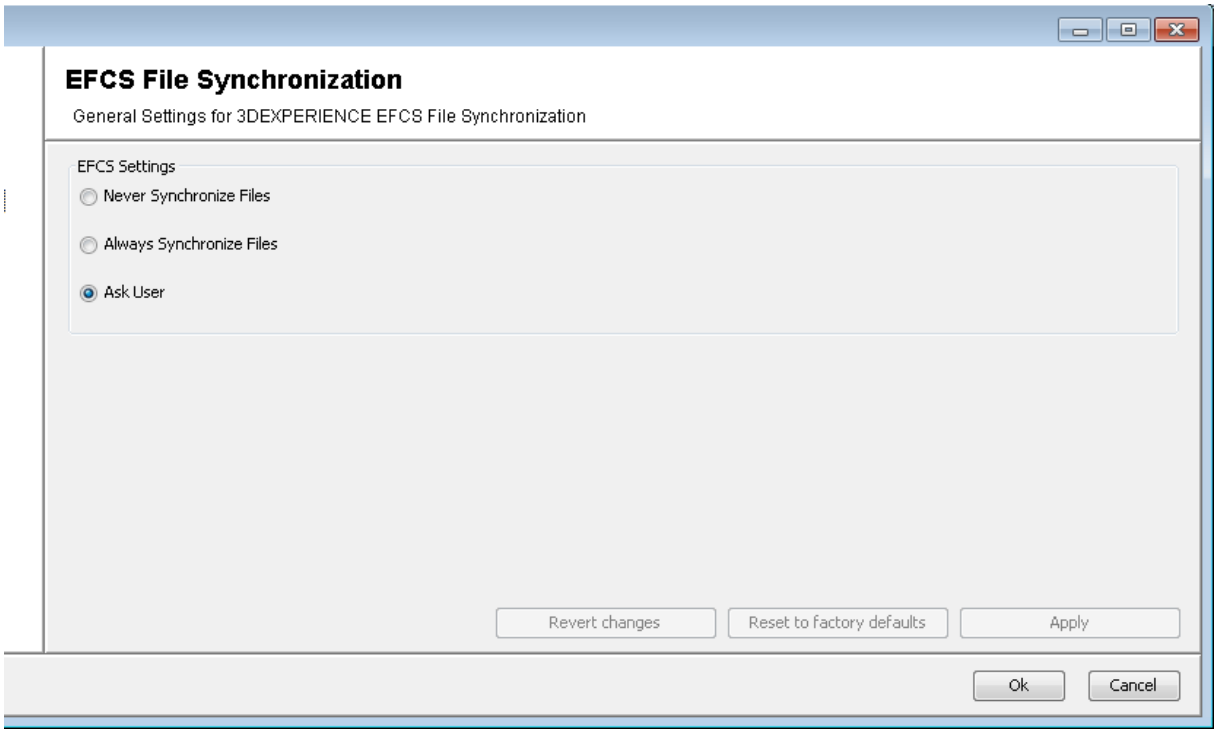


Figure 117 EFCS File Synchronization

Never Sychronize Files:
Checkout is aborted if any data which needs to become checked out is located on an EFCS server.

Always Synchonize Files:
Data located on an EFCS Server is always synchronized during a checkout

Ask User:
User will get a message dialog during the checkout if any data is located on an EFCS server and requires synchronization.

3DEXPERIENCE BOM Management Settings

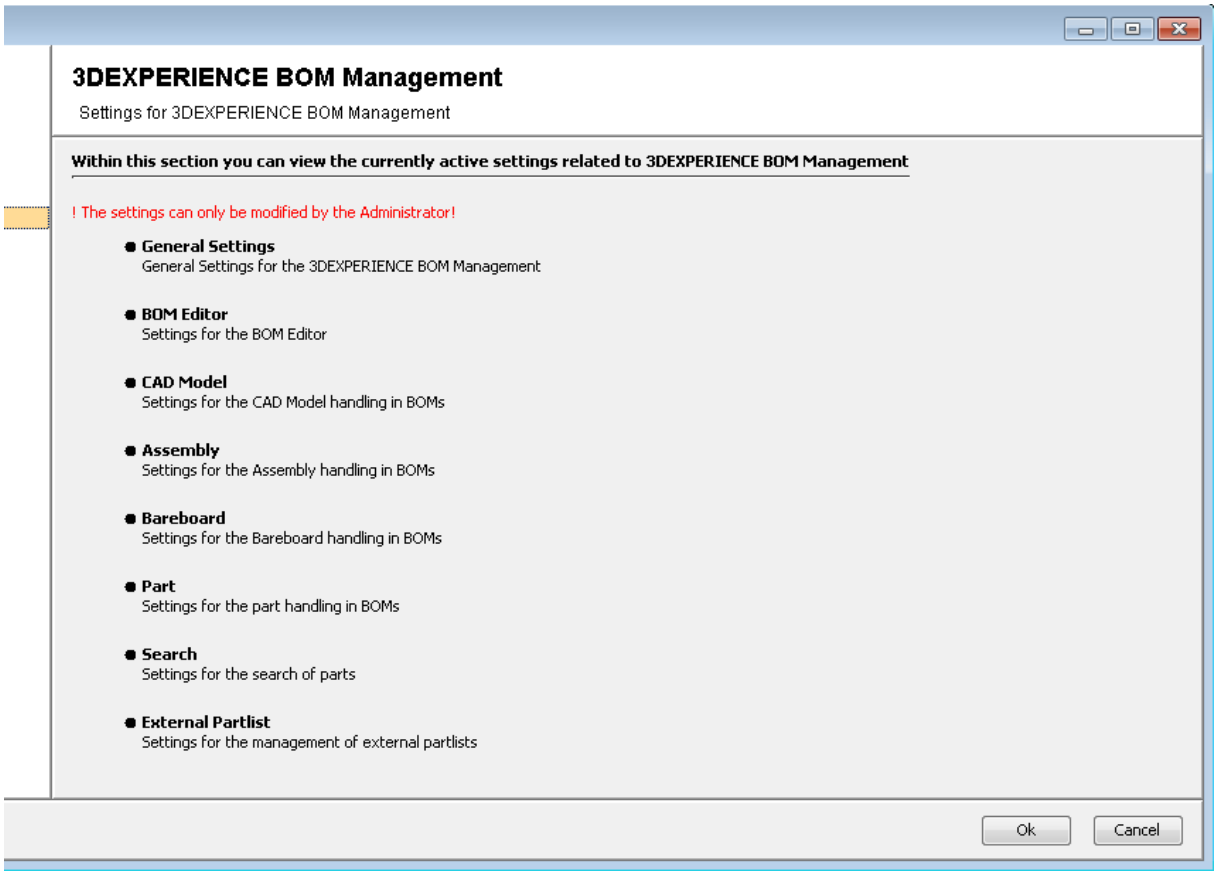
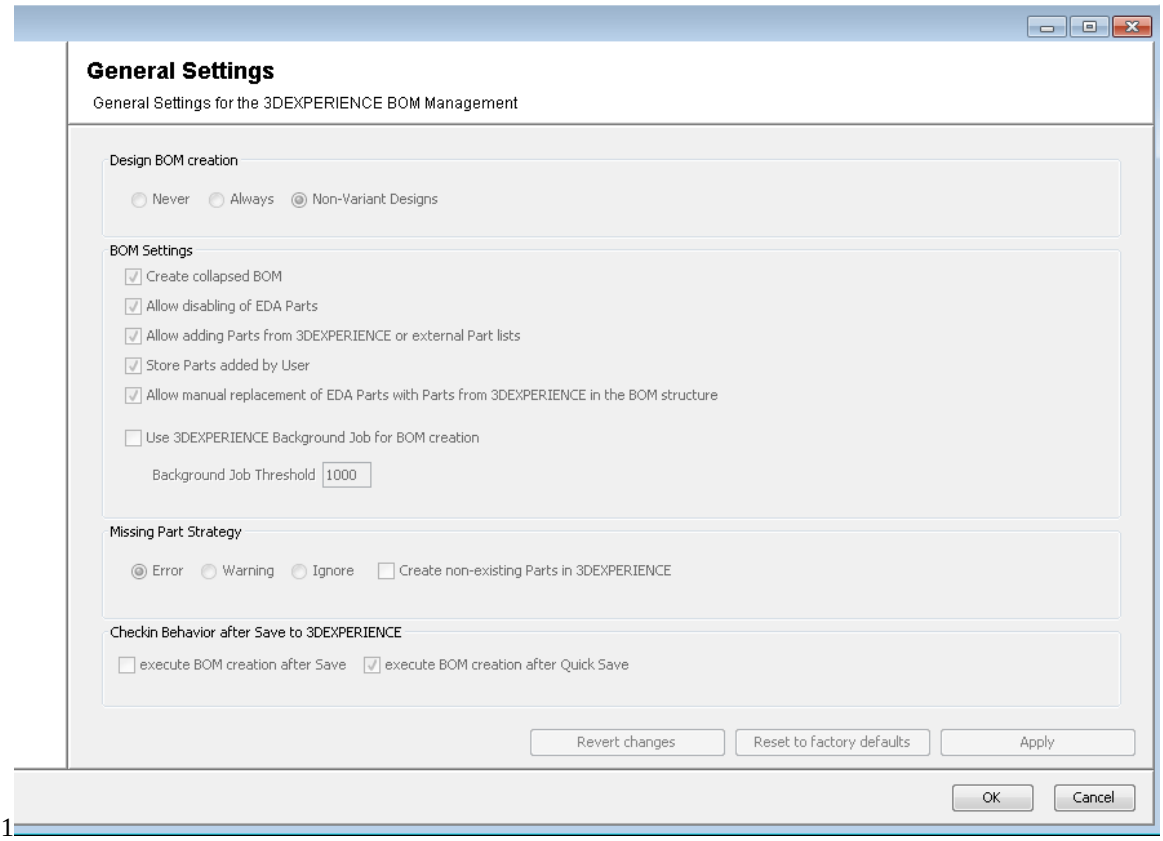


