Land DA System Training

Connecting to an HPC Environment via PuTTy

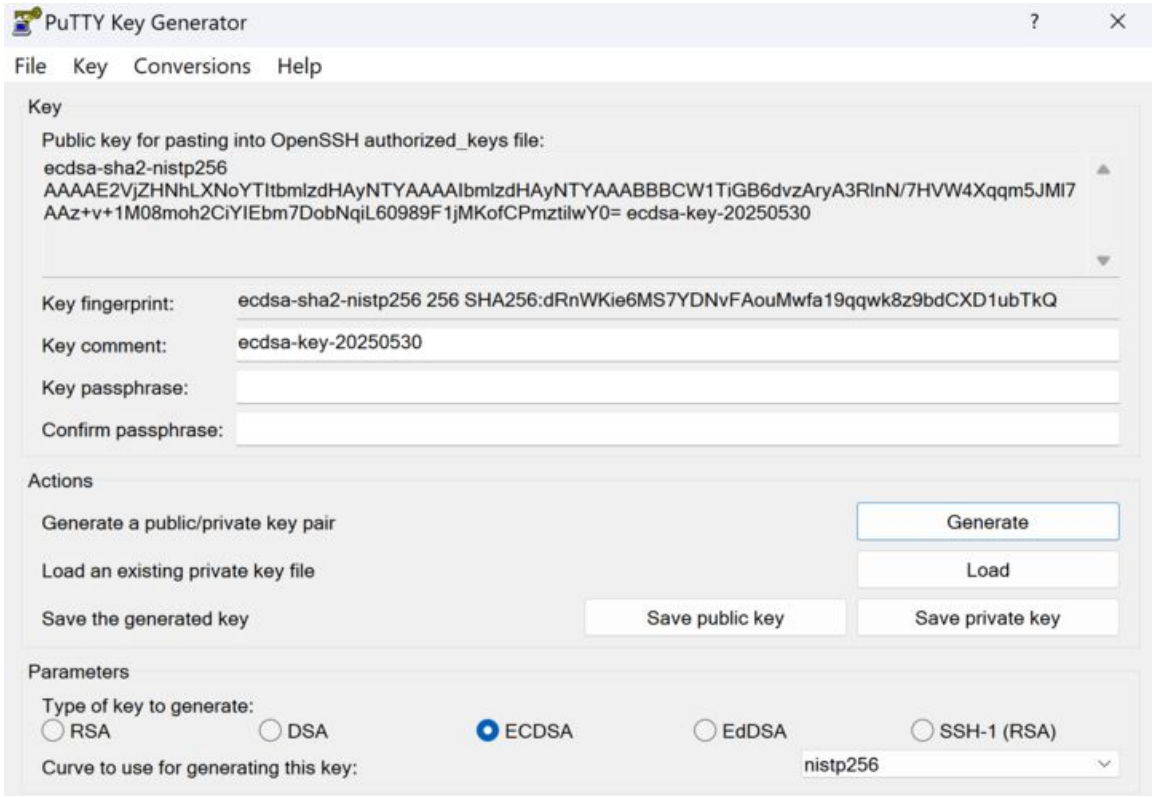
By: Kristopher Booker, Gillian Petro, Edward Snyder

Introduction to SSH

- A **S**ecure **SH**ell (SSH) tunnel creates an encrypted connection between two computer systems. This allows users to:
  - Access and use a remote system via the command line on their local machine.
  - Transfer data securely between two systems.
- Many HPC platforms are accessed via SSH from a user's computer.
  - NOAA RDHPCS
  - Academic HPCs
  - Commercial cloud platforms (e.g., AWS EC2s)

