

Academy of Information Technology (AIT)

Linux Administration Course

Duration: 3 months

Chapter-1 History of Linux

Chapter-2 Linux distributions and installation requirements

Chapter-3 Linux basic commands and text editors

Chapter-4 User Administration in Linux

Different kinds of users in Linux

Add Standard users in Linux

Modify the user settings

Changing uid of an existing user

Changing comment of an existing user

Changing users home directory

Change existing user shell

Lock user account

Unlock user account

Delete user Ronaldo without deleting his home directory

Chapter-5 Group Administration in Linux

Different kinds of groups in Linux

Add new group to Linux

Change name of existing group

Add single user in group

Adding users to groups Primary and Supplementary type

Add multiple users in group using gpasswd

To add user in group as Primary member

Remove user from group with gpasswd

Deleting groups

Chapter-6 Linux Permissions

Standard and Special Permissions

Different Standard Permissions

Set write permission to user with Symbolic mode

Set all permission to user only with Numeric mode

Set write permissions to group

Remove permissions on files

Find result of permissions

Chapter-7 Linux Advanced Permissions

Using special permission - SETUID

Using special permission - SETGID

Using special permission – STICKY BIT

Chapter-8 Software Package Installation

Introduction to Packages in Linux

Software Packages Management

RPM package management using RPM

Query package is installed or not

Query all packages in system

Remove the installed package

Mount and access DVD in Linux

Install RPM package using rpm command

Install RPM package forcefully

Query info of any package

Install RPM from remote system

Remove any package

RPM package management using yum command

CentOS YUM repository configuration

Search package using yum

Install package using yum

Remove package using yum

Update using yum

List packages in repository

List installed packages in system

Update package

List package groups in Linux

Install Package group

Remove Package group

Chapter-9 Storage Management in Linux

Check the existing partitions on Linux machine

Access partition with fdisk /dev/disk_name

Create a new partition

Update partition with partprobe /dev/disk_name

Make filesystem on that new partition

Mount the partition on directory

Write data on new partition

Chapter-10 Networking in Linux

Introduction to TCP/IP

IPv4 Addressing

Private IP addresses and Public IP addresses

Reserve IP addresses

Static IP addressing on PCs

nmtui, nmcli utilities

ifconfig, ping, nslookup, dig, traceroute commands

Network Configuration with DHCP

Testing IP address configuration on Linux

Chapter-11 Dynamic Host Configuration Protocol (DHCP)

Static IP addressing vs Automatic dynamic IP Addressing

DHCP Basics

DORA Process

Packages required for DHCP Server

DHCP Configuration

Testing automatic IP addressing on clients

Chapter-12 Domain Name System (DNS)

Basic concept and working of DNS

Install BIND RPMs on Linux

Configuration of DNS Server

Create Forward & reverse lookup zones

DNS Client Commands for testing

Chapter-13 File Server using FTP

File Transfer Protocol (FTP)

FTP Server configuration

FTP Clients

Working with FTP in the network

Chapter-14 Apache Web Server

Setup Name Based Virtual Hosting in Linux-

Check and install web server packages

Create two web hosting directories

Create index page for each website

Configure Virtual Host for each websites

Start/stop/restart Apache (httpd) Server

Open firewall for port 80

Access the websites by hostname

Setup IP based Virtual Hosting in Linux-

Configure Virtual Host for each websites

Access the websites by IP address

Chapter-15 Firewall Concept in Linux

Zones in firewalld

Runtime vs permanent settings in firewalld

Install and enable firewalld

Verify that firewall is running

Get to know the defaults

Display Active zones

Display all rules applicable to the Public zone

Show other available zones

Allow or deny by service

Allow or deny by Port number

Chapter-16 Debugging Tools

Querying (/proc, /sys etc)

tcpdump

Process Analyzers in Linux- top

Chapter-17 Base Samba Server on Linux

Install Samba packages on Linux

Create a directory to share

Create Samba Service user

Edit smb.conf file

Start the Samba Service

Connect to Samba share from Windows PC

Chapter-18 Linux Troubleshooting

Basic System Level checking

Booting related troubleshooting

Diagnosing hardware failures

Reset root password on Linux

Final Exam