

Mark

Current Score: 0/825

Time Remai

Hide A

## Item 1 of 561 (Choice, Q1)

Which two capabilities of Cisco DNA Center make it more extensible as compared to traditional campus device management? (Choose two.)

- A. customized versions for small, medium, and large enterprises
- B. REST APIs that allow for external applications to interact natively with Cisco DNA Center
- C. SDKs that support interaction with third-party network equipment
- D. modular design that is upgradable as needed
- E. adapters that support all families of Cisco IOS software

Answer: BC

Client



Procurar



Mark

Current Score: 0/825

Time Remaining: 2:24:09

## Item 2 of 561 (Choice, Q2)

 Hide Answer

An engineer must configure the IPv6 address 2001:0db8:0000:0000:0700:0003:400F:572B on the serial0/0 interface of the HQ router and wants to compress it for easier configuration. Which command must be issued on the router interface?

- A. `ipv6 address 2001:db8:0:700:3:4F:572B`
- B. `ipv6 address 2001:db8::700:3:400F:572B`
- C. `ipv6 address 2001:db8:0000:700:3:400F:572B`
- D. `ipv6 address 2001:0db8::7:3:4F:572B`

Answer: B

Mark

Current Score: 0/825

Time Remaining: 2:12:31

## Item 3 of 561 (Choice, Q3)

[Hide Answer](#)

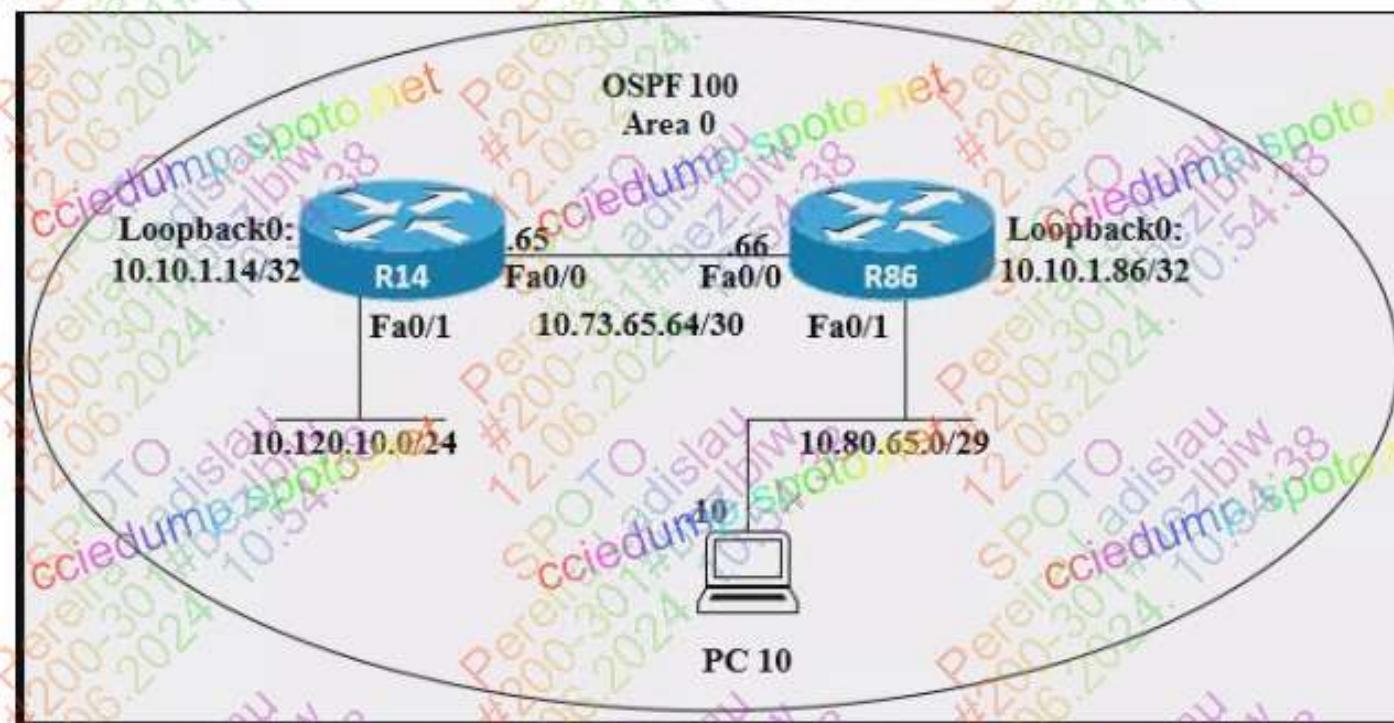
What are two recommendations for protecting network ports from being exploited when located in an office space outside of an IT closet? (Choose two.)

- A. shut down unused ports
- B. enable the PortFast feature on ports
- C. configure ports to a fixed speed
- D. implement port-based authentication
- E. configure static ARP entries

Answer: AD

Mark

Item 4 of 561 (Choice, Q4)



An engineer just installed network 10.120.10.0/24. Which configuration must be applied to the R14 router to add the new network to its OSPF routing table?

- A. `router ospf 100  
network 10.120.10.0 255.255.255.0 area 0`
- B. `router ospf 100  
network 10.120.10.0 0.0.0.255 area 0`
- C. `router ospf 100 area 0  
network 10.120.10.0 0.0.0.255`
- D. `router ospf 120  
network 10.120.10.0 255.255.255.0 area 0  
ip route 10.120.10.0 255.255.255.0 fa0/1`

Answer: B

Mark

Current Score: 0/825

Time Remaining: 2:07:44

## Item 5 of 561 (Choice, Q5)

 Hide Answer

Gateway of last resort is not set

C 10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks  
L 10.1.1.0/30 is directly connected, GigabitEthernet0/0  
S 10.1.1.2/32 is directly connected, GigabitEthernet0/0  
S 192.168.0.0/20 [1/0] via 10.1.1.1  
S 192.168.1.0/30 [1/0] via 10.1.1.1  
S 192.168.1.0/30 [1/0] via 10.1.1.1  
S 192.168.2.0/24 is variably subnetted, 2 subnets, 2 masks  
S 192.168.2.0/28 [1/0] via 10.1.1.1  
S 192.168.2.0/29 [1/0] via 10.1.1.1

Refer to the exhibit. An engineer is checking the routing table in the main router to identify the path to a server on the network. Which route does the router use to reach the server at 192.168.2.2?

- A. S 192.168.2.0/29 [1/0] via 10.1.1.1
- B. S 192.168.2.0/28 [1/0] via 10.1.1.1
- C. S 192.168.0.0/20 [1/0] via 10.1.1.1
- D. S 192.168.1.0/30 [1/0] via 10.1.1.1

Answer: A

Mark

Current Score: 0/825

Time Remaining: 2:06:23

## Item 6 of 561 (Choice, Q6)

 Hide Answer

Which IPv6 address block forwards packets to a multicast address rather than a unicast address?

- A. FC00::/7
- B. FE80::/10
- C. 2000::/3
- D. FF00::/12

Answer: D



Current Score: 0/825

## Item 7 of 561 (Choice, Q7)

What is the role of the root port in a switched network?

- A. It replaces the designated port when the root port fails.
- B. It is administratively disabled until a failover occurs.
- C. It replaces the designated port when the designated port fails.
- D. It is the best path to the root from a nonroot switch.

Answer: D

Connection-specific DNS Suffix . . . . .	:	cciedump.spo
Description . . . . .	:	Intel(R) Ethernet Connection (2) I218-V
Physical Address . . . . .	:	D0-50-99-47-A9-7E
DHCP Enabled . . . . .	:	Yes
Autoconfiguration Enabled . . . . .	:	Yes
Link-local IPv6 Address . . . . .	:	fe80::8809:9772:c583:6b18%15 (Preferred)
IPv4 Address . . . . .	:	192.168.69.132 (Preferred)
Subnet Mask . . . . .	:	255.255.255.0
Lease Obtained . . . . .	:	Thursday, January 21, 2021 11:10:46 PM
Lease Expires . . . . .	:	Wednesday, February 3, 2021 11:27:29 AM
Default Gateway . . . . .	:	192.168.69.1
DHCP Server . . . . .	:	192.168.69.1
DHCPv6 IAID . . . . .	:	231755929
DHCPv6 Client DUID . . . . .	:	00-01-00-01-26-D7-BB-3F-D0-50-99-47-A9-7E
DNS Servers . . . . .	:	192.168.69.1
NetBIOS over Tcpip . . . . .	:	Enabled

Refer to the exhibit. What does the host do when using the IPv4 Preferred function?

- A. It prefers a pool of addresses when renewing the IPv4 host IP address.
- B. It forces the DNS server to provide the same IPv4 address at each renewal.
- C. It continues to use a statically assigned IPv4 address.
- D. It requests the same IPv4 address when it renews its lease with the DNS server.

Answer: D

Item 9 of 561 (Choice, Q9)

[Hide Answer](#)

**EIGRP: 192.168.12.0/24**  
**RIP: 192.168.12.0/24**  
**OSPF: 192.168.12.0/28**

Refer to the exhibit. How does the router manage traffic to 192.168.12.16?

- A. It selects the RIP route because it has the longest prefix inclusive of the destination address.
- B. It load-balances traffic between all three routes.
- C. It chooses the EIGRP route because it has the lowest administrative distance.
- D. It chooses the OSPF route because it has the longest prefix inclusive of the destination address.

Answer: A

## Item 10 of 561 (Choice, Q10)

[Hide Answer](#)

When the active router in an HSRP group fails, what router assumes the role and forwards packets?

- A. Listening
- B. Standby
- C. Backup
- D. Forwarding

Answer: B

## Item 11 of 561 (Choice, Q11)

[Hide Answer](#)

OSPF must be configured between routers R1 and R2. Which OSPF configuration must be applied to router R1 to avoid a DR/BDR election?

A. router ospf 1  
network 192.168.1.1 0.0.0.0 area 0

interface e1/1  
ip address 192.168.1.1 255.255.255.252  
ip ospf cost 0

B. router ospf 1  
network 192.168.1.1 0.0.0.0 area 0

interface e1/1  
ip address 192.168.1.1 255.255.255.252  
ip ospf network broadcast

C. router ospf 1  
network 192.168.1.1 0.0.0.0 area 0  
hello interval 15

interface e1/1  
ip address 192.168.1.1 255.255.255.252

D. router ospf 1  
network 192.168.1.1 0.0.0.0 area 0

interface e1/1  
ip address 192.168.1.1 255.255.255.252  
ip ospf network point-to-point

Answer: D



## Item 12 of 561 (Choice, Q12)

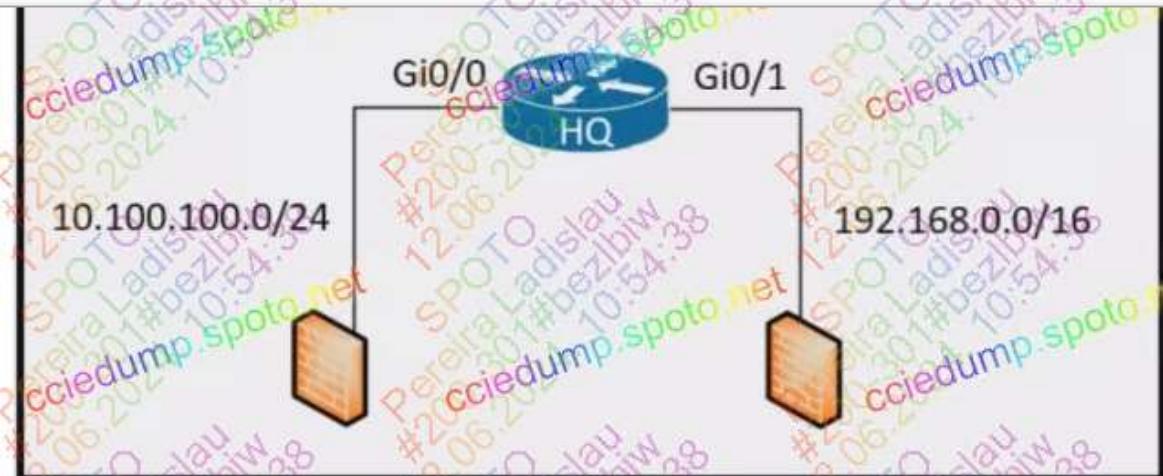
[Hide Answer](#)

```
R_1# show ip route
...
D 192.168.20.0/26 [90/24513456] via 10.10.10.12
R 192.168.20.0/24 [120/5] via 10.10.10.12
O 192.168.0.0/19 [110/219414] via 10.10.10.13
B 192.168.0.0/16 is variably subnetted, 4 subnets, 4 masks
D 192.168.20.0/27 [90/4123710] via 10.10.10.12
D 192.168.20.0/25 [90/14464211] via 10.10.10.11
S. 0.0.0.0/0 [1/0] via 10.10.10.14
```

Refer to the exhibit. Packets are flowing from 192.168.10.1 to the destination at IP address 192.168.20.75. Which next hop will the router select for the packet?

- A. 10.10.10.1
- B. 10.10.10.12
- C. 10.10.10.11
- D. 10.10.10.14

Answer: C



Refer to the exhibit. An access-list is required to permit traffic from any host on interface Gi0/0 and deny traffic from interface Gi0/1. Which access list must be applied?

- A. ip access-list standard 199  
permit 10.100.100.0 0.0.0.255  
deny 192.168.0.0 0.255.255.255
- B. ip access-list standard 99  
permit 10.100.100.0 0.0.0.255  
deny 192.168.0.0 0.255.255.255
- C. ip access-list standard 99  
permit 10.100.100.0 0.0.0.255  
deny 192.168.0.0 0.0.255.255
- D. ip access-list standard 199  
permit 10.100.100.0 0.0.0.255  
deny 192.168.0.0 0.0.255.255

Answer: C

Mark

Current Score: 0/825

Time Remaining: 1:54:38

## Item 14 of 561 (Choice, Q14)

 Hide Answer

What are two advantages of implementing a controller-based architecture instead of a traditional network architecture? (Choose two.)

- A. It enables configuration task automation.
- B. It provides increased scalability and management options.
- C. It supports complex and high-scale IP addressing schemes.
- D. It increases security against denial-of-service attacks.
- E. It allows for seamless connectivity to virtual machines.

Answer: AB



Mark

Current Score: 0/825

Time Remaining: 1:53:30

Item 15 of 561 (Choice, Q15)

[Hide Answer](#)

Which CRUD operation corresponds to the HTTP GET method?

- A. Read
- B. Delete
- C. Update
- D. Create

Answer: A

<https://hub.packtpub.com/crud-operations-rest/>

## Item 16 of 561 (Choice, Q16)

 Hide Answer

When deploying syslog, which severity level logs informational messages?

- A. 2
- B. 4
- C. 0
- D. 6

Answer: D

[https://www.cisco.com/c/m/en\\_us/techdoc/dc/reference/cli/nxos/commands/sm/logging-level.html](https://www.cisco.com/c/m/en_us/techdoc/dc/reference/cli/nxos/commands/sm/logging-level.html)

Item 17 of 561 (Choice, Q17)

 Hide Answer

### Current Neighbor Relationship

Neighbor ID	Pri	State	Dead Time	Address	Interface
192.168.1.1	1	FULL/DR	00:00:33	192.168.1.1	GigabitEthernet0/0

### Desired Neighbor Relationship

Neighbor ID	Pri	State	Dead Time	Address	Interface
192.168.1.1	0	FULL/-	00:00:31	192.168.1.1	GigabitEthernet0/0

Refer to the exhibit. How must OSPF be configured on the GigabitEthernet0/0 interface of the neighbor device to achieve the desired neighbor relationship?

- A. Router(config)# interface GigabitEthernet 0/0  
Router(config-if)# ip ospf 1 area 2
- B. Router(config)# interface GigabitEthernet 0/0  
Router(config-if)# ip ospf network point-to-point
- C. Router(config)# interface GigabitEthernet 0/0  
Router(config-if)# ip ospf cost 5
- D. Router(config)# interface GigabitEthernet 0/0  
Router(config-if)# ip ospf priority 1

Answer: B

Mark

Current Score: 0/825

Time Remaining: 1:51:30

Item 18 of 561 (Choice, Q18)

 Hide Answer

```
R1# show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate
default
      U - per-user static route, o - ODR
Gateway of last resort is not set
C 10.0.0.0/8 is directly connected, Loopback0
  10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
o  10.0.1.3/32 [110/100] via 10.0.1.100, 00:39:08, Serial0
C 10.0.1.0/24 is directly connected, Serial0
o  10.0.1.5/32 [110/5] via 10.0.1.50, 00:39:08, Gigabit Ethernet 0/0
o  10.0.1.4/32 [110/10] via 10.0.1.4, 00:39:08, Gigabit Ethernet 0/0
```

Refer to the exhibit. What does route 10.0.1.3/32 represent in the routing table?

- A. the source 10.0.1.100
- B. a single destination address
- C. the 10.0.0.0 network
- D. all hosts in the 10.0.1.0 subnet

Answer: B

## Item 19 of 561 (Choice, Q19)

[Hide Answer](#)

When configuring a WLAN with WPA2 PSK in the Cisco Wireless LAN Controller GUI, which two formats are available to select? (Choose two.)

- A. decimal
- B. binary
- C. ASCII
- D. base64
- E. hexadecimal

Answer: CE

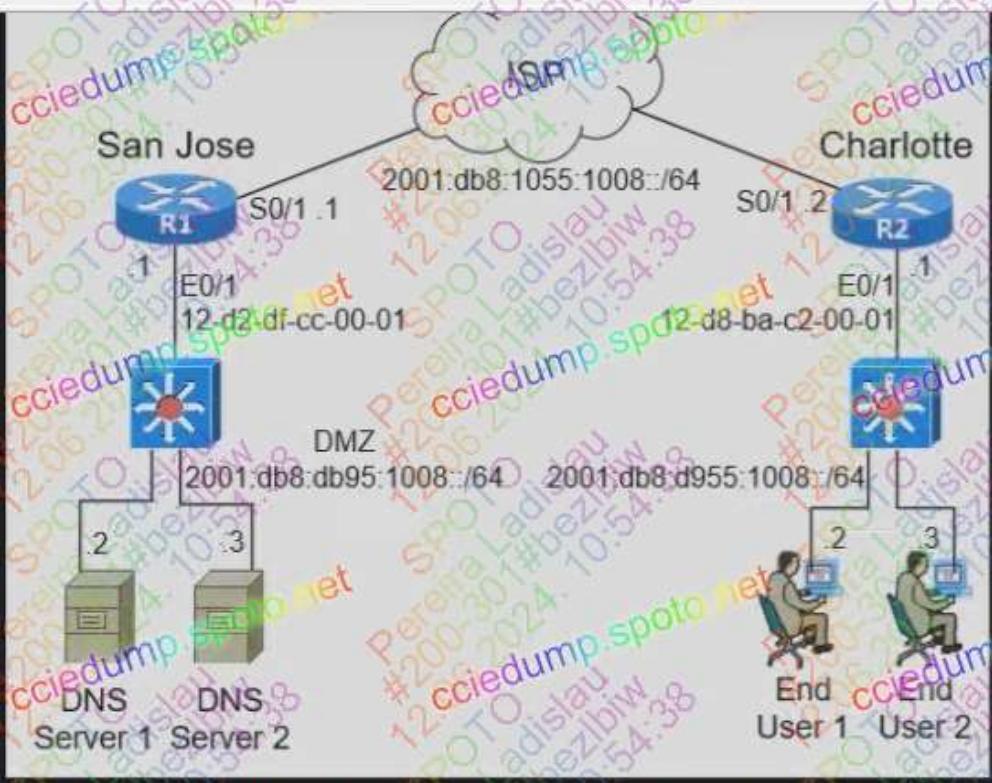
## Item 20 of 561 (Choice, Q20)

[Hide Answer](#)

What is the effect when loopback interfaces and the configured router ID are absent during the OSPF Process configuration?

- A. The lowest IP address is incremented by 1 and selected as the router ID.
- B. The highest up/up physical interface IP address is selected as the router ID.
- C. The router ID 0.0.0.0 is selected and placed in the OSPF process.
- D. No router ID is set, and the OSPF protocol does not run.

Answer: B



Refer to the exhibit. The IPv6 address for the LAN segment on router R2 must be configured using the EUI-64 format. When configured which ipv6 address is produced by the router?

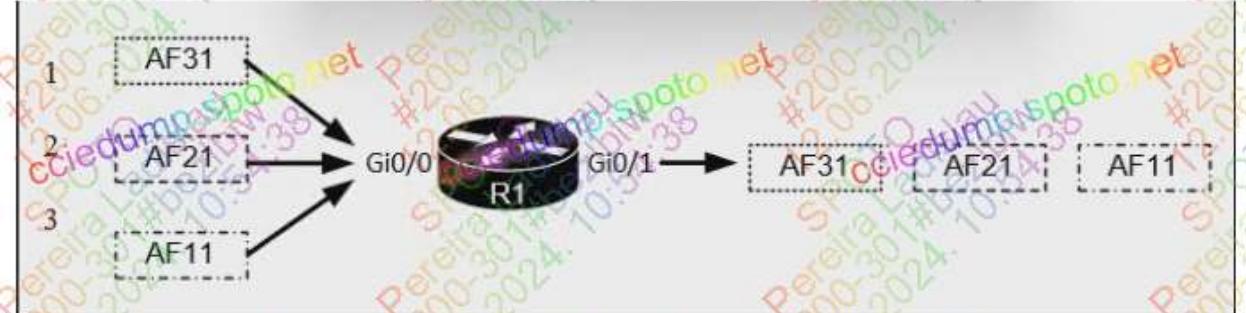
- A. 2001:db8:d955:1008:10D8:BAFF:FEC2:1
- B. 2001:db8:d955:1008:1030:ABFF:FECC:1
- C. 2001:db8:d955:1008:12D8:BAFE:FF01:1
- D. 2001:db8:d955:1008:1038:ABFF:FE01:1

Answer: A

Select the best choice.

100%

## Item 22 of 561 (Choice, Q22)

[Hide Answer](#)

Refer to the exhibit. Which per-hop QoS behavior is R1 applying to incoming packets?

- A. policing
- B. marking
- C. queuing
- D. shaping

Answer: C



Mark

Current Score: 0/825

Time Remaining: 1:46:05

## Item 23 of 561 (Choice, Q23)

[Hide Answer](#)

When a WPA2-PSK WLAN is configured in the Wireless LAN Controller, what is the minimum number of characters that is required in ASCII format?

- A. 8
- B. 12
- C. 18
- D. 6

Answer: A

Mark

Current Score: 0/825

Time Remaining: 1:45:27

Item 24 of 561 (Choice, Q24)

[Hide Answer](#)

EIGRP	10.10.10.0/24 [90/1441]	via F0/10
EIGRP	10.10.10.0/24 [90/144]	via F0/11
EIGRP	10.10.10.0/24 [90/1441]	via F0/12
OSPF	10.10.10.0/24 [110/20]	via F0/13
OSPF	10.10.10.0/24 [110/30]	via F0/14

Refer to the exhibit. Packets received by the router from BGP enter via a serial interface at 209.165.201.10. Each route is present within the routing table. Which interface is used to forward traffic with a destination IP of 10.10.10.24?

- A. F0/12
- B. F0/13
- C. F0/11
- D. F0/10

Answer: C

```
R2#show ip ospf interface g0/0/0
GigabitEthernet0/0/0 is up, line protocol is up
  Internet address is 192.168.1.1/24, Area 0
  Process ID 1, Router ID 10.1.1.1, Network Type POINT-TO-POINT Cost: 1
  Transmit Delay is 1 sec, State POINT-TO-POINT,
  Timer intervals configured, Hello 15, Dead 45, Wait 15, Retransmit 5
    Hello due in 00:00:11
  Index 1/1, flood queue length 0
  Next 0x0(0)/0x0(0)
  Last flood scan length is 1, maximum is 1
  Last flood scan time is 0 msec, maximum is 0 msec
  Suppress hello for 0 neighbor(s)
```

Refer to the exhibit. The network engineer is configuring router R2 as a replacement router on the network. After the initial configuration is applied, it is determined that R2 failed to show R1 as a neighbor. Which configuration must be applied to R2 to complete the OSPF configuration and enable it to establish the neighbor relationship with R1?

- A. R2(config)#router ospf 1  
R2(config-router)#network 192.168.1.0 255.255.255.0 area 2
- B. R2(config)#router ospf 1  
R2(config-router)#router-id 192.168.1.2
- C. R2(config)#interface g0/0/0  
R2(config-if)#ip ospf dead-interval 40
- D. R2(config)#interface g0/0/0  
R2(config-if)#ip ospf hello-interval 10

Answer: C

An engineer is configuring SSH version 2 exclusively on the R1 router. What is the minimum configuration required to permit remote management using the cryptographic protocol?

A. hostname R1

```
crypto key generate rsa general-keys modulus 1024
username cisco privilege 15 password 0 cisco123
ip ssh version 2
line vty 0 15
transport input all
login local
```

B. hostname R1

```
ip domain name cisco
crypto key generate rsa general-keys modulus 1024
username cisco privilege 15 password 0 cisco123
ip ssh version 2
line vty 0 15
transport input ssh
login local
```

C. hostname R1

```
service password-encryption
crypto key generate rsa general-keys modulus 1024
username cisco privilege 15 password 0 cisco123
ip ssh version2
line vty 0 15
transport input ssh
login local
```

D. hostname R1

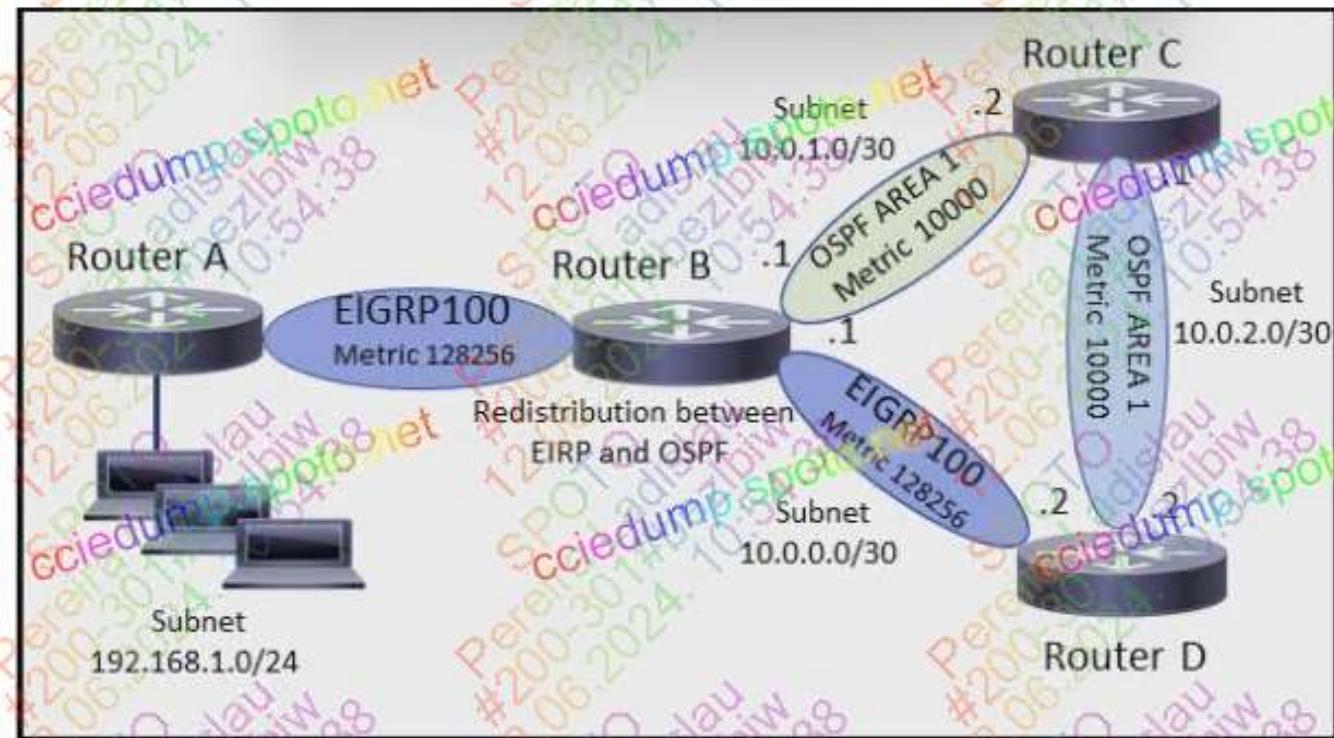
```
ip domain name cisco
crypto key generate rsa general-keys modulus 1024
username cisco privilege 15 password 0 cisco123
ip ssh version 2
line vty 0 15
transport input all
login local
```

Mark

Current Score: 0/825

Time Remaining: 1:41:43

Item 27 of 561 (Choice, Q27)

 Hide Answer

Refer to the exhibit. A network engineer executes the show ip route command on router D. What is the next hop to network 192.168.1.0/24 and why?

- A. The next hop is 10.0.0.1 because it has a higher metric.
- B. The next hop is 10.0.2.1 because it is a link-state routing protocol.
- C. The next hop is 10.0.2.1 because it uses distance vector routing.
- D. The next hop is 10.0.0.1 because it has a better administrative distance.

Answer: D

Select the best choice.

100%

Mark

Current Score: 0/825

Time Remaining: 1:41:09

Item 28 of 561 (Choice, Q28)

[Hide Answer](#)

The **service password-encryption** command is entered on a router. What is the effect of this configuration?

- A. prevents network administrators from configuring clear-text passwords
- B. restricts unauthorized users from viewing clear-text passwords in the running configuration
- C. protects the VLAN database from unauthorized PC connections on the switch
- D. encrypts the password exchange when a VPN tunnel is established

Answer: B

Mark

Current Score: 0/825

Time Remaining: 1:40:38

## Item 29 of 561 (Choice, Q29)

 Hide Answer

What is a difference between RADIUS and TACACS+?

- A. RADIUS logs all commands that are entered by the administrator, but TACACS+ logs only start, stop, and interim commands.
- B. RADIUS is most appropriate for dial authentication, but TACACS+ can be used for multiple types of authentication.
- C. TACACS+ encrypts only password information, and RADIUS encrypts the entire payload.
- D. TACACS+ separates authentication and authorization, and RADIUS merges them.

Answer: D



Manual settings  
100 speed  
full duplex

Switch#show interfaces status

Port	Name	Status	Vlan	Duplex	Speed	Type
Ea0/1		connected	1	auto	auto	10/100BaseTX

Refer to the exhibit. The link between PC1 and the switch is up, but it is performing poorly. Which interface condition is causing the performance problem?

- A. There is an interface type mismatch.
- B. There is a speed mismatch on the interface.
- C. There is an issue with the fiber on the switch interface.
- D. There is a duplex mismatch on the interface.

Answer: D

```
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 1
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 516000 bits/sec, 45 packets/sec
5 minute output rate 516000 bits/sec, 46 packets/sec
13282 packets input, 20075570 bytes
Received 25 broadcasts, 0 runts, 0 giants, 0 throttles
383 input errors, 383 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog
0 input packets with dribble condition detected
13438 packets output, 20084258 bytes, 0 underruns
0 output errors, 831 collisions, 5 interface resets
11 unknown protocol drops
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier
0 output buffer failures, 0 output buffers swapped out
```

Refer to the exhibit. Users at a branch office are experiencing application performance issues, poor VoIP audio quality, and slow downloads. What is the cause of the issues?

- A. interface configuration
- B. QoS queuing
- C. broadcast storm
- D. overutilization

Answer: A

## Item 32 of 561 (Choice, Q32)

 Hide Answer

After installing a new Cisco ISE server, which task must the engineer perform on the Cisco WLC to connect wireless clients on a specific VLAN based on their credentials?

- A. Disable the LAG Mode on Next Reboot
- B. Enable the Event Driven RRM
- C. Enable the Authorize MIC APs against auth-list or AAA.
- D. Enable the Allow AAA Override.

Answer: D

```
Router1#show ip route
```

Gateway of last resort is 10.10.11.2 to network 0.0.0.0

209.165.200.0/27 is subnetted, 1 subnets

B 209.165.200.224 [20/0] via 10.10.12.2, 00:09:57

10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks

C 10.10.10.0/28 is directly connected, GigabitEthernet0/0

C 10.10.11.0/30 is directly connected, FastEthernet2/0

C 10.10.13.0/24 [110/2] via 10.10.10.1 00:08:34, GigabitEthernet0/0

C 10.10.12.0/30 is directly connected, GigabitEthernet0/1

S\* 0.0.0.0/0 [1/0] via 10.10.11.2

```
Switch1#show ip route
```

Gateway of last resort is not set

10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks

C 10.10.10.0/28 is directly connected, FastEthernet0/1

C 10.10.13.0/24 is directly connected, VLAN20

Refer to the exhibit. Which path is used by the router for internet traffic?

- A. 209.165.200.0/27
- B. 10.10.10.0/28
- C. 10.10.13.0/24
- D. 0.0.0.0/0

Answer: D

## Item 34 of 561 (Choice, Q34)

 Hide Answer

What is an advantage of Cisco DNA Center versus traditional campus device management?

- A. It supports numerous extensibility options, including cross-domain adapters and third-party SDKs.
- B. It enables easy autodiscovery of network elements in a brownfield deployment.
- C. It is designed primarily to provide network assurance.
- D. It supports high availability for management functions when operating in cluster mode.

Answer: A

<https://www.cisco.com/c/en/us/products/collateral/cloud-systems-management/dna-center/nb-06-dna-center-faq-cte-en.html>

Mark

Current Score: 0/825

Time Remaining: 1:35:00

## Item 35 of 561 (Choice, Q35)

[Hide Answer](#)

A user configured OSPF and advertised the Gigabit Ethernet interface in OSPF. By default, which type of OSPF network does this interface belong to?

- A. nonbroadcast
- B. point-to multipoint
- C. point to-point
- D. broadcast

Answer: D

## Item 36 of 561 (Choice, Q36)

 Hide Answer

Which type of port is used to connect to the wired network when an autonomous AP maps two VLANs to its WLANs?

- A. LAG
- B. Access
- C. Trunk
- D. EtherChannel

Answer: C

Mark

Current Score: 0/825

Time Remaining: 1:33:54

## Item 37 of 561 (Choice, Q37)

 Hide Answer

How do TCP and UDP fit into a query-response model?

- A. TCP avoids using sequencing, and UDP avoids using acknowledgments.
- B. TCP uses error detection for packets, and UDP uses error recovery.
- C. TCP encourages out-of-order packet delivery, and UDP prevents re-ordering
- D. TCP establishes a connection prior to sending data, and UDP sends immediately.

Answer: D

Mark

Current Score: 0/825

Time Remaining: 1:33:00

Item 38 of 561 (Choice, Q38)

 Hide Answer

Refer to the exhibit. The SW1 and SW2 Gi0/0 ports have been preconfigured. An engineer is given these requirements:

1. Allow all PCs to communicate with each other at Layer 3.
2. Configure untagged traffic to use VLAN 5.
3. Disable VLAN 1 from being used.

Which configuration set meets these requirements?

- A. SW1#  
interface Gi0/1  
switchport mode trunk  
switchport trunk allowed vlan 5,7,9,108

Select the best choice.

100%

Mark

Current Score: 0/825

Time Remaining: 1:32

The screenshot shows the configuration interface for a Wireless Local Controller (WLC). On the left, there are several sections: 'Allow AAA Override' (Enabled), 'Coverage Hole Detection' (Enabled), 'Enable Session Timeout' (1800 seconds), 'Aironet IE' (Enabled), 'Diagnostic Channel' (Enabled), 'Override Interface ACL' (IPv4: None, IPv6: None), 'Layer2 ACL' (None), 'URL ACL' (None), 'P2P Blocking Action' (Disabled), 'Client Exclusion' (Enabled, Timeout Value: 180 seconds), 'Maximum Allowed Clients' (0), 'Static IP Tunneling' (Enabled), 'Wi-Fi Direct Clients Policy' (Disabled), and 'Maximum Allowed Clients Per AP Radio' (200). On the right, a detailed view of the 'DHCP' section is shown, which includes 'DHCP Server' (Override checked), 'DHCP Addr. Assignment' (Required), 'Management Frame Protection (MFP)' (MFP Client Protection: Optional), 'DTIM Period (in beacon intervals)' (802.11a/n: 1, 802.11b/g/n: 1), 'NAC' (NAC State: None), and 'Load Balancing and Band Select' (Client Load Balancing, Client Path Select).

Refer to the exhibit. The P2P Blocking Action option is disabled on the WLC. The security team has a new requirement for each client to retain their assigned IP addressing as the clients move between locations in the campus network. Which action completes this configuration?

- A. Check the DHCP Addr. Assignment check box.
- B. Disable the Coverage Hole Detection option.
- C. Set the P2P Blocking Action option to Forward-UpStream.
- D. Enable the Static IP Tunneling option

Answer: D

Mark

Current Score: 0/825

Time Remaining: 1:31:16

## Item 40 of 561 (Choice, Q40)

 Hide Answer

Gateway of last resort is 172.16.2.2 to network 0.0.0.0

- C 10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
- C 10.10.10.0/24 is directly connected, GigabitEthernet0/0/0
- L 10.10.10.3/32 is directly connected, GigabitEthernet0/0/0
- 172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
- S 172.16.1.33/32 is directly connected, GigabitEthernet0/0/1
- C 172.16.2.0/23 is directly connected, GigabitEthernet0/0/1
- L 172.16.2.1/32 is directly connected, GigabitEthernet0/0/1
- S\* 0.0.0.0/0 [1/0] via 172.16.2.2

Refer to the exhibit. A packet sourced from 10.10.10.1 is destined for 172.16.3.254. What is the subnet mask of the destination route?

- A. 0.0.0.0
- B. 255.255.254.0
- C. 255.255.255.255
- D. 255.255.255.0

Answer: B

**General Security QoS Policy-Mapping Advanced**

**Off Channel Scanning Defeat**

Scan Prioritization Priority: 0 1 2 3 4 5 6 7

Scan Defer Time (msecs): 100

**FlexConnect**

FlexConnect Local Switching:  Enabled

FlexConnect Local Auth:  Enabled

Learn Client IP Address:  Enabled

Vlan Based Central Switching:  Enabled

Central DHCP Processing:  Enabled

Override DNS:  Enabled

NAT-PAT:  Enabled

Central Assoc:  Enabled

Lync

Lync Server:  Disabled

**HTTP Profiling**

**Client Profiling**

DHCP Profiling

HTTP Profiling

**PMIP**

PMIP Mobility Type:

PMIP NAZ Type:  Hexadecimal

PMIP Profile:  PMIP Realm:

**Universal AP Admin Support**

Universal AP Admin:

**11v BSS Transition Support**

BSS Transition:

Disassociation Imminent:

Disassociation Timer (0 to 3000 TBT):  200

Optimized Roaming Disassociation Timer (0 to 40 TBT):  40

Refer to the exhibit. An architect is managing a wireless network with APs from several branch offices connecting to the WLC in the data center. There is a new requirement for a single WLAN to process the client data traffic without sending it to the WLC. Which action must be taken to complete the request?

- A. Enable local HTTP profiling.
- B. Enable FlexConnect Local Switching.
- C. Enable local DHCP Profiling.
- D. Enable Disassociation Imminent.

Answer: B

## Item 42 of 561 (Choice, Q42)

[Hide Answer](#)

What is the difference between IPv6 unicast and anycast addressing?

- A. Unlike an IPv6 anycast address, an IPv6 unicast address is assigned to a group of interfaces on multiple nodes.
- B. IPv6 unicast nodes must be explicitly configured to recognize the unicast address, but IPv6 anycast nodes require no special configuration.
- C. An individual IPv6 unicast address is supported on a single interface on one node, but an IPv6 anycast address is assigned to a group of interfaces on multiple nodes.
- D. IPv6 anycast nodes must be explicitly configured to recognize the anycast address, but IPv6 unicast nodes require no special configuration.

Answer: C

## Item 43 of 561 (Choice, Q43)

[Hide Answer](#)

What is the primary difference between AAA authentication and authorization?

- A. Authentication identifies and verifies a user who is attempting to access a system, and authorization controls the tasks the user can perform.
- B. Authentication controls the system processes a user can access, and authorization logs the activities the user initiates.
- C. Authentication verifies a username and password, and authorization handles the communication between the authentication agent and the user database.
- D. Authentication identifies a user who is attempting to access a system, and authorization validates the user's password.

Answer: A

## Item 44 of 561 (Choice, Q44)

[Hide Answer](#)

What is the purpose of configuring different levels of syslog for different devices on the network?

- A. to identify the source from which each syslog message originated
- B. to control the number of syslog messages from different devices that are stored locally
- C. to set the severity of syslog messages from each device
- D. to rate-limit messages for different severity levels from each device

Answer: C

## Item 45 of 561 (Choice, Q45)

 Hide Answer

Which two protocols are supported on service-port interfaces? (Choose two.)

- A. RADIUS
- B. SSH
- C. SCP
- D. Telnet
- E. TACACS+

Answer: BD

## Item 46 of 561 (Choice, Q46)

[Hide Answer](#)

What is a difference between local AP mode and FlexConnect AP mode?

- A. Local AP mode creates two CAPWAP tunnels per AP to the WLC.
- B. FlexConnect AP mode bridges the traffic from the AP to the WLC when local switching is configured.
- C. Local AP mode causes the AP to behave as if it were an autonomous AP.
- D. FlexConnect AP mode fails to function if the AP loses connectivity with the WLC.

Answer: A

## Item 47 of 561 (Choice, Q47)

[Hide Answer](#)

An engineer is configuring remote access to a router from IP subnet 10.139.58.0/28. The domain name, crypto keys, and SSH have been configured. Which configuration enables the traffic on the destination router?

- A. interface FastEthernet0/0  
ip address 10.122.49.1 255.255.255.252  
ip access-group 105 in  
  
ip access-list standard 105  
permit tcp 10.139.58.0 0.0.0.7 eq 22 host 10.122.49.1
- B. interface FastEthernet0/0  
ip address 10.122.49.1 255.255.255.248  
ip access-group 10 in  
  
ip access-list standard 10  
permit udp 10.139.58.0 0.0.0.7 host 10.122.49.1 eq 22
- C. interface FastEthernet0/0  
ip address 10.122.49.1 255.255.255.252  
ip access-group 110 in  
  
ip access-list extended 110  
permit tcp 10.139.58.0 0.0.0.15 host 10.122.49.1 eq 22
- D. interface FastEthernet0/0  
ip address 10.122.49.1 255.255.255.240  
access-group 120 in  
  
ip access-list extended 120  
permit tcp 10.139.58.0 255.255.255.248 any eq 22

Answer: C

Gateway of last resort is 172.16.2.2 to network 0.0.0.0

10.0.0.0/8 is variably subnetted, 3 subnets, 3 masks

C 10.10.100.0/26 is directly connected, GigabitEthernet0/0/6

L 10.10.10.0/24 is directly connected, GigabitEthernet0/0/0

L 10.10.10.3/32 is directly connected, GigabitEthernet0/0/0

172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks

S 172.16.1.33/32 is directly connected, GigabitEthernet0/0/1

C 172.16.2.0/23 is directly connected, GigabitEthernet0/0/1

L 172.16.2.1/32 is directly connected, GigabitEthernet0/0/1

S\* 0.0.0.0/0 [1/0] via 172.16.2.2

Refer to the exhibit. A packet sourced from 10.10.10.32 is destined for the Internet. What is the administrative distance for the destination route?

- A. 32
- B. 2
- C. 1
- D. 0

Answer: C

## Item 49 of 561 (Choice, Q49)

Hi

What differentiates device management enabled by Cisco DNA Center from traditional campus device management?

- A. per-device
- B. CLI-oriented device
- C. device-by-device hands-on
- D. centralized

Answer: D

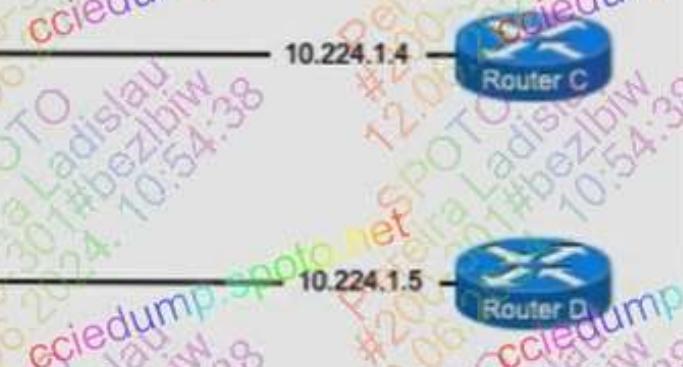
10.223.2.2



```
Router-Y#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2
      1 - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
      ia - IS-IS inter area, * - candidate default, U - per-user static route
      o - ODR, P - periodic downloaded static route, H - NHRP, L - LISP
      a - application route
      + - replicated route, c - next hop override, p - overrides from PFR
```

Gateway of last resort is not set

```
10.0.0.0/8 is variably subnetted
S 10.0.0.0/8 [1/0] via 10.224.1.2
B 10.27.150.224/27 [20/0] via 10.224.1.3, 1v6d
S 10.128.0.0/9 [1/0] via 10.224.1.3
B 10.224.0.0/11 [20/0] via 10.224.1.5, 5d18h
B 10.224.0.0/15 [20/0] via 10.224.1.4, 5d18h
C 10.223.0.0/24 is directly connected, GigabitEthernet0/1
C 10.224.0.0/24 is directly connected, GigabitEthernet0/0
B 10.226.34.0/24 [20/0] via 10.224.1.5, 5d18h
```



Refer to the exhibit. PC A is communicating with another device at IP address 10.225.34.225. Through which router will router Y route the traffic?

- A. router D
- B. router A
- C. router C
- D. router B

Mark

Current Score: 0/825

Time Remaining: 1:17

## Item 51 of 561 (Choice, Q51)

 Hide Answer

Which benefit does Cisco DNA Center provide over traditional campus management?

- A. Cisco DNA Center leverages SNMPv3 for encrypted management, and traditional campus management uses SNMPv2.
- B. Cisco DNA Center automates SSH access for encrypted entry, and SSH is absent from traditional campus management.
- C. Cisco DNA Center leverages APIs, and traditional campus management requires manual data gathering.
- D. Cisco DNA Center automates HTTPS for secure web access, and traditional campus management uses HTTP.

Answer: C

## Item 52 of 561 (Choice, Q52)

[Hide Answer](#)

Which protocol requires authentication to transfer a backup configuration file from a router to a remote server?

- A. FTP
- B. SMTP
- C. DTP
- D. TFTP

Answer: A

Mark

Current Score: 0/825

Time Remaining: 1:13:59

Item 53 of 561 (Choice, Q53)

 Hide Answer

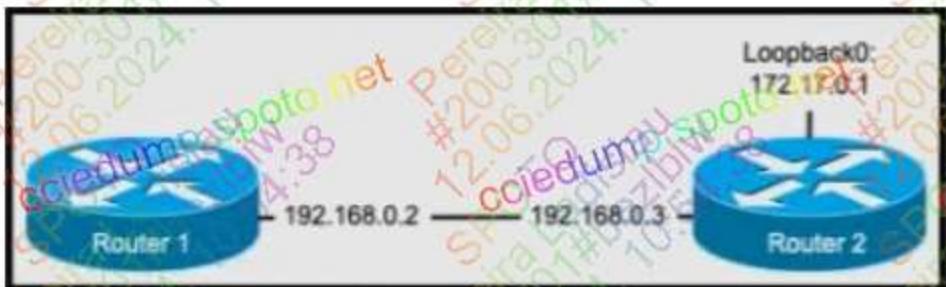
```
cisco_ospf_vrf {"R1 default":  
    ensure => 'present',  
    auto_cost => '100',  
}  
cciedump
```

Refer to the exhibit. Which type of configuration is represented in the output?

- A. JSON
- B. Puppet
- C. Chef
- D. Ansible

Answer: B

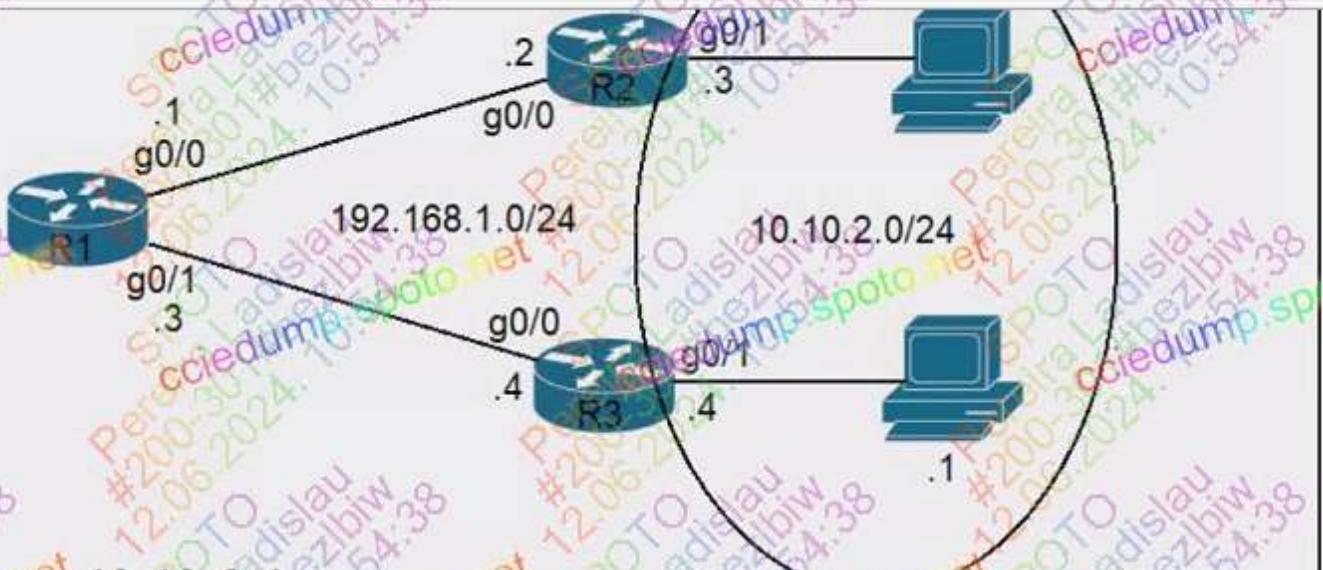
Item 54 of 561 (Choice, Q54)

[Hide Answer](#)

Refer to the exhibit. The **ntp server 192.168.0.3** command has been configured on router 1 to make it an NTP client of router 2. Which command must be configured on router 2 so that it operates in server-only mode and relies only on its internal clock?

- A. Router2(config)#ntp passive
- B. Router2(config)#ntp server 172.17.0.1
- C. Router2(config)#ntp server 192.168.0.2
- D. Router2(config)#ntp master 4

Answer: D



```
R1#show ip route 10.10.2.1
```

```
Routing entry for 10.10.2.0/24
```

```
Known via "ospf 1", distance 110, metric 2, type intra area
```

```
Last update from 192.168.1.2 on GigabitEthernet0/0, 01:23:15 ago
```

```
Routing Descriptor Blocks:
```

```
* 192.168.1.2, from 192.168.1.2, 01:23:15 ago, via GigabitEthernet0/0
```

```
Route metric is 2, traffic share count is 1
```

Refer to the exhibit. Traffic from R1 to the 10.10.2.0/24 subnet uses 192.168.1.2 as its next hop. A network engineer wants to update the R1 configuration so that traffic with destination 10.10.2.1 passes through router R3, and all other traffic to the 10.10.2.0/24 subnet passes through R2. Which command must be used?

- A. ip route 10.10.2.0 255.255.255.0 192.168.1.4 100
- B. ip route 10.10.2.1 255.255.255.255 192.168.1.4 115
- C. ip route 10.10.2.1 255.255.255.255 192.168.1.4 100
- D. ip route 10.10.2.0 255.255.255.0 192.168.1.4 115

## Item 56 of 561 (Choice, Q56)

[Hide Answer](#)

What are two benefits of controller-based networking compared to traditional networking? (Choose two.)

- A. controller-based reduces network configuration complexity, while traditional increases the potential for errors
- B. controller-based provides centralization of key IT functions, while traditional requires distributed management functions
- C. controller-based allows for fewer network failures, while traditional increases failure rates
- D. controller-based inflates software costs, while traditional decreases individual licensing costs
- E. controller-based increases network bandwidth usage, while traditional lightens the load on the network

Answer: AB

Mark

PTO due in 00:00:14

Index 1/1, flood queue length 0

Neighbor Count is 1, Adjacent neighbor count is 2

R2#show ip ospf interface

GigabitEthernet0/0/0 is up, line protocol is up

Internet address is 192.168.1.1/24, Area 0

Process ID 1, Router ID 192.168.1.1, Network Type BROADCAST Cost: 1

Transmit Delay is 1 sec, State DROTHER, Priority 1

Designated Router (ID) 192.168.1.1, Interface address 192.168.1.2

Backup Designated Router (ID) 192.168.1.1, Interface address 192.168.1.2

Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5

Hello due in 00:00:02

Index 2/2, flood queue length 0

Neighbor Count is 1, Adjacent neighbor count is 2

Refer to the exhibit. Router OldR is replacing another router on the network with the intention of having OldR and R2 exchange routes. After the engineer applied the initial OSPF configuration, the routes were still missing on both devices. Which command sequence must be issued before the clear IP ospf process command is entered to enable the neighbor relationship?

- A. OldR(config)# router ospf 1  
OldR(config-router)# network 192.168.1.0 255.255.255.0 area 2
- B. OldR(config)# interface g0/0/0  
OldR(config-if)# ip ospf hello-interval 15
- C. OldR(config)# router ospf 1  
OldR(config-router)# no router-id 192.168.1.1
- D. OldR(config)# interface g0/0/0  
OldR(config-if)# ip ospf dead-interval 15

Mark

Current Score: 0/825

Time Remaining: 1:03:52

Item 58 of 561 (Choice, Q58)

[Hide Answer](#)

R1#show ip interface brief						
Interface	IP-Address	OK?	Method	Status	Protocol	MTU
FastEthernet0/0	unassigned	YES	NVRAM	administratively down	down	1500
GigabitEthernet1/0	192.168.0.1	YES	NVRAM	up	up	1500
GigabitEthernet2/0	10.10.1.10	YES	manual	up	up	1500
GigabitEthernet3/0	10.10.10.20	YES	manual	up	up	1500
GigabitEthernet4/0	unassigned	YES	NVRAM	administratively down	down	1500
Loopback0	172.16.15.10	YES	manual	up	up	1500

Refer to the exhibit. What does router R1 use as its OSPF router-ID?

- A. 10.10.10.20
- B. 172.16.15.10
- C. 10.10.1.10
- D. 192.168.0.1

Answer: B



Current Score: 0/825

Time Remaining: 1:02

## Item 59 of 561 (Choice, Q59)

[Hide Answer](#)

A port security violation has occurred on a switch port due to the maximum MAC address count being exceeded. Which command must be configured to increment the security-violation count and forward an SNMP trap?

- A. `switchport port-security violation shutdown`
- B. `switchport port-security violation access`
- C. `switchport port-security violation restrict`
- D. `switchport port-security violation protect`

Answer: C

Mark

Current Score: 0/825

Time Remaining: 1:01:00

Item 60 of 561 (Choice, Q60)

 Hide Answer

A device detects two stations transmitting frames at the same time. This condition occurs after the first 64 bytes of the frame is received. Which interface counter increments?

- A. Runt
- B. Collision
- C. CRC
- D. late collision

Answer: D

- **Collision errors**
  - Reducing the number of devices per collision domain will usually solve the problem
    - You can do this by segmenting your network with a router, a bridge, or a switch
  - **Late collision**
    - Occurs when two stations transmit more than 64 bytes of data frames before detecting a collision

Mark

Current Score: 0/825

Time Remaining: 1:00:01

## Item 61 of 561 (Choice, Q61)

[Hide Answer](#)

R1 has learned route 10.10.10.0/24 via numerous routing protocols. Which route is installed?

- A. route with the lowest administrative distance
- B. route with the shortest prefix length
- C. route with the next hop that has the highest IP
- D. route with the lowest cost

Answer: A

```
noaaa new-model
```

```
no ip icmp rate-limit unreachable
```

```
|  
--More--
```

Refer to the exhibit. Which minimum configuration items are needed to enable Secure Shell version 2 access to R15?

- A. Router(config)# ip domain-name cisco.com  
Router(config)# crypto key generate rsa general-keys modulus 1024  
Router(config)# ip ssh version 2  
Router(config-line)# line vty 0 15  
Router(config-line)# transport input all  
Router(config)# ip ssh logging events
- B. Router(config)# hostname R15  
R15(config)# crypto key generate rsa general-keys modulus 1024  
R5(config-line)# line vty 0 15  
R15(config-line)# transport input ssh  
R15(config)# ip ssh source-interface Fa0/0  
R15(config)# ip ssh stricthostkeycheck
- C. Router(config)# crypto key generate rsa general-keys modulus 1024  
Router(config)# ip ssh version 2  
Router(config-line# line vty 0 15  
Router(config-line)# transport input ssh  
Router(config)# ip ssh logging events  
R15(config)# ip ssh stricthastkeycheck
- D. Router(config)# hostname R15  
R15(config)# ip domain-name cisco.com  
R15(config)# crypto key generate rsa general-keys modulus 1024  
R15(config# ip ssh version 2  
R15(config-line)# line vty 0 15  
R15(config-line)# transport input ssh

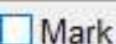
## Item 63 of 561 (Choice, Q63)

[Hide Answer](#)

What is the root port in STP?

- A. It is the port on the root switch that leads to the designated port on another switch.
- B. It is the port with the highest priority toward the root bridge.
- C. It is the port on a switch with the lowest cost to reach the root bridge.
- D. It is the port that is elected only when the root bridge has precisely one port on a single LAN segment.

Answer: C



Current Score: 0/825

Time Remaining: 0:54:4

## Item 64 of 561 (Choice, Q64)

[Hide Answer](#)

Which two QoS tools provide congestion management? (Choose two.)

- A. FRTS
- B. CAR
- C. CBWFQ
- D. PQ
- E. PB

Answer: CD

## Item 65 of 561 (Choice, Q65)

[Hide Answer](#)

Which statement compares traditional networks and controller-based networks?

- A. Only traditional networks natively support centralized management.
- B. Traditional and controller-based networks abstract policies from device configurations
- C. Only controller-based networks decouple the control plane and the data plane
- D. Only traditional networks offer a centralized control plane.

Answer: C

Item 66 of 561 (Choice, Q66) Hide Answer

What is a reason why a company would choose to use network automation in an enterprise?

A. Mitigate spanning-tree loop avoidance.  
B. Implement granular QoS.  
C. Enable network segmentation.  
D. Provide data services faster.

Answer: D

## Item 67 of 561 (Choice, Q67)

[Hide Answer](#)

How do TCP and UDP differ in the way they guarantee packet delivery?

- A. TCP uses checksum, parity checks, and retransmissions, and UDP uses acknowledgements only.
- B. TCP uses two-dimensional parity checks, checksums, and cyclic redundancy checks, and UDP uses retransmissions only.
- C. TCP uses retransmissions, acknowledgement, and parity checks, and UDP uses cyclic redundancy checks only.
- D. TCP uses checksum, acknowledgements, and retransmissions, and UDP uses checksums only.

Answer: D

## Item 68 of 561 (Choice, Q68)

[Hide Answer](#)

What are two characteristics of a controller-based network? (Choose two.)

- A. It moves the control plane to a central point.
- B. It uses Telnet to report system issues.
- C. It decentralizes the control plane, which allows each device to make its own forwarding decisions.
- D. The administrator can make configuration updates from the CLI.
- E. It uses northbound and southbound APIs to communicate between architectural layers.

Answer: AE



The screenshot shows the Cisco Wireless LAN Controller (WLC) interface. The top navigation bar includes links for Monitor, WLANs, Controller, Wireless, Security, Management, Commands, Help, and DBA. On the left, a sidebar under the 'Security' heading lists various configuration sections: General, RADIUS (selected), Authentication, Accounting, Fallback, DNS, Downloaded AVP, TACACS+, LDAP, Local Net Users, MAC Filtering, Disabled Clients, User Policies (selected), Password Policies, Local EAP, Advanced EAP, Priority Order, Certificate, Access Control Lists, and Wireless Protection Policies. The main content area is titled 'RADIUS Authentication Servers > New'. It contains fields for 'Server Index (Priority)' (set to 1), 'Server IP Address (Ipv4/Ipv6)' (set to 192.168.25.2), 'Shared Secret Format' (set to ASCII), 'Shared Secret' (containing a masked password), 'Confirm Shared Secret' (containing a masked password), 'Key Wrap' (checkbox checked, note: 'Designed for FIPS customers and requires a key wrap compliant RADIUS server'), 'Port Number' (set to 1812), 'Server Status' (set to Enabled), 'Support for CoA' (set to Disabled), 'Server Timeout' (set to 2 seconds), 'Network User' (checkbox checked), 'Management' (checkbox checked), 'Management Retransmit Timeout' (set to 2 seconds), 'Tunnel Proxy' (checkbox checked), and 'IPSec' (checkbox checked). A note at the bottom right of the form states: '(Designed for FIPS customers and requires a key wrap compliant RADIUS server)'.

Refer to the exhibit. A network engineer configures the Cisco WLC to authenticate local wireless clients against a RADIUS server. Which action completes this configuration?

- A. Disable the Server Status option.
- B. Enable the Support for CoA option.
- C. Enable the Management option.
- D. Enable the Network User option.

Answer: D

## Item 70 of 561 (Choice, Q70)

[Hide Answer](#)

```
ip arp inspection vlan 5-10
interface fastethernet 0/1
  switchport mode access
    switchport access vlan 5.
```

Refer to the exhibit. What is the effect of this configuration?

- A. All ARP packets are dropped by the switch.
- B. All ingress and egress traffic is dropped because the interface is untrusted.
- C. The switch discards all ingress ARP traffic with invalid MAC-to-IP address bindings.
- D. Egress traffic is passed only if the destination is a DHCP server.

