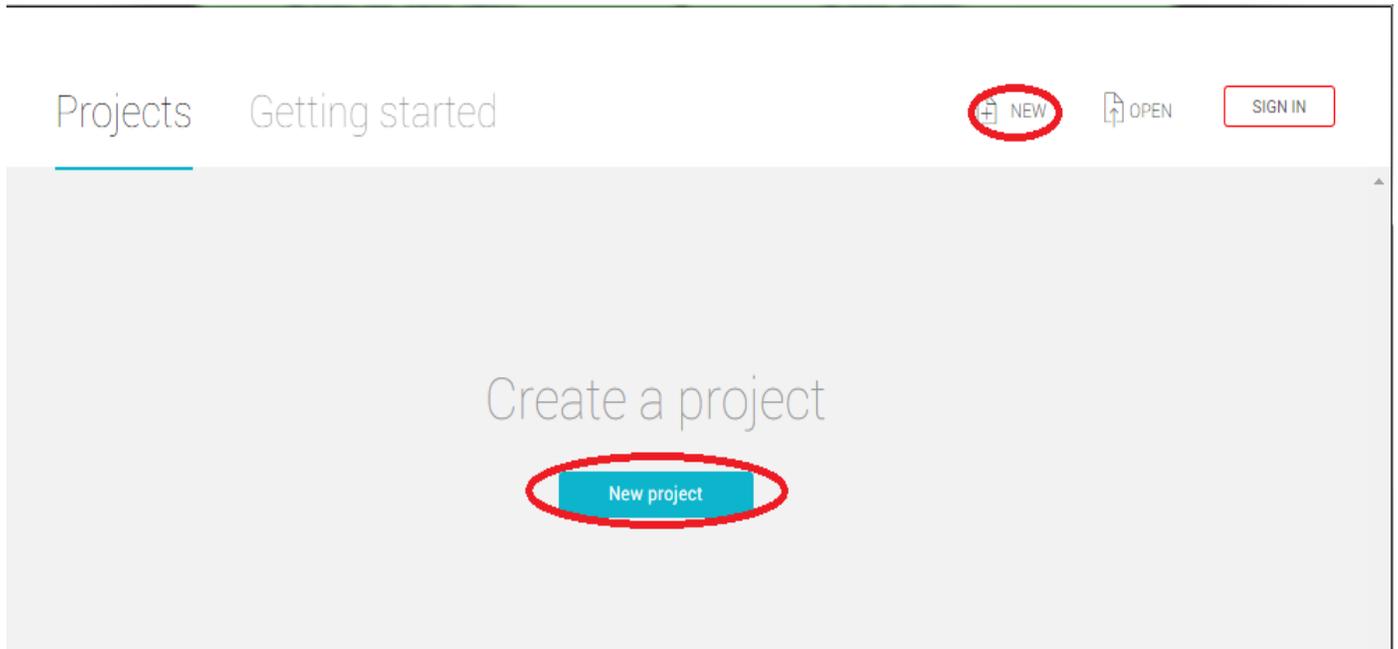


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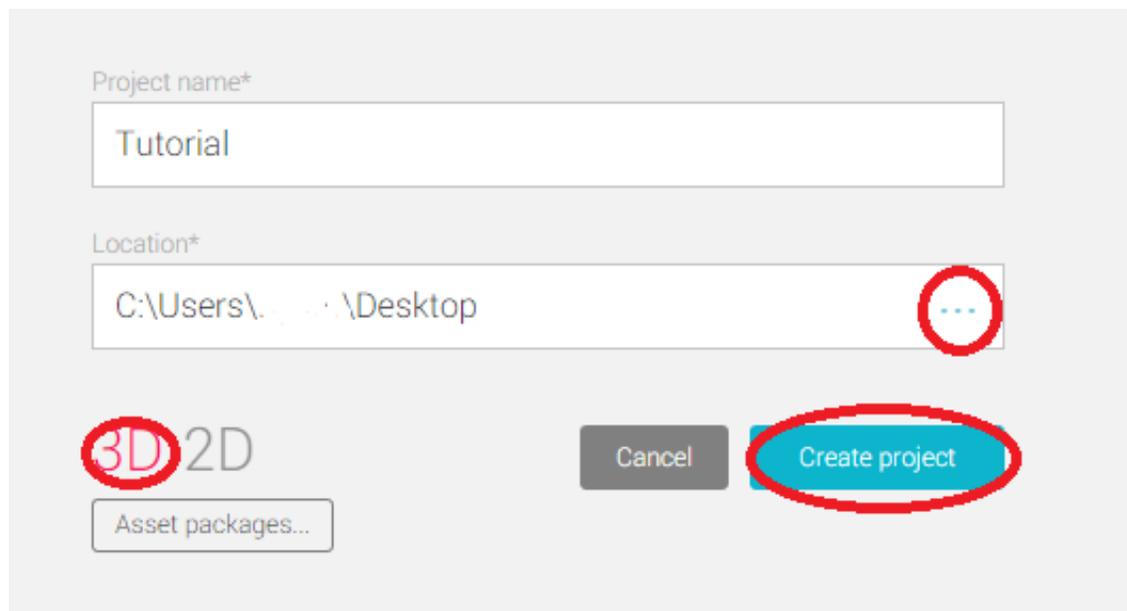
I – Starting a New Project

Opening Unity

Double click on the desktop shortcut or find Unity in the start menu.



You can click either of the buttons shown above to create a new **project**.



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Choose a name for your project and select where you want to save it to. You can click the ellipses shown above to search for a place to save it. Just click on the location (it will become highlighted) and click “Select Folder”.

This tutorial will assume that you have your project saved on your desktop.

Once you are ready, make sure that **3D** is selected (it will be highlighted pink) and click “Create Project.”

Project: A Unity project consists of a folder that contains all of the parts of your project, i.e. the game that you are working on.

3D and 2D Modes: The view mode that you are working in. This can be toggled at any time, but choosing 3D while making a new project will grant you settings that choosing 2D will not, such as a default skybox.

