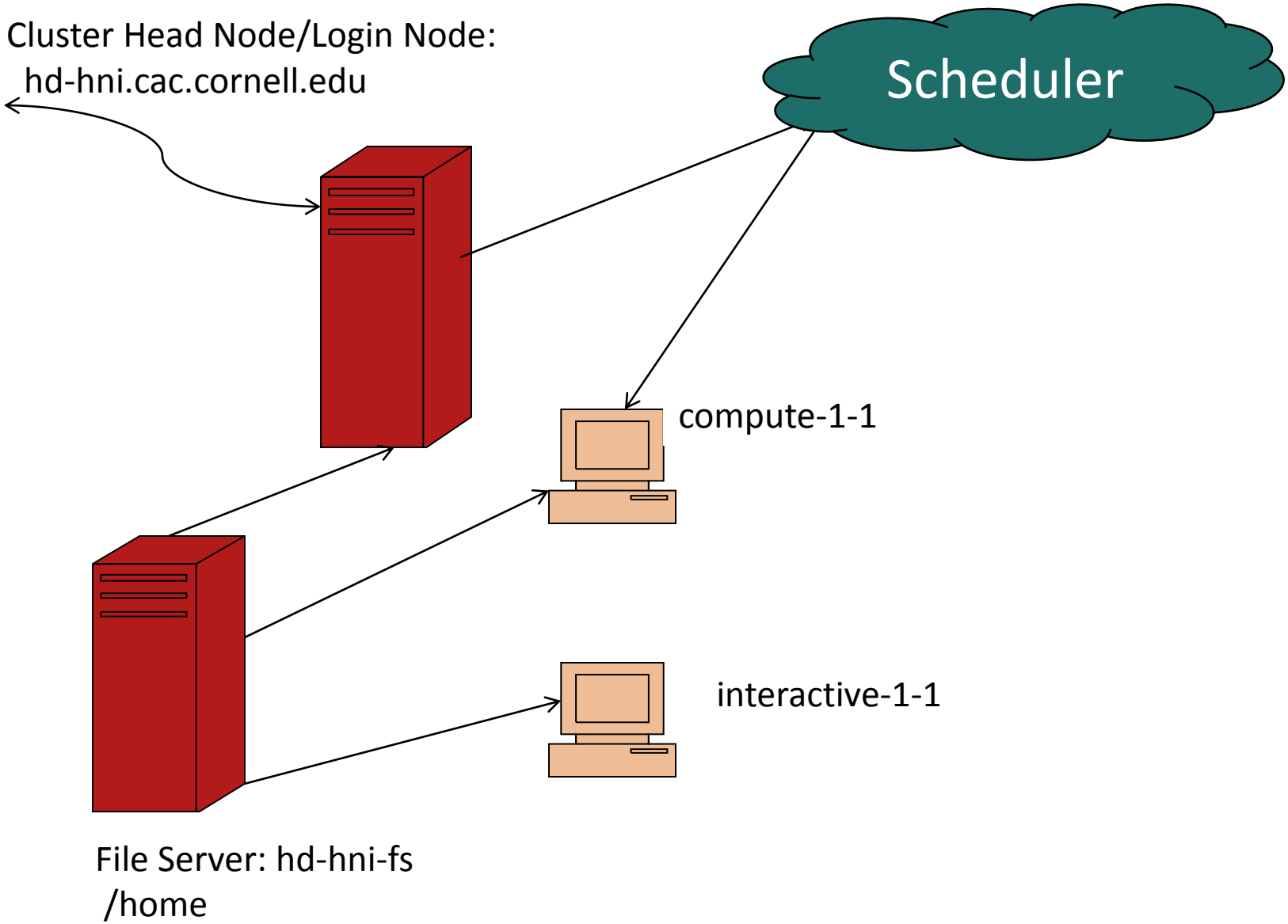
Introduction to Using the

