

# Multi-site Workflows: The Good, the Bad, and the Ugly

## An Advanced Look at Your Options

Jarrold Mudford

Plant Solutions Consultant - Autodesk  
@plant3d

# About the speaker

*Jarrold is a piping designer by profession, working out of New Zealand predominantly in the Food and Beverage industry. With also a lot of experience in the Oil and Gas, Geothermal, Mining and Water Treatment industries, his accolades compliments his career as a Plant Solutions Consultant with Autodesk. His role involves in-depth implementations of solutions with customer's workflows. He enjoys passing on his extensive knowledge to others and assisting in the success of companies utilizing Autodesk products, particularly with Autodesk Plant Design Suite. Jarrod also has vast knowledge of Autodesk Inventor, Navisworks and Vault and the advantages of using these alongside AutoCAD Plant 3D and AutoCAD P&ID.*

*Jarrold has been the Autodesk Plant Exchange Expert three times since November 2011 and continues to be a regular provider of help through many other channels.*

*Jarrold can be contacted for discussions about engagements with your company at [jarrod.mudford@autodesk.com](mailto:jarrod.mudford@autodesk.com)*

## Class summary

This class will explain the options that you have for an effective and efficient AutoCAD Plant 3D project working over multiple design offices. Options that are explained here vary to suit many different project and company budget options. The option that you choose for your next project could be the answer that you are looking for to run your AutoCAD Plant 3D project effectively in more than just one office

# Key learning objectives

At the end of this class, you will be able to:

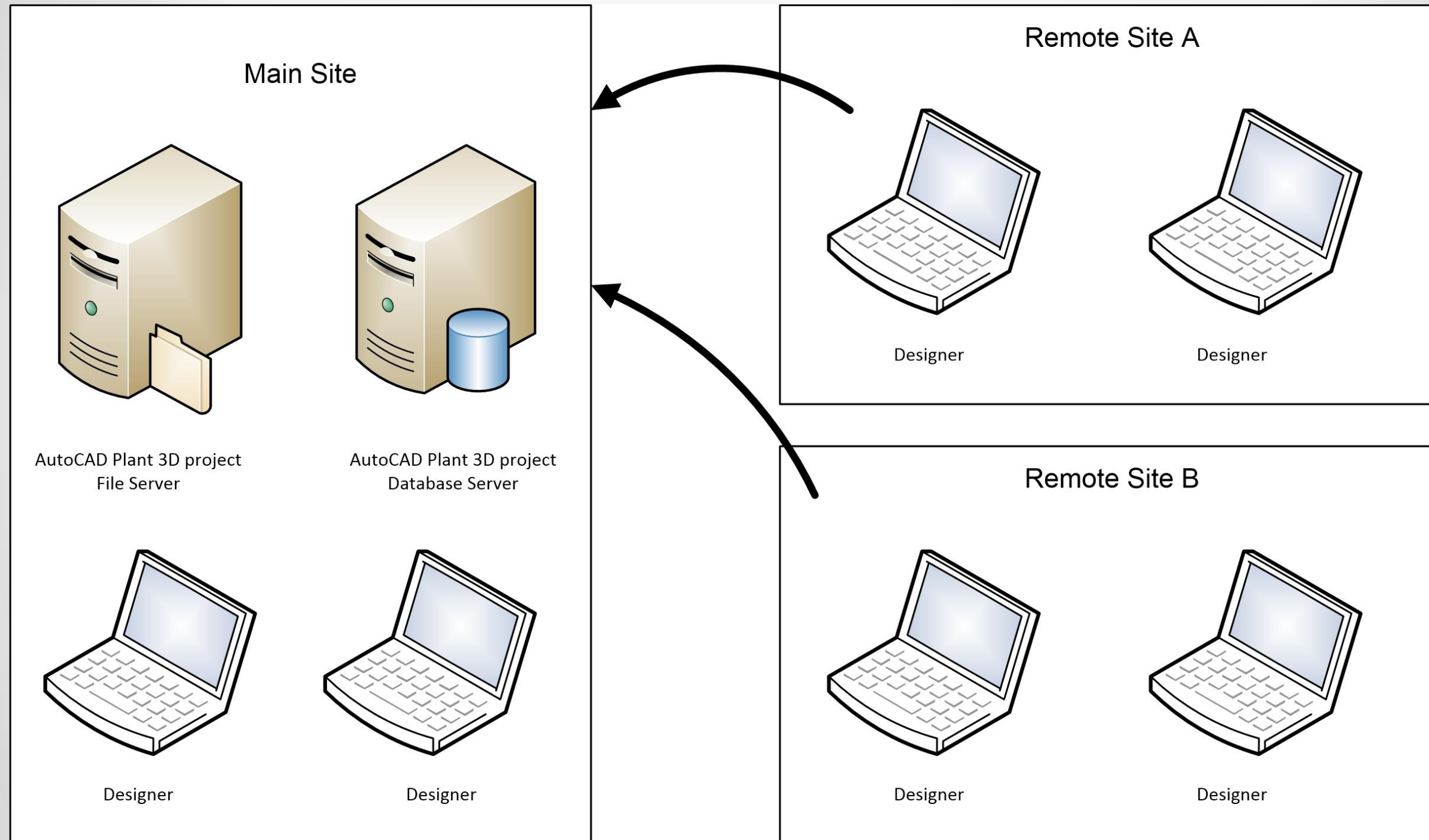
- Explain the different options available for multi-site workflows
- Evaluate potential workflows for your projects
- Start using basic workflows immediately
- Start a new project in Autodesk Vault and configure it for a multi-site workflow

# The Workflow Options

1. Running the AutoCAD Plant 3D project over the WAN
2. Master and Slave AutoCAD Plant 3D project
3. Autodesk Vault Professional



# Running the AutoCAD Plant 3D project over the WAN



# Setting up the Project

- Set up the project on the Main Site
- Microsoft SQL Database preferred
- Access the project over the WAN
- Both sites require the same network structure
- Centralized files on Remote Server read only

# Working on the Project

- Access the project as normal
- Delays over the WAN is inevitable
- Orthographic views should be created at Main Site
- Isometric production is better at Main Site
- Report Creator can be run at either site



# Running the AutoCAD Plant 3D project over the WAN



# The Good

- Access to the project is a simple process
- Minimal management by IT Department
- Remote sites can increase and decrease as required

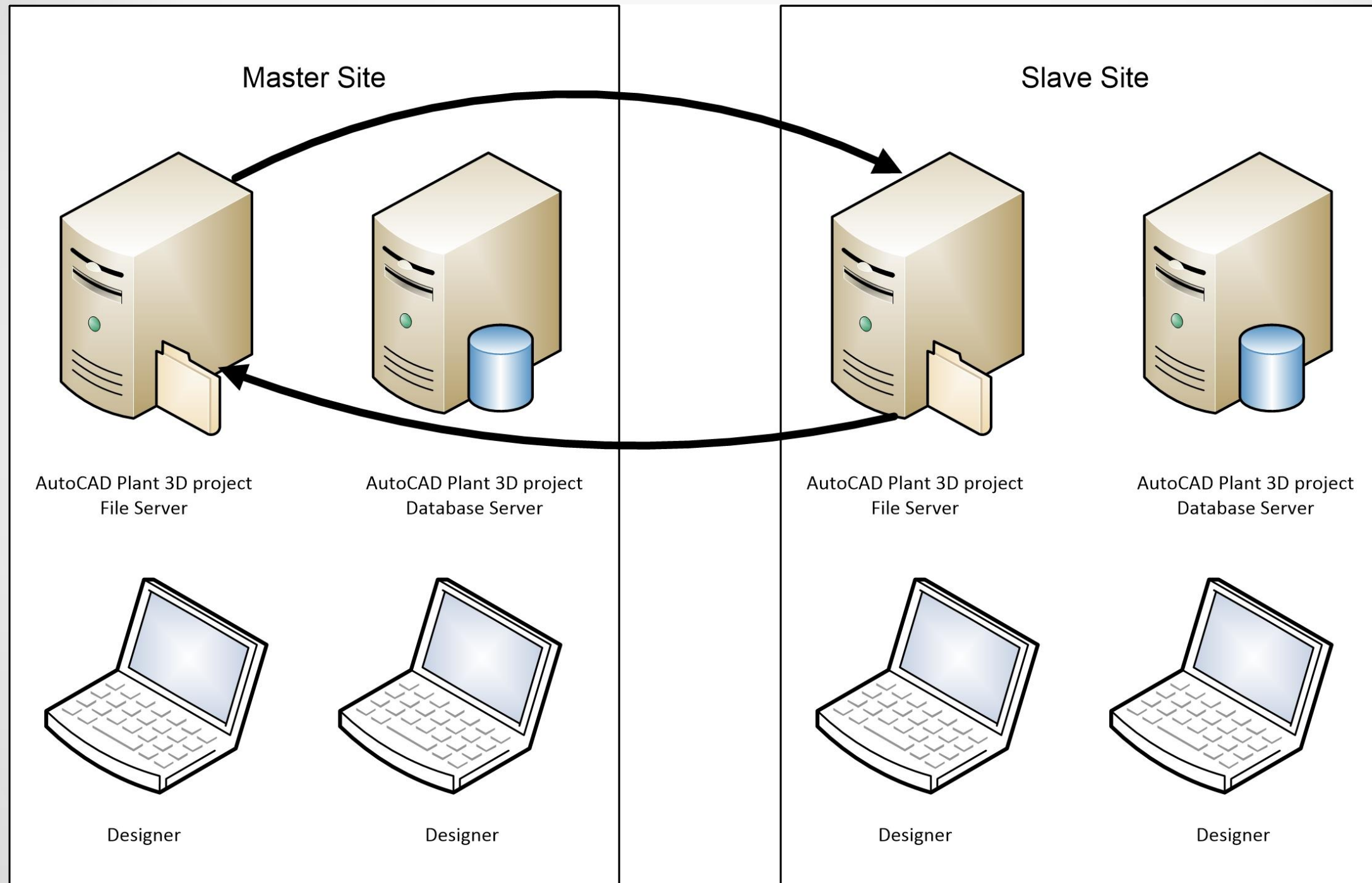
# The Bad

- Delays in accessing files over the WAN
- Xref Management is a must to keep files at a manageable size

# The Ugly

- Possible file corruption
- WAN Network outage will prevent project work

# Master and Slave AutoCAD Plant 3D project



# Setting up the Project

- Set up the project on the Master Site
- Microsoft SQL Database preferred
- Copy the project to the Slave Site
- Both sites require the same network structure
- Centralized files on Slave Site read only



# Working on the Project

- Access the project that is local to the user
- Communicate with the other site
- Orthographic views created and detailed only at Master Site
- Isometric production only done at Main Site

# Working on the Project

- Copy the modified .dwg files from Master to Slave Site
- Copy the modified .dwg files from Slave to Master Site

# Master and Slave AutoCAD Plant 3D project



# The Good

- Fairly simple process to implement
- The project is always local
- Minimal management from the IT Department

