

DATE : 07.06.2024
DT/NT : DT
LESSON : LINUX
SUBJECT: COMMAND LINE BASICS
SESSION : 2
BATCH : B 279

AWS-DEVOPS



TECHPRO
EDUCATION



techproeducation.com

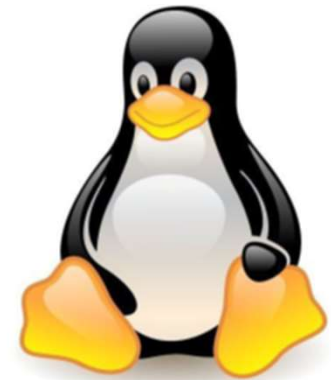


+1 (585) 304 29 59





Command Line Basics-2



Basic Shell Commands



rmdir [dir] delete an empty directory

```
linuxuser@techproeducation: ~$ ls
file1 file2 linux_lesson
linuxuser@techproeducation: ~$ rmdir linux_lesson/
linuxuser@techproeducation: ~$ ls
file1 file2
linuxuser@techproeducation: ~$ |
```

Basic Shell Commands

rm delete a file



```
linuxuser@techproeducation: ~$ ls
file1 file2
linuxuser@techproeducation: ~$ rm file1
linuxuser@techproeducation: ~$ ls
file2
linuxuser@techproeducation: ~$ |
```

Basic Shell Commands



cp copy a file to another location

```
linuxuser@techproeducation: ~$  
linuxuser@techproeducation: ~$ ls  
file2  
linuxuser@techproeducation: ~$ mkdir linux_lesson  
linuxuser@techproeducation: ~$ ls  
file2  linux_lesson  
linuxuser@techproeducation: ~$ cp file2 ./linux_lesson/file3  
linuxuser@techproeducation: ~$ ls  
file2  linux_lesson  
linuxuser@techproeducation: ~$ cd linux_lesson/  
linuxuser@techproeducation: ~/linux_lesson$ ls  
file3  
linuxuser@techproeducation: ~/linux_lesson$ cd ..  
linuxuser@techproeducation: ~$ ls  
file2  linux_lesson  
linuxuser@techproeducation: ~$ |
```

Basic Shell Commands



mv	move a file to another location
-----------	---------------------------------

```
linuxuser@techproeducation: ~$ ls
file2  linux_lesson
linuxuser@techproeducation: ~$ mv file2 ./linux_lesson/file2
linuxuser@techproeducation: ~$ ls
linux_lesson
linuxuser@techproeducation: ~$ cd linux_lesson/
linuxuser@techproeducation: ~/linux_lesson$ ls
linuxuser@techproeducation: ~/linux_lesson$
linuxuser@techproeducation: ~/linux_lesson$ |
```

Basic Shell Commands



echo	print message to screen
echo > [file]	print message into a file

```
linuxuser@techproeducation: ~/linux_lesson$ ls
file2 file3
linuxuser@techproeducation: ~/linux_lesson$ echo techproeducation
techproeducation
linuxuser@techproeducation: ~/linux_lesson$ echo techproeducation > file1
linuxuser@techproeducation: ~/linux_lesson$ ls
file1 file2 file3
linuxuser@techproeducation: ~/linux_lesson$ cat file1
techproeducation
linuxuser@techproeducation: ~/linux_lesson$ |
```

Basic Shell Commands



cat	show file contents
------------	--------------------

```
linuxuser@techproeducation: ~/linux_lesson$ ls
file1 file2 file3
linuxuser@techproeducation: ~/linux_lesson$ cat file1
techproeducation
linuxuser@techproeducation: ~/linux_lesson$ |
```


Basic Shell Commands

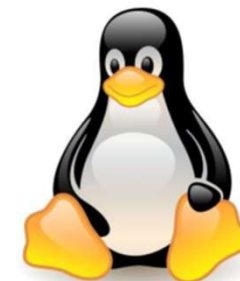


COMMAND	DESCRIPTION
pwd	show current path
ls	lists directory contents
cd	change (current) directory
mkdir	create a new directory
rmdir	delete an empty directory
touch	create a file
rm	delete a file
cp	copy a file to another location
mv	move a file to another location
cat	show file contents
echo	print message to screen
clear	clear the terminal screen

