Deep Learning on OpenPower using PowerAI Hands-on Lab

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Introduction:

The IBM PowerAI facilitates a jump start with open source machine learning and deep learning frameworks such as Caffe, Tensorflow, Theano, Torch, and Chainer on OpenPOWER machines with GPUs. In addition, PowerAI provides advanced deep learning capabilities such as distributed deep learning and large model support.

Instructions

We will conduct this lab session on the NIMBIX cloud which provides Docker containers with P100 GPUs attached on Power8 boxes. The MRI cluster will be utilizing the IBM Accelerated Computing 922 machines equipped with Power9 processors and Volta GPUs.
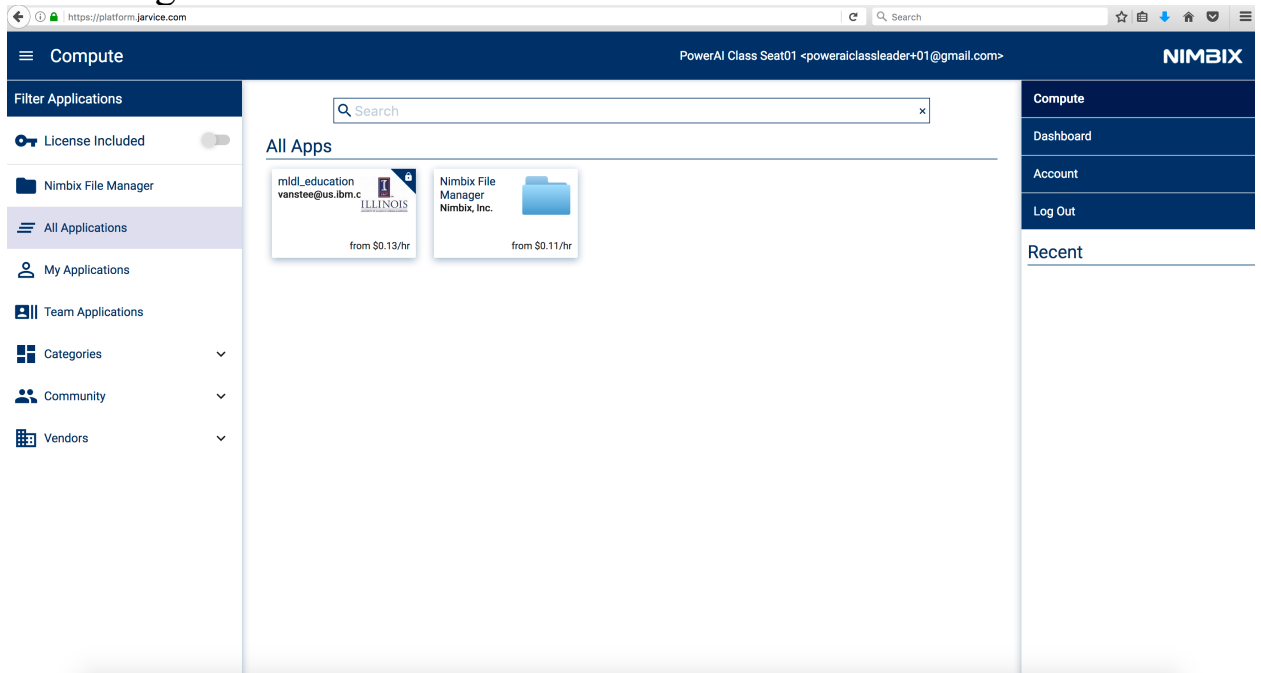
1) Logon to https://platform.jarvice.com/.

