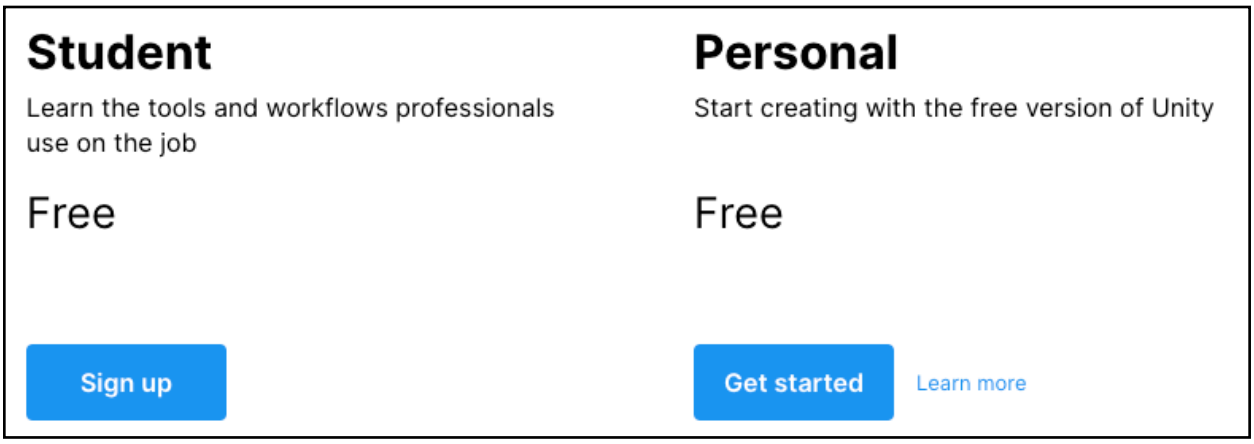
Quest 0 - Install, Collab, WebGL

Install Unity - Steps

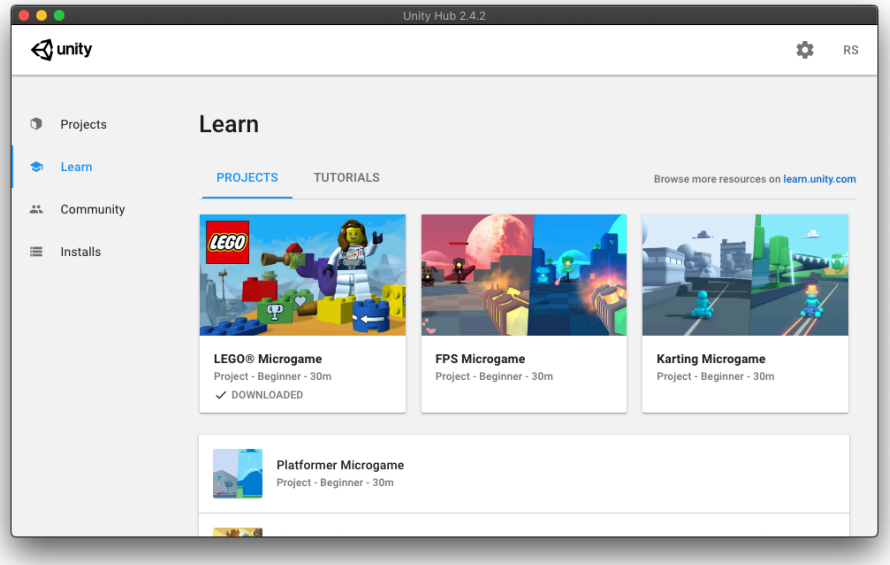
1) Download Unity Hub from unity.com

Both Student and Personal downloads are FREE. If you have time to go through the verification process, a Student account will provide you with extra Unity Teams seats, which may help you with your group project.

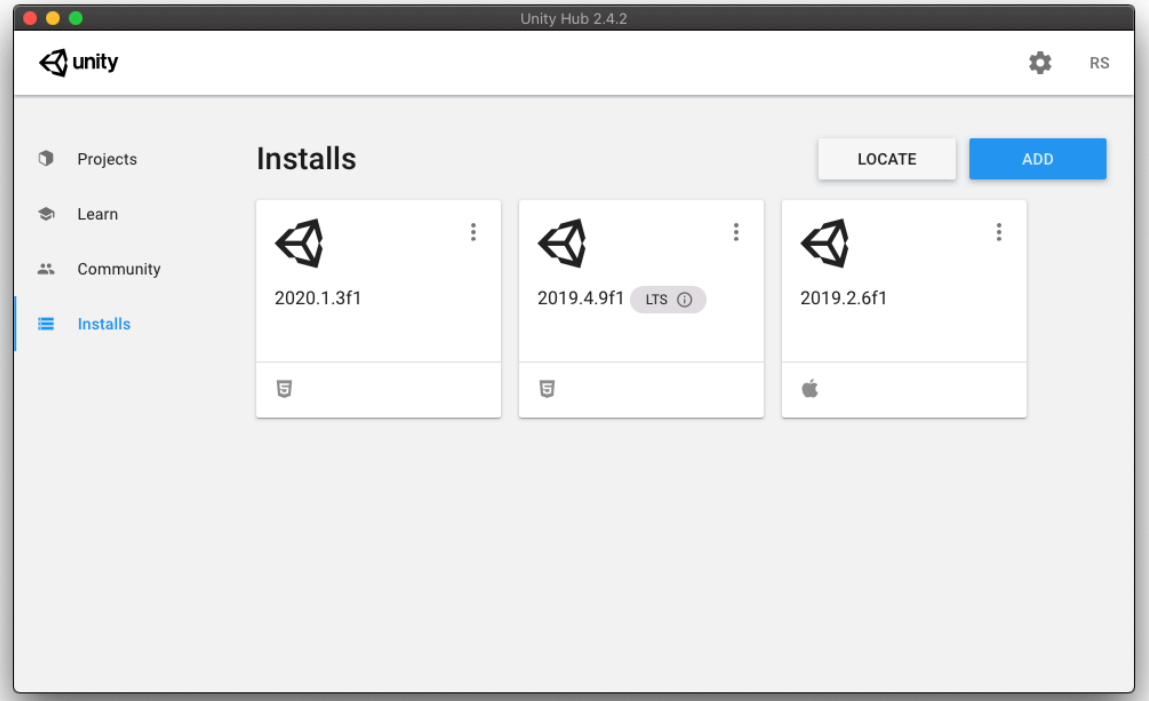


2) Install and Open Unity Hub

Unity Hub is a launcher for managing your Unity projects and installed video game engines.