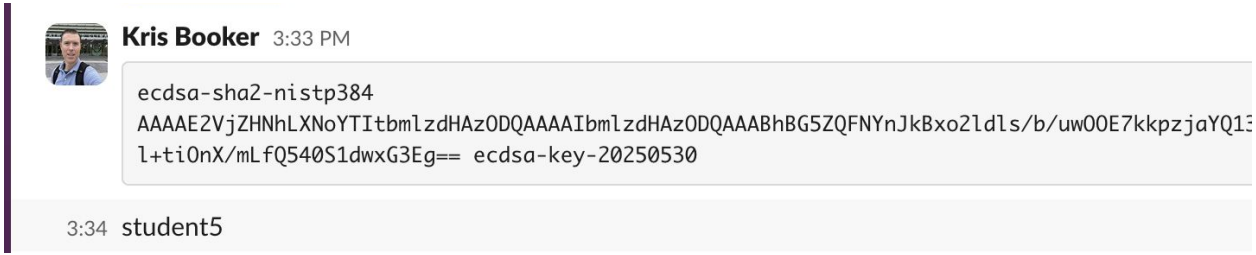
Generate public/private key pair

- Open the PuTTYgen client and choose either ECDSA or ED25519 under the parameters field.
- Select “Generate a public/private key pair.”



Generate public/private key pair

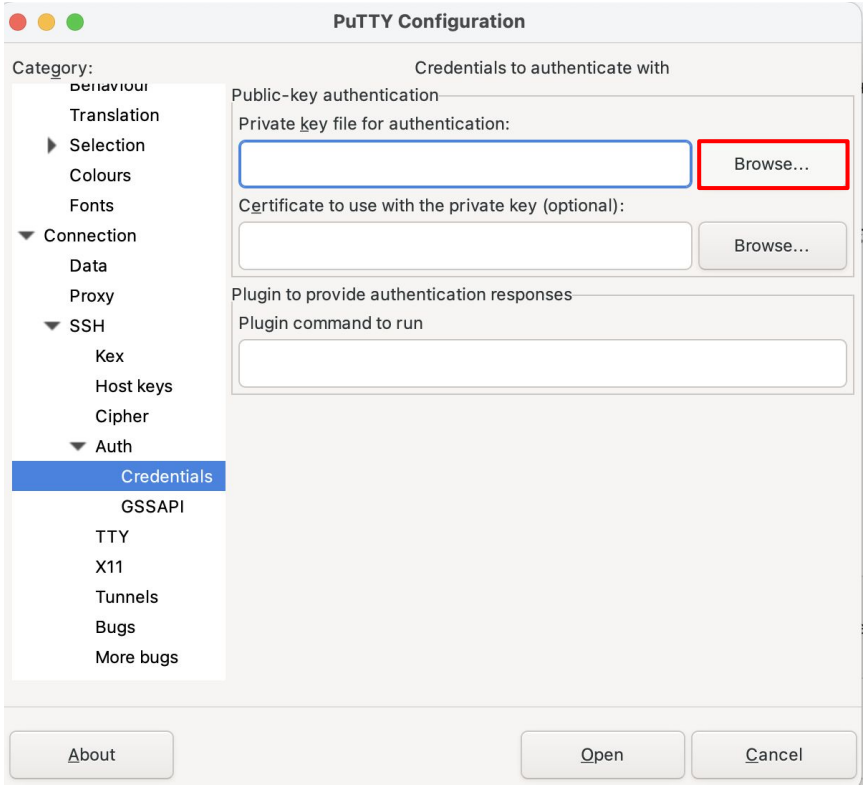
- Copy and paste the section under “Public key for pasting into OpenSSH authorized_keys file:” to the Slack workspace channel **`#cadre-publickeys`** *with your student number* (e.g., student 5).



- Click the “Save private key” button.
  - This should open a dialog box for you to save your private key file on your laptop.
  - Take note of the private key name and directory location on your laptop (usually C:\Users\<username>\.ssh).