# The Bad

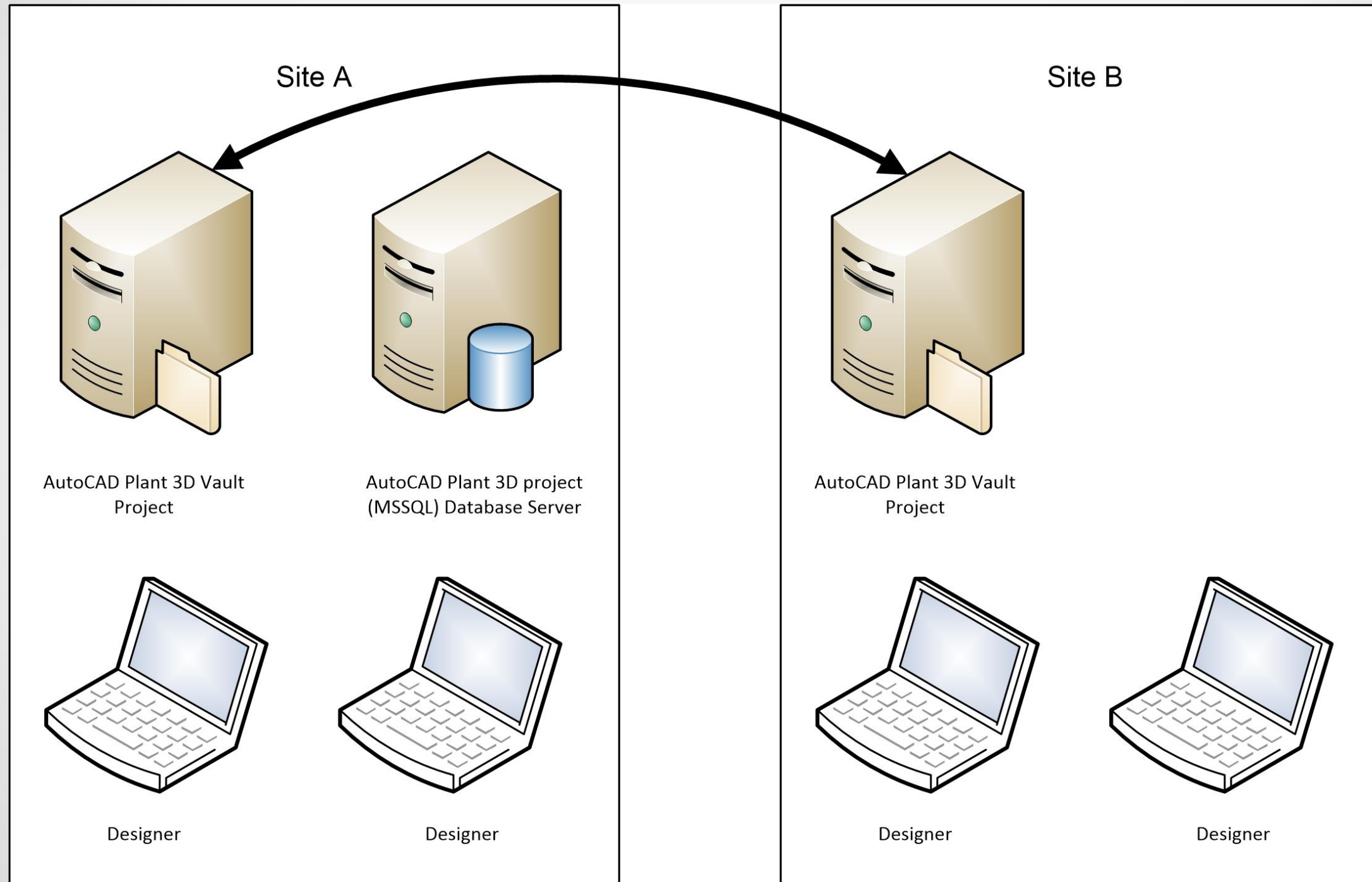
- The copying of the files can take quite some time to access over the WAN
- Files could be missed when copying back to the Master Site
- Project settings changes could mean a full project copy to Slave Site

# The Ugly

- Committed management at the Lead Designer level
- Communication is a must
- Two databases will never be the same, so outputs such as Reports, Isometrics, Ortho drawings must be done at Main Site

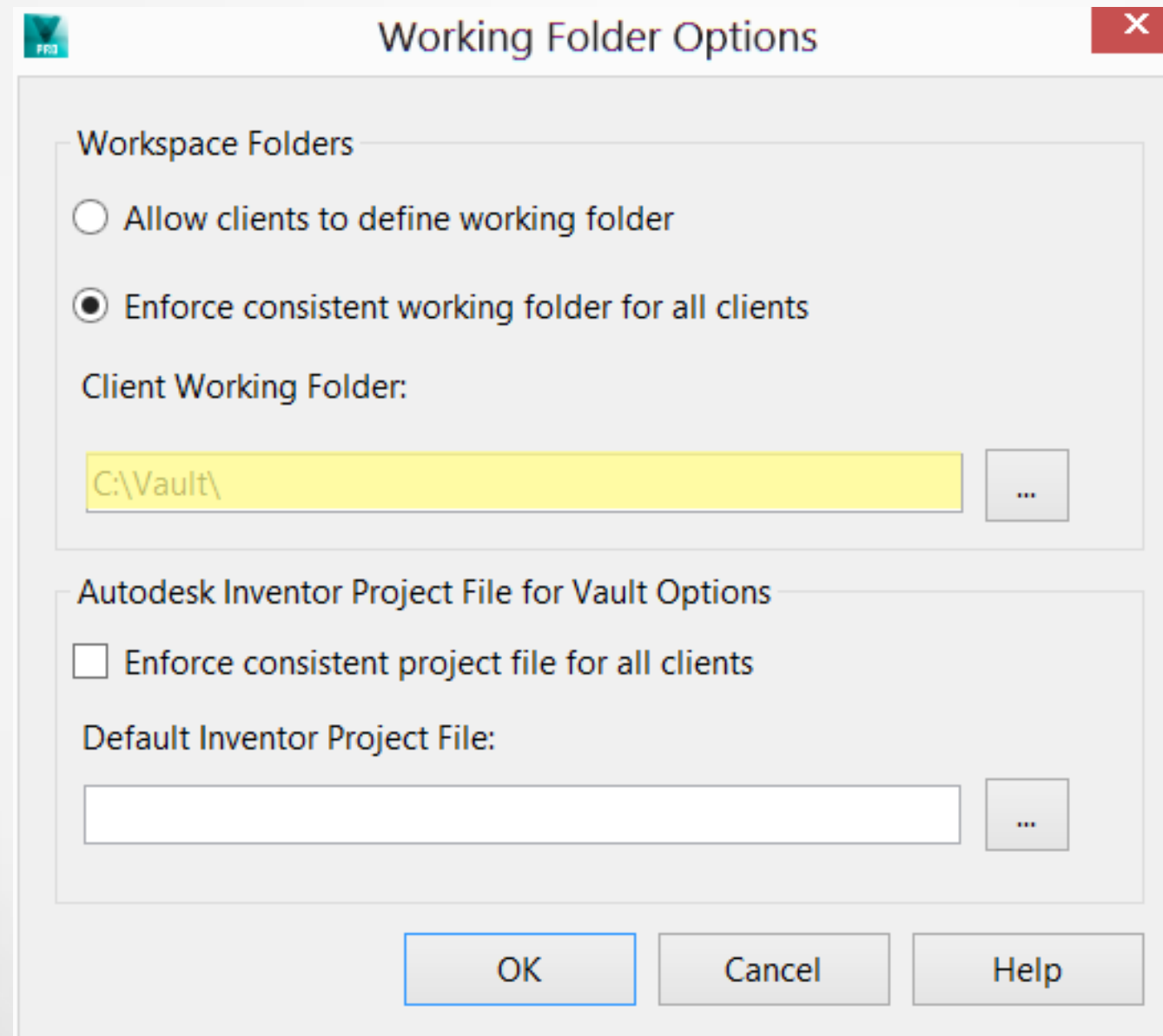


# Autodesk Vault Professional



# Special Autodesk Vault Professional Settings

- Working Folder Options



The screenshot shows the 'Working Folder Options' dialog box. It has a title bar with the Autodesk Vault logo, the text 'Working Folder Options', and a close button. The dialog is divided into two main sections. The first section, 'Workspace Folders', contains two radio buttons: 'Allow clients to define working folder' (unselected) and 'Enforce consistent working folder for all clients' (selected). Below these is a label 'Client Working Folder:' followed by a text box containing 'C:\Vault\' and a browse button with three dots. The second section, 'Autodesk Inventor Project File for Vault Options', contains a checkbox 'Enforce consistent project file for all clients' (unchecked). Below this is a label 'Default Inventor Project File:' followed by an empty text box and a browse button with three dots. At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Help'.

Working Folder Options

Workspace Folders

☐ Allow clients to define working folder

☒ Enforce consistent working folder for all clients

Client Working Folder:

C:\Vault\

Autodesk Inventor Project File for Vault Options

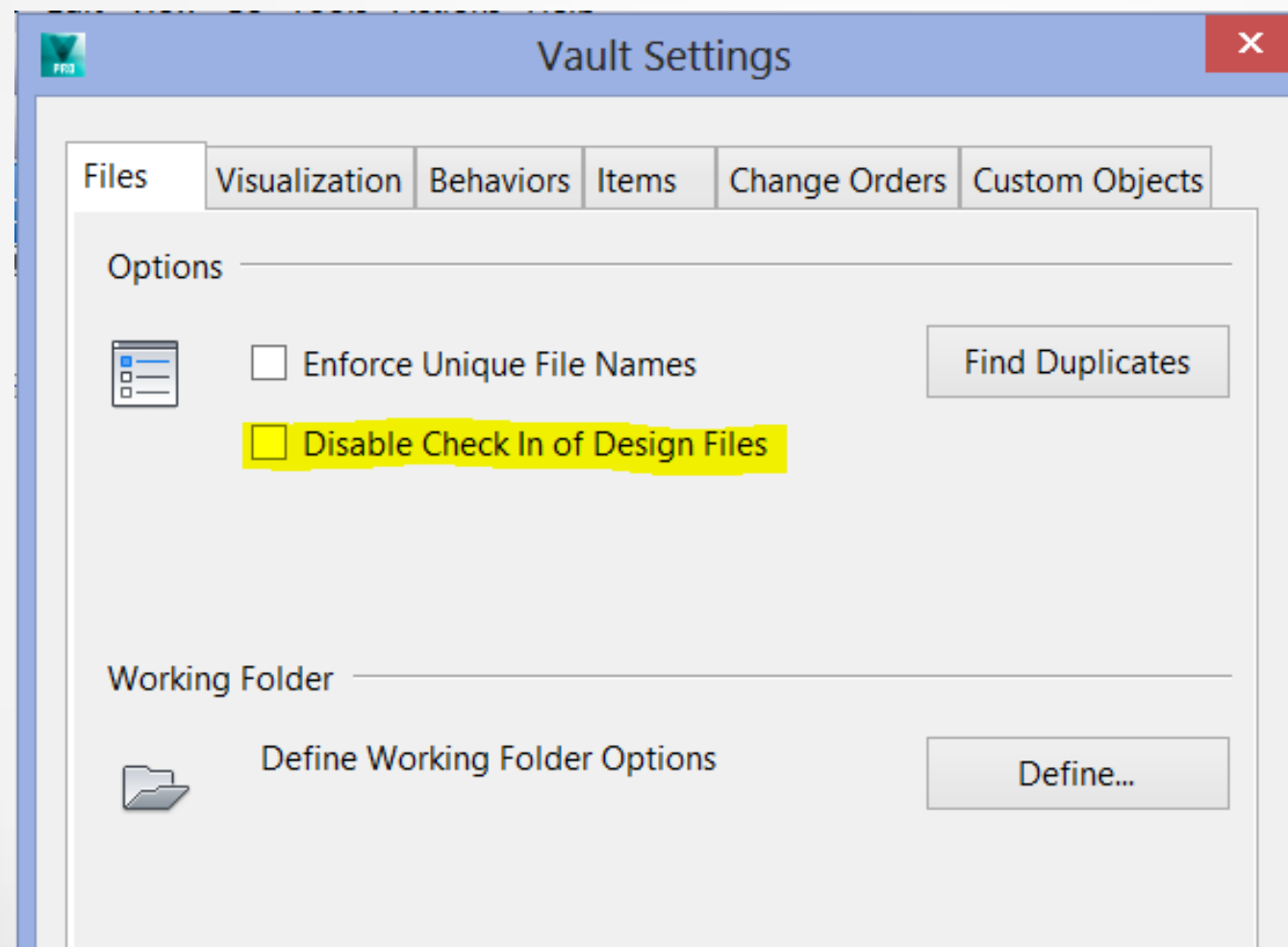
☐ Enforce consistent project file for all clients

Default Inventor Project File:

OK Cancel Help

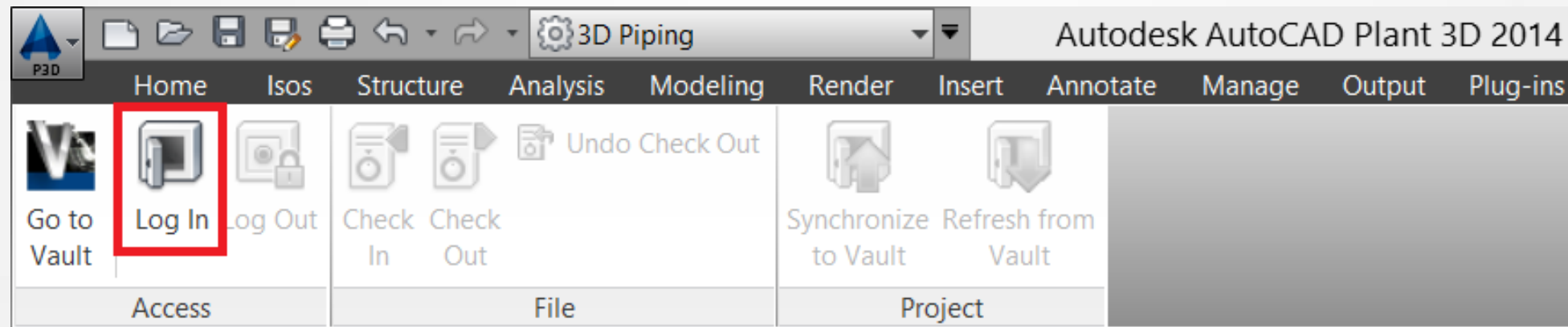
# Special Autodesk Vault Professional Settings

