

## Module 1 : Linux History+

### Day 1

- Overview of Linux
- Linux Architecture and Components.
- Advantages of Linux
- Linux distributions.
- Brief comparison b/w the most prominent linux distribution.
- Unix vs. Linux
- Linux vs. Windows
- **Daily Review and Practical implementation on the topics learnt.**

## Module 2 : Linux File System

### Day 2

- Introduction to Filesystem
- Files and Directories
- File Types and Structure
- File system Navigation commands
- Absolute Vs Relative Path. Creation of files and Directories
- Different operations on files and directories
  - ( create, copy, find, locate, delete, etc... )
- Wild Cards
- Soft and Hard links
- **Daily Review and Practical implementation on the topics learnt.**

## Module 3 : Linux Fundamental Concepts

### Day 3

- Linux Command Syntax
- File and Directory permissions
- Ownership permissions
- Help Commands
- ACL
- File operations ( Add text, I/P, O/P redirects)
- **Daily Review and Practical implementation on the topics learnt.**

## Module 4 : Linux Install and Configure

### Day 4

- ( Recording or Practical implementation by network team )
- System Run Levels (0 thru 6)
- Computer Boot Process
- Linux Boot Process
- Disk Partition (df, fdisk)
- Add Disk and Create Standard Partition

- Logical Volume Management (LVM)
- LVM Configuration During Installation
- Add Disk and Create New LVM Partition (pvcreate, vgcreate, lvcreate,)
- Extend Disk using LVM
- Adding Swap Space
- RAID
- File System Check (fsck and xfs\_repair)
- System Backup (dd Command)
- Network File System (NFS)
- **Daily Review and Practical implementation on the topics learnt.**

#### Day 5

- Pipes
- File maintenance commands
- File display commands
- Filters/Text processing commands ( cut,awk,grep,egrep,sort,uniq,wc )
- File comparison
- File compression/Uncompress ( tar, zip, gunzip )
- Truncation and splitting of files.
- **Daily Review and Practical implementation on the topics learnt.**

### Module 5 : System Administration

#### Day 6

- What are Linux file editors ?
- Vi vs Vim editors
- User Account management
  - Creation of Users, groups, permissions
- Services in Linux
  - HTTP Service
  - Email Service
  - Schedule and automate tasks with Cron
- Run levels in linux
- Boot Sequence
- The systemd Daemon
- The systemctl Command
- Working on Sudo Access
- Difference b/w LDAP and AD
- System Utility Commands (date, uptime, hostname, uname, which, cal, bc)
- **Daily Review and Practical implementation on the topics learnt.**

#### Day 7

- Processes, Jobs and Scheduling
  - systemctl command
  - ps command
  - top command
  - kill command
  - crontab command
  - at command

- What is a cronjob ? How it works ? (hourly, daily, weekly, monthly)
- Process Management (bg, fg, nice)
- System Monitoring Commands (df, dmesg, iostat 1, netstat, free, top)
- System Logs Monitor (/var/log)
- System Maintenance Commands (shutdown, init, reboot, halt)
- Changing System Hostname (hostnamectl)
- Finding System Information (uname, dmidecode)
- Finding System Architecture (arch)
- Terminal Control Keys
- Terminal Commands (clear, exit, script)
- Recover Root Password (single user mode)
- Environment Variables
- **Daily Review and Practical implementation on the topics learnt.**

## Module 6 : GENERAL NETWORKING

### Day 8

- Network Layers
- Unicast, Multicast, Broadcast, Anycast
- LAN, MAN, WAN
- TCP/IP
- Introduction to NFS
  - Protocol versions
- IP tables introduction
- Xinetd and inetd
- Introduction to DNS
  - DNS namespace
  - Master and slave
- DHCP Introduction
- Introduction to routers
- IPTables firewall
- **Daily Review and Practical implementation on the topics learnt.**