Figure 118 3DEXPERIENCE BOM Management

The disabled settings in 3DEXPERIENCE BOM Management can be only modified by the administrator.

General Settings



1

Figure 119 3DEXPERIENCE BOM Management – General Settings

Design BOM creation

Never
Design BOM will never be created and is disabled.

Always
Design BOM can be always created.

Non-Variant-Designs
Design BOM can be created if the design does not include variants.

BOM Settings

Create Collapsed BOM
If selected then a collapsed BOM is transferred to 3DEXPERIENCE, otherwise an expanded BOM is transferred. In either case the BOM Editor will display an expanded BOM.

Allow Disabling of EDA Parts
This setting defines if the user is allowed to disable components coming in automatically from the EDA side through the BOM extraction process. If this flag is set, all the EDA Components are made optional. If this flag is unset, all EDA components are made mandatory. The default setting is false.

Allow Adding Parts from 3DEXPERIENCE or external Part lists
Enabling this setting allows the user to add Components from 3DEXPERIENCE to the BOM structure. The Components in the 3DEXPERIENCE can be found using a part search dialog. Added Components are flagged as USER components and only these Components can be removed. It will not be allowed to remove EDA components.

Store Parts Added by User
This setting allows the user to store the parts added by the user. When the user clicks on the "Store" button in the BOM management dialog, the user created parts are stored along with the other EDA parts in the local system.

Allow Manual replacement of EDA Parts with Parts from 3DEXPERIENCE
This setting enables the user to change (re-assign) the default part of an EDA component with a new 3DEXPERIENCE Part. This enables the "assign" context menu for EDA Components in the BOM editor dialog.

Use 3DEXPERIENCE Background Job for BOM creation
Enabling this setting runs the BOM creation as a background job in 3DEXPERIENCE so the user can proceed with the other operations during this process.

Threshold
The user can specify the threshold value which states that the background job will be used only when BOM contains parts more than the specified value. For example, if the specified threshold is 500, then the background job is carried out if the BOM contains more than 500 parts.

Missing Part Strategy

Missing part Strategy

This setting defines if the BOM creation can be executed or not if the BOM contains EDA parts which do not exists in 3DEXPERIENCE. If the BOM extracted from the EDA side contains parts which have not been created in 3DEXPERIENCE / are missing in 3DEXPERIENCE, various strategies can be applied.

- **Error**
  Enabling this setting disables the "Create non-existing parts in 3DEXPERIENCE" checkbox. When the user checks this radio button, an error message comes up when the BOM contains EDA parts which do not exists in 3DEXPERIENCE. The user will not able to proceed with the BOM creation process until he has solved the issues.
- **Warning**
  Enabling this setting enables the "Create non-existing parts in 3DEXPERIENCE" checkbox. When the user checks this radio button, a warning message is shown to the user that the BOM contains EDA parts which do not exist in 3DEXPERIENCE. The user is able to proceed with the BOM creation. Depending on the setting of the "Create non-existing parts in 3DEXPERIENCE" checkbox the missing parts are either skipped or created.
- **Ignore**
  Enabling this setting enables the "Create non-existing parts in 3DEXPERIENCE" checkbox. When the user checks this radio button, the BOM is created in 3DEXPERIENCE and no message is shown to the user regarding the missing parts.

Depending on the setting of the "Create non-existing parts in 3DEXPERIENCE" checkbox the missing parts are either skipped or created.

Create non-existing parts in 3DEXPERIENCE
This setting creates all the EDA parts which are missing in 3DEXPERIENCE during BOM creation. If this flag is set to false, then the missing parts are removed from the BOM creation process and are not considered for the 3DEXPERIENCE BOM. The created part is defined by the scope specific Part Creation Webform – here e.g. Type, Policy etc. are defined.

Please note that this feature should only be used for testing and prototyping but not in a production environment. It can result in error message presented by the user if the part is not found in 3DEXPERIENCE because of e.g. not having the correct state or not visible to the user, and the connector is trying to create the part.

Example:

- The part '1234' exists in state 'Preliminary' in 3DEXPERIENCE
- The connector is looking for a part '1234' in state 'Release' and therefore flags the part as non-existent in the BOM Editor.

- If the user now wants to create the non-existing part in 3DEXPERIENCE, an error message will be returned to the user that the part cannot be created. This behavior in fact is correct, as the part already existed, but is not ‘visible’ to the user because of search criterias or access permissions.

Checkin Behaviour after Checkin

Execute BOM creation after Save
Enabling this setting, enforces a BOM creation after Save to 3DEXPERIENCE task. Interactive BOM task is executed after successful Save.

Execute BOM creation after Quick Save
Enabling this setting, executes BOM creation after successful Quick Save to 3DEXPERINCE task. BOMs are automatically extracted from the design and checked in to 3DEXPERIENCE without any user interaction. The user cannot abort the BOM creation.

