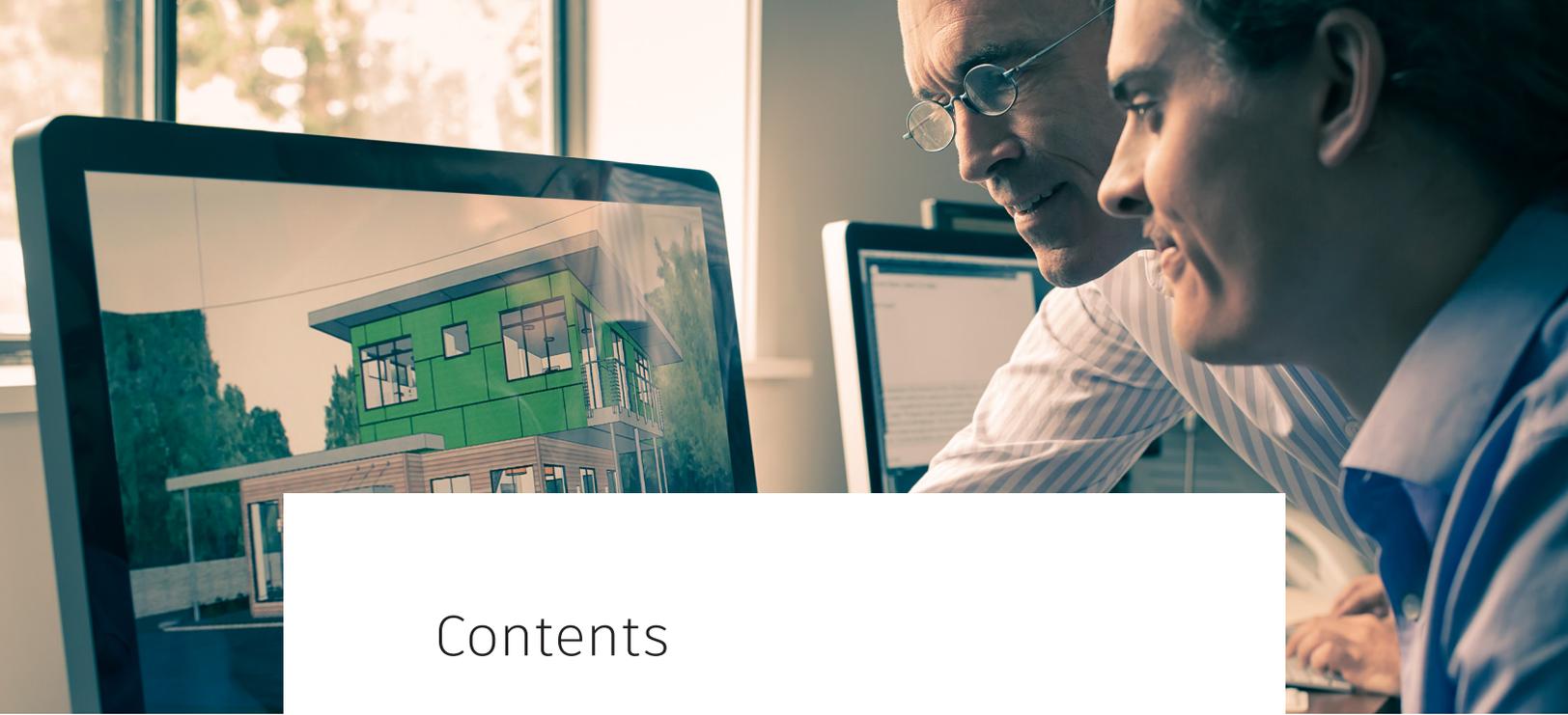




Autodesk[®] Revit Live

BEST PRACTICES FOR
PREPARING AND EXPORTING
REVIT MODELS FOR REVIT LIVE



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What is Revit Live?

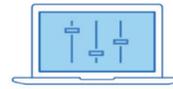
Design



Transform



Customize



Present



Overview

Autodesk Revit Live is a cloud service that enables architects to turn their Revit and Revit LT models into an immersive experience in one click to help them understand, explore, and share their designs.

In this guide, we'll share best practices on how to properly make the most of your experience with Revit Live by showing you how to optimize material and lighting usage in your Revit model.

So, let's begin:

Step 1 - Start by prepping your Revit model with all the desired materials

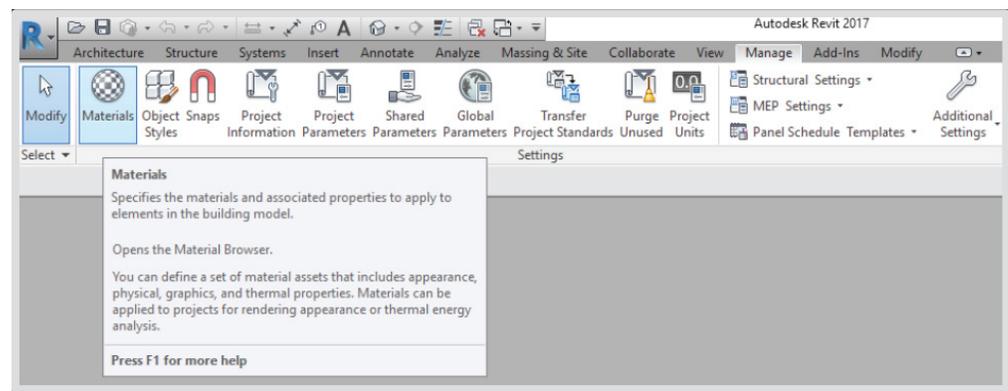
Step 2 - Upload your Revit model to the cloud service via the Revit Live plug-in for Revit

Step 3 - Download and customize your Revit Live scene with a variety of visual options

Step 4 - Present your design using a variety of built-in navigation and interactive features such as virtual reality

