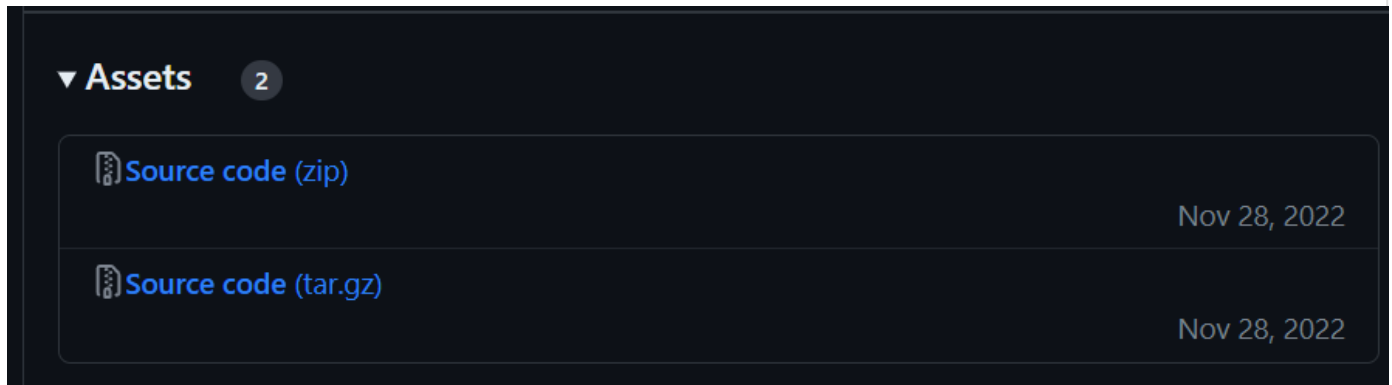


# Unity ML Agents

## Downloads

### Download

Download the latest release from [this Github page](#)



### unzip

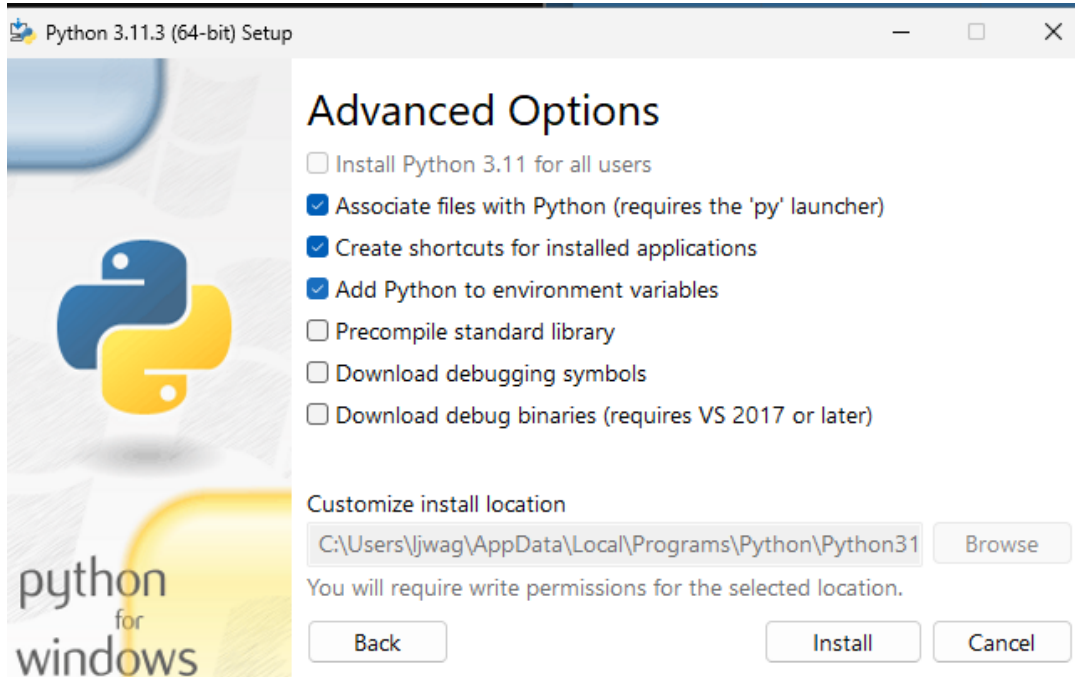
unzip it to C:\Users\YOUR USERNAME\ (Windows)

For Linux and Mac save unzip it to 'home' directory

now you will have a folder there called: **ml-agents-release\_20**

## Installations: Anaconda and Python

1. Install [Anaconda](#) but **don't add it to PATH**
2. Install [Python](#) and **add to PATH** during the installation.



