

## How to Epibatch

### Quick Version:

1. Sign in via dquinlan, password ""
2. **telnet zeeman**
3. sign in again
4. **b4**
5. **mkdir YYMMDDtm\_raw**
6. **cp -r /zeeman/scratch/data/ZETTEL/initials\*<space>.**
7. **b4**
8. **ls**
9. (copy epibatchC.txt file)
10. **pico** (paste epibatchC.txt file)
11. fix date (notice that the first line, the order of the date is reversed, so it's the tm.DD\_MM\_YY , functionals (separate by one space), anatomical, initials, source, target,
12. **Ctrl O**, change initials of epibatch name hit enter
13. **epibatchC** (paste new epibatchC.txt file name here)

cd change directory (eg cd home/irus2/tvilis)

control c stops epibatch or other programs

ls list the files in current directory

\rm <filename> the backslash will stop the prompting action.

rlogin to log into another machine

cd.. moves a directory back

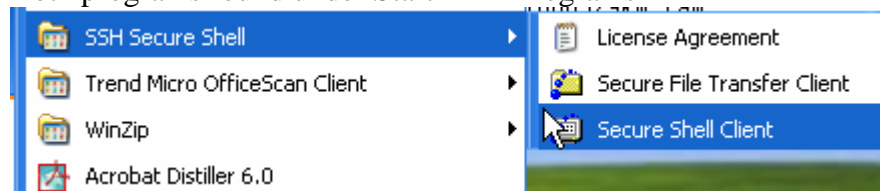
pwd print working directory

mkdir make a directory

up arrow repeat last line

### Long Version:

Both programs found under Start→All Programs

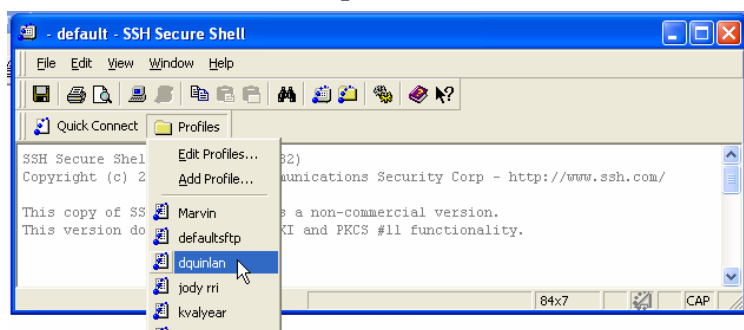


SSH Secure Shell Client

SSH Secure File Transfer

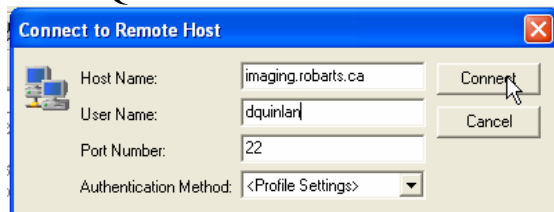
### Quick Way to login:

Profiles → choose dquinlan



### Other way:

File → Quick Connect



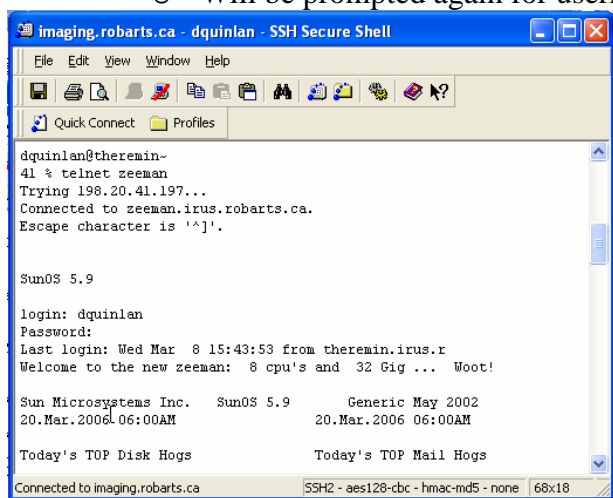
Will prompt for a password:

Will automatically connect to connector computer “thermin”

### Connect to workhorse computer zeeman

41 % seems to appear before typing anything (and seems to increase with each command line you type), on that line

