



TestOut Routing and Switching Pro - English 6.0.x

TEXTBOOK MAPPING

CISCO COMPANION GUIDES

Objective Mapping: Cisco 100-105 ICND1 Objective to LabSim Section

		TestOut LabSim Routing and Switching v6	Routing and Switching Essential v6	Introduction to Networks v6	Connecting Networks v6	Scaling Networks v6
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#	Exam Objective	Module.Section	Chapter	Chapter	Chapter	Chapter
1.0	Network Fundamentals					
1.1	Compare and contrast OSI and TCP/IP models	2.3, 2.4, 2.5, 2.6, 2.7		3, 10		
1.2	Compare and contrast TCP and UDP protocols	2.3		9		
1.3	Describe the impact of infrastructure components in an enterprise network 1.3.a Firewalls 1.3.b Access points 1.3.c Wireless controllers	2.2		1, 11		
1.4	Compare and contrast collapsed core and three-tier architectures	6.1	4			
1.5	Compare and contrast network topologies 1.5.a Star 1.5.b Mesh 1.5.c Hybrid	2.7		4		
1.6	Select the appropriate cabling type based on implementation requirements	2.1, 2.7		4		
1.7	Apply troubleshooting methodologies to resolve problems 1.7.a Perform fault isolation and document 1.7.b Resolve or escalate 1.7.c Verify and monitor resolution	5.8	2, 3, 4, 5, 6, 7, 8, 9, 10	11		
1.8	Configure, verify, and troubleshoot IPv4 addressing and subnetting	3.4, 7.2, 7.5		2, 7, 8		
1.9	Compare and contrast IPv4 address types 1.9.a Unicast 1.9.b Broadcast 1.9.c Multicast	4.1		3		
1.1	Describe the need for private IPv4 addressing	3.1, 3.2, 3.3, 3.5 4.1		7		
1.11	Identify the appropriate IPv6 addressing scheme to satisfy addressing requirements in a LAN/WAN environment	4.1, 7.6		8		
1.12	Configure, verify, and troubleshoot IPv6 addressing	4.2		7		
1.13	Configure and verify IPv6 Stateless Address Auto Configuration	4.2	8	7		
1.14	Compare and contrast IPv6 address types 1.14.a Global unicast 1.14.b Unique local 1.14.c Link local 1.14.d Multicast 1.14.e Modified EUI 64 1.14.f Autoconfiguration 1.14.g Anycast	4.1, 4.2 7.6		7		
2.0	LAN Switching Fundamentals					
2.1	Describe and verify switching concepts 2.1.a MAC learning and aging 2.1.b Frame switching 2.1.c Frame flooding 2.1.d MAC address table	6.1	4	5		
2.2	Interpret Ethernet frame format	2.2, 2.7, 5.2		4, 5		
2.3	Troubleshoot interface and cable issues (collisions, errors, duplex, speed)	6.9		11		
2.4	Configure, verify, and troubleshoot VLANs (normal range) spanning multiple switches 2.4.a Access ports (data and voice) 2.4.b Default VLAN	6.4, 6.5, 7.7	6			
2.5	Configure, verify, and troubleshoot interswitch connectivity 2.5.a Trunk ports 2.5.b 802.1Q 2.5.c Native VLAN	6.4, 6.5, 6.6, 6.9	5, 6			
2.6	Configure and verify Layer 2 protocols 2.6.a Cisco Discovery Protocol 2.6.b LLDP	6.8	10			

