

Final Project

GPULAB Guide

EE 5561
Spring 2022

1. Activate your directory

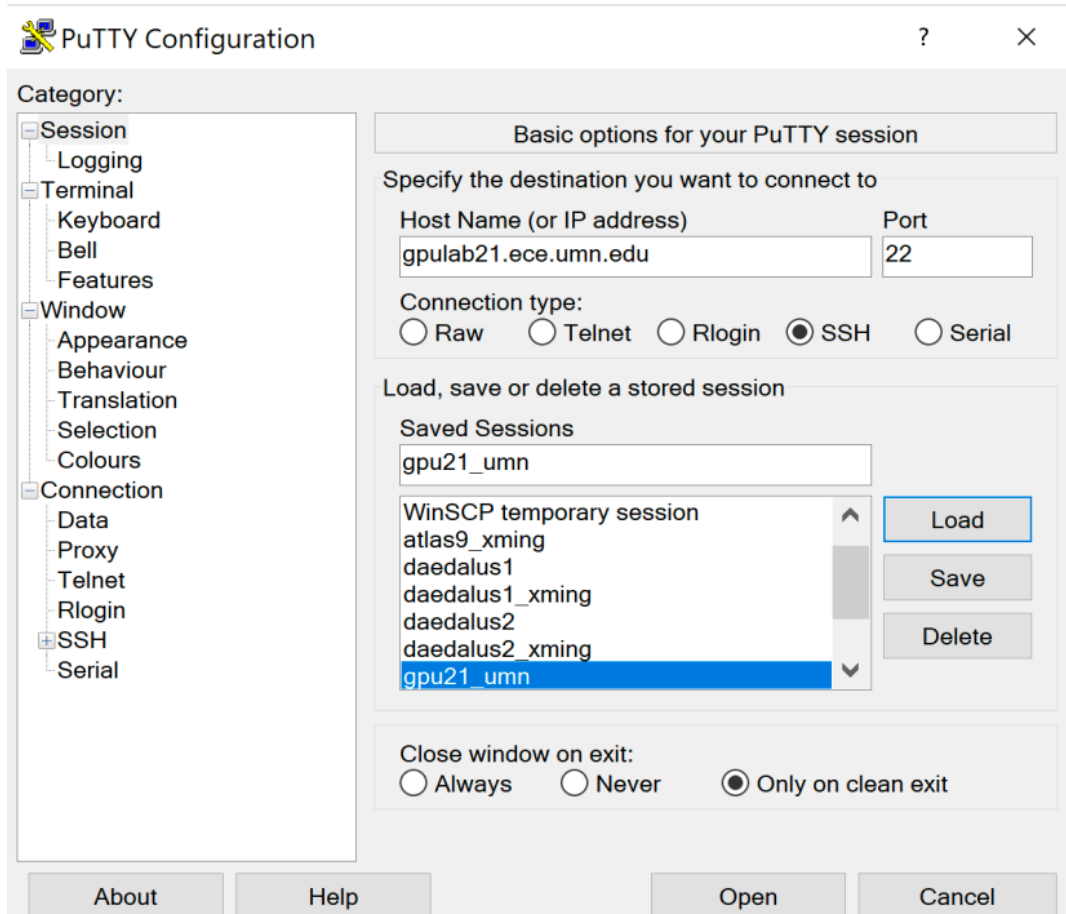
- Follow the instructions on the website and activate your directory on the servers.

https://ece.umn.edu/help/info_grdstulab.html

2. Use SSH to connect

- You can use the GPU lab computers run Red Hat Linux 7, and you need to use SSH ([OpenSSH](#), [PuTTY](#), [MobaxTerm](#), ...) to connect and log in to:
 - gpulab21.ece.umn.edu
 - gpulab22.ece.umn.edu
 - gpulab23.ece.umn.edu
 - gpulab24.ece.umn.edu
- To check GPU status, type in command line:, `nvidia-smi`

3. Create session



- You should be connected to VPN to connect the servers
- Use your UMN credentials to login:



4. Virtual Environment

- Pytorch is already installed in the server
- Create a virtual environment to run your projects:

```
python3 -m venv--system-site-packages ./venv
```

- To activate the virtual environment, type:

```
source ./venv/bin/activate.csh
```

- To deactivate, type:

```
deactivate
```

5. Package Installation

- You will likely need to install additional packages for your codes
→ pip
- The gpulab computers are on the campus network, so you need to go through a proxy server to connect to off-campus sites. You can use either server proxy1.ece.umn.edu or proxy2.ece.umn.edu and port 3128.
pip install matplotlib--proxy=http://proxy1.ece.umn.edu:3128

6. Load Data

- Loading your data to server: one easy way to transfer files is to use Winscp

<https://winscp.net/eng/download.php>

7. Google Colab

- Work on projects in the browser
- As in google docs/sheets etc, it allows you to share it with many people
- Free access to GPUs to quickly train models

https://colab.research.google.com/notebooks/intro.ipynb - scrollTo=gJr_9dXGpJ05