- type: **telnet zeeman**
  - Will be prompted again for username and password



### Shortcut to Jody's directory

- Type: **b4**
- Long way would be to change directory (cd) to /nmr/b4/jody

```

imaging.robarts.ca - dquinnan - SSH Secure Shell
File Edit View Window Help
Quick Connect Profiles

dquinnan@zeeman-
41 % b4

dquinnan@zeeman/nmr/b4/jody
42 % ls
050714sm_proc/    EpibatchC_sa.txt      cg.03_02_05_1.fid/
4Rob/             EpibatchC_script.txt  fx.14_10_04_raw/
981201_A1.MC/     EpibatchC_sk.txt      junkdir/
:2eD3_Store       EpibatchC_yw.txt      kv.30jul05_4.fid/
EpibatchC_aa.txt  KV040414_NewAnat/     primate/
EpibatchC_as.txt  LATTICE/              rw_proc.tar
EpibatchC_ec.txt  MouseTriggers/        sarnott/
EpibatchC_gk.txt  SM_FMRs/              spm_mc.m
EpibatchC_km.txt  SampleRun4GregPrep/   spm_mc_SM.txt
EpibatchC_kv.txt  Stimulate_pxcos/      spm_mc_SM2.txt
EpibatchC_rob.txt UpQuadTest_Dec15_2004/ spm_mc_textScript.txt
EpibatchC_rr.txt  axialT2_Denise/       spm_mc_textScript.txt.sav

dquinnan@zeeman/nmr/b4/jody
43 % mkdir 060329km_raw

Connected to imaging.robarts.ca      SSH2 - aes128-cbc - hmac-md5 - none      68x22

```

## List contents of directory

- Type: **ls** to view the list of files in the directory
  - See files named (YYMMDDtm\_proc/) by date of experiment, initials of subject, “\*\_raw” comes from the scratch directory, “\*\_proc” means that it’s been processed,
  - The nomenclature for this section is important to be consistent.
- Make a new directory
  - Type: **mkdir 060320km\_raw**
  - Since you just made the directory, if you type ls, you would be weird.

```

imaging.robarts.ca - dquinnan - SSH Secure Shell
File Edit View Window Help
Quick Connect Profiles

dquinnan@zeeman/nmr/b4/jody
43 % mkdir 060329km_raw

dquinnan@zeeman/nmr/b4/jody
44 % cd /zeeman/scratch/data/

dquinnan@zeeman/zeeman/scratch/data
45 % ls
BROWN/    GRIBBLE/    SHOEMAKER/  joy/      rrupsing/  ziqi/
CHANG/    MARC3/      VALYEAR/    naoyama/  severling/
CHOUINARD/ MattBrowm/  jmailler/   rianius/  tstevens/

dquinnan@zeeman/zeeman/scratch/data
46 % cd VALYEAR/

dquinnan@zeeman/zeeman/scratch/data/VALYEAR
47 % ls
km.20_03_06_1.fid/  km.20_03_06_3.fid/  km.20_03_06_6.fid/  km.20_03_06_9.fid/
km.20_03_06_10.fid/ km.20_03_06_4.fid/  km.20_03_06_7.fid/  km_test1.fid/
km.20_03_06_2.fid/  km.20_03_06_5.fid/  km.20_03_06_8.fid/  km_test2.fid/

Connected to imaging.robarts.ca      SSH2 - aes128-cbc - hmac-md5 - none      82x22

```

## Copy files you want to your new directory

- **Long way:** go back to general directory and look at your files
  - **cd /zeeman/scratch/data** → stuff in here is cleared out after a week, never leave things in here, always move to Jody’s directory (where we just created our new directory)
  - find data we want, list the contents of scratch/data, find where it’s been stored, in this case it’s in VALYEAR/
  - (NOTE: if you can’t find scratch/data, then you are probably in the wrong scratch. Go back and within zeeman, see another zeeman, go into THAT one, and the proper scratch is in there.)

```

imaging.robarts.ca - dquinlan - SSH Secure Shell
File Edit View Window Help
Quick Connect Profiles

dquinlan@zeeman/zeeman/scratch/data/VALYEAR
47 % ls
km.20_03_06_1.fid/  km.20_03_06_3.fid/  km.20_03_06_6.fid/  km.20_03_06_9.fid/
km.20_03_06_10.fid/  km.20_03_06_4.fid/  km.20_03_06_7.fid/  km_test1.fid/
km.20_03_06_2.fid/  km.20_03_06_5.fid/  km.20_03_06_8.fid/  km_test2.fid/

dquinlan@zeeman/zeeman/scratch/data/VALYEAR
48 % b4

dquinlan@zeeman/nmr/b4/jody
49 % ls
050714sm_proc/      EpibatchC_sa.txt      fx.14_10_04_raw/
060329km_raw/       EpibatchC_script.txt  junkdir/
4Rob/               EpibatchC_sk.txt      kv.30jul05_4.fid/
981201_A1.MC/       EpibatchC_yw.txt      primate/
:2eDS_Store         KV040414_NewAnat/     rw_proc.tar

dquinlan@zeeman/nmr/b4/jody/060329km_raw
53 %

