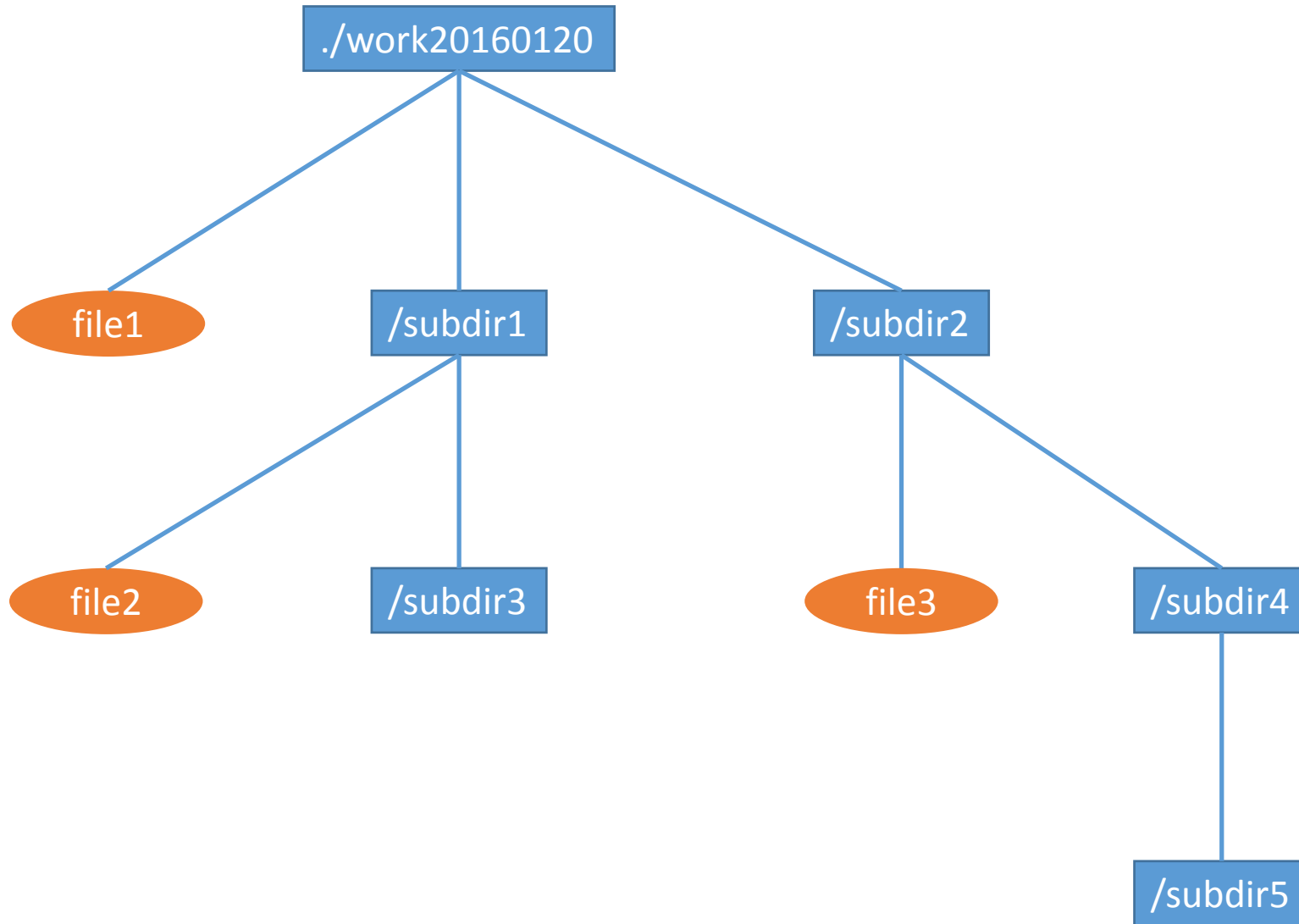


Practice 1: Follow me to build a local file system on your local machine:

Linux Commands:

ls
mkdir (-p)
cd
pwd
touch
nano
cat
less
wc
cp
mv



Practice 2: Follow me to submit jobs to zcluster and then use grep, awk, and sort on your jobs:

Job submission steps:

1. `ssh s_200@zcluster.rcc.uga.edu`
2. `make_escratch`
3. `cd /escratch4/s_200/s_200_Jan_20`
4. `cp -r /tmp/gacrc_Linux/serials/ ./`
5. `cd serials/`
6. `qsub -q rcc-30d sub.sh`
7. `qstat`

Usage of grep, awk, and sort utilities:

```
ls -l | more
ls -l | grep ".sh"
ps aux | awk '{if($1=="s_200") print $0}' | more
qstat | wc -l
qstat -u "*" | awk '{print $4}' | sort | less
qstat -u "*" | grep 's_200' | grep 'r' | awk 'BEGIN{n=0} {n++} END{printf "I have %d jobs running on queue\n", n}'
```