

Converting Smart 3D for iTwin

2020-08-24

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1. Introduction

This document outlines the steps required to setup software required for using setup and use the PlantSight Smart 3D Bridge Extractor and the PlantSight Open 3D Model Bridge with PlantSight.

2. Software to download

2.1. PlantSight Smart 3D Bridge Extractor

Navigate to:

<https://softwaredownloads.bentley.com/en/ProductDetails/2938>

The screenshot shows a web browser window displaying the Bentley Software Downloads page for the PlantSight Smart 3D Bridge Extractor. The page has a blue header with navigation links: Home, Bentley Systems Inc, Assets, and Projects. A user profile for Tim Lawrence is visible in the top right. Below the header, there's a blue bar with 'Software Downloads' and 'Product Details' tabs, and a 'Show Internal Products and Deliverables' toggle set to 'Yes'. The main content area features the product icon and name 'PlantSight Smart 3D Bridge Extractor' with a description: 'PlantSight Smart 3D Bridge Extractor converts models from Smart 3D for use with PlantSight.' Below this is a filter section with dropdowns for Generation (-Select-), Version (10.08.00.08), Language (English), Architecture (-Select-), Deliverable Type (Installer), and Subscription Entitlement (Yes). 'Apply' and 'Clear' buttons are present. A table lists the product: 'PlantSight Smart 3D Bridge Extractor CONNECT Edition x64 (SES) (English) - Internal SELECT Review' with a 'Download' button. Table details: Version: 10.08.00.08, Date: 07/24/2020, Size: 487 MB, System Requirements. A 'Related Software' sidebar on the right lists 'PlantSight SPPID Bridge' and 'PlantSight AVEVA PID Bridge', each with a 'Get Software' button. The footer contains copyright information: © 2020 Bentley Systems, Incorporated | Terms of Service | Privacy | Terms of Use | Cookies | Legal Notices.

2.2. PlantSight Open 3D Model Bridge

Navigate to:

<https://softwaredownloads.bentley.com/en/ProductDetails/2736>

Software Downloads

softwaredownloads.bentley.com/en/ProductDetails/2736

Home Bentley Systems Inc Assets Projects

Software Downloads | Product Details

Show Internal Products and Deliverables **Yes** **NO**

PlantSight Open 3D Model Bridge

The PlantSight Open 3D Model Bridge is a conversion utility that converts models from PDMS to .bim 2.0 files for use with iModel Hub Services as well as Web Viewing Services.

Generation	Version	Language	Architecture	Deliverable Type	Subscription Entitlement
CONNECT Edition	10.08.00.08	English	x64	Installer	Yes

Apply Clear

PlantSight Open 3D Model Bridge CONNECT Edition x64 (SES) (English) - Internal SELECT Review

Version:10.08.00.08 Date:07/24/2020 Size:459 MB System Requirements [Download](#)

*Clear the Default Filters to view more Downloads

Related Software

PlantSight SPPID Bridge
[Get Software](#)

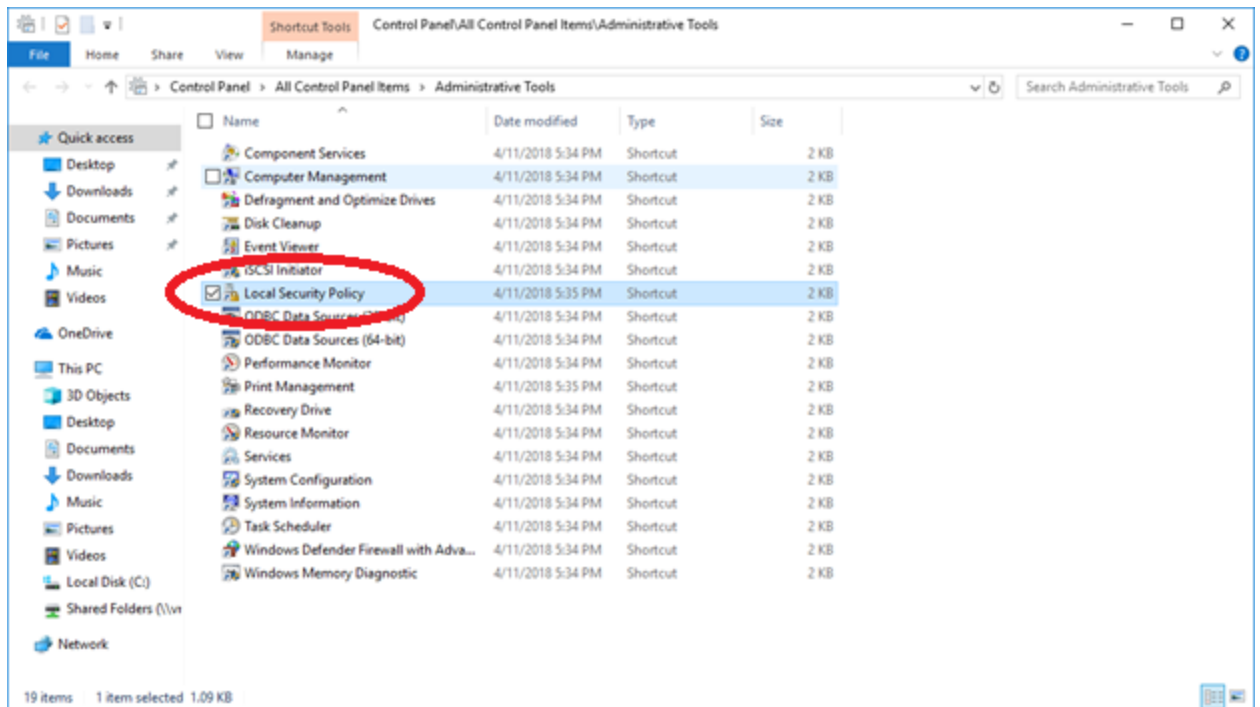
PlantSight AVEVA PID Bridge
[Get Software](#)

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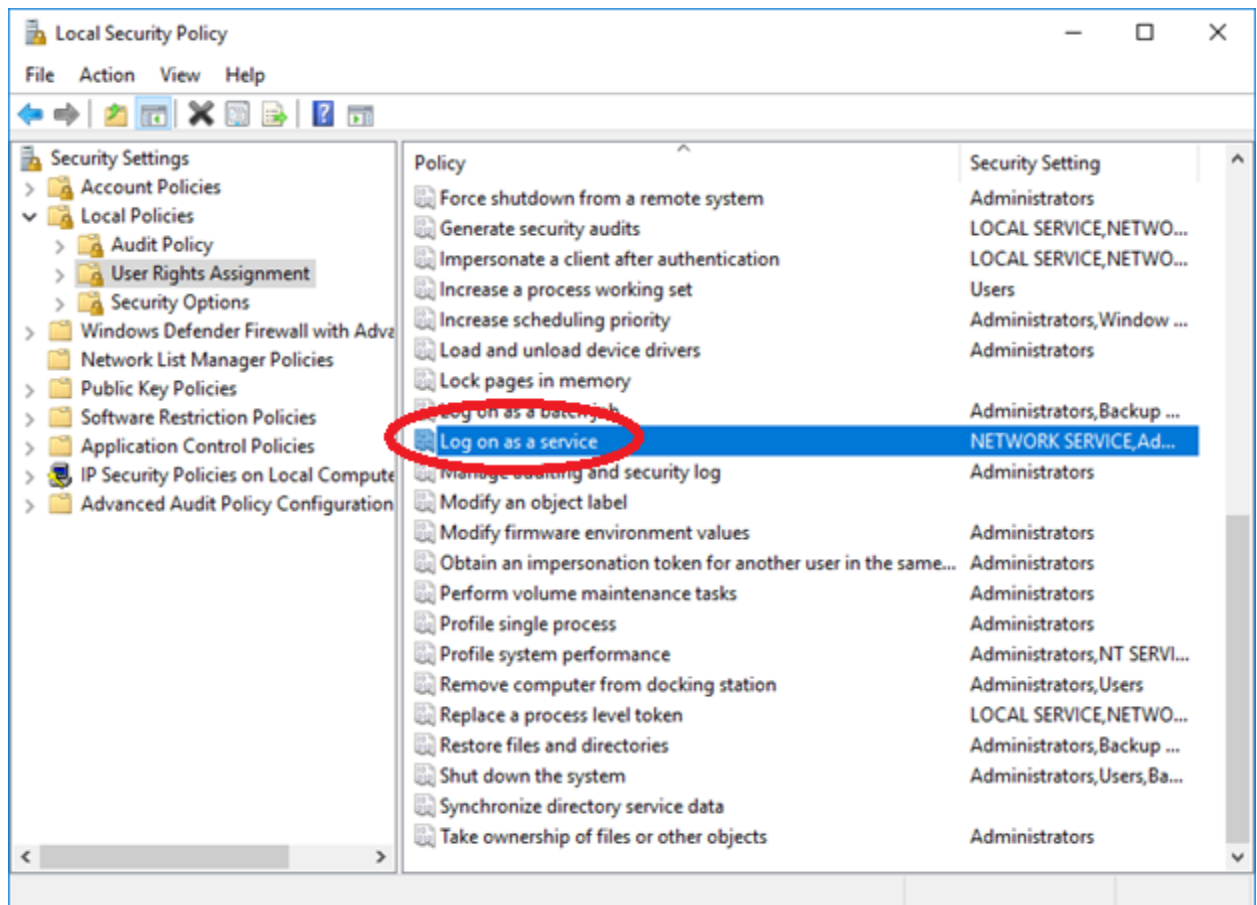
3. Set Logon as a Service