```

Connected to imaging.robarts.ca    SSH2 - aes128-cbc - hmac-md5 - none    82x22

- list the contents of VALYEAR: **ls**
- notice that within this directory, there are a number of .fid files, all beginning with the initials of the subject you are interested in. So if you were to choose all files **km\*** would include all these files. Sometimes you will have more than one subject per day, so this is the way to get the files you want and leave the rest.

```

imaging.robarts.ca - dquinlan - SSH Secure Shell
File Edit View Window Help
Quick Connect Profiles

dquinlan@zeeman/zeeman/scratch/data/VALYEAR
47 % ls
km.20_03_06_1.fid/  km.20_03_06_3.fid/  km.20_03_06_6.fid/  km.20_03_06_9.fid/
km.20_03_06_10.fid/  km.20_03_06_4.fid/  km.20_03_06_7.fid/  km_test1.fid/
km.20_03_06_2.fid/  km.20_03_06_5.fid/  km.20_03_06_8.fid/  km_test2.fid/

dquinlan@zeeman/zeeman/scratch/data/VALYEAR
48 % b4

dquinlan@zeeman/nmr/b4/jody
49 % ls
050714sm_proc/      EpibatchC_sa.txt      fx.14_10_04_raw/
060329km_raw/       EpibatchC_script.txt  junkdir/
4Rob/               EpibatchC_sk.txt      kv.30jul05_4.fid/
981201_A1.MC/       EpibatchC_yw.txt      primate/
:2eDS_Store         KV040414_NewAnat/     rw_proc.tar

dquinlan@zeeman/nmr/b4/jody/060329km_raw
53 %

```

Connected to imaging.robarts.ca    SSH2 - aes128-cbc - hmac-md5 - none    82x22

- copy all files in the VALYEAR directory (that begin with the initials we're interested in) to the directory we created earlier
- **cp -r /zeeman/scratch/data/VALYEAR/km\* (space) zeeman/nmr/b4/jody/060320etc.**
- **Faster Way:** Providing you can remember where your data is and the first initials of your subject without seeking it out first

- From within the directory you want everything copied to, copy all files within the directory that begin with the initials you're interested in. Instead of typing out the directory you are in, you can just type a period.
- **cp -r /zeeman/scratch/data/VALYEAR/km\* .**



- This is another example from a different subject on a different day

```
dquinlan@zeeman/nmr/b4/jody/060328cm_raw
46 % cp -r /zeeman/scratch/data/VALYEAR/cm* .

dquinlan@zeeman/nmr/b4/jody/060328cm_raw
47 % ls
cm.28_03_06_1.fid/   cm.28_03_06_2.fid/   cm.28_03_06_6.fid/   cm_test1.fid/
cm.28_03_06_10.fid/  cm.28_03_06_3.fid/   cm.28_03_06_7.fid/   cm_test2.fid/
cm.28_03_06_11.fid/  cm.28_03_06_4.fid/   cm.28_03_06_8.fid/
cm.28_03_06_12.fid/  cm.28_03_06_5.fid/   cm.28_03_06_9.fid/

dquinlan@zeeman/nmr/b4/jody/060328cm_raw
48 % cd ..

dquinlan@zeeman/nmr/b4/jody
49 % ls
050714sm_proc/      EpibatchC_rob.txt     axialT2_Denise/
060320km_proc/      EpibatchC_rr.txt      cg.03_02_05_1.fid/
060328cm_raw/       EpibatchC_sa.txt      fx.14_10_04_raw/
060329km_raw/       EpibatchC_script.txt  junkdir/
4Rob/               EpibatchC_sk.txt      kv.30jul05_4.fid/

dquinlan@zeeman/nmr/b4/jody
50 % pico
```

