



CCNA (200-301)

The new Cisco CCNA Exam v1.0 (CCNA 200-301) is an associate level course of Cisco career certifications. The course has been designed for a candidate's knowledge and skills related to network fundamentals, network access, IP connectivity, IP services, security fundamentals, and automation and programmability. The course, Implementing and Administering Cisco Solutions (CCNA), also helps candidates to prepare for CCNA (200-301) vendor exam.

Training designed the course 30% theory and 70% lab topics based. There are 20+ cisco devices available to complete 30+ CCNA lab topics. After completing the course, you will get a chance to sit the CCNA vendor exam.

Course Objectives

- Network Fundamentals
- Network Access Technologies
- IP (IPv4 & IPv6) Connectivity
- IP Services (ACL, HSRP, EtherChannel, DHCP, NAT, DNS)
- Security Fundamentals
- Network Automation and Programmability
- Implementing Network Device Security
- Network Device Management

Target Audience

- IT Professional
- Network Professional
- Network Support Engineer
- Network Admin
- System Engineer
- Network Product Pre-sales engineer

Course Pre-requisite

- Basic Computer Knowledge
- Data Communication Systems
- Networking Fundamental
- Computer Networking Components
- OSI References Model
- TCP/IP Protocols



Course Outline

Module 01: Network Fundamentals

- What is network?
- Router and Switch
- L2 and L3 Switch
- Firewall, N.G firewall, IPS and IDS
- Endpoint, Server, AP, Wifi, and DNA Center
- The OSI and TCP/IP Models
- 2/3 tier hierarchical design
- Data Encapsulation Summary
- Networking Icons and devices
- LAN Device Connection Guidelines
- LANs and WANs
- Small Office/Home Office (SOHO)
- Physical and Logical Topologies
- On-premises, Cloude, and POE

IPv6 Subnetting
EUI-64 Concept

Module 06: VLAN and Trunking Concepts and Configurations

VLAN Concepts
Access and
Trunk port

802.1Q
VLAN Configuration and Verification
Trunking Configuration and Verification
Access Configuration and Verification
VLAN Troubleshooting
Trunking Troubleshooting
Trunking Troubleshooting

Module 02: Ethernet Switching

- Evolution to Switching
- Switching Logic
- Frame Forwarding
- Ethernet Overview
- Current Ethernet Technologies
- UTP Cabling and colours
- Fibere Cabling and colours
- Benefits of Using Switches
- The Role of the Physical Layer
- Collision and Broadcast Domains

Module 07: STP Operation

STP Concepts and Operation
STP Algorithm
STP Convergence
STP Varieties
RSTP Operation
PVSTP Operation
Rapid PVSTP+ Operation
MSTP Operation
Configuring and Verifying Varieties of STP

Module 03: Switch Configuration Basics

- Accessing and Navigating the Cisco IOS
- Basic Switch Configuration Commands
- Half Duplex, Full Duplex, and Port Speed
- Verifying Network Connectivity
- Troubleshoot Interface and Cable Issues

Module 08: EtherChannel and HSRP

EtherChannel Operation
Benefits of EtherChannel
Implementation Restrictions
EtherChannel Protocols
Configuration EtherChannel
Verifying EtherChannel
Troubleshooting EtherChannel
First-Hop Redundancy Concepts
FHRPs
HSRP Operation
HSRP Configuration and Verification
HSRP Load Balancing
Troubleshooting HSRP

Module 04: IPv4 Addressing

- IPv4 Address Introduction
- IPv4 Classes
- Private and Public IP Addressing
- Subnetting (Class A, Class B & Class C)
- VLSM Design

Module 09: DHCP and DNS

DHCP Concepts
DHCP Configuration Options DHCPv6
DHCP Troubleshooting
DNS Operation
Troubleshooting DNS
Verifying Host IP Configuration

Module 05: IPv6 Addressing

Overview and Benefits of IPv6
The IPv6 Protocol
IPv6 Address Types
Representing the IPv6 Address



Module 10: Wireless Networking s

- Wireless Standards
- Wireless Topologies
- AP Architectures
- Wireless Security Protocols
- Logging Into a Cisco WLC
- Configuring a WLC with a WLAN

Module 11: LAN Security and Device Hardening

Endpoint Security
Access Control
Port Security
LAN Threat Mitigation

Module 12: Basic Routing Concepts

Packet Forwarding
Routing Methods
Classifying Dynamic Routing Protocols
Dynamic Routing Metrics
Administrative Distance
IGP Comparison Summary
Routing Loop Prevention
Link-State Routing Protocol Features

Module 13: Basic Router Configuration

Basic Router Configuration with IPv4
Basic Router Configuration with IPv6
Verifying IPv4 and IPv6 Network Connectivity
Small Office or Home Office Routers
Basic IP Addressing Troubleshooting

Module 14: The Routing Table

Two Router Functions
Components of the Routing Table

Module 15: Inter-VLAN Routing

Inter-VLAN Routing Concepts
Router on a Stick Configuration and Verification
Multilayer Switching Inter-VLAN Routing
Configuration and Verification

Module 16: Static and Default Route Configuration

Static and Default Routing Overview
Static Route Configuration

Default Route Configuration

Module 17: OSPF Configuration

- Single-Area OSPF Operation
- Single-Area OSPF Configuration
- Verifying OSPF
- Multiarea OSPF Operation

- Multiarea OSPF Configuration
- Troubleshooting of OSPF

Module 18: RIP Configuration

RIP Routing Overview
RIP Configuration

Module 19: EIGRP Configuration

EIGRP Routing Overview
EIGRP Configuration

Module 20: BGP Configuration

BGP Routing Overview
Ebgp and Ibgp Concepts
BGP Configuration

Module 21: Network Security Concepts

Network Attacks
Security Program

Module 22: ACL operation & Implementation

ACL Operation
Planning to Use ACLs
Configuring Standard Numbered IPv4 ACLs
Configuring Extended Numbered IPv4 ACLs
Configuring Named IPv4 ACLs
Verifying IPv4 ACLs
Comparing IPv4 and IPv6 ACLs
Configuring IPv6 ACLs
Verifying IPv6 ACLs
Troubleshooting ACLs

Module 23: NAT

NAT Concepts
Configuring Static NAT
Verifying NAT
Troubleshooting NAT

Module 24: WAN, VPN & IPsec

WAN Topologies
WAN Connect on Options
VPN Technology

Module 25: CDP & LLDP

CDP Overview
LLDP Overview

Module 26: Device Management & Monitoring

SNh1P Operation
Configuring SNMP
Verifying SNMP
Syslog
Network Time Protocol
Cisco IOS File System and Devices
Managing Cisco IOS Images Password
Recovery

Module 27: Cloud, Virtualization & SDN

Cloud Computing
Software-Defined Networking

Module 28: SDA & Cisco DNA Center

SDA Architecture
Cisco DNA Center

Module 29: Network Automation

Data Formats
RESTful APIs

কোর্সের ভিতর আরো যা যা থাকবে

- Practical Lab করানো হবে মিনিমাম ৪৩ টা।
- Exam নেওয়া হবে।
- প্রতিটি ক্লাস শেষে কাজ দেওয়া হবে।
- জব ফেসালিটি থাকবে।