- Disable Check In of Design Files



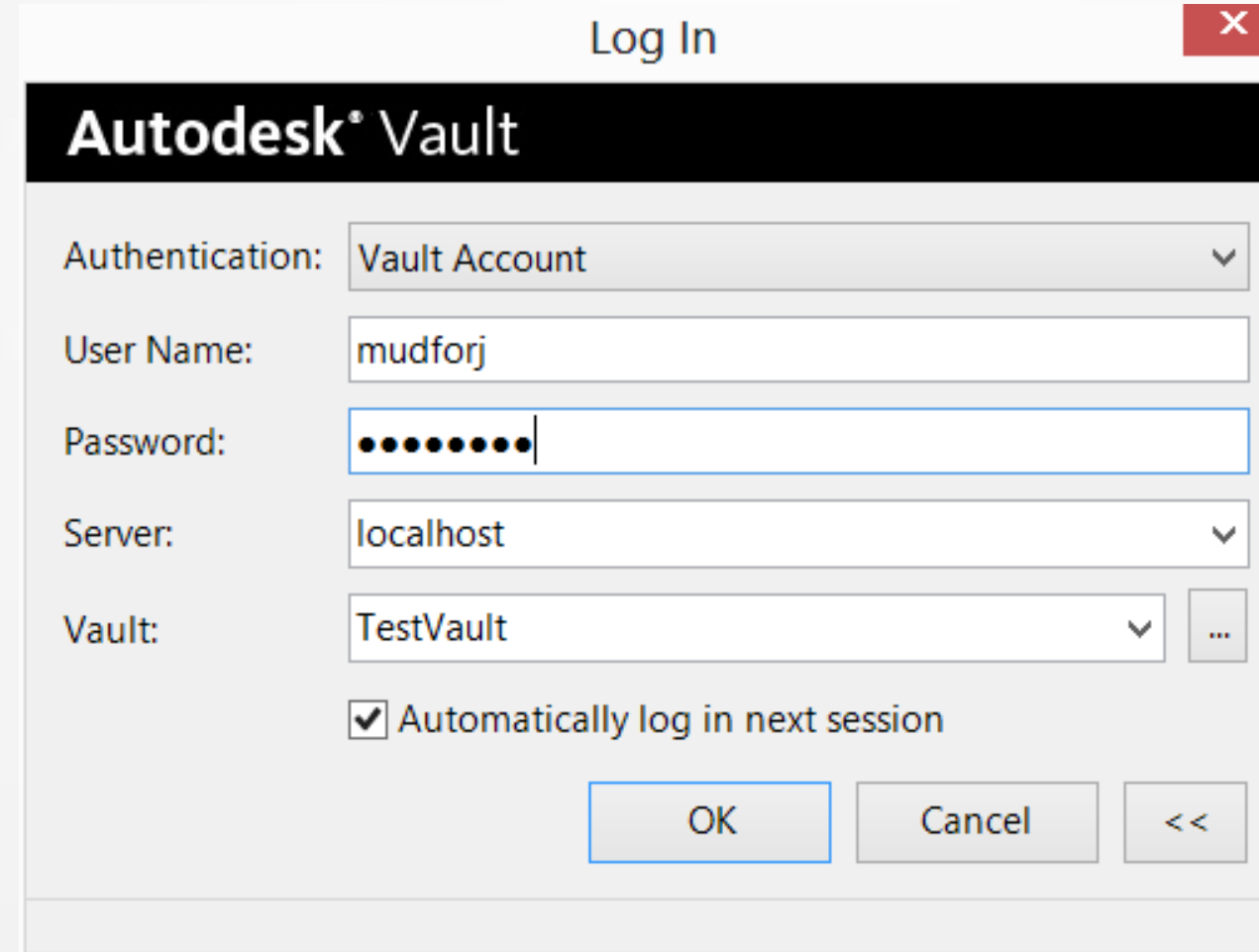
# Setting up the Project

- Start AutoCAD Plant 3D and navigate to the Vault Tab



# Setting up the Project

- In the Log In dialog box, enter your User Name, Password, Server, and Vault Selection

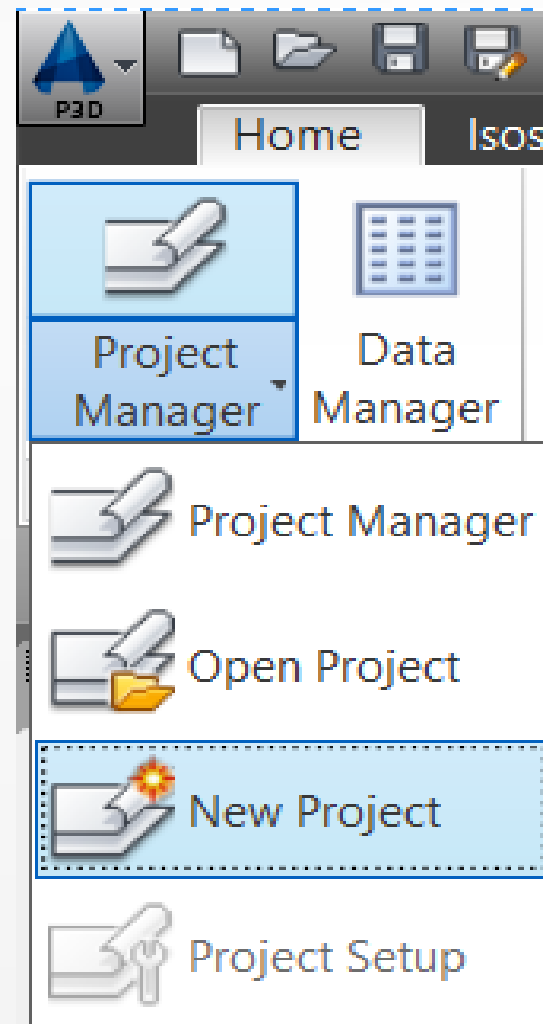


The image shows a screenshot of the 'Log In' dialog box for Autodesk Vault. The dialog has a title bar with 'Log In' and a close button. The main area is titled 'Autodesk® Vault'. It contains the following fields and controls:

- Authentication:** A dropdown menu set to 'Vault Account'.
- User Name:** A text field containing 'mudforj'.
- Password:** A text field with masked characters (dots).
- Server:** A dropdown menu set to 'localhost'.
- Vault:** A dropdown menu set to 'TestVault' with a browse button ('...') to its right.
- Automatically log in next session:** A checked checkbox.
- Buttons:** 'OK', 'Cancel', and '<<' buttons at the bottom.

# Setting up the Project

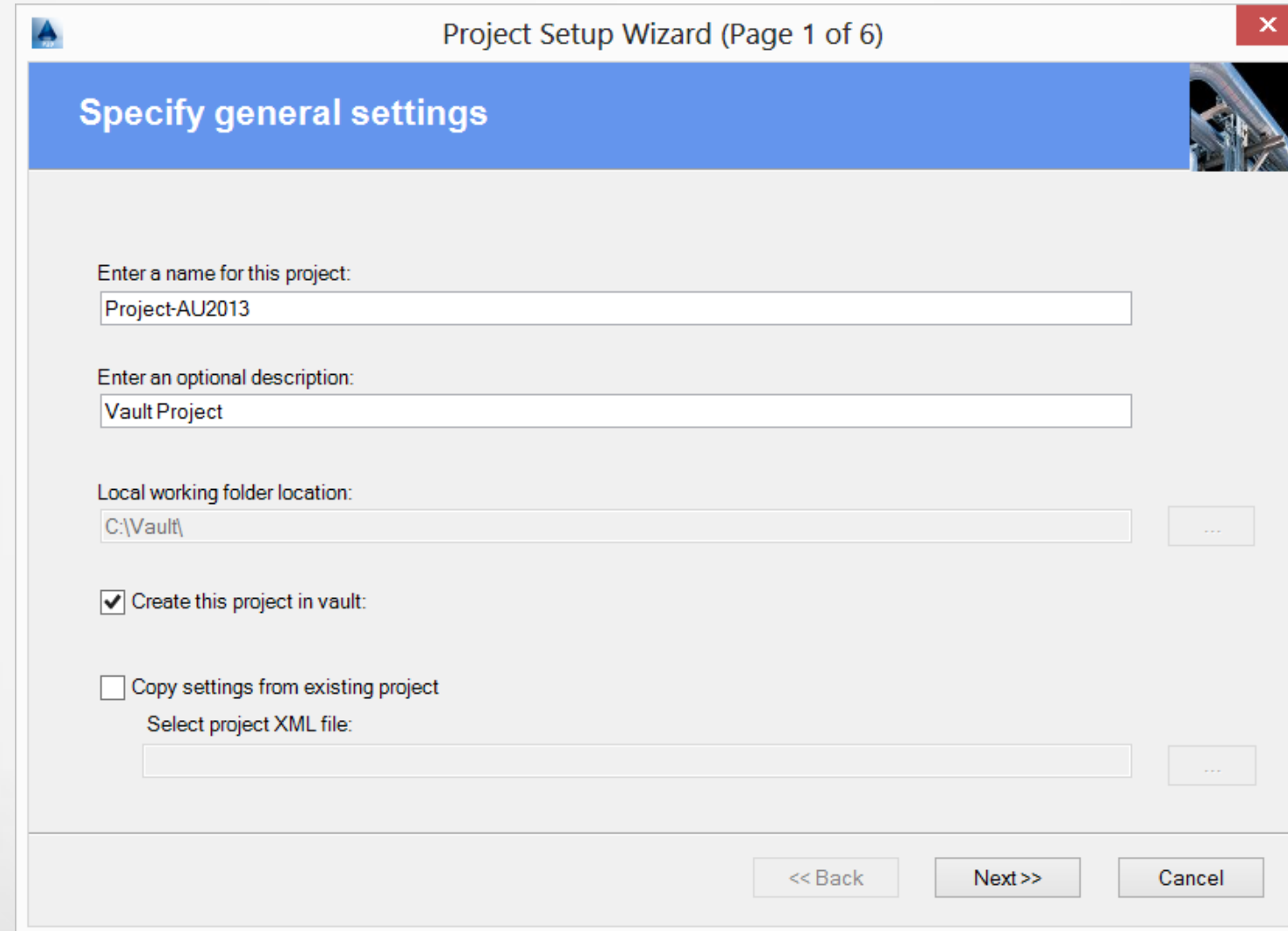
- Begin a new project from the Home Tab, Project panel, “*New Project*”.





# Setting up the Project

- On page one of the Project Setup Wizard, enter your project name, and optional description.



The screenshot shows the 'Project Setup Wizard (Page 1 of 6)' window. The title bar includes the Autodesk logo, the text 'Project Setup Wizard (Page 1 of 6)', and a close button. The main content area has a blue header bar with the text 'Specify general settings'. Below this, there are several input fields and checkboxes:

- 'Enter a name for this project:' with a text box containing 'Project-AU2013'.
- 'Enter an optional description:' with a text box containing 'Vault Project'.
- 'Local working folder location:' with a text box containing 'C:\Vault\'. To the right of the text box is a button with three dots '...'.
- A checked checkbox labeled 'Create this project in vault:'.
- An unchecked checkbox labeled 'Copy settings from existing project'.
- Below the unchecked checkbox is the text 'Select project XML file:' followed by a text box and a button with three dots '...'.

At the bottom of the window, there are three buttons: '<< Back', 'Next >>', and 'Cancel'.

# Setting up the Project

- Page 2, 3, and 4 set up as normal

The image displays three overlapping screenshots of the 'Project Setup Wizard' dialog boxes, showing the configuration steps for a project.