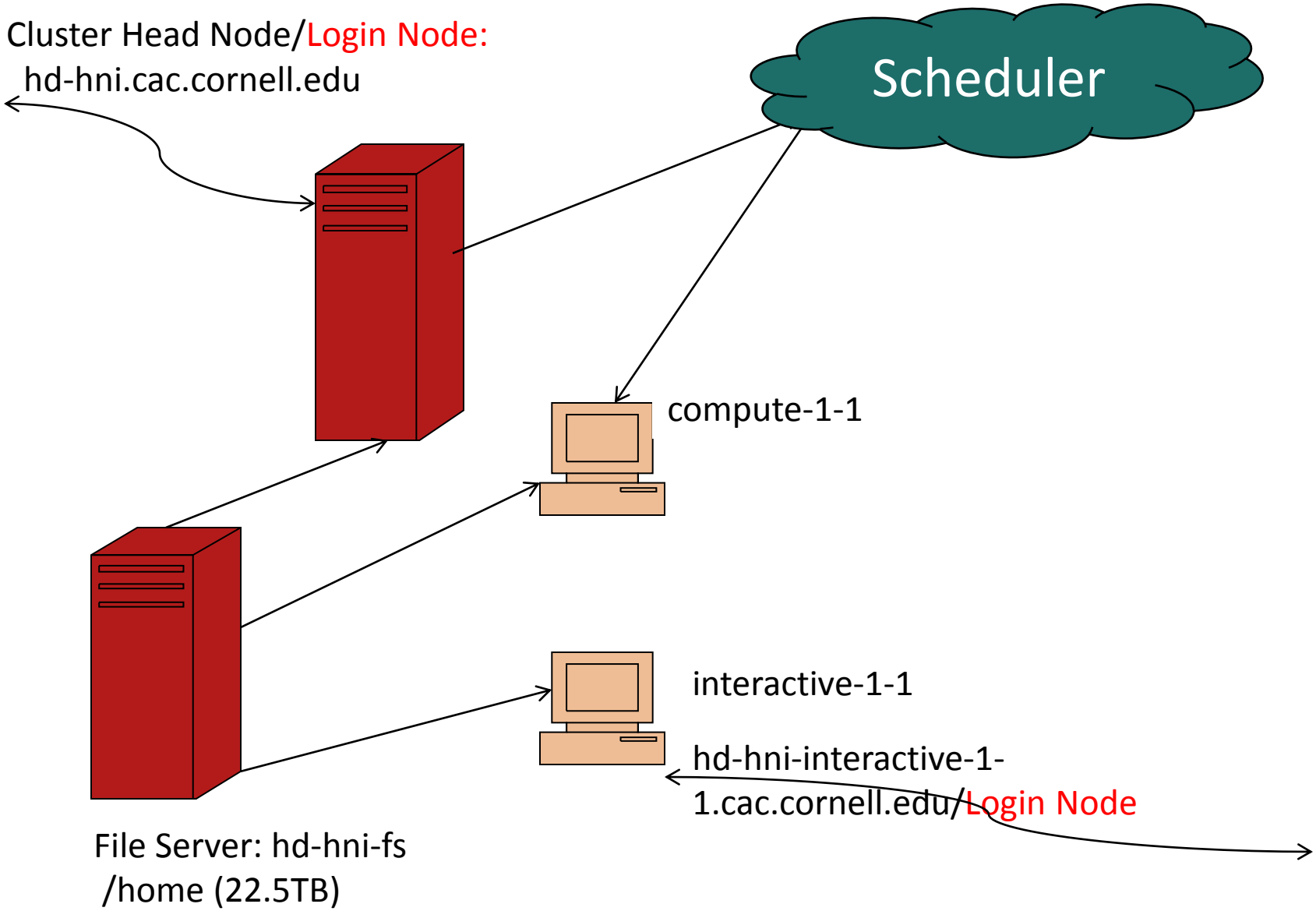
HD Human Neuroscience Institute (hd-hni) Cluster