BOM Editor

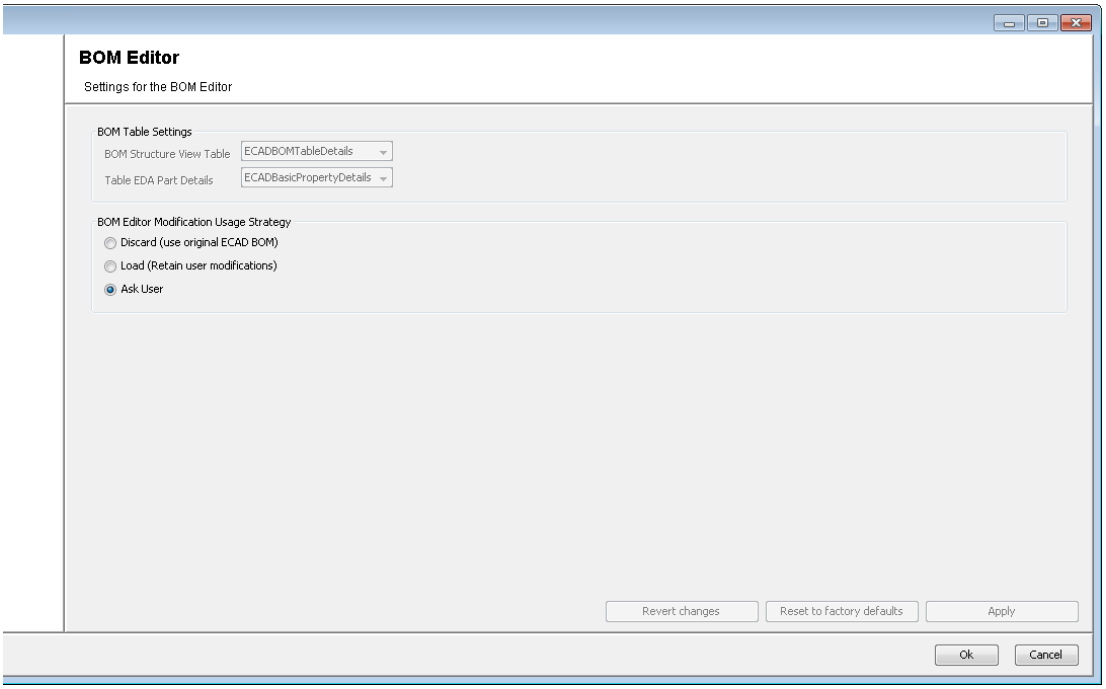


Figure 120 BOM Editor Settings

BOM Table Settings

Table BOM Structure View
This setting defines which table view is used to display the columns in the BOM view.

Table EDA Part Details
This setting defines which ECAD properties to be displayed. This setting is basically the view definition which will be used for displaying the parts in the part search dialog.

BOM Editor Modification Usage Strategy

This helps the user to choose if the existing BOM modifications should be loaded or not. The settings are explained in detail below.

Ignore
Selecting this setting silently ignores the BOM Modifications and does not load it in the BOM dialog.

Load
Selecting this setting automatically loads the BOM Modifications in the BOM dialog.

Ask
Selecting this setting opens up a dialog, asking the user if the last BOM Modifications should be loaded or not.

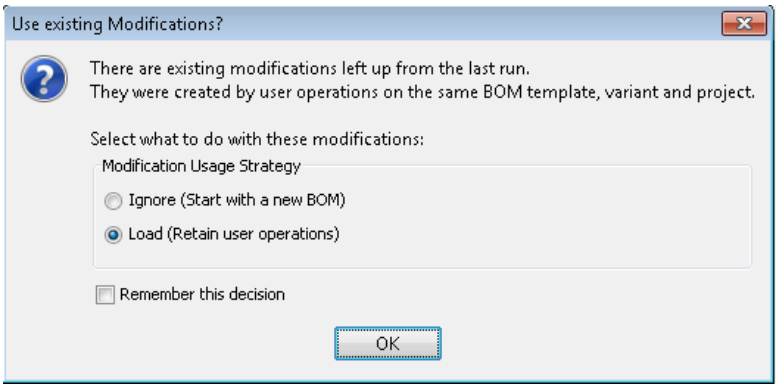


Figure 121 BOM Modification: Ask

Ignore
Selecting this setting silently ignores the BOM Modifications and does not load it in the BOM dialog.

Load
Selecting this setting automatically loads the BOM Modifications in the BOM dialog.

Remember this decision
The setting which is configured in the BOM modification dialog will be saved for the current session of the task when this check box is selected.

CAD Model Settings

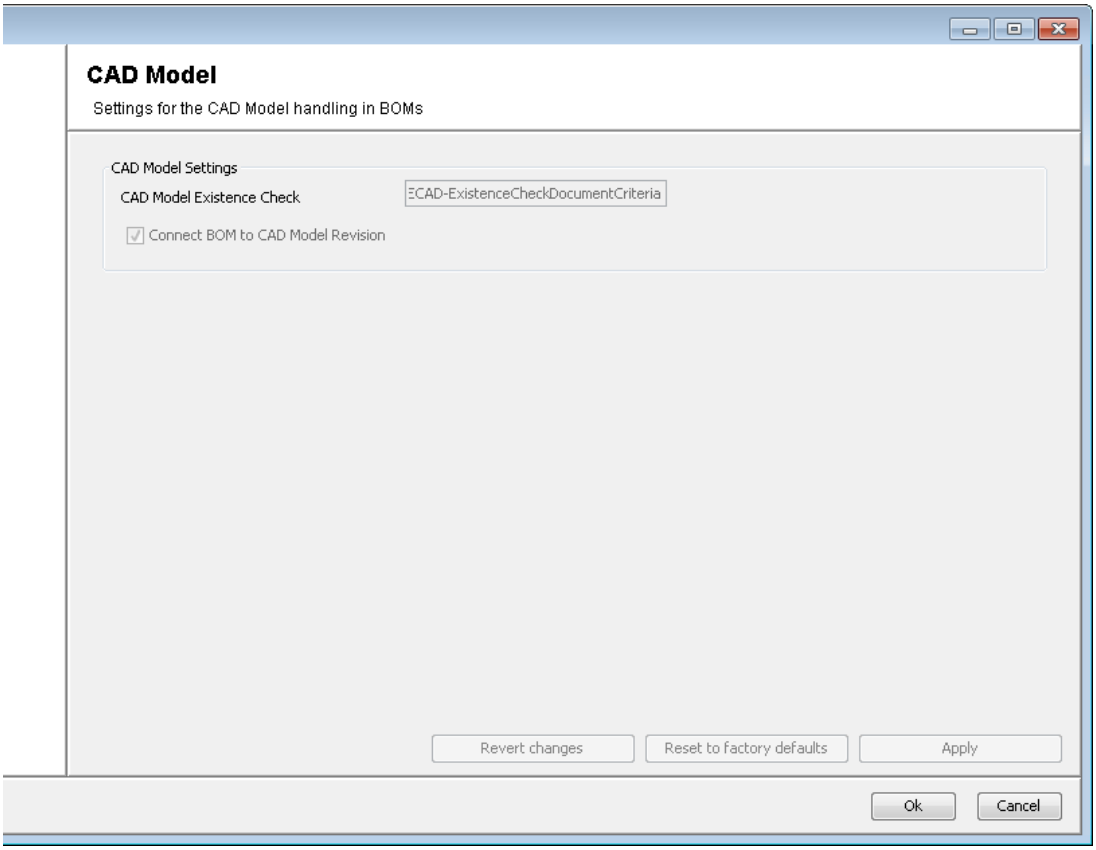


Figure 122 CAD Model Settings

CAD Model Existence Check
It specifies which webform will be used to check the existence of the CAD models in 3DEXPERIENCE. When the user brings up the BOM management UI, the existence of the previously added document is checked and queried in 3DEXPERIENCE for its existence using the document criteria defined in the webform.

Connect BOM to CAD Model Revision
This attribute defines if the BOM is connected to the CAD Model Revision or the CAD Model Version. This is useful, if the user does not work with versioned objects or wants to see the BOM always on the CAD Model Revision.