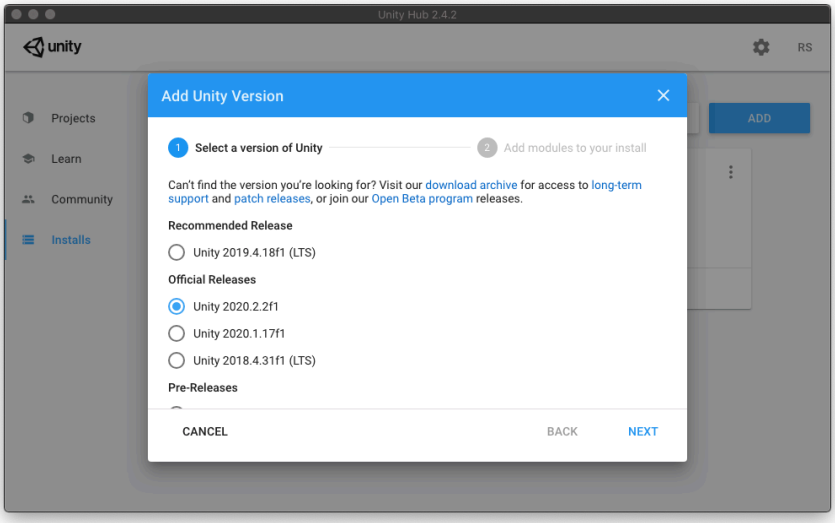


Unity Hub itself is not the Unity Editor. Because some video games can take years to produce, developer often need to install multiple versions of a video game engine for the various projects that pop up over the years. Install and Open Unity Hub Install and Open Unity Hub



3) Install the Unity Editor

***The version of Unity you install may differ. Please use these instructions as a reference, but you must defer to any additional details posted by your instructor regarding the required version for the semester. If you don't use the correct version, your project might have glitches or fail to run. You are responsible using the proper version of Unity.**

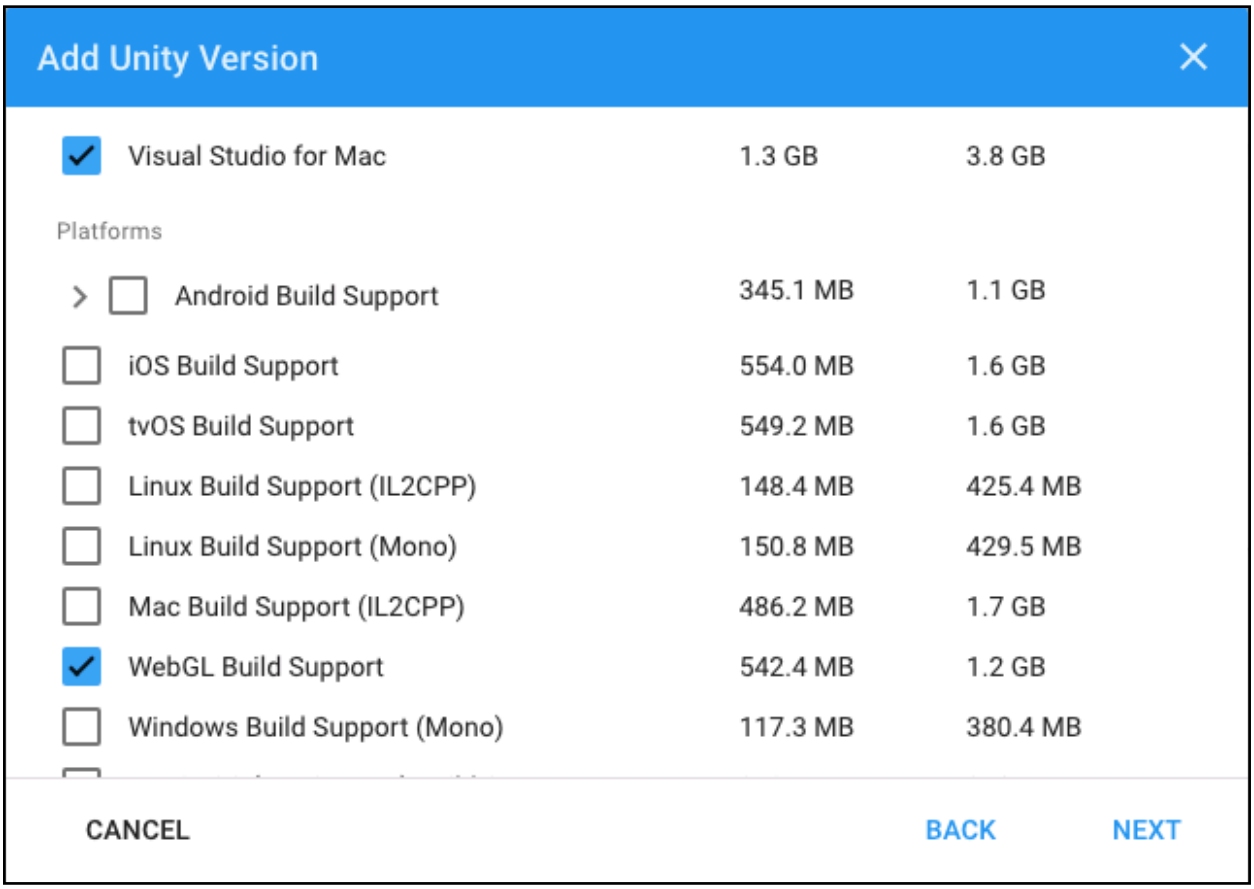


Choose the required version of Unity for the semester as detailed by your instructor. On the next screen, you will see additional modules you can install with the Unity Editor.

At a minimum, you will need some sort of C# code editor. You may use whatever code editor you prefer. Visual Studio Community or JetBrains Rider are free code editors that work well with Unity. I **do not** recommend Visual Studio Code as Microsoft has documented that as a lite editor, Visual Studio Code **will not** reliably provide code completion or autocorrect.