Material Libraries

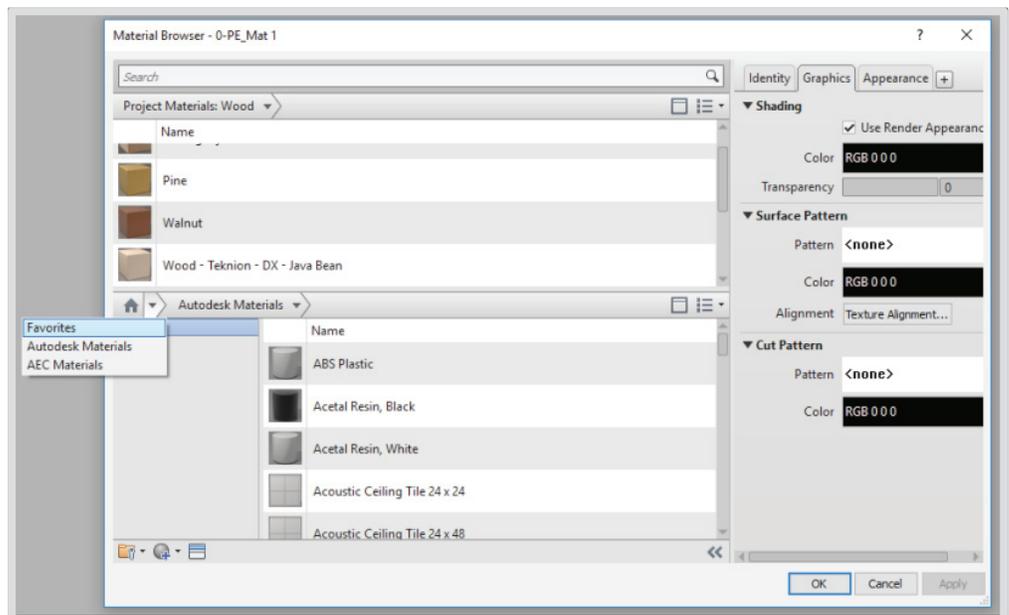
By default, Revit comes with two material libraries, if selected, during your initial Revit installation. These libraries include the Autodesk Materials and the AEC Materials. To access these libraries in Revit, navigate to Materials under the Manage tab in the main ribbon.



The upper list of materials includes all the materials that exist or were created specific to the current project, while the lower portion displays the external loaded material libraries.

Material Libraries

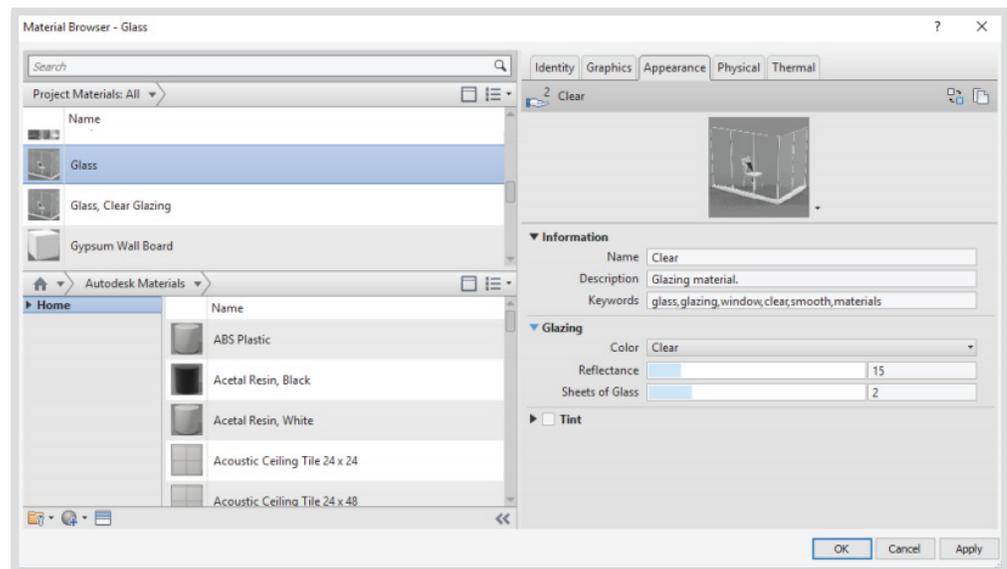
Selecting the drop down shown above allows users to navigate between the loaded material libraries. Once a desired material is located, it is added to the active project by double-clicking the material's name. We now have the ability to modify the default material attributes using the menu on the left.



Creating Custom Materials

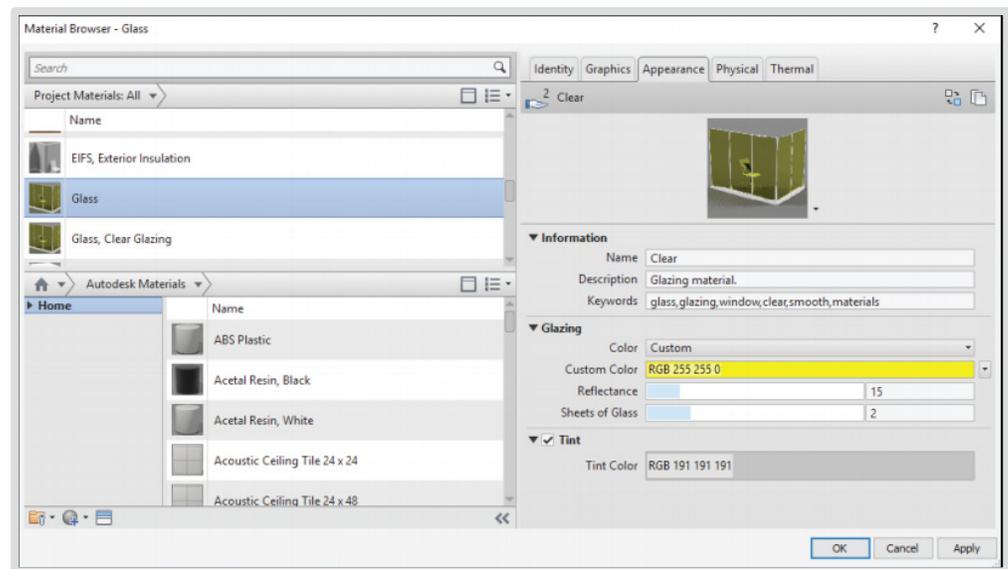
Capture design intent using custom materials

As shown in the previous section, Revit gives us a series of materials. But what if the design calls for something more specialized? You have the ability to use all of the existing materials as a template for creating your own custom material. In this example, we will modify the default glass material to have a colored tint of our choice.