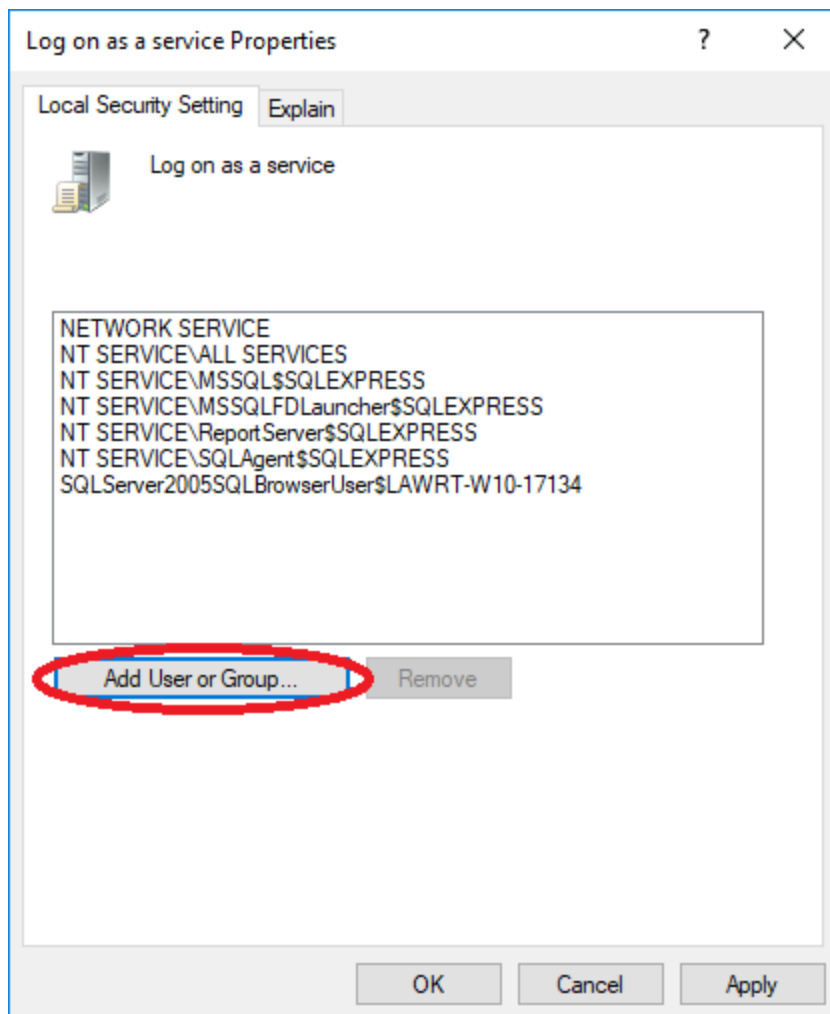
Before installing PlantSight Smart 3D Bridge Extractor, you must enable logon as a service for the current user. This is required as these programs are required to run as a service.

Open Administrative Tools, select Local Security Policy and open it

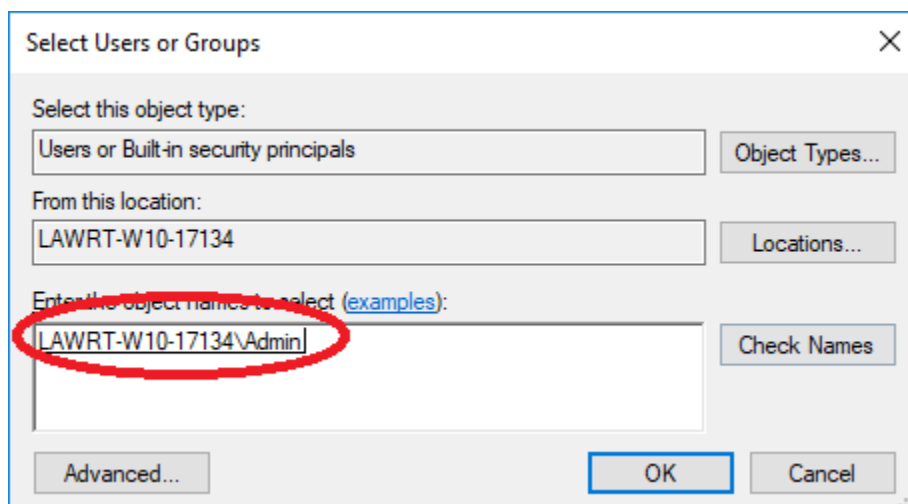


Go to Local Policies and User Rights Assignment, then select Log on as a service





Add the user name and click OK



4. Software Installation and configuration

4.1. PlantSight Smart 3D Bridge Extractor

Prior to installing PlantSight Smart 3D Bridge Extractor, ensure that you have installed SQL Express or SQL Server. The detailed steps for this are outlined in “SQL Express Setup”. Download and install s3d10080008en.exe.

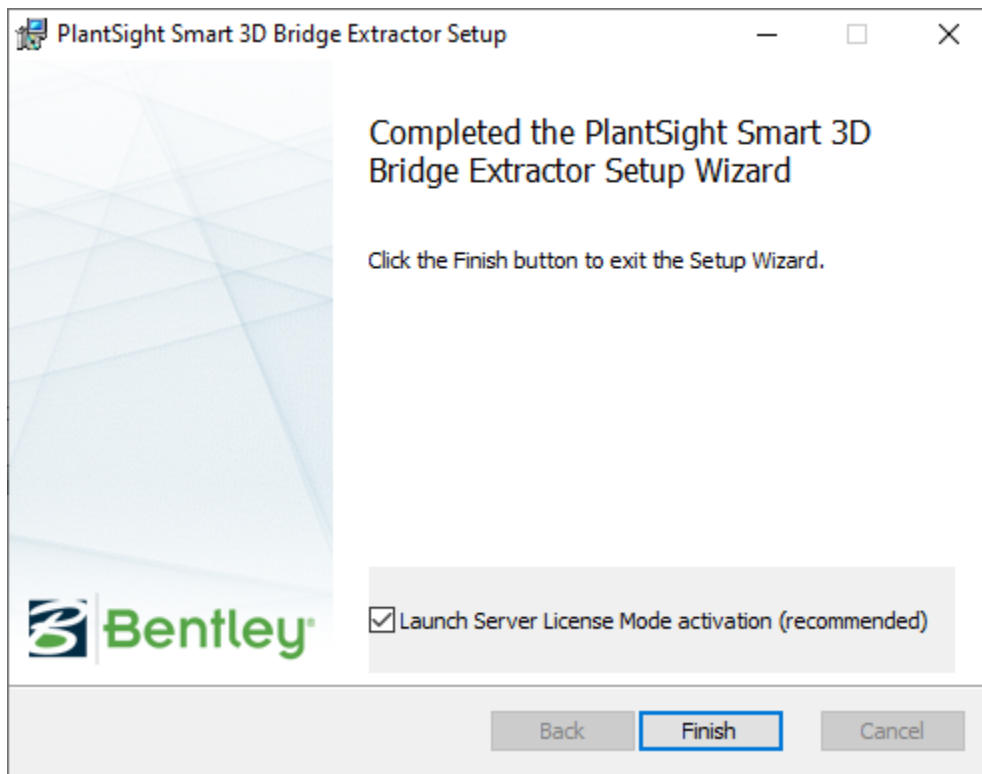
The use of SQL Express is sufficient for the sample database that is often used for demo setups, but if data from an actual project is used, it will likely exceed the 10 GB limit of SQL Express. In this case, install SQL Server.

Another alternative is to install the PlantSight Smart 3D Bridge Extractor with your Smart 3D installation and this will allow you to also capture the changes made in the Smart 3D project after the initial model import.

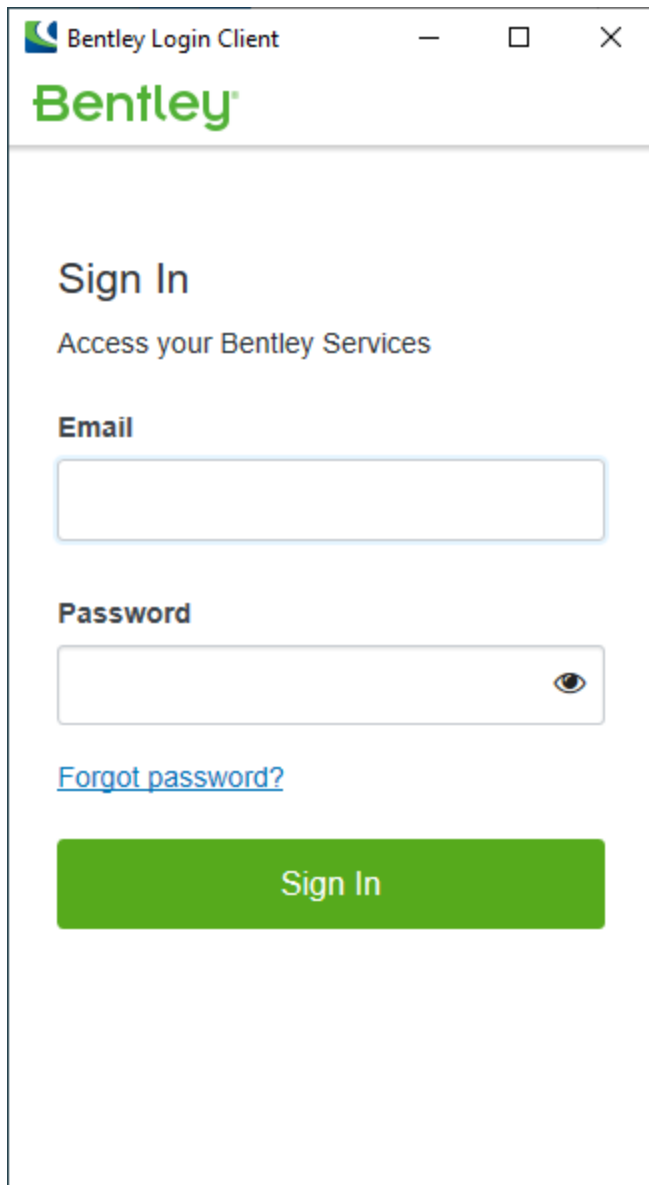
4.1.1. Configure Licensing

If using the PlantSight Smart 3D Bridge Extractor, you need to configure the SELECT Licensing using the below steps. All of the bridges use licensing via the Subscription Entitlement Service through your CONNECT Client.