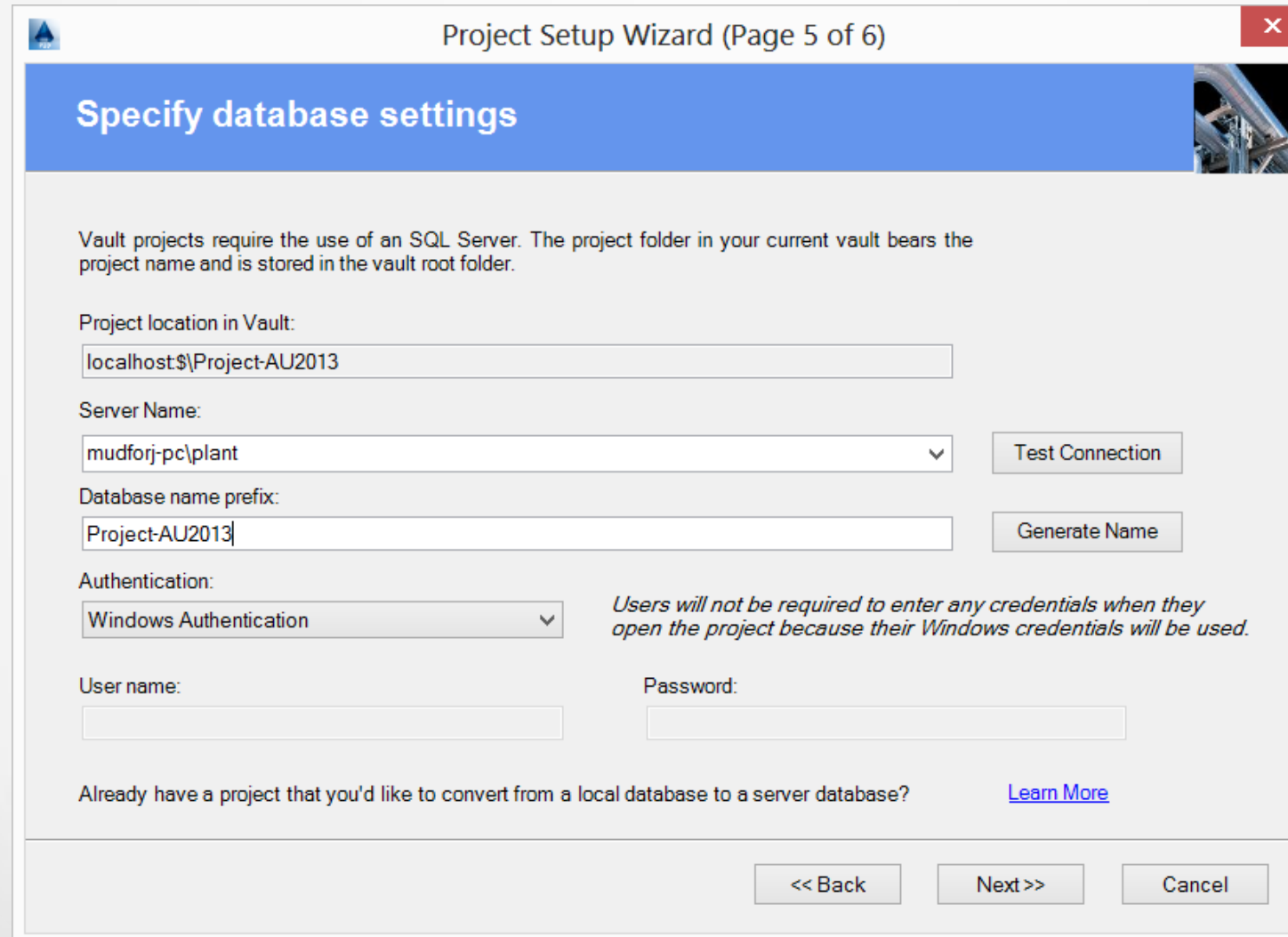
**Project Setup Wizard (Page 2 of 6):** This dialog box is titled 'Specify unit settings'. It contains two radio button options: 'Imperial' (selected) and 'Metric'. Below these options, there are labels for 'All units-based properties' and 'Most units-based properties'. At the bottom, there is a label 'Report nominal dimensions' and a radio button for 'Millimeters'.

**Project Setup Wizard (Page 3 of 6):** This dialog box is titled 'Specify P&ID settings'. It contains a text field for 'Specify the directory where P&ID drawings are stored' with the value 'C:\Vault\Project-AU2013\PID DWG'. Below this is a list box for 'Select the P&ID symbology standard' with 'PIP' selected. A note at the bottom states: 'Note: All symbols will be drawn in inches'.

**Project Setup Wizard (Page 4 of 6):** This dialog box is titled 'Specify Plant 3D directory settings'. It contains four text fields with browse buttons (three dots) to the right: 'Plant 3D model DWG file directory' (C:\Vault\Project-AU2013\Plant 3D Models), 'Spec sheets directory' (C:\Vault\Project-AU2013\Spec Sheets), 'Orthographic output directory' (C:\Vault\Project-AU2013\Orthos\DWGs), and 'Specify the directory where supporting files (such as spreadsheets or Word documents) are stored' (C:\Vault\Project-AU2013\Related Files). At the bottom right, there are three buttons: '<< Back', 'Next >>', and 'Cancel'.

# Setting up the Project

- On page five, you must select an SQL server and instance for the project



The screenshot shows the 'Project Setup Wizard (Page 5 of 6)' window. The title bar includes the Autodesk logo and a close button. The main heading is 'Specify database settings'. Below this, a text block explains: 'Vault projects require the use of an SQL Server. The project folder in your current vault bears the project name and is stored in the vault root folder.' The form contains several fields and buttons: 'Project location in Vault:' with a text box containing 'localhost\$\Project-AU2013'; 'Server Name:' with a dropdown menu showing 'mudforj-pc\plant' and a 'Test Connection' button; 'Database name prefix:' with a text box containing 'Project-AU2013' and a 'Generate Name' button; 'Authentication:' with a dropdown menu showing 'Windows Authentication' and a note: 'Users will not be required to enter any credentials when they open the project because their Windows credentials will be used.'; 'User name:' and 'Password:' text boxes; and a link 'Learn More' next to the text 'Already have a project that you'd like to convert from a local database to a server database?'. At the bottom are three buttons: '<< Back', 'Next >>', and 'Cancel'.

Project Setup Wizard (Page 5 of 6)

### Specify database settings

Vault projects require the use of an SQL Server. The project folder in your current vault bears the project name and is stored in the vault root folder.

Project location in Vault:  
localhost\$\Project-AU2013

Server Name:  
mudforj-pc\plant Test Connection

Database name prefix:  
Project-AU2013 Generate Name

Authentication:  
Windows Authentication Users will not be required to enter any credentials when they open the project because their Windows credentials will be used.

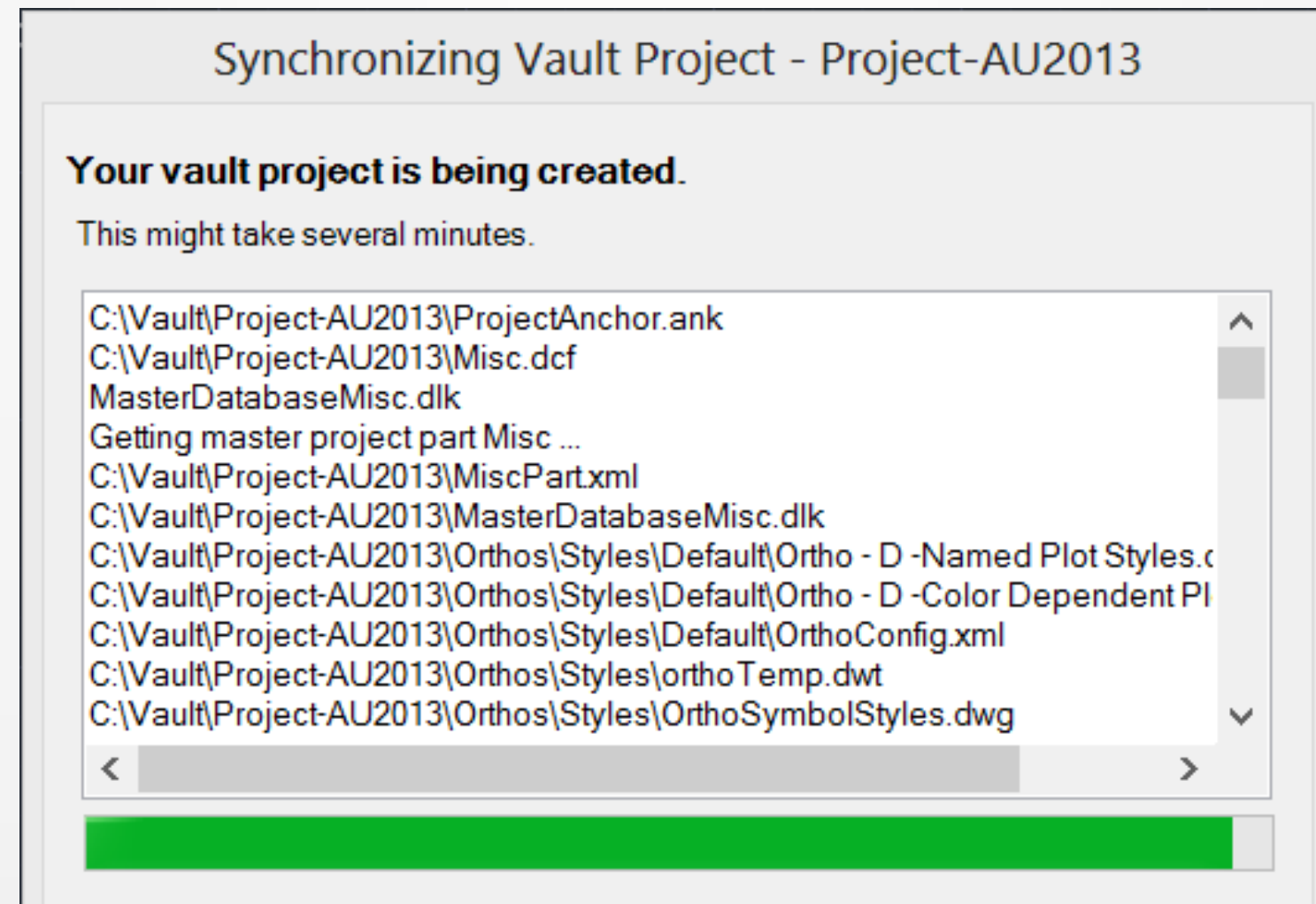
User name: Password:

Already have a project that you'd like to convert from a local database to a server database? [Learn More](#)