Creating Custom Materials

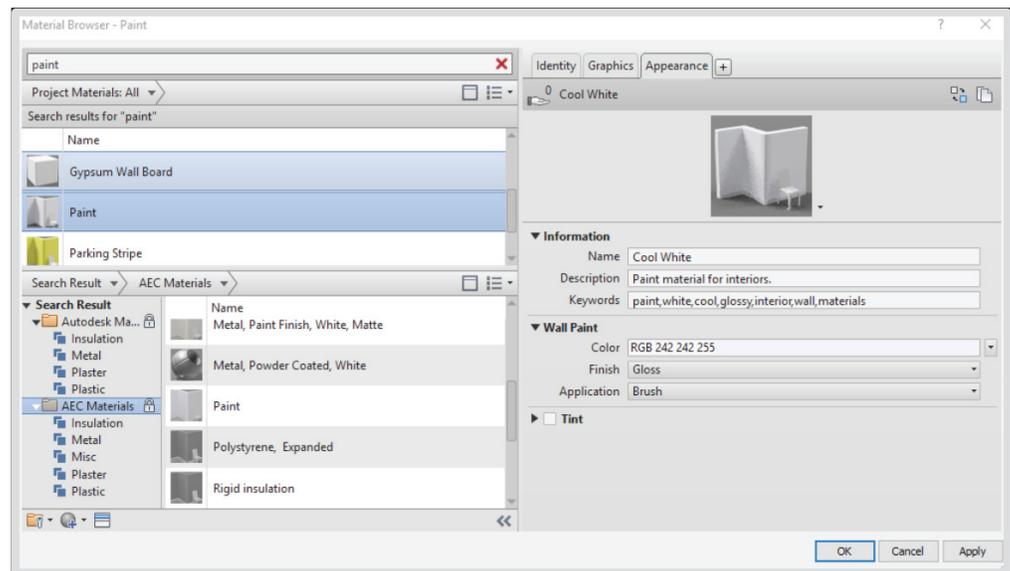
Navigating to the Glazing drop-down menu, we notice an option for color. By changing this option from clear to custom, we can select the color of our choice. By checking the tint option below, we can further control how dark the glass becomes.



To prevent any confusion, you can also rename your new material under the Identity tab. This tab contains all the basic descriptive information for the material. Click Apply to update material changes in the model.

Creating Custom Materials

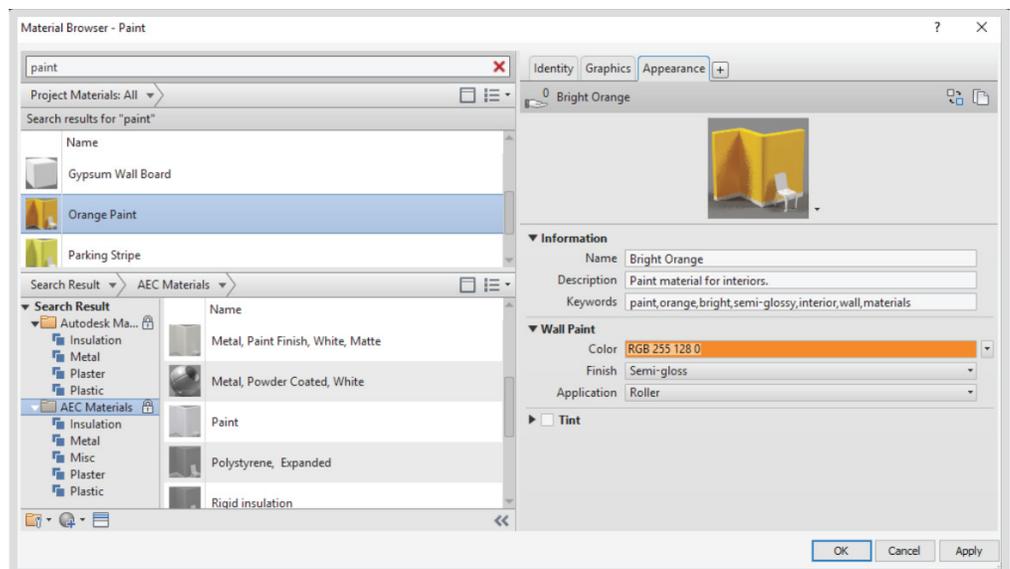
Let's look at another example using a different material with different attributes. This time, we will create a custom wall paint. We start out by adding a generic white paint from the external AEC Materials to the Project Materials. Next, navigate to the Appearance tab on the left and observe the various attributes. For this material, we have Color, Finish, and Application attributes.



Let's modify these attributes for a custom variation. You may notice that we have additional information attributes above the options for Wall Paint. This information is different from the information under the Identity tab and is specific to just the appearance menu we are currently in, not the overall material.

Creating Custom Materials

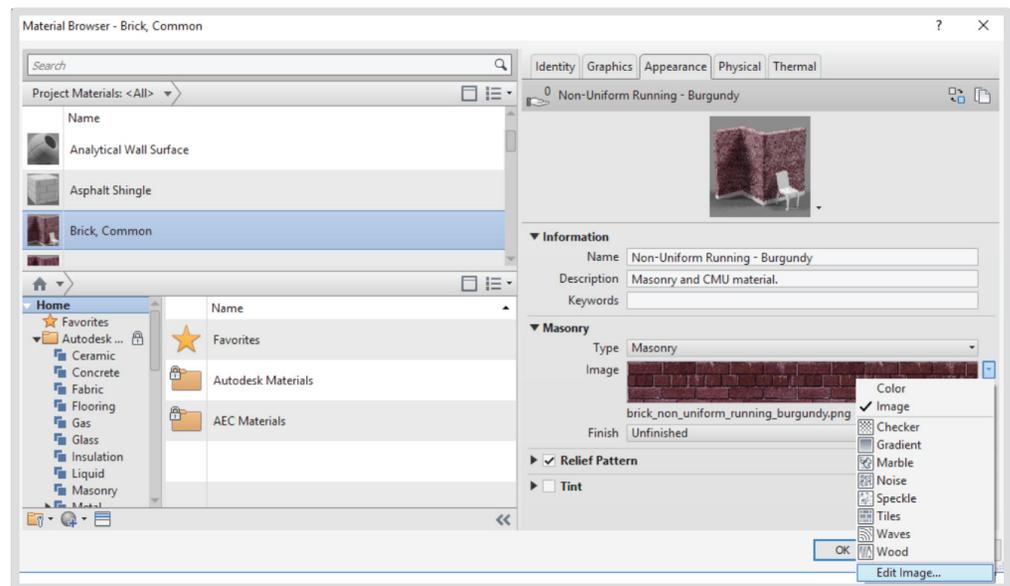
Change the color of the paint to the desired RGB value. Choose a finish that will affect how the material renders when in contact with various lighting sources. Now, choose an application that controls how the paint will be applied to the given surface. Remember to rename your new material under the Identity tab.



