

RHCDS Syllabus / Course Outline

RH401 Red Hat Enterprise Deployment and Systems Management Course Outline

Unit 1 - Essential System Management

- Goals of Enterprise system management
- Standardization, centralization, and scalability
- Provisioning and automation

Unit 2 - Installing a Red Hat Network Satellite Server

- Introduction to RHN Satellite - features, prerequisites
- Installing Satellite Server software
- Understanding software channels and entitlements
- Importing channel content into a Satellite Server

Unit 3 - Red Hat Network Organization

- Organization management and trust relationships
- Managing user accounts
- Assigning user roles (security)
- Managing system groups

Unit 4 - Managing Changes with Revision Control

- Introducing revision control concepts
- Basic Subversion repository administration
- Using Subversion to manage revisions

Unit 5 - Red Hat Network Client Configuration

- Secure communication with SSL
- Red Hat Network registration
- Creating and using activation keys
- Registration automation with bootstrap.sh
- Troubleshooting RHN registration

Unit 6 - Red Hat Network Software Management

- Software channel relationships
- Cloning existing software channels
- Managing custom software channels
- Notifying clients of changes: managing errata

Unit 7 - Building RPMs

- Building open source software
- Using RPM macros
- Writing custom spec files
- Using rpmbuild to create RPMs
- Signing packages for security

Unit 8 - RHN Application Programmer Interface

- Uses for Red Hat Network API
- Basic RHN API program structure
- Sample programs

Unit 9 - Configuration File Management with Red Hat Network

- Managing configuration channels
- Configuration file macros
- Configuration file management using command-line tools

Unit 10 - Provisioning with Kickstart

- Anaconda kickstart options
- Building a provisioning environment
- Using Cobbler for provisioning

Unit 11 - Virtual Machine Management

- Virtual host/virtual platform entitlements
- Controlling Xen guests using RHN
- Red Hat Network management of Xen virtual machines

Unit 12 - RHN Satellite Server Administration

- High-availability options
- Embedded database management
- Certificate management
- Changing from disconnected to connected operation
- Inter-satellite synchronization (ISS)

- Exporting software channels
- Troubleshooting

Unit 13 - Red Hat Network Proxy Server

- RHN proxy server installation
- Configuring a client to use a RHN proxy server
- Managing software with RHN package manager

RH423 Red Hat Enterprise Directory Services and Authentication

Course Outline

- Introduction to Directory Services
 - What is a directory?
 - LDAP: models, schema, and attributes
 - Object classes
 - LDIF
- The LDAP Naming Model
 - Directory information trees and Distinguished Names
 - X.500 and "Internet" naming suffixes
 - Planning the directory hierarchy
- Red Hat Directory Server: Basic Configuration
 - Installation and setup of Red Hat Directory Server
 - Using the Red Hat Console
 - Using logging to monitor Red Hat Directory Server activity
 - Backing up and restoring the directory
 - Basic performance tuning with indexes
- Searching and Modifying the LDAP Directory
 - Using command line utilities to search the directory
 - Search filter syntax
 - Updating the directory
- Red Hat Directory Server: Authentication and Security
 - Configuring TLS security
 - Using access control instructions (ACI's)

- ACI's and the Red Hat Console
- Linux User Authentication with NSS and PAM
 - Understanding authentication and authorization
 - Name service switch (NSS)
 - Advanced pluggable authentication modules (PAM) configuration
- Centralized User Authentication with LDAP
 - Central account management with LDAP
 - Using migration scripts to migrate existing data into an LDAP server
 - LDAP user authentication
- Kerberos and LDAP
 - Introduction to Kerberos
 - Configuring the Kerberos key distribution center (KDC) and clients
 - Configuring LDAP to support Kerberos
- Directory Referrals and Replication
 - Referrals and replication
 - Single master configuration
 - Multiple master configuration
 - Planning for directory server availability
- Cross-Platform Centralized Identity Management
 - Synchronizing Red Hat Directory Server with Active Directory
 - Managing users with Winbind and LDAP

Mapping attributes between Linux and Windows

RH436 Red Hat Enterprise Clustering and Storage Management

Course Outline

- Review Red Hat Enterprise Clustering and Storage Management Technologies
- Linux Dynamic Device Management
 - udev Features
 - udev Rule Configuration
- iSCSI
 - iSCSI as a Shared Storage Device
 - Configuring an iSCSI initiator
 - Configuring an iSCSI target

- Authentication
- Advanced Software RAID
 - Types and Differences
 - Monitoring
 - Optimization Techniques
 - Growth and High Availability
- Device Mapper and Multipathing
 - Mapping Targets
 - LVM2 Snapshots
 - Multipath Device Configuration
- Cluster Suite Overview
 - Design and Elements of Clustering
 - Cluster Configuration Tools
 - Clustered Logical Volumes and Lock Management
- Quorum and the Cluster Manager
 - Intracluster Communication
 - Cluster Tools
- Fencing and Failover
 - Fencing Components
 - Failover Domains
- Quorum Disk
 - Heuristic Configuration
- Service Manager
 - Resource Groups and Recovery
 - Hierarchical Resource Ordering
 - High Availability Services
- Global File System (GFS)
 - Implementation and Configuration
 - Lock Management
 - Planning For and Growing On-line GFS
 - Monitoring Tools
 - Journal Configuration and Management