

# Julia Essentials

## The Linux Command Line Cheat Sheet

For those new to the Linux command line. Version date: July 31, 2018

### Text Terminal Access

To access remote system using the command line you need a text terminal connection. Depending on your computer or laptop a text terminal may already be available.

Operating System	Windows	Mac OS	Linux
text terminal	Putty: <a href="http://www.putty.org/">http://www.putty.org/</a> MobaXterm: <a href="http://mobaxterm.mobatek.net*">http://mobaxterm.mobatek.net*</a>	Native "Terminal" under Utilities	Native
Access method	ssh	ssh	ssh

\* recommended

### HOW TO CONNECT TO A HOST USING A TEXT TERMINAL

You will need an account. This includes a USERNAME and PASSWORD. These should be assigned by a system administrator. The account may be on a "login node" of the cluster or some other host that has access to the cluster. To access the command line on the host:

```
ssh USERNAME@xxx.yyy.zzz.aaa (IP address)
```

or

```
ssh USERNAME@somename (fully qualified domain name, FQDN)
```

You will be asked for your password. If the login and connection were successful, you should see the following in your terminal window:

```
{USERNAME}$
```

The USERNAME may contain other information depending on your system. The \$ prompt is where your typing will start. From this point on, only the \$ prompt will be used to signify user input.

### HOW TO LIST FILES AND MOVE AROUND IN LOCAL LINUX/MAC DIRECTORIES

The Linux/Mac file system is like most standard directory based filesystems. You can see what is in your current directory by using the `ls` command. For example, after you login you will be in what is known as your home directory. The `ls` command will show the files in your current directory

```
$ ls
Hadoop_Fundamentals_Code_Notes-V3 README
```

In this directory there are two "files" one is a directory called `Hadoop_Fundamentals_Code_Notes-V3` and one file called `README`. (In Linux a directory looks like a file when using `ls`. A "long" listing is given if the `-l` option is given with `ls`. For example:

```
[deadline@limulus ~]$ ls -l
total 8
drwxr-xr-x 9 deadline deadline 4096 Dec  8 2014 Hadoop_Fundamentals_Code_Notes-V3
-rw-rw-r-- 1 deadline deadline  28 Jul 31 17:35 README
```

The long listing gives, the permissions, the owner, group, size, modification date and name. The "d" in front of `Hadoop_Fundamentals_Code_Notes-V3` indicates that it is a directory. (depending on your systems, directories are often color coded for identification)

`ls` can list what is in the directory. (the `-l` option can be used)

```
$ls Hadoop_Fundamentals_Code_Notes-V3/
Lesson-2 Lesson-3 Lesson-4 Lesson-5 Lesson-6 Lesson-7 Lesson-8 README README.copyright
```

You can move the `Hadoop_Fundamentals_Code_Notes-V3` directory. using the `cd` command (change directory)

```
$ cd Hadoop_Fundamentals_Code_Notes-V3/
$ ls
Lesson-2 Lesson-3 Lesson-4 Lesson-5 Lesson-6 Lesson-7 Lesson-8 README README.copyright
```

To check what directory you are in the `pwd` command can be used to show your directory. path:

```
$ pwd
/home/deadline/Hadoop_Fundamentals_Code_Notes-V3
```

To move up a directory in the path use the `..` notation

```
cd ..
$ pwd
/home/deadline
```

Files may be copied using the `cp` command.

```
$ cp file1 file2
```

Files can be removed using the `rm` command.

```
$ rm file1
```

To rename a file, copy then remove. There is much more and this should be enough to get around in a Linux files system.

## **HOW TO VIEW A TEXT FILE**

A text file can be viewed in many ways. There are two simple ways to view a file. The first uses the "cat" command that will just print the file to the screen. for long files use the pipe "|" command and send the output to "more." Hit the space key to move through the file.

```
cat NOTES.txt |more
```

You can also use the vi editor to view a text file.

```
vi NOTES.txt
```

To read and view the file there are three simple commands to use:

CTRL-F move forward in the file

CTRL-B move backward in the file

:q quit the vi editor and return to the command line.

If the file is gibberish then it is not a text (plain ASCII) text file. You can check the type of file by using the "file" command.

```
$ file NOTES.txt
NOTES.txt: ASCII English text
```