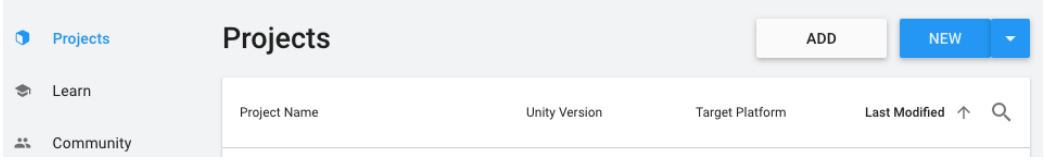
Unity Hub can install Visual Studio for you, if that will be your code editor of choice.

We will also use WebGL Build Support to export and share games during the course.



4) Create a new project

From the Projects tab, you can use the New button to create a new project. If you have installed multiple versions of Unity, press the DOWN ARROW on the New button to ensure you'll create your project with the proper Unity Editor version.



Unity Collab - Steps

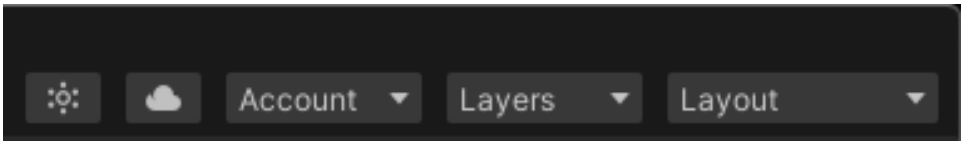
Unity Collab is Unity's built-in source control solution for sharing and collaborating on projects with teammates. It is analogous to working with GIT or Subversion (but not quite as powerful).

Once you've started a project: Any time you want to commit those changes (publish them to the cloud via Unity Collab), you must follow these steps.

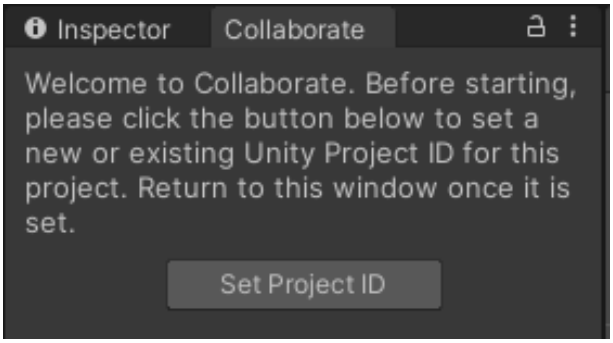
1) Set Project ID

You must be logged into Unity (using the Account menu) to use Unity Collab and other associated services.

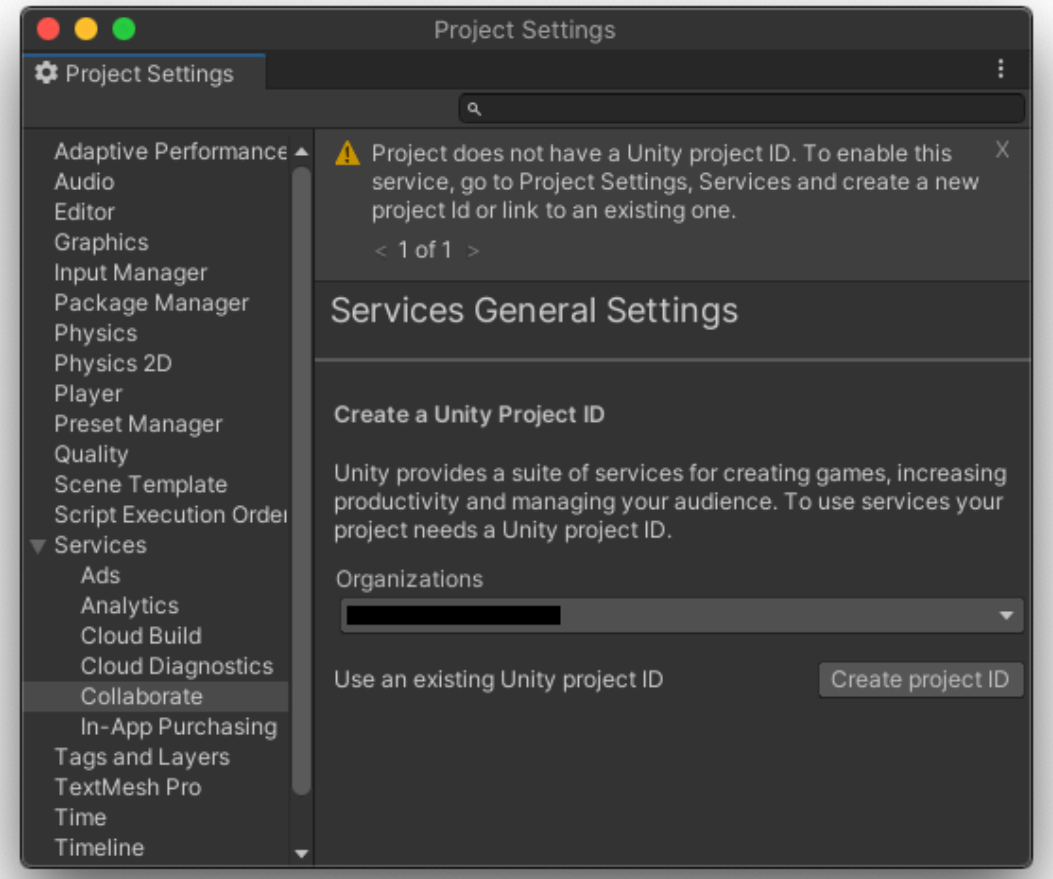
In the upper-right corner of the Unity Editor window, click the Collab button (to the left of the Cloud icon) to open the Collaborate tab.



Confirm that you want to set up a project ID.