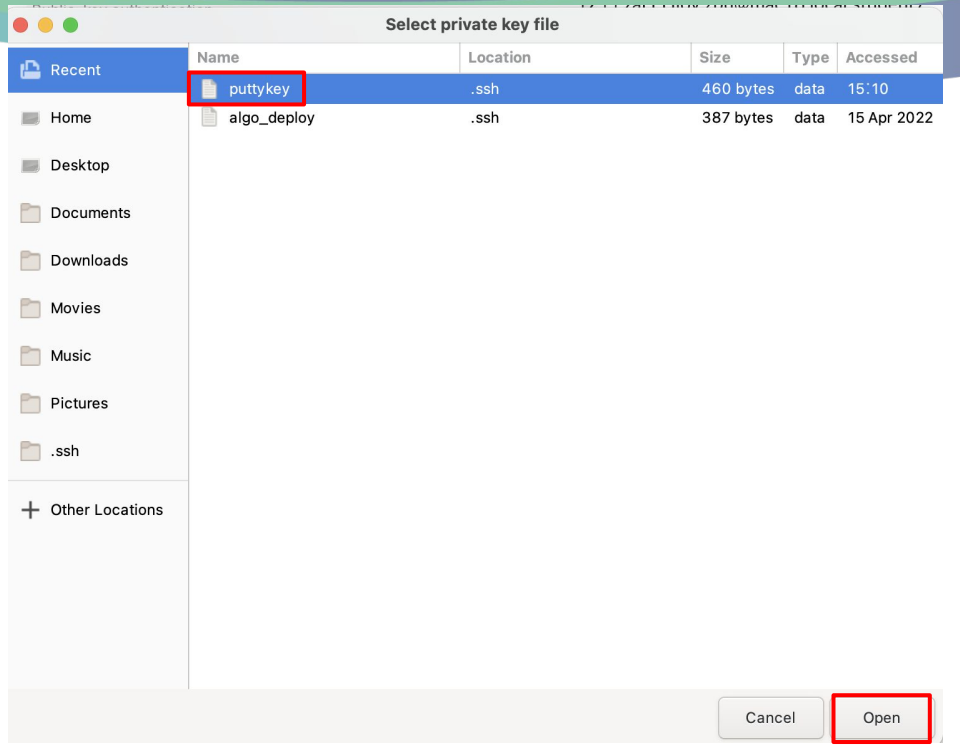
Connecting with PuTTy

- Load the PuTTY client and navigate the sidebar menu to SSH → Auth → Credentials
- Click the **Browse** button



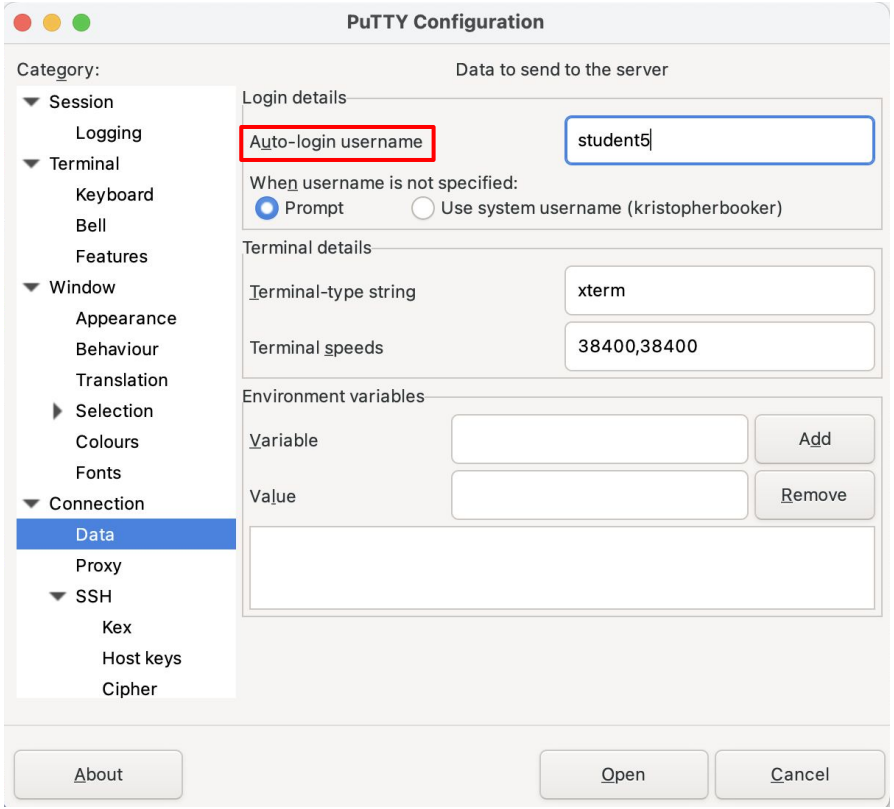
Connecting with PuTTy

- Navigate to the location of the private key file you generated with PuTTYGen
- Select the key file (file name might differ from example)
- Click “Open”
- This should populate the *private key file for authentication* dialog box with the name and location of your private key file.