Basic Shell Commands



Basic Shell Commands



File system Commands	
ls	lists directories and files
ls -a	lists all files including hidden files
ls -lh	formatted list including more data
ls -t	lists sorted by date
pwd	returns path to working directory
cd dir	changes directory
cd ..	goes to parent directory
cd /	goes to root directory
cd	goes to home directory
touch file_name	creates an empty file
cp file file_copy	copy a file
cp -r	copy files contained in directories
rm file	deletes a file
rm -r dir	deletes a directory and its files
mv file1 file2	moves or renames a file
mkdir dir_name	creates a directory
rmdir dir_name	deletes a directory

Text handling commands	
command > file	saves STDOUT in a file
command >> file	appends STDOUT in a file
cat file	concatenate and print files
cat file1 file2 > file3	merges files 1 and 2 into file3
cat *fasta > all.fasta	concatenates all fasta files in the current directory
head file	prints first lines from a file
head -n 5 file	prints first five lines from a file
tail file	prints last lines from a file
tail -n 5 file	prints last five lines from a file
less file	view a file
less -N file	includes line numbers
less -S file	wraps long lines
grep 'pattern' file	Prints lines matching a pattern
grep -c 'pattern' file	counts lines matching a pattern
cut -f 1,3 file	retrieves data from selected columns in a tab-delimited file
sort file	sorts lines from a file

Task



techproeducation



lessons



linux.txt

“I love linux”



html.txt

“I can create a website”



materials



lms.txt

pre-class

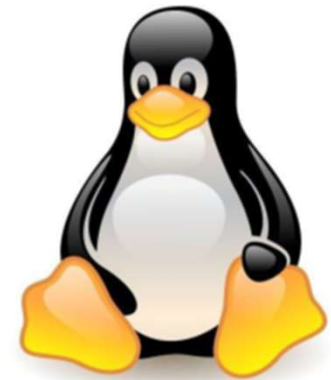


try-it.txt

post-class



Ping & SSH & Wget & Curl Command



Ping Command



Ping or Packet Internet Groper is a network administration utility used to check the connectivity status between a source and a destination device.

ping host-name/IP

```
ping 54.93.34.220
```

```
linuxuser@techproeducation: ~  
linuxuser@techproeducation:~/linux_lesson$ ping 8.8.8.8  
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.  
64 bytes from 8.8.8.8: icmp_seq=1 ttl=112 time=47.6 ms  
64 bytes from 8.8.8.8: icmp_seq=2 ttl=112 time=45.0 ms  
64 bytes from 8.8.8.8: icmp_seq=3 ttl=112 time=45.7 ms  
64 bytes from 8.8.8.8: icmp_seq=4 ttl=112 time=44.2 ms  
64 bytes from 8.8.8.8: icmp_seq=5 ttl=112 time=44.8 ms  
^C  
--- 8.8.8.8 ping statistics ---  
5 packets transmitted, 5 received, 0% packet loss, time 4009ms  
rtt min/avg/max/mdev = 44.155/45.442/47.617/1.195 ms  
linuxuser@techproeducation:~/linux_lesson$
```


SSH Command



- * ssh stands for “Secure Shell”.
- * It is a protocol used to securely connect to a remote server/system.

```
ssh user@host(IP/Domain_name)
```

```
ssh -i cert.pem ec2-user@54.93.34.220
```

```
linuxuser@techproeducation:~/ssh$ ls
known_hosts  okutan.pem
linuxuser@techproeducation:~/ssh$
linuxuser@techproeducation:~/ssh$ ssh -i "okutan.pem" ubuntu@ec2-54-242-1-68.compute-1.amazonaws.com
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 6.2.0-1012-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Tue Dec  5 15:30:03 UTC 2023

System load:  0.0               Processes:           97
Usage of /:   20.7% of 7.57GB   Users logged in:    0
Memory usage: 21%              IPv4 address for eth0: 172.31.26.190
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

Last login: Tue Dec  5 15:23:35 2023 from 31.155.235.132
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-26-190:~$ |
```