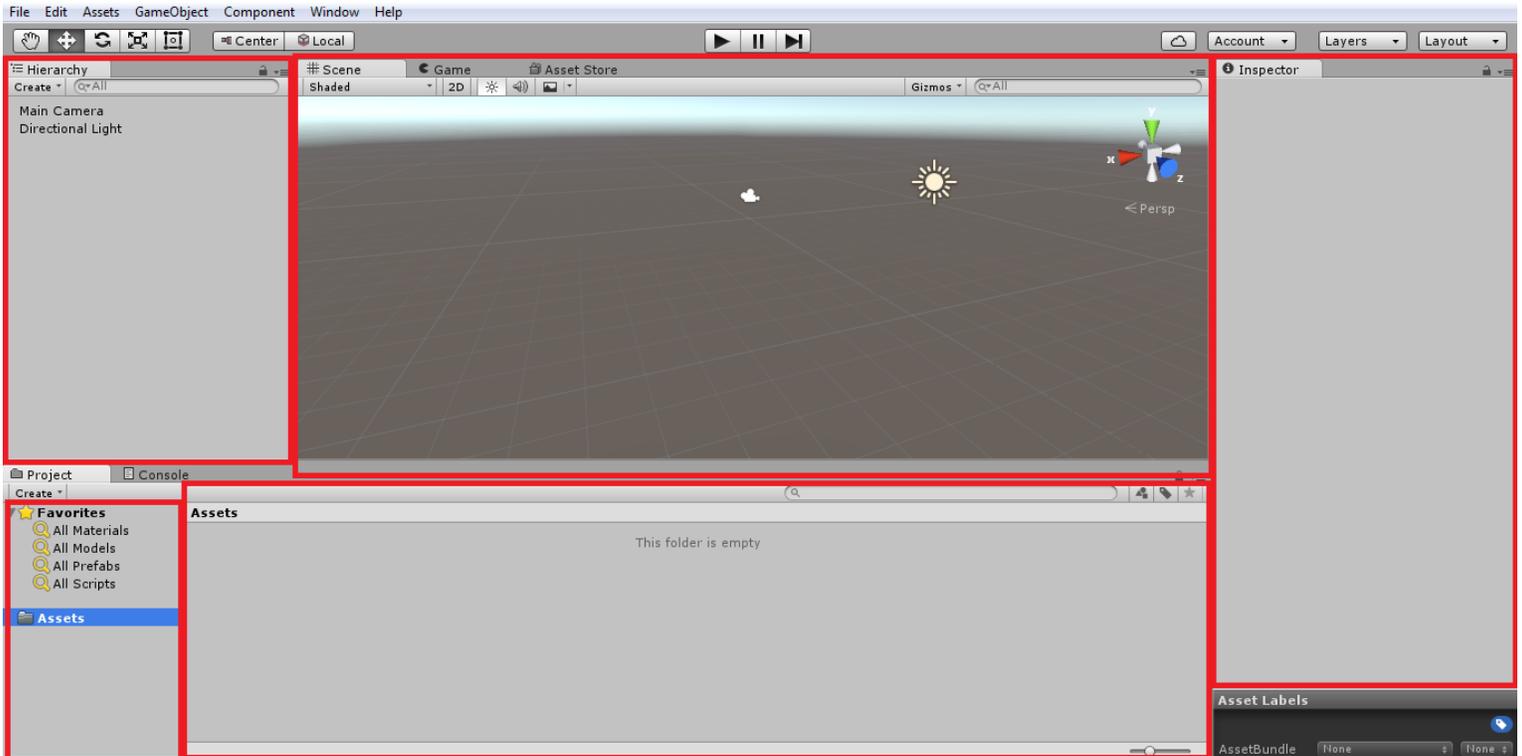
Scene: Each scene is basically a level in your game. They are generally saved in the folder marked “Assets”. Scenes are also used for various screens, such as the main menu and game over screens.

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II – The Interface

Windows

Unity's interface is divided into windows. Below is the default layout that we will be using.



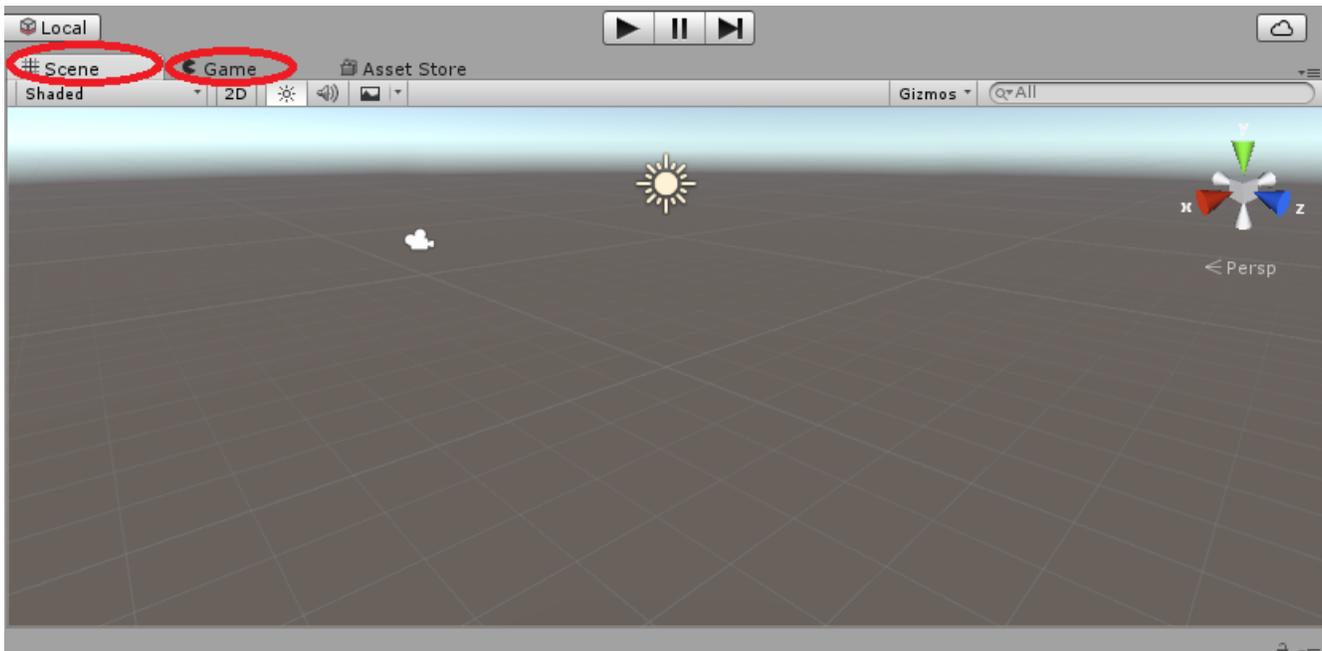
Windows can be resized by hovering over the edges, clicking, and dragging.