Cornell Center for Advanced Computing

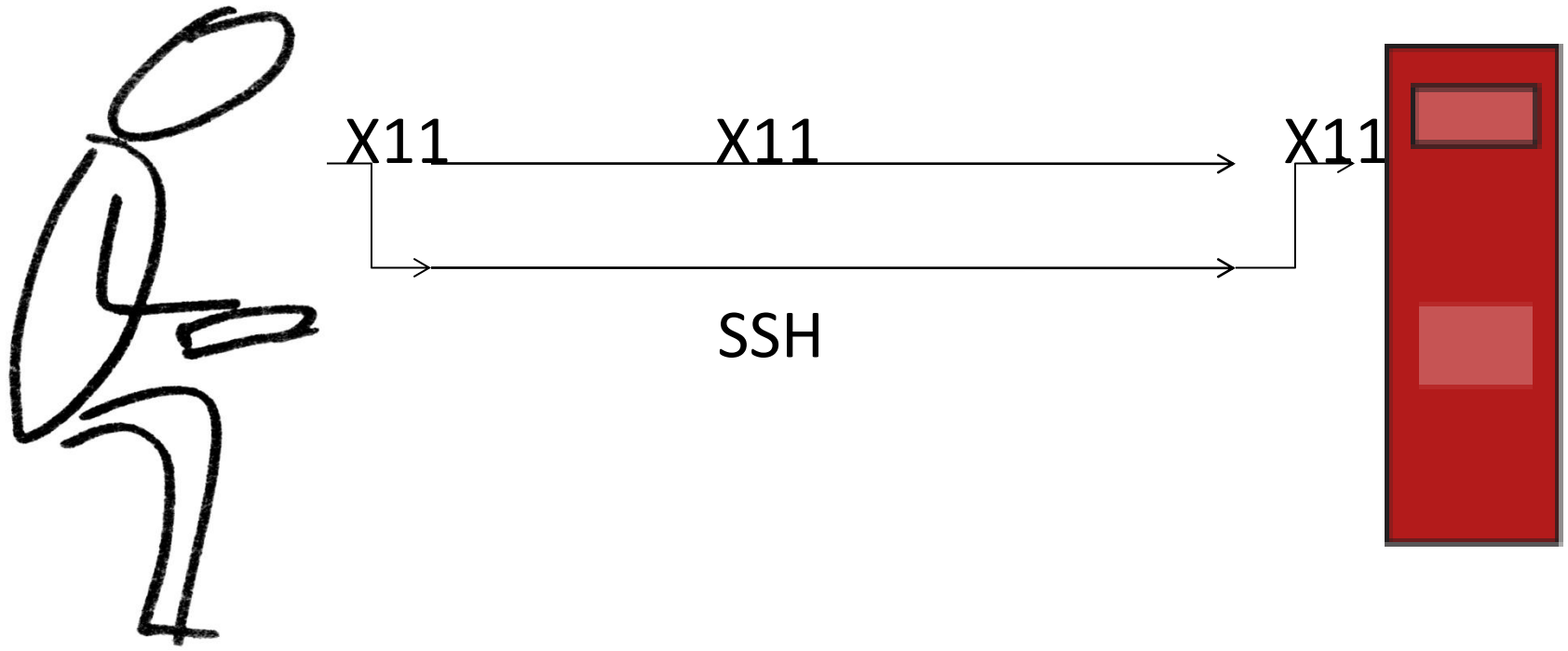
hd-hni.cac.cornell.edu

http://www.cac.cornell.edu/wiki/index.php?title=HD_Human_Neuroscience_Institute_(HD-HNI)_Computing

