CSF Exercise

Overview

- Connect to CSF via RVDS
- Load and run a serial core R job on CSF
- View the results on the CSF & iCSF

Note

- Commands to be entered at the command line are in `courier` with text in ***bold italics*** to be replaced as described.
- On the CSF the Linux man command shows manual pages for a command, e.g. enter man ssh to see the manual pages for ssh (use space for next page,q to quit)
- On the iCSF the up and down arrows can be used to scroll through previously entered commands. Press tab while entering a command or filename to auto-complete it (this saves a lot of typing – very handy!)
- It is usually possible to paste into a terminal window, e.g. by using the middle mouse button (sometimes the right mouse button).

1.Connect to the CSF

- **Resume/Restart** the previously connected session to nyx* by opening the **X2go** software
- Open a new Terminal windows so you arrive at a **nyx*** - **Applications --> System Tools --> Terminal (MATE TErminal)** enter the following in order to connect to the CSF3 login node.

```
[username@nyx* ~]$ ssh -X username@csf.itservices.manchester.ac.uk
```

2. A simple serial core R job on CSF

- Change directory to the workshop folder you created earlier today (remember – after today, for real job runs, you should create folders in scratch for them and then when they finish copy important files to home/rds)

```
[username@hlogin2 [csf3] ~]$ cd workshop
```

- Start gedit (this is a default app, no modulefile to load):

```
[username@hlogin2 [csf3] ~]$ gedit &
```
- In gedit enter these three lines:

```
n<- floor(runif(1000)*10)

t<- table(n)
barplot(t)
```

- Save the file (CTRL+s) as

```
my_test.R
```

Exit

- Open gedit again and this time create a jobscript containing:

```
#!/bin/bash --login
#$ -cwd

#Load software
module load apps/R/3.4.2

#Run the software/our job/our
R CMD BATCH my_test.R my_test.R.o$JOB_ID
```

- Save the file (CTRL+s) as

```
r_batch.txt
```

- Submit the job:

```
[username@hlogin2 [csf3] ~]$ qsub r_batch.txt
```

- It will tell you the jobID at submission time. Monitor it:

```
[username@hlogin2 [csf3] ~]$ qstat
```

3. View the results using both CSF and iCSF

- It does not take long as it is a very simple job, you may not see it go into 'r' state. View the basic results:

```
[username@hlogin2 [csf3] ~]$ ls (to find the files)
[username@hlogin2 [csf3] ~]$ cat my_test.R.o12345
```
where 12345 is replaced with your unique job id.

- You will notice that there is also a file called Rplots.pdf – hop to the iCSF and view it there with:

```
[username@incline21 ~]$ evince Rplots.pdf
```

4. At the end of today's course – Terminate your X2GO virtual desktop

- In exercise iCSF 1 we suspended the virtual desktop then resumed it, as though we were working on it later (e.g., from home) – see RVDS exercise 1 if unsure about this.

- If you really want to kill off everything running on your virtual desktop, click the Terminate icon in the X2GO control panel (see exercise 1) to shutdown your virtual desktop and kill everything that is running there.

- The next time you connect to nyx3 you will get a brand--new virtual desktop – nothing will be running on it.