Custom Texture Mapping

Creating materials with custom texture maps

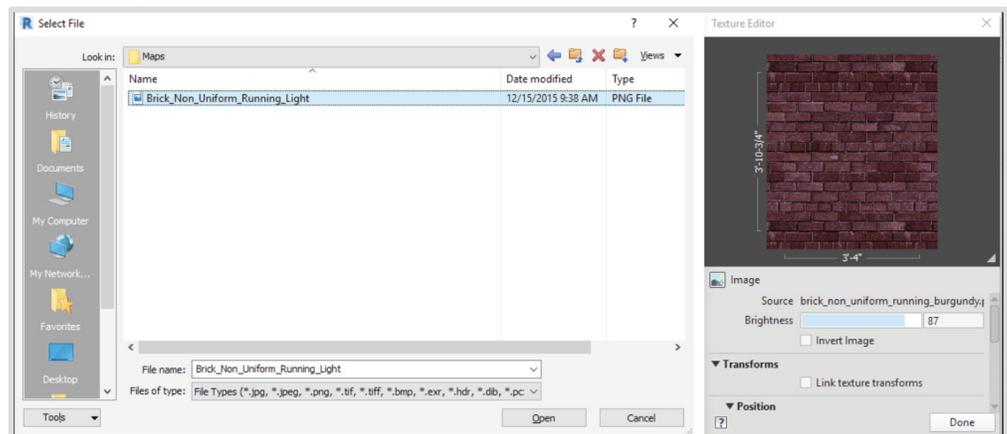
What is a texture map? A texture map is essentially a 2D image that is wrapped around a 3D object. A simple example of this is the default brick material in Revit. It would be unnecessary to model every single brick and grout, so we apply a texture map from an image displaying a series of bricks. In this example, we will walk through creating a simple custom stone material using an image we received from a manufacturer.



When creating a new material, you always have the option of starting from the default material template, which essentially represents a completely blank material. Although this may often be the best practice, sometimes it makes more sense to select a similar existing material and make a modified copy. One thing to note about this approach is that physical or thermal metadata may no longer be accurate when we begin to modify certain attributes that can affect other internal calculations or analyses. In this example, we will create a new instance of brick so we can use one of the existing brick types as a starting point, making sure our physical and thermal properties are accurate based on the new type.

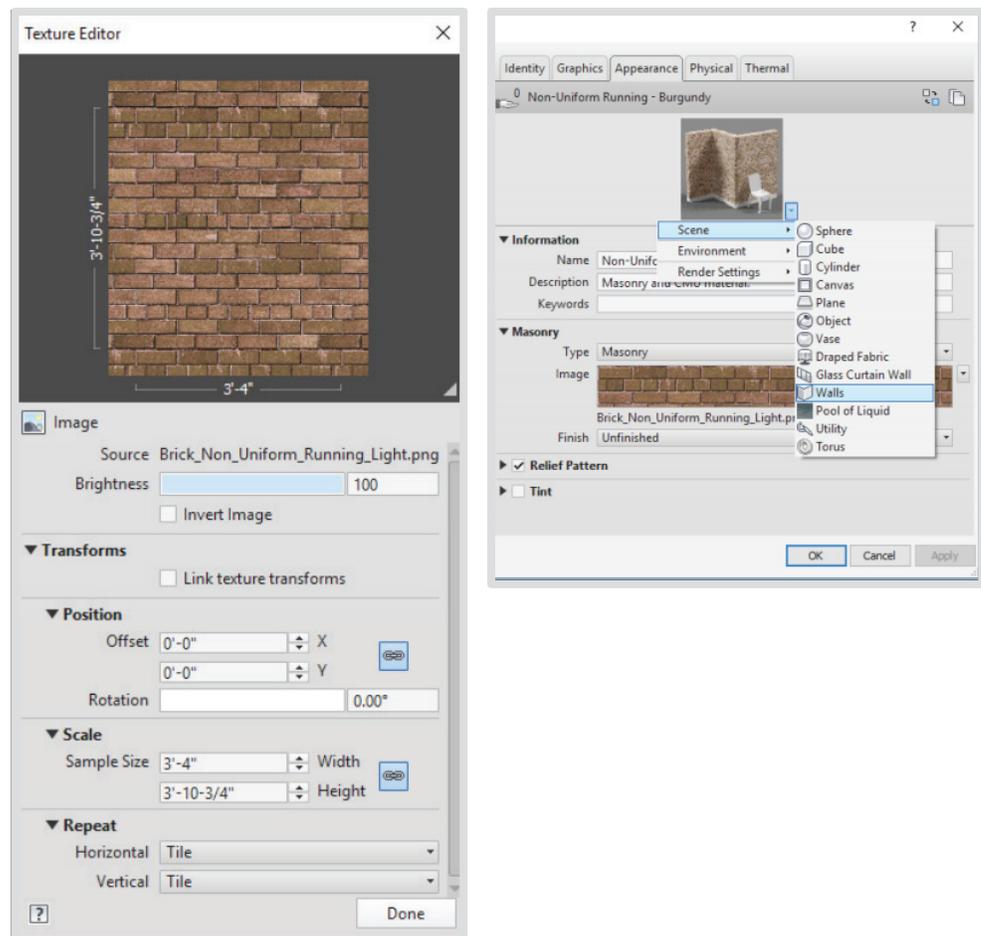
Custom Texture Mapping

As you can see on the previous page, we have loaded a common brick material into the project Material Library as our starting point. Under the Appearance tab and under the Masonry drop down menu, you'll find an Image attribute. This is where the texture map is loaded. By selecting the drop down arrow and navigating down to Load Image, we are able to access the images properties.



Custom Texture Mapping

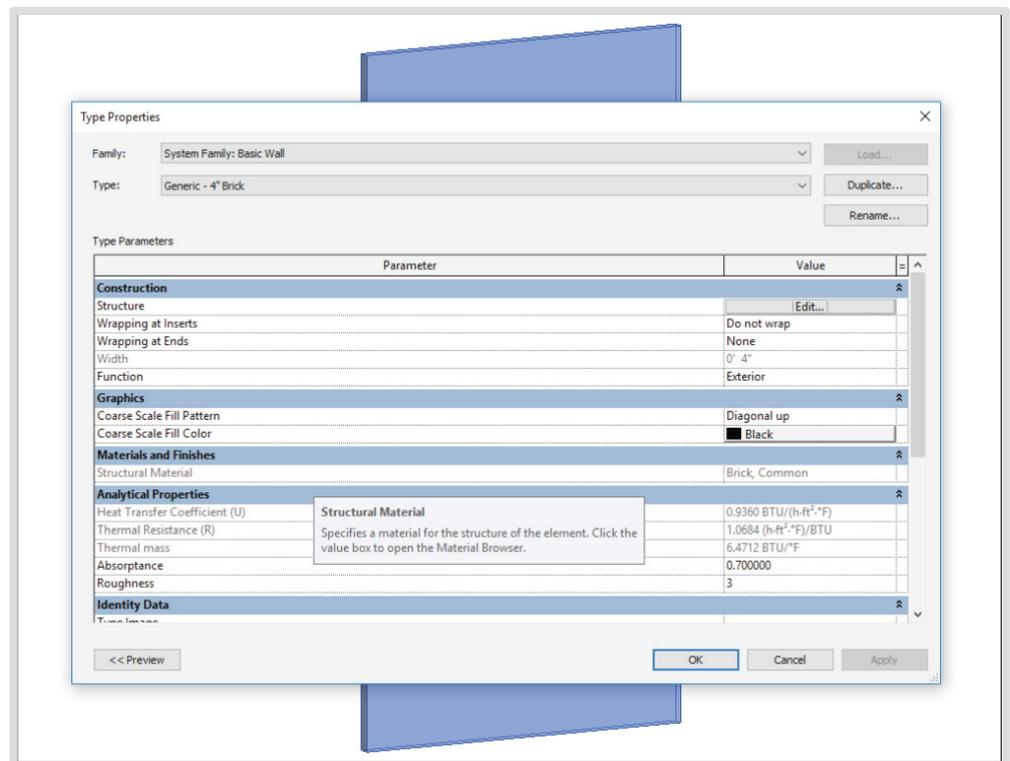
By selecting the map source, we can replace the original map with a map of our own. Once loaded, there are a series of options to control how the map is positioned, scaled, and tiled that can be adjusted to meet your specific needs. When the map is ready to be loaded, select Done at the bottom. Finally, it is also worth noting that you can modify how the map gets applied to a surface, depending on the shape as shown below.