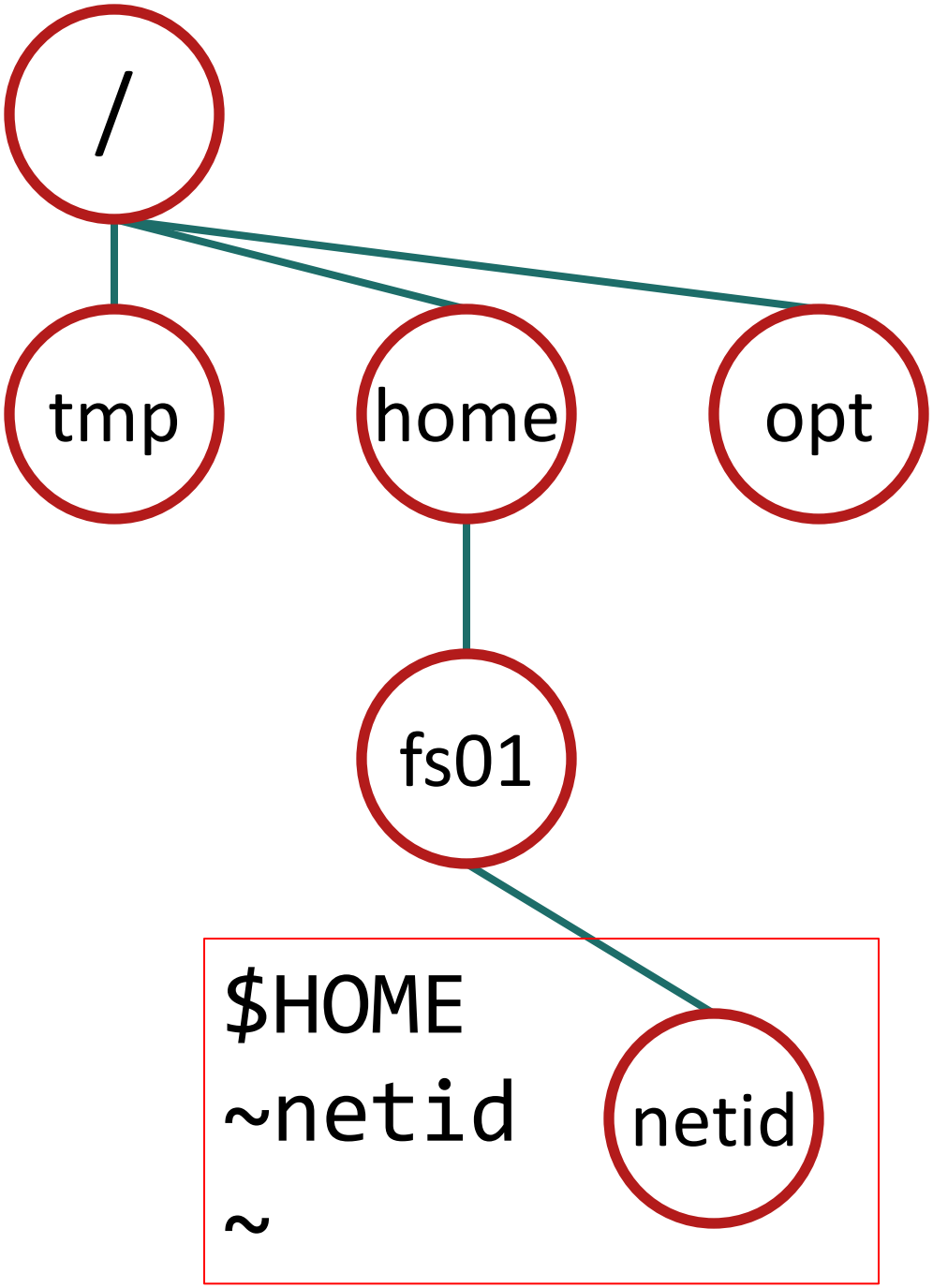

Cluster Head Node/Login Node:
hd-hni.cac.cornell.edu
Scheduler
compute-1-1
interactive-1-1
File Server: hd-hni-fs
/home


Cluster Head Node/Login Node:
hd-hni.cac.cornell.edu
Scheduler
compute-1-1
interactive-1-1
hd-hni-interactive-1-1.cac.cornell.edu/Login Node
File Server: hd-hni-fs
/home (22.5TB)

It is for your benefit to always use the scheduler.



ssh –Y netid@hd-hni.cac.cornell.edu


/
tmp
home
opt
fs01
$HOME
~netid
~
netid

COMMON LINUX COMMANDS

ls	mkdir	diff	pushd
cd	fg	touch	popd
cat	bg	chmod	source
grep	ssh	alias	sort
find	if	umask	sleep
less	for	head	pushd
echo	export	tail	popd
pwd	cut	top	ps
exit	sed	tar	nohup
rm	awk	mv	time
logout	make	ln	date
man	xargs	expr	

