

# OS, batch triks

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## Submit job in batch

```
bsub -o mylog0 -q psanaq ls -l
bsub -o mylog1 -q psanaq 'ls -l'
bsub -o mylog2 -q psanaq "ls -l"

bsub -o mylog -q psanaq curl -s "https://pswww-dev.slac.stanford.edu/calib_ws/"
[dubrovin@summitdev-login1:~]$ bsub -o mylog -q batch -W 1:00 -P CHM137 curl -s "https://pswww-dev.slac.stanford.edu/calib_ws/"
```

## Useful system files

```
~/ .ssh/known_hosts
```

## Intercept batch node for interactive session

```
bsub -Is -q psnehprioq /bin/tcsh
```

## Regular job submission to batch

```
bsub -q psfehq -o log-r169.log psana -c psana-config.cfg exp=cxif5315:run=169
bsub -q psfehq -o log-r169.log python psana-python.py
```

## List of batch jobs

```
bjobs
bjobs -u dubrovin
bjobs -uall -q psfehhiprioq
```

## Status of hosts in the batch farm

List of LCLS farms: psnehfarm psfehfarm psanafarm

```
bhosts
bhosts psnehfarm psfehfarm psanafarm
bhosts | grep ps
```

## Status of batch queues

list of LCLS queues: psnehhiprioq psfehhiprioq psnehprioq psfehprioq psanaq psnehq psfehq

```
bqueues - list all batch queue
bqueues | grep ps
bqueues psnehhiprioq psfehhiprioq psnehprioq psfehprioq psanaq psnehq psfehq
```

## List of batch hosts

lshost - listing of all batch machines along with their resources

```
lshosts | grep ps
```

## Other commands

```
bqueues - Summary status of entire batch system organized by queues.
bqueues -l long - Detailed summary status of the 'long' queue.
lshosts - Very long listing of all batch machines along with their resources.
bmod - Change the queue for a submitted job.
bhist - Get history information for completed jobs.
lsinfo - List all 'resources' defined in batch system.
busers - Summary of my batch activity.
```

qstat

## Host specs

CPU

```
cat /proc/cpuinfo
```

Memory

```
free
cat /proc/meminfo
```

HDD

```
df -h
sudo fdisk -l
sudo hdparm -i /dev/<device> (where <device> for example sda1, hda3...)
sudo hdparm -i /dev/sda1
sudo dmidecode
```

## Re-direct output in file

All POSIX operating systems [have 3 streams](#): stdin, stdout, and stderr.

stdout is the primary output, which is redirected with >, >>, or |.

```
command > file.txt
command >> file.txt # to append
command >& file.txt # re-direct stdout and stderr
command 1>& file.txt # 1-stdout
command 2>& file.txt # 2-stderr
command &>> file.txt # append file with both streams (2-stderr to 1-stdout)
command 2> /dev/null # silence error
command 2>&1 # re-direct 2-stderr to 1-stdout
command 2>&1 >> file.txt # re-direct 2-stderr to 1-stdout and append file with both streams
```

## Re-direct ls in file

USE BACKSLASH to get rid of formatting symbols in the output file

```
\ls -l /reg/d/psdm/MEC > file.txt
```

Or similar with adding some content:

```
\ls -l /reg/d/psdm/MEC | awk '{print "cdb convert -e " $1}' > test_convert_mec.sh
```

Save / re-direct text from command line in file

```
echo "abcd1234" > t.t
```

## Make movie from images

```
convert _tmp*.png _tmp.gif

#or in python
os.system("convert _tmp*.png _tmp.gif")
```

## Grab and save part of the screen in file

To grab portion of the screen imagemagic command [import](#) can be used:

```
import -trim -frame -border file.jpeg
```

Works for \*.jpeg, \*.ppm

Resource limits can be seen by command

```
identify -list resource
```

## Directory ACL

```
getfacl -h
getfacl /reg/g/psdm/logs/calibman/2016/

setfacl -h
sudo setfacl ...
```

## User's group ids

```
id <username>
```

## Restore deleted files

In home directory:

```
l .zfs/snapshot/
```

.zfs will be dynamically mounted.

## Disk quota exceeded

If rm command does not work due to "Disk quota exceeded" try

```
cp /dev/null <your-big-file-name>
```

## References

- [Using SLAC Batch Farm](#)