



Introduction to HPC for Astronomers

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Day 1

Engineering Room 102, Swinburne University

9:15 – 10:15	Programming Paradigms
10:15 – 10:30	Coffee break
10:30 – 11:30	Computing Architectures
11:30 – 12:00	Getting Access to Supercomputing Resource
12:00 – 13:00	Lunch
13:00 – 14:30	Introduction to OpenMP
14:30 – 14:45	Coffee break
14:45 – 16:00	OpenMP continued

Day 2

Engineering Room 102, Swinburne University

9:15 – 10:15	Introduction to MPI
10:15 – 10:30	Coffee break
10:30 – 12:00	MPI continued
12:00 – 13:00	Lunch
13:00 – 14:30	MPI continued
14:30 – 14:45	Coffee break
14:45 – 16:00	MPI continued

Day 3

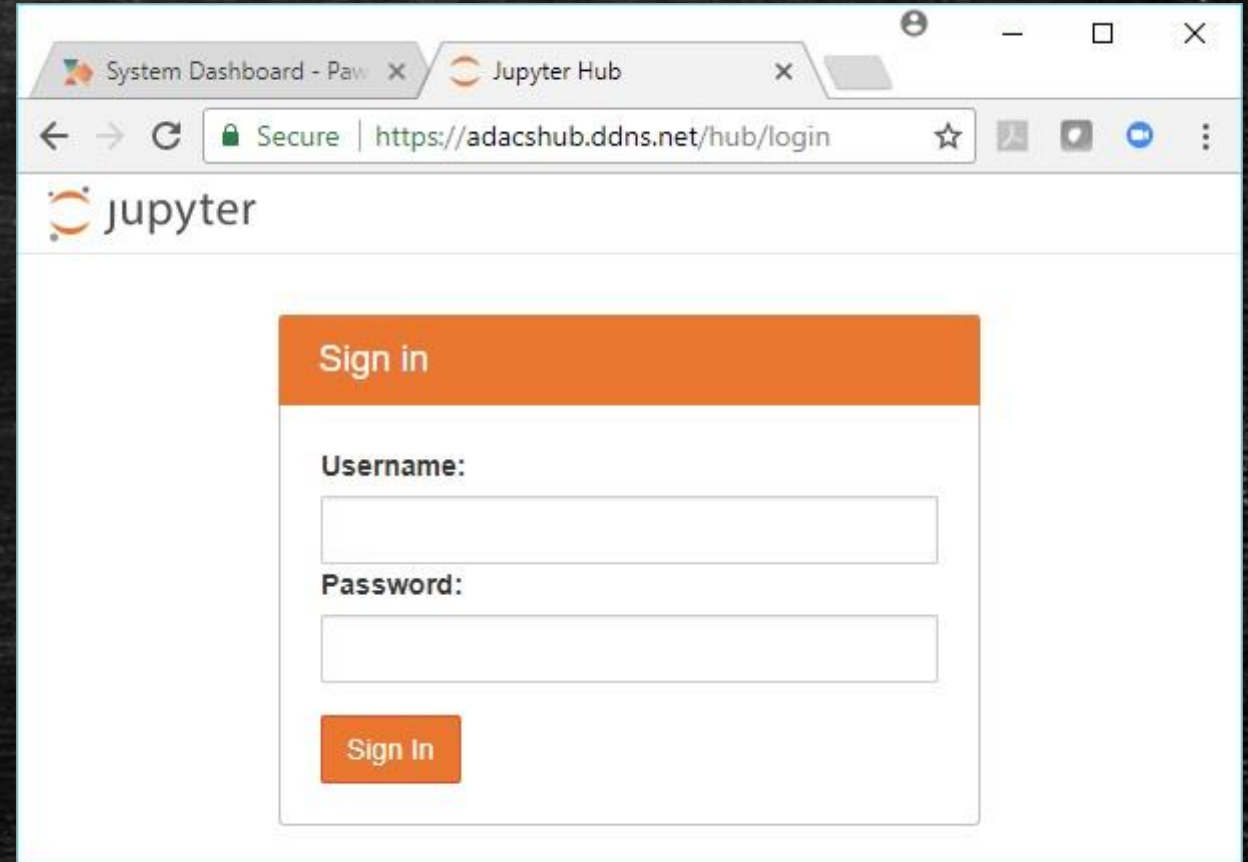
Engineering Room 615, Swinburne University

