



CCNP® Routing & Switching Certification

(3 Modules : *ROUTE, SWITCH & TSHOOT*)

Course Objective:

Cisco Certified Network Professional (CCNP®) 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 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 have demonstrated the skills required in enterprise roles such as network technician, support engineer, systems engineer or network engineer.

Module 1 : ROUTE (642-902)

Module 2 : SWITCH (642-813)

Module 3 : TSHOOT (642-832)

Prerequisite:

Valid CCNA certification or any CCIE Certification can act as a prerequisite.

Certificate Of Attendance :

Certificate Of Attendance will be awarded to students completing the course achieving minimum 75% attendance.

Training Methodology & Materials:

- Practical hands-on sessions, 75% lab-based and 25% theory-based.
- Well-designed lab sessions to enhance further understanding of the courseware.
- Training conducted by Certified Cisco Instructors.
- Training uses Cisco Authorised Course Materials.

Training Duration:

Full-Time : 15days (5 days per module)

Time : 9.30am – 5.30pm

Part-Time : 30 sessions (twice a week)

Time : 7.00pm – 10.00pm

DETAILED COURSE OUTLINE

Module 1 (NEW) : Implementing Cisco IP Routing (642-902 ROUTE)

The Implementing Cisco IP Routing (ROUTE 642-902) is a qualifying exam for the Cisco Certified Network Professional CCNP®, Cisco Certified Internetwork Professional CCIP®, and Cisco Certified Design Professional CCDP® certifications. The ROUTE 642-902 exam will certify that the successful candidate has the knowledge and skills necessary to use advanced IP addressing and routing in implementing scalable and secure Cisco ISR routers connected to LANs and WANs. The exam also covers configuration of secure routing solutions to support branch offices and mobile workers.

Implement an EIGRP based solution, given a network design and a set of requirements

- Determine network resources needed for implementing EIGRP on a network
- Create an EIGRP implementation plan
- Create an EIGRP verification plan
- Configure EIGRP routing
- Verify EIGRP solution was implemented properly using show and debug commands
- Document results of EIGRP implementation and verification

Implement a multi-area OSPF Network, given a network design and a set of requirements

- Determine network resources needed for implementing OSPF on a network
- Create an OSPF implementation plan
- Create an OSPF verification plan
- Configure OSPF routing
- Verify OSPF solution was implemented properly using show and debug commands
- Document results of OSPF implementation and verification plan

Implement an eBGP based solution, given a network design and a set of requirements

- Determine network resources needed for implementing eBGP on a network
- Create an eBGP implementation plan
- Create an eBGP verification plan
- Configure eBGP routing
- Verify eBGP solution was implemented properly using show and debug commands
- Document results of eBGP implementation and verification plan

Implement an IPv6 based solution, given a network design and a set of requirements

- Determine network resources needed for implementing IPv6 on a network
- Create an IPv6 implementation plan
- Create an IPv6 verification plan
- Configure IPv6 routing
- Configure IPv6 interoperability with IPv4

Verify IPv6 solution was implemented properly using show and debug commands
Document results of IPv6 implementation and verification plan

Implement an IPv4 or IPv6 based redistribution solution, given a network design and a set of requirements

Create a redistribution implementation plan based upon the results of the redistribution analysis
Create a redistribution verification plan
Configure a redistribution solution
Verify that a redistribution was implemented
Document results of a redistribution implementation and verification plan
Identify the differences between implementing an IPv4 and IPv6 redistribution solution

Implement Layer 3 Path Control Solution

Create a Layer 3 path control implementation plan based upon the results of the redistribution analysis
Create a Layer 3 path control verification plan
Configure Layer 3 path control
Verify that a Layer 3 path control was implemented
Document results of a Layer 3 path control implementation and verification plan
Implement basic teleworker and branch services

Describe broadband technologies
Configure basic broadband connections
Describe basic VPN technologies
Configure GRE
Describe branch access technologies

Module 2 (NEW) : Implementing Cisco IP Switched Networks (642-813 SWITCH)

Implementing Cisco IP Switched Networks (SWITCH 642-813) is a qualifying exam for the Cisco Certified Network Professional CCNP®, and Cisco Certified Design Professional CCDP® certifications. The SWITCH 642-813 exam will certify that the successful candidate has important knowledge and skills necessary to plan, configure and verify the implementation of complex enterprise switching solutions using Cisco's Campus Enterprise Architecture. The SWITCH exam also covers secure integration of VLANs, WLANs, voice and video into campus networks.

