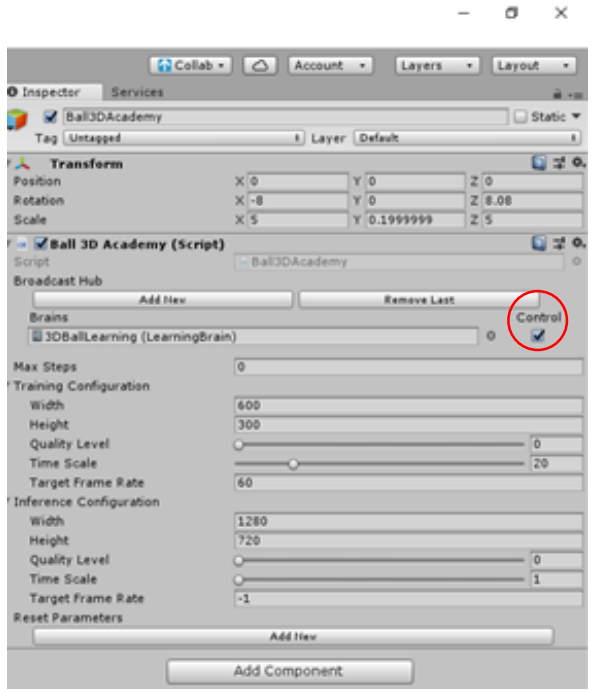
Building the Game

1. Click on the Ball3DAcademy to make sure the “Control” box is checked. This means the brain is ready to train
2. Click File > Build Settings
3. In the “Scenes in Build” you should only see the 3DBall scene
4. If needed click “Add Open Scenes” to add the 3DBall scene to the build
5. Once there is only the 3DBall scene in the “Scenes in Build” click “Build”
6. In the “UnitySDK” folder make another folder called builds
7. Double click on new “Builds” folder
8. Click “Select Folder”
9. Once build is complete navigate to the Builds folder and remove the spaces in the name of the “Unity Environment.exe” and “Unity Environment_Data”



Training with Anaconda

1. Open an anaconda terminal and activate the environment you created for ml agents
2. Navigate to the root directory for the ml-agents package you downloaded from GitHub
3. Enter the following command

mlagents-learn config/trainer_config.yaml --env=UnityEnvironment --run-id=test1 --train

1. A window should open showing the environment going through training and a list of the average rewards per episode should start to be shown on screen as the agent goes through more and more episodes
2. The number of steps or episodes required for the training can be altered in the trainer_config.yaml file (but only before training is started)
3. In this file you can set the configuration of each brain's neural net. Any hyper parameter not explicitly listed under a brain is set to be the same as the "default" brain
4. So if you wanted to change the training time for the "3DBallLearning" brain scroll down until you find the section titled "3DBallLearning" and you will notice that the "max_steps" hyper parameter is missing. This means that the 3DBallLearning brain is using the default setting of 50,000. To overwrite this to a new value (say 5,000) simply add a new line in the 3DBallLearning section

   max_steps: 5.0e3

Using a trained brain

1. You can find the Neural Net model generated through training via the following path: models/test1/3DBallLearning.nn
2. In your Assets folder create a new folder titled “Trained Models”
3. Copy and paste the 3DBallLearning.nn file into your “Trained Models” folder
4. Rename the file to “test1”
5. In Unity Navigate to Assets>ML-Agents>Examples>3DBall>Brains
6. Click on the “3DBallLearning” brain
7. Click on the circle next to the “Model” and find the “test1.nn” file you just made
8. Click on the academy and uncheck the “control” box
9. Now when you play your scene the balls should be balanced by the platforms