**Syllabus**

**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)
* Redhat Linux installation (Optional)
* 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
* 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
* Finding Files and Directories (find, locate)
* Changing Password
* Wildcard (\*, $, ^)
* Soft and Hard Links (ln)
* 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
* 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)*
* 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)*
* User account management
* Switch users and Sudo access
* Monitor users
* Talking to users *(users, wall, write)*
* 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.)*
* 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)*
* Quiz, Homework and Handouts

**Module 6 – Shell Scripting**

* Linux Kernel
* What is a Shell?
* 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)*
* System updates and repositories *(rpm and yum)*
* Download files with URLs *(wget)*
* System Upgrades
* SSH and Telnet
* DNS
* Hostname and IP Lookup *(nslookup and dig)*
* NTP
* chronyd
* Sendmail
* Apache Web Server *(http)*
* Central Logger *(rsyslogd)*
* Quiz, Homework and Handouts

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

* System run levels
* Linux Boot Process
* File transfer *(ftp, scp, rsync etc.)*
* Message of the Day
* Disk partition *(df, fdisk, etc.)*
* Add Disk and Create Standard Partition
* Storage
* Logical Volume Management (LVM)
* LVM Configuration during Installation
* Add Disk and Create LVM Partition
* RAID
* Quiz, Homework and Handouts

**Module 9 – All About Resume**

* Resume workshop
* Linux job description or duties
* Homework and Handouts

**Module 10 – All About Interview**

* What is IT?
* IT Components
* Apply for Linux jobs and what to expect
* Interview workshop
* IT Job Statistics
* Linux Operating System Jobs
* IT Management Jobs
* 200+ interview questions
* Homework