


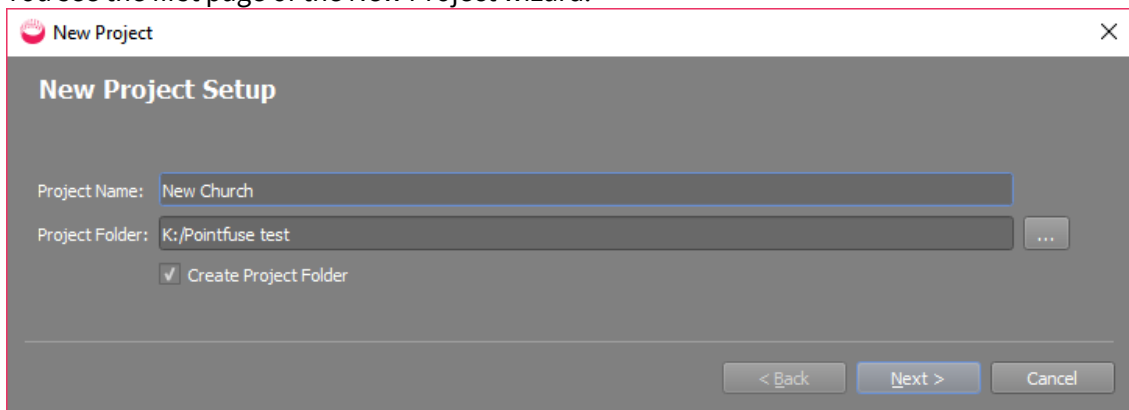
Pointfuse V4.0 Quick Start Guide

Pointfuse quickly and accurately converts point clouds into intelligent mesh models in the cloud (Pointfuse Bolt) or on the desktop. You can auto classify many of the surfaces, and then manually classify the rest. You can directly upload some or all surfaces to Autodesk BIM 360 or export to multiple formats for the next stage of your workflow.

 Pointfuse runs on a physical PC; you cannot run it on a virtual machine, or on a Mac. You **can** use Pointfuse via desktop sharing, but Remote Desktop is **not** supported. TeamViewer is the suggested alternative.

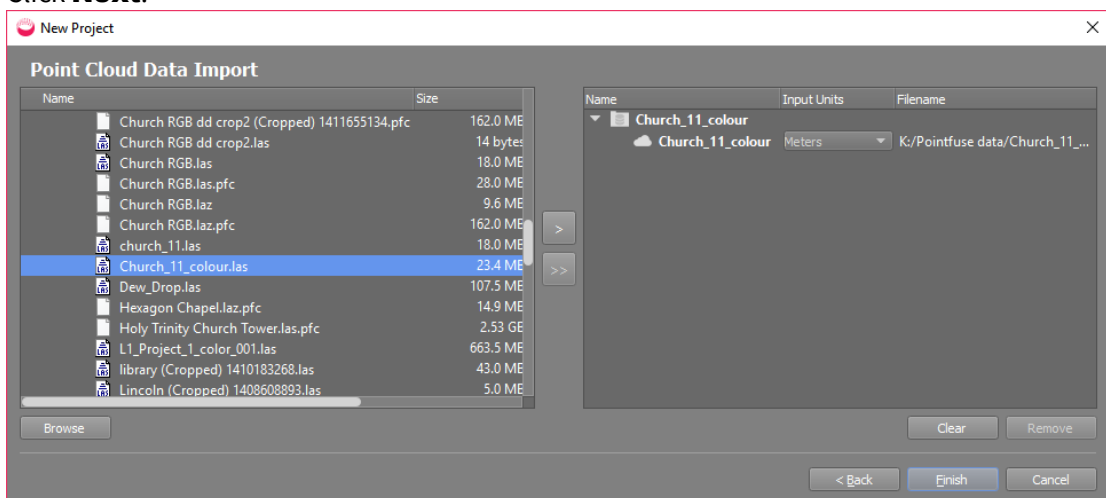
Load a Point Cloud

1. Download and open Pointfuse.
2. In Windows Explorer, navigate to a point cloud, and drag and drop it into Pointfuse. You see the first page of the New Project wizard.