Assembly Settings

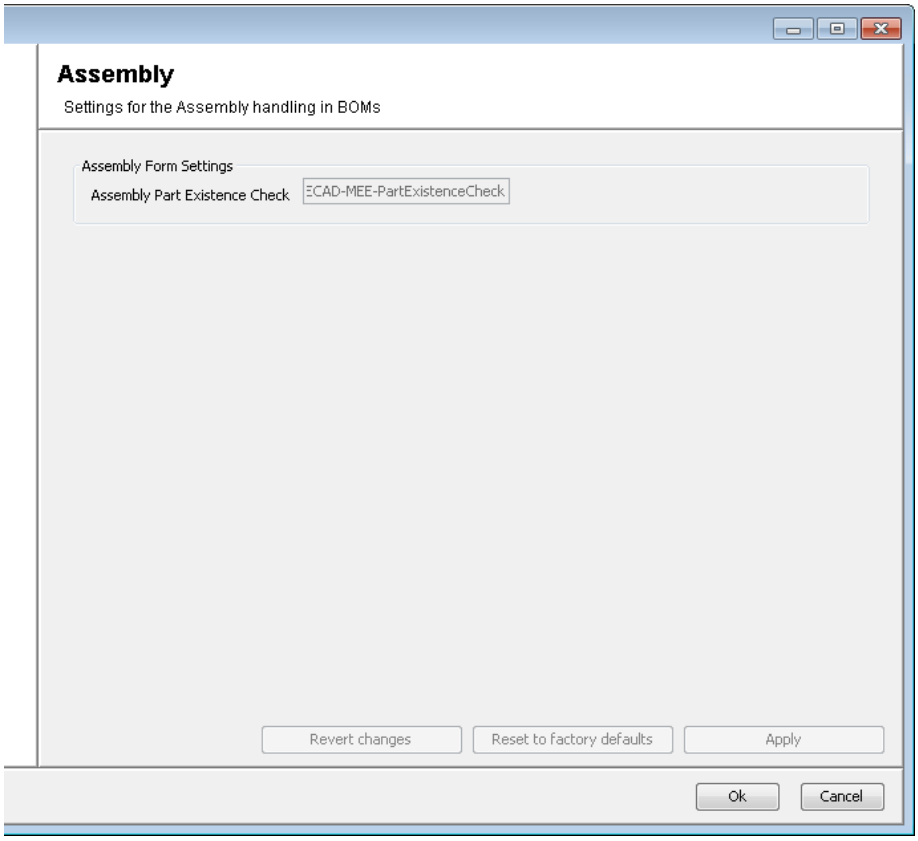


Figure 123 3DEXPERIENCE BOM Management - Assembly Settings

Assembly Form Settings

Assembly Part Existence Check
Defines the webform used to check if the assembly component exists in 3DEXPERIENCE. The connector queries 3DEXPERIENCE for the existence of the assembly part based on selected webform.

Bareboard Settings

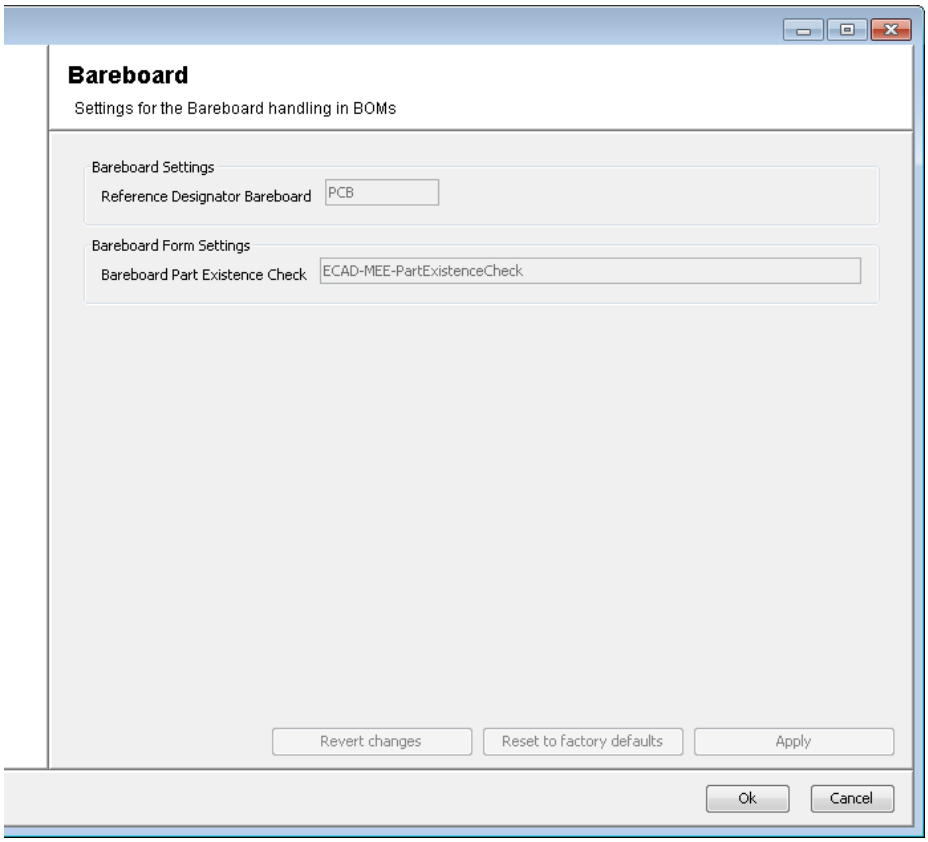


Figure 124 3DEXPERIENCE BOM Management - Bareboard Settings

Bareboard Settings

Reference Designator Bareboard:
Defines the Reference Designator used for the bareboard.

Bareboard Form Settings

Bareboard Part Existence Check:
Defines the webform used to check the existence of the bareboard component in 3DEXPERIENCE. The connector queries 3DEXPERIENCE for the existence of the bareboard part based on selected webform.

Part Settings

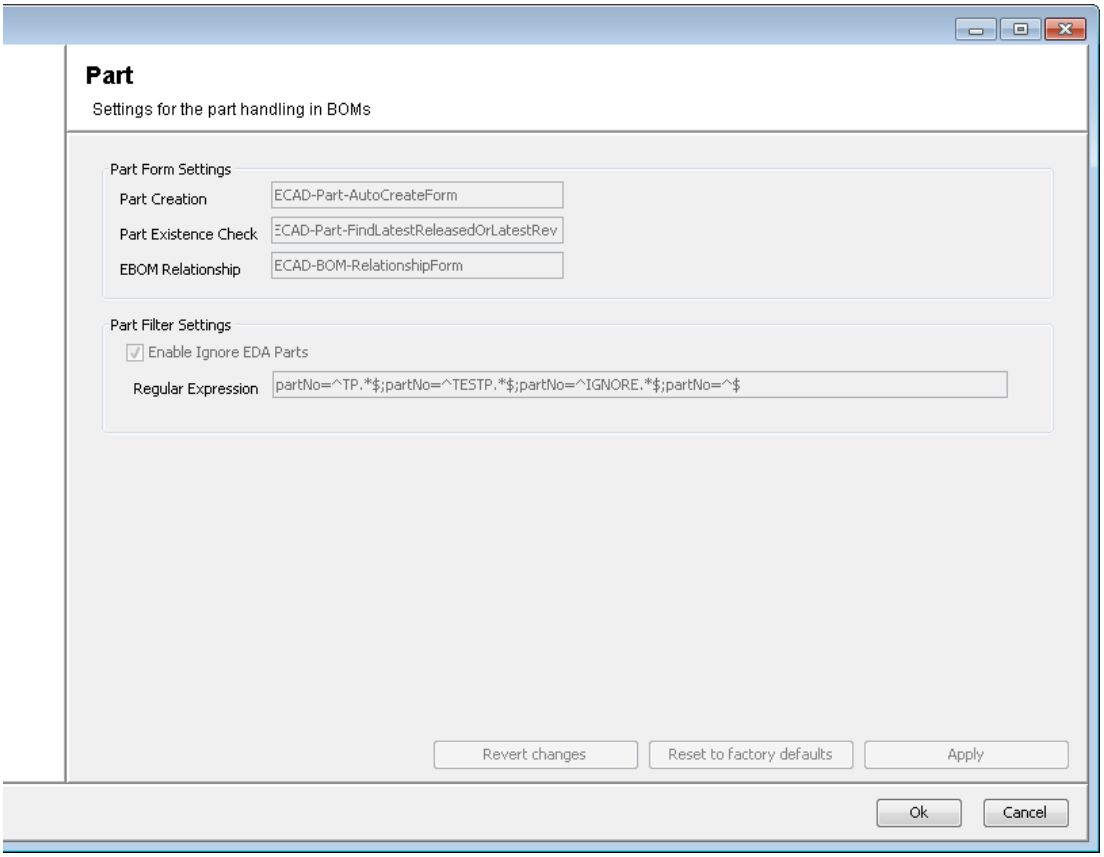


Figure 125 3DEXPERIENCE BOM Management - Part Settings

Part Form Settings

Part Creation
Defines the webform used to create missing parts in the 3DEXPERIENCE.

