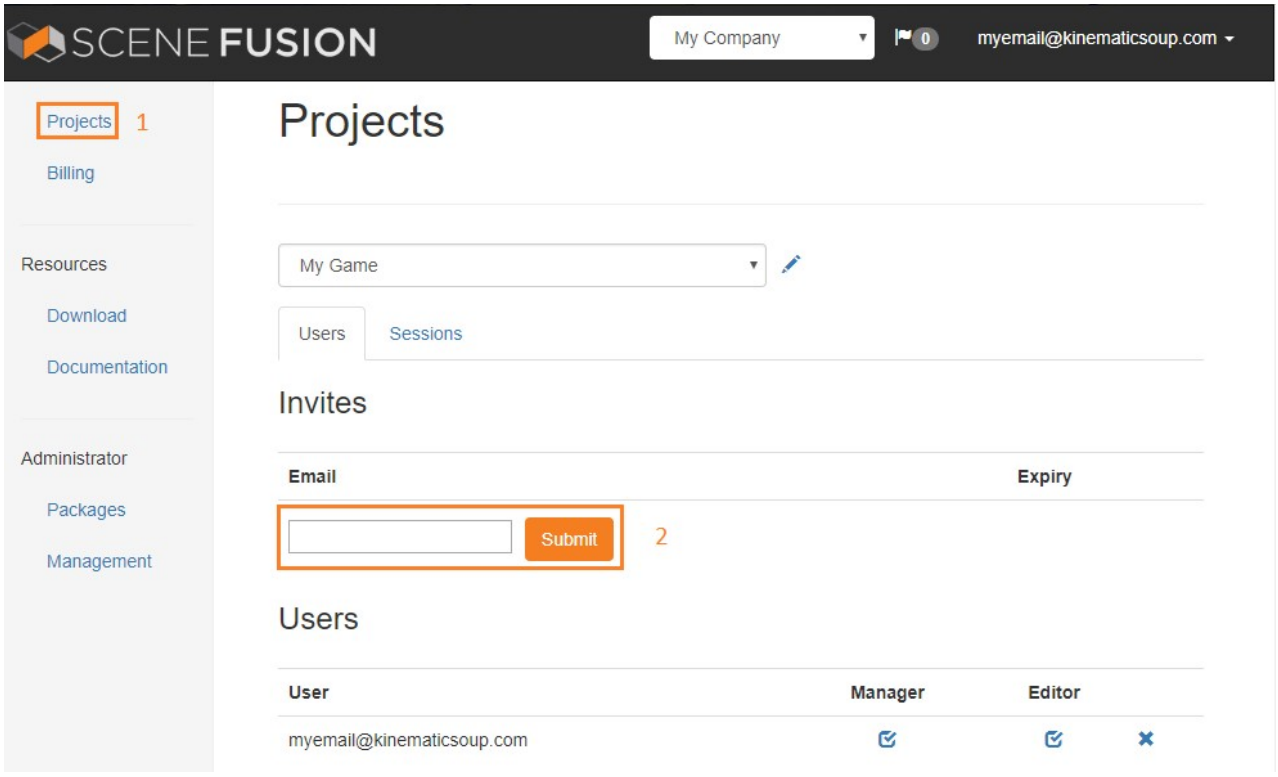
Getting Started With Scene Fusion for Unreal

System Requirements

- Windows 10 x64 (Earlier versions have not been tested)
- Unreal Engine 4.20 and above.
- Visual Studio 2015 or above as required by Unreal.

Adding Teammates to Your Project

Create an account or log in to an existing account at console.kinematicsoup.com. Be sure to check for you activation email.



1. Open the Projects page.
2. Add teammates by entering their email address and pressing the Submit button.

Teammates will receive an invite via email. If not, they should check their junk folder, or create their own accounts.