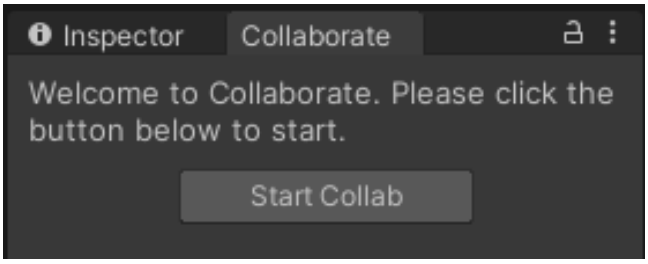


This will open the Project Settings window where you may be asked to choose what account/ organization the project should be created under. You might have more options if you are already part of other projects and their organizations. Choose the organization that represents your own account.



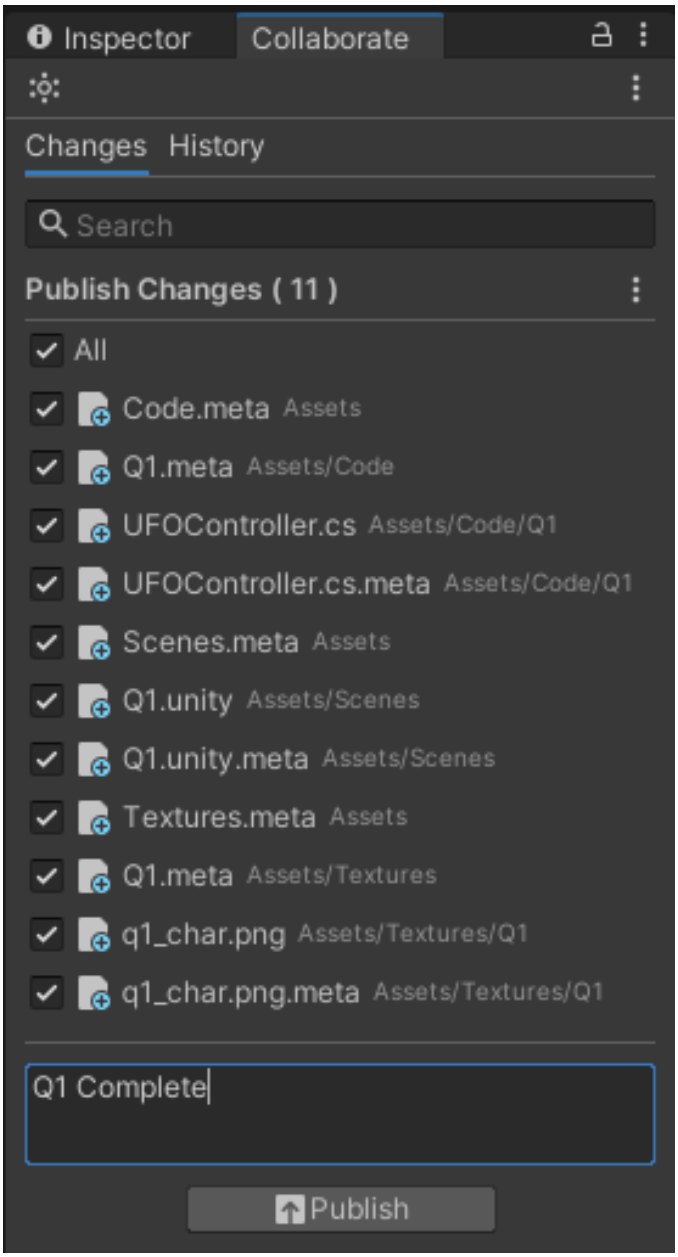
2) Start Collab

With your Project ID set, return to the Collaborate tab, and choose Start Collab.

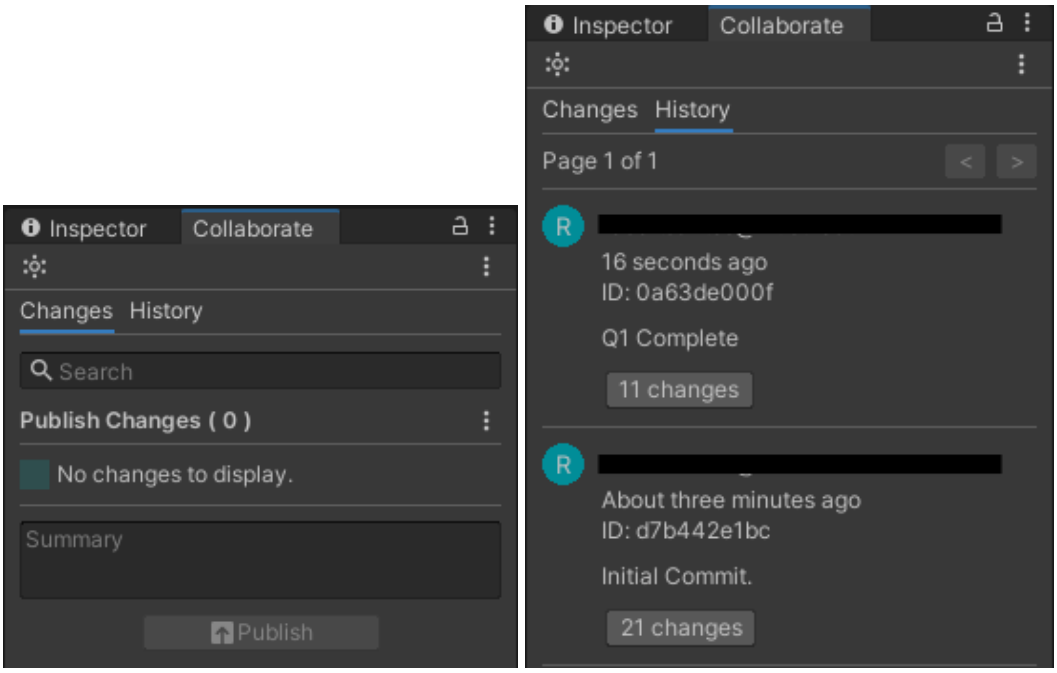


3) Publish Your Changes

Write a commit description. NEVER leave these descriptions blank. This is a good opportunity for you to label what assignment you are publishing or to tell your teammates what changes you are uploaded to the group project.



Once your changes have been published, you should see that there are no changed files available. If you switch to the History section, you'll also see your recent publishing history.



