GPU cluster - Quickstart guide

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June 2019

0.1 Setting up a VPN connection to DTU compute

Instructions for Windows, OSX and Linux here:
https://itswiki.compute.dtu.dk/index.php/OpenVPN

0.2 GPU servers available

For the duration of this course you will have access to two machines, where each machine has eight GPUs installed. We trust you to not use more than one, so there will be enough for the other students. The two servers are:
`iapetus.compute.dtu.dk`
`cronus.compute.dtu.dk`

You should use a port-forward to connect to the machines so you can connect to a jupyter notebook running remotely. As everyone running different notebooks will need different port numbers, we suggest you use a 1 followed by the last four digits of your student number as your port number. In order to connect to a machine simply run
`ssh <username>@<server>.compute.dtu.dk -L<port>:127.0.0.1:<port>`

0.2.1 SSH on windows

If you are running windows you will need to download an ssh client first. You can use the one built into windows. https://www.howtogeek.com/336775/how-to-use-windows-10s-ssh-commands/
Alternatively you can also use putty.

0.3 Creating a virtual environment

Run the following lines in your terminal

```
conda init bash
conda create -name py3
conda activate py3
```

0.4 Automatically load your environment on login

Edit your .bashrc by typing

```
nano ~/.bashrc
```

and add the following lines at the bottom:
`module load CUDA/cuda10.1-cudnn7.5`
`module load anaconda3`
`conda activate py3`

This will now run every time you log onto the servers. Try logging in again to see that it's working. It should say `(py3)` at the start of your command line if it worked.

0.5 Installing necessary python packages

Run the following command to install the packages you will need.

```
conda install jupyter tqdm pytorch torchvision cudatoolkit=10.0 -c pytorch -y
```

This will take a while ...

0.6 Starting jupyter notebook

Run
`gpustat`
and identify a GPU with no jobs running, and note the number (furthest to the left and 0-indexed).

```
CUDA_VISIBLE_DEVICES=<GPU number> jupyter notebook --no-browser --port=<port>
```

0.7 Further information

This should get up and running. For additional information about the GPU servers please see the wiki, but don't use other servers than the two listed previously
https://itswiki.compute.dtu.dk/index.php/GPU_Cluster