



## CCNP Training – 350-401

- Master advanced Cisco networking technologies and prepare for CCNP Enterprise certification. Learn advanced routing, switching, wireless, and security technologies with enterprise-level implementation scenarios and hands-on labs.

## Course Overview

- Master advanced Cisco networking technologies and prepare for CCNP Enterprise certification. Learn advanced routing, switching, wireless, and security technologies with enterprise-level implementation scenarios and hands-on labs.

## Prerequisites

- CCNA certification or equivalent knowledge
- Strong understanding of routing and switching
- Experience with Cisco IOS configuration
- Knowledge of network protocols and services



## Course Content

### Unit 1 - ROUTING

- ✦ Introduction to Routing.
- ✦ IP Routing, Packet Flow & ARP.
- ✦ Configure Default, Static & Floating Routing.
- ✦ Configure and Verify Advance EIGRP
- ✦ Configure and Verify advance OSPF
- ✦ Configure and Verify Advance BGP
- ✦ Summarization
- ✦ Neighbour relationship
- ✦ Configure and verify multiple areas

### Unit 2 - IP SERVICES

- ✦ Describe, Configure, and Verify related protocols.
- ✦ Network Time Protocol (NTP)
- ✦ NAT/PAT
- ✦ FHRP Concept – HSRP Lab and VVRP and GLBP Concept understanding
- ✦ Multicast protocols.

### Unit 3 - IPV6

- ✦ Describe, and Configure IPV6.
- ✦ Dual stack (IPv4 and IPv6) Architecture



## Unit 4 - WIRELESS

- ✦ AP modes
- ✦ Antenna types
- ✦ Interference noise
- ✦ Band channels
- ✦ Wireless client device capabilities
- ✦ Troubleshoot WLAN configuration

## Unit 5 - SWITCHING

- ✦ Summarization, Broadcast domain, Collision Domain
- ✦ packet flow in the same NW and different network, arp
- ✦ TCP Header, UDP Header
- ✦ Process Switching & CEF, CAM vs TCAM, RIB vs FIB
- ✦ Concept of PING, Troubleshooting with PING
- ✦ Concept of Traceroute, Troubleshooting with Traceroute
- ✦ Concept of Debug, Troubleshooting with Debug
- ✦ DTP, STP, VTP
- ✦ VTP Concept and Lab Testing
- ✦ Static and dynamic trunking protocols
- ✦ Static and dynamic EtherChannels
- ✦ Spanning Tree Protocols (RSTP and MST)
- ✦ MST Concept and Lab Testing
- ✦ Unidirectional Link Detection (UDLD) Layer 2 protocol



## **Unit 6 - VPN TECHNOLOGIES**

- ✦ MPLS
- ✦ GRE and DMVPN
- ✦ Configure & Verify VRF
- ✦ Configure & Verify GRE
- ✦ Configure & Verify IPSec

## **Unit 7 - ARCHITECTURE**

- ✦ Brief overview SD-WAN and features.
- ✦ Brief overview of the Cisco SD-Access solution.
- ✦ QoS Understandings, QoS Design, Congestion Magmt

## **Unit 8 - IP SERVICES**

- ✦ Network Time Protocol (NTP) concept and configuration
- ✦ NAT and PAT

## **Unit 9 - NETWORK ASSURANCE**

- ✦ Syslog Concept, Configure & verify device monitoring using syslog
- ✦ Configure & Verify SPAN/RSPAN/ERSPAN
- ✦ Configure & Verify Local SPAN
- ✦ Configure & Verify Remote SPAN
- ✦ Configure & Verify ER SPAN



## **Unit 10 - SECURITY**

- User Exec, Privilege Mode, global configuration mode
- Lines console and Enable mode password protection Line VTY

## **Units 11 - CONFIGURE AND VERIFY DEVICE ACCESS CONTROL USING**

- Lines and password protection
- Authentication and authorization using AAA

## **Unit 12 - ACL**

- Access Control List, Standard ACL understanding, and Standard ACL Configuration
- Access Control List, Extended ACL Understanding, and Extended ACL Configuration