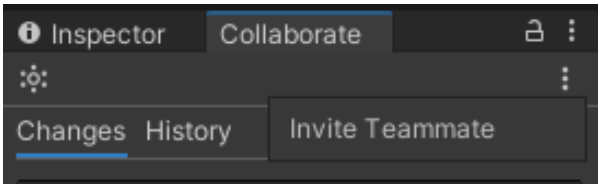
4) Publish More Changes

Whenever you make further edits to your project, do not forget to publish those changes.

Regularly publishing to Unity Collab can help you write your changelogs for iteration review assignments. You must have a Publish for each graded assignment. If you complete multiple assignments at once, but only publish at the end, you may have erased some steps which will prevent us from fully grading your submission.

5) Edit Team Members

Click the triple dots BELOW the Collaborate tab. Clicking Invite Teammate will load the webpage for your project's team members. You may be asked to log in.

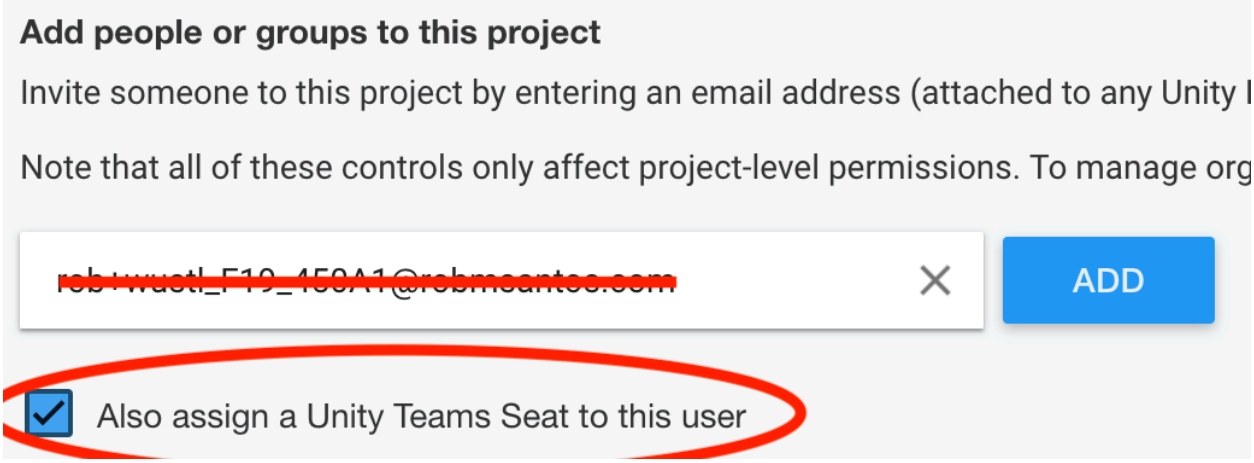


6) Add Team Members

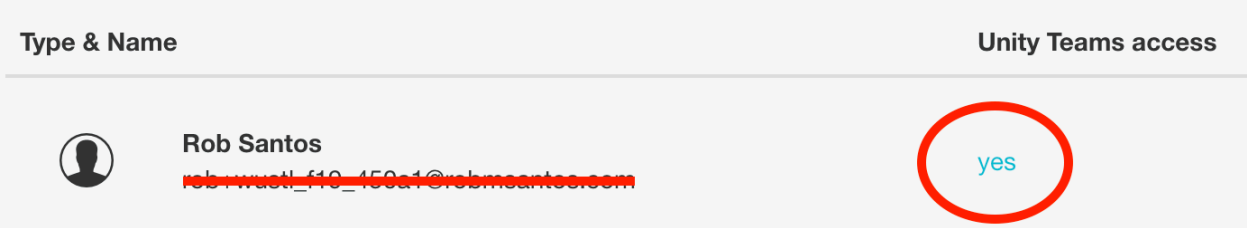
Add the appropriate collaborator accounts for your class section and semester. These will have been posted by your instructor.

Be sure to paste the collaborator e-mail completely (with no extra spaces, missing letters, or any other typos). You must also assign a Unity Teams Seat to the collaborator. (The checkbox might be temporarily covered up by the auto-complete dropdown when typing the e-mail.)

Double-check this step. If it is not done correct, I cannot see your project and you will not receive credit for your work.



Look at your Project Members list. Ensure that both the correct collaborator e-mail is present and that it says “yes” under Unity Teams access. If any these are not correct, I cannot see your project and you will not receive credit for your work.



WebGL Export - Steps

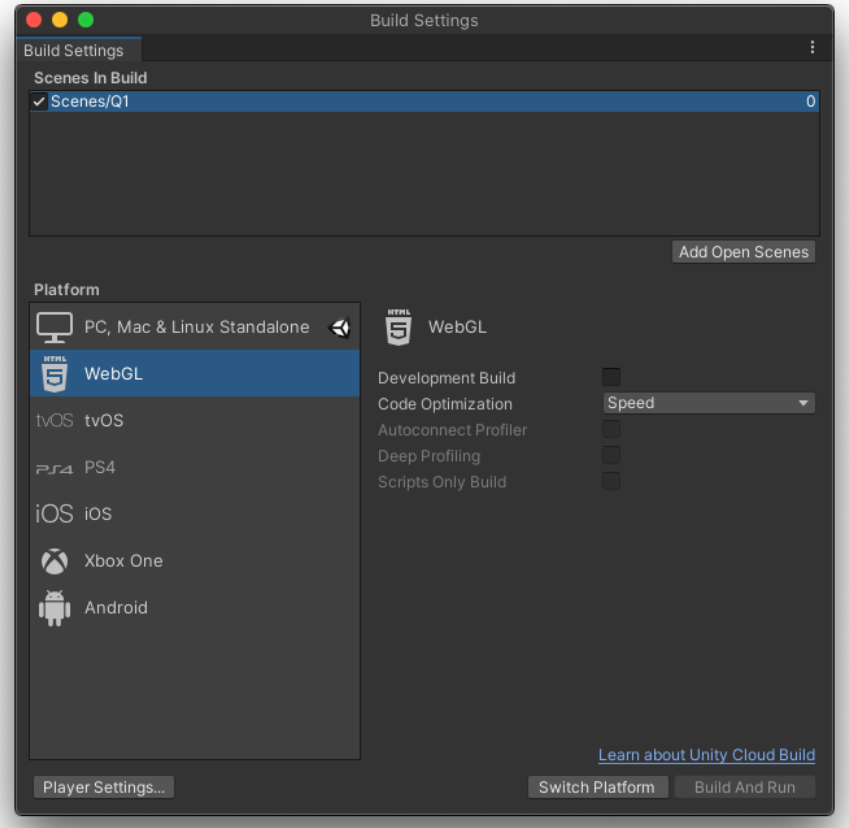
Besides exporting traditional .exe and .app games, Unity can export for devices and for web. We will be using the WebGL export specifically for its cross-platform compatibility and accessibility.

