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# What is Picotte?

- A High-Performance Computing (HPC) cluster runs Slurm.

(More about Slurm:

[https://proteusmaster.urcf.drexel.edu/urcfwiki/index.php/URCF\\_Workshops\\_and\\_Talks](https://proteusmaster.urcf.drexel.edu/urcfwiki/index.php/URCF_Workshops_and_Talks))

- Picotte has:
  - One management node
  - One login node
  - 88 computer nodes

# Using Picotte:

- Login
- Create or use installed program
- Create job script
- Submit the job script
- View the result

# Login

- Use Drexel's Virtual Private Network (VPN)
  - Download Cisco Anyconnect VPN Client
  - Access <https://vpn.drexel.edu>
  - Follow instruction on <https://drexel.edu/it/help/a-z/VPN/>

# Login

- Launch the SSH program
- SSH into `picottellogin.urcf.drexel.edu`

```
$ ssh hp457@picottellogin.urcf.drexel.edu
Password:
WELCOME TO PICOTTE AT URCF DREXEL UNIVERSITY

FOR SUPPORT EMAIL urcf-support@drexel.edu
FOR DOCUMENTATION https://proteusmaster.urcf.drexel.edu/urcfwiki/

Use of this system is governed by the URCF User Policy
https://drexel.edu/research/resources/urcf/policies/guest-accounts/

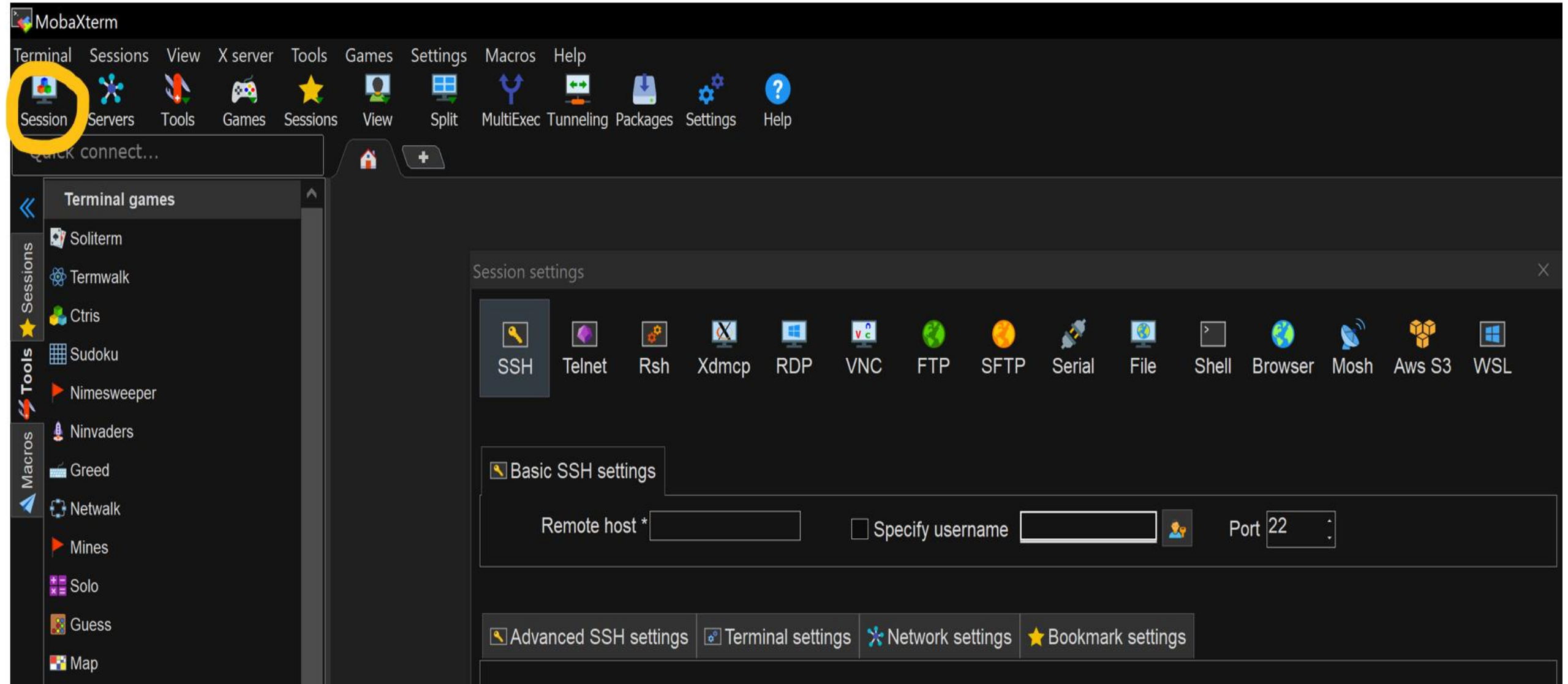
Use the following commands to adjust your environment:

'module avail'           - show available modules
'module add <module>'    - adds a module to your environment for this session
'module initadd <module>' - configure module to be loaded at every login

-----
NEXT DOWNTIME:
    wed Apr 21, 2021  9:00 am - 6:00 pm
-----
STAFF OUT OF OFFICE:
    t.b.a.
-----
When was your last data backup?
-----
PLEASE MOVE YOUR DATA INTO YOUR GROUPS DIRECTORY
    MRI co-PIs groups, please use the appropriate MRI group directories
=====
```