When the install finishes, you should configure the licensing. The licensing for PlantSight E3D Bridge Extractor now uses SES licensing.



Clicking finish will bring up the Bentley Login Client. Enter the credentials you normally use for the CONNECTION Client.



The image shows a screenshot of a web browser window titled "Bentley Login Client". The window has a standard Windows-style title bar with minimize, maximize, and close buttons. The Bentley logo is displayed in green at the top left. Below the logo, the text "Sign In" is prominently displayed, followed by the subtitle "Access your Bentley Services". The form contains two input fields: "Email" and "Password". The "Email" field is a simple text box. The "Password" field is a text box with a small eye icon on the right side, indicating a toggle for password visibility. Below the password field is a blue hyperlink that reads "Forgot password?". At the bottom of the form is a large green button with the text "Sign In" in white.

Bentley Login Client


Bentley

Sign In

Access your Bentley Services

Email

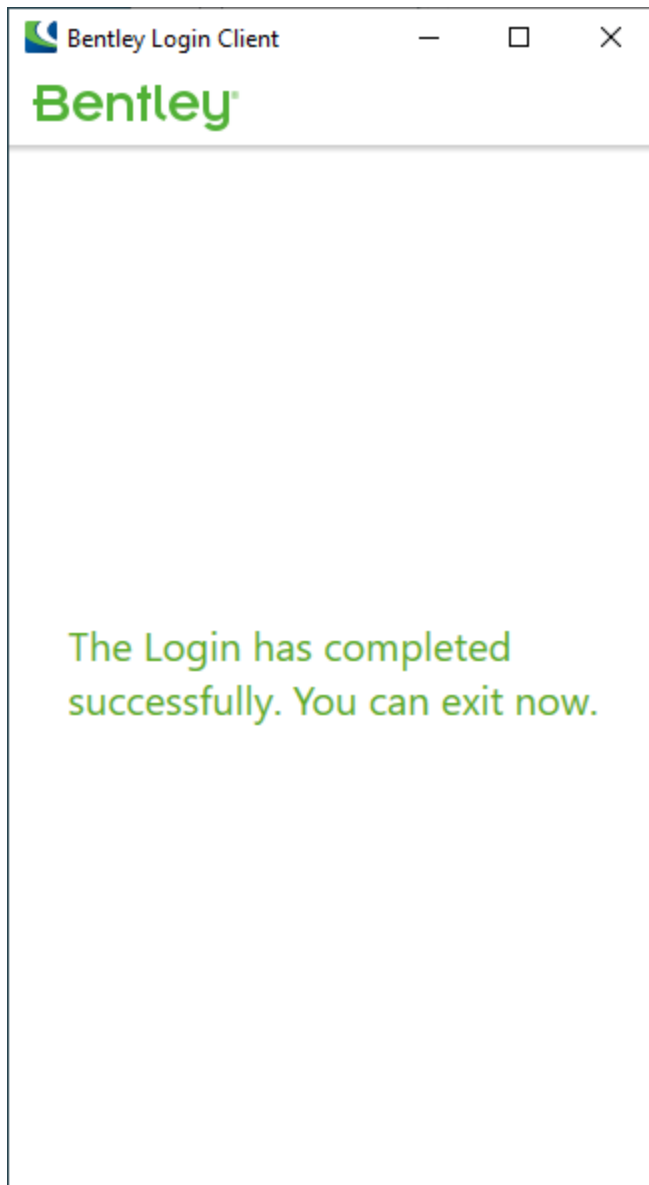
Password



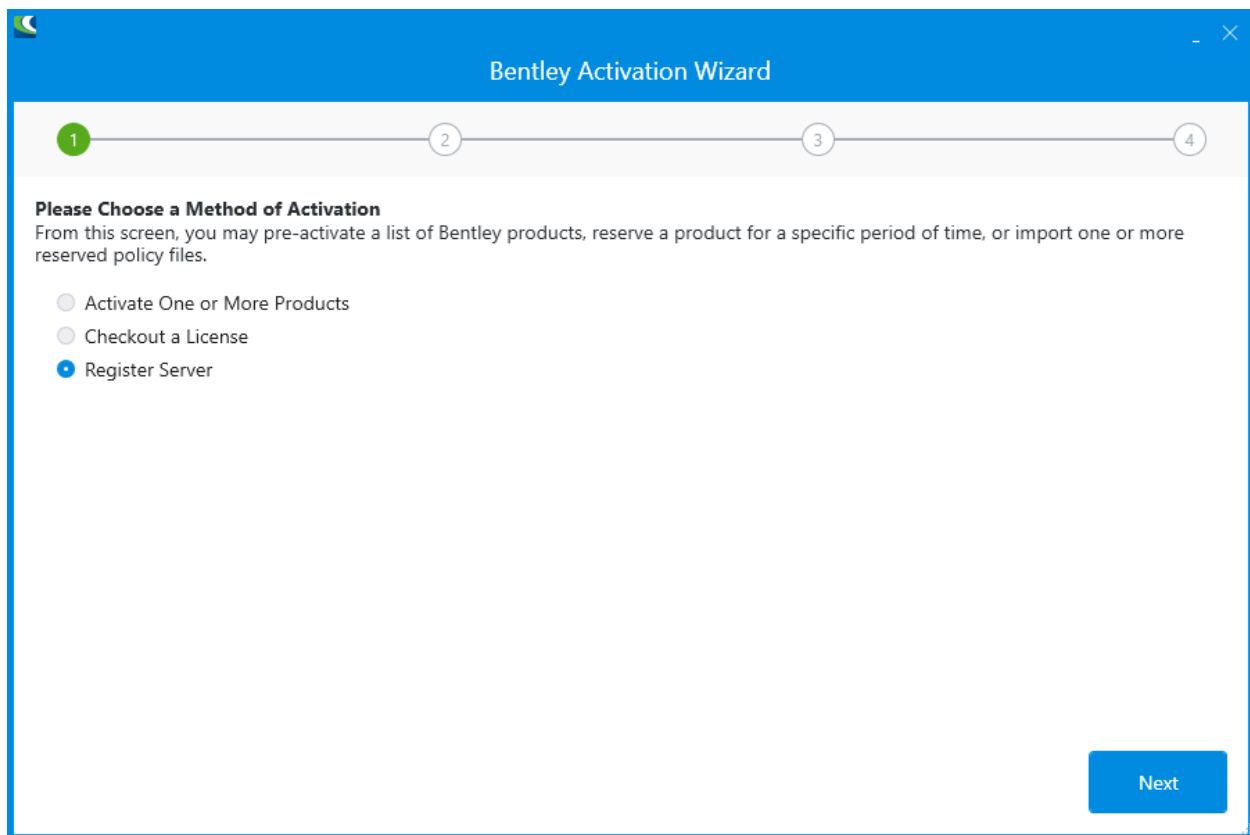
[Forgot password?](#)

Sign In

After entering your credentials, you should get this:



Closing this window will bring up the activation wizard where you will add the licensed products you will be using.