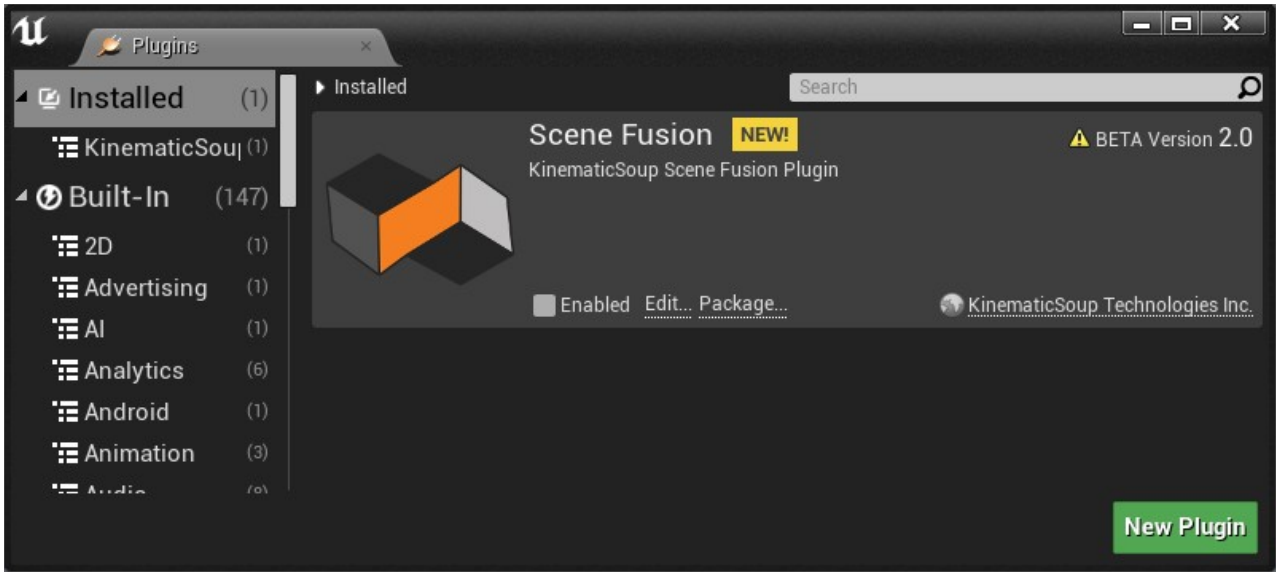
NOTE: If you have not done so, contact KinematicSoup to ensure Scene Fusion for Unreal has been activated on your account.

Installing the Plugin

The plugin can be installed either as an engine plugin or a project plugin. Engine plugins are available to all projects, whereas project plugins are only available in the projects they are installed in.

Intalling as an Engine Plugin

1. Unzip SceneFusion.zip.
2. Move or copy the unzipped SceneFusion folder to **[Unreal Engine Directory]/Engine/Plugins/SceneFusion**.
3. Open your Unreal project.
4. Open the Plugins panel (**Edit > Plugins**) and find the Scene Fusion plugin under **Installed > KinematicSoup**
5. Check the Enabled checkbox and click yes when prompted.
6. You will be prompted to restart the editor for the plugin changes to take effect. Restart the editor.



Installing as a Project Plugin

1. Unzip SceneFusion.zip.

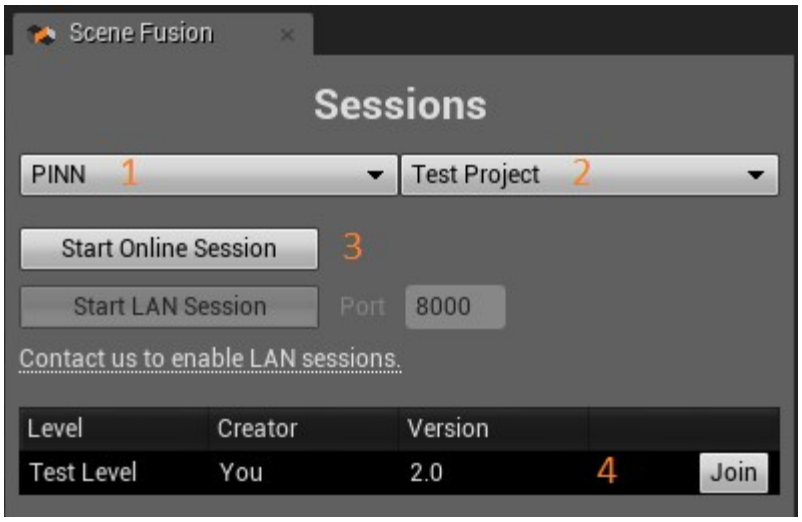
2. Move or copy the unzipped SceneFusion folder to **[Your Project Directory]/Plugins/SceneFusion**.
3. If your project contains C++ code, regenerate your solution files by right-clicking **[Your Project Directory]/[Your Project Name].uproject > Generate Visual Studio project files**.
4. Open your Unreal project. If your project contains C++ code and you did not rebuild your project, you will be prompted to rebuild missing modules. Click yes.