<< Back Next >> Cancel

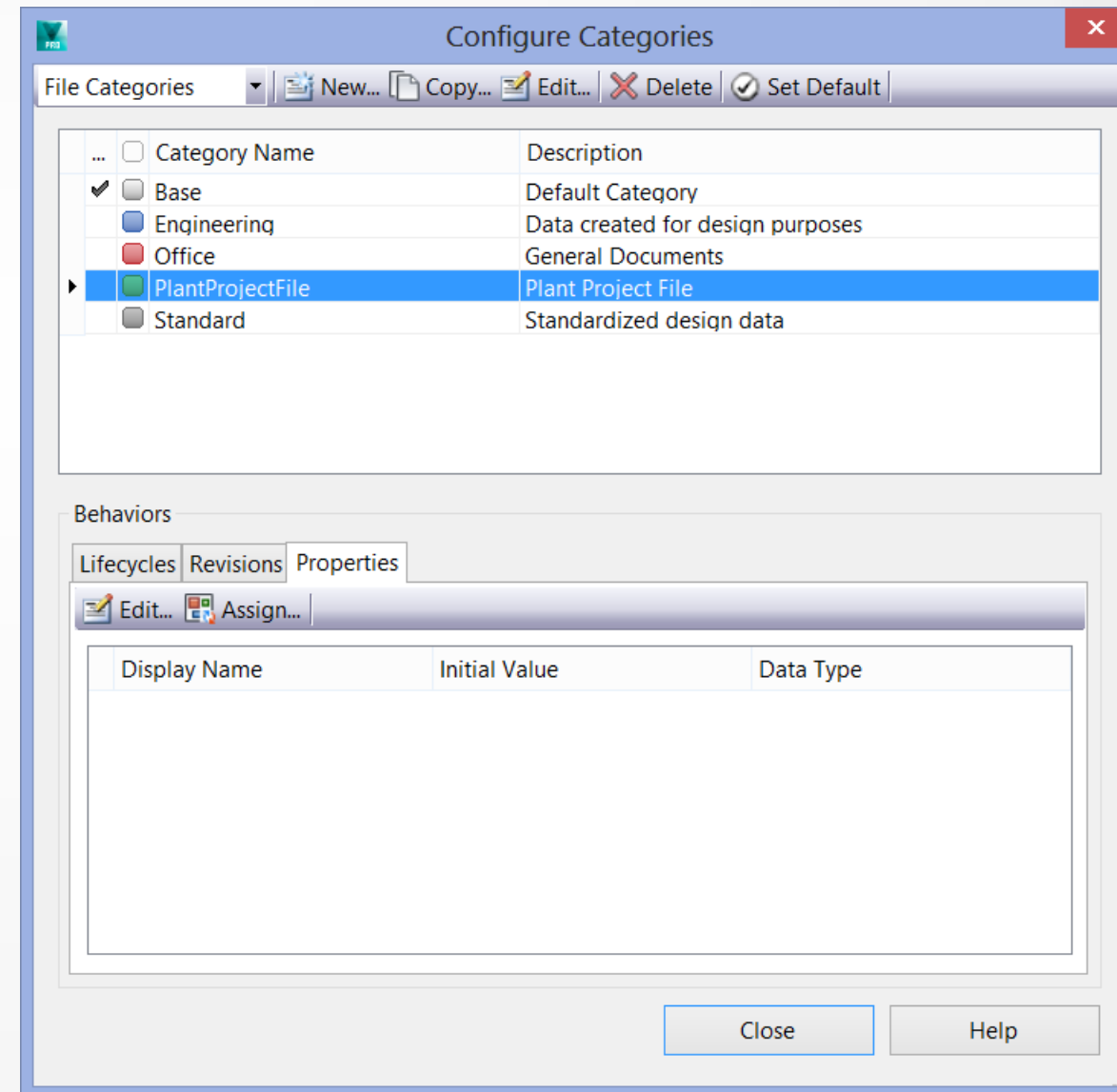
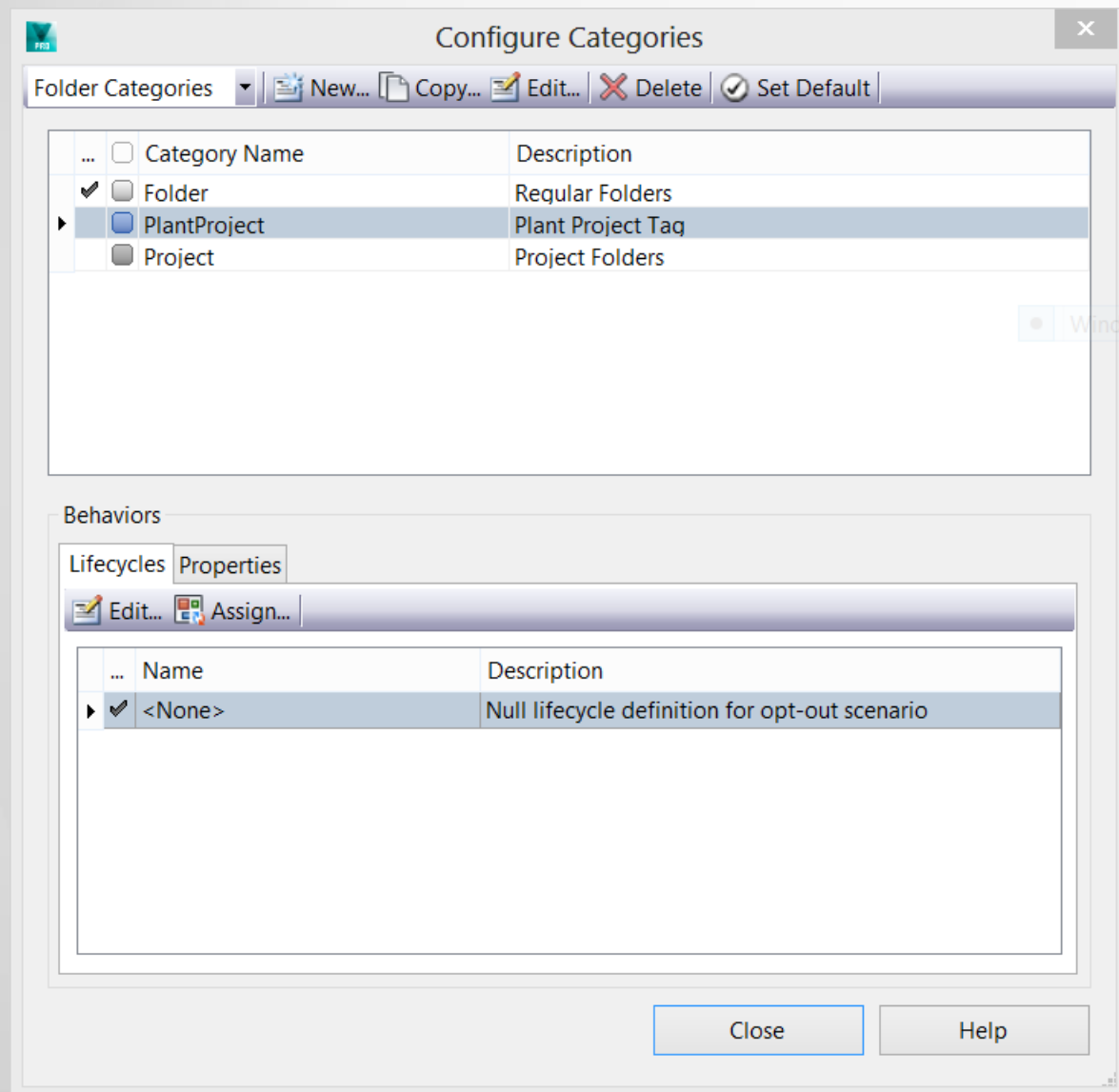
# Setting up the Project

- The below dialog box is what you will see while the project is being created in Autodesk Vault.



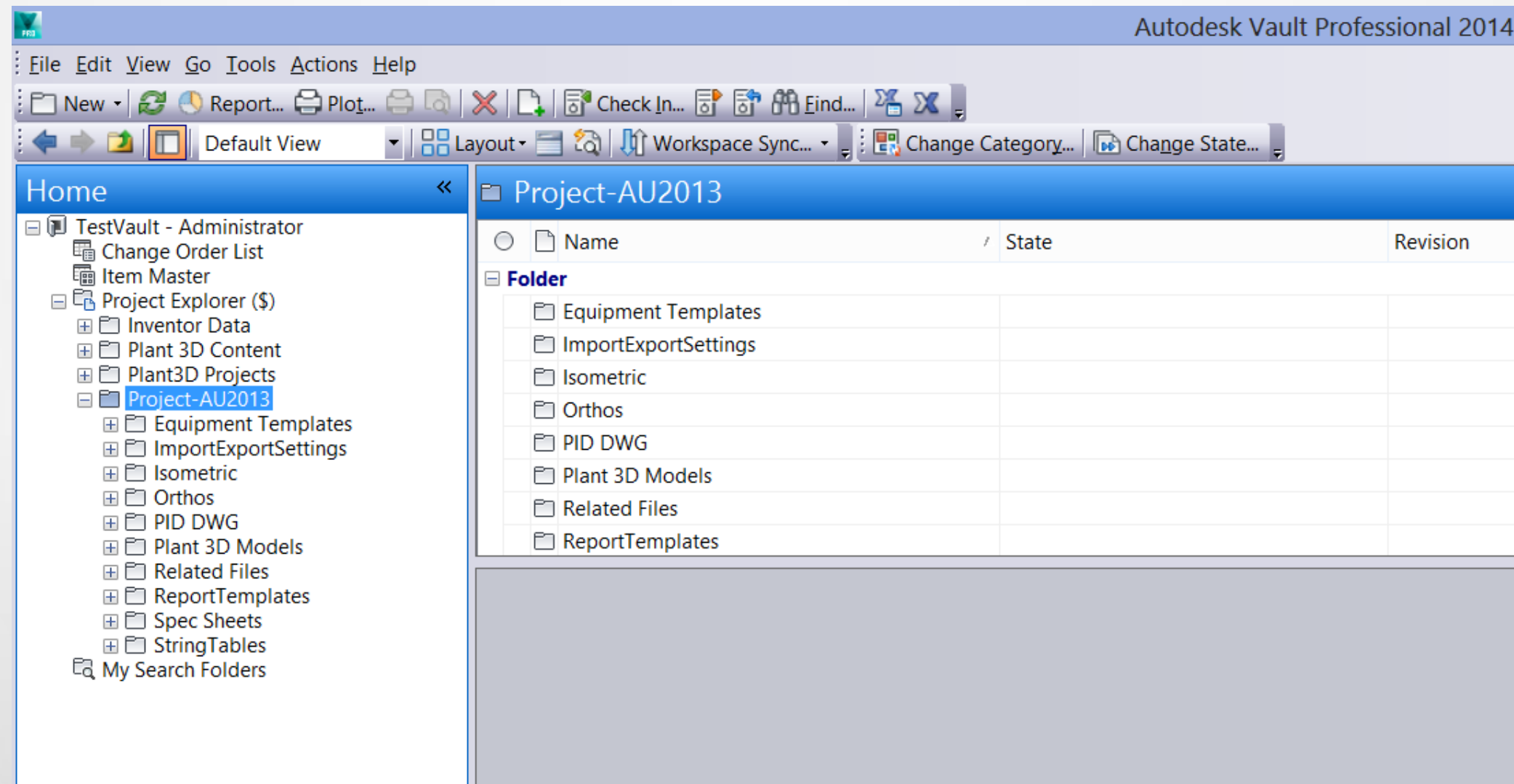
# Inside Autodesk Vault Professional

- New categories will be automatically created.



# Inside Autodesk Vault Professional

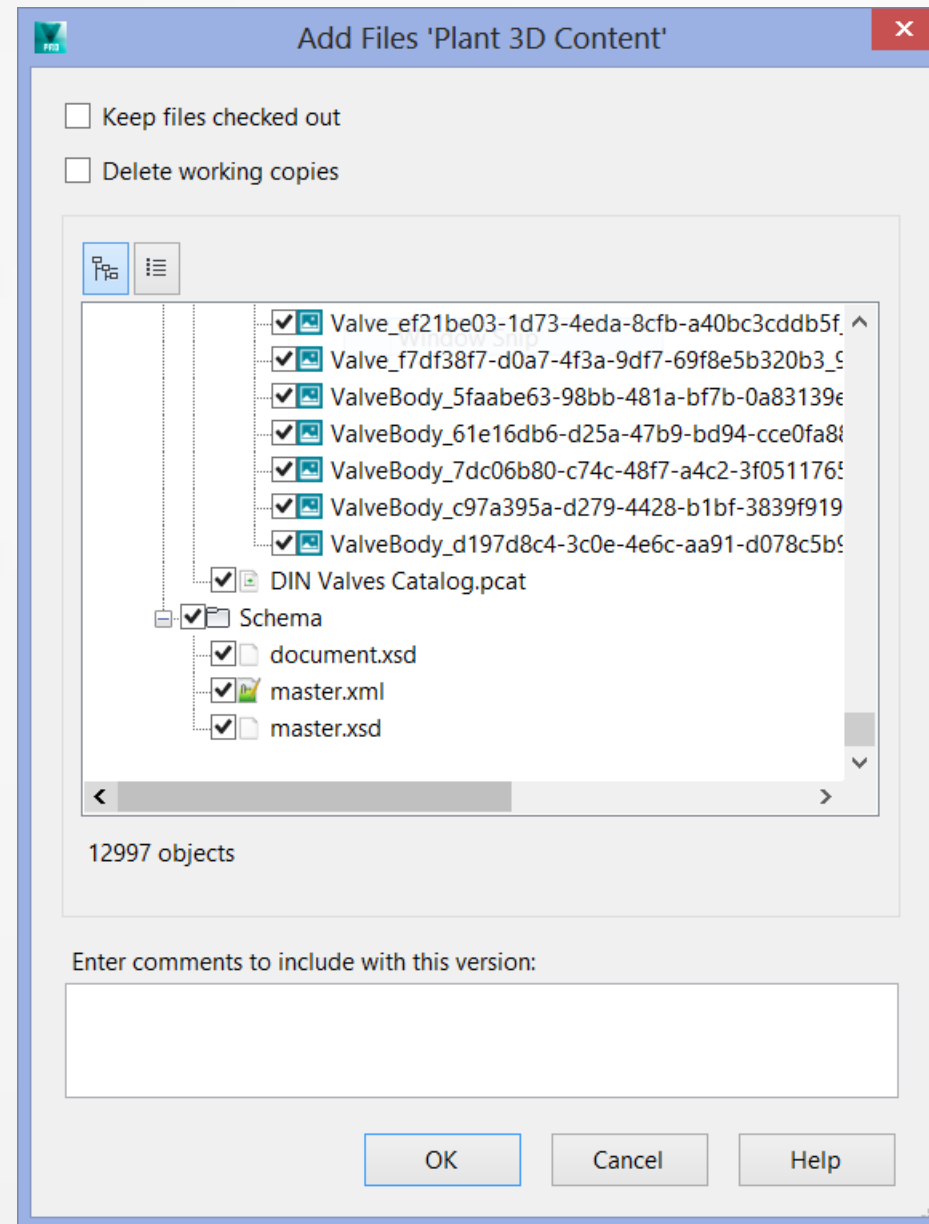
- The Project will be created in the root directory of Autodesk Vault