Select a country:

Bentley Activation Wizard

1 2 3 4

Register this machine for Bentley Server Products

Machine Name: LAWRT-18363-657

Country: United States

☐ Allow users outside server

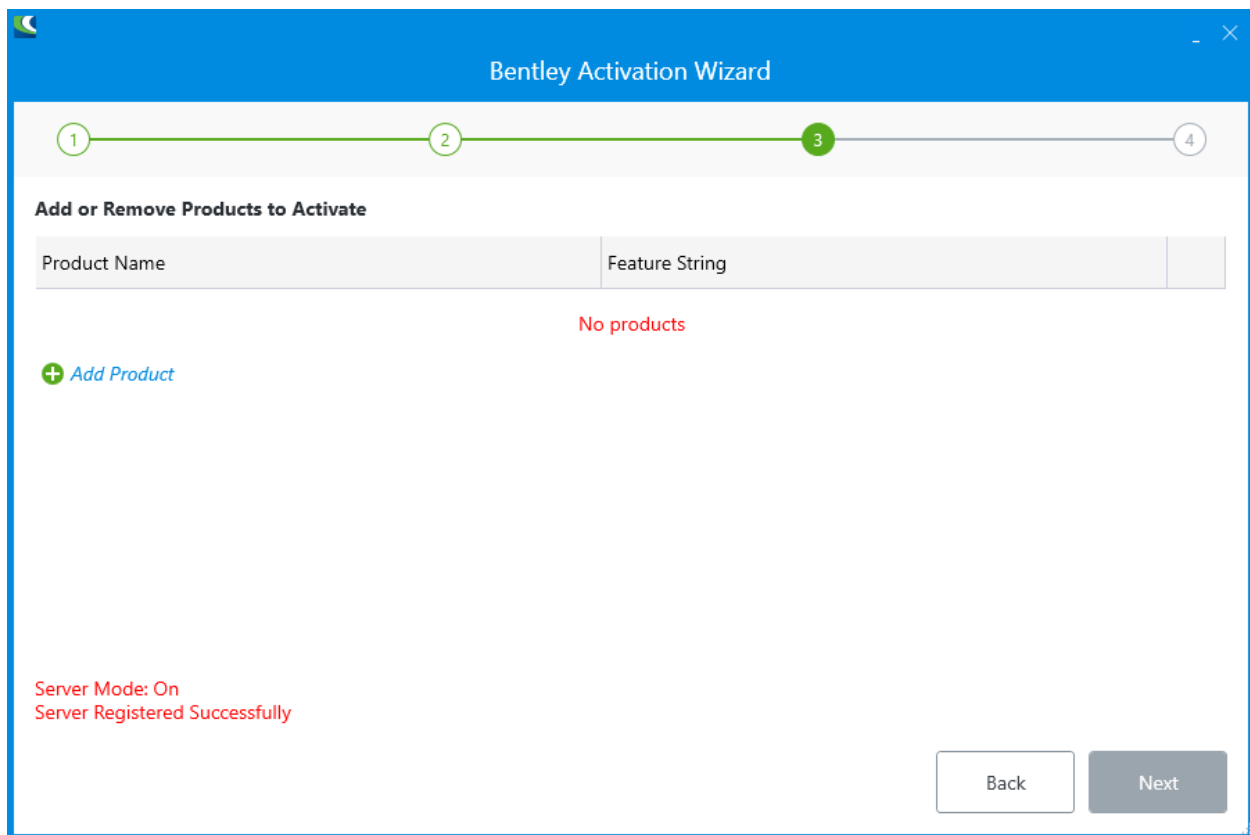
Brazil
India
United Kingdom
United States

Threshold alerting is not available in server mode. Any threshold alerting configured in Entitlement Management will be ignored.

Back Next

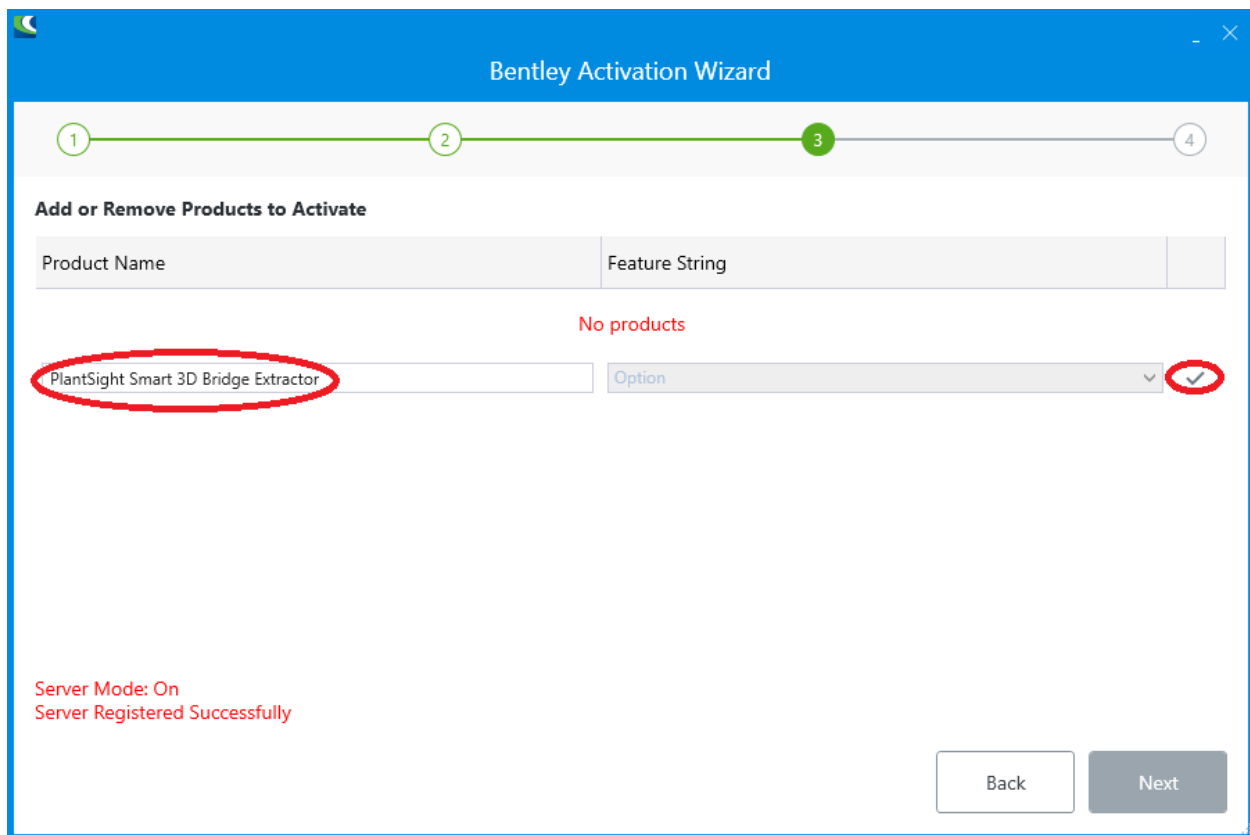
And click Next.

Now you will need to add the products that will be used. Note that when using server based licensing, all products used on this machine will have the usage against this user.

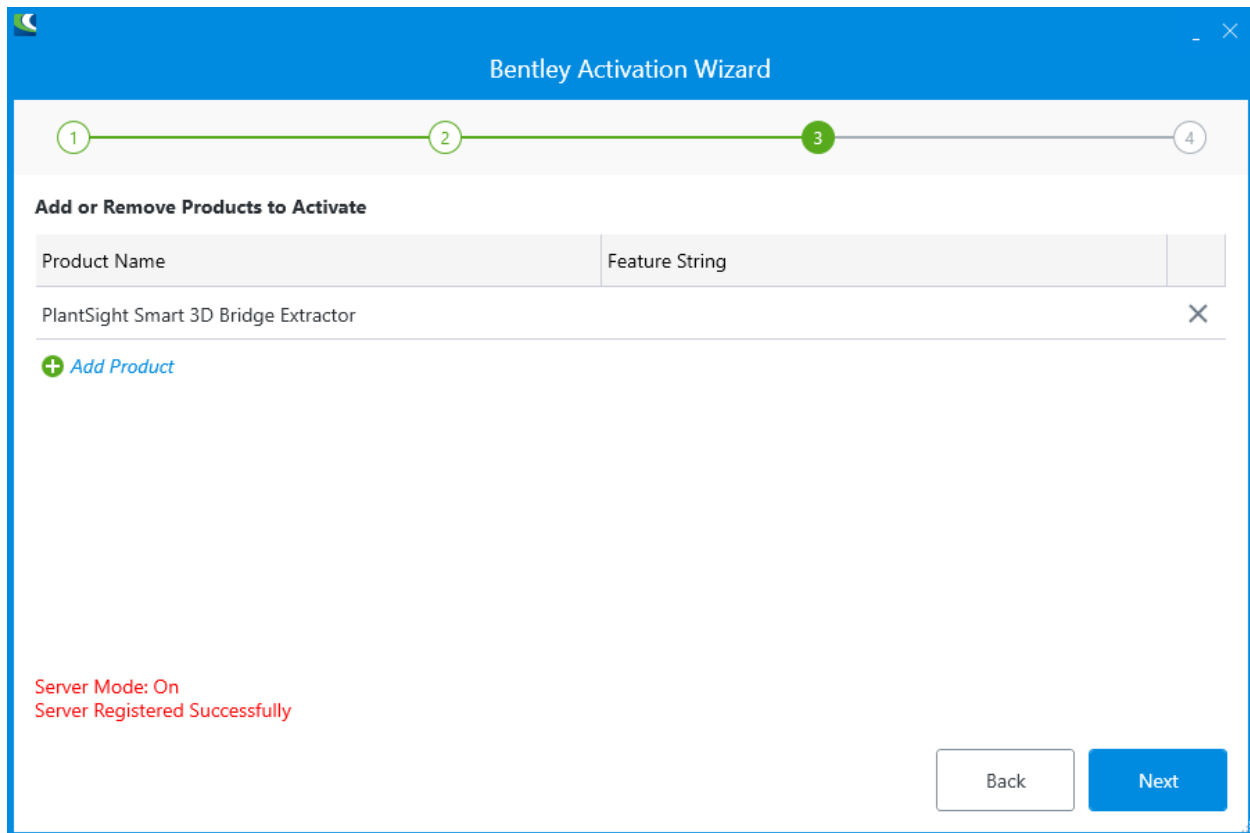


Click "+ Add Product"