2.7	Configure, verify, and troubleshoot port security 2.7.a Static 2.7.b Dynamic 2.7.c Sticky 2.7.d Max MAC addresses 2.7.e Violation actions 2.7.f Err-disable recovery	6.6	5			
3.0	Routing Fundamentals					
3.1	Describe the routing concepts 3.1.a Packet handling along the path through a network 3.1.b Forwarding decision based on route lookup 3.1.c Frame rewrite	7.1	1	6		
3.2	Interpret the components of routing table 3.2.a Prefix 3.2.b Network mask 3.2.c Next hop 3.2.d Routing protocol code 3.2.e Administrative distance 3.2.f Metric 3.2.g Gateway of last resort	7.1	3	6		
3.3	Describe how a routing table is populated by different routing information sources 3.3.a Admin distance	7.1, 7.2, 7.3	33			
3.4	Configure, verify, and troubleshoot inter-VLAN routing 3.4.a Router on a stick	7.7, 7.8	6			
3.5	Compare and contrast static routing and dynamic routing	7.2, 7.3, 7.4	3			
3.6	Configure, verify, and troubleshoot IPv4 and IPv6 static routing 3.6.a Default route 3.6.b Network route 3.6.c Host route 3.6.d Floating static	7.1, 7.2, 7.3, 7.4	2			
3.7	Configure, verify, and troubleshoot RIPv2 for IPv4 (excluding authentication, filtering, manual summarization, redistribution)	7.5	3			
4.0	Infrastructure Services					
4.1	Describe DNS lookup operation	6.3 12.1		10		
4.2	Troubleshoot client connectivity issues involving DNS	7.2 12.1		11		
4.3	Configure and verify DHCP on a router (excluding static reservations) 4.3.a Server 4.3.b Relay 4.3.c Client 4.3.d TFTP, DNS, and gateway options	8.1	8			
4.4	Troubleshoot client- and router-based DHCP connectivity issues	12.1	8			
4.5	Configure and verify NTP operating in client/server mode	8.7	10			
4.6	Configure, verify, and troubleshoot IPv4 standard numbered and named access list for routed interfaces	8.2, 8.3 12.5	7			
4.7	Configure, verify, and troubleshoot inside source NAT 4.7.a Static 4.7.b Pool 4.7.c PAT	8.5, 8.6	9			
5.0	Infrastructure Maintenance					
5.1	Configure and verify device-monitoring using syslog	5.7	10			
5.2	Configure and verify device management 5.2.a Backup and restore device configuration 5.2.b Using Cisco Discovery Protocol and LLDP for device discovery 5.2.c Licensing 5.2.d Logging 5.2.e Timezone 5.2.f Loopback	5.3, 5.5, 5.6 6.8, 6.9 9.2	10			
5.3	Configure and verify initial device configuration	5.1, 5.3, 5.4, 5.5, 5.6, 6.2, 6.3, 6.6		2, 6		

5.4	Configure, verify, and troubleshoot basic device hardening 5.4.a Local authentication 5.4.b Secure password 5.4.c Access to device o 5.4.c (i) Source address o 5.4.c (ii) Telnet/SSH 5.4.d Login banner	5.6 6.3, 6.7, 6.8, 8.4	5	2, 11		
5.5	Perform device maintenance 5.5.a Cisco IOS upgrades and recovery (SCP, FTP, TFTP, and MD5 verify) 5.5.b Password recovery and configuration register 5.5.c File system management	9.1	10			
5.6	Use Cisco IOS tools to troubleshoot and resolve problems 5.6.a Ping and traceroute with extended option 5.6.b Terminal monitor 5.6.c Log events	5.8 7.2 9.3	2, 3, 4, 5, 6, 7, 8, 9, 10	11		