Modifying Structural Materials

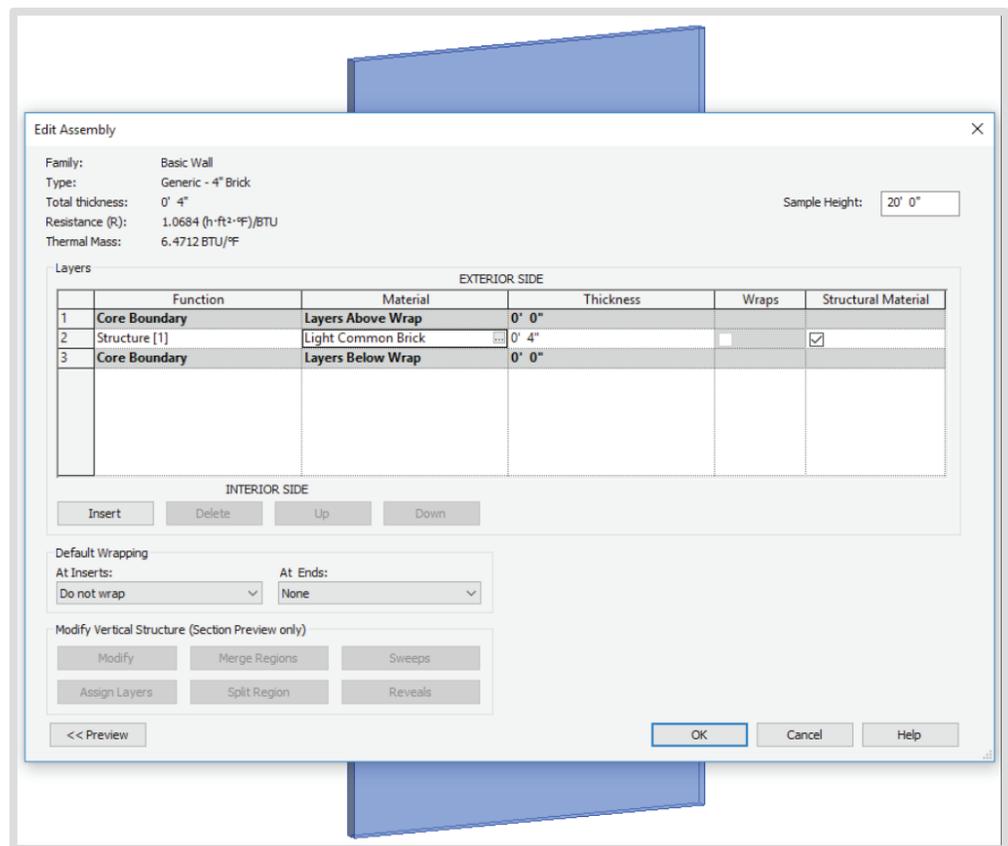
Changing the physical appearance of structural materials

Now that we have gone through how to create custom materials and apply custom maps, let's take a look at how to apply these materials to an existing structural element. Maybe we want to apply our new brick material to an existing brick wall. To do this, open up the Type Properties for the wall and observe the material under the Materials and Finishes section, which displays a grayed out Structural Material. This means we cannot directly change the material here.



Modifying Structural Materials

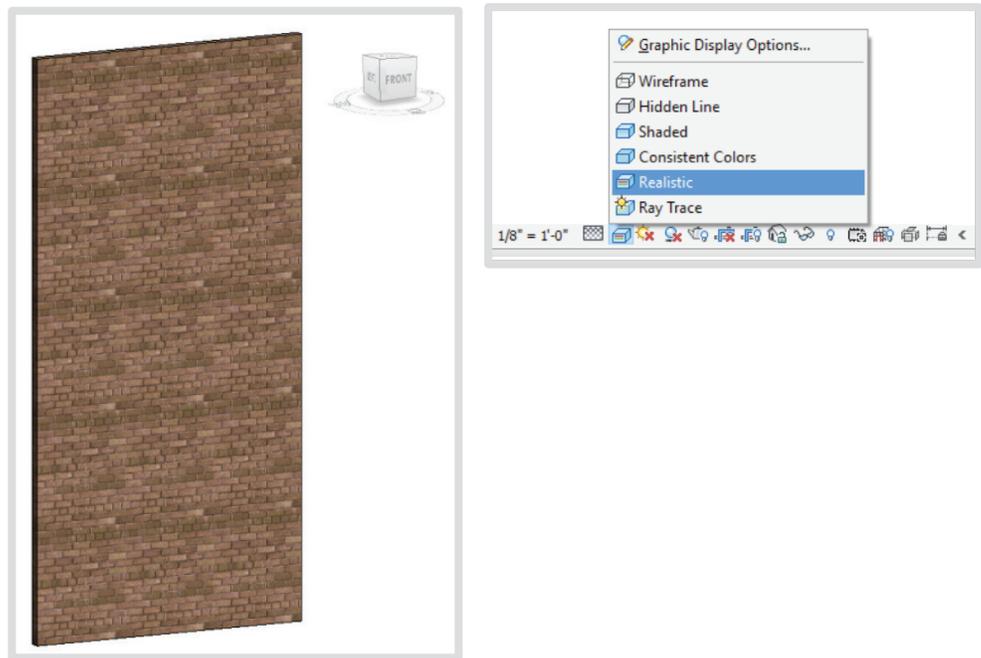
If we go up to the Construction category, there is a parameter for Structure that can be edited. Select Edit to proceed to the assembly options. Here we can see the material for our Common Brick. This material can be replaced by clicking the small box located to the right of the material name. Replace the Common Brick with the modified version we created in the previous step or any other desired material with similar properties.



After making the desired changes in the Assembly menu, select OK to exit back to the Properties window. Select OK again to apply the material and update the model. If you don't see the texture map on the wall, make sure your Visual Style is set to Realistic on the bottom toolbar in Revit.