Answer: C

## Item 71 of 561 (Choice, Q71)

[Hide Answer](#)

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/0/0
    is directly connected, Serial0/1/0
    2.16.0.0/16 is variably subnetted, 2 subnets, 2 masks
        S 172.16.3.0/24 [1/0] via 207.165.200.250, Serial0/0/0
        O 172.16.3.0/28 [110/84437] via 207.165.200.254, 00:00:28, Serial0/0/1
            207.165.200.0/24 is variably subnetted, 6 subnets, 2 masks
                C 207.165.200.244/30 is directly connected, Serial0/1/0
                L 207.165.200.245/32 is directly connected, Serial0/1/0
                C 207.165.200.248/30 is directly connected, Serial0/0/0
                L 207.165.200.249/32 is directly connected, Serial0/0/0
                C 207.165.200.252/30 is directly connected, Serial0/0/1
                L 207.165.200.253/32 is directly connected, Serial0/0/1
```

Refer to the exhibit. A packet is being sent across router R1 to host 172.16.3.14. To which destination does the router send the packet?

- A. 207.165.200.246 via Serial0/1/0
- B. 207.165.200.250 via Serial0/0/0
- C. 207.165.200.254 via Serial0/0/0
- D. 207.165.200.254 via Serial0/0/1

Answer: D

Mark

Current Score: 0/825

Time Remaining: 0:36:14

Item 72 of 561 (Choice, Q72)

 Hide Answer

```
R1# show ip route
...
D 172.16.32.0/27 [90/2508597172] via 20.1.1.1 $pp
D 172.16.32.0/19 [110/292094] via 20.1.1.1.10
D 172.16.32.0/24 [120/2] via 20.1.1.3
```

Refer to the exhibit. Router R1 is running three different routing protocols. Which route characteristic is used by the router to forward the packet that destination IP 172.16.32.1?

- A. longest prefix
- B. cost
- C. metric
- D. administrative distance

Answer: A

## Item 73 of 561 (Choice, Q73)

[Hide Answer](#)

Which function does an SNMP agent perform?

- A. It sends information about MIB variables in response to requests from the NMS.
- B. It coordinates user authentication between a network device and a TACACS+ or RADIUS server.
- C. It manages routing between Layer 3 devices in a network.
- D. It requests information from remote network nodes about catastrophic system events.

Answer: A



Refer to the exhibit. Which configuration must be applied to the router that configures PAT to translate all addresses in VLAN 200 while allowing devices on VLAN 100 to use their own IP addresses?

- A. Router1(config)#access-list 99 permit 209.165.201.2 0.0.0.0  
Router1(config)#ip nat inside source list 99 interface gi1/0/0 overload  
Router1(config)#interface gi2/0/1.200  
Router1(config-if)#ip nat inside  
Router1(config)#interface gi1/0/0  
Router1(config-if)#ip nat outside
- B. Router1(config)# access-list 99 permit 209.165.201.2 255.255.255.255  
Router1(config)#ip nat inside source list 99 interface gi1/0/0 overload  
Router1(config)#interface gi2/0/1.200  
Router1(config-if)#ip nat inside  
Router1(config)#interface gi1/0/0  
Router1(config-if)#ip nat outside
- C. Router1(config)#access-list 99 permit 192.168.100.0 0.0.0.255  
Router1(config)#ip nat inside source list 99 interface git/0/0 overload  
Router1(config)#interface gi2/0/1.200  
Router1(config-if)#ip nat inside  
Router1(config)#interface gi1/0/0  
Router1(config-if)#ip nat outside
- D. Router1(config)#access-list 99 permit 192.168.100.32 0.0.0.31  
Router1(config)#ip nat inside source list 99 interface gi1/0/0 overload  
Router1(config)#interface gi2/0/1.200  
Router1(config-if)#ip nat inside  
Router1(config)#interface gi1/0/0  
Router1(config-if)#ip nat outside

Mark

Current Score: 0/825 Time Remaining: 0:29:11

Item 75 of 561 (Choice, Q75) Hide Answer

Which type of IPv6 address is publicly routable in the same way as IPv4 public addresses?

A. global unicast  
B. link-local  
C. multicast  
D. unique local

Answer: A

Current Score: 0/825

Time Remaining: 0:27:07

 Mark

## Item 76 of 561 (Choice, Q76)

[+ Hide Answer](#)

Which two components are needed to create an Ansible script that configures a VLAN on a switch? (Choose two.)

- A. Playbook
- B. Recipe
- C. Task
- D. Cookbook
- E. Model

Answer: AC

## Item 77 of 561 (Choice, Q77)

 Hide Answer**R2# show ip route**

```
10.0.0.0/30 is subnetted, 2 subnets
C 10.10.10.0 is directly connected, Serial0/0/0
C 10.10.10.4 is directly connected, FastEthernet0/1
D 192.168.10.0/24 [90/2172416] via 10.10.10.1, 01:05:11, Serial0/0/0
C 192.168.20.0/24 is directly connected, FastEthernet0/0
D 192.168.30.0/24 [90/30720] via 10.10.10.6, 01:12:53, FastEthernet0/1
```

Refer to the exhibit. What is the next-hop IP address for R2 so that PC2 reaches the application server via EIGRP?

- A. 10.10.10.6
- B. 192.168.20.1
- C. 192.168.30.1
- D. 10.10.10.5

## Item 78 of 561 (Choice, Q78)

[Hide Answer](#)

What is a function of TFTP in network operations?

- A. transfers a configuration files from a server to a router on a congested link
- B. transfers IOS images from a server to a router for firmware upgrades
- C. transfers files between file systems on a router
- D. transfers a backup configuration file from a server to a switch using a username and password

Answer: B

## Item 79 of 561 (Choice, Q79)

[Hide Answer](#)

What makes Cisco DNA Center different from traditional network management applications and their management of networks?

- A. It only supports auto-discovery of network elements in a greenfield deployment.
- B. It abstracts policy from the actual device configuration.
- C. Its modular design allows someone to implement different versions to meet the specific needs of an organization.
- D. It does not support high availability of management functions when operating in cluster mode.

Answer: B

<https://www.cisco.com/c/en/us/solutions/collateral/enterprise-networks/digital-network-architecture/nb-06-digital-nw-architect-faq-cte-en.html>



Current Score: 0/825

Time Remaining: 0:24:16

## Item 80 of 561 (Choice, Q80)

[Hide Answer](#)

Which characteristic differentiates the concept of authentication from authorization and accounting?

- A. identity verification
- B. user-activity logging
- C. consumption-based billing
- D. service limitations

Answer: A

## Item 81 of 561 (Choice, Q81)

[Hide Answer](#)

A wireless administrator has configured a WLAN, however, the clients need access to a less congested 5-GHz network for their voice quality. What action must be taken to meet the requirement?

- A. enable Band Select
- B. enable RX-SOP
- C. enable DTIM
- D. enable AAA override

Answer: A

Mark

Current Score: 0/825

Time Remaining: 0:21:42

Item 82 of 561 (Choice, Q82)

 Hide Answer

```
Switch2# show lldp
Global LLDP Information
Status: ACTIVE
LLDP advertisements are sent every 30 seconds
LLDP hold time advertised is 120 seconds
LLDP interface reinitialization delay is 2 seconds
```

Refer to the exhibit. A network engineer must update the configuration on Switch2 so that it sends LLDP packets every minute and the information sent via LLDP is refreshed every 3 minutes. Which configuration must the engineer apply?

- A. Switch2(config)# lldp timer 1  
Switch2(config)# lldp holdtime 3
- B. Switch2(config)# lldp timer 60  
Switch2(config)# ldp holdtime 180
- C. Switch2(config)# lldp timer 1  
Switch2(config)# lldp tlv-select 3
- D. Switch2(config)# lldp timer 60  
Switch2(config)# lldp tlv-select 180

Answer: B

<https://www.cisco.com/c/en/us/td/docs-switches/lan/catalyst4500/12-2/46sg/configuration-guide/Wrapper-46SG/swlldp.html#wp1084239>

Mark

Current Score: 0/825

Time Remaining: 0:20:18

Item 83 of 561 (Choice, Q83)

[Hide Answer](#)

```
interface GigabitEthernet3/1/4
  switchport voice vlan 50
!
```

Refer to the exhibit. An administrator is tasked with configuring a voice VLAN. What is the expected outcome when a Cisco phone is connected to the GigabitEthernet3/1/4 port on a switch?

- A. The phone and a workstation that is connected to the phone do not have VLAN connectivity.
- B. The phone and a workstation that is connected to the phone send and receive data in VLAN 50.
- C. The phone sends and receives data in VLAN 50, but a workstation connected to the phone sends and receives data in VLAN 1.
- D. The phone sends and receives data in VLAN 50, but a workstation connected to the phone has no VLAN connectivity.

Answer: C

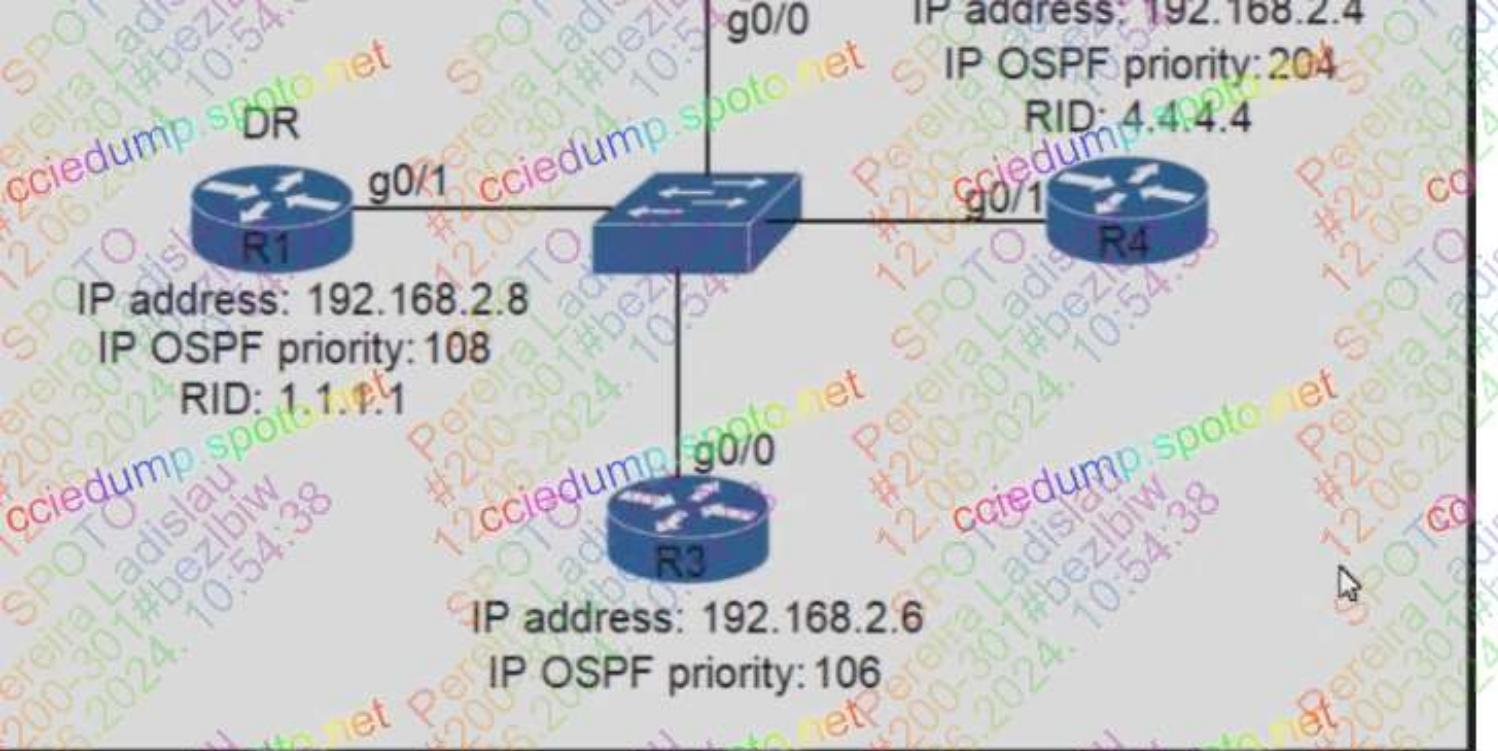
```
Router1#show ip route
```

Gateway of last resort is 10.10.11.2 to network 0.0.0.0

- 209.165.200.0/27 is subnetted, 1 subnets
  - B 209.165.200.224 [20/0] via 10.10.12.2, 03:22:14
- 209.165.201.0/27 is subnetted, 1 subnets
  - B 209.165.201.0 [20/0] via 10.10.12.2, 02:26:33
- 209.165.202.0/27 is subnetted, 1 subnets
  - B 209.165.202.128 [20/0] via 10.10.12.2, 02:26:03
- 10.0.0.0/8 is variably subnetted, 8 subnets, 4 masks
  - C 10.10.10.0/28 is directly connected, GigabitEthernet0/0
  - C 10.10.11.0/30 is directly connected, FastEthernet2/0
  - C 10.10.12.0/30 is directly connected, GigabitEthernet0/1
  - O 10.10.13.0/25 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
  - O 10.10.13.128/28 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
  - O 10.10.13.144/28 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
  - O 10.10.13.160/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
  - O 10.10.13.208/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
  - S\* 0.0.0.0/0 [1/0] via 10.10.11.2

Refer to the exhibit. Which prefix does Router1 use for traffic to Host A?

- A. 10.10.13.208/29
- B. 10.10.30.0/25
- C. 10.10.13.144/28
- D. 10.10.10.0/28



Refer to the exhibit. A network engineer is verifying the settings on a new OSPF network. All OSPF configurations use the default values unless otherwise indicated. Which router does the engineer expect will be elected as the DR when all devices boot up simultaneously?

- A. R4
- B. R1
- C. R3
- D. R2

#output suppressed

Gateway of last resort is 192.168.14.4 to network 0.0.0.0

C 172.16.1.128/25 is directly connected, GigabitEthernet1/1/0  
C 192.168.12.0/24 is directly connected, FastEthernet0/0  
C 192.168.13.0/24 is directly connected, FastEthernet0/1  
C 192.168.14.0/24 is directly connected, FastEthernet1/0  
C 172.16.16.1 is directly connected, Loopback1  
192.168.10.0/24 is variably subnetted, 3 subnets, 3 masks  
0 192.168.10.0.24 [110/2] via 192.168.14.4, 00:02:01, FastEthernet1/0  
0 192.168.10.32/27 [110/11] via 192.168.13.3, 00:00:52, FastEthernet0/1  
0 192.168.0.0/16 [110/2] via 192.168.15.5, 00:05:01, FastEthernet1/1  
D 192.168.10.1/32 [90/52778] via 192.168.12.2, 00:03:44, FastEthernet0/0  
0\*E2 0.0.0.0/0 [110/1] via 192.168.14.4, 00:00:10, FastEthernet1/0

Refer to the exhibit. If R1 receives a packet destined to 172.16.1.1, to which IP address does it send the packet?

- A. 192.168.15.5
- B. 192.168.13.3
- C. 192.168.14.4
- D. 192.168.12.2

Answer: C

Mark

Item 87 of 561 (Choice, Q87)

 Hide Answer

Which 802.11 frame type is Association Response?

- A. protected frame
- B. management
- C. control
- D. action

Answer: B

Mark

Current Score: 2/825

Time Remaining: 0:06:24

## Item 88 of 561 (Choice, Q88)

[Hide Answer](#)

R1 has learned route 192.168.12.0/24 via IS-IS, OSPF, RIP, and Internal EIGRP. Under normal operating conditions, which routing protocol is installed in the routing table?

- A. OSPF
- B. Internal EIGRP
- C. IS-IS
- D. RIP

Answer: B

## Item 89 of 561 (Choice, Q89)

Hide A

R1# show ip route

Codes:

C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP, D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2, E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP  
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, \* - candidate default,  
U - per-user static route, o - ODR

Gateway of last resort is not set

C 10.0.0.0/8 is directly connected, Loopback0  
10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks  
o 10.0.1.3/32 [110/100] via 10.0.1.100, 00:39:08, Serial0  
C 10.0.1.0/24 is directly connected, Serial0  
o 10.0.1.5/32 [110/5] via 10.0.1.50, 00:39:08, serial0  
o 10.0.10.0/24 [110/10] via 10.0.1.4, 00:39:08, Gigabit Ethernet 0/0  
D 10.0.10.0/24 [90/10] via 10.0.1.5, 00:39:08, Gigabit Ethernet 0/1

Refer to the exhibit. Web traffic is coming in from the WAN interface. Which route takes precedence when the router is processing traffic destined for the LAN network at 10.0.10.0/24?

- A. via next-hop 10.0.1.50
- B. via next-hop 10.0.1.100
- C. via next-hop 10.0.1.5
- D. via next-hop 10.0.1.4

Answer: C

the same two 10.0.10.0/24 route in routing table?

Mark

Current Score: 0/825

## Item 90 of 561 (Choice, Q90)

[Hide Answer](#)

What are two reasons that cause late collisions to increment on an Ethernet interface? (Choose two.)

- A. when a collision occurs after the 32nd byte of a frame has been transmitted
- B. when one side of the connection is configured for half-duplex
- C. when the cable length limits are exceeded
- D. when the sending device waits 15 seconds before sending the frame again
- E. when Carrier Sense Multiple Access/Collision Detection is used

Answer: BC



Refer to the exhibit. Switch A is newly configured. All VLANs are present in the VLAN database. The IP phone and PC A on Gi0/1 must be configured for the appropriate VLANs to establish connectivity between the PCs. Which command set fulfills the requirement?

- A. SwitchA(config-if)# switchport mode access  
SwitchA(config-if)# switchport access vlan 50  
SwitchA(config-if)# switchport voice vlan untagged
- B. SwitchA(config-if)# switchport mode trunk  
SwitchA(config-if)# switchport trunk allowed vlan add 50,51  
SwitchA(config-if)# switchport voice vlan dot1p
- C. SwitchA(config-if)# switchport mode trunk  
SwitchA(config-if)# switchport trunk allowed vlan 50,51  
SwitchA(config-if)# mls qos trust cos
- D. SwitchA(config-if)# switchport mode access  
SwitchA(config-if)# switchport access vlan 50  
SwitchA(config-if)# switchport voice vlan 51

Answer: D

## Item 92 of 561 (Choice, Q92)

[Hide Answer](#)

When a site-to-site VPN is configured, which IPsec mode provides encapsulation and encryption of the entire original IP packet?

- A. IPsec tunnel mode with ESP
- B. IPsec transport mode with AH
- C. IPsec tunnel mode with AH
- D. IPsec transport mode with ESP

Answer: A

## Item 93 of 561 (Choice, Q93)

[Hide Answer](#)

A network analyst is tasked with configuring the date and time on a router using EXEC mode. The date must be set to January 1,2020 and the time must be set to 12:00 am. What command should be used?

- A. `clock timezone`
- B. `clock set`
- C. `clock summer-time recurring`
- D. `clock summer-time date`

Answer: B

## Item 94 of 561 (Choice, Q94)

[Hide Answer](#)

A network administrator must enable DHCP services between two sites. What must be configured for the router to pass DHCPDISCOVER messages on to the server?

- A. a DHCP Pool
- B. DHCP Snooping
- C. DHCP Binding
- D. a DHCP Relay Agent

Answer: D

## Item 95 of 561 (Choice, Q95)

[Hide Answer](#)

Which type of IPv4 address must be assigned to a server to protect it from external access and allow only internal users access while restricting internet access?

- A. global unicast
- B. public
- C. multicast
- D. private

Answer: D

- EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area  
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2  
E1 - OSPF external type 1, E2 - OSPF external type 2  
1 - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2  
ia - IS-IS inter area, \* - candidate default, U - per-user static route  
o - ODR, P - periodic downloaded static route

Gateway of last resort is 192.168.30.10 to network 0.0.0.0

192.168.30.0/29 is subnetted, 2 subnets

C 192.168.30.0 is directly connected, FastEthernet0/0

C 192.168.30.8 is directly connected, Serial0/0.1

192.168.10.0/24 is variably subnetted, 2 subnets, 2 masks

O IA 192.168.10.32/28 [110/193] via 192.168.30.10, 00:18:49, Serial0/0.1

O IA 192.168.10.0/27 [110/192] via 192.168.30.10, 00:18:49, Serial0/0.1

192.168.20.0/30 is subnetted, 1 subnets

O IA 192.168.20.0 [110/128] via 192.168.30.10, 00:18:49, Serial0/0.1

192.168.50.0/32 is subnetted, 1 subnets

C 192.168.50.1 is directly connected, Loopback0

O\*IA 0.0.0/0 [110/84] via 192.168.30.10, 00:10:36, Serial0/0.1

Refer to the exhibit. What is the metric of the route to the 192.168.10.33 host?

- A. 84
- B. 192
- C. 193
- D. 110

## Item 97 of 561 (Choice, Q97)

[Hide Answer](#)

Refer to the exhibit. Routers R1, R2, and R3 use a protocol to identify their neighbors' IP addresses, hardware platforms, and software versions. A network engineer must configure R2 to avoid sharing any neighbor information with R3, and maintain its relationship with R1. What action meets this requirement?

- A. Configure the no lldp receive command on g0/1.
- B. Configure the no cdp run command globally.
- C. Configure the no cdp enable command on g0/2.
- D. Configure the no lldp run command globally.

Answer: C

OSPF Area 0



```
R1#show ip ospf neighbor
```

Neighbor ID	Pri	State	Dead Time	Address	Interface
10.10.10.2	1	FULL/BDR	00:00:37	10.10.10.2	FastEthernet0/0
10.10.10.3	1	FULL/DR	00:00:35	10.10.10.3	FastEthernet0/0

Refer to the exhibit. R1 has taken the DROTHER role in the OSPF DR/BDR election process. Which configuration must an engineer implement so that R1 is elected as the DR?

- A. R1(config)# interface FastEthernet 0/0  
R1(config-if)# ip ospf priority 200  
R1# clear ip ospf process
- B. R2(config)# interface FastEthernet 0/2  
R2(config-if)# ip ospf priority 1  
R2# clear ip ospf process
- C. R3(config)# interface FastEthernet 0/1  
R3(config-if)# ip ospf priority 200  
R3# clear ip ospf process
- D. R1(config)# interface FastEthernet 0/0  
R1(config-if)# ip ospf priority 1  
R1# clear ip ospf process

Answer: A

[Hide Answer](#)

## Item 99 of 561 (Choice, Q99)

Which two outcomes are predictable behaviors for HSRP? (Choose two.)

- A. The two routers negotiate one router as the active router and the other as the standby router.
- B. The two routers share the same interface IP address, and default gateway traffic is load-balanced between them.
- C. The two routers share a virtual IP address that is used as the default gateway for devices on the LAN.
- D. Each router has a different IP address, both routers act as the default gateway on the LAN, and traffic is load-balanced between them.
- E. The two routers synchronize configurations to provide consistent packet forwarding.

Answer: AC

```
Hardware is SPA-10X1GE-X, address is 0023.33.7c00 (bia 0023.33.7c00)
MTU 1500 bytes, BW 1000000 Kbit/sec, DLY 10 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive not supported
Half Duplex, 1000Mbps, link type is auto, media type is LX
output flow-control is off, input flow-control is off
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:01, output 00:02:31, output hang never

10 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 314 multicast, 0 pause input
1 packets output, 77 bytes, 0 underruns
0 output errors, 50 collisions, 6 interface resets
17 unknown protocol drops
0 babbles, 0 late collision, 0 deferred
```

Refer to the exhibit. What is the issue with the interface GigabitEthernet0/0/1?

- A. cable disconnect
- B. high throughput
- C. duplex mismatch
- D. port security

Answer: C

## Item 101 of 561 (Choice, Q101)

[Hide Answer](#)

A network architect is deciding whether to implement Cisco autonomous access points or lightweight access points. Which fact about firmware updates must the architect consider?

- A. Unlike lightweight access points, which require redundant WLCs to support firmware upgrades, autonomous access points require only one WLC.
- B. Unlike lightweight access points, autonomous access points can recover automatically from a corrupt firmware update.
- C. Unlike autonomous access points, lightweight access points require a WLC to implement remote firmware updates.
- D. Unlike autonomous access points, lightweight access points store a complete copy of the current firmware for backup.

Answer: C

```
Router#show ip route
```

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP  
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area  
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2  
E1 - OSPF external type 1, E2 - OSPF external type 2  
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2  
ia - IS-IS inter area, \* - candidate default, U - per-user static route

Gateway of last resort is 209.165.202.131 to network 0.0.0.0

```
S*    0.0.0.0/0 [1/0] via 209.165.202.131
      209.165.200.0/27 is subnetted, 1 subnets
S       209.165.200.224 [254/0] via 209.165.202.129
      209.165.201.0/27 is subnetted, 1 subnets
S       209.165.201.0 [1/0] via 209.165.202.130
```

Refer to the exhibit. Which command configures a floating static route to provide a backup to the primary link?

- A. ip route 0.0.0.0.0.0.0 209.165.202.131
- B. ip route 209.165.201.0 255.255.255.224 209.165.202.130
- C. ip route 0.0.0.0.0.0.0 209.165.200.224
- D. ip route 209.165.200.224 255.255.255.224 209.165.202.129 254

Answer: D

## Item 103 of 561 (Choice, Q103)

[Hide Answer](#)

Which command entered on a switch configured with Rapid PVST+ listens and learns for a specific time period?

- A. `switch(config)#spanning-tree vlan 1 max-age 6`
- B. `switch(config)#spanning-tree vlan 1 forward-time 20`
- C. `switch(config)#spanning-tree vlan 1 hello-time 10`
- D. `switch(config)#spanning-tree vlan 1 priority 4096`

Answer: B

## Item 104 of 561 (Choice, Q104)

[Hide Answer](#)

```
CPE# show ip route
 192.168.1.0/24 is variably subnetted, 3 subnets, 3 masks
 B 192.168.1.0/24 [20/1] via 192.168.12.2, 00:00:06
 R 192.168.1.128/25 [120/5] via 192.168.13.3, 00:02:35, Ethernet0/1
 O 192.168.1.192/26 [110/11] via 192.168.14.4, 00:02:23, Ethernet0/2
 D 192.168.1.224/27 [90/1024640] via 192.168.15.5, 00:01:40, Ethernet0/3
```

Refer to the exhibit. All traffic enters the CPE router from interface Serial0/3 with an IP address of 192.168.50.1. Web traffic from the WAN is destined for a LAN network where servers are load-balanced. An IP packet with a destination address of the HTTP virtual IP of 192.168.1.250 must be forwarded. Which routing table entry does the router use?

- A. 192.168.1.0/24 via 192.168.12.2
- B. 192.168.1.128/25 via 192.168.13.3
- C. 192.168.1.192/26 via 192.168.14.4
- D. 192.168.1.224/27 via 192.168.15.5

Answer: D

## Item 105 of 561 (Choice, Q105)

[Hide Answer](#)

What does WPA3 provide in wireless networking?

- A. optional Protected Management Frame negotiation
- B. safeguards against brute force attacks with SAE
- C. increased security and requirement of a complex configuration
- D. backward compatibility with WPA and WPA2

Answer: B

## Item 106 of 561 (Choice, Q106)

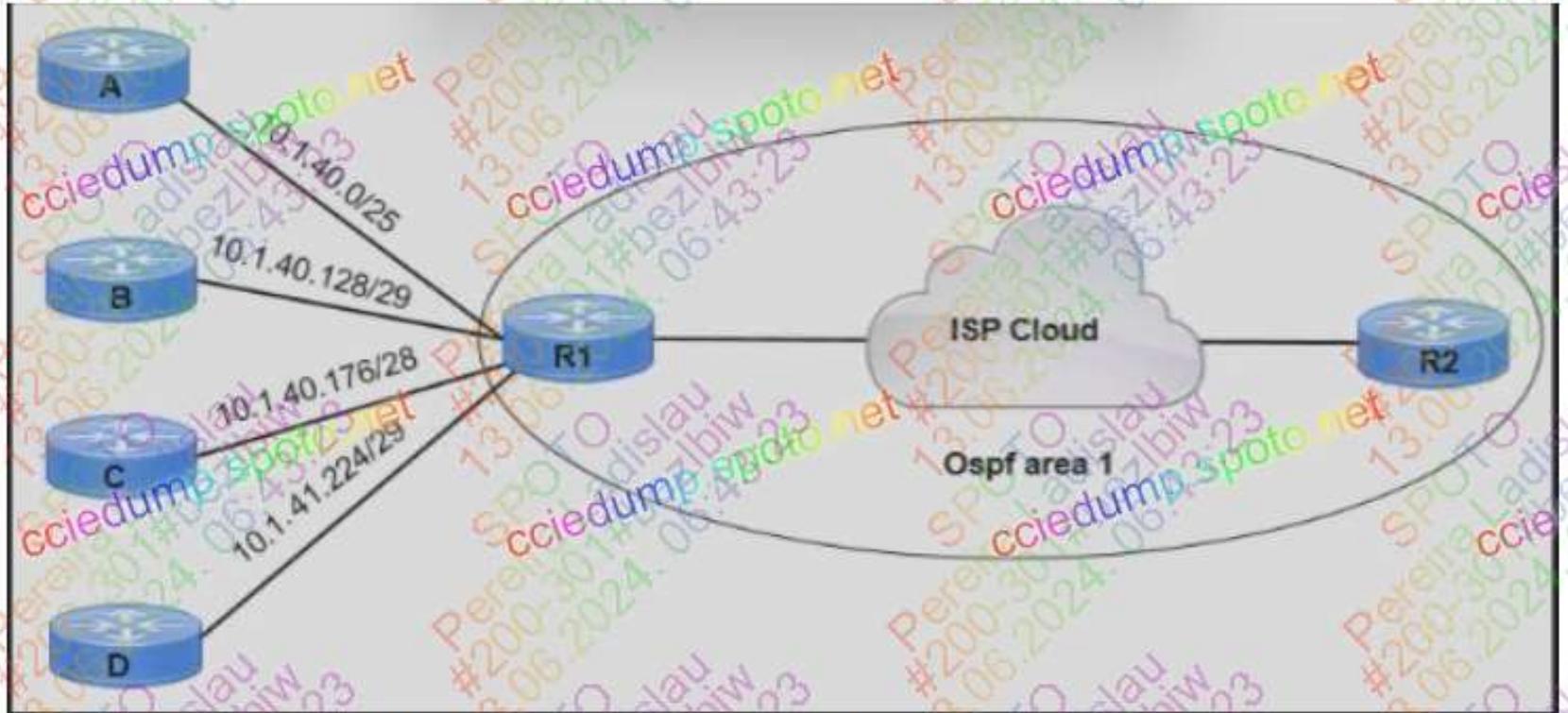
[Hide Answer](#)

Which IPv6 address block sends packets to a group address rather than a single address?

- A. 2000::/3
- B. FE80::/10
- C. FF00::/8
- D. FC00::/7

Answer: C

## Item 107 of 561 (Choice, Q107)

 Hide Answer

Refer to the exhibit. Router R1 receives static routing updates from routers A ,B, C, and D. The network engineer wants R1 to advertise static routes in OSPF area 1. Which summary address must be advertised in OSPF?

- A. 10.1.40.0/24
- B. 10.1.41.0/25
- C. 10.1.40.0/25
- D. 10.1.40.0/23

## Item 108 of 561 (Choice, Q108)

[Hide Answer](#)

A network administrator is setting up a new IPv6 network using the 64-bit address 2001:0EB8:00C1:2200:0001:0000:0000:0331/64. To simplify the configuration, the administrator has decided to compress the address. Which IP address must the administrator configure?

- A. ipv6 address 21:EB8:C1:2200:1::331/64
- B. ipv6 address 2001:EB8:C1:2200:1::331/64
- C. ipv6 address 2001:EB8:C1:22:1::331/64
- D. ipv6 address 2001:EB8:C1:2200:1:0000:331/64

Answer: B

## Item 109 of 561 (Choice, Q109)

[Hide Answer](#)

How does CAPWAP communicate between an access point in local mode and a WLC?

- A. The access point must not be connected to the wired network, as it would create a loop.
- B. The access point has the ability to link to any switch in the network, assuming connectivity to the WLC.
- C. The access point must directly connect to the WLC using a copper cable.
- D. The access point must be connected to the same switch as the WLC.

Answer: B

4.4.4.4	1	FULL/BDR	00:00:31	172.16.10.4	GigabitEthernet0/0
5.5.5.5	1	FULL/DR	00:00:30	172.16.10.5	GigabitEthernet0/0

Refer to the exhibit. R5 is the current DR on the network, and R4 is the BDR. Their interfaces are flapping, so a network engineer wants the OSPF network to elect a different DR and BDR. Which set of configurations must the engineer implement?

- A. R2(config)# interface gi0/0  
R2(config-if)# ip ospf priority 259
- R3(config)# interface gi0/0  
R3(config-if)# ip ospf priority 256
- B. R3(config)# interface gi0/0  
R3(config-if)# ip ospf priority 255
- R2(config)# interface gi0/0  
R2(config-if)# ip ospf priority 240
- C. R4(config)# interface gi0/0  
R4(config-if)# ip ospf priority 20
- R5(config)# interface gi0/0  
R5(config-if)# ip ospf priority 10
- D. R5(config)# interface gi0/0  
R5(config-if)# ip ospf priority 120
- R4(config)# interface gi0/0  
R4(config-if)# ip ospf priority 110

Answer: B

## Item 111 of 561 (Choice, Q111)

[Hide Answer](#)

What is a function of a Next-Generation IPS?

- A. It analyzes and mitigates observed vulnerabilities in a network
- B. It makes forwarding decisions based on learned MAC addresses
- C. It integrates with a RADIUS server to enforce Layer 2 device authentication rules
- D. It serves as a controller within a controller-based network.

Answer: A

## Item 112 of 561 (Choice, Q112)

[Hide Answer](#)

Which technology is appropriate for communication between an SDN controller and applications running over the network?

- A. Southbound API
- B. NETCONF
- C. RESTAPI
- D. OpenFlow

Answer: C



Refer to the exhibit. Which two commands, when configured on router R1, fulfill these requirements? (Choose two.)

1. Packets toward the entire network **2001:db8:23::/64** must be forwarded through router R2.
2. Packets toward host **2001:db8:23::14** preferably must be forwarded through R3.

- A. **ipv6 route 2001:db8:23::14/128 fd00:13::3**
- B. **ipv6 route 2001:db8:23::14/64 fd00:12::2 200**
- C. **ipv6 route 2001:db8:23::/64 fd00:12::2**
- D. **ipv6 route 2001:db8:23::14/64 fd00:12::2**
- E. **ipv6 route 2001:db8:23::/128 fd00:12::2**

Answer: AC

## Item 114 of 561 (Choice, Q114)

[Hide Answer](#)

A network administrator wants the syslog server to filter incoming messages into different files based on their importance. Which filtering criteria must be used?

- A. message body
- B. facility
- C. process ID
- D. level

Answer: D

Select the best choice.

100%

[Previous](#)[Next](#)[Review All](#) ▾[Save Session](#)[End Exam](#)

```
Internet address is 192.168.1.1/24, Area 0
Process ID 1, Router ID 10.1.1.1, Network Type POINT-TO-POINT, Cost: 1
Transmit Delay is 1 sec, State POINT-TO-POINT,
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
Hello due in 00:00:11
Index 1/1, flood queue length 0
Next 0x0(0)/0x0(0)
Last flood scan length is 1, maximum is 1
Last flood scan time is 0 msec, maximum is 0 msec
Suppress hello for 0 neighbor(s)
```

Refer to the exhibit. The network engineer is configuring router R2 as a replacement router on the network. After the initial configuration is applied, it is determined that R2 failed to show R1 as a neighbor. Which configuration must be applied to R2 to complete the OSPF configuration and enable it to establish the neighbor relationship with R1?

- A. R2(config)# interface g0/0/0  
R2(config-if)# ip ospf dead-interval 20
- B. R2(config)# router ospf 1  
R2(config-router)# router-id 192.168.1.2
- C. R2(config)# router ospf 1  
R2(config-router)# network 192.168.1.0 255.255.255.0 area 2  
R2(config-router)# network 10.1.1.0 255.255.255.255 area 2
- D. R2(config)# interface g0/0/0  
R2(config-if)# ip ospf hello-interval 15  
R2(config-if)# ip ospf dead-interval 20

Answer: D

## Item 116 of 561 (Choice, Q116)

[Hide Answer](#)

Refer to the exhibit. Which command must be executed for Gi1/1 on SW1 to passively become a trunk port if Gi1/1 on SW2 is configured in desirable or trunk mode?

- A. switchport mode dynamic desirable
- B. switchport mode dynamic auto
- C. switchport mode trunk
- D. switchport mode dot1-tunnel

Answer: B

## Item 117 of 561 (Choice, Q117)

[Hide Answer](#)

RIP	10.1.1.16/28 [120/5]	via	F0/0
OSPF	10.1.1.0/24 [110/30]	via	F0/1
OSPF	10.1.1.0/24 [110/40]	via	F0/2
EIGRP	10.1.0.0/26 [90/20]	via	F0/3
EIGRP	10.0.0.0/8 [90/133]	via	F0/4

Refer to the exhibit. Packets received by the router from BGP enter via a serial interface at 209.165.201.1. Each route is present within the routing table. Which interface is used to forward traffic with a destination IP of 10.1.1.19?

- A. F0/0
- B. F0/4
- C. F0/1
- D. F0/3

Answer: A

## Item 118 of 561 (Choice, Q118)

[Hide Answer](#)

A network engineer is configuring a switch so that it is remotely reachable via SSH. The engineer has already configured the host name on the router. Which additional command must the engineer configure before entering the command to generate the RSA key?

- A. ip ssh authentication-retries 2
- B. crypto key generate rsa modulus 1024
- C. ip domain-name domain
- D. password password

Answer: C

## Item 119 of 561 (Choice, Q119)

[Hide Answer](#)

What is the role of SNMP in the network?

- A. to monitor network devices and functions using a TCP underlay that operates on the presentation layer
- B. to collect data directly from network devices using an SSL underlay that operates on the transport layer
- C. to collect telemetry and critical information from network devices using an SSH underlay that operates on the network layer
- D. to monitor and manage network devices using a UDP underlay that operates on the application layer

Answer: D

## Item 120 of 561 (Choice, Q120)

[Hide Answer](#)

What is the operating mode and role of a backup port on a shared LAN segment in Rapid PVST+?

- A. learning mode and provides the shortest path toward the root bridge handling traffic away from the LAN
- B. forwarding mode and provides the lowest-cost path to the root bridge for each VLAN
- C. blocking mode and provides an alternate path toward the designated bridge
- D. listening mode and provides an alternate path toward the root bridge

Answer: C

## Item 121 of 561 (Choice, Q121)

[Hide Answer](#)

Which two values or settings must be entered when configuring a new WLAN in the Cisco Wireless LAN Controller GUI? (Choose two.)

- A. management interface settings
- B. profile name
- C. IP address of one or more access points
- D. QoS settings
- E. SSID

Answer: BE

## Item 122 of 561 (Choice, Q122)

[Hide Answer](#)

What is the primary purpose of a First Hop Redundancy Protocol?

- A. It reduces routing failures by allowing more than one router to represent itself as the default gateway of a network.
- B. It allows directly connected neighbors to share configuration information.
- C. It allows a router to use bridge priorities to create multiple loop-free paths to a single destination.
- D. It reduces routing failures by allowing Layer 3 load balancing between OSPF neighbors that have the same link metric.

Answer: A

## Item 123 of 561 (Choice, Q123)

[Hide Answer](#)

Refer to the exhibit. Router R1 is added to the network and configured with the 10.0.0.64/26 and 10.0.20.0/24 subnets. However, traffic destined for the LAN on R3 is not accessible. Which command when executed on R1 defines a static route to reach the R3 LAN?

- A. ip route 10.0.15.0 255.255.255.0 10.0.20.3
- B. ip route 10.0.0.64 255.255.255.192 10.0.20.3
- C. ip route 10.0.15.0 255.255.255.192 10.0.20.1
- D. ip route 10.0.15.0 255.255.255.0 10.0.20.1

Answer: A

## Item 124 of 561 (Choice, Q124)

[Hide Answer](#)

An engineer must configure a core router with a floating static default route to the backup router at 10.200.0.2. Which command meets the requirements?

- A. ip route 0.0.0.0 0.0.0.0 10.200.0.2 floating
- B. ip route 0.0.0.0 0.0.0.0 10.200.0.2
- C. ip route 0.0.0.0 0.0.0.0 10.200.0.2 10
- D. ip route 0.0.0.0 0.0.0.0 10.200.0.2 1

Answer: C

Item 125 of 561 (Choice, Q125)

[Hide Answer](#)**Entry #**

- 1** 192.168.10.0 255.255.254.0
- 2** 192.168.10.0 255.255.255.192
- 3** 192.168.10.0 255.255.255.0
- 4** 192.168.10.0 255.255.224.0

Refer to the exhibit. Which entry is the longest prefix match for host IP address 192.168.10.5?

- A. 2
- B. 3
- C. 1
- D. 4

Answer: A

## Item 126 of 561 (Choice, Q126)

[Hide Answer](#)

Which IPsec transport mode encrypts the IP header and the payload?

- A. transport
- B. control
- C. pipe
- D. tunnel

Answer: D

## Item 127 of 561 (Choice, Q127)

[Hide Answer](#)

Which is a fact related to FTP?

- A. It relies on the well-known UDP port 69.
- B. It always operates without user authentication.
- C. It uses two separate connections for control and data traffic.
- D. It uses block numbers to identify and mitigate data-transfer errors.

Answer: C

## Item 128 of 561 (Choice, Q128)

[Hide Answer](#)

An engineer requires a scratch interface to actively attempt to establish a trunk link with a neighbor switch. What command must be configured?

- A. switchport mode trunk
- B. switchport mode dynamic auto
- C. switchport nonegotiate
- D. switchport mode dynamic desirable

Answer: D

## Item 129 of 561 (Choice, Q129)

[Hide Answer](#)

How are the switches in a spine-and-leaf topology interconnected?

- A. Each leaf switch is connected to a central leaf switch, then uplinked to a core spine switch.
- B. Each leaf switch is connected to two spine switches, making a loop.
- C. Each leaf switch is connected to each spine switch.
- D. Each leaf switch is connected to one of the spine switches.

Answer: C

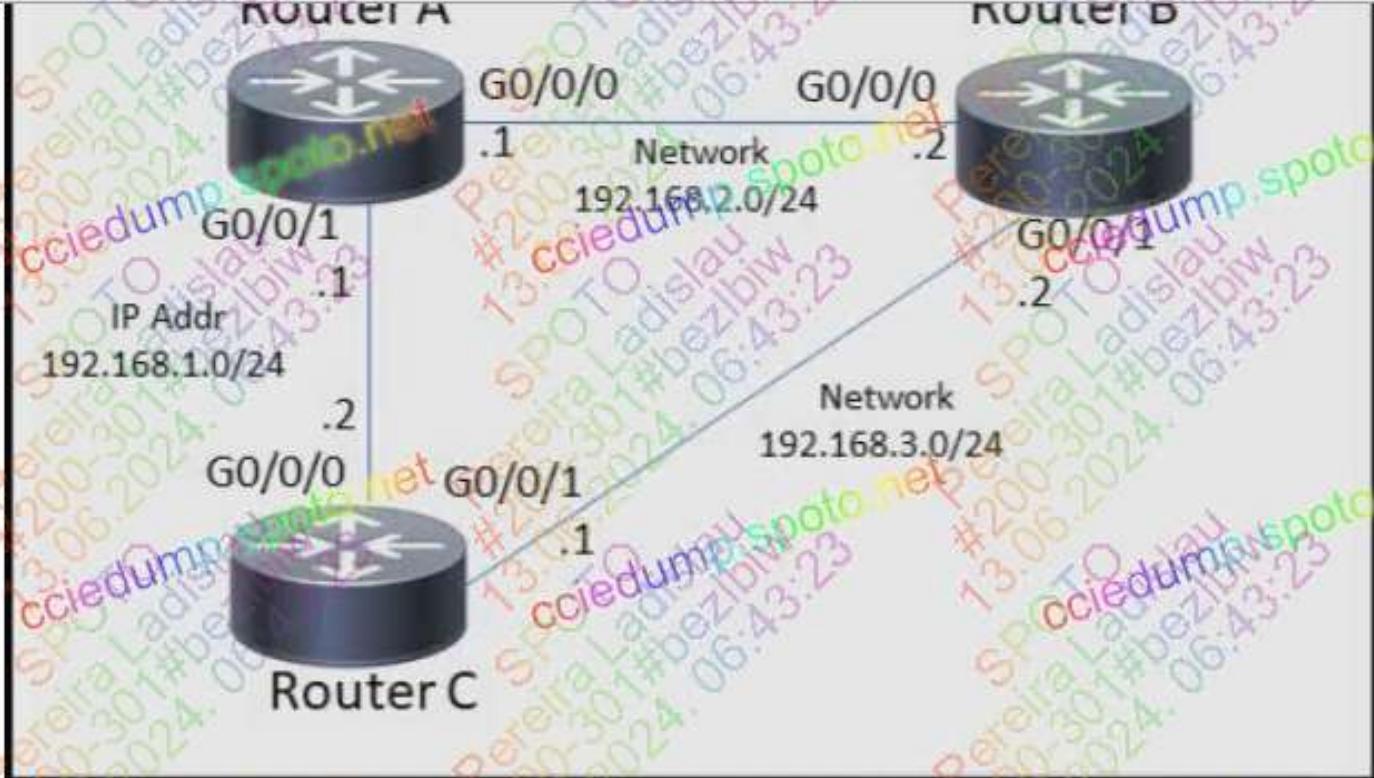
## Item 130 of 561 (Choice, Q130)

[Hide Answer](#)

What does a switch use to build its MAC address table?

- A. VTP
- B. egress traffic
- C. DTP
- D. ingress traffic

Answer: D



Refer to the exhibit. Which action must be taken to ensure that router A is elected as the DR for OSPF area 0?

- A. Configure the OSPF priority on router A with the lowest value between the three routers.
- B. Configure the router A interfaces with the highest OSPF priority value within the area.
- C. Configure router A with a fixed OSPF router ID.
- D. Configure router B and router C as OSPF neighbors of router A

Answer: B

## Item 132 of 561 (Choice, Q132)

[Hide Answer](#)

What is a similarity between OM3 and OM4 fiber optic cable?

- A. Both have a 9 micron core diameter.
- B. Both have a 100 micron core diameter.
- C. Both have a 50 micron core diameter.
- D. Both have a 62.5 micron core diameter.

Answer: C

## Item 133 of 561 (Choice, Q133)

[Hide Answer](#)

How will Link Aggregation be implemented on a Cisco Wireless LAN Controller?

- A. One functional physical port is needed to pass client traffic.
- B. The EtherChannel must be configured in "mode active".
- C. To pass client traffic, two or more ports must be configured.
- D. When enabled, the WLC bandwidth drops to 500 Mbps.

Answer: A



Refer to the exhibit. An engineer must configure router R2 so it is elected as the DR on the WAN subnet. Which command sequence must be configured?

- A. `interface gigabitethernet0/0  
ip address 10.0.0.34 255.255.255.224  
ip ospf priority 100`
- B. `interface gigabitethernet0/0  
ip address 10.0.0.34 255.255.255.248  
ip ospf priority 0`
- C. `interface gigabitethernet0/0  
ip address 10.0.1.1 255.255.255.0  
ip ospf priority 255`
- D. `interface gigabitethernet0/0  
ip address 10.0.1.1 255.255.255.224  
ip ospf priority 98`

Answer: A

## Item 135 of 561 (Choice, Q135)

[Hide Answer](#)

To improve corporate security, an organization is planning to implement badge authentication to limit access to the data center. Which element of a security program is being deployed?

- A. physical access control
- B. user awareness
- C. vulnerability verification
- D. user training

Answer: A

## Item 136 of 561 (Choice, Q136)

[Hide Answer](#)

```
{  
    "SW1" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"],  
    "SW2" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"],  
    "SW3" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"],  
    "SW4" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"]  
}
```

Refer to the exhibit. How many JSON objects are represented?

- A. 4
- B. 1
- C. 2
- D. 3

Answer: B

## Item 137 of 561 (Choice, Q137)

[Hide Answer](#)

What must be considered before deploying virtual machines?

- A. resource limitations, such as the number of CPU cores and the amount of memory
- B. whether to leverage VSM to map multiple virtual processors to two or more virtual machines
- C. location of the virtual machines within the data center environment
- D. support for physical peripherals, such as monitors, keyboards, and mice

Answer: A

## Item 138 of 561 (Choice, Q138)

[Hide Answer](#)

A network engineer must configure the router R1 GigabitEthernet1/1 interface to connect to the router R2 GigabitEthernet1/1 interface. For the configuration to be applied, the engineer must compress the address 2001:0db8:0000:0000:0500:000a:400F:583B. Which command must be issued on the interface?

- A. `ipv6 address 2001:db8:0::500:a:4F:583B`
- B. `ipv6 address 2001:db8::500:a:400F:583B`
- C. `ipv6 address 2001:0db8::5:a:4F:583B`
- D. `ipv6 address 2001::db8:0000::500:a:400F:583B`

Answer: B

## Item 139 of 561 (Choice, Q139)

[Hide Answer](#)

```
R1# show ip route | begin Gateway
Gateway of last resort is 0.0.0.0 to network 0.0.0.0
S* 0.0.0.0/0 is directly connected, Serial0/0/1
L 172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks
    L 172.16.2.0/24 is directly connected, GigabitEthernet0/0
    L 172.16.2.2/32 is directly connected, GigabitEthernet0/0
    C 172.16.4.0/21 is directly connected, Serial0/0/1
    L 172.16.8.2/26 is directly connected, Serial0/0/1
```

Refer to the exhibit. What is the subnet mask for route 172.16.4.0?

- A. 255.255.254.0
- B. 255.255.248.0
- C. 255.255.255.192
- D. 255.255.240.0

Answer: B

## Item 140 of 561 (Choice, Q140)

[Hide Answer](#)

What is a reason why an administrator would choose to implement an automated network management approach?

- A. limit recurrent management costs
- B. reduce inconsistencies in the network configuration.
- C. enable "box by box" configuration and deployment
- D. decipher simple password policies.

Answer: A

## Item 141 of 561 (Choice, Q141)

[Hide Answer](#)

An on-site service desk technician must verify the IP address and DNS server information on a user's Windows computer. Which command must the technician enter at the command prompt on the user's computer?

- A. netstat -r
- B. ipconfig -a
- C. show interface
- D. ipconfig /all

Answer: D

## Item 142 of 561 (Choice, Q142)

[Hide Answer](#)

```
R1# show ip route  
  
D 192.168.16.0/26 [90/2679326] via 192.168.1.1  
R 192.168.16.0/24 [120/3] via 192.168.1.2  
S 192.168.16.0/21 [110/2] via 192.168.1.3  
I L1 192.168.16.0/27 [115/30] via 192.168.1.4
```

Refer to the exhibit. Which route does R1 select for traffic that is destined to 192.168.16.2?

- A. 192.168.16.0/24
- B. 192.168.26.0/26
- C. 192.168.16.0/21
- D. 192.168.16.0/27

Answer: D

## Item 143 of 561 (Choice, Q143)

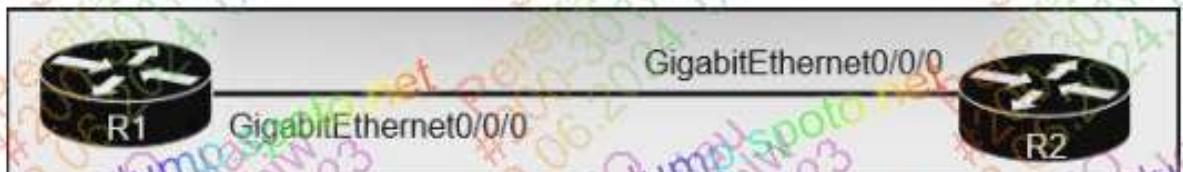
[Hide Answer](#)

What is a requirement for nonoverlapping Wi-Fi channels?

- A. unique SSIDs
- B. different security settings
- C. discontinuous frequency ranges
- D. different transmission speeds

Answer: C

## Item 144 of 561 (Choice, Q144)

[Hide Answer](#)

Refer to the exhibit. A network engineer must configure the link with these requirements:

1. Consume as few IP addresses as possible.
2. Leave at least two additional useable IP addresses for future growth.

Which set of configurations must be applied?

- A. R1(config-if)# ip address 10.10.10.1 255.255.255.248  
R2(config-if)# ip address 10.10.10.4 255.255.255.248
- B. R1(config-if)# ip address 10.10.10.1 255.255.255.252  
R2(config-if)# ip address 10.10.10.2 255.255.255.252
- C. R1(config-if)# ip address 10.10.10.1 255.255.255.0  
R2(config-if)# ip address 10.10.10.5 255.255.255.0
- D. R1(config-if)# ip address 10.10.10.1 255.255.255.240  
R2(config-if)# ip address 10.10.10.12 255.255.255.240

Answer: A

## Item 145 of 561 (Choice, Q145)

[Hide Answer](#)

Which type of API allows SDN controllers to dynamically make changes to the network?

- A. SOAP API
- B. REST API
- C. southbound API
- D. northbound API

Answer: C

## Item 146 of 561 (Choice, Q146)

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.254 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.254, Serial0/0/1
    is directly connected, Serial0/0/1
    172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
    C 172.16.1.0/24 is directly connected, FastEthernet0/0
    L 172.16.1.1/32 is directly connected, FastEthernet0/0
    R 172.16.2.0/24 [120/2] via 207.165.200.250, 00:00:25, Serial0/0/0
    O 192.168.1.0/24 [110/4437] via 207.165.200.254, 00:00:17, Serial0/0/1
    D 192.168.2.0/24 [90/84437] via 207.165.200.254, 00:00:15, Serial0/0/1
    207.165.200.0/24 is variably subnetted, 5 subnets, 2 masks
    S 207.165.200.244/30 [1/1] via 207.165.200.254, Serial0/0/1
    C 207.165.200.248/30 is directly connected, Serial0/0/0
    L 207.165.200.249/32 is directly connected, Serial0/0/0
    C 207.165.200.252/30 is directly connected, Serial0/0/1
    L 207.165.200.253/32 is directly connected, Serial0/0/1
```

Refer to the exhibit. Which network prefix was learned via EIGRP?

- A. 192.168.1.0/24
- B. 172.16.0.0/16
- C. 207.165.200.0/24
- D. 192.168.2.0/24

Answer: D

The screenshot shows the 'WLAN' configuration page in a Cisco Wireless Controller's web interface. The left panel contains several configuration options:

- Open Radio Interface ACL: None
- Layer2 Action: None
- P2P Blocking Action: Disabled
- Client Exclusion: Enabled (checkbox checked), Timeout Value (secs): 0
- Maximum Allowed Clients: 0
- Static IP Tunneling: Enabled
- Wi-Fi Direct Clients Policy: Disabled
- Maximum Allowed Clients Per AP Radio: 10
- Clear HotSpot Configuration: Enabled
- Client user idle timeout(15-1000000): 0
- Client user idle threshold (0-10000000): 0 Bytes

The right panel contains management frame protection (MFP) settings:

- MFP Client Protection: Optional
- DTIM Period (in beacon intervals):
  - 802.11a (1 - 255): 1
  - 802.11b/g/n (1 - 255): 1
- NAC:
  - NAC State: None
- Load Balancing and Band Select:
  - Client Load Balancing

Refer to the exhibit. A network engineer configures the CCNA WLAN so that clients must reauthenticate hourly and to limit the number of simultaneous connections to the WLAN to 10. Which two actions complete this configuration? (Choose two.)

- A. Enable the Wi-Fi Direct Clients Policy option.
- B. Enable the Enable Session Timeout option and set the value to 3600.
- C. Enable the Client Exclusion option and set the value to 3600.
- D. Set the Maximum Allowed Clients Per AP Radio value to 10.
- E. Set the Maximum Allowed Clients value to 10.

Answer: BE

## Item 148 of 561 (Choice, Q148)

[Hide Answer](#)

Which global command encrypts all passwords in the running configuration?

- A. enable secret
- B. password-encrypt
- C. enable password-encryption
- D. service password-encryption

Answer: D

```
SW1#show run interface fastEthernet 0/2
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100,200,300
channel-group 1 mode on
```

```
SW2#show run interface fastEthernet 0/1
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100,200,300
channel-group 1 mode active
```

```
SW2#show run interface fastEthernet 0/2
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100,200,300
channel-group 1 mode active
```

Refer to the exhibit. An engineer built a new L2 LACP EtherChannel between SW1 and SW2 and executed these show commands to verify the work. Which additional task allows the two switches to establish an LACP port channel?

- A. Configure the interface port-channel 1 command on both switches.
- B. Change the channel-group mode on SW1 to **active or passive**.
- C. Change the channel-group mode on SW1 to desirable.
- D. Change the channel-group mode on SW2 to auto.

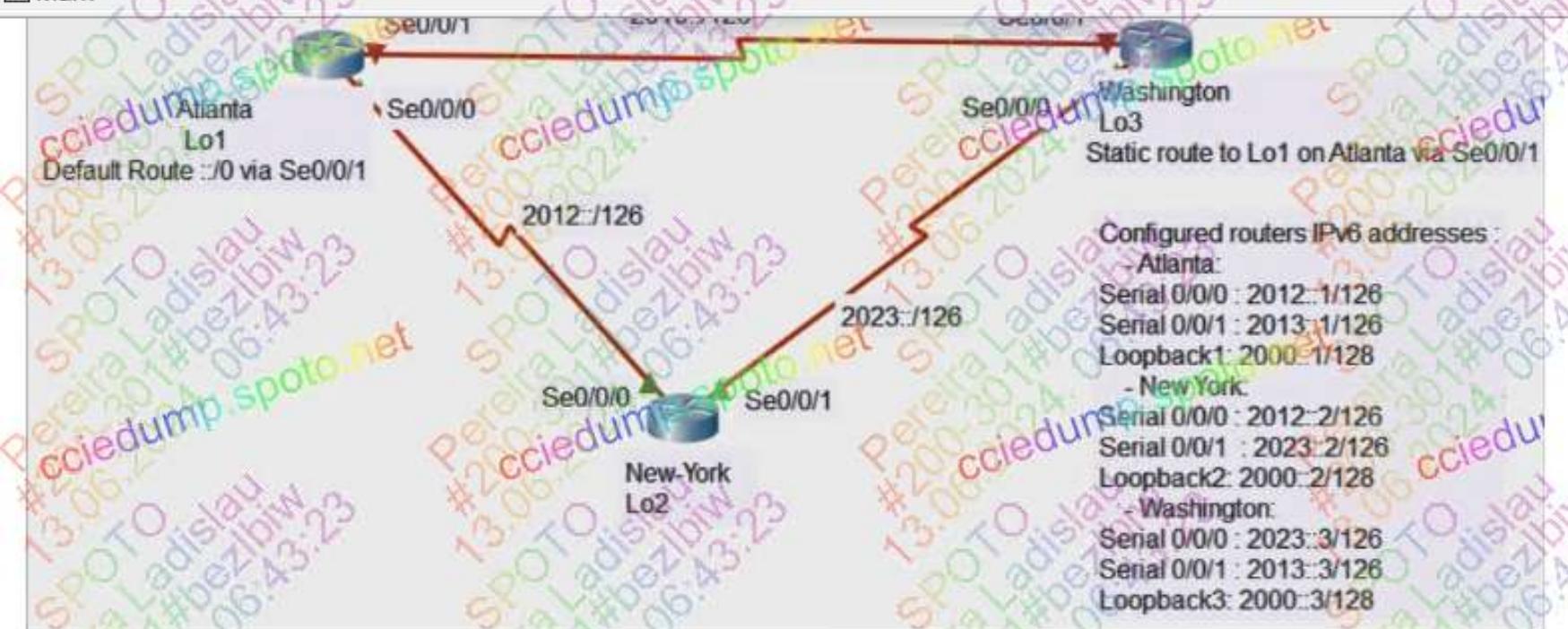
Answer: B

## Item 150 of 561 (Choice, Q150)

Which protocol uses the SSL?

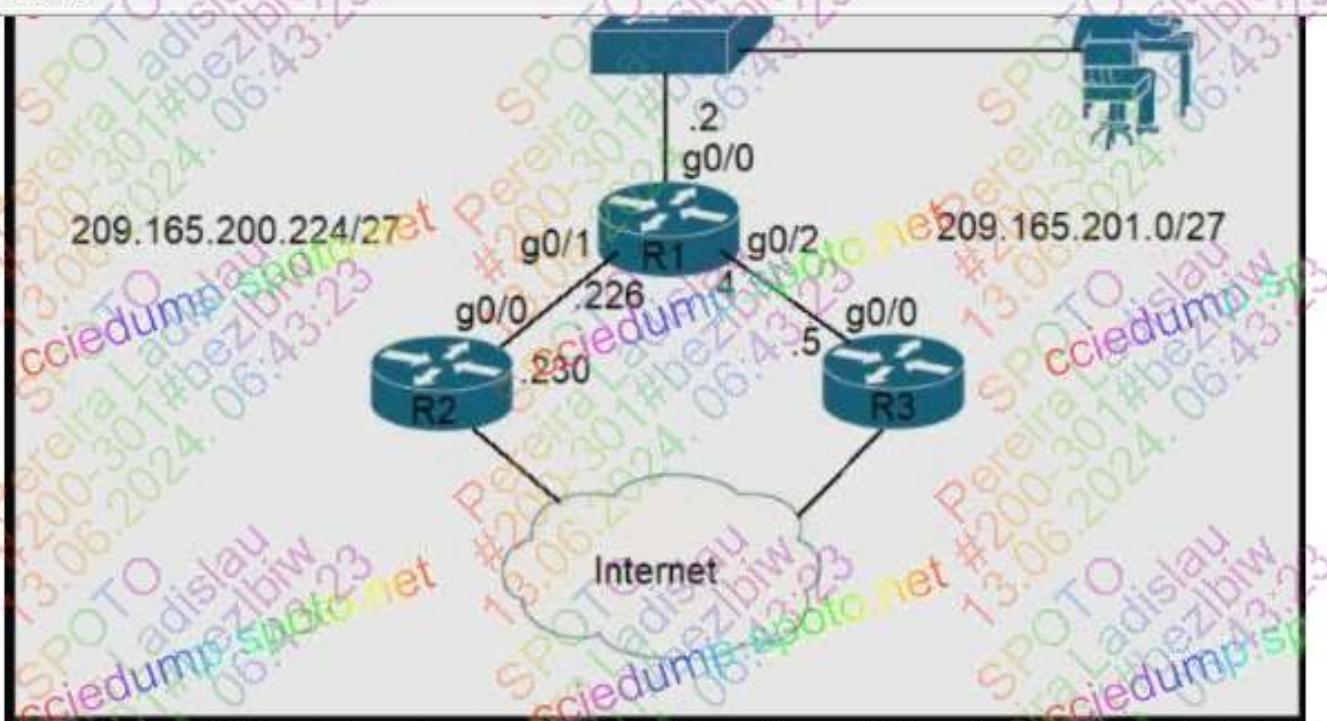
- A. SSH
- B. HTTP
- C. Telnet
- D. HTTPS

Answer: D



Refer to the exhibit. The New York router must be configured so that traffic to 2000::1 is sent primarily via the Atlanta site, with a secondary path via Washington that has an administrative distance of 2. Which two commands must be configured on the New York router? (Choose two.)

- A. `ipv6 route 2000::1/128 2012::2`
- B. `ipv6 route 2000::1/128 2023::3 2`
- C. `ipv6 route 2000::1/128 2023::2 5`
- D. `ipv6 route 2000::1/128 2012::1 5`
- E. `ipv6 route 2000::1/128 2012::1`



Refer to the exhibit. Router R1 currently is configured to use R3 as the primary route to the Internet, and the route uses the default administrative distance settings. A network engineer must configure R1 so that it uses R2 as a backup, but only if R3 goes down. Which command must the engineer configure on R1 so that it correctly uses R2 as a backup route, without changing the administrative distance configuration on the link to R3?

- A. ip route 0.0.0.0.0.0 g0/1 1
- B. ip route 0.0.0.0 0.0.0.0 209.165.201.5 10
- C. ip route 0.0.0.0 0.0.0.0 g0/1 6
- D. ip route 0.0.0.0 0.0.0.0 209.165.200.226 1

Answer: C

Item 153 of 561 (Choice, Q153)

[Hide Answer](#)

Gateway of last resort is 172.16.2.2 to network 0.0.0.0

10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks

C 10.10.8.0/28 is directly connected, GigabitEthernet0/0/2

C 10.10.10.0/24 is directly connected, GigabitEthernet0/0/0

L 10.10.10.3/32 is directly connected, GigabitEthernet0/0/0

172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks

S 172.16.1.33/32 is directly connected, GigabitEthernet0/0/1

C 172.16.2.0/23 is directly connected, GigabitEthernet0/0/1

L 172.16.2.1/32 is directly connected, GigabitEthernet0/0/1

S\* 0.0.0.0/0 [1/0] via 172.16.2.2

Refer to the exhibit. A packet sourced from 10.10.10.1 is destined for 10.10.8.14. What is the subnet mask of the destination route?

- A. 255.255.255.252
- B. 255.255.255.240
- C. 255.255.254.0
- D. 255.255.255.248

Answer: B

## Item 154 of 561 (Choice, Q154)

[Hide Answer](#)

In QoS, which prioritization method is appropriate for interactive voice and video?

- A. low-latency queuing
- B. traffic policing
- C. expedited forwarding
- D. round-robin scheduling

Answer: A

## Item 155 of 561 (Choice, Q155)

[Hide Answer](#)

What are two descriptions of three-tier network topologies? (Choose two.)

- A. The network core is designed to maintain continuous connectivity when devices fail.
- B. The access layer manages routing between devices in different domains.
- C. The distribution layer runs Layer 2 and Layer 3 technologies.
- D. The core and distribution layers perform the same functions.
- E. The core layer maintains wired connections for each host.

Answer: AC

## Item 156 of 561 (Choice, Q156)

[Hide Answer](#)

What are two functions of DHCP servers? (Choose two.)

- A. issue DHCPDISCOVER messages when added to the network
- B. respond to client DHCPOFFER requests by issuing an IP address
- C. prevent users from assigning their own IP addresses to hosts.
- D. assign dynamic IP configurations to hosts in a network
- E. support centralized IP management

Answer: BD

## Item 157 of 561 (Choice, Q157)

[Hide Answer](#)

Which condition must be met before an NMS handles an SNMP trap from an agent?

- A. The NMS must receive a trap and an inform message from the SNMP agent within a configured interval.
- B. The NMS must be configured on the same router as the SNMP agent.
- C. The NMS software must be loaded with the MIB associated with the trap.
- D. The NMS must receive the same trap from two different SNMP agents to verify that it is reliable.

Answer: C

## Item 158 of 561 (Choice, Q158)

[Hide Answer](#)

What is the difference in data transmission delivery and reliability between TCP and UDP?

- A. UDP is used for multicast and broadcast communication. TCP is used for unicast communication and transmits data at a higher rate with error checking.
- B. TCP requires the connection to be established before transmitting data. UDP transmits data at a higher rate without ensuring packet delivery.
- C. UDP sets up a connection between both devices before transmitting data. TCP uses the three-way handshake to transmit data with a reliable connection.
- D. TCP transmits data at a higher rate and ensures packet delivery. UDP retransmits lost data to ensure applications receive the data on the remote end.

Answer: B

Item 159 of 561 (Choice, Q159)

[Hide Answer](#)

Gateway of last resort is 0.0.0.0 to network 0.0.0.0

10.0.0.0/8 is variably subnetted, 6 subnets, 5 masks

S 10.0.0.0/8 is directly connected, GigabitEthernet0/0

C 10.1.1.0/24 is directly connected, GigabitEthernet0/0

L 10.1.1.1/32 is directly connected, GigabitEthernet0/0

S 10.10.0.0/22 is directly connected, GigabitEthernet0/0

S 10.10.10.0/28 is directly connected, GigabitEthernet0/0

S 10.10.10.1/32 is directly connected, GigabitEthernet0/0

S\* 0.0.0.0/0 is directly connected, GigabitEthernet0/0

Refer to the exhibit. Which IP route command created the best path for a packet destined for 10.10.10.3?

- A. ip route 10.10.10.1 255.255.255.255 g0/0
- B. ip route 10.10.0.0 255.255.252.0 g0/0
- C. ip route 10.10.10.0 255.255.255.240 g0/0
- D. ip route 10.0.0.0 255.0.0.0 g0/0

Answer: C

## Item 160 of 561 (Choice, Q160)

[Hide Answer](#)

Which cable type must be used when connecting two like devices together using these criteria?

1. Pins 1 to 3 and 2 to 6 are required
2. Auto detection MDI-X is unavailable

- A. rollover
- B. console
- C. straight-through
- D. crossover

Answer: D

Item 161 of 561 (Choice, Q161)

[Hide Answer](#)**R1# show ip route**

```
D 192.168.10.0/24 [90/2679326] via 192.168.1.1
B 192.168.10.0/23 [120/3] via 192.168.1.2
O 192.168.10.0/23 [110/2] via 192.168.1.3
i L1 192.168.10.0/13 [115/30] via 192.168.1.4
```

Refer to the exhibit. How does router R1 handle traffic to 192.168.10.16?

- A. It selects the RIP route because it has the longest prefix inclusive of the destination address.
- B. It selects the OSPF route because it has the lowest cost.
- C. It selects the IS-IS route because it has the shortest prefix inclusive of the destination address.
- D. It selects the EIGRP route because it has the lowest administrative distance.

Answer: A

ia - IS-IS inter area, \* - candidate default, U - per-user static route  
o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/24 is subnetted, 1 subnets

C 18.10.10.0 is directly connected, FastEthernet0/0

R3#show ip route

Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP  
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area  
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2  
E1 - OSPF external type 1, E2 - OSPF external type 2  
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2  
ia - IS-IS inter area, \* - candidate default, U - per-user static route  
o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

20.0.0.0/24 is subnetted, 1 subnets

C 20.20.20.0 is directly connected, FastEthernet0/1

S 10.0.0.0/24 is subnetted, 1 subnets

S 10.10.10.0 [1/0] via 20.20.20.1

ia - IS-IS inter area, \* - candidate default, U - per-user static route  
o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

20.0.0.0/24 is subnetted, 1 subnets

C 20.20.20.0 is directly connected, FastEthernet0/1

10.0.0.0/24 is subnetted, 1 subnets

C 18.10.10.0 is directly connected, FastEthernet0/0

Refer to the exhibit. Router R1 Fa0/0 is unable to ping router R3 Fa0/1. Which action must be taken in router R1 to help resolve the configuration issue?

- A. set the default network as 20.20.20.0/24
- B. configure a static route with 10.10.10.2 as the next hop to reach the 20.20.20.0/24 network
- C. configure a static route with Fa0/1 as the egress interface to reach the 20.20.20.0/24 network
- D. set the default gateway as 20.20.20.2

Answer: B

## Item 163 of 561 (Choice, Q163)

[Hide Answer](#)

Which two conditions must be met before SSH operates normally on a Cisco IOS switch? (Choose two.)

- A. The ip domain-name command must be configured on the switch.
- B. The switch must be running a k9 (crypto) IOS image.
- C. A console password must be configured on the switch.
- D. Telnet must be disabled on the switch.
- E. IP routing must be enabled on the switch.

Answer: AB

## Item 164 of 561 (Choice, Q164)

[Hide Answer](#)

A network engineer is replacing the switches that belong to a managed-services client with new Cisco Catalyst switches. The new switches will be configured for updated security standards, including replacing Telnet services with encrypted connections and doubling the modulus size from 1024. Which two commands must the engineer configure on the new switches? (Choose two.)

- A. transport input ssh
- B. crypto key generate rsa general-keys modulus 1024
- C. crypto key generate rsa usage-keys
- D. transport input all
- E. crypto key generate rsa modulus 2048

Answer: AE

## Item 165 of 561 (Choice, Q165)

[Hide Answer](#)

An engineer is configuring switch SW1 to act as an NTP server when all upstream NTP server connectivity fails. Which configuration must be used?

- A. SW1# config t  
SW1(config)# ntp master  
SW1(config)# ntp server 192.168.1.1
- B. SW1# config t  
SW1(config)# ntp peer 192.168.1.1  
SW1(config)# ntp access-group peer accesslist1
- C. SW1# config t  
SW1(config)#ntp backup  
SW1(config)# ntp server 192.168.1.1
- D. SW1# configt  
SW1(config)# ntp server 192.168.1.1  
SW1(config)# ntp access-group server accesslist1

Answer: A

## Item 166 of 561 (Choice, Q166)

[Hide Answer](#)

How does HSRP provide first hop redundancy?

- A. It forwards multiple packets to the same destination over different routed links in the data path.
- B. It load-balances Layer 2 traffic along the path by flooding traffic out all interfaces configured with the same VLAN.
- C. It load-balances traffic by assigning the same metric value to more than one route to the same destination in the IP routing table.
- D. It uses a shared virtual MAC and a virtual IP address to a group of routers that serve as the default gateway for hosts on a LAN

Answer: D

## Item 167 of 561 (Choice, Q167)

[Hide Answer](#)

Which function generally performed by a traditional network device is replaced by a software-defined controller?

- A. building route tables and updating the forwarding table
- B. encryption and decryption for VPN link processing
- C. encapsulation and decapsulation of packets in a data-link frame
- D. changing the source or destination address during NAT operations

Answer: A

## Item 168 of 561 (Choice, Q168)

What is a benefit for external users who consume public cloud resources?

- A. located in the same data center as the users
- B. implemented over a dedicated WAN
- C. accessed over the Internet
- D. all hosted on physical servers

Answer: C

## Item 169 of 561 (Choice, Q169)

[Hide Answer](#)

Which unified access point mode continues to serve wireless clients after losing connectivity to the Cisco Wireless LAN Controller?

