

Cisco

Exam Questions 200-301

Cisco Certified Network Associate



NEW QUESTION 1

- (Exam Topic 2)

Refer to the exhibit.

```
Switch(config)#hostname R1
R1(config)#interface FastEthernet0/1
R1(config-if)#no switchport
R1(config-if)#ip address 10.100.20.42 255.255.255.0
R1(config-if)#line vty 0 4
R1(config-line)#login
```

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?

```
R1(config)#username admin privilege 15 secret p@ss1234
R1(config-if)#line vty 0 4
R1(config-line)#login local
```

```
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
```

```
R1(config)#username admin
R1(config-if)#line vty 0 4
R1(config-line)#password p@ss1234
R1(config-line)#transport input telnet
```

```
R1(config)#username admin
R1(config-if)#line vty 0 4
R1(config-line)#password p@ss1234
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

NEW QUESTION 2

- (Exam Topic 2)

Where does a switch maintain DHCP snooping information?

- A. in the MAC address table
- B. in the CAM table
- C. in the binding database
- D. in the frame forwarding database

Answer: C

NEW QUESTION 3

- (Exam Topic 2)

Which command must be entered to configure a DHCP relay?

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

Answer: A

NEW QUESTION 4

- (Exam Topic 2)

An engineer is configuring NAT to translate the source subnet of 10.10.0.0/24 to any of three addresses 192.168.30.1, 192.168.3.2, 192.168.3.3 Which configuration should be used?

- ☐ enable
 configure terminal
 ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30
 route-map permit 10.10.0.0 255.255.255.0
 ip nat outside destination list 1 pool mypool
 interface g1/1
 ip nat inside
 interface g1/2
 ip nat outside
- ☐ 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
- ☐ 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
 ip nat outside
- ☐ 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

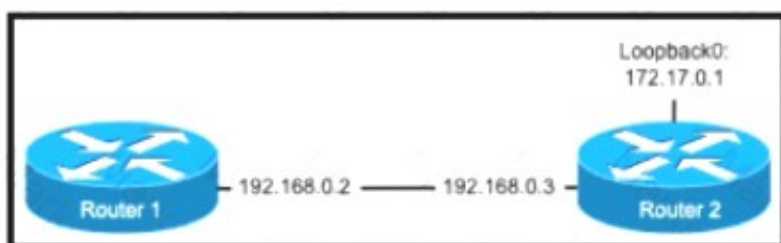
- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

NEW QUESTION 5

- (Exam Topic 2)

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 master 4
- D. Router2(config)#ntp server 192.168.0.2

Answer: B

Explanation:

- To use internal clock of this router, use any configured IP address in any interface of this router.

NEW QUESTION 6

- (Exam Topic 2)

Which two primary drivers support the need for network automation? (Choose two.)

- A. Eliminating training needs
- B. Increasing reliance on self-diagnostic and self-healing
- C. Policy-derived provisioning of resources
- D. Providing a ship entry point for resource provisioning
- E. Reducing hardware footprint

Answer: CD

NEW QUESTION 7

- (Exam Topic 1)

An engineer is configuring data and voice services to pass through the same port. The designated switch interface fastethernet0/1 must transmit packets using the same priority for data when they are received from the access port of the IP phone. Which configuration must be used?

A)

```
interface fastethernet0/1
switchport priority extend cos 7
```

B)

```
interface fastethernet0/1
switchport voice vlan untagged
```

C)

```
interface fastethernet0/1
switchport voice vlan dot1p
```

D)

```
interface fastethernet0/1
switchport priority extend trust
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

NEW QUESTION 8

- (Exam Topic 1)

Which command is used to specify the delay time in seconds for LLDP to initialize on any interface?

- A. lldp timer
- B. lldp holdtimt
- C. lldp reinit
- D. lldp tlv-select

Answer: C

Explanation:

Reference:

https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst2960/software/release/12-2_37_ey/configuration/gui

+ lldp holdtime seconds: Specify the amount of time a receiving device should hold the information from your device before discarding it+ lldp reinit delay: Specify the delay time in seconds for LLDP to initialize on an interface+ lldp timer rate: Set the sending frequency of LLDP updates in seconds

NEW QUESTION 9

- (Exam Topic 1)

Which device controls the forwarding of authentication requests for users when connecting to the network using a lightweight access point?

- A. TACACS server
- B. wireless access point
- C. RADIUS server
- D. wireless LAN controller

Answer: B

NEW QUESTION 10

- (Exam Topic 1)

What uses HTTP messages to transfer data to applications residing on different hosts?

- A. OpenFlow
- B. OpenStack
- C. OpFlex
- D. REST

Answer: D

NEW QUESTION 10

- (Exam Topic 1)

What occurs when overlapping Wi-Fi channels are implemented?

- A. The wireless network becomes vulnerable to unauthorized access.
- B. Wireless devices are unable to distinguish between different SSIDs
- C. Users experience poor wireless network performance.
- D. Network communications are open to eavesdropping.

Answer: C

NEW QUESTION 13

- (Exam Topic 1)

Refer to the exhibit.

```
R1#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 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 0.0.0.0/0 [110/84] via 192.168.30.10, 00:10:36, Serial0/0.1
```

What is the metric of the route to the 192.168.10.33/28 subnet?

- A. 84
- B. 110
- C. 128
- D. 192
- E. 193

Answer: E

NEW QUESTION 16

- (Exam Topic 1)

A frame that enters a switch fails the Frame Check Sequence. Which two interface counters are incremented? (Choose two)

- A. runts
- B. giants
- C. frame
- D. CRC
- E. input errors

Answer: DE

Explanation:

Whenever the physical transmission has problems, the receiving device might receive a frame whose bits have changed values. These frames do not pass the error detection logic as implemented in the FCS field in the Ethernet trailer. The receiving device discards the frame and counts it as some kind of input error. Cisco switches list this error as a CRC error. Cyclic redundancy check (CRC) is a term related to how the FCS math detects an error.

The "input errors" includes runts, giants, no buffer, CRC, frame, overrun, and ignored counts. The output below show the interface counters with the "show interface s0/0/0" command:

```
Router#show interface s0/0/0
Serial0/0/0 is up, line protocol is up
  Hardware is M4T
  Description: Link to R2
  Internet address is 10.1.1.1/30
  MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  --output omitted--
  5 minute output rate 0 bits/sec, 0 packets/sec
    268 packets input, 24889 bytes, 0 no buffer
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    251 packets output, 23498 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
    0 carrier transitions      DCD=up   DSR=up   DTR=up   RTS=up   CTS=up
```

NEW QUESTION 20

- (Exam Topic 1)

Which option about JSON is true?

- A. uses predefined tags or angle brackets () to delimit markup text
- B. used to describe structured data that includes arrays
- C. used for storing information
- D. similar to HTML, it is more verbose than XML

Answer: B

Explanation:

JSON data is written as name/value pairs. A name/value pair consists of a field name (in double quotes), followed by a colon, followed by a value: "name": "Mark" JSON can use arrays. Array values must be of type string, number, object, array, boolean or null. For example: {"name": "John", "age": 30, "cars": ["Ford", "BMW", "Fiat"]}

NEW QUESTION 22

- (Exam Topic 1)

Refer to the exhibit.

```
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
```

What is the result if Gig1/11 receives an STP BPDU?

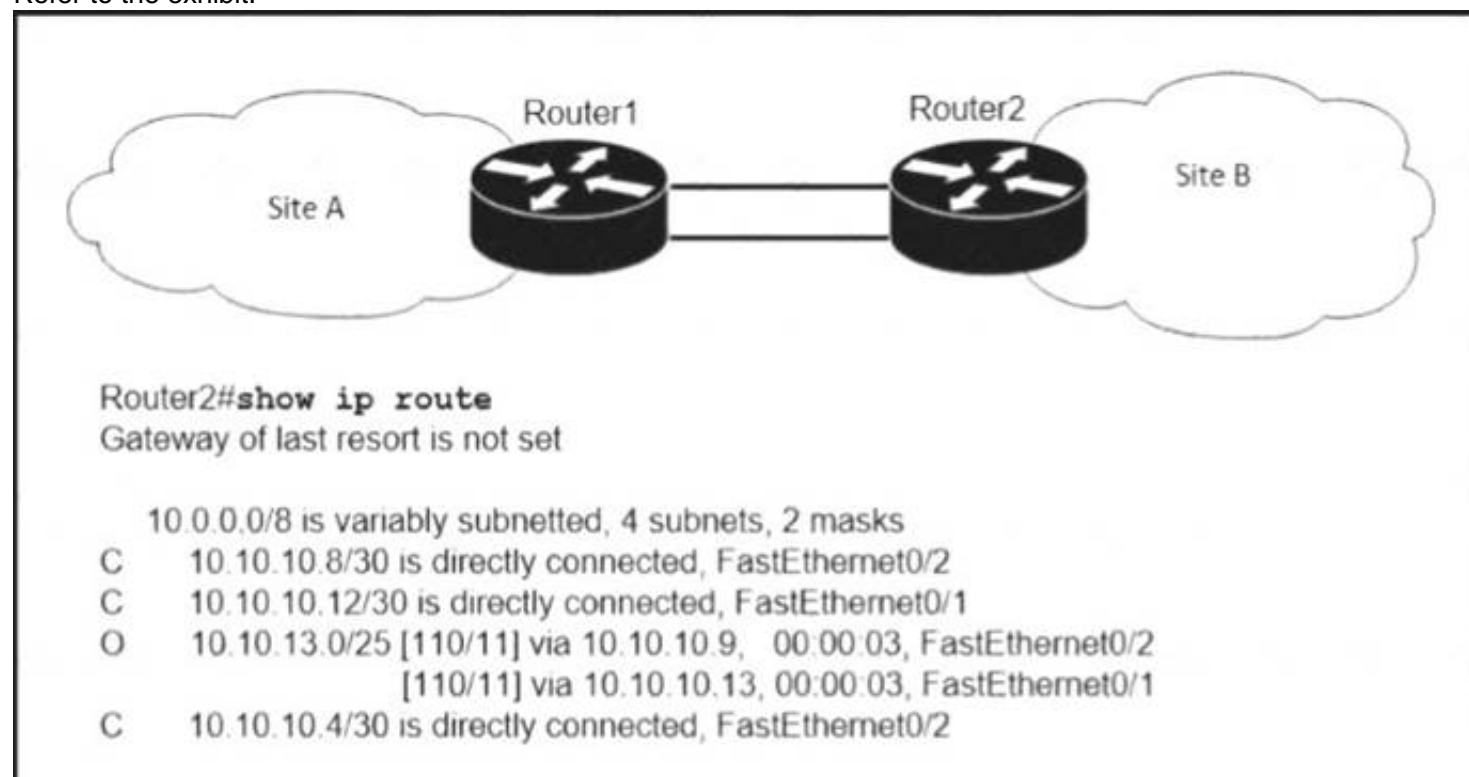
- A. The port transitions to STP blocking
- B. The port transitions to the root port
- C. The port immediately transitions to STP forwarding.
- D. The port goes into error-disable state

Answer: D

NEW QUESTION 25

- (Exam Topic 1)

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

Answer: B

NEW QUESTION 26

- (Exam Topic 1)

Drag and drop the DNS lookup components from the left onto the functions on the right.

Answer Area

cache	local database of address mappings that improves name-resolution performance
DNS	service that maps hostnames to IP addresses
domain	disable 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, such as .com or .edu

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:
Diagram Description automatically generated

NEW QUESTION 31
- (Exam Topic 1)
Drag and drop the 802.11 wireless standards from the left onto the matching statements on the right

802.11a	Operates in the 2,4 GHz and 5 GHz bands.
802.11ac	Operates in the 2.4 GHz band only and supports a maximum data rate of 54 Mbps.
802.11b	Operates in the 5 GHz band only and supports a maximum data rate that can exceed 100 Mbps.
802.11g	Supports a maximum data rate of 11 Mbps.
802.11n	Operates in the 5 GHz band only and supports a maximum data rate of 54 Mbps.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

802.11a	802.11n
802.11ac	802.11g
802.11b	802.11ac
802.11g	802.11b
802.11n	802.11a

NEW QUESTION 36

- (Exam Topic 1)

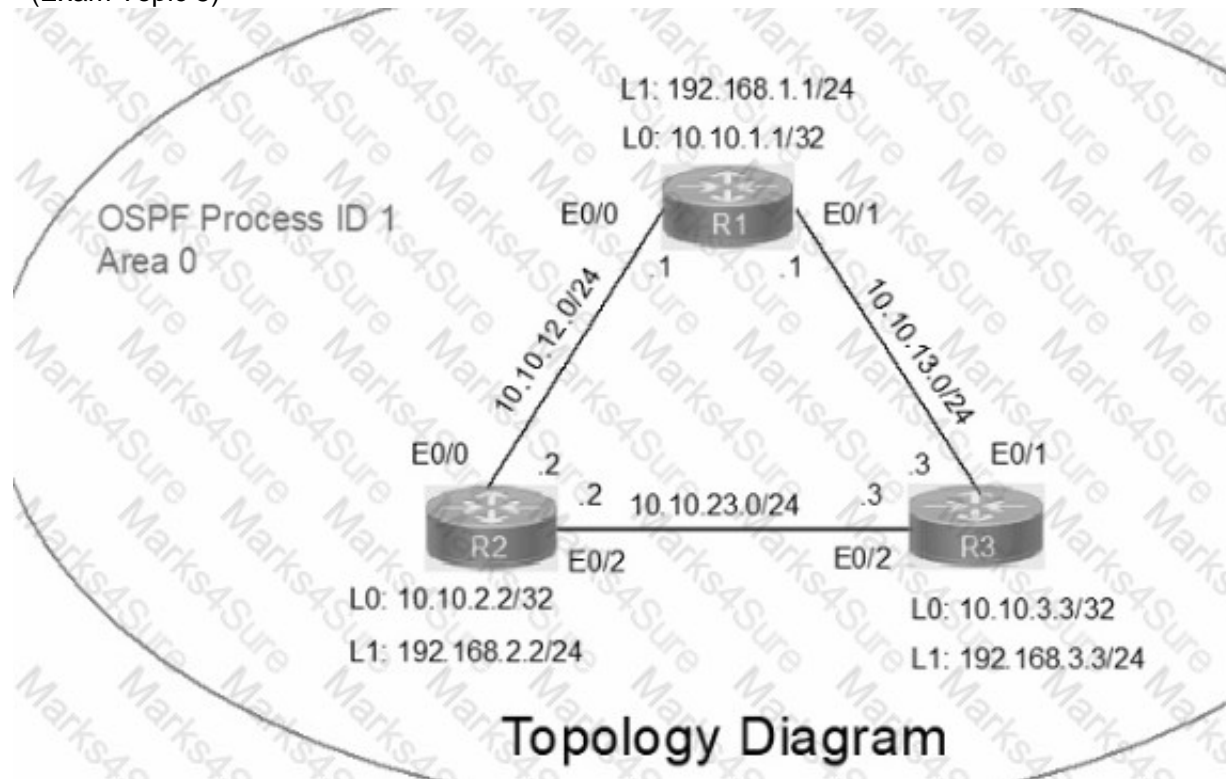
What is a network appliance that checks the state of a packet to determine whether the packet is legitimate?

- A. Layer 2 switch
- B. load balancer
- C. firewall
- D. LAN controller

Answer: C

NEW QUESTION 41

- (Exam Topic 5)



Guidelines

This is a lab item in which tasks will be performed on virtual devices.

- Refer to the **Tasks** tab to view the tasks for this lab item.
- Refer to the **Topology** tab to access the device console(s) and perform the tasks.
- Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
- All necessary preconfigurations have been applied.
- Do not change the enable password or hostname for any device.
- **Save your configurations** to NVRAM before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.

IP connectivity between the three routers is configured. OSPF adjacencies must be established.

* 1. Configure R1 and R2 Router IDs using the interface IP addresses from the link that is shared between them.

* 2. Configure the R2 links with a max value facing R1 and R3. R2 must become the DR. R1 and R3 links facing R2 must remain with the default OSPF configuration for DR election. Verify the configuration after clearing the OSPF process.

* 3. Using a host wildcard mask, configure all three routers to advertise their respective Loopback1 networks.

* 4. Configure the link between R1 and R3 to disable their ability to add other OSPF routers.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Answer as below configuration:

on R1

```
conf terminal interface Loopback0
ip address 10.10.1.1 255.255.255.255
!
interface Loopback1
ip address 192.168.1.1 255.255.255.0
!
interface Ethernet0/0 no shut
ip address 10.10.12.1 255.255.255.0
```



```
ip ospf 1 area 0 duplex auto
!
interface Ethernet0/1 no shut
ip address 10.10.13.1 255.255.255.0
ip ospf 1 area 0 duplex auto
!
router ospf 1
router-id 10.10.12.1
network 10.10.1.1 0.0.0.0 area 0
network 192.168.1.0 0.0.0.255 area 0
!
copy run star
-----

On R2
conf terminal interface Loopback0
ip address 10.10.2.2 255.255.255.255
!
interface Loopback1
ip address 192.168.2.2 255.255.255.0
!
interface Ethernet0/0 no shut
ip address 10.10.12.2 255.255.255.0
ip ospf priority 255 ip ospf 1 area 0 duplex auto
!
interface Ethernet0/2 no shut
ip address 10.10.23.2 255.255.255.0
ip ospf priority 255 ip ospf 1 area 0
duplex auto
!
router ospf 1
network 10.10.2.2 0.0.0.0 area 0
network 192.168.2.0 0.0.0.255 area 0
!
copy runs start
-----

On R3
conf ter
interface Loopback0
ip address 10.10.3.3 255.255.255.255
!
interface Loopback1
ip address 192.168.3.3 255.255.255.0
!
interface Ethernet0/1 no shut
ip address 10.10.13.3 255.255.255.0
ip ospf 1 area 0 duplex auto
!
interface Ethernet0/2 no shut
ip address 10.10.23.3 255.255.255.0
ip ospf 1 area 0
duplex auto
!
router ospf 1
network 10.10.3.3 0.0.0.0 area 0
network 192.168.3.0 0.0.0.255 area 0
!
copy run start
!
```

NEW QUESTION 43

- (Exam Topic 5)

Guidelines

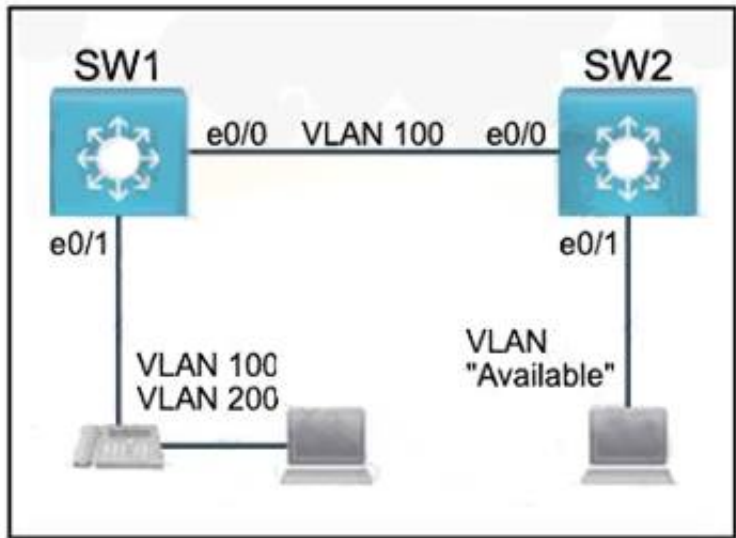
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All physical cabling between the two switches is installed. Configure the network connectivity between the switches using the designated VLANs and interfaces.

* 1. Configure VLAN 100 named Compute and VLAN 200 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. Mastered
- B. Not Mastered

Answer: A

Explanation:

Answer as below configuration:

```
on sw1 enable
conf t
vlan 100
name Compute
vlan 200
name Telephony
int e0/1
switchport voice vlan 200
switchport access vlan 100
int e0/0
switchport mode access
do wr

on sw2
Vlan 99
Name Available
int e0/1
Switchport access vlan 99
do wr
```

NEW QUESTION 48
 - (Exam Topic 5)

Guidelines
Topology
Tasks

R1
R2
R3

R1#

Guidelines
Topology
Tasks

Guidelines

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R1
R2
R3

R1#

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 NAT 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 January 1, 2019.
- * 3. Configure R1 as a DHCP server for the network 10.1.3.0/24 in a pool named TEST. 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 root and password Cisco 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. Mastered
- B. Not Mastered

Answer: A

Explanation:

Answer as below configuration:

```
conf t
R1(config)#ntp master 1
R2(config)#ntp server 10.1.2.1 Exit
Router#clock set 00:00:00 jan 1 2019 ip dhcp pool TEST
network 10.1.3.0 255.255.255.0
ip dhcp excluded-address 10.1.3.1 10.1.3.10 R3(config)#int e0/3
R3(config)#int e0/2 ip address dhcp
no shut
crypto key generate RSA 1024
Copy run start
```

NEW QUESTION 51

- (Exam Topic 5)

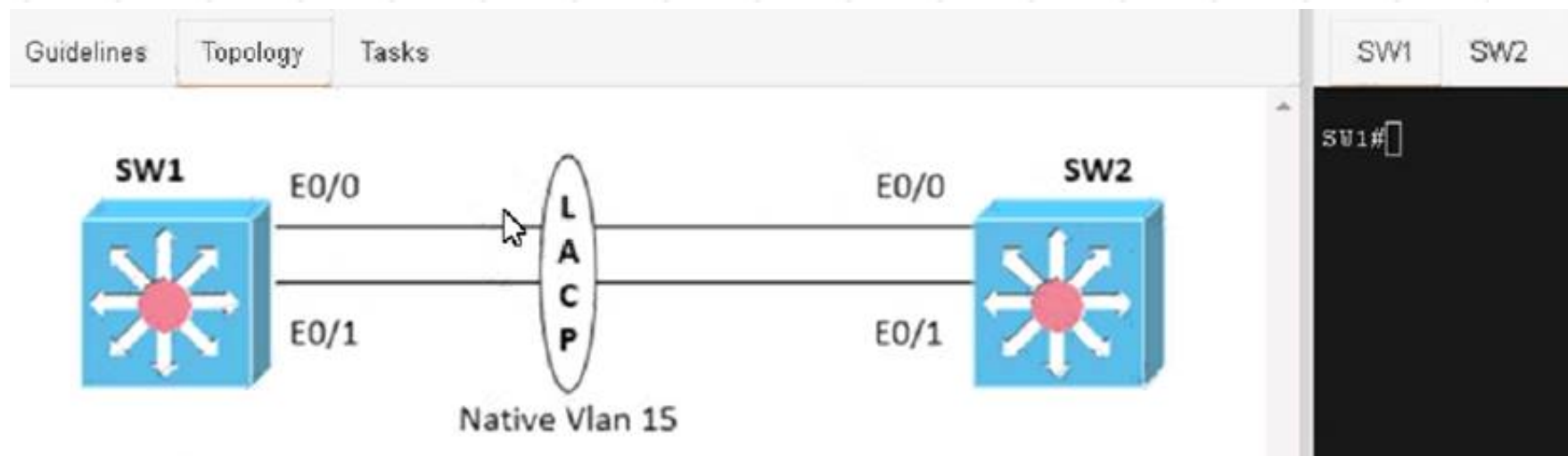
Physical connectivity is implemented between the two Layer 2 switches, and the network connectivity between them must be configured

- * 1. Configure an LACP EtherChannel and number it as 1; configure it between switches SW1 and SW2 using interfaces Ethernet0/0 and Ethernet0/1 on both sides. The LACP mode must match on both ends.
- * 2. Configure the EtherChannel as a trunk link.
- * 3. Configure the trunk link with 802.1q tags.
- * 4. Configure the native VLAN of the EtherChannel as VLAN 15.