- **Optional:** Specify a custom **Project Name** and **Project Folder**.




3. Click **Next**.




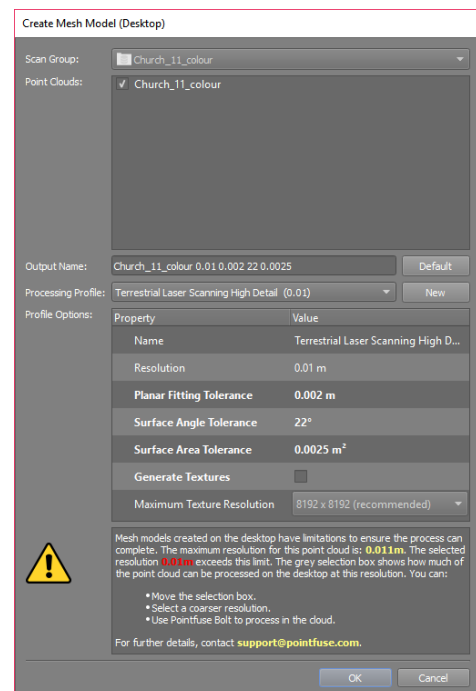
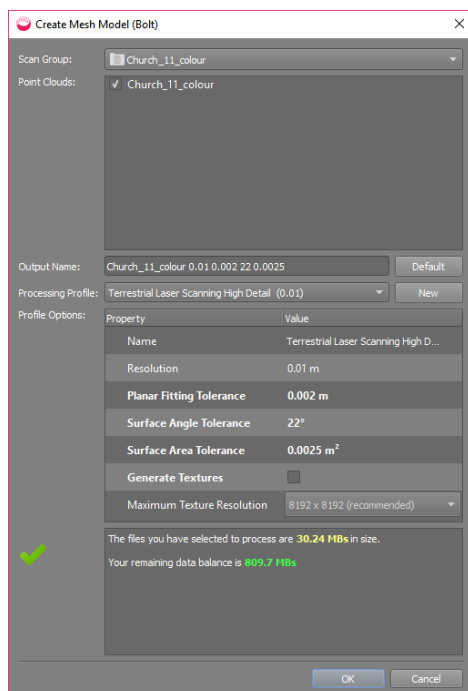
4. Click **Finish**. The point cloud will be imported and then displayed in the viewport.

- **Optional:** If you want an intelligent mesh model created from only part of the point cloud:
 - a. Use the **Crop** tool  to create a new, smaller point cloud.
 - b. Select the new, cropped point cloud in the Project Explorer (no need to display it).

Create an Intelligent Mesh Model

5. Click **Create Mesh Model**  and select whether to process in **Bolt**  or **Desktop** . Bolt means you can process large models and use Pointfuse while the model is processed.

 For desktop processing, the point cloud must be displayed in the current viewport tab.

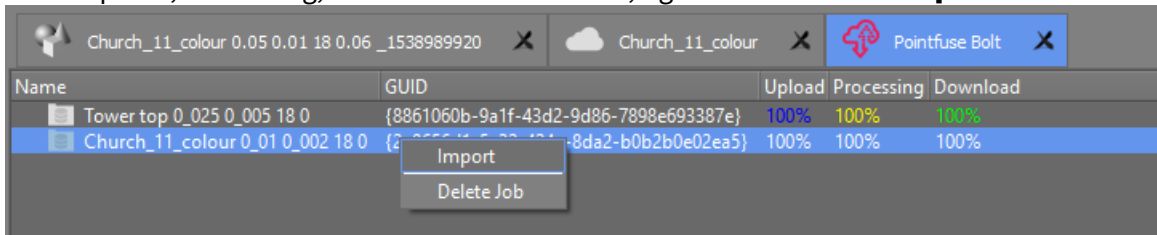


The dialogs are almost identical (Bolt on left, Desktop on right).

