Login to the Instance

After launch, your instance may take a few minutes to initialize.

Once you see “2/2 checks passed” on the EC2 Management Console, your instance is ready for you to log in.

Instance Status Check and Public IP

Note the "IPv4 Public IP" address (in the format of “X.X.X.X”) on the EC2 Dashboard.

From a terminal, navigate to the location where you stored your .pem file. (For example, if you put your .pem file on your Desktop, `cd ~/Desktop/` will move you to the correct directory.)

Type `ssh -i YourKeyName.pem ubuntu@X.X.X.X`, where:

- `X.X.X.X` is the IPv4 Public IP found in AWS, and
- `YourKeyName.pem` is the name of your .pem file.

Note that if you've used a different AMI or specified a username, `ubuntu` will be replaced with the username, such as `ec2-user` for some Amazon AMI's. You would then instead

Configure Jupyter notebook settings

In your instance, in order to create a config file for your Jupyter notebook settings, type:

```
jupyter notebook --generate-config
```

.

Then, to change the IP address config setting for notebooks (this is just a fancy one-line command to perform an exact string match replacement; you could do the same thing manually using vi/vim/nano/etc.), type:

```
sed -ie "s/#c.NotebookApp.ip =
'localhost'/#c.NotebookApp.ip = '*'/g"
~/.jupyter/jupyter_notebook_config.py
```

Test the Instance

Make sure everything is working properly by verifying that the instance can run a Keras notebook.

On the EC2 instance

- Clone a GitHub repository
  - ```
    git clone
    https://github.com/udacity/aind2-
    cnn.git
    ```
- Enter the repo directory
  - `cd aind2-cnn`
- Install the requirements
  - ```
    sudo python3 -m pip install -r
    ```
  - `requirements/requirements.txt`
- Start Jupyter notebook
  - ```
    jupyter notebook --ip=0.0.0.0
    ```
  - `--no-browser`
    ```

your jupyter notebook to access it. On your instance terminal, there will be the following line:

`Copy/paste this URL into your browser when you connect for the first time, to login with a token:`

. Copy everything starting with the `:8888/?token=` .

- Access the Jupyter notebook index from your web browser by visiting: `X.X.X.X:8888/?token=...` (where X.X.X.X is the IP address of your EC2 instance and everything starting with `:8888/?token=` is what you just copied).
- Click on a folder, like "mnist", to enter it and select a notebook, such as the "mnist_mlp.ipynb" notebook.
- Run each cell in the notebook.

For some notebooks, you should see a marked decrease in training time when compared to running the same cells using a typical CPU!

NOTE: Windows users may prefer connecting via the GUI utility PuTTY, by following **these instructions**.

Important: Cost

From this point on, AWS will charge you for a running an EC2 instance. You can find the details on the **EC2 On-Demand Pricing page**.

Most importantly, remember to `stop` (i.e. shutdown) your instances when you are not using them. Otherwise, your instances might run for a day or a week or a month without

AWS charges primarily for running instances, so most of the charges will cease once you stop the instance. However, there are smaller storage charges that continue to accrue until you “terminate” (i.e. delete) the instance.

NEXT