

Week 1: Introduction to Linux

- History and evolution of Linux: Linux is an open-source operating system, was initially developed by Linus Torvalds in 1991 as a personal project derived from UNIX. Linux is secure as compared to Windows as in windows whatever u restrict, gets restricted however in Linux, whatever you allow only that gets allowed and rest everything else is restricted.
- Linux distributions overview (Ubuntu, CentOS, RHEL)
- Installation of Linux (VM or dual boot)
- Basic Linux commands and file system navigation

Week 2: File System Management

- Linux directory structure
- File permissions and ownership
- Links (hard and symbolic)
- Mounting and unmounting file systems

Week 3: User and Group Management

- Creating and managing users and groups
- Password policies
- Sudo and privilege escalation
- User environment configuration

Week 4: Package Management

- RPM and YUM (RHEL/CentOS)
- APT (Debian/Ubuntu)
- Installing, updating, and removing software
- Repositories and third-party packages

Week 5: Process and Service Management

- Understanding processes and jobs
- Managing services with systemd
- Scheduling tasks with cron and at
- Logging and log rotation

Week 6: Networking and Firewalls

- Network configuration (CLI and GUI)
- ip, nmcli, netstat, ss, ping, traceroute
- Firewall configuration with firewalld and iptables
- SSH and remote access

Week 7: Storage and Disk Management

- Partitioning and formatting disks
- LVM (Logical Volume Manager)
- Swap space
- Disk usage monitoring

Week 8: Security and Backup

- SELinux/AppArmor basics
- File and directory permissions
- Backup tools: rsync, tar, scp
- System auditing and hardening

Week 9: Shell Scripting Basics

- Writing basic shell scripts
- Variables, loops, and conditionals
- Automating tasks
- Script debugging

Week 10: Practice and Certification Prep

- Practice labs and scenarios
- Mock exams (RHCSA or LFCS)
- Troubleshooting exercises
- Resume and interview preparation

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- Access command line in different ways. Ssh functionality.
- Linux boot sequence, different Run levels in Linux.
- How to use different commands and stack them.
- File management
- User/Group management.
- Different shells and their details.
- Filesystems in Linux with hierarchy
- Control access to File permissions
- Linux process, service and Daemon management.
- Storage and disk management.(LVM, fdisk, partprobe)
- Log management(log analysis, location, log rotation)
- Connecting to other servers from Linux server.
- Introduction to shell scripting
- SELinux.
- real time issues and scenario based problem solving
- Day to day activities of Linux professional
- Practice/ Q&A on each point.
- Help with mostly asked interview question (if applicable)