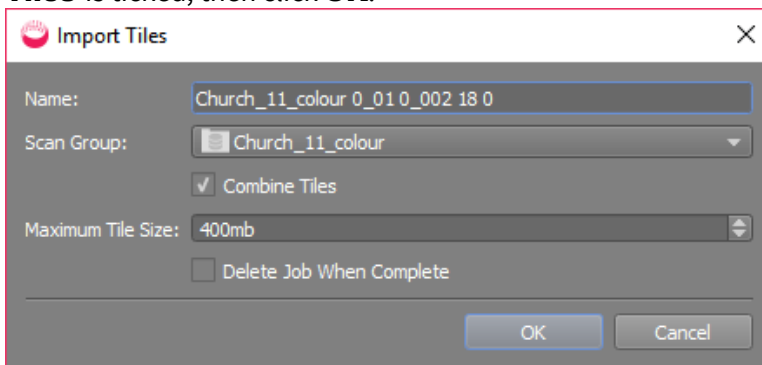
- If you select **Bolt**, you will be prompted to sign in with your email address and password. If you do not have a Bolt account, contact support@pointfuse.com.
 - If you select **Desktop** and the model and resolution exceed the limits for desktop processing, you get a warning and solutions at the bottom of the dialog, as shown above. (The limit is equivalent to the volume of a cube with sides 3000 times resolution.)
 - **Optional:**
 - Specify a custom **Output Name**.
 - Select a different **Processing Profile** with different **Resolution** and **Tolerances**.
 - If the point cloud has RGB or intensity data, you can select **Generate Textures** and a **Maximum Texture Resolution**. This may increase processing time.
6. Click **OK** to create the mesh model. With desktop processing the mesh model is displayed when finished. With Bolt, you must import the data back to Pointfuse Desktop.

Pointfuse Bolt

7. If you processed in the cloud, select **Pointfuse Bolt > Pointfuse Bolt Manager**.
8. When Upload, Processing, and Download are 100%, right click and select **Import**:




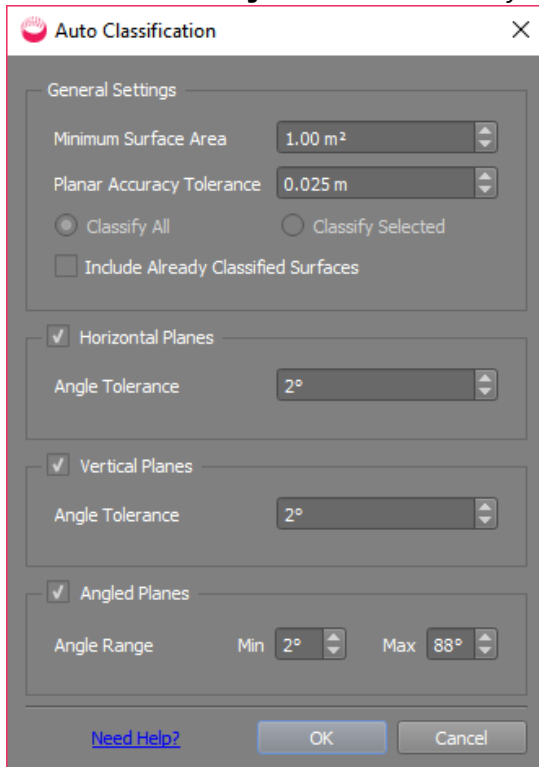
9. In the Import Tiles dialog, check the **Name** and **Scan Group** are correct, and that **Combine Tiles** is ticked, then click **OK**.



- **Optional:** You can experiment with different tile sizes, and with importing tiles individually, rather than combining them. If you do, don't tick **Delete Job** in this dialog. When you are happy with the results, you can delete the job from the Bolt tab.
10. The mesh model tiles will be added to the specified Scan Group's Mesh Models folder.
 11. In the Project Explorer, select the tile or tiles, right click, and select **Open in New View**.

