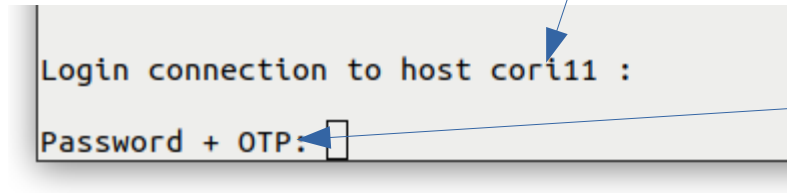


project
m4017

ssh bkang@cori.nersc.gov

several login nodes



To install app.

<https://docs.nersc.gov/connect/mfa/>

XXXX124345

main folders

File System overview

Summary

File systems are configured for different purposes. Each machine has access to different levels of performance, permanence and available space.

File system	Snapshots	Backup	Purging	Access
Community	yes	no	no	repository
Home	yes	yes	no	user
Common	no	no	no	repository
Cori scratch	no	no	yes	user
Perlmutter scratch	no	no	yes	user
HPSS	no	no	no	user

```
bkgang@cori11:~> pwd
/global/homes/b/bkgang
bkgang@cori11:~> 
```

project
m4017

```
bkgang@cori11:/project/projectdirs/m4017> ls
bkgang@cori11:/project/projectdirs/m4017> mkdir bkgang
bkgang@cori11:/project/projectdirs/m4017> cd bkgang
bkgang@cori11:/project/projectdirs/m4017/bkgang> ls
bkgang@cori11:/project/projectdirs/m4017/bkgang> 
```

cd \$SCRATCH

System Overview

System Partition	# of cabinets	# of nodes	Aggregate Theoretical Peak	Aggregate Memory
Login	-	20	-	-
Haswell	14	2,388	2.81 PFlops	298.5 TB
KNL	54	9,688	29.5 PFlops	1.09 PB
Large Memory	-	20	30.7 TFlops	40 TB

System Specification

System Partition	Processor	Clock Rate	Physical Cores Per Node	Threads/Core	Sockets Per Node	Memory Per Node
Login	Intel Xeon Processor E5-2698 v3	2.3 GHz	32	2	2	515 GB
Haswell	Intel Xeon Processor E5-2698 v3	2.3 GHz	32	2	2	128 GB
KNL	Intel Xeon Phi Processor 7250	1.4 GHz	68	4	1	96 GB (DDR4), 16 GB (MCDRAM)
Large Memory	AMD EPYC 7302	3.0 GHz	32	2	2	2 TB

```
#!/bin/bash -l
#SBATCH -A m4017
#SBATCH -J test
#SBATCH -p debug
#SBATCH -N 4
#SBATCH -t 00:30:00
#SBATCH -C haswell
module load vasp

srun -n 128 vasp_std
```

1 node : 32 cpus

debug : max 30 mins, two jobs at same time

regular : max 48 hours

interactive

salloc --account=m4017 --nodes 1 --qos interactive --time 01:00:00 --constraint haswell

Calculating Charges

The cost of a job is computed in the following manner:

$$\text{walltime in hours} \times \text{number of nodes} \times \text{QOS factor} \times \text{charge factor}$$

QOS	Max nodes	Max time (hrs)	Submit limit	Run limit	Priority	QOS Factor	Charge per Node-Hour
regular	1932 ²	48	5000	-	4	1	140
shared ³	0.5	48	10000	-	4	1	140 ³
interactive	64 ⁴	4	2	2	-	1	140
debug	64	0.5	5	2	3	1	140
premium	1772	48	5	-	2	2 -> 4 ⁵	280 ⁵
flex	64	48	5000	-	6	0.5	70
overrun	1772	4	5000	-	5	0	0
xfer	1 (login)	48	100	15	-	-	0
bigmem	1 (login)	72	100	1	-	1	140
realtime	custom	custom	custom	custom	1	custom	custom