- A. flexconnect
- B. sniffer
- C. mesh
- D. local

Answer: A



Refer to the exhibit. An administrator is configuring a new WLAN for a wireless network that has these requirements:

1. Dual-band clients that connect to the WLAN must be directed to the 5-GHz spectrum.
2. Wireless clients on this WLAN must be able to apply VLAN settings on the returned RADIUS attributes.

Which two actions meet these requirements? (Choose two.)

- A. Enable the Client Band Select option.
- B. Enable the Allow AAA Override option.
- C. Enable the Coverage Hole Detection option.
- D. Enable the Aironet IE option.
- E. Set the MFP Client Protection option to Required.

Answer: AB

## Item 171 of 561 (Choice, Q171)

[Hide Answer](#)

Which action protects a network from VLAN hopping attacks?

- A. Change the native VLAN to an unused VLAN ID.
- B. Configure an ACL to prevent traffic from changing VLANs.
- C. Implement port security on internet-facing VLANs.
- D. Enable dynamic ARP inspection.

Answer: A

Refer to the exhibit. An administrator must configure interfaces Gi1/1 and Gi1/3 on switch SW11. PC-1 and PC-2 must be placed in the Data VLAN, and Phone-1 must be placed in the Voice VLAN. Which configuration meets these requirements?

- A. interface qiqabitethernet1/1  
switchport mode access  
switchport access vlan 9  
!  
interface gigabitethernet1/3  
switchport mode trunk  
switchport trunk vlan 8  
switchport trunk vlan 9
- B. interface gigabitethernet1/1  
switchport mode access  
switchport access vlan 8  
!  
interface qiqabitethernet1/3  
switchport mode access  
switchport access vlan 8  
switchport voice vlan 9
- C. interface qicqabitethernet1/1  
switchport mode access  
switchport access vlan 8  
!  
interface gigabitethernet1/3  
switchport mode trunk  
switchport trunk vlan 8  
switchport voice vlan 9
- D. interface gigabitethernet1/1  
switchport mode access  
switchport access vlan 8  
!

## Item 173 of 561 (Choice, Q173)

[Hide Answer](#)

What is the maximum bandwidth of a T1 point-to-point connection?

- A. 1.544 Mbps
- B. 34.368 Mbps
- C. 2.048 Mbps
- D. 43.7 Mbps

Answer: A

```
SW#show run
Building configuration...
!
interface FastEthernet0/1
    switchport access vlan 15
!
end
```

Refer to the exhibit. All VLANs are present in the VLAN database. Which command sequence must be applied to complete the configuration?

- A. interface FastEthernet0/1  
switchport mode access  
switchport voice vlan 10
- B. interface FastEthernet0/1  
switchport mode trunk  
switchport trunk allowed vlan 10,15
- C. Interface FastEthernet0/1  
switchport trunk allowed vlan add 10  
vlan 10  
private-vlan isolated
- D. interface FastEthernet0/1  
switchport trunk native vlan 10  
switchport trunk allowed vlan 10,15

Answer: A

Item 175 of 561 (Choice, Q175)

[Hide Answer](#)

R1#

Gateway of last resort is 10.56.0.1 to network 0.0.0

- S\* 0.0.0.0/0 [1/0] via 10.56.0.1
- 10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
- C 10.56.0.0/16 is directly connected, Null0
- C 10.56.0.0/26 is directly connected, Vlan58
- C 10.56.0.0/17 is directly connected, Vlan59
- C 10.56.0.0/24 is directly connected, Vlan60

Refer to the exhibit. When router R1 receives a packet with destination IP address 10.56.0.62, through which interface does it route the packet?

- A. Vlan60
- B. Vlan58
- C. Null0
- D. Vlan59

Answer: B

## Item 176 of 561 (Choice, Q176)

[Hide Answer](#)

A network engineer must migrate a router loopback interface to the IPv6 address space. If the current IPv4 address of the interface is 10.54.73.1/32, and the engineer configures IPv6 address 0:0:0:0:ffff:a00:0000, which prefix length must be used?

- A. /96
- B. /124
- C. /128
- D. /64

Answer: C

## Item 177 of 561 (Choice, Q177)

[Hide Answer](#)

What is the path for traffic sent from one user workstation to another workstation on a separate switch in a three-tier architecture model?

- A. access-core-distribution-access
- B. access-distribution-core-distribution-access
- C. access-core-access
- D. access-distribution-distribution-access

Answer: B

```
switchport mode access
```

```
0007.8000.9209
```

```
DYNAMIC
```

```
fa0/1
```

```
!
interface FastEthernet0/2
 switchport access vlan 2
 switchport trunk allowed vlan 3
 switchport mode trunk
```

Refer to the exhibit. An engineer has started to configure replacement switch SW1. To verify part of the configuration, the engineer issued the commands as shown and noticed that the entry for PC2 is missing. Which change must be applied to SW1 so that PC1 and PC2 communicate normally?

- A. SW1(config)#interface fa0/2  
SW1(config-ip)#no switchport access vlan 2  
SW1(config-ip)#no switchport trunk allowed vlan 3  
SW1(config-ip)#switchport trunk allowed vlan 2
- B. SW1(config)#interface fa0/1  
SW1(config-ip)#no switchport access vlan 2  
SW1(config-ip)#switchport access vlan 3  
SW1(config-ip)#switchport trunk allowed vlan 2
- C. SW1(config)#interface fa0/2  
SW1(config-ip)#no switchport mode trunk  
SW1(config-ip)#no switchport trunk allowed vlan 3  
SW1(config-ip)#switchport mode access
- D. SW1(config)#interface fa0/1  
SW1(config-ip)#no switchport access vlan 2  
SW1(config-ip)#switchport trunk native vlan 2  
SW1(config-ip)#switchport trunk allowed vlan 3

Answer: C

## Item 179 of 561 (Choice, Q179)

[Hide Answer](#)

How is RFC 1918 addressing used in a network?

- A. They are used to access the Internet from the internal network without conversion.
- B. They are used with NAT to preserve public IPv4 addresses.
- C. They are used in place of public addresses for increased security.
- D. They are used by Internet Service Providers to route over the Internet

Answer: B

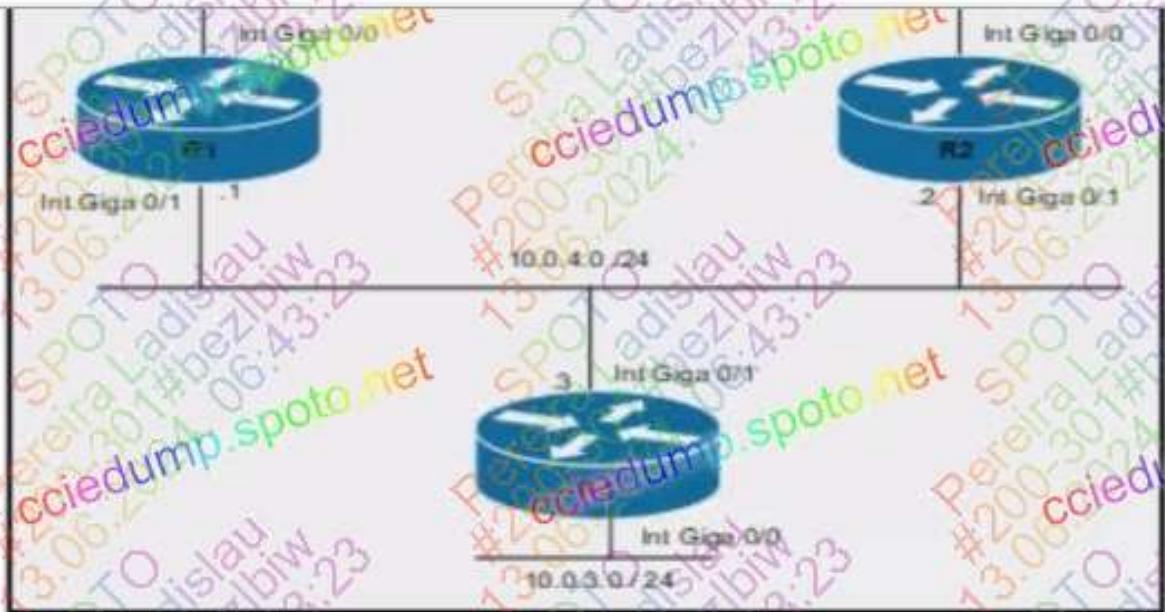
## Item 180 of 561 (Choice, Q180)

[Hide Answer](#)

How does Cisco DNA Center gather data from the network?

- A. Devices establish an IPsec tunnel to exchange data with the controller.
- B. Devices use the call-home protocol to periodically send data to the controller.
- C. Network devices use different services like SNMP, syslog, and streaming telemetry to send data to the controller.
- D. The Cisco CLI Analyzer tool gathers data from each licensed network device and streams it to the controller.

Answer: C



Refer to the exhibit. Routers R1 and R3 have the default configuration. The router R2 priority is set to 99. Which commands on R3 configure it as the DR in the 10.0.4.0/24 network?

- A. R3(config)# interface Gig0/0  
R3(config-if)# ip ospf priority 100
- B. R3(config)# interface Gig0/1  
R3(config-if)# ip ospf priority 0
- C. R3(config)# interface Gig0/1  
R3(config-if)# ip ospf priority 100
- D. R3(config)# interface Gig0/0  
R3(config-if)# ip ospf priority 1

Answer: C

## Item 182 of 561 (Choice, Q182)

[Hide Answer](#)

Which value is the unique identifier that an access point used to establish and maintain wireless connectivity to wireless network devices?

- A. SSID
- B. RFID
- C. VLAN ID
- D. WLAN ID

Answer: A

## Item 183 of 561 (Choice, Q183)

[Hide Answer](#)

```
R1# show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default
      U - per-user static route, o - ODR
Gateway of last resort is not set
C    172.16.0.0/16 is directly connected, Loopback0
      172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks
O    172.16.1.3/32 [110/100] via 10.0.1.100, 00:39:08, Serial0
O    172.16.1.9/32 [110/5] via 172.16.1.50, 00:43:01, Gigabit Ethernet 0/0
D    172.16.1.4/30  [90/7445] via 172.16.9.5, 00:39:08, Gigabit Ethernet 0/0
      [90/7445] via 172.16.4.4, 00:39:08, Gigabit Ethernet 0/4
```

Refer to the exhibit. How does router R1 handle traffic to the 172.16.1.4/30 subnet?

- A. It sends all traffic over the path via 10.0.1.100.
- B. It sends all traffic over the path via 172.16.4.4.
- C. It sends all traffic over the path via 172.16.9.5 using 172.16.4.4 as a backup.
- D. It load-balances traffic over 172.16.9.5 and 172.16.4.4.

Answer: D

## Item 184 of 561 (Choice, Q184)

[Hide Answer](#)

An engineer configured an OSPF neighbor as a designated router. Which state verifies the designated router is in the proper mode?

- A. 2-way
- B. Exchange
- C. Init
- D. Full

Answer: D

## Item 185 of 561 (Choice, Q185)

[Hide Answer](#)

What are two benefits of using the PortFast feature? (Choose two)

- A. Enabled interfaces come up and move to the forwarding state immediately.
- B. Enabled interfaces never generate topology change notifications.
- C. Enabled interfaces wait 50 seconds before they move to the forwarding state.
- D. Enabled interfaces are automatically placed in listening state.
- E. Enabled interfaces that move to the learning state generate switch topology change notifications.

Answer: AB

## Item 186 of 561 (Choice, Q186)

[Hide Answer](#)

With REST API, which standard HTTP header tells a server which media type is expected by the client?

- A. Accept-Encoding: gzip, deflate
- B. Content-Type: application/json; charset=utf-8
- C. Accept: application/json
- D. Accept-Patch: text/example, charset=utf-8

Answer: C

## Item 187 of 561 (Choice, Q187)

[Hide Answer](#)

An organization secures its network with multi-factor authentication using an authenticator app on employee smartphones. How is the application secured in the case of a user's smartphone being lost or stolen?

- A. The application requires the user to enter a PIN before it provides the second factor.
- B. The application challenges a user by requiring an administrator password to reactivate when the smartphone is rebooted.
- C. The application verifies that the user is in a specific location before it provides the second factor.
- D. The application requires an administrator password to reactivate after a configured interval.

Answer: A

## Item 188 of 561 (Choice, Q188)

[Hide Answer](#)

What are two differences between optical-fiber cabling and copper cabling? (Choose two.)

- A. Light is transmitted through the core of the fiber.
- B. The data can pass through the cladding.
- C. The glass core component is encased in a cladding.
- D. A BNC connector is used for fiber connections.
- E. Fiber connects to physical interfaces using RJ-45 connections.

Answer: AC

## Item 189 of 561 (Choice, Q189)

[Hide Answer](#)

What is a characteristic of an SSID in wireless networks?

- A. uses policies to prevent unauthorized users
- B. prompts a user for a login ID
- C. associates a name to a WLAN
- D. must include a combination of letters and numbers

Answer: C

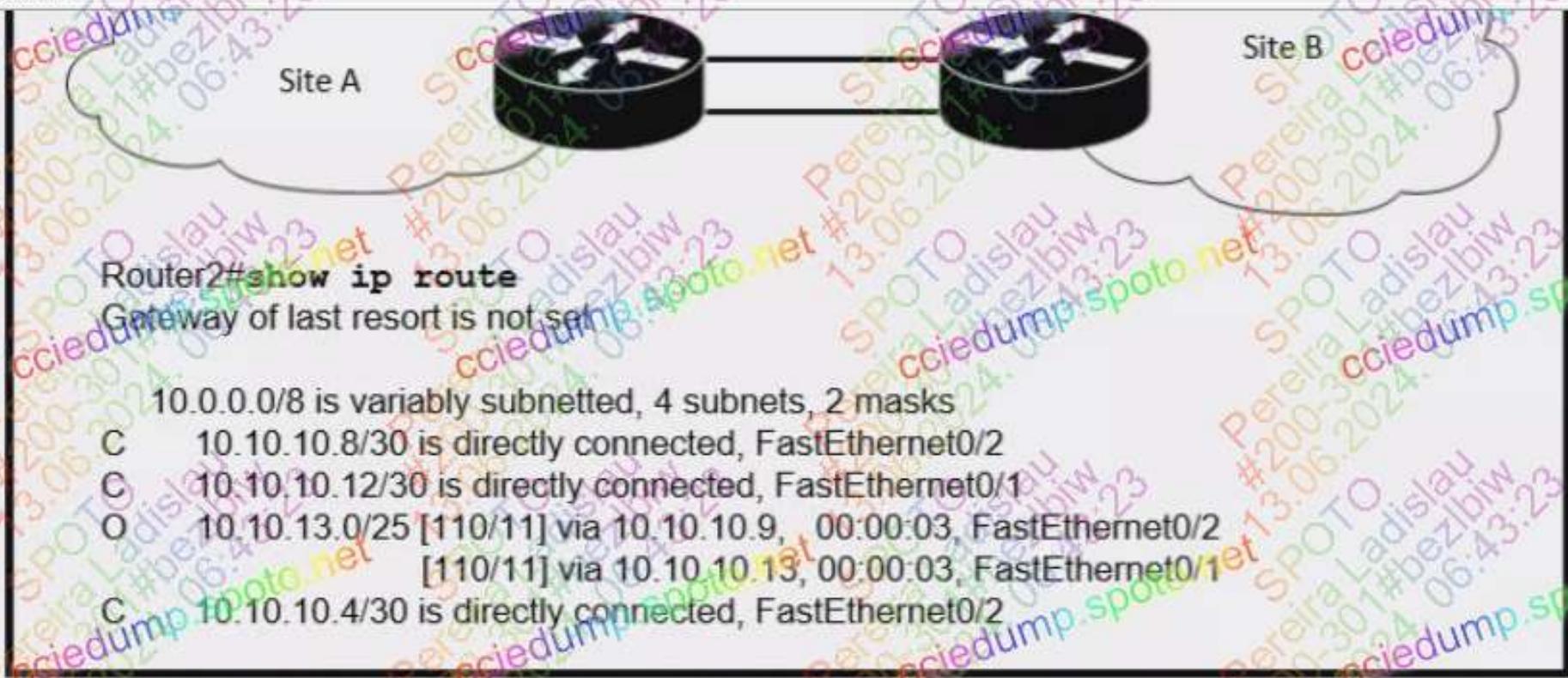
The screenshot shows a Cisco Wireless Local Controller (WLC) interface for configuring security policies. The title bar indicates the policy is for [WPA2][Auth(802.1X)]. A note states that modifications under the security tab will appear after applying the changes. The configuration includes:

- Radio Policy:** Set to All.
- Interface/Interface Group(G):** Set to management.
- Broadcast Vlan Feature:** Enabled checkbox is checked.
- Broadcast SSID:** Enabled checkbox is checked.
- NAS-ID:** Set to Cisco\_42:0e:44.

Refer to the exhibit .A Cisco WLC administrator is creating a new wireless network with enhanced SSID security. The new network must operate at 2.4 Ghz with 54 Mbps of throughput. Which set of tasks must the administrator perform to complete the configuration?

- A. Check the Broadcast SSID check box and set the Radio Policy to 802.11a only.
- B. Uncheck the Broadcast SSID check box and set the Radio Policy to 802.11g only.
- C. Uncheck the Broadcast SSID check box and set the Radio Policy to 802.11a/g only.
- D. Check the Broadcast SSID check box and set the Radio Policy to 802.11g only.

Answer: B



Refer to the exhibit. If OSPF is running on this network, how does Router2 handle traffic from Site B to 10.10.13.128/25 at Site A?

- A. It sends packets out of interface Fa0/1
- B. It sends packets out of interface Fa0/2
- C. It load-balances traffic out of Fa0/1 and Fa0/2
- D. It is unreachable and discards the traffic

Answer: D

## Item 192 of 561 (Choice, Q192)

Which protocol prompts the Wireless LAN Controller to generate its own local web administration SSL certificate for GUI access?

- A. RADIUS
- B. HTTPS
- C. HTTP
- D. TACACS+

Answer: B

[https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-0/configuration-guide/b\\_cg80/b\\_cg80\\_chapter\\_011.html#ID520](https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-0/configuration-guide/b_cg80/b_cg80_chapter_011.html#ID520)

## Item 193 of 561 (Choice, Q193)

[Hide Answer](#)

A packet from a company's branch office is destined to host 172.31.0.1 at headquarters. The sending router has three possible matches in its routing table for the packet prefixes 172.31.0.0/16, 172.31.0.0/24, and 172.31.0.0/25. How does the router handle the packet?

- A. It sends the traffic via prefix 172.31.0.0/24.
- B. It sends the traffic via prefix 172.31.0.0/25.
- C. It sends the traffic via the default gateway 0.0.0.0/0.
- D. It sends the traffic via prefix 172.31.0.0/16.

Answer: B

## Item 194 of 561 (Choice, Q194)

[Hide Answer](#)

By default, how long will the switch continue to know a workstation MAC address after the workstation stops sending traffic?

- A. 200 seconds
- B. 600 seconds
- C. 300 seconds
- D. 900 seconds

Answer: C

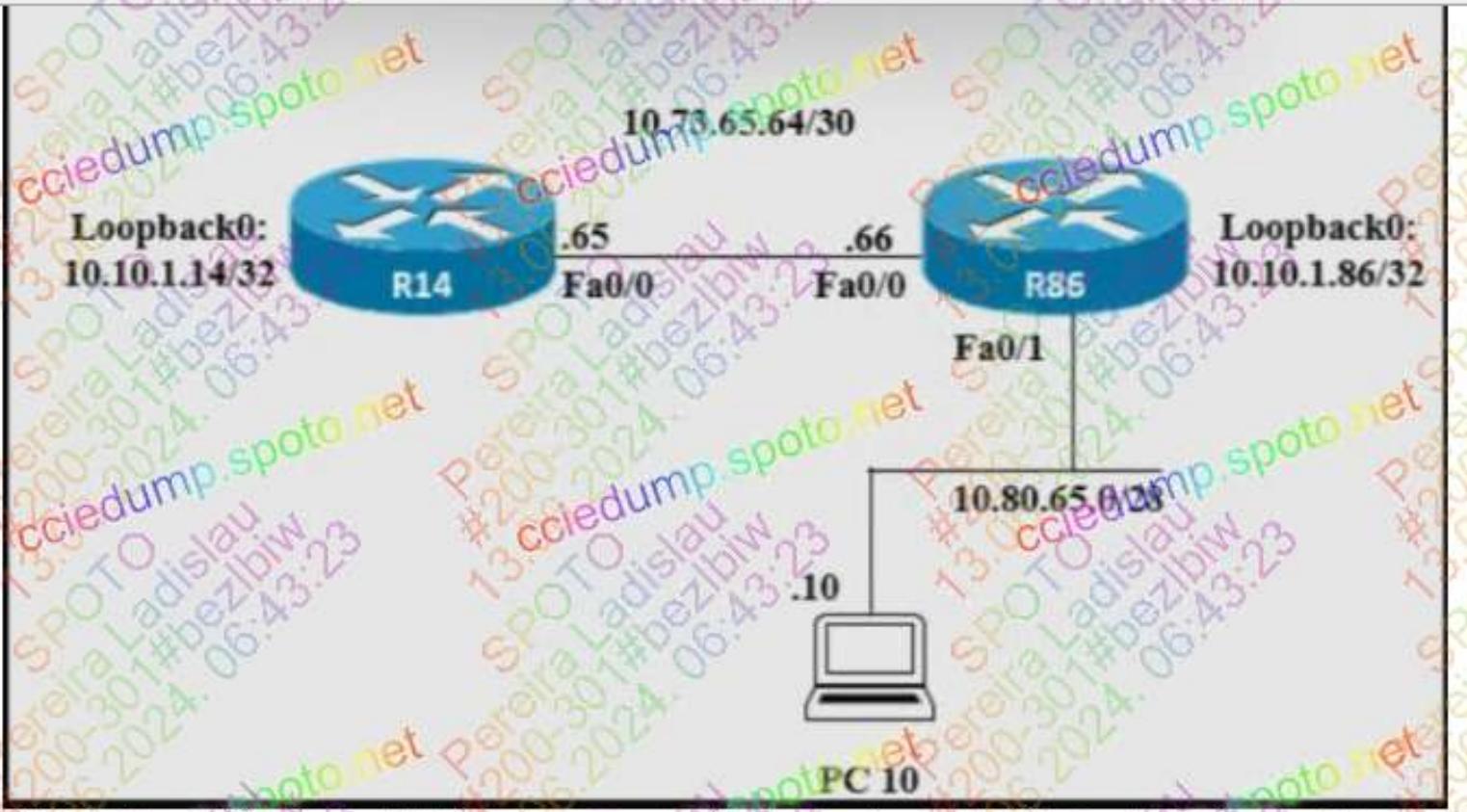
## Item 195 of 561 (Choice, Q195)

[Hide Answer](#)

What configuration management mechanism uses TCP port 22 by default when communicating with managed nodes?

- A. Python
- B. Chef
- C. Puppet
- D. Ansible

Answer: D



Refer to the exhibit. Router R14 is in the process of being configured. Which configuration must be used to establish a host route to PC 10?

- A. ip route 10.80.65.10 255.255.255.254 10.80.65.1
- B. ip route 10.80.65.10 255.255.255.255 10.73.65.66
- C. ip route 10.73.65.66 0.0.0.255 10.80.65.10
- D. ip route 10.73.65.65 255.0.0.0 10.80.65.10

Answer: B

## Item 197 of 561 (Choice, Q197)

[Hide Answer](#)

How do servers connect to the network in a virtual environment?

- A. wireless to an access point that is physically connected to the network
- B. a cable connected to a physical switch on the network
- C. a software switch on a hypervisor that is physically connected to the network
- D. a virtual switch that links to an access point that is physically connected to the network

Answer: C

```
encapsulation ARPA, loopback not set
Keepalive not supported
Full Duplex, 1000Mbps, link type is auto, media type is RJ45
output flow-control is off, input flow-control is off
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:00, output 00:00:11, output hang never
Last clearing of "show interface" counters never
Input queue: 0/375/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 7000 bits/sec, 4 packets/sec
5 minute output rate 4000 bits/sec, 4 packets/sec
 22579370 packets input, 8825545968 bytes, 0 no buffer
  Received 67 broadcasts (0 IP multicasts)
  0 runts, 0 giants, 0 throttles
  3612699 input errors, 3612699 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 10747057 multicast, 0 pause input
  12872167 packets output, 1697953637 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
    6 unknown protocol drops
    0 babbles, 0 late collision, 0 deferred
    5 lost carrier, 0 no carrier, 0 pause output
    0 output buffer failures, 0 output buffers swapped out
```

Refer to the exhibit. What is a reason for poor performance on the network interface?

- A. The bandwidth setting of the interface is misconfigured.
- B. The cable connection between the two devices is faulty.
- C. The interface is receiving excessive broadcast traffic.
- D. The interface is operating at a different speed than the connected device.

Answer: B

## Item 199 of 561 (Choice, Q199)

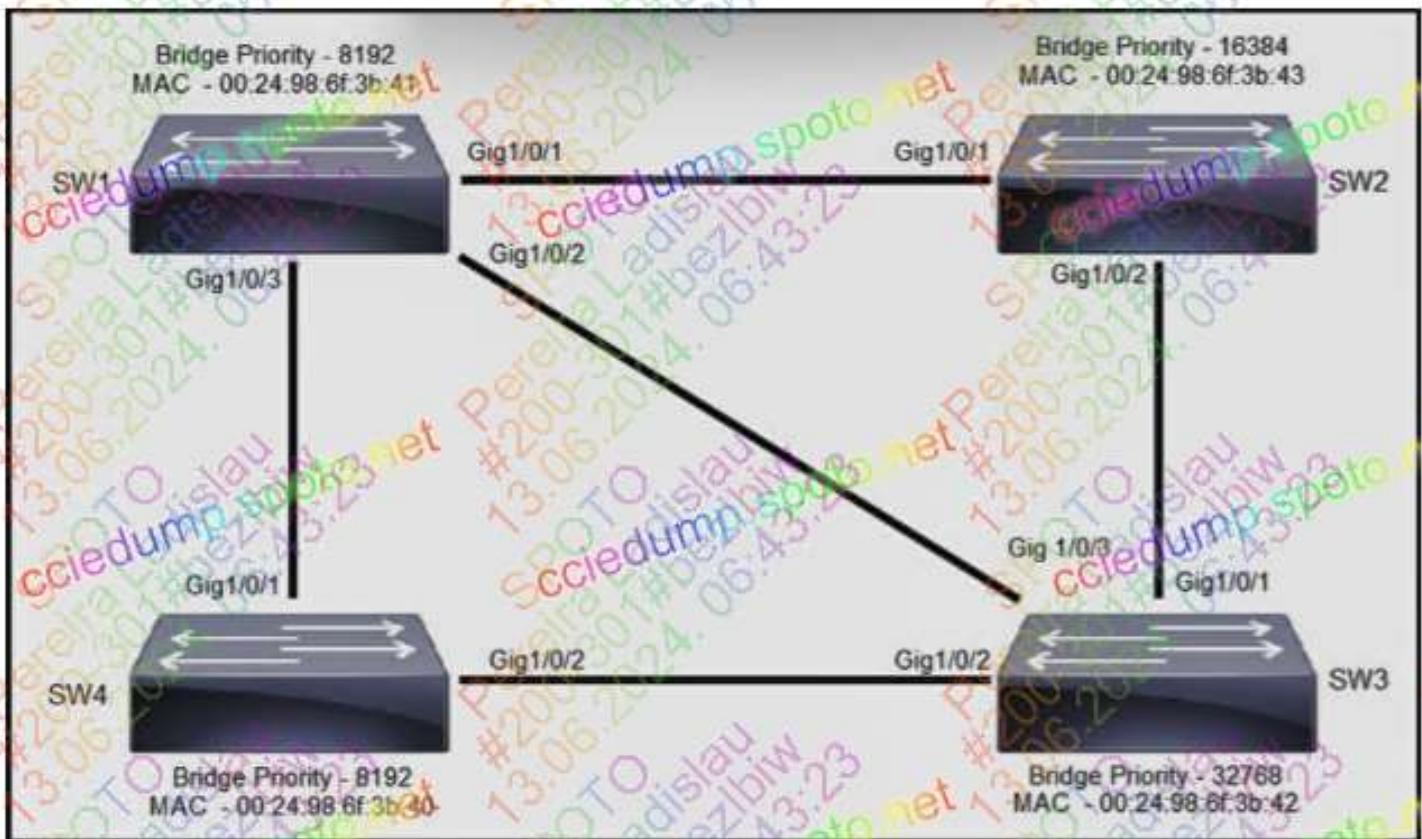
[Hide Answer](#)

What is a function of FTP?

- A. uses two separate connections for control and data traffic
- B. relies on the well-known UDP port 69 for data transfer
- C. always operates without user connection validation
- D. uses block numbers to identify and mitigate data-transfer errors

Answer: A

## Item 200 of 561 (Choice, Q200)

[Hide Answer](#)

Refer to the exhibit. Rapid PVST+ mode is on the same VLAN on each switch. Which switch becomes the root bridge and why?

- A. SW4, because its priority is highest and its MAC address is lower
- B. SW2, because its MAC address is the highest
- C. SW3, because its priority is the highest
- D. SW1, because its priority is the lowest and its MAC address is higher

## Item 201 of 561 (Choice, Q201)

[Hide Answer](#)

An office has 8 floors with approximately 30-40 users per floor. One subnet must be used. Command must be configured on the router Switched Virtual interface to use address efficiently?

- A. ip address 192.168.0.0 255.255.254.0
- B. ip address 192.168.0.0 255.255.255.224
- C. ip address 192.168.0.0 255.255.0.0
- D. ip address 192.168.0.0 255.255.255.128

Answer: A

## Item 202 of 561 (Choice, Q202)

[Hide Answer](#)

A Cisco engineer notices that two OSPF neighbors are connected using a crossover Ethernet cable. The neighbors are taking too long to become fully adjacent. Which command must be issued under the interface configuration on each router to reduce the time required for the adjacency to reach the FULL state?

- A. ip ospf network point-to-point
- B. ip ospf priority 0
- C. ip ospf dead-interval 40
- D. ip ospf network broadcast

Answer: A

## Item 203 of 561 (Choice, Q203)

[Hide Answer](#)

What is the role of disaggregation in controller-based networking?

- A. It divides the control-plane and data-plane functions.
- B. It enables a network topology to quickly adjust from a ring network to a star network.
- C. It summarizes the routes between the core and distribution layers of the network topology.
- D. It streamlines traffic handling by assigning individual devices to perform either Layer 2 or Layer 3 functions.

Answer: A

## Item 204 of 561 (Choice, Q204)

 Hide Answer

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
is directly connected, Serial0/1/0
    172.16.0.0/16 is variably subnetted, 3 subnets, 3 masks
S 172.16.0.0/24 [1/0] via 207.165.200.250, Serial0/0/0
O 172.16.0.128/25 [110/32445] via 207.165.200.254, 00:00:23, Serial0/0/1
D 172.16.0.192/29 [90/3184439] via 207.165.200.254, 00:00:25, Serial0/0/1
207.165.200.0/24 is variably subnetted, 4 subnets, 2 masks
C 207.165.200.248/30 is directly connected, Serial0/0/0
L 207.165.200.249/32 is directly connected, Serial0/0/0
C 207.165.200.252/30 is directly connected, Serial0/0/1
L 207.165.200.253/32 is directly connected, Serial0/0/1
```

Refer to the exhibit. With which metric does router R1 learn the route to host 172.16.0.202?

- A. 90
- B. 32445
- C. 3184439
- D. 110

Answer: B

Which WPA3 enhancement protects against hackers viewing traffic on the Wi-Fi network?

- A. SAE encryption
- B. TKIP encryption
- C. AES encryption
- D. scrambled encryption key

Answer: A

Which API is used in controller-based architectures to interact with edge devices?

- A. northbound
- B. overlay
- C. underlay
- D. southbound

Answer: D

Select the best choice.

100%



An engineer is configuring NAT to translate the source subnet of 10.10.0.0/24 to any one of three addresses: 192.168.3.1, 192.168.3.2, or 192.168.3.3. Which configuration should be used?

A. enable

```
configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
access-list 1 permit 10.10.0.0 0.0.0.254
```

```
ip nat inside source list 1 pool mypool
```

```
interface g1/1
```

```
ip nat inside
```

```
interface g1/2
```

```
ip nat outside
```

B. enable

```
configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
access-list 1 permit 10.10.0.0 0.0.0.255
```

```
ip nat inside source list 1 pool mypool
```

```
interface g1/1
```

```
ip nat inside
```

```
interface g1/2
```

```
ip nat outside
```

C. enable

```
configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
access-list 1 permit 10.10.0.0 0.0.0.255
```

```
ip nat outside destination list 1 pool mypool
```

```
interface g1/1
```

```
ip nat inside
```

```
interface g1/2
```

Item 208 of 561 (Choice, Q208)

[Hide Answer](#)

```
"Interfaces": [ "ethernet0/3", "ethernet0/4", "ethernet0/5" ]
```

Refer to the exhibit. Which type of JSON data is shown?

- A. Boolean
- B. object
- C. string
- D. sequence

Answer: B

Select the best choice.

100%



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Item 209 of 561 (Choice, Q209)

 Hide Answer

```
router# show ip route
...
D 172.18.32.0/26 [90/25789119] via 10.1.1.1
R 172.18.32.0/24 [120/4] via 10.1.1.2
O 172.18.32.0/19 [110/229840] via 10.1.1.3
C 172.18.32.32/32 is directly connected, Loopback0
C 172.18.32.36/30 is directly connected, GigabitEthernet0/0
L 172.18.32.37/32 is directly connected, GigabitEthernet0/0
```

Refer to the exhibit. A packet sourced from 172.18.33.2 is destined for 172.18.32.38. Where does the router forward the packet?

- A. 10.1.1.1
- B. Loopback0
- C. 10.1.1.3
- D. GigabitEthernet0/0

Answer: D

Select the best choice.

100%

```
!  
interface GigabitEthernet0/2  
    channel-group 2 mode passive
```

Refer to the exhibit. Which configuration enables SW2 to establish an LACP EtherChannel?

- A. SW2(config)#interface gigabitEthernet0/1  
SW2(config-if)#channel-group 2 mode auto  
SW2(config-if)#interface gigabitEthernet0/2  
SW2(config-if)#channel-group 2 mode auto
- B. SW2(config)#interface gigabitEthernet0/1  
SW2(config-if)#channel-group 1 mode on  
SW2(config-if)#interface gigabitEthernet0/2  
SW2(config-if)#channel-group 1 mode on
- C. SW2(config)#interface gigabitEthernet0/1  
SW2(config-if)#channel-group 2 mode desirable  
SW2(config-if)#interface gigabitEthernet0/2  
SW2(config-if)#channel-group 2 mode desirable
- D. SW2(config)#interface gigabitEthernet0/1  
SW2(config-if)#channel-group 1 mode active  
SW2(config-if)#interface gigabitEthernet0/2  
SW2(config-if)#channel-group 1 mode active

Answer: D

Select the best choice.

100%

## Item 211 of 561 (Choice, Q211)

[Hide Answer](#)

Which device protects an internal network from the Internet?

- A. router
- B. firewall
- C. Layer 2 switch
- D. access point

Answer: B

Hide Answer

## Item 212 of 561 (Choice, Q212)

A DHCP pool has been created with the name CONTROL. The pool uses the next to last usable IP address as the default gateway for the DHCP clients. The server is located at 172.16.32.15. What is the next step in the process for clients on the 192.168.52.0/24 subnet to reach the DHCP server?

- A. ip default-network 192.168.52.253
- B. ip default-gateway 192.168.52.253
- C. ip forward-protocol udp 137
- D. ip helper-address 172.16.32.15

Answer: D

Select the best choice.

100%

Which type of protocol is VRRP?

- A. uses dynamic IP address assignment
- B. uses a destination IP address 224.0.0.102 for router-to-router communication
- C. allows two or more routers to act as a default gateway
- D. uses Cisco-proprietary First Hop Redundancy Protocol

Answer: C



An engineer must update the configuration on two PCs in two different subnets to communicate locally with each other. One PC is configured with IP address 192.168.25.128/25 and the other with 192.168.25.100/25. Which network mask must the engineer configure on both PCs to enable the communication?

- A. 255.255.255.0
- B. 255.255.255.252
- C. 255.255.255.224
- D. 255.255.255.248

Answer: A

100%

Select the best choice.

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What is a difference between an IPv6 multicast address and an IPv6 anycast address?

- A. IPv6 multicast addresses are used to transition from IPv4 to IPv6, and IPv6 anycast addresses are used for address aggregation in an IPv6-only environment.
- B. An IPv6 multicast address is assigned to numerous interfaces within a subnet, but an IPv6 anycast address is used for a predefined group of nodes in an all-IPv6 routers group.
- C. An IPv6 multicast address uses the prefix 2002::/15 and forwards to one destination, and an IPv6 anycast address uses the prefix ff00::/8 and forwards to any destination in a group.
- D. A packet sent to an IPv6 multicast address is delivered to one or more destinations at once, but a packet sent to an IPv6 anycast address is routed to the closest interface with that address.

Answer: D



Which plane is centralized by an SDN controller?

- A. services-plane
- B. control-plane
- C. data-plane
- D. management-plane

Answer: B

Select the best choice.

100%

While examining excessive traffic on the network, it is noted that all incoming packets on an interface appear to be allowed even though an IPv4 ACL is applied to the interface. Which two misconfigurations cause this behavior? (Choose two.)

- A. The ACL is empty.
- B. A matching deny statement is too high in the access list.
- C. A matching permit statement is too high in the access list.
- D. The packets fail to match any permit statement.
- E. A matching permit statement is too broadly defined.

Answer: CE

Select all that apply.

100%



Which technology allows for multiple operating systems to be run on a single host computer?

- A. virtual device contexts
- B. virtual routing and forwarding
- C. server virtualization
- D. network port ID virtualization

Answer: C

100%



Select the best choice.

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How do traditional campus device management and Cisco DNA Center device management differ in regards to deployment?

- A. Traditional campus device management schemes can typically deploy patches and updates quicker than Cisco DNA Center device management.
- B. Traditional campus device management allows a network to scale quicker than with Cisco DNA Center device management.
- C. Cisco DNA Center device management can deploy a network faster than traditional campus device management.
- D. Cisco DNA Center device management can be implemented at a lower cost than most traditional campus device management options.

Answer: C

Select the best choice.

100%



Which type of address is shared by routers in a HSRP implementation and used by hosts on the subnet as their default gateway address?

- A. multicast address
- B. loopback IP address
- C. broadcast address
- D. virtual IP address

Answer: D

100%

Select the best choice.

What event has occurred if a router sends a notice level message to a syslog server?

- A. An interface line has changed status.
- B. A certificate has expired.
- C. An ICMP connection has been built.
- D. A TCP connection has been torn down.

Answer: A

## Item 222 of 561 (Choice, Q222)

[Hide Answer](#)

What is a purpose of traffic shaping?

- A. It limits bandwidth usage.
- B. It enables dynamic flow identification.
- C. It enables policy-based routing.
- D. It provides best-effort service.

Answer: A

Select the best choice.

100%



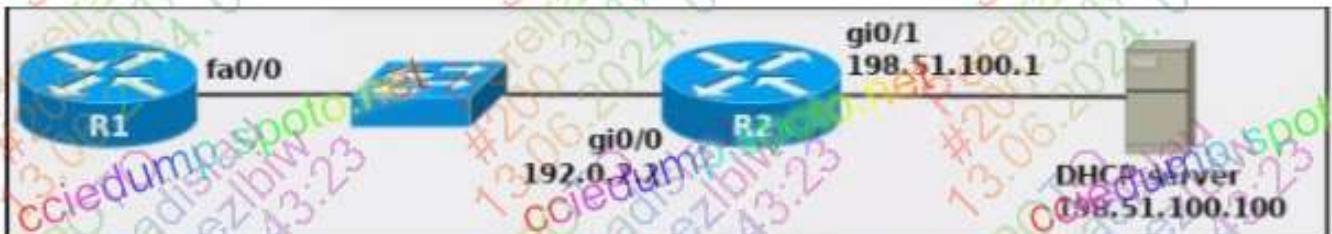
What is a role of access points in an enterprise network?

- A. integrate with SNMP in preventing DDoS attacks
- B. connect wireless devices to a wired network
- C. support secure user logins to devices on the network
- D. serve as a first line of defense in an enterprise network

Answer: B

Select the best choice.

100%



Refer to the exhibit. An engineer deploys a topology in which R1 obtains its IP configuration from DHCP. If the switch and DHCP server configurations are complete and correct, which two sets of commands must be configured on R1 and R2 to complete the task? (Choose two.)

- A. R1(config)# interface fa0/0  
R1(config-if)# ip helper-address 192.0.2.2
- B. R2(config)# interface gi0/0  
R2(config-if)# ip address dhcp
- C. R1(config)# interface fa0/0  
R1(config-if)# ip helper-address 198.51.100.100
- D. R2(config)# interface gi0/0  
R2(config-if)# ip helper-address 198.51.100.100
- E. R1(config)# interface fa0/0  
R1(config-if)# ip address dhcp  
R1(config-if)# no shutdown

Answer: DE

Select all that apply

100%



What is an expected outcome when network management automation is deployed?

- A. Custom applications are needed to configure network devices.
- B. Complexity increases when new device configurations are added.
- C. A distributed management plane must be used.
- D. Software upgrades are performed from a central controller.

Answer: D

100%



Select the best choice.

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Item 226 of 561 (Choice, Q226)

[Hide Answer](#)

Which selections must be used on the WLC when implementing a RADIUS server for wireless authentication?

- A. Client Exclusion and SSH
- B. AAA Override and the IP address of the server
- C. Network Access Control State and SSH
- D. 802.1X and the MAC address of the server

Answer: B

Select the best choice.

100%

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What is one reason to configure a trunk port that connects to a WLC distribution port?

- A. allow multiple VLANs to be used in the data path
- B. provide redundancy in the event of a link failure for out-of-band management
- C. permit multiple VLANs to provide out-of-band management
- D. eliminate redundancy with a link failure in the data path

Answer: A

Select the best choice.

100%



Which script paradigm does Puppet use?

- A. manifests and modules
- B. recipes and cookbooks
- C. playbooks and roles
- D. strings and marionettes

Answer: A

Select the best choice.

100%



**inside interfaces:****Ethernet0/1****Hits: 0 Misses: 0****CEF Translated packets: 0 DAF Punted packets: 0****Expired translations: 0****Dynamic mappings:****-- Inside Source****[Id: 1] access-list LAN pool NATPOOL refcount 0****pool NATPOOL: netmask 255.255.255.0****start 198.51.100.11 end 198.51.100.20****type generic, total addresses 10, allocated 0 (0%), misses 0****Total doors: 0****Appl doors: 0****Normal doors: 0****Queued Packets: 0**

Refer to the exhibit. What is the next step to complete the implementation for the partial NAT configuration shown?

- A. Reconfigure the static NAT entries that overlap the NAT pool.
- B. Modify the access list for the internal network on e0/1.
- C. Configure the NAT outside interface.
- D. Apply the ACL to the pool configuration.

Answer: C

Select the best choice.

100%



What device segregates a network into separate zones that have their own security policies?

- A. firewall
- B. Switch
- C. access point
- D. IPS

Answer: A

## Item 231 of 561 (Choice, Q231)

[Hide Answer](#)

Which QoS feature drops traffic that exceeds the committed access rate?

- A. shaping
- B. policing
- C. Weighted fair queuing
- D. FIFO

Answer: B

## Item 232 of 561 (Choice, Q232)

[Hide Answer](#)

{ "Employee's name": "Arthur" }

Refer to the exhibit. Which type of JSON data is shown?

- A. Key
- B. array
- C. Boolean
- D. Object

Answer: D

## Item 233 of 561 (Choice, Q233)

[Hide Answer](#)

What are two roles of the Dynamic Host Configuration Protocol (DHCP)? (Choose two.)

- A. The DHCP server assigns IP addresses without requiring the client to renew them.
- B. The DHCP client maintains a pool of IP addresses it can assign.
- C. The DHCP client can request up to four DNS server addresses.
- D. The DHCP server leases client IP addresses dynamically.
- E. The DHCP server offers the ability to exclude specific IP addresses from a pool of IP addresses.

Answer: DE

```
R2#config t
R2(config)# interface g1/1
R2(config-if)# ip address 192.168.0.2 255.255.255.0
R2#config t
R2(config)# router bgp 65001
R2(config-router)# neighbor 192.168.0.1 remote-as 65000
R2(config)# router ospf 1
R2(config)# router id 2.2.2.2
R2(config)# network 192.168.1.2 0.0.0.0 area 0
R2(config)# router eigrp 1
R2(config-eigrp-router-id)# router-id 1.1.1.1
R2(config)# network 192.168.0.1 0.0.0.0
R2(config)# ip route 10.1.1.0 255.255.255.0 192.168.0.1
```

Refer to the exhibit. Router R2 is configured with multiple routes to reach network 10.1.1.0/24 from router R1. Which path is chosen by router R2 to reach the destination network 10.1.1.0/24?

- A. OSPF
- B. eBGP
- C. EIGRP
- D. static

Answer: D

## Item 235 of 561 (Choice, Q235)

What mechanism carries multicast traffic between remote sites and supports encryption?

- A. IPsec over ISATAP
- B. GRE over IPsec
- C. GRE
- D. ISATAP

Answer: B

## Item 236 of 561 (Choice, Q236)

[Hide Answer](#)

In which way does a spine-and-leaf architecture allow for scalability in a network when additional access ports are required?

- A. A leaf switch is added with a single connection to a core spine switch.
- B. A leaf switch is added with connections to every spine switch.
- C. A spine switch and a leaf switch are added with redundant connections between them.
- D. A spine switch is added with at least 40 GB uplinks.

Answer: B



Refer to the exhibit. What are the two steps an engineer must take to provide the highest encryption and authentication using domain credentials from LDAP? (Choose two.)

- A. Select WPA+WPA2 on Layer 2 Security.
- B. Select PSK under Authentication Key Management.
- C. Select 802.1X from under Authentication Key Management.
- D. Select WPA Policy with TKIP Encryption.
- E. Select Static-WEP+802.1X on Layer 2 Security.

Answer: AC

## Item 238 of 561 (Choice, Q238)

[Hide Answer](#)

A network engineer starts to implement a new wireless LAN by configuring the authentication server and creating the dynamic interface. What must be performed next to complete the basic configuration?

- A. Configure high availability and redundancy for the access points.
- B. Enable Telnet and RADIUS access on the management interface.
- C. Install the management interface and add the management IP
- D. Create the new WLAN and bind the dynamic interface to it.

Answer: D

Item 239 of 561 (Choice, Q239)

 Hide Answer

```
SW1#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
-----------	------------	-----	--------	--------	----------

| FastEthernet0/1 | unassigned | YES | manual | down | down |

```
SW1#show interface fa0/1 status
```

Port	Name	Status	Vlan	Duplex	Speed	Type
Fa0/1		notconnect	1	a-full	a-100	10/100BaseTX

Refer to the exhibit. What is the cause of the issue?

- A. shutdown command
- B. STP
- C. wrong cable type
- D. port security

Answer: C

## Item 240 of 561 (Choice, Q240)

[Hide Answer](#)

Which state is bypassed in Rapid PVST+ when PortFast is enabled on a port?

- A. Learning
- B. Forwarding
- C. Discarding
- D. Blocking

Answer: A

## Item 241 of 561 (Choice, Q241)

[Hide Answer](#)

An email user has been lured into clicking a link in an email sent by their company's security organization. The webpage that opens reports that it was safe, but the link could have contained malicious code. Which type of security program is in place?

- A. social engineering attack
- B. physical access control
- C. user awareness
- D. brute force attack

Answer: C

## Item 242 of 561 (Choice, Q242)

 Hide Answer

Which network action occurs within the data plane?

- A. reply to an incoming ICMP echo request
- B. compare the destination IP address to the IP routing table
- C. run routing protocols (OSPF, EIGRP, RIP, BGP)
- D. make a configuration change from an incoming NETCONF RPC

Answer: B

<https://www.ciscopress.com/articles/article.asp?p=2995354&seqNum=2>

## Item 243 of 561 (Choice, Q243)

[Hide Answer](#)

What prevents a workstation from receiving a DHCP address?

- A. STP
- B. DTP
- C. VTP
- D. 802.1Q

Answer: A

## Item 244 of 561 (Choice, Q244)

[Hide Answer](#)

What are two characteristics of a small office /home office connection environment? (Choose two.)

- A. A router port connects to a broadband connection.
- B. It supports between 50 and 100 users.
- C. It supports between 1 and 50 users.
- D. It requires a core, distribution, and access layer architecture.
- E. It requires 10Gb ports on all uplinks.

Answer: AC

[Hide Answer](#)

## Item 2 of 236 (Choice, Q245)

What differentiates the Cisco OfficeExtend AP mode from FlexConnect AP mode?

- A. OfficeExtend does not support DTLS tunneling of traffic to the WLC, and FlexConnect tunnels traffic to the WLC with DTLS.
- B. FlexConnect must be deployed behind a router that NATs the client traffic, and OfficeExtend uses public IP sources.
- C. FlexConnect allows a personal SSID to be configured on the AP, and personal SSIDs are not supported with OfficeExtend.
- D. OfficeExtend tunnels all traffic through the WLC, and FlexConnect terminates client traffic at the AP switch port.

Answer: D



Current Score: 0/825

## Item 3 of 236 (Choice, Q246)

[Hide Answer](#)

PC1 tries to send traffic to newly installed PC2. The PC2 MAC address is not listed in the MAC address table of the switch, so the switch sends the packet to all ports in the same VLAN. Which switching concept does this describe?

- A. MAC address table
- B. MAC address aging
- C. spanning-tree protocol
- D. frame flooding

Answer: D

Mark

Current Score: 0/825

Item 4 of 236 (Choice, Q247)

 Hide Answer

What is a benefit of using private IPv4 addressing?

- A. Multiple companies can use the same addresses without conflicts.
- B. Direct connectivity is provided to internal hosts from outside an enterprise network.
- C. Communication to the internet is reachable without the use of NAT.
- D. All external hosts are provided with secure communication to the internet

Answer: A

Mark

Current Score: 0/825

## Item 5 of 236 (Choice, Q248)

[Hide Answer](#)

What provides connection redundancy, increased bandwidth, and load sharing between a wireless LAN controller and a Layer 2 switch?

- A. first hop redundancy
- B. link aggregation
- C. VLAN trunking
- D. tunneling

Answer: B

## Item 6 of 236 (Choice, Q249)

[Hide Answer](#)

How do AAA operations compare regarding user identification, user services, and access control?

- A. Authentication identifies users, and accounting tracks user services.
- B. Authorization provides access control, and authentication tracks user services.
- C. Accounting tracks user services, and authentication provides access control.
- D. Authorization identifies users, and authentication provides access control.

Answer: A

G1/1

```
Router1(config)#interface GigabitEthernet1/1
Router1(config-if)#description ***Connection to Router2***
Router1(config-if)#ip address 10.10.10.1 255.255.255.252
Router1(config-if)#ip ospf hello-interval 5
Router1(config)#router ospf 1000
Router1(config-router)#router-id 1.1.1.1
Router1(config-router)#network 10.10.10.0 0.0.0.3 area 0
```

```
Router2(config)#interface GigabitEthernet1/1
Router2(config-if)#description ***Connection to Router1***
Router2(config-if)#ip address 10.10.10.2 255.255.255.252
Router2(config)#router ospf 1001
Router2(config-router)#router-id 2.2.2.2
Router2(config-router)#network 10.10.10.0 0.0.0.3 area 0
Router2(config-router)#passive-interface default
Router2(config-router)#no passive-interface GigabitEthernet1/1
```

Refer to the exhibit. After the configuration is applied, the two routers fail to establish an OSPF neighbor relationship. What is the reason for the problem?

- A. Router2 is using the default hello timer.
- B. The OSPF process IDs are mismatched.
- C. The network statement on Router1 is misconfigured.
- D. The OSPF router IDs are mismatched.

Mark

Current Score: 0/825

[Hide Answer](#)

## Item 8 of 236 (Choice, Q251)

A network engineer must create a diagram of a multivendor network. Which command must be configured on the Cisco devices so that the topology of the network can be mapped?

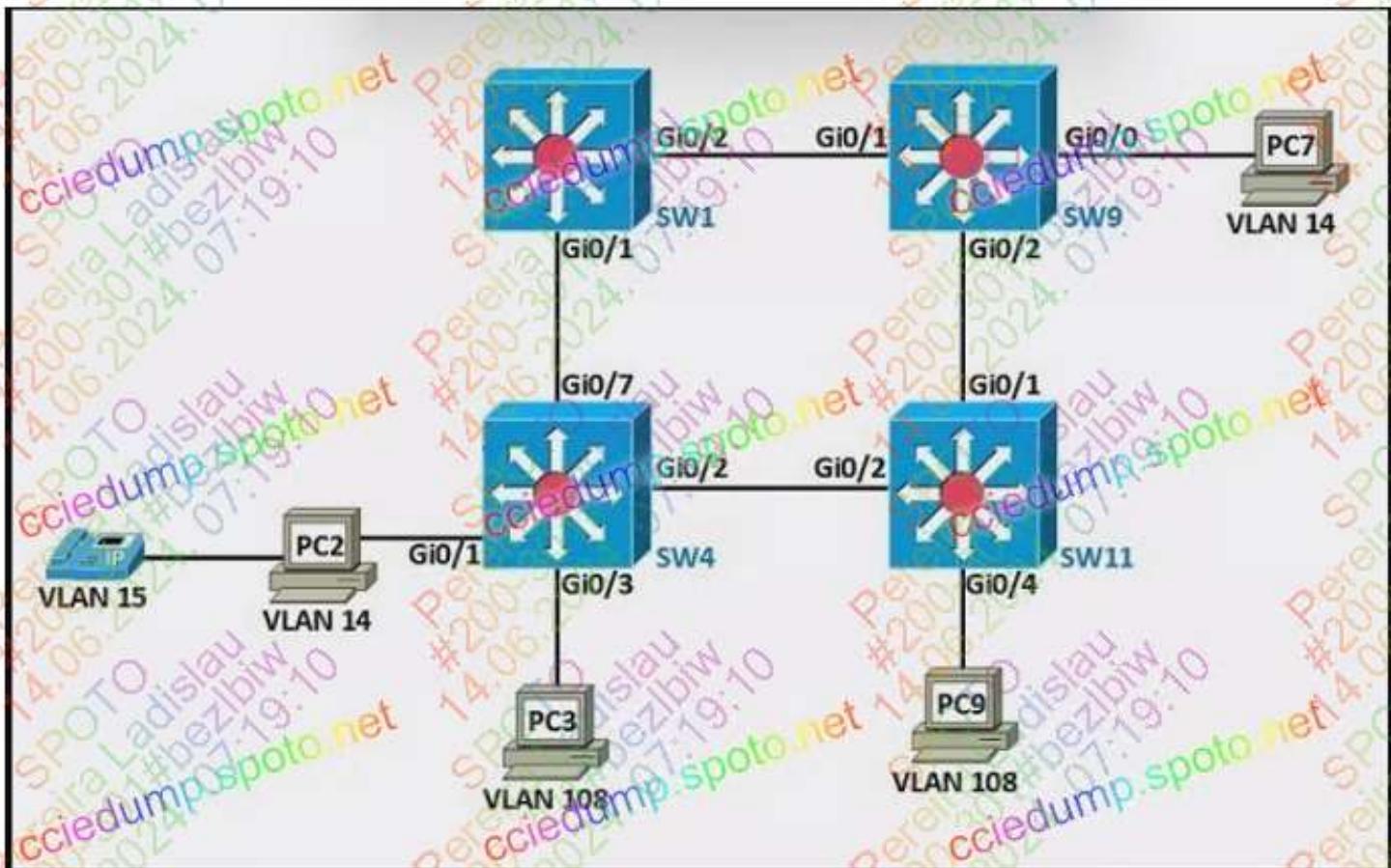
- A. Device(config)# flow-sampler-map topology
- B. Device(config-if)# cdp enable
- C. Device(config)# cdp run
- D. Device(config)# lldp run

Answer: D

Mark

Current Score: 0/825

Item 9 of 236 (Choice, Q252)

 Hide Answer

Refer to the exhibit. The following must be considered:

- SW1 is fully configured for all traffic.

Select the best choice.

100%

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Mark

Current Score: 0/825

switchport mode trunk

switchport trunk allowed vlan 108

B. SW4#

interface Gi0/2

switchport mode trunk

switchport trunk allowed vlan 14,108

SW11#

interface Gi0/2

switchport mode trunk

switchport trunk allowed vlan 14,108

interface Gi0/1

switchport mode trunk

switchport trunk allowed vlan 14,108

SW9#

interface Gi0/2

switchport mode trunk

switchport trunk allowed vlan 14

C. SW4#

interface Gi0/2

switchport mode access

switchport access vlan 14

SW11#

interface Gi0/2

switchport mode access

switchport access vlan 14

!

interface Gi0/0

Select the best choice.

100%

```
Router1#show ip route
Gateway of last resort is 10.10.11.2 to network 0.0.0.0

 209.165.200.0/27 is subnetted, 1 subnets
B      209.165.200.224 [20/0] via 10.10.12.2 03:22:14
 209.165.201.0/27 is subnetted, 1 subnets
B      209.165.201.0 [20/0] via 10.10.12.2 02:26:33
 209.165.202.0/27 is subnetted, 1 subnets
B      209.165.202.128 [20/0] via 10.10.12.2, 02:26:03
 10.0.0.0/8 is variably subnetted, 8 subnets, 4 masks
C      10.10.10.0/28 is directly connected, GigabitEthernet0/0
C      10.10.11.0/30 is directly connected, FastEthernet2/0
C      10.10.12.0/30 is directly connected, GigabitEthernet0/1
O      10.10.13.0/25 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
      10.10.13.128/26 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
O      10.10.13.144/28 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
O      10.10.13.160/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
O      10.10.13.208/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
S*     0.0.0.0/0 [1/0] via 10.10.11.2
```

Refer to the exhibit. What is the prefix length for the route that router1 will use to reach host A?

- A. /28
- B. /25
- C. /27
- D. /29

Mark

Current Score: 4/825

## Item 11 of 236 (Choice, Q254)

[Hide Answer](#)

What is the purpose of an ESSID?

- A. It serves as the wireless MAC address of the access point
- B. It provides greater security than a standard SSID.
- C. It allows multiple access points to provide a common network for client connections.
- D. It supports fast roaming features such as 802.11r, 802.11k, and 802.11v.

Answer: C

Select the best choice.

100%

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Current Score: 4/825

[Hide Answer](#)

## Item 12 of 236 (Choice, Q255)

After a recent security breach and a RADIUS failure, an engineer must secure the console port of each enterprise router with a local username and password. Which configuration must the engineer apply to accomplish this task?

- A. aaa new-model  
aaa authorization exec default local  
aaa authentication login default radius  
username localuser privilege 15 secret plaintextpassword
- B. username localuser secret plaintextpassword  
line con 0  
no login local  
privilege level 15
- C. aaa new-model  
line con 0  
password plaintextpassword  
privilege level 15
- D. username localuser secret plaintextpassword  
line con 0  
login authentication default  
privilege level 15

Answer: A

Select the best choice.

100%

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Mark

Current Score: 4/825

Item 13 of 236 (Choice, Q256)

 Hide Answer

In a cloud-computing environment, what is rapid elasticity?

- A. control and monitoring of resource consumption by the tenant
- B. self-service of computing resources by the tenant
- C. automatic adjustment of capacity based on need
- D. pooling resources in a multitenant model based on need

Answer: C

## Item 14 of 236 (Choice, Q257)

When OSPF learns multiple paths to a network, how does it select a route?

- A. It counts the number of hops between the source router and the destination to determine the route with the lowest metric.
- B. For each existing interface, it adds the metric from the source router to the destination to calculate the route with the lowest bandwidth.
- C. It multiplies the active K values by 256 to calculate the route with the lowest metric.
- D. It divides a reference bandwidth of 100 Mbps by the actual bandwidth of the exiting interface to calculate the route with the lowest cost.

Answer: D

Mark

## Item 15 of 236 (Choice, Q258)

[Hide Answer](#)

What does traffic shaping do?

- A. It organizes traffic into classes.
- B. It sets QoS attributes within a packet.
- C. It modifies the QoS attributes of a packet
- D. It queues excess traffic.

Answer: D

Select the best choice.

100%

```
Process ID 100, Router ID 192.168.1.1, Network Type BROADCAST, Cost: 1
Topology-MTID      Cost      Disabled      Shutdown      Topology Name
          0           1         no          no            Base
Transmit Delay is 1 sec, State DR, Priority 1
Designated Router (ID) 192.168.1.1, Interface address 10.201.24.8
No backup designated router on this network
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
  oob-resync timeout 40
  Hello due in 00:00:07
R2#sh ip ospf int gig0/0
gig0/0 is up, line protocol is up
  Internet Address 10.201.24.1/28, Area 1
  Process ID 100, Router ID 172.16.1.1, Network Type BROADCAST, Cost: 1
  Transmit Delay is 1 sec, State DR, Priority 1
  Designated Router (ID) 172.16.1.1, Interface address 10.201.24.1
  No backup designated router on this network
  Timer intervals configured, Hello 20, Dead 80, Wait 80, Retransmit 5
```

Refer to the exhibit. What action establishes the OSPF neighbor relationship without forming an adjacency?

- A. modify priority
- B. modify process ID
- C. modify hello interval
- D. modify network type

Item 17 of 236 (Choice, Q260)

 Hide Answer

```
1 [  
2   { "switch": "3750", "port": e2 },  
3   { "router": "2951", "port": e20 },  
4   { "switch": "3750", "port": e23 }  
5 ]
```

Refer to the exhibit. What is represented beginning with line 1 and ending with line 5?

- A. Array
- B. Key
- C. Object
- D. Value

Answer: A

Select the best choice.

100%

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Mark

Current Score: 4/825

[Hide Answer](#)

Item 18 of 236 (Choice, Q261)

Which action is taken by a switch port enabled for PoE power classification override?

- A. If a switch determines that a device is using less than the minimum configured power, it assumes the device has failed and disconnects it.
- B. As power usage on a PoE switch port is checked, data flow to the connected device is temporarily paused
- C. Should a monitored port exceed the maximum administrative value for power, the port is shut down and err-disabled.
- D. When a powered device begins drawing power from a PoE switch port, a syslog message is generated.

Answer: C

Select the best choice.

100%

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Mark

Current Score: 4/825

Hide Answer

Item 19 of 236 (Choice, Q262)

What are two benefits of FHRPs? (Choose two.)

- A. They prevent loops in the Layer 2 network.
- B. They enable automatic failover of the default gateway.
- C. They allow encrypted traffic.
- D. They are able to bundle multiple ports to increase bandwidth.
- E. They allow multiple devices to serve as a single virtual gateway for clients in the network.

Answer: BE

Select all that apply.

100%

Mark

Current Score: 4/825

[Hide Answer](#)

Item 20 of 236 (Choice, Q263)

What is a reason to implement LAG on a Cisco WLC?

- A. Increase security and encrypt management frames.
- B. Provide link redundancy and load balancing.
- C. Enable connected switch ports to fail over and use different VLANs.
- D. Allow for stateful and link-state failover.

Answer: B

Select the best choice.

100%

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Mark

Current Score: 4/825

 Hide Answer

## Item 21 of 236 (Choice, Q264)

An engineer needs to configure LLDP to send the port description type length value (TLV). What command sequence must be implemented?

- A. switch(config)#lldp port-description
- B. switch#lldp port-description
- C. switch(config-line)#lldp port-description
- D. switch(config-if)#lldp port description

Answer: A

[https://www.cisco.com/c/en/us/td/docs/switches/datacenter/nexus3000/sw/layer2/503\\_U2\\_1/b\\_Cisco\\_n3k\\_layer2\\_config\\_guide\\_503\\_U2\\_1/b\\_Cisco\\_n3k\\_layer2\\_config\\_gd\\_503\\_U2\\_1\\_chapter\\_01100.pdf](https://www.cisco.com/c/en/us/td/docs/switches/datacenter/nexus3000/sw/layer2/503_U2_1/b_Cisco_n3k_layer2_config_guide_503_U2_1/b_Cisco_n3k_layer2_config_gd_503_U2_1_chapter_01100.pdf)

Select the best choice.

100%

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Mark

Current Score: 4/825

Item 22 of 236 (Choice, Q265)

 Hide Answer

Refer to the exhibit. An engineer must configure a floating static route on an external EIGRP network. The destination subnet is the /29 on the LAN interface of R86. Which command must be executed on R14?

- A. ip route 10.80.65.0 255.255.255.240 fa0/1 89
- B. ip route 10.73.65.66 0.0.0.224 10.80.65.0 255
- C. ip route 10.80.65.0 255.255.248.0 10.73.65.66 1
- D. ip route 10.80.65.0 255.255.255.248 10.73.65.66 171

Answer: D

Select the best choice.

100%

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## Item 23 of 236 (Choice, Q266)

 Hide Answer

Under which condition is TCP preferred over UDP?

- A. UDP is used when data is highly interactive, and TCP is used when data is time-sensitive.
- B. TCP is used when data reliability is critical, and UDP is used when missing packets are acceptable.
- C. TCP is used when dropped data is more acceptable, and UDP is used when data is accepted out-of-order.
- D. UDP is used when low latency is optimal, and TCP is used when latency is tolerable.

Answer: B

## Item 24 of 236 (Choice, Q267)

[Hide Answer](#)

Which two spanning-tree states are bypassed on an interface running PortFast? (Choose two.)

- A. learning
- B. listening
- C. disabled
- D. blocking
- E. forwarding

Answer: AB

Select all that apply.

100%



Mark

Current Score: 4/825

## Item 25 of 236 (Choice, Q268)

Hide Answer

Which security program element involves installing badge readers on data-center doors to allow workers to enter and exit based on their job roles?

- A. multifactor authentication
- B. biometrics
- C. role-based access control
- D. physical access control

Answer: D

Select the best choice.

100%



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Mark Hide Answer

## Item 26 of 236 (Choice, Q269)

What are two reasons to configure PortFast on a switch port attached to an end host? (Choose two.)

- A. to protect the operation of the port from topology change processes
- B. to enable the port to enter the forwarding state immediately when the host boots up
- C. to limit the number of MAC addresses learned on the port to 1
- D. to block another switch or host from communicating through the port
- E. to prevent the port from participating in Spanning Tree Protocol operations

Answer: AB

Select all that apply.

100%

## Item 27 of 236 (Choice, Q270)

[Hide Answer](#)

Which level of severity must be set to get informational syslogs?

- A. Alert
- B. Notice
- C. Debug
- D. Critical

Answer: C

Select the best choice.

100%

D. R14#

```
interface FastEthernet0/0
ip address 10.73.65.65 255.255.255.252
ip ospf network broadcast
ip ospf priority 255
ip mtu 1500
```

```
router ospf 10
```

```
router-id 10.10.1.14
```

```
network 10.10.1.14 0.0.0.0 area 0
```

```
network 10.73.65.64 0.0.0.3 area 0
```

R86#

```
interface FastEthernet0/0
```

```
ip address 10.73.65.66 255.255.255.252
```

```
ip ospf network broadcast
```

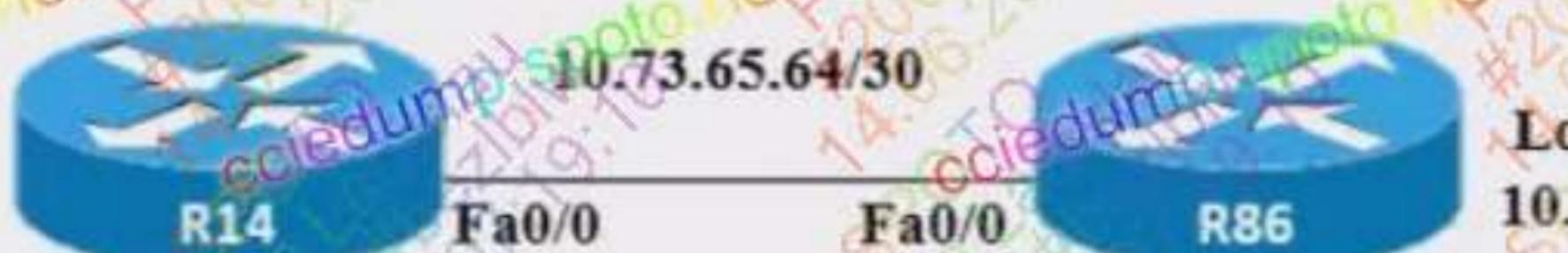
```
ip mtu 1500
```

```
router ospf 10
```

```
router-id 10.10.1.86
```

```
network 10.10.1.86 0.0.0.0 area 0
```

```
network 10.73.65.64 0.0.0.3 area 0
```



Refer to the exhibit. Which configuration allows routers R14 and R86 to form an OSPFv2 adjacency while acting as a central point for exchanging OSPF information between routers?