Anaconda itself is a Python distribution, but it is not recommended to add it to path. We install Python after our Anaconda installation so that python commands can be executed systemwide, but conda commands only when using conda shell, to prevent any interference with other applications using Python.

## Conda environment configuration

### create conda environment

```
conda create -n ml-agents python=3.8
```

### activate conda environment

```
conda activate ml-agents
```

install [pytorch](#)

PyTorch Build	Stable (2.0.0)		Preview (Nightly)	
Your OS	Linux	Mac	Windows	
Package	Conda	Pip	LibTorch	Source
Language	Python		C++ / Java	
Compute Platform	CUDA 11.7	CUDA 11.8	ROCm 5.4.2	CPU
Run this Command:	<pre>pip3 install torch torchvision torchaudio --index-url https://download.pytorch.org/whl/cu118</pre>			

install Unity ML Agents:

```
cd ml-agents-release_20/ml-agents-release_20

pip3 install -e ./ml-agents-envs

pip3 install -e ./ml-agents
```

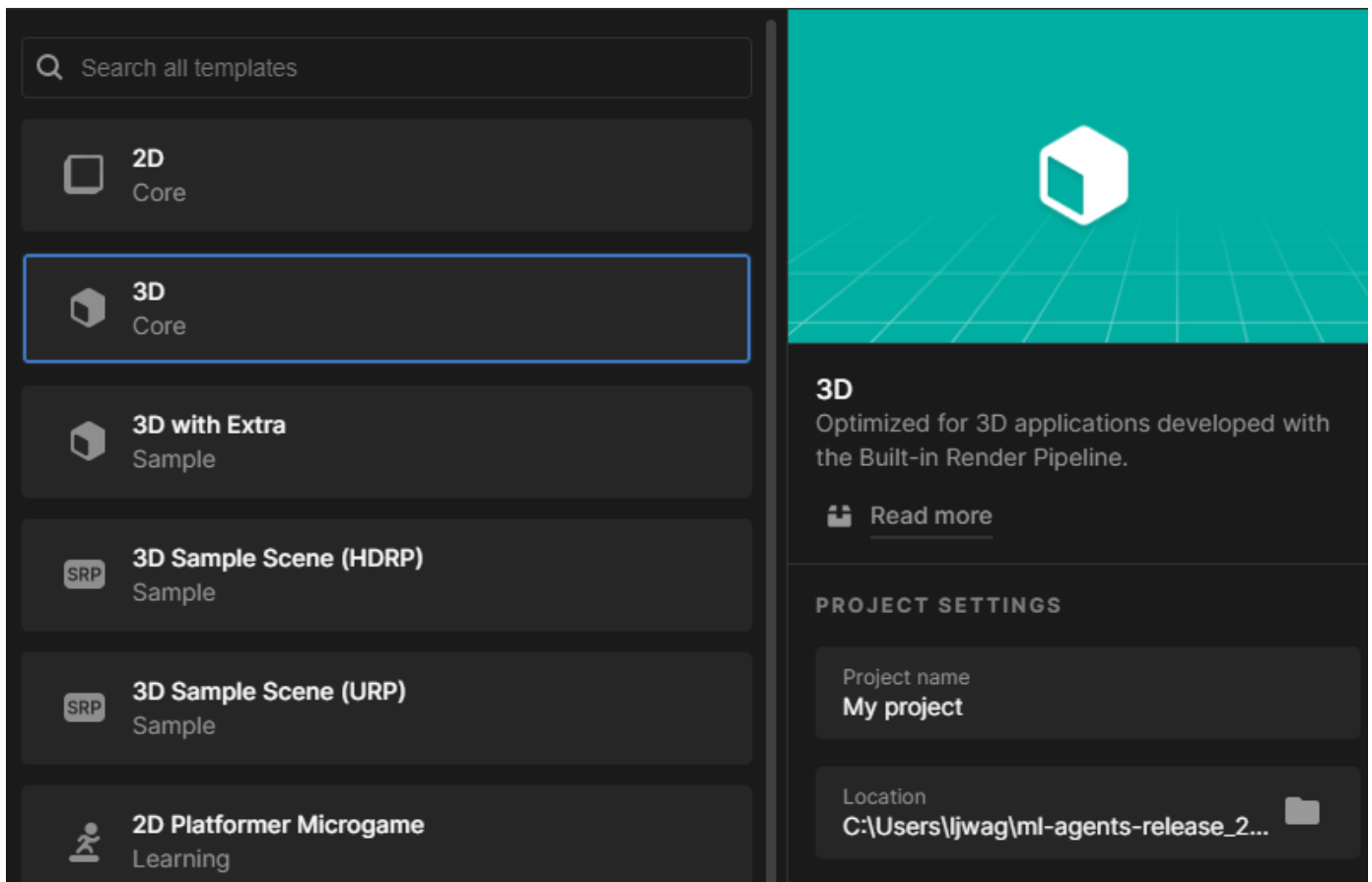
Downgrade protobuf and install onnx module

```
pip install protobuf==3.20

pip install onnx
```