Part Existence check
Defines the webform used to check the existence of the parts in the 3DEXPERIENCE. The connector queries 3DEXPERIENCE for the existence of the part based on selected webform which specifies the state of the part for example, when the user selects Latest Released Revision, then it checks for all the assembly parts with the latest revision in the released state.

EBOM Relationship
Defines the form used to create a relationship between parts i.e.; create an EBOM connection between the component and its parent component.

Part Filter Settings

Enable Ignore Components
The user has the possibility to ignore parts coming in from the EDA BOM extraction process by defining regular expressions. This might be very useful to ignore part entries like Testpoints, DNI Parts etc. which are required in the CAD Design itself but have no meaningful representation in the 3DEXPERIENCE Side.
This setting defines the semicolon separated regular expressions which are used to ignore parts coming from the EDA side.

Example:

```
partNo=^OA.*$;partNo=^TESTP.*$;partNo=^IGNORE.*$
```

This expression indicates that, all parts starting with OA, TESTP and IGNORE will be ignored for BOM creation.

Search

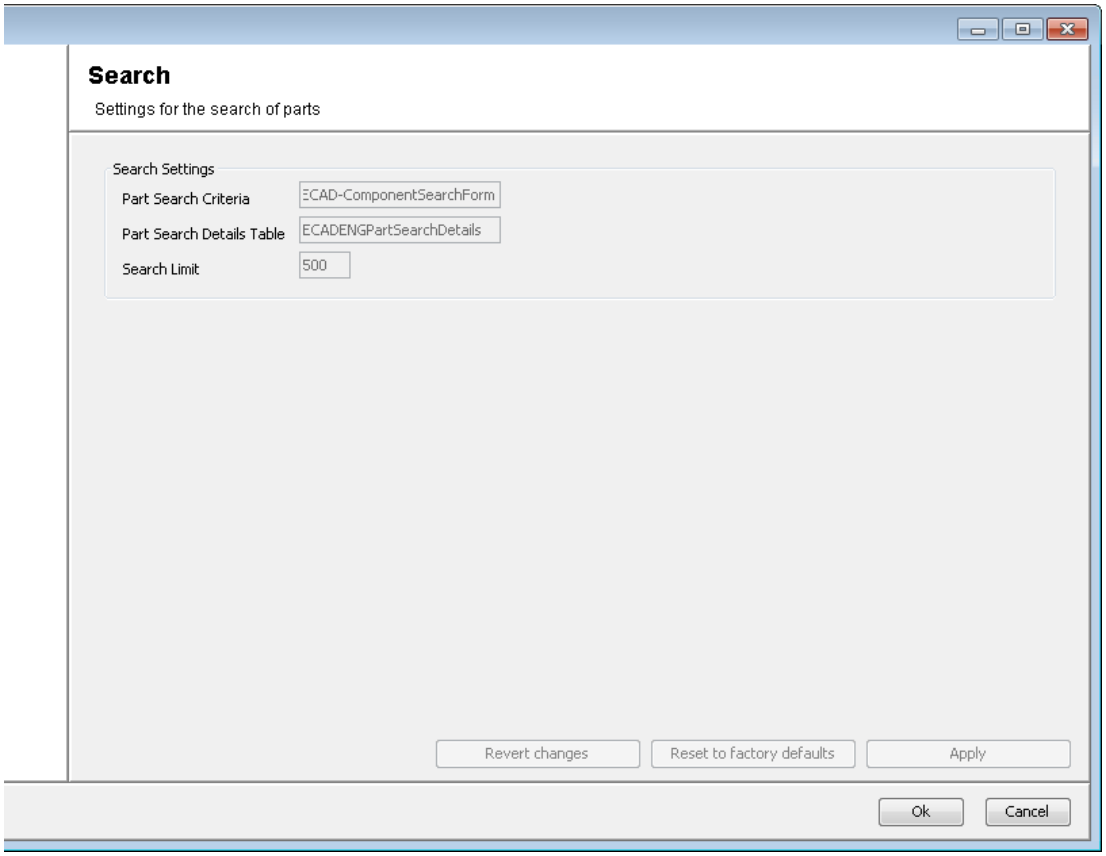


Figure 126 3DEXPERIENCE BOM Management - Search Settings

Search Settings

Webform Part Search Criteria
Specifies which webform will be used for displaying the part search criteria. When bringing up the Search Screen for searching Parts in 3DEXPERIENCE, the used webform defines what kind of search criteria is available to the user.

Table Part Search Details
This defines the table column definition used in the component search details table. When bringing up the part Search Screen for searching Parts in 3DEXPERIENCE, the used webform defines what kind of table column details are available to the user.

Search limit
The user can specify the default search limit which limits the number of objects retrieved during search.

External Partlist Settings

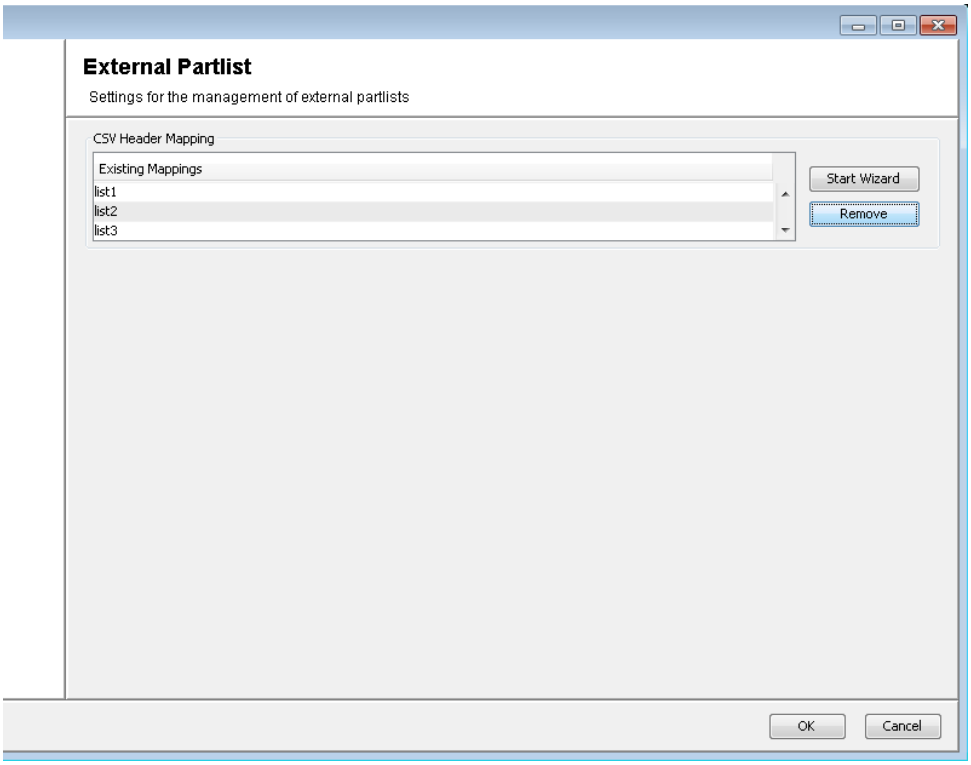


Figure 127 3DEXPERIENCE BOM Management - External Partlist Settings

CSV Header Mapping Settings

The user needs to create a mapping file to import an external partlist. The mapping file could be created using the “Start Wizard” button.