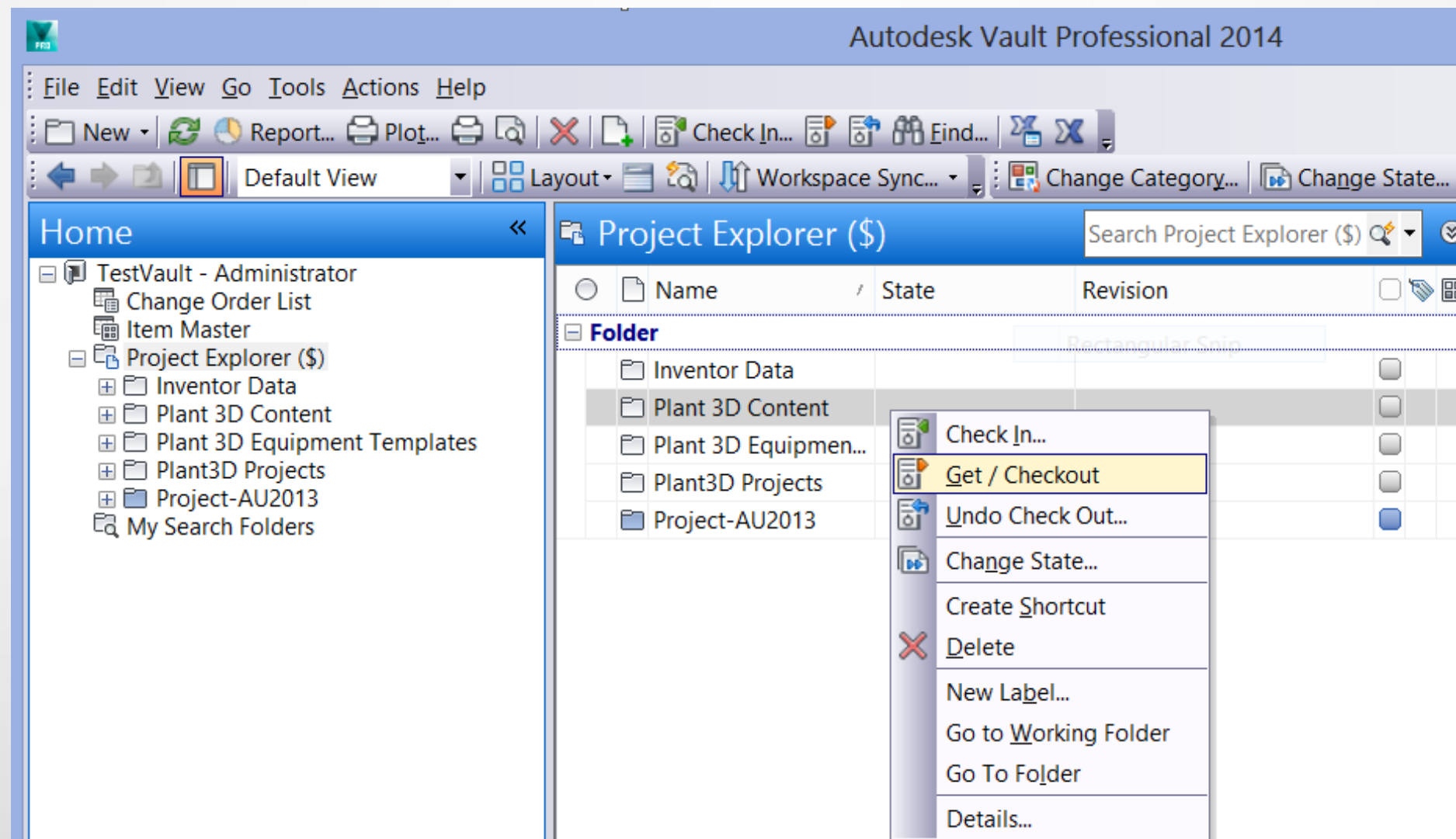
# AutoCAD Plant 3D Content

- Confirm which files will be added to the Vault



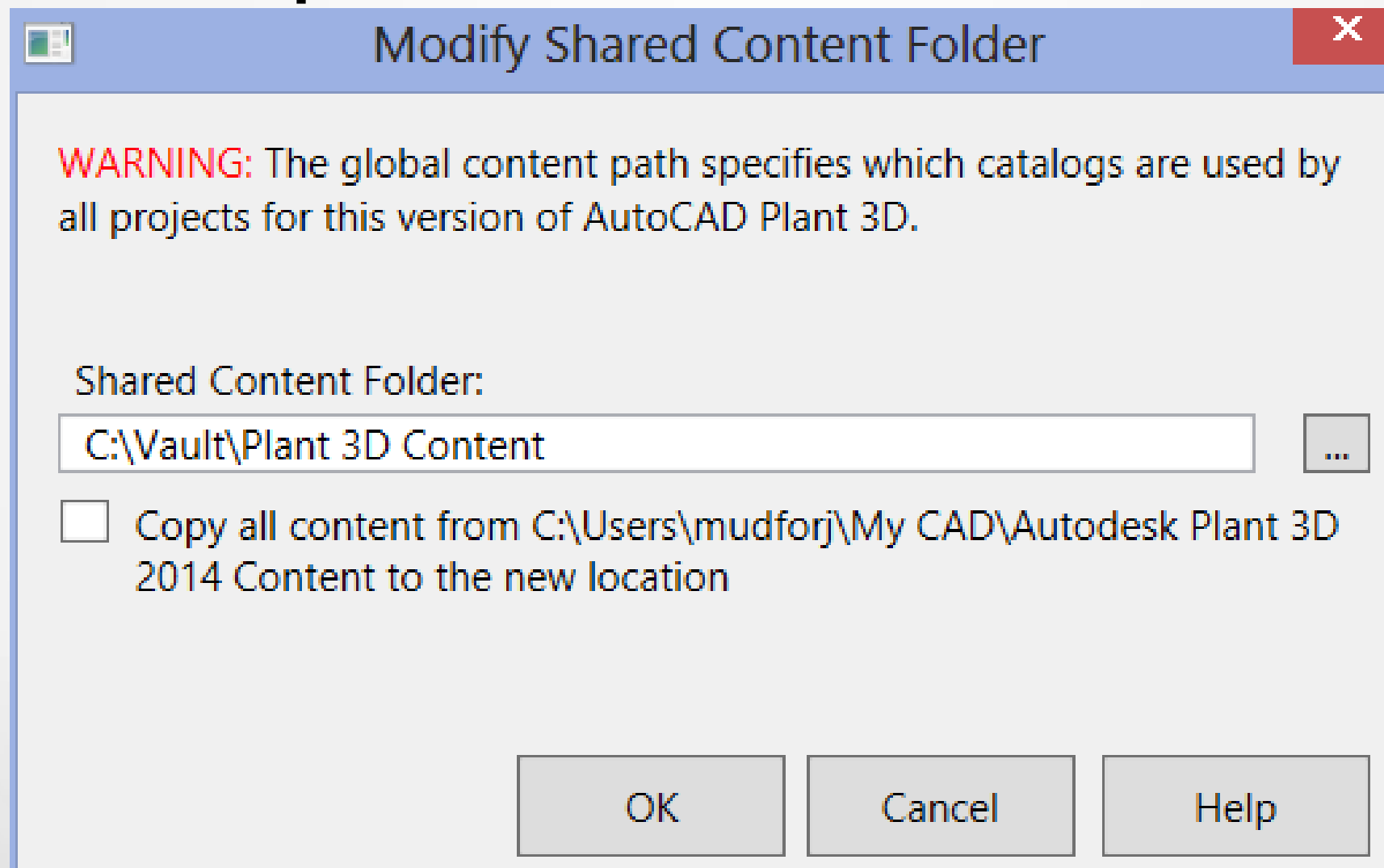
# AutoCAD Plant 3D Content

- Each user working with AutoCAD Plant 3D must also “*Get*” the folder from the Vault