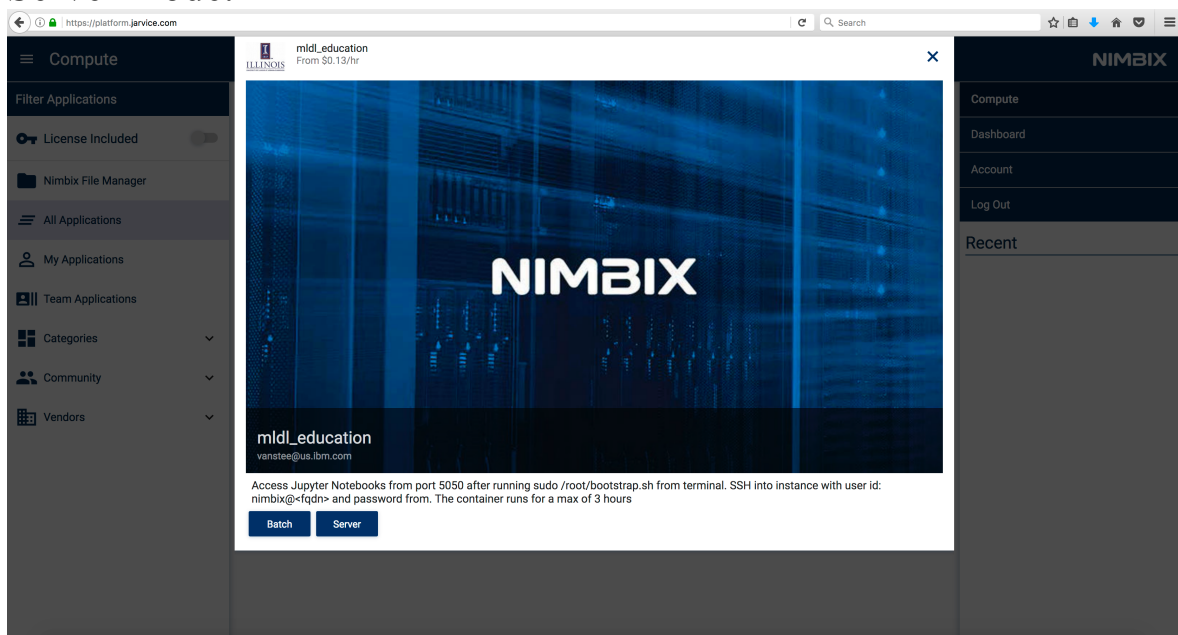   For User name powerai_seat01, the password is pw_seat01.
   For User name powerai_seatNN, the password is pw_seatNN.
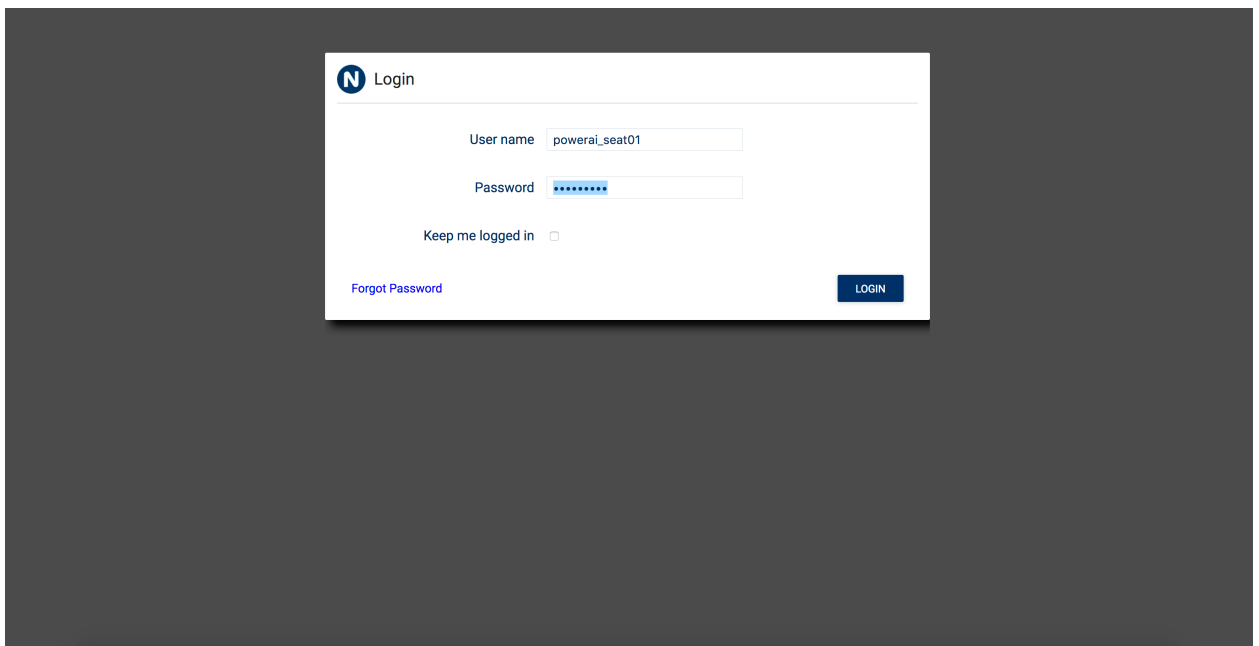
2) Go to the Compute tab and find the mldl_education app with the UIUC logo.