Create your job script

Dear Scheduler,

I’d like you TODO

pwd

/home/fs01/netid

mkdir bin

vi bin/testjob.sh

sensible gedit

programmer eclipse

get-it-done nano

do-it-all emacs

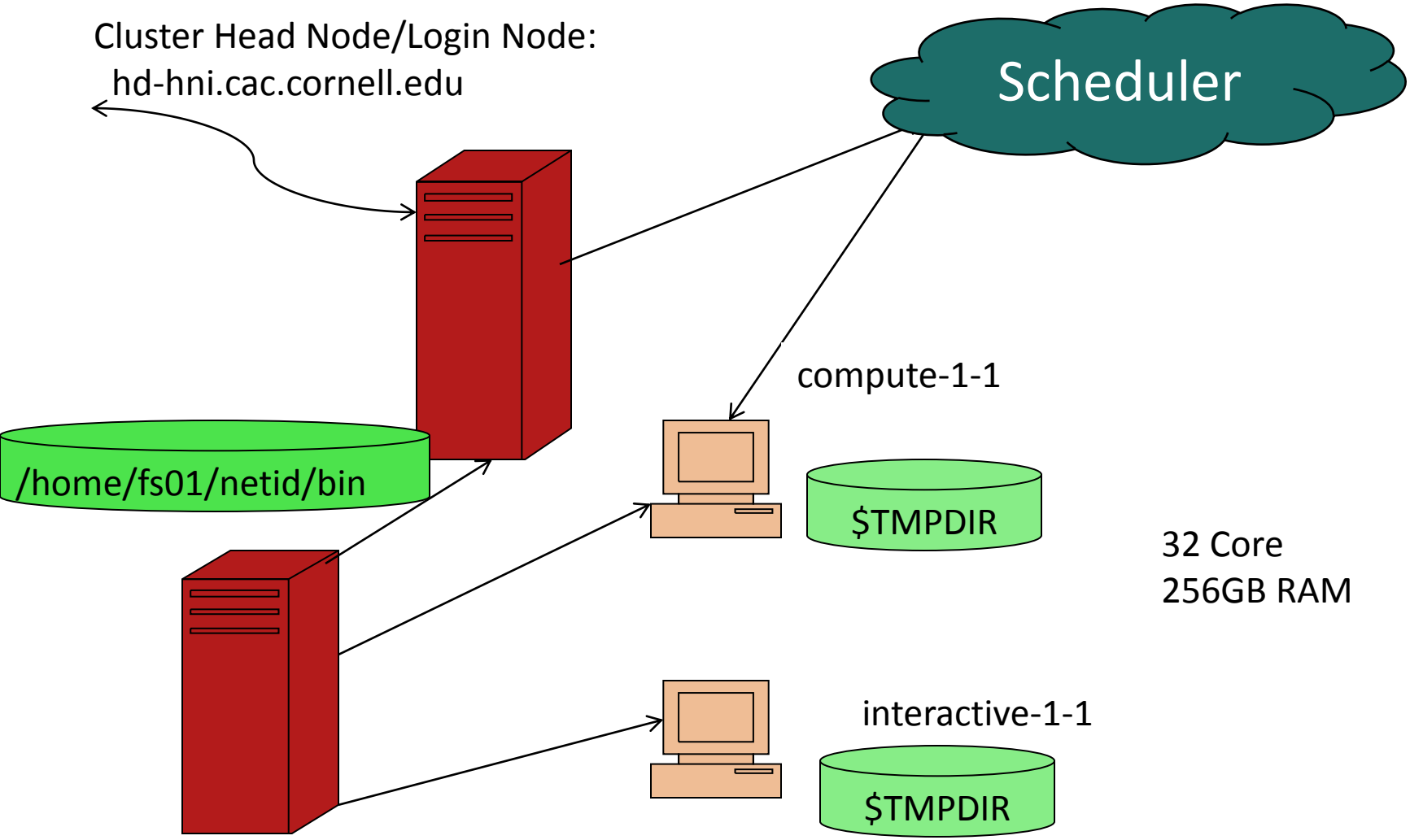
did what? vi

PBS DIRECTIVES

Input - Program - Output

```
#!/bin/bash
#PBS -l walltime=00:05:00,nodes=1:ppn=4
#PBS -j oe
#PBS -N testdefaultqueue
#PBS -q default

# Turn on echo of shell commands
set -x
# Because jobs start in the HOME directory, move to submit dir
cd $PBS_O_WORKDIR
echo 'pwd'
echo "PBS_O_WORKDIR is `pwd`"
echo "env is `env`"
# copy your binary that you want to run and any data files to a
local directory on node job is executing on
# this example assumes you have a binary file named helloworld.sh
in your local bin directory
cp $HOME/bin/helloworld.sh $TMPDIR
cd $TMPDIR
# run the binary file from the local disk on the node the job was
placed on
./helloworld.sh >&hello.stdout
# Copy output files to your output folder
cp -f $TMPDIR/hello.stdout $HOME/output
```


Cluster Head Node/Login Node:
hd-hni.cac.cornell.edu
Scheduler
compute-1-1
/home/fs01/netid/bin
$TMPDIR
32 Core
256GB RAM
interactive-1-1
$TMPDIR
File Server: hd-hni-fs
/home