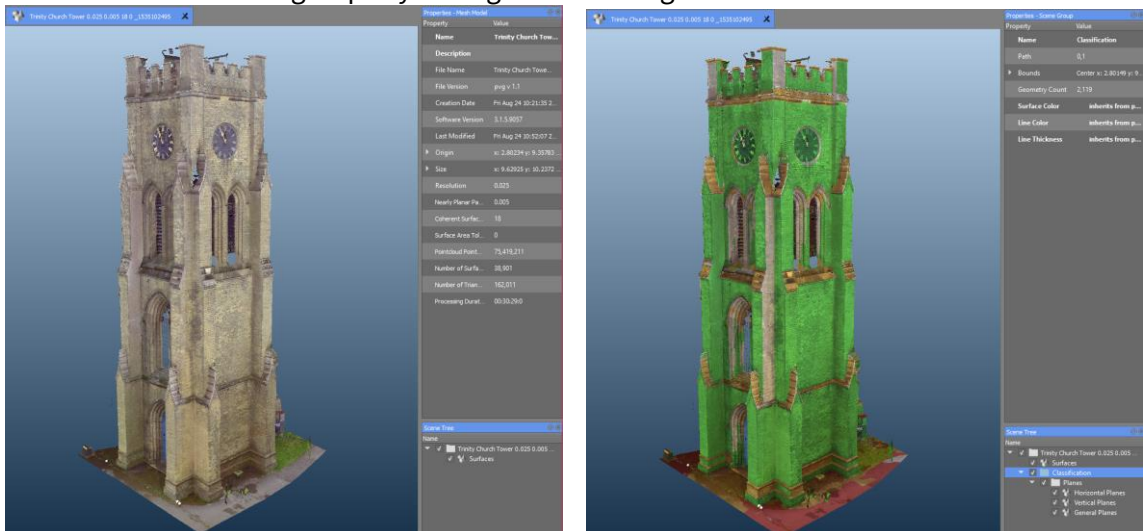
Auto Classify Surfaces

12. Click **Auto Classify** . Hover over any field or see the Pointfuse User Guide for details.



13. Accept defaults and click **OK**.


14. Surfaces are classified and colored in groups, and added to the Scene Tree (bottom right). You can show and hide groups by ticking and unticking in the Scene Tree.




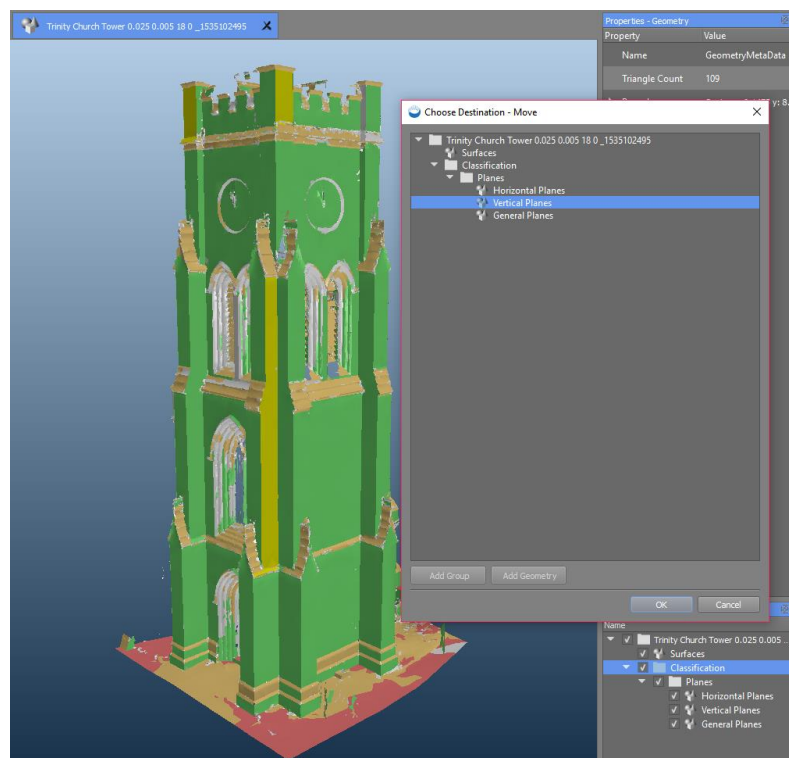
15. You can rerun Auto Classify with different values, ticking **Allow Reclassification** if you want to reassess surfaces already classified


16. Manually classify remaining surfaces.

Manually Classify Surfaces

 It is easier if you view the model as Solid Color, not a texture like RGB.