Modifying Structural Materials

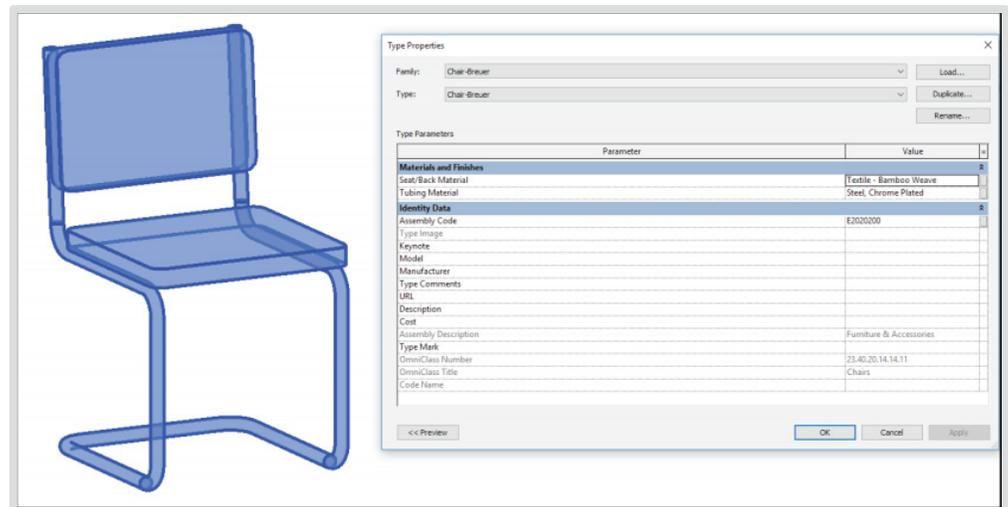
After making the desired changes in the Assembly menu, select OK to exit back to the Properties window. Select OK again to apply the material and update the model. If you don't see the texture map on the wall, make sure your Visual Style is set to Realistic on the bottom toolbar in Revit.



Modifying Family Materials

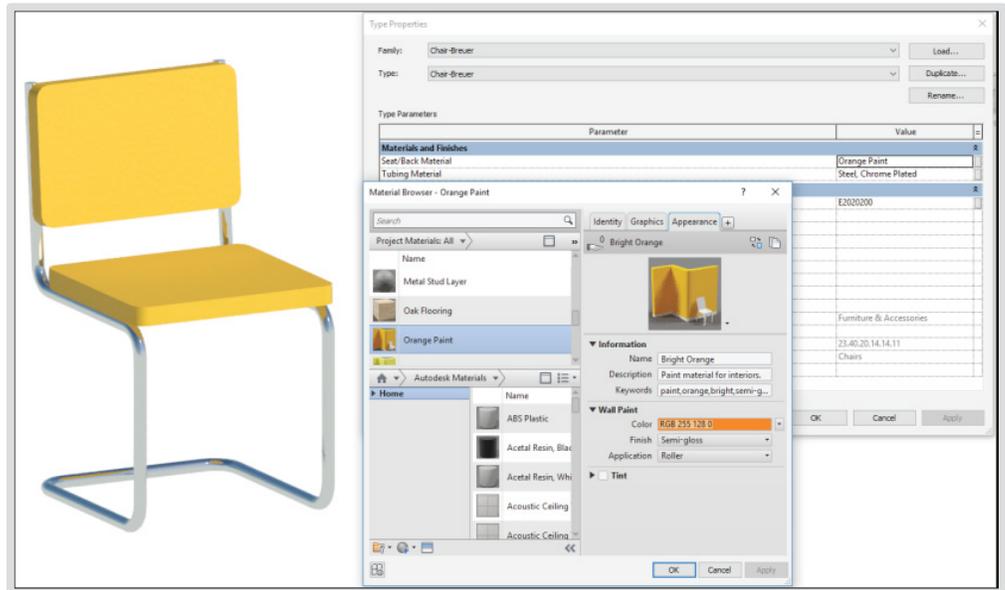
Modifying various materials within a family component

In this chapter, we will look at modifying all the materials within a family. For example, say we have a chair that fits our design stylistically but needs some change in materiality. Most properly created families should contain Type Parameters for Materials and Finishes for all the separate parts of the assembly that make up the family object(s). This makes it extremely easy to modify all the materials on-the-go without having to open up the family and modify it outside of your project file.



Modifying Family Materials

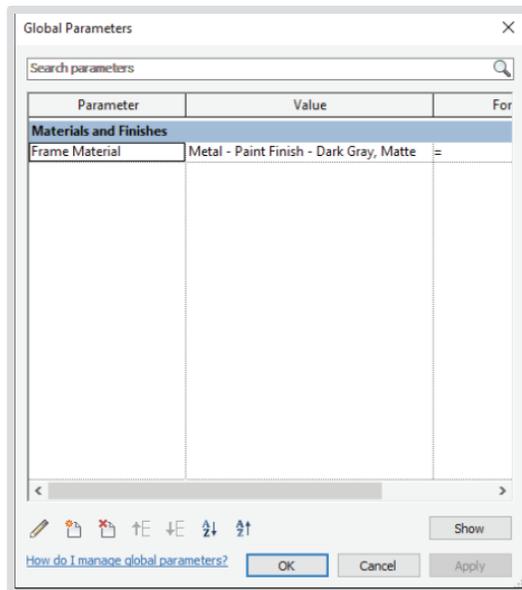
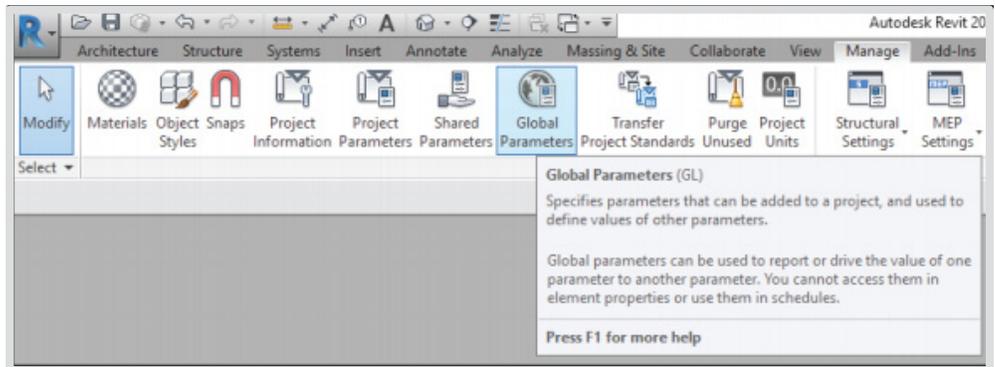
In the screenshot on the previous page, we see this particular chair has material properties for both the seat/back and tube framing. Simply click on the material value you want to replace to open the material menu.



