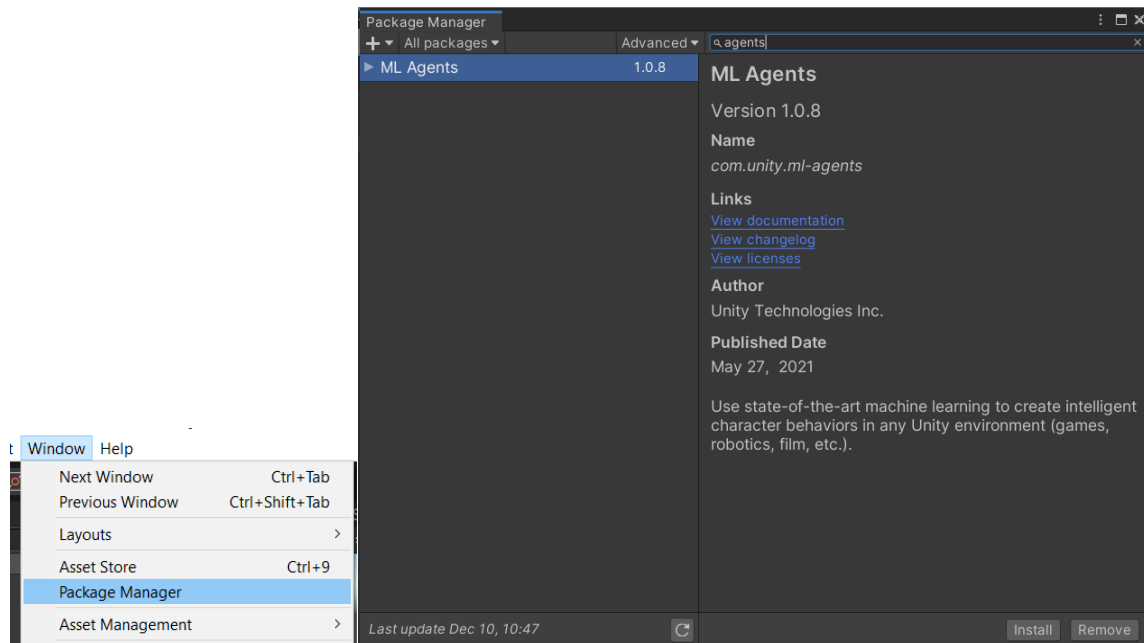


## ML in unity

Step 1 – create a new 3d project in unity

Step 2 – open the package manager and search for “agents” then hit install.

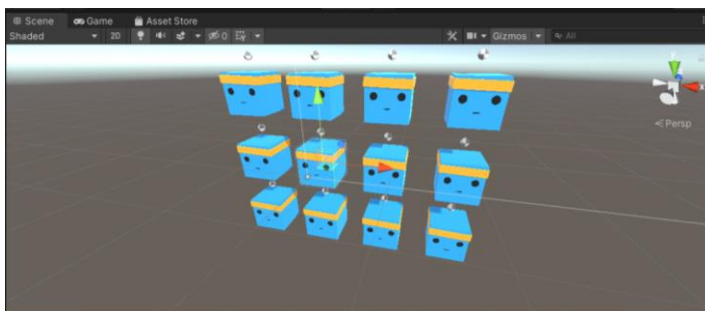


Step 3 – download example files from [https://github.com/Unity-Technologies/ml-agents/tree/release\\_2\\_verified\\_docs](https://github.com/Unity-Technologies/ml-agents/tree/release_2_verified_docs) in a zip format

Step 4 – extract the files from the zip folder and drag the projects file into unity.