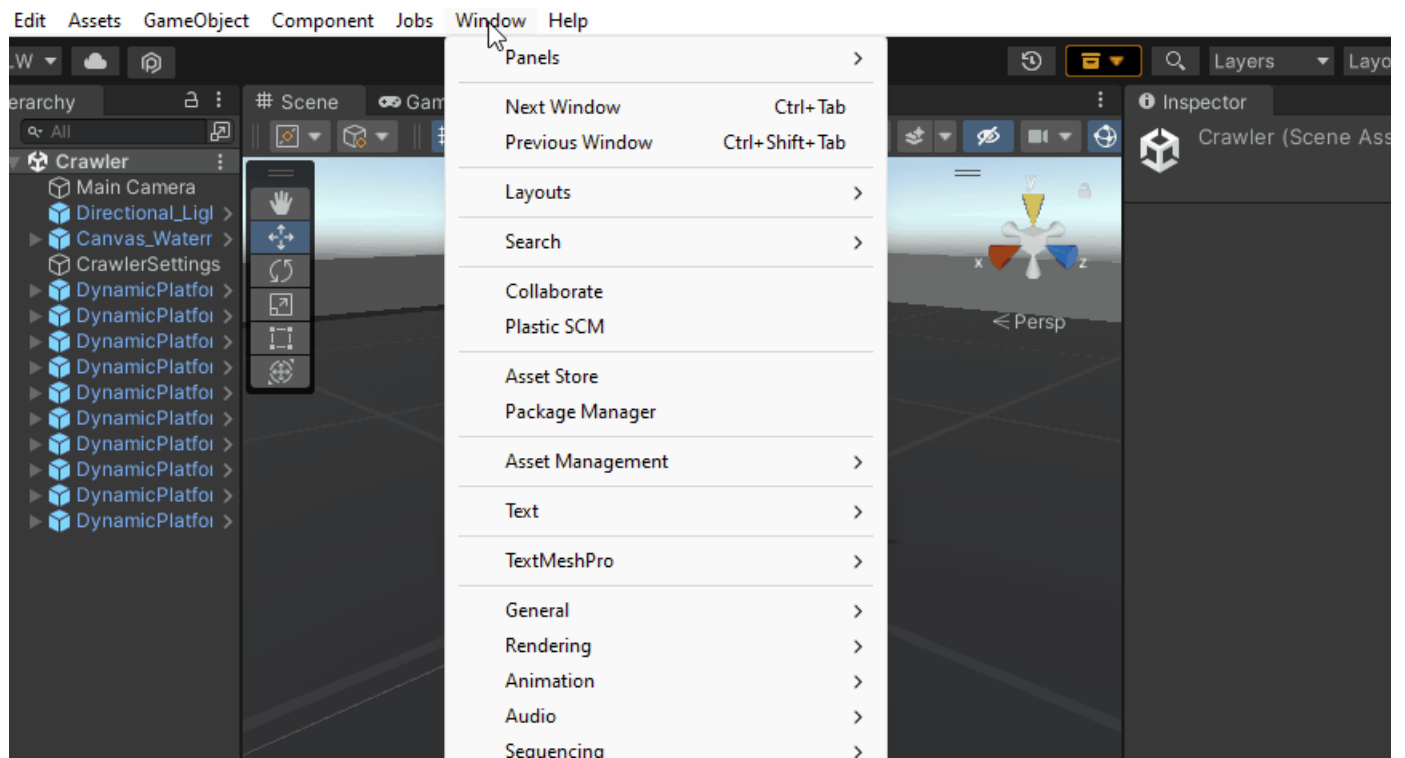
Unity project configuration

Create a new unity **3D** project with an editor version later than 2020 here I use **2021.03.15f1**



Under "**Location**" choose the **ml-agents-release-20** folder that you have in your home directory.