Scene View and Game View

The Scene View and Game View both share the large central window. It is here that you will be able to see your scene. You can click on “Scene” and “Game” to switch between them. In the Scene View you will be able to edit your scene and view it from any perspective. In the Game View the window will show how the game will look from the player's perspective. Make sure that you are in Scene View before editing your scene.

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You can slide (known as “pan”) around your scene using the hand tool, which is selected by default.



Simply use the LMB to use whichever of these five tools you have selected.

For example, select the hand tool and click and drag around the scene. You will be able to slide the perspective around 2-dimensionally. Holding the ALT key will allow you to perform a different function when using the LMB. Instead of panning you will be able to rotate the perspective. Holding the RMB will perform this same function.

Holding the RMB also has another function. While holding the RMB in the scene, you can use the W, A, S, and D keys to fly around in the scene in a **first-person perspective**. Let go of the RMB to stop. You can also hold SHIFT to move faster.

Finally, you can use the scroll wheel to zoom, or hold ALT and use the RMB.

First-Person: When the camera sees what the controlled character sees, as if the camera is their eyes.

Third-Person: When the camera shows a perspective separate from the controlled character's.

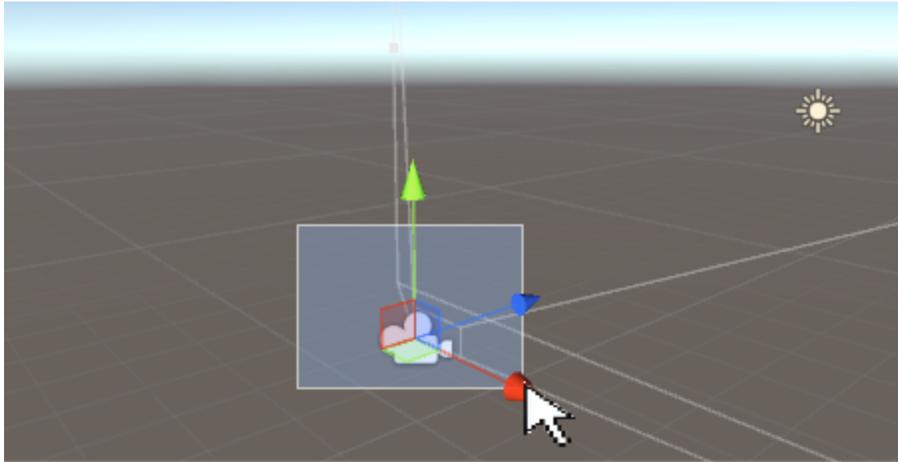
Translate: Add to or subtract from an object's position.

Rotate: Change the direction an object is facing.

Object: A piece of a scene. Characters, cameras, lights, and rooms are all examples of objects.

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Let's try the tool next to the hand tool: the move tool. The move tool is used to **translate** objects around the scene. Try clicking and dragging over the Main Camera object to select it. You can also simply click on the object, though this is sometimes hard to do.



You will now see three arrows within the object. These represent the three axes of third-dimensional space. The red arrow is the X-axis and represents left and right or width, the blue arrow is the Z-axis and represents inwards and outwards or length, and the green arrow is the Y-axis and represents up and down or height. Click on an arrow to select it and it will turn yellow. You can now click and drag this arrow to translate the object's position on this axis.

Note: When creating a 3D model, it is good practice to have the object facing up the Z-axis. This way, when looking at a model from a 2D perspective, it will be facing straight towards the camera.

The next tool is the rotate tool. Select the rotate tool and the camera. Instead of arrows you will be shown rings. The concepts here are still the same. Click a ring to select it then click and drag to rotate an object around that axis. Think of each axis as an immobile pole going through the object. Let's say you want to rotate something along the Y-axis. Since the Y-axis is up and down, the pole would be straight down through the top of the object. Since the pole itself can't move, the object will only rotate left and right. Looking at the picture below, you can see how the object looks if you rotate it to the right along the Y-axis.

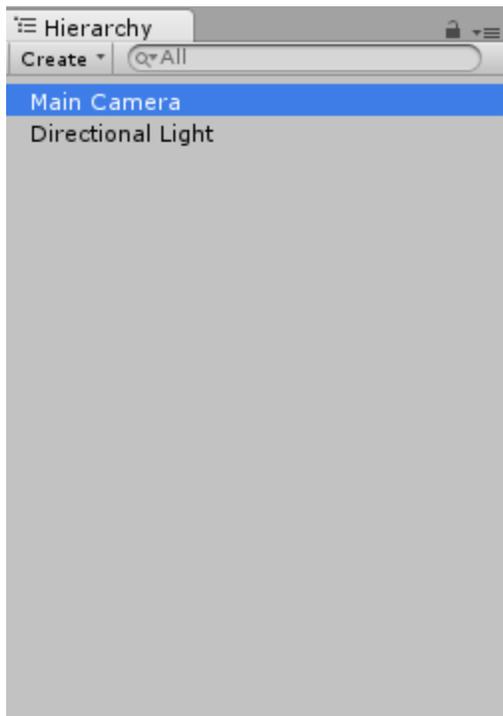


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Try rotating the camera along the X-axis until it's pointing up or down. Then, switch to the Game View. You can see how transforming the camera affects the view.

