Running GPU on AWS

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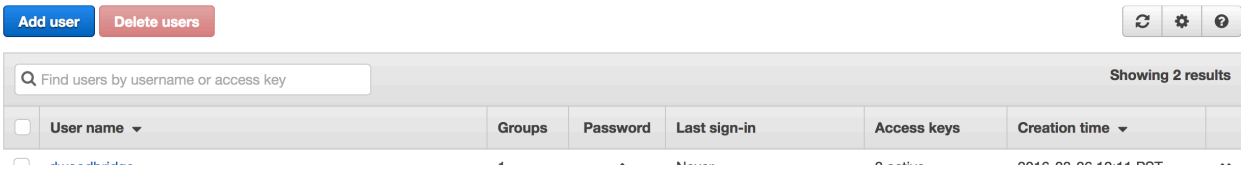
1. Create a user. (I already have it and I saved the id and secret key here ➔ ~/my_secret_folder.)



2. Install AWS CLI.

```
ML-ITS-603436:Answer dwoodbridge$ pip install awscli
Requirement already satisfied: awscli in /Users/dwoodbridge/anaconda/lib/python2.7/site-packages
Requirement already satisfied: rsa<=3.5.0,>=3.1.2 in /Users/dwoodbridge/anaconda/lib/python2.7/site-packages (from awscli)
Requirement already satisfied: docutils>=0.10 in /Users/dwoodbridge/anaconda/lib/python2.7/site-packages (from awscli)
Requirement already satisfied: s3transfer<0.2.0,>=0.1.5 in /Users/dwoodbridge/anaconda/lib/python2.7/site-packages (from awscli)
Requirement already satisfied: colorama<=0.3.7,>=0.2.5 in /Users/dwoodbridge/anaconda/lib/python2.7/site-packages (from awscli)
Requirement already satisfied: botocore==1.4.60 in /Users/dwoodbridge/anaconda/lib/python2.7/site-packages (from awscli)
Requirement already satisfied: pyasn1>=0.1.3 in /Users/dwoodbridge/anaconda/lib/python2.7/site-packages (from rsa<=3.5.0,>=3.1.2
->awscli)
Requirement already satisfied: futures<4.0.0,>=2.2.0; python_version == "2.6" or python_version == "2.7" in /Users/dwoodbridge/a
naconda/lib/python2.7/site-packages (from s3transfer<0.2.0,>=0.1.5->awscli)
Requirement already satisfied: python-dateutil<3.0.0,>=2.1 in /Users/dwoodbridge/anaconda/lib/python2.7/site-packages (from boto
core==1.4.60->awscli)
Requirement already satisfied: jmespath<1.0.0,>=0.7.1 in /Users/dwoodbridge/anaconda/lib/python2.7/site-packages (from botocore=
=1.4.60->awscli)
Requirement already satisfied: six>=1.5 in /Users/dwoodbridge/anaconda/lib/python2.7/site-packages (from python-dateutil<3.0.0,>
=2.1->botocore==1.4.60->awscli)
ML-ITS-603436:Answer dwoodbridge$ aws
usage: aws [options] <command> <subcommand> [<subcommand> ...] [parameters]
To see help text, you can run:

  aws help
  aws <command> help
  aws <command> <subcommand> help
aws: error: too few arguments
```

3. Configure AWS account. (aws configure, **region : us-west-2 (other region types are not supported to use GPU.)**)

```
ML-ITS-603436:Desktop dwoodbridge$ aws configure
AWS Access Key ID [****************XVBA]: AKIAIFWI
AWS Secret Access Key [****************+KvB]: Ss+
Default region name [us-west-1]: us-west-2
Default output format [text]: text
```

4. Download and run setup_t2.sh from https://github.com/fastai/courses/blob/master/setup/setup_t2.sh
   (I saved this on my local directory XXXXX for future use.)

```
ML-ITS-603436:Desktop dwoodbridge$ sh install_aws_t2.sh
True
Waiting for instance start...

All done. Find all you need to connect in the fast-ai-commands.txt file and to remove the stack call fast-ai-remove.sh
Connect to your instance: ssh -i /Users/dwoodbridge/.ssh/aws-key-fast-ai.pem ubuntu@ec2-35-161-161-158.us-west-2.compute.amazonaws.com
```

5. Go to https://us-west-2.console.aws.amazon.com/ec2/ and check it is running. **(Show your user name on the screen !)**