# Tips for login

- For Mac Users:
  - Terminal app
- For Windows Users:
  - OpenSSH in Windows 10
  - To use a GUI on the login nodes: MobaXterm




Quick connect...

- Terminal games
  - Soliterm
  - Termwalk
  - Ctris
  - Sudoku
  - Nimesweeper
  - Ninvaders
  - Greed
  - Network
  - Mines
  - Solo
  - Guess
  - Map
  - Untangle
  - Tux consolesaver
  - Remove games from MobaXterm
- System
  - MobApt packages manager (experim
  - X11 tab with Dwm
  - X11 window with Fvwm
  - X11 window with Twm
  - List hardware devices
  - List running processes
  - Command Prompt (admin)
  - Windows Powershell (admin)
- Office
  - MobaTextEditor
  - MobaFoldersDiff
  - Ascii table


Session settings

SSH Telnet Rsh Xdmcp RDP VNC FTP SFTP Serial File Shell Browser Mosh Aws S3 WSL

Basic SSH settings

Remote host \*   Specify username   Port

Advanced SSH settings Terminal settings Network settings Bookmark settings

Secure Shell (SSH) session 

OK Cancel




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Secure Shell (SSH) session 

OK Cancel


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# Create a Slurm job Script

- Starting with Shebang:
  - `#!/bin/bash`
- `#SBATCH`
  - Starting at the first character of line
  - `#SBATCH` options: `--partition`, `--mem`, `--time`, `--nodes`

# Submit a job

- Use command: **sbatch jobName**

```
$ nano example1.sh  
$ sbatch example1.sh
```

```
Submitted batch job 287798
```

# View result

- Do: `ls` to look for the result file

```
example1.sh  slurm-287798.out
```

- Do: `cat slurm-jobId.out` to view the result

```
$ cat slurm-287798.out
```

```
hello, world
```

# SBATCH options:

- -p, --partition=<partition\_names>
  - Ex: -p def
- -N, --nodes=numNodes
  - Ex: -N 16
- -t, --time=hh:mm:ss
  - Ex: -t 24:30:30
- -mem=size[units]
  - Ex: --mem=2GB

# Linux commands:

- ls
- mkdir newDirectoryName
- rmdir dirName
- cat
- cd , cd~, cd .., cd dir
- pwd
- cp source destination
- mv source destination



# Examples:

- `example1.sh`
- `example2.sh`
- `example3.sh`



Questions?

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Thank you!

# Resources:

- [https://proteusmaster.urcf.drexel.edu/urcfwiki/index.php/Main\\_Page](https://proteusmaster.urcf.drexel.edu/urcfwiki/index.php/Main_Page)
- [https://proteusmaster.urcf.drexel.edu/urcfwiki/index.php/URCF Worshops and Talks](https://proteusmaster.urcf.drexel.edu/urcfwiki/index.php/URCF_Worshops_and_Talks)
- [https://proteusmaster.urcf.drexel.edu/urcfwiki/index.php/Slurm Quick Start Guide](https://proteusmaster.urcf.drexel.edu/urcfwiki/index.php/Slurm_Quick_Start_Guide)
- [https://proteusmaster.urcf.drexel.edu/urcfwiki/index.php/List of Online Resources](https://proteusmaster.urcf.drexel.edu/urcfwiki/index.php/List_of_Online_Resources)