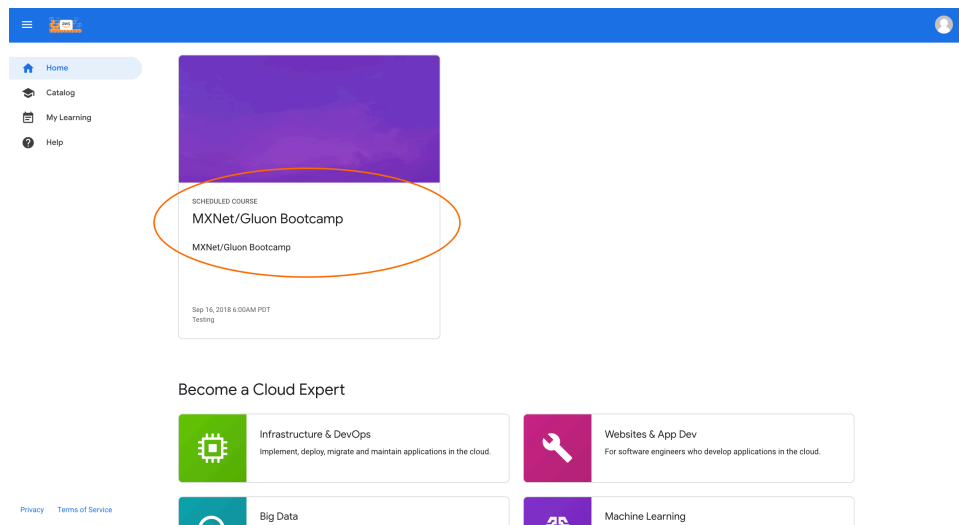


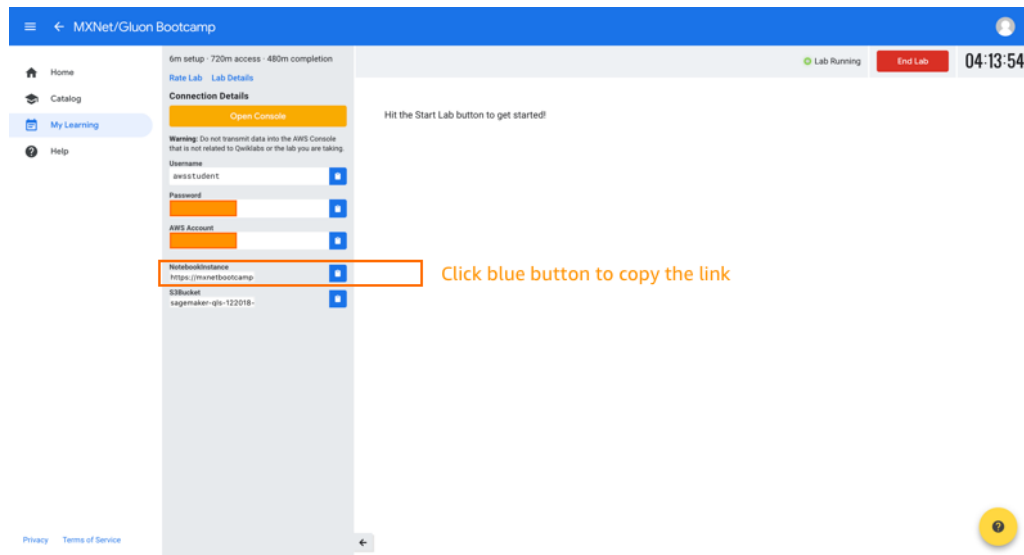
Welcome to Apache MXNet Bootcamp. We will use Amazon SageMaker to run the Apache MXNet lab sessions.