pwd

/home/fs01/netid

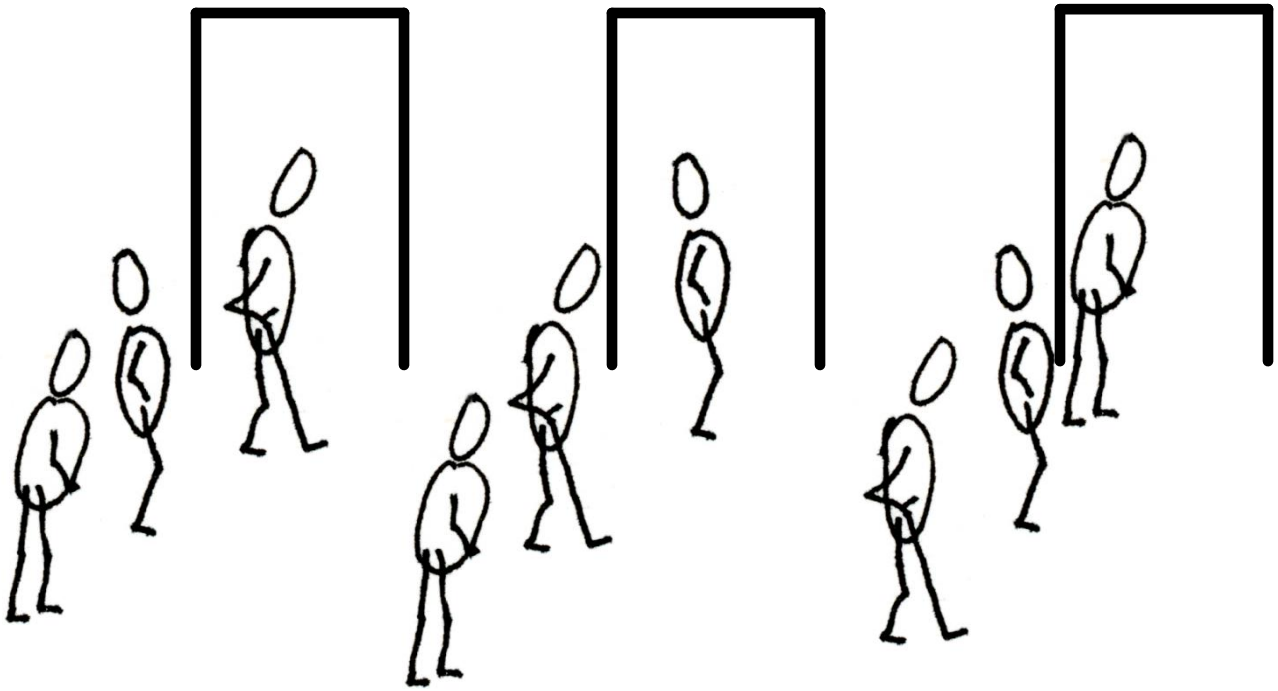
mkdir bin

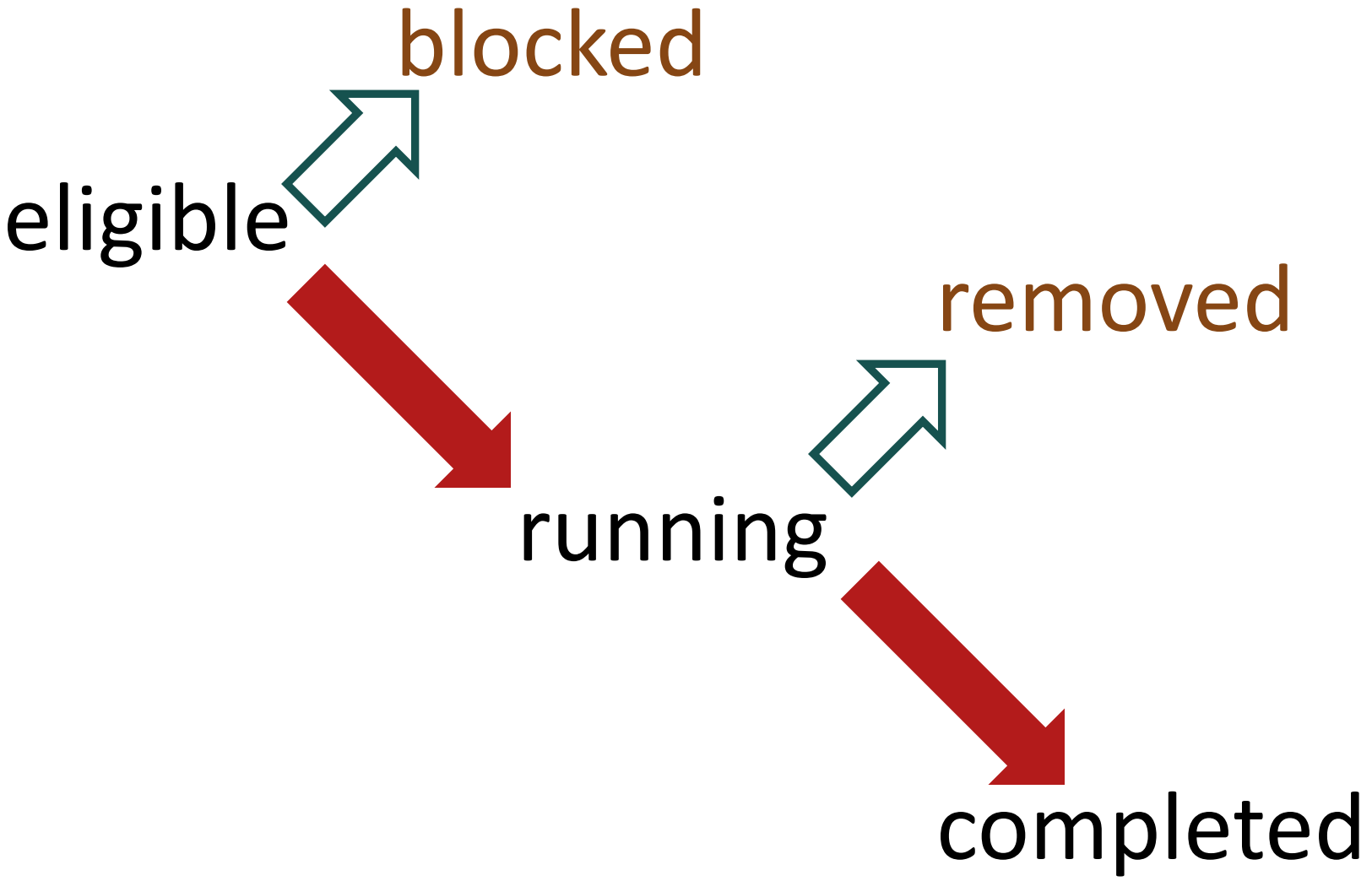
vi bin/testjob.sh

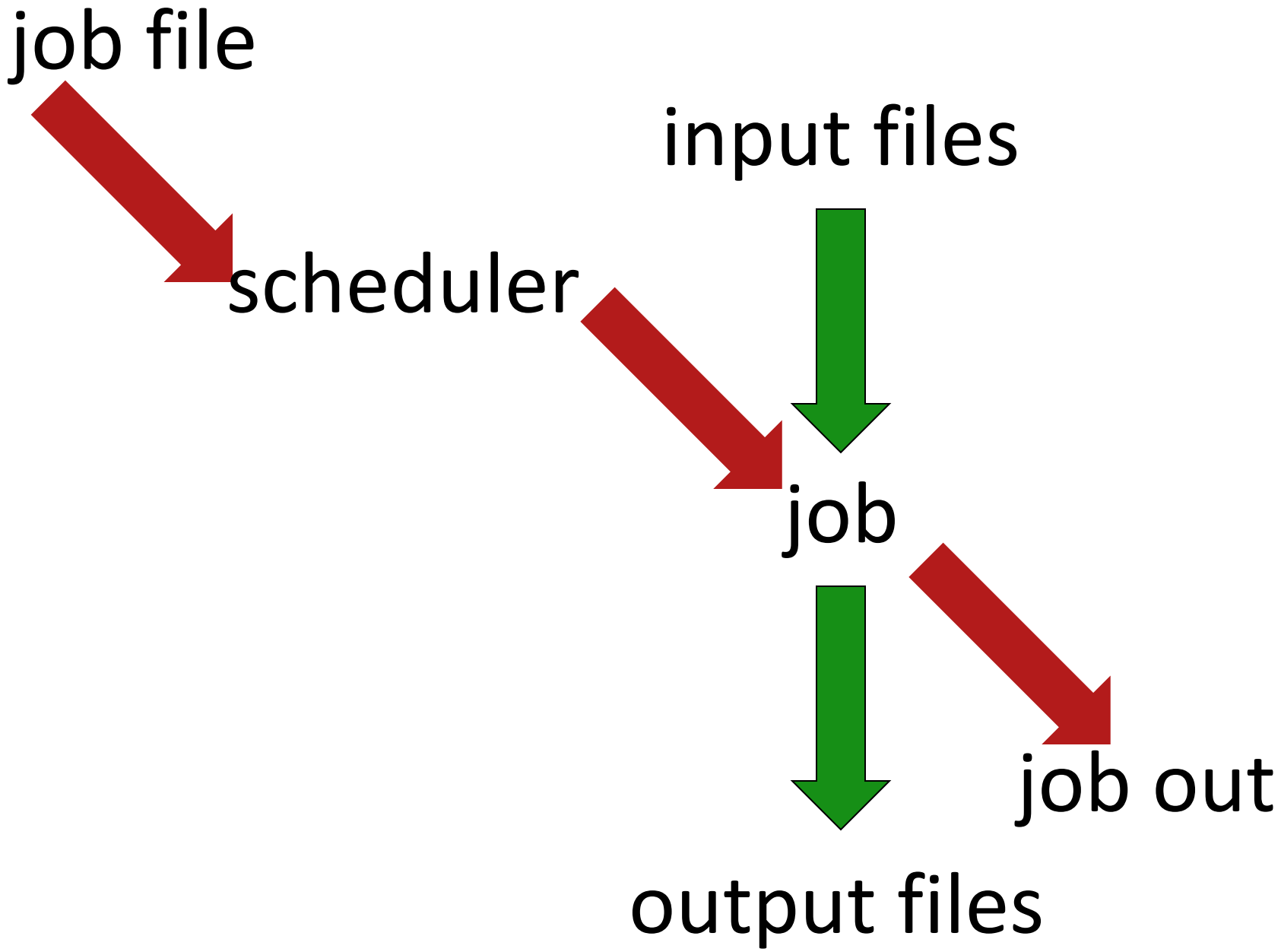
qsub bin/testjob.sh

Queues

default




blocked
eligible
removed
running
completed


job file
input files
scheduler
job
job out
output files

- qsub
- showq
- checkjob
- canceljob

Interactive -I

```
qsub -I jobscript.sh
```

Matlab

- R2012b
- R2013a: default
- module avail

```
>module load matlab/R2012b
>matlab
```

Ganglia Monitor:

http://hd-hni.cac.cornell.edu/ganglia/

help@cac.cornell.edu

http://www.cac.cornell.edu