Hierarchy

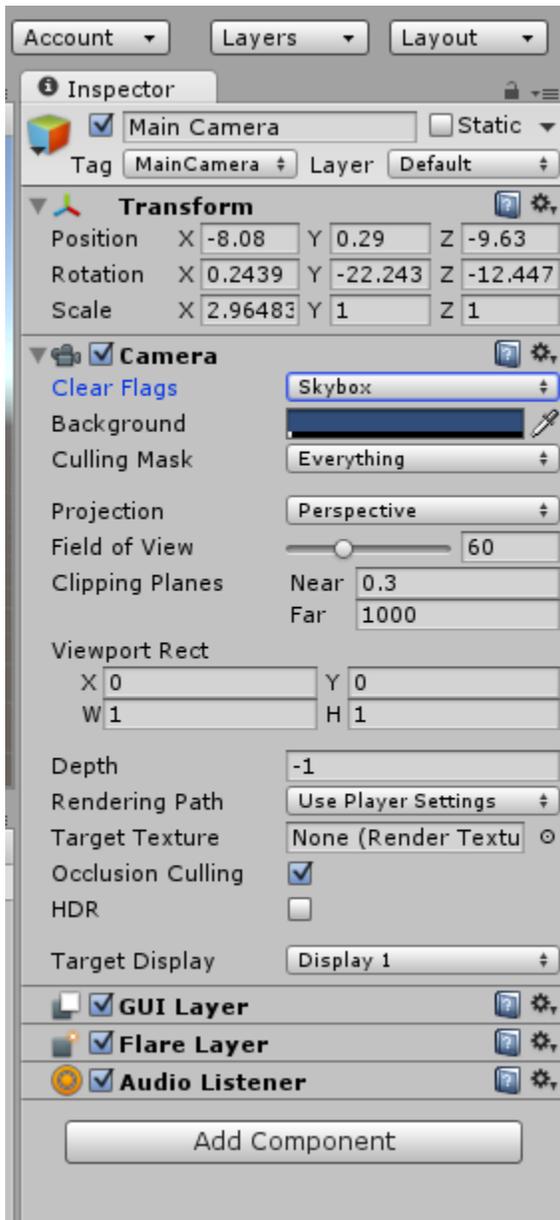
The hierarchy lists all objects that are in the scene. You can click on an object in the hierarchy to select it in the scene view or double click to fly straight to that object. This is useful if you get lost in the scene. Try zooming out really far then double click on the Main Camera.



Inspector

The inspector is used to make changes to the selected object. If you select the Main Camera object you can see a Transform menu at the top. You can type in values here to change an object's position, rotation, and scale manually without using the scene tools. This is useful for obtaining an exact position, such as (0, 0, 0).

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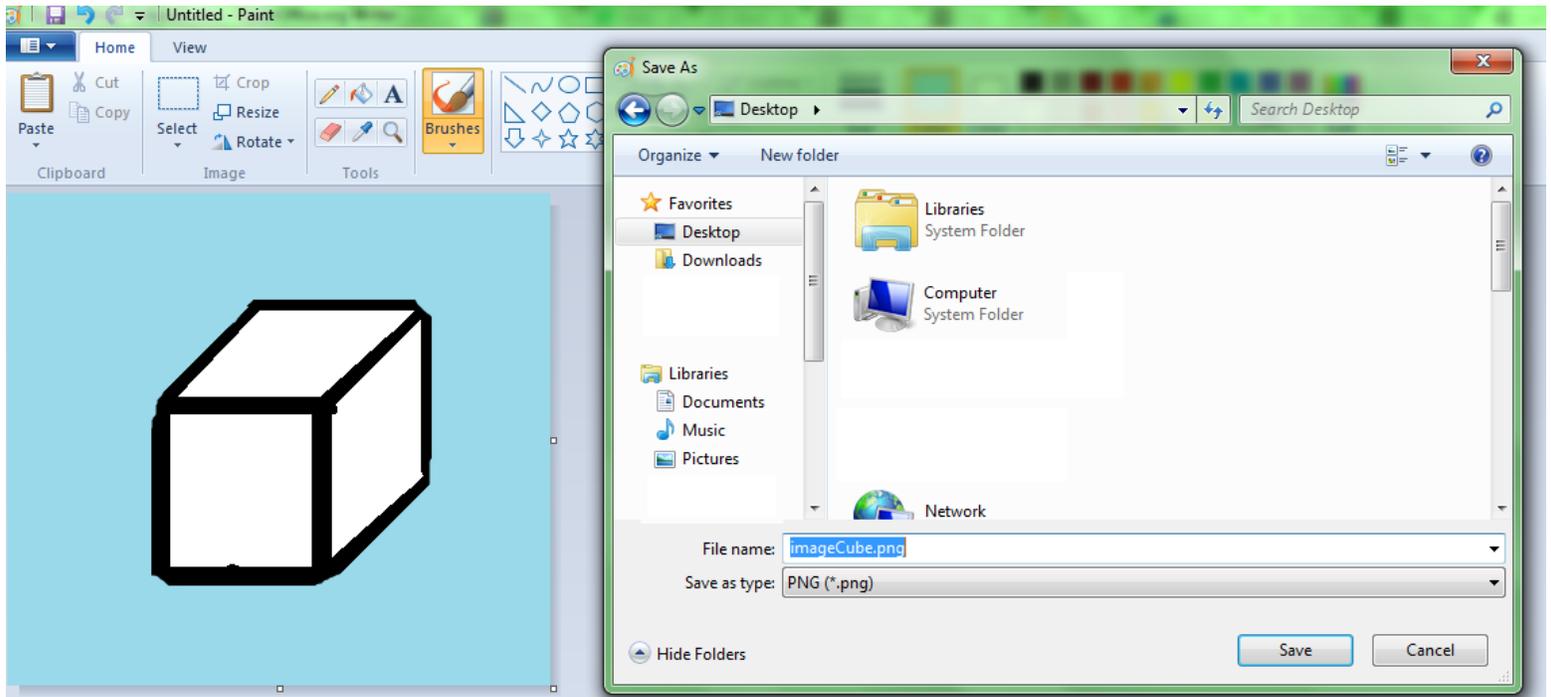
Static: A static object cannot be moved during gameplay. This is not necessary to check off for all stationary objects and is only useful sometimes. For example, light baking which will be covered in a later tutorial.