17. Either press and hold **Ctrl** or click **Selection Mode**  and choose **Append**. Each surface you click, or that is fully contained in a drag select, is added to the selection and shown in the highlight color.
18. Deselect by clicking again, or switch to **Replace** or **Remove** mode from the Selection Mode dropdown, or by pressing **/** or **Shift** respectively.
19. Right click and select either **Move Geometries** or **Merge Geometries**.
 - **Move** puts them in a folder together, but keeps them as individually selectable surfaces.
 - **Merge** permanently combines into a single surface: clicking on any part selects all of it.
20. Select a parent folder, then **Add Group** to add a new destination folder.
21. Select that folder, then **Add Geometry** to move or merge the surfaces into it. For example, click three unclassified vertical surfaces to select them (shown in yellow), then Move them to the Vertical Planes group:



22. Select the surfaces in the folder, click **OK** to close the dialog, then **Save**  on the toolbar.
23. Show and hide groups by ticking and unticking in the Scene Tree at the bottom right.
24. In the Properties window, you can color-code each group of surfaces to develop a clearer view of your data, without losing RGB or intensity data.

Export Selected Surfaces of Mesh Model

It is quick and easy to export whole models or selected surfaces for the next stage of your workflow, in Autodesk, Teckla Structures, Revit, or ArchiCAD, for example.

 The trial version of Pointfuse limits you to three exports, whether to Autodesk BIM 360 or your PC. After that, you need to buy a license to use Pointfuse.


Export to Autodesk BIM 360

If you've selected and classified surfaces, the classification hierarchy will be uploaded with the model.

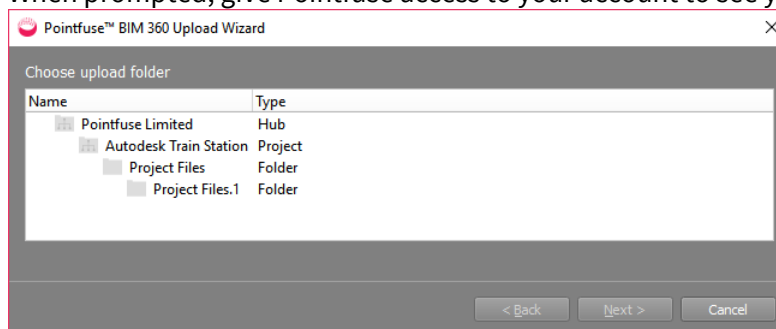
Prerequisites

- An Autodesk BIM 360 account with admin rights. Add Pointfuse as a custom app, as explained in the Autodesk article [To Add Apps & Integrations](#). You will also need the Forge Client ID for Pointfuse: nk6uRHfPNJmIXvLuYxjn1A9GFwWdDIDE
- A full Pointfuse license or Pointfuse trial with at least one of the three exports remaining.

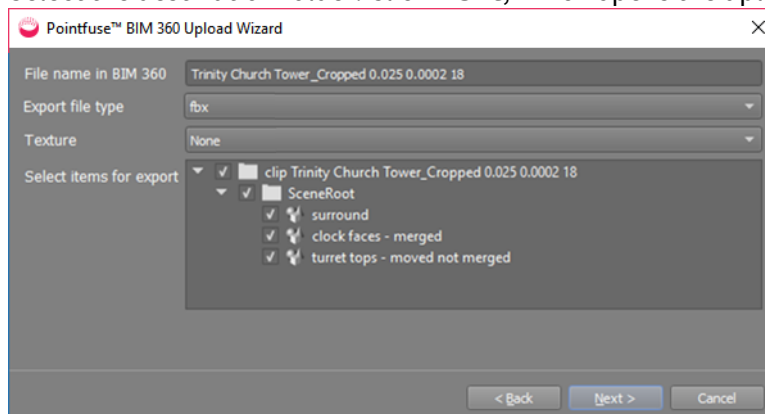
25. Before exporting, click **Save**  on the toolbar.

