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### SOME BASIC LINUX COMMANDS

Command	Usage
<code>man <i>command</i></code>	Built in manual for any command
<code>cd <i>dir</i></code>	Change directory
<code>cd ~</code>	Redirect to home directory
<code>cd ..</code>	Move up one directory
<code>ls</code> <code>ls -a</code> <code>ls -l</code>	List content
<code>nano <i>filename</i></code>	Edit file with GNU nano
<code>cat <i>filename</i></code>	View file
<code>touch <i>filename</i></code>	Create file
<code>cp <i>filename old_dir new_dir</i></code>	Copy a file to a new directory
<code>mkdir <i>directory_name</i></code>	Create new directory
<code>mv <i>old_name new_name</i></code> <code>mv <i>old_dir file new_dir</i></code>	Rename a file Move file from one to another directory
<code><i>command</i> &gt; <i>filename</i></code>	Redirect output
<code><i>command</i> &gt;&gt; <i>filename</i></code>	Append output to existing files
<code>find <i>filename</i></code>	Find a file
<code>locate <i>binary</i></code> <code>whereis <i>binary</i></code>	Locate a binary / sources / manual
<code>rm <i>filename</i></code> <code>rm -rf <i>directory</i></code>	Remove file Remove directory
<code>wget <i>http</i></code>	Download utility
<code>gcc</code> <code>g++</code>	GNU C compiler GNU C++ compiler
<code>exit</code>	Logout

### SOME PBS & MAUI COMMANDS

Command	Usage
<code>pbsnodes</code> <code>pbsnodes -a</code> <code>pbsnodes -l</code> <code>qnodes</code>	Verifying compute nodes
<code>qstat</code> <code>qstat -q</code> <code>qstat -Q</code> <code>qstat -f -Q</code>	Check jobs & verify queues
<code>showq</code>	View jobs & resources
<code>showbf</code>	Show buffer
<code>qsub -q job_script</code>	Submit job to default queue
<code>qstat job_ID</code>	Job status with ID
<code>qdel job_ID</code>	Delete job with ID
<code>qsub -I -l nodes=A:ppn=B</code> <code>qsub -I -l nodes=A:ppn=B -X</code>	Interactive node request to default queue Interactive node request to default queue with X11 A: number of nodes B: number of cores per node

### STANDARD PBS JOB SCRIPT

```
#!/bin/sh                                ##Bash header (comments)

PBS Directives:
#PBS -N JobName                          ##Specify jobname
#PBS -l nodes=1:ppn=1                    ##Specify job resources
cd PBS_O_WORKDIR                          ##Saves output and error to working directory
commands to execute                    ##Command to be executed
```

#### Optional flags:

```
#PBS -o stdout_file                      ##Specify output filename
#PBS -e stderr_file                      ##Specify error filename
#PBS -j oe                               ##Combine output and error in one file
#PBS -l cput= hh:mm:ss                   ##Specify maximum cputime
#PBS -l mem=512mb                         ##Specify maximum physical memory needed
#PBS -l walltime=hh:mm:ss                 ##Specify maximum wall clock time
#PBS -m ae                               ##Send email if job is aborted or completed
#PBS -M user_email_address                ##Send email to the specified email address
#PBS -q queue_name                        ##Submit job to specified queue
```