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CCNP R&S

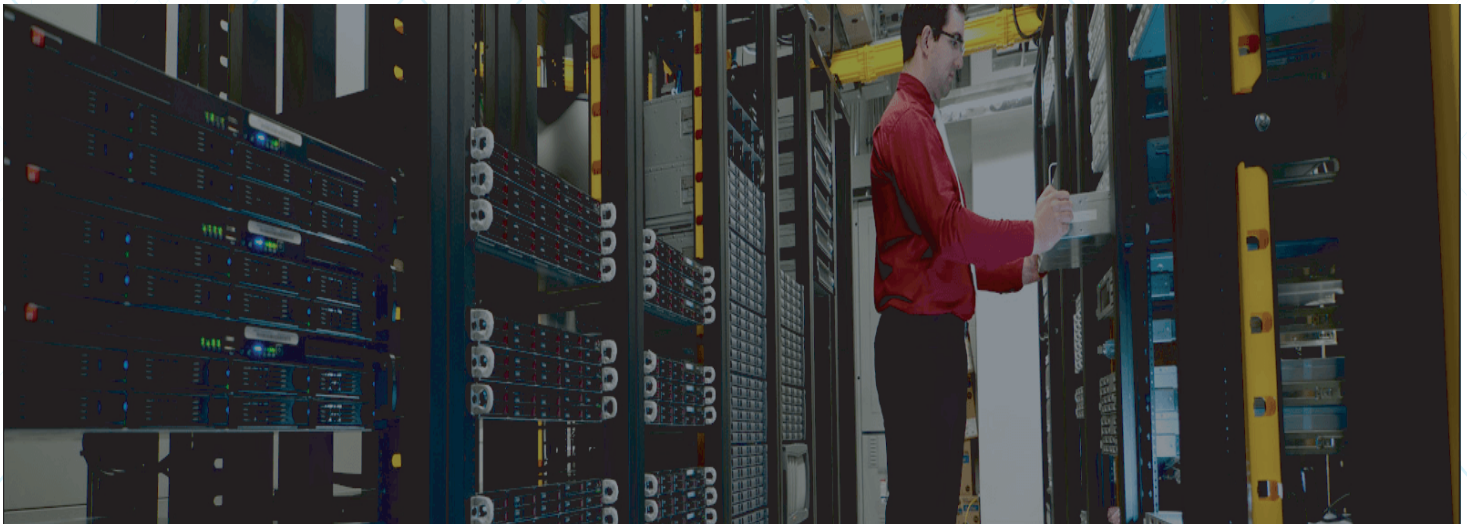
Cisco Certified Network
Professional Routing
and Switching



Microsoft Partner
Silver Learning



Cisco Certified Network Professional (CCNP) Routing and Switching certification validates the ability to plan, implement, verify and troubleshoot local and wide-area enterprise networks and work collaboratively with specialists on advanced security, voice, wireless and video solutions. The CCNP Routing and Switching certification is appropriate for those with at least one year of networking experience who are ready to advance their skills and work independently on complex network solutions. Those who achieve CCNP Routing and Switching have demonstrated the skills required in enterprise roles such as network engineer, support engineer, systems engineer or network technician. The routing and switching protocol knowledge from this certification will provide a lasting foundation as these skills are equally relevant in the physical networks of today and the virtualized network functions of tomorrow.



PREREQUISITES:

Valid Cisco CCNA Routing and Switching certification or any Cisco CCIE certification can act as a prerequisite.

DURATION: 120 Hrs

COURSE EXAMS

Code	Name	Duration
300-101	CCNP-ROUTE	45
300-115	CCNP-SWITCH	45
300-135	CCNP-TSHOOT	30

OBJECTIVES

After you complete this course you will be able to:

IP Routing

- Configure and verify Layer 2 Technologies PPP,PPPoE,Frame-relay
- Identify, configure, and verify IPv4&IPV6 addressing and subnetting
- Configure and verify static&Default routing
- Configure and verify VRF lite
- Configure and verify filtering with any protocol
- Configure and verify redistribution between any routing protocols or routing sources
- Configure and verify policy-based routing
- Identify suboptimal routing
- Explain ROUTE maps
- Describe, configure, and verify RIPv2&RIPng
- Describe, configure, and verify EIGRP Protocols
- Describe, configure, and verify EIGRP for IPv6
- Describe, configure, and verify OSPF Protocols

IP Switching

- Configure and verify Layer 2 Technologies
- Configure and verify switch administration
- Configure and verify Layer 2 protocols
- Configure and verify VLANs
- Configure and verify trunking and VTP
- Configure and verify EtherChannels
- Implement spanning tree
- Implement inter-VLAN routing in a campus network
- Configure and verify other LAN switching technologies
- Describe chassis virtualization and aggregation technologies
- Configure and verify Infrastructure Security
- Configure and verify switch security features
- Describe device security using Cisco IOS AAA with TACACS+ and RADIUS
- Configure and verify Infrastructure Services
- Configure and verify first-hop redundancy protocols(HSRP,VRRP&GLBP)

Troubleshooting

- Use Cisco IOS troubleshooting tools
- Apply troubleshooting methodologies
- Troubleshoot switch administration
- Troubleshoot Layer 2 protocols
- Troubleshoot VLANs
- Troubleshoot trunking
- Troubleshoot EtherChannels
- Troubleshoot spanning tree
- Troubleshoot other LAN switching technologies
- Troubleshoot chassis virtualization and aggregation technologies

- Troubleshoot IPv4 addressing and subnetting
- Troubleshoot IPv6 addressing and subnetting
- Troubleshoot static and Default routing
- Troubleshoot VRF lite
- Troubleshoot filtering with any protocol
- Troubleshoot between any routing protocols or routing sources
- Troubleshoot manual and autosummarization with any routing protocol
- Troubleshoot policy-based routing
- Troubleshoot suboptimal routing
- Troubleshoot loop prevention mechanisms
- Troubleshoot RIPv2
- Troubleshoot EIGRP
- Troubleshoot EIGRP for IPv6
- Troubleshoot OSPF
- Troubleshoot OSPF for IPv6
- Troubleshoot BGP peer relationships and authentication
- Troubleshoot eBGP
- Troubleshoot GRE
- Troubleshoot IOS AAA using local database
- Troubleshoot device access control
- Troubleshoot router security features
- Troubleshoot device management
- Troubleshoot SNMP and logging
- Troubleshoot Network Time Protocol(NTP)

TARGET AUDIENCE

This course is designed for:

Network professionals who want to correctly implement routing based solutions within a given network design, using Cisco IOS services and features, where implementation includes planning, configuring and verification.

Network Professionals who need to implement and support switch based solutions within a given network design using Cisco IOS services and features.

Network professionals who want to increase their skills at maintaining and troubleshooting complex Cisco IP networks. This course is required for those looking to achieve the Cisco CCNP® Certification



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