

# Cisco CCNA Routing & Switching Exam 200-120

## Exam Description

The 200-120 CCNAX is the composite exam associated with the Cisco CCNA Routing and Switching certification. Candidates can prepare for this exam by taking the Interconnecting Cisco Networking Devices: Accelerated (CCNAX) v2 course. This exam tests a candidate's knowledge and skills required to install, operate, and troubleshoot a small to medium size enterprise branch network. The topics include all areas covered in ICND 1 & ICND2 Exams.

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## Exam Topics

The following topics are general guidelines for the content likely to be included on the Cisco Certified Network Associate exam. However, other related topics may also appear on any specific delivery of the exam. In order to better reflect the contents of the exam and for clarity purposes, the guidelines below may change at any time without notice.

### Operation of IP Data Networks

- Operation of IP Data Networks
- Recognize the purpose and functions of various network devices such as Routers, Switches, Bridges and Hubs.
- Select the components required to meet a given network specification.
- Identify common applications and their impact on the network
- Describe the purpose and basic operation of the protocols in the OSI and TCP/IP models.
- Predict the data flow between two hosts across a network.
- Identify the appropriate media, cables, ports, and connectors to connect Cisco network devices to other network devices and hosts in a LAN

### LAN Switching Technologies

- Determine the technology and media access control method for Ethernet networks
- Identify basic switching concepts and the operation of Cisco switches.
- Configure and verify initial switch configuration including remote access management.
- Verify network status and switch operation using basic utilities such as ping, telnet & ssh.
- Identify enhanced switching technologies
- Describe how VLANs create logically separate networks and the need for routing between them.

## IP addressing (IPv4 / IPv6)

- Describe the operation and necessity of using private and public IP addresses for IPv4 addressing
- Identify the appropriate IPv6 addressing scheme to satisfy addressing requirements in a LAN/WAN environment.
- Identify the appropriate IPv4 addressing scheme using VLSM and summarization to satisfy addressing requirements in a LAN/WAN environment.
- Describe the technological requirements for running IPv6 in conjunction with IPv4 such as dual stack
- Describe IPv6 addresses

## IP Routing Technologies

- Describe basic routing concepts
- Describe the boot process of Cisco IOS routers
- Configure and verify utilizing the CLI to set basic Router configuration
- Configure and verify operation status of a device interface, both serial and Ethernet
- Verify router configuration and network connectivity
- Configure and verify routing configuration for a static or default route given specific routing requirements
- Manage Cisco IOS Files
- Differentiate methods of routing and routing protocols
- Passive Interfaces
- Configure and verify OSPF (single area)
- Configure and verify EIGRP (single AS)
- Configure and verify interVLAN routing (Router on a stick)

## IP Services

- Configure and verify DHCP (IOS Router)
- Describe the types, features, and applications of ACLs
- Configure and verify ACLs in a network environment
- Identify the basic operation of NAT
- Configure and verify NAT for given network requirements
- Configure and verify NTP as a client
- Recognize High availability (FHRP)
- Configure and verify Syslog
- Describe SNMP v2 & v3

## Network Device Security

- Configure and verify network device security features such as
- Configure and verify Switch Port Security features such as
- Configure and verify ACLs to filter network traffic
- Configure and verify an ACLs to limit telnet and SSH access to the router

## Troubleshooting

- Identify and correct common network problems
- Utilize netflow data
- Troubleshoot and correct common problems associated with IP addressing and host configurations.
- Troubleshoot and Resolve VLAN problems
- Troubleshoot and Resolve trunking problems on Cisco switches
- Troubleshoot and Resolve Spanning Tree operation issues
- Troubleshoot and Resolve routing issues
- Troubleshoot and Resolve OSPF problems
- Troubleshoot and Resolve EIGRP problems
- Troubleshoot and Resolve interVLAN routing problems
- Troubleshoot and Resolve ACL issues
- Troubleshoot and Resolve WAN implementation issues
- Troubleshoot and Resolve Layer 1 problems
- Monitor NetFlow statistics
- Troubleshoot etherchannel problems

## WAN Technologies

- Identify different WAN Technologies
- Configure and verify a basic WAN serial connection
- Configure and verify a PPP connection between Cisco routers
- Configure and verify Frame Relay on Cisco routers
- Implement and troubleshoot PPPoE