**Starting Up with Linux**

How to connect to the server and find your way around with some very basic linux commands

**1. Connecting to the server**

We will use a program called mobaXterm to connect to the server. Go to:

<https://mobaxterm.mobatek.net/download-home-edition.html> and download the **portable edition**. (Download, unzip, save and click on the .exe file).

If a command-line window appears, write:

ssh username@158.39.32.203

Type your password. You should now be logged in to your user account.

If an interactive window appears:

Write 158.39.32.203 in “Remote Host” window, tick “Specify Username” and write your username.

Type your password. You should now be logged in to your user account.

**Mac-users:**

You could ssh directly from your terminal.

Alternatively you can download XQuartz

<https://www.xquartz.org/>

and X2Go

http://macappstore.org/x2goclient/

**2. Basic linux commands**

To work in a “bash”-shell type: bash in the terminal (<https://en.wikipedia.org/wiki/Bash_(Unix_shell)>)

The following commands should be sufficient to find your way around the linux environment.

-cd change folder (directory)

-mkdir make new folder

-rmdir remove folder

-rm remove

-ls –lh list files in folder

-wc –l count the lines of a file

-cp copy a file

-mv move a file

-grep search for text in a file

-more display the first lines of a file

-tail display the last lines of a file

-head display the first lines of a file

-less –S (with arrows left and right). Display file line-by-line (can be more easy to look at)

-\*.bed (list specific files) The \* indicates any file ending with “.bed”.

-chmod 755 makes a file runnable

-cd .. change on folder down

-ctrl-C Stop program

“Tab” Automatically complete file-names etc..

-emacs Editor for looking at and modifying programs and scripts

**3. A simple introduction**

To work in a “bash”-shell type: bash in the terminal (https://en.wikipedia.org/wiki/Bash\_(Unix\_shell))

You will automatically start up in the directory.

/home2/BI311F

**This is your home directory. It is important that you perform all your calculations and command, and store new datafiles that you generate in your home directory. You are free to create as many folders as you like to store data in your home directory. If you are lost and cannot find back to your home directory, contact me.**

Now you can start working!

Start with creating a folder called test.

mkdir test

We have made course directories where all the files you need in the hands-on exercises are stored. **Again, it is important that you do not store your own files, or change the content of any of the files in the course folder.**

robin@fba-bod-p1:/home2/BI311F$ ls -l

total 60

drwxrwxrwx 2 barbakken barbakken 4096 Mar 4 13:50 barbakken

drwxrwxrwx 2 bentsen bentsen 4096 Mar 4 13:51 bentsen

drwxrwxrwx 2 chandararathna chandararathna 4096 Mar 4 13:51 chandararathna

drwxrwxrwx 2 chy chy 4096 Mar 4 13:52 chy

drwxrwxrwx 2 furulund furulund 4096 Mar 5 08:18 furulund

drwxrwxrwx 2 gjeto gjeto 4096 Mar 4 13:52 gjeto

drwxrwxrwx 2 hansen hansen 4096 Mar 4 13:52 hansen

drwxrwxrwx 2 iqbal iqbal 4096 Mar 4 13:53 iqbal

drwxrwxr-x 3 robin robin 4096 Mar 8 09:45 R

drwxrwxrwx 2 zinner zinner 4096 Mar 8 08:57 reads

drwxrwxrwx 5 robin robin 4096 Mar 7 20:02 robin

drwxrwxrwx 2 roy roy 4096 Mar 4 13:57 roy

drwxrwxrwx 2 robin robin 4096 Mar 8 20:19 scripts

drwxrwxrwx 2 siddik siddik 4096 Mar 4 13:57 siddik

drwxrwxrwx 2 zinner zinner 4096 Mar 4 13:57 zinner

All data is the the reads directory

All scripts are in the scripts directory

Now we will do some simple operations on a file from the course directory. This is where all the exercise data is stored.

To enter the directory, type:

cd test

To go back to the previous directory, type:

cd ..

Copy a small table from the course-folder to the test folder.

cp /home2/BI311F/scripts/topTable\_W\_vs\_1stGen.csv test/

Here the command (cp=copy) is in blue, the file (and its location) you want to copy in green, and the destination you want to copy to in red.

Go back to your test folder.

Type

ls or ls –lh

You will see that your file is there. Remove the file:

rm topTable\_W\_vs\_1stGen.csv

then copy it again

cp /home2/BI311F/scripts/topTable\_W\_vs\_1stGen.csv.

Note that since we are now in the test folder, we can use only “.” as destination to indicate that we want to copy the file to the folder we are currently standing in.

**Use the file to play around with the commands listed above under point 3**

To look for specific information in a file (for example the gene zcchc10), type:

grep -w zcchc10 topTable\_W\_vs\_1stGen.csv