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- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Answer as below configuration:

On SW1:

```
conf terminal vlan 15
exit
interface range eth0/0 - 1 channel-group 1 mode active exit
interface port-channel 1
switchport trunk encapsulation dot1q switchport mode trunk
switchport trunk native vlan 15 end
copy run start on SW2: conf terminal vlan 15
exit
interface range eth0/0 - 1 channel-group 1 mode active exit
interface port-channel 1
switchport trunk encapsulation dot1q switchport mode trunk
switchport trunk native vlan 15 end
copy run start
```

NEW QUESTION 54

- (Exam Topic 4)

Drag and drop the characteristics of northbound APIs from the left onto any position on the right. Not all characteristics are used.

supports automation

communicates between the SDN controller and the application plane

supports data sharing between systems

communicates between the SDN controller and the data plane

supports network virtualization protocols

supports REST-based requirements

uses OpenFlow to interface between the data and control planes

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

supports automation

communicates between the SDN controller and the application plane

supports data sharing between systems

communicates between the SDN controller and the data plane

supports network virtualization protocols

supports REST-based requirements

uses OpenFlow to interface between the data and control planes

supports data sharing between systems

communicates between the SDN controller and the data plane

supports network virtualization protocols

supports REST-based requirements

NEW QUESTION 59

- (Exam Topic 4)

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

Answer: A

NEW QUESTION 63

- (Exam Topic 4)
Which two transport layer protocols carry syslog messages? (Choose two.)

- A. TCP
- B. IP
- C. RTP
- D. UDP
- E. ARP

Answer: AD

NEW QUESTION 66

- (Exam Topic 4)
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?

- ☐ aaa new-model
line con 0
password plaintextpassword
privilege level 15
- ☐ username localuser secret plaintextpassword
line con 0
login authentication default
privilege level 15
- ☐ username localuser secret plaintextpassword
line con 0
no login local
privilege level 15
- ☐ aaa new-model
aaa authorization exec default local
aaa authentication login default radius
username localuser privilege 15 secret plaintextpassword

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: B

NEW QUESTION 71

- (Exam Topic 4)
Drag and drop the IPv6 address details from the left onto the corresponding types on the right.

identifies an interface on an IPv6 device

includes link-local and loopback addresses

provides one-to-many communications

used exclusively by a non-host device

assigned to more than one interface

derived from the FF00::/8 address range

Anycast

Multicast

Unicast

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Graphical user interface, diagram Description automatically generated

NEW QUESTION 72

- (Exam Topic 4)

Why is TCP desired over UDP for application that require extensive error checking, such as HTTPS?

- A. UDP operates without acknowledgments, and TCP sends an acknowledgment for every packet received.
- B. UDP reliably guarantees delivery of all packets, and TCP drops packets under heavy load.
- C. UDP uses flow control mechanisms for the delivery of packets, and TCP uses congestion control for efficient packet delivery.
- D. UDP uses sequencing data for packets to arrive in order, and TCP offers the capability to receive packets in random order.

Answer: A

NEW QUESTION 76

- (Exam Topic 4)

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

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

Answer: B

NEW QUESTION 79

- (Exam Topic 4)

What are two reasons a switch experiences frame flooding? (Choose two.)

- A. A defective patch cable is connected to the switch port
- B. Topology changes are occurring within spanning-tree
- C. An aged MAC table entry is causing excessive updates
- D. Port-security is configured globally
- E. The forwarding table has overflowed

Answer: AB

NEW QUESTION 84

- (Exam Topic 4)

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

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

Answer: B

NEW QUESTION 87

- (Exam Topic 4)

Refer to the exhibit.

```
R1# show ip route | begin gateway
Gateway of last resort is not set
  172.16.0.0/16 is variably subnetted, 5 subnets, 5 masks
O   172.16.2.128/25 [110/3184437] via 207.165.200.250, 00:00:25, Serial0/0/0
O   172.16.3.64/27 [110/3184437] via 207.165.200.250, 00:00:25, Serial0/0/0
O   172.16.3.128/28 [110/3184437] via 207.165.200.250, 00:00:25, Serial0/0/0
O   172.16.3.192/29 [110/3184437] via 207.165.200.250, 00:00:25, Serial0/0/0
O   172.16.4.0/23 [110/3184437] via 207.165.200.250, 00:00:25, Serial0/0/0
  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
```

Drag and drop the learned prefixes from the left onto the subnet masks on the right

172.16.3.128	255.255.254.0
172.16.3.64	255.255.255.128
172.16.2.128	255.255.255.224
172.16.3.192	255.255.255.240
172.16.4.0	255.255.255.248

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

172.16.3.128	172.16.4.0
172.16.3.64	172.16.2.128
172.16.2.128	172.16.3.64
172.16.3.192	172.16.3.128
172.16.4.0	172.16.3.192

NEW QUESTION 88

- (Exam Topic 4)
Drag and drop the characteristic from the left onto the IPv6 address type on the right.

confined to a single link	Global Unicast Address
required on all IPv6 devices	
is publicly routable in the same way as IPv4 addresses	Link-Local Address
provides for one-to-one communication	

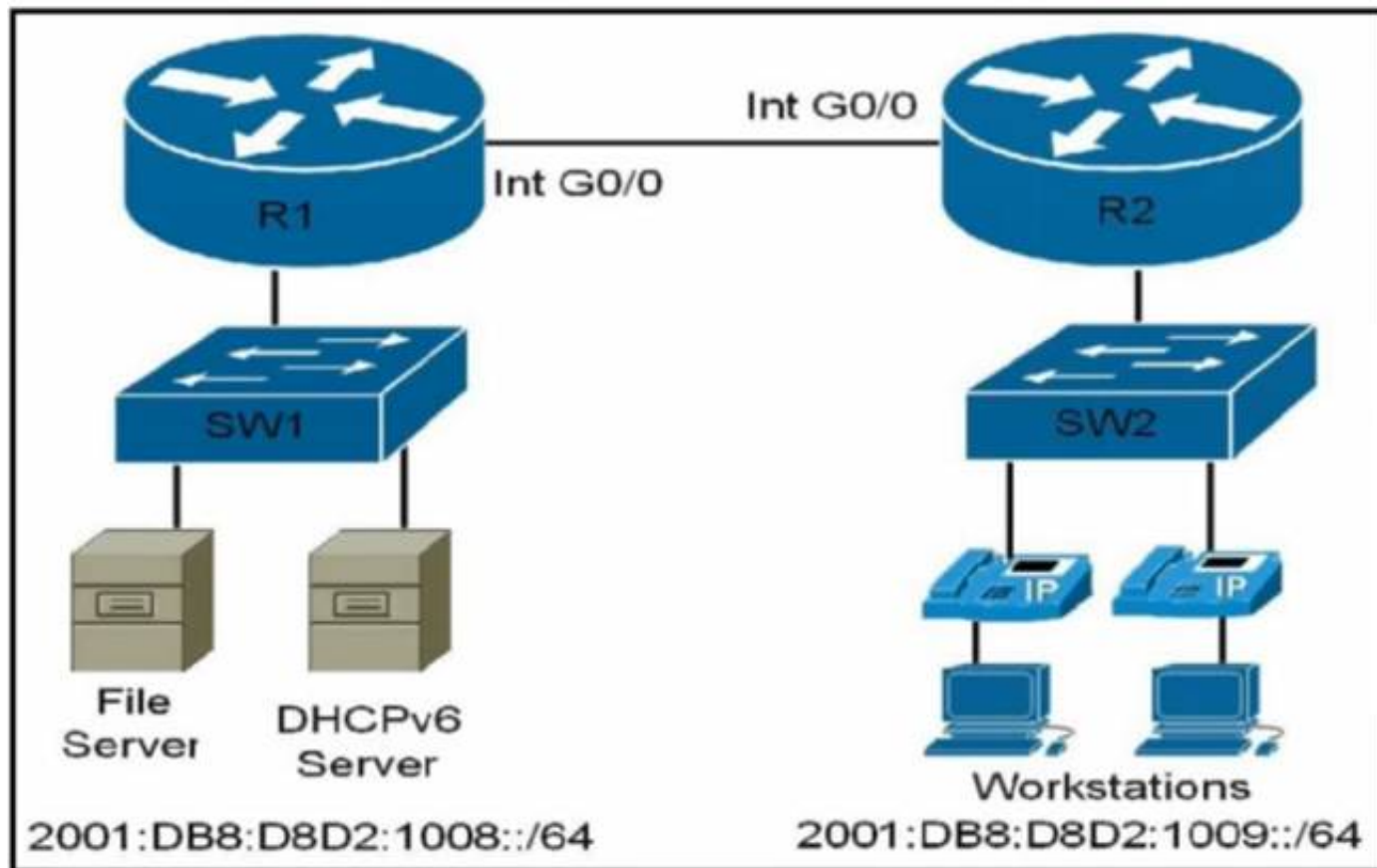
- A. Mastered
- B. Not Mastered

Answer: A

Explanation:
Graphical user interface, application Description automatically generated

NEW QUESTION 90

- (Exam Topic 4)
Refer to the exhibit An IPv6 address must be obtained automatically on the LAN interface on R1 Which command must be implemented to accomplish the task?



- A. Ipv6 address 2001:dbB:d8d2:1008:4343:61:0010::/64
- B. Ipv6 address autoconfig
- C. Ipv6 address fe80::/10
- D. Ipv6 address dhcp

Answer: B

NEW QUESTION 95

- (Exam Topic 4)

Which two server types support dornas name to IP address resolution? (Choose two >

- A. ESX host
- B. resolver
- C. web
- D. file transfer
- E. authentication

Answer: AC

NEW QUESTION 99

- (Exam Topic 4)

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?

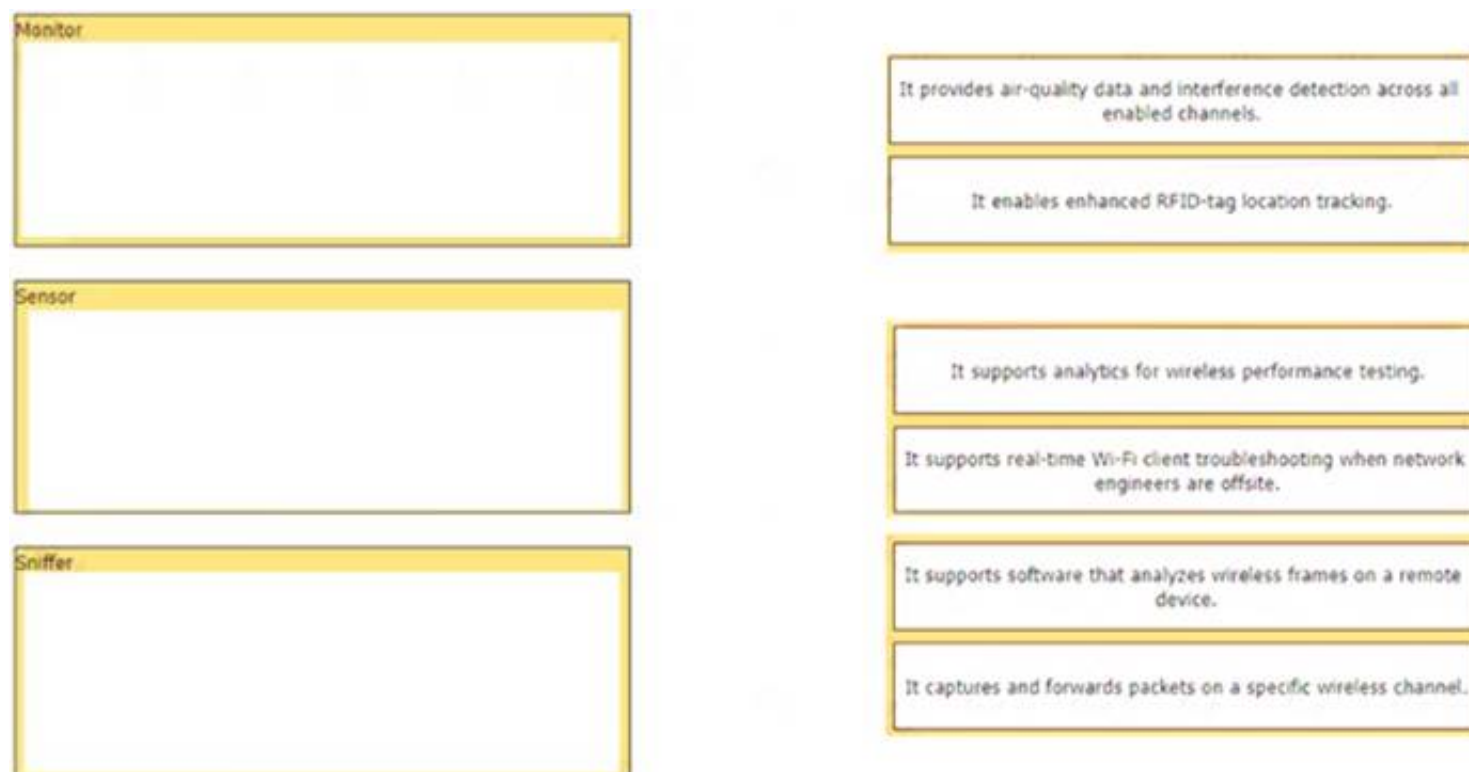
- A. It sends the traffic via prefix 172.31.0.0/16
- B. It sends the traffic via the default gateway 0.0.0.0/0.
- C. It sends the traffic via prefix 172.31.0.0/24
- D. It sends the traffic via prefix 172.31.0.0/25

Answer: D

NEW QUESTION 101

- (Exam Topic 4)

Drag and drop the statements about access-point modes from the left onto the corresponding modes on the right.



- A. Mastered
 B. Not Mastered

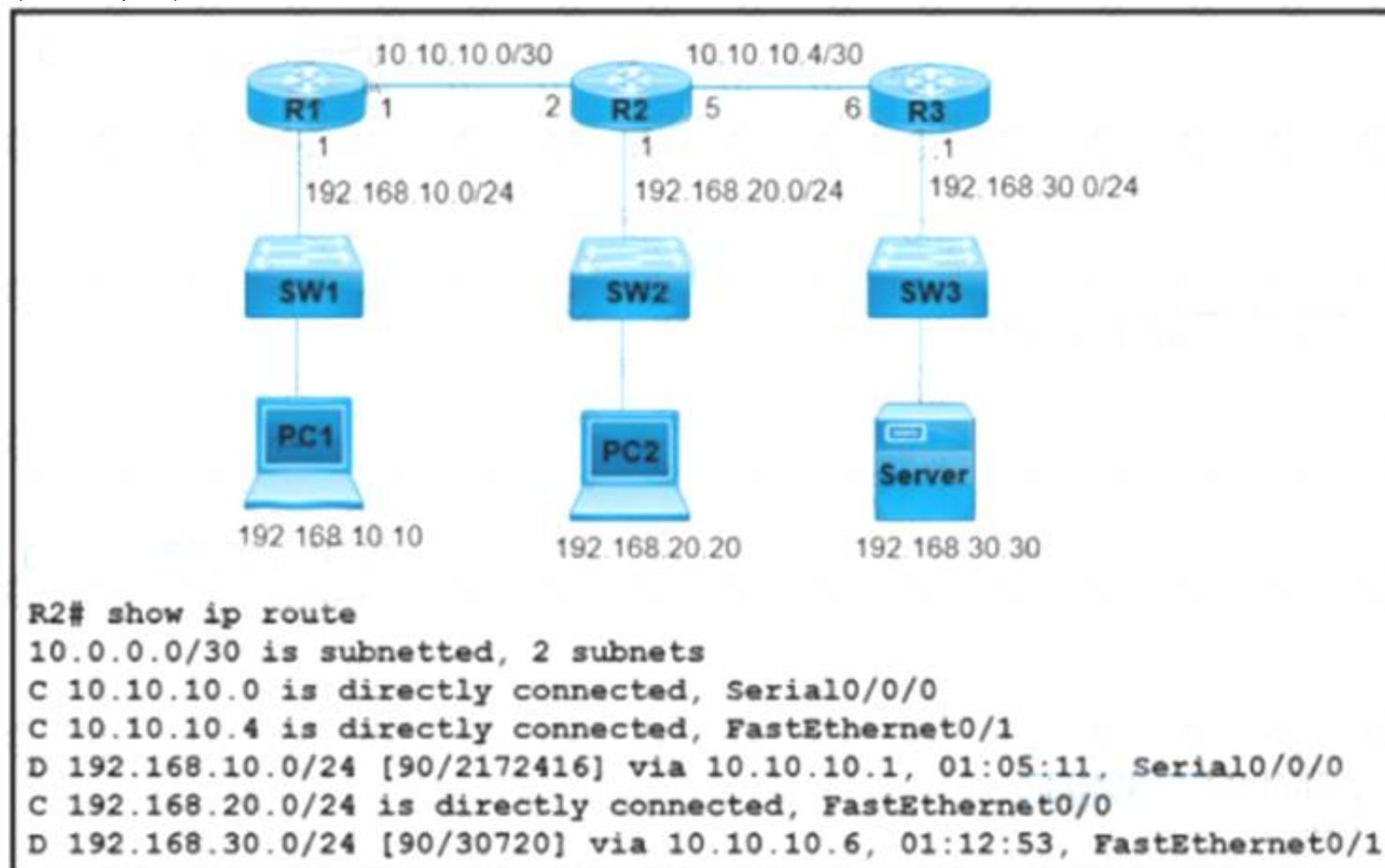
Answer: A

Explanation:

A picture containing diagram Description automatically generated

NEW QUESTION 103

- (Exam Topic 4)



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

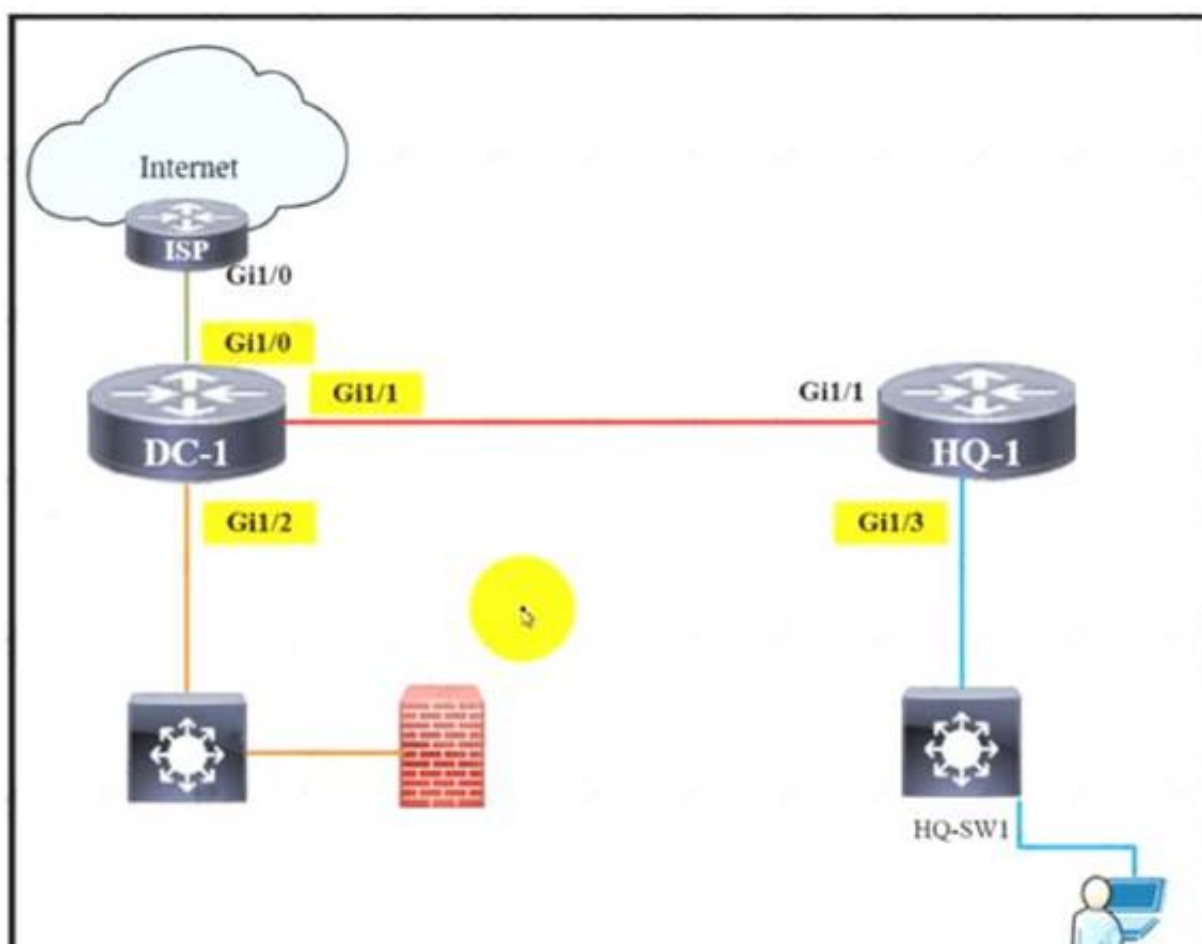
- A. 192.168.30.1
 B. 10.10.10.5
 C. 10.10.10.6
 D. 192.168.20.1

Answer: D

NEW QUESTION 106

- (Exam Topic 4)

Refer to Exhibit.



Refer to the exhibit. The IP address configurations must be completed on the DC-1 and HQ-1 routers based on these requirements:
DC-1 Gi1/0 must be the last usable address on a /30
DC-1 Gi1/1 must be the first usable address on a /29
DC-1 Gi1/2 must be the last usable address on a /28
HQ-1 Gi1/3 must be the last usable address on a /29
Drag and drop the commands from the left onto the destination interfaces on the right. Not all commands are used

ip address 192.168.4.9 255.255.255.248	DC-1	Gi1/0
ip address 192.168.3.14 255.255.255.240		Gi1/1
ip address 209.165.202.129 255.255.255.252		Gi1/2
ip address 192.168.4.13 255.255.255.240	HQ-1	Gi1/3
ip address 209.165.202.130 255.255.255.252		
ip address 209.165.202.131 255.255.255.252		
ip address 192.168.3.14 255.255.255.248		

- A. Mastered
- B. Not Mastered

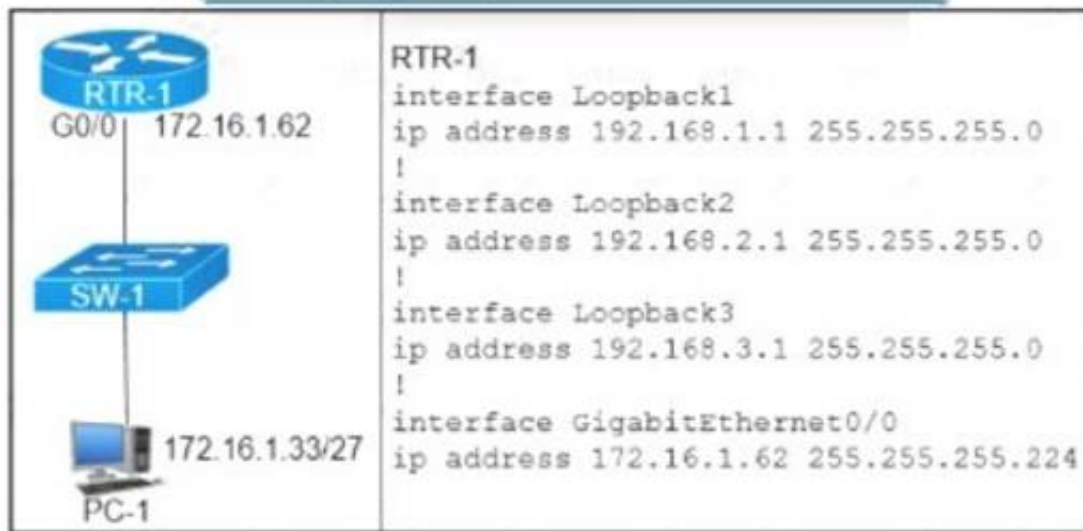
Answer: A

Explanation:

Graphical user interface, application Description automatically generated

NEW QUESTION 109

- (Exam Topic 4)
Refer to the exhibit.