Mark

Current Score: 4/825

Item 29 of 236 (Choice, Q272)

[Hide Answer](#)

Which type of traffic is sent with pure IPsec?

- A. spanning-tree updates between switches that are at two different sites
- B. unicast messages from a host at a remote site to a server at headquarters
- C. broadcast packets from a switch that is attempting to locate a MAC address at one of several remote sites
- D. multicast traffic from a server at one site to hosts at another location

Answer: B

```
Router1#show ip route
```

```
Gateway of last resort is 10.10.11.2 to network 0.0.0.0
```

```
 209.165.200.0/27 is subnetted, 1 subnets
```

```
 B  209.165.200.224 [20/0] via 10.10.12.2, 03:22:14
```

```
 209.165.201.0/27 is subnetted, 1 subnets
```

```
 B  209.165.201.0 [20/0] via 10.10.12.2, 02:26:33
```

```
 209.165.202.0/27 is subnetted, 1 subnets
```

```
 B  209.165.202.128 [20/0] via 10.10.12.2, 02:26:03
```

```
 10.0.0.0/8 is variably subnetted, 8 subnets, 4 masks
```

```
 C  10.10.10.0/28 is directly connected, GigabitEthernet0/0
```

```
 C  10.10.11.0/30 is directly connected, FastEthernet2/0
```

```
 C  10.10.12.0/30 is directly connected, GigabitEthernet0/1
```

```
 O  10.10.13.0/25 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
```

```
 O  10.10.13.128/28 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
```

```
 O  10.10.13.144/28 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
```

```
 O  10.10.13.160/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
```

```
 O  10.10.13.208/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
```

```
S*  0.0.0.0/0 [1/0] via 10.10.11.2
```

Refer to the exhibit. What is the subnet mask of the route to the 10.10.13.160 prefix?

- A. 255.255.255.240
- B. 255.255.255.128
- C. 255.255.248.0
- D. 255.255.255.248

Mark

Current Score: 4/825

[Hide Answer](#)

## Item 31 of 236 (Choice, Q274)

Which cloud provided service allows an organization to install its own operating system on a virtual machine?

- A. network-as-a-service
- B. platforms-as-a-service
- C. infrastructure-as-a-service
- D. software-as-a-service

Answer: C

## Item 32 of 236 (Choice, Q275)

[Hide Answer](#)

What is the primary purpose of private address space?

- A. limit the number of nodes reachable via the Internet
- B. conserve globally unique address space
- C. simplify the addressing in the network
- D. reduce network complexity

Answer: B

## Item 33 of 236 (Choice, Q276)

[Hide Answer](#)

What is a DHCP client?

- A. a workstation that requests a domain name associated with its IP address
- B. a host that is configured to request an IP address automatically
- C. a router that statically assigns IP addresses to hosts.
- D. a server that dynamically assigns IP addresses to hosts.

Answer: B



```
R1#sh ip ro
Gateway of last resort is 10.10.10.18 to network 0.0.0.0

      10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
C        10.10.10.0/30 is directly connected, FastEthernet0/1
O        10.10.13.0/25 [110/6576] via 10.10.10.1, 06:58:21, FastEthernet0/1
C        10.10.10.16/30 is directly connected, FastEthernet0/24
O        10.10.13.144/28 [110/110] via 10.10.10.1, 06:58:21, FastEthernet0/1
B*       0.0.0.0 [20/0] via 10.10.10.18, 01:17:58
```

Refer to the exhibit. Which route type is configured to reach the internet?

- A. floating static route
- B. default route
- C. host route
- D. network route

```
!  
"Cisco Devices": [  
    !  
    "name": "ASA - Security Device",  
    "name": "Cisco 1100 ASR Router",  
    "name": "Cisco 6800 Switch"  
]  
!
```

Refer to the exhibit. What is missing from this output for it to be executed?

- A. square bracket ( [ ) at the beginning
- B. exclamation point (!) at the beginning of each line
- C. curly brace ( { } ) at the end
- D. double quotes ( " ") around the "Cisco Devices" string

Answer: C

## Item 36 of 236 (Choice, Q279)

 Hide Answer

What causes a port to be placed in the err-disabled state?

- A. **shutdown** command issued on the port
- B. latency
- C. link flapping
- D. nothing plugged into the port

Answer: C

<https://www.cisco.com/c/en/us/support/docs/lan-switching/spanning-tree-protocol/69980-errdisable-recovery.html#anc8>

## Item 37 of 236 (Choice, Q280)

[Hide Answer](#)

What EtherChannel mode must be configured when using LAG on a WLC?

- A. Active
- B. Passive
- C. On
- D. Auto

Answer: C

## Item 38 of 236 (Choice, Q281)

[Hide Answer](#)

Which two HTTP methods are suitable for actions performed by REST-based APIs? (Choose two.)

- A. REMOVE
- B. GET
- C. POP
- D. REDIRECT
- E. POST

Answer: BE

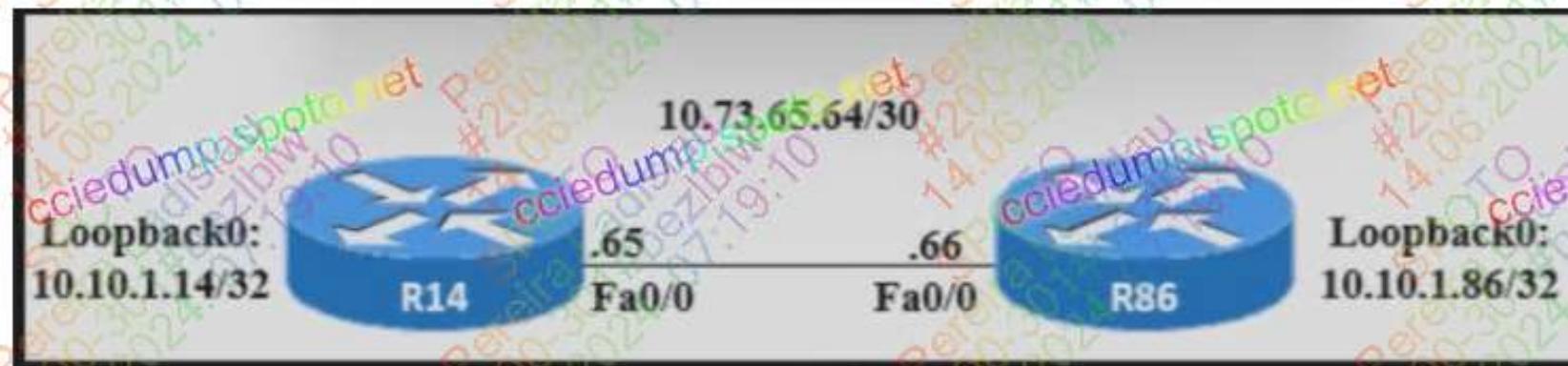
## Item 39 of 236 (Choice, Q282)

[Hide Answer](#)

Which mode must be set for APs to communicate to a Wireless LAN Controller using the Control and Provisioning of Wireless Access Points (CAPWAP) protocol?

- A. bridge
- B. autonomous
- C. lightweight
- D. route

Answer: C



Refer to the exhibit. A static route must be configured on R14 to forward traffic for the 172.21.34.0/25 network that resides on R86. Which command must be used to fulfill the request?

- A. ip route 172.21.34.0 255.255.255.192 10.73.65.65
- B. ip route 172.21.34.0 255.255.255.128 10.73.65.66
- C. ip route 172.21.34.0 255.255.255.0 10.73.65.65
- D. ip route 172.21.34.0 255.255.128.0 10.73.65.64

Answer: B

Router R1 must send all traffic without a matching routing-table entry to 192.168.1.1. Which configuration accomplishes this task?

- A. R1#Config t  
R1(config)#ip routing  
R1(config)#ip route 0.0.0 0.0.0 192.168.1.1
- B. R1#Config t  
R1(config)#ip routing  
R1(config)#ip route 192.168.1.1 0.0.0.0 0.0.0.0
- C. R1#Config t  
R1(config)#ip routing  
R1(config)#ip default-gateway 192.168.1.1
- D. R1#Config t  
R1(config)#ip routing  
R1(config)#ip route default-route 192.168.1.1

Answer: A

## Item 42 of 236 (Choice, Q285)

[Hide Answer](#)

What is the difference between 1000BASE-LX/LH and 1000BASE-ZX interfaces?

- A. 1000BASE-ZX interoperates with dual-rate 100M/1G 10Km SFP over multimode fiber, and 1000BASE-LX/LH supports only single-rate.
- B. 1000BASE-ZX is supported on links up to 1000km, and 1000BASE-LX/LH operates over links up to 70 km.
- C. 1000BASE-LX/LH is supported on links up to 10km, and 1000BASE-ZX operates over links up to 70 km.
- D. 1000BASE-LX/LH interoperates with multimode and single-mode fiber, and 1000BASE-ZX needs a conditioning patch cable with a multimode.

Answer: C

What does the implementation of a first-hop redundancy protocol protect against on a network?

- A. default gateway failure
- B. spanning-tree loops
- C. BGP neighbor flapping
- D. root-bridge loss

Answer: A

Which interface enables communication between a program on the controller and a program on the networking device?

- A. software virtual interface
- B. tunnel Interface
- C. northbound interface
- D. southbound interface

Answer: D



Refer to the exhibit. Router R1 must be configured to reach the 10.0.3.0/24 network from the 10.0.1.0/24 segment. Which command must be used to configure the route?

- A. ip route 10.0.3.0 255.255.255.0 10.0.4.3
- B. ip route 10.0.3.0 0.255.255.255 10.0.4.2
- C. route add 10.0.3.0 0.255.255.255 10.0.4.2
- D. route add 10.0.3.0 mask 255.255.255.0 10.0.4.3

Select the best choice.

100%

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2  
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP  
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area  
\* - candidate default, U - per-user static route, o - ODR  
P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/24 is subnetted, 5 subnets

D 10.1.2.0/24 [90/2170112] via 10.165.20.226, 00:01:30, Serial0/0

D 10.1.3.0/24 [90/2170112] via 10.165.20.226, 00:01:30, Serial0/0

D 10.1.2.0/25 [90/2170112] via 10.165.20.126, 00:01:30, Serial0/0

D 10.1.3.0/25 [90/2170112] via 10.165.20.146, 00:01:30, Serial0/0

D 10.1.4.0/25 [90/2170112] via 10.165.20.156, 00:01:30, Serial0/0

192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks

C 192.18.10.0/24 is directly connected, GigabitEthernet0/0

192.168.21.0/24 is variably subnetted, 1 subnets, 2 masks

C 192.168.11.0/24 is directly connected, GigabitEthernet0/1

10.165.20.0/24 is variably subnetted, 2 subnets, 2 masks

C 10.165.20.224/24 is directly connected, Serial0/0

S 10.1.2.112/28 [1/0] via 10.165.20.166

Refer to the exhibit. What is the next hop for traffic entering R1 with a destination of 10.1.2.126?

- A. 10.165.20.166
- B. 10.165.20.226
- C. 10.165.20.146
- D. 10.165.20.126

```
R2#sh run | b router ospf  
router ospf 1  
  router-id 2.2.2.2  
  log-adjacency-changes  
  auto-cost reference-bandwidth 10000  
  network 10.10.10.1 0.0.0.0 area 0  
  network 10.10.13.1 0.0.0.0 area 0
```

```
R2#show ip route  
Gateway of last resort is not set  
  0.0.0.0/8 is variably subnetted, 3 subnets, 3 masks  
    C  10.10.10.0/30 is directly connected  
    C  10.10.13.0/25 is directly connected, Vlan20  
    C  10.10.13.144/28 is directly connected, Vlan40
```

```
R1#show ip route  
Gateway of last resort is not set  
  10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks  
    C  10.10.10.0/30 is directly connected, FastEthernet0/1  
    O  10.10.13.0/25 [110/6576] via 10.10.10.1, 01:37:03  
    C  10.10.10.16/30 is directly connected, FastEthernet0/24  
    O  10.10.13.144/28 [110/110] via 10.10.10.1, 01:37:03
```

```
R1#sh run | b router ospf  
router ospf 1  
  router-id 1.1.1.1  
  log-adjacency-changes  
  auto-cost reference-bandwidth 10000  
  network 10.10.10.2 0.0.0.0 area 0  
  default-information originate
```

Refer to the exhibit. The default-information originate command is configured under the R1 OSPF configuration. After testing, workstations or VLAN at Site B cannot reach a DNS server on the internet. Which action corrects the configuration issue?

- A. Add the default-information originate command on R2
- B. Configure the ip route 0.0.0.0 0.0.0.0 10.10.10.18 command on R1
- C. Configure the ip route 0.0.0.0 0.0.0.0 10.10.10.2 command on R2
- D. Add the always keyword to the default-information originate command on R1

Answer: B

## Item 48 of 236 (Choice, Q291)

[Hide Answer](#)

A router running EIGRP has learned the same route from two different paths. Which parameter does the router use to select the best path?

- A. metric
- B. administrative distance
- C. cost
- D. as-path

Answer: A

## Item 49 of 236 (Choice, Q292)

[Hide Answer](#)

What is the function of a controller in a software-defined network?

- A. forwarding packets
- B. multicast replication at the hardware level
- C. fragmenting and reassembling packets
- D. setting packet-handling policies

Answer: D

Which type of organization should use a collapsed-core architecture?

- A. large and must minimize downtime when hardware fails
- B. small and needs to reduce networking costs
- C. large and requires a flexible, scalable network design
- D. currently small but is expected to grow dramatically in the near future

Answer: B

How does WPA3 improve security?

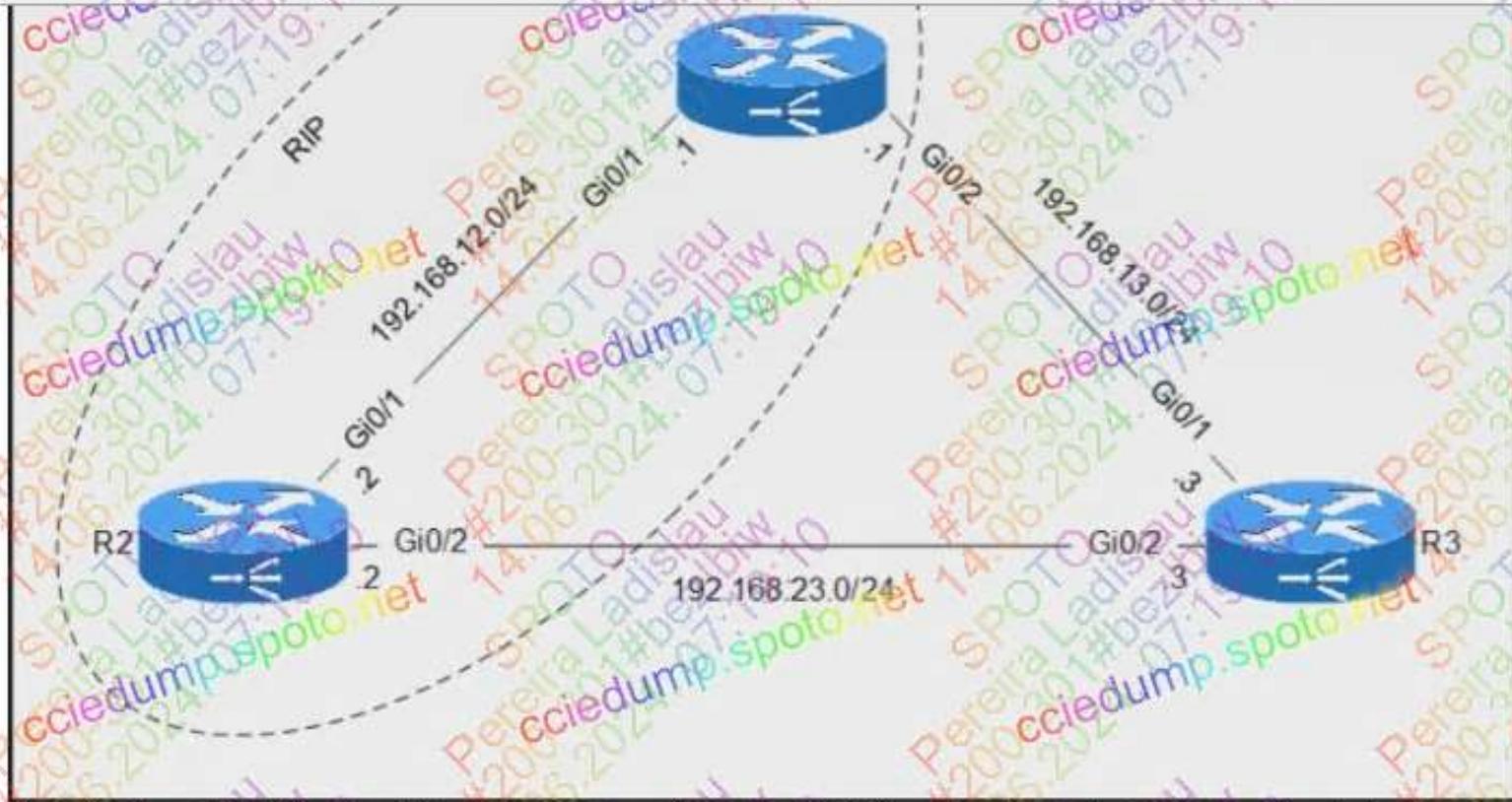
- A. It uses SAE for authentication
- B. It uses RC4 for encryption.
- C. It uses a 4-way handshake for authentication.
- D. It uses TKIP for encryption.

Answer: A

What does a switch do when it receives a frame whose destination MAC address is missing from the MAC address table?

- A. It updates the CAM table with the destination MAC address of the frame.
- B. It floods the frame unchanged across all remaining ports in the incoming VLAN.
- C. It changes the checksum of the frame to a value that indicates an invalid frame.
- D. It appends the table with a static entry for the MAC and shuts down the port.

Answer: B



Refer to the exhibit. Routers R1 and R2 are configured with RIP as the dynamic routing protocol. A network engineer must configure R1 with a floating static route to serve as a backup route to network 192.168.23. Which command must the engineer configure on R1?

- A. ip route 192.168.23.0 255.255.255.255 192.168.13.3 121
- B. ip route 192.168.23.0 255.255.255.0 192.168.13.3 100
- C. ip route 192.168.23.0 255.255.255.0 192.168.13.3
- D. ip route 192.168.23.0 255.255.255.0 192.168.13.3 121

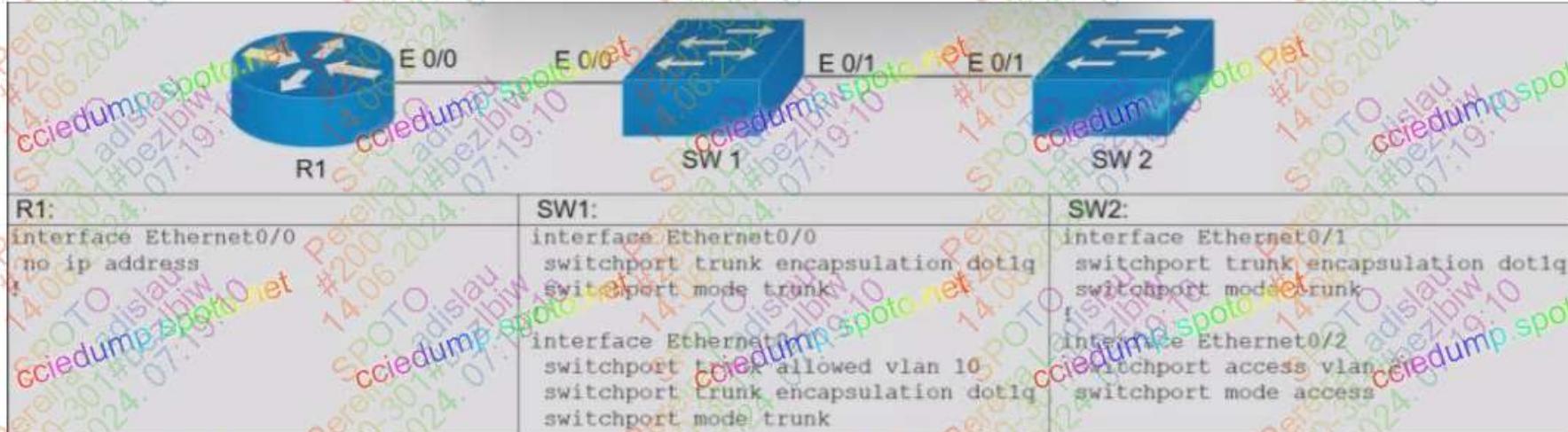
## Item 54 of 236 (Choice, Q297)

[Hide Answer](#)

Which action must be taken when password protection is implemented?

- A. Include special characters and make passwords as long as allowed.
- B. Store passwords as contacts on a mobile device with single-factor authentication.
- C. Share passwords with senior IT management to ensure proper oversight
- D. Use less than eight characters in length when passwords are complex.

Answer: A



Refer to the exhibit. What commands are needed to add a subinterface to Ethernet0/0 on R1 to allow for VLAN 20, with IP address 10.20.20.1/24?

- A. R1(config)# interface ethernet0/0  
R1(config)# ip address 10.20.20.1 255.255.255.0
- B. R1(config)# interface ethernet0/0.20  
R1(config)# ip address 10.20.20.1 255.255.255.0
- C. R1(config)# interface ethernet0/0.20  
R1(config)# encapsulation dot1q 20  
R1(config)# ip address 10.20.20.1 255.255.255.0
- D. R1(config)# interface ethernet0/0  
R1(config)# encapsulation dot1q 20  
R1(config)# ip address 10.20.20.1 255.255.255.0

## Item 56 of 236 (Choice, Q299)

 Hide Answer

```
Cat9300# show cdp
Global CDP information:
  Sending CDP packets every 60 seconds
  Sending a holdtime value of 180 seconds
  Sending CDPv2 advertisements is enabled
```

Refer to the exhibit. Which action must be taken so that neighboring devices rapidly discover switch Cat9300?

- A. Enable **portfast** on the ports that connect to neighboring devices.
- B. Configure the **cdp timer 10** command on the neighbors of switch Cat9300.
- C. Configure the **cdp holdtime 10** command on switch Cat9300.
- D. Configure the **cdp timer 10** command on switch Cat9300.

Answer: D

Item 57 of 236 (Choice, Q300)

[Hide Answer](#)

What is the role of a firewall in an enterprise network?

- A. explicitly denies all packets from entering an administrative domain
- B. forwards packets based on stateless packet inspection
- C. processes unauthorized packets and allows passage to less secure segments of the network
- D. determines which packets are allowed to cross from unsecured to secured networks

Answer: D

Which physical component is distributed among multiple virtual machines running on the same hypervisor?

- A. hardware resources
- B. external storage
- C. network interfaces
- D. backplane network

Answer: A

Why implement VRRP?

- A. to provide end users with a virtual gateway in a multivendor network
- B. to hand over to end users the autodiscovery of virtual gateways
- C. to detect link failures without the overhead of Bidirectional Forwarding Detection
- D. to leverage a weighting scheme to provide uninterrupted service

Answer: A

## Item 60 of 236 (Choice, Q303)

Hide Answer

Which two actions are performed by the Weighted Random Early Detection mechanism? (Choose two.)

- A. It can mitigate congestion by preventing the queue from filling up.
- B. It guarantees the delivery of high-priority packets.
- C. It can identify different flows with a high level of granularity.
- D. It supports protocol discovery.
- E. It drops lower-priority packets before it drops higher-priority packets.

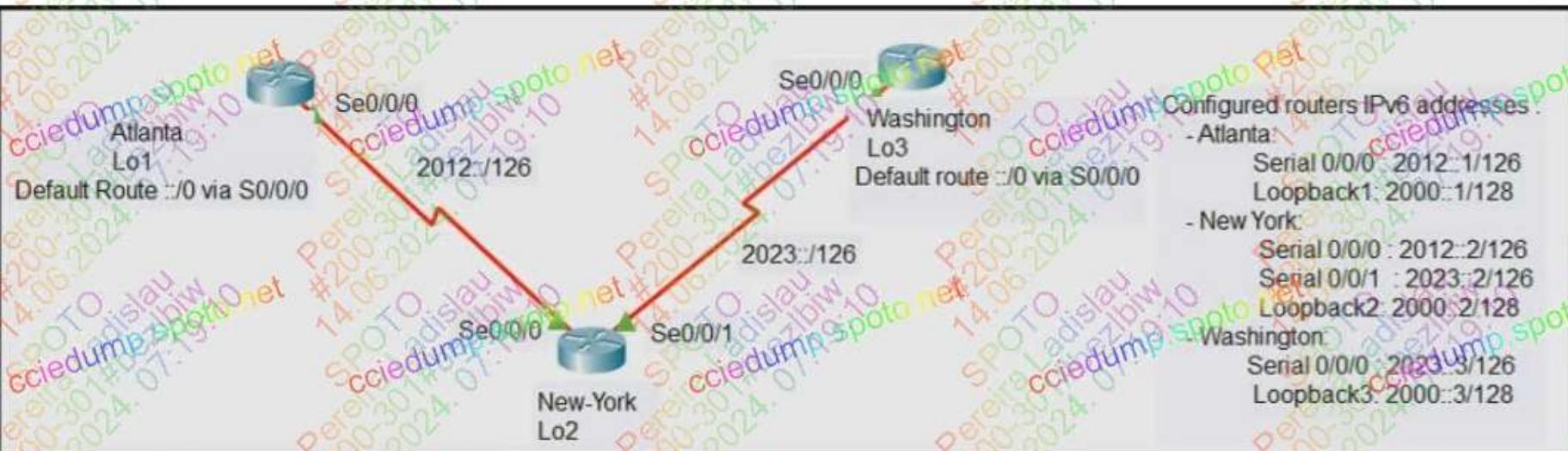
Answer: AE

[https://www.cisco.com/c/en/us/td/docs/ios/qos/configuration/guide/12\\_2sr/qos\\_12\\_2sr\\_book/congestion\\_avoidance.html](https://www.cisco.com/c/en/us/td/docs/ios/qos/configuration/guide/12_2sr/qos_12_2sr_book/congestion_avoidance.html)

What is the function of a northbound API?

- A. It provides orchestration and network automation services
- B. It upgrades software and restores files.
- C. It relies on global provisioning and configuration.
- D. It supports distributed processing for configuration.

Answer: A



Refer to the exhibit. The loopback1 interface of the Atlanta router must reach the loopback3 interface of the Washington router. Which two static host routes must be configured on the New York router? (Choose two.)

- A. ipv6 route 2000:1/128 s0/0/1
- B. ipv6 route 2000:3/128 2023::3
- C. ipv6 route 2000:3/128 s0/0/0
- D. ipv6 route 2000:1/128 2012::2
- E. ipv6 route 2000:1/128 2012::1

Answer: BE

What is the functionality of the Cisco DNA Center?

- A. IP address pool distribution scheduler
- B. data center network policy controller
- C. software-defined controller for automation of devices and services
- D. console server that permits secure access to all network devices

Answer: C

Which port type does a lightweight AP use to connect to the wired network when it is configured in local mode?

- A. Trunk
- B. EtherChannel
- C. LAG
- D. Access

Answer: D

**Staff PC1**  
**10.0.1.11/24**

AccSw1#sho vlan

VLAN Name

VLAN Name	Status	Ports
1 default	active	Fa0/3, Fa0/4, Fa0/5, Fa0/6 Fa0/7, Fa0/8, Fa0/9, Fa0/10 Fa0/11, Fa0/12, Fa0/13, Fa0/14 Fa0/15, Fa0/16, Fa0/17, Fa0/18 Fa0/19, Fa0/20, Fa0/21, Fa0/22 Fa0/23, Fa0/24
2 IT-Support	active	Fa0/1
3 Server	active	Fa0/1
4 Staff	active	Gig1/1
12 Guests	active	Gig1/2
output suppressed		

**Staff PC2**  
**10.0.1.12/24**

Refer to the exhibit. Switch AccSw2 has just been added to the network along with PC2. All VLANs have been implemented on AccSw2. How must the ports on AccSw2 be configured to establish Layer 2 connectivity between PC1 and PC2?

A. interface GigabitEthernet1/2  
switchport mode access  
switchport access vlan 12  
!

interface GigabitEthernet1/24  
switchport mode trunk  
switchport trunk allowed vlan 11,12

B. interface GigabitEthernet1/1  
switchport mode access  
switchport access vlan 11  
!

interface GigabitEthernet1/24  
switchport mode trunk

Mark

Current Score: 4/825

Item 66 of 236 (Choice, Q309)

Hide Answer

Which JSON data type is an unordered set of attribute-value pairs?

- A. Array
- B. Object
- C. Boolean
- D. String

Answer: B

## Item 67 of 236 (Choice, Q310)

[Hide Answer](#)

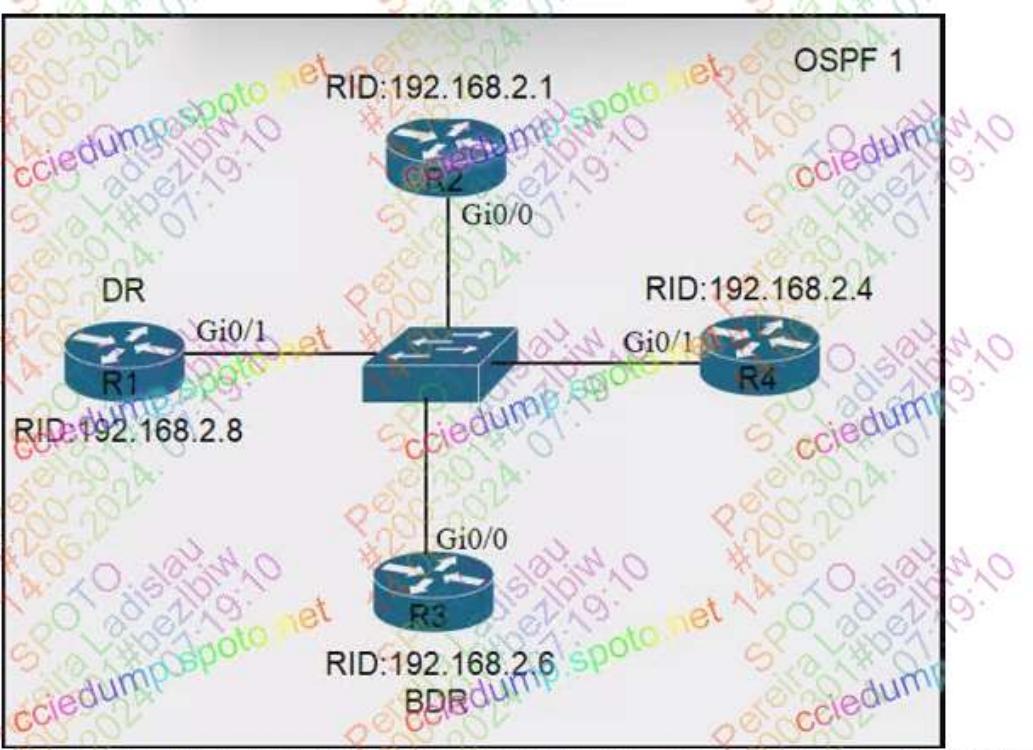
What is a characteristic of spine-and-leaf architecture?

- A. It provides variable latency.
- B. Each link between leaf switches allows for higher bandwidth.
- C. Each device is separated by the same number of hops.
- D. It provides greater predictability on STP blocked ports.

Answer: C

Select the best choice.

[Previous](#)[Next](#)[Review ▾](#)[Save Session](#)[End Exam](#)



Refer to the exhibit. All routers in the network are configured. R2 must be the DR. After the engineer connected the devices, R1 was elected as the DR. Which command sequence must be configured on R2 to be elected as the DR in the network?

- A. R2(config)# interface gi0/0  
R2(config-if)# ip ospf priority 100
- B. R2(config)# router ospf 1  
R2(config-router)# router-id 192.168.2.7
- C. R2(config)# interface gi0/0  
R2(config-if)# ip ospf priority 1

Mark

Current Score: 4/825

Item 69 of 236 (Choice, Q312)

[Hide Answer](#)

What is the PUT method within HTTP?

- A. it is a read-only operation
- B. it is a nonidempotent operation
- C. It replaces data at the destination.
- D. it displays a web site

Answer: C

## Item 70 of 236 (Choice, Q313)

[Hide Answer](#)

What are two fundamentals of virtualization? (Choose two.)

- A. It requires that some servers, virtual machines, and network gear reside on the Internet.
- B. It allows logical network devices to move traffic between virtual machines and the rest of the physical network.
- C. It allows a physical router to directly connect NICs from each virtual machine into the network.
- D. The environment must be configured with one hypervisor that serves solely as a network manager to monitor SNMP traffic.
- E. It allows multiple operating systems and applications to run independently on one physical server.

Answer: BE

## Item 71 of 236 (Choice, Q314)

[Hide Answer](#)

Which access point mode relies on a centralized controller for management, roaming, and SSID configuration?

- A. Autonomous mode
- B. Bridge mode
- C. Lightweight mode
- D. Repeater mode

Answer: C

## Item 72 of 236 (Choice, Q315)

[Hide Answer](#)

Which action must be taken to assign a global unicast IPv6 address on an interface that is derived from the MAC address of that interface?

- A. explicitly assign a link-local address
- B. disable the EUI-64 bit process
- C. configure a stateful DHCPv6 server on the network
- D. enable SLAAC on an interface

Answer: D

How does Rapid PVST+ create a fast loop-free network topology?

- A. It generates one spanning-tree instance for each VLAN.
- B. It maps multiple VLANs into the same spanning-tree instance.
- C. It requires multiple links between core switches.
- D. It uses multiple active paths between end stations.

Answer: A

## Item 74 of 236 (Choice, Q317)

[Hide Answer](#)

Which command must be entered to configure a DHCP relay?

- A. ip helper-address
- B. ip dhcp relay
- C. ip dhcp pool
- D. ip address dhcp

Answer: A

## Item 75 of 236 (Choice, Q318)

[Hide Answer](#)

The clients and DHCP server reside on different subnets. Which command must be used to forward requests and replies between clients on the 10.10.0.1/24 subnet and the DHCP server at 192.168.10.1?

- A. ip route 192.168.10.1
- B. ip dhcp address 192.168.10.1
- C. ip default-gateway 192.168.10.1
- D. ip helper-address 192.168.10.1

Answer: D



Refer to the exhibit. An engineer must configure GigabitEthernet1/1 to accommodate voice and data traffic. Which configuration accomplishes this?

- A. `interface gigabitethernet1/1  
switchport mode trunk  
switchport trunk vlan 300  
switchport voice vlan 400`
- B. `interface gigabitethernet1/1  
switchport mode access  
switchport voice vlan 300  
switchport access vlan 400`
- C. `interface gigabitethernet1/1  
switchport mode access  
switchport access vlan 300  
switchport voice vlan 400`
- D. `interface gigabitethernet1/1  
switchport mode trunk  
switchport trunk vlan 300  
switchport trunk vlan 400`

**Wireless LAN adapter Wi-Fi:**

Connection-specific DNS Suffix . . . . .	
Description . . . . .	Intel(R) Dual Band Wireless-AC 7265
Physical Address . . . . .	C8-21-58-B4-D1-E0
DHCP Enabled . . . . .	Yes
Autoconfiguration Enabled . . . . .	Yes
Link-local IPv6 Address . . . . .	fe80::45a1:b3fa:2f37:bf37%2 (Preferred)
IPv4 Address . . . . .	192.168.25.103 (Preferred)
Subnet Mask . . . . .	255.255.255.0
Lease Obtained . . . . .	June 11, 2019 10:21:31 AM
Lease Expires . . . . .	June 12, 2019 10:21:36 AM
Default Gateway . . . . .	192.168.25.1
DHCP Server . . . . .	192.168.25.100
DHCPv6 IAID . . . . .	46670168
DHCPv6 Client DUID . . . . .	00-01-00-01-20-FF-05-55-3C-52-82-33-D3-84
DNS Servers . . . . .	192.168.25.254 192.168.25.254

Refer to the exhibit. Which address will the client contact to renew their IP address when the current lease expires?

- A. 192.168.25.1
- B. 192.168.25.103
- C. 192.168.25.100
- D. 192.168.25.254

## Item 78 of 236 (Choice, Q321)

[Hide Answer](#)

A router received three destination prefixes: 10.0.0.0/8, 10.0.0.0/16, and 10.0.0.0/24. When the show ip route command is executed, which output does it return?

- A. Gateway of last resort is 172.16.1.1 to network 0.0.0.0
  - E2 10.0.0.0/16 [110/5] via 192.168.2.1, 0:01:00, Ethernet1
  - E2 10.0.0.0/24 [110/5] via 192.168.3.1, 0:01:00, Ethernet2
- B. Gateway of last resort is 172.16.1.1 to network 0.0.0.0
  - E2 10.0.0.0/24 [110/5] via 192.168.3.1, 0:01:00, Ethernet2
- C. Gateway of last resort is 172.16.1.1 to network 0.0.0.0
  - E2 10.0.0.0/8 [110/5] via 192.168.1.1, 0:01:00, Ethernet0
  - E2 10.0.0.0/16 [110/5] via 192.168.2.1, 0:01:00, Ethernet1
  - E2 10.0.0.0/24 [110/5] via 192.168.3.1, 0:01:00, Ethernet2
- D. Gateway of last resort is 172.16.1.1 to network 0.0.0.0
  - E2 10.0.0.0/8 [110/5] via 192.168.1.1, 0:01:00, Ethernet0

Answer: C

## Item 79 of 236 (Choice, Q322)

[Hide Answer](#)

How does the dynamically-learned MAC address feature function?

- A. It requires a minimum number of secure MAC addresses to be filled dynamically
- B. Switches dynamically learn MAC addresses of each connecting CAM table.
- C. The CAM table is empty until ingress traffic arrives at each port
- D. The ports are restricted and learn up to a maximum of 10 dynamically-learned addresses

Answer: C

## Item 80 of 236 (Choice, Q323)

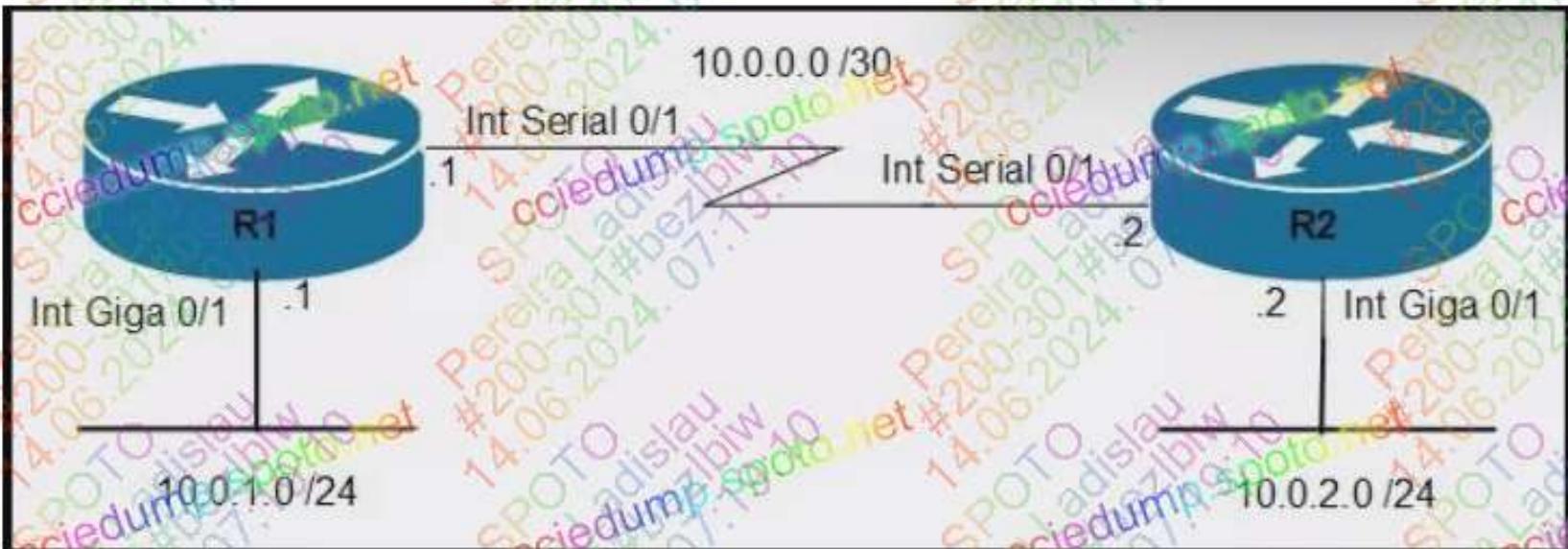
[Hide Answer](#)

Which field within the access-request packet is encrypted by RADIUS?

- A. Password
- B. authenticator
- C. username
- D. authorized services

Answer: A

Item 81 of 236 (Choice, Q324)

[Hide Answer](#)

Refer to the exhibit. Which command configures OSPF on the point-to-point link between routers R1 and R2?

- A. `network 10.0.0.0 0.0.0.255 area 0`
- B. `router-id 10.0.0.15`
- C. `ip ospf priority 100`
- D. `neighbor 10.1.2.0 cost 180`

## Item 82 of 236 (Choice, Q325)

[Hide Answer](#)

What software defined architecture plane assists network devices with making packet-forwarding decisions by providing Layer 2 reachability and Layer 3 routing information?

- A. data plane
- B. management plane
- C. policy plane
- D. control plane

Answer: D

How does encryption protect the wireless network?

- A. via a policy to prevent unauthorized users from communicating on the wireless network
- B. via specific ciphers to detect and prevent zero-day network attacks
- C. via an algorithm to change wireless data so that only the access point and client understand it
- D. via integrity checks to identify wireless forgery attacks in the frame

Answer: C

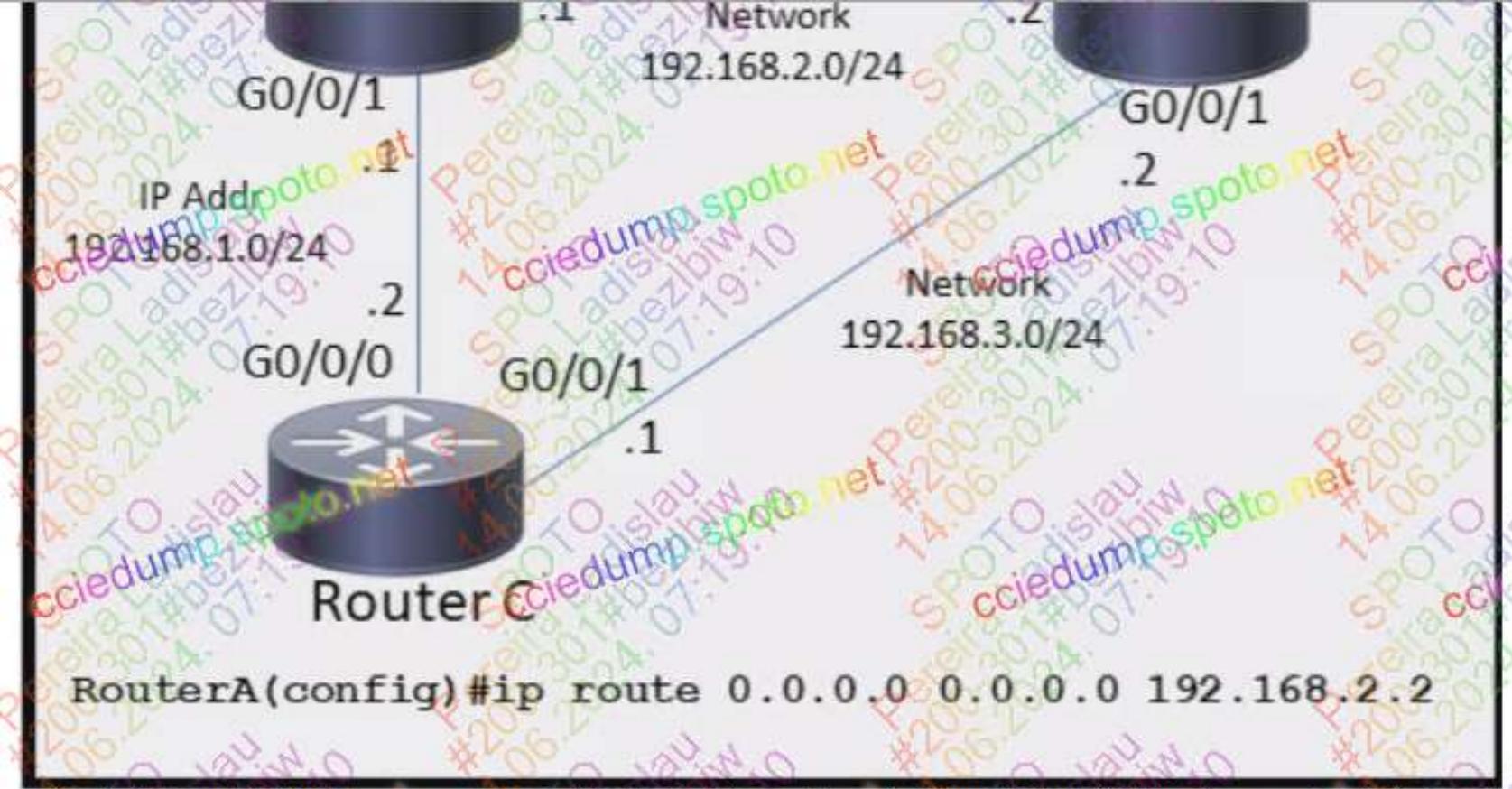
## Item 84 of 236 (Choice, Q327)

[Hide Answer](#)

Which interface is used for out-of-band management on a WLC?

- A. service port
- B. Virtual
- C. Management
- D. dynamic

Answer: A



Refer to the exhibit. Which command must be issued to enable a floating static default route on router A?

- A. ip route 0.0.0.0 0.0.0.0 192.168.1.2 10
- B. ip route 0.0.0.0 0.0.0.0 192.168.1.2
- C. ip route 0.0.0.0 0.0.0.0 192.168.2.1 10
- D. ip default-gateway 192.168.2.1

## Item 86 of 236 (Choice, Q329)

[Hide Answer](#)

Which IPsec encryption mode is appropriate when the destination of a packet differs from the security termination point?

- A. main
- B. transport
- C. tunnel
- D. aggressive

Answer: C

[Hide Answer](#)

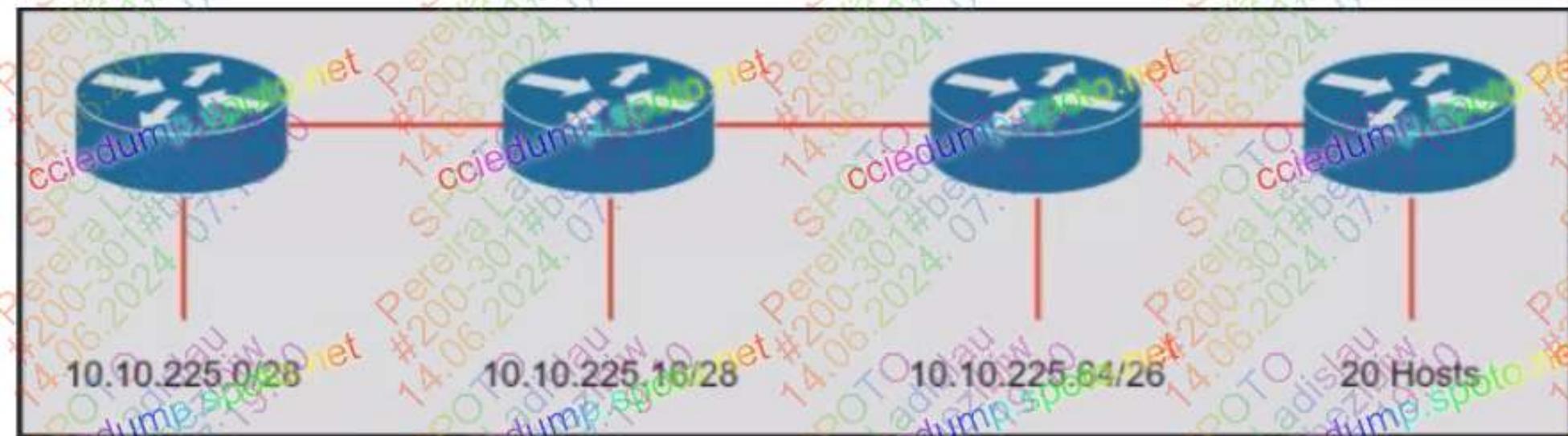
## Item 87 of 236 (Choice, Q330)

Which WLC management connection type is vulnerable to man-in-the-middle attacks?

- A. SSH
- B. Telnet
- C. HTTPS
- D. Console

Answer: B

Item 88 of 236 (Choice, Q331)

[Hide Answer](#)

Refer to the exhibit. An engineer must add a subnet for a new office that will add 20 users to the network. Which IPv4 network and subnet mask combination does the engineer assign to minimize wasting addresses?

- A. 10.10.225.48 255.255.255.224
- B. 10.10.225.32 255.255.255.240
- C. 10.10.225.32 255.255.255.224
- D. 10.10.225.48 255.255.255.240

Answer: C

## Item 89 of 236 (Choice, Q332)

[Hide Answer](#)

What is the definition of backdoor malware?

- A. malicious code that infects a user machine and then uses that machine to send spam
- B. malicious code with the main purpose of downloading other malicious code
- C. malicious code that is installed onto a computer to allow access by an unauthorized user
- D. malicious program that is used to launch other malicious programs

Answer: C

## Item 90 of 236 (Choice, Q333)

[Hide Answer](#)

When a switch receives a frame for an unknown destination MAC address, how is the frame handled?

- A. flooded to all ports except the origination port
- B. broadcast to all ports on the switch
- C. inspected and dropped by the switch
- D. forwarded to the first available port

Answer: A

Which HTTP status code is returned after a successful REST API request?

- A. 500
- B. 200
- C. 301
- D. 404

Answer: B

Which WAN topology has the highest degree of reliability?

- A. hub-and-spoke
- B. point-to-point
- C. full mesh
- D. router-on-a-stick

Answer: C

If a switch port receives a new frame while it is actively transmitting a previous frame, how does it process the frames?

- A. The new frame is delivered first, the previous frame is dropped, and a retransmission request is sent.
- B. The new frame is placed in a queue for transmission after the previous frame.
- C. The previous frame is delivered, the new frame is dropped, and a retransmission request is sent.
- D. The two frames are processed and delivered at the same time.

Answer: B

What is the same for both copper and fiber interfaces when using SFP modules?

- A. They offer reliable bandwidth up to 100 Mbps in half duplex mode
- B. They provide minimal interruption to services by being hot-swappable
- C. They accommodate single-mode and multi-mode in a single module
- D. They support an inline optical attenuator to enhance signal strength

Answer: B

## Item 95 of 236 (Choice, Q338)

[Hide Answer](#)

What is a characteristic of a SOHO network?

- A. connects each switch to every other switch in the network
- B. includes at least three tiers of devices to provide load balancing and redundancy
- C. enables multiple users to share a single broadband connection
- D. provides high throughput access for 1000 or more users

Answer: C

Which role does a hypervisor provide for each virtual machine in server virtualization?

- A. services as a hardware controller
- B. control and distribution of physical resources
- C. software-as-a-service
- D. infrastructure-as-a-service

Answer: B

## Item 97 of 236 (Choice, Q340)

[Hide Answer](#)

Which cipher is supported for wireless encryption only with the WPA2 standard?

- A. AES
- B. SHA
- C. RC4
- D. AES256

Answer: A

What does a router do when it is configured with the default DNS lookup settings, and a URL is entered on the CLI?

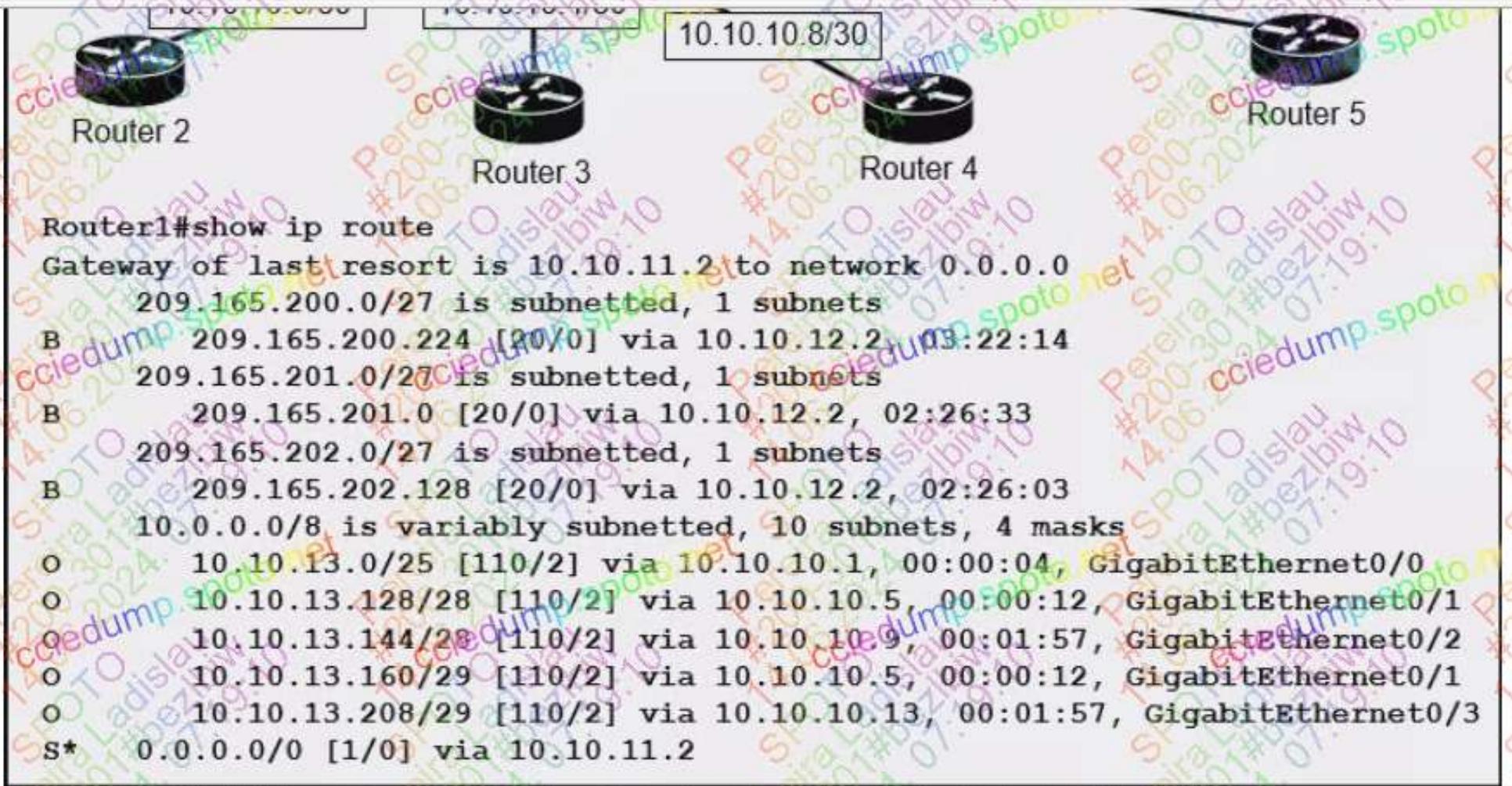
- A. It attempts to query a DNS server on the network.
- B. It continuously attempts to resolve the URL until the command is cancelled.
- C. It prompts the user to specify the desired IP address.
- D. It initiates a ping request to the URL.

Answer: A

A DHCP pool has been created with the name NOCC. The pool is using 192.168.20.0/24 and must use the next to last usable IP address as the default gateway for the DHCP clients. What is the next step in the process?

- A. ip default-gateway 0.0.0.0 0.0.0.0 192.168.20.253
- B. network 192.168.20.254 255.255.255.0 secondary
- C. next-server 192.168.20.254
- D. default-router 192.168.20.253

Answer: D



Refer to the exhibit. Which next-hop IP address does Router1 use for packets destined to host 10.10.13.158?

- A. 10.10.12.2
- B. 10.10.11.2
- C. 10.10.10.9
- D. 10.10.10.5

Why is UDP more suitable than TCP for applications that require low latency, such as VoIP?

- A. TCP sends an acknowledgment for every packet that is received, and UDP operates without acknowledgments.
- B. UDP uses sequencing data for packets to arrive in order, and TCP offers the capability to receive packets in random order.
- C. UDP reliably guarantees delivery of all packets, and TCP drops packets under heavy load.
- D. TCP uses congestion control for efficient packet delivery, and UDP uses flow control mechanisms for the delivery of packets.

Answer: A

Which goal is achieved by the implementation of private IPv4 addressing on a network?

- A. provides an added level of protection against Internet exposure
- B. provides a reduction in size of the forwarding table on network routers
- C. allows servers and workstations to communicate across public network boundaries
- D. allows communication across the Internet to other private networks

Answer: A

Which IPv6 address type provides communication between subnets and is unable to route on the Internet?

- A. link-local
- B. multicast
- C. global unicast
- D. unique local

Answer: D



What are two similarities between UTP Cat 5e and Cat 6a cabling? (Choose two.)

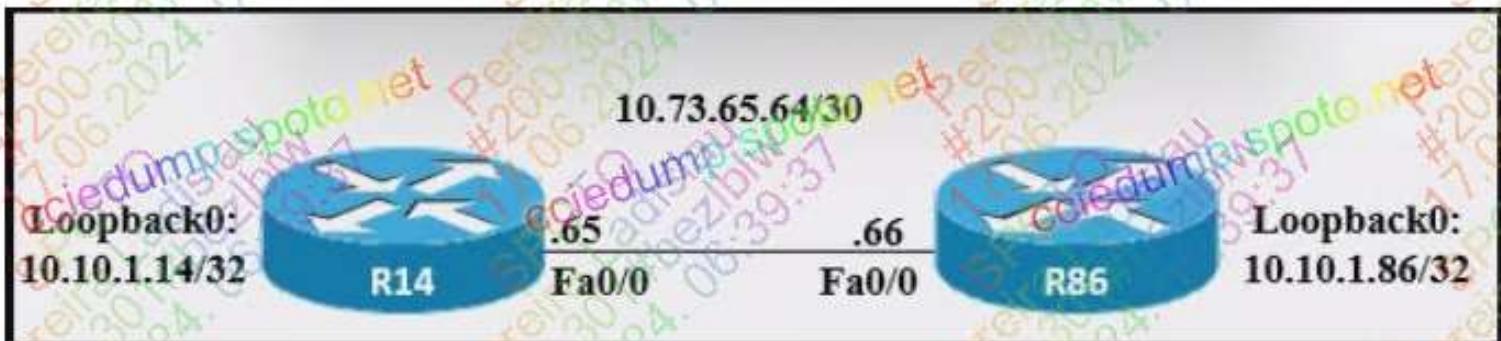
- A. Both support speeds up to 10 Gigabit
- B. Both support runs of up to 55 meters.
- C. Both operate at a frequency of 500 MHz.
- D. Both support runs of up to 100 meters.
- E. Both support speeds of at least 1 Gigabit

Answer: DE

Which two tasks support the physical access control element of a security program? (Choose two.)

- A. Deploy a video surveillance system.
- B. Implement badge access to critical locations.
- C. Disperse information about how to protect the organization's confidential data.
- D. Develop slideshows about new security regulations.
- E. Run a workshop on corporate security policies.

Answer: AB



Refer to the exhibit. A static route must be configured on R86 to forward traffic for the 172.16.34.0/29 network, which resides on R14. Which command must be used to fulfill the request?

- A. ip route 172.16.34.0 255.255.255.224 10.73.65.66
- B. ip route 172.16.34.0 255.255.255.248 10.73.65.65
- C. ip route 10.73.65.65 255.255.255.248 172.16.34.0
- D. ip route 172.16.34.0 0.0.0.7 10.73.65.64

Answer: B

What occurs when overlapping Wi-Fi channels are implemented?

- A. The wireless network becomes vulnerable to unauthorized access.
- B. Network communications are open to eavesdropping.
- C. Wireless devices are unable to distinguish between different SSIDs.
- D. Users experience poor wireless network performance.

Answer: D



What are network endpoints?

- A. enforce policies for campus-wide traffic going to the Internet
- B. support inter-VLAN connectivity
- C. act as routers to connect a user to the service provider network
- D. a threat to the network if they are compromised

Answer: D

What is used as a solution for protecting an individual network endpoint from attack?

- A. wireless controller
- B. Cisco DNA Center
- C. router
- D. antivirus software

Answer: D

What are two benefits for using private IPv4 addressing? (Choose two.)

- A. They offer Internet connectivity to endpoints on private networks.
- B. They provide a layer of security from Internet threats.
- C. They supply redundancy in the case of failure.
- D. They allow for Internet access from IoT devices.
- E. They alleviate the shortage of public IPv4 addresses.

Answer: BE

Which group of channels in the 802.11b/g/n/ac/ax 2.4 GHz frequency bands are nonoverlapping channels?

- A. channels 1, 6, and 11
- B. channels 1, 5, and 10
- C. channels 1, 5, and 11
- D. channels 1, 6, and 10

Answer: A

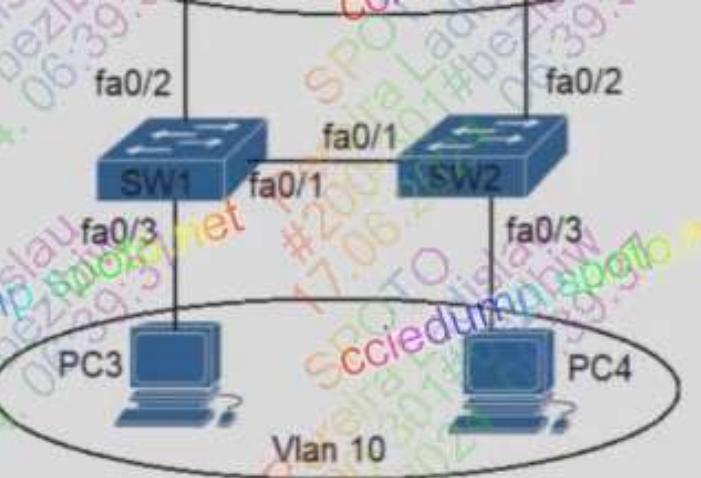
## Item 12 of 222 (Choice, Q374)

[Hide Answer](#)

Why would an administrator choose to implement an automated network management solution?

- A. to support simpler password policies
- B. to enable "box by box" configuration and deployment
- C. to reduce operational costs
- D. to limit recurrent management costs

Answer: D



```

Switch2(config)#interface fa0/1
Switch2(config-if)#switchport mode dynamic auto
Switch2(config-if)#switchport trunk allowed vlan 5,10
  
```

Refer to the exhibit. SW2 is replaced because of a hardware failure. A network engineer starts to configure SW2 by copying the fa0/1 interface configuration from SW1. Which command must be configured on the fa0/1 interface of SW2 to enable PC1 to connect to PC2?

- A. switchport trunk allowed remove 10
- B. switchport mode trunk
- C. switchport trunk native vlan 10
- D. switchport mode access

Answer: B

Select the best choice.

100%

A manager asks a network engineer to recommend a cloud service model so that employees do not spend time installing, managing, and updating software that is only used occasionally. Which cloud service model does the engineer recommend?

- A. software-as-a-service
- B. infrastructure-as-a-service
- C. platform-as-a-service
- D. business process as a service to support different types of service

Answer: A

How is a configuration change made to a wireless AP in lightweight mode?

- A. CAPWAP/LWAPP connection via the parent WLC
- B. EoIP connection via the parent WLC
- C. SSH connection to the management IP of the AP
- D. HTTPS connection directly to the out-of-band address of the AP

Answer: A

100%

Select the best choice.

