

# 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 (MAC):

```
ssh username@login.explorer.northeastern.edu
```

### - Using MobaXterm or Putty (Windows):

username@login.explorer.northeastern.edu and set port to 22

## OPEN ON DEMAND (OOD)

ood.explorer.northeastern.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 anaconda3/2024.06
```

### - 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.explorer.northeastern.edu ] in the browser search bar and reload the page.

## GET HELP FROM RESEARCH COMPUTING

Send an email to [rhelp@northeastern.edu](mailto:rhelp@northeastern.edu)

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

## COMMON UNIX COMMANDS

Command	Function	Example
ls	list files in directory	ls /courses/CHEM5641.202510/data
ls -lha	show hidden files	ls -lha /home/waldo
cd	change directory	cd /courses/BINF6400.202510/students/c.darwin
mv	move from to	mv /scratch/curie.m/file.text /home/curie.m/
mv	rename from to	mv file file-off
cp	copy from to	cp barnacles.txt /courses/BINF6400.202510/students/c.darwin
cat	concatenate	cat filename.txt
mkdir	make directory	mkdir homework
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
diff	compare two files	diff file1 file2
rm	permanently delete	rm old-data.txt
du	disk space used	du -h --max-depth=1 /home/j.tolkien
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 j.tukey@xfer.discovery.neu.edu:/courses/ALY6980.202514/students/j.tukey
```

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

```
scp l.torvalds@xfer.discovery.neu.edu:/courses/CSYE7105.202510/students/l.torvalds/hw.pdf Documents/homework
```

## SBATCH SCRIPT TEMPLATE

### - Example sbatch script for "courses-gpu. Please edit

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

```
# load modules if needed
module load bowtie2/2.5.4
```

```
# heres where the code runs
bowtie2 -h
```

## RUNNING JOBS ++

### - Interactive Job Using srun

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

### - Check Job Status

```
squeue -u username
```

### - Check Partition Status

```
squeue -p courses
```

### - Check Partition info

```
sinfo -p courses
```

### - Cancel A Job

```
scancel slurmjobid
```

### - Working With Modules

```
module list
```

```
module avail
```

```
module load
```

```
module remove
```

```
module --help
```