"A COMPREHENSIVE GUIDE TO LINUX COMMANDS AND SYSTEM ADMINISTRATOR"

By

Wahedul Islam

ID: 2104010202248
Batch: 40th; Section: C

CSE 334: Operating Systems Laboratory

Instructor:

MS. ASMA JOSHITA TRISHA

Assistant Professor

Department of Computer Science and Engineering

Premier University

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Signature

Department of Computer Science and Engineering

Premier University

Chattogram-4000, Bangladesh

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Introduction:

Ubuntu is one of the most popular Linux distributions, known for its user-friendly interface, robust security, and open-source nature. It's widely used by developers, system administrators, and everyday users for everything from personal computing to large-scale server management. Built on the foundation of Debian, Ubuntu offers a versatile platform that supports a wide range of applications.

User Management Command:

Command	Description	Example
whoami	Display the current logged-in user	whoami
adduser	Add a new user	sudo adduser newuser
deluser	Delete a user	sudo deluser olduser
passwd	Change a user's password	passwd username
who	Shows who is logged in	who
w	Displays who is logged on and their activities	w
groups	Shows groups a user belongs to	groups username
sudo	Runs a command with superuser privileges	sudo apt update

File Management Command:

Command	Description	Example
ls	List files and directories	ls -l
cp	Copy files or directories	cp file.txt /destination/
mv	Move or rename files or directories	mv file.txt /destination/
rm -r	Without confirmation	rm -r directory/
rm -ir	with confirmation	rm -ir directory/

rm	Remove files or directories	rm file.txt
mkdir	Create a directory	mkdir new_directory
rmdir	Remove an empty directory	rmdir old_directory
touch	Create an empty file	touch newfile.txt
find	Search for files in a directory hierarchy	find /home -name "*.txt"
cat	Concatenate and display file contents	cat file.txt
less	View file contents page by page	less file.txt
head	Display the beginning of a file	head -n 10 file.txt
tail	Display the last part of a file	tail -n 10 file.txt
chmod	Change file permissions	chmod 755 file.txt
chown	Change file ownership	chown user:user file.txt
more	Show some part	more file.txt
vi/vim	Create and open editable file	vi /vim file.txt
i	To enable insert mode	i
ese	To exit insert mode	ese
:w	To save	:w
:wq	Save and quit	:wq
:q!	Quit without save	:q!
:q	quit	:q

File Compression and Archiving:

Command	Description	Example
tar	Archives files	tar -cvf archive.tar file.txt
gzip	Compresses files using gzip	gzip file.txt
gunzip	Decompresses files using gzip	gunzip file.txt.gz

zip	Compresses files using zip	zip archive.zip file.txt
unzip	Decompresses zip archives	unzip archive.zip
bzip2	Compresses files using bzip2	bzip2 file.txt
bunzip2	Decompresses bzip2 archives	bunzip2 file.txt.bz2

Package Management:

Command	Description	Example
apt-get	Installs, updates, and removes packages	apt-get install git
apt-cache	Searches for packages	apt-cache search nginx
apt	High-level package management tool	apt update && apt upgrade

Web Server Configuration:

Step 1:
        ping 8.8.8.8
        CTRL+C

Step 2: Configure website name with ip address
        ip a   [inet 127.0.0.1/2] copy only ip address is: 127.0.0.1
        vi /etc/hosts

Step 3:
        Apt update
        Apt install apache2
        Systemctl start apache2
        Systemctl enable apache2

Step 4:
        cd /etc/apache2
        ll
        cd sites-enabled
        vi 001-pulinux.conf

```
<VirtualHost *:80>
ServerName www.pulinux.com
ServerAlias pulinux.com
DocumentRoot /var/www/html/pulinux1
</VirtualHost>
```

Step 5:
```
cd /var/www/html
ll
mkdir pulinux1
cd pulinux1
vi index.html (write some html code here)
Systemctl restart apache2
Systemctl status apache2
```

Conclusion:

Ubuntu is a versatile and powerful operating system that provides users with a reliable, secure, and open-source environment for both personal and professional use. Whether you're a developer, system administrator, or just exploring Linux, mastering the basic commands in Ubuntu will enhance your efficiency and deepen your understanding of how the system works. By using the terminal to perform tasks like package management, file navigation, and system monitoring, you can unlock the full potential of Ubuntu. With a strong community and extensive documentation, Ubuntu is an excellent choice for anyone looking to dive into the world of Linux