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
    is directly connected, Serial0/1/0
    172.16.0.0/16 is variably subnetted, 2 subnets, 2 masks
    S 172.16.3.0/24 [1/0] via 209.165.200.250, Serial0/0/0
O 172.16.3.0/28 [110/1] via 209.165.200.254, 00:00:28, Serial0/0/1
    209.165.200.0/24 is variably subnetted, 6 subnets, 2 masks
C 209.165.200.244/30 is directly connected, Serial0/1/0
L 209.165.200.245/32 is directly connected, Serial0/1/0
C 209.165.200.248/30 is directly connected, Serial0/0/0
L 209.165.200.249/32 is directly connected, Serial0/0/0
C 209.165.200.252/30 is directly connected, Serial0/0/1
L 209.165.200.253/32 is directly connected, Serial0/0/1
```

Refer to the exhibit. A packet is being sent across router R1 to host 172.16.0.14. What is the destination route for the packet?

- A. 209.165.200.254 via Serial0/0/1
- B. 209.165.200.254 via Serial0/0/0
- C. 209.165.200.250 via Serial0/0/0
- D. 209.165.200.246 via Serial0/1/0

Answer: D

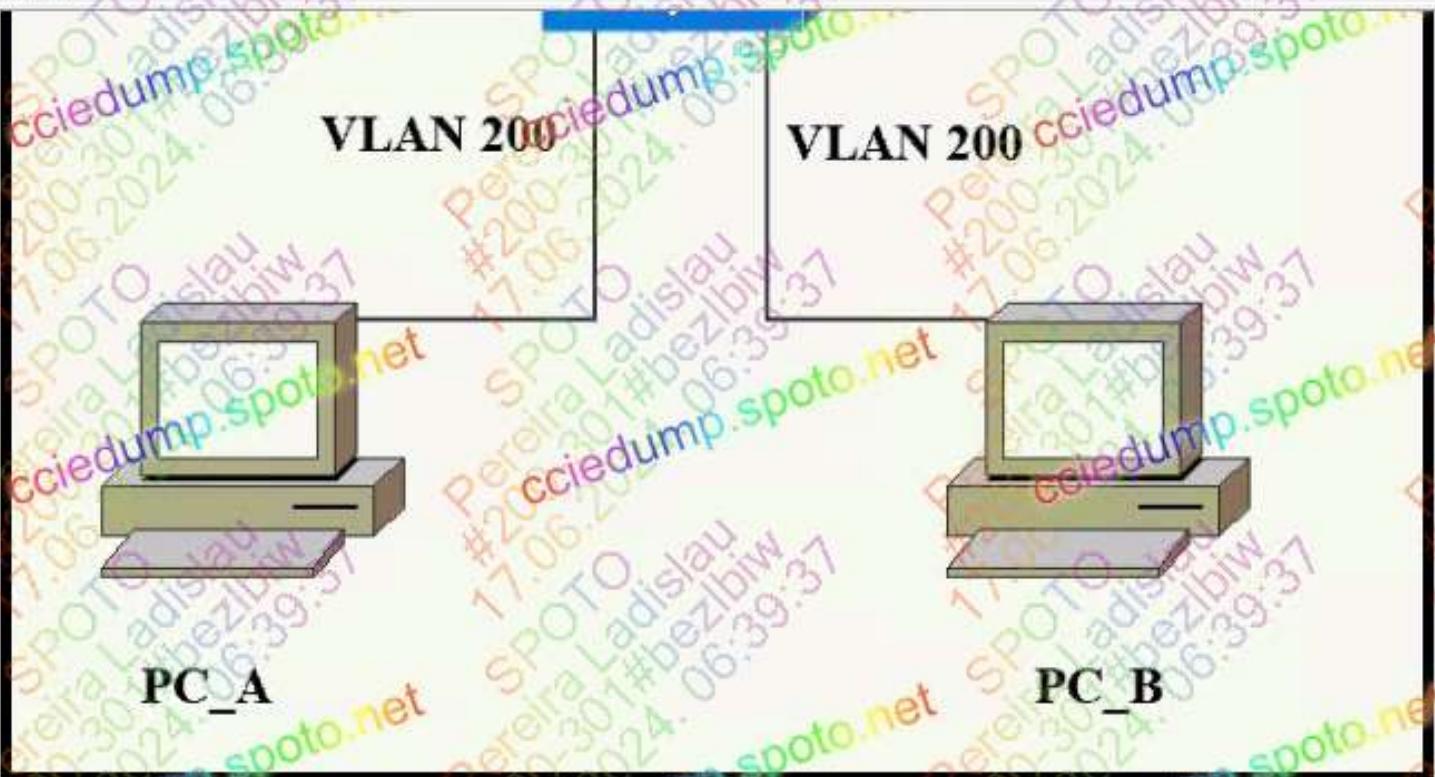
## Item 17 of 222 (Choice, Q379)

[Hide Answer](#)

What are two functions of a server on a network? (Choose two)

- A. runs the same operating system in order to communicate with other servers
- B. runs applications that send and retrieve data for workstations that make requests
- C. achieves redundancy by exclusively using virtual server clustering
- D. housed solely in a data center that is dedicated to a single client
- E. handles requests from multiple workstations at the same time

Answer: BE



Refer to the exhibit. What is expected when PC\_A sends data to PC\_B after their initial communication?

- A. The destination MAC address is replaced with ffff.ffff.ffff
- B. The source and destination MAC addresses remain the same.
- C. The source MAC address is changed.
- D. The switch rewrites the source and destination MAC addresses with its own.

Answer: B

Which occurs when PortFast is enabled on an interface that is connected to another switch?

- A. Root port choice and spanning tree recalculation are accelerated when a switch link goes down.
- B. After spanning tree converges, PortFast shuts down any port that receives BPDUs.
- C. Spanning-tree may fail to detect a switching loop in the network that causes broadcast storms.
- D. VTP is allowed to propagate VLAN configuration information from switch to switch automatically.

Answer: C

Which set of actions satisfy the requirement for multifactor authentication?

- A. The user enters a PIN into an RSA token, and then enters the displayed RSA key on a login screen
- B. The user enters a user name and password, and then clicks a notification on an authentication app on a mobile device.
- C. The user swipes a key fob, then clicks through an email link
- D. The user enters a user name and password, and then re-enters the credentials on a second screen.

Answer: B

```
R1# show ip route | begin gateway
Gateway of last resort is not set
    172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
C     172.16.1.0/24 is directly connected, FastEthernet0/0
L     172.16.1.1/32 is directly connected, FastEthernet0/0
EX    172.16.2.0/24 [170/2] via 207.165.200.250, 00:00:25, Serial0/0/0
O     192.168.1.0/24 [110/84437] via 207.165.200.254, 00:00:17, Serial0/0/1
D     192.168.2.0/24 [90/184437] via 207.165.200.254, 00:00:15, Serial0/0/1
E1    192.168.3.0/24 [110/1851437] via 207.165.200.254, 00:00:19, Serial0/0/1
      207.165.200.0/24 is variably subnetted, 4 subnets, 2 masks
C     207.165.200.248/30 is directly connected, Serial0/0/0
L     207.165.200.249/32 is directly connected, Serial0/0/0
C     207.165.200.252/30 is directly connected, Serial0/0/1
I     207.165.200.253/32 is directly connected, Serial0/0/1
```

Refer to the exhibit. Which prefix did router R1 learn from internal EIGRP?

- A. 192.168.3.0/24
- B. 172.16.1.0/24
- C. 192.168.2.0/24
- D. 192.168.1.0/24

Answer: C

Select the best choice.

100%

Which QoS traffic handling technique retains excess packets in a queue and reschedules these packets for later transmission when the configured maximum bandwidth has been surpassed?

- A. traffic policing
- B. traffic prioritization
- C. weighted random early detection
- D. traffic shaping

Answer: D



```
speed auto
!
access-list 10 deny host 10.150.1.1
!
line con 0
password 7 0822455D0A16
login
!
line vty 0 4
access-class 10 in
password 7 0822455D0A16
login
!
end
```

Refer to the exhibit. An access list is created to deny Telnet access from host PC-1 to RTR-1 and allow access from all other hosts .A Telnet attempt from PC-2 gives this message: "% Connection refused by remote host." Without allowing Telnet access from PC-1, which action must be taken to permit the traffic?

- A. Remove the **access-class 10 in** command from line vty 0 4.
- B. Remove the **password** command from line vty 0 4.
- C. Add the **access-list 10 permit any** command to the configuration.
- D. Add the **ip access-group 10 out** command to interface g0/0.

Answer: C



Refer to the exhibit. Local access for R4 must be established and these requirements must be met:

1. Only Telnet access is allowed.
2. The enable password must be stored securely.
3. The enable password must be applied in plain text.
4. Full access to R4 must be permitted upon successful login.

Which configuration script meets the requirements?

A. !

Config t

!

```
username test1 password testpass1  
enable password level 15 0 Test123
```

!

line vty 0 15

```
password Test123
```

transport input all

B. !

Conf t

!

```
username test1 password testpass1  
enable secret level 15 0 Test123
```

!

line vty 0 15

login local

transport input telnet

C. !

Config t

!

```
username test1 password testpass1
```

Select the best choice.

```
CPE# show ip access-list Services
Extended IP access list Services
  10 permit tcp 10.0.0.0 0.255.255.255 any eq www
  20 permit tcp 10.0.0.0 0.255.255.255 any eq 443
  30 permit udp 10.0.0.0 0.255.255.255 host 198.51.100.11 eq domain
  40 deny ip any any log
```

Refer to the exhibit. This ACL is configured to allow client access only to HTTP, HTTPS, and DNS services via UDP. The new administrator wants to add TCP access to the DNS service. Which continuation updates the ACL efficiently?

- A. ip access-list extended Services  
permit tcp 10.0.0.0 0.255.255.255 host 198.51.100.11 eq domain
- B. ip access-list extended Services  
35 permit tcp 10.0.0.0 0.255.255.255 host 198.51.100.11 eq domain
- C. no ip access-list extended Services  
ip access-list extended Services  
30 permit tcp 10.0.0.0 0.255.255.255 host 198.51.100.11 eq domain
- D. no ip access-list extended Services  
ip access-list extended Services  
permit udp 10.0.0.0 0.255.255.255 any eq 53  
permit tcp 10.0.0.0 0.255.255.255 host 198.51.100.11 eq domain  
deny ip any any log

Answer: B

An engineer must configure an OSPF neighbor relationship between router R1 and R3. The authentication configuration has been configured and the connecting interfaces are in the same 192.168.1.0/30 subnet. What are the next two steps to complete the configuration? (Choose two.)

- A. configure the same process ID for the router OSPF process
- B. configure the same router ID on both routing processes
- C. configure both interfaces with the same area ID
- D. configure the interfaces as OSPF active on both sides
- E. configure the hello and dead timers to match on both sides

Answer: CD

Which set of methods is supported with the REST API?

- A. GET, PUT, POST, DELETE
- B. GET, PUT, ERASE, CHANGE
- C. GET, POST, ERASE, CHANGE
- D. GET, POST, MOD, ERASE

Answer: A

How does a hub handle a frame traveling to a known destination MAC address differently than a switch?

- A. The hub forwards the frame using the information in the MAC table, and a switch uses data in its routing table.
- B. The hub forwards the frame to all ports, and a switch forwards the frame to the known destination.
- C. The hub forwards the frame to all ports in the FIB table, and a switch forwards the frame the destination MAC is known.
- D. The hub forwards the frame only to the port connected to the known MAC address, and a switch forwards the frame to all ports.

Answer: B

Select the best choice.

100%



What is the recommended switch load-balancing mode for Cisco WLCs?

- A. destination MAC address
- B. source-destination MAC address
- C. source-destination IP address
- D. destination IP address

Answer: C

Select the best choice.

100%



Which two characteristics are representative of virtual machines (VMs)? (Choose two.)

- A. Each VM's operating system depends on its hypervisor.
- B. A VM on an individual hypervisor shares resources equally.
- C. multiple VMs operate on the same underlying hardware.
- D. A VM on a hypervisor is automatically interconnected to other VMs.
- E. Each VM runs independently of any other VM in the same hypervisor.

Answer: CE

```
reliability 255/255, txload 1/255, rxload 1/255  
Full Duplex, 10000Mbps, link type is force-up, media type is SFP-SR  
5 minute input rate 264797000 bits/sec, 26672 packets/sec  
5 minute output rate 122464000 bits/sec, 15724 packets/sec
```

```
SiteB#show interface TenGigabitEthernet0/1/0  
TenGigabitEthernet0/1/0 is up, line protocol is up  
Hardware is BUILT-IN-EPA-8x10G, address is 780c.f02c.db26 (bia 780c.f02c.db26)  
Description: Connection to SiteA  
Internet address is 10.10.10.2/30  
MTU 8146 bytes, BW 10000000 Kbit/sec, DL 10 usec,  
reliability 255/255, txload 1/255, rxload 1/255  
Full Duplex, 10000Mbps, link type is force-up, media type is SFP-LR  
5 minute input rate 122464000 bits/sec, 15724 packets/sec  
5 minute output rate 264797000 bits/sec, 26672 packets/sec
```

Refer to the exhibit. Site A was recently connected to site B over a new single-mode fiber path. Users at site A report intermittent connectivity issues with applications hosted at site B. What is the reason for the problem?

- A. Heavy usage is causing high latency.
- B. Physical network errors are being transmitted between the two sites.
- C. The wrong cable type was used to make the connection.
- D. An incorrect type of transceiver has been inserted into a device on the link.

Answer: D

Select the best choice.

100%



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Review All ▾

Save Session

End Exam

How are VLAN hopping attacks mitigated?

- A. configure extended VLANs
- B. manually implement trunk ports and disable DTP
- C. enable dynamic ARP inspection
- D. activate all ports and place in the default VLAN

Answer: B

Select the best choice.

100%



```
ip arp inspection vlan 2
  interface fastethernet 0/1
    switchport mode access
    switchport access vlan 2
```

Refer to the exhibit. What is the effect of this configuration?

- A. The switch port remains administratively down until the interface is connected to another switch
- B. Dynamic ARP Inspection is disabled because the ARP ACL is missing
- C. The switch port interface trust state becomes untrusted
- D. The switch port remains down until it is configured to trust or untrust incoming packets

Answer: C

A wireless access point is needed and must meet these requirements.

1. "zero-touch" deployed and managed by a WLC
2. process only real-time MAC functionality
3. used in a split-MAC architecture

Which access point type must be used?

- A. lightweight
- B. autonomous
- C. cloud-based
- D. mesh

Answer: A

Which two transport layer protocols carry syslog messages? (Choose two.)

- A. IP
- B. RTP
- C. UDP
- D. TCP
- E. ARP

Answer: CD

What is a benefit of a point-to-point leased line?

- A. full-mesh capability
- B. low cost
- C. simplicity of configuration
- D. flexibility of design

Answer: C

100%



Select the best choice.

Previous

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Review All ▾

Save Session

End Exam

Supports Link-local Signaling (LLS)

Cisco NSF helper support enabled

IETF NSF helper support enabled

Index 1/1/1, flood queue length 0

Next 0x0(0)/0x0(0)/0x0(0)

Last flood scan length is 1, maximum is 6

Last flood scan time is 0 msec, maximum is 1 msec

Neighbor Count is 3, Adjacent neighbor count is 3

Adjacent with neighbor 10.1.1.4

Adjacent with neighbor 10.2.2.2

Adjacent with neighbor 10.3.3.3 (Backup Designated Router)

Suppress hello for 0 neighbor(s)

Refer to the exhibit. The show ip ospf interface command has been executed on R1. How is OSPF configured?

- A. There are six OSPF neighbors on this interface
- B. A point-to-point network type is configured
- C. The interface is not participating in OSPF
- D. The default Hello and Dead timers are in use.

Answer: D

What facilitates a Telnet connection between devices by entering the device name?

- A. DNS lookup
- B. SNMP
- C. Syslog
- D. NTP

Answer: A



Refer to the exhibit. The engineer configured the VLANs on the new AccSw2 switch. A router-on-a-stick is connected to both switches. How must the ports be configured on AccSw2 to establish full connectivity between the two switches and for Server1?

- A. interface GigabitEthernet1/3  
switchport mode access  
switchport access vlan 10  
!  
interface GigabitEthernet1/24  
switchport mode trunk  
switchport trunk allowed vlan 2,10
- B. interface GigabitEthernet1/1  
switchport access vlan 11  
!  
interface GigabitEthernet1/24  
switchport mode trunk  
switchport trunk allowed vlan 10,11
- C. interface GigabitEthernet1/3  
switchport mode access  
switchport access vlan 10  
!  
interface GigabitEthernet1/24  
switchport mode trunk
- D. interface GigabitEthernet1/1  
switchport mode access  
switchport access vlan 11  
!  
interface GigabitEthernet1/24  
switchport mode trunk

Answer: C

Select the best choice.

100%

```
1 [  
2   { "switch": "3750", "port": "e2 },  
3   { "outer": "2951", "port": "e20 }.  
4   { "switch": "3750", "port": "e23 }  
5 ]
```

Refer to the exhibit. What is identified by the word "switch" within line 2 of the JSON Schema?

- A. Array
- B. Value
- C. Object
- D. Key

Answer: D

Select the best choice.

100%



Which action implements physical access control as part of the security program of an organization?

- A. setting up IP cameras to monitor key infrastructure
- B. configuring a password for the console port
- C. backing up syslogs at a remote location
- D. configuring enable passwords on network devices

Answer: A

 A. setting up IP cameras to monitor key infrastructure B. configuring a password for the console port C. backing up syslogs at a remote location D. configuring enable passwords on network devices

Select the best choice.

100%



What is the role of nonoverlapping channels in a wireless environment?

- A. to increase bandwidth
- B. to reduce interference
- C. to allow for channel bonding
- D. to stabilize the RF environment

Answer: B

What are two functions of a Layer 2 switch? (Choose two)

- A. moves packets between different VLANs
- B. selects the best route between networks on a WAN
- C. acts as a central point for association and authentication servers
- D. makes forwarding decisions based on the MAC address of a packet
- E. moves packets within a VLAN

Answer: DE

An administrator must use the **passwords complexity not manufacturer-name** command to prevent users from adding "Cisco" as a password. Which command must be issued before this command?

- A. service password-encryption
- B. confreg 0x2142
- C. login authentication my-auth-list
- D. password complexity enable

Answer: D

<https://www.cisco.com/c/en/us/support/docs/smb/switches/cisco-small-business-300-series-managed-switches/smb5563-configure-password-settings-on-a-switch-through-the-command.html#complex>

```
router# show ip route
```

```
....  
D 172.16.32.0/26 [90/25789117] via 10.0.0.1  
R 172.16.32.0/24 [120/4] via 10.0.0.2  
O 172.16.32.0/19 [110/229840] via 10.0.0.3  
C 172.16.32.32/32 is directly connected, Loopback0  
C 172.16.32.4/30 is directly connected, GigabitEthernet0/0
```

Refer to the exhibit. A packet sourced from 172.16.32.254 is destined for 172.16.32.8. What is the subnet mask of the preferred destination route?

- A. 255.255.255.252
- B. 255.255.224.0
- C. 255.255.255.192
- D. 255.255.255.0

Answer: C

In software defined architectures, which plane is distributed and responsible for traffic forwarding?

- A. management plane
- B. policy plane
- C. control plane
- D. data plane

Answer: D

## Item 65 of 222 (Choice, Q427)

[Hide Answer](#)

What is a zero-day exploit?

- A. It is when a new network vulnerability is discovered before a fix is available.
- B. It is when the network is saturated with malicious traffic that overloads resources and bandwidth.
- C. It is when the perpetrator inserts itself in a conversation between two parties and captures or alters data.
- D. It is when an attacker inserts malicious code into a SQL server.

Answer: A



Refer to the exhibit. The DHCP server is configured with a DHCP pool for each of the subnets represented. Which command must be configured on switch SW1 to allow DHCP clients on VLAN 10 to receive dynamic IP addresses from the DHCP server?

- A. SW1(config-if)# ip helper-address 192.168.20.2
- B. SW1(config-if)# ip helper-address 192.168.20.1
- C. SW1(config-if)# ip helper-address 192.168.10.1
- D. SW1(config-if)# ip helper-address 192.168.10.2

Which type of encryption does WPA1 use for data protection?

- A. PEAP
- B. AES
- C. EAP
- D. TKIP

Answer: D

```
SW1#show spanning-tree vlan 30
```

VLAN0030

Spanning tree enabled protocol rstp

Root ID Priority 12798

Address 0025.63e9.c800

Cost 19

Port 1 (FastEthernet 2/1)

Hello Time 2 sec

Max Age 30 sec

Forward Delay 20 sec

[Output suppressed]

Refer to the exhibit. What two conclusions should be made about this configuration? (Choose two.)

- A. The spanning-tree mode is Rapid PVST+.
- B. The spanning-tree mode is PVST+.
- C. The root port is FastEthernet 2/1.
- D. This is a root bridge.
- E. The designated port is FastEthernet 2/1.

Answer: AC

What is the benefit of using FHRP?

- A. higher degree of availability
- B. reduced ARP traffic on the network
- C. reduced management overhead on network routers
- D. balancing traffic across multiple gateways in proportion to their loads

Answer: A

When deploying a new network that includes both Cisco and third-party network devices, which redundancy protocol avoids the interruption of network traffic if the default gateway router fails?

- A. FHRP
- B. HSRP
- C. VRRP
- D. GLBP

Answer: C

What is the difference between an IPv6 link-local address and a unique local address?

- A. The scope of an IPv6 link-local address can be used throughout a company site or network, but an IPv6 unique local address is limited to a loopback address.
- B. The scope of an IPv6 link-local address is limited to a directly attached interface, but an IPv6 unique local address is used throughout a company site or network.
- C. The scope of an IPv6 link-local address is global, but the scope of an IPv6 unique local address is limited to a loopback address.
- D. The scope of an IPv6 link-local address is limited to a loopback address, and an IPv6 unique local address is limited to a directly attached interface.

Answer: B

```
R1# show ip route
```

Codes: C - connected, S - static I - IGRP, R - RIP, M - mobile, B - BGP  
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area  
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2  
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP  
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, \* - candidate default  
U - per-user static route, o - ODR

Gateway of last resort is not set

C	172.16.0.0/16	is directly connected, Loopback0
O	172.16.0/16	is variably subnetted, 4 subnets, 2 masks
O	172.16.1.3/3	[110/100] via 192.168.7.40, 00:39:08, Serial0
O	172.16.1.0/24	is directly connected, Serial0
O	172.16.1.184/29	[110/5] via 192.168.7.35, 00:39:08, Serial0
O	172.16.3.0/24	[110/10] via 192.168.7.4, 00:39:08, Gigabit Ethernet 0/0
D	172.16.1.0/28	[90/10] via 192.168.7.7, 00:39:08, Gigabit Ethernet 0/0

Refer to the exhibit. Load-balanced traffic is coming in from the WAN destined to a host at 172.16.1.190. Which next-hop is used by the router to forward the request?

- A. 192.168.7.4
- B. 192.168.7.7
- C. 192.168.7.40
- D. 192.168.7.35

Answer: D

Select the best choice.

100%

Which plane is centralized in software-defined networking?

- A. control
- B. data
- C. application
- D. services

Answer: A

```
no passive-interface GigabitEthernet1/0
network 192.168.0.1 0.0.0.0 area 0
!
R2#show running-config
Building configuration...
!
interface GigabitEthernet2/0
 ip address 192.168.0.2 255.255.255.252
 negotiation auto
!
router ospf 1
 router-id 2.2.2.2
 passive-interface default
 no passive-interface GigabitEthernet2/0
 network 192.168.0.2 0.0.0.0 area 0
```

Refer to the exhibit. Which configuration issue is preventing the OSPF neighbor relationship from being established between the two routers?

- A. R2 is using the passive-interface default command.
- B. R1 interface Gi1/0 has a larger MTU size.
- C. R2 should have its network command in area 1.
- D. R1 has an incorrect network command for interface Gi1/0.

Answer: B

Gi1/0/15

**Lobby Conference Room**

**Access port**



PC1

VLAN 100

MAC: 0000.abcd.0004

SW1 supports connectivity for a lobby conference room and must be secured. The engineer must limit the connectivity from PC1 to the SW1 and SW2 network. The MAC addresses allowed must be limited to two. Which configuration secures the conference room connectivity?

- A. interface gi1/0/15  
switchport port-security mac-address 0000.abcd.0004 vlan 100  
interface switchport secure-mac limit 2
- B. interface gi1/0/15  
switchport port-security mac-address 0000.abcd.0004 vlan 100
- C. interface gi1/0/15  
switchport port-security  
switchport port-security maximum 2
- D. interface gi1/0/15  
switchport port-security  
switchport port-security mac-address 0000.abcd.0004 vlan 100

Answer: C

Why would a network administrator choose to implement automation in a network environment?

- A. to centralize device information storage
- B. to implement centralized user account management
- C. to deploy the management plane separately from the rest of the network
- D. to simplify the process of maintaining a consistent configuration state across all devices

Answer: D

Select the best choice.

100%



What is a requirement when configuring or removing LAG on a WLC?

- A. The management interface must be reassigned if LAG is disabled.
- B. The incoming and outgoing ports for traffic flow must be specified if LAG is enabled.
- C. The controller must be rebooted after enabling or reconfiguring LAG.
- D. Multiple untagged interfaces on the same port must be supported.

Answer: C

<https://community.cisco.com/t5/wireless-mobility-documents/lag-link-aggregation/ta-p/3128669>



Why is TCP desired over UDP for applications that require extensive error checking, such as HTTPS?

- A. UDP uses sequencing data for packets to arrive in order, and TCP offers the capability to receive packets in random order.
- B. UDP operates without acknowledgments, and TCP sends an acknowledgment for every packet received.
- C. UDP uses flow control mechanisms for the delivery of packets, and TCP uses congestion control for efficient packet delivery.
- D. UDP reliably guarantees delivery of all packets, and TCP drops packets under heavy load.

Answer: B



When an access point is seeking to join a wireless LAN controller, which message is sent to the AP-Manager interface?

- A. DHCP request
- B. DHCP discover
- C. discovery request
- D. discovery response

Answer: C

100%

Select the best choice.

What is a benefit of VRRP?

- A. It provides the default gateway redundancy on a LAN using two or more routers
- B. It provides traffic load balancing to destinations that are more than two hops from the source.
- C. It allows neighbors to share routing table information between each other.
- D. It prevents loops in a Layer 2 LAN by forwarding all traffic to a root bridge, which then makes the final forwarding decision

Answer: A

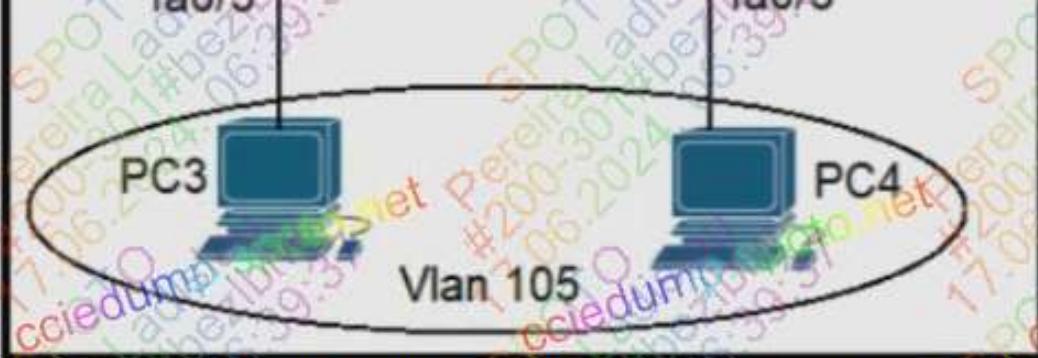


Which protocol does an access point use to draw power from a connected switch?

- A. Cisco Discovery Protocol
- B. Internet Group Management Protocol
- C. Neighbor Discovery Protocol
- D. Adaptive Wireless Path Protocol

Answer: A





Refer to the exhibit. An engineer configures interface fa0/1 on SW1 and SW2 to pass traffic from two different VLANs. For security reasons, company policy requires the native VLAN to be set to a non-default value. Which configuration must be used?

- A. 

```
Switch(config-if)# switchport mode dynamic
Switch(config-if)# switchport access vlan 100,105
Switch(config-if)# switchport trunk native vlan 1
```
- B. 

```
Switch(config-if)# switchport mode trunk
Switch(config-if)# switchport trunk encapsulation isl
Switch(config-if)# switchport trunk allowed vlan 100,105
Switch(config-if)# switchport trunk native vlan 1
```
- C. 

```
Switch(config-if)# switchport mode trunk
Switch(config-if)# switchport trunk encapsulation dot1q
Switch(config-if)# switchport trunk allowed vlan 100,105
Switch(config-if)# switchport trunk native vlan 3
```
- D. 

```
Switch(config-if)# switchport mode access
Switch(config-if)# switchport trunk encapsulation dot1q
Switch(config-if)# switchport access vlan 100,105
Switch(config-if)# switchport trunk native vlan 3
```

Answer: C

Which type of IPv4 address type helps to conserve the globally unique address classes?

- A. private
- B. Multicast
- C. Loopback
- D. Public

Answer: A

**Switch#show etherchannel summary**

[output omitted]

Group	Port-channel	Protocol	Ports
-------	--------------	----------	-------

Group	Port-channel	Protocol	Ports
10	Po10 (SU)	LACP	Gi0/0 (P) Gi0/1 (P)
20	Po20 (SU)	LACP	Gi0/2 (P) Gi0/3 (P)

Refer to the exhibit. Which two commands when used together create port channel 10? (Choose two.)

- A. int range g0/0-1  
channel-group 10 mode active
- B. int range g0/0-1  
channel-group 10 mode auto
- C. int range g0/0-1  
channel-group 10 mode on
- D. int range g0/0-1  
channel-group 10 mode desirable
- E. int range g0/0-1  
channel-group 10 mode passive

Answer: AE

Mark

Current Score: 0/825

Item 67 of 222 (Choice, Q429)

[Hide Answer](#)

Refer to the exhibit. R1 learns all routes via OSPF. Which command configures a backup static route on R1 to reach the 192.168.20.0/24 network via R3?

- A. R1(config)# ip route 192.168.20.0 255.255.255.0 192.168.30.2 111
- B. R1(config)# ip route 192.168.20.0 255.255.255.0 192.168.30.2 90
- C. R1(config)# ip route 192.168.20.0 255.255.255.0 192.168.30.2
- D. R1(config)# ip route 192.168.20.0 255.255.0.0 192.168.30.2

Mark

Current Score: 0/825

Item 67 of 222 (Choice, Q429)

[Hide Answer](#)

Refer to the exhibit. R1 learns all routes via OSPF. Which command configures a backup static route on R1 to reach the 192.168.20.0/24 network via R3?

- A. R1(config)# ip route 192.168.20.0 255.255.255.0 192.168.30.2 111
- B. R1(config)# ip route 192.168.20.0 255.255.255.0 192.168.30.2 90
- C. R1(config)# ip route 192.168.20.0 255.255.255.0 192.168.30.2
- D. R1(config)# ip route 192.168.20.0 255.255.0.0 192.168.30.2

What is the purpose of classifying network traffic in Qos?

- A. configures traffic-matching rules on network devices
- B. identifies the type of traffic that will receive a particular treatment
- C. services traffic according to its class
- D. writes the class identifier of a packet to a dedicated field in the packet header

Answer: B

100%



Select the best choice.

Previous

Next

Review All ▾

Save Session

End Exam

What is the purpose of the service-set identifier?

- A. It identifies the wired network to which a network device is connected.
- B. It identifies the wired network to which a user device is connected.
- C. It identifies the wireless network to which an application must connect.
- D. It identifies a wireless network for a mobile device to connect.

Answer: D



What does physical access control regulate?

- A. access to specific networks based on business function
- B. access to networking equipment and facilities
- C. access to servers to prevent malicious activity
- D. access to computer networks and file systems

Answer: B

100%



Select the best choice.

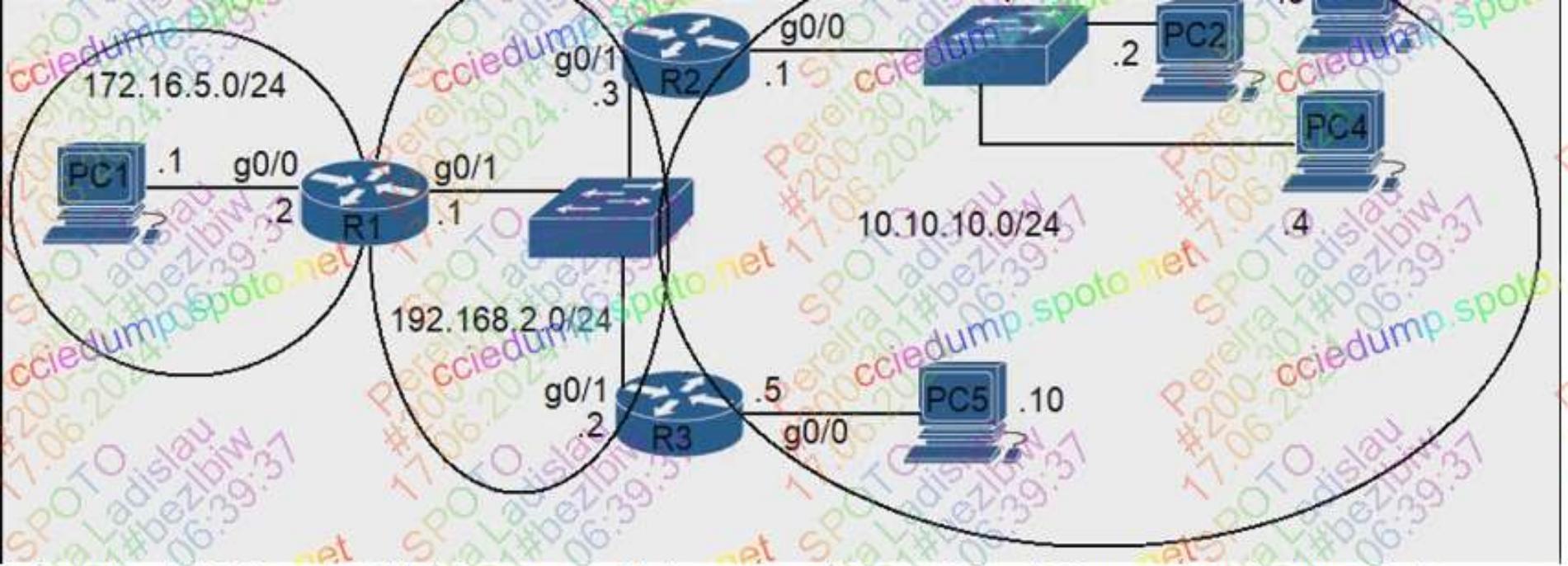
Previous

Next

Review All

Save Session

End Exam



Refer to the exhibit. The router R1 is in the process of being configured. Routers R2 and R3 are configured correctly for the new environment. Which two commands must be configured on R1 for PC1 to communicate to all PCs on the 10.10.10.0/24 network?

- A. ip route 10.10.10.0 255.255.255.0 192.168.2.3  
ip route 10.10.10.8 255.255.255.252 g0/0
- B. ip route 10.10.10.0 255.255.255.0 192.168.2.2  
ip route 10.10.2.2 255.255.255.255 10.10.10.10
- C. ip route 10.10.10.0 255.255.255.0 192.168.2.3  
ip route 10.10.10.10 255.255.255.255 192.168.2.2
- D. ip route 10.10.10.0 255.255.255.248 192.168.2.2  
ip route 10.10.2.8 255.255.255.252 g0/1

Answer: C

What is the primary effect of the **spanning-tree portfast** command?

- A. It immediately enables the port in the listening state.
- B. It immediately puts the port into the forwarding state when the switch is reloaded.
- C. It minimizes spanning-tree convergence time.
- D. It enables BPDU messages.

Answer: C

Select the best choice.

100%



A - Device is in Active mode

P - Device is in Passive mode

Channel group 35 neighbors

Partner's information:

Port	Flags	LACP port	Priority	Dev ID	Age	Admin key	Oper Key	Port Number	Port State
Et1/0	SP		32768	aabb.cc80.7000	8s	0x0	0x23	0x101	0x3C
Et1/1	SP		32768	aabb.cc80.7000	8s	0x0	0x23	0x102	0x3C

Refer to the exhibit. Based on the LACP neighbor status, in which mode is the SW1 port channel configured?

- A. active
- B. mode on
- C. auto
- D. passive

Answer: A

Select the best choice.

100%

Aside from discarding, which two states does the switch port transition through while using RSTP (802.1w)? (Choose two.)

- A. forwarding
- B. blocking
- C. listening
- D. learning
- E. speaking

Answer: AD

Select all that apply.

100%

Which WAN access technology is preferred for a small office/home office architecture?

- A. broadband cable access
- B. Integrated Services Digital Network switching
- C. frame-relay packet switching
- D. dedicated point-to-point leased line

Answer: A

Which protocol does a REST API use to communicate?

- A. SSH
- B. SNMP
- C. STP
- D. HTTP

Answer: D



Refer to the exhibit. The New York router is configured with static routes pointing to the Atlanta and Washington sites. Which two tasks must be performed so the Serial0/0/0 interfaces on the Atlanta and Washington routers can reach one another? (Choose two.)

- A. Configure the ipv6 route 2012::126 2023::2 command on the Washington router
- B. Configure the ipv6 route 2012::126 2023::1 command on the Washington router
- C. Configure the ipv6 route 2023::126 2012::2 command on the Atlanta router
- D. Configure the ipv6 route 2023::126 2012::1 command on the Atlanta router
- E. Configure the ipv6 route 2012::126 s0/0/0 command on the Atlanta router

Answer: AC

Which feature on the Cisco Wireless LAN Controller when enabled restricts management access from specific networks?

- A. RADIUS
- B. CPU ACL
- C. Flex ACL
- D. TACACS

Answer: B

Gateway of last resort is 10.12.0.1 to network 0.0.0.0

O\* 0.0.0.0/0 [110/1], via 10.12.0.1, 00:00:01, GigabitEthernet0/0  
10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks  
C 10.0.0.0/24 is directly connected, GigabitEthernet0/0  
L 10.0.0.2/32 is directly connected, GigabitEthernet0/0  
C 10.13.0.0/24 is directly connected, GigabitEthernet0/1  
L 10.13.0.2/32 is directly connected, GigabitEthernet0/1

Refer to the exhibit. If configuring a static default route on the router with the **ip route 0.0.0.0 0.0.0.0 10.13.0.1 120** command, how does the router respond?

- A. It starts load-balancing traffic between the two default routes.
- B. It ignores the new static route until the existing OSPF default route is removed.
- C. It immediately replaces the existing OSPF route in the routing table with the newly configured static route.
- D. It starts sending traffic without a specific matching entry in the routing table to GigabitEthernet0/1.

Answer: B

What is the purpose of the Cisco DNA Center controller?

- A. to securely manage and deploy network devices
- B. to provide Layer 3 services to autonomous access points
- C. to scan a network and generate a Layer 2 network diagram
- D. to secure physical access to a data center

Answer: A

What is the purpose of the Cisco DNA Center controller?

- A. to securely manage and deploy network devices
- B. to provide Layer 3 services to autonomous access points
- C. to scan a network and generate a Layer 2 network diagram
- D. to secure physical access to a data center

Answer: A

Select the best choice.

100%



```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
    172.16.0.0/16 is variably subnetted, 3 subnets, 3 masks
    S 172.16.0.0/24 [1/0] via 207.165.200.250, Serial0/0/0
    O 172.16.0.128/25 [110/38443] via 207.165.200.254, 00:00:23, Serial0/0/1
    D 172.16.0.192/29 [90/3184439] via 207.165.200.254, 00:00:25, Serial0/0/1
    209.165.200.0/24 is variably subnetted, 4 subnets, 2 masks
    C 209.165.200.248/30 is directly connected, Serial0/0/0
    L 209.165.200.249/32 is directly connected, Serial0/0/0
    C 209.165.200.252/30 is directly connected, Serial0/0/1
    L 209.165.200.253/32 is directly connected, Serial0/0/1
```

Refer to the exhibit. With which metric was the route to host 172.16.0.202 learned?

- A. 110
- B. 38443
- C. 0
- D. 3184439

Answer: B

Which command creates a static NAT binding for a PC address of 10.1.1.1 to the public routable address 209.165.200.225 assigned to the PC?

- A. R1(config)#ip nat inside source static 209.165.200.225 10.1.1.1
- B. R1(config)#ip nat outside source static 209.165.200.225 10.1.1.1
- C. R1(config)#ip nat outside source static 10.1.1.1 209.165.200.225
- D. R1(config)#ip nat inside source static 10.1.1.1 209.165.200.225

Answer: D

What is a function of Opportunistic Wireless Encryption in an environment?

- A. increase security by using a WEP connection
- B. protect traffic on open networks
- C. offer compression
- D. provide authentication

Answer: B

Which key function is provided by the data plane?

- A. making routing decisions
- B. forwarding traffic to the next hop
- C. originating packets
- D. exchanging routing table data

Answer: B

Which key function is provided by the data plane?

- A. making routing decisions
- B. forwarding traffic to the next hop
- C. originating packets
- D. exchanging routing table data

Answer: B

What is a function of a firewall on an enterprise network?

- A. It processes traffic based on stateless inspection.
- B. It acts as the intermediary device between the enterprise and its ISP.
- C. It serves as a default gateway to hosts on the internet.
- D. It allows and denies ingress and egress traffic.

Answer: D

What is a capability of FTP in network management operations?

- A. devices are directly connected and use UDP to pass file information
- B. uses separate control and data connections to move files between server and client
- C. offers proprietary support at the session layer when transferring data
- D. encrypts data before sending between data resources

Answer: B

Ethernet adapter Local Connection.

Connection-specific DNS Suffix . :

Physical Address . . . . . : F8-75-A4-3B-AB-4F

Link-local IPv6 Address . . . . . : fe80::644a:b01:3e5f:ae6%14(PREFERRED)

IPv4 Address . . . . . : 10.2.2.2(PREFERRED)

Subnet Mask . . . . . : 255.255.255.248

Default Gateway . . . . . : 10.2.2.1

DHCP Server . . . . . : 0.0.0.0

DNS Servers . . . . . : 0.0.0.0

NetBIOS over Tcpip. . . . . : Enabled

Refer to the exhibit. A newly configured PC fails to connect to the Internet by using TCP port 80 to www.cisco.com. Which setting must be modified for the connection to work?

- A. Subnet Mask
- B. DNS Servers
- C. DHCP Servers
- D. Default Gateway

Answer: B

A network engineer must configure an interface with IP address 10.10.10.145 and a subnet mask equivalent to 11111111.11111111.11111100. Which subnet mask must the engineer use?

- A. /30
- B. /27
- C. /29
- D. /28

Answer: C

$$11111111.11111111.11111111.11111000 = 255.255.255.248 = /29$$



What are two roles of Domain Name Services (DNS)? (Choose two.)

- A. encrypts network traffic as it travels across a WAN by default
- B. allows a single host name to be shared across more than one IP address
- C. builds a flat structure of DNS names for more efficient IP operations
- D. enables applications to identify resources by name instead of IP address
- E. improves security by protecting IP addresses under Fully Qualified Domain Names (FQDNs)

Answer: BD

**OSPF  
Area 0**

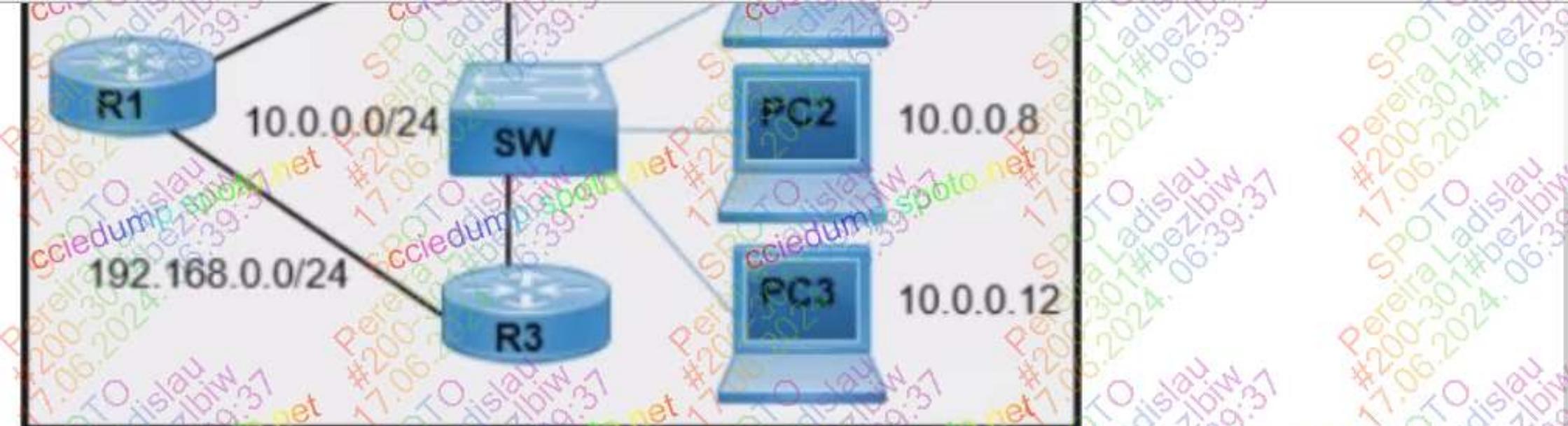


```
R1#show ip ospf neighbor
Neighbor ID      Pri  State            Dead Time      Address          Interface
192.168.100.2    1    FULL/BDR        00:00:32       192.168.100.2  FastEthernet0/0
192.168.100.3    1    FULL/DR         00:00:31       192.168.100.3  FastEthernet0/0
```

Refer to the exhibit. Which two configurations must the engineer apply on this network so that R1 becomes the DR? (Choose two.)

- A. R1(config)# interface fastethernet 0/0  
R1(config-if)# ip ospf priority 200
- B. R3(config)# interface fastethernet 0/0  
R3(config-if)# ip ospf priority 0
- C. R3(config)# interface fastethernet 0/0  
R3(config-if)# ip ospf priority 200
- D. R1(config)# router ospf 1  
R1(config-router)# router-id 192.168.100.1
- E. R1(config)# interface fastethernet 0/0  
R1(config-if)# ip ospf priority 0

Answer: AB



Refer to the exhibit. A network engineer must configure R1 so that it sends all packets destined to the 10.0.0.0/24 network to R3, and all packets destined to PC1 to R2. Which configuration must the engineer implement?

- A. R1(config)#ip route 10.0.0.0 255.255.0.0 172.16.0.2  
R1(config)#ip route 10.0.0.5 255.255.255.255 192.168.0.2
- B. R1(config)#ip route 10.0.0.0 255.255.0.0 192.168.0.2  
R1(config)#ip route 10.0.0.0 255.255.255.0 172.16.0.2
- C. R1(config)#ip route 10.0.0.0 255.255.255.0 172.16.0.2  
R1(config)#ip route 10.0.0.5 255.255.255.255 192.168.0.2
- D. R1(config)#ip route 10.0.0.0 255.255.255.0 192.168.0.2  
R1(config)#ip route 10.0.0.5 255.255.255.255 172.16.0.2

Answer: D

```
Router1#show ip route
Gateway of last resort is 10.10.11.2 to network 0.0.0.0
  209.165.200.0/27 is subnetted, 1 subnets
    B       209.165.200.224 [20/0] via 10.10.12.2, 02:26:33
      209.165.201.0/27 is subnetted, 1 subnets
        B     209.165.201.0 [20/0] via 10.10.12.2, 02:26:33
          209.165.202.0/27 is subnetted, 1 subnets
            B   209.165.202.128 [20/0] via 10.10.12.2, 02:26:03
              10.0.0.0/8 is variably subnetted, 10 subnets, 4 masks
                O   10.10.13.0/25 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
                O   10.10.13.128/28 [110/2] via 10.10.10.5, 00:00:12, GigabitEthernet0/1
                O   10.10.13.144/28 [110/2] via 10.10.10.5, 00:01:57, GigabitEthernet0/2
                O   10.10.13.160/29 [110/2] via 10.10.10.5, 00:00:12, GigabitEthernet0/1
                O   10.10.13.208/29 [110/2] via 10.10.10.13, 00:01:57, GigabitEthernet0/3
      S*   0.0.0.0/0 [1/0] via 10.10.11.2
```

Refer to the exhibit. To which device does Router1 send packets that are destined to host 10.10.13.165?

- A. Router5
- B. Router2
- C. Router4
- D. Router3

Answer: D

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP  
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area  
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2  
E1 - OSPF external type 1, E2 - OSPF external type 2  
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2  
ia - IS-IS inter area, \* - candidate default, U - per-user static route  
o - ODR, P - periodic downloaded static route, H - BHRP, l - LISP  
a - application route  
+ - replicated route, t - next hop override, p - overrides from Pfr  
Gateway of last resort is 0.0.0.0 to network 0.0.0.0

S\* 0.0.0.0/0 is directly connected, Null0  
10.0.0.0/8 is variably subnetted, 6 subnets, 2 masks  
C 10.0.12.0/24 is directly connected, GigabitEthernet0/1  
L 10.0.12.1/32 is directly connected, GigabitEthernet0/1  
C 10.0.13.0/24 is directly connected, GigabitEthernet0/2  
L 10.0.13.1/32 is directly connected, GigabitEthernet0/2  
C 10.0.14.0/24 is directly connected, GigabitEthernet0/3  
L 10.0.14.1/32 is directly connected, GigabitEthernet0/3  
D 192.168.0.0/16 [90/130816] via 10.0.13.3, 00:10:09, GigabitEthernet0/2  
O 192.168.0.0/23 [110/2] via 10.0.14.4, 00:00:46, GigabitEthernet0/3  
S 192.168.0.0/24 [100/0] via 10.0.12.2

Refer to the exhibit. Which interface is chosen to forward traffic to the host at 192.168.0.55?

- A. Null0
- B. GigabitEthernet0/3
- C. GigabitEthernet0/1
- D. GigabitEthernet0/2

Answer: C

An engineer observes high usage on the 2.4GHz channels and lower usage on the 5GHz channels. What must be configured to allow clients to preferentially use 5GHz access points?

- A. 11ac MU-MIMO
- B. Client Band Select
- C. Re-Anchor Roamed Clients
- D. OEAP Split Tunnel

Answer: B

[https://www.cisco.com/c/en/us/td/docs/wireless/access\\_point/mob\\_exp/88/best\\_practices/b\\_ME\\_Best\\_Practices\\_Guide\\_88/rf-management.html#rfmg-client-band-select](https://www.cisco.com/c/en/us/td/docs/wireless/access_point/mob_exp/88/best_practices/b_ME_Best_Practices_Guide_88/rf-management.html#rfmg-client-band-select)



Workstations

172.16.1.0 /24



Workstations

172.16.2.0 /27

Refer to the exhibit. The primary route across Gi0/0 is configured on both routers. A secondary route must be configured to establish connectivity between the workstation networks. Which command set must be configured to complete this task?

- A. R1  
ip route 172.16.2.0 255.255.255.224 172.16.0.6 111  
R2  
ip route 172.16.1.0 255.255.255.0 172.16.0.5 112
- B. R1  
ip route 172.16.2.0 255.255.255.240 172.16.0.2 113  
R2  
ip route 172.16.1.0 255.255.255.0 172.16.0.1 114
- C. R1  
ip route 172.16.2.0 255.255.255.248 172.16.0.5 110  
R2  
ip route 172.16.1.0 255.255.255.0 172.16.0.6 110
- D. R1  
ip route 172.16.2.0 255.255.255.240 172.16.0.5 89  
R2  
ip route 172.16.1.0 255.255.255.0 172.16.0.6 89

Answer: A

Which component controls and distributes physical resources for each virtual machine?

- A. CPU
- B. OS
- C. physical enclosure
- D. Hypervisor

Answer: D

Select the best choice.

100%



```
{  
    "Test_Questions" : [  
        "Automation",  
        "Configuration",  
        ],  
    "Test_Exam_Level" : [  
        "CCNA",  
        "CCNP",  
        ],  
    "Test_Response" : [  
        "Correct",  
        "Incorrect",  
        ],  
}
```

Refer to the exhibit. How many arrays are present in the JSON data?

- A. Three
- B. One
- C. nine
- D. Six

Answer: A

An engineer must configure Interswitch VLAN communication between a Cisco switch and a third-party switch. Which action should be taken?

- A. configure DSCP
- B. configure IEEE 802.1p
- C. configure ISL
- D. configure IEEE 802.1q

Answer: D

Which cable type must be used when connecting a router and switch together usmg these:

1. Pins 1 and 2 are receivers and pins 3 and 6 are transmitters
2. Auto detection MDI-X is unavailable.

- A. crossover
- B. rollover
- C. straight-through
- D. console

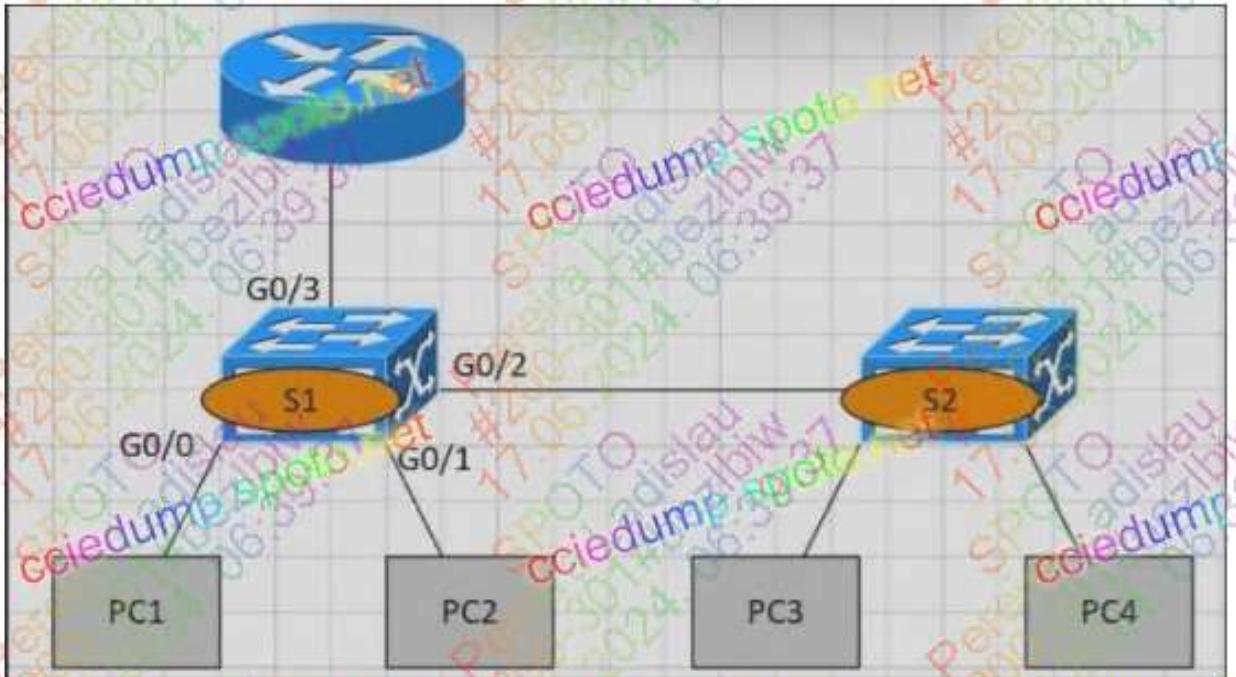
Answer: C

```
Cat9300-1# show interface gi1/0/1 switchport
Name: Gi1/0/1
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 321 (VLAN0321)
Administrative Native VLAN tagging: enabled
Trunking VLANs Enabled: 100,200,300
Pruning VLANs Enabled: 2-1001
```

Refer to the exhibit. A network administrator configures an interface on a new switch so that it connects to interface Gi1/0/1 on switch Cat9300-1. Which configuration must be applied to the new interface?

- A. switchport mode dynamic desirable  
switchport trunk native vlan 321  
switchport trunk allowed vlan 100,200,300
- B. switchport trunk encapsulation dot1q  
switchport trunk native vlan 321  
switchport trunk allowed vlan 100-300
- C. switchport mode trunk  
switchport trunk native vlan 321  
switchport trunk allowed vlan 100,200,300
- D. switchport nonegotiate  
switchport access vlan 321  
switchport trunk allowed vlan except 2-1001

Answer: C



Refer to the exhibit. PC1 tries to ping PC3 for the first time and sends out an ARP to S1. Which action is taken by S1?

- A. It forwards it out interface G0/2 only.
- B. It is flooded out every port except G0/0.
- C. It drops the frame.
- D. It forwards it out G0/3 only.

Answer: B

Which two encoding methods are supported by REST APIs? (Choose two.)

- A. XML
- B. YAML
- C. SGML
- D. EBCDIC
- E. JSON

Answer: AE

Which enhancements were implemented as part of WPA3?

- A. TKIP encryption improving WEP and per-packet keying
- B. 802.1x authentication and AES-128 encryption
- C. forward secrecy and SAE in personal mode for secure initial key exchange
- D. AES-64 in personal mode and AES-128 in enterprise mode

Answer: C

Which 802.11 frame type is indicated by a probe response after a client sends a probe request?

- A. Data
- B. Action
- C. Control
- D. Management

Answer: D

**Table 4-9. Class 1 frames**

Control	Management	Data
Request to Send (RTS)	Probe Request	Any frame with ToDS and FromDS false (0)
Clear to Send (CTS)	Probe Response	
Acknowledgment (ACK)	Beacon	
CF-End	Authentication	
CF-End+CF-Ack	Deauthentication	
	Announcement Traffic Indication Message (ATIM)	

An administrator is configuring a Cisco Catalyst switch so that it will accept management connections only from hosts in the 203.0.113.0/24 network. Other traffic passing through the switch must transit without interruption. Which two configurations must the engineer apply to the router? (Choose two.)

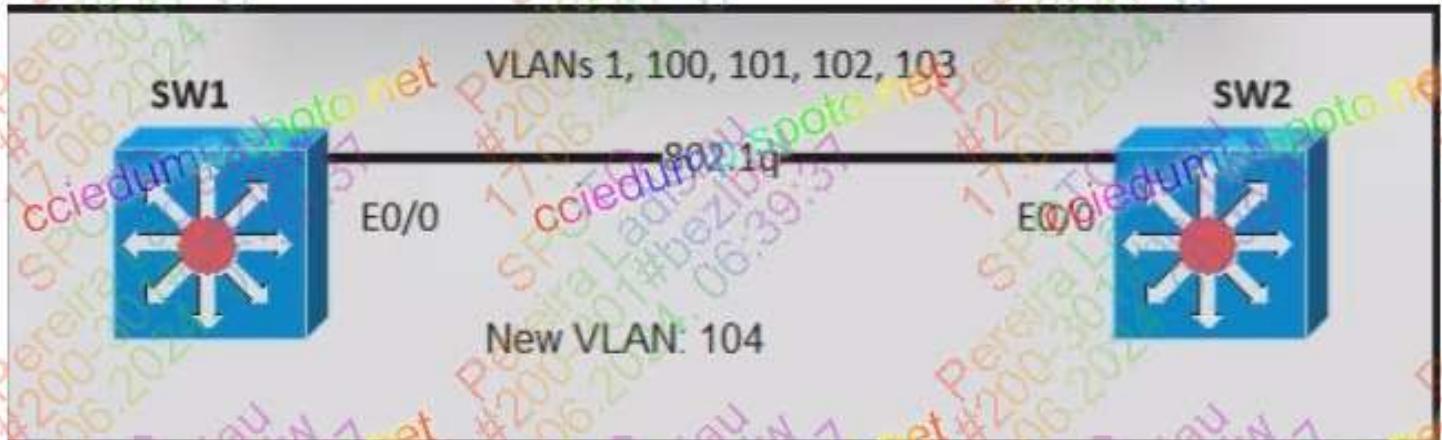
- A. ip access-list standard Management  
permit 203.0.113.0 255.255.255.0
- B. ip access-list extended Management  
permit tcp any range 22 23 203.0.113.0 0.0.0.255
- C. ip access-list standard Management  
permit 203.0.113.0 0.0.0.255
- D. line vty 0 15  
access-class Management in
- E. interface range vlan 1-4094  
ip access-group Management out

Answer: CD

Which communication interaction takes place when a southbound API is used?

- A. between network applications and switches and routers on the network
- B. between the SDN controller and services and applications on the network
- C. between the SDN controller and switches and routers on the network
- D. between the SDN controller and PCs on the network

Answer: C



Refer to the exhibit. An engineer is asked to insert the new VLAN into the existing trunk without modifying anything previously configured. Which command accomplishes this tasks?

- A. switchport trunk allowed vlan all
- B. switchport trunk allowed vlan add 104
- C. switchport trunk allowed vlan 100-104
- D. switchport trunk allowed vlan 104

Answer: B

What is a practice that protects a network from VLAN hopping attacks?

- A. Assign all access ports to VLANs other than the native VLAN.
- B. Enable dynamic ARP inspection
- C. Implement port security on internet-facing VLANs.
- D. Configure an ACL to prevent traffic from changing VLANs.

Answer: A

Mark

Current Score: 0/825

[Hide Answer](#)

## Item 2 of 133 (Choice, Q471)

What is a practice that protects a network from VLAN hopping attacks?

- A. Enable dynamic ARP inspection
- B. Assign all access ports to VLANs other than the native VLAN.
- C. Implement port security on internet-facing VLANs.
- D. Configure an ACL to prevent traffic from changing VLANs.

Answer: B

switchport mode access  
switchport access vlan 8  
!

interface gigabitethernet1/3  
switchport mode access  
switchport voice vlan 8  
switchport access vlan 9

B. interface qiqabitetherent1/1  
switchport mode access  
switchport access vlan 9  
!

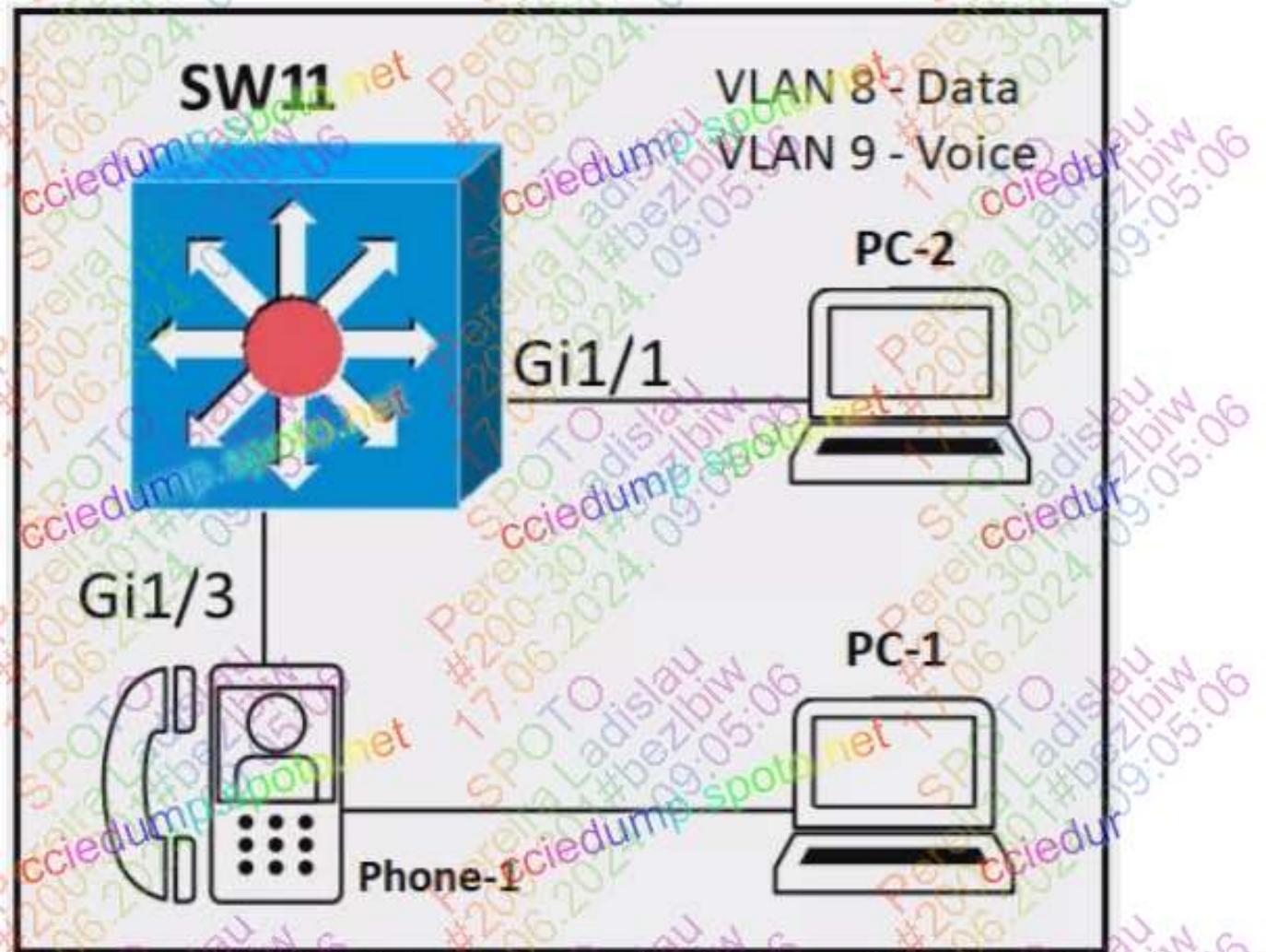
interface gigabitethernet1/3  
switchport mode trunk  
switchport trunk vlan 8  
switchport trunk vlan 9

C. interface qcqabitetherent1/1  
switchport mode access  
switchport access vlan 8  
!

interface gigabitethernet1/3  
switchport mode trunk  
switchport trunk vlan 8  
switchport voice vlan 9

D. interface gigabitetherent1/1  
switchport mode access  
switchport access vlan 8  
!

interface qiqabitetherent1/3  
switchport mode access  
switchport access vlan 8  
switchport voice vlan 9



Refer to the exhibit. An administrator must configure interfaces Gi1/1 and Gi1/3 on switch SW11. PC-1 and PC-2 must be placed in the Data VLAN, and Phone-1 must be placed in the Voice VLAN. Which configuration meets these requirements?

What are two reasons to implement DHCP in a network? (Choose two.)

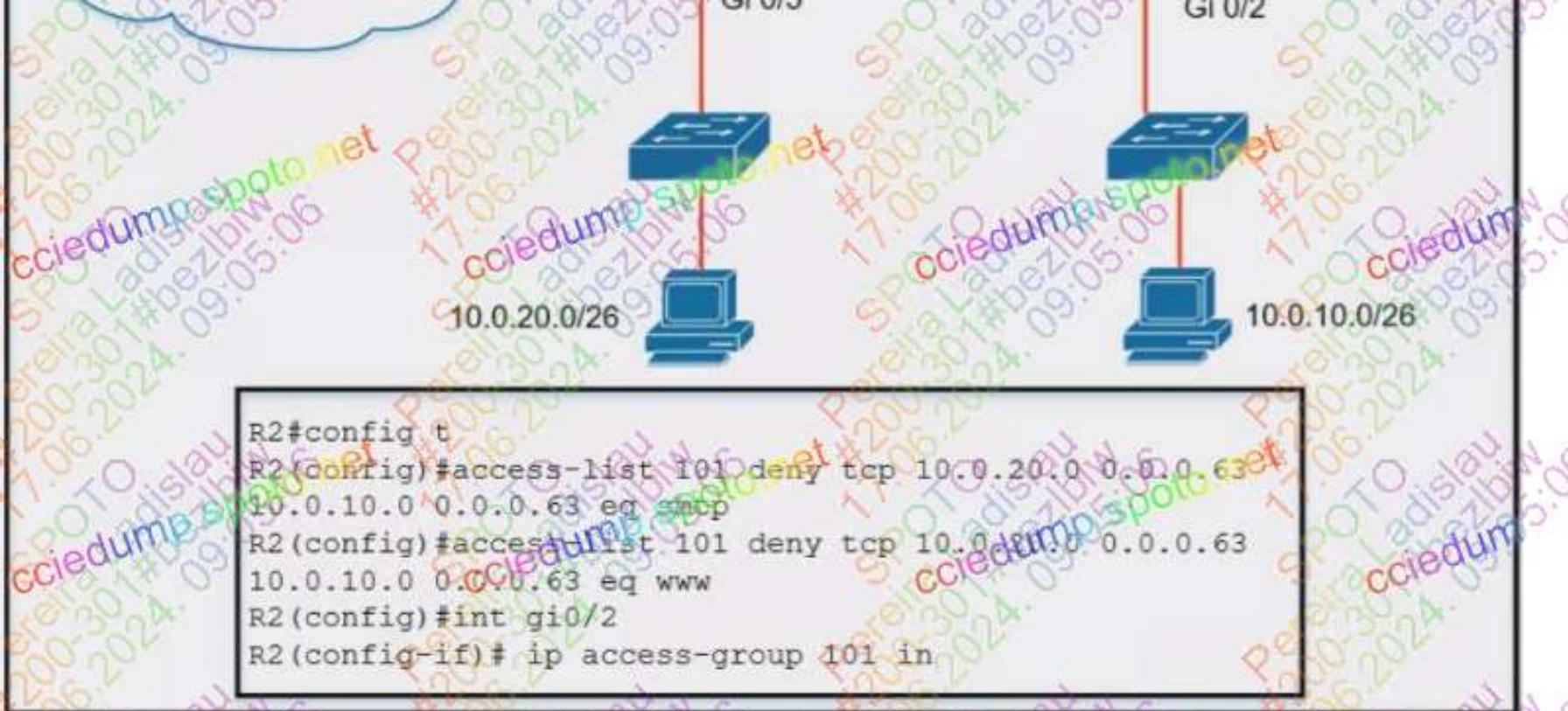
- A. manually control and configure IP addresses on network devices
- B. reduce administration time in managing IP address ranges for clients
- C. control the length of time an IP address is used by a network device
- D. access a website by name instead of by IP address
- E. dynamic control over the best path to reach an IP address

Answer: BC