Objective Mapping: Cisco 200-105 ICND2 Objective to LabSim Section

#	Exam Objective	Module.Section	Chapter	Chapter	Chapter	Chapter
1.0	LAN Switching Technologies					
1.1	Configure, verify, and troubleshoot VLANs (normal/extended range) spanning multiple switches 1.1.a Access ports (data and voice) 1.1.b Default VLAN	11.1				2
1.2	Configure, verify, and troubleshoot interswitch connectivity 1.2.a Add and remove VLANs on a trunk 1.2.b DTP and VTP (v1&v2)	11.1				2
1.3	Configure, verify, and troubleshoot STP protocols 1.3.a STP mode (PVST+ and RPVST+) 1.3.b STP root bridge selection	11.2, 11.4, 11.5				3
1.4	Configure, verify, and troubleshoot STP-related optional features 1.4.a PortFast 1.4.b BPDU guard	11.5				3
1.5	Configure, verify, and troubleshoot (Layer 2/Layer 3) EtherChannel 1.5.a Static 1.5.b PAGP 1.5.c LACP	11.3				4
1.6	Describe the benefits of switch stacking and chassis aggregation	16.3				3
1.7	Describe common access layer threat mitigation techniques 1.7.a 802.1x 1.7.b DHCP snooping 1.7.c Nondefault native VLAN	16.5				3
2.0	Routing Technologies					
2.1	Configure, verify, and troubleshoot Inter-VLAN routing 2.1.a Router on a stick 2.1.b SVI	12.2				2
2.2	Compare and contrast distance vector and link-state routing protocols	12.1				5, 6, 8, 9
2.3	Compare and contrast interior and exterior routing protocols	12.1				5
2.4	Configure, verify, and troubleshoot single area and multiarea OSPFv2 for IPv4 (excluding authentication, filtering, manual summarization, redistribution, stub, virtual-link, and LSAs)	14.1, 14.2, 14.3, 14.4, 15.1, 15.2				7, 8, 9
2.5	Configure, verify, and troubleshoot single area and multiarea OSPFv3 for IPv6 (excluding authentication, filtering, manual summarization, redistribution, stub, virtual-link, and LSAs)	15.1, 15.2				7, 8, 9
2.6	Configure, verify, and troubleshoot EIGRP for IPv4 (excluding authentication, filtering, manual summarization, redistribution, stub)	14.5, 14.6, 15.3				6, 7
2.7	Configure, verify, and troubleshoot EIGRP for IPv6 (excluding authentication, filtering, manual summarization, redistribution, stub)	15.3				6, 7
3.0	WAN Technologies					
3.1	Configure and verify PPP and MLPPP on WAN interfaces using local authentication	13.3			2	4
3.2	Configure, verify, and troubleshoot PPPoE client-side interfaces using local authentication	13.4			2	

3.3	Configure, verify, and troubleshoot GRE tunnel connectivity	13.5			3	
3.4	Describe WAN topology options 3.4.a Point-to-point 3.4.b Hub and spoke 3.4.c Full mesh 3.4.d Single vs dual-homed	13.1			1	
3.5	Describe WAN access connectivity options 3.5.a MPLS 3.5.b MetroEthernet 3.5.c Broadband PPPoE 3.5.d Internet VPN (DMVPN, site-to-site VPN, client VPN)	13.4, 13.5			1, 3	
3.6	Configure and verify single-homed branch connectivity using eBGP IPv4 (limited to peering and route advertisement using Network command only)	14.7			3	
4.0	Infrastructure Services					
4.1	Configure, verify, and troubleshoot basic HSRP 4.1.a Priority 4.1.b Preemption	12.3				4
4.2	Describe the effects of cloud resources on enterprise network architecture 4.2.a Traffic path to internal and external cloud services 4.2.b Virtual services 4.2.c Basic virtual network infrastructure	16.4			7	
4.3	Describe basic QoS concepts 4.3.a Marking 4.3.b Device trust 4.3.c Prioritization o 4.3.c (i) Voice o 4.3.c (ii) Video o 4.3.c (iii) Data 4.3.d Shaping 4.3.e Policing 4.3.f Congestion management	16.2			6	
4.4	Configure, verify, and troubleshoot IPv4 and IPv6 access list for traffic filtering 4.4.a Standard 4.4.b Extended 4.4.c Named	12.4, 12.5			4	
4.5	Verify ACLs using the APIC-EM Path Trace ACL analysis tool	12.4			7	
5.0	Infrastructure Maintenance					
5.1	Configure and verify device-monitoring protocols 5.1.a SNMPv2 5.1.b SNMPv3	16.1			5	
5.2	Troubleshoot network connectivity issues using ICMP echo-based IP SLA	5.8			8	
5.3	Use local SPAN to troubleshoot and resolve problems	5.8			5	
5.4	Describe device management using AAA with TACACS+ and RADIUS	16.5			5	
5.5	Describe network programmability in enterprise network architecture 5.5.a Function of a controller 5.5.b Separation of control plane and data plane 5.5.c Northbound and southbound APIs	16.3			7	
5.6	Troubleshoot basic Layer 3 end-to-end connectivity issues	11.5 12.2, 12.4 14.8			8	