Start Wizard:
Selecting this button opens up a dialog to choose a Template file. Template is the master definition of which rows will be displayed in the BOM Editor.

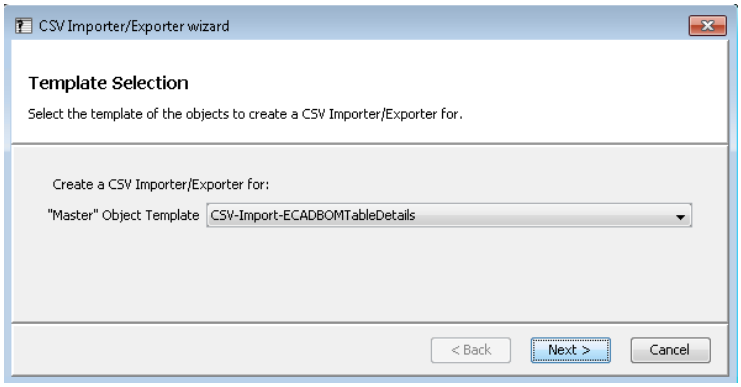


Figure 128 Template Selection

Once a template is selected, the user can proceed by clicking the *Next*.

The user needs to select the initial mapping file.

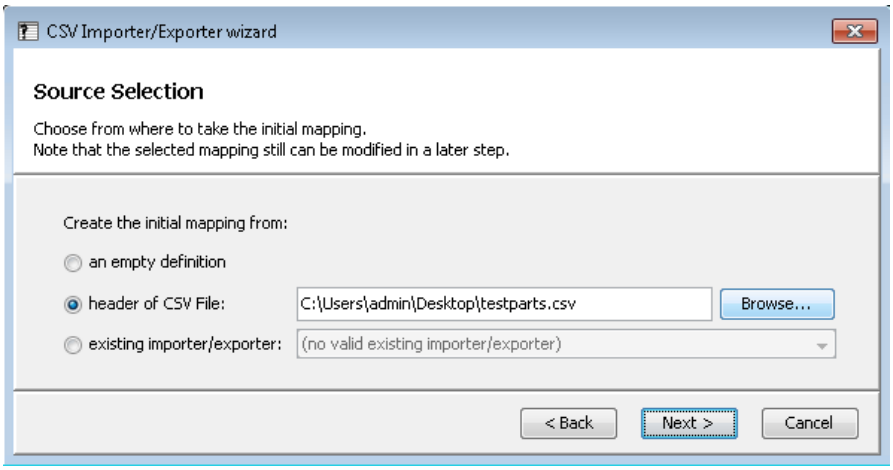


Figure 129 Initial mapping file Selection

An empty definition
Selecting this, the user can go with an empty CSV definition. He will then be able to enter the column definition in the next step.

Header of CSV File
The user will define the CSV file to be imported. This file will be used as a reference to the master definition. It does not need to be a file which contains any contents. Only the column definition needs to be present. The user can choose the file by clicking on *Browse* which opens up a file chooser dialog to select the CSV file.

Existing importer/exporter
The user can edit any of the existing Mapping Template by selecting it from the drop down menu. The selected mapping template will then be automatically loaded in the next step.

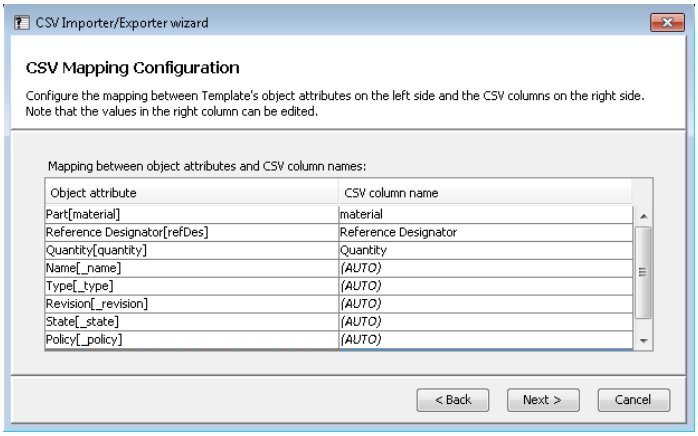


Figure 130 CSV Mapping Configuration

In this page, the user maps the object attribute from the template to the CSV column names. The first row contains the BMO Attributes which are defined in the master definition BMO template. The second row will contain the column header information found in the CSV file. Each cell of this row is a drop down box in which all available header information is shown, so that the user can choose the right one.

Two additional fields <auto> (or an empty field) and <Ignore> are available in the drop down menu, which means, that this field is not explicitly mapped. Selecting *Auto*, the user does not need to fill out all of the possible fields. If fields are left empty, the BOM Editor will apply an auto match during execution. This means, that if e.g. in the CSV file a column header 'Header1' is available, the BMO Attribute 'Header1' is used automatically, if it exists in the template. Selecting *Ignore* completely ignores the field. Click Next to traverse to the next step.

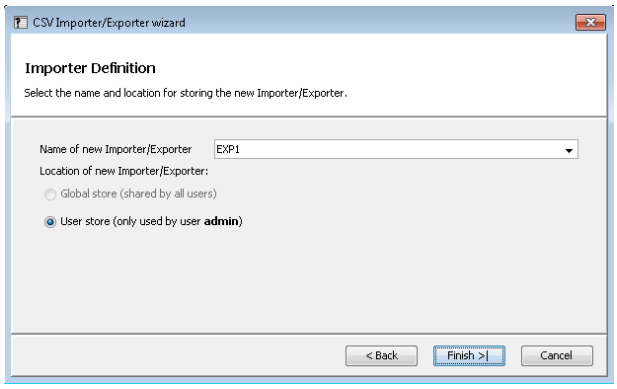


Figure 131 Mapping Name

The user needs to provide a name for the mapping file which will be later used to identify the mapping if the user wants to use a CSV import. Here the user can select an already existing mapping, doing this overwrites the previous mapping settings with the new one or a new name could be provided.

The mapping file is stored in the User store when the user store option is selected and when the *Finish* is clicked.

Expedition Enterprise Settings

General Settings

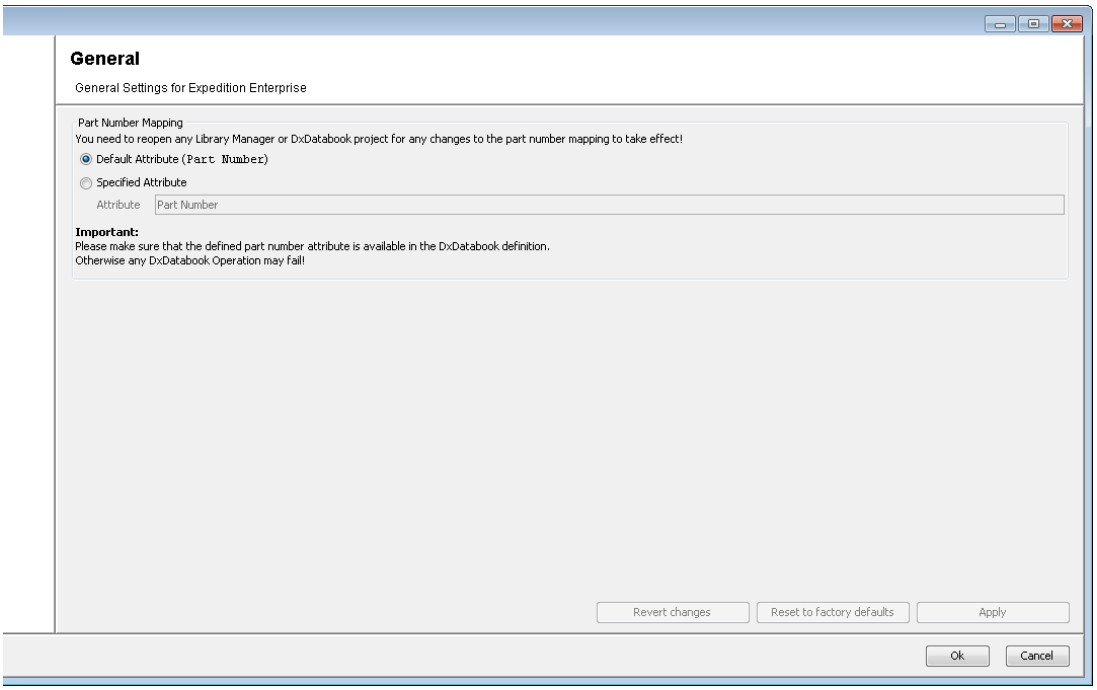


Figure 132 Part Number Mapping Settings

Default Attribute: The 3DEXPERIENCE part number is mapped to the ECAD part type. This attribute will be used as the mapping of the parts between ECAD system and 3DEXPERIENCE.