Getting Ready to Use Scene Fusion

1. Before starting or joining a session, all teammates should have the same version of your project with the same assets.
2. Other users' changes can cause possible hitches on your side when it triggers loading sublevels or uncached assets. In this case, it would be better to wait for the loading to finish before making any change.
3. A known issue is that adding an actor which references uncached assets can cause Unreal to crash. The workaround for this is to cache all assets before you join the session. You can cache assets by adding them to a level once, and then they'll be cached forever.

Starting or Joining a Scene Fusion Session

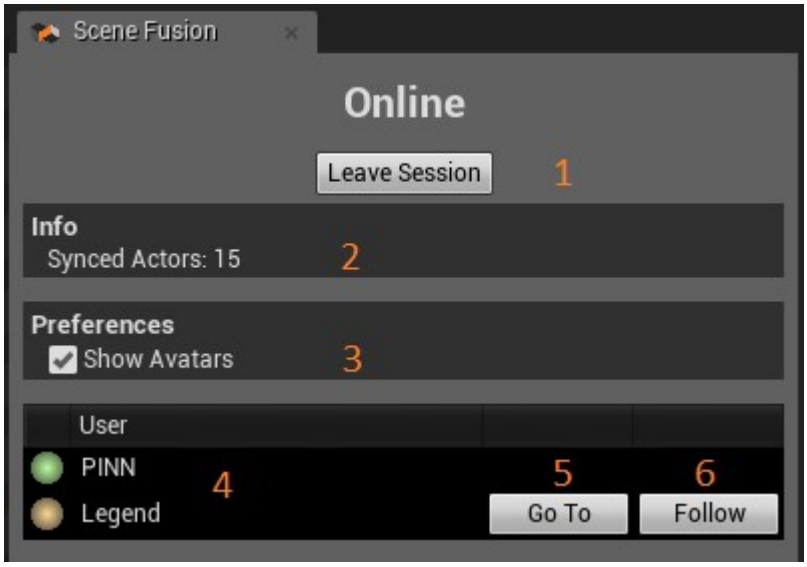
1. If the plugin was installed correctly, you should see a Scene Fusion button. Click it to open the Scene Fusion tab.
2. The first time you open the Scene Fusion tab you will be prompted to log in to your Scene Fusion account. Login using the credentials you use for console.kinematicsoup.com.



Once you log in, you will see the Sessions panel.

1. The top left drop down shows your username and allows you to logout.
2. The top right drop down shows which company/project you have active and allows you to switch projects.
3. The Start Session button will start an online session with the levels you have opened.
4. The table at the bottom shows running sessions you can join by clicking the join button.