Global Parameters

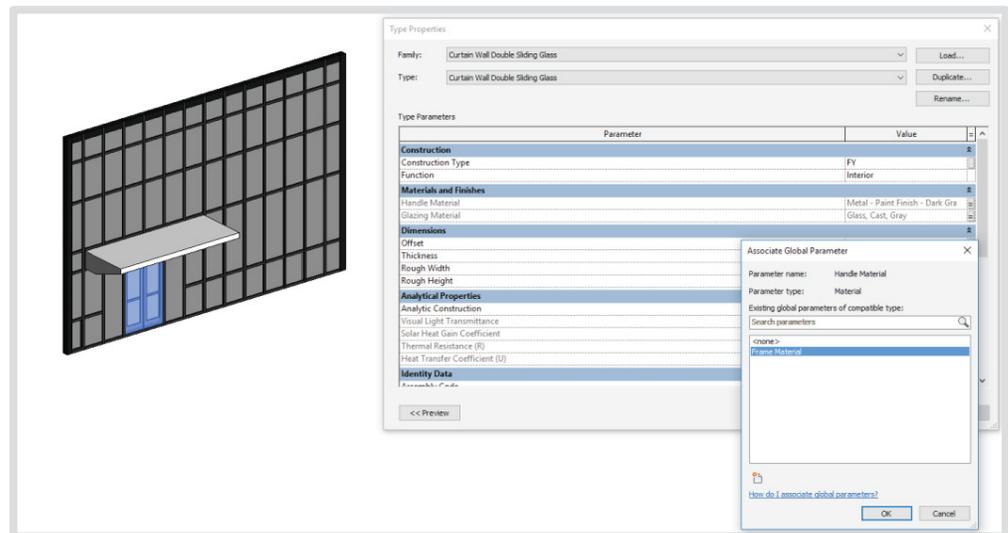
Assigning/modifying global parameter materials

In Revit, when we are working with the same value over and over again, we will assign that value to a new Global Parameter. This gives us greater control over all the objects that are referencing that Global Parameter. For example, maybe we have a curtain wall system that has several components in the assembly, but they are all the same material. By creating a new Global Variable bound to the common material, we can easily modify all the components colors in a single move.



Global Parameters

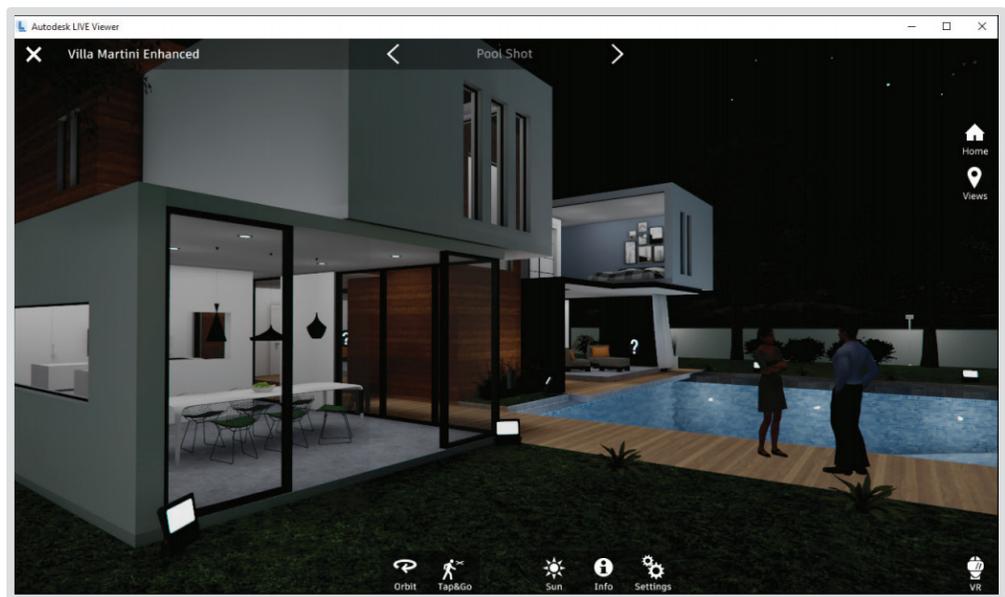
Global Variables can be created and modified in the main tool ribbon under the Manage tab. Global Variable materials can be assigned just like a regular material, except you must select the small grey box next to the material value to open the Associate Global Parameter options. Below we assign our Frame Metal Global Parameter to the door handle to be consistent with the curtain wall.



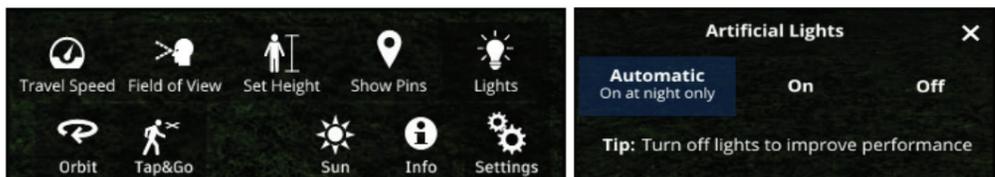
Lighting

How do Revit lights translate into Revit Live?

Most lighting types will translate directly into your Revit Live scene without any special preparation while the project is processed in the cloud after being exported from Revit.



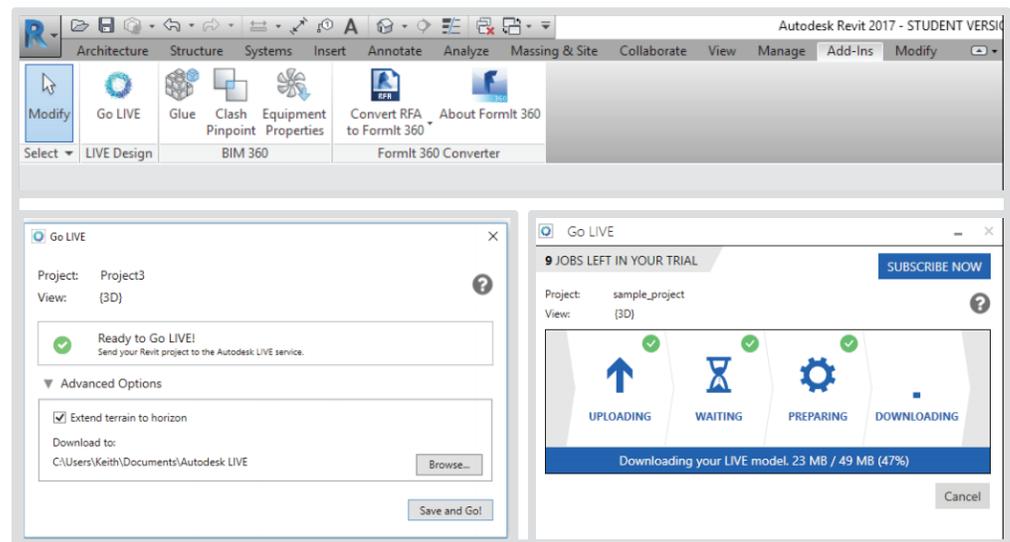
By default, lights in Revit Live will only display at night. However, this setting can be modified in the Lights menu found in the Settings. You have the options to keep lighting automatic, always on, or always off. Turning off the lights will help improve the performance of Revit Live.