```
Switch(config)#hostname R1
R1(config)#interface FastEthernet0/1
R1(config-if)#no switchport
R1(config-if)#ip address 10.10.10.42 255.255.255.0
R1(config-if)#line vty 0 4
R1(config-line)#login
```

Refer to the exhibit. An engineer booted a new switch and applied this configuration via the console port. Which additional configuration must be applied to allow administrators to authenticate directly to enable privilege mode via Telnet using a local username and password?

- A. R1(config)#username admin secret p@ss1234  
R1(config-if)#line vty 0 4  
R1(config-line)#login local  
R1(config)#enable secret p@ss1234
- B. R1(config)#username admin privilege 15 secret p@ss1234  
R1(config-if)#line vty 0 4  
R1(config-line)#login local
- C. R1(config)#username admin  
R1(config-if)#line vty 0 4  
R1(config-line)#password p@ss1234
- D. R1(config)#username admin  
R1(config-if)#line vty 0 4  
R1(config-line)#password p@ss1234  
R1(config-line)#transport input telnet



Refer to the exhibit. An extended ACL has been configured and applied to router R2. The configuration failed to work as intended. Which two changes stop outbound traffic on TCP ports 25 and 80 to 10.0.20.0/26 from the 10.0.10.0/26 subnet while still allowing all other traffic? (Choose two)

- A. The ACL must be configured the Gi0/2 interface inbound on R1.
- B. Add a "permit ip any any" statement to the beginning of ACL 101 for allowed traffic.
- C. The source and destination IPs must be swapped in ACL 101.
- D. The ACL must be moved to the Gi0/1 interface outbound on R2.
- E. Add a "permit ip any any" statement at the end of ACL 101 for allowed traffic.

Which Rapid PVST+ feature should be configured on a switch port to immediately send traffic to a connected server as soon as it is active?

- A. uplinkfast
- B. BPDU guard
- C. loop guard
- D. portfast

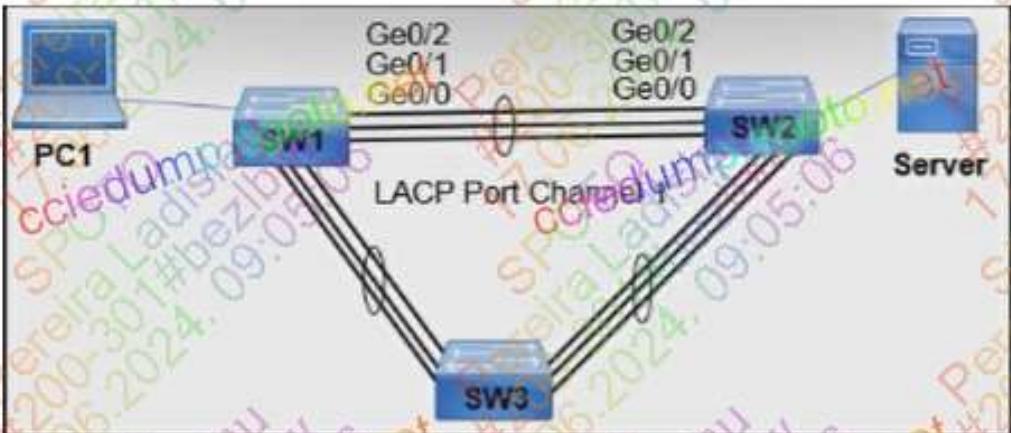
Answer: D



Refer to the exhibit. Which set of commands must be applied to the two switches to configure an LACP Layer 2 EtherChannel?

- A. SW1(config)#interface range f0/13-14  
SW1(config-if-range)#channel-group 1 mode auto  
SW2(config)#interface range f0/13-14  
SW2(config-if-range)#channel-group 1 mode passive
- B. SW1(config)#interface range f0/13-14  
SW1(config-if-range)#channel-group 1 mode active  
SW2(config)#interface range f0/13-14  
SW2(config-if-range)#channel-group 1 mode passive
- C. SW1(config)#interface range f0/13-14  
SW1(config-if-range)#channel-group 1 mode desirable  
SW2(config)#interface range f0/13-14  
SW2(config-if-range)#channel-group 1 mode passive
- D. SW1(config)#interface range f0/13-14  
SW1(config-if-range)#channel-group 1 mode on  
SW2(config)#interface range f0/13-14  
SW2(config-if-range)#channel-group 1 mode passive

Answer: B



Refer to the exhibit. PC1 regularly sends 1800 Mbps of traffic to the server. A network engineer needs to configure the EtherChannel to disable Port Channel 1 between SW1 and SW2 when the Ge0/0 and Ge0/1 ports on SW2 go down. Which configuration must the engineer apply to the switch?

- A. SW2# configure terminal  
SW2(config)# interface port-channel 1  
SW2(config-if)# port-channel min-links 2
- B. SW2# configure terminal  
SW2(config)# lacp system-priority 32000
- C. SW2# configure terminal  
SW2(config)# interface port-channel 1  
SW2(config-if)# lacp max-bundle 2
- D. SW2# configure terminal  
SW2(config)# interface port-channel 1  
SW2(config-if)# lacp port-priority 32000

Answer: A

Which networking function occurs on the data plane?

- A. processing inbound SSH management traffic
- B. sending and receiving OSPF Hello packets
- C. forwarding remote client/server traffic
- D. facilitates spanning-tree elections

Answer: C

```
R1#show run
!
router ospf 1
  auto-cost reference-bandwidth 100000
!
interface GigabitEthernet0/0
  bandwidth 10000000
!
interface GigabitEthernet0/1
  bandwidth 100000000
!
interface GigabitEthernet0/2
  ip ospf cost 100
!
interface GigabitEthernet0/3
  ip ospf cost 1000
end
```

Refer to the exhibit. Router R1 resides in OSPF Area 0. After updating the R1 configuration to influence the paths that it will use to direct traffic, an engineer verified that each of the four Gigabit interfaces has the same route to 10.10.0.0/16. Which interface will R1 choose to send traffic to reach the route?

- A. GigabitEthernet0/3
- B. GigabitEthernet0/0
- C. GigabitEthernet0/2
- D. GigabitEthernet0/1

In which two ways does a password manager reduce the chance of a hacker stealing a user's password? (Choose two.)

- A. It stores the password repository on the local workstation with built-in antivirus and anti-malware functionality.
- B. It protects against keystroke logging on a compromised device or web site.
- C. It uses an internal firewall to protect the password repository from unauthorized access
- D. It automatically provides a second authentication factor that is unknown to the original user.
- E. It encourages users to create stronger passwords.

Answer: BE

```
OldSwitch(config)#interface fastEthernet 0/1
OldSwitch(config-if)#switchport mode trunk
OldSwitch(config-if)#switchport trunk allowed vlan 5,10
OldSwitch(config-if)#switchport trunk native vlan 15
**output suppressed**

NewSwitch(config)#interface fastEthernet 0/1
NewSwitch(config-if)#switchport mode trunk
NewSwitch(config-if)#switchport trunk encapsulation isl
NewSwitch(config-if)#switchport trunk allowed vlan 5,10
NewSwitch(config-if)#switchport trunk native vlan 15
```

Refer to the exhibit. A new VLAN and switch are added to the network. A remote engineer configures OldSwitch and must ensure that the configuration meets these requirements:

1. accommodates current configured VLANs
2. expands the range to include VLAN 20
3. allows for IEEE standard support for virtual LANs

Which configuration on the NewSwitch side of the link meets these requirements?

- A. no switchport mode trunk  
switchport trunk encapsulation isl  
switchport mode access vlan 20
- B. no switchport trunk encapsulation isl  
switchport trunk encapsulation dot1q  
switchport trunk allowed vlan add 20
- C. switchport nonegotiate  
no switchport trunk allowed vlan 5,10  
switchport trunk allowed vlan 5,10,15,20

## Item 14 of 133 (Choice, Q483)

[Hide Answer](#)

What is a function of Layer 3 switches?

- A. They move frames between endpoints limited to IP addresses.
- B. They route traffic between devices in different VLANs.
- C. They forward Ethernet frames between VLANs using only MAC addresses.
- D. They transmit broadcast traffic when operating in Layer 3 mode exclusively.

Answer: B

Which port type supports the **spanning-tree portfast** command without additional configuration?

- A. Layer 3 main Interfaces
- B. Layer 3 subinterfaces
- C. trunk ports
- D. access ports

Answer: D

What is a function performed by a web server?

- A. provide an application that is transmitted over HTTP
- B. authenticate and authorize a user's identity
- C. securely store files for FTP access
- D. send and retrieve email from client devices

Answer: A

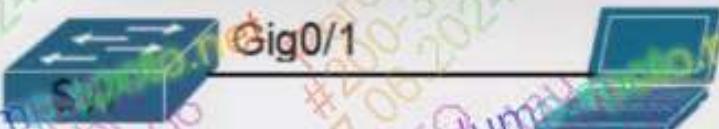
Item 17 of 133 (Choice, Q486)

[Hide Answer](#)

Refer to the exhibit. A network engineer is configuring a WLAN to connect with the 172.16.10.0/24 network on VLAN 20. The engineer wants to limit the number of devices that connect to the WLAN on the USERWL SSID to 125. Which configuration must the engineer perform on the WLC?

- A. In the Management Software activation configuration, set the Clients value to 125.
- B. In the WLAN configuration, set the Maximum Allowed Clients value to 125.
- C. In the Advanced configuration, set the DTIM value to 125.
- D. In the Controller IPv6 configuration, set the Throttle value to 125.

Answer: B



```
SW# conf t
SW(config)#interface gigabitEthernet0/1
SW(config-if)#switchport mode access
SW(config-if)#switchport port-security
SW(config-if)#{
```

Refer to the exhibit. A network engineer started to configure port security on a new switch. These requirements must be met:

1. MAC addresses must be learned dynamically.
2. Log messages must be generated without disabling the interface when unwanted traffic is seen.

Which two commands must be configured to complete this task? (Choose two.)

- A. SW(config-if)#switchport port-security maximum 2
- B. SW(config-if)#switchport port-security violation shutdown
- C. SW(config-if)#switchport port-security violation restrict
- D. SW(config-if)#switchport port-security mac-address sticky
- E. SW(config-if)#switchport port-security mac-address 0010.XXXX.XXXX

What does an SDN controller use as a communication protocol to relay forwarding changes to a southbound API?

- A. REST
- B. OpenFlow
- C. XML
- D. Java

Answer: B

Two switches have been implemented and all interfaces are at the default configuration level. A trunk link must be implemented between two switches with these requirements.

1. using an industry-standard trunking protocol
2. permitting VLANs 1-10 and denying other VLANs

How must the interconnecting ports be configured?

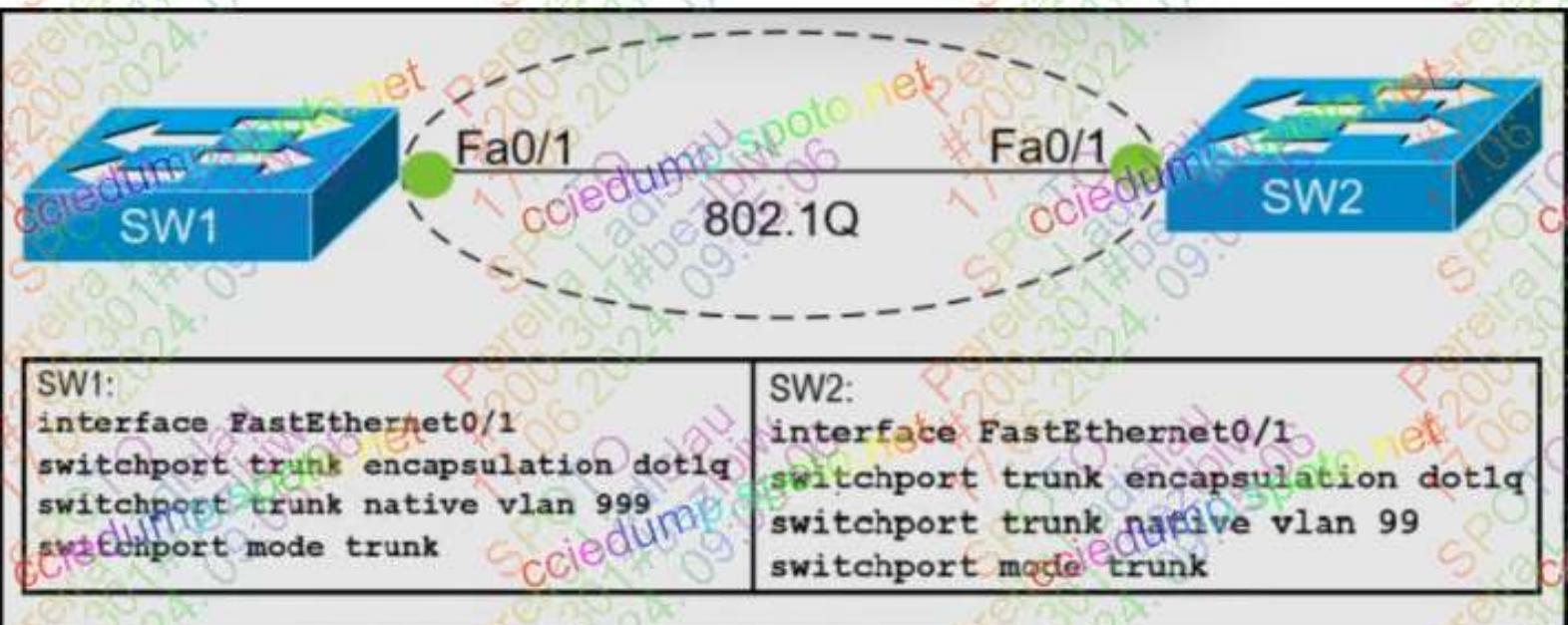
- A. switchport mode trunk  
switchport trunk allowed vlans 1-10  
switchport trunk native vlan 11
- B. switchport mode trunk  
switchport trunk encapsulation dot1q  
switchport trunk allowed vlans 1-10
- C. switchport mode dynamic desirable  
channel-group 1 mode desirable  
switchport trunk encapsulation isl  
switchport trunk allowed vlan except 11-4094
- D. switchport mode dynamic  
channel-protocol lacp  
switchport trunk allowed vlans 1-10

Answer: B

```
ip address 10.148.2.1 255.255.255.0
duplex auto
speed auto
!
ip forward-protocol nd
!
access-list 100 permit eigrp any any
access-list 100 permit icmp any any
access-list 100 permit tcp 10.149.3.0 0.0.0.255 host 10.0.1.2 eq 22
access-list 100 permit tcp any any eq 80
access-list 100 permit tcp any any eq 443
access-list 100 deny ip any any log
```

Refer to the exhibit. Which configuration enables DHCP addressing for hosts connected to interface FastEthernet0/1 on router R4?

- A. interface FastEthernet0/0  
ip helper-address 10.0.1.1  
!  
access-list 100 permit host 10.0.1.1 host 10.148.2.1 eq bootps
- B. interface FastEthernet0/1  
ip helper-address 10.0.1.1  
!  
access-list 100 permit udp host 10.0.1.1 eq bootps host 10.148.2.1
- C. interface FastEthernet0/1  
ip helper-address 10.0.1.1  
!  
access-list 100 permit tcp host 10.0.1.1 eq 67 host 10.148.2.1
- D. interface FastEthernet0/0



Refer to the exhibit. Which action do the switches take on the trunk link?

- A. The trunk forms, but VLAN s9 and VLAN 999 are in a shutdown state
- B. The trunk forms, but the mismatched native VLANs are merged into a single broadcast domain
- C. The trunk does not form, and the ports go into an err-disabled status
- D. The trunk does not form, but VLAN 99 and VLAN 999 are allowed to traverse the link

Answer: B

Which action does the router take as it forwards a packet through the network?

- A. The router encapsulates the source and destination IP addresses with the sending router P address as the source and the neighbor IP address as the destination.
- B. The router replaces the source and destination labels with the sending router interface label as a source and the next hop router label as a destination.
- C. The router encapsulates the original packet and then includes a tag that identifies the source router MAC address and transmit transparently to the destination.
- D. The router replaces the original source and destination MAC addresses with the sending router MAC address as the source and neighbor MAC address as the destination.

Answer: D

Which WLC interface provides out-of-band management in the Cisco Unified Wireless Network Architecture?

- A. AP-Manager
- B. service port
- C. virtual
- D. Dynamic

Answer: B

```
Router#show run
Building configuration...
!
interface GigabitEthernet0/0
    ip address 10.10.10.1 255.255.255.0
    duplex auto
    speed auto
!
interface GigabitEthernet0/1
    ip address 172.16.2.1 255.255.255.0
    duplex auto
    speed auto
!
```

Refer to the exhibit. An engineer is configuring a new router on the network and applied this configuration. Which additional configuration allows the PC obtain its IP address from a DHCP server?

- A. Configure the `ip dhcp relay information` command under interface Gi0/1.
- B. Configure the `ip helper-address 172.16.2.2` command under interface Gi0/0.
- C. Configure the `ip address dhcp` command under interface Gi0/0.
- D. Configure the `ip dhcp smart-relay` command globally on the router.

```
SW1#show run int gig 0/1
interface GigabitEthernet0/1
  switchport access vlan 11
  switchport trunk allowed vlan 1-10
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 5
  switchport mode trunk
  speed 1000
  duplex full
```

Refer to the exhibit. Which action is expected from SW1 when the untagged frame is received on the GigabitEthernet0/1 interface?

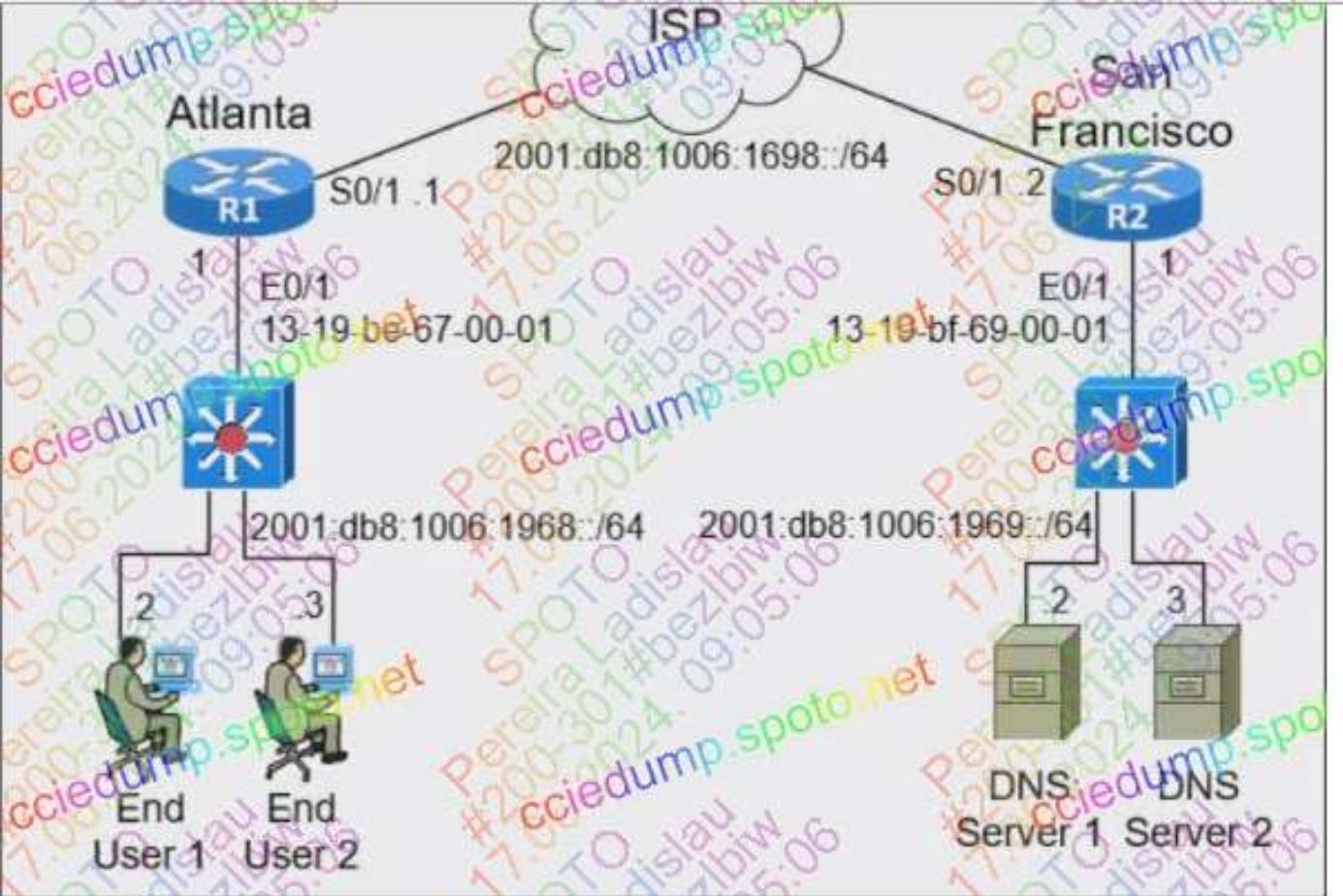
- A. The frame is dropped.
- B. The frame is processed in VLAN 11.
- C. The frame is processed in VLAN 5.
- D. The frame is processed in VLAN 1.

Answer: C

What are two facts that differentiate optical-fiber cabling from copper cabling? (Choose two.)

- A. It carries signals for longer distances.
- B. It carries electrical current further distances for PoE devices.
- C. It provides greater throughput options.
- D. It is less expensive when purchasing patch cables.
- E. It has a greater sensitivity to changes in temperature and moisture.

Answer: AC



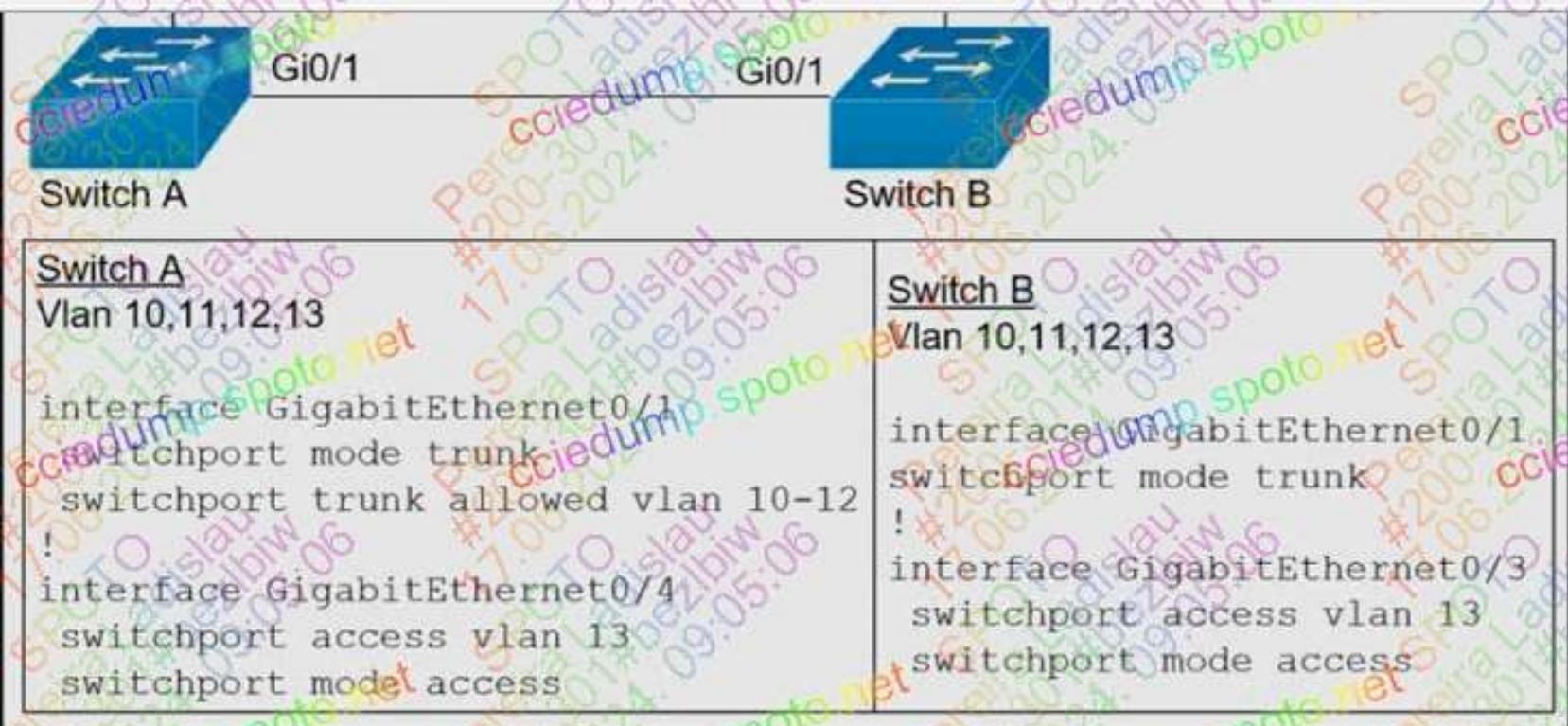
Refer to the exhibit. The IPv6 address for the LAN segment on router R1 must be configured using the EUI-64 format. When configured which ipv6 address is produced by the router?

- A. 2001:db8:1006:1968:10D8:ABEF:FE10:1
- B. 2001:db8:1006:1968:1130:ABFF:FECC:1
- C. 2001:db8:1006:1968:12D8:BAFE:FF01:1
- D. 2001:db8:1006:1968:1119:BEFF:FE69:1

Which type of security program is violated when a group of employees enters a building using the ID badge of only one person?

- A. network authorization
- B. intrusion detection
- C. user awareness
- D. physical access control

Answer: D



Refer to the exhibit. A network engineer must configure communication between PC A and the File Server. To prevent interruption for any other communication which command must be configured?

- A. switchport trunk allowed vlan remove 10-11
- B. switchport trunk allowed vlan add 13
- C. switchport trunk allowed vlan none
- D. switchport trunk allowed vlan 12

Answer: B

What is the purpose of the **ip address dhcp** command?

- A. to configure an interface as a DHCP client
- B. to configure an interface as a DHCP relay
- C. to configure an interface as a DHCP server
- D. to configure an interface as a DHCP helper

Answer: A

PC2



172.16.0.2

NAT Router

```
interface GigabitEthernet0/0
 ip address 172.16.0.5 255.255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 ip address 209.165.202.130 255.255.255.224
 duplex auto
 speed auto
!
ip nat inside source list 1 interface GigabitEthernet0/1 overload
!
access-list 1 permit 172.16.0.1
access-list 1 permit 172.16.0.2
```

Refer to the exhibit. How should the configuration be updated to allow PC1 and PC2 access to the Internet?

- A. Remove the **overload** keyword from the **ip nat inside source** command.
- B. Change the **ip nat inside source** command to use interface GigabitEthernet0/0.
- C. Add either the **ip nat {inside|outside}** command under both interfaces.
- D. Modify the configured number of the second access list

Which technology must be implemented to configure network device monitoring with the highest security?

- A. NetFlow
- B. IP SLA
- C. Syslog
- D. SNMPv3

Answer: D

An Ethernet frame arrived at switch interface G0/1, but the destination MAC address is missing from the MAC address table. How does the switch process the frame?

- A. It updates the destination to FFFF.FFFF.FFFF.
- B. It drops the frame and notifies the sending host.
- C. It floods the frame out of the remaining switch interfaces.
- D. It sends an ARP request to attempt to locate the destination.

Answer: C

Which wireless security protocol relies on Perfect Forward Secrecy?

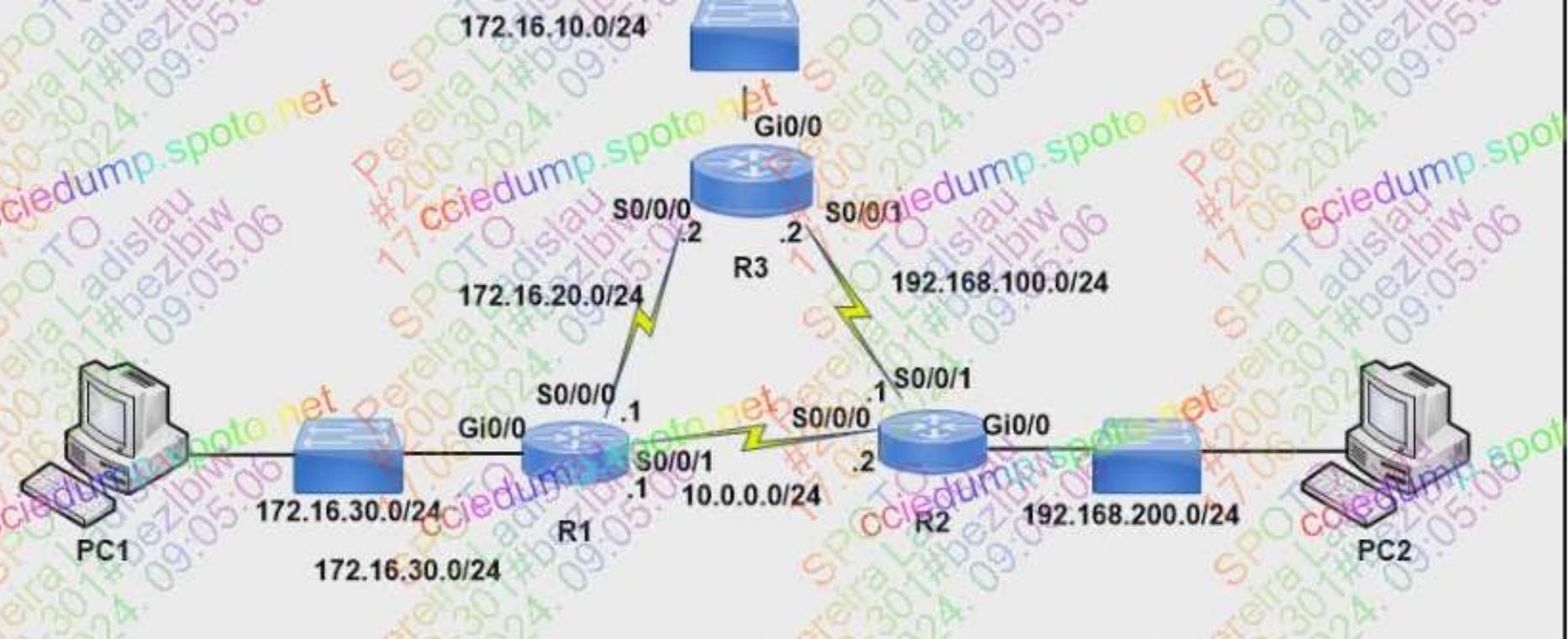
- A. WPA
- B. WEP
- C. WPA2
- D. WPA3

Answer: D

Which Cisco proprietary protocol ensures traffic recovers immediately, transparently, and automatically when edge devices or access circuits fail?

- A. VRRP
- B. HSRP
- C. FHRP
- D. SLB

Answer: B



```
R1(config)#ip route 0.0.0.0 .0.0.0.0 172.16.20.2
```

```
R1(config)#ip route 0.0.0.0 0.0.0.0 10.0.0.2 20
```

Refer to the exhibit. After applying this configuration to router R1, a network engineer is verifying the implementation. If all links are operating normally, and the engineer sends a series of packets from PC1 to PC3, how are the packets routed?

- A. They are routed to 172.16.20.2.
- B. They are routed to 10.0.0.2.
- C. They are distributed sent round robin to interfaces S0/0/0 and S0/0/1.
- D. They are routed to 192.168.100.2.

Which mode must be used to configure EtherChannel between two switches without using a negotiation protocol?

- A. active
- B. auto
- C. desirable
- D. on

Answer: D

In which circumstance would a network architect decide to implement a global unicast subnet instead of a unique local unicast subnet?

- A. when the subnet must be available only within an organization
- B. when the subnet must be routable over the Internet
- C. when the addresses on the subnet must be equivalent to private IPv4 addresses
- D. when the subnet does not need to be routable

Answer: B

Which technology can prevent client devices from arbitrarily connecting to the network without state remediation?

- A. MAC Authentication Bypass
- B. 802.11n
- C. IP Source Guard
- D. 802.1x

Answer: D

What is the benefit of configuring PortFast on an interface?

- A. Real-time voice and video frames entering the interface are processed faster.
- B. After the cable is connected, the interface uses the fastest speed setting available for that cable type.
- C. After the cable is connected, the interface is available faster to send and receive user data.
- D. The frames entering the interface are marked with higher priority and then processed faster by a switch.

Answer: C

## Item 42 of 133 (Choice, Q511)

[Hide Answer](#)

Which set of 2.4 GHz nonoverlapping wireless channels is standard in the United States?

- A. channels 1, 6, and 11
- B. channels 1, 6, 11, and 14
- C. channels 2, 7, and 11
- D. channels 2, 7, 9, and 11

Answer: A

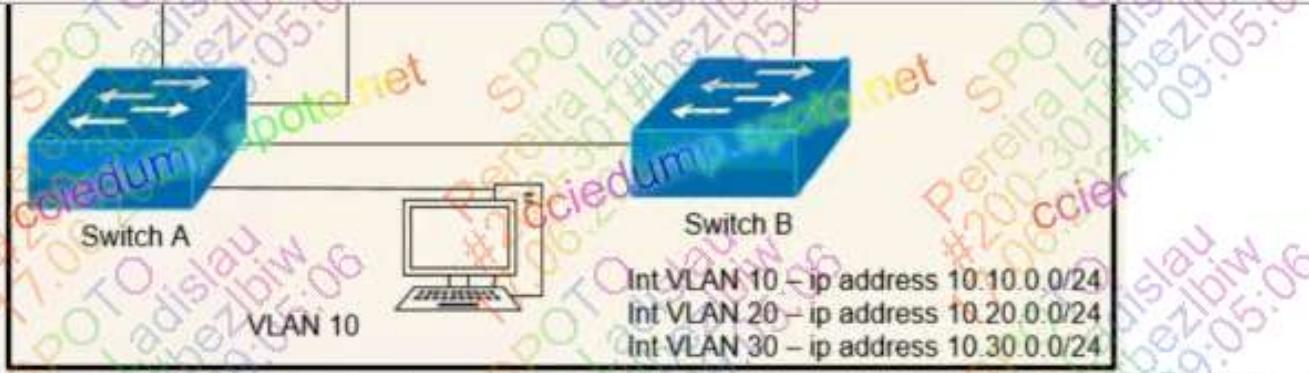
## Item 43 of 133 (Choice, Q512)

[Hide Answer](#)

An engineer needs to configure an access point to forward all client traffic through a wireless controller. Which mode must be enabled to accomplish this task?

- A. monitor
- B. local
- C. rogue detector
- D. autonomous

Answer: B



Refer to the exhibit. A network engineer must block access for all computers on VLAN 20 to the web server via HTTP. All other computers must be able to access the web server. Which configuration when applied to switch A accomplishes this task?

- A. config t  
`ip access-list extended wwwblock  
 permit ip any any  
 deny tcp any host 10.30.0.100 eq 80  
 int vlan 20  
 ip access-group wwwblock in`
- B. config t  
`ip access-list extended wwwblock  
 deny tcp any host 10.30.0.100 eq 80  
 int vlan 10  
 ip access-group wwwblock in`
- C. config t  
`ip access-list extended wwwblock  
 deny tcp any host 10.30.0.100 eq 80  
 permit ip any any  
 int vlan 20  
 ip access-group wwwblock in`
- D. config t  
`ip access-list extended wwwblock`

What is a reason to implement LAG on a Cisco WLC?

- A. Enable the connected switch ports to use different Layer 2 configurations
- B. Increase security by encrypting management frames
- C. Allow for stateful failover between WLCs
- D. Increase the available throughput on the link

Answer: D

```
access-list 101 permit ospf any any
access-list 101 permit tcp any any eq 179
access-list 101 permit tcp any eq 179 any
access-list 101 permit gre any any
access-list 101 permit esp any any

access-list 101 deny ospf any any
access-list 101 permit tcp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq telnet
access-list 101 permit udp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq 500
access-list 101 permit udp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq 4500
access-list 101 deny ip any any log

interface Ethernet0/0
  ip address 10.1.1.25 255.255.255.0
  ip access-group 101 in
```

Refer to the exhibit. A network administrator has been tasked with securing VTY access to a router. Which access-list entry accomplishes this task?

- A. access-list 101 permit tcp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq ssh
- B. access-list 101 permit tcp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq scp
- C. access-list 101 permit tcp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq https
- D. access-list 101 permit tcp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq telnet

Answer: A

d - default port

Number of channel-groups in use: 1

Number of aggregators: 1

Group	Port-channel	Protocol	Ports
-------	--------------	----------	-------

1	Po1 (SD)	LACP	Fa0/2 (I) Fa0/1 (I)
---	----------	------	---------------------

Switch1#show run

Building configuration...

interface Port-channel1

!

interface FastEthernet0/1

channel-group 1 mode passive

!

interface FastEthernet0/2

channel-group 1 mode passive

Switch2#show run

Building configuration...

interface Port-channel1

!

interface FastEthernet0/1

channel-group 1 mode passive

!

interface FastEthernet0/2

channel-group 1 mode passive

Refer to the exhibit. Which change to the configuration on Switch2 allows the two switches to establish an EtherChannel?

- A. Change the LACP mode to desirable.
- B. Change the protocol to PAgP and use auto mode.
- C. Change the LACP mode to active.
- D. Change the protocol to EtherChannel mode on.

Answer: C

In which situation is private IPv4 addressing appropriate for a new subnet on the network of an organization?

- A. There is limited unique address space, and traffic on the new subnet will stay local within the organization.
- B. The ISP requires the new subnet to be advertised to the internet for web services.
- C. The network has multiple endpoint listeners, and it is desired to limit the number of broadcasts.
- D. Traffic on the subnet must traverse a site-to-site VPN to an outside organization.

Answer: A

What is the collapsed layer in collapsed core architectures?

- A. distribution and access
- B. core and WAN
- C. access and WAN
- D. core and distribution

Answer: D



Hide Answer

Which two protocols must be disabled to increase security for management connections to a Wireless LAN Controller? (Choose two)

- A. TFTP
- B. SSH
- C. Telnet
- D. HTTP
- E. HTTPS

Answer: CD

What are two disadvantages of a full-mesh topology? (Choose two.)

- A. It has a high implementation cost.
- B. It must have point-to-point communication.
- C. It needs a high MTU between sites.
- D. It works only with BGP between sites.
- E. It requires complex configuration.

Answer: AE

## Item 53 of 133 (Choice, Q522)

[Hide Answer](#)

What uses HTTP messages to transfer data to applications residing on different hosts?

- A. OpenStack
- B. REST
- C. OpFlex
- D. OpenFlow

Answer: B

Which purpose does a northbound API serve in a controller-based networking architecture?

- A. communicates between the controller and the physical network hardware
- B. facilitates communication between the controller and the application
- C. reports device errors to a controller
- D. generates statistics for network hardware and traffic

Answer: B

A network administrator enabled port security on a switch interface connected to a printer. What is the next configuration action in order to allow the port to learn the MAC address of the printer and insert it into the table automatically?

- A. implement auto MAC address learning
- B. implement static MAC addressing
- C. enable sticky MAC addressing
- D. enable dynamic MAC address learning

Answer: C

What are two benefits of network automation? (Choose two.)

- A. increased network security
- B. reduced hardware footprint
- C. faster changes with more reliable results
- D. reduced operational costs
- E. fewer network failures

Answer: CD

A corporate office uses four floors in a building.

1. Floor 1 has 24 users.
2. Floor 2 has 29 users.
3. Floor 3 has 28 users.
4. Floor 4 has 22 users.

Which subnet summarizes and gives the most efficient distribution of IP addresses for the router configuration?

- A. 192.168.0.0/25 as summary and 192.168.0.0/27 for each floor
- B. 192.168.0.0/23 as summary and 192.168.0.0/25 for each floor
- C. 192.168.0.0/26 as summary and 192.168.0.0/29 for each floor
- D. 192.168.0.0/24 as summary and 192.168.0.0/28 for each floor

Answer: A

What is used to identify spurious DHCP servers?

- A. DHCPDISCOVER
- B. DHCPREQUEST
- C. DHCPOFFER
- D. DHCPACK

Answer: A

[https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst6500/ios/12-2SY/configuration/guide/sy\\_swcg/dhcp\\_snooping.html#52677](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst6500/ios/12-2SY/configuration/guide/sy_swcg/dhcp_snooping.html#52677)

```
interface GigabitEthernet0/1
ip address 192.168.1.2 255.255.255.0
ip access-group 2699 in
access-list 2699 deny icmp any 10.10.1.0 0.0.0.255 echo
access-list 2699 deny ip any 10.20.1.0 0.0.0.255
access-list 2699 permit ip any 10.10.1.0 0.0.0.255
access-list 2699 permit tcp any 10.20.1.0 0.0.0.127 eq 22
```

Refer to the exhibit. A network administrator must permit SSH access to remotely manage routers in a network. The operations team resides on the 10.20.1.0/25 network. Which command will accomplish this task?

- A. no access-list 2699 deny ip any 10.20.1.0 0.0.0.255
- B. no access-list 2699 deny tcp any 10.20.1.0 0.0.0.127 eq 22
- C. access-list 2699 permit udp 10.20.1.0 0.0.0.255
- D. access-list 2699 permit tcp any 10.20.1.0 0.0.0.255 eq 22

Answer: A

A network administrator needs to aggregate 4 ports into a single logical link which must negotiate layer 2 connectivity to ports on another switch. What must be configured when using active mode on both sides of the connection?

- A. Cisco vPC
- B. LACP
- C. LLDP
- D. 802.1q trunks

Answer: B

Which type of hypervisor operates without an underlying OS to host virtual machines?

- A. Type 3
- B. Type 1
- C. Type 12
- D. Type 2

In software-defined architecture, which plane handles switching for traffic through a Cisco router?

- A. data
- B. Control
- C. application
- D. Management

Answer: A

What is a characteristic of cloud-based network topology?

- A. wireless connections provide the sole access method to services
- B. services are provided by a public, private, or hybrid deployment
- C. physical workstations are configured to share resources
- D. onsite network services are provided with physical Layer 2 and Layer 3 components

Answer: B

In which situation is private IPv4 addressing appropriate for a new subnet on the network of an organization?

- A. Traffic on the subnet must traverse a site-to-site VPN to an outside organization.
- B. The network has multiple endpoint listeners, and it is desired to limit the number of broadcasts.
- C. The ISP requires the new subnet to be advertised to the internet for web services.
- D. There is limited unique address space, and traffic on the new subnet will stay local within the organization.

Answer: D

Which AP mode is used for capturing wireless traffic and forwarding that traffic to a PC that is running a packet analyzer?

- A. monitor
- B. rogue detector
- C. bridge
- D. sniffer

Answer: D

What must be considered when using 802.11a?

- A. It is chosen over 802.11b/g when a lower-cost solution is necessary
- B. It is compatible with 802.11b and 802.11g-compliant wireless devices
- C. It is susceptible to interference from 2.4 GHz devices such as microwave ovens.
- D. It is used in place of 802.11b/g when many nonoverlapping channels are required

Answer: D

802.11a uses the 5 GHz U-NII band—which, for much of the world, offers at least 23 non-overlapping, 20-MHz-wide channels—rather than the 2.4-GHz, ISM-frequency band—which offers only three non-overlapping, 20-MHz-wide channels—where other adjacent channels overlap (see list of WLAN channels). Better or worse performance with higher or lower frequencies (channels) may be realized, depending on the environment. 802.11n can use either the 2.4 GHz or 5 GHz band; 802.11ac uses only the 5 GHz band.

Which protocol is used for secure remote CLI access?

- A. HTTPS
- B. SSH
- C. HTTP
- D. Telnet

Answer: B

What is a function of Cisco Advanced Malware Protection for a Next-Generation IPS?

- A. URL filtering
- B. authenticating end users
- C. inspecting specific files and file types for malware
- D. authorizing potentially compromised wireless traffic

Answer: C

```
{  
    "myCar": {  
        "name": "thunder",  
        "wheels": ["good", "good", "pressureLow", "warning"],  
        "gasLight": false  
    },  
    "oldCar": {  
        "name": "sleepy",  
        "wheels": ["pressureLow", "pressureLow", "pressureLow", "pressureLow"],  
        "color": "rust"  
        "gasLight": true  
    },  
    "newCar": {  
        "name": "lightning",  
        "wheels": ["pressureLow", "good", "pressureLow", "good"],  
        "color": "blue"  
        "gasLight": true  
    }  
}
```

Refer to the exhibit. In which structure does the word "warning" directly reside?

- A. Boolean
- B. String
- C. Object
- D. Array

Answer: D



Refer to the exhibit. The router has been configured with a supernet to accommodate the requirement for 380 users on a subnet. The requirement already considers 30% future growth. Which configuration verifies the IP subnet on router R4?

- A. Subnet: 10.7.54.0  
Subnet mas: 255.255.254.0  
Broadcast address: 10.7.54.255  
Usable IP address range: 10.7.54.1 - 10.7.55.254
- B. Subnet: 10.7.54.0  
Subnet mas: 255.255.254.0  
Broadcast address: 10.7.55.255  
Usable IP address range: 10.7.54.1 - 10.7.55.254
- C. Subnet: 10.7.54.0  
Subnet mask: 255.255.255.0  
Broadcast address: 10.7.54.255  
Usable IP address range: 10.7.54.1 - 10.7.55.254
- D. Subnet: 10.7.54.0  
Subnet mas: 255.255.128.0  
Broadcast address: 10.7.55.255  
Usable IP address range: 10.7.54.1 - 10.7.55.254

What happens when a switch receives a frame with a destination MAC address that recently aged out?

- A. The switch references the MAC address aging table for historical addresses on the port that received the frame.
- B. The switch drops the frame and learns the destination MAC address again from the port that received the frame.
- C. The switch floods the frame to all ports in all VLANs except the port that received the frame.
- D. The switch floods the frame to all ports in the VLAN except the port that received the frame.

Answer: D

```
Router1#show ip route
Gateway of last resort is not set
  209.165.200.0/27 is subnetted, 1 subnets
    209.165.200.23 [20/0] via 10.10.10.2, 00:09:57
      10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
        C 10.10.10.0/28 is directly connected, GigabitEthernet0/0
        C 10.10.11.0/30 is directly connected, FastEthernet2/0
        O 10.10.13.0/24 [110/2] via 10.10.10.1, 00:08:34, GigabitEthernet0/0
        C 10.10.12.0/30 is directly connected, GigabitEthernet0/1
```

Refer to the exhibit. Which action is taken by the router when a packet is sourced from 10.10.10.2 and destined for 10.10.10.16?

- A. It uses a route that is similar to the destination address.
- B. It discards the packets.
- C. It queues the packets waiting for the route to be learned.
- D. It floods packets to all learned next hops.

Answer: B

What is a characteristic of a collapsed-core network topology?

- A. It allows wireless devices to connect directly to the core layer, which enables faster data transmission.
- B. It enables the core and access layers to connect to one logical distribution device over an EtherChannel.
- C. It allows the core and distribution layers to run as a single combined layer.
- D. It enables all workstations in a SOHO environment to connect on a single switch with internet access.

Answer: C

<https://community.cisco.com/t5/other-network-architecture-subjects/looking-for-help-understanding-cisco-hierarchical-model/m-p/2941846/highlight/true#M192351>

How do UTP and STP cables compare?

- A. UTP cables are less prone to crosstalk and interference and STP cables are more prone to crosstalk and interference.
- B. STP cables are shielded and protect against electromagnetic interference and UTP lacks the same protection against electromagnetic interference.
- C. UTP cables provide faster and more reliable data transfer rates and STP cables are slower and less reliable.
- D. STP cables are cheaper to procure and easier to install and UTP cables are more expensive and harder to install.

Answer: B

How does frame switching function on a switch?

- A. modifies frames that contain a known source VLAN
- B. forwards known destinations to the destination port
- C. forwards frames to a neighbor port using CDP
- D. inspects and drops frames from unknown destinations

Answer: B



Refer to the exhibit. Which command set configures ROUTER-1 to allow Internet access for users on the 192.168.1.0/24 subnet while using 209.165.202.129 for Port Address Translation?

- A. ip nat pool CCNA 192.168.0.0 192.168.1.255 netmask 255.255.255.0  
access-list 10 permit 192.168.0.0 0.0.0.255  
ip nat inside source list 10 pool CCNA overload
- B. ip nat pool CCNA 209.165.202.129 209.165.202.129 netmask 255.255.255.255  
access-list 10 permit 192.168.1.0 255.255.255.0  
ip nat inside source list 10 pool CCNA overload
- C. ip nat pool CCNA 192.168.0.0 192.168.1.255 netmask 255.255.255.0  
access-list 10 permit 192.168.0.0 255.255.255.0  
ip nat inside source list 10 pool CCNA overload
- D. ip nat pool CCNA 209.165.202.129 209.165.202.129 netmask 255.255.255.255  
access-list 10 permit 192.168.1.0 0.0.0.255  
ip nat inside source list 10 pool CCNA overload

Wireless LAN adapter Wi-Fi:

Connection-specific DNS Suffix	: arcep.se
Description	: Intel(R) Dual Band
Wireless AC 7265	
Physical Address	: C8-21-58-B4-F3-EF
DHCP Enabled	: Yes
Autoconfiguration Enabled	: Yes
Link-local IPv6 Address	: fe80::45a1:b3fa:2f37:bf37%2 (Preferred)
IPv4 Address	: 192.168.1.226 (Preferred)
Subnet Mask	: 255.255.255.0
Lease Obtained	: October 3, 2019 12:28:08 PM
Lease Expires	: October 3, 2019 7:18:37 PM
Default Gateway	: 192.168.1.100
DNS Server	: 192.168.1.254
DHCPv6 IAID	: 46670168
DHCPv6 Client DUID	: 00-01-00-01-20-FF-05-55-3C-52-82-33-D3-84
DNS Servers	: 192.168.1.253
NetBIOS over Tcpip	: Enabled
Connection-specific DNS Suffix Search List	: arcep.se

Refer to the exhibit. The given Windows PC is requesting the IP address of the host at [www.cisco.com](http://www.cisco.com). To which IP address is the request sent?

- A. 192.168.1.226
- B. 192.168.1.254
- C. 192.168.1.253
- D. 192.168.1.100

## Item 78 of 133 (Choice, Q547)

[Hide Answer](#)

Why is a first-hop redundancy protocol implemented?

- A. to enable multiple switches to operate as a single unit
- B. to prevent loops in a network
- C. to protect against default gateway failures
- D. to provide load-sharing for a multilink segment

Answer: C



172.16.1.33/27

PC-1

```
!  
interface GigabitEthernet0/0  
ip address 172.16.1.62 255.255.255.224
```

Refer to the exhibit. Which configuration on RTR-1 denies SSH access from PC-1 to any RTR-1 interface and allows all other traffic?

- A. access-list 100 deny tcp host 172.16.1.33 any eq 22  
access-list 100 permit ip any any

```
interface GigabitEthernet0/0  
ip access-group 100 in
```

- B. access-list 100 deny tcp host 172.16.1.33 any eq 22  
access-list 100 permit ip any any

```
line vty 0 15  
access-class 100 in
```

- C. access-list 100 deny tcp host 172.16.1.33 any eq 23  
access-list 100 permit ip any any

```
line vty 0 15  
access-class 100 in
```

- D. access-list 100 deny tcp host 172.16.1.33 any eq 23  
access-list 100 permit ip any any

```
interface GigabitEthernet0/0  
ip access-group 100 in
```

Answer: B

What are two purposes of HSRP? (Choose two.)

- A. It helps hosts on the network to reach remote subnets without a default gateway.
- B. It provides a mechanism for diskless clients to autoconfigure their IP parameters during boot.
- C. It passes configuration information to hosts in a TCP/IP network
- D. It groups two or more routers to operate as one virtual router.
- E. It improves network availability by providing redundant gateways.

Answer: DE

```
switch(config)#interface gigabitEthernet 1/11
switch(config-if)#switchport mode access
switch(config-if)#spanning-tree portfast
switch(config-if)#spanning-tree bpduguard enable
```

Refer to the exhibit. What is the result if Gig1/11 receives an STP BPDU?

- A. The port immediately transitions to STP forwarding.
- B. The port goes into error-disable state.
- C. The port transitions to STP blocking.
- D. The port transitions to the root port.

Answer: B

## Item 83 of 133 (Choice, Q552)

[Hide Answer](#)

Which interface or port on the WLC is the default for in-band device administration and communications between the controller and access points?

- A. virtual interface
- B. service port
- C. management interface
- D. console port

Answer: C

Which 802.11 management frame type is sent when a client roams between access points on the same SSID?

- A. Association Request
- B. Probe Request
- C. Authentication Request
- D. Reassociation Request

Answer: D

What describes the functionality of southbound APIs?

- A. They convey information from the controller to the SDN applications.
- B. They use HTTP messages to communicate.
- C. They communicate with the management plane.
- D. They enable communication between the controller and the network device.

Answer: D

Which remote access protocol provides unsecured remote CLI access?

- A. Telnet
- B. Console
- C. SSH
- D. Bash

Answer: A

```
Name: Et0/2
Switchport: Enabled
Administrative Mode: dynamic auto
Operational Mode: trunk
Administrative Trunking Encapsulation: negotiate
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native Mode Pruning: enabled
Voice VLAN: none
-
Operational private-vlan: none
Trunking VLANs Enabled: 5
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
```

Refer to the exhibit. An administrator must connect SW\_1 and the printer to the network. SW\_2 requires DTP to be used for the connection to SW\_1. The printer is configured as an access port with VLAN 5. Which set of commands completes the connectivity?

- A. switchport mode trunk  
switchport trunk pruning vlan add 5
- B. switchport mode dynamic auto  
switchport trunk encapsulation negotiate
- C. switchport mode dynamic auto  
switchport private-vlan association host 5
- D. switchport mode dynamic desirable  
switchport trunk allowed vlan add 5

Answer: D



Refer to the exhibit. An engineer must configure the interface that connects to PC1 and secure it in a way that only PC1 is allowed to use the port. No VLAN tagging can be used except for a voice VLAN. Which command sequence must be entered to configure the switch?

- A. SW1(config-if)# switchport mode nonegotiate  
SW1(config-if)# switchport port-security  
SW1(config-if)# switchport port-security maximum 1
- B. SW1(config-if)# switchport mode dynamic desirable  
SW1(config-if)# switchport port-security mac-address 0050.7966.6800  
SW1(config-if)# switchport port-security mac-address sticky
- C. SW1(config-if)# switchport mode dynamic auto  
SW1(config-if)# switchport port-security  
SW1(config-if)# switchport port-security violation restrict
- D. SW1(config-if)# switchport mode access  
SW1(config-if)# switchport port-security  
SW1(config-if)# switchport port-security mac-address 0050.7966.6800

What are two capabilities provided by VRRP within a LAN network? (Choose two.)

- A. load sharing
- B. granular QoS
- C. redundancy
- D. dynamic routing updates
- E. bandwidth optimization

Answer: AC

Which access layer threat-mitigation technique provides security based on identity?

- A. Dynamic ARP Inspection
- B. using a non-default native VLAN
- C. DHCP snooping
- D. 802.1x

Answer: D

## Item 91 of 133 (Choice, Q560)

[Hide Answer](#)

Which command enables HTTP access to the Cisco WLC?

- A. config certificate generate webadmin
- B. config network secureweb enable
- C. config network telnet enable
- D. config network webmode enable

Answer: D

What is the function of a controller in controller-based networking?

- A. It is the card on a core router that maintains all routing decisions for a campus.
- B. It centralizes the data plane for the network.
- C. It is a pair of core routers that maintain all routing decisions for a campus.
- D. It serves as the centralized management point of an SDN architecture.

Answer: D

## Controller-Based Network

focused on network

user input is a policy

uses white list security model

## Traditional Networking

focused on devices

user input is a configuration

uses black list security model

Drag and drop the statements about AAA services from the left to the corresponding AAA services on the right. Not all options are used.

Select and Place

Answer:

#### Authentication

It performs user validation Via TACACS+.

It verifies "who you are".

#### Authorization

It grants access to network assets, such as FTP servers.

It restricts the CLI commands that a user is able to perform.

It records the duration of each connection.

It supports User Access Reporting.

Internet

10.10.11.0/30

MPLS

Router1#show ip  
Gateway of last res

209.165.200.0/2	
B 209.165.200.2	
209.165.201.0/2	
B 209.165.201.0	
209.165.202.0/2	
B 209.165.202.1	
10.0.0.0/8 is vari	
C 10.10.10.0/28	
C 10.10.11.0/30	
C 10.10.12.0/30	
O 10.10.13.0/25	
O 10.10.13.128	
O 10.10.13.144	
O 10.10.13.160	
O 10.10.13.208	
S* 0.0.0.0/0 [1/0] v	

Select and Place

255.255.255.128	10.10.13.0
255.255.255.224	10.10.13.144
255.255.255.240	10.10.13.160
255.255.255.248	209.165.202.128
255.255.255.252	

Reset OK

Refer to the exhibit. Drag and drop the prefix lengths from the left onto the corresponding prefixes on the right. Not all prefixes are used.

Select and Place

255.255.255.128

255.255.255.240

255.255.255.248

255.255.255.224

255.255.255.252

Drag and drop the Cisco Wireless LAN Controller security settings from the left onto the correct security mechanism categories on the right.

Select and Place X

web policy

Passthrough

WPA+WPA2

802.1X

Layer 2 Security Mechanisms

Reset

OK

Drag and drop the Cisco Wireless LAN Controller security settings from the left onto the correct security mechanism categories on the right.

Answer:

Select and Place

Layer 2 Security Mechanisms

WPA+WPA2

802.1X

Layer 3 Security Mechanisms

web policy

Passthrough

Refer to the exhibit. Drag and drop the learned prefixes from the left onto the subnet masks on the right.

Select and Place

Answer:

172.16.4.0

172.16.2.128

172.16.3.64

172.16.3.128

172.16.3.192

```
Router1#show ip route
Gateway of last resort is 10.10.11.2 to network 0.0.0.0

 209.165.200.0/27 is subnetted, 1 subnets
 S*  209.165.200.224 [20/0] via 10.10.12.2, 06:09:59
      209.165.201.0/27 is subnetted, 1 subnets
 B   209.165.201.0 [20/0] via 10.10.12.2, 05:13:18
      209.165.202.0/27 is subnetted, 1 subnets
 B   209.165.202.128 [20/0] via 10.10.12.2, 05:12:48
      10.0.0.0/8 is variably subnetted, 9 subnets, 4 masks
 C     10.10.10.0/28 is directly connected, GigabitEthernet0/0
 C     10.10.11.0/30 is directly connected, FastEthernet2/0
 C     10.10.12.0/30 is directly connected, GigabitEthernet0/1
 C     10.10.13.0/25 [110/2] via 10.10.10.1, 00:00:03, GigabitEthernet0/0
 O     10.10.13.128/28 [110/2] via 10.10.10.1, 00:00:03, GigabitEthernet0/0
 O     10.10.13.144/28 [110/2] via 10.10.10.1, 00:00:03, GigabitEthernet0/0
 O     10.10.13.160/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
 O     10.10.13.208/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
 O     10.10.13.252/30 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
 S*   0.0.0.0/0 [1/0] via 10.10.11.2
```

Refer to the exhibit. Drag and drop the subnet masks from the left onto the corresponding subnets on the right. Not all subnet masks are used.

Select and Place

Refer to the exhibit. Drag and drop the subnet masks from the left onto the corresponding subnets on the right. Not all subnet masks are used.

Select and Place

Answer:

255.255.248.0

255.255.255.128

255.255.255.224

255.255.255.248

255.255.255.252

Drag and drop the characteristics of transport layer protocols from the left onto the corresponding protocols on the right.

Select and Place

Answer:

medium

medium

criedur

criedur

criedur

criedur

TCP

guarantees packet delivery

uses a 32-bit sequence number

provides support for retransmission of lost packets

UDP

ideal for voice traffic

offers minimal overhead within a packet

requires less computer resources

Drag and drop the statements about networking from the left onto the corresponding networking types on the right.

### Select and Place

Answers

Traditional Networking

New devices are configured using the physical infrastructure.

This type requires a distributed control plane

Controller-Based Networking

This type allows better control over how networks work and how network devices are configured.

This type enables networks to integrate with applications through APIs.

This type provisions resources from a centralized location.

C:\>ipconfig/all  
Windows IP Configuration

Select and Place X

192.168.1.1	Broadcast address
192.168.1.20	Default gateway
192.168.1.254	Host IP address
192.168.1.255	Fast assignable IP address in the subnet
B8-76-3F-7C-57-DF	MAC address

Reset OK

and drop the node identifiers from the left onto the network parameters on the right. Not all values are used.

Select and Place

Refer to the exhibit. An engineer is tasked with verifying network configuration parameters on a client workstation to report back to the team lead. Drag and drop the node identifiers from the left onto the network parameters on the right. Not all values are used.

Select and Place

Answer:

192.168.1.255

192.168.1.1

192.168.1.20

192.168.1.254

B8-76-3F-7C-57-DF

Select and Place

X

192.168.1.1	broadcast address
192.168.1.20	default gateway
192.168.1.254	host IP address
192.168.1.255	last assignable IP address in the subnet
B8-76-3F-7C-57-DF	MAC address
1A-76-3F-7C-57-DF	network address
192.168.1.0	

swer:

1A-76-3F-7C-57-DF

192.168.1.255

192.168.1.1

192.168.1.20

192.168.1.254

B8-76-3F-7C-57-DF

192.168.1.0

Drag and drop the application protocols from the left onto the transport protocols that it uses on the right.

Select and Place

Answer:



Drag and drop the management connection types from the left onto the definitions on the right

## Select and Place

X

console

supports clear-text connections to the controller CLI

HTTPS

supports encrypted access to CLI and a secure channel for data transfer

SSH

supports physical connections over a serial cable

Telnet

supports secure web access for management of the device

Reset

OK

Drag and drop the management connection types from the left onto the definitions on the right

Answer:

Select and Place

Telnet

SSH

console

HTTPS

Drag and drop the statements about networking from the left onto the corresponding networking types on the right.

## Select and Place



This type implements changes individually at each device.

This type leverages controllers to handle network management.

Maintenance costs are higher than with other networking options.

This type provides a centralized view of the network.

## Traditional Networking

## Controller-Based Networking

Reset

OK

Drag and drop the statements about networking from the left onto the corresponding networking types on the right.

Select and Place

Answer:

#### Traditional Networking

This type implements changes individually at each device.

Maintenance costs are higher than with other networking options.

#### Controller-Based Networking

This type leverages controllers to handle network management.

This type provides a centralized view of the network.

Drag and drop the AAA terms from the left onto the descriptions on the right.

Select and Place

Select and Place

X

accounting

tracks activity

authentication

updates session attributes

authorization

verifies access rights

CoA

verifies identity

Reset

OK

Drag and drop the AAA terms from the left onto the descriptions on the right.

Select and Place

Answer:

accounting

CoA

authorization

authentication

Select and Place

used to reliably share files between devices

appropriate for streaming operations with minimal latency

provides best-effort service

supports reliable data transmission

TCP

UDP

Reset

OK

Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.

Select and Place

Answer:

TCP

used to reliably share files between devices

supports reliable data transmission

UDP

appropriate for streaming operations with minimal latency

provides best-effort service

## Item 108 of 133 (Drag&amp;Drop, Q16)

[Show Answer](#)

Drag and drop the threat-mitigation techniques from the left onto the types of threat or attack they mitigate on the right.

**Select and Place**

Select and Place X

Configure BPDU guard.	802.1q double tagging
Configure dynamic ARP inspection.	ARP spoofing
Configure root guard	unwanted superior BRDUs
Configure VACL	unwanted BPDUs on PortFast-enabled interfaces

Reset **OK**

Drag and drop the threat-mitigation techniques from the left onto the types of threat or attack they mitigate on the right.

Select and Place

Answer:

Configure VACL

Configure dynamic ARP inspection.

Configure root guard

Configure BPDU guard.

Item 109 of 133 (Drag&amp;Drop, Q17)

[Show Answer](#)

Drag and drop the DNS Identities

Select and Place

X

Cache

local database of address mappings that improves name-resolution performance

DNS

service that maps hostnames to IP addresses

domain

disables DNS services on a Cisco device

Name resolver

in response to client requests, queries a name server for IP address information

No ip domain-lookup

component of a URL that indicates the location or organization type.

[Reset](#)[OK](#)

drag and drop the DNS lookup components from the left onto the functions on the right.

Select and Place



Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.

Select and Place

Answer:

TCP

requires the client and the server to establish a connection before sending the packet

used to reliably share files between devices

UDP

transmitted based on data contained in the packet without the need for a data channel

appropriate for streaming operations with minimal latency

```
R1# show ip route | begin gateway
Gateway of last resort is not set
  172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
    172.16.1.0/24 is directly connected, FastEthernet0/0
    172.16.1.1/32 is directly connected, FastEthernet0/0
    172.16.2.0/24 [120/2] via 207.165.200.250, 00:00:25, Serial0/0/0
      192.168.1.0/24 [110/84437] via 207.165.200.254, 00:00:17, Serial0/0/1
      192.168.2.0/24 [90/3184437] via 207.165.200.254, 00:00:15, Serial0/0/1
    207.165.200.0/24 is variably subnetted, 5 subnets, 2 masks
      207.165.200.244/30 [1/1] via 207.165.200.254, Serial0/0/1
      207.165.200.248/30 is directly connected, Serial0/0/0
      207.165.200.249/32 is directly connected, Serial0/0/0
      207.165.200.252/30 is directly connected, Serial0/0/1
      207.165.200.253/32 is directly connected, Serial0/0/1
```

Refer to the exhibit. Drag and drop the learned prefixes from the left onto the preferred route methods from which they were learned on the right.

Select and Place