9:15 – 10:00	Parallel Filesystems / Lustre
10:00 - 10:20	Introduction to HDF5
10:20 – 10:35	Coffee break
10:35 – 11:00	HDF5 continued
11:00 – 11:45	Parallel I/O with MPI
11:45 – 12:00	Q+A / Wrap-up

Drop-in Clinic runs 1 – 4pm

Accessing JupyterHub

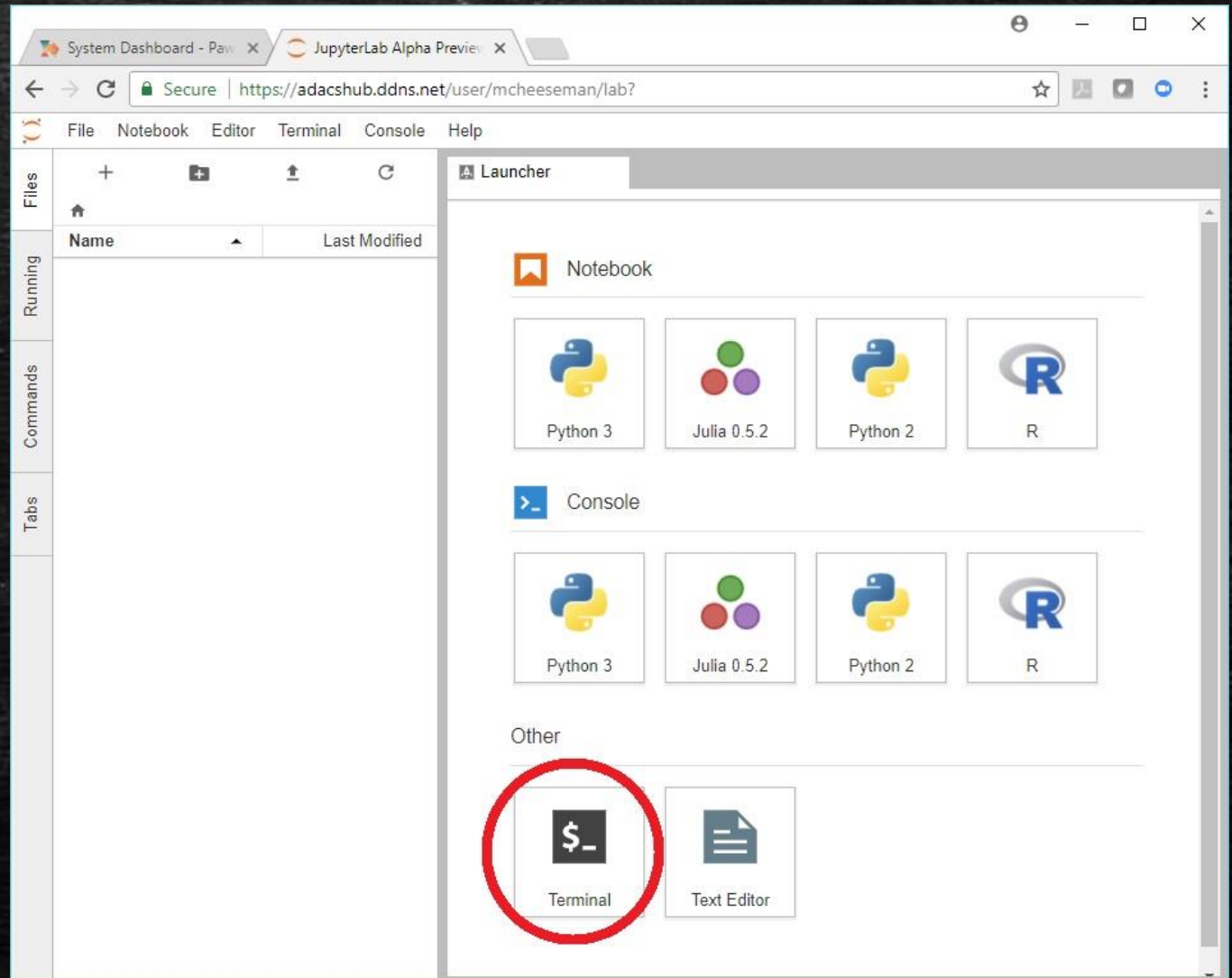
- In a web browser go to:
<https://adacshub.ddns.net>
- When asked to sign in, use the username/password combination given to you.



