

USING THE HPC CLUSTER AT NORTHEASTERN UNIVERSITY FOR COURSES

LOGGING IN TO THE CLUSTER

Your username is (usually) the first part of your northeastern.edu email
Your password is (always) your northeastern.edu password

- From a Terminal Window:

```
ssh username@login.discovery.neu.edu
```

- Using MobaXterm or Putty:

```
username@login.discovery.neu.edu
```

OPEN ON DEMAND (OOD)

```
ood.discovery.neu.edu
```

View, Copy, Move, Upload, Download files

Files

Check Job Status

Jobs

- General Use Applications under "Courses"

Gaussian

JupyterLab (Python)

MATLAB

Maestro (Schrodinger)

RStudio (R)

Unix Desktop

VSCoDe

CONDA COMMANDS

- Load Anaconda Module

```
module load anaconda3/2022.05
```

- List Conda Environments

```
conda env list
```

```
conda info --envs
```

- Create a Conda Environment

```
conda create --prefix=/path/envname
```

- Activate a Conda Environment

```
source activate /path/envname
```

- Remove Unused Packages and Cache

```
conda clean --all
```

- Delete an Environment

```
conda remove -p /path/envname
```

TROUBLESHOOTING (OOD)

- Job moves from in queue to completed

Check the storage use of /home.

Remove conda init statement in your home/username/.bashrc file if present.

Move /home/username/.local to /home/username/.local-off

- 504 error

Open the OOD dashboard in a "New Incognito Window"

If incognito works clear your browser cookies

- App Sometimes Doesn't Launch

select "Restart Web Server" under the Develop tab

- "Disk Quota Exceeded"

You've exceeded the 75 GB limit in your home. See our documentation under "Best-Practices" for tips on keeping your /home under quota

- "Bad Request"

The browser is trying to load a previously cached page that can no longer be found.

Paste the address [ood.discovery.neu.edu] in the browser search bar and reload the page.

GET HELP FROM RESEARCH COMPUTING

Send an email to rhelp@northeastern.edu

Visit <https://rc-docs.northeastern.edu/en/latest/index.html> for more detailed information on the topics here and more.

COMMON UNIX COMMANDS

Command	Function	Example
ls	list files in directory	ls /courses/course.code/data
cd	change directory	cd /courses/course.code/students/username
mv	move	mv file.text /path/to/move/it/to/file.txt
cp	copy	cp /home/username/file /courses/course.code/students/username
cat	concatenate	cat filename
mkdir	make directory	mkdir homeworkdir1
grep	find pattern	grep "search pattern"file-to-search
head	prints first 10 lines	head filename
tail	prints last 10 lines	tail filename
pwd	print working directory	pwd
man	manual	man ls

TRANSFERRING DATA USING THE COMMAND: SCP

- Transfer 'data.csv' from your laptop to the cluster using the transfer node (xfer)

```
scp data.csv username@xfer.discovery.neu.edu:/courses/course.code/students/username
```

- Transfer 'final.hw.pdf' from the cluster to your laptop

```
scp username@xfer.discovery.neu.edu:/courses/course.code/students/username/final.hw.pdf /laptop/path
```

SBATCH SCRIPT TEMPLATE

- Example sbatch script for "courses-gpu"

```
#!/bin/bash
#SBATCH --nodes 1
#SBATCH --time 6:00:00
#SBATCH --job-name=JobName
#SBATCH --partition=courses-gpu
#SBATCH --gres=gpu:1
#SBATCH --mail-type=ALL
#SBATCH --mail-user=username@northeastern.edu
```

```
# load modules if needed
module load modulename
```

```
# heres where the code runs
code that does stuff
```

RUNNING JOBS ++

- Interactive Job Using Srun

```
srun -pty /bin/bash -t 3:00:00 -p courses
```

- Check Job Status

```
squeue -u username
```

- Cancel A Job

```
scancel jobid
```

- Working With Modules

```
module list
```

```
module avail
```

```
module load
```

```
module remove
```

- List All Files Including Hidden

```
ls -lha
```

- Check Storage Usage of /home

```
du -h --max-depth=1 /home/username
```