```
207.165.200.249/32 is directly connected, Serial0/0/0  
207.165.200.252/30 is directly connected, Serial0/0/1  
207.165.200.253/32 is directly connected, Serial0/0/1
```

Refer to the exhibit. Drag and drop the learned prefixes from the left onto the preferred route methods from which they were learned on the right.

Select and Place

Answer:

207.165.200.248/30

207.165.200.244/30

192.168.2.0/24

192.168.1.0/24

172.16.2.0/24

cacheable

divides architecture components into the consumers and producers of a service

client-server

divides the architecture into a hierarchy of levels

layered system

enables the client to reuse a previous response for subsequent equivalent requests

stateless

operates without any stored session information on the server

uniform interface

simplifies the communication between components, regardless of the architecture supporting them

Reset

OK

Select and Place

client-server

layered system

cacheable

stateless

uniform interface

Drag and drop the SNMP components from the left onto the descriptions on the right.

Select and Place

X

Select and Place

MIB

collection of variables that can be monitored

SNMP agent

unsolicited message

SNMP manager

responds to status requests and requests for information about a device

SNMP trap

resides on an NMS

Reset

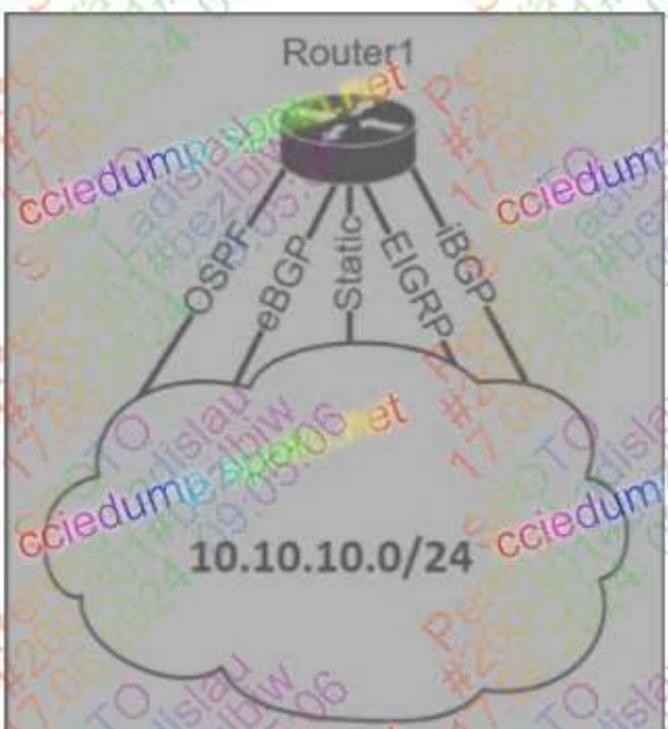
OK

Drag and drop the SNMP components from the left onto the descriptions on the right.

Answer:

Select and Place





Refer to the exhibit. The Router1 routing table has multiple methods to reach **10.10.10.0/24** as shown. The default Administrative Distance is used. Drag and drop the network conditions from the left onto the routing methods that Router1 uses on the right.

Select and Place

answer:

CCIE#301#bezibiw#17.06.2024.09.05.06

SPOTO#301#bezibiw#17.06.2024.09.05.06

EIGRP#301#bezibiw#17.06.2024.09.05.06

Static#301#bezibiw#17.06.2024.09.05.06

OSPF#301#bezibiw#17.06.2024.09.05.06

eBGP

The static route and EIGRP are down.

The static route and OSPF are down.

EIGRP

The static route and eBGP are down.

Static

All protocols are up.

OSPF and eBGP are down.

allows the user to change to enable mode

limits the user's access permissions

logs session statistics

records user commands

secures access to routers

validates user credentials

### Accounting

### Authentication

### Authorization

Reset

OK

## Accounting

logs session statistics

records user commands

## Authentication

secures access to routers

validates user credentials

## Authorization

allows the user to change to enable mode

limits the user's access permissions

2001:db8:600d:cafe::123

fcba:926a:e8e:7a25:b1:c6d2:1a76:8fdc

fe80::a00:27ff:feeb:89aa

ff05::1:3

### Global Unicast

### Link-Local Unicast

### Multicast

### Unique Local

## Global Unicast

2001:db8:600d:cafe::123

## Link-Local Unicast

fe80::a00:27ff:feeb:89aa

## Multicast

ff05::1:3

## Unique Local

fcba:926a:e8e:7a25:b1:c6d2:1a76:8fdc

configured only once per interface

equivalent to public IPv4 addresses

attached to a single subnet

routable and reachable via the Internet

## Global Unicast Address

www.english-test.net

jumpsp

## Link-Local Address

dump 34

CCIEU

Reset

OK

Drag and drop the IPv6 address type characteristics from the left to the right.

Answer:

Select and Place

### Global Unicast Address

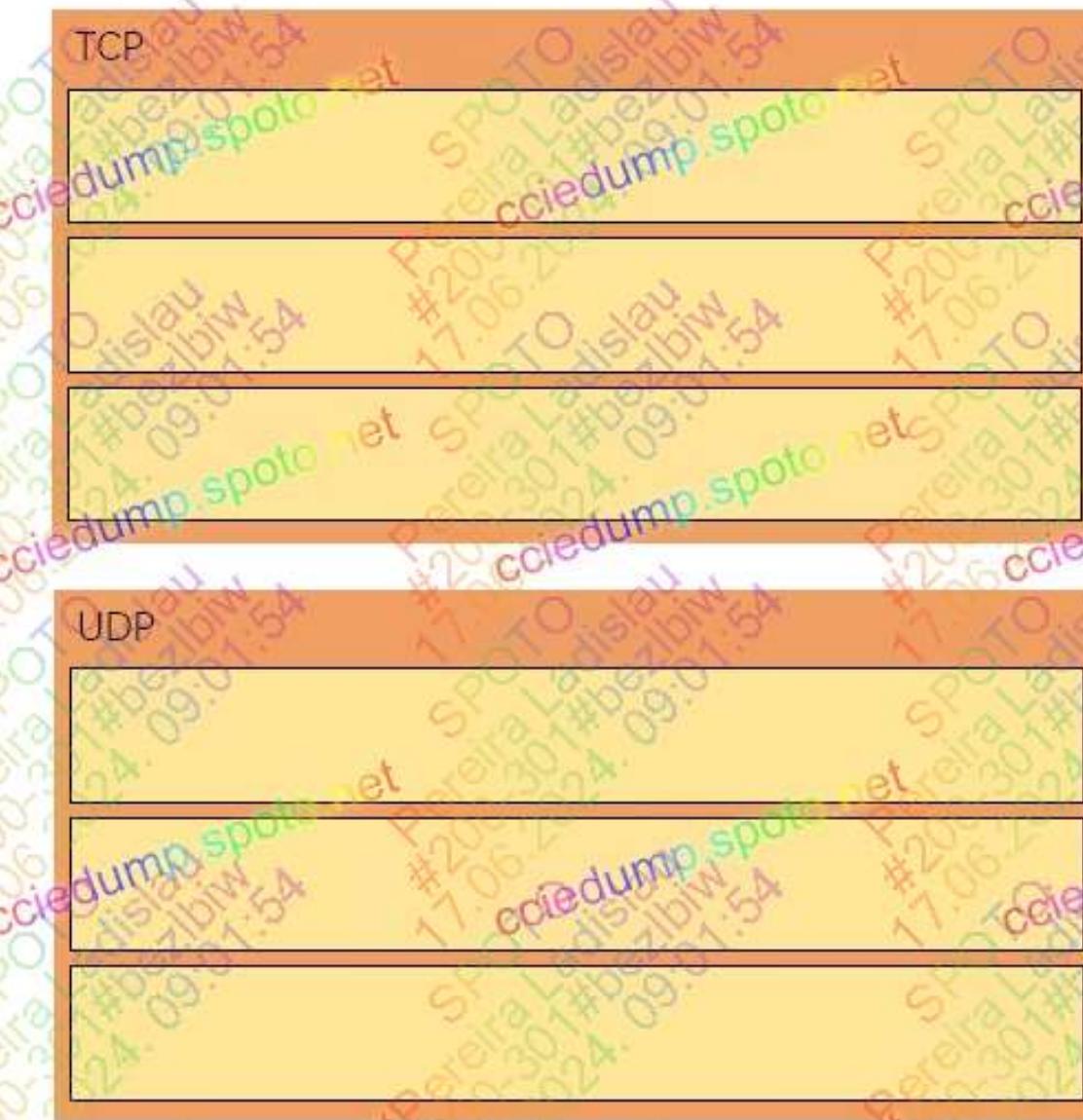
equivalent to public IPv4 addresses

routable and reachable via the Internet

### Link-Local Address

configured only once per interface

attached to a single subnet



Reset

OK

TCP

HTTP

SMTP

Telnet

UDP

DNS

RTP

SNMP

Drag and drop the IPv6 address from the left onto the type on the right.

Select and Place

Select and Place

FF00:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX

FE80:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX

FC00:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX

CC2000:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX

Global Unicast

Unique Local

Link-Local Unicast

Multicast

Reset

OK

Drag and drop the IPv6 address from the left onto the type on the right.

Answer:

Select and Place

2000:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX

FC00:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX

FE80:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX

FF00:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX:XXXX

implements changes via an SSH terminal

manages device configurations on a per-device basis

monitors the cloud for software updates

security is managed near the perimeter of the network with firewalls, VPNs ,and IPS

uses CLI templates to apply a consistent configuration to multiple devices at an individual location

uses NetFlow to analyze potential security threats throughout the network and take appropriate action on that traffic

### Cisco DNA Center Device Management

Placeholder for Cisco DNA Center Device Management description

Placeholder for Cisco DNA Center Device Management description

Placeholder for Cisco DNA Center Device Management description

### Traditional Device Management

Placeholder for Traditional Device Management description

Placeholder for Traditional Device Management description

Placeholder for Traditional Device Management description

Reset

OK

## Cisco DNA Center Device Management

monitors the cloud for software updates

uses CLI templates to apply a consistent configuration to multiple devices at an individual location

uses NetFlow to analyze potential security threats throughout the network and take appropriate action on that traffic

## Traditional Device Management

implements changes via an SSH terminal

manages device configurations on a per-device basis

security is managed near the perimeter of the network with firewalls, VENs, and IPS



It assigns per-user attributes.

It restricts the CLI commands that a user is able to perform.

It permits and denies login attempts.

It records the amount of network resources consumed by the user.

It supports local, PPP, RADIUS, and TACACS+ options.

It tracks the services that a user is using.

### Accounting

It tracks the services that a user is using.

### Authorization

It permits and denies login attempts.

It records the amount of network resources consumed by the user.

Reset

OK

Drag and drop the statements about AAA from the left onto the corresponding AAA services on the right. Not all options are used.

Answer:

Select and Place

It permits and denies login attempts.

It supports local, PPP, RADIUS, and TACACS+ options.

### Accounting

It tracks the services that a user is using.

It records the amount of network resources consumed by the user.

### Authorization

It restricts the CLI commands that a user is able to perform.

It assigns per-user attributes.

single device handles the core and the distribution layer

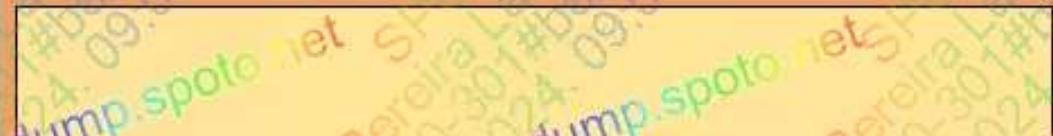
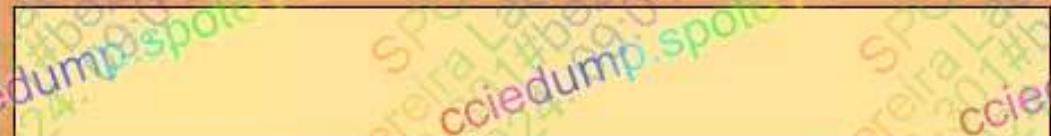
enhances network availability

more cost-effective than other options

most appropriate for small network designs

separate devices handle the core and the distribution layer

### Collapsed Core



Select and Place

answer:

### Collapsed Core

single device handles the core and the distribution layer

more cost-effective than other options

most appropriate for small network designs

### Three-Tire

enhances network availability

separate devices handle the core and the distribution layer



fundamental configuration elements are stored in a manifest

uses TCP port 10002 for configuration push jobs

uses Ruby for fundamental configuration elements

uses SSH for remote device communication

uses TCP 8140 for communication

uses YAML for fundamental configuration elements

### Ansible

[Empty box]

[Empty box]

### Chef

[Empty box]

[Empty box]

### Puppet

[Empty box]

[Empty box]

Reset

OK

Drag and drop the descriptions from the left onto the configuration-management technologies on the right.

Select and Place

Answer:

Ansible

Ansible

uses SSH for remote device communication

uses YAML for fundamental configuration elements

Chef

Chef

uses TCP port 10002 for configuration push jobs

uses Ruby for fundamental configuration elements

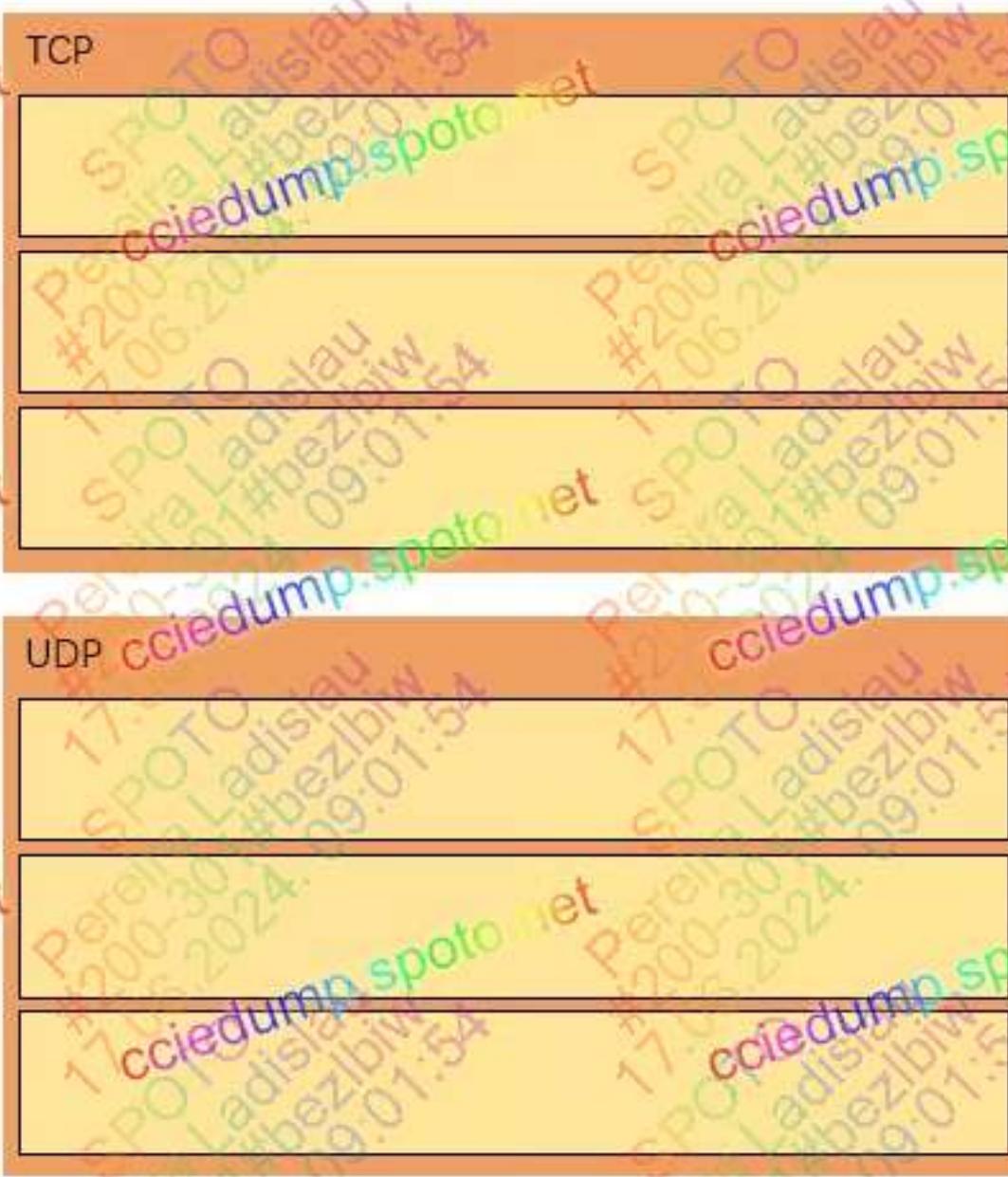
Puppet

Puppet

fundamental configuration elements are stored in a manifest

uses TCP 8140 for communication

- sends transmissions in sequence
- transmissions include an 8-byte header
- transmits packets as a stream
- transmits packets individually
- uses a higher transmission rate to support latency-sensitive applications
- uses a lower transmission rate to ensure reliability



Reset

OK

Drag and drop the descriptions of IP protocol transmissions from the left onto the IP traffic types on the right.

Select and Place

Answer:

TCP

sends transmissions in sequence

transmits packets as a stream

uses a lower transmission rate to ensure reliability

UDP

transmissions include an 8-byte header

transmits packets individually

uses a higher transmission rate to support latency-sensitive applications

Select and Place

X

fe80::a00:27ff:feeb:89aa

3ffe:e54d:620:a87a::f00d

ff05::1:3

2001:db8:600d:cafe::123

## Global Unicast

## Link-Local Unicast

## Multicast

Reset

OK

Drag and drop the IPv6 addresses from the left onto the corresponding address types on the right.

Select and Place

Answer:

Global Unicast

2001:db8:600d:cafe::123

3ffe:e54d:620:a87a::f00d

Link-Local Unicast

fe80::a00:27ff:feeb:89aa

Multicast

ff05::1:3



```
Router1#show ip route
```

```

Gateway of last resort is 10.10.11.2 to network 0.0.0.0
  209.165.200.0/27 is subnetted, 1 subnets
B        209.165.200.224 [20/0] via 10.10.12.2, 03:22:14
  209.165.201.0/27 is subnetted, 1 subnets
B        209.165.201.0 [20/0] via 10.10.12.2, 02:26:33
  209.165.202.0/27 is subnetted, 1 subnets
B        209.165.202.128 [20/0] via 10.10.12.2, 02:26:03
  10.0.0.0/8 is variably subnetted, 10 subnets, 4 masks
o          10.10.13.0/25 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
o          10.10.13.128/28 [110/2] via 10.10.10.5, 00:00:12, GigabitEthernet0/1
o          10.10.13.144/28 [110/2] via 10.10.10.9, 00:01:57, GigabitEthernet0/2
o          10.10.13.160/29 [110/2] via 10.10.10.5, 00:00:12, GigabitEthernet0/1
o          10.10.13.208/28 [110/2] via 10.10.10.1, 00:01:57, GigabitEthernet0/3
S*   0.0.0.0/0 [1/0] via 10.10.11.2

```

Refer to the exhibit. Drag and drop the destination IPs from the left onto the paths to reach those destinations on the right.

11.1.1

10.10.13.126

10.10.13.129

10.10.13.150

10.10.13.209

209.165.200.30

Router2

Router3

Router4

Router5

Internet cloud

MPLS cloud

Reset

OK

10.10.13.128

10.10.13.129

10.10.13.150

10.10.13.209

11.1.1

209.165.200.30

DHCP server

list of hosts on the network that are unknown to the administrative domain

snooping binding database

network component that propagates IP addresses to hosts on the network

spurious DHCP server

internal device under the control of the network administrator

trusted

unknown DHCP server within an administrative domain

untrusted

default state of all interfaces

Drag and drop the DHCP snooping terms from the left onto the descriptions on the right

Answer:

Select and Place

snooping binding database

DHCP server

trusted

spurious DHCP server

untrusted

**Guidelines**

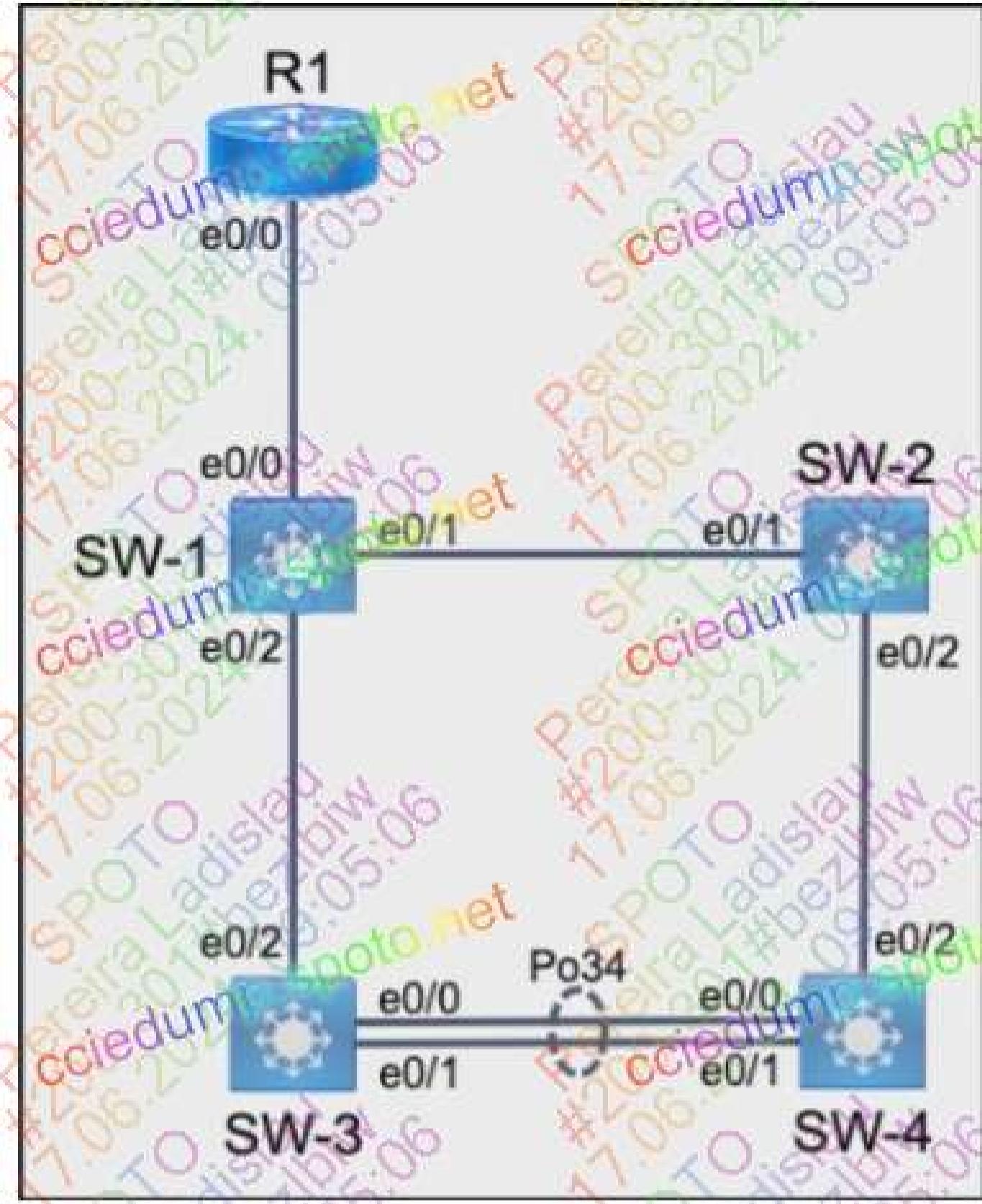
This is a lab item in which tasks will be performed on virtual devices.

1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

**Tasks**

All physical cabling is in place and verified. Router R1 is configured and passing traffic for VLANs 5 and 6. All relevant ports are pre-configured as 802.1q trunks.

1. Configure SW-1 port E0/0 to permit only VLANs 5 and 6
2. Configure both SW-1 and SW-2's E0/1 ports to send and receive untagged traffic over VLAN 77
3. Configure SW-2 E0/2 port to permit only VLAN 6
4. Configure both SW-3 and SW-4 ports e0/0 and e0/1 for link aggregation using the industry standard protocol with the following requirements:
  - SW-3 ports must immediately negotiate the aggregation protocol
  - SW-4 ports must not initiate the negotiation for the aggregation protocol
  - Use the designated number assignment



```
SW-1>en
SW-1#config t
SW-1(config)#int e0/0
SW-1(config-if)#switchport trunk allowed vlan 5,6
SW-1(config-if)#int e0/1
SW-1(config-if)#switchport trunk native vlan 77
SW-1(config-if)#end
SW-1#wr
```

SW-2:

```
SW-2>en
SW-2#config t
SW-2(config)#int e0/1
SW-2(config-if)#switchport trunk native vlan 77
SW-2(config-if)#int e0/2
SW-2(config-if)#switchport trunk allowed vlan 6
SW2(config-if)#end
SW-1#wr
```

SW-3:

```
SW-3>en
SW-3#config t
SW-3(config)#int range e0/0-1
SW-3(config-if-range)#channel-group 34 mode active
SW-3(config-if-range)#end
SW-3#wr
```

SW-4

SW-4>en

SW-4#config t

SW-4(config)#int range e0/0-1

SW-4(config-if-range)#channel-group 34 mode passive

SW-4(config-if-range)#end

SW-4#wr

Guidelines

This is a lab item in which tasks will be performed on virtual devices.

1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
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7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

## Tasks

Connectivity between four routers has been established. IP connectivity must be configured in the order presented to complete the implementation. No dynamic routing protocols are included.

1. Configure static routing using host routes to establish connectivity from router R3 to the router R1 Loopback address using the source IP of 209.165.200.230.
2. Configure an IPv4 default route on router R2 destined for router R4.
3. Configure an IPv6 default route on router R2 destined for router R4.





E0/2 | 2001:db8:abcd::2

A. R1:  
R1>en  
R1#config t  
R1(config)# ip route 209.165.200.230 255.255.255.255 209.165.200.226  
R1(config)#end  
R1#wr

R2:  
R2>en  
R2#config t  
R2(config)# ip route 192.168.1.1 255.255.255.255 209.165.200.225  
R2(config)# ip route 0.0.0.0 0.0.0.0 209.165.202.130  
R2(config)# ipv6 route ::/0 2001:db8:abcd::2  
R2(config)#end  
R2#wr

R3:  
R3>en  
R3# config t  
R3(config)# ip route 192.168.1.1 255.255.255.255 209.165.200.229  
R3(config)#end  
R3#wr

Answer: A

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

## Tasks

Refer to the topology. All physical cabling is in place. Configure a local user account, a Named ACL (NACL), and security.

- Configure a local account on Sw101 with telnet access only on virtual ports 0-4. Use the following information:

1. Username: netops
2. Password: ipsec4all
3. Algorithm: "Vigenere"
4. Privilege level: Exec mode

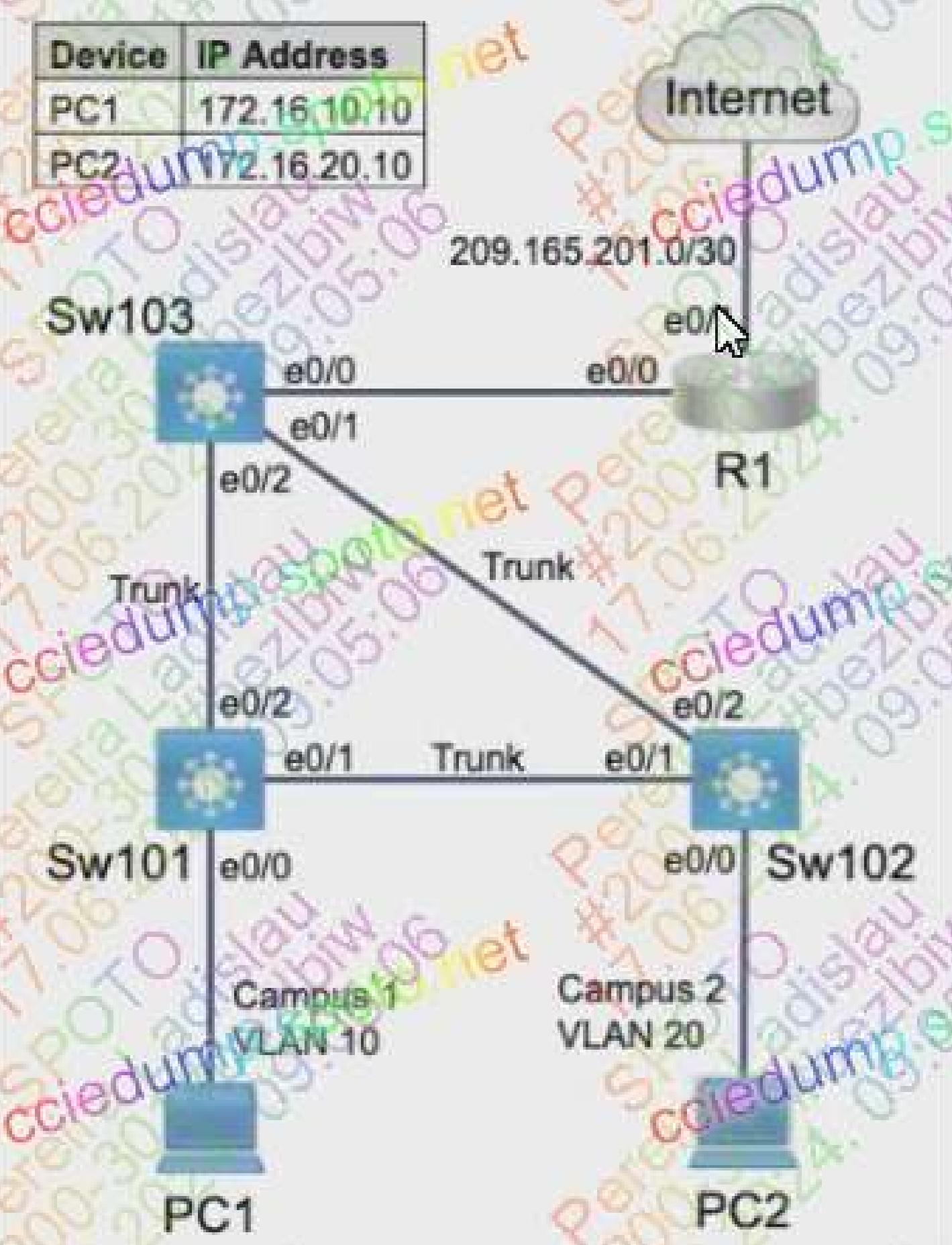
- Configure and apply a single NACL on Sw103 using the following:

1. name: ENT\_ACL
2. Restrict only PC1 on VLAN 10 from pinging PC2
3. Allow only PC1 on VLAN 10 to telnet to R1 (172.16.30.2)
4. Prevent all other devices from telnetting from VLAN 10
5. Allow all other network traffic from VLAN10

- Configure security on interface Ethernet 0/0 of Sw102:

1. Set the maximum number of secure MAC addresses to two
2. Ensure that the port discards the packet, counts the number of violations and sends a syslog message
3. Allow secure mac addresses to be learned dynamically

Device	IP Address
PC1	172.16.10.10
PC2	172.16.20.10



```
Sw101>en
Sw101#config t
Sw101(config)#username netops privilege 15 password ipsec4all
Sw101(config)#service password-encryption
Sw101(config)#line vty 0 4
Sw101(config-line)#login local
Sw101(config-line)#transport input telnet
Sw101(config-line)#end
Sw101#wr
```

```
Sw102:
```

```
Sw102>en
Sw102#config t
Sw102(config)#int e0/0
Sw102(config-if)#switchport port-security
Sw102(config-if)#switchport port-security maximum 2
Sw102(config-if)#switchport port-security violation restrict
Sw102(config)#end
Sw102#wr
```

```
Sw103:
```

```
Sw103>en
Sw103#config t
Sw103(config)#ip access-list extended ENT_ACL
Sw103(config-ext-nacl)#deny icmp host 172.16.10.10 host 172.16.20.10
Sw103(config-ext-nacl)#permit tcp host 172.16.10.10 host 172.16.30.2 eq telnet
Sw103(config-ext-nacl)#deny tcp 172.16.10.0 0.0.0.255 any eq telnet
Sw103(config-ext-nacl)#permit ip 172.16.10.0 0.0.0.255 any
Sw103(config-ext-nacl)#exit
```

Sw102:

```
Sw102>en
Sw102#config t
Sw102(config)#int e0/0
Sw102(config-if)#switchport port-security
Sw102(config-if)#switchport port-security maximum 2
Sw102(config-if)#switchport port-security violation restrict
Sw102(config)#end
Sw102#wr
```

Sw103:

```
Sw103>en
Sw103#config t
Sw103(config)#ip access-list extended ENT_ACL
Sw103(config-ext-nacl)#deny icmp host 172.16.10.10 host 172.16.20.10
Sw103(config-ext-nacl)#permit tcp host 172.16.10.10 host 172.16.30.2 eq
Sw103(config-ext-nacl)#deny tcp 172.16.10.0 0.0.0.255 any eq telnet
Sw103(config-ext-nacl)#permit ip 172.16.10.0 0.0.0.255 any
Sw103(config-ext-nacl)#exit
Sw103(config)#int range e0/1-2
Sw103(config-if-range)#ip access-group ENT_ACL in
Sw103(config-if-range)#end
Sw103#wr
```

## Guidelines

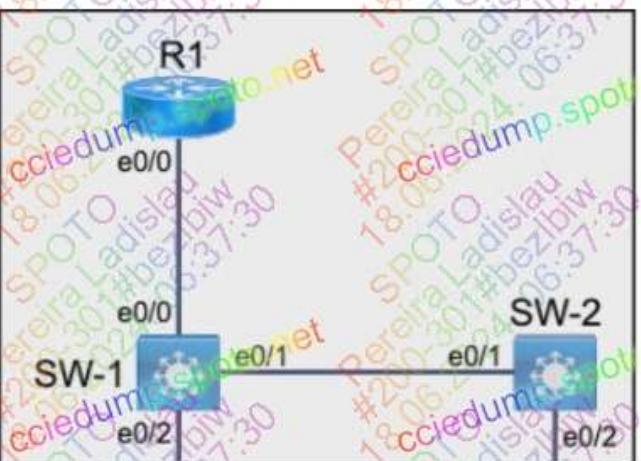
This is a lab item in which tasks will be performed on virtual devices.

1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

## Tasks

All physical cabling is in place and verified. Router R1 is configured and passing traffic for VLANs 5 and 6. All relevant ports are pre-configured as 802.1q trunks.

1. Configure SW-1 port E0/0 to permit only VLANs 5 and 6
2. Configure both SW-1 and SW-2's E0/1 ports to send and receive untagged traffic over VLAN 77
3. Configure SW-2 E0/2 port to permit only VLAN 6
4. Configure both SW-3 and SW-4 ports e0/0 and e0/1 for link aggregation using the industry standard protocol with the following requirements:
  - SW-3 ports must immediately negotiate the aggregation protocol
  - SW-4 ports must not initiate the negotiation for the aggregation protocol
  - Use the designated number assignment



### A. SW-1:

```
SW-1>en
SW-1#config t
SW-1(config)#int e0/0
SW-1(config-if)#switchport trunk allowed vlan 5,6
SW-1(config-if)#int e0/1
SW-1(config-if)#switchport trunk native vlan 77
SW-1(config-if)#end
SW-1#wr
```

### SW-2:

```
SW-2>en
SW-2#config t
SW-2(config)#int e0/1
SW-2(config-if)#switchport trunk native vlan 77
SW-2(config-if)#int e0/2
SW-2(config-if)#switchport trunk allowed vlan 6
SW-2(config-if)#end
SW-2#wr
```

SW-3:

SW-3>en

SW-3#config t

SW-3(config)#int range e0/0-1

SW-3(config-if-range)#channel-group 34 mode active

SW-3(config-if-range)#end

SW-3#wr

SW-4:

SW-4>en

SW-4#config t

SW-4(config)#int range e0/0-1

SW-4(config-if-range)#channel-group 34 mode passive

SW-4(config-if-range)#end

SW-4#wr

Answer: A

## Guidelines

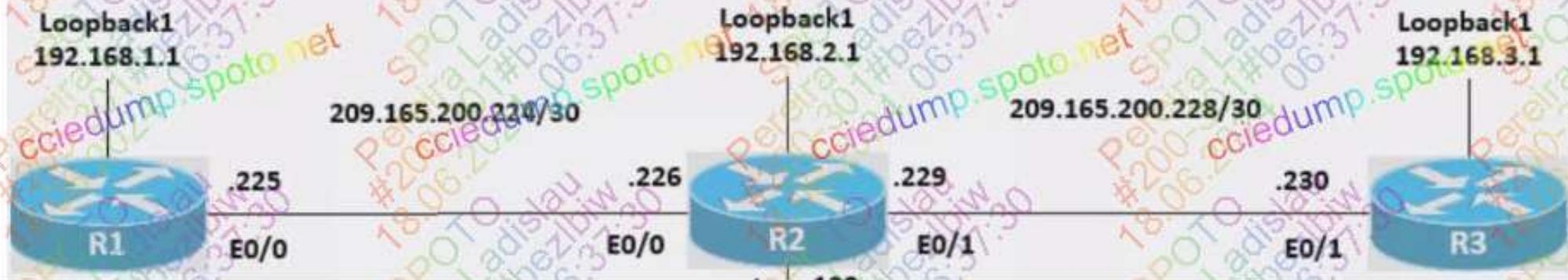
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4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

## Tasks

Connectivity between four routers has been established. IP connectivity must be configured in the order presented to complete the implementation. No dynamic routing protocols are included.

1. Configure static routing using host routes to establish connectivity from router R3 to the router R1 Loopback address using the source IP of 209.165.200.230.
2. Configure an IPv4 default route on router R2 destined for router R4.
3. Configure an IPv6 default route on router R2 destined for router R4.

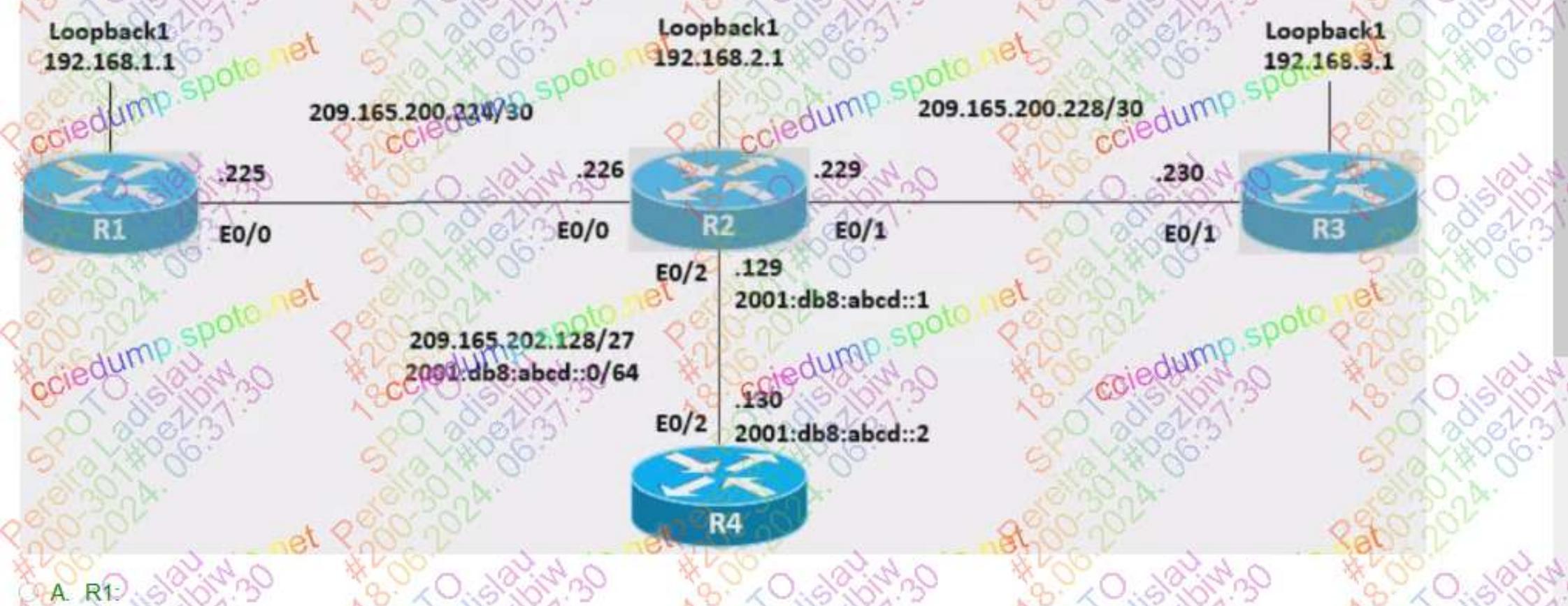


Select the best choice.

100%

Connectivity between four routers has been established. IP connectivity must be configured in the order presented to complete the implementation. No dynamic routing protocols are included.

1. Configure static routing using host routes to establish connectivity from router R3 to the router R1 Loopback address using the source IP of 209.165.200.230.
2. Configure an IPv4 default route on router R2 destined for router R4.
3. Configure an IPv6 default route on router R2 destined for router R4.



A. R1:  
R1>en  
R1#config t  
R1(config)# ip route 209.165.200.230 255.255.255.255 209.165.200.226  
R1(config)#end  
R1#wr

R2:  
R2>en  
R2#config t  
R2(config)# ip route 192.168.1.1 255.255.255.255 209.165.200.225  
R2(config)# ip route 0.0.0.0 0.0.0.0 209.165.202.130  
R2(config)# ipv6 route ::/0 2001:db8:abcd::2  
R2(config)#end  
R2#wr

R3:  
R3>en  
R3# config t  
R3(config)# ip route 192.168.1.1 255.255.255.255 209.165.200.229  
R3(config)#end  
R3#wr

Answer: A

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

## Tasks

Refer to the topology. All physical cabling is in place. Configure a local user account, a Named ACL (NACL), and security.

- Configure a local account on Sw101 with telnet access only on virtual ports 0-4. Use the following information:

1. Username: netops
2. Password: ipsec4all
3. Algorithm: "Vigenere"
4. Privilege level: Exec mode

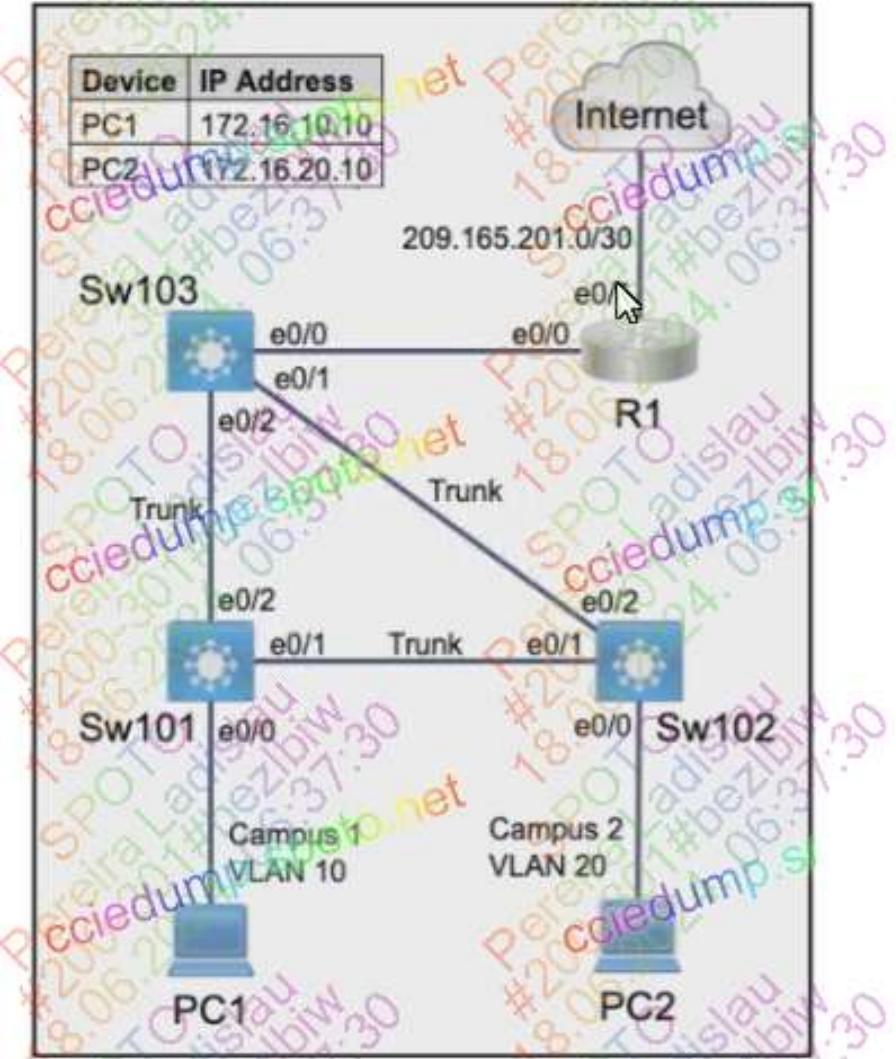
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1. name: ENT\_ACL
2. Restrict only PC1 on VLAN 10 from pinging PC2
3. Allow only PC1 on VLAN 10 to telnet to R1 (172.16.30.2)
4. Prevent all other devices from telnetting from VLAN 10
5. Allow all other network traffic from VLAN10

- Configure security on interface Ethernet 0/0 of Sw102:

1. Set the maximum number of secure MAC addresses to two
2. Ensure that the port discards the packet, counts the number of violations and sends a syslog message
3. Allow secure mac addresses to be learned dynamically

3. number of violations and sends a syslog message
4. Allow secure mac addresses to be learned dynamically





PC1

A. Sw101:

```
Sw101>en
Sw101#config t
Sw101(config)#username netops privilege 15 password ipsec4all
Sw101(config)#service password-encryption
Sw101(config)#line vty 0 4
Sw101(config-line)#login local
Sw101(config-line)#transport input telnet
Sw101(config-line)#end
Sw101#wr
```

Sw102:

```
Sw102>en
Sw102#config t
Sw102(config)#int e0/0
Sw102(config-if)#switchport port-security
Sw102(config-if)#switchport port-security maximum 2
Sw102(config-if)#switchport port-security violation restrict
Sw102(config)#end
Sw102#wr
```

Sw103:

PC2

```
Sw103:  
Sw103>en  
Sw103#config t  
Sw103(config)#ip access-list extended ENT_ACL  
Sw103(config-ext-nacl)#deny icmp host 172.16.10.10 host 172.16.20.10  
Sw103(config-ext-nacl)#permit tcp host 172.16.10.10 host 172.16.30.2 eq telnet  
Sw103(config-ext-nacl)#deny tcp 172.16.10.0 0.0.0.255 any eq telnet  
Sw103(config-ext-nacl)#permit ip 172.16.10.0 0.0.0.255 any  
Sw103(config-ext-nacl)#exit  
Sw103(config)#int range e0/1-2  
Sw103(config-if-range)#ip access-group ENT_ACL in  
Sw103(config-if-range)#end  
Sw103#wr
```

Answer: A

## Guidelines

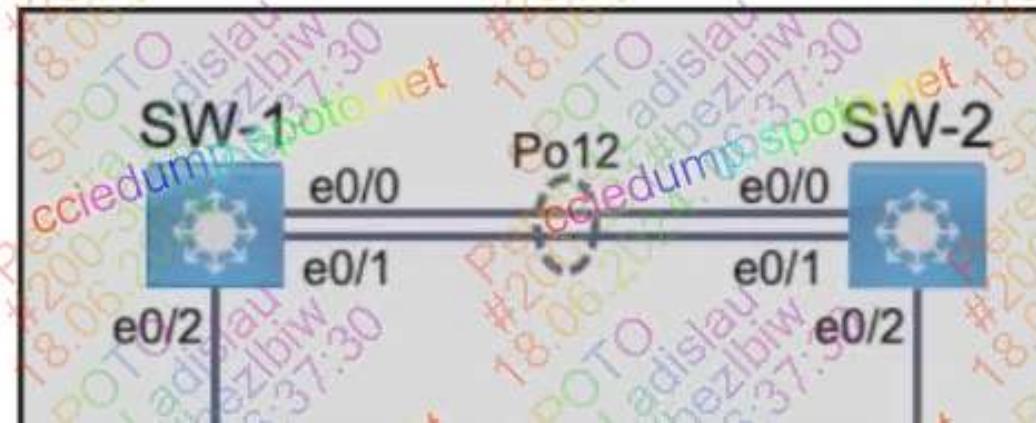
This is a lab item in which tasks will be performed on virtual devices.

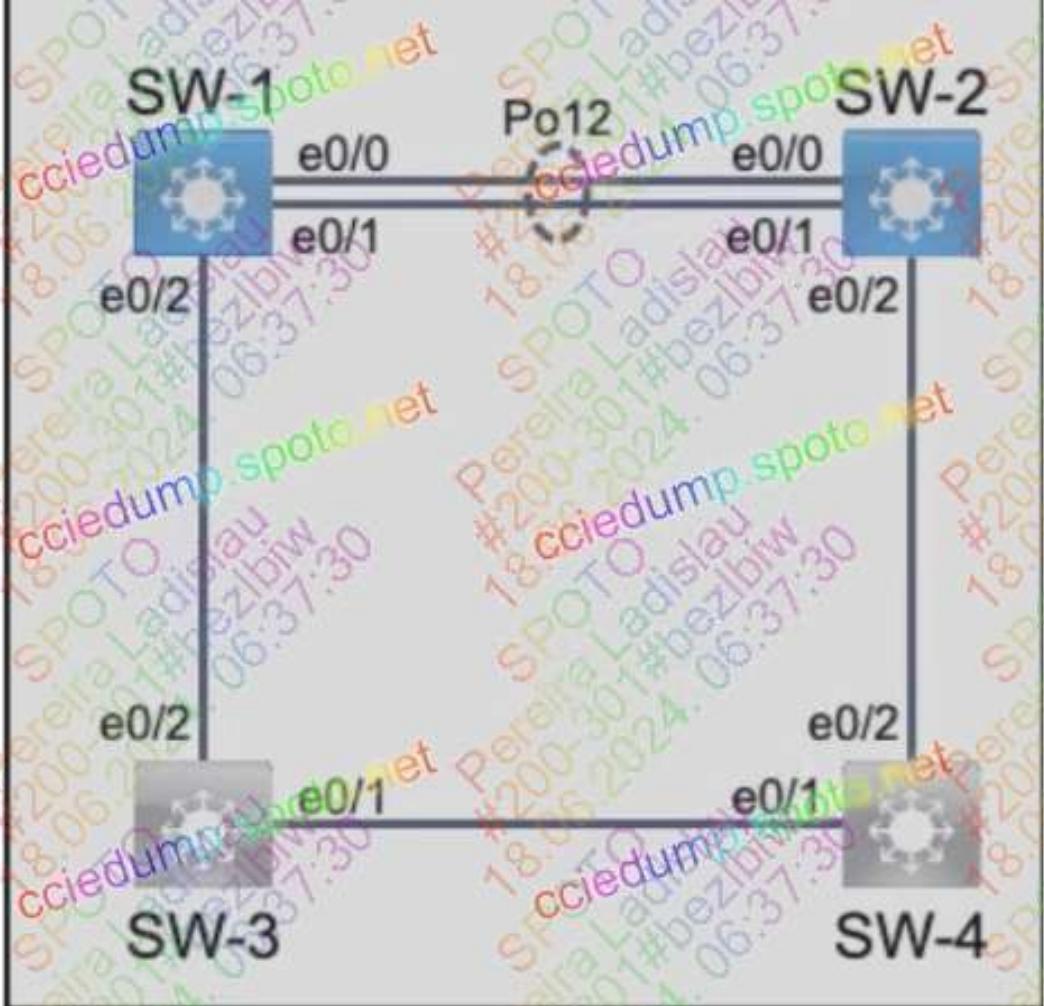
1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened.

## Tasks

SW-3 and SW-4 are preconfigured with all necessary commands. All physical cabling is in place and verified. All connectivity must be operational.

1. Configure both SW-1 and SW-2 switch ports e0/0 and e0/1 for 802.1q trunking with only VLANS 1, 12, and 22 permitted
2. Configure SW-1 port e0/2 for 802.1q trunking and include only VLANS 12 and 22
3. Configure both SW-1 and SW-2 switch ports e0/0 and e0/1 for link aggregation using the industry standard protocol. All ports must be configured so that they immediately negotiate the link





A. SW-1:

SW-1>en

SW-1#config t

SW-1(config)#int range e0/0-1

A. SW-1:

```
SW-1>en
SW-1#config t
SW-1(config)#int range e0/0-1
SW-1(config-if-range)#switchport trunk encapsulation dot1q
SW-1(config-if-range)#switchport mode trunk
SW-1(config-if-range)#switchport trunk allowed vlan 1,12,22
SW-1(config-if-range)#channel-group 12 mode active
SW-1(config-if-range)#int e0/2
SW-1(config-if)#switchport trunk allowed vlan 12,22
SW-1(config-if)#end
SW-1#wr
```

SW-2:

```
SW-2>en
SW-2#config t
SW-2(config)#int range e0/0-1
SW-2(config-if-range)#switchport trunk encapsulation dot1q
SW-2(config-if-range)#switchport mode trunk
SW-2(config-if-range)#switchport trunk allowed vlan 1,12,22
SW-2(config-if-range)#channel-group 12 mode active
SW-2(config-if-range)#end
SW-2#wr
```

Answer: A

## Guidelines

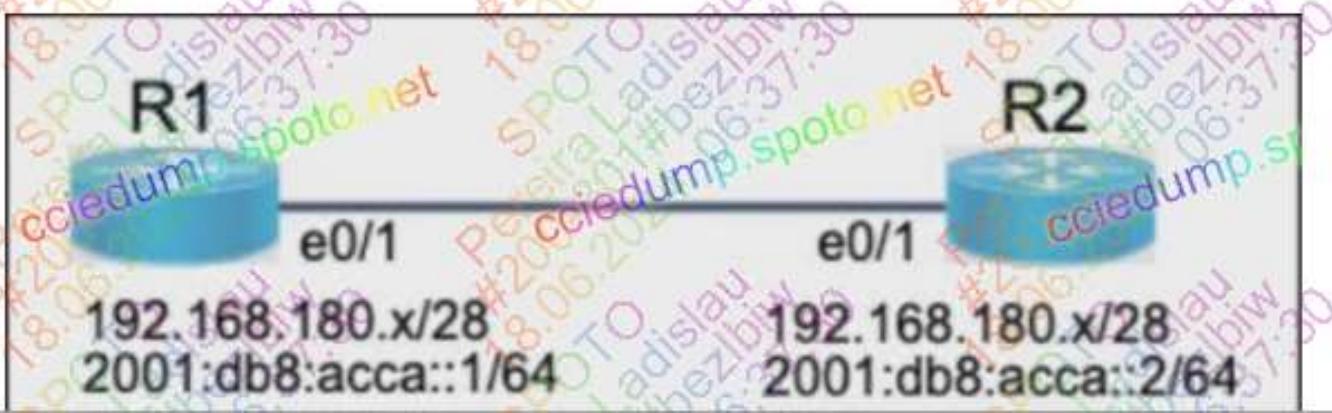
This is a lab item in which tasks will be performed on virtual devices.

1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

## Tasks

Configure IPv4 and IPv6 connectivity between two routers. For IPv4, use a /28 network from the 192.168.180.0/24 private range. For IPv6, use the first/64 subnet from the 2001:0db8:acca::/48 subnet.

1. Using Ethernet0/1 on routers R1 and R2, configure the next usable /28 from the 192.168.180.0/24 range. The network 192.168.180.0/28 is unavailable.
2. For the IPv4 /28 subnet, router R1 must be configured with the first usable host address.
3. For the IPv4 /28 subnet, router R2 must be configured with the last usable host address.
4. For the IPv6 /64 subnet, configure the routers with the IP addressing provided from the topology.
5. A ping must work between the routers on the IPv4 and IPv6 address ranges.



**192.168.180.x/28  
2001:db8:acca::1/64**

**192.168.180.x/28  
2001:db8:acca::2/64**

A. R1:  
R1>en  
R1#config t  
R1(config)#int e0/1  
R1(config-if)#ip address 192.168.180.17 255.255.255.240  
R1(config-if)#ipv6 enable  
R1(config-if)#ipv6 address 2001:db8:acca::1/64  
R1(config-if)#no shut  
R1(config-if)#end  
R1#wr

R2:  
R2>en  
R2#config t  
R2(config)#int e0/1  
R2(config-if)#ip address 192.168.180.30 255.255.255.240  
R2(config-if)#ipv6 enable  
R2(config-if)#ipv6 address 2001:db8:acca::2/64  
R2(config-if)#no shut  
R2(config-if)#end  
R2#wr

Answer: A

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

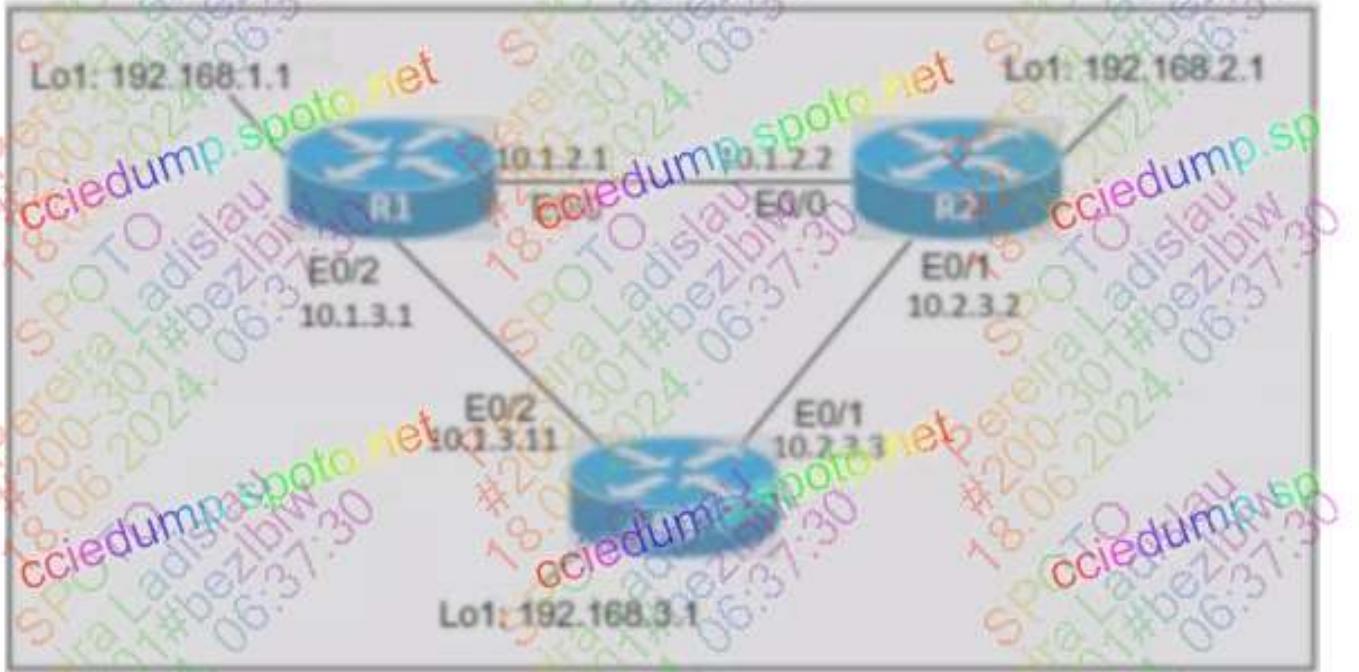
1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

## Tasks

Connectivity between three routers has been established, and IP services must be configured in the order presented to complete the implementation.

Tasks assigned include configuration of NAT, NTP, DHCP, and SSH services.

1. All traffic sent from R3 to the R1 Loopback address must be configured for NAT on R2. All source addresses must be translated from R3 to the IP address of Ethernet0/0 on R2, while using only a standard access list named PUBNET. To verify, a ping must be successful to the R1 Loopback address sourced from R3. Do not use NVI NAT configuration.
2. Configure R1 as an NTP server and R2 as a client, not as a peer, using the IP address of the R1 Ethernet0/2 interface. Set the clock on the NTP server for midnight on May 1, 2018.
3. Configure R1 as a DHCP server for the network 10.1.3.0/24 in a pool named NETPOOL. Using a single command, exclude addresses 1 - 10 from the range. Interface Ethernet0/2 on R3 must be issued the IP address of 10.1.3.11 via DHCP.
4. Configure SSH connectivity from R1 to R3, while excluding access via other remote connection protocols. Access for user netadmin and password N3t4ccess must be set on router R3 using RSA and 1024 bits. Verify connectivity using an SSH session from router R1 using a destination address of 10.1.3.11. Do NOT modify console access or line numbers to accomplish this task.



A. R1:

```

R1>en
R1#clock set 00:00:00 1 may 2018
R1#config t
R1(config)#ntp master 1
R1(config)#ntp source e0/2
R1(config)#ip dhcp excluded-address 10.1.3.1 10.1.3.10
R1(config)#ip dhcp pool NETPOOL
R1(dhcp-config)#network 10.1.3.0 255.255.255.0
R1(dhcp-config)#default-router 10.1.3.1
R1(dhcp-config)#end
R1#

```

```
R2:
```

```
R2>en  
R2#config t  
R2(config)#ntp server 10.1.3.1  
R2(config)#ip access-list standard PUBNET  
R2(config std-nacl)#permit 10.2.3.0 0.0.0.255  
R2(config std-nacl)#exit  
R2(config)#ip nat inside source list PUBNET interface e0/0 overload  
R2(config)#int e0/0  
R2(config-if)#ip nat outside  
R2(config-if)#int e0/1  
R2(config-if)#ip nat inside  
R2(config-if)#end  
R2#wr
```

```
R3:
```

```
R3>en  
R3#config t  
R3(config)#username netadmin password N3t4cccess  
R3(config)#crypto key generate rsa modulus 1024  
R3(config)#line vty 0 4  
R3(config-line)#login local  
R3(config-line)#transport input ssh  
R3(config-line)#exit  
R3(config)#interface e0/2  
R3(config-if)#ip address dhcp  
R3(config-if)#end  
R3#wr
```

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

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3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
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## Tasks

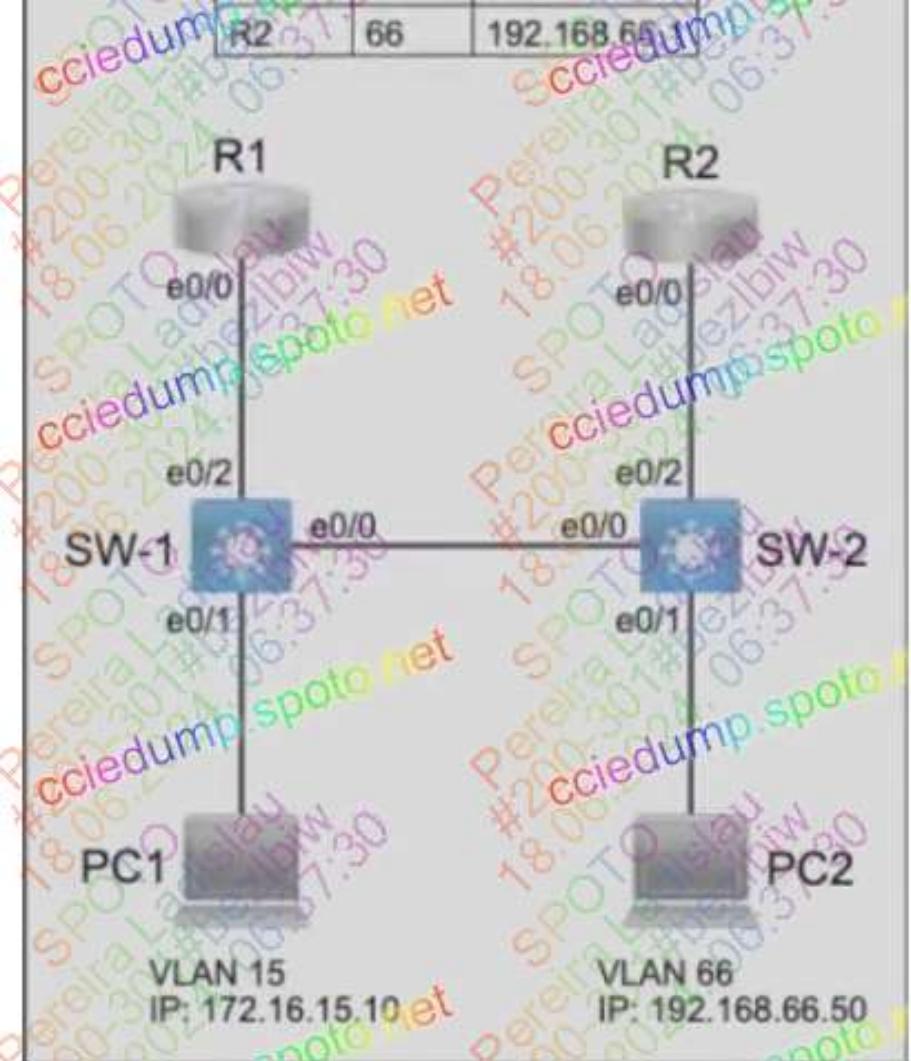
R1 and R2 are pre-configured with all the necessary commands. All physical cabling is in place and verified. Connectivity for PC1 and PC2 must be established to the switches; each port must only allow one VLAN and be operational.

1. Configure SW-1 with VLAN 15 and label it exactly as OPS
2. Configure SW-2 with VLAN 66 and label it exactly as ENGINEERING
3. Configure the switch port connecting to PC1.
4. Configure the switch port connecting to PC2.
5. Configure the E0/2 connections on SW-1 and SW-2 for neighbor discovery using the vendor-neutral standard protocol and ensure that e0/0 on both switches uses the Cisco proprietary protocol

Device	VLAN	IP Address
R1	15	172.16.15.1
R2	66	192.168.66.1

R1

R2



A. SW-1:

SW-1>

```
SW-1>en
SW-1#config t
SW-1(config)#lldp run
SW-1(config)#vlan 15
SW-1(config-vlan)#name OPS
SW-1(config-vlan)#int e0/1
SW-1(config-if)#switchport mode access
SW-1(config-if)#switchport access vlan 15
SW-1(config)#int e0/2
SW-1(config-if)#no cdp enable
SW-1(config-if)#lldp transmit
SW-1(config-if)#lldp receive
SW-1(config-if)#int e0/0
SW-1(config-if)#switchport trunk encapsulation isl
SW-1(config-if)#switchport mode trunk
SW-1(config-if)#end
SW-1#wr
```

```
SW-2:
SW-2(config)#lldp run
SW-2(config)#vlan 66
SW-2(config-vlan)#name ENGINEERING
SW-2(config-vlan)#int e0/1
SW-2(config-if)#switchport mode access
SW-2(config-if)#switchport access vlan 66
SW-2(config)#int e0/2
SW-2(config-if)#no cdp enable
SW-2(config-if)#lldp transmit
SW-2(config-if)#lldp receive
SW-2(config-if)#int e0/0
SW-2(config-if)#switchport trunk encapsulation isl
```

```
SW-1(config)#vlan 15
SW-1(config-vlan)#name OPS
SW-1(config-vlan)#int e0/1
SW-1(config-if)#switchport mode access
SW-1(config-if)#switchport access vlan 15
SW-1(config)#int e0/2
SW-1(config-if)#no cdp enable
SW-1(config-if)#lldp transmit
SW-1(config-if)#lldp receive
SW-1(config-if)#int e0/0
SW-1(config-if)#switchport trunk encapsulation isl
SW-1(config-if)#switchport mode trunk
SW-1(config-if)#end
SW-1#wr
```