Implement VLAN based solution, given a network design and a set of requirements

Determine network resources needed for implementing a VLAN based solution on a network
Create a VLAN based implementation plan
Create a VLAN based verification plan
Configure switch-to-switch connectivity for the VLAN based solution
Configure loop prevention for the VLAN based solution
Configure Access Ports for the VLAN based solution
Verify the VLAN based solution was implemented properly using show and debug commands
Document results of VLAN implementation and verification

Implement a Security Extension of a Layer 2 solution, given a network design and a set of requirements

Determine network resources needed for implementing a Security solution
Create an implementation plan for the Security solution
Create a verification plan for the Security solution
Configure port security features
Configure general switch security features
Configure private VLANs Configure VACL and PACL
Verify the Security based solution was implemented properly using show and debug commands
Document results of Security implementation and verification

Implement Switch based Layer 3 services, given a network design and a set of requirements

Determine network resources needed for implementing a Switch based Layer 3 solution
Create an implementation plan for the Switch based Layer 3 solution
Create a verification plan for the Switch based Layer 3 solution
Configure routing interfaces Configure Layer 3 Security
Verify the Switch based Layer 3 solution was implemented properly using show and debug commands
Document results of Switch based Layer 3 implementation and verification

Prepare infrastructure to support advanced services

Implement a Wireless Extension of a Layer 2 solution
Implement a VoIP support solution
Implement video support solution

Implement High Availability, given a network design and a set of requirements

Determine network resources needed for implementing High Availability on a network
Create a High Availability implementation plan
Create a High Availability verification plan
Implement first hop redundancy protocols
Implement switch supervisor redundancy
Verify High Availability solution was implemented properly using show and debug commands
Document results of High Availability implementation and verification

Module 3 (NEW) : Troubleshooting and Maintaining Cisco IP Switched Networks (642-832 TSHOOT)

Troubleshooting and Maintaining Cisco IP Switched Networks (TSHOOT 642-832) is a qualifying exam for the Cisco Certified Network Professional CCNP®, certification. The TSHOOT 642-832 exam will certify that the successful candidate has important knowledge and skills necessary to (1) plan and perform regular maintenance on complex enterprise routed and switched networks and (2) use technology-based practices and a systematic ITIL-compliant approach to perform network troubleshooting.

Maintain and monitor network performance

Develop a plan to monitor and manage a network
Perform network monitoring using IOS tools
Perform routine IOS device maintenance
Isolate sub-optimal internetwork operation at the correctly defined OSI Model layer

Troubleshoot Multi Protocol system networks

- Troubleshoot EIGRP
- Troubleshoot OSPF
- Troubleshoot eBGP
- Troubleshoot routing redistribution solution
- Troubleshoot a DHCP client and server solution
- Troubleshoot NAT
- Troubleshoot first hop redundancy protocols
- Troubleshoot IPv6 routing
- Troubleshoot IPv6 and IPv4 interoperability
- Troubleshoot switch-to-switch connectivity for the VLAN based solution
- Troubleshoot loop prevention for the VLAN based solution
- Troubleshoot Access Ports for the VLAN based solution
- Troubleshoot private VLANS
- Troubleshoot port security
- Troubleshoot general switch security
- Troubleshoot VACL and PACL
- Troubleshoot switch virtual interfaces (SVIs)
- Troubleshoot switch supervisor redundancy
- Troubleshoot switch support of advanced services (i.e., Wireless, VOIP and Video)
- Troubleshoot a VoIP support solution
- Troubleshoot a video support solution
- Troubleshoot Layer 3 Security
- Troubleshoot issues related to ACLs used to secure access to Cisco routers
- Troubleshoot configuration issues related to accessing the AAA server for authentication purposes
- Troubleshoot security issues related to IOS services (i.e.,finger, NTP, HTTP, FTP, RCP etc.)

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