Using AWS for the first time

Sunday, September 20, 2015

Here I am starting to use AWS for the first time.

General Notes:

1. Spot instances are selected by clicking on a button in step 3. (Request spot Instances). It will provide the current price.
2. To connect you have to change the accepted ip if get on another network. To do this. Select Security groups. Then edit security - inbound.
3. To interact with the database you have to install mysqldb and a requisite function.

   ```
   apt-get install python-dev libmysqlclient-dev
   pip install MySQL-python
   ```

   1. From http://codeinthehole.com/writing/how-to-set-up-mysql-for-python-on-ubuntu/

To do this, look at the document below. It gives some great basic information and is from insight.

PDF File

1. Create instance on amazon web services.
2. Download the key file to a secure location.
3. Get the IP address
4. Log in via ssh from the terminal using the public ip.
   1. Change the access permissions.
      1. sudo chmod 600 <path to your key>.
   2. SSH into the key.
      1. ssh -i <path to your key> ubuntu@<your VM's public IP address>
5. After logging in you need to download a couple of things to get started.
   1. sudo apt-get update
   2. sudo apt-get install python-pip python-dev build-essential

To Use anaconda on AWS:

1. One must actually download the anaconda files using wget on the ubuntu, and then run a bash command.
    1. `wget https://3230d63b5fc54e62148e-c95ac804525aac4b6dba79b00b39d1d3.ssl.cf1.rackcdn.com/Anaconda-2.3.0-Linux-x86_64.sh`
    2. `bash Anaconda-2.3.0-Linux-x86_64.sh`
2. Running the bash command will pop documentation which you have to say yes to.
3. The program will also ask if you wish to place anaconda in the path: say yes.
4. To reload the bash.rc: (to allow access):
    1. `source .bashrc`
5. Note: One has to anaconda in the path. I did not do this correctly.
6. Log in to ipython - (you might have to navigate to the anaconda location).
7. In ipython run the following:
    1. `from IPython.lib import passwd`
    2. `passwd()`
    3. This will returns a key
8. In bash do the following
    1. *`ipython profile create nbserver`* `#creates an nobserver`
    2. *`mkdir certificates`* `#generate ssl certificate which allows HTTPS`
    3. `cd certificates`
    4. `openssl req -x509 -nodes -days 365 -newkey rsa:1024 -keyout mycert.pem -out mycert.pem`
        1. `This will result in several questions that you should answer.`

Create a notebook profile:

1. *Navigate to the profile_nbserver directory, then modify the ipython_notebook_config.py file with your certificate location and password.*
    1. `python profile create nbserver`
    2. `cd ~/.ipython/profile_nbserver/`
    3. `pico ipython_notebook_config.py`
2. *Modify the ipython_notebook_config.py by adding these lines:*

1.
   ```
   #Kernel Config
   c.IPKernalApp.pylab = ‘inline’
   #Notebook config
   c.NotebookApp.certfile = u’/home/ubuntu/certificates/mycert.pem’
   c.NotebookApp.ip = ‘*’
   c.NotebookApp.open_browser = False
   c.NotebookApp.password = u’sha1:bc….your sha1 from up above’
   c.NotebookApp.port = 8888
   ```

Launching the Ipython Notebook:

1. `cd`
2. `mkdir notebooks`
3. `cd notebooks`
4. `ipython notebook inline –profile=nbserver #this is optional for the -profile=nbserver.`

Establishing permanence of the AWS notebook server.

If you close your terminal, this will disrupt the AWS notebook server. To prevent disruption you need to get and install the TMUX program. How To Install And Use tmux On Ubuntu 12.10 | DigitalOcean

Log into the website:

To use the notebook server, you have to log into a local terminal and the tell the terminal to ssh into the ipython notebook server on AWS. To get into the notebook.

1. Log into another terminal and ssh back into the AWS cluster:
2. `ssh -i ~/.ssh/<your pem file> -N -f -L localhost:7778:localhost:8888 ubuntu@public_dns`
3. The above above command is an ssh that uses your permanent key to log it. localhost::7778 sets the local port. localhost:8888 is the host of the server. the ubuntu@public.dns is the DNS location with you get from AWS.