CSL Training

Linux Essentials (Ubuntu)

Course Duration: 36 Hours

Module 01 - LINUX Introduction

- Operating System Concepts
- Parts of Operating System
- How Operating System works
- Kernel, Shell & Applications Concepts
- Linux and GNU Project
- Part of Linux Based Operating Systems
- Linux vs Windows Operating Systems
- Why Use Linux Operating systems

Module 02 - Familiar with Linux Distributions

- Identification of various Linux distributors
- How to identify proper distribution
- Different types of Linux OS Version
- Difference between Server and Desktop OS
- Features of Red Hat Distribution
- Features of Ubuntu Distribution
- Download Ubuntu Linux Distribution

Module 03 - Preparing Linux Installations and Lab Setup

- Planning a Linux Installation
- Required hardware resources for Linux install
- Partitioning Requirements for Linux install
- Linux Installation Method (USB/ISO/DVD/PXE)
- Required Partitions for Ubuntu Installation
- Standard Installation vs LVM Installation
- Physical lab and Virtual Lab Setup Requirements

Module 04 - Create VMs for Ubuntu Linux OS

- Introducing Physical, Virtual, Cloud Environment
- Required System Configuration for Virtual Lab
- Introduction Virtualization Technology
- Introduction to VMware Workstation/Hyper-V
- Download and Install VMware Workstation
- Create VM on VMware Workstation for Ubuntu Linux

Module 05 - Install and Configure Ubuntu Linux

- Installation of Ubuntu Linux on VMware Workstation
- Details discussion about OS booting options

- Details discussion about Installation Summary
- Linux Installation Method (MBR and GPT)
- Configure Post installation on Ubuntu Linux
- Deploy Ubuntu Linux on Amazon AWS Cloud

Module 06 - Linux Desktop Environment

- Introducing Ubuntu Desktop Environment
- Different Types of Login Method
- Introducing Ubuntu OS Control Panel (Settings)
- Configure & Manage Ubuntu Desktop
- Introducing Linux Console
- Introducing Linux Command Terminal
- Access AWS Cloud VM (Instance)

Module 07 - Getting started with Linux CLI

- Working with terminal and command console
- Introduction to Linux shells and terminal
- Linux Virtual Console/Terminal
- Logging remote system through SSH
- Linux Command Syntax, Options, Argument
- Examples of Simple Commands
- Powering Off, Reboot and Logout System

Module 08- Working with Linux Files & Directories

- Linux File System Hierarchy
- Introducing Linux Directory Structure
- Navigating Linux Directory Paths
- Introducing Different Types Linux Files
- In depth of Linux Directories
- Files & Directory handling commands

Module 09 - Linux Text Processing Tools

- Different types of text processing tools
- Redirecting Output to a file
- Constructing and Using Pipelines
- Working with echo, cat, tail, head, less, wc
- Working with Regular Expressions 'grep'

- Familiar with Linux 'find' Command

Module 10 - Working with Linux Text Editors

- Why need text editor
- Different types of text editors
- Linux Text Editor Utilities (vim, gedit, nano)
- Introduction to 'vi/vim' and 'nano'
- Working with Different 'vi/vim' Modes
- Editing, Replacing, Searching with 'vi/vim'
- Working with ‘vim’ advanced features

Module 11 - Linux User and Group Administration

- Users and Groups Introduction
- Linux User Types and User Database
- Manage password requirements
- Primary Groups and Supplementary Groups
- Managing Local User Accounts
- Managing Local Group Accounts
- Working with SUDO Users

Module 12 - Linux File Permissions and Ownership

- Introducing Linux File Permissions
- Working with Linux File & Directory Properties
- Linux User, Group and Other Permission Concept
- Viewing File/Directory Permission and Ownership
- Default File Permission and Umask Value
- Change file permission and Ownership.
- Working with ACL Permission

Module 13 - Linux Boot, Process and Services

- Step by step Linux booting procedures.
- Working with GRUB2 Boot loader
- Update Linux Kernel (Ubuntu)
- Controlling Linux daemon & Services
- Enabling/Disabling System Daemons at boot
- Linux process management introduction
- Details explain of **"TOP"** command

Module 14 - Network Management (IPv4)

- Understand Network Device Recognition
- Working with NetworkManager Services
- Introducing Network Manager tools
- Configuring Host Name and Name Resolution
- Working with gateway and route table
- Configure Static and dynamic IP
- Configuring IPv4 Network (Ubuntu)

Module 15 - Ubuntu Package Management using APT

- The Linux Package Management system
- Core Concepts for Package Management
- How to Use APT Package Manager in Ubuntu
- Update & Upgrade Ubuntu Packages
- Concept of Repositories, CDN, Mirror
- Add/Remove a Repository Using APT

Module 16 - Configuring OpenSSH Service

- What is the Secure Shell (SSH)?
- How SSH (Secure Shell) works?
- Install and Configure OpenSSH (Ubuntu)
- Customizing SSH Service Configuration
- Restricting SSH Logins
- Using Putty and OpenSSH Clients

Module 17 - Web Server with PHP & MySQL (Project Work)

- Introduction to Web Server
- DNS configuration for Web Server
- Install and configure apache HTTPD
- Introducing Apache (httpd) Configuration files
- Configure HTML Based Hosting (Ubuntu)
- Install LAMP stack (Linux, Apache, PHP & MySQL)
- Configure Name-based Virtual Hosting

Module 18 - Linux System Troubleshooting

- Reset Linux OS ‘root’ password.
- Examine the different types of log files
- Troubleshooting Boot Loader issue
- Troubleshoot Network Related issues.
- Troubleshooting Login related issues
- Monitoring and fix system resources