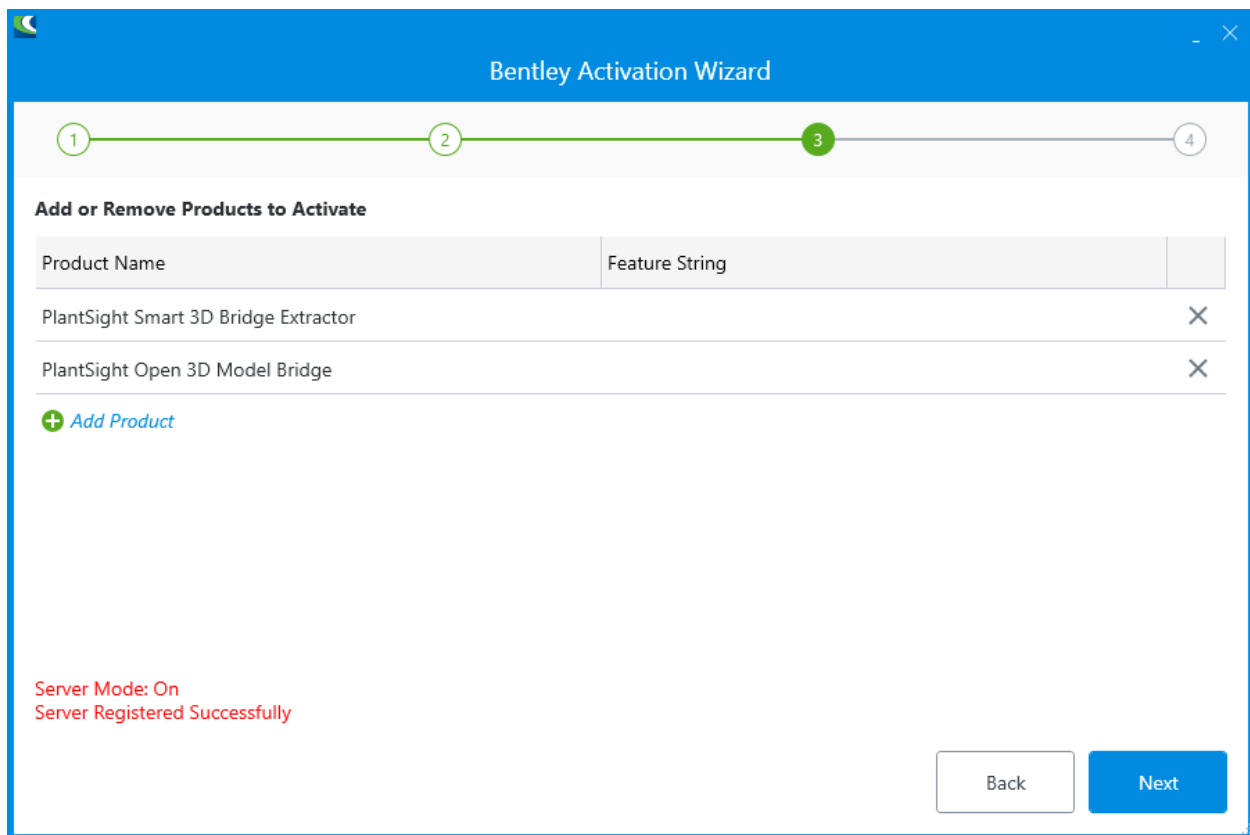
Type in "PlantSight Smart 3D Bridge Extractor". Make sure the selection is in the text box and then click the check mark at the right.



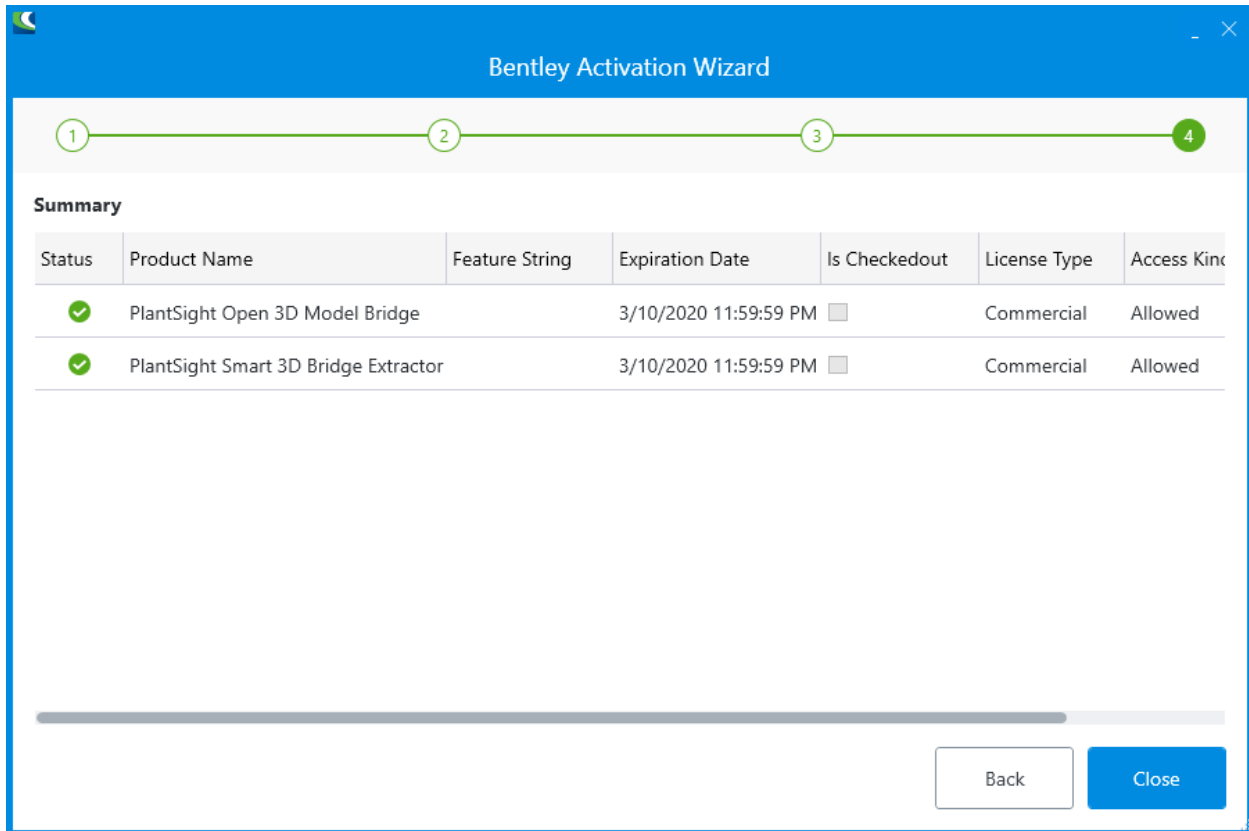
You should then have this:



Click the “+ Add Product” again and this time add “PlantSight Open 3D Model Bridge”. After adding this product, the wizard should look like this:



Click Next. You should see that the status for both products is labeled with a green checkmark.



Press close and the install of the PlantSight Smart 3D Bridge Extractor should be complete.

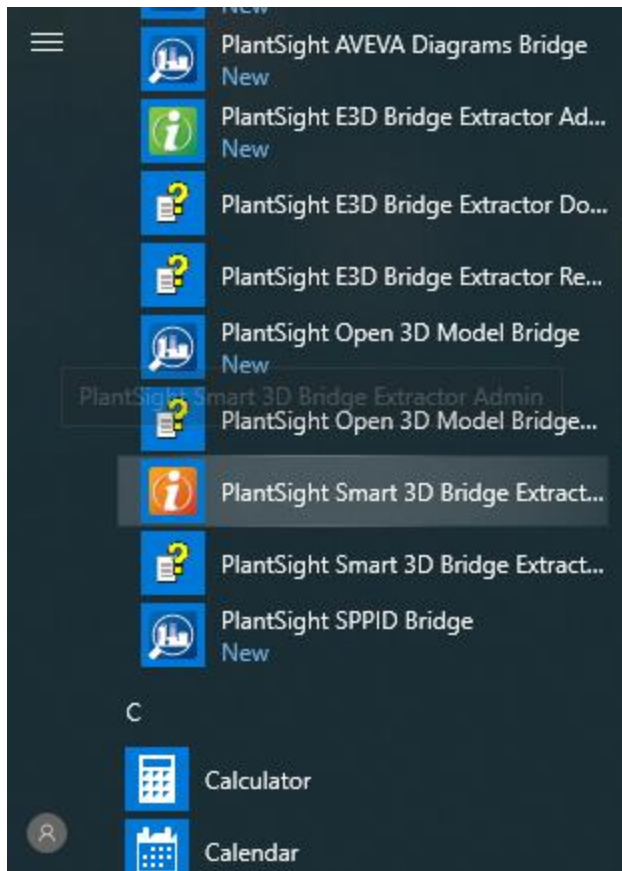
4.2. Installation of Open 3D Model Bridge

Install o3db10080008en.exe.

