# Hostname

[netid@research-tarokhlab-01.oit.duke.edu](mailto:netid@research-tarokhlab-01.oit.duke.edu)

to

[netid@research-tarokhlab-14.oit.duke.edu](mailto:netid@research-tarokhlab-14.oit.duke.edu)

Titan Xp 1

RTX 2080 2-3

RTX 3090 4-14

**14 server nodes and each has 4 GPUs**

# **On campus network or using VPN**

**# To avoid typing password and Duo verification during ssh or scp**

ssh-keygen -t rsa

Upload your ssh public key (copy id\_rsa.pub content) at https://oit.duke.edu/selfservice

under "advanced user options", "update your ssh public keys"

# To upload files

scp -i [id\_rsa.pub path] [your file] netid@research-tarokhlab-03.oit.duke.edu:

# To download files

scp netid@research-tarokhlab-03.oit.duke.edu:./output.zip .

# To Log in

ssh -i [id\_rsa.pub path] netid@research-tarokhlab-03.oit.duke.edu

# To check GPU status

NVIDIA-SMI

# To run python code with GPU

CUDA\_VISIBLE\_DEVICES="0" python train\_model.py

**0 here means the id of GPU device. There are 4 GPUs on each server and id is 0-3**

# To use data and save output

create symbolic link using

ln -s /hpc/group/tarokhlab/netid/data/ ./src/data

ln -s /scratch/netid/output ./src/output

**You should not save your model in your home directory /hpc/home**

**The SSD device is mounted at /scratch and /hpc/group/tarokhlab**

**See # File Storage for details**

# To prevent program halt due to lost connection

**use screen on the remote server**

<https://linuxize.com/post/how-to-use-linux-screen/>

* *create a screen*

screen -S netid

* *detach a screen*

screen -D netid (not attaching)

ctrl+a d (attaching)

* *reattach a screen*

screen -r netid

* *list screens*

screen -ls

* *kill a screen*

screen -X -S [session # you want to kill] quit

# To kill a process list by NVIDIA-SMI

kill -9 [process d]

# To kill all your processes on all GPUs

kill -9 $(nvidia-smi | sed -n 's/|\s\*[0-9]\*\s\*\([0-9]\*\)\s\*.\*/\1/p' | sort | uniq | sed '/^$/d')

# To (un)zip files

zip netid.zip -r [zip path]

unzip src.zip -d [folder name]

**# File Storage**

**/scratch** – very fast, local NVME drives on each server, ~7TB each.  No redundancy and no backups, data loss can occur due to failures, system activities, and manual errors.  Use: storage needed during computation and model development.

**/hpc/home** – standard speed network attached storage, a single volume that will be mounted across all servers.  Robust enterprise storage with internal redundancy and full backups have been enabled.  Initial size 1TB. Use: home directories for individual lab members.

**/hpc/group/tarokhlab**- standard speed network attached storage, a single volume that will be mounted across all servers.  Robust enterprise storage with internal redundancy, (no backups but there is a self-service 7-day snapshot). This is the 1TB existing volume that we mentioned that Research Computing provides at no cost as a resource as a general-purpose storage volume across some RC services.  It is also mounted to the Duke compute cluster and available via Globus for transferring files in and out of RC storage. Use: shared data sets for the lab, or other project-based resources that will be used across the lab.

Anaconda is installed in **/hpc/group/tarokhlab/anaconda3/**

Matlab is installed in **/hpc/group/tarokhlab/matlab2020b/**