**in the newly created Unityproject Install the ML Agents Unitypackage:**



Go to **window -> package manager -> + -> install from disk**

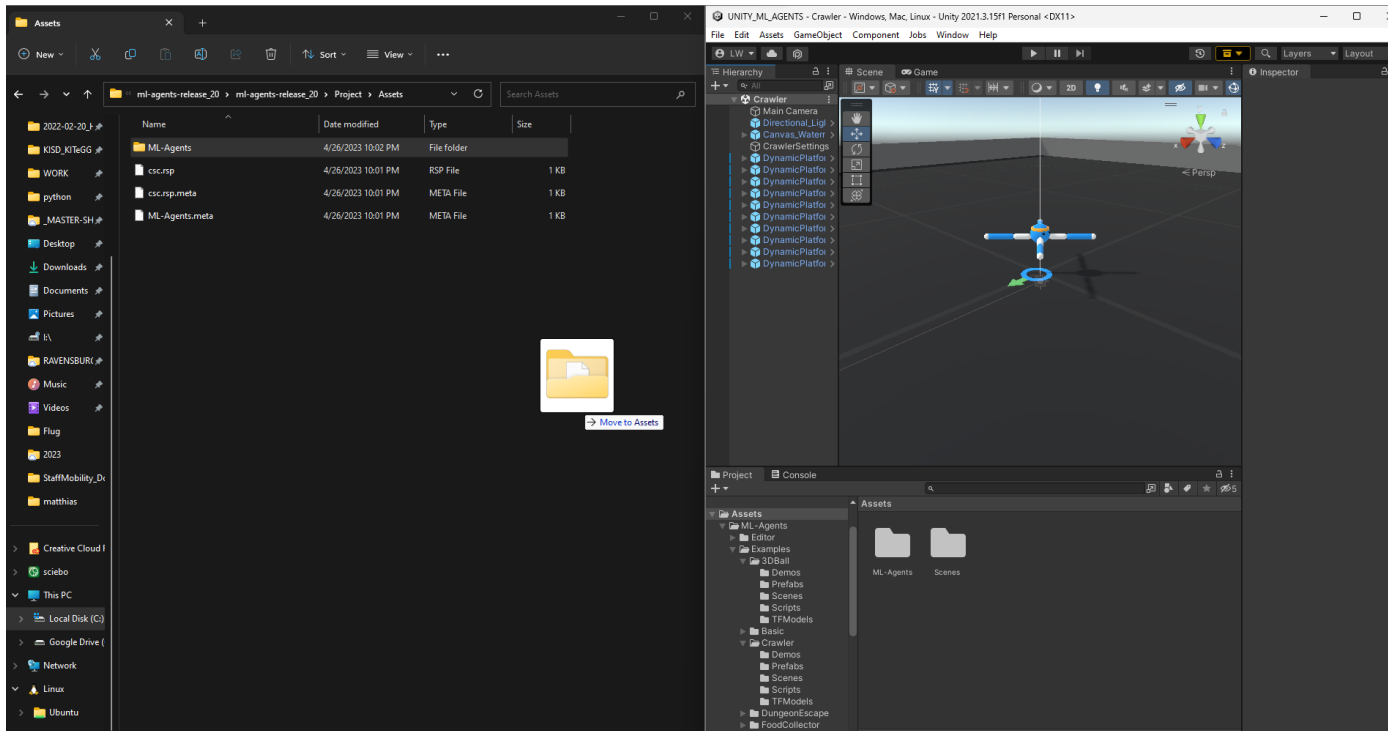
navigate to **C:/Users/ml-agents-release-20/ml-agents-release-20/com.unit.ml-agents** and click on the **package.json**

## Copy the ml agents assets to your unity project

in your file system navigate to

**C:\Users\YOUR\_USERNAME\ml-agents-release\_20\ml-agents-release\_20\Project\Assets**

find the folder **ML-Agents** and drag it into your newly created and open unity project into the 'Assets' window.



## Training the agents

### activate the conda environment

```
conda activate ml-agents
```

### start the training with conda shell

```
cd ml-agents-release_20/ml-agents-release_20
```

```
mlagents-learn config/ppo/Walker.yaml --run-id=walker-001
```

## [Unity ML Agent Documentation](#)

### [experiment] copying movement to a humanoid character

#### [humanoid character \\*.fbx](#)

script for copying rotation and location:

```
using UnityEngine;

public class FollowObject : MonoBehaviour
{
    public GameObject objectToFollow;
    public Vector3 offset;
    public bool copyPosition = true;
    public bool copyRotation = true;

    private void Update()
    {
        if (copyPosition)
        {
            transform.position = objectToFollow.transform.position + offset;
        }

        if (copyRotation)
        {
            transform.rotation = objectToFollow.transform.rotation;
        }
    }
}
```

---

Revision #30

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