Which configuration for 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
```

```
interface GigabitEthernet0/0
ip access-group 100 in
```

D)

```
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
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: B

NEW QUESTION 114

- (Exam Topic 4)

Which QoS queuing method discards or marks packets that exceed the desired bit rate of traffic flow?

- A. shaping
- B. policing
- C. CBWFQ
- D. LLQ

Answer: B

NEW QUESTION 116

- (Exam Topic 4)

Refer to the exhibit.


```
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
```

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?

- ☐ OldR(config)#interface g0/0/0
OldR(config-if)#ip ospf dead-interval 15
- ☐ OldR(config)#router ospf 1
OldR(config-router)#no router-id 192.168.1.1
- ☒ OldR(config)#router ospf 1
OldR(config-router)#network 192.168.1.0 255.255.255.0 area 2
- ☐ OldR(config)#interface g0/0/0
OldR(config-if)#ip ospf hello-interval 15

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

NEW QUESTION 119

- (Exam Topic 4)

Refer to the exhibit.

```
MacOs$ ifconfig

en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
options=400<CHANNEL_IO>
ether f0:18:98:64:60:32
inet6 fe80::492:c09f:57cf:8c36%en0 prefixlen 64 secured scopeid 0x6
inet 10.8.138.14 netmask 0xffffe000 broadcast 10.8.159.255
nd6 options=201<PERFORMNUD,DAD>
media: autoselect
status: active
```

A network engineer must provide configured IP addressing details to investigate a firewall rule issue. Which subnet and mask identify what is configured on the en0 interface?

- A. 10.8.0.0/16
- B. 10.8.64.0/18
- C. 10.8.128.0/19
- D. 10.8.138.0/24

Answer: D

NEW QUESTION 120

- (Exam Topic 4)

Which security method is used to prevent man-in-the-middle attack?

- A. authorization
- B. authentication
- C. anti-replay
- D. accounting

Answer: B

NEW QUESTION 121

- (Exam Topic 4)

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

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

Answer: A

NEW QUESTION 126

- (Exam Topic 4)

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

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

Answer: B

NEW QUESTION 129

- (Exam Topic 4)

Which syslog severity level is considered the most severe and results in the system being considered unusable?

- A. Alert
- B. Error
- C. Emergency
- D. Critical

Answer: C

NEW QUESTION 132

- (Exam Topic 4)

Which component controls and distributes physical resources for each virtual machine?

- A. OS
- B. hypervisor
- C. CPU
- D. physical enclosure

Answer: B

NEW QUESTION 135

- (Exam Topic 4)

The address block 192.168.32.0/24 must be subnetted into smaller networks. The engineer must meet these requirements:

- Create 8 new subnets
- Each subnet must accommodate 30 hosts
- Interface VLAN 10 must use the last usable IP in the first new subnet
- A Layer 3 interface is used

Which configuration must be applied to the interface?

A)

```
no switchport mode access
ip address 192.168.32.62 255.255.255.240
```

B)

```
switchport
ip address 192.168.32.65 255.255.255.240
```

C)

```
no switchport mode trunk
ip address 192.168.32.97 255.255.255.224
```

D)

```
no switchport
ip address 192.168.32.30 255.255.255.224
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: D

NEW QUESTION 139

- (Exam Topic 4)

Drag and drop the REST API call method for HTTP from the left onto the action they perform on the right.

DELETE	creates a resource on the server
GET	reads data from the server
POST	removes a resource from the server
PUT	updates an entry in the database
PATCH	

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

DELETE	POST
GET	GET
POST	DELETE
PUT	PUT
PATCH	

NEW QUESTION 142

- (Exam Topic 4)
What is an enhancement implemented in WPA3?

- A. employs PKI and RADIUS to identify access points
- B. applies 802.1x authentication and AES-128 encryption
- C. uses TKIP and per-packet keying
- D. defends against deauthentication and disassociation attacks

Answer: D

NEW QUESTION 145

- (Exam Topic 4)
What differentiates device management enabled by cisco DNA center from traditional campus device management?

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

Answer: C

NEW QUESTION 150

- (Exam Topic 4)
Refer to the exhibit.

```
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
D    10.0.1.4/32 [110/10] via 10.0.1.4, 00:39:08, Gigabit Ethernet 0/0
```

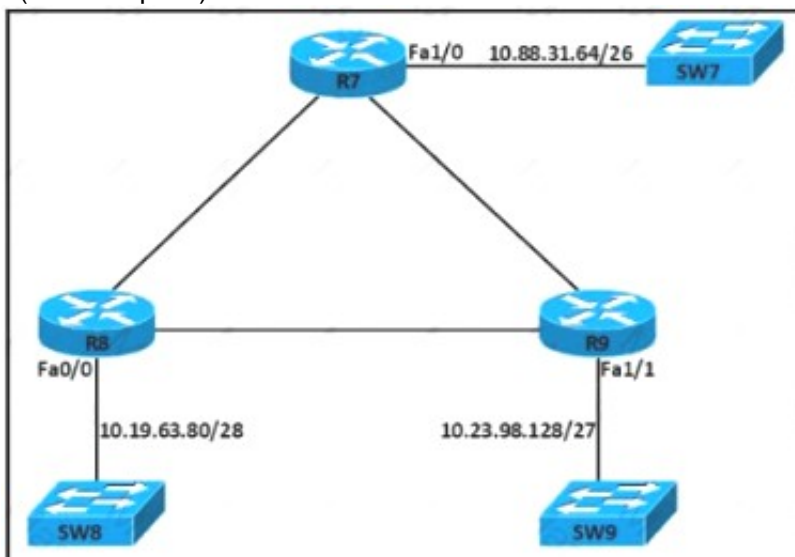
What does route 10.0.1.3/32 represent in the routing table?

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

Answer: A

NEW QUESTION 153

- (Exam Topic 4)



Refer to the exhibit. Each router must be configured with the last usable IP address in the subnet. Which configuration fulfills this requirement?

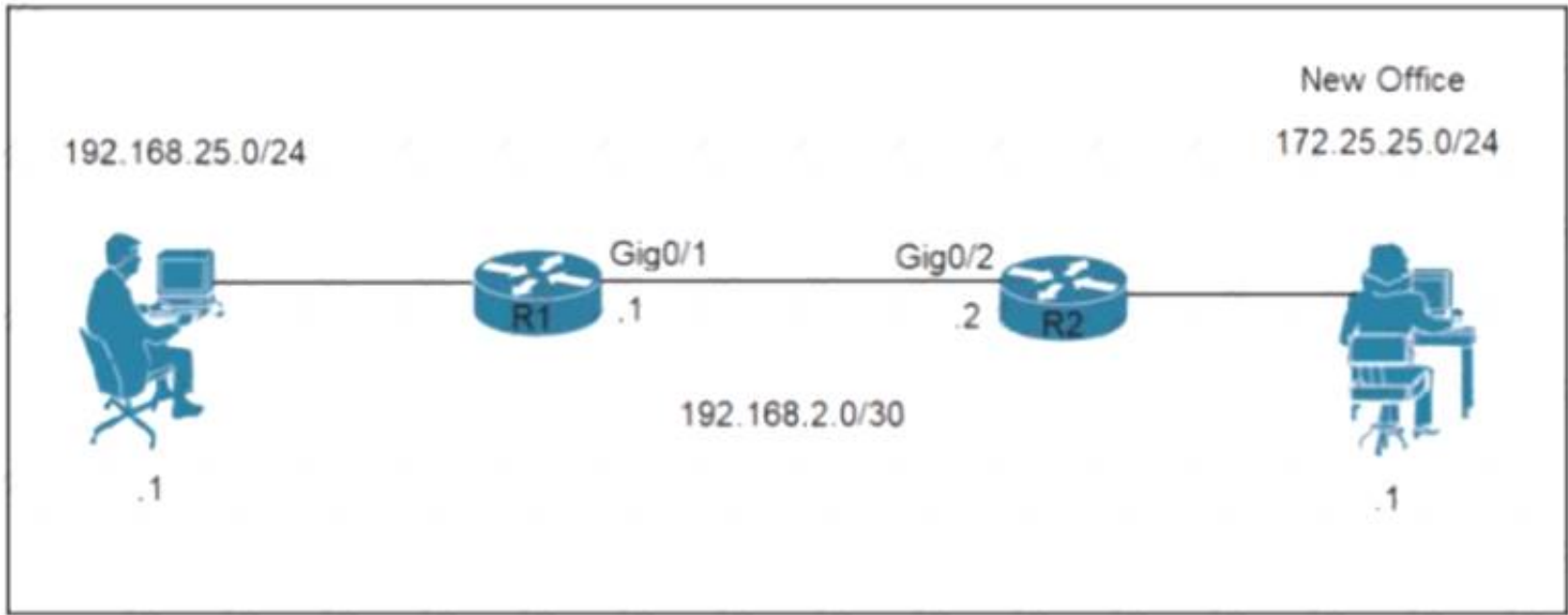
- ☐ R7#
interface FastEthernet1/0
ip address 10.88.31.126 255.255.255.240
- ☐ R8#
interface FastEthernet0/0
ip address 10.19.63.94 255.255.255.192
- ☐ R9#
interface FastEthernet1/1
ip address 10.23.98.158 255.255.255.248
- ☐ R7#
interface FastEthernet1/0
ip address 10.88.31.127 255.255.255.240
- ☐ R8#
interface FastEthernet0/0
ip address 10.19.63.95 255.255.255.192
- ☐ R9#
interface FastEthernet1/1
ip address 10.23.98.159 255.255.255.248
- ☒ R7#
interface FastEthernet1/0
ip address 10.88.31.126 255.255.255.192
- ☐ R8#
interface FastEthernet0/0
ip address 10.19.63.94 255.255.255.240
- ☐ R9#
interface FastEthernet1/1
ip address 10.23.98.158 255.255.255.224
- ☐ R7#
interface FastEthernet1/0
ip address 10.88.31.127 255.255.255.192
- ☐ R8#
interface FastEthernet0/0
ip address 10.19.63.95 255.255.255.240
- ☐ R9#
interface FastEthernet1/1
ip address 10.23.98.159 255.255.255.224

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

NEW QUESTION 154

- (Exam Topic 4)
Refer to the exhibit.



A network engineer is updating the configuration on router R1 to connect a new branch office to the company network R2 has been configured correctly. Which command must the engineer configure so that devices at the new site communicate with the main office?

- A. ip route 172.25.25 0 255 255 255.0 192.168.2.1
- B. ip route 172.25.25 1 255 255 255 255 g0/1
- C. ip route 172.25.25.0.255.255.255.0.192.168.2.2

Answer: C

NEW QUESTION 156

- (Exam Topic 4)
Refer to the exhibit.

```
{
  "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"]
}
```

How many JSON objects are presented?

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

Answer: D

NEW QUESTION 159

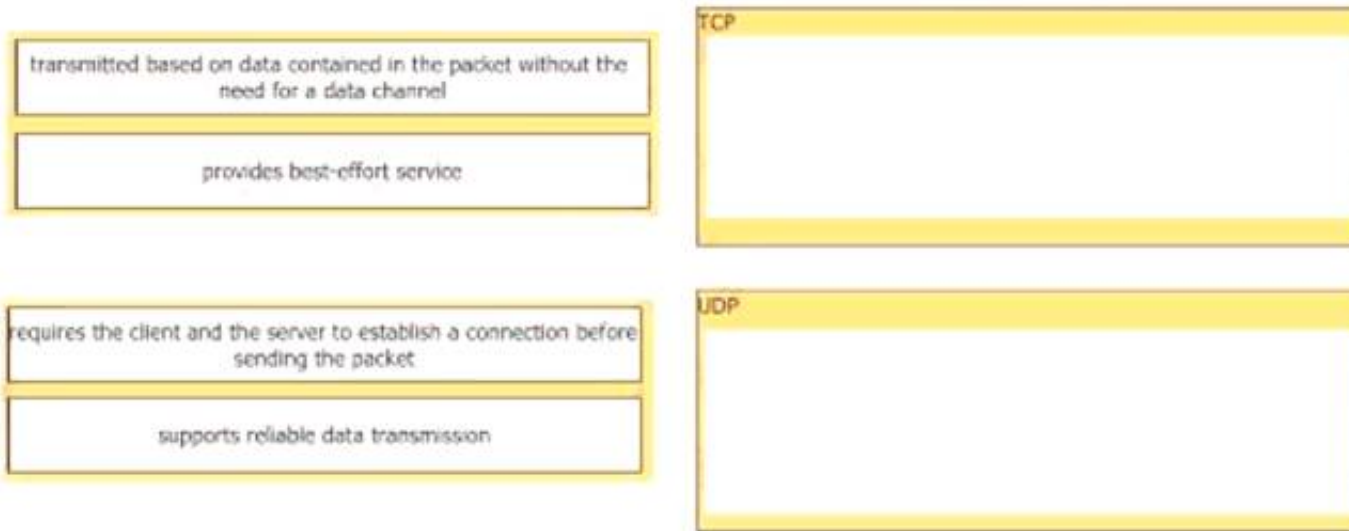
- (Exam Topic 4)
What is a reason to configure a trunk port that connects to a WLC distribution port?

- A. Eliminate redundancy with a link failure in the data path.
- B. Allow multiple VLAN to be used in the data path.
- C. Provide redundancy if there is a link failure for out-of-band management.
- D. Permit multiple VLANs to provide out-of-band management.

Answer: D

NEW QUESTION 162

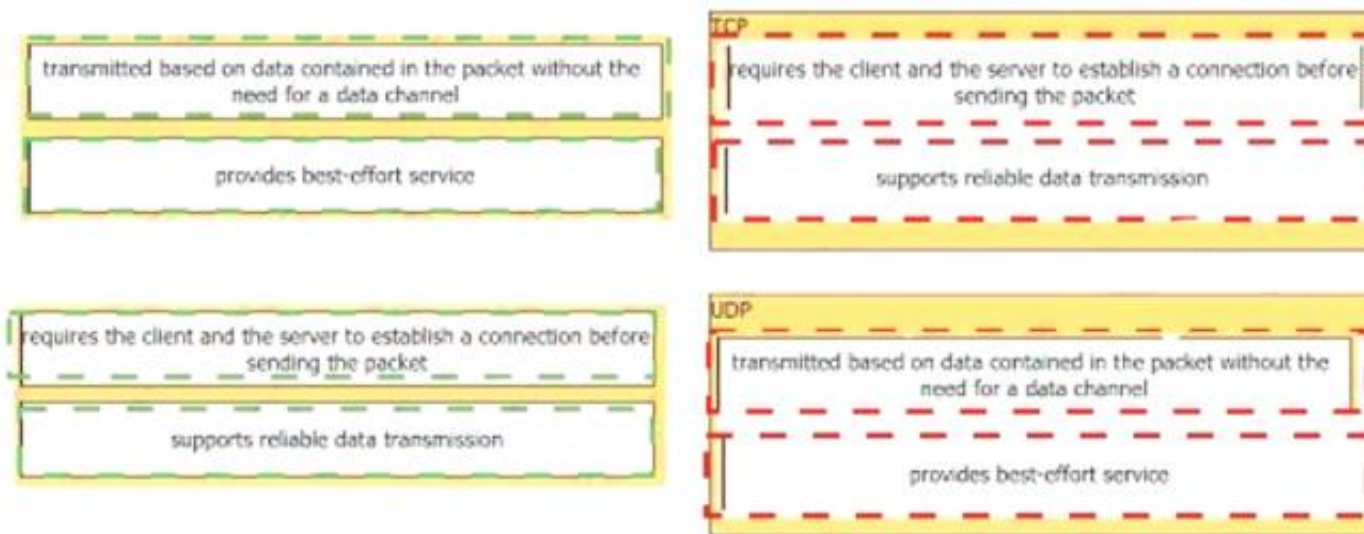
- (Exam Topic 4)
Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.



- A. Mastered
- B. Not Mastered

Answer: A

Explanation:



NEW QUESTION 166

- (Exam Topic 4)

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

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

Answer: C

NEW QUESTION 167

- (Exam Topic 4)

Refer to the exhibit.

```
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
```

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.
- D. 255.255.255.248

Answer: D

NEW QUESTION 168

- (Exam Topic 4)

Refer to the exhibit.

```
Router1#show ip route
Gateway of last resort is not set
 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
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
```

Which action by the router when a packet is sourced from 10.10.10.2 and destined 10.10.10.16?

- A. It queues the packets waiting for the route to be learned.
- B. It floods packets to all learned next hops.
- C. It discards the packets.
- D. It uses a route that is similar to the destination address.

Answer: D

NEW QUESTION 170

- (Exam Topic 4)

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

- A. Increase the available throughput on the link.
- B. Increase security by encrypting management frames
- C. Allow for stateful failover between WLCs
- D. Enable the connected switch ports to use different Layer 2 configurations

Answer: A

Explanation:

Link Aggregation Group (LAG) is a feature that allows you to bundle multiple physical Ethernet links into a single logical link, and is used to increase the available throughput on the link. LAG is supported on the Cisco Wireless LAN Controller (WLC) and the connected switch ports [1], and can be used to provide greater bandwidth and increased redundancy. It also enables the connected switch ports to use different Layer 2 configurations, such as Spanning Tree Protocol (STP) and Hot Standby Router Protocol (HSRP).

NEW QUESTION 172

- (Exam Topic 4)

Refer to the exhibit.

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

What is represented by the word "switch" in line 2 of the JSON schema?

- A. array
- B. key
- C. value
- D. object

Answer: C

NEW QUESTION 177

- (Exam Topic 4)

What is a specification for SSIDS?

- A. They are a Cisco proprietary security feature.
- B. They must include one number and one letter.
- C. They define the VLAN on a switch.
- D. They are case sensitive.

Answer: B

NEW QUESTION 182

- (Exam Topic 4)

What are two protocols within the IPsec suite? (Choose two)

- A. AH
- B. 3DES
- C. ESP
- D. TLS
- E. AES

Answer: DE

NEW QUESTION 185

- (Exam Topic 4)

When an access point is seeking to join wireless LAN controller, which message is sent to the AP- Manager interface?

- A. Discovery response
- B. DHCP request
- C. DHCP discover
- D. Discovery request

Answer: D

NEW QUESTION 189

- (Exam Topic 4)

Drag and drop the characteristic from the left onto the IPv6 address type on the right.

provides for one-to-one communication

is a counterpart of private IPv4 addresses

is publicly routable in the same way as IPv4 addresses

allows sites to be combined without address conflicts

Global Unicast Address

Unique Local

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

provides for one-to-one communication

is a counterpart of private IPv4 addresses

is publicly routable in the same way as IPv4 addresses

allows sites to be combined without address conflicts

Global Unicast Address

is publicly routable in the same way as IPv4 addresses

allows sites to be combined without address conflicts

Unique Local

provides for one-to-one communication

is a counterpart of private IPv4 addresses

NEW QUESTION 193

- (Exam Topic 4)

An engineer must configure neighbor discovery between the company router and an ISP


```
interface gigabitethernet0/0
description Circuit-ATT4203-21099
duplex full
speed 1000
media-type gbic
negotiation auto
lldp transmit
lldp receive
```

What is the next step to complete the configuration if the ISP uses a third-party router?

- A. Enable LLDP globally.
- B. Disable CDP on gi0/0.
- C. Enable LLDP TLVs on the ISP router.
- D. Disable auto-negotiation.

Answer: A

NEW QUESTION 198

- (Exam Topic 4)

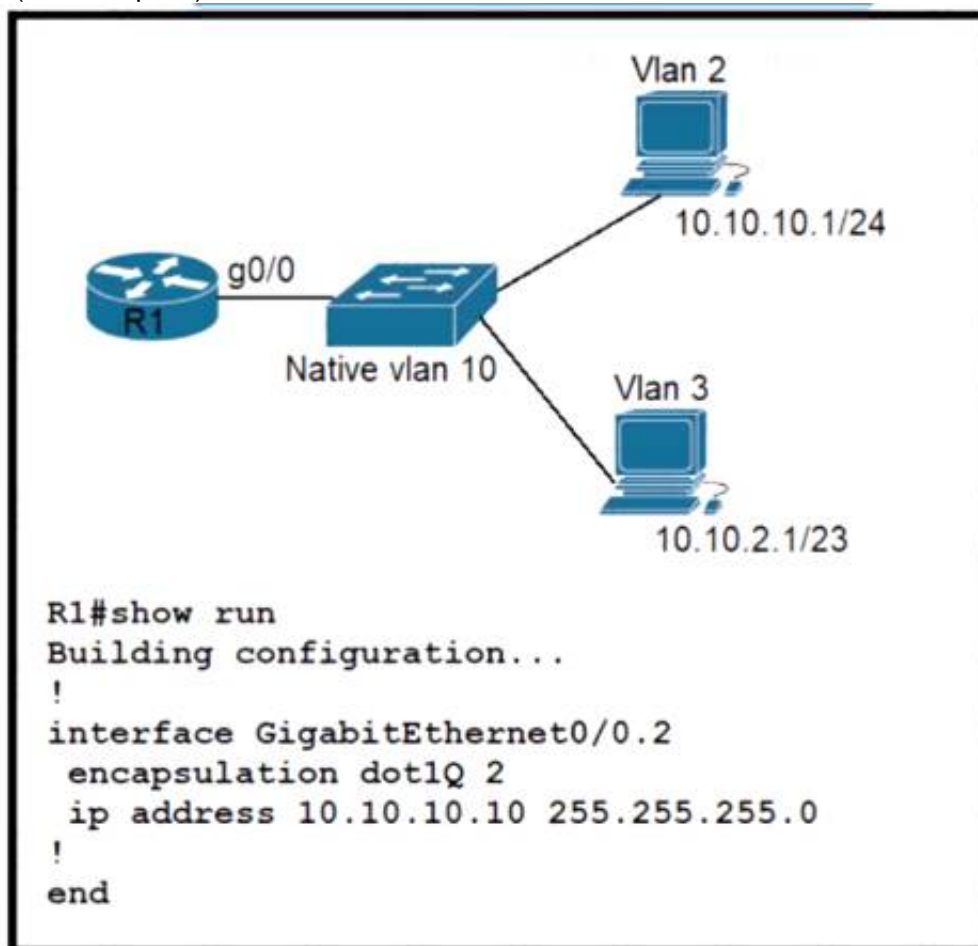
Which port type does a lightweight AP use to connect to the wired network when it is configured in local mode?

- A. EtherChannel
- B. LAG
- C. trunk
- D. access

Answer: D

NEW QUESTION 200

- (Exam Topic 4)



A)

```
interface GigabitEthernet0/0
ip address 10.10.2.10 255.255.252.0
```

B)

```
interface GigabitEthernet0/0.3
encapsulation dot1Q 10
ip address 10.10.2.10 255.255.255.252
```

C)

```
interface GigabitEthernet0/0.10
encapsulation dot1Q 3
ip address 10.10.2.10 255.255.254.0
```

D)

```
interface GigabitEthernet0/0.3
encapsulation dot1Q 3 native
ip address 10.10.2.10 255.255.252.0
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

NEW QUESTION 205

- (Exam Topic 4)

Which WPA mode uses PSK authentication?

- A. Local
- B. Client
- C. Enterprise
- D. Personal

Answer: C

NEW QUESTION 209

- (Exam Topic 4)

Refer to the exhibit.

```
R1# 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, 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
C    192.168.21.0/24 is variably subnetted, 2 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
```

What is the next hop for traffic entering R1 with a destination of 10.1.2 126?

- A. 10.165 20.126
- B. 10.165.20.146
- C. 10.165.20.166
- D. 10.165 20.226

Answer: D

NEW QUESTION 211

- (Exam Topic 4)

Why would VRRP be implemented when configuring a new subnet in a multivendor environment?

- A. when a gateway protocol is required that support more than two Cisco devices for redundancy
- B. to enable normal operations to continue after a member failure without requiring a change in a host ARP cache
- C. to ensure that the spanning-tree forwarding path to the gateway is loop-free
- D. to interoperate normally with all vendors and provide additional security features for Cisco devices

Answer: A

NEW QUESTION 212

- (Exam Topic 4)

What is a function of an endpoint?

