Lecture 2

This Linux tutorial will give you an introduction to the basic Linux commands and their standard streams, along with environment variables, etc. so that you can start using the Linux CLI. Do watch the video till the very end to see all the demonstrations. Below are the topics covered in this tutorial:

1. Standard Streams
2. Standard Input (stdin), Standard Output (stdout) and Standard Error (stderr)
3. Stream Redirection With Pipe |
4. Environment Variables
5. Basic Linux commands: head, tail, sort, tr, uniq
6. Working with files & directories: cat, vi, gedit, mkdir, rmdir, rm commands

Link :

Linux Tutorial For Beginners - 2 | Standard Streams and File Manipulation | Bootcamp

This Linux tutorial will give you an introduction to the basic Linux commands and their standard streams, along with environment variables, etc. so that you ...

https://youtu.be/xVaC_G6aeH0

Standard Streams

There are three standard streams in Linux :

1. The stdin (Standard Input) -0
2. The stdout (Standard output) -1
3. The stderr (Standard Error) -2

Streams in the world of computing means transferring data and the data in Linux is just simple text.

In Linux we can generally get an output in three ways :

1. Terminal
2. File
3. Pipe → redirects

In Linux there are two output stream and one input stream.

```
❯ ls > output.txt
❯ ls
Applications                Movies                      hanga
Bootstrap Studio Backups    Music                       hello.java
Desktop                     Pictures                    java_error_in_idea_25565.log
Documents                   Public                      output.txt
Downloads                   WakaTime                    powerlevel10k
Library                     folder
❯ cat output.txt
Applications
Bootstrap Studio Backups
Desktop
Documents
Downloads
Library
Movies
Music
Pictures
Public
WakaTime
folder
hanga
hello.java
java_error_in_idea_25565.log
output.txt
powerlevel10k
```

If i give ls >> output.txt then it will display both the contents from the home directory as well as other directory

If you wan to save the standard error into a file then you can type lg 2> output.txt

```
❯ ls
Applications                Movies                      hanga
Bootstrap Studio Backups    Music                       hello.java
Desktop                     Pictures                    java_error_in_idea_25565.log
Documents                   Public                      output.txt
Downloads                   WakaTime                    powerlevel10k
Library                     folder
❯ lg > output.txt
zsh: command not found: lg
❯ cat output.txt
❯ lg 2> output.txt
❯ cat output.txt
zsh: command not found: lg

~
0.0 kB↓   0.0 kB↑   3.3 GB   6%
```

If you want to nullify your error and dont want it to show up anywhere then you can run the command ls 2> /dev/null

With the help of less command we can view bigger files in another window without populating my terminal

Pipe

It allows us to take standard output of one command and pass it as a standard input to another command .

Environment Variable

echo $HOME → tells you where the home is

echo $USER → tells you your user name

These commands are called environment variables. They usually store useful information that the shell and other processes use.

Processes are something that runs everything in our system.

We can check the Environment Variables by using this command → env

Another command which is very important is the → $PATH command. It contains all the path that your system will search whenever you try to execute a new command.

head → this command will give the first 10 lines of any file.

tail → this command will give the last 10 lines of any file.

sort (file-name) → this command sorts the file content in ascending order

sort -r (file name) → this command sorts the file content in descending order basically reverse ascending.

cat file name | tr a-z A-Z → This command translates the file content from lower case to upper case .

uniq -c (filename) → It displays the number of occurrences each and every word has in that file

uniq -u (filename) → It displays the text which was not duplicated

uniq -d(filename) → It displays the text which was duplicated

wc -l (filename) → it displays the length of the text file

wc -w (filename) → it displays the words in the text file

wc -c (filename) → it displays the size of the file in terms of bytes

grep → this command is used to normally find text in some file.