```
SW-2:
SW-2(config)#lldp run
SW-2(config)#vlan 66
SW-2(config-vlan)#name ENGINEERING
SW-2(config-vlan)#int e0/1
SW-2(config-if)#switchport mode access
SW-2(config-if)#switchport access vlan 66
SW-2(config)#int e0/2
SW-2(config-if)#no cdp enable
SW-2(config-if)#lldp transmit
SW-2(config-if)#lldp receive
SW-2(config-if)#int e0/0
SW-2(config-if)#switchport trunk encapsulation isl
SW-2(config-if)#switchport mode trunk
SW-2(config-if)#end
SW-2#wr
```

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

## Tasks

Refer to the topology. All physical cabling is in place. Configure a local user account, a Named ACL (NACL), and security.

### Task 1

Configure a local account on Sw101 with telnet access only on virtual ports 0-4. Use the following information:

1. Username: support
2. Password: max2learn
3. Privilege level: Exec mode

### Task 2

Configure and apply a single NACL on Sw101 using the following:

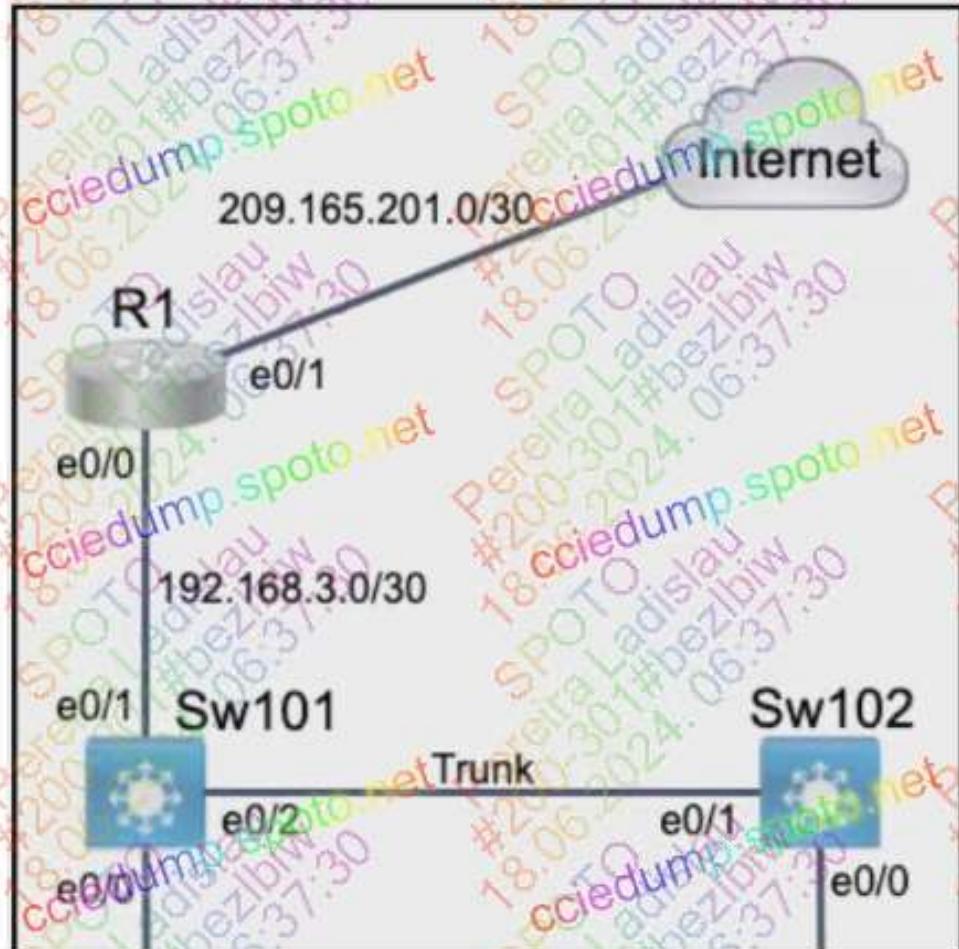
1. Name: ENT\_ACL
2. Restrict only PC2 on VLAN 200 from pinging PC1
3. Allow only PC2 on VLAN 200 to telnet to Sw101
4. Prevent all other devices from telnetting from VLAN 200
5. Allow all other network traffic from VLAN 200

### Task3

### Task3

Configure security on interface Ethernet 0/0 of Sw102:

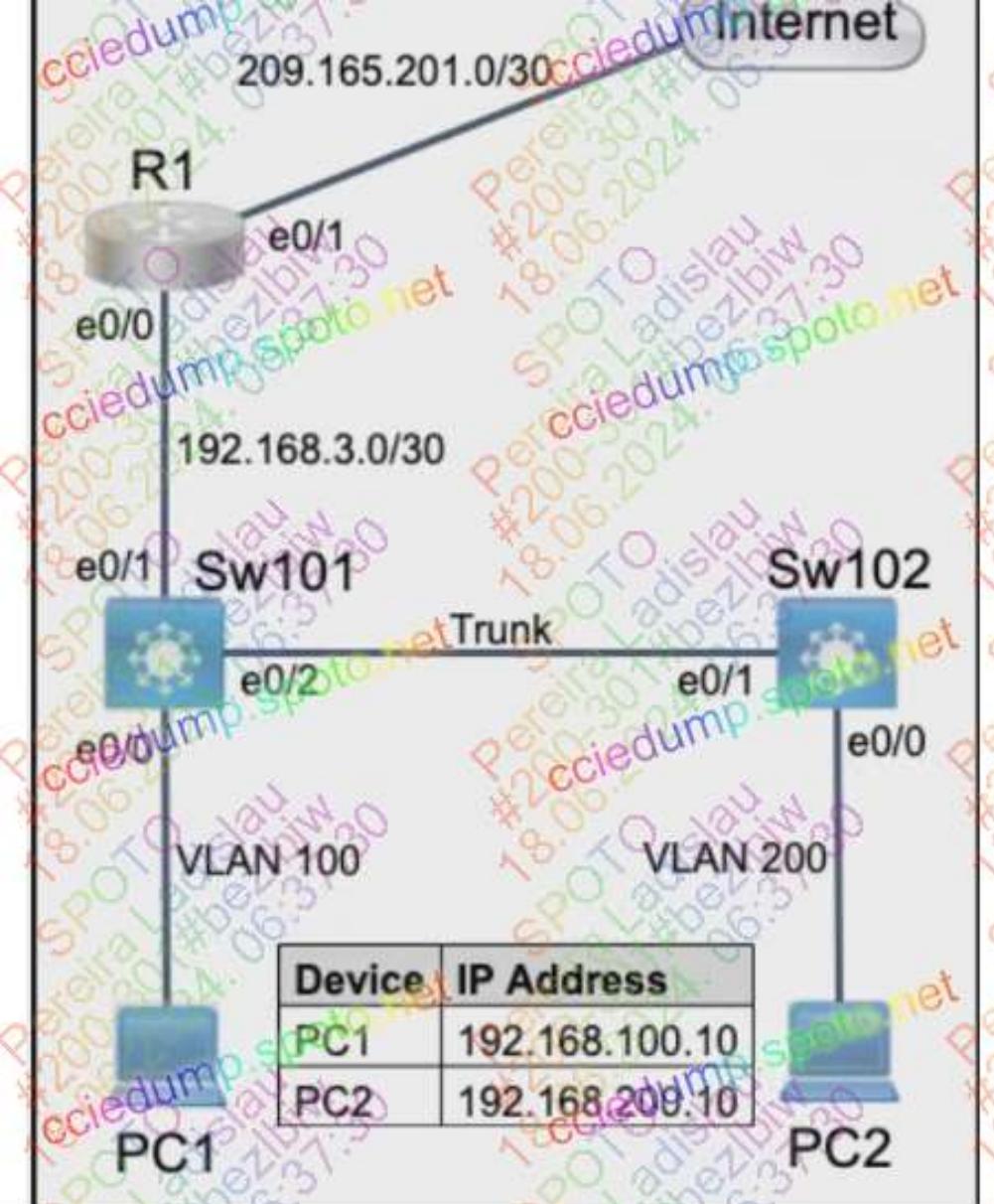
1. Set the maximum number of secure MAC addresses to four.
2. Drop packets with unknown source addresses until the number of secure MAC addresses drops below the configured maximum value. No notification action is required.
3. Allow secure MAC addresses to be learned dynamically.



Select the best choice.

100%





Select the best choice.

100%

A. Sw101:

```
Sw101>en
Sw101#config t
Sw101(config)#username support privilege 15 password max2learn
Sw101(config)#line vty 0 4
Sw101(config-line)#login local
Sw101(config-line)#transport input telnet
Sw101(config-line)#exit
Sw101(config)#ip access-list extended ENT_ACL
Sw101(config-ext-nacl)#deny icmp host 192.168.200.10 host 192.168.100.10
Sw101(config-ext-nacl)#permit host 192.168.200.10 host 192.168.200.1 eq telnet
Sw101(config-ext-nacl)#deny tcp 192.168.200.0 0.0.0.255 any eq telnet
Sw101(config-ext-nacl)#permit ip any any
Sw101(config-ext-nacl)#exit
Sw101(config)#int vlan 200
Sw101(config-if)#ip access-group ENT_ACL in
Sw101(config-if)#end
Sw101#wr
```

Sw102:

```
Sw102>en
Sw102#config t
Sw102(config)#int e0/0
Sw102(config-if)#switchport port-security
Sw102(config-if)#switchport port-security maximum 4
Sw102(config-if)#switchport port-security violation protect
Sw102(config-if)#switchport port-security mac-address sticky
Sw102(config-if)#end
Sw102#wr
```

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

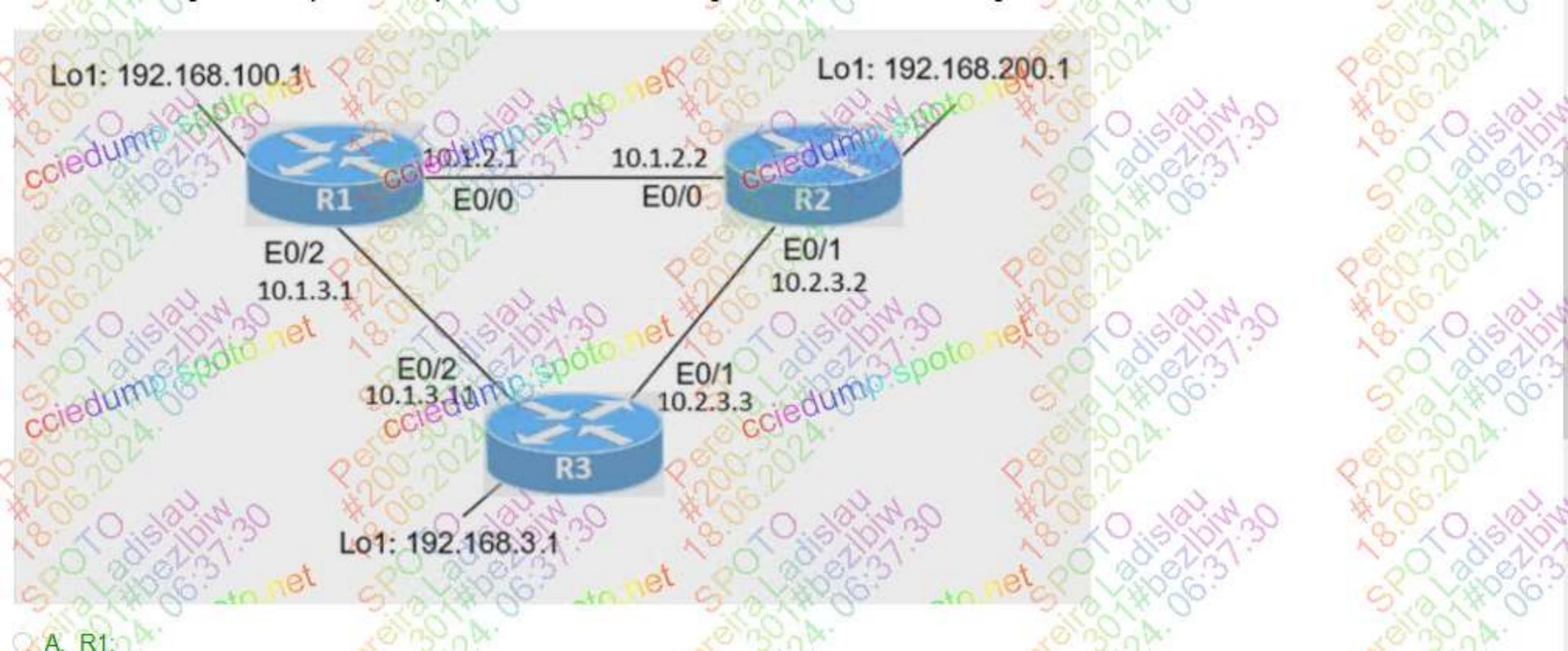
1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

## Tasks

IP connectivity between the three routers is established. IP Services must be configured in the order presented to complete the implementation.

1. Configure dynamic one-to-one address mapping on R2 using a standard list named **XLATE**, which allows all traffic to translate the source address of R3 to a pool named test pool using the 10.10.10.0/24 network for traffic sent from R3 to R1. Avoid using an NVI configuration. Verify reachability by sending a ping to 192.168.100.1 from R3.
2. Configure R3 to dynamically receive an IP address on Ethernet0/2 from the DHCP server.
3. Configure R1 as an NTP server and R2 as a client, not as a peer, using the IP address 10.1.2.1.
4. Configure SSH access from R1 to R3, while excluding access via other remote connection protocols using the user root and password s3cret on router R3 using RSA. Verify connectivity from router R1 to R3 using a destination address assigned to interface E0/2 on R3.





A. R1:

```
R1>en  
R1# config t  
R1(config)# ntp master 1  
R1(config)# ntp source e0/0  
R1(config)# end  
R1# wr
```

R2:

```
R2>en  
R2# config t  
R2(config)# ntp server 10.1.2.1  
R2(config)# ip access-list standard XLATE  
R2(config-std-nacl)# permit 10.2.3.0 0.0.0.255  
R2(config-std-nacl)# permit 192.168.3.1 0.0.0.0  
R2(config-std-nacl)# exit  
R2(config)# ip nat pool test_pool 10.10.10.1 10.10.10.254 netmask 255.255.255.0  
R2(config)# ip nat inside source list XLATE pool test_pool  
R2(config)# int e0/0  
R2(config-if)# ip nat outside  
R2(config-if)# int e0/1  
R2(config-if)# ip nat inside  
R2(config-if)# end  
R2# wr
```

```
R2# config t
R2(config)# ntp server 10.1.2.1
R2(config)# ip access-list standard XLATE
R2(config-std-nacl)# permit 10.2.3.0 0.0.0.255
R2(config-std-nacl)# permit 192.168.3.1 0.0.0.0
R2(config-std-nacl)# exit
R2(config)# ip nat pool test_pool 10.10.10.1 10.10.10.254 netmask 255.255.255.0
R2(config)# ip nat inside source list XLATE pool test_pool
R2(config)# int e0/0
R2(config-if)# ip nat outside
R2(config-if)# int e0/1
R2(config-if)# ip nat inside
R2(config-if)# end
R2# wr
```

```
R3:
R3>en
R3# config t
R3(config)# interface e0/2
R3(config-if)# ip address dhcp
R3(config-if)# exit
R3(config)# username root password s3cret
R3(config)# crypto key generate rsa modulus 1024
R3(config)# line vty 0 4
R3(config-line)# login local
R3(config-line)# transport input ssh
R3(config-line)# end
R3# wr
```

Answer: A

Select the best choice.

100%

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened.

## Tasks

Refer to the topology. All physical cabling is in place. Configure local users accounts, modify the Named ACL (NACL), and configure DHCP Snooping.

The current contents of the NACL must remain intact.

### Task 1

Configure a local account on Gw1 with telnet access only on virtual ports 0-4. Use the following information:

1. Username: wheel
2. Password: lock3path
3. Algorithm type: Scrypt
4. Privilege level: Exec mode

## Task 2

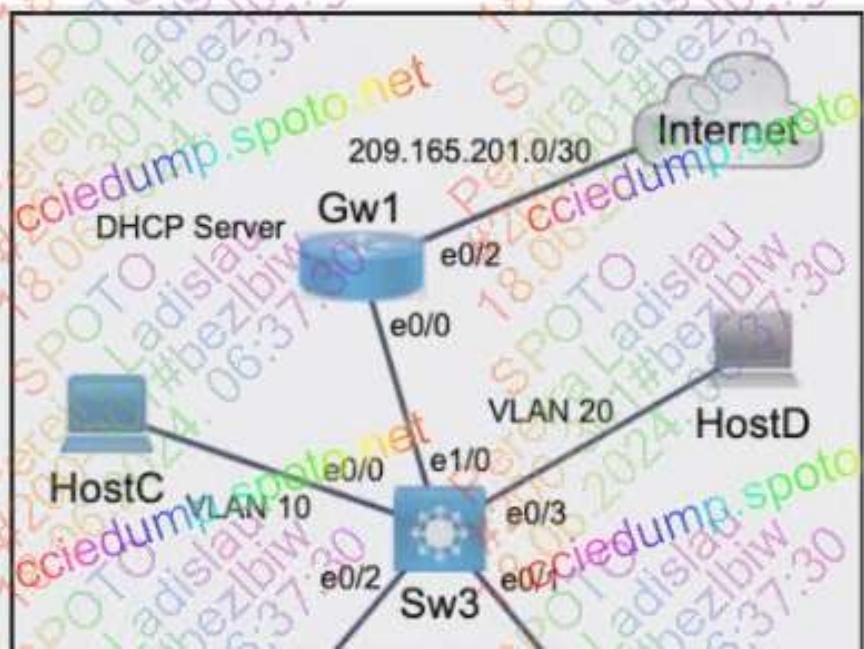
Configure and apply a NACL on Gw1 to control network traffic from VLAN 10:

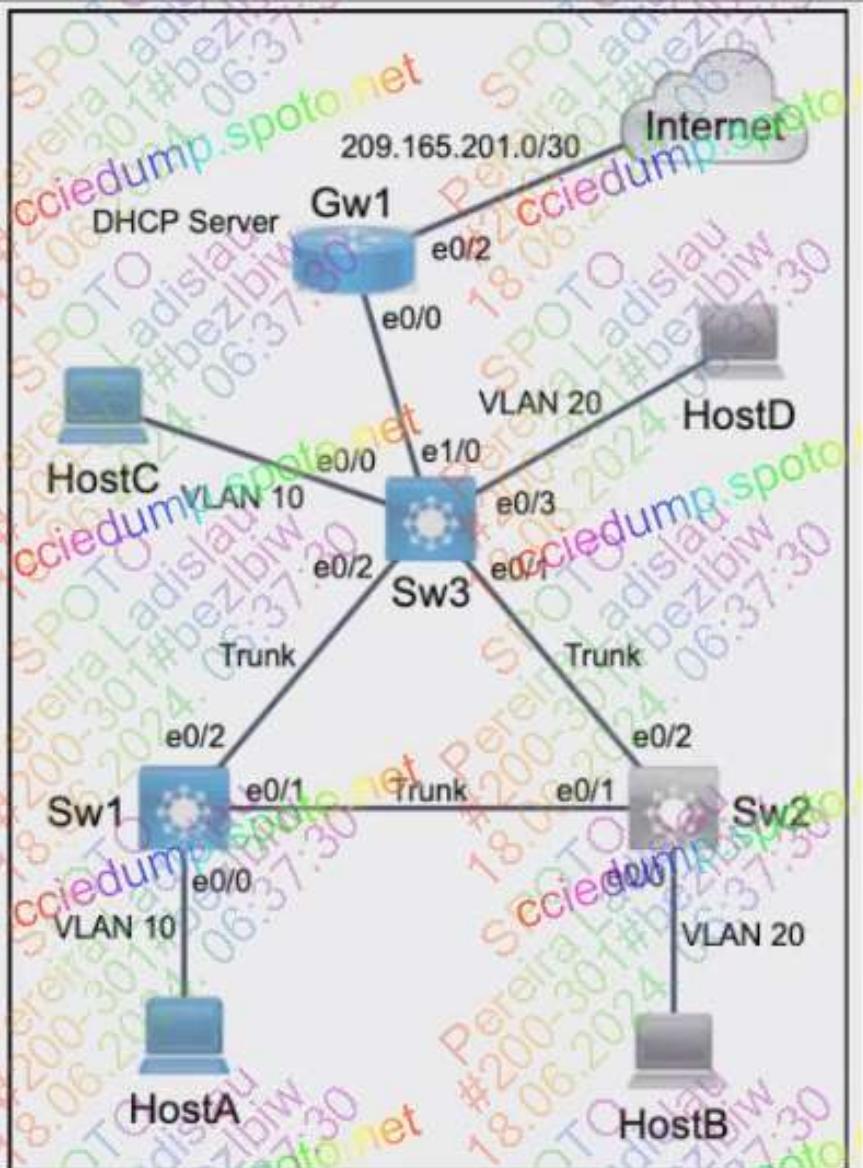
1. Name: CORP\_ACL
2. Allow BOOTP and HTTPS
3. Restrict all other traffic and log the ingress interface, source MAC address, the packet's source and destination IP addresses, and ports.

## Task 3

Configure Sw1:

1. Enable DNCP Snooping for VLAN 10
2. Disable DHCP Option-82 data insertion
3. Enable DHCP Snooping MAC address verification
4. Enable trusted interfaces.





Select the best choice.

100%

A. Gw1:

```
Gw1>en
Gw1#config t
Gw1(config)#username wheel privilege 15 algorithm-type script secret lock3path
Gw1(config)#line vty 0 4
Gw1(config-line)#login local
Gw1(config-line)#transport input telnet
Gw1(config-line)#exit
Gw1(config)#ip access-list extended CORP_ACL
Gw1(config-ext-nacl)#permit udp 10.10.0.0 0.0.255 eq bootpc any eq bootps
Gw1(config-ext-nacl)#permit tcp 10.10.0.0 0.0.255 any eq 443
Gw1(config-ext-nacl)#deny ip any any log
Gw1(config-ext-nacl)#int e0/0
Gw1(config-if)#ip access-group CORP_ACL in
Gw1(config-line)#end
Gw1#wr
```

Sw1:

```
Sw1>en
Sw1#config t
Sw1(config)#ip dhcp snooping
Sw1(config)#ip dhcp snooping vlan 10
Sw1(config)#no ip dhcp snooping information option
Sw1(config)#ip dhcp snooping verify mac-address
Sw1(config-if)#int range e0/1-2
Sw1(config-if-range)#ip dhcp snooping trust
Sw1(config-if-range)#end
Sw1#wr
```

Select the best choice.

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Review All ▾



Santos CCNA

Chamada de voz

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

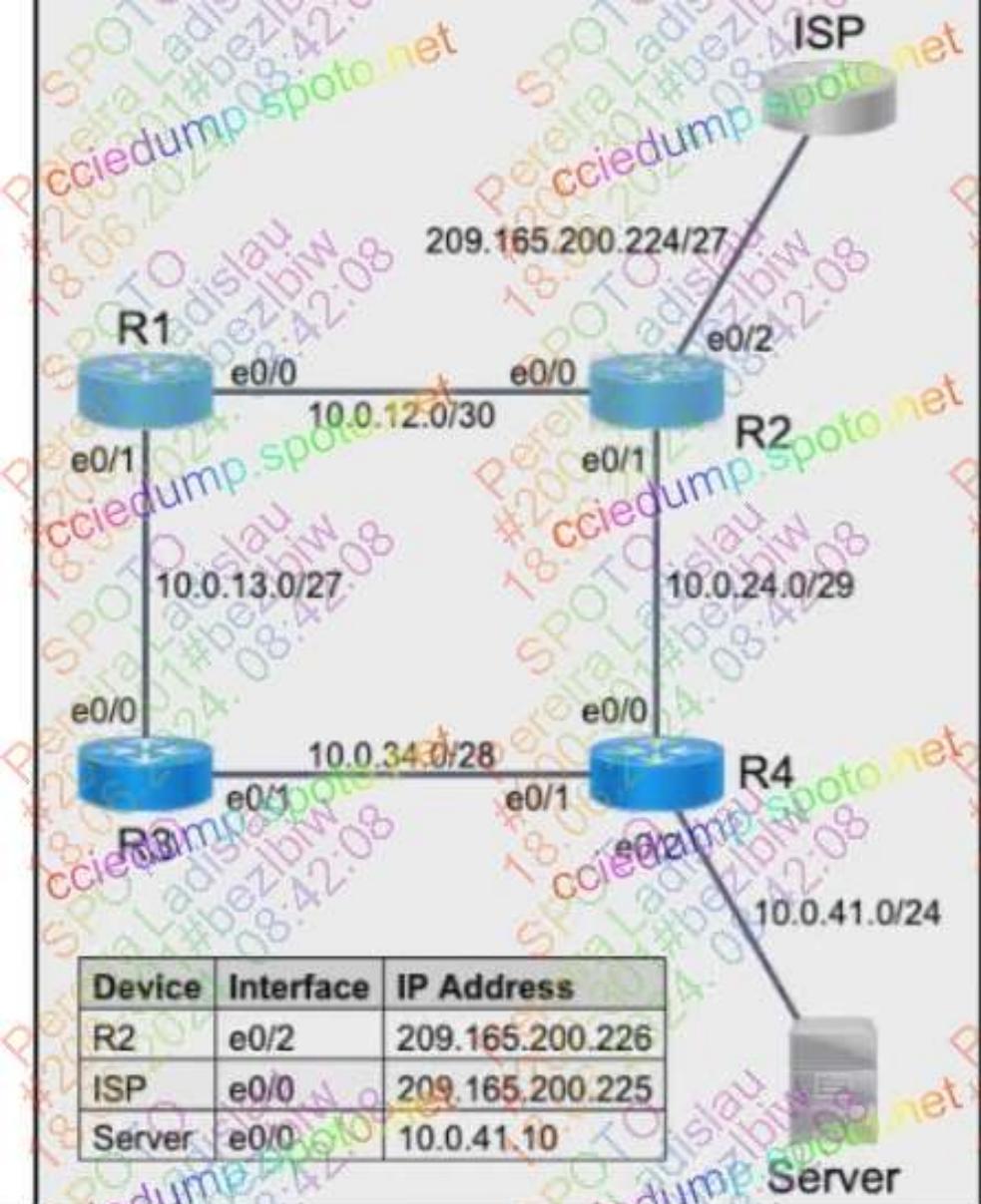
1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
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## Tasks

All physical cabling is in place. Routers R3 and R4 are fully configured and inaccessible. Configure static routes for various connectivity to the ISP and the LAN that resides on R4.

1. Configure a route on R1 to ensure that R1 prefers R2 when traffic is destined to the server only.
2. Configure a default route on R2 to the ISP
3. Configure a route on R1 to ensure that R1 will use R2 for the R4 LAN if the link fails between R3 and R4
4. Configure a route on R1 to ensure that R1 prefers R3 when traffic is destined to the R4 LAN at 10.0.41.0/24





Device	Interface	IP Address
R2	e0/2	209.165.200.226
ISP	e0/0	209.165.200.225
Server	e0/0	10.0.41.10

Select the best choice.

Device	Interface	IP Address
R2	e0/2	209.165.200.226
ISP	e0/0	209.165.200.225
Server	e0/0	10.0.41.10

Server

O A. R1:

```
R1>en
R1#config t
R1(config)#ip route 10.0.41.10 255.255.255.255 10.0.12.2
R1(config)#ip route 10.0.41.0 255.255.255.0 e0/1
R1(config)#ip route 10.0.41.0 255.255.255.0 10.0.12.2 2
R1(config)#end
R1#wr
```

R2:

```
R2>en
R2#config t
R2(config)#ip route 0.0.0.0 0.0.0.0 209.165.200.225
R2(config)#end
R2#wr
```

Select the best choice.

100%

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Review All ▾

Save Session

End Exam

## Guidelines

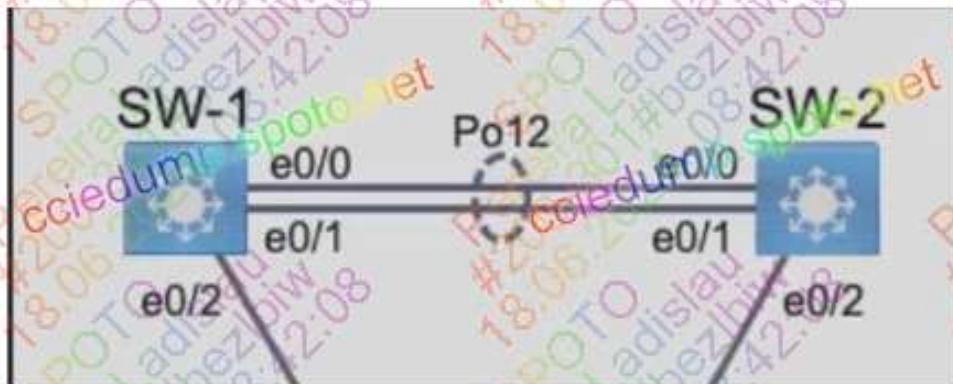
This is a lab item in which tasks will be performed on virtual devices.

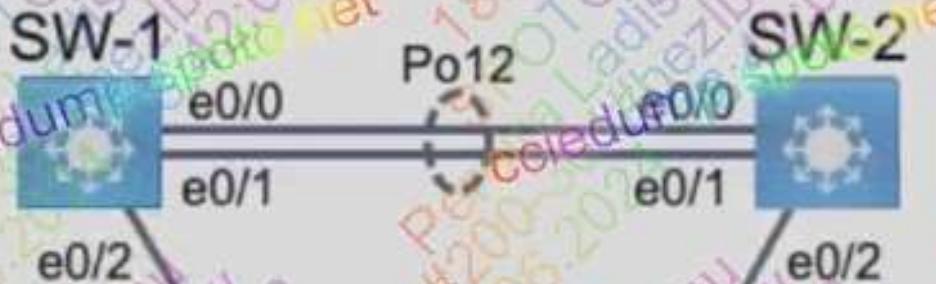
1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
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## Tasks

VLANs 35 and 45 have been configured in all three switches. All physical connectivity has been installed and verified. All inter-switch links must be operational.

1. Configure SW-1 and SW-2 switch ports e0/0 and e0/1 for 802.1q trunking allowing all VLANs.
2. Configure the inter-switch links on SW-1 e0/2, SW-2 e0/2, and SW-3 e0/0 and e0/1 to use native VLAN 35.
3. Configure SW-1 and SW-2 switch ports e0/0 and e0/1 for link aggregation. SW-1 should immediately negotiate LACP and SW-2 must only respond to LACP requests.





A SW1

Select the best choice.

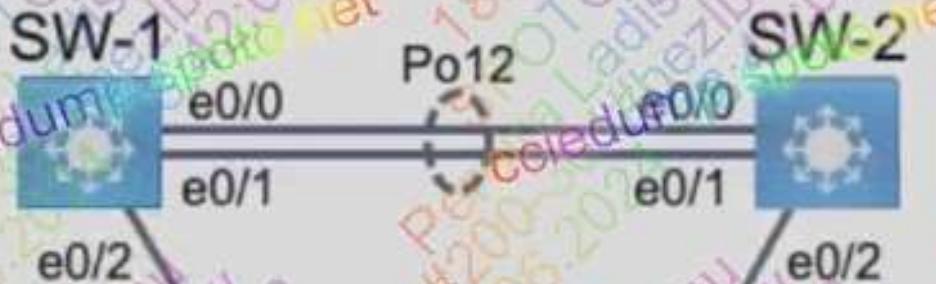
100%

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Review All ▾

Save S



A SW1

Select the best choice.

100%

Previous

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Review All ▾

Save S

A. SW1:

```
SW1>en
SW1#config t
SW1(config)#int range e0/0-2
SW1(config-if-range)#switchport trunk encapsulation dot1q
SW1(config-if-range)#switchport mode trunk
SW1(config-if-range)#int range e0/0-1
SW1(config-if-range)#channel-group 12 mode active
SW1(config-if-range)#int e0/2
SW1(config-if)#switchport trunk native vlan 35
SW1(config-if)#end
SW1wr
```

SW2:

```
SW2>en
SW2#config t
SW2(config)#int range e0/0-2
SW2(config-if-range)#switchport trunk encapsulation dot1q
SW2(config-if-range)#switchport mode trunk
SW2(config-if-range)#int range e0/0-1
SW2(config-if-range)#channel-group 12 mode passive
SW2(config-if-range)#int e0/2
SW2(config-if)#switchport trunk native vlan 35
SW2(config-if)#end
SW2wr
```

SW2:

```
SW2>en
SW2#config t
SW2(config)#int range e0/0-2
SW2(config-if-range)#switchport trunk encapsulation dot1q
SW2(config-if-range)#switchport mode trunk
SW2(config-if-range)#int range e0/0-1
SW2(config-if-range)#channel-group 12 mode passive
SW2(config-if-range)#int e0/2
SW2(config-if)#switchport trunk native vlan 35
SW2(config-if)#end
SW2#wr
```

SW3:

```
SW3>en
SW3#config t
SW3(config)#int range e0/0-1
SW3(config-if-range)#switchport trunk encapsulation dot1q
SW3(config-if-range)#switchport mode trunk
SW3(config-if)#switchport trunk native vlan 35
SW3(config-if-range)#end
SW3#wr
```

Answer: A

Select the best choice.

100%

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

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4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
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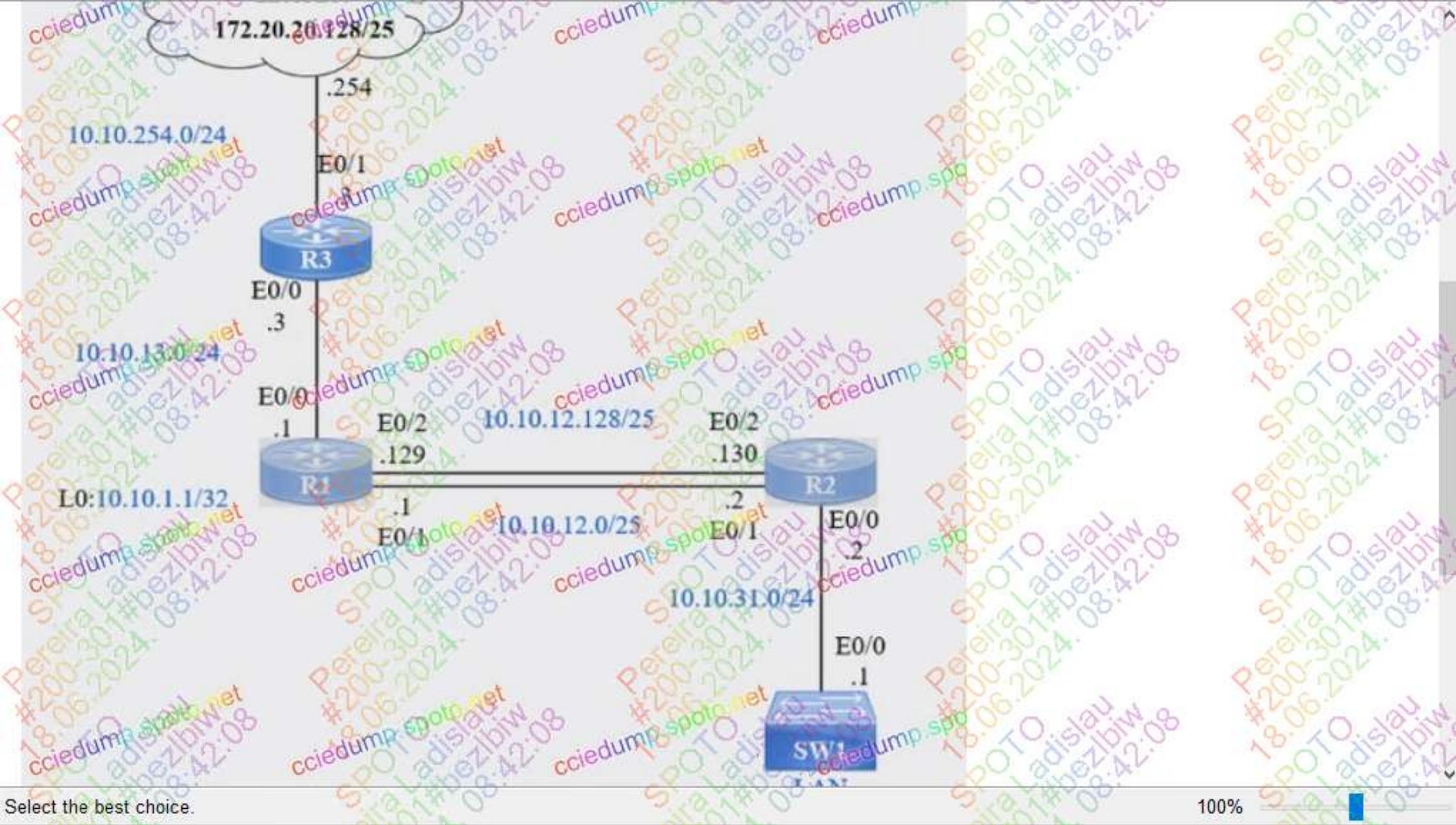
## Tasks

IP connectivity and OSPF are preconfigured on all devices where necessary. Do not make any changes to the IP addressing or OSPF. The company policy uses connected interfaces and next hops when configuring static routes except for load balancing or redundancy without floating static.

Connectivity must be established between subnet 172.20.20.128/25 on the Internet and the LAN at 192.168.0.0/24 connected to SW1:

1. Configure reachability to the switch SW1 LAN subnet in router R2.
2. Configure default reachability to the Internet subnet in router R1.
3. Configure a single static route in router R2 to reach to the Internet subnet considering both redundant links between routers R1 and R2. A default route is NOT allowed in router R2.
4. Configure a static route in router R1 toward the switch SW1 LAN subnet where the primary link must be through Ethernet0/1, and the backup link must be through Ethernet0/2 using a floating route. Use the minimal administrative distance value when required.

Internet  
172.20.20.128/25





A. R1>en  
 R1#config t  
 R1(config)#ip route 0.0.0 0.0.0 e0/0 10.10.13.3  
 R1(config)#ip route 192.168.0.0 255.255.255.0 e0/1 10.10.12.2  
 R1(config)#ip route 192.168.0.0 255.255.255.0 e0/2 10.10.12.130 2  
 R1(config)#end  
 R1#wr

R2>en  
 R2#config t  
 R2(config)#ip route 192.168.0.0 255.255.255.0 e0/0 10.10.31.1  
 R2(config)#ip route 172.20.20.128 255.255.255.128 10.10.1.1  
 R2(config)#end  
 R2#wr

Answer: A

Select the best choice.

100%

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
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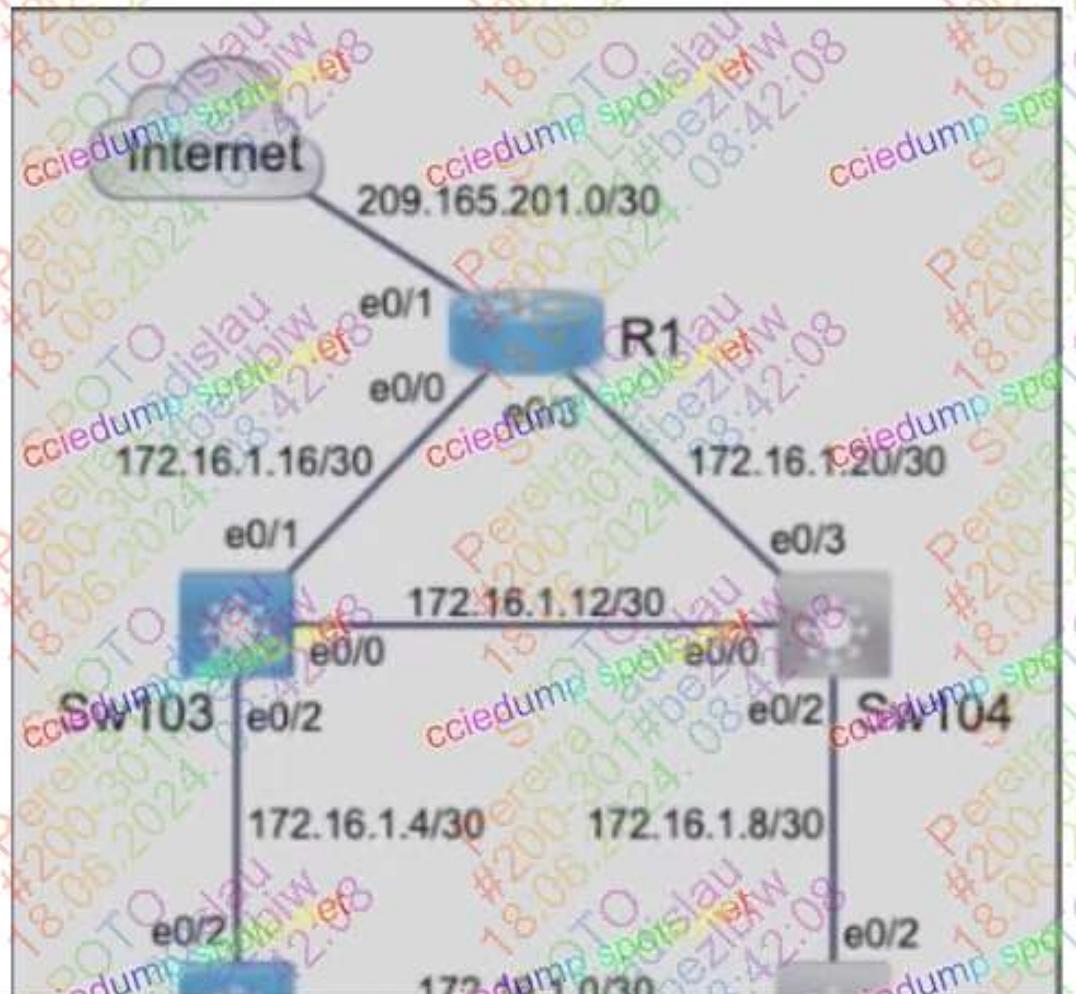
## Tasks

Refer to the topology. All physical cabling is in place. Configure local users accounts, modify the Named ACL (NACL), and configure DHCP Snooping.

The current contents of the NACL must remain intact.

- Configure a local account on Sw103 with telnet access only on virtual ports 0-4. Use the following information:
  1. Username: devnet
  2. Password: access8cli
  3. Algorithm type: SHA256
  4. Privilege level: Exec mode
- Using the minimum number of ACEs, modify the existing NACL "INTERNET\_ACL" to control network traffic destined for the Internet, and apply the ACL on R1:
  1. Allow HTTPS from 172.16.0.0/16
  2. Allow Telnet only for VLAN 101
  3. Restrict all other traffic and log the ingress interface, source MAC address, the packet's source and destination IP addresses, and ports
- Configure Sw101:
  1. Enable DNCP Snooping for VLAN 101

- Configure Sw101:
  - Enable DNCP Snooping for VLAN 101
  - Disable DHCP Option-82 data insertion
  - Enable DHCP Snooping MAC address verification



Select the best choice.

100%

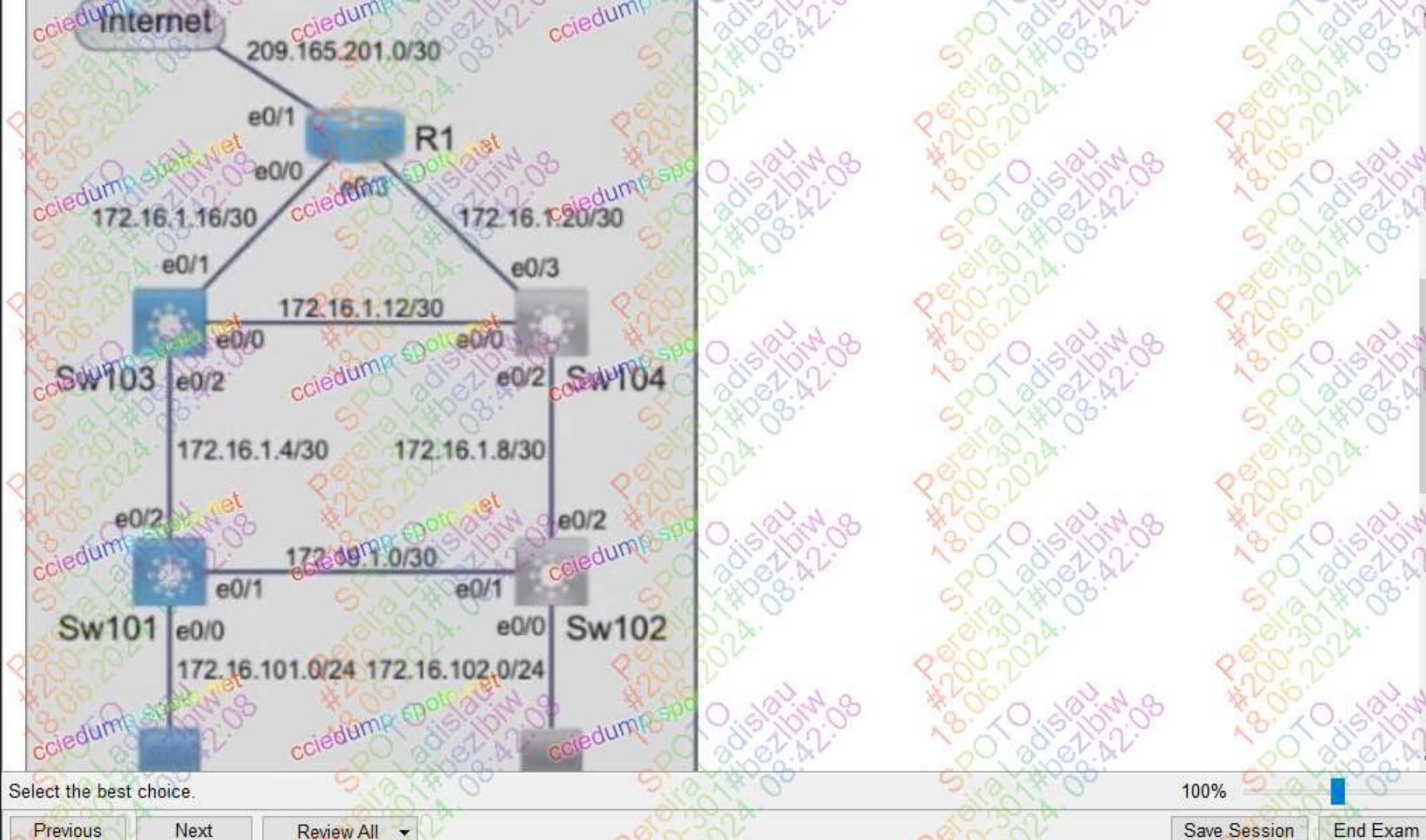
Previous

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Review All

Save Session

End Exam



O A. Sw103:

```
Sw103>en
Sw103#config t
Sw103(config)#username devnet privilege 15 algorithm-type sha256 secret access8cli
Sw103(config)#line vty 0 4
Sw103(config-line)#login local
Sw103(config-line)#transport input telnet
Sw103(config-line)#end
Sw103#wr
```

R1:

```
R1>en
R1#config t
R1(config)#ip access-list extended INTERNET_ACL
R1(config-ext-nacl)#permit tcp 172.16.0.0 0.0.255.255 any eq 443
R1(config-ext-nacl)#permit tcp 172.16.101.0 0.0.255.255 any eq telnet
R1(config-ext-nacl)#deny ip any any log
R1(config-ext-nacl)#end
R1#wr
```

R1:

```
R1>en
R1#config t
R1(config)#ip access-list extended INTERNET_ACL
R1(config-ext-nacl)#permit tcp 172.16.0.0 0.0.255.255 any eq 443
R1(config-ext-nacl)#permit tcp 172.16.101.0 0.0.255.255 any eq telnet
R1(config-ext-nacl)#deny ip any any log
R1(config-ext-nacl)#end
R1#wr
```

Sw101:

```
Sw101>en
Sw101#config t
Sw101(config)#ip dhcp snooping vlan 101
Sw101(config)#no ip dhcp snooping information option
Sw101(config)#ip dhcp snooping verify mac-address
Sw101(config)#end
Sw101#wr
```

## Guidelines

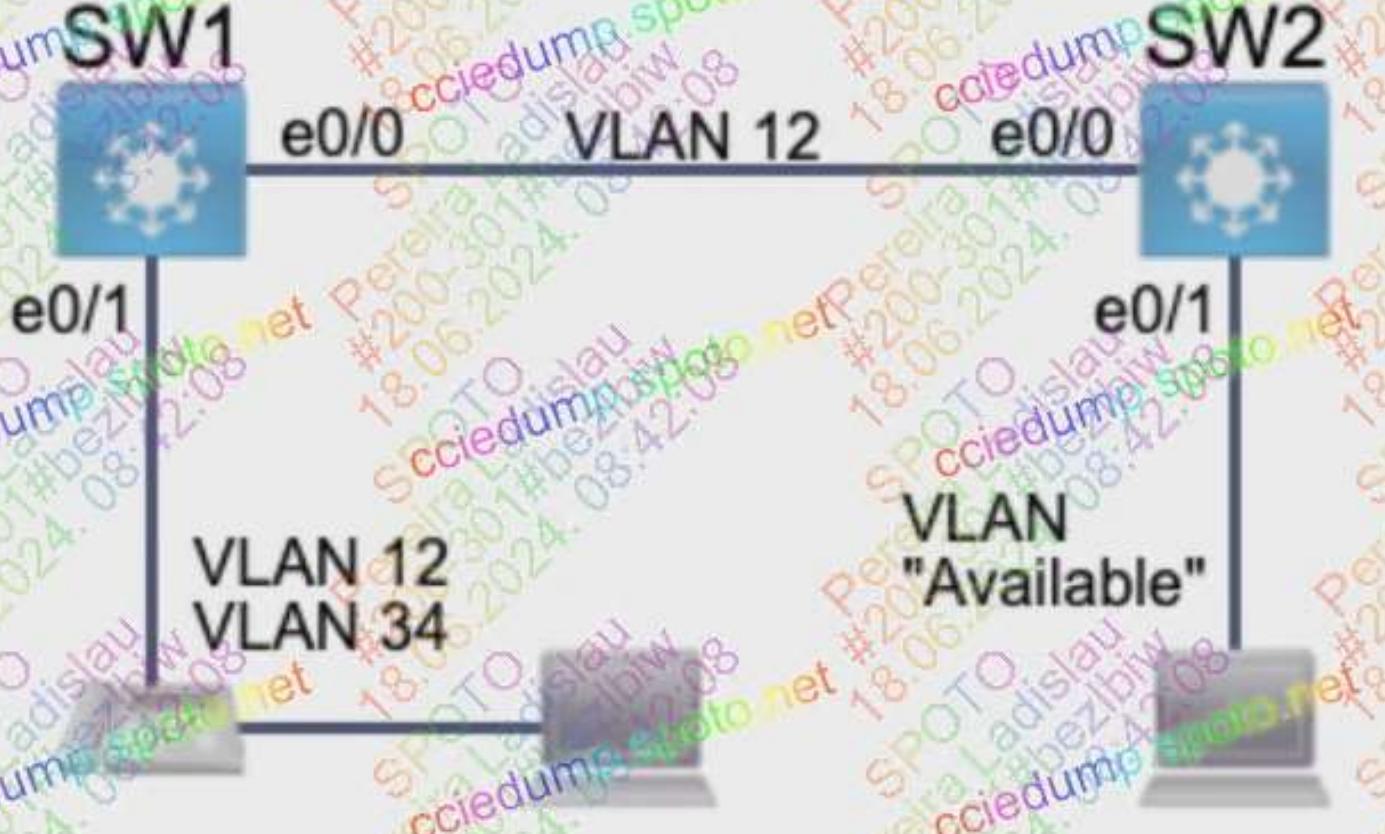
This is a lab item in which tasks will be performed on virtual devices.

1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

## Tasks

All physical cabling between the two switches is installed. Configure the network connectivity between the switches using the designated VLANs and interfaces.

1. Configure VLAN 12 named Compute and VLAN 34 named Telephony where required for each task.
2. Configure Ethernet0/1 on SW2 to use the existing VLAN named Available.
3. Configure the connection between the switches using access ports.
4. Configure Ethernet0/1 on SW1 using data and voice VLANs.
5. Configure Ethernet0/1 on SW2 so that the Cisco proprietary neighbor discovery protocol is turned off for the designated interface only.



A. SW1:  
SW1>enable  
SW1#config t  
SW1(config)#vlan 12  
SW1(config-vlan)#name Compute  
SW1(config-vlan)#vlan 34  
SW1(config-vlan)#name Telephone  
SW1(config-vlan)#int e0/0  
SW1(config-if)#switchport mode access  
SW1(config-if)#switchport access vlan 12  
SW1(config-if)#int e0/1  
SW1(config-if)#switchport mode access  
SW1(config-if)#switchport access vlan 12  
SW1(config-if)#switchport voice vlan 34  
SW1(config-if)#end  
SW1#wr

SW2:  
SW2>enable  
SW2#config t  
SW2(config)#vlan 12  
SW2(config-vlan)#name Compute  
SW2(config-vlan)#vlan 34  
SW2(config-vlan)#name Telephone  
SW2(config-vlan)#int e0/0  
SW2(config-if)#switchport mode access  
SW2(config-if)#switchport access vlan 12  
SW2(config)#int e0/1  
SW2(config-if)#switchport mode access  
SW2(config-if)#switchport access vlan 99  
SW2(config-if)#no cdp enable  
SW2(config-if)#end

## **Guidelines**

This is a lab item in which tasks will be performed on virtual devices.

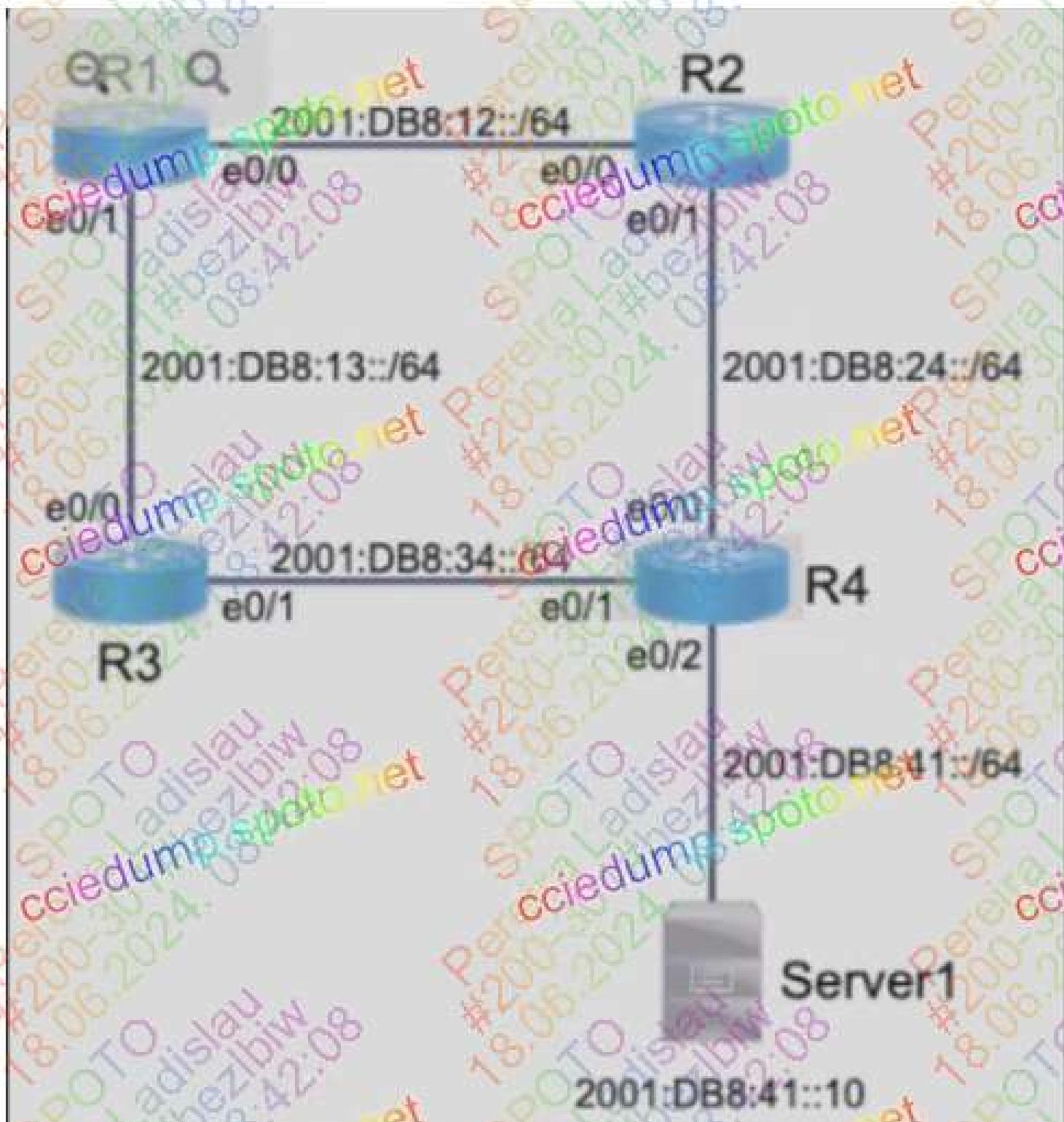
1. Refer to the Tasks tab to view the tasks for this lab item.
2. Refer to the Topology tab to access the device console(s) and perform the tasks.
3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

## **Tasks**

All physical cabling is in place. Configurations should ensure that connectivity is established end-to-end.

1. Configure a route on R1 to ensure that R1 prefers R2 to reach the `2001:db8:41::/64` network
2. Configure a floating route on R1, and ensure that R1 uses R3 to reach the `2001:db8:41::/64` network if the connection between R1 and R2 is down
3. Ping and traceroute should be working

3. Ping and traceroute should be working



A R1

```
R1>en
R1#config t
R1(config)#ipv6 route 2001:db8:41::/64 2001:db8:12::2
R1(config)#ipv6 route 2001:db8:41::/64 2001:db8:13::3 2
R1(config)#end
R1#wr
```

R2

```
R2>en
R2#config t
R2(config)#ipv6 route 2001:db8:41::/64 2001:db8:24::4
R2(config)#end
R2#wr
```

R3

```
R3>en
R3#config t
R3(config)#ipv6 route 2001:db8:41::/64 2001:db8:34::4
R3(config)#end
R3#wr
```

## Guidelines

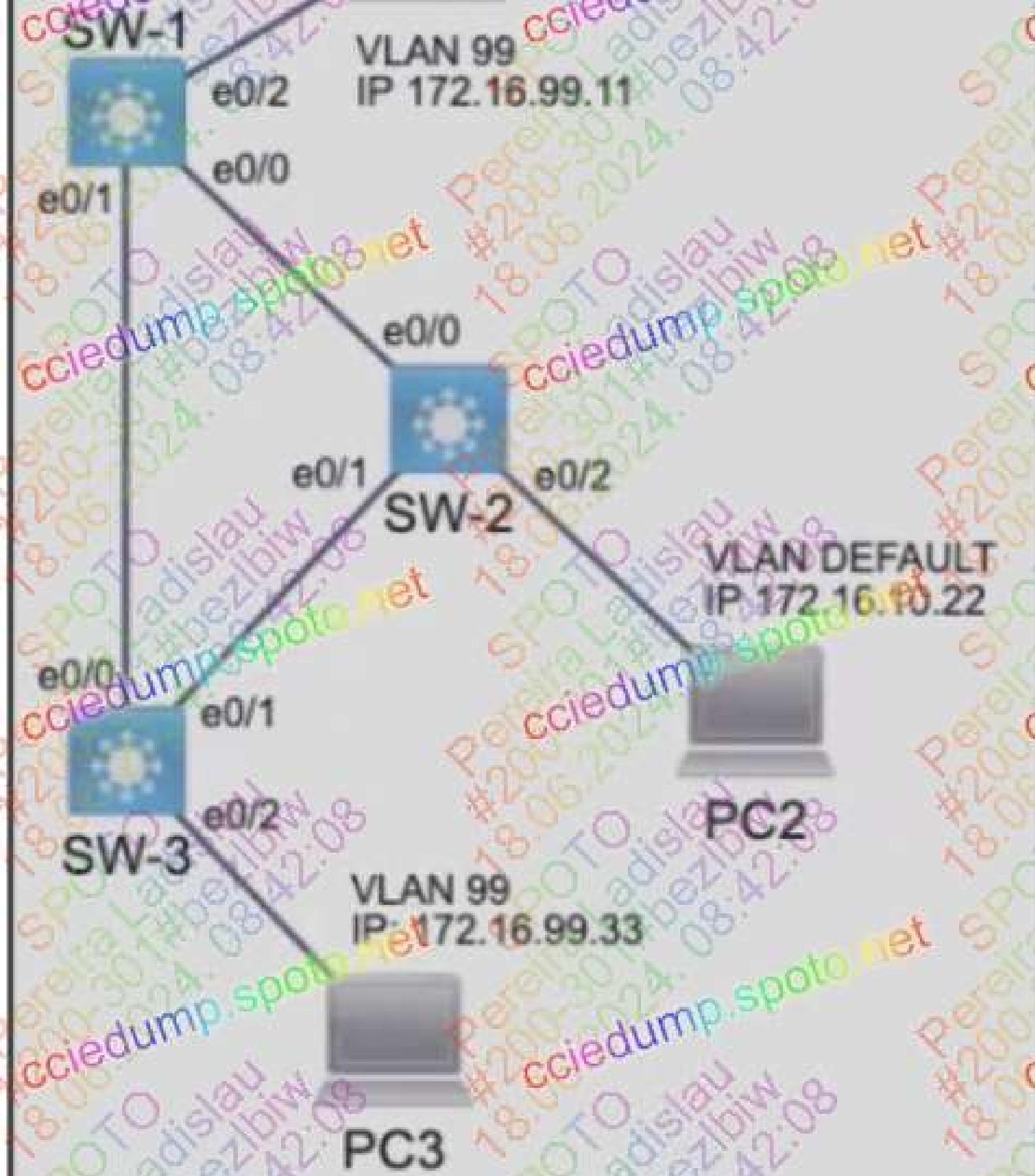
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4. All necessary preconfigurations have been applied.
5. Do not change the enable password or hostname for any device.
6. **Save your configurations** to NVRAM before moving to the next item.
7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
8. When **Next** is clicked, the lab closes and cannot be reopened

## Tasks

All physical cabling is in place and verified. Connectivity for PC1, PC2 and PC3 must be established to the switches. Each port connecting to the PCs must be configured as an end-user port and only allow the designated VLAN.

1. Configure VLAN 99 on all three switches and label it exactly as FINANCIAL
2. Configure the switch ports connecting to PC1, PC2 and PC3
3. Cisco's neighbor discovery protocol has been disabled on SW-1 and must be re-enabled
4. PC1 must not be able to discover SW-1



```
SW-1>en
SW-1#config t
SW-1(config)#cdp run
SW-1(config)#vlan 99
SW-1(config-vlan)#name FINANCIAL
SW-1(config-vlan)#exit
SW-1(config-if)#int range e0/0-1
SW-1(config-if-range)#switchport trunk encapsulation dot1q
SW-1(config-if-range)#switchport mode trunk
SW-1(config-if-range)#no shutdown
SW-1(config-if-range)#int e0/2
SW-1(config-if)#switchport mode access
SW-1(config-if)#switchport access vlan 99
SW-1(config-if)#no cdp enable
SW-1(config-if)#no shutdown
SW-1(config-if)#end
SW-1#wr
```

SW-2:

```
SW-2>en
SW-2#config t
SW-2(config)#vlan 99
SW-2(config-vlan)#name FINANCIAL
SW-2(config-vlan)#exit
SW-2(config-if)#int range e0/0-1
SW-2(config-if-range)#switchport trunk encapsulation dot1q
SW-2(config-if-range)#switchport mode trunk
SW-2(config-if-range)#no shutdown
SW-2(config-if-range)#int e0/2
SW-2(config-if)#switchport mode access
SW-2(config-if)#no shutdown
```

```
SW-2(config-if-range)#switchport trunk encapsulation dot1q
SW-2(config-if-range)#switchport mode trunk
SW-2(config-if-range)#no shutdown
SW-2(config-if-range)#int e0/2
SW-2(config-if)#switchport mode access
SW-2(config-if)#no shutdown
SW-2(config-if)#end
SW-2#wr
```

SW-3:

```
SW-3>en
SW-3#config t
SW-3(config)#vlan 99
SW-3(config-vlan)#name FINANCIAL
SW-3(config-vlan)#exit
SW-3(config-if)#int range e0/0-1
SW-3(config-if-range)#switchport trunk encapsulation dot1q
SW-3(config-if-range)#switchport mode trunk
SW-3(config-if-range)#no shutdown
SW-3(config-if-range)#int e0/2
SW-3(config-if)#switchport mode access
SW-3(config-if)#switchport access vlan 99
SW-3(config-if)#no shutdown
SW-3(config-if)#end
SW-3#wr
```

## Guidelines:

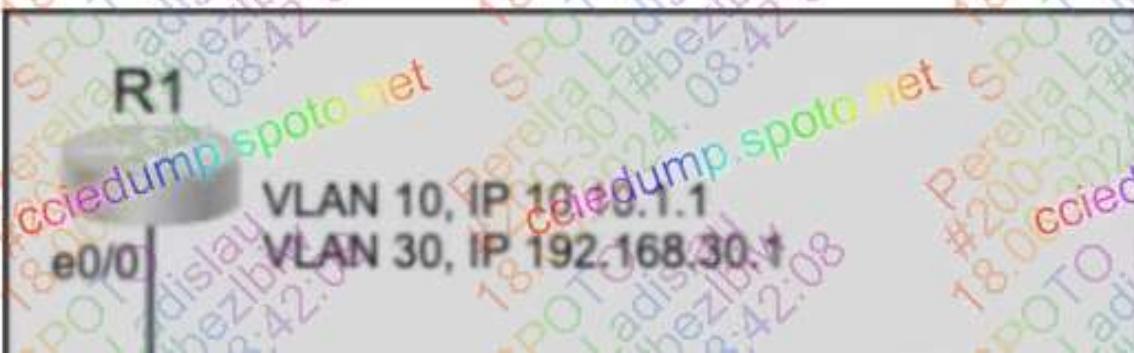
This is a lab item in which tasks will be performed on virtual devices.

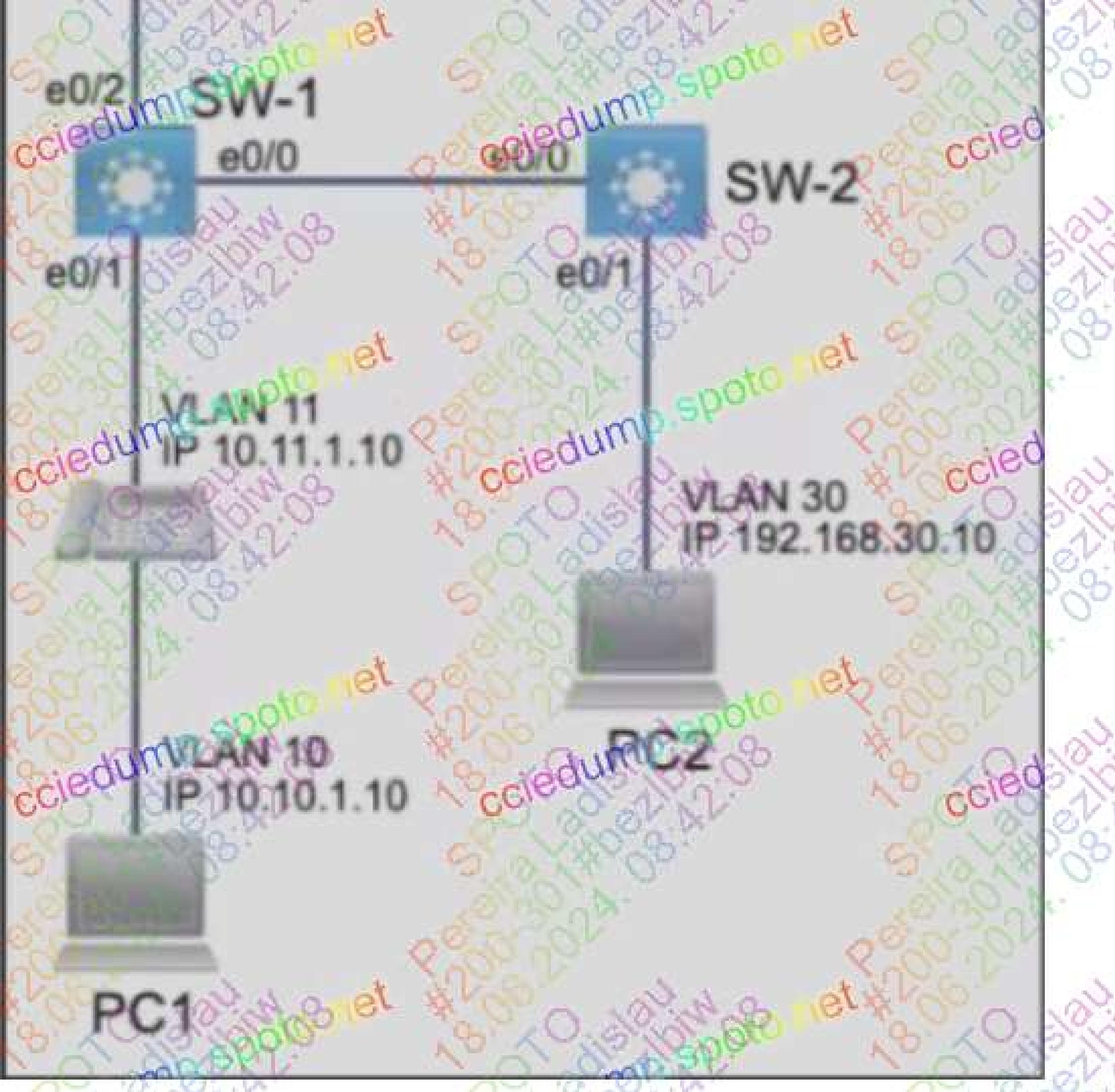
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  3. Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
  4. All necessary preconfigurations have been applied.
  5. Do not change the enable password or hostname for any device.
  6. **Save your configurations** to NVRAM before moving to the next item.
  7. Click **Next** at the bottom of the screen to submit this lab and move to the next question.
  8. When **Next** is clicked, the lab closes and cannot be reopened.

## Tasks

R1 has been pre-configured with all the necessary commands. All physical cabling is in place and verified. Connectivity to the end devices must be configured.

1. Configure SW-1 switch port E0/1 to carry traffic for the Cisco IP phone and PC2.
  2. Configure SW-2 E0/1 to carry traffic for PC2.
  3. Configure VLAN 10 with the name "Engineering" on SW-1.
  4. Configure the link between SW-1 and SW-2 to use the vendor neutral neighbor discovery protocol
  5. Configure the link on SW-1 to R1 so that it does not allow the Cisco neighbor discovery protocol to pass





O A SW-1

```
SW-1>en
SW-1#config t
SW-1(config)#vlan 10
SW-1(config-vlan)#name Engineering
SW-1(config-vlan)#int e0/0
SW-1(config-if)#lldp transmit
SW-1(config-if)#lldp receive
SW-1(config-if)#int e0/1
SW-1(config-if)#switchport mode access
SW-1(config-if)#switchport access vlan 10
SW-1(config-if)#switchport voice vlan 11
SW-1(config-if)#int e0/2
SW-1(config-if)#no cdp enable
SW-1(config-if)#end
SW-1#wr
```

SW-2:

```
SW-2>en
SW-2#config t
SW-2(config)#int e0/0
SW-2(config-if)#lldp transmit
SW-2(config-if)#lldp receive
SW-2(config-if)#int e0/1
SW-2(config-if)#switchport mode access
SW-2(config-if)#switchport access vlan 30
SW-2(config-if)#end
SW-2#wr
```