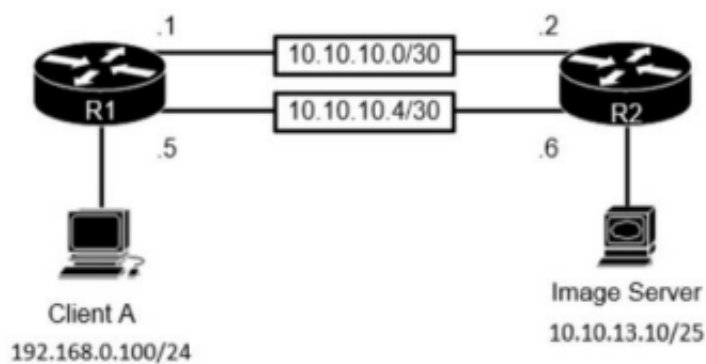
- A. It is used directly by an individual user to access network services
- B. It passes unicast communication between hosts in a network
- C. It transmits broadcast traffic between devices in the same VLAN
- D. It provides security between trusted and untrusted sections of the network.

Answer: A

NEW QUESTION 216

- (Exam Topic 4)

Refer to the exhibit.



```
R1#show ip route
Gateway of last resort is 10.10.10.2 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 10.10.10.2

R2#show ip route
Gateway of last resort is 10.10.10.1 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 10.10.10.1
```

The image server and client A are running an application that transfers an extremely high volume of data between the two. An engineer is configuring a dedicated circuit between R1 and R2. Which set of commands must the engineer apply to the routers so that only traffic between the image server and client A is forced to use the new circuit?

- A. R1(config)#ip route 10.10.13.10 255.255.255.255 10.10.10.6R2(config)#ip route 192.168.0.100 255.255.255.255 10.10.10.5
- B. R1(config)#ip route 10.10.13.10 255.255.255.128 10.10.10.6R2(config)#ip route 192.168.0.100 255.255.255.0 10.10.10.5
- C. R1(config)#ip route 10.10.13.10 255.255.255.252 10.10.10.6R2(config)#ip route 192.168.0.100 255.255.255.252 10.10.10.5
- D. R1(config)#ip route 10.10.13.10 255.255.255.255 10.10.10.2R2(config)#ip route 192.168.0.100 255.255.255.255 10.10.10.1

Answer: D

NEW QUESTION 221

- (Exam Topic 4)

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?

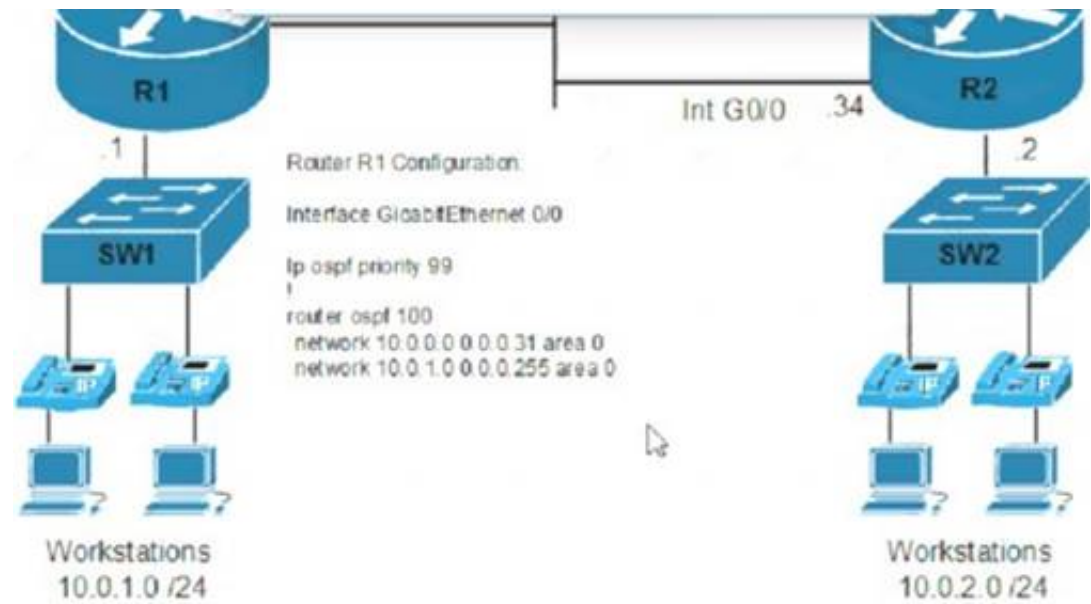
- A. ip route 192.168.10.1
- B. ip default-gateway 192.168.10.1
- C. ip helper-address 192.168.10.1
- D. ip dhcp address 192.168.10.1

Answer: C

NEW QUESTION 223

- (Exam Topic 4)

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 10.0.1.1 255.255.255.224
ip ospf priority 98
```
- C)
- ```
interface gigabitethernet0/0
ip address 10.0.0.34 255.255.255.248
ip ospf priority 0
```
- D)
- ```
interface gigabitethernet0/0
ip address 10.0.1.1 255.255.255.0
ip ospf priority 255
```

- A. Option A
 B. Option B
 C. Option C
 D. Option D

Answer: A

NEW QUESTION 227

- (Exam Topic 4)

Drag and drop the IPv6 address description from the left onto the IPv6 address types on the right. Not all options are used.

IPv6 addresses in the format FF02::5	Unique Local Addresses
IPv6 addresses that begin with FD	
may be used by multiple organizations at the same time	
private IPv6 addresses	Link-Local Addresses
serve as next-hop addresses	
unable to serve as destination addresses	

- A. Mastered
 B. Not Mastered

Answer: A

Explanation:

Graphical user interface, application Description automatically generated

NEW QUESTION 231

- (Exam Topic 4)

Drag and drop the QoS terms from the left onto the descriptions on the right.

class-based weighted fair queuing	categorizes packets based on the value of a traffic descriptor
classification	guarantees minimum bandwidth to specific traffic classes when an interface is congested
congestion	prevents congestion by reducing the flow of outbound traffic
policing	outcome of overutilization
shaping	uses defined criteria to limit the transmission of one or more classes of traffic

- A. Mastered
 B. Not Mastered

Answer: A

Explanation:

Table Description automatically generated

NEW QUESTION 235

- (Exam Topic 4)

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. Null0
 B. Vlan58
 C. Vlan60
 D. Vlan59

Answer: B

NEW QUESTION 238

- (Exam Topic 4)

Which IP header field is changed by a Cisco device when QoS marking is enabled?

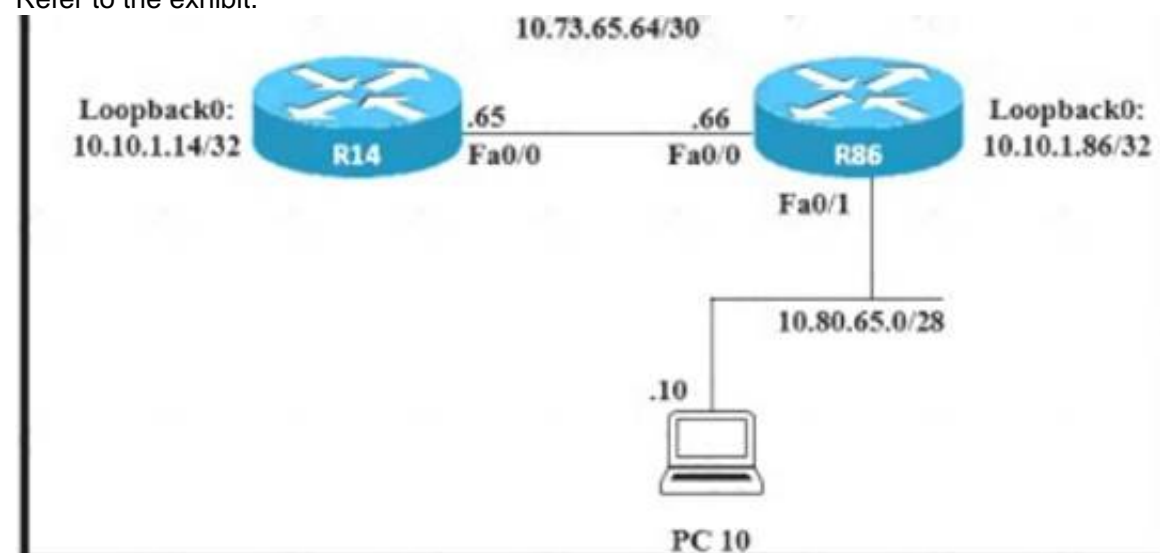
- A. Header Checksum
 B. Type of service
 C. DSCP
 D. ECN

Answer: B

NEW QUESTION 243

- (Exam Topic 4)

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 10.8065.10 255.255.255.255 10.73.65.66
 C. ip route 1073.65.65 255.0.0.0 10.80.65.10
 D. ip route 10.73.65.66 0.0.0.255 10.80.65.10

Answer: B

NEW QUESTION 244

- (Exam Topic 4)
An engineer must configure a core router with a floating static default route to the backup router at 10.200.0.2.

DNS	TCP
HTTP	
RTP	
SMTP	
SNMP	UDP
Telnet	

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

DNS	TCP
HTTP	HTTP
RTP	SMTP
SMTP	Telnet
SNMP	UDP
Telnet	DNS
	SNMP
	RTP

NEW QUESTION 246

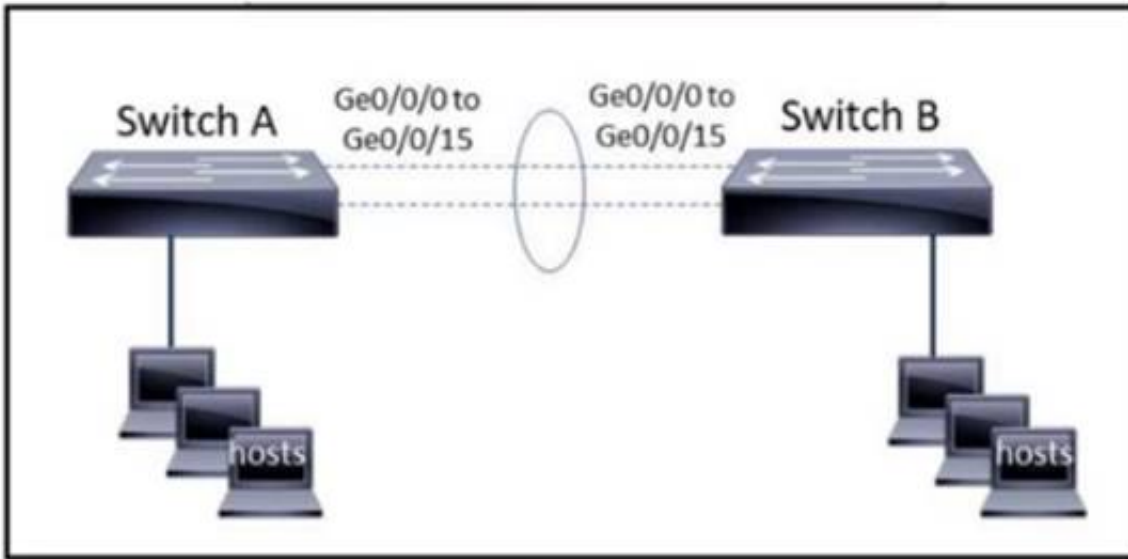
- (Exam Topic 4)
What is the role of nonoverlapping channels in a wireless environment?

- A. to reduce interference
- B. to allow for channel bonding
- C. to stabilize the RF environment
- D. to increase bandwidth

Answer: A

NEW QUESTION 247

- (Exam Topic 4)
Refer to the exhibit.



The EtherChannel is configured with a speed of 1000 and duplex as full on both ends of channel group 1. What is the next step to configure the channel on switch A to respond to but not initiate LACP communication?

- A. interface range gigabitethernet0/0/0-15 channel-group 1 mode on
- B. interface range gigabitethernet0/0/0-15 channel-group 1 mode desirable
- C. interface port-channel 1 channel-group 1 mode auto
- D. interface port-channel 1 channel-group 1 mode passive

Answer: D

NEW QUESTION 252

- (Exam Topic 4)

A network engineer is upgrading a small data center to host several new applications, including server backups that are expected to account for up to 90% of the bandwidth during peak times. The data center connects to the MPLS network provider via a primary circuit and a secondary circuit. How does the engineer inexpensively update the data center to avoid saturation of the primary circuit by traffic associated with the backups?

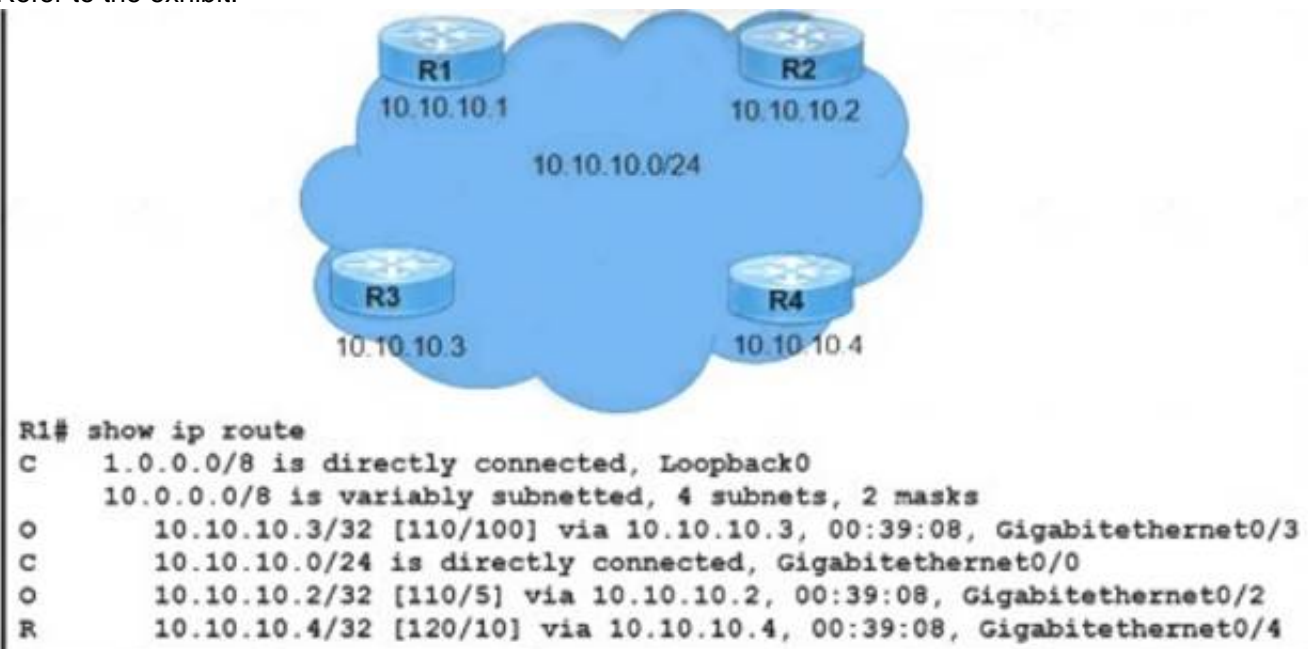
- A. Assign traffic from the backup servers to a dedicated switch.
- B. Configure a dedicated circuit for the backup traffic.
- C. Place the backup servers in a dedicated VLAN.
- D. Advertise a more specific route for the backup traffic via the secondary circuit.

Answer: A

NEW QUESTION 257

- (Exam Topic 4)

Refer to the exhibit.



Which next-hop IP address has the least desirable metric when sourced from R1?

- A. 10.10.10.5
- B. 10.10.10.3
- C. 10.10.10.4
- D. 10.10.10.2

Answer: C

NEW QUESTION 261

- (Exam Topic 4)

Refer to the exhibit.

```
R1# show ip route
....
D      172.16.32.0/27 [90/2888597172]  via 20.1.1.1
O      172.16.32.0/19  [110/292094]   via 20.1.1.10
R      172.16.32.0/24  [120/2]    via 20.1.1.3
```

An engineer executed the script and added commands that were not necessary for SSH and now must remove the commands.

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

Answer: D

NEW QUESTION 266

- (Exam Topic 4)

Which cipher is supported for wireless encryption only with the WPA2 standard?

- A. AES256
- B. AES
- C. RC4
- D. SHA

Answer: B

NEW QUESTION 267

- (Exam Topic 4)

Which advantage does the network assurance capability of Cisco DNA Center provide over traditional campus management?

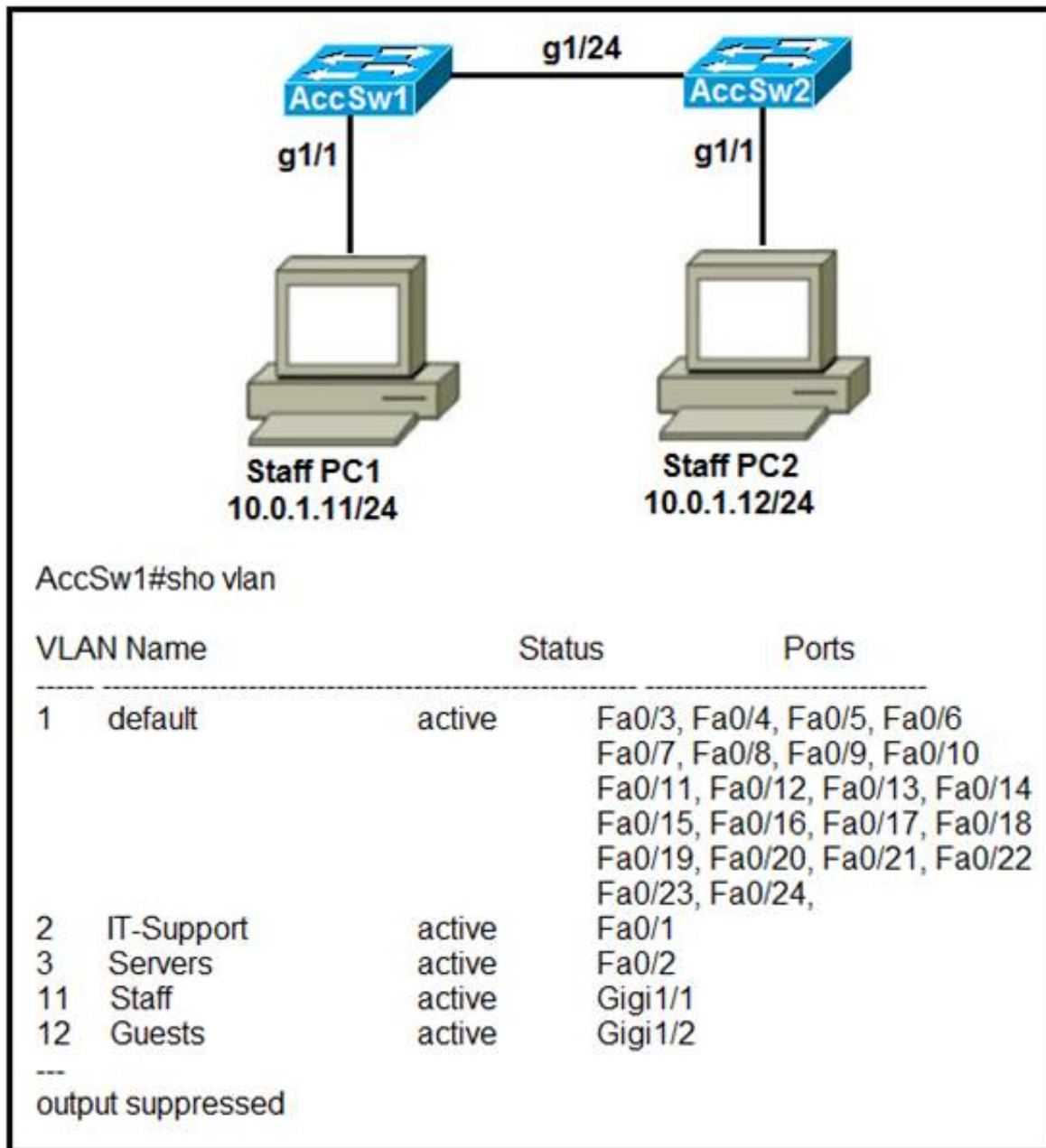
- A. Cisco DNA Center correlates information from different management protocols to obtain insights, and traditional campus management requires manual analysis.
- B. Cisco DNA Center handles management tasks at the controller to reduce the load on infrastructure devices, and traditional campus management uses the data backbone.
- C. Cisco DNA Center leverages YANG and NETCONF to assess the status of fabric and nonfabric devices, and traditional campus management uses CLI exclusively.
- D. Cisco DNA Center automatically compares security postures among network devices, and traditional campus management needs manual comparisons.

Answer: C

NEW QUESTION 269

- (Exam Topic 4)

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. Text Description automatically generated
- ```

interface GigabitEthernet1/1
switchport mode access
switchport access vlan 11
!
interface GigabitEthernet1/24
switchport mode trunk

```
- B. Text Description automatically generated
- ```

interface GigabitEthernet1/2
switchport mode access
switchport access vlan 12
!
interface GigabitEthernet1/24
switchport mode trunk
switchport trunk allowed vlan 11,12
  
```
- C. Text Description automatically generated
- ```

interface GigabitEthernet1/24
switchport mode trunk
switchport trunk allowed vlan 11,12
!
interface GigabitEthernet1/1
switchport access vlan 11

```
- D. Text Description automatically generated
- ```

interface GigabitEthernet1/2
switchport mode access
switchport access vlan 2
!
interface GigabitEthernet1/24
switchport mode trunk
  
```

Answer: A

NEW QUESTION 271
 - (Exam Topic 4)

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

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

Answer: CD

NEW QUESTION 275

- (Exam Topic 4)

Refer to the exhibit.

```
Device# configure terminal
Device(config)# netconf ssh acl 1
Device(config)# netconf lock-time 100
Device(config)# netconf max-sessions 1
Device(config)# netconf ma-message 10
```

A network engineer must configure NETCONF. After creating the configuration, the engineer gets output from the command show line but not from show running-config. Which command completes the configuration?

- A. Device(config)# netconf lock-time 500
- B. Device(config)# netconf max-message 1000
- C. Device(config)# no netconf ssh acl 1
- D. Device(config)# netconf max-sessions 100

Answer: B

NEW QUESTION 276

- (Exam Topic 3)

Refer to the exhibit.

