

CCNA V3

CCNA has grown to become the most popular IT certification in the world. The certification main focus lies on developing relevant role-based modules to match the rapid deployment of technologies in the current sophisticated networking environment. Companies whether big or small are investing in new tools including infrastructure to ensure they keep up with the pace.

A CCNA certification would mean that you will have the capacity to build on the core networking skills thanks to the highly specialized concentration paths to springboard your career in both current and developing technologies.

1.0 Network Fundamentals

- 1.1 Compare and contrast OSI and TCP/IP models**
- 1.2 Describe the impact of infrastructure components in an enterprise network**
- 1.3 Describe the effects of cloud resources on enterprise network architecture**
- 1.4 Compare and contrast collapsed core and three-tier architectures**
- 1.5 Compare and contrast network topologies**
- 1.6 Select the appropriate cabling type based on implementation requirements**
- 1.7 Apply troubleshooting methodologies to resolve problems**
- 1.8 Configure, verify, and troubleshoot IPv4 addressing and subnetting**
- 1.9 Compare and contrast IPv4 address types**
- 1.10 Describe the need for private IPv4 addressing**
- 1.11 Identify the appropriate IPv6 addressing scheme**
- 1.12 Configure, verify, and troubleshoot IPv6 addressing**
- 1.13 Configure and verify IPv6 Stateless Address Auto Configuration**
- 1.14 Compare and contrast IPv6 address types**

2.0 LAN Switching Technologies

- 2.1 Describe and verify switching concepts**
- 2.2 Interpret Ethernet frame format**
- 2.3 Troubleshoot interface and cable issues (collisions, errors, duplex, speed)**
- 2.4 Configure, verify, and troubleshoot VLANs (normal/extended range)**
- 2.5 Configure, verify, and troubleshoot interswitch connectivity**
- 2.6 Configure, verify, and troubleshoot STP protocols**
- 2.7 Configure, verify and troubleshoot STP related optional features**
- 2.8 Configure and verify Layer 2 protocols**
- 2.9 Configure, verify, and troubleshoot (Layer 2/Layer 3) EtherChannel**
- 2.10 Describe the benefits of switch stacking and chassis aggregation**

3.0 WAN Technologies

- 3.1 Configure and verify PPP and MLPPP on WAN interfaces using local authentication**
- 3.2 Configure, verify, and troubleshoot PPPoE client-side interfaces using local authentication**
- 3.3 Configure, verify, and troubleshoot GRE tunnel connectivity**
- 3.4 Describe WAN topology options**
- 3.5 Describe WAN access connectivity options**
- 3.6 Configure and verify single-homed branch connectivity using eBGP IPv4**
- 3.7 Describe basic QoS concepts**



4.0 Routing Technologies

4.1 Describe the routing concepts

4.2 Interpret the components of a routing table

4.3 Describe how a routing table is populated by different routing information sources

4.4 Configure, verify, and troubleshoot inter-VLAN routing

4.5 Compare and contrast static routing and dynamic routing

4.6 Compare and contrast distance vector and link state routing protocols

4.7 Compare and contrast interior and exterior routing protocols

4.8 Configure, verify, and troubleshoot IPv4 and IPv6 static routing

4.9 Configure, verify, and troubleshoot single area and multi-area OSPFv2 for IPv4

4.10 Configure, verify, and troubleshoot single area and multi-area OSPFv3

4.11 Configure, verify, and troubleshoot EIGRP for IPv4

4.12 Configure, verify, and troubleshoot EIGRP for IPv6

4.13 Configure, verify, and troubleshoot RIPv2 for IPv4

4.14 Troubleshoot basic Layer 3 end-to-end connectivity issues

5.0 Infrastructure Services

5.1 Describe DNS lookup operation

5.2 Troubleshoot client connectivity issues involving DNS

5.3 Configure and verify DHCP on a router (excluding static reservations)

5.4 Troubleshoot client- and router-based DHCP connectivity issues

5.5 Configure, verify, and troubleshoot basic HSRP

5.6 Configure, verify, and troubleshoot inside source NAT

5.7 Configure and verify NTP operating in a client/server mode

6.0 Infrastructure Services

6.1 Configure, verify, and troubleshoot port security

6.2 Describe common access layer threat mitigation techniques

6.3 Configure, verify, and troubleshoot IPv4 and IPv6 access list for traffic filtering

6.4 Verify ACLs using the APIC-EM Path Trace ACL analysis tool

6.5 Configure, verify, and troubleshoot basic device hardening

6.6 Describe device security using AAA with TACACS+ and RADIUS

7.0 Infrastructure Management

7.1 Configure and verify device-monitoring protocols

7.2 Troubleshoot network connectivity issues using ICMP echo-based IP SLA

7.3 Configure and verify device management

7.4 Configure and verify initial device configuration

7.5 Perform device maintenance

7.6 Use Cisco IOS tools to troubleshoot and resolve problems

7.7 Describe network programmability in enterprise network architecture