The screenshot shows a web browser window with two tabs: "System Dashboard - Paw" and "Jupyter Hub". The address bar shows a secure connection to <https://adacshub.ddns.net/hub/login>. The page features the Jupyter logo and a "Sign in" form. The form has an orange header with the text "Sign in". Below this, there are two input fields: "Username:" and "Password:". At the bottom of the form is an orange button labeled "Sign In".

Accessing JupyterHub

- In the **Launcher** tab:
 - Click the *Terminal* button

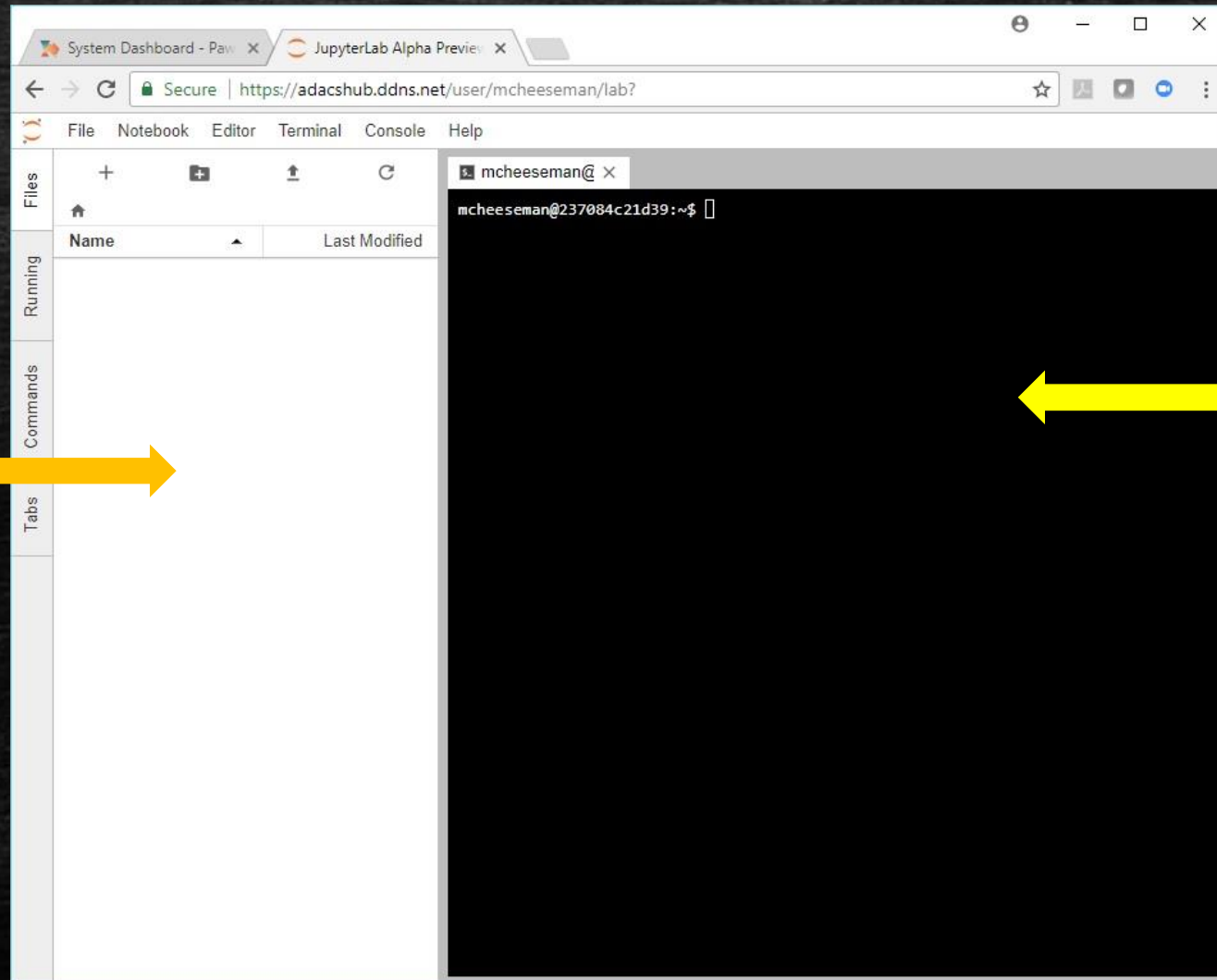
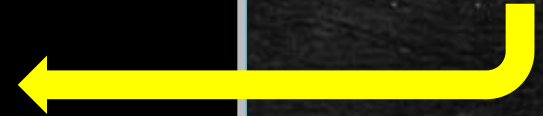