Instructions to access the lab

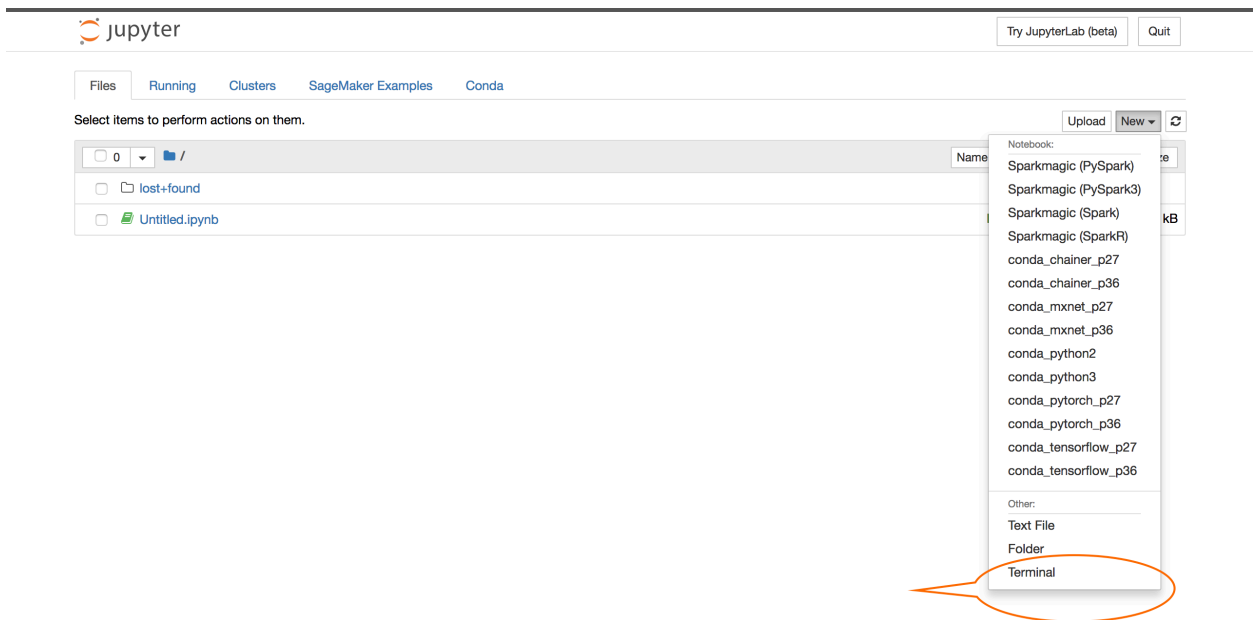
1. go to <https://events-aws.qwiklabs.com/> and create an account.
2. send the email-id you register with qwiklabs to wamy@amazon.com and cyrusmv@amazon.de – this is essential to get access to the lab.
3. Once you login to QwikLabs, click on the MXNet/Gluon BootCamp Lab



4. Once inside the lab, use the Notebook Instance and the credentials provided to login to Amazon SageMaker jupyter notebook. IAM user on the AWS console is the username in the below credentials section.



5. We will download the lab material to use on the notebook, start a new terminal session on SageMaker



- Once inside the SageMaker terminal, activate the mxnet Python 3 environment – we will use this environment to run our lab exercises.

```
source activate mxnet_p36
```

```
sh-4.2$ source activate mxnet_p36
(mxnet_p36) sh-4.2$
```

- clone the github repo recursively – it contains an assortment of material prepared by various Apache MXNet experts.

```
git clone --recursive https://github.com/nswamy/DeepLearningWithMXNetGluon
~/SageMaker/DeepLearningWithMXNetGluon
```

```
(mxnet_p36) sh-4.2$ git clone --recursive https://github.com/nswamy/DeepLearningWithMXNetGluon ~/SageMaker/DeepLearningWithMXNetGluon
```

- Let's install the required python packages for this lab exercise

```
pip install -r ~/SageMaker/DeepLearningWithMXNetGluon/fer-requirements.txt
```

```
(mxnet_p36) sh-4.2$ pip install -r ~/SageMaker/DeepLearningWithMXNetGluon/fer-requirements.txt
```

- Now we can access the material from the notebook instance and run through the exercises by going into the DeepLearningWithMXNetGluon directory

- Choose mxnet_p36 conda environment as the Kernel when executing a notebook



Files Running Clusters SageMaker Examples Conda

Select items to perform actions on them.

Upload New ↻

0	/ DeepLearningWithMXNetGluon	Name	Last Modified	File size
<input type="checkbox"/>	..		seconds ago	
<input type="checkbox"/>	facial-emotion-recognition-gluon		7 minutes ago	
<input type="checkbox"/>	GluonBootcamp		7 minutes ago	
<input type="checkbox"/>	support		7 minutes ago	
<input checked="" type="checkbox"/>	1_ndarray.ipynb		7 minutes ago	14.8 kB
<input type="checkbox"/>	2_autograd.ipynb		7 minutes ago	11.8 kB
<input type="checkbox"/>	3_nn.ipynb		7 minutes ago	38.2 kB
<input type="checkbox"/>	4_MLP.ipynb		7 minutes ago	30.8 kB
<input type="checkbox"/>	4_train.ipynb		7 minutes ago	42.4 kB
<input type="checkbox"/>	5_datasets.ipynb		7 minutes ago	36.2 kB

11. Dataset for Facial Emotion Recognition.

Register on Kaggle and download fer2013.tar.gz from

<https://www.kaggle.com/c/challenges-in-representation-learning-facial-expression-recognition-challenge/data>

12. Upload fer2013.tar.gz to SageMaker to the folder DeepLearningWithMXNet/facial-emotion-recognition-gluon/data

13. Go to terminal in SageMaker and extract the data

```
cd ~/SageMaker/DeepLearningWithMXNet/facial-emotion-recognition-gluon/data
tar -xzf fer2013.tar.gz
```

14. Process data

```
python ../utils/prepare_data.py -d ./ -fer ./fer2013.csv -ferplus
./fer2013new.csv
```

```
python ../utils/process_data.py -d ./
```