Assets

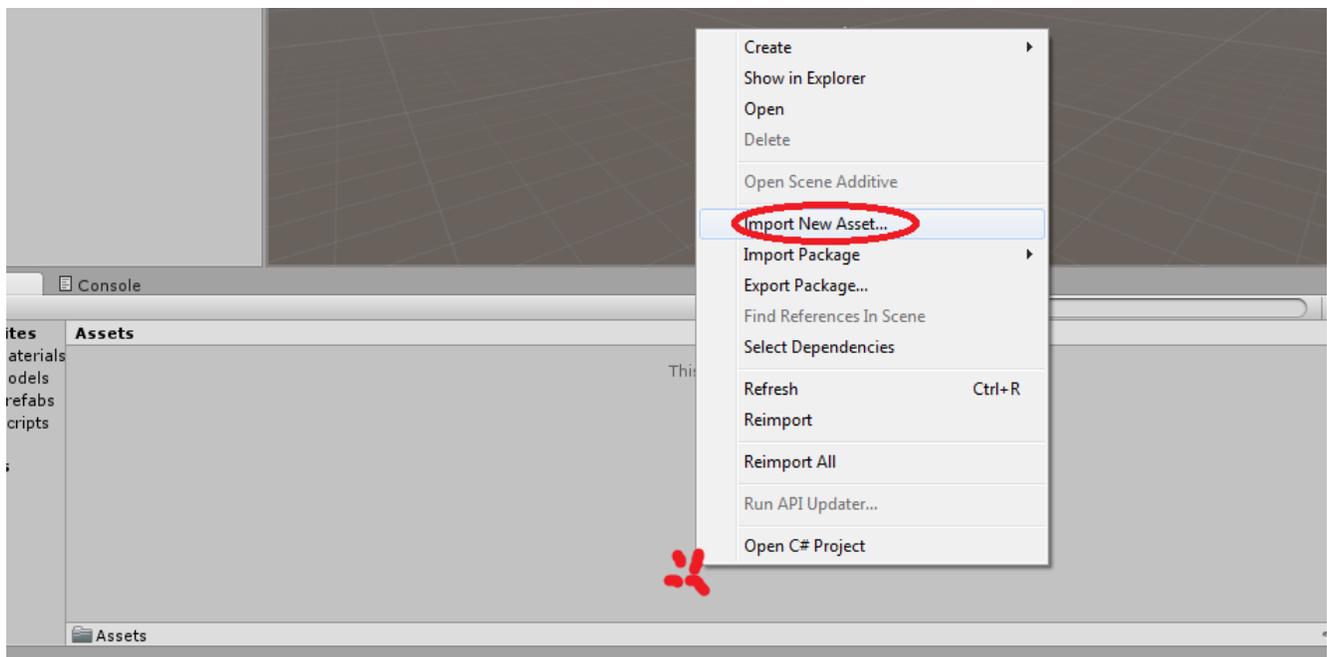
Assets are all of the external resources used to create your game. Backgrounds, character models, scripts, and sounds are all assets. Any asset in the Assets folder of your project will be found in the Assets window. Let's try importing an asset into your project.

Open up an image editing program, such as Paint, and draw something. Save it to your desktop.

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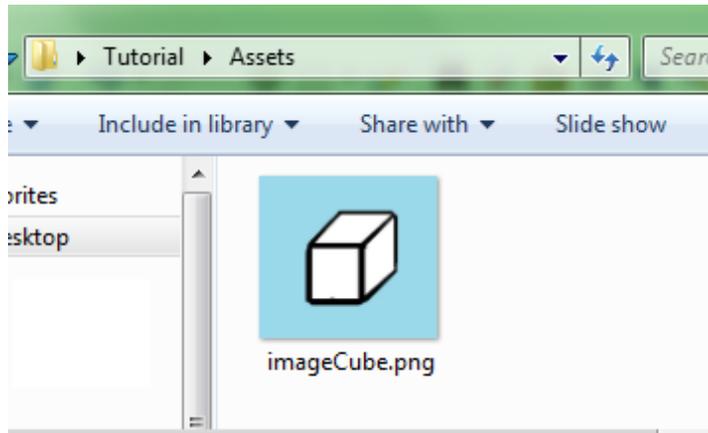
Next, right-click inside the Assets window.