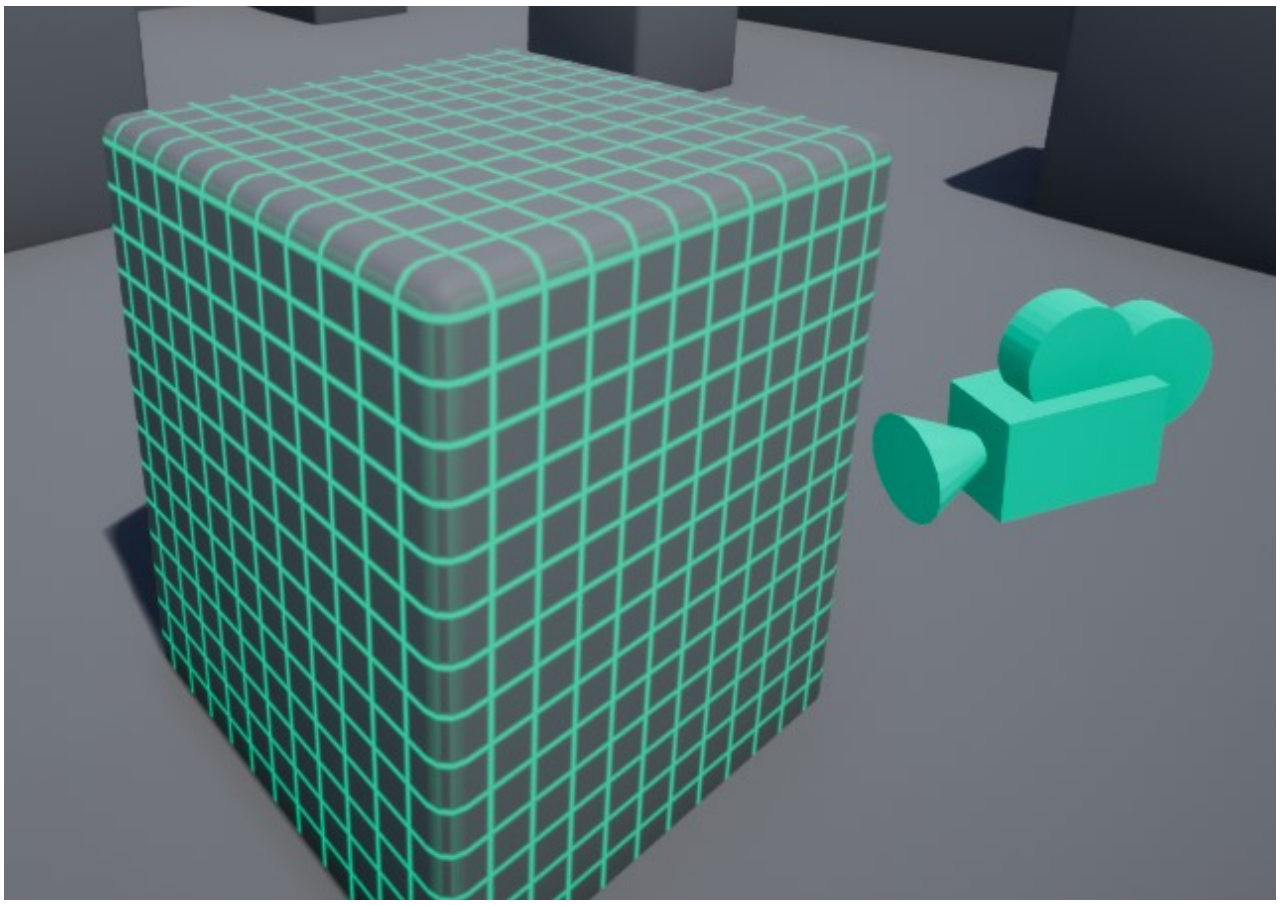
During a Session



While you are in a session you will see the Online panel.

1. The Leave button allows you to leave the session.

2. The info section show how many actors are syncing in the current session.
3. The show avatars checkbox in the preferences section allows you to show/hide the avatars that show where your teammates are in the level.
4. The user section shows the users who are connected to the session. You are always the first user in the table. The colored dot next to each user shows what color objects selected by that user will appear. Clicking the dot next to your name allows you to change your color.
5. Beside each user name is a Go To button. Clicking it will sync your current viewport with theirs once.
6. The follow button function similarly to Go To, however it continues to keep your viewport in sync with the other user.



Objects selected by other users are highlighted with a grid shader in the user's color that turns opaque as it gets farther away. These objects are locked and cannot be edited until the other user deselects them. Each user has a camera with their color that shows where they are in the viewport.

Alpha-2 Scene Fusion Features and Behaviors

Currently Scene Fusion syncs transforms, actor names, labels, folders, and parent/child relationships. Static meshes, skeletal meshes, and emitters can be placed but their properties will not sync. If you need additional properties to sync, you can modify the plugin source to sync what you need.

The level hierarchy is synced, so it is possible to open multiple levels at the same time in a session, however the same levels will be opened for all teammates in the session. This will no longer be the case in Alpha-3.

Hidden actors will not be synced. Multi-level world composition is not implemented yet.