26. To upload the whole model, or selected surfaces, to Autodesk, select **BIM 360 Export** .

- Sign in to your Autodesk account.
- When prompted, give Pointfuse access to your account to see your files.

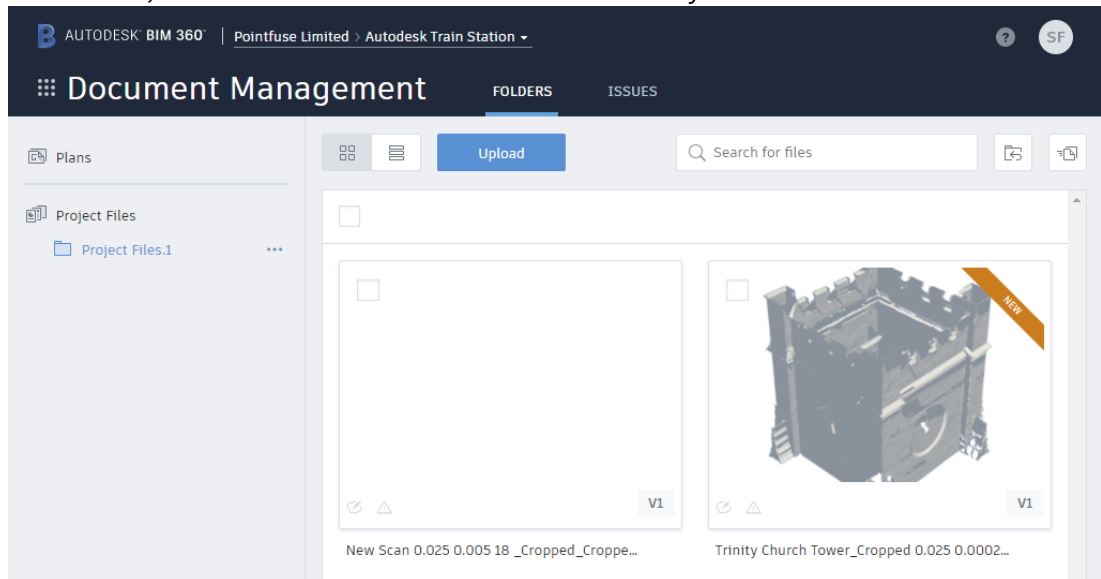


- Select the destination folder. Click **Next**, which opens the upload wizard.




- Select the **File name**, the **Export file type**, and for FBX, whether to include a **Texture**.

- e. By default, all surface geometries are ticked. Untick any you don't want in the export.
- f. Click **Next** to upload the model.
- g. When done, select **Show file in BIM 360** to view it in your default browser.



- h. In the browser, functions include: preview (including markup), download, move, copy, rename, lock, share, and delete.

Export to Files on Your Computer

 The trial version of Pointfuse limits you to three individual exports, whether to Autodesk BIM 360 or your PC. After that, you need to buy a license to use Pointfuse. You cannot do batch export with a trial license.

27. Click **Save**  on the toolbar

28. To export the currently selected file, select **Export** .
To export multiple files, to multiple export files, all the same type, select them in the Project Explorer, right click, and select **Batch Export**.

29. In the dialog, choose a **File Name** and click the Browse button to select an export format: DAE, DXF (the default), FBX, IFC, NWC, OBJ, SKP, STL, or X3D.

If you've selected and classified surfaces, FBX and IFC retain the classification hierarchy.

30. If exporting to OBJ, DAE or FBX, you can include RGB or intensity texture in the export.

31. For single (not batch) you can choose whether to convert the whole model or selected surfaces.

32. Click **OK** to create the export files. You can open them in a CAD or similar program, but not in Pointfuse