

CURSO CISCO CCNP

Building Scalable Cisco Internetworks (BSCI).

Implement EIGRP operations

Explain the functions and operations of EIGRP (e.g., DUAL).

Configure EIGRP routing. (e.g., Stub Routing, authentication, etc.)

Verify or troubleshoot EIGRP routing configurations.

Implement multiarea OSPF operations

Explain the functions and operations of multiarea OSPF.

Configure multiarea OSPF routing. (e.g., Stub, NSSA, authentication, etc.)

Verify or troubleshoot multiarea OSPF routing configurations.

Describe integrated IS-IS

Describe the features and benefits of integrated IS-IS.

Configure and verify integrated IS-IS.

Implement Cisco IOS routing features

Describe, configure or verify route redistribution between IP routing IGPs. (e.g., route-maps, default routes, etc.)

Describe, configure or verify route filtering (i.e., distribute-lists and passive interfaces).

Describe and configure DHCP services (e.g., Server, Client, IP helper address, etc.).

Implement BGP for enterprise ISP connectivity

Describe the functions and operations of BGP.

Configure or verify BGP operation in a non-transit AS (e.g., authentication).

Configure BGP path selection. (i.e., Local Preference, AS Path, Weight or MED attributes).

Implement multicast forwarding

Describe IP Multicast (e.g., Layer-3 to Layer-2 mapping, IGMP, etc.).

Describe, configure, or verify IP multicast routing (i.e., PIM Sparse-Dense Mode).

Implement IPv6

Describe IPv6 addressing operations.

Describe IPv6 interoperation with IPv4.

Describe, configure or verify OSPF routing with IPv6 addressing.

Building Cisco Multilayer Switched Networks (BCMSN)

Implement VLANs

Explain the functions of VLANs in a hierarchical network.
Configure VLANs (e.g., Native, Default, Static and Access).
Explain and configure VLAN trunking (i.e., IEEE 802.1Q and ISL).
Explain and configure VTP.
Verify or troubleshoot VLAN configurations.

Conduct the operation of Spanning Tree protocols in a hierarchical network

Explain the functions and operations of the Spanning Tree protocols (i.e., RSTP, PVRST, MISTP).
Configure RSTP (PVRST) and MISTP.
Describe and configure STP security mechanisms (i.e., BPDU Guard, BPDU Filtering, Root Guard).
Configure and Verify UDLD and Loop Guard.
Verify or troubleshoot Spanning Tree protocol operations.
Configure and verify link aggregation using PAgP or LACP.

Implement Inter-VLAN routing

Explain and configure Inter-VLAN routing (i.e., SVI and routed ports).
Explain and enable CEF operation.
Verify or troubleshoot InterVLAN routing configurations.

Implement gateway redundancy technologies

Explain the functions and operations of gateway redundancy protocols (i.e., HSRP, VRRP, and GLBP).
Configure HSRP, VRRP, and GLBP.
Verify High Availability configurations.

Describe and configure wireless client access

Describe the components and operations of WLAN topologies (i.e., AP and Bridge).
Describe the features of Client Devices, Network Unification, and Mobility Platforms (i.e., CCX, LWAPP).
Configure a wireless client (i.e., ADU).

Describe and configure security features in a switched network

Describe common Layer 2 network attacks (e.g., MAC Flooding, Rogue Devices, VLAN Hopping, DHCP Spoofing, etc.)
Explain and configure Port Security, 802.1x, VACLs, Private VLANs, DHCP Snooping, and DAI.

Verify Catalyst switch (IOS-based) security configurations (i.e., Port Security, 802.1x, VACLs, Private VLANs, DHCP Snooping, and DAI).

Configure support for voice

Describe the characteristics of voice in the campus network.

Describe the functions of Voice VLANs and trust boundaries.

Configure and verify basic IP Phone support (i.e. Voice VLAN, Trust and CoS options, AutoQoS for voice).

Implementing Secure Converged Wide Area Networks (ISCW)

Implement basic teleworker services

Describe Cable (HFC) technologies.

Describe xDSL technologies.

Configure ADSL (i.e., PPPoE or PPPoA).

Verify basic teleworker configurations.

Implement Frame-Mode MPLS

Describe the components and operation of Frame-Mode MPLS (e.g., packet-based MPLS VPNs).

Configure and verify Frame-Mode MPLS.

Implement a site-to-site IPSec VPN

Describe the components and operations of IPSec VPNs and GRE Tunnels.

Configure a site-to-site IPSec VPN/GRE Tunnel with SDM (i.e., preshared key).

Verify IPSec/GRE Tunnel configurations (i.e., IOS CLI configurations).

Describe, configure, and verify VPN backup interfaces.

Describe and configure Cisco Easy VPN solutions using SDM.

Describe network security strategies

Describe and mitigate common network attacks (i.e., Reconnaissance, Access, and Denial of Service).

Describe and mitigate Worm, Virus, and Trojan Horse attacks.

Describe and mitigate application-layer attacks (e.g., management protocols).

Implement Cisco Device Hardening

Describe, Configure, and verify AutoSecure/One-Step Lockdown implementations (i.e., CLI and SDM).

Describe, configure, and verify AAA for Cisco Routers.

Describe and configure threat and attack mitigation using ACLs.

Describe and configure IOS secure management features (e.g., SSH, SNMP, SYSLOG, NTP, Role-Based CLI, etc.)

Implement Cisco IOS firewall

Describe the functions and operations of Cisco IOS Firewall (e.g., Stateful Firewall, CBAC, etc.).

Configure Cisco IOS Firewall with SDM.

Verify Cisco IOS Firewall configurations (i.e., IOS CLI configurations, SDM Monitor).

Describe and configure Cisco IOS IPS

Describe the functions and operations of IDS and IPS systems (e.g., IDS/IPS signatures, IPS Alarms, etc.)

Configure Cisco IOS IPS using SDM

Optimizing Converged Cisco Networks (ONT)

Describe Cisco VoIP implementations

Describe the functions and operations of a VoIP network (e.g., packetization, bandwidth considerations, CAC, etc.).

Describe and identify basic voice components in an enterprise network (e.g. Gatekeepers, Gateways, etc.)

Describe QoS considerations

Explain the necessity of QoS in converged networks (e.g., bandwidth, delay, loss, etc.).

Describe strategies for QoS implementations (e.g. QoS Policy, QoS Models, etc.).

Describe DiffServ QoS implementations

Describe classification and marking (e.g., CoS, ToS, IP Precedence, DSCP, etc.).

Describe and configure NBAR for classification.

Explain congestion management and avoidance mechanisms (e.g., FIFO, PQ, WRR, WRED, etc.).

Describe traffic policing and traffic shaping (i.e., traffic conditioners).

Describe Control Plane Policing.

Describe WAN link efficiency mechanisms (e.g., Payload/Header Compression, MLP with interleaving, etc.).

Describe and configure QoS Pre-Classify.

Implement AutoQoS

Explain the functions and operations of AutoQoS.

Describe the SDM QoS Wizard.

Configure, verify, and troubleshoot AutoQoS implementations (i.e., MQC).

Implement WLAN security and management

Describe and Configure wireless security on Cisco Clients and APs (e.g., SSID, WEP, LEAP, etc.).

Describe basic wireless management (e.g., WLSE and WCS). Configure and verify basic WCS configuration (i.e., login, add/review controller/AP status, security, and import/review maps).

Describe and configure WLAN QoS.