There is an experimental feature that will sync Actor properties that is disabled by default. To enable it, open sfActorManager.cpp and set the define SYNC_ACTOR_PROPERTIES to 1.

Ending a Session

When you've finished an editing session, all users should leave the session. Choose one user to save and commit the the level to source control.

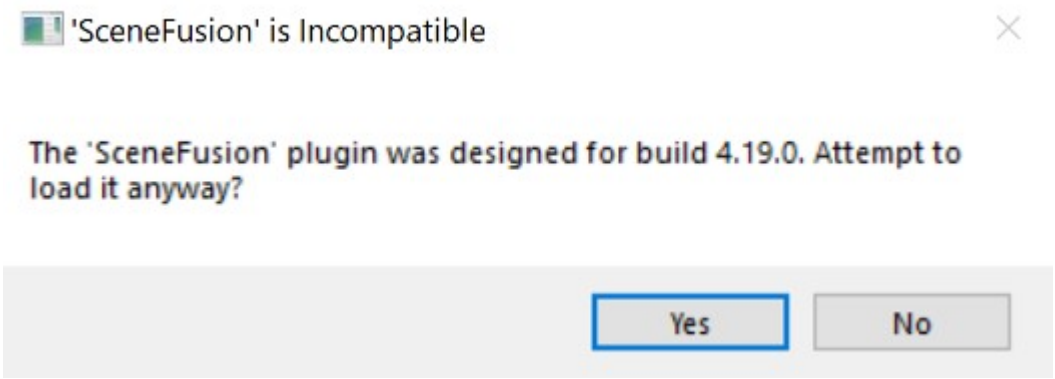
Troubleshooting

Incompatible Package

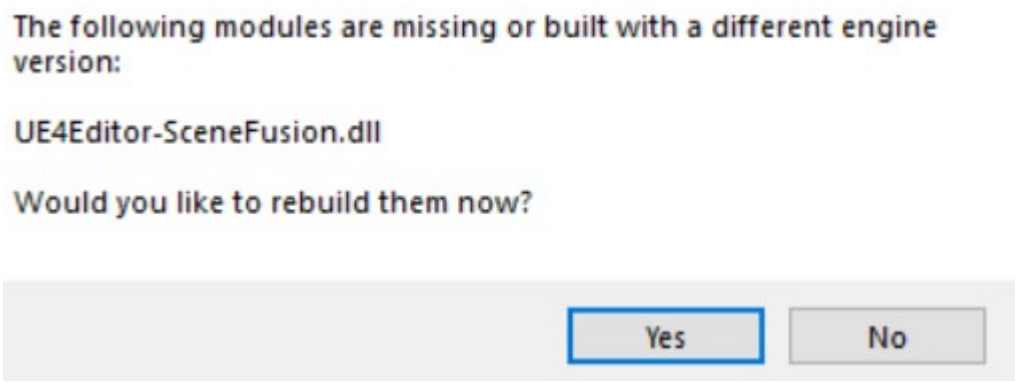
If the plugin is incompatible with your Unreal version, try rebuilding the plugin using the following steps:

1. Create a C++ basic code project.
2. Follow the steps above to install the plugin to this new C++ project.
3. Double click the uproject file to open the newly created project.

4. You will see a pop up message as below. Click yes to load the plugin.



5. Then you will see another pop up message as below. Click yes to rebuild the plugin.



6. If the rebuild succeeded, then you will have a compatible plugin in your project's plugins folder. Now you can copy it to your other projects or Engine's plugins folder. Otherwise, contact us for support.

Connection Problems

If you are unable to connect to a session it may be because of a firewall. There are two types of firewalls that can block Scene Fusion: Local software firewalls, such as the ones you find in Antivirus (AV) software like Windows Defender Firewall or BitDefender, and corporate/router-based firewalls such as those with dedicated hardware. To determine if the connection issue is due to local software, you simply need to try using Scene Fusion while the local AV/firewall software is temporarily disabled. If this fails to fix the issue, you likely have a corporate firewall.

Sometimes, Scene Fusion is blocked by corporate firewalls. In most cases, your IT department should be able to modify the firewall rules to allow traffic to and from the few ports used by the Scene Fusion server. The ports to unblock are:

- TCP 8000/8001

- TCP 1025-1100