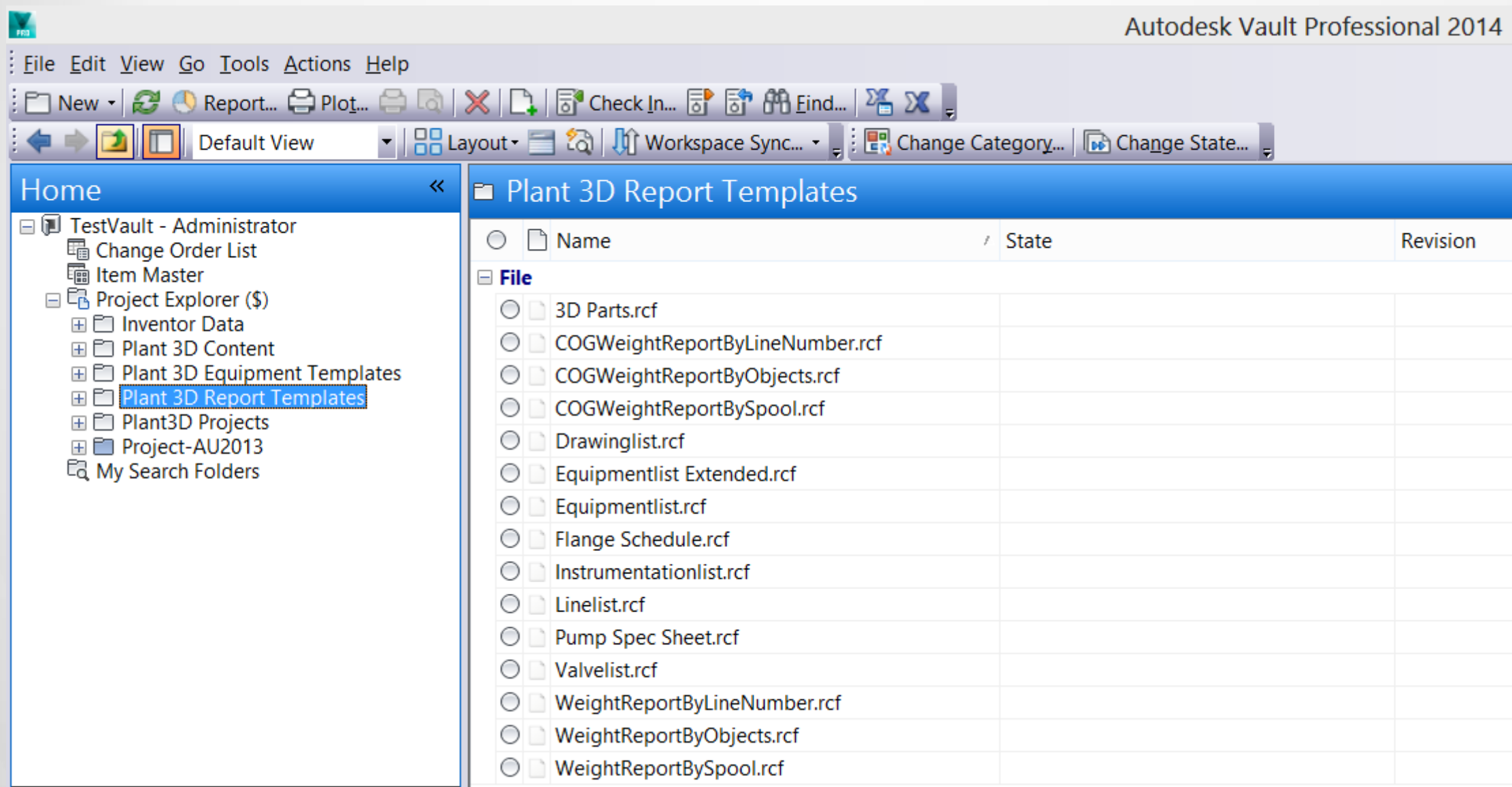
# AutoCAD Plant 3D Content

- Change the Shared Content Folder from within the Catalog and Spec Editor



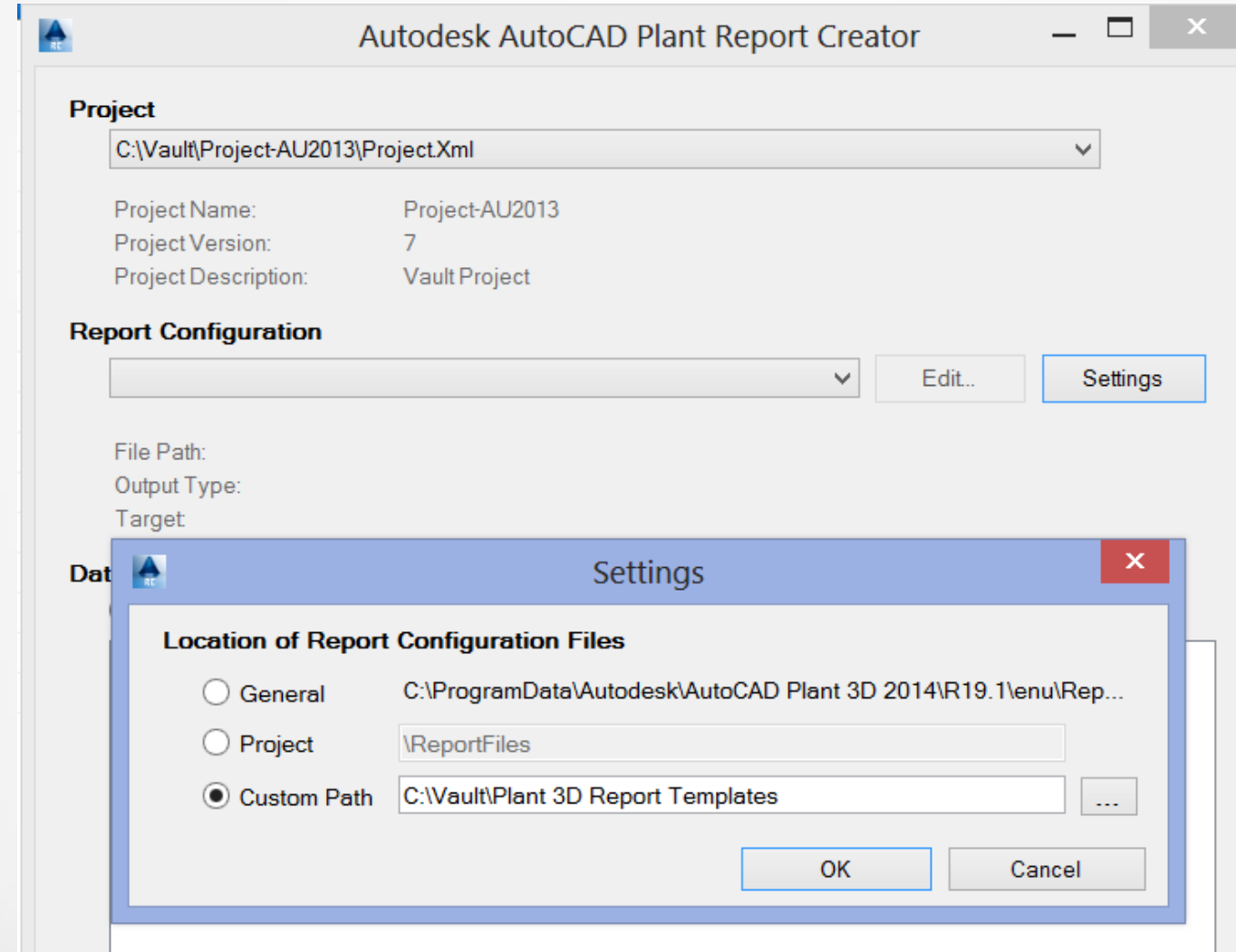
# AutoCAD Plant 3D Report Creator

- Copy the Report Template files into the Vault



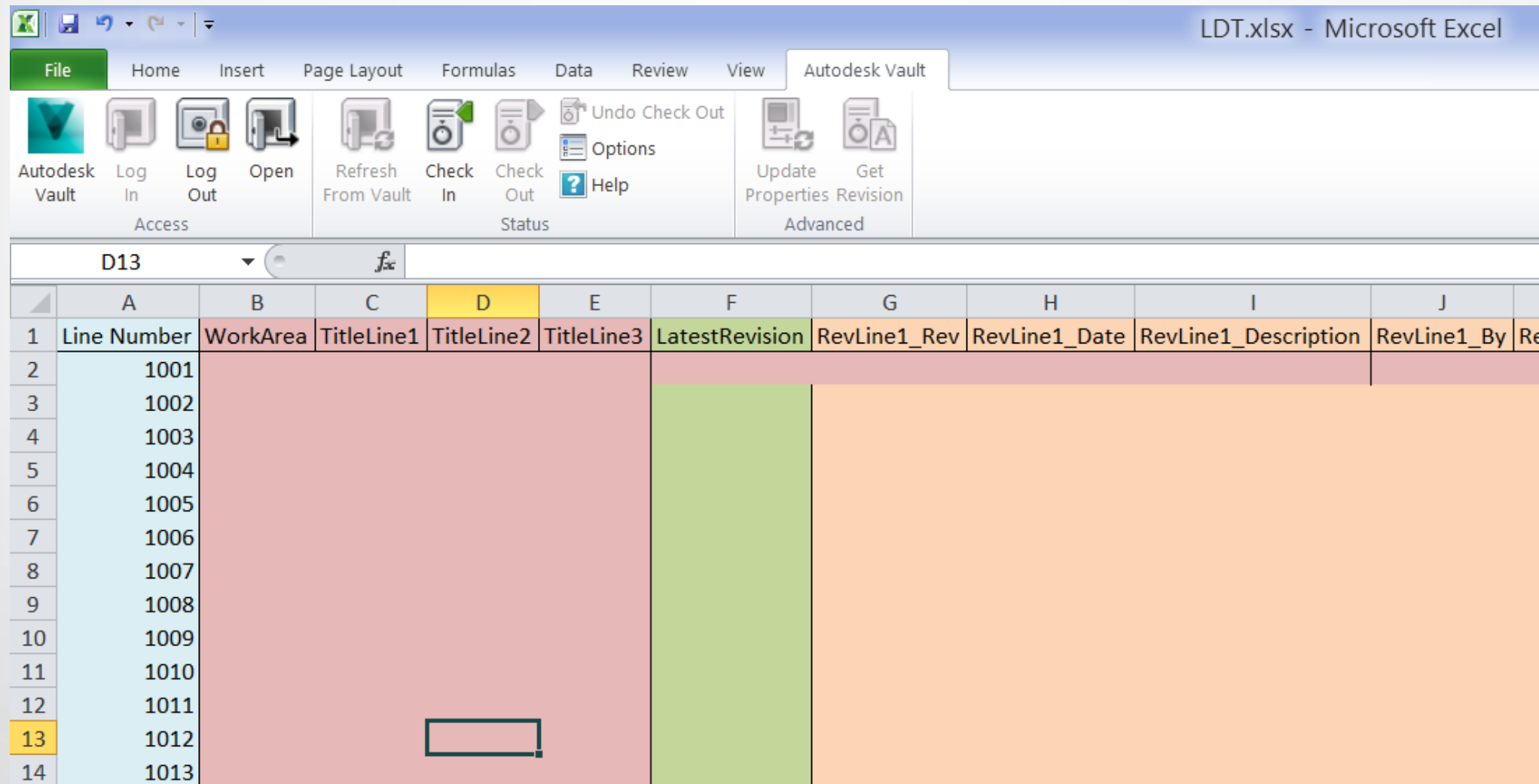
# AutoCAD Plant 3D Report Creator

- Access the AutoCAD Plant 3D project from the local Vault Workspace



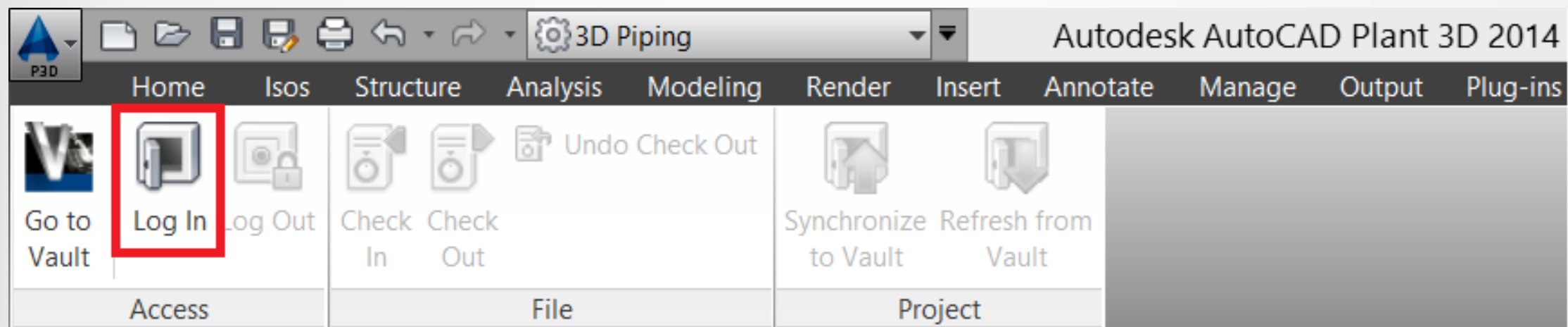
# LDT Files

- Microsoft Excel has a ribbon that accesses the Vault directly



# Working on the Project

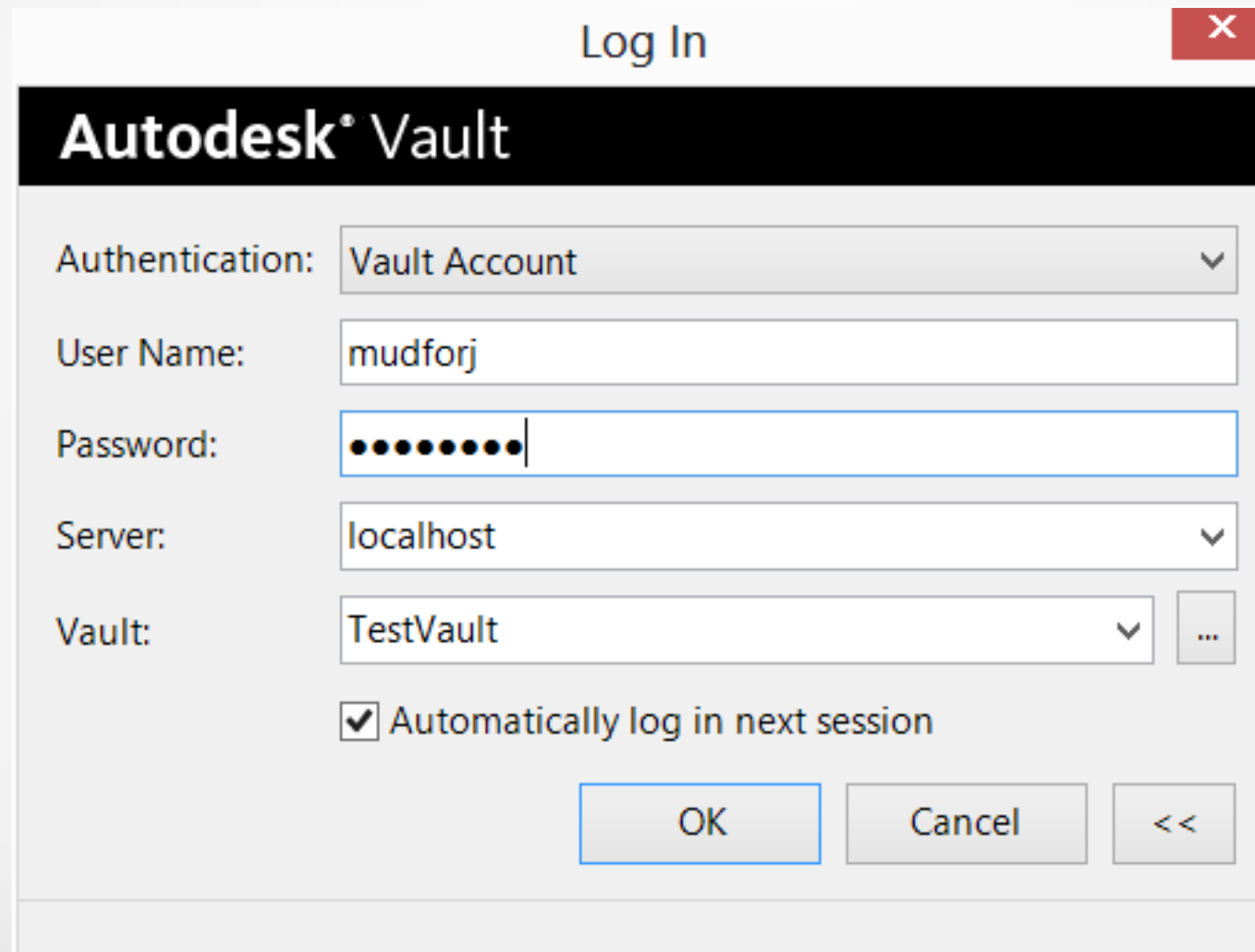
- On the Access Panel, select “*Log In*”