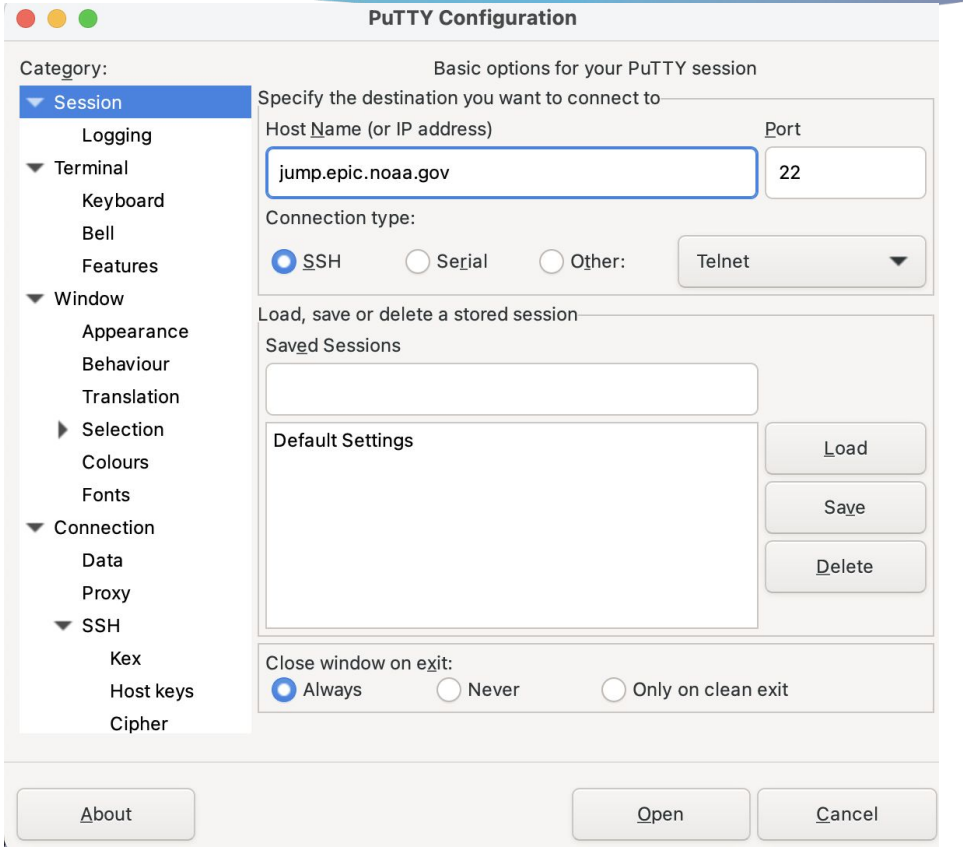
Connecting with PuTTy

- Navigate to Connection → Data
- In the *Auto-login username* dialog box enter your assigned student number (e.g., student5)



Connecting with PuTTy

- Navigate in the sidebar menu to Session at the very top.
- In the Host Name (or IP address) dialog box, enter jump.epic.noaa.gov
- Click *Open*
- This should launch a terminal window session and connect you to your HPC environment controller node.



Connecting to an HPC Environment

- If you run the **`ls`** command, you will see the Land DA container (**`.img`**) file, the **`inputs`** data directory, and a **`rocoto`** directory:

```
[ubuntu@ip-10-29-82-122:~$ ls
 Land-DA_v2.1_inputs.tar.gz  rocoto
 inputs                      ubuntu22.04-intel-landda-daconsortium.img
```