JupyterHub

File explorer

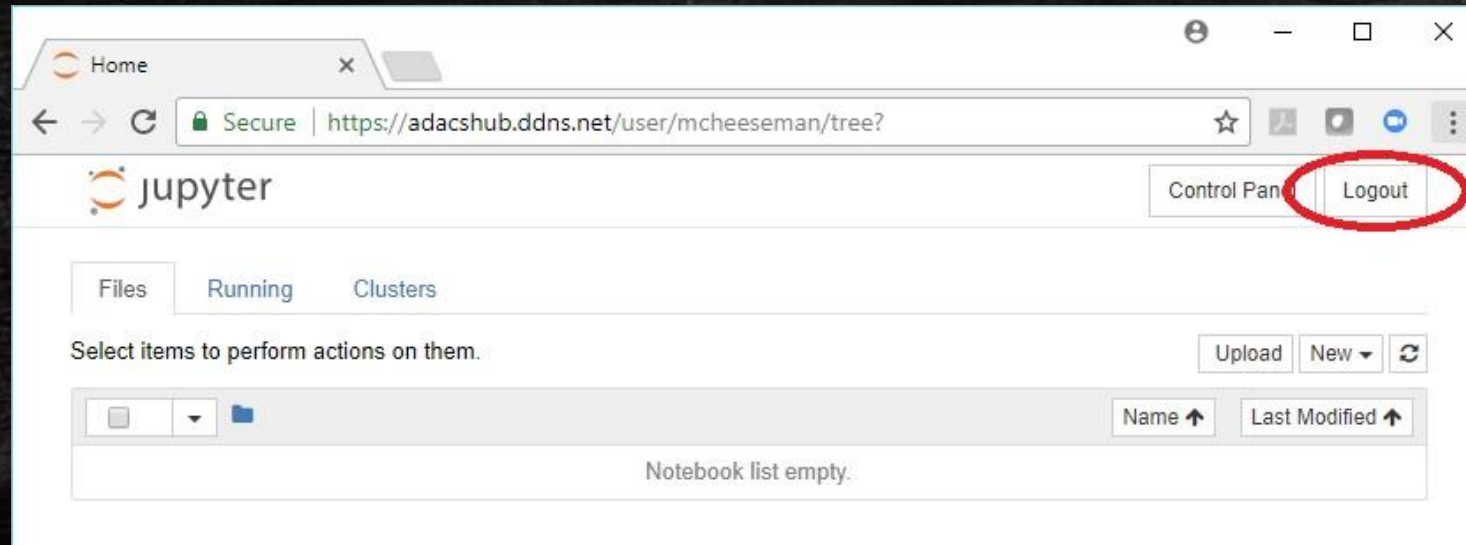


Terminal



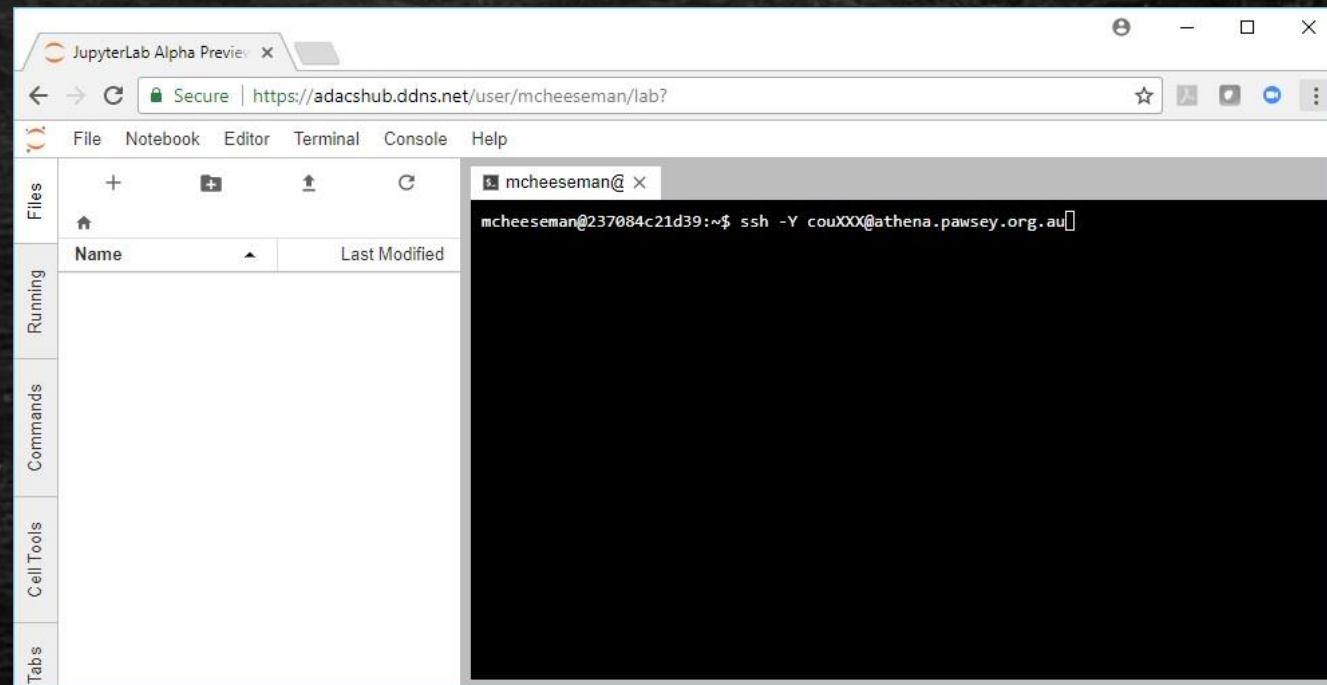
Logging out of JupyterHub

- Find the web URL line at the top of your web browser. Eg <https://adacshub.ddns.net/user/trainingo1/lab?>
- Replace “lab” with “tree” in the URL. Eg. the URL should be <https://adacshub.ddns.net/user/trainingo1/tree?>
- Click on the Logout button on the top right corner of the webpage



Accessing the Athena Cluster

- Click anywhere on the terminal window
- Enter the following command
`ssh couXXX@athena.pawsey.org.au`
- Use your JupyterHub username and password
 - Passwords are case and whitespace sensitive
- Type **yes** when asked to add the IP address for Athena
 - Only need to be done once



Getting the Tutorial & Demo Material

- In the terminal window, enter the following command
`git clone https://github.com/ADACS-Australia/HPC-Workshop.git`
- A directory called HPC-Workshop will appear