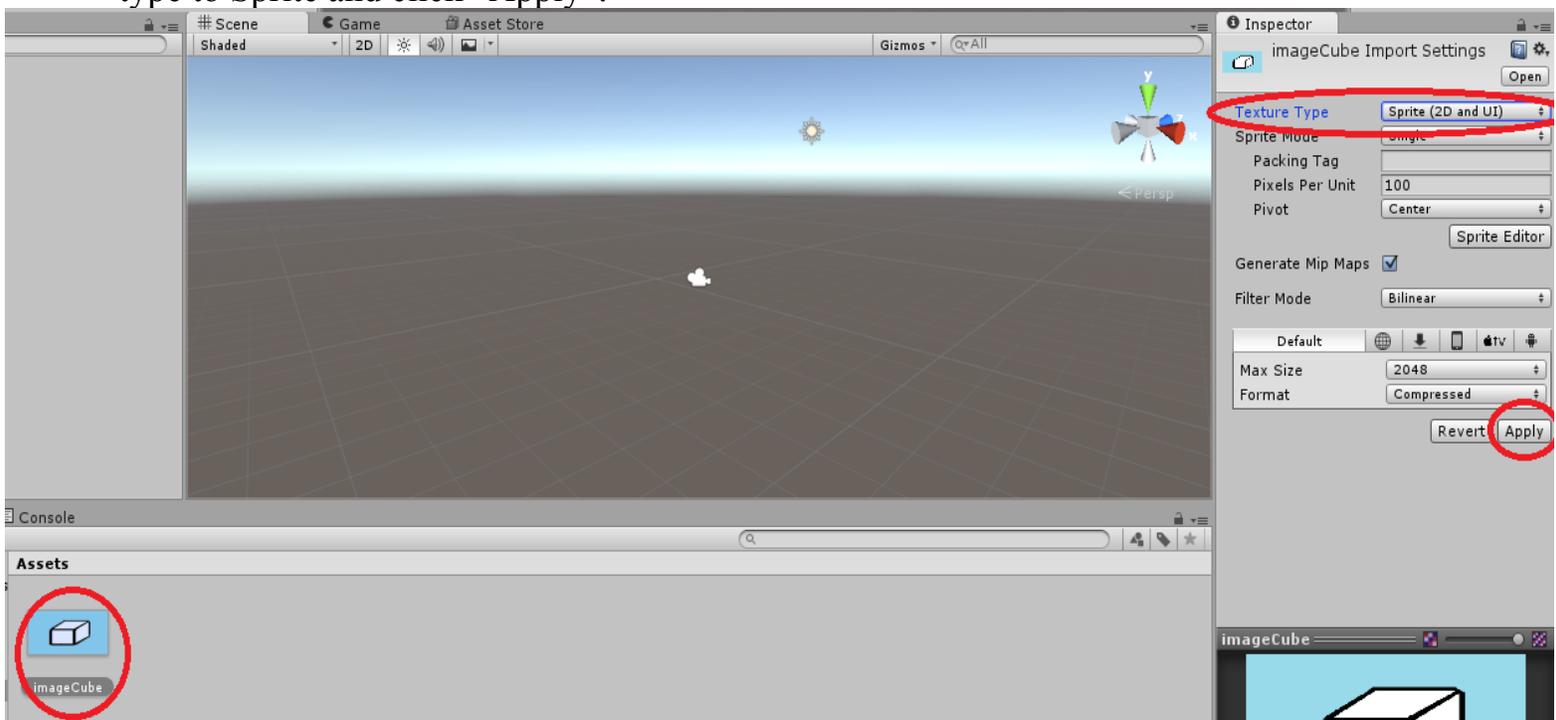
Click on “Import New Asset” and find the picture you made. With it selected, click “Import”. Your asset will appear in the Assets window. If you check the Assets folder in your project folder you will be able to find a copy of the asset there.

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Note: The contents of the Assets window is entirely dependant on the Assets folder in your project folder. Any changes made to his folder and its contents will be immediatly applied to your project.

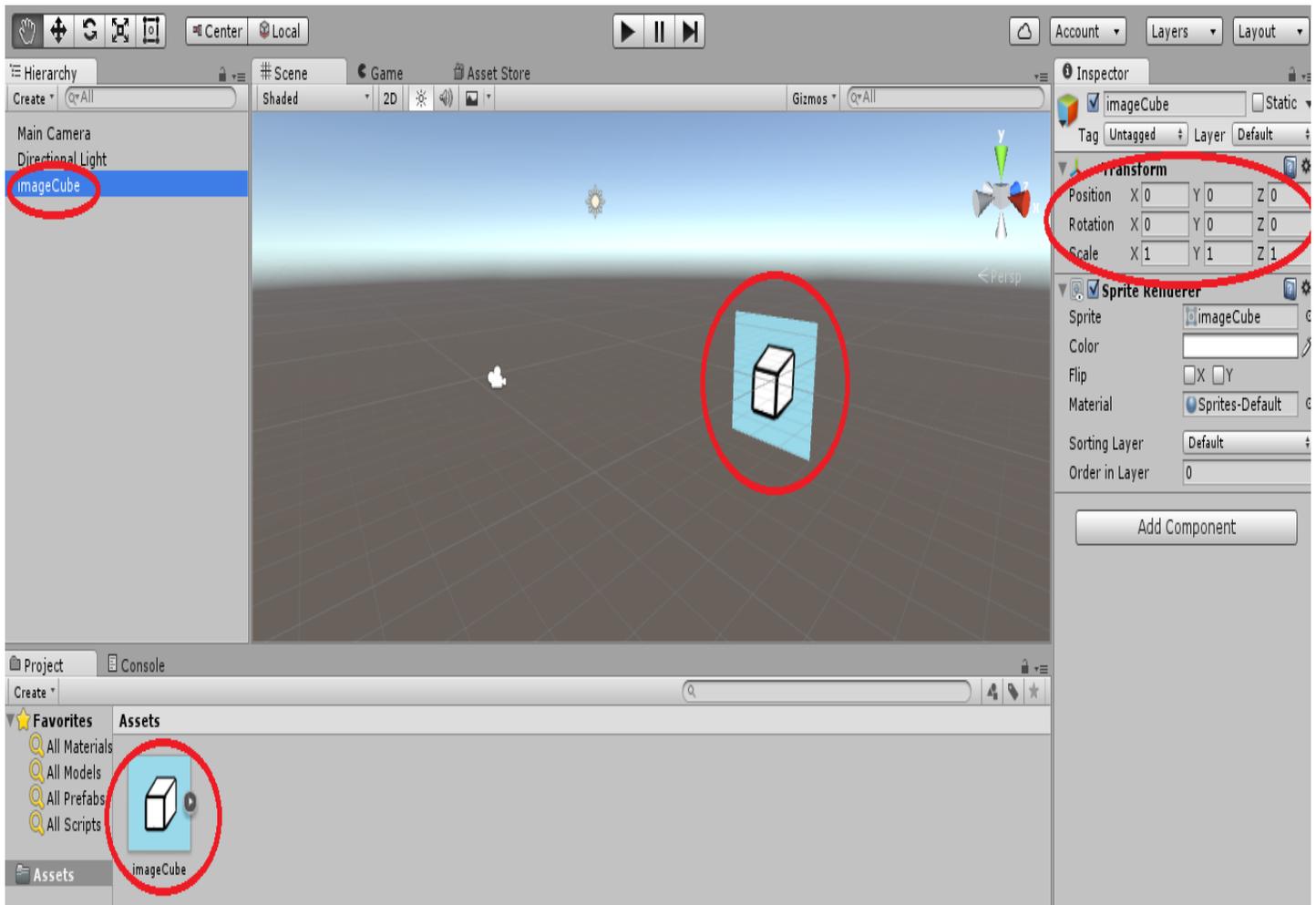


Now try making an object in your scene using this asset. First, imported .png files are typically textures by default. A texture cannot be directly imported into a scene as an object. Select your image asset and look to the inspector window. Change the texture type to Sprite and click “Apply”.



