HPC Workshop

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How to access training materials?

url

https://github.com/Astrophysics-UCL/HPCInfo/tree/master/training/linux_hpc_workshop_oct_2014

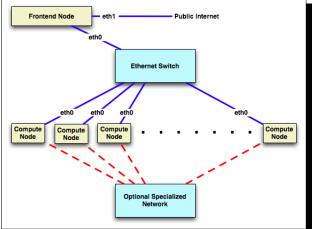
What will you learn?

Running your programs in HPC machines

HPC Facilities

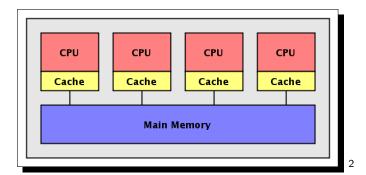
machine	type	cores	memory
SPLINTER-1	distributed	96	48GB
SPLINTER-2	shared	40	1TB
PHALANX	shared	32	512GB

SPLINTER distributed



¹http://www.rocksclusters.org/

SPLINTER shared



²http://www.cs.rit.edu/

Best practices I

- ► Choose the machines that are suited for your problem
- Read the User Guide
- ▶ Do not run your programs in the login node
- Do not install common software locally
- Request optimum resouces
- Minimise data transfer between nodes,
- Backup! Backup! Backup!

Submitting jobs

commands

```
qsub jon_script
qsub -I
checkjob job_id
qstat
showq
qdel
```

Example

```
\#!/bin/bash
#PBS -N hello_world_program
\#PBS - l \quad nodes = 1: ppn = 4
\#PBS - l mem = 2qb
#PBS -i oe
#PBS -V
# source the required scripts
# this sets the PATH
source /home/sbalan/binpaths.sh
# this sets the LD_LIBRARY_PATHS
source /home/sbalan/libpaths.sh
# run my program
/home/sbalan/hello.exe
```

Exercises III

- Login to your HCP machine and find the path to your HOME directory and your quota
- 2. Find the processor type and the version of your operating system
- 3. Request an interative queue and run the hello_world.exe
- Sumbit hello_world.exe using a job script, find its jobid, check the output log.
- Compile big_mem_example, submit it using a job-script and see how much menory it uses
- Compile time_pause_example, submit it using a job-script and kill this job using its jobid.
- In the previous example see what happens when you play with the time requested.

More information

```
ap-wiki
```

http://www.ucl.ac.uk/star/GroupAWiki

UCL Research Computing Platforms

https://wiki.rc.ucl.ac.uk/wiki/Main_Page

DiRAC

http://www.dirac.ac.uk/