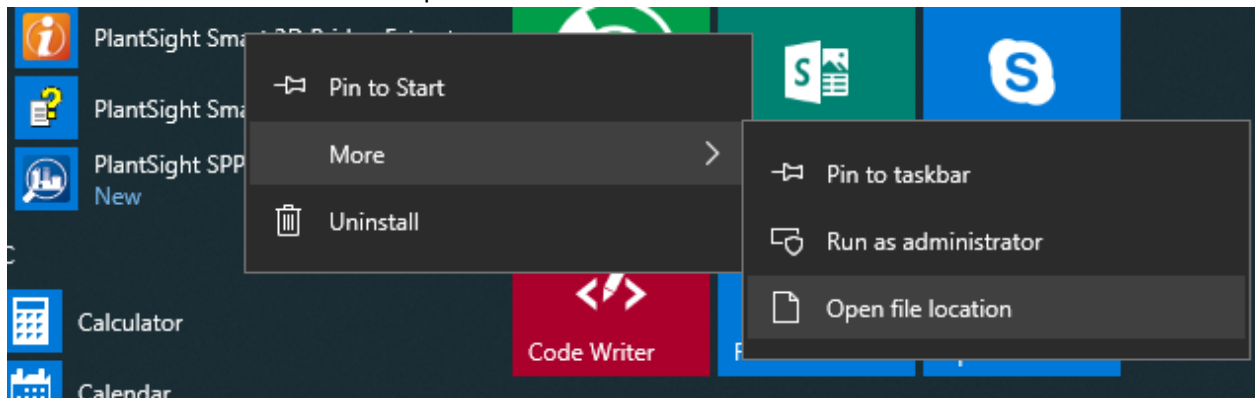
5. Configure PlantSight Smart 3D Model Bridge Admin shortcut

If you are using a database that has been restored just on SQL and not on a machine that has Smart 3D installed, you will need to create a different shortcut for PlantSight Smart 3D Bridge Extractor Admin. If you are using the Smart 3D Extractor on a machine with Smart 3D installed, skip this section and the next section.

Find the “PlantSight Smart 3D Bridge Extractor Admin” shortcut in the Windows Start menu



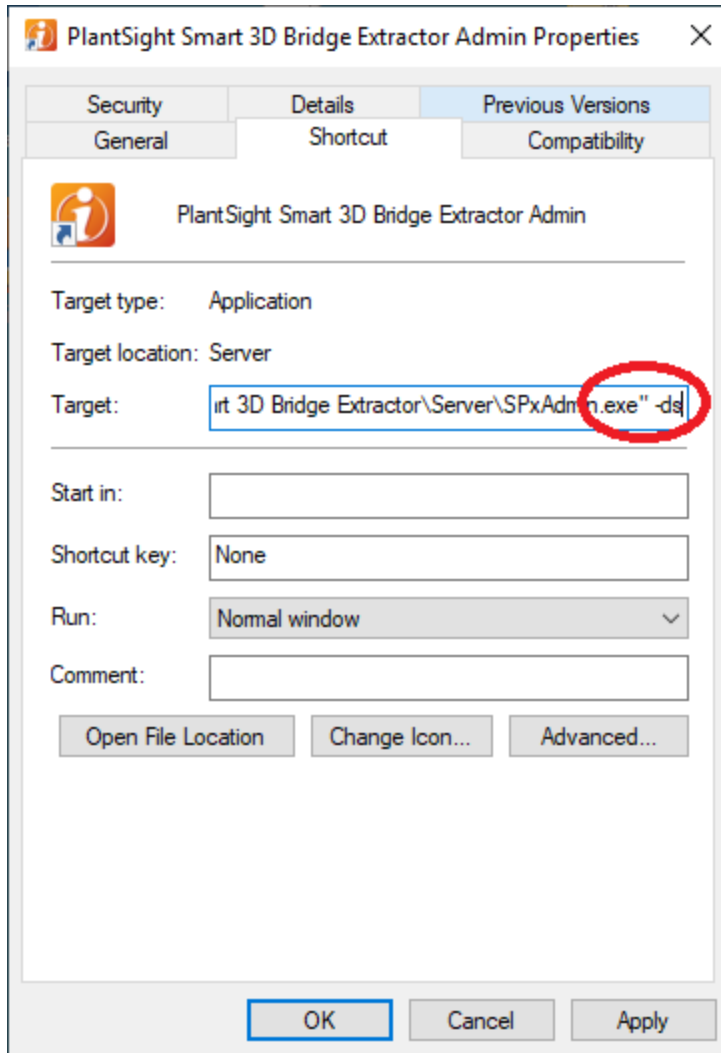
Right click on the shortcut and select Open file location



Copy the shortcut to the desktop.

Right click on the shortcut and select properties.

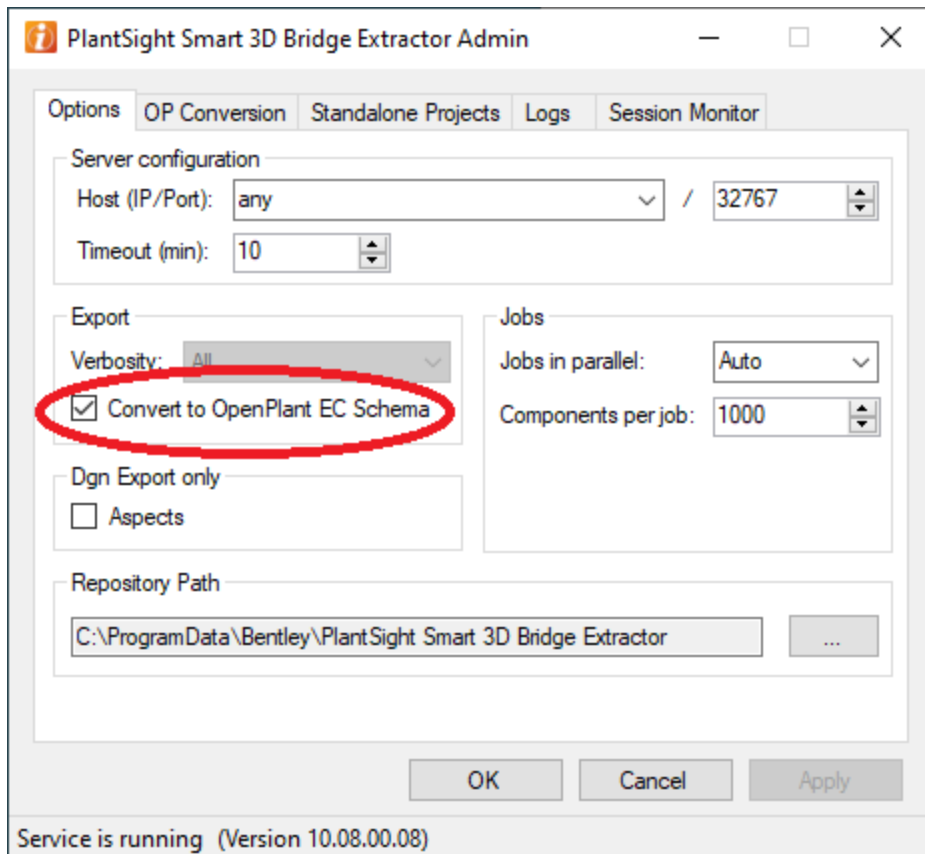
Add “-ds” to the target. By adding the -ds parameter, this will bring up the Data Sources tab in iCS for S3D Admin. This allows restoring Smart 3D databases without the need for installing Smart 3D.



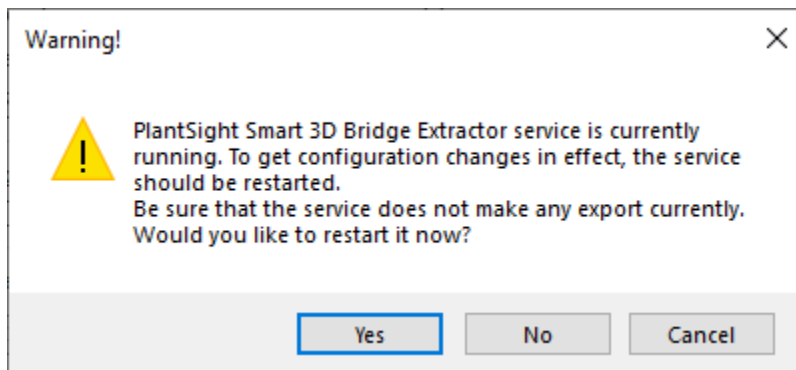
Click OK

Run the shortcut you just created.