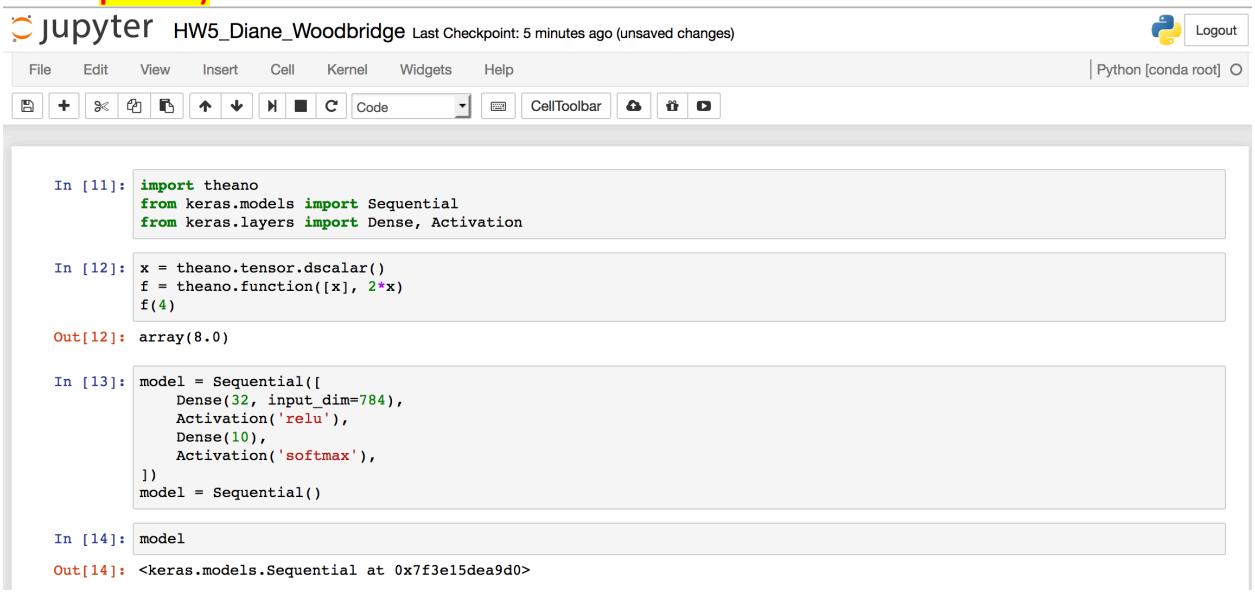
6. Connect to the server. (after ubunto@ is my public DNS.)

```
ML-ITS-603436:Desktop dwoodbridge$ ssh -i /Users/dwoodbridge/.ssh/aws-key-fast-ai.pem ubuntu@ec2-35-161-161-158.us-west-2.compute.amaz
aws.com
The authenticity of host 'ec2-35-161-161-158.us-west-2.compute.amazonaws.com (35.161.161.158)' can't be established.
ECDSA key fingerprint is SHA256:GuawYdo3sVDyt1TSXP2cb/ZuoH6LkOvcm87lY8SyLTA.
Are you sure you want to continue connecting (yes/no)? yes
```

7. Start jupyter notebook.

```
ubuntu@ip-10-0-0-14:~$ jupyter notebook
[I 20:56:51.391 NotebookApp] [nb_conda_kernels] enabled, 2 kernels found
[I 20:56:51.395 NotebookApp] Writing notebook server cookie secret to /run/user/1000/jupyter/notebook_cookie_secret
[W 20:56:51.419 NotebookApp] WARNING: The notebook server is listening on all IP addresses and not using encryption. This is not recomme
nded.
[I 20:56:52.055 NotebookApp] ✓ nbpresent HTML export ENABLED
[W 20:56:52.055 NotebookApp] ✗ nbpresent PDF export DISABLED: No module named nbbrowserpdf.exporters.pdf
[I 20:56:52.060 NotebookApp] [nb_conda] enabled
[I 20:56:54.025 NotebookApp] [nb_anacondacloud] enabled
[I 20:56:54.028 NotebookApp] Serving notebooks from local directory: /home/ubuntu
[I 20:56:54.028 NotebookApp] 0 active kernels
[I 20:56:54.028 NotebookApp] The Jupyter Notebook is running at: http://[all ip addresses on your system]:8888/
[I 20:56:54.028 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
```

8. Access to jupyter notebook using browser. (default pwd : dl_course) and write a function. **(Show HW5_LastName_FirstName with the execution of the code that I posted.)**



9. Make sure to **TERMINATE (NOT STOP)** the EC2 instance!!!!

Reference

http://wiki.fast.ai/index.php/AWS_install
http://course.fast.ai/lessons/aws.html
http://deeplearning.net/software/theano/library/compile/function.html
https://keras.io/getting-started/sequential-model-guide/