

Week 1 – Linux Fundamentals Notes

1. Basic Linux Commands

- pwd: Print working directory
- ls: List files and directories
- cd: Navigate directories
- mkdir: Create directories
- touch: Create empty files
- cp/mv/rm: Copy, move, delete files
- cat: View file content

2. File System Navigation

- Linux uses a hierarchical structure starting at '/'
- Key directories:
- /home – user files
- /etc – configuration files
- /var – logs
- /usr – applications
- Relative vs absolute paths

3. Users, Groups, Permissions

- Each file has owner, group, others
- Permissions: r (read), w (write), x (execute)
- chmod: Change permissions
- chown: Change file owner/group

4. Process Management

- ps, ps aux: List processes

- top/htop: Monitor system
- kill : Terminate process
- jobs, fg, bg: Manage background tasks

5. SSH Basics

- ssh user@server: Connect to remote machine
- scp: Transfer files
- ssh-keygen: Generate SSH keys

6. Shell Introduction

- Bash, Zsh common shells
- Variables and environment variables
- Simple bash scripting

7. Exercise

- Create folders/files
- Move files
- Set permissions
- Create users/groups
- SSH practice