Select the "Convert to OpenPlant EC Schema" and click Apply

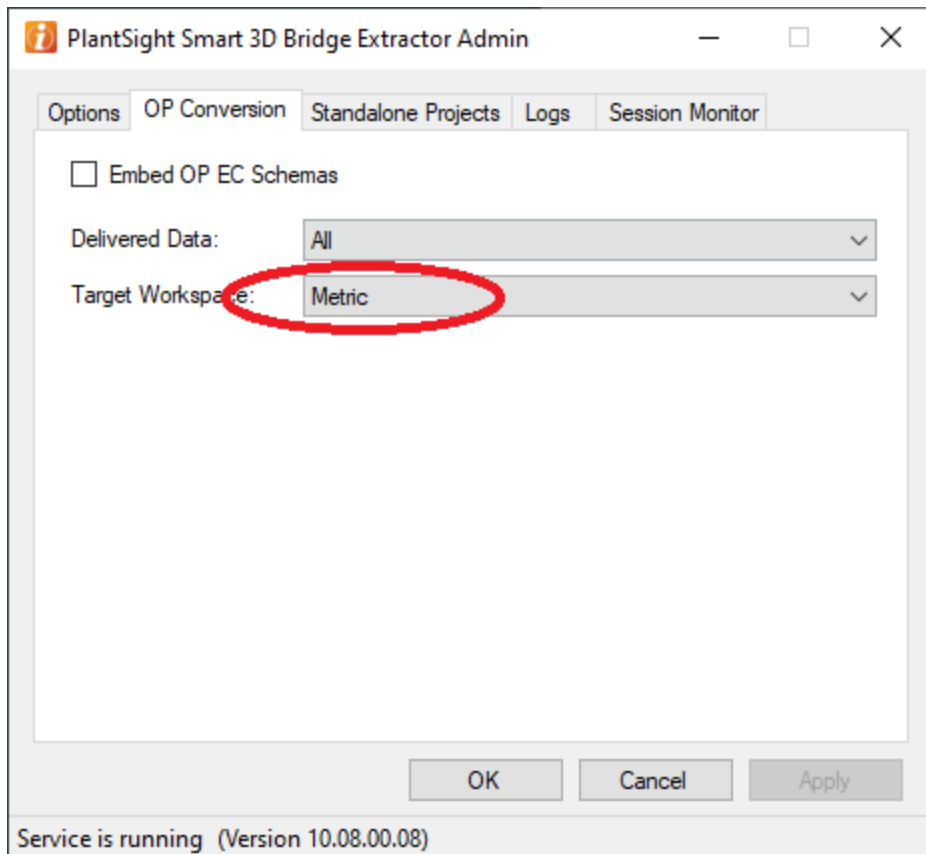


Click Yes



Also make sure that the Convert to OpenPlant EC Schema is set for PlantSight E3D Bridge Extractor as well by running the PlantSight E3D Bridge Extractor Admin from the start menu and setting the “Convert to OpenPlant EC Schema” option.

For Smart 3D Conversions, you should also make sure that the Target Workspace is set before you run any conversions:



6. Restore Smart 3D databases

The ideal configuration is to install the Smart 3D Bridge Extractor on a machine with Smart 3D installed and running with the project(s) to be converted, but this is not required. Alternatively, we can restore a backup of the Smart 3D project when we have SQL installed on the machine with Smart 3D Bridge Extractor installed. This allows us to get data from a Smart 3D project without having Smart 3D installed and configured. In addition, since we also want to show how changes to the model can be handled, we will actually restore 2 projects. This is only to simulate how the data will be loaded.

In actual usage, instead of restoring the database, we would instead just install the Smart 3D Bridge Extractor onto a machine that has access to the Smart 3D project. Any changes made to the model on further imports would be obtained directly from the Smart 3D project.

6.1. Unzip sample databases for Smart 3D

You should have access to a couple of files:

S3D_Train-Original-2018-11-13.7z

S3D_Train-Modified-2018-11-13.7z

These are backups of the same Smart 3D projects, but at different states. Unzip these projects to folders such as:

C:\S3D_Train-modified-2018-11-13\

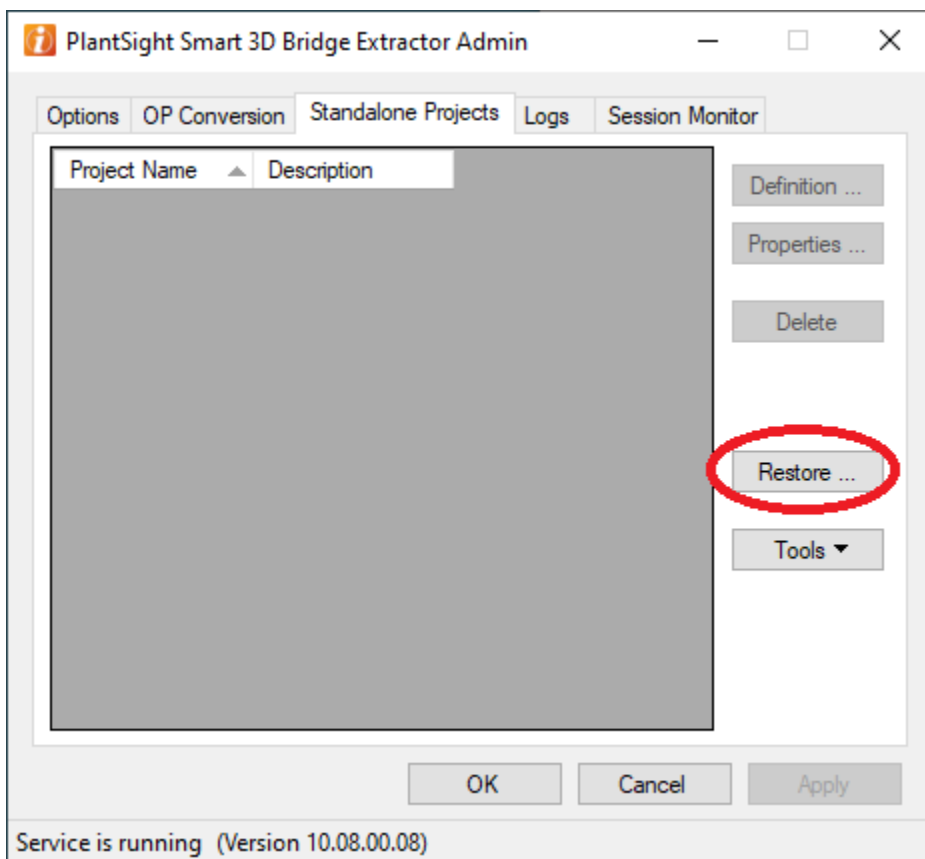
And

C:\S3D_Train-Original-2018-11-13\

It is recommended these folders be placed on C:\ instead of something such as your desktop because permission issues can cause errors while you are restoring the databases. Once the databases are restored, you can delete these folders to recover the space used.

6.2. Restore the first Smart 3D database

Run the shortcut you created for Smart 3D Bridge Extractor.



Make sure it has the Data Sources tab and then select Restore.

Restore project

Source

Backup file: C:\S3D_Train-Original-2018-11-13\S3D_Train.bcf

Project to restore: S3D_Train (1417 MB, 11/13/2018 8:44:47 AM)

Destination

Database Type: MSSQL

Database Server: LAWRT-W10-17763-805\SQLEXPRESS

Use Windows Authentication ☒

DBA Login: LAWRT-W10-17763\Admin

Password:

Project

Project name: S3D_Train

Project description:

Advanced Options

Test... Restore Close

Check settings and press Restore button...

Enter the path to the original restored database along with the Database Server. Then click Restore.

When you click on Restore, you may get this message:

Restore project

✖ Password validation failed. The password does not meet Windows policy requirements because it is too short.

OK

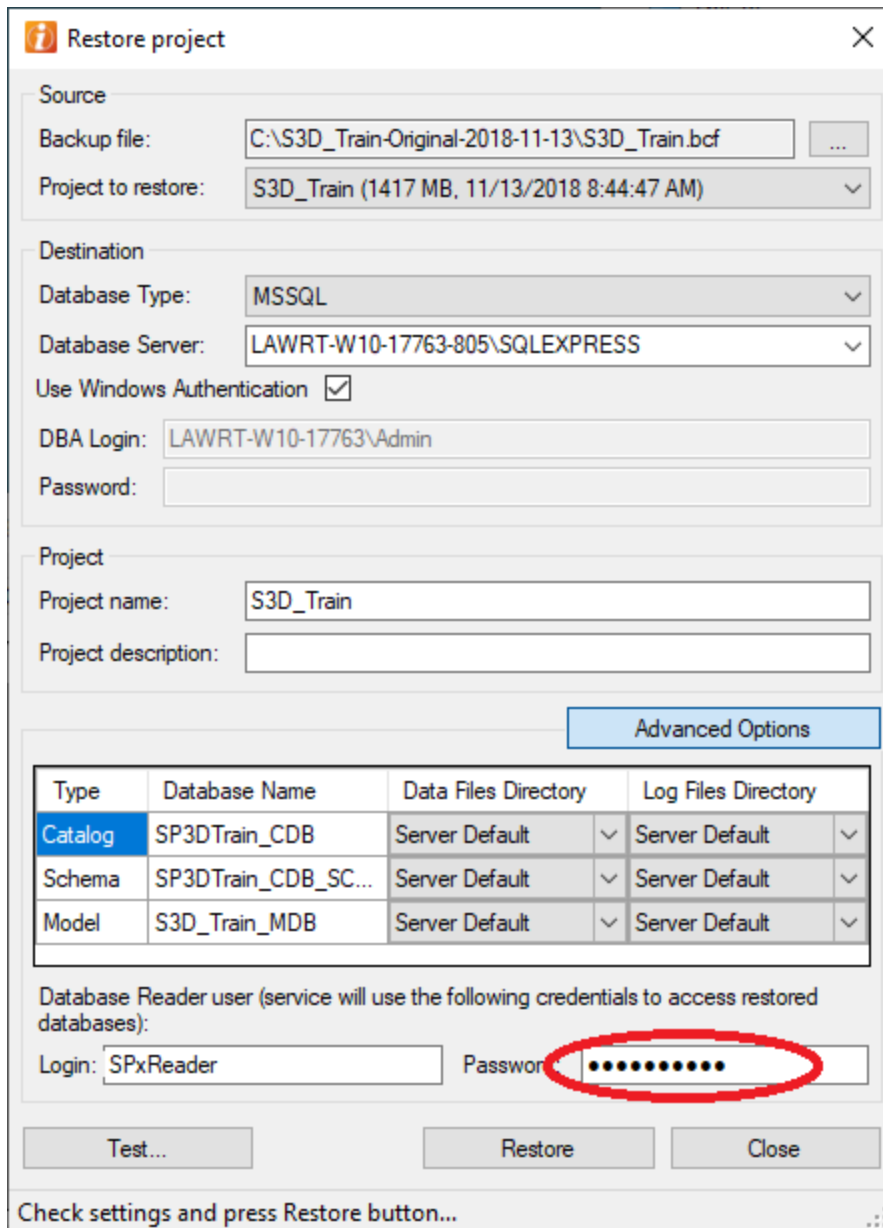
If this happens, click the advanced options, if not you should see a progress bar that reports the progress of the database restore which will probably take a few minutes.