# Working on the Project

- In the Log In dialog box, enter your User Name, Password, Server, and Vault Selection

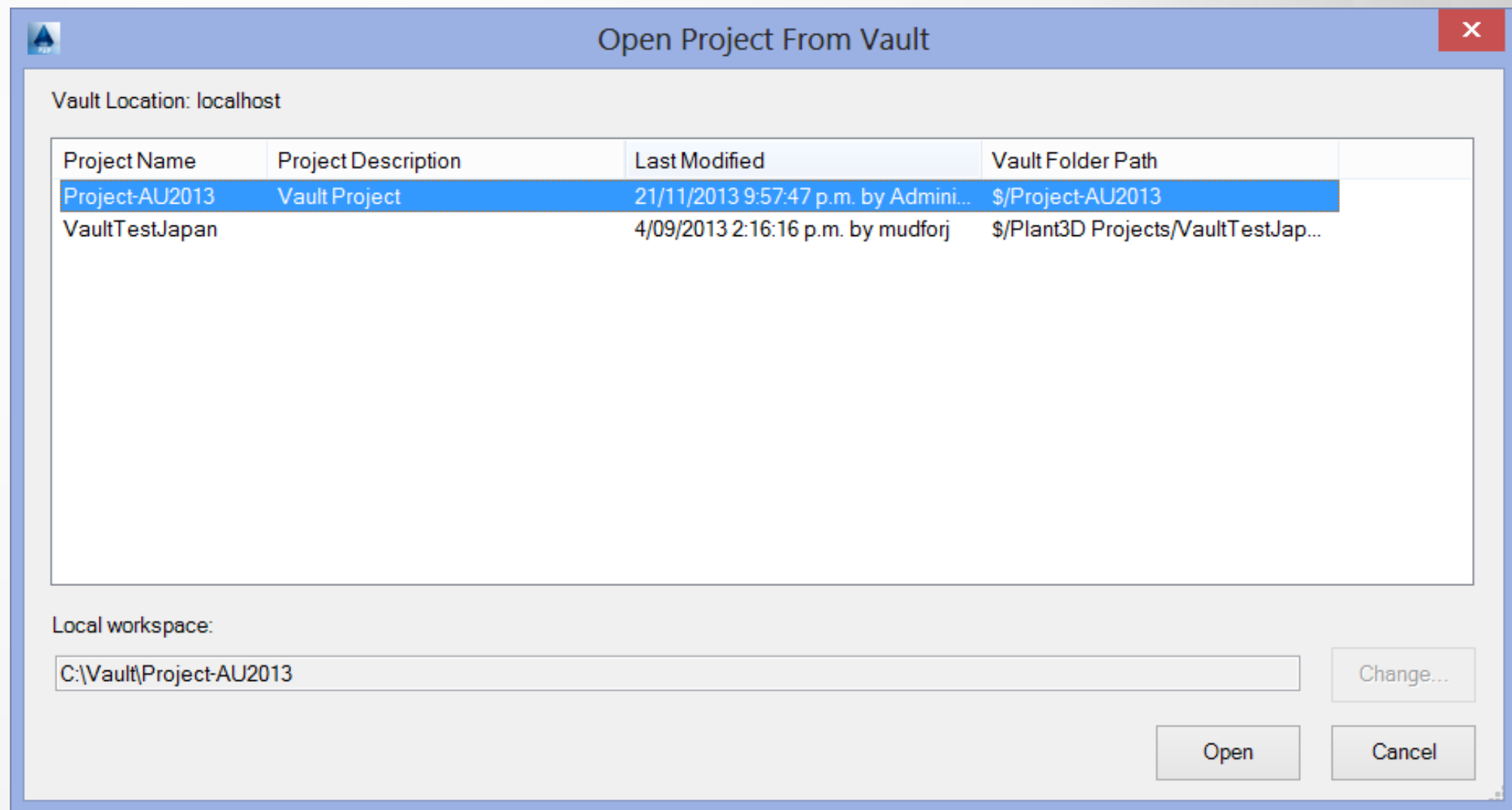
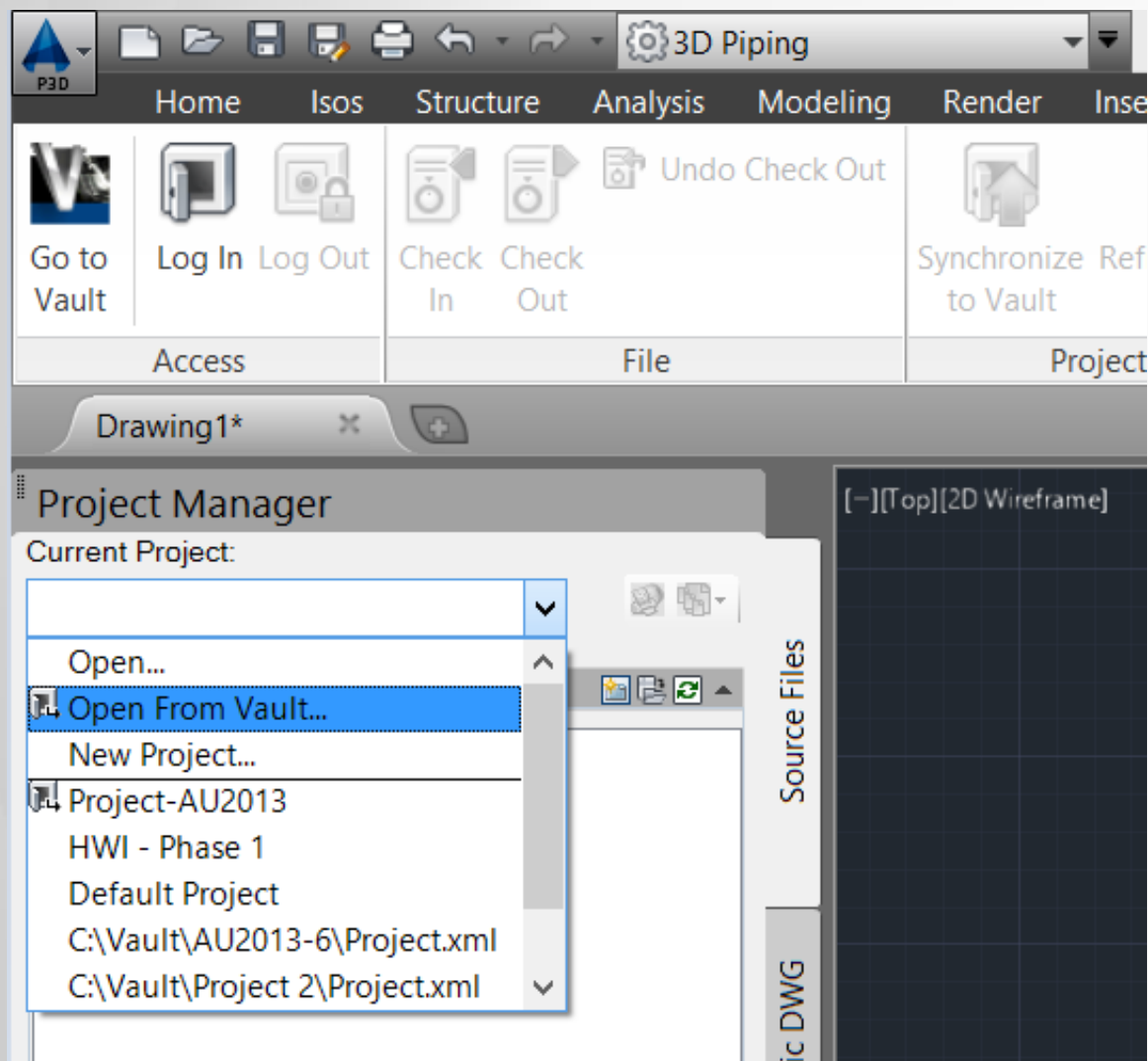


The screenshot shows the 'Log In' dialog box for Autodesk Vault. The dialog has a title bar with 'Log In' and a close button. The main area is titled 'Autodesk® Vault'. It contains the following fields and controls:

- Authentication:** A dropdown menu set to 'Vault Account'.
- User Name:** A text field containing 'mudforj'.
- Password:** A text field with masked characters (dots) and a cursor at the end.
- Server:** A dropdown menu set to 'localhost'.
- Vault:** A dropdown menu set to 'TestVault' with a '...' button to its right.
- Automatically log in next session:** A checked checkbox.
- Buttons:** 'OK', 'Cancel', and '<<' buttons at the bottom.

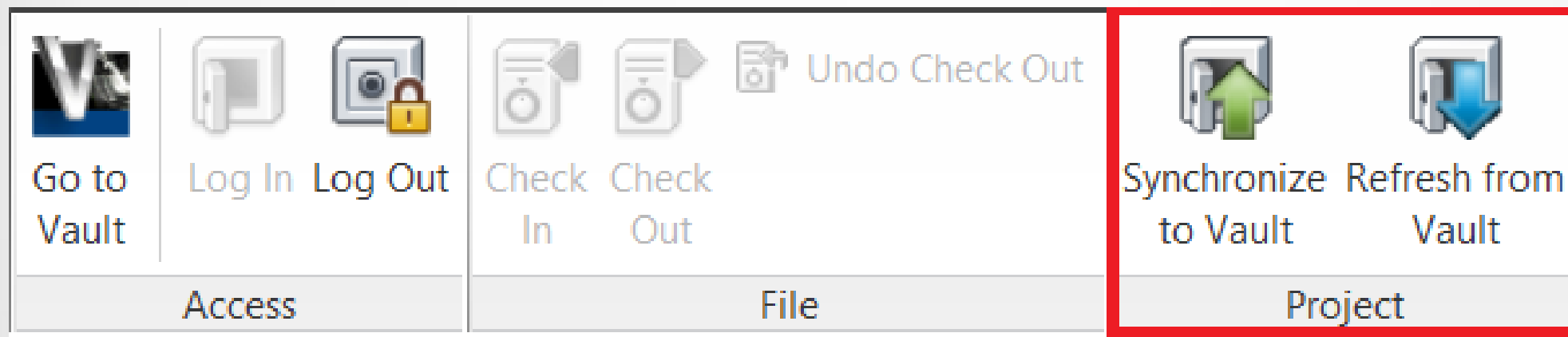
# Working on the Project

- Access your project by selecting “*Open From Vault...*”



# Working on the Project

- Users should be regularly running the “*Synchronize to Vault*” and “*Refresh from Vault*”.



# Autodesk Vault Professional



# The Good

- Change project settings while people are working on the project
- Multiple users can run Isometrics at the same time
- Change Specs while users are working in the project
- Control access to the files using Autodesk Vault security settings
- Autodesk Vault Property Compliance settings

## More Good

- Version and Revision history is retained in Autodesk Vault
- Project team can view files directly in the Vault or via web client
- Digital signatures on drawings via Autodesk Vault.
- Work offline from the server

# The Bad

- More time to set up the project
- More commitment and co-operation from IT Department
- Some paths must remain within the project. No centralization of the Specs, Equipment Templates etc.



# The Ugly

- All the files that make up the project are copied down to the local workspace. Drawings included.

Thank You

