

# Step-by-Step Linux Training to Help You Land Your Dream IT Role

## -- Course Outline --

### Module 1 – Understanding Linux Concepts

- What is Linux?
- Everyday use of Linux
- Unix vs. Linux
- Quiz, Homework and Handouts

### Module 2 – Download, Install and Configure

- What is Oracle Virtual Box?
- Downloading and Installing Oracle Virtual Box
- Creating virtual machine
- Linux Distributions
- Different way to install Linux
- Downloading and Installing Linux (CentOS) Linux Desktop (GUI)
- Virtual Machine Management
- Linux vs. Windows
- Who Uses Linux?
- Quiz, Homework and Handouts

### Module 3 – System Access and File System

- Accessing Linux system
- Download and install Putty
- New Network Commands (ifconfig and ip)
- Connect Linux VM via Putty
- Important Things to Remember in Linux
- Introduction to File System
- File system structure description

- File system navigation commands
- File System Paths
- Directory listing overview
- Creating Files and Directories
- Linux File Types
- Finding Files and Directories (find, locate)
- Difference between find and locate command
- Changing Password
- Wildcard (\*, \$, ^)
- Soft and Hard Links (ln)
- How to open image file through GUI
- Quiz, Homework and Handouts

#### **Module 4 – Linux Fundamentals**

- Commands Syntax
- File Permissions (*chmod*)
- File Ownership (*chown, chgrp*)
- Getting Help (*man, whatis etc.*)
- TAB completion and up arrow keys
- Adding text to file
- Standard output to a file (tee command)
- Pipes ( | )
- File Maintenance Commands
- File Display Commands
- Filters / Text Processing Commands (*cut, sort, grep, awk, uniq, wc*)
- Compare Files (*diff, cmp*)
- Compress and un-compress files/directories (*tar, gzip, gunzip*)
- Truncate file size (truncate)
- Combining and Splitting Files (*cat and split*)

- Linux vs. Windows Commands
- Quiz, Homework and Handouts

## Module 5 – Linux System Administration

- Linux File Editors (*vi text editor*)
- “sed” command
- User account management
- Switch users and Sudo access
- Monitor users
- Talking to users (*users, wall, write*)
- Linux Directory Service - Account Authentication
- System utility commands (*date, uptime, hostname, which, cal, bc etc.*)
- Processes and schedules (*systemctl, ps, top, kill, crontab and at*)
- System Monitoring Commands (*top, df, dmesg, iostat 1, netstat, free etc.*)
- OS Maintenance Commands (*shutdown, reboot, halt, init etc.*)
- System logs monitor (*/var/log*)
- Changing System Hostname (*hostnamectl*)
- Finding System Information (*uname, cat /etc/redhat-release, cat /etc/\*rel\*, dmidecode*)
- System Architecture (*arch*)
- Terminal control keys
- Terminal Commands (*clear, exit, script*)
- Recover root Password (*single user mode*)
- SOS Report
- Environment variables
- Quiz, Homework and Handouts

## Module 6 – Shell Scripting

- Linux Kernel ● What is a Shell?
- Types of Shells

- Shell scripting
- Basic Shell scripts
- If-then scripts
- For loop scripts
- Do-while scripts
- Case statement scripts
- Aliases
- Command **history**

## Module 7 – Networking, Servers and System Updates

- Enabling internet in Linux VM
- Network Components
- Network files and commands (*ping, ifconfig, netstat, tcpdump, networking config files*)
- NIC Information (*ethtool*)
- NIC or port bonding
- Download files with URLs (*wget*)
- curl and ping commands
- File transfer commands (*ftp, scp etc.*)
- System updates and repositories (*rpm and yum*)
- System Upgrade/Patch Management
- Create Local Repository from CD/DVD
- Advance Package Management
- Rollback Patches and Updates
- SSH and Telnet
- DNS
- Hostname and IP Lookup (*nslookup and dig*)
- NTP
- chronyd
- Sendmail

- Apache Web Server (*http*)
- Central Logger (*rsyslogd*)
- Securing Linux Machine (OS Hardening)
- OpenLDAP Installation
- Tracing Network Traffic (*traceroute*)
- Quiz, Homework and Handouts

## **Module 8 – Disk Management and Run Levels**

- System run levels
- Linux Boot Process
- Message of the Day
- Customize Message of the Day
- Storage
- Disk partition (*df, fdisk, etc.*)
- Add Disk and Create Standard Partition
- Logical Volume Management (LVM)
- LVM Configuration during Installation
- Add Disk and Create LVM Partition
- Extend disk using LVM
- Adding swap space
- RAID
- File System Check (*fsck* and *xfs\_repair*)
- System Backup (*dd* Command)
- Network File System (NFS)
- Difference Between CentOS/Redhat 5, 6 and 7
- Quiz, Homework and Handouts

## **Module 9 – All About Resume**

- Resume workshop

- Cover Letter
- Linux job description or duties
- Exposure to other technologies
- Homework and Handouts

## **Module 10 – All About Interview**

- What is IT?
- IT Components
- Facts about IT
- Linux around us
- Linux Operating System Jobs
- IT Management Jobs
- Post resume and what to expect
- Interview workshop ● Redhat certifications
- Join Linux community
- 200+ interview questions
- Homework and handouts

## **Course Recap**

- Commands We Have Learned
- Don't give up
- Congratulations
- Recap – Handouts

## **Additional Resources**

- VMWare Workstation Player (Optional)
- Create VMWare VM
- Install Oracle Virtualbox on MAC
- Install Oracle Guest Addition (Tools)
- Troubleshooting Putty Connection
- Changing Default File Permissions (umask)
- Filesystem Color Definition
- Additional Resources – Handout

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