1) Build Settings

Open the Build Settings window with File->Build Settings.

Ensure that all playable scenes are listed under Scenes in Build. (Projects often have test scenes that are not meant to be distributed to players. Leave those out of this list.)

Select WebGL from the Platform list and click “Switch Platform.” You may have to wait for Unity to recompile all assets to a format that is compatible with WebGL.



2) Test in Editor

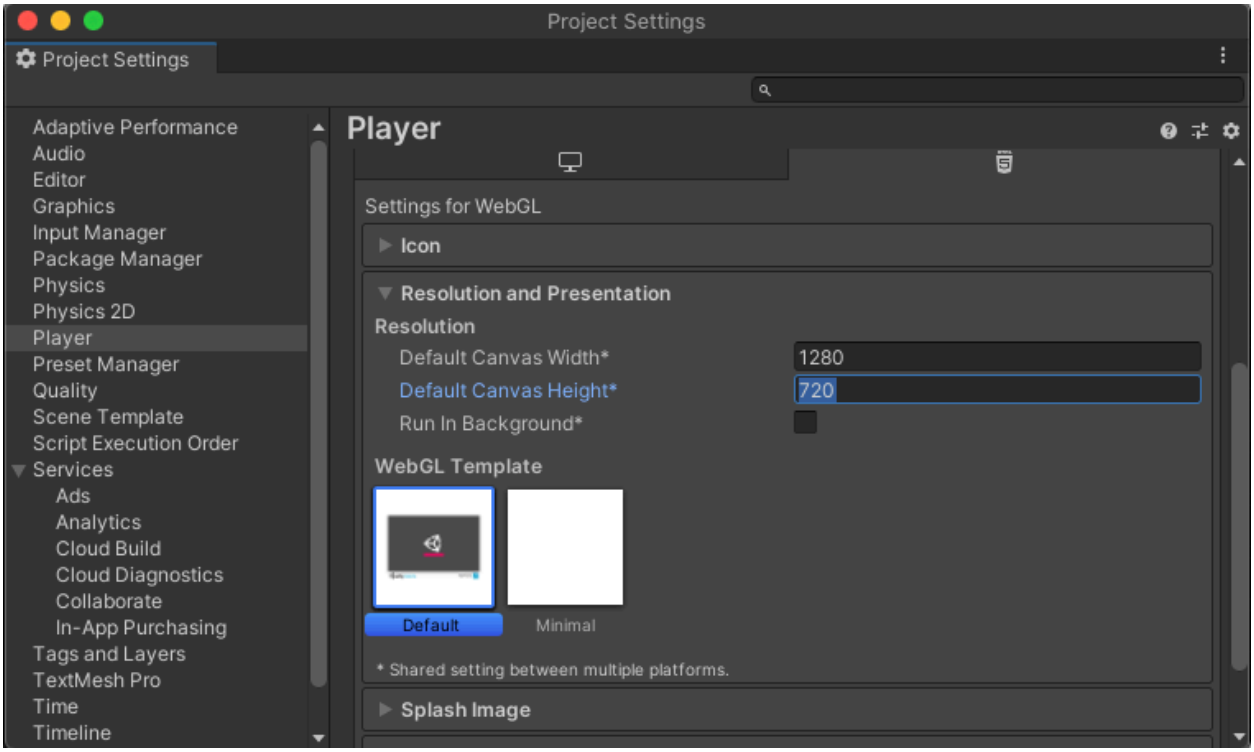
Before you attempt an export, you can save a lot of headaches and time by making sure your game actually runs as expected in the Unity Editor. This avoids you wasting time compiling an export that was clearly already broken.

Sometimes functionality that was working on one platform does not work properly in another platform, which is why it is a good idea to test again after switching to WebGL.

