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Course Title: Introduction to Linux Administration Course

Course Code: LINUX101

Duration: Four (4) days, seven (7) hours a day.

Course Description: LINUX101 (Introduction to Linux Administration) Course is designed for IT professionals who are new to Linux and require core Linux/UNIX skills. This course focuses on essential administration tasks that will be encountered in the workplace, including installing the operating system, establishing network connectivity, managing physical storage, and performing basic security administration.

Course Outline:

- Linux variants / Why Linux?
- In-depth step-by-step installation and configuration
- The Graphical User Interface (X Window)
- Productivity tools in Linux
- Practice common UNIX commands using the command line interface (CLI)
- Windows ⇔ Linux commands
- Using text editors (vi and nano)
- Using the RedHat Package Manager (RPM) and YUM
- Manipulating files and directories hierarchy in Linux
- Understanding Linux file system Hierarchal Structure (FHS)
- Linux file system Types
- Setting file and directory permissions
- Using CD-ROMs and USB flash memories in Linux
- Linux Disk Partitioning using fdisk
- Linux Logical Volume Manager (LVM)
- Understating the startup and shutdown processes
- Understanding the Linux boot sequence
- Understanding the Linux boot loader (GRUB)
- Administering user accounts and groups
- Working with local authentication in Linux (passwd and shadow files)
- Working with elevated privileges (sudo and sudoers)
- Modules and drivers in Linux
- Basic system monitoring and troubleshooting
- Understanding issues related to System recovery
- Troubleshooting by using Single-User Mode procedure
- System Recovery Techniques
- CPU performance Manipulation in Linux
- Administering Linux from the Web
- Basic Shell scripting in Linux
- Important reference sites

Course Title: Advance Linux Administration Course

Course Code: LINUX102

Duration: Four (4) days, seven (7) hours a day.

Course Description: LINUX102 (Advance Linux Administration) Course is designed for experienced Linux administrators who require Linux networking administration skills. With a heavy emphasis on practical, hands-on labs, focus is placed on enhancing automation skills to securely configure, deploy, and manage network services including Apache, NIS, FTP, SAMBA, Firewalls and network file sharing.

Course Outline:

- Understanding System Administration Concepts
- Configuring Linux Networks
- Remote System Access and File Handing
- Virtual Computing Environment (VNC) in Linux
- Linux Service Management (System V, and systemd services)
- Manipulating systemd Units and Targets
- Understanding journald Logs
- Linux System Backup (using tar, dump and restore)
- Linux to Windows File Sharing (SAMBA)
- Configuring Network File System (NFS) servers
- Configuring the Automount Service
- Configuring Microsoft Windows CIFS shares in Linux
- Configuring FTP service
- Configure Control Access to FTP service
- Configuring Network Time Protocol (NTP)
- Configuring Chrony Time Protocol
- Configuring Apache Web Server
- Setting up Virtual Hosts with Apache
- Installing and configuring Network information service (NIS)
- Installing and Configuring Linux Virtualization (using KVM)
- Understanding Linux Containers and Docker
- Understanding Atomic Host Project
- Network Monitoring and Performance Tuning
- Measuring Network Throughput
- Detecting Dropped Packets
- Configuring Linux Firewalls (IPtables)
- Configuring Linux Firewalls (firewalld)
- Linux TCP Wrappers

Course Title: Linux Identity Management

Course Code: LINUX201

Duration: Two (2) days, seven (7) hours a day.

Course Description: LINUX201 (Linux Identity Management) Course is designed for IT professionals to understand Light Weight Directory Access Protocol (LDAP) directories; deploy the Open Source IPA (or Red Hat IdM), and centralize Linux accounts management and authentication services across the enterprise.

Course Outline:

- Understanding Linux centralized authentication.
- Understanding and configuration Name Information Service (NIS)
- Understanding LDAP.
- Understating Linux Identity Management (IdM).
- Installing an Identity Management (IdM) Server.
- Registering a Client System with Identity Management (IdM).
- Adding User and Group Entries to Identity Management (IdM).
- Controlling user accounts, groups and passwords policies in IdM.
- Using SUDO in IdM environment.
- Managing IdM through command Line.