The screenshot shows a 'Restore project' dialog box with the following fields and controls:

- Source**
 - Backup file: C:\S3D_Train-Original-2018-11-13\S3D_Train.bcf
 - Project to restore: S3D_Train (1417 MB, 11/13/2018 8:44:47 AM)
- Destination**
 - Database Type: MSSQL
 - Database Server: LAWRT-W10-17763-805\SQLEXPRESS
 - Use Windows Authentication: ☒
 - DBA Login: LAWRT-W10-17763\Admin
 - Password: (empty field)
- Project**
 - Project name: S3D_Train
 - Project description: (empty field)
- Buttons**
 - Test...
 - Restore
 - Close
- Advanced Options**: A button circled in red, located below the Project description field.

At the bottom of the dialog, there is a status bar that reads: "Check settings and press Restore button..."

Then update the password with one that meets the requirements specified for your machine. For example, you may require a certain length which may not be met using the default password.



The dialog box is titled "Restore project" and contains several sections for configuring the restore operation. The "Source" section includes fields for "Backup file" and "Project to restore". The "Destination" section includes fields for "Database Type", "Database Server", "Use Windows Authentication", "DBA Login", and "Password". The "Project" section includes fields for "Project name" and "Project description". An "Advanced Options" button is located below the "Project" section. Below this button is a table with columns for "Type", "Database Name", "Data Files Directory", and "Log Files Directory". Below the table is a section for "Database Reader user" with fields for "Login" and "Password". At the bottom are buttons for "Test...", "Restore", and "Close". A status bar at the very bottom says "Check settings and press Restore button...".

Source

Backup file: C:\S3D_Train-Original-2018-11-13\S3D_Train.bcf

Project to restore: S3D_Train (1417 MB, 11/13/2018 8:44:47 AM)

Destination

Database Type: MSSQL

Database Server: LAWRT-W10-17763-805\SQLEXPRESS

Use Windows Authentication ☒

DBA Login: LAWRT-W10-17763\Admin

Password:

Project

Project name: S3D_Train

Project description:

Advanced Options

Type	Database Name	Data Files Directory	Log Files Directory
Catalog	SP3DTrain_CDB	Server Default	Server Default
Schema	SP3DTrain_CDB_SC...	Server Default	Server Default
Model	S3D_Train_MDB	Server Default	Server Default

Database Reader user (service will use the following credentials to access restored databases):

Login: SPxReader

Password:

Test...

Restore

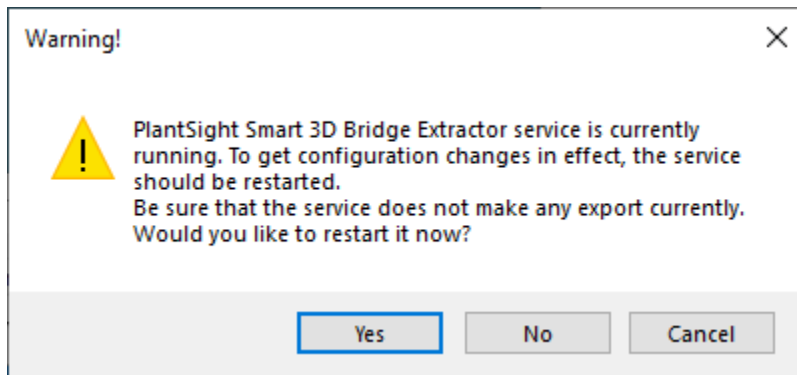
Close

Check settings and press Restore button...

After clicking Restore again, you should get the progress bar for restoring the database.

6.3. After the initial restoration of the Smart 3D Database

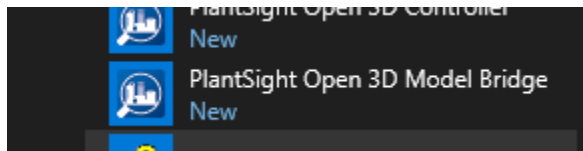
After the restore has completed, click Apply and you will get this message:



Click Yes.


7. Run the Open 3D Model Bridge


In the start menu find PlantSight Open 3D Model Bridge.



Open 3D Model Bridge and find Open3DModelController.exe

The first time you run it, you will need to authenticate:

 Open 3D Model Bridge Controller Sign In




Sign In

Access your Bentley Services

Email

Password



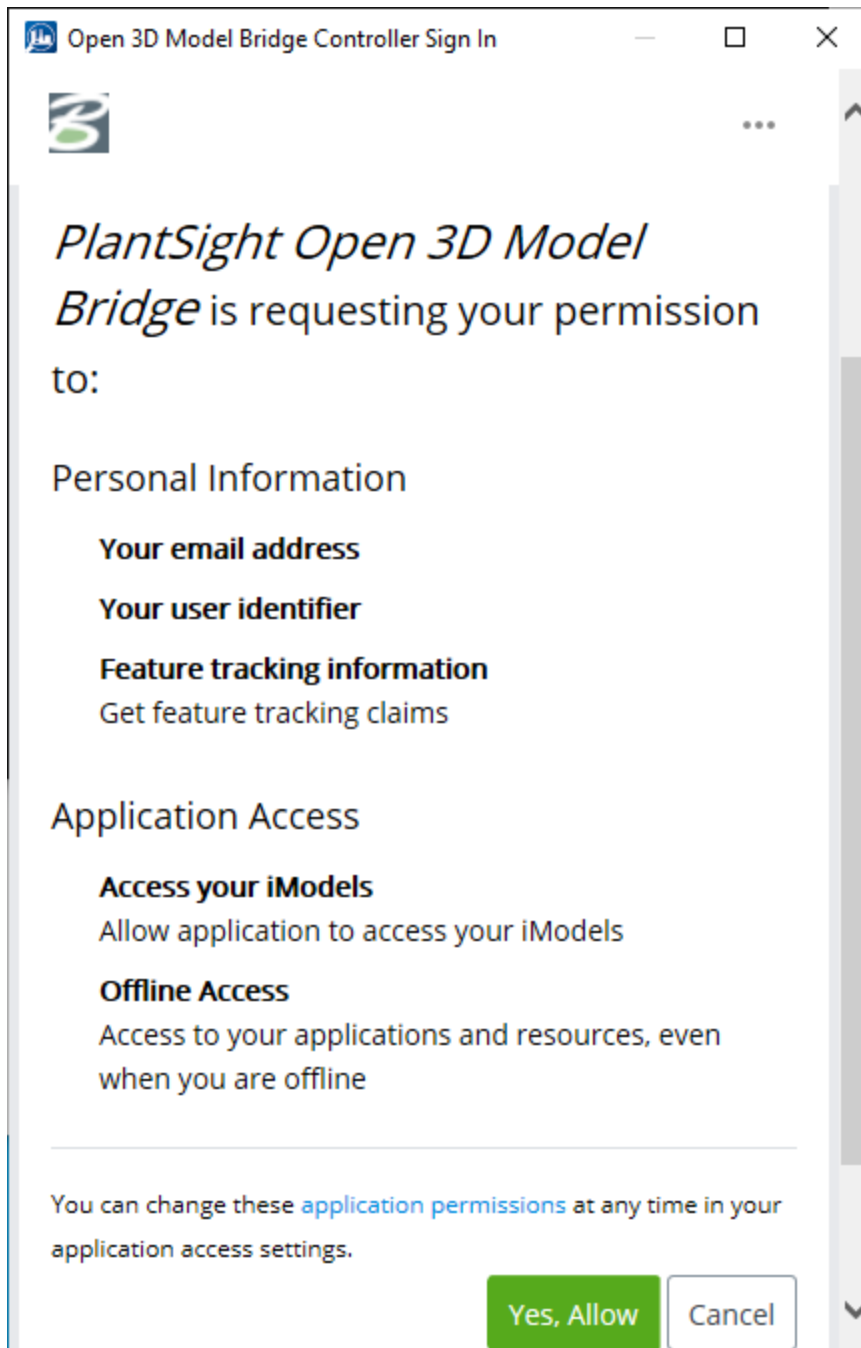
[Forgot password?](#)

Sign In

Don't have a profile? [Register](#)

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Then accept the permission request:



Then the bridge will appear:

PlantSight Open 3D Model Bridge (10.08.00.08)

File

Connection

Server: localhost Port: 32767

Export

Project: [Yellow Highlighted]

Filter: [Yellow Highlighted]

iModelHub Settings

Project: [Yellow Highlighted]

Model: [Yellow Highlighted]

Comment: [Empty]

Export Cancel

Use “local host” for the server site since the Smart 3D Extractor is running on the same machine as the controller. If this is not the case, then you can use the IP Address or the machine name instead of local host.

You also need to set the port number. The default value is set to 32767, which is the default value for the Smart 3D Extractor. You can confirm this by running the Smart 3D Admin application which displays the port number it is using.

Select the CONNECTED and the iModel, then click Export to run the iModel Bridge.