```
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 192.168.3.5 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 192.168.0.40, 00:39:08, Serial0
C   10.0.1.0/24 is directly connected, Serial0
O   10.0.1.190/32 [110/5] via 192.168.0.35, 00:39:08, Serial0
O   10.0.1.0/24 [110/10] via 192.168.0.4, 00:39:08, Gigabit Ethernet 0/0
D   10.0.1.0/28 [90/10] via 192.168.0.7, 00:39:08, Gigabit Ethernet 0/0
```

Traffic sourced from the loopback0 Interface is trying to connect via ssh to the host at 10.0.1.15. What is the next hop to the destination address?

- A. 192.168.0.7
- B. 192.168.0.4
- C. 192.168.0.40
- D. 192.168.3.5

Answer: B

NEW QUESTION 281

- (Exam Topic 3)

What is a function of a Next-Generation IPS?

- A. makes forwarding decisions based on learned MAC addresses
- B. serves as a controller within a controller-based network
- C. integrates with a RADIUS server to enforce Layer 2 device authentication rules
- D. correlates user activity with network events

Answer: D

NEW QUESTION 286

- (Exam Topic 3)

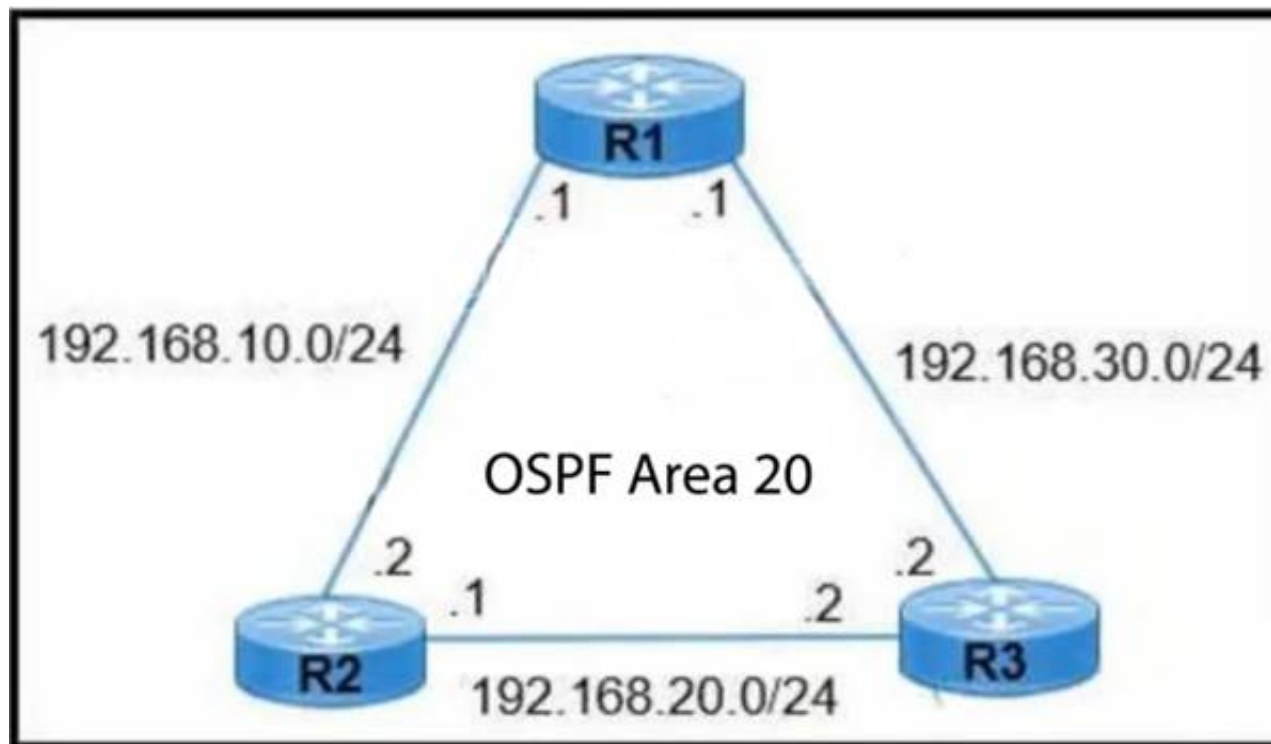
Which field within the access-request packet is encrypted by RADIUS?

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

Answer: D

NEW QUESTION 287

- (Exam Topic 3)
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 192.168.20.0 255.255.0.0 192.168.30.2
- B. R1(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2 90
- C. R1(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2 111
- D. R1(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2

Answer: C

NEW QUESTION 292

- (Exam Topic 3)

An engineer must configure R1 for a new user account. The account must meet these requirements:

- * It must be configured in the local database.
- * The username is engineer.
- * It must use the strongest password configurable. Which command must the engineer configure on the router?

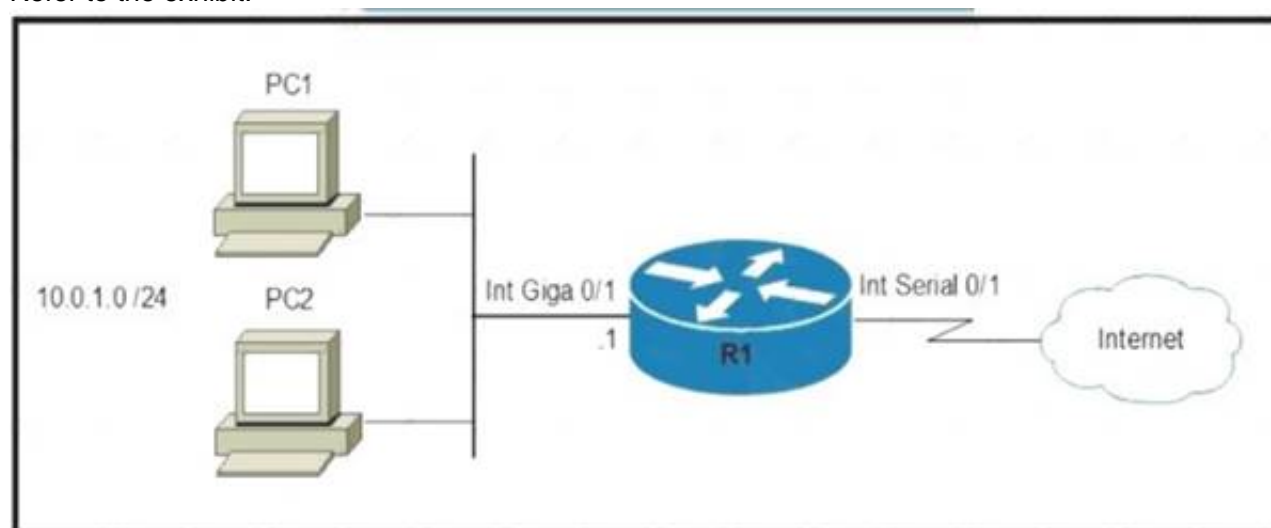
- A. R1 (config)# username engineer2 algorithm-type scrypt secret test2021
- B. R1(config)# username engineer2 secret 5 .password S1\$b1Ju\$kZbBS1Pyh4QzwXyZ
- C. R1(config)# username engineer2 privilege 1 password 7 test2021
- D. R1(config)# username englneer2 secret 4 S1Sb1Ju\$kZbBS1Pyh4QzwXyZ

Answer: B

NEW QUESTION 296

- (Exam Topic 3)

Refer to the exhibit.



Which two commands must be configured on router R1 to enable the router to accept secure remote-access connections? (Choose two)

- A. transport input telnet
- B. crypto key generate rsa
- C. ip ssh pubkey-chain
- D. login console
- E. username cisco password 0 Cisco

Answer: BE

NEW QUESTION 299

- (Exam Topic 3)

Which two network actions occur within the data plane? (Choose two.)

- A. Add or remove an 802.1Q trunking header.

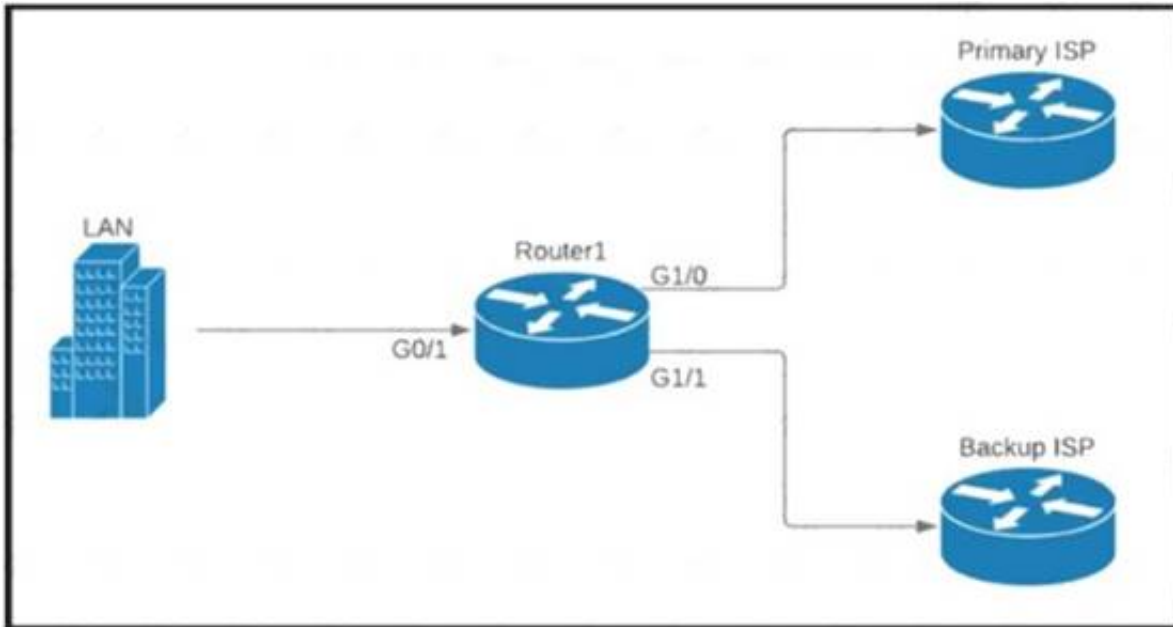
- B. Make a configuration change from an incoming NETCONF RPC.
- C. Run routing protocols.
- D. Match the destination MAC address to the MAC address table.
- E. Reply to an incoming ICMP echo request.

Answer: BD

NEW QUESTION 304

- (Exam Topic 3)

Refer to the exhibit.



A company is configuring a failover plan and must implement the default routes in such a way that a floating static route will assume traffic forwarding when the primary link goes down. Which primary route configuration must be used?

- A. ip route 0.0.0.0 0.0.0.0 192.168.0.2 GigabitEthernet1/0
- B. ip route 0.0.0.0 0.0.0.0 192.168.0.2 tracked
- C. ip route 0.0.0.0 0.0.0.0 192.168.0.2 floating
- D. ip route 0.0.0.0 0.0.0.0 192.168.0.2

Answer: B

NEW QUESTION 306

- (Exam Topic 3)

Which protocol is used for secure remote CLI access?

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

Answer: D

NEW QUESTION 309

- (Exam Topic 3)

What is a function of an endpoint on a network?

- A. forwards traffic between VLANs on a network
- B. connects server and client devices to a network
- C. allows users to record data and transmit to a file server
- D. provides wireless services to users in a building

Answer: C

Explanation:

An endpoint is a host that acts as the source or destination of data traffic flowing through a network. When you are at your PC, editing your CV and uploading it to a file server, you are sitting at an endpoint.

NEW QUESTION 313

- (Exam Topic 3)

Refer to the exhibit.

```
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
```

Which network prefix was learned via EIGRP?

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

Answer: B

NEW QUESTION 315

- (Exam Topic 3)

Which Layer 2 switch function encapsulates packets for different VLANs so that the packets traverse the same port and maintain traffic separation between the VLANs?

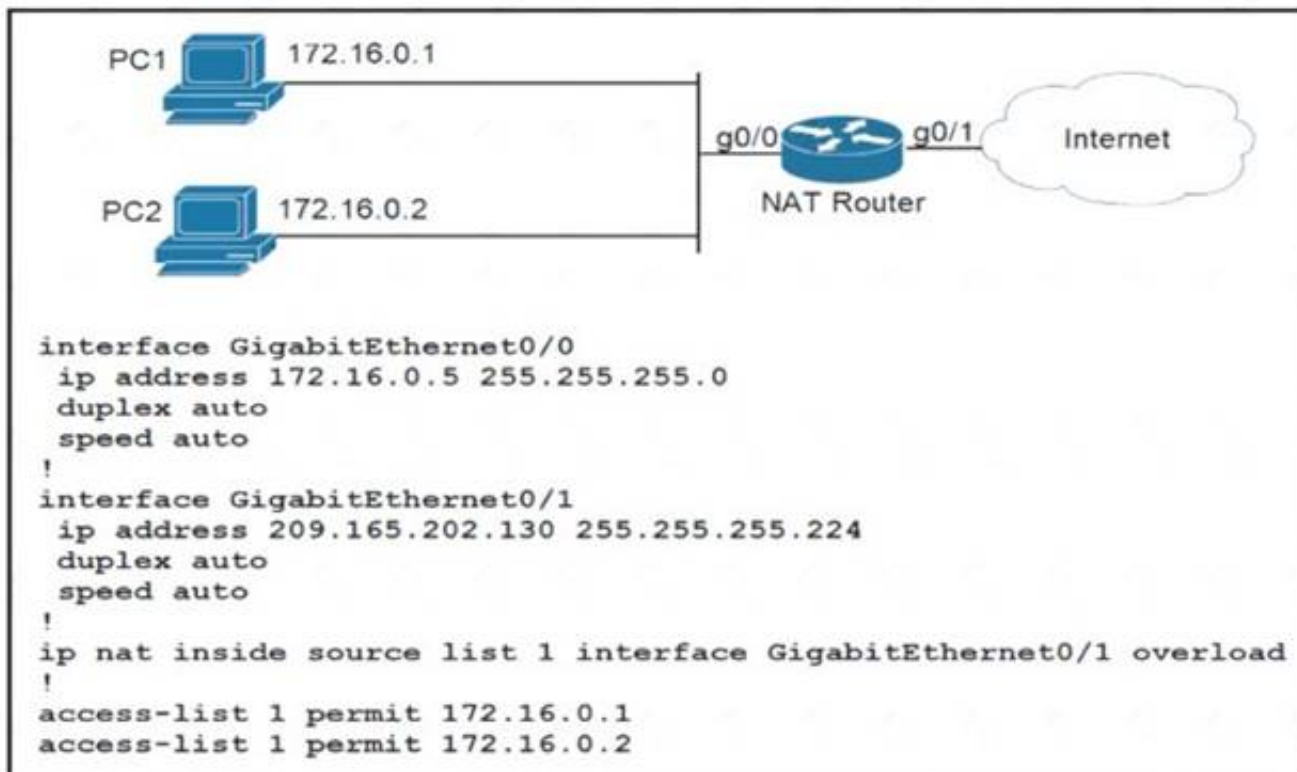
- A. VLAN numbering
- B. VLAN DSCP
- C. VLAN tagging
- D. VLAN marking

Answer: C

NEW QUESTION 316

- (Exam Topic 3)

Refer to the exhibit.



How should the configuration be updated to allow PC1 and PC2 access to the Internet?

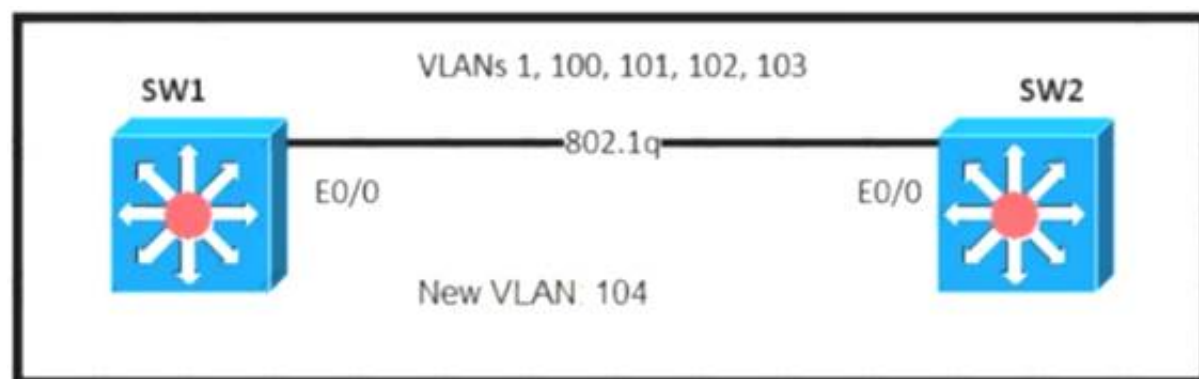
- A. Modify the configured number of the second access list.
- B. Add either the ip nat {inside|outside} command under both interfaces.
- C. Remove the overload keyword from the ip nat inside source command.
- D. Change the ip nat inside source command to use interface GigabitEthernet0/0.

Answer: B

NEW QUESTION 317

- (Exam Topic 3)

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 task?

- A. switchport trunk allowed vlan 100-104
- B. switchport trunk allowed vlan add 104
- C. switchport trunk allowed vlan all
- D. switchport trunk allowed vlan 104

Answer: D

NEW QUESTION 322

- (Exam Topic 3)

Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.

transmitted based on data contained in the packet without the need for a data channel	TCP
requires the client and the server to establish a connection before sending the packet	
used to reliably share files between devices	UDP
appropriate for streaming operations with minimal latency	

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

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

NEW QUESTION 327

- (Exam Topic 3)

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

- A. VLANID
- B. SSID
- C. RFID
- D. WLANID

Answer: B

NEW QUESTION 328

- (Exam Topic 3)

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 1network 192.168.1.1 0.0.0.0 area 0 interface e1/1ip address 192.168.1.1 255.255.255.252ip ospf network broadcast
- B. router ospf 1network 192.168.1.1 0.0.0.0 area 0 interface e1/1ip address 192.168.1.1 255.255.255.252ip ospf network point-to-point
- C. router ospf 1network 192.168.1.1 0.0.0.0 area 0 interface e1/1ip address 192.168.1.1 255.255.255.252ip ospf cost 0
- D. router ospf 1network 192.168.1.1 0.0.0.0 area 0hello interval 15 interface e1/1ip address 192.168.1.1 255.255.255.252

Answer: B

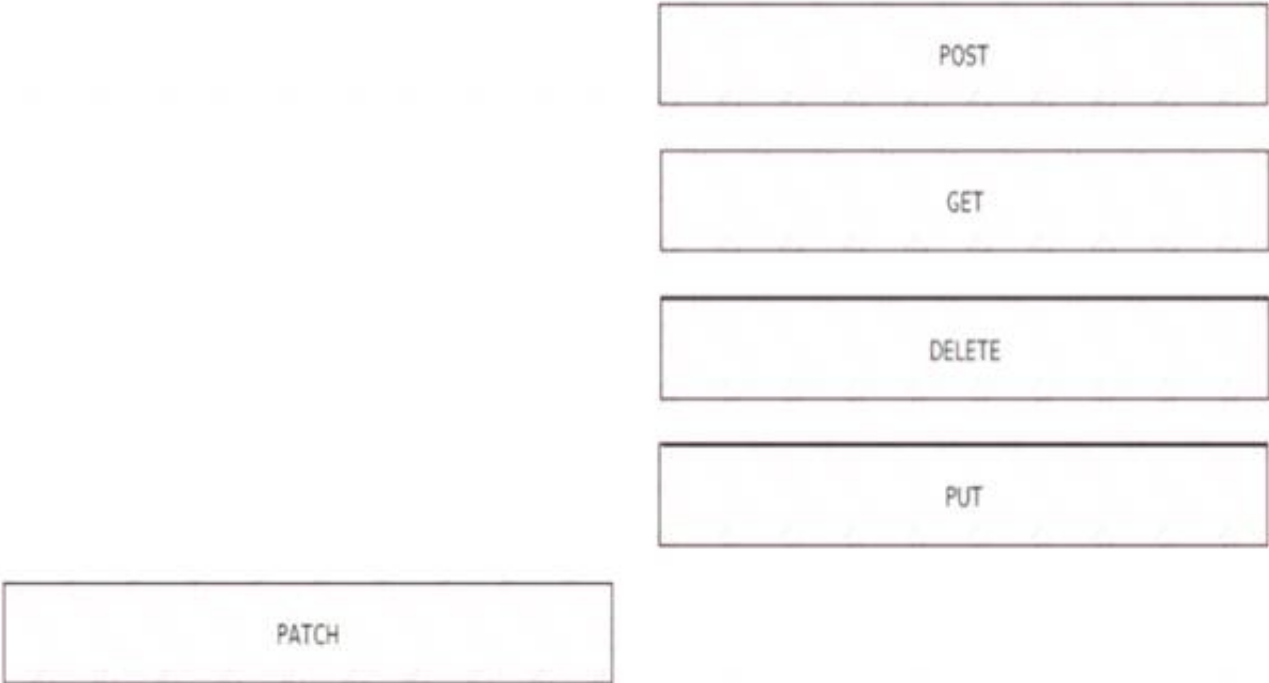
NEW QUESTION 333

- (Exam Topic 3)
Drag and drop the REST API call methods for HTTP from the left onto the actions they perform on the right Not all methods are used.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:
Chart, bar chart Description automatically generated



NEW QUESTION 335

- (Exam Topic 3)
Refer to the exhibit.

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

Drag and drop the prefix lengths from the left onto the corresponding prefixes on the right Not all prefixes are used

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:
Diagram Description automatically generated with low confidence

255.255.255.128

255.255.255.240

255.255.255.248

255.255.255.224

255.255.255.252

NEW QUESTION 336

- (Exam Topic 3)

An engineer is tasked to configure a switch with port security to ensure devices that forward unicasts multicasts and broadcasts are unable to flood the port The port must be configured to permit only two random MAC addresses at a time Drag and drop the required configuration commands from the left onto the sequence on the right Not all commands are used.

switchport mode access

switchport port-security

switchport port-security mac-address 0060.3EDD.77AB

switchport port-security mac-address 00D9.D3ED.622A

switchport port-security mac-address sticky

switchport port-security maximum 2

switchport port-security violation shutdown

1

2

3

4

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Diagram Description automatically generated

NEW QUESTION 338

- (Exam Topic 3)

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

- A. multicast replication at the hardware level
- B. fragmenting and reassembling packets
- C. making routing decisions
- D. forwarding packets

Answer: C

NEW QUESTION 343

- (Exam Topic 3)

Refer to the exhibit.

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

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

Answer: B

NEW QUESTION 348

- (Exam Topic 3)

Refer to the exhibit.

<pre>Switch#show ip dhcp snooping Switch DHCP snooping is enabled Switch DHCP gleaning is disabled DHCP snooping is configured on following VLANs: 1 DHCP snooping is operational on following VLANs: 1 DHCP snooping is configured on the following L3 Interfaces: Insertion of option 82 is disabled circuit-id default format: vlan-mod-port remote-id: aabb.cc00.6500 (MAC) Option 82 on untrusted port is not allowed Verification of hwaddr field is enabled Verification of giaddr field is enabled DHCP snooping trust/rate is configured on the following Interfaces: Interface Trusted Allow option Rate limit (pps)</pre>	<pre>Switch#show ip dhcp snooping statistics detail Packets Processed by DHCP Snooping = 34 Packets Dropped Because IDB not known = 0 Queue full = 0 Interface is in errdisabled = 0 Rate limit exceeded = 0 Received on untrusted ports = 32 Nonzero giaddr = 0 Source mac not equal to chaddr = 0 No binding entry = 0 Insertion of opt82 fail = 0 Unknown packet = 0 Interface Down = 0 Unknown output interface = 0 Misdirected Packets = 0 Packets with Invalid Size = 0 Packets with Invalid Option = 0</pre>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

The DHCP server and clients are connected to the same switch. What is the next step to complete the DHCP configuration to allow clients on VLAN 1 to receive addresses from the DHCP server?

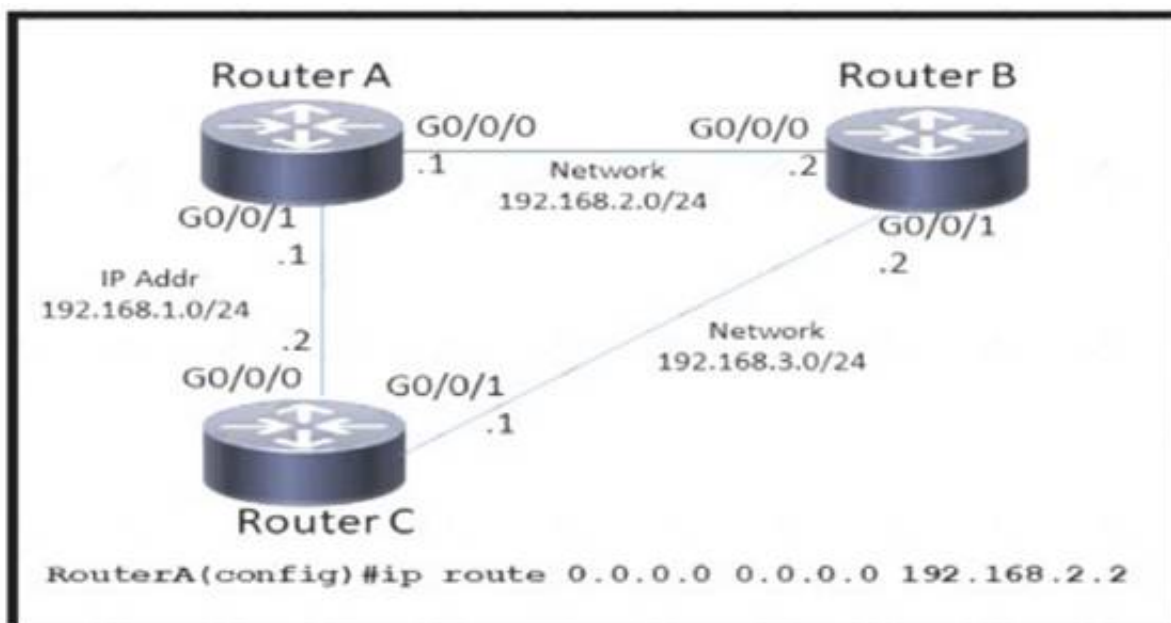
- A. Configure the ip dhcp snooping trust command on the interlace that is connected to the DHCP client.
- B. Configure the ip dhcp relay information option command on the interface that is connected to the DHCP client.
- C. Configure the ip dhcp snooping trust command on the interface that is connected to the DHCP server.
- D. Configure the Ip dhcp relay information option command on the interface that is connected to the DHCP server.

Answer: C

NEW QUESTION 352

- (Exam Topic 3)

Refer to the exhibit.



Which command must be issued to enable a floating static default route on router A?

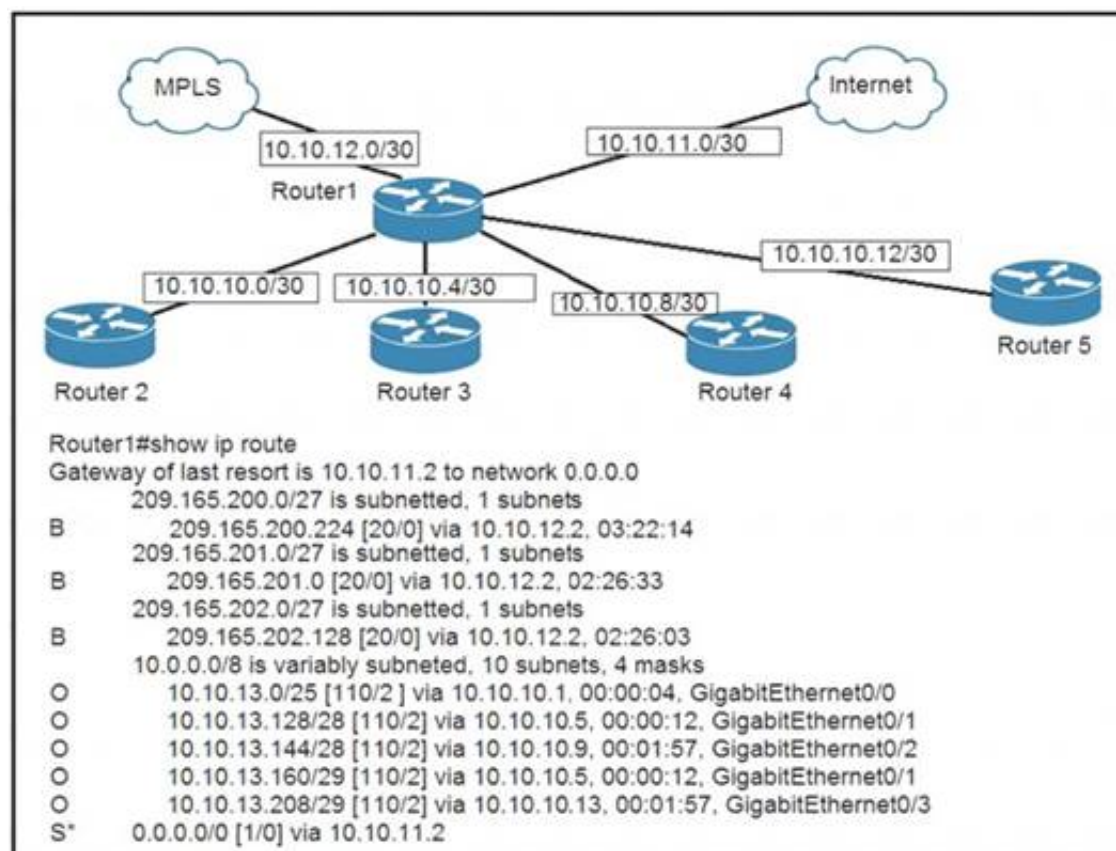
- A. Ip route 0.0.0.0 0.0.0.0 192.168.1.2
- B. ip default-gateway 192.168.2.1
- C. ip route 0.0.0.0 0.0.0.0 192.168.2.1 10
- D. ip route 0.0.0.0 0.0.0.0 192.168.1.2 10

Answer: D

NEW QUESTION 354

- (Exam Topic 2)

Refer to the exhibit.



To which device does Router1 send packets that are destined to host 10.10.13.165?

- A. Router2
- B. Router3
- C. Router4
- D. Router5

Answer: B

NEW QUESTION 355

- (Exam Topic 2)

What is the primary different between AAA authentication and authorization?

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

Answer: C

Explanation:

AAA stands for Authentication, Authorization and Accounting.+ Authentication: Specify who you are (usually via login username & password)+ Authorization: Specify what actions you can do, what resource you can access+ Accounting: Monitor what you do, how long you do it (can be used for billing and auditing)An example of AAA is shown below:+ Authentication: "I am a normal user. My username/password is user_tom/learnforever"+ Authorization: "user_tom can access LearnCCNA server via HTTP and FTP"+ Accounting: "user_tom accessed LearnCCNA server for 2 hours". This user only uses "show" commands.

NEW QUESTION 356

- (Exam Topic 2)

Where is the interface between the control plane and data plane within the software-defined architecture?

- A. control layer and the infrastructure layer
- B. application layer and the infrastructure layer
- C. application layer and the management layer
- D. control layer and the application layer

Answer: A

NEW QUESTION 357

- (Exam Topic 2)

An implementer is preparing hardware for virtualization to create virtual machines on a host. What is needed to provide communication between hardware and virtual machines?

- A. hypervisor
- B. router
- C. straight cable
- D. switch

Answer: A

NEW QUESTION 358

- (Exam Topic 2)

Refer to the exhibit.

