Crib Sheet: Interactive Access to ARCHER

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The way we have been running jobs using `qsub batchscript.pbs` is the standard way of running all jobs on ARCHER, other than the fact that on this course you are submitting to a specially reserved course queue.

Because the queue is reserved for the guest accounts, your jobs should normally run almost immediately (at least within a couple of minutes). However, if the machine is very busy then there can be a longer delay. In these situations, it may be best for each guest account to reserve a single node from the reservation for several hours; this is called *interactive access* and ensures instant turnaround of jobs.

1 Reserving a node

To reserve a node, you submit a special command to the batch system, e.g.:

```
qsub -q course1 -IXVl select=1,walltime=1:0:0 -A y14
```

will reserve 1 node (argument to `select`) for 1 hour (argument to `walltime`). Note that the final character in the `-IXVl` argument is the letter "l" and not the number "1".

When the node is allocated, you are effectively logged into it and you will get back a command prompt like this:

```
guestXX@mom1:~>
```

Note that **you will now be back in your home directory** so you will need to change to the work filesystem: `cd /work/y14/y14/guestXX/`.

2 Running a job

You can now run parallel jobs directly from the command line as you have interactive access to one of the compute nodes. For example, to run on 4 processes:

```
aprun -n 4 ./hello
```

Do not log out from this session! You should leave this interactive window open all the time so you can run jobs whenever you want. You will need to open another window on ARCHER to compile your jobs (see below).

3 Compiling

There is a slight complication that you cannot compile from within an interactive session. You should log on a second time to ARCHER and use this new window for compilation.