Step 5 – Go to Project\Assets\ML-Agents\Examples\3DBall\Scenes and drag the 3DBall scene into the hierarchy

You should see the following screen appear



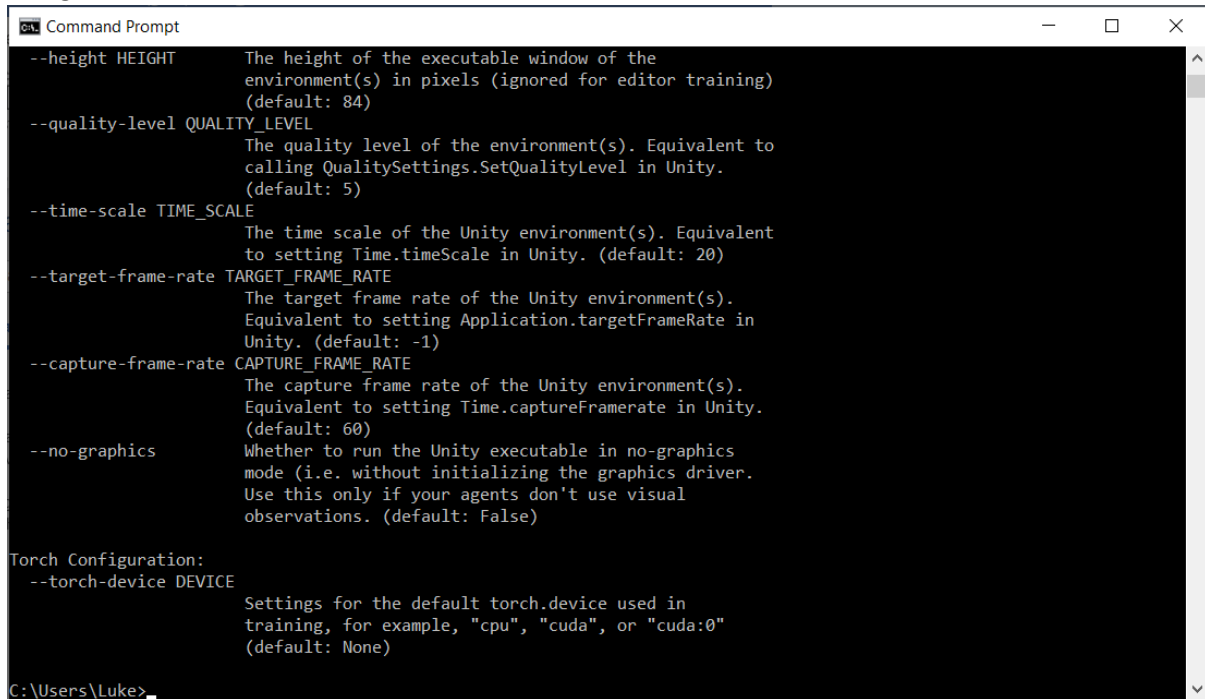
Run the model to see how the pre-trained demo performs.

Step 6 – select a random agent and remove the neural network and try running the game again to see what happens, it will now fail. Lets try to re-train the model.

Step 7 – download and install the latest 64 bit version of Python

Step 8 – go to the command line and type: pip3 install mlagents

Step 9 – check mlagents installed correctly by typing `mlagents-learn --help` you should see something along the lines of the screen below.



```
Command Prompt

--height HEIGHT          The height of the executable window of the
                        environment(s) in pixels (ignored for editor training)
                        (default: 84)
--quality-level QUALITY_LEVEL
                        The quality level of the environment(s). Equivalent to
                        calling QualitySettings.SetQualityLevel in Unity.
                        (default: 5)
--time-scale TIME_SCALE  The time scale of the Unity environment(s). Equivalent
                        to setting Time.timeScale in Unity. (default: 20)
--target-frame-rate TARGET_FRAME_RATE
                        The target frame rate of the Unity environment(s).
                        Equivalent to setting Application.targetFrameRate in
                        Unity. (default: -1)
--capture-frame-rate CAPTURE_FRAME_RATE
                        The capture frame rate of the Unity environment(s).
                        Equivalent to setting Time.captureFramerate in Unity.
                        (default: 60)
--no-graphics            Whether to run the Unity executable in no-graphics
                        mode (i.e. without initializing the graphics driver.
                        Use this only if your agents don't use visual
                        observations. (default: False)

Torch Configuration:
--torch-device DEVICE    Settings for the default torch.device used in
                        training, for example, "cpu", "cuda", or "cuda:0"
                        (default: None)

C:\Users\Luke>
```

Step 10 – drag the config file into Unity

Step 11 – navigate to the config folder in your project in the explorer then type `cmd` to enter the command line in the folder.

Step 12 – to start the model learning type `mlagents-learn config/trainer_config.yaml --run-id=MyFirstNN`