```
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 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
```

A packet is being sent across router R1 to host 172.163.3.14. To which destination does the router send the packet?

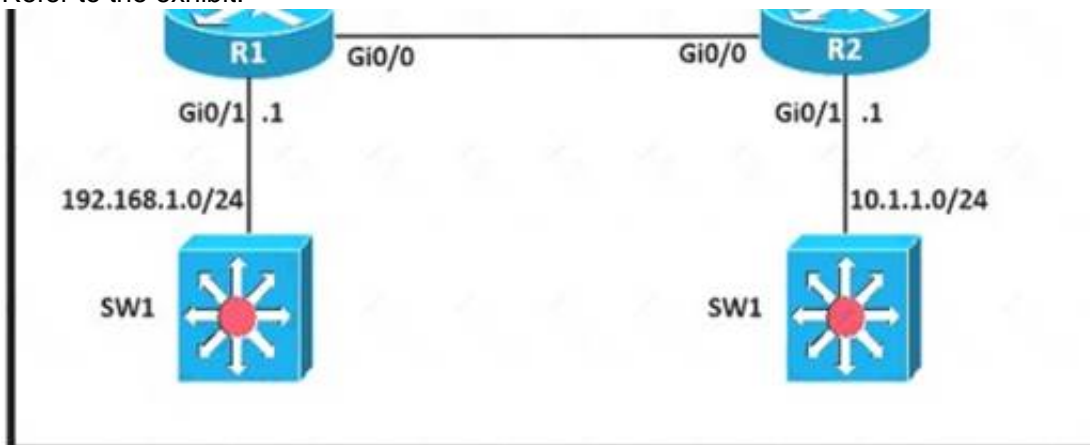
- A. 207.165.200.246 via Serial0/1/0
- B. 207.165.200.254 via Serial0/0/1
- C. 207.165.200.254 via Serial0/0/0
- D. 207.165.200.250 via Serial0/0/0

Answer: B

NEW QUESTION 359

- (Exam Topic 2)

Refer to the exhibit.



A network engineer is in the process of establishing IP connectivity between two sites. Routers R1 and R2 are partially configured with IP addressing. Both routers have the ability to access devices on their respective LANs. Which command set configures the IP connectivity between devices located on both LANs in each site?

- ☐ R1
ip route 192.168.1.0 255.255.255.0 GigabitEthernet0/0
R2
ip route 10.1.1.1 255.255.255.0 GigabitEthernet0/0
- ☒ R1
ip route 0.0.0.0 0.0.0.0 209.165.200.225
R2
ip route 0.0.0.0 0.0.0.0 209.165.200.226
- ☐ R1
ip route 192.168.1.1 255.255.255.0 GigabitEthernet0/1
R2
ip route 10.1.1.1 255.255.255.0 GigabitEthernet0/1
- ☐ R1
ip route 0.0.0.0 0.0.0.0 209.165.200.226
R2
ip route 0.0.0.0 0.0.0.0 209.165.200.225

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: D

NEW QUESTION 364

- (Exam Topic 2)

What is a capability of FTP in network management operations?

- A. encrypts data before sending between data resources
- B. devices are directly connected and use UDP to pass file information
- C. uses separate control and data connections to move files between server and client
- D. offers proprietary support at the session layer when transferring data

Answer: C

Explanation:

The File Transfer Protocol (FTP) is a standard communication protocol used for the transfer of computer files from a server to a client on a computer network. FTP is built on a client–server model architecture using separate control and data connections between the client and the server.

NEW QUESTION 368

- (Exam Topic 2)

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

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

Answer: A

NEW QUESTION 370

- (Exam Topic 2)

Which function does an SNMP agent perform?

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

Answer: A

NEW QUESTION 372

- (Exam Topic 2)

A corporate office uses four floors in a building

- Floor 1 has 24 users
- Floor 2 has 29 users
- Floor 3 has 28 users
- Floor 4 has 22 users

Which subnet summarizes and gives the most efficient distribution of IP addresses for the router configuration?

- A. 192.168.0.0/26 as summary and 192.168.0.0/29 for each floor
- B. 192.168.0.0/24 as summary and 192.168.0.0/28 for each floor
- C. 192.168.0.0/23 as summary and 192.168.0.0/25 for each floor
- D. 192.168.0.0/25 as summary and 192.168.0.0/27 for each floor

Answer: D

NEW QUESTION 373

- (Exam Topic 2)

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

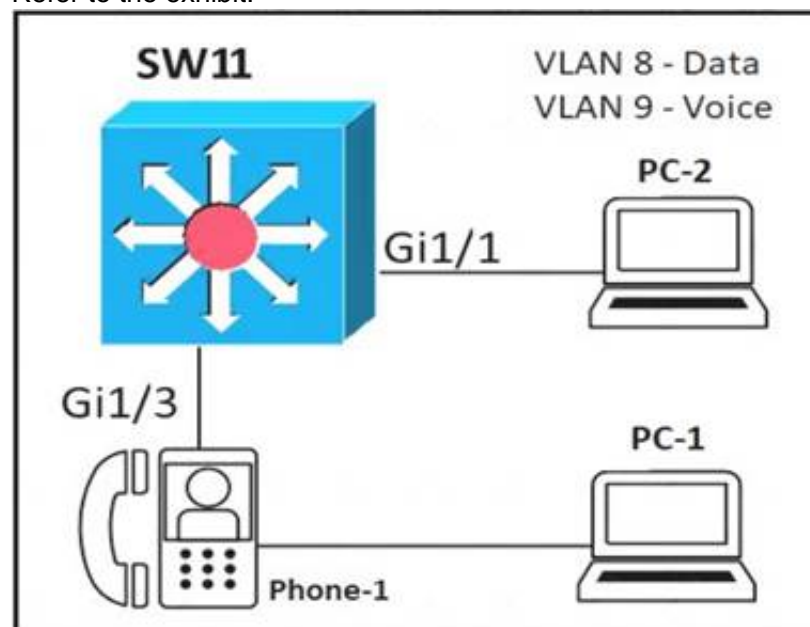
- A. global unicast
- B. link-local
- C. unique local
- D. multicast

Answer: A

NEW QUESTION 375

- (Exam Topic 2)

Refer to the exhibit.



An administrator must configure interfaces Gi1/1 and Gi1/3 on switch SW1. 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?

- ☒ interface gigabitethernet1/1
switchport mode access
switchport access vlan 8
!
interface gigabitethernet1/3
switchport mode access
switchport voice vlan 8
switchport access vlan 9
- ☐ interface gigabitethernet1/1
switchport mode access
switchport access vlan 9
!
interface gigabitethernet1/3
switchport mode trunk
switchport trunk vlan 8
switchport trunk vlan 9
- ☐ interface gigabitethernet1/1
switchport mode access
switchport access vlan 8
!
interface gigabitethernet1/3
switchport mode access
switchport access vlan 8
switchport voice vlan 9
- ☐ interface gigabitethernet1/1
switchport mode access
switchport access vlan 8
!
interface gigabitethernet1/3
switchport mode trunk
switchport trunk vlan 8
switchport voice vlan 9

- A. Option A
B. Option B
C. Option C
D. Option D

Answer: C

NEW QUESTION 377

- (Exam Topic 2)

What prevents a workstation from receiving a DHCP address?

- A. DTP
B. STP
C. VTP
D. 802.10

Answer: B

NEW QUESTION 381

- (Exam Topic 2)

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

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

Answer: D

NEW QUESTION 382

- (Exam Topic 2)

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

Answer: C

Explanation:

If a router learns two different paths for the same network from the same routing protocol, it has to decide which route is better and will be placed in the routing table. Metric is the measure used to decide which route is better (lower number is better). Each routing protocol uses its own metric. For example, RIP uses hop counts as a metric, while OSPF uses cost.

NEW QUESTION 386

- (Exam Topic 2)

Refer to the exhibit.

```
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
```

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. 209.165.200.246 via Serial0/1/0
- D. 209.165.200.250 via Serial0/0/0

Answer: A

NEW QUESTION 391

- (Exam Topic 2)

When a site-to-site VPN is used, which protocol is responsible for the transport of user data?

- A. IKEv2
- B. IKEv1
- C. IPsec
- D. MD5

Answer: C

Explanation:

A site-to-site VPN allows offices in multiple fixed locations to establish secure connections with each other over a public network such as the Internet. A site-to-site VPN means that two sites create a VPN tunnel by encrypting and sending data between two devices. One set of rules for creating a siteto-site VPN is defined by IPsec.

NEW QUESTION 393

- (Exam Topic 2)

Drag and drop the AAA terms from the left onto the description on the right.

accounting	tracks activity
authentication	updates session attributes
authorization	verifies access rights
CoA	verifies identity

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

* 1-1, 2-4, 3-3, 4-2

NEW QUESTION 396

- (Exam Topic 2)

Which two tasks must be performed to configure NTP to a trusted server in client mode on a single network device? (Choose two)

- A. Enable NTP authentication.
- B. Verify the time zone.
- C. Disable NTP broadcasts
- D. Specify the IP address of the NTP server
- E. Set the NTP server private key

Answer: AD

Explanation:

<https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4000/8-2glx/configuration/guide/ntp.html>

To configure authentication, perform this task in privileged mode:Step 1: Configure an authentication key pair for NTP and specify whether the key will be trusted or untrusted.Step 2: Set the IP address of the NTP server and the public key.Step 3: Enable NTP client mode.Step 4: Enable NTP authentication.Step 5: Verify the NTP configuration.

NEW QUESTION 397

- (Exam Topic 2)

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

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

Answer: A

Explanation:

Reference:

https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-0/configuration-guide/b_cg80/b_cg80_chapter_011

NEW QUESTION 399

- (Exam Topic 2)

Which two must be met before SSH can operate normally on a Cisco IOS switch? (Choose two)

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

Answer: AB

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/security/vpn/secure-shell-ssh/4145-ssh.html>

NEW QUESTION 404

- (Exam Topic 2)

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

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

Answer: AC

NEW QUESTION 406

- (Exam Topic 2)

Drag and drop the TCP/IP protocols from the left onto the transmission protocols on the right

DNS

SMTP

SNMP

HTTP

RTP

Telnet

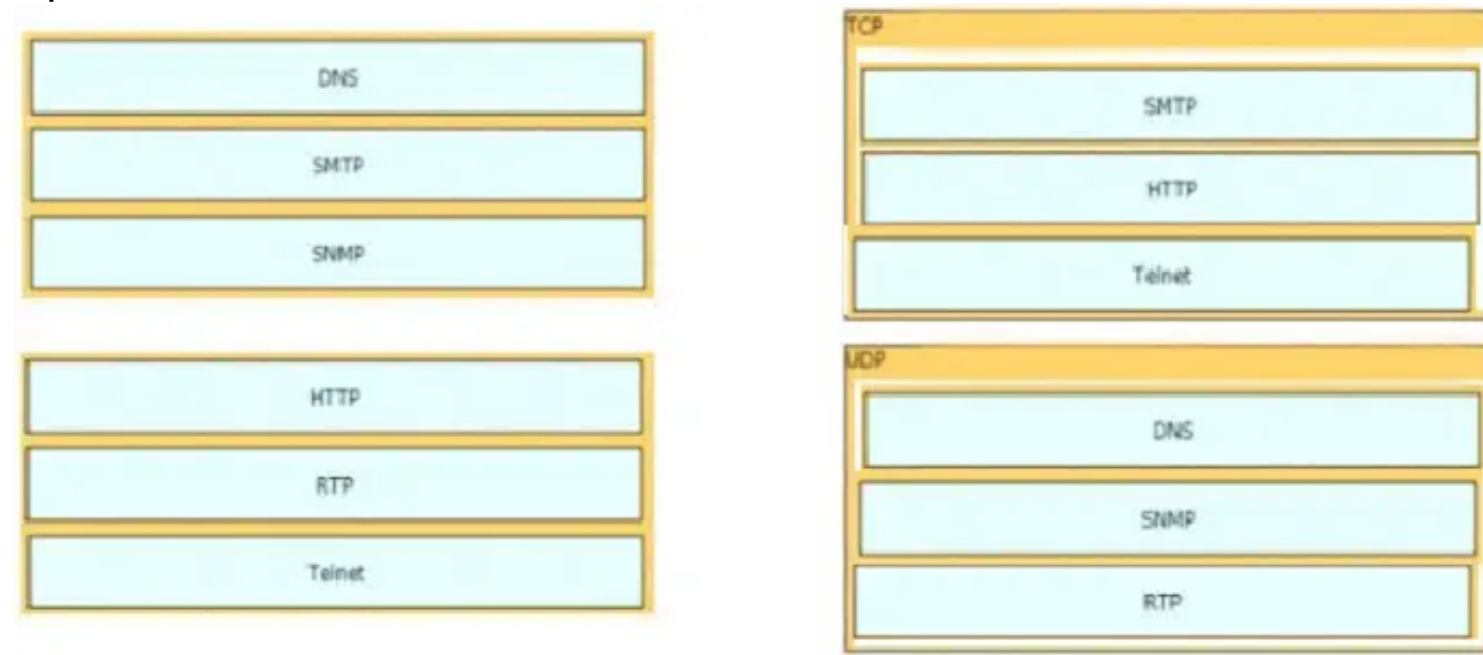
TCP

UDP

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:



NEW QUESTION 410

- (Exam Topic 2)

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?

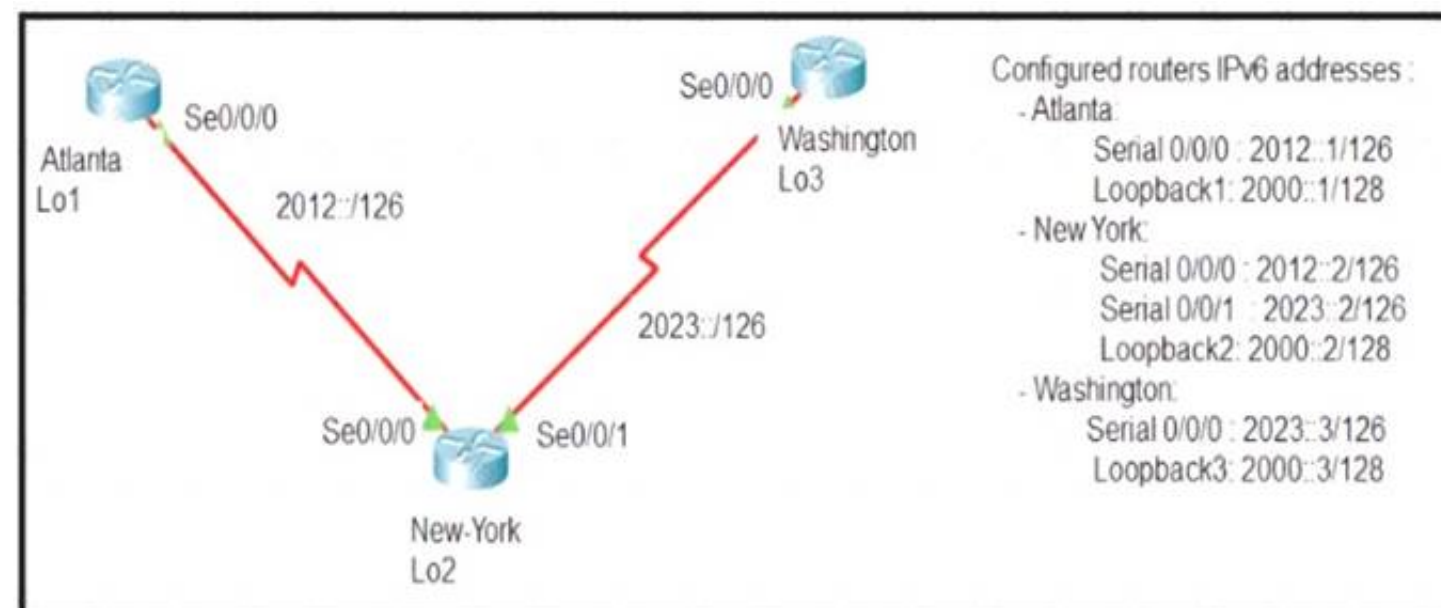
- A. enable AAA override
- B. enable RX-SOP
- C. enable DTIM
- D. enable Band Select

Answer: D

NEW QUESTION 414

- (Exam Topic 2)

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 that 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::1 command on the Washington router.
- B. Configure the ipv6 route 2023::/126 2012::1 command on the Atlanta router.
- C. Configure the Ipv6 route 2012::/126 s0/0/0 command on the Atlanta router.
- D. Configure the ipv6 route 2023::/126 2012::2 command on the Atlanta router.
- E. Configure the ipv6 route 2012::/126 2023::2 command on the Washington router.

Answer: DE

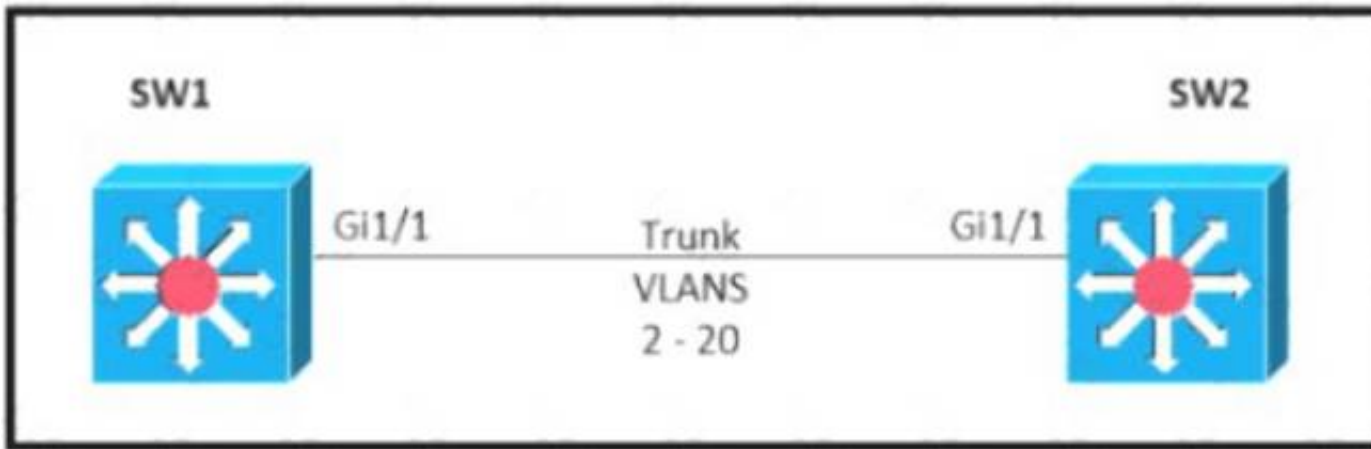
Explanation:

The short syntax of static IPv6 route is: ipv6 route <destination-IPv6-address> {next-hop-IPv6-address | exit-interface}

NEW QUESTION 418

- (Exam Topic 2)

Refer to the exhibit.



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

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

Answer: C

NEW QUESTION 420

- (Exam Topic 2)

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 previous frame is delivered, the new frame is dropped, and a retransmission request is sent.
- C. The new frame is placed in a queue for transmission after the previous frame.
- D. The two frames are processed and delivered at the same time.

Answer: B

NEW QUESTION 421

- (Exam Topic 2)

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

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

Answer: D

NEW QUESTION 422

- (Exam Topic 2)

Refer to the exhibit.