3) Click on the app to launch a container for the PowerAI app in the Server mode.

4) Click on Server. Select 32/64 thread Power8, 128GB RAM, and 1X P100 GPU. Then Submit. Expect some queuing in launching the container. 5-10 minutes of delay is not unusual.

5) Get the Host Name and password of your launched container from the NIMBIX UI

6) Launch a terminal in your workstation and ssh to your container: ssh nimbix@<host name>.jarvice.com

```
Chekuris-MacBook-Pro:~ chekuri.choudaryibm.com$ ssh nimbix@NAE-165-254-189-41.jarvice.com
nimbix@nae-165-254-189-41.jarvice.com's password:
Welcome to Ubuntu 16.04.3 LTS (GNU/Linux 4.4.0-45-generic ppc64le)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage
All ML/DL frameworks live in /opt/DL; you must source an environment setup
script before accessing them, e.g. one of the following:

    source /opt/DL/caffe-bvlc/bin/caffe-activate
    source /opt/DL/caffe-ibm/bin/caffe-activate
    source /opt/DL/caffe-nv/bin/caffe-activate     # recommended
    source /opt/DL/chainer/bin/chainer-activate
    source /opt/DL/openblas/bin/openblas-activate
    source /opt/DL/tensorflow/bin/tensorflow-activate
    source /opt/DL/theano/bin/theano-activate
    source /opt/DL/torch/bin/torch-activate

After sourcing the environment script for the framework you wish to use,
please read the framework-specific documentation in its respective doc[s]
directory - e.g. one of the following:

    /opt/DL/caffe-*/docs
    /opt/DL/chainer/doc
    /opt/DL/openblas/doc
    /opt/DL/repo/doc
    /opt/DL/tensorflow/doc
    /opt/DL/theano/doc
    /opt/DL/torch/doc

Please be sure to save any persistent code or data in the /data directory!


########### Class Instructions ########################

To run jupyter notebooks, run the following commands :

source /root/python2_env/bin/activate
cd /dl-labs/mldl-101
./startClass2.sh -g 1

Then point your browser to hostname:5050 and get started
Last login: Thu Feb 22 17:55:11 2018 from 70.123.154.135
nimbix@JARVICENAE-0A0A185C:~$
```

7) Run the following commands to download exercises and launch
   jupyter notebooks.

```
source /root/python2_env/bin/activate
cd /dl-labs/mldl-101
./startClass2.sh -g 1
git    clone    https://github.com/aymericdamien/TensorFlow-
Examples/
```

8) Then point your browser to hostname:5050 and get started. Go to
   the folder Tensorflow-Examples/notebooks. These notebooks will
   be used for hands-on exercises.

nae-165-254-189-41.jarvice.com:5050/tree?   Search

jupyter

Files   Running   Clusters

Select items to perform actions on them.   Upload   New ▾   ↻

	Name ↑	Last Modified ↑
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☐ 📁 lab4-yolo-keras		2 days ago
☐ 📁 labxx-caffe-examples		2 days ago
☐ 📁 labxx-sparksql		2 days ago
☐ 📁 labxx-transferlearning		2 days ago
☐ 📁 TensorFlow-Examples		a minute ago
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