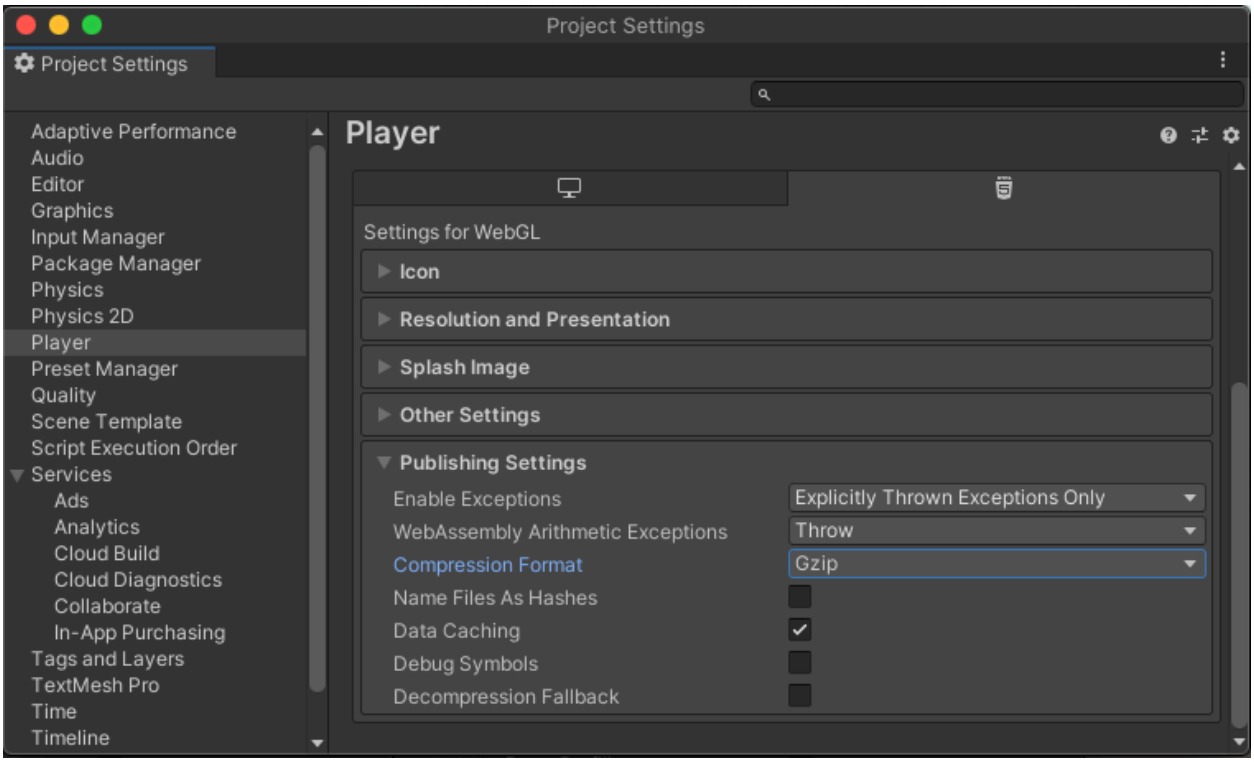
3) Player Settings…

Back in the Build Settings window, click the “Player Settings…” button in the bottom left.

Normally, games will adapt to whatever screen they are played on. With web games, we set screen resolution manually so the game properly fits in its destination page. You should choose a screen resolution that matches your target aspect ratio. For our class, we target 16:9, which means a resolution of 1280x720 is a good fit.



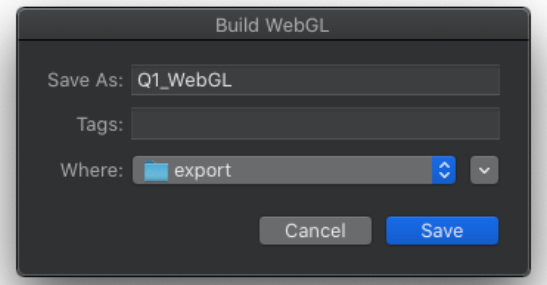
For compatibility with the itch.io web servers, we must also ensure that the compression mode is set to gzip.



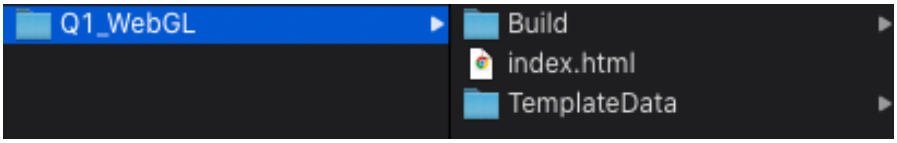
4) Export

With your platform switched to WebGL, the Switch button has been replaced by “Build.” Click this Build button and select a folder to output your game.

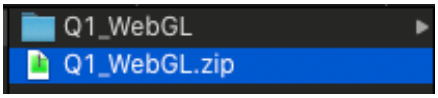
Do NOT export into your current project. Doing so will just clutter your project with unusable or duplicate assets.



WebGL projects export as a folder of web content including an html page and various web assets. It will not export a self-contained exe file. The entire exported folder will be necessary for running your game.



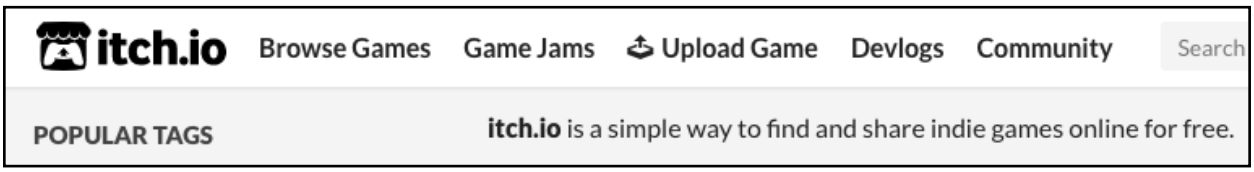
All of these files need to be uploaded together, so you should archive them together in a zip file.



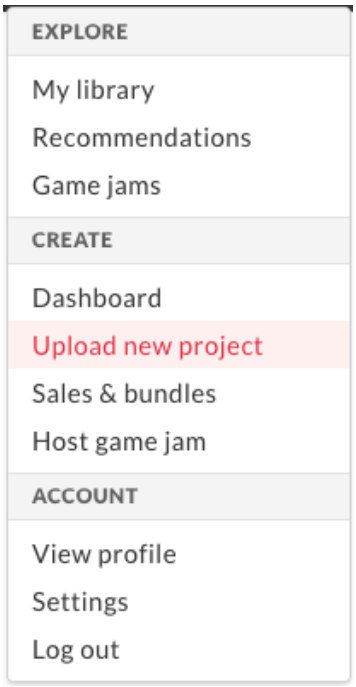
5) Upload

Due to security restrictions, you cannot run WebGL pages directly from the file system by double-clicking the html file from Windows Explorer or Apple Finder. Your exported web content must be delivered through an HTTP server. It is possible to run a web server locally, but that is beyond the scope of this class. A local web server also does not help you share your game with friends!