```
Gateway of last resort is 10.12.0.1 to network 0.0.0.0

O*E2   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
```

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 ignores the new static route until the existing OSPF default route is removed
- B. It immediately replaces the existing OSPF route in the routing table with the newly configured static route
- C. It starts load-balancing traffic between the two default routes
- D. It starts sending traffic without a specific matching entry in the routing table to GigabitEthernet0/1

Answer: A

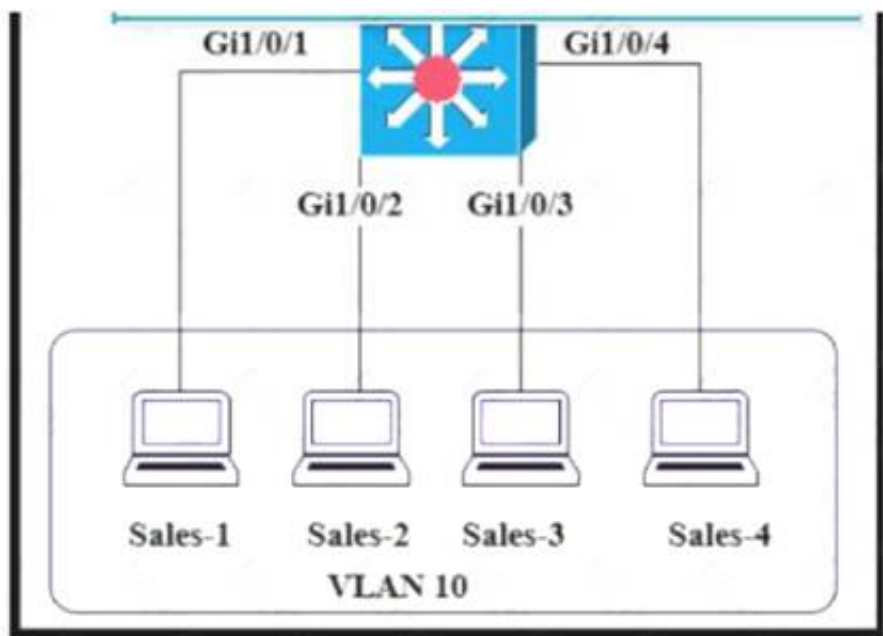
Explanation:

Our new static default route has the Administrative Distance (AD) of 120, which is bigger than the AD of OSPF External route (O*E2) so it will not be pushed into the routing table until the current OSPF External route is removed. For your information, if you don't type the AD of 120 (using the command "ip route 0.0.0.0 1.1.1.1 10.13.0.1") then the new static default route would replace the OSPF default route as the default AD of static route is 1. You will see such line in the routing table: S* 0.0.0.0/0 [1/0] via 10.13.0.1

NEW QUESTION 424

- (Exam Topic 2)

Refer to the exhibit.



The entire contents of the MAC address table are shown. Sales-4 sends a data frame to Sales-1.

```
Sales-SW#show mac-address-table
Mac Address Table
-----
VLAN    MAC Address      Type    Ports
10      000c.8590.bb7d   DYNAMIC Gi1/0/1
10      3910.4161.9bb7   DYNAMIC Gi1/0/2
10      00d0.d3b6.957c   DYNAMIC Gi1/0/3
Sales-SW#
```

What does the switch do as it receives the frame from Sales-4?

- A. Perform a lookup in the MAC address table and discard the frame due to a missing entry.
- B. Insert the source MAC address and port into the forwarding table and forward the frame to Sales-1.
- C. Map the Layer 2 MAC address to the Layer 3 IP address and forward the frame.
- D. Flood the frame out of all ports except on the port where Sales-1 is connected.

Answer: B

Explanation:
<https://www.ciscopress.com/articles/article.asp?p=3089352&seqNum=6>

NEW QUESTION 429

- (Exam Topic 2)
A device detects two stations transmitting frames at the same time. This condition occurs after the first 64 bytes of the frame is received interface counter increments?

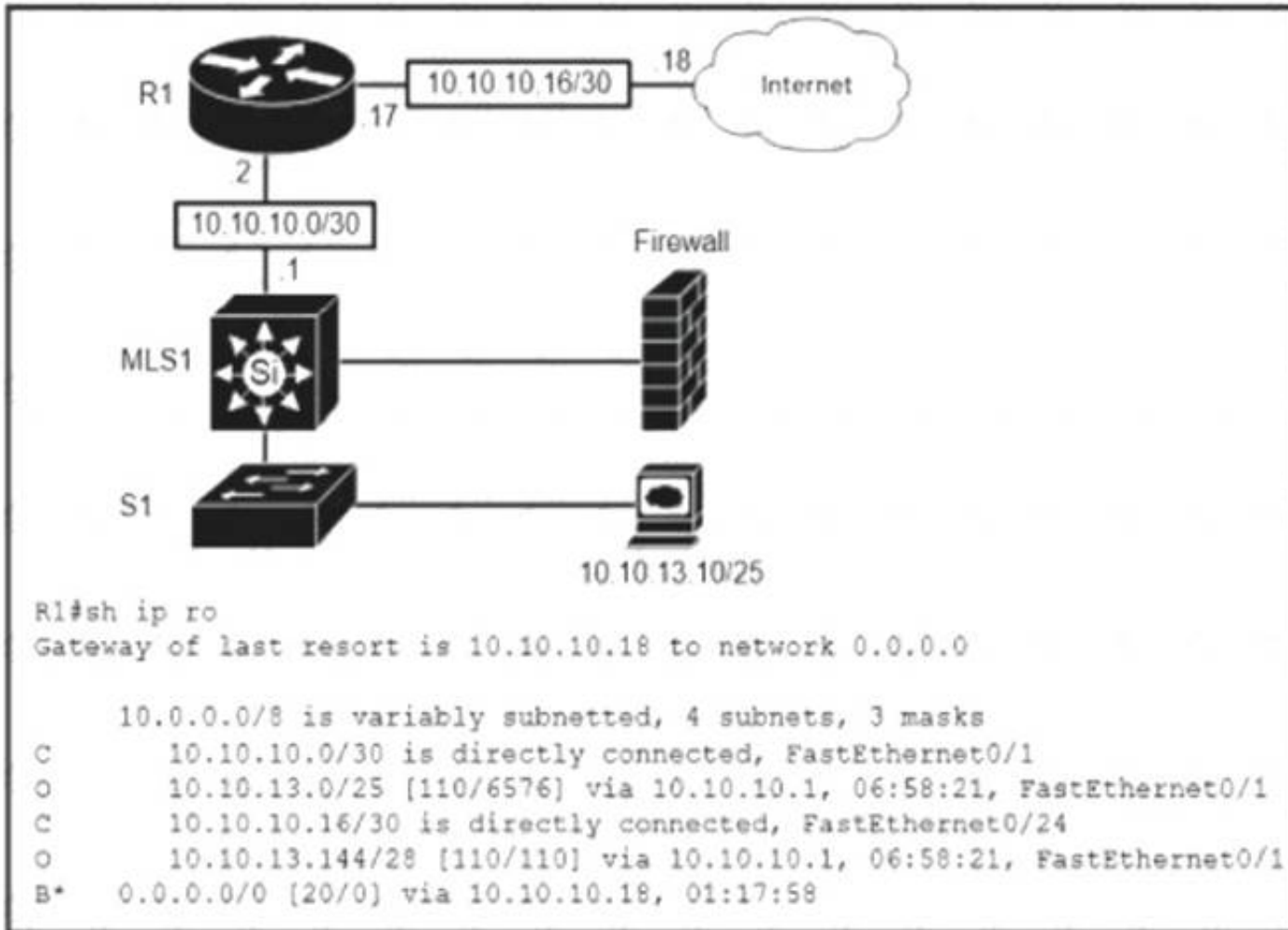
- A. collision
- B. CRC
- C. runt
- D. late collision

Answer: D

Explanation:
<https://www.cisco.com/c/en/us/support/docs/interfaces-modules/port-adapters/12768-eth-collisions.html>

NEW QUESTION 431

- (Exam Topic 2)
Refer to the exhibit.



Which route type is configured to reach the internet?

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

Answer: B

NEW QUESTION 432

- (Exam Topic 2)

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

Answer: C

Explanation:

With the same route (prefix), the router will choose the routing protocol with lowest Administrative Distance (AD) to install into the routing table. The AD of Internal EIGRP (90) is lowest so it would be chosen. The table below lists the ADs of popular routing protocols.

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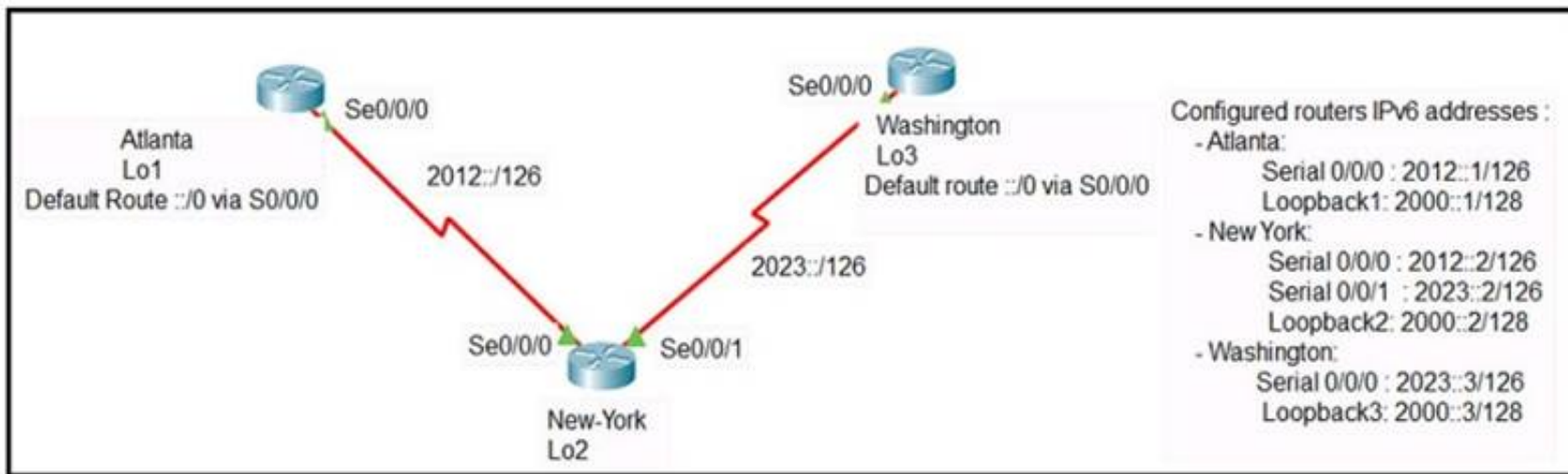
Route Source	Administrative Distance
Directly Connected	0
Static	1
EIGRP	90
EIGRP Summary route	5
OSPF	110
RIP	120

Note: The AD of IS-IS is 115. The "EIGRP" in the table above is "Internal EIGRP". The AD of "External EIGRP" is 170. An EIGRP external route is a route that was redistributed into EIGRP.

NEW QUESTION 436

- (Exam Topic 1)

Refer to 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 2012::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 s0/0/1

Answer: AB

NEW QUESTION 440

- (Exam Topic 1)

Which command prevents passwords from being stored in the configuration as plain text on a router or switch?

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

Answer: B

NEW QUESTION 443

- (Exam Topic 1)

Which feature on the Cisco Wireless LAN Controller when enabled restricts management access from specific networks?

- A. CPU ACL
- B. TACACS
- C. Flex ACL
- D. RADIUS

Answer: A

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/wireless-mobility/wlan-security/71978-acl-wlc.html>

NEW QUESTION 447

- (Exam Topic 1)

How do TCP and UDP differ in the way that they establish a connection between two endpoints?

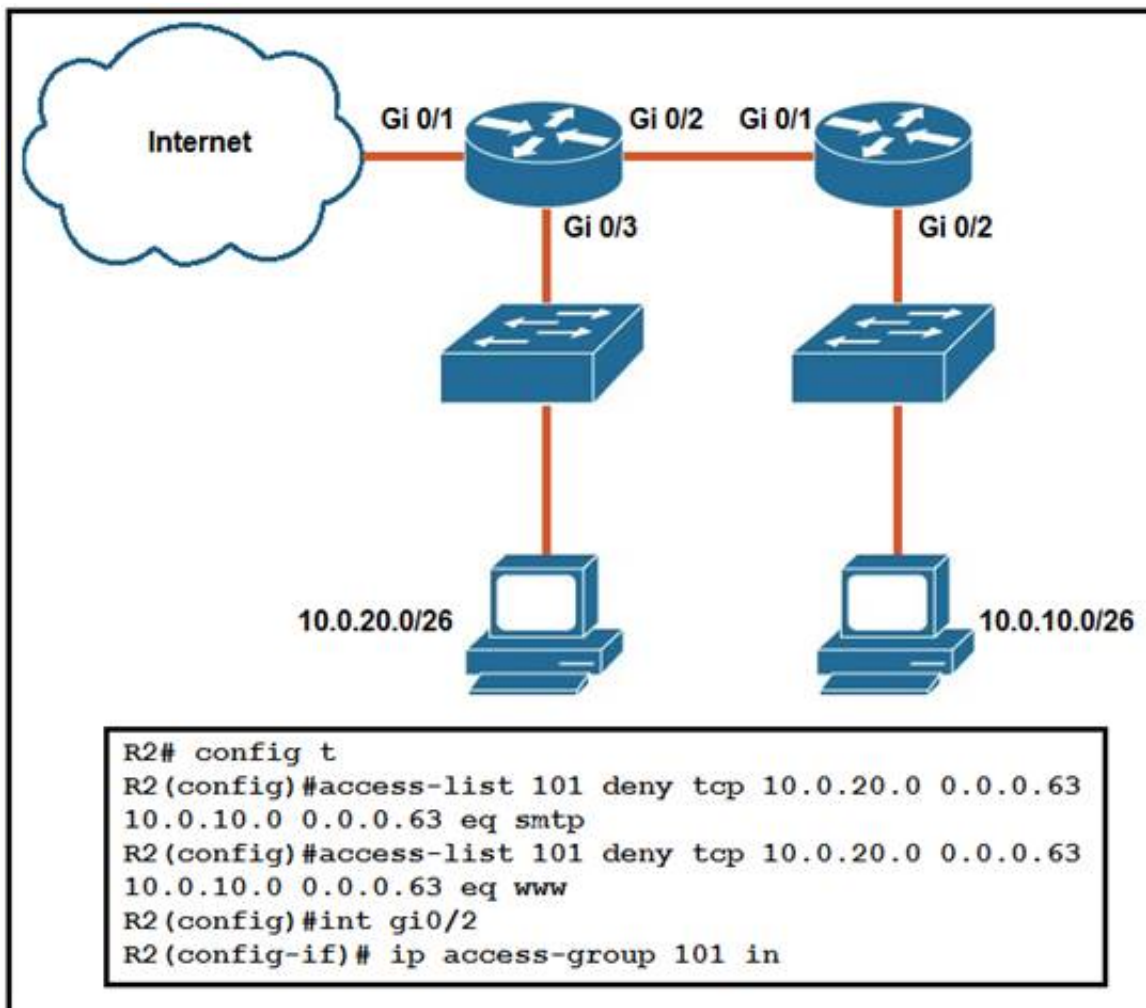
- A. TCP uses synchronization packets, and UDP uses acknowledgment packets.
- B. UDP uses SYN, SYN ACK and FIN bits in the frame header while TCP uses SYN, SYN ACK and ACK bits
- C. UDP provides reliable message transfer and TCP is a connectionless protocol
- D. TCP uses the three-way handshake and UDP does not guarantee message delivery

Answer: D

NEW QUESTION 451

- (Exam Topic 1)

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. Add a "permit ip any any" statement to the beginning of ACL 101 for allowed traffic.
- B. Add a "permit ip any any" statement at the end of ACL 101 for allowed traffic.
- C. The source and destination IPs must be swapped in ACL 101.
- D. The ACL must be configured on the Gi0/2 interface inbound on R1.
- E. The ACL must be moved to the Gi0/1 interface outbound on R2.

Answer: BC

NEW QUESTION 452

- (Exam Topic 1)

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

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

Answer: BD

NEW QUESTION 455

- (Exam Topic 1)

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

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

Answer: D

Explanation:

Spine-leaf architecture is typically deployed as two layers: spines (such as an aggregation layer), and leaves (such as an access layer). Spine-leaf topologies provide high-bandwidth, low-latency, nonblocking server-to-server connectivity.

Leaf (aggregation) switches are what provide devices access to the fabric (the network of spine and leaf switches) and are typically deployed at the top of the rack. Generally, devices connect to the leaf switches.

Devices can include servers, Layer 4-7 services (firewalls and load balancers), and WAN or Internet routers. Leaf switches do not connect to other leaf switches. In spine-and-leaf architecture, every leaf should connect to every spine in a full mesh.

Spine (aggregation) switches are used to connect to all leaf switches and are typically deployed at the end or middle of the row. Spine switches do not connect to other spine switches.

NEW QUESTION 458

- (Exam Topic 1)

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

- A. overlay

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

Answer: D

NEW QUESTION 459

- (Exam Topic 1)

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

- ☒ R1#Config t
R1(config)#ip routing
R1(config)#ip route default-route 192.168.1.1
- ☐ R1#Config t
R1(config)#ip routing
R1(config)#ip route 192.168.1.1 0.0.0.0 0.0.0.0
- ☐ R1#Config t
R1(config)#ip routing
R1(config)#ip route 0.0.0.0 0.0.0.0 192.168.1.1
- ☐ R1#Config t
R1(config)#ip routing
R1(config)#ip default-gateway 192.168.1.1

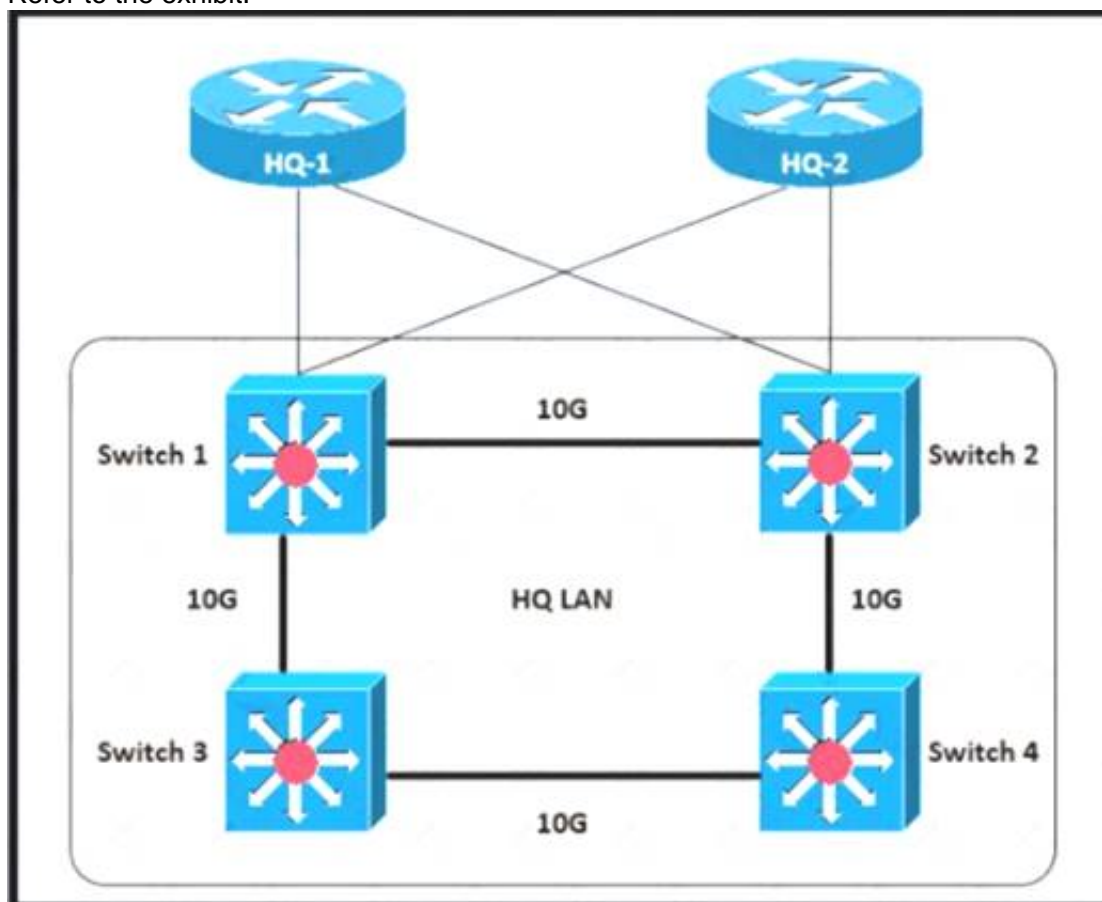
- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

NEW QUESTION 462

- (Exam Topic 1)

Refer to the exhibit.



Which switch becomes the root of the spanning tree for VLAN 110?

Switch 1
VLAN 110 - 32778 0018.184e.3c00
Switch 2
VLAN 110 - 24586 001a.e3ff.a680
Switch 3
VLAN 110 - 28682 0022.55cf.cc00
Switch 4
VLAN 110 - 64000 0e38.7363.657f

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

Answer: B

NEW QUESTION 464

- (Exam Topic 1)

Which device tracks the state of active connections in order to make a decision to forward a packet through?

- A. wireless access point
- B. firewall
- C. wireless LAN controller
- D. router

Answer: B

Explanation:

Stateful inspection, also known as dynamic packet filtering, is a firewall technology that monitors the state of active connections and uses this information to determine which network packets to allow through the firewall.

NEW QUESTION 465

- (Exam Topic 1)

When DHCP is configured on a router, which command must be entered so the default gateway is automatically distributed?

- A. default-router
- B. default-gateway
- C. ip helper-address
- D. dns-server

Answer: A

NEW QUESTION 466

- (Exam Topic 1)

What is the purpose of a southbound API in a control based networking architecture?

- A. Facilities communication between the controller and the applications
- B. Facilities communication between the controller and the networking hardware
- C. allows application developers to interact with the network
- D. integrates a controller with other automation and orchestration tools.

Answer: B

Explanation:

<https://www.ciscopress.com/articles/article.asp?p=2995354&seqNum=2#:~:text=The%20Southbound%20Interf> The Southbound Interface
In a controller-based network architecture, the controller needs to communicate to the networking devices.

NEW QUESTION 468

- (Exam Topic 1)

What is an appropriate use for private IPv4 addressing?

- A. on the public-facing interface of a firewall
- B. to allow hosts inside to communicate in both directions with hosts outside the organization
- C. on internal hosts that stream data solely to external resources
- D. on hosts that communicates only with other internal hosts

Answer: D

NEW QUESTION 473

- (Exam Topic 1)

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

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

Answer: C

NEW QUESTION 474

- (Exam Topic 1)

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

Answer: D

NEW QUESTION 479

- (Exam Topic 1)

How is the native VLAN secured in a network?

- A. separate from other VLANs within the administrative domain
- B. give it a value in the private VLAN range
- C. assign it as VLAN 1
- D. configure it as a different VLAN ID on each end of the link

Answer: A

NEW QUESTION 482

- (Exam Topic 1)

Aside from discarding, which two states does the switch port transition through while using RSTP (802.1w)? (Choose two)

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

Answer: CD

NEW QUESTION 483

- (Exam Topic 1)

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 virtual switch that links to an access point that is physically connected to the network
- D. a software switch on a hypervisor that is physically connected to the network

Answer: D

NEW QUESTION 485

- (Exam Topic 1)

Where is the interface between the control plane and data plane within the software-defined architecture?

- A. control layer and the infrastructure layer
- B. application layer and the infrastructure layer
- C. control layer and the application layer
- D. application layer and the management layer

Answer: A

NEW QUESTION 489

- (Exam Topic 1)

How does QoS optimize voice traffic?

- A. reducing bandwidth usage
- B. by reducing packet loss
- C. by differentiating voice and video traffic
- D. by increasing jitter

Answer: C

NEW QUESTION 492

- (Exam Topic 1)

Drag and drop the IPv4 network subnets from the left onto the correct usable host ranges on the right

Answer Area

172.28.228.144/18	172.28.228.1 - 172.28.229.254
172.28.228.144/21	172.28.224.1 - 172.28.231.254
172.28.228.144/23	172.28.228.129 - 172.28.228.254
172.28.228.144/25	172.28.228.145 - 172.28.228.150
172.28.228.144/29	172.28.192.1 - 172.28.255.254

- A. Mastered
B. Not Mastered

Answer: A

Explanation:

Answer Area

172.28.228.144/18	172.28.228.144/23
172.28.228.144/21	172.28.228.144/21
172.28.228.144/23	172.28.228.144/25
172.28.228.144/25	172.28.228.144/29
172.28.228.144/29	172.28.228.144/18

NEW QUESTION 497

- (Exam Topic 1)

An organization has decided to start using cloud-provided services. Which cloud service allows the organization to install its own operating system on a virtual machine?

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

Answer: B

Explanation:

Below are the 3 cloud supporting services cloud providers provide to customer:

+ SaaS (Software as a Service): SaaS uses the web to deliver applications that are managed by a thirdparty vendor and whose interface is accessed on the clients' side. Most SaaS applications can be run directly from a web browser without any downloads or installations required, although some require plugins.
+ PaaS (Platform as a Service): are used for applications, and other development, while providing cloud components to software. What developers gain with PaaS is a framework they can build upon to develop or customize applications. PaaS makes the development, testing, and deployment of applications quick, simple, and cost-effective. With this technology, enterprise operations, or a thirdparty provider, can manage Oses, virtualization, servers, storage, networking, and the PaaS software itself. Developers, however, manage the applications.
+ IaaS (Infrastructure as a Service): self-service models for accessing, monitoring, and managing remote datacenter infrastructures, such as compute (virtualized or bare metal), storage, networking, and networking services (e.g. firewalls). Instead of having to purchase hardware outright, users can purchase IaaS based on consumption, similar to electricity or other utility billing.
In general, IaaS provides hardware so that an organization can install their own operating system.

NEW QUESTION 502

- (Exam Topic 1)

Where does the configuration reside when a helper address is configured to support DHCP?

- A. on the router closest to the server
- B. on the router closest to the client
- C. on every router along the path
- D. on the switch trunk interface

Answer: B

NEW QUESTION 507

- (Exam Topic 1)

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 EthernetChannel must be configured in "mode active".
- C. When enabled, the WLC bandwidth drops to 500 Mbps.
- D. To pass client traffic, two or more ports must be configured.

Answer: A

Explanation:

https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-5/configuration-guide/b_cg75/b_cg75_chapter_010

NEW QUESTION 508

- (Exam Topic 1)

What is the purpose of using First Hop Redundancy Protocol in a specific subnet?

- A. Filter traffic based on destination IP addressing
- B. Sends the default route to the hosts on a network
- C. ensures a loop-free physical topology
- D. forwards multicast hello messages between routers

Answer: D

Explanation:

FHRP is layer 3 protocol whose purpose is to protect the default gateway by offering redundancy of the gateway in a subnet. This is achieved by allowing two or more routers to provide a backup for the first-hop IP router address. If a failure of an active router occurs, the backup router will take over the address. The routers negotiate their roles (Active/Standby) with each other by multicast hello messages to share the VIP (virtual IP address) between the FHRP routers. The terms Active/Standby vary between the different types of FHRP. The active router will act as the default gateway and the standby router acts as a backup the active router.

NEW QUESTION 511

- (Exam Topic 1)

R1#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
10.0.0.0/24 is subnetted, 1 subnets
C 10.10.10.0 is directly connected, FastEthernet0/0

R2#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
10.0.0.0/24 is subnetted, 1 subnets
C 10.10.10.0 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
10.0.0.0/24 is subnetted, 1 subnets
S 10.10.10.0 (1/0) via 20.20.20.1

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?

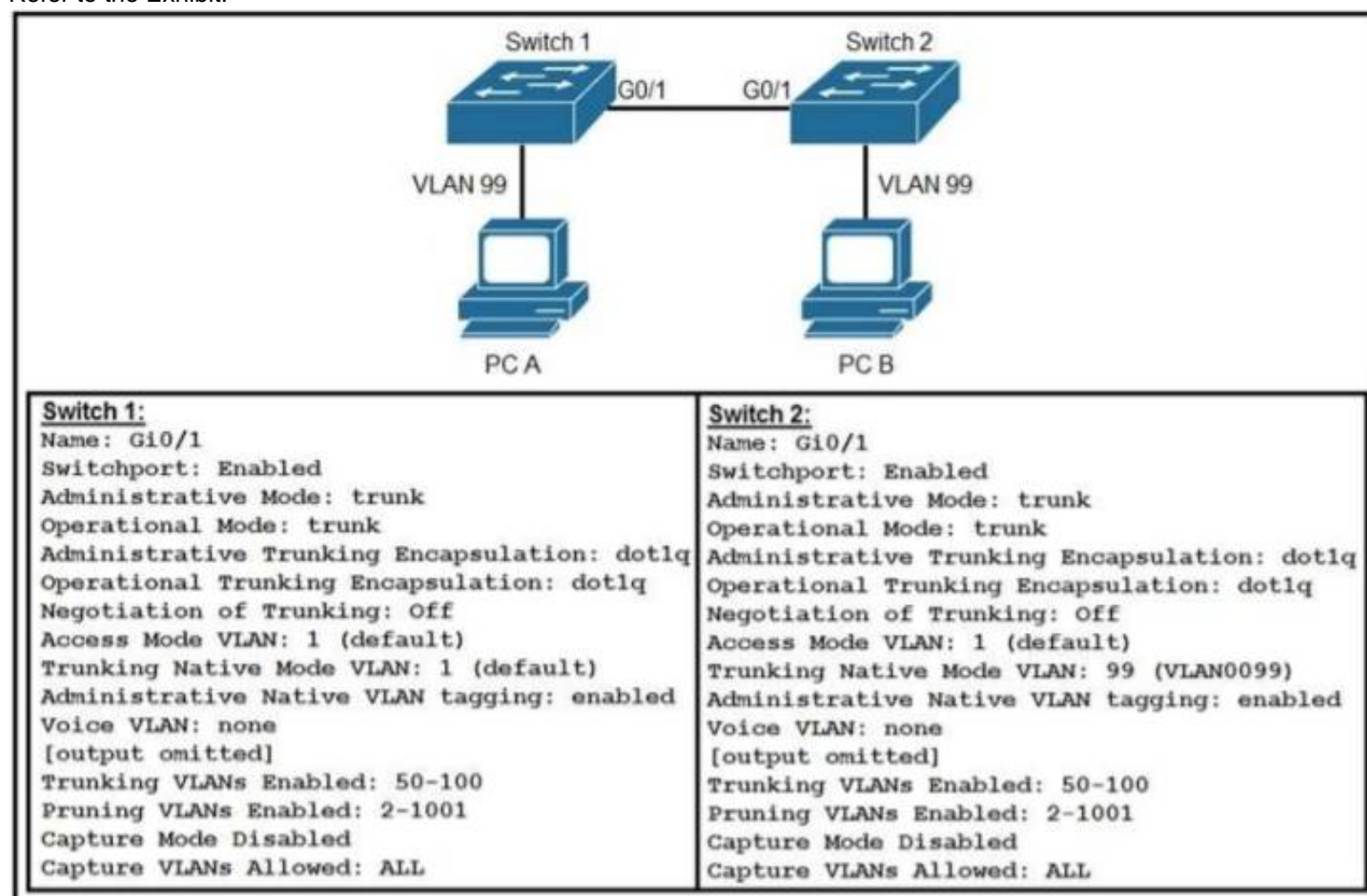
- A. set the default network as 20.20.20.0/24
- B. set the default gateway as 20.20.20.2
- C. configure a static route with Fa0/1 as the egress interface to reach the 20.20.20.0/24 network
- D. configure a static route with 10.10.10.2 as the next hop to reach the 20.20.20.0/24 network

Answer: D

NEW QUESTION 515

- (Exam Topic 1)

Refer to the Exhibit.



After the switch configuration the ping test fails between PC A and PC B Based on the output for switch 1. which error must be corrected?

- A. There is a native VLAN mismatch
- B. Access mode is configured on the switch ports.
- C. The PCs are in the incorrect VLAN
- D. All VLANs are not enabled on the trunk

Answer: A

Explanation:

From the output we see the native VLAN of Switch1 on Gi0/1 interface is VLAN 1 while that of Switch2 is VLAN 99 so there would be a native VLAN mismatch.

NEW QUESTION 517

- (Exam Topic 1)

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

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

Answer: AE

Explanation:

Reference:

https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b_cg74_CONS

NEW QUESTION 520

- (Exam Topic 1)

Which command enables a router to become a DHCP client?

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

Answer: A

Explanation:

Reference:

https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipaddr_dhcp/configuration/12-4/dhcp-12-4-book/config-dhcp

If we want to get an IP address from the DHCP server on a Cisco device, we can use the command "ip address dhcp".

Note: The command "ip helper-address" enables a router to become a DHCP Relay Agent.

NEW QUESTION 521

- (Exam Topic 1)

Refer to the exhibit.