wget command



GNU Wget is a command-line utility for downloading files from the web. With Wget, you can download files using HTTP, HTTPS, and FTP protocols

```
wget [options] [url]
```

```
linuxuser@techproeducation: ~$ wget -O latest-hugo.zip https://github.com/gohugoio/hugo/archive/master.zip
--2023-11-30 11:03:33-- https://github.com/gohugoio/hugo/archive/master.zip
Resolving github.com (github.com)... 140.82.121.3
Connecting to github.com (github.com)|140.82.121.3|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://codeload.github.com/gohugoio/hugo/zip/refs/heads/master [following]
--2023-11-30 11:03:33-- https://codeload.github.com/gohugoio/hugo/zip/refs/heads/master
Resolving codeload.github.com (codeload.github.com)... 140.82.121.9
Connecting to codeload.github.com (codeload.github.com)|140.82.121.9|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [application/zip]
Saving to: 'latest-hugo.zip'

latest-hugo.zip          [
>                        ] 20.76M 3.27MB/s  in 6.9s    <=

2023-11-30 11:03:41 (3.02 MB/s) - 'latest-hugo.zip' saved [21765972]

linuxuser@techproeducation:~$ ls
latest-hugo.zip  linux_lesson
linuxuser@techproeducation:~$
```


curl command



curl (short for "Client URL") is a command line tool that enables data transfer over various network protocols

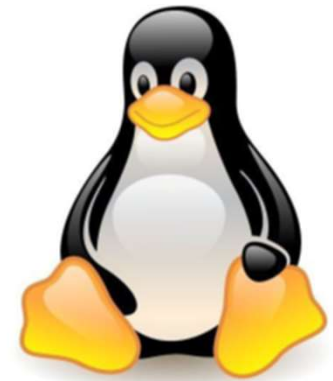
```
curl [options/URLs]
curl [url] > [local-file]
```

```
linuxuser@techproeducation: ~$ curl https://www.gnu.org/gnu/gnu.html
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">
<head>
<meta http-equiv="content-type" content="text/html; charset=utf-8" />
<link rel="author" href="mailto:webmasters@gnu.org" />
<link rel="icon" type="image/png" href="/graphics/gnu-head-mini.png" />
<meta name="ICBM" content="42.355469,-71.058627" />
<link rel="stylesheet" type="text/css" href="/layout.min.css" media="screen" />
<link rel="stylesheet" type="text/css" href="/print.min.css" media="print" />

<!-- Parent-Version: 1.98 -->
<!-- This page is derived from /server/standards/boilerplate.html -->
<title>About the GNU Operating System
- GNU project - Free Software Foundation</title>
<style type="text/css" media="print,screen"><!--
#dynamic-duo { display: none; }
@media (min-width: 45em) {
  .short-lines { width: 48em; max-width: 100%; }
  #dynamic-duo {
    display: block;
    padding: .9em;
  }
}
```



Getting Help



Man Pages



- A man page (short for manual page) is a form of software documentation usually found on a Unix or Unix-like operating system.
- If we install a package to do some task, the man page for that package will typically be installed at the same time. This gives us the ability to take a look at that documentation and make sure that we're using it in a manner consistent with its design.
- The man page for a particular command is invoked by man command.

```
man <command>
```

Man Pages



man ls

```
linuxuser@techproeducation: X + v - □ X
LS(1) User Commands LS(1)
NAME
    ls - list directory contents
SYNOPSIS
    ls [OPTION]... [FILE]...
DESCRIPTION
    List information about the FILES (the current directory by default).
    Sort entries alphabetically if none of -cftuvSUX nor --sort is speci-
    fied.

    Mandatory arguments to long options are mandatory for short options
    too.

    -a, --all
        do not ignore entries starting with .

    -A, --almost-all
        do not list implied . and ..

    --author
        with -l, print the author of each file
Manual page ls(1) line 1 (press h for help or q to quit)
```

Info Pages



- Info pages are additional documentation with more robust capability in detail. Info pages normally provide more detailed information about a command than its respective man page.
- The info page for a particular command is invoked by info command.