Course Title: Linux Security Hardening

Course Code: LINUX202

Duration: Three (3) days, seven (7) hours a day.

Course Description: LINUX202 (Linux Security Hardening) targets audience with Linux experience to understand, prevent, detect, and properly respond to sophisticated security threats aimed at enterprise Linux systems. The course equips Linux system administrators and security professionals with the skills and knowledge to harden their Linux systems against both internal and external attacks, providing in-depth analysis of the ever-changing threat models. The course builds on the security skills developed in other training courses so that administrators can design and implement an adequate security profile for critical enterprise systems.

Course Outline:

- Introduction to OS Security
- Understanding Users and User Accounts in Linux
- Users Accounts manipulation
- Pluggable Authentication Modules (PAM)
- Control Password Aging
- Global Password Expiration
- Elevating permissions with SUDO and SUDOers
- File System Encryption
- Mount File Systems with Secure Options
- Controlling File Permissions
- Files Special Permissions
- Access Control Lists (ACLs)
- Additional File Attributes in Linux
- Advanced Intrusion Detection Environment (AIDE)
- Auditing Linux Systems with Auditd
- Linux Vulnerability Scanning with SCAP and OSCAP
- Port Scanning for Network Services
- A Brief on Security Enhanced Linux (SELinux)
- Linux Firewalls (IPtables and Firewalld)
- Linux TCP Wrappers
- SSH Access Security
- Network Intrusion Detection using arpwatch
- Linux Updates (*Red Hat Linux as an Example*)
- Further into Linux Security

Official Red Hat Courses Offerings:

In addition to the in-house developed courses, Small Systems Solutions offers all Red Hat official courses through partnering with other training centers:

Red Hat System Administration I (RH124)

Part 1 of the core system administration tasks needed for Red Hat Enterprise Linux. Red Hat System Administration I (RH124) is designed for IT professionals without previous Linux administration experience. The course focuses on providing students with Linux administration "survival skills" by focusing on core administration tasks.

Red Hat System Administration II with RHCSA exam (RH135)

Part 2 of the core system administration tasks needed for Red Hat Enterprise Linux. This course is specifically designed for students who have completed Red Hat System Administration I (RH124). This version of the course includes the Red Hat Certified System Administrator Exam (EX200).

Red Hat System Administration III with RHCSA and RHCE exams (RH255)

Part 3 of the core system administration tasks needed for Red Hat Enterprise Linux. Red Hat® System Administration III (RH255), is designed for experienced Linux system administrators who hold a Red Hat Certified System Administrator (RHCSA®) certification or equivalent skills and who want to broaden their ability to administer Linux systems at an enterprise level, and to become a Red Hat Certified Engineer (RHCE).

Red Hat Enterprise Deployment and Systems Management (RH401)

Red Hat® Enterprise Deployment and Systems Management explores the concepts and methods necessary for successful large-scale deployment and management of Red Hat Enterprise Linux® systems.

Red Hat Server Hardening (RH413)

Red Hat® Server Hardening (RH413) builds on a student's Red Hat Certified Engineer (RHCE®) certification or equivalent experience to provide an understanding of how to secure a Red Hat Enterprise Linux® system to comply with security policy requirements.

Red Hat Enterprise Clustering and Storage Management (RH436)

The intensive, hands-on Red Hat® Enterprise Clustering and Storage Management course teaches storage management, the Red Hat High Availability Add-On, and the shared storage technology delivered by Red Hat Global File System 2 (GFS2) and Red Hat Storage Server.

Red Hat Enterprise Performance Tuning (RH442)

Red Hat® Enterprise Performance Tuning teaches senior Linux® system administrators about performance tuning for Red Hat Enterprise Linux.

Terms and Conditions

- Registration must be confirmed fourteen (14) days prior to course starting date.
- Registration done by approved company Purchase Order (P.O).

General Guidelines:

- Minimum of **4 students are required** to initiate a course session.
- Small Systems Solutions may do a site survey and health-check to the customer's Linux environment after the course, should the customer request it.