```
IBGP route 10.0.0.0/30
RIP route 10.0.0.0/30
OSPF route 10.0.0.0/16
OSPF route 10.0.0.0/30
EIGRP route 10.0.0.1/32
```

A router reserved these five routes from different routing information sources. Which two routes does the router install in its routing table? (Choose two)

- A. RIP route 10.0.0.0/30
- B. iBGP route 10.0.0.0/30
- C. OSPF route 10.0.0.0/30
- D. EIGRP route 10.0.0.1/32
- E. OSPF route 10.0.0.0/16

Answer: CD

NEW QUESTION 526

- (Exam Topic 1)

Refer to the exhibit.

```
import ncclient

with ncclient.manager.connect(host='192.168.1.1', port=830, username='root',
                             password='teset123!', allow_agent=False) as m:
    print(m.get_config('running').data_xml)
```

After running the code in the exhibit, which step reduces the amount of data that the NETCONF server returns to the NETCONF client, to only the interface's configuration?

- A. Use the lxml library to parse the data returned by the NETCONF server for the interface's configuration.
- B. Create an XML filter as a string and pass it to get_config() method as an argument.
- C. Create a JSON filter as a string and pass it to the get_config() method as an argument.
- D. Use the JSON library to parse the data returned by the NETCONF server for the interface's configuration.

Answer: D

NEW QUESTION 529

- (Exam Topic 1)

A manager asks a network engineer to advise which cloud service models are used so employees do not have to waste their time installing, managing, and updating software which is only used occasionally Which cloud service model does the engineer recommend?

- A. infrastructure-as-a-service
- B. platform-as-a-service
- C. business process as service to support different types of service
- D. software-as-a-service

Answer: D

NEW QUESTION 530

- (Exam Topic 1)

Which network allows devices to communicate without the need to access the Internet?

- A. 1729.0.0/16
- B. 172.28.0.0/16
- C. 192.0.0.0/8
- D. 209.165.201.0/24

Answer: B

Explanation:

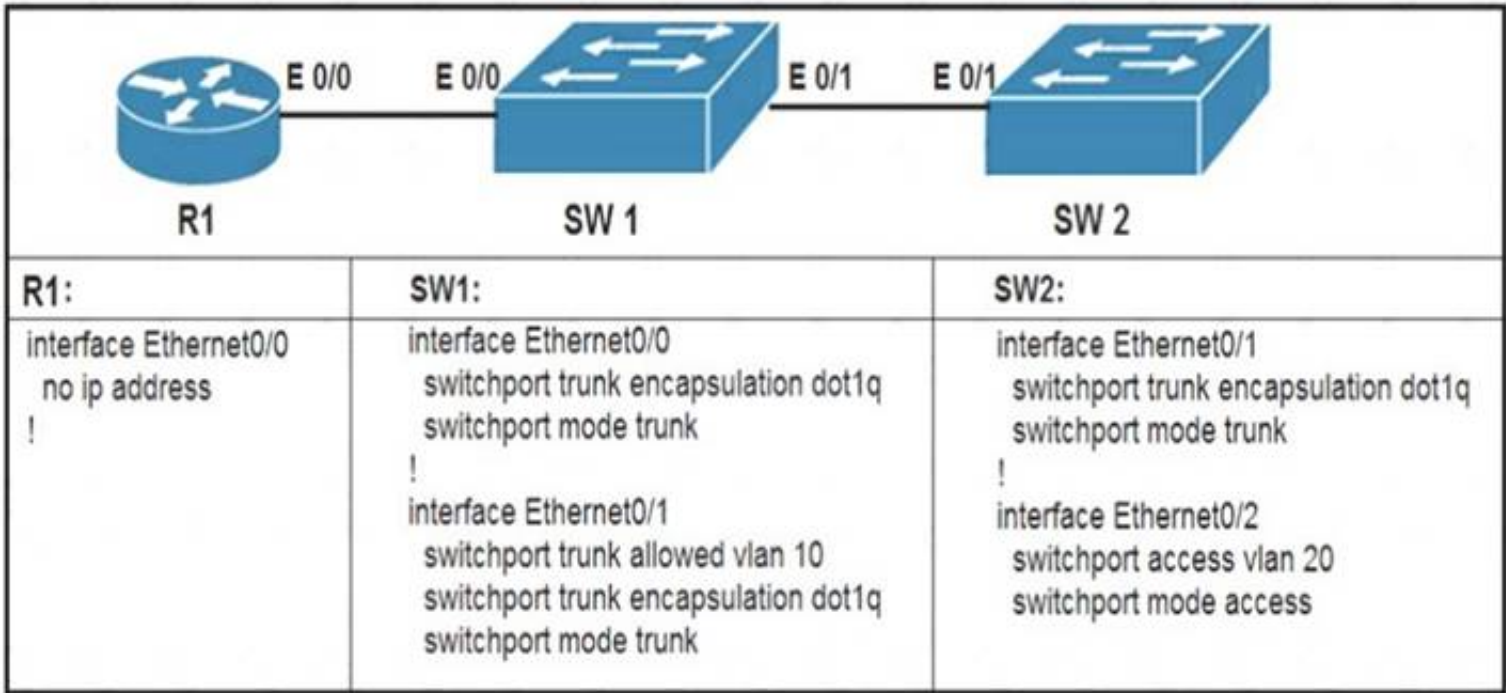
The private ranges of each class of IPv4 are listed below:

Class A private IP address ranges from 10.0.0.0 to 10.255.255.255 Class B private IP address ranges from 172.16.1.1 to 172.31.255.255 Class C private IP address ranges from 192.168.0.0 to 192.168.255.255 Only the network 172.28.0.0/16 belongs to the private IP address (of class B).

NEW QUESTION 534

- (Exam Topic 1)

Refer to the exhibit.



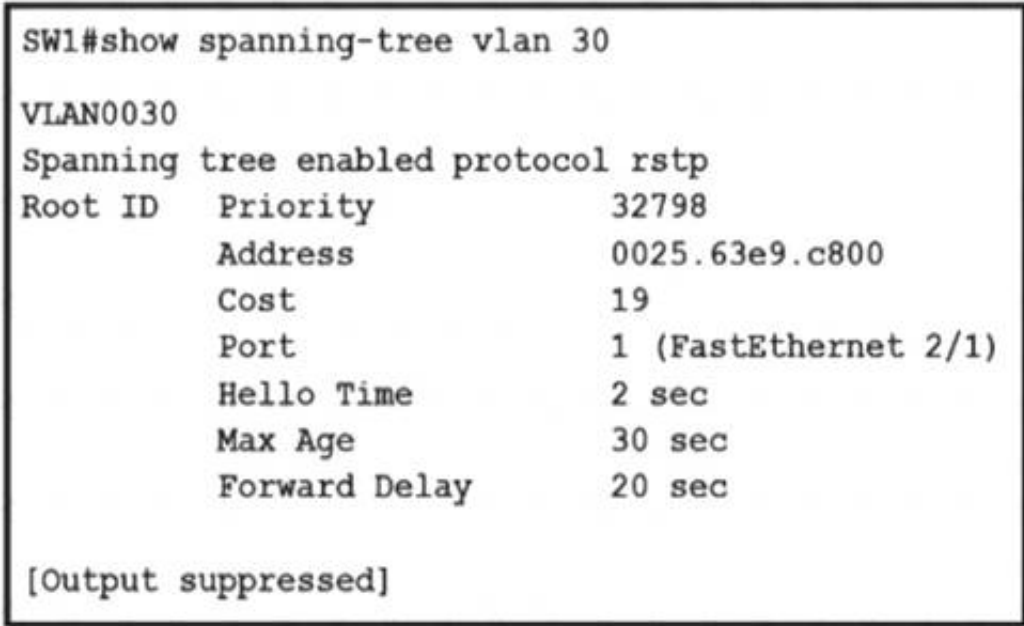
What commands are needed to add a subinterface to Ethernet0/0 on R1 to allow for VLAN 20, with IP address 10.20.20.1/24?

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

Answer: B

NEW QUESTION 538

- (Exam Topic 1)
Refer to the exhibit.



What two conclusions should be made about this configuration? (Choose two)

- A. The designated port is FastEthernet 2/1
- B. This is a root bridge
- C. The spanning-tree mode is Rapid PVST+
- D. The spanning-tree mode is PVST+
- E. The root port is FastEthernet 2/1

Answer: CE

NEW QUESTION 540

- (Exam Topic 1)

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. Physical access control
- B. Social engineering attack
- C. brute force attack
- D. user awareness

Answer: D

Explanation:

This is a training program which simulates an attack, not a real attack (as it says “The webpage that opens reports that it was safe”) so we believed it should be called a “user awareness” program. Therefore the best answer here should be “user awareness”. This is the definition of “User awareness” from CCNA 200- 301 Official Cert Guide Book: “User awareness: All users should be made aware of the need for data confidentiality to protect corporate information, as well as their own credentials and personal information. They should also be made aware of potential threats, schemes to mislead, and proper procedures to report security incidents. ” Note: Physical access control means infrastructure locations, such as network closets and data centers, should remain securely locked.

NEW QUESTION 544

- (Exam Topic 1)

What is a characteristic of cloud-based network topology?

- A. wireless connections provide the sole access method to services
- B. onsite network services are provided with physical Layer 2 and Layer 3 components
- C. services are provided by a public, private, or hybrid deployment
- D. physical workstations are configured to share resources

Answer: A

NEW QUESTION 547

- (Exam Topic 1)

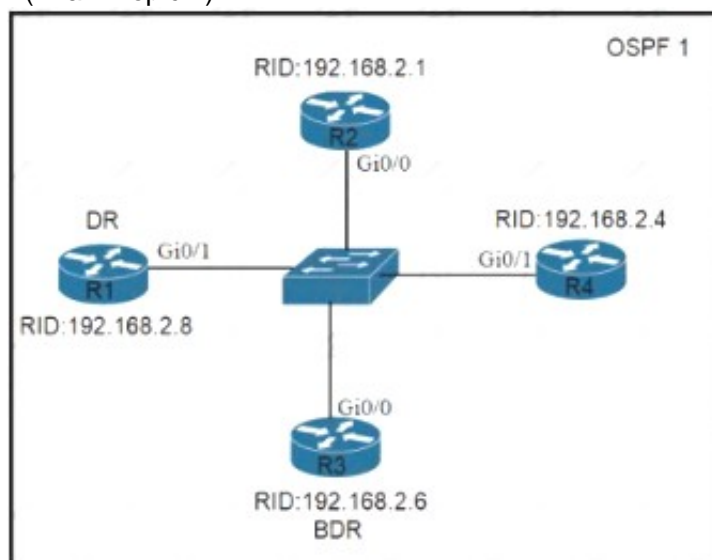
What is the primary purpose of a First Hop Redundancy Protocol?

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

Answer: D

NEW QUESTION 552

- (Exam Topic 1)



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 configure on R2 to Be elected as the DR in the network?

- ☐ R2(config)#interface gi0/0
R2(config-if)#ip ospf priority 1
- ☐ R2(config)#interface gi0/0
R2(config-if)#ip ospf priority 100
- ☐ R2(config)#router ospf 1
R2(config-router)#router-id 10.100.100.100
- ☐ R2(config)#router ospf 1
R2(config-router)#router-id 192.168.2.7

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: B

NEW QUESTION 553

- (Exam Topic 1)

What must be considered when using 802.11a?

- A. It is compatible with 802.11a- and 802.11-compliant wireless devices
- B. It is used in place of 802.11b/g when many nonoverlapping channels are required
- C. It is susceptible to interference from 2.4 GHz devices such as microwave ovens.
- D. It is chosen over 802.11b/g when a lower-cost solution is necessary

Answer: A

NEW QUESTION 554

- (Exam Topic 1)

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. control plane

- C. policy plane
- D. management plane

Answer: B

NEW QUESTION 556

- (Exam Topic 1)
Drag and drop the AAA functions from the left onto the correct AAA services on the right

records user activities

restricts the services that are available to a user

identifies the user

controls the actions that a user can perform

provides analytical information for the network administrator

verifies the password associated with a user

Authentication

Authorization

Accounting

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

records user activities

restricts the services that are available to a user

identifies the user

controls the actions that a user can perform

provides analytical information for the network administrator

verifies the password associated with a user

Authentication

identifies the user

verifies the password associated with a user

Authorization

restricts the services that are available to a user

controls the actions that a user can perform

Accounting

provides analytical information for the network administrator

records user activities

NEW QUESTION 558

- (Exam Topic 1)
Which type of address is the public IP address of a NAT device?

- A. outside global
- B. outsdwde local
- C. inside global
- D. inside local
- E. outside public
- F. inside public

Answer: C

Explanation:

NAT use four types of addresses: * Inside local address – The IP address assigned to a host on the inside network. The address is usually not an IP address assigned by the Internet Network Information Center (InterNIC) or service provider. This address is likely to be an RFC 1918 private address. * Inside global address – A legitimate IP address assigned by the InterNIC or service provider that represents one or more inside local IP addresses to the outside world. * Outside local address – The IP address of an outside host as it is known to the hosts on the inside network. * Outside global address – The IP address assigned to a host on the outside network. The owner of the host assigns this address.

NEW QUESTION 562

- (Exam Topic 1)

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

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

Answer: D

NEW QUESTION 563

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