Specified Attribute: This attribute will be used as the mapping of the parts between ECAD system and the 3DEXPERIENCE. The user can specify the attribute to be used for mapping the parts. Enabling this setting enables the Attributes text field where the user can specify the attribute for mapping.

Important Note:
Please make sure that your defined Part Number attribute is available in the DxDatabook definition. Otherwise any DxDatabook operation may fail.

Expedition PCB IDF Settings

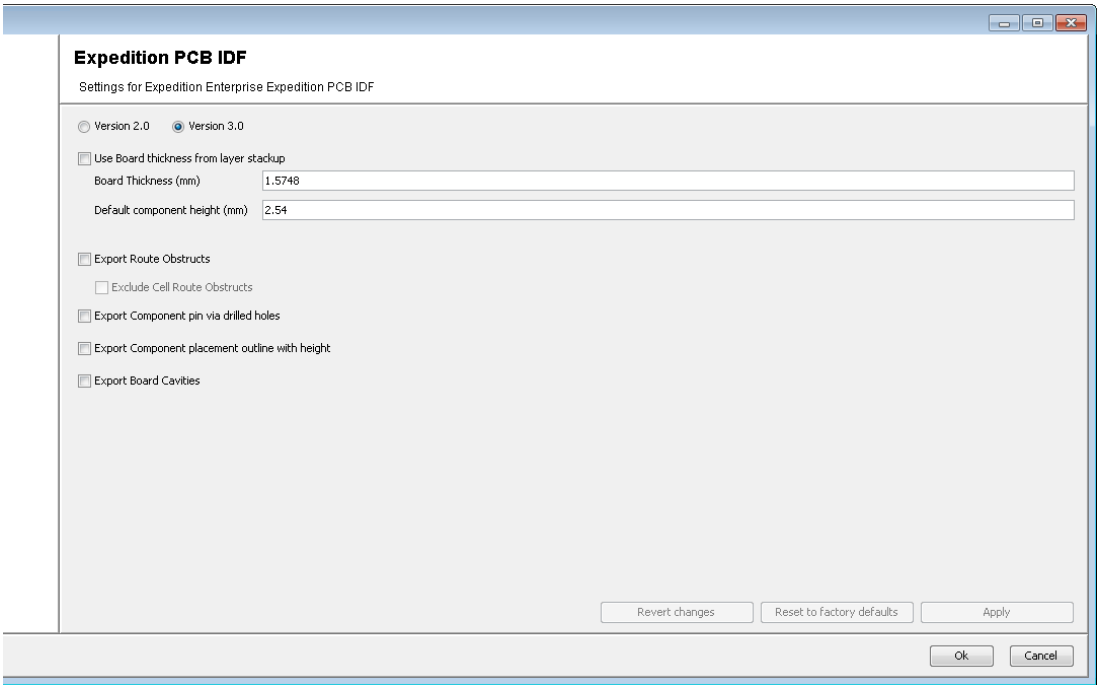


Figure 133 IDF Export Settings

This IDF export setting is a replacement of the settings from the Expedition PCB tool. For detailed information, please take a look at the user's manual of Expedition PCB-IDF Export settings.

Variants Settings

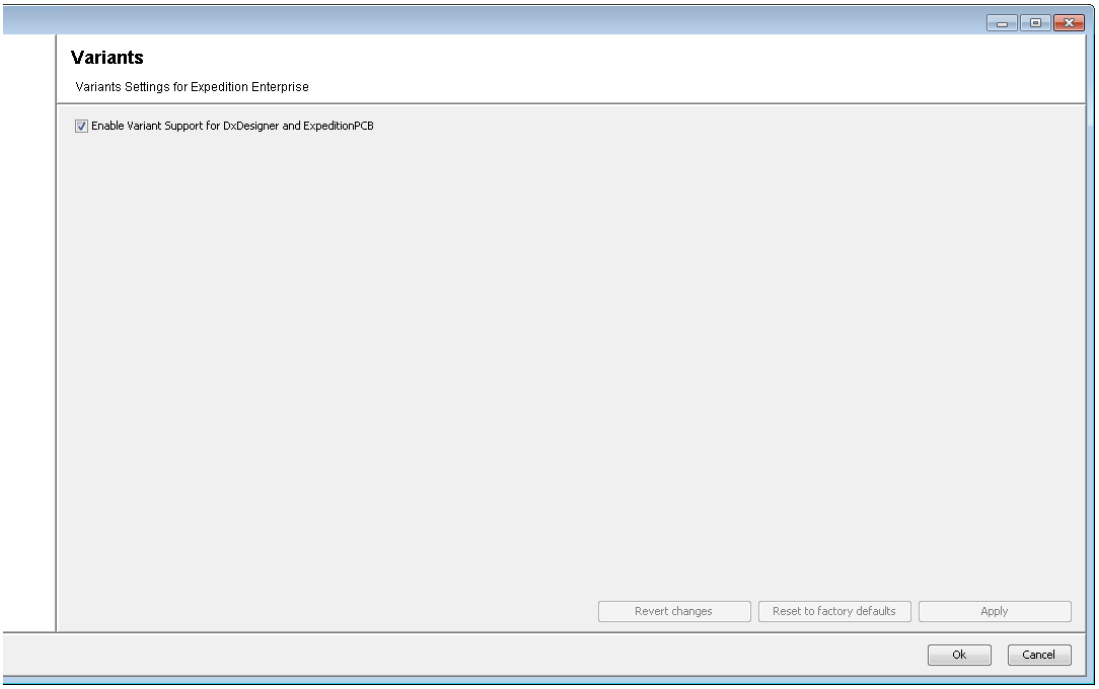


Figure 134 Variant Settings

Enabling this checkbox enables the variant support for DxDesigner and ExpeditionPCB. Variants will not be handled if this checkbox is de-selected.