info <command>

Info Pages

info ls



```
linuxuser@techproeducation: X + v
Next: Sorting the output, Prev: Which files are listed, Up: ls invocation
10.1.2 What information is listed
-----

These options affect the information that 'ls' displays. By default,
only file names are shown.

'--author'
  List each file's author when producing long format directory
  listings. In GNU/Hurd, file authors can differ from their owners,
  but in other operating systems the two are the same.

'-D'
'--dired'
  With the long listing ('-l') format, print an additional line after
  the main output:

      //DIRED// BEG1 END1 BEG2 END2 ...

  The BEGN and ENDN are unsigned integers that record the byte
  position of the beginning and end of each file name in the output.
  This makes it easy for Emacs to find the names, even when they
  -----Info: (coreutils)What information is listed, 262 lines --Top-----
```

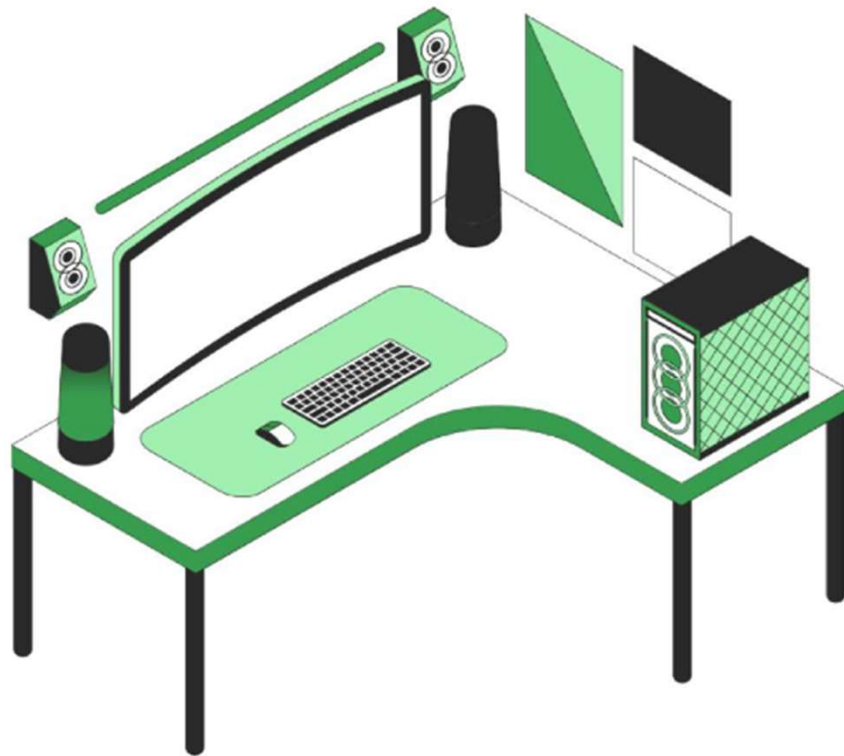
--help Option

gives a short explanation about how to use the command and a list of available options.



```
linuxuser@techproeducation: ~$ ls --help
Usage: ls [OPTION]... [FILE]...
List information about the FILES (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

Mandatory arguments to long options are mandatory for short options too.
-a, --all                do not ignore entries starting with .
-A, --almost-all        do not list implied . and ..
    --author              with -l, print the author of each file
-b, --escape             print C-style escapes for nongraphic characters
    --block-size=SIZE    with -l, scale sizes by SIZE when printing them;
                        e.g., '--block-size=M'; see SIZE format below
-B, --ignore-backups     do not list implied entries ending with ~
-c                        with -lt: sort by, and show, ctime (time of last
                        modification of file status information);
                        with -l: show ctime and sort by name;
                        otherwise: sort by ctime, newest first
-C                        list entries by columns
    --color[=WHEN]       colorize the output; WHEN can be 'always' (default
                        if omitted), 'auto', or 'never'; more info below
-d, --directory          list directories themselves, not their contents
-D, --dired               generate output designed for Emacs' dired mode
-f                        do not sort, enable -aU, disable -ls --color
-F, --classify           append indicator (one of */=>@|) to entries
```

Do you have any questions?

Send it to us! We hope you learned something new.