CCNP Curriculum

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642-902 ROUTE (Implementing Cisco IP Routing)

Exam Description

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.

Exam Topics

The following information provides general guidelines for the content likely to be included on the 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.

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

- 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.

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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 interoperation 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.

642-813 SWITCH (Implementing Cisco IP Switched Networks)

Exam Description

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 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.

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Exam Topics

The following information provides general guidelines for the content likely to be included on the 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.

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 a 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.

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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.

642-832 TSHOOT (Troubleshooting and Maintaining Cisco IP Networks)

Exam Description

Troubleshooting and Maintaining Cisco IP 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.

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Exam Topics

The following information provides general guidelines for the content likely to be included on the 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.

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.
- 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).

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- 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.)