



Red Hat Enterprise Linux System Administration

Program Overview:

This course aims to provide the participants the concepts and practical know-hows of configuring, managing and administering a very popular industry tested Linux distribution – Red Hat Enterprise Linux. The class targets a training approach that focuses more on the hands-on activities and provides a good foundation for participants who wishes to take Red Hat Certifications including RHCSA 8.

Training Lab Requirement:

Download and Install Oracle Virtualbox and Virtualbox Extension

<https://www.virtualbox.org/wiki/Downloads>

Download RHEL 8 (Developer) [Create an account]

https://developers.redhat.com/download-manager/file/rhel-8.1-x86_64-dvd.iso

Windows 10/11 workstation with minimum of 16gb RAM, Intel i3 equivalent or above processor and 150GB free storage

Program Features:

- Interactive Instructor-led Training via ZOOM.
- PostgreSQL training Expert
- Digital Copy of Training Manual
- Interactive & hands-on online exercises and activities
- Globally recognized E-Certificate of training completion
- Q&A Session.

Delivery Mode:

3-day Instructor-led classroom training

Course Curriculum:

Module 1: Setting up Training Lab and Course Introduction

- Installing CentOS-8(RHEL-8) Virtual Machine using Oracle VirtualBox
- Setting root password (Interrupting Boot Process)
- Configuring SELinux to enforcing mode
- Introducing Software Repositories in RHEL-8 (CentOS-8)
- Setting Up Local YUM/DNF Repositories
- Configuring System to Use Local YUM/DNF Repositories
- Important : Registering RedHat System to Subscription Portal
- Introducing Services Configured on IPA Server
- Importing IPA Server Appliance
- Verifying Services Configured on IPA Server
- Putting System and IPA Server on Same Internal Network

Module 2: Configuring Server Services

- Installing DNS and LDAP Services
- Configuring Forward and Reverse DNS Zones & Records
- Creating LDAP Users & Home Directories
- Configuring NTP Server to Allow Client(s) to Use Services
- Configuring NFS Server to Export LDAP User's Home Directories
- Configuring SAMBA Share

Module 3: Deploying, Configuring and Maintaining Services

- Assigning Hostname
- Configuring Ethernet Connection with Static IPv4 Address and DNS IP
- Configuring System to boot in Graphical Target
- Scheduling cron job as root user in Other User's crontab
- Scheduling cron job as Normal User(non-root)
- Scheduling jobs using at command
- Configure Service to Start at System boot
- Configuring System to Use Time Services
- Working With Module Streams-dnf
- Modifying Bootloader (GRUB2) Settings

Module 4: Using RedHat Essential Tools

- Making SSH Connection to Remote Host
- Securely Copy files Across Hosts Using scp
- Using grep to Match Lines Starting With Pattern(s)
- Using grep for non-matching patterns (Invert-match)
- Using find Command to List Files Owned by User
- Using find Command to Locate File Using Name of File
- Using find to Search Files with extension .txt
- Using find Command to Save all Directories Owned by User

- Using find Command to List all Files & Directories based on UID
- Using tar Command to Archive and Compress Contents of Directory
- Using tar command to Extract the Data from Archive
- Using tar to Archive Contents with gzip Compression
- Decompressing Files using gunzip and bunzip2
- Introducing Filesystem Permissions and Commands
- Setting User & Group Ownership and Configuring Permissions
- Configuring ACLs on File and Directory
- Creating Symbolic Links

Module 5: Operate Running Systems and Processes

- Adjusting Priority of Process With renice
- Running Job in background with Predefined nice Value
- Killing Processes Forcefully
- Tuning kernel Parameter vm.swappiness Persistently
- Disabling ipv4 Packet forwarding using sysctl.d
- Introducing Tuned & Tuned Profiles
- Tuned Profile Configuration File- tuned.conf
- Walking Through Manual Page for tuned-profiles
- Tuned Main Configuration File -tuned-main.conf
- Setting Tuned Profile
- Customizing Tuned Profile
- Merging Two Tuned Profiles

Module 6: Users and Groups Management

- Default User Settings
- Verifying Different Settings of User Account
- Overriding Default User Settings
- Modifying Defaults in login.defs
- Modifying Defaults in useradd file
- Creating User With Specific UID and Non-interactive Shell
- Creating User with Non-Default Home Directory and Password Aging Controls
- Assigning Supplementary (Secondary) Group with Specific GID to User
- Configuring Password Aging and Account Expiration for User Account
- Setting User Owner and Group Owner on Directory
- Configuring System as IPA Client to Use LDAP Users
- Configuring autofs to Mount Home Directory of LDAP user
- Configuring Autofs to Mount Home Directories of Multiple Users Using Wild Cards
- Deleting User's Account
- Configuring Superuser Access

Module 7: Configuring Local Storage and File Systems

- Introducing Standard Disk Partitions and Filesystems
- Introducing Logical Volumes
- Creating Extended and Logical Partitions
- Mounting Filesystem with Read Only Permission Through fstab
- Configuring & Adding SWAP to System

- Configuring & Mounting Logical Volume
- Configuring Logical Volume (LVMs) Using Physical Extents of Non-default Size
- Configuring Logical Volume using 100% FREE PE's on Volume Group
- Extending Logical Volume (LVMs) and Resizing Filesystem
- Extending Volume Group Size to extend Logical Volume & Filesystem
- Overriding Existing Filesystem Type
- Configuring Directory for Group Collaboration
- Mounting NFS Share through fstab
- Mounting Samba Share through fstab

Module 8: Networking

- Configuring IPv6 Address & DNS IP Address
- Configuring Hostname Resolution Using Hosts File
- Configuring Static Route
- Restricting Specific service to Specific Network using firewall-cmd/firewalld

Module 9: Managing Security

- Introducing SELinux
- Setting SELinux Context Type Persistently
- Configuring Firewall Using firewall-cmd
- Configuring Firewall Using firewall-config (Graphical Interface)
- Configuring Key Based Authentication For SSH
- Setting SELinux Boolean Persistently
- Setting SELinux Context Type on Non-Default Port for SSH Service

Module 10: Shell Scripting

- Introducing if Statement and Syntax of if statement
- Using if test to Compare Integers
- Introducing for Statement and Syntax of for Statement
- Adding Users Using for Statement with Input file
- Understanding Command Line Arguments for Script

About AIS:

NXT AIS INC. is a technology-based & training company affiliated with SAS Management Inc.

We are helping professionals and organization to achieve their learning & business goals through our training, certifications and technology solutions that are aligned in today's digital transformation.

One of our visions is to provide our clients with all venues for learning at anytime and anywhere based on their convenience makes their learning more efficient and effective.

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