

# LINUX

This course will cover all aspects of RHCE (Red Hat Certified Engineer) Certification and the basics of Linux in detail. At the end of the course delegates will have the skills required to administer a Linux System. The course will also cover Internet application server configuration on live registered domain name with valid public IP addresses. The training will be given by Senior System / Network engineers with several years of industry experience.

## Course Contents

- ☞ Introduction to Unix, Installation of Linux
- ☞ User, Group Administration, ACL
- ☞ Automation of Jobs, Disk Partitions
- ☞ Mounting File Systems
- ☞ Backup and recovery, Printer Configuration
- ☞ Basics of NFS, AutoFS
- ☞ Kickstart Installation, Quotas
- ☞ DHCP, NIS, DNS, Mail, Web, VSFTP, Squid, Samba
- ☞ Virtualization
- ☞ Troubleshooting your Linux System

A large black circle containing the text 'RHCE LINUX' in large white letters. Below it, in smaller white text, are the words 'Linux Essentials', 'System Administration', 'Network', and 'Administration' stacked vertically.

**RHCE  
LINUX**  
Linux Essentials  
System Administration  
Network  
Administration

# Course Details

## Introduction to UNIX & LINUX

- History of UNIX and LINUX
- Basic concepts of Operating System, Kernel, Shell & File

## System Structure

- Basic concepts of Linux
- Differences between Red Hat Enterprise Linux & Fedora/cent os
- Commands of Linux

## Installation of LINUX

- Interactive installation

## Startup and Shutdown Script

- IN IT Process

## Software Package Administration

- Installing and deleting software packages
- Querying and updating software packages

## User and Group Administration

- Creating and deleting users from the systems
- Modifying users profile
- Creating and deleting groups
- Important system files related to user administration
- Creating, deleting and modifying users and group & policy

## Advanced File Permissions

- Creating, modifying and deleting ACL's

## Disk Partitioning and Mounting File System

- Using fdisk, disk druid utilities for disk partitioning
- Using mkfs, commands to create file systems
- Mounting various file systems
- Auto mounting of file system

## Quotas

- Enabling Quotas on partitions
- Creating Quotas for users
- Auditing Quotas

## Backup and Recovery

- Introduction to various types of backup media
- Backup and restoring data using dump / restore commands
- Backup and restoring using tar and cpio commands
- Automation of Jobs

## NFS

- Configuring NFS server
- Mounting NFS exports on NFS clients

## Network Information Service (NIS)

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

## Dynamic Host Configuration Protocol (DHCP) |

- Configuring Linux as DHCP Server
- Configuring various clients for DHCP Server (Windows & Linux)

## DNS with BIND 9

- Basics of Internet
- Basics of DNS and BIND 9
- Configuring DNS primary server
- Configuring DNS for multiple domains
- Configuring various client (Windows & Linux)

## Mail Server (SMTP, POP3, IMAP)

- Basics of Mail Servers
- Configuring SMTP service using sendmail
- Configuring POP3 / IMAP service on Linux

## 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 virtual hosting

## FTP Server (vsftpd daemon)

- 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 Service

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

## Troubleshooting your system

- Recovering the super user password
- Recovering the boot loader (GRUB)
- Troubleshooting Xserver problems
- Troubleshooting network related problems

## RAID (Redundant Array of InExpensive Disks) & LVM

- Implementing RAID on Linux
- RAID levels (0, 1 and 5) configuration using RAID tools
- Resizing the Partition using LVM

## Web based Administration

- Installing Webmin on Linux
- Administrating Linux machine remotely
- Using Webmin as a tool for configuring various services on Linux

## Virtualization

- Managing Virtual machine with kvm & gemu
- Starting & stopping virtual machine
- Virtualization troubleshooting

## Log Server

- Configuring Analysis and logs
- Configuring Rsyslog & Saving Syslog Messages
- Sending Syslog Message over the network
- Configuring Rsyslog clients & Users log files

## Kernel Upgradation

- Checking existing Kernel
- Upgrading Kernel with RPM tool

## IP Bonding

- Configuring IP Bonding.
- Nic Failover
- Maintain load balancing

## Diffrence between Unix and Linux Flavors

## Live Setup - Demo by Faculty

## Designing, Implementing & Maintaining of Corporate Network