Exporting from Revit to Revit Live

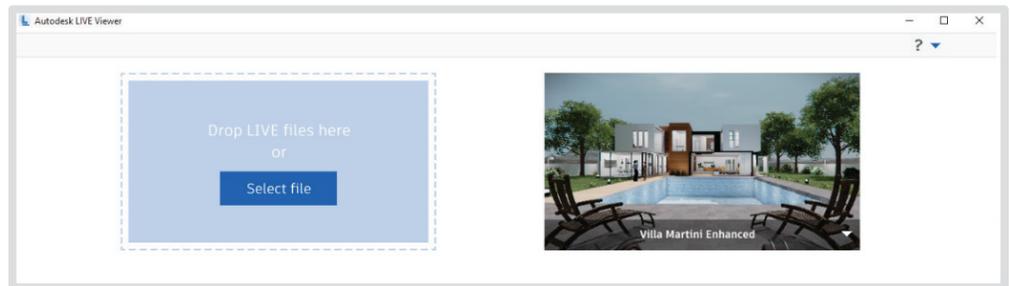
Exporting Revit models and views to Revit Live

To export your Revit model, navigate to the Add-Ins tab in the main Revit tool ribbon. Select the Go Live icon to begin the process. A new window will appear allowing users to choose a scene destination as well as the option to extend the terrain to the horizon in Revit Live. Select Save and Go to send the project to the cloud service.



Exporting from Revit to Revit Live

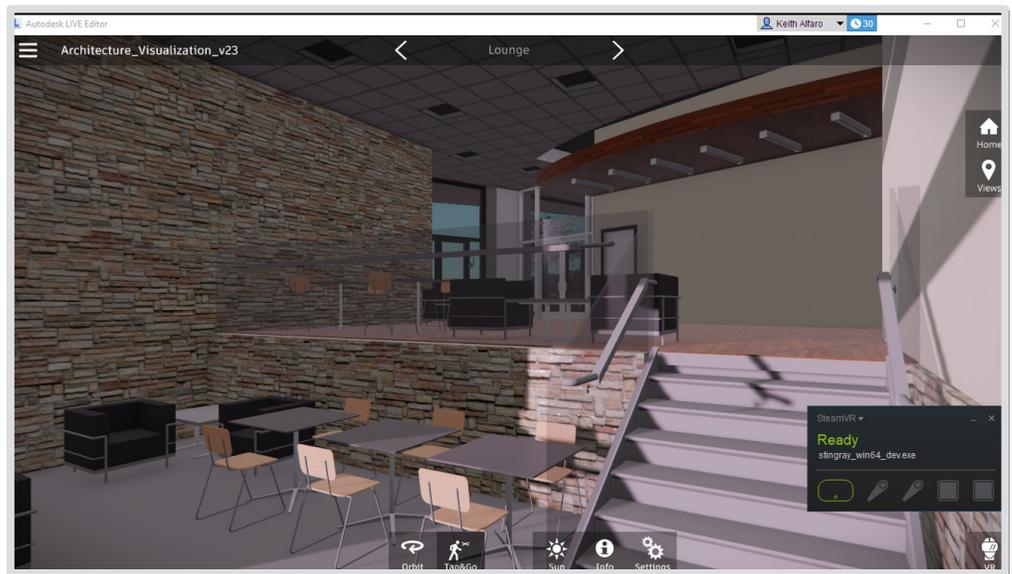
Once the cloud has processed your Revit Live scene, locate the Revit Live scene in the location you specified earlier. This project can now be opened using the Revit Live Editor or Viewer. The first time you open a new Revit Live project, it is a two-step process to unpack and prepare the new scene.



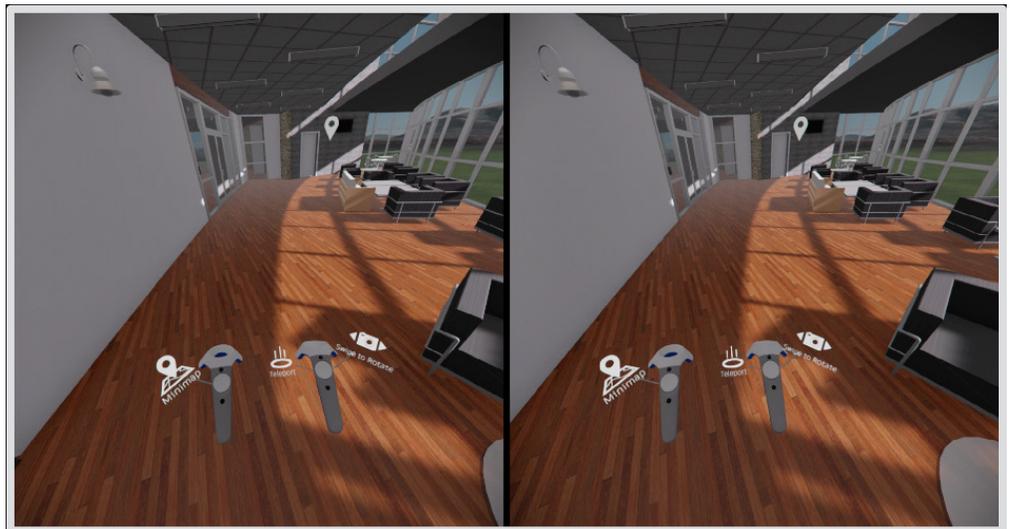
Viewing Models in VR

Experience your Revit models in virtual reality (VR)

Revit Live also supports VR. Supported headsets include HTC Vive and Oculus Rift. Enabling VR can be done in a single click within Revit Live.



Located in the bottom right corner of Revit Live, you will notice a VR icon. Simply click this to launch your local VR hardware.



Conclusion

Thank you for your interest in Autodesk Revit Live. If you require additional support, please be sure to leverage the following resources:

- **[Product Center](#)**: Learn about product features, workflows, and system requirements.
- **[Revit Live Forum](#)**: Share your product knowledge, ask questions, and explore popular topics.
- **[Autodesk Knowledge Network](#)**: Find articles and engage with an expanded group of Autodesk customers who are using a broad set of Autodesk solutions.



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