## Create text file for epibatch

- **pico** is the command to open something in a text editor. We do this and modify an existing one so we don't have to go through the trouble of making one from scratch.
  - With PICO running, you can't use the mouse

```

UW PICO(tm) 4.7      File: EpibatchC_rob.txt

Experiment_ID: rw.30jul05
Indices_of_Functionals: 3 4 5 6 7 8 9
Index_of_Anatomic: 2
Fid2Sdt_Flags: 0 0 1
TR_Functionals: 2000
Source_Directory: /nmr/b4/jody/050730rw_raw/
Target_Directory: /nmr/b4/jody/050730rw_proc/
E-Mail_Address: gkrolic2@uwo.ca
Reduced_Directories: 0

^X Exit      ^J Justify      ^W Where is      ^V Next Pg      ^U UnCut Text      ^T To Spell

```

- Change the Experiment ID to fit your data. Notice that the initials are first, followed by the date, in reverse order to previously (DD\_MM\_YY)
- Change the Indices of Functionals to represent what really happened in each run. 1 is the sagittal, and will always be the sagittal. 2 in this case is the anatomical... check the log run sheet for this information.
- NEVER change Fid2Sdt flags... NEVER. Something to do with the preprocessing (ken wonders if the 1 is for the navigator corrected)
- Sometimes change the TR it's for 2 seconds (the real TR is not what we call it) we use it as timed acquisition, time required to acquire one full volume (i.e. 12-17 slices). The physics would tell us we're using the wrong word for this, but we don't care. We know what it means to us.
- Give the appropriate source and target directory. You're choosing the directory you made and copied all the files into (\_raw), and are going to put the epibatched product into (\_proc).
- Change the email address to be notified when epibatching is complete

```

UW PICO(tm) 4.7      File: EpibatchC_rob.txt      Modified

Experiment_ID: cm.28_03_06
Indices_of_Functionals: 3 4 5 6 7 8 9 10 11 12
Index_of_Anatomic: 2
Fid2Sdt_Flags: 0 0 1
TR_Functionals: 2000
Source_Directory: /nmr/b4/jody/050730rw_raw/
Target_Directory: /nmr/b4/jody/050730rw_proc/
E-Mail_Address: gkrolic2@uwo.ca
Reduced_Directories: 0

```

I

```

^X Exit      ^J Justify      ^W Where is      ^V Next Pg      ^U UnCut Text      ^T To Spell

UW PICO(tm) 4.7      File: EpibatchC_rob.txt      Modified

Experiment_ID: cm.28_03_06
Indices_of_Functionals: 3 4 5 6 7 8 9 10 11 12
Index_of_Anatomic: 2
Fid2Sdt_Flags: 0 0 1
TR_Functionals: 2000
Source_Directory: /nmr/b4/jody/060328cm_raw/
Target_Directory: /nmr/b4/jody/060328cm_proc/
E-Mail_Address: tmc@cm@uwo.ca
Reduced_Directories: 0

```

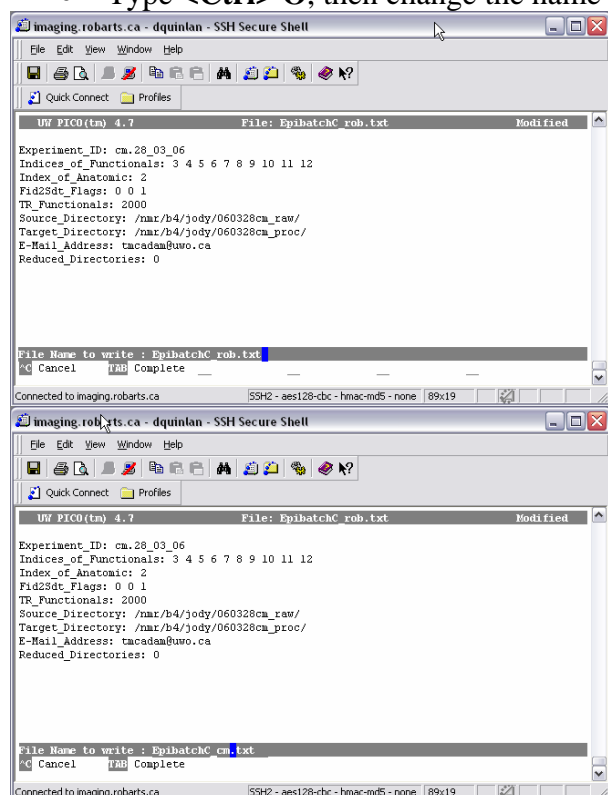
I

```

^X Exit      ^J Justify      ^W Where is      ^V Next Pg      ^U UnCut Text      ^T To Spell

```

- Type <Ctrl> O, then change the name of the file to your subjects initials



- This will spit us out of PICO and back to the regular screen.
- Type `ls` to view the directory; see the text file you just created.