PDB Settings

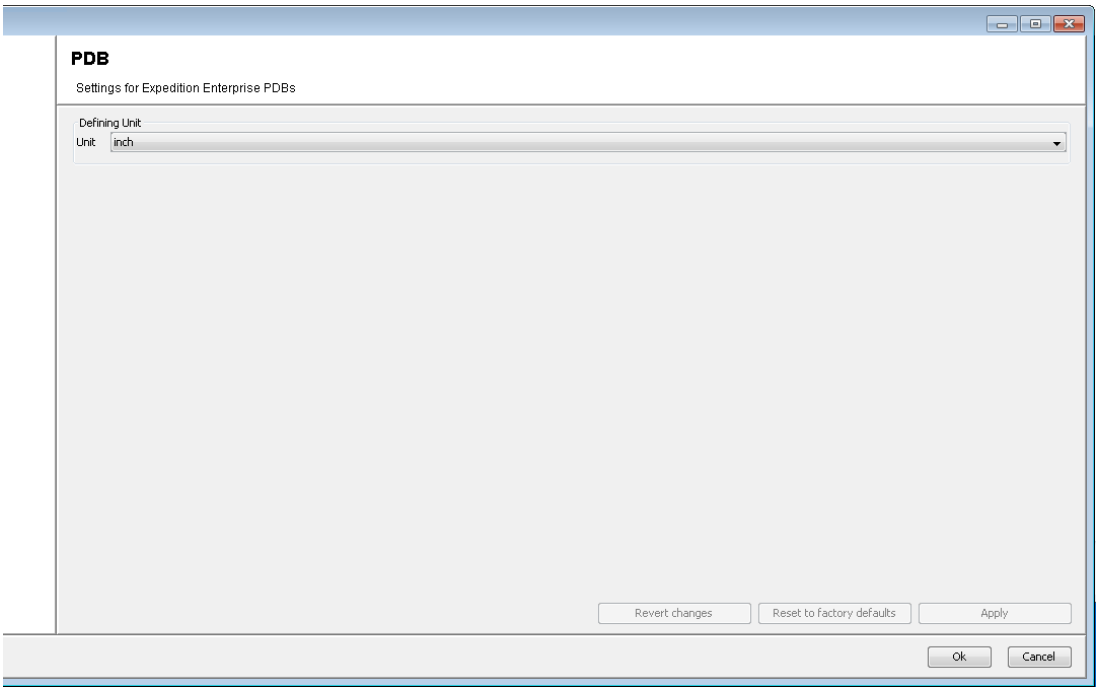


Figure 135 PDB-Settings

Defining Unit:

Unit - The attributes of imported/exported DB components reflect the selected unit.

DxDatabook Settings

Configuration Settings

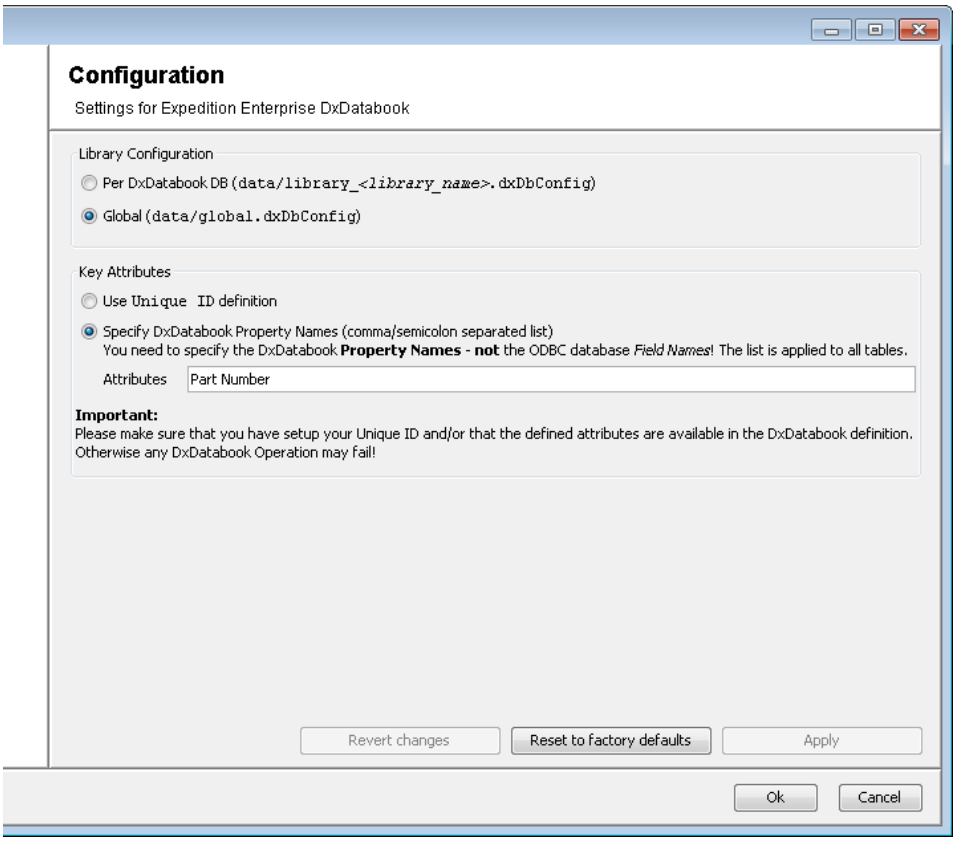


Figure 136 Expedition Enterprise Global Settings Dialog

Library Configuration

Per DxDatabook DB: If this setting is selected, then each DxDatabook DB requires its own library configuration file.

Global: Selecting this uses one library configuration file for all DxDatabook DB.

Key Attributes

Use Unique ID definition: Unique ID definition from DxDatabook component library definition is used for mapping the parts between the ECAD and 3DEXPERIENCE.

Specify Attributes: This attribute will be used as the mapping of the parts between ECAD system and 3DEXPERIENCE. The user can specify the attribute to be used for mapping the parts. Enabling this setting enables the Attributes text field where the user can specify the attribute for mapping.

Important Note:
Please make sure that you have setup your Unique ID and the defined attributes are available in the DxDatabook definition. Otherwise any DxDatabook operation may fail

Update Settings

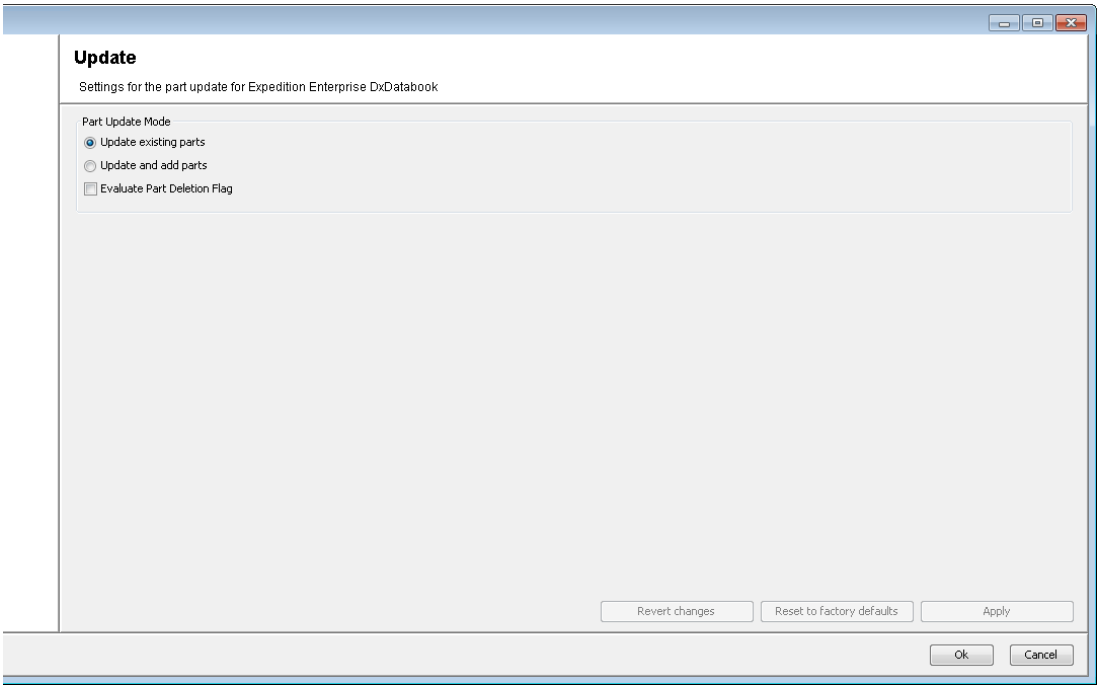


Figure 137 DxDatabook – Update

Part Update Mode

Update existing parts: This updates only the existing parts in EDA library and does not create the new parts.

Update and add parts: This setting not only updates the existing parts in EDA Library but also creates the parts which are not in EDA.

Evaluate part deletion Flag: This setting allows the deletion of the parts from the EDA Library if they are marked for deletion in the mapping configuration.