Now click and drag this asset into either the hierarchy or the scene view.

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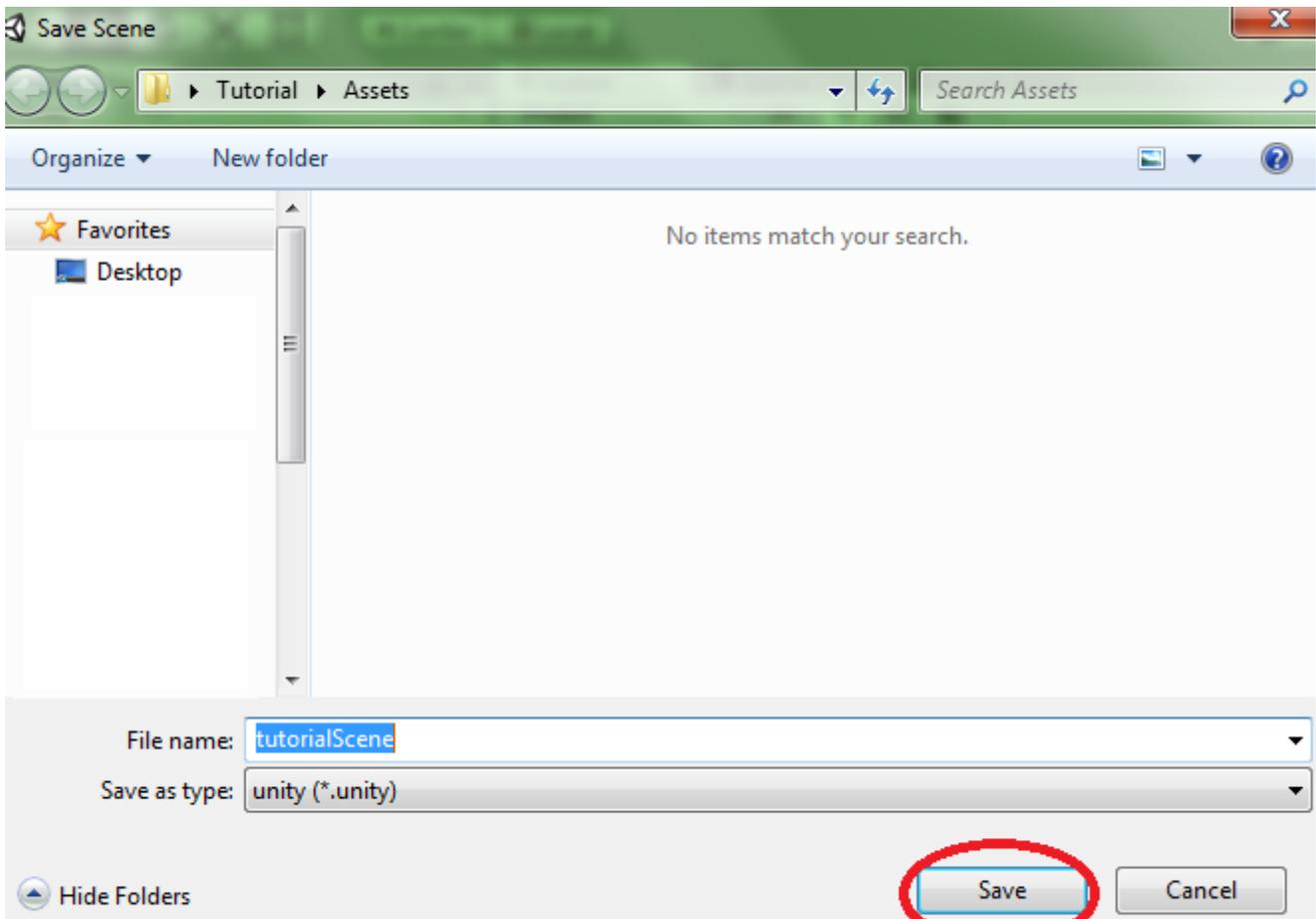
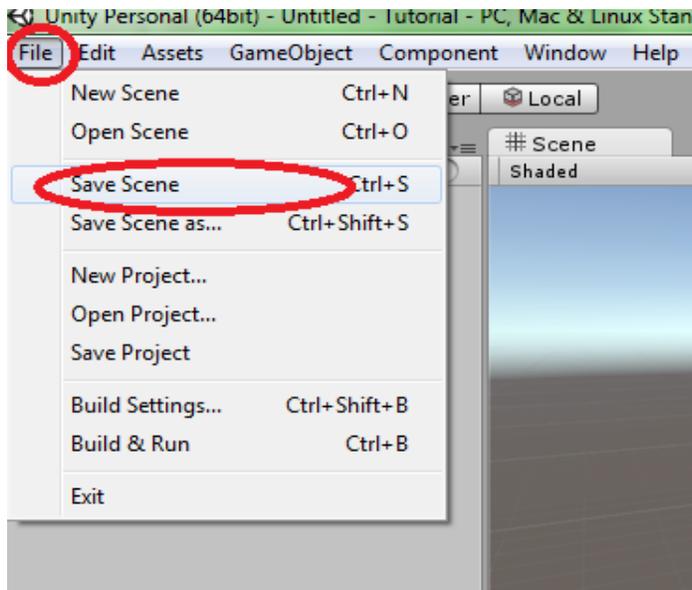


You now have a new game object created from an asset. If you dragged the asset into the hierarchy you can notice that its transform will be at the default values. If you dragged it into the scene view it will be placed approximately where you dropped it.

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III – Saving a Scene

Most aspects of a project are saved as soon as changes are applied. Scenes however are not saved automatically. To save your current scene, go to file and select “Save Scene” or press CTRL and S.