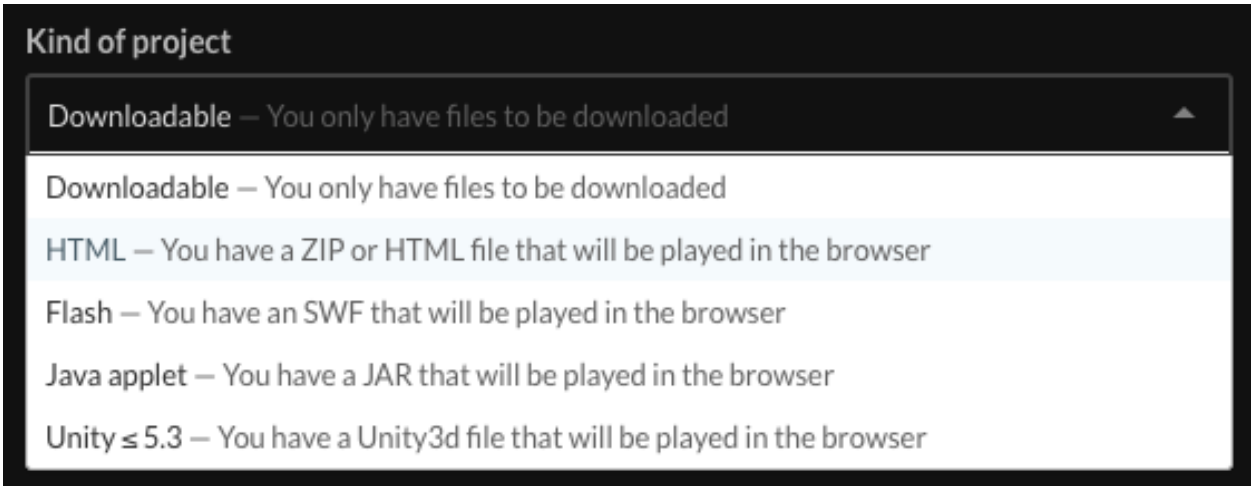
We will use a free games hosting service known as itch.io for class. itch.io is similar to services such as Steam or the App Store, but is more open and accessible. (It can take a really long time to get your games approved on Steam, but with itch.io, you simply upload and share your URL.)



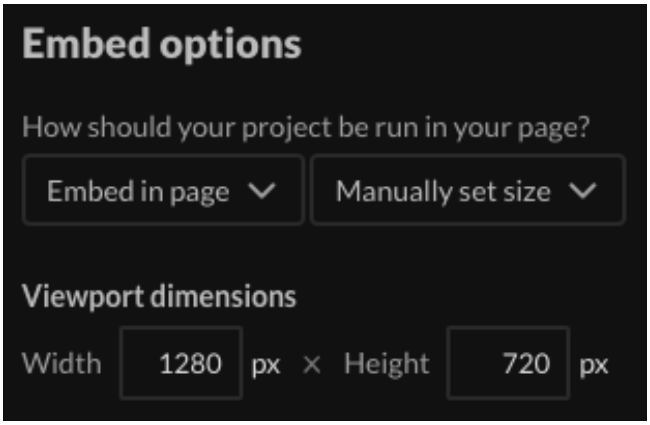
itch.io accounts are free. Once you are logged in, you can find the Upload link under your Profile navigation.



When creating a games page, make sure your game type is set to HTML. (NOT Unity v5, which is an old and discontinued format.)

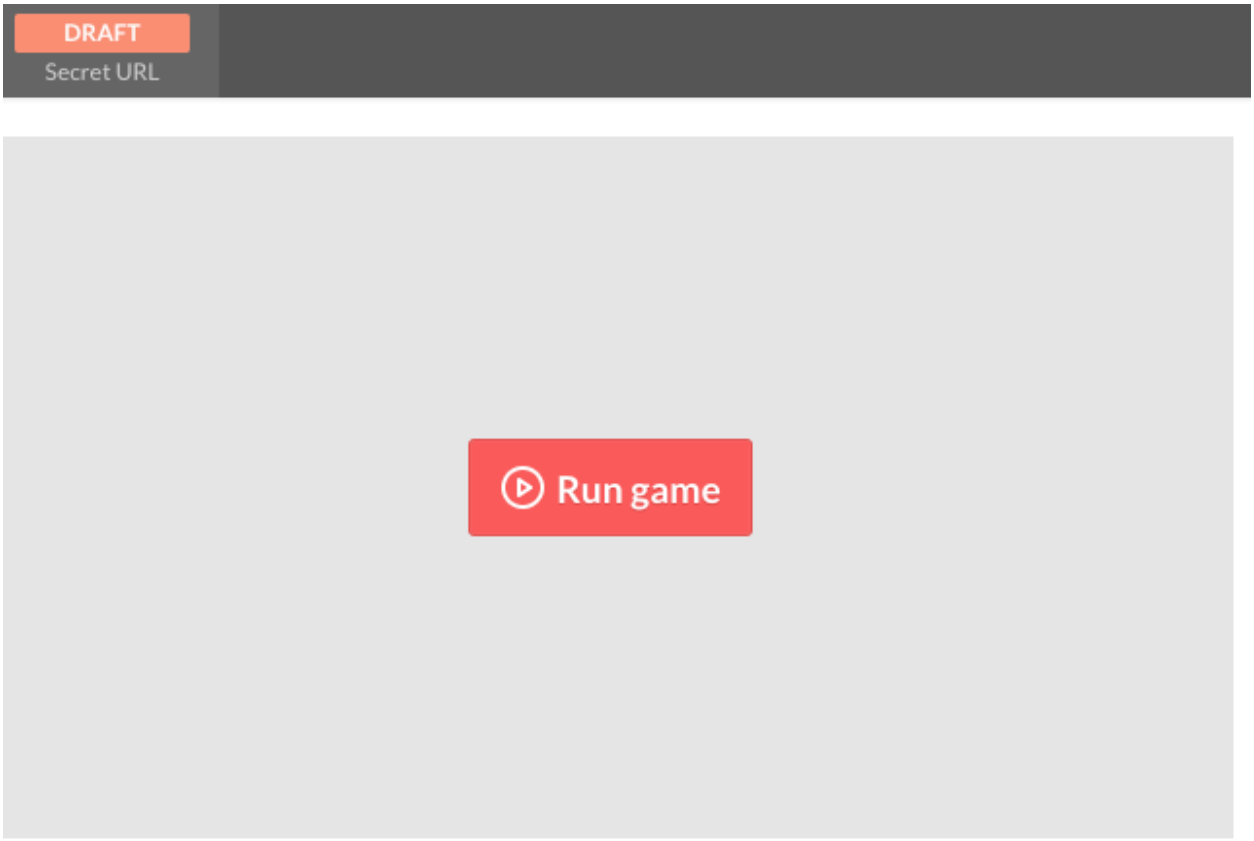


We must match the embed resolution with our game's target screen resolution.



Finalize any other settings you wish to configure, upload the ZIP file of your game's files, and save your game page.

You will be brought to a page your game! You can use the secret URL to share your game without making it fully public.



6) Playtest!

WebGL can sometimes behave differently than other desktop and mobile platforms. As always, playtest your game to ensure it still performs as expected.