Cisco CCNP Enterprise: ENCOR v1.1

40 Hours

Course Description

The CCNP Enterprise: ENCOR course is the first step to mastering the implementation of core enterprise network technologies. The goal of this online training course is to provide students with the skills needed to install, manage, and administer dual stack architecture, virtualization, network assurance, security, and automation in an enterprise network.
Exam Number: 350-401 ENCOR

Skills Learned

After completing this online training course, students will be able to:

- Configuration of VRF, GRE, VLANs, RSTP, MST, NTP, IPSec VPNs, and more!
- Advanced Routing
- Configure and verify device management
- Cisco DNA Center
- Examine threat defense, endpoint security, and introduction to the Next-Generation Firewall

Prerequisites

- Cisco Certified Network Associate (CCNA) certification is highly recommended
- Knowledge of the following:
    - Configure network fundamentals, including the ability to establish Internet, LAN, and WAN connectivity using both IPv4 and IPv6
    - Operate and support a medium-sized LAN that has multiple switches, including VLANs, trunking, and spanning tree functionality
    - Troubleshoot IPv4 and IPv6 connectivity issues
    - Configure and troubleshoot OSPF, for both IPv4 and IPv6
    - Manage network device security, Cisco device configurations, Cisco IOS images, and licenses. Familiarity with internetworking technologies and the ability to perform basic router configuration

Who Should Attend

This instructor-led training course is meant for:

- Network engineers
- Network technicians
- Support engineers
- Systems engineers
- Network analysts
- Network administrators
- Earn CCNP Enterprise certification and prepare for the CCIE Enterprise

Course Outline

01. Campus Architecture and Device Fundamentals

- Campus Architecture
- Device Architecture

02. Access and Distribution Layer Features and Services

- Configuring and Verifying VLANs
- Configuring and Verifying Trunks
- VLAN Trunking Protocol (VTP)
- STP Overview and Algorithm Deep Dive
- STP Convergence, Configuration and Manipulation
- STP PortFast, and BPDU Guard
- Multiple Spanning Tree Protocol (MSTP)
- EtherChannels
- Inter-VLAN Routing
- First-Hop Redundancy Protocol (FHRP)

03. Routing

- Routing Introduction
- Dynamic Routing Overview
- OSPFv2 Overview, Packets, States, and Design
- OSPFv2 Configuration and Verification
- Text BoxOSPFv2 Network Types and DR/BDR Election
- OSPFv2 LSAs and Metric
- OSPFv2 Summarization
- OSPFv2 Filtering
- EBGP Overview, Configuration and Verification
- Text BoxShapeBGP Best Path Selection Process
- Network Address Translation (NAT)
- Multicast Protocol Overview

04. VPNs

- GRE Tunnel Configuration and Verification
- IPSec Introduction
- IPSec Site-to-Site VPN Tunnel Configuration and Verification
- GRE over IPSec Tunnel Configuration and Verification
- Virtual Routing and Forwarding (VRF)

05. Management Protocols and Services

- NTP Configuration and Verification
- Syslog Configuration and Verification
- Debugs, Conditional Debugs, Ping, and Traceroute
- SNMP Configuration and Verification
- NetFlow / Flexible NetFlow Configuration and Verification
- SPAN, RSPAN, ERSPAN Configuration and Verification
- IPSLA Configuration and Verification
- Quality of Service (QoS) Overview
- Embedded Event Manager (EEM) Configuration

06. Security

- Device Access, Authentication Configuration and Verification
- AAA Configuration and Verification
- Access Control Lists (ACLs)
- Control Plane Policing (CoPP)
- Next-Gen Firewalls, Network Access Control, MACSec, and TrustSec

07. Next Generation Campus Networks

- SD-Access
- LISP and VXLAN
- SD-WAN
- DNA Center Overview
- Data Formats
- Data Modeling
- NetConf / RestConf
- Python Exam Prep
- ShapeChef, Puppet, Ansible, SaltStack