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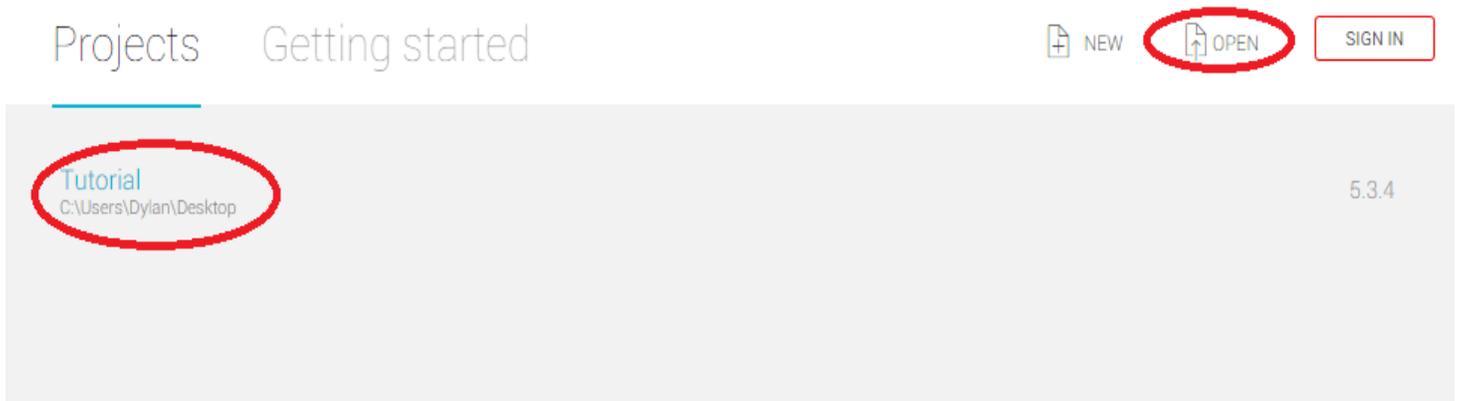
The Assets folder should open by default. If it does not then navigate to it before saving.

You should now see your scene in the assets window. You can double-click on any scene in the assets window to open that scene.

WARNING: Make sure to save your scene often to avoid data loss. The easiest way is to press CTRL and S after every big change.

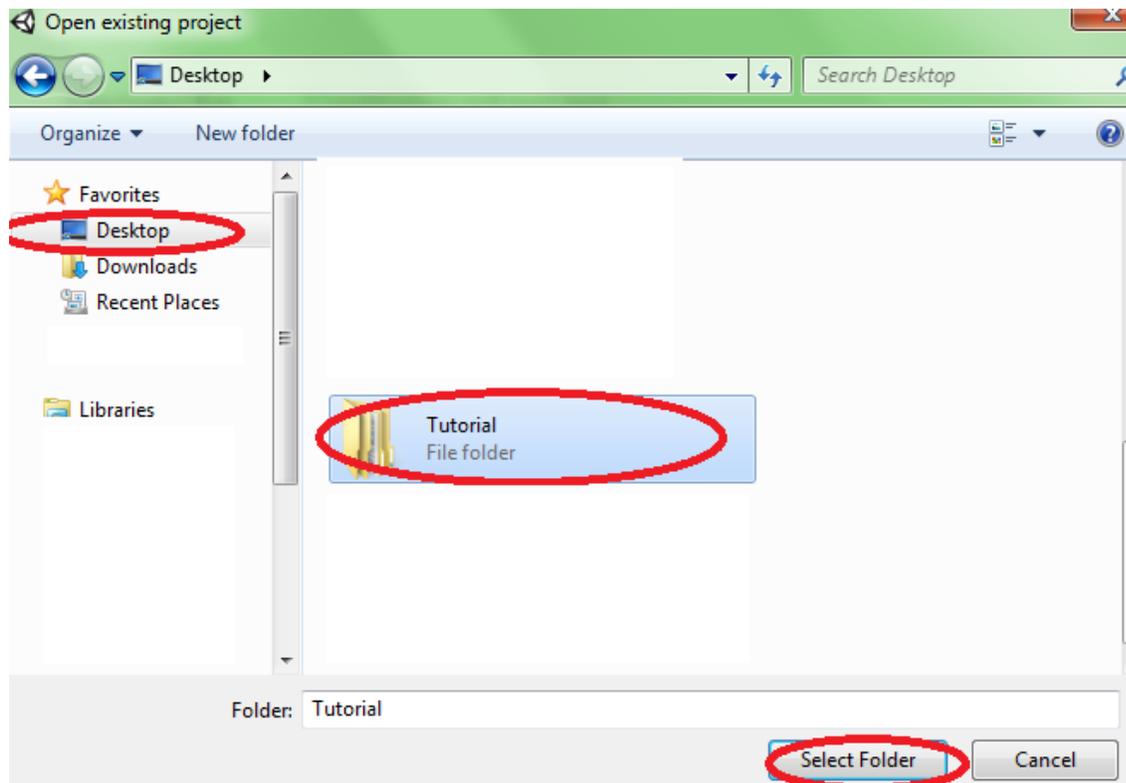
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IV – Opening an Existing Project



Whenever you open Unity you will be shown a list of existing projects. You can open an existing project simply by clicking it in the list or by clicking open and navigating to your project.

Click on the appropriate folder and click “Select Folder”. Unity will open to the most recently saved scene.



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The “5.3.4” found beside the project name is the version that this project was created using. Please be aware that using a different version of Unity may cause compatibility issue.

WARNING: Remember to create a copy of your project before switching to a different version of Unity.

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V – Controls and Shortcuts

Q: Hand tool 

W: Move tool 

E: Rotate tool 

R: Scale tool 

T: Rect tool 

LMB: Use current tool

RMB: Rotate perspective/Fly-Through

ALT + LMB: Rotate perspective

ALT + RMB: Zoom

Scroll wheel: Zoom

CTRL + N: Create a new scene

CTRL + O: Open an existing scene

CTRL + S: Overwrite current scene

CTRL + SHIFT + S: Save current scene