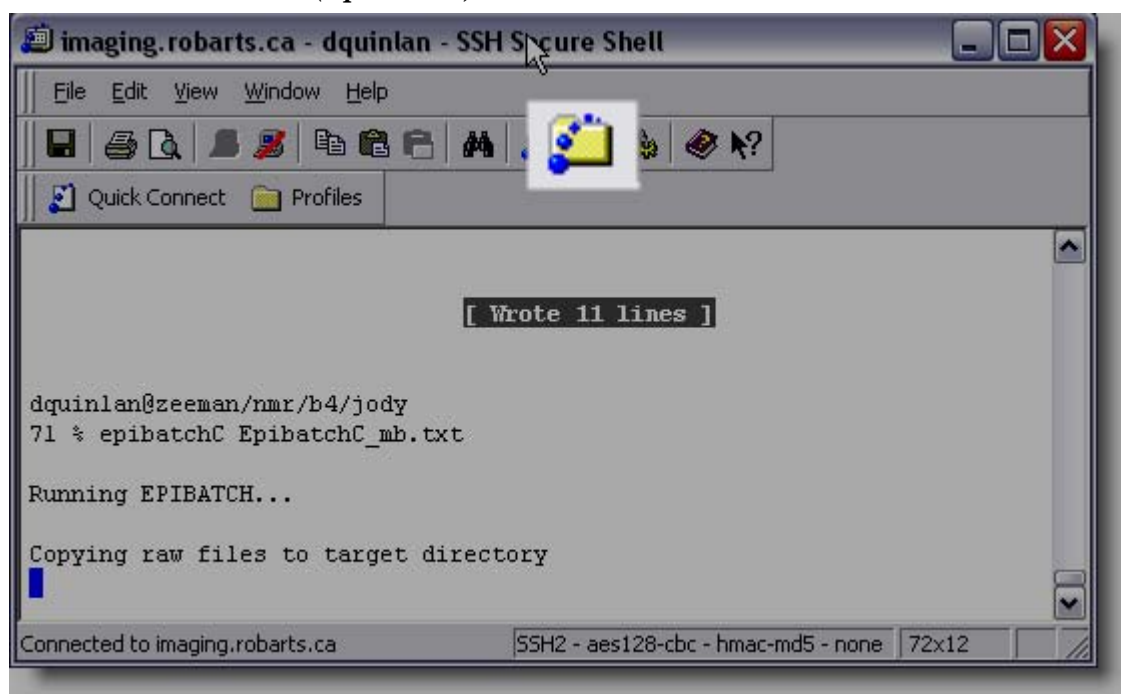
## Run EPIBATCH-C using that text file

- Type `epibatchC EpiBatchC_(your subjects initials here).txt`

```
dquinlan@zeeman/nmr/b4/jody
51 % ls
050714sm_proc/  EpiBatchC_rob.txt      cg.03_02_05_1.fid/
060320km_proc/  EpiBatchC_rr.txt       fx.14_10_04_raw/
060328cm_raw/   EpiBatchC_sa.txt       junkdir/
060329km_raw/   EpiBatchC_script.txt   kv.30jul05_4.fid/
4Rob/           EpiBatchC_sk.txt       primate/
981201_A1.MC/   EpiBatchC_yw.txt       rw_proc.tar
:2eDS_Store     KV040414_NewAnat/     sarnott/
EpiBatchC_aa.txt LATTICE/               spm_mc.m
EpiBatchC_as.txt MouseTriggers/         spm_mc_SM.txt
EpiBatchC_cm.txt SM_FMRs/               spm_mc_SM2.txt
EpiBatchC_ec.txt SampleRun4GredPrep/    spm_mc_textScript.txt
EpiBatchC_gk.txt Stimulate_pxcs/        spm_mc_textScript.txt.save
EpiBatchC_km.txt UpQuadTest_Dec15_2004/
EpiBatchC_kv.txt axialT2_Denise/

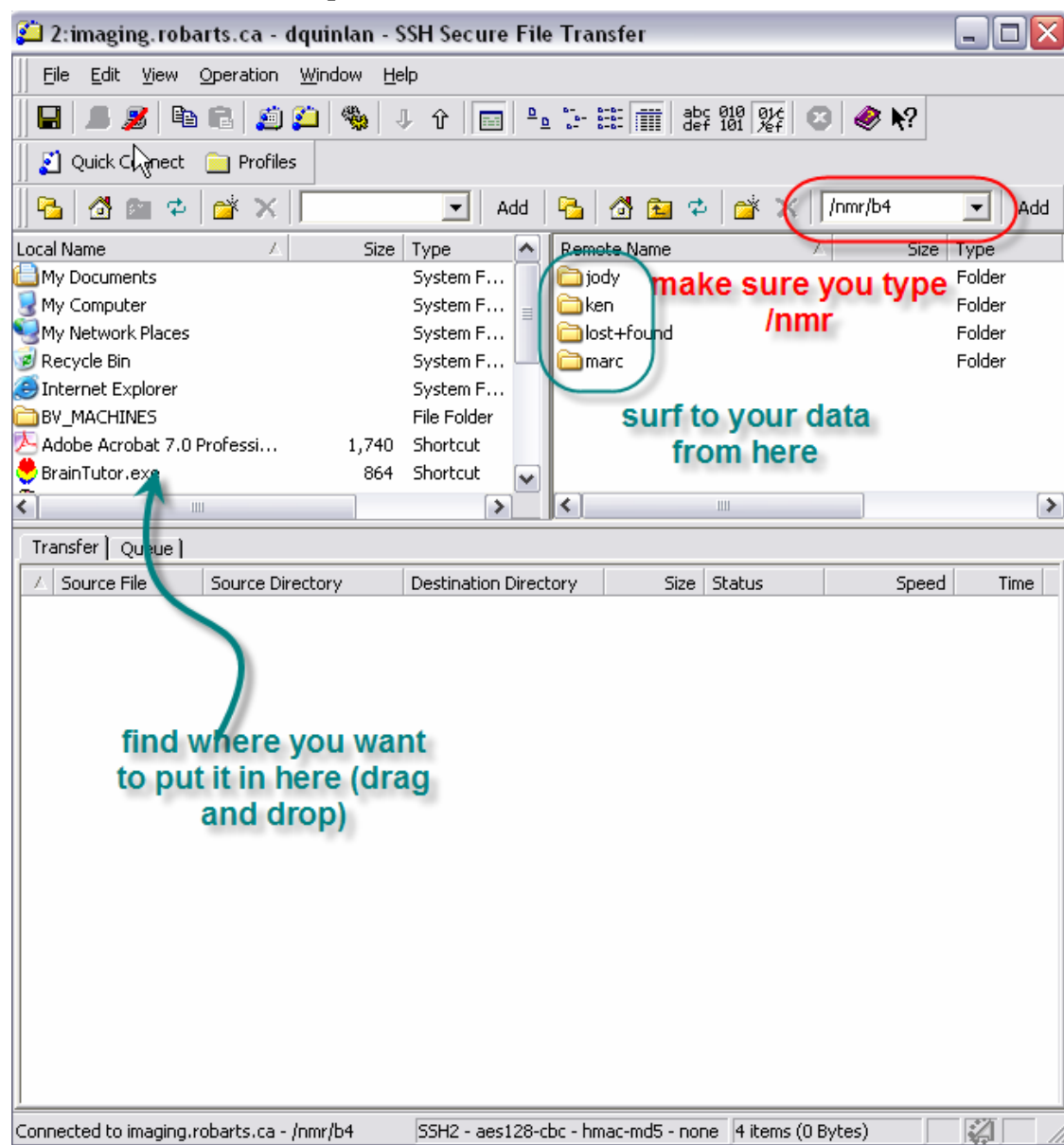
dquinlan@zeeman/nmr/b4/jody
52 % epibatchC EpiBatchC_cm.txt
```

- then it starts to run EPIBATCH... Ken says this takes about half an hour and you will be emailed when it's complete.
- If there are problems here, it is good to check a couple things: you have enough disk space, you're using zeeman.
- Next you want to move it to where you'll be analyzing it.
- Open File transfer



```
imaging.robarts.ca - dquinlan - SSH Secure Shell
File Edit View Window Help
[ Wrote 11 lines ]
dquinlan@zeeman/nmr/b4/jody
71 % epibatchC EpibatchC_mb.txt
Running EPIBATCH...
Copying raw files to target directory
Connected to imaging.robarts.ca  SSH2 - aes128-cbc - hmac-md5 - none  72x12
```





- You'll want to backup the sdts and the raw folders (onto separate discs). If you need help with this, open "How to burn discs"
- Next you'll be ready to preprocess the fmrs. To do this, open the document called "Preprocessing".