**Introduction to Linux and UNIX**

* History of UNIX & LINUX
* Basic Concepts of Operating Systems, Kernel, shell and file system structure

**Installation of Linux**

* Different types of Installation Methods
  + GUI
  + Text

**Linux System Structure**

* Basic concepts of Linux
* Differences between Red Hat Enterprise Linux & CentOS
* Basic bash commands of Linux
* Editors [GUI & CLI]

**Boot Process of Linux**

* What is booting and boot process of Linux?
* Init Process or Runlevels

**Software Package Administration**

* Description of a Repository
* Difference between RPM and YUM
* Configuration of YUM server
* Installing and deleting software packages
* Querying and updating software packages

**User and Group Administration**

* Types of Users in Linux
* Creating and deleting Users and Groups
* Modifying Users profile
* Adding Users into the Groups
* Important system files related to User & Group administration

**Advanced File Permissions**

* Importance of Permissions
* Types of Permissions
* User level Permissions
* Group level Permissions
* Setting Access Level Permissions on Users & Groups

**Disk Partitioning and Mounting File System**

* Definition of Partition
* Types of Partitions
* Difference between ext2, ext3 and ext4 file systems
* Creating partitions using fdisk utility
* Formatting partitions using mkfs to create filesystems
* Mounting various filesystems temporarily and permanently

**Logical Volume Management**

* What is LVM?
* Conversion of Partition into Physical Volume
* Creating volume groups and logical volumes
* Mounting the logical volume filesystems
* Extend and Reduce the logical volumes.
* Data storage using LVM
* Renaming volume groups and logical volumes
* Removing physical volume, volume group and logical volume

**Backup and Recovery**

* Introduction to various types of backup media
* Backup and restoring using tar commands
* Automation of Jobs

**NFS**

* Configuring NFS server
* Mounting NFS exports on clients

**NIS**

* Basics of NIS
* Configuring NIS Servers and client
* Creating NIS users

**DNS**

* Basics of Internet
* Basics of DNS and BIND 9
* Configuring DNS primary server

**DHCP**

* Configuring Linux as DHCP Server
* Configuring various clients for DHCP Server

**Web Server (Apache)**

* Basics of Web Service
* Introduction to Apache
* Configuring Apache for main site
* Configuring Apache for multiple sites using IP-based, port based and name-based

**FTP Server**

* Basics of File Transfer Protocol.
* Configuring vsftpd for anonymous ftp service.

**Proxy Server (SQUID)**

* Basics of proxy services
* Configuring proxy services
* Creating ACL’s for controlling access to internet

**Samba Server**

* Basics of file sharing in Windows
* Configuring Samba service for file sharing with windows systems

**Mail Server Configuration**

* Basics of Mail Servers
* Configuring SMTP service using sendmail

**Log Server**

* Importance of logs
* Configuring Syslog Messages

**Network Connections**

* Configuring Physical IP Address
* Configuring Virtual IP Address
* Enabling & Disabling the Network Connections
* Iptables

**Basics of Shell scripting**

**Troubleshooting Linux**

* Recovering the super user password.
* Troubleshooting network related problems.