Exam Report: 5.1.10 Practice Questions

Date: 9/25/2019 1:14:54 pm
Time Spent: 30:50

Candidate: Garsteck, Matthew
Login: mGarsteck

Overall Performance

Your Score: 60%

Passing Score: 80%

View results by: Objective Analysis Individual Responses

Individual Responses

Question 1: Correct

You recently created a new network segment for the development department. Because the hosts are now on a different network segment, they can no longer contact the DHCP server. Both network segments are connected via a Cisco router.

Which of the following would be the best action to take in order to fix the problem?

- Move the DHCP server to the new network segment.
- Configure the router to forward broadcast messages.
- Implement an IP helper address on the router.
- Install and configure a new DHCP server on the development network segment.

Explanation

When an IP helper address is implemented on the Cisco router, DHCP broadcasts are forwarded to the specified IP address of the DHCP server. This allows hosts in a different network segment to contact the DHCP server.

Installing and configuring a new DHCP would work, but it would not be the best solution. A new DHCP server would introduce additional costs and management overhead. Configuring the router to forward broadcast messages exposes the network to denial-of-service attacks. Moving the DHCP server would introduce the same problem to hosts in the other network segment.

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm *NP15_IP_ADDRESSING_01]

Question 2: Correct

You have a workstation connected to a small branch network using a single switch. The network does not have any routers and is not connected to the internet. What are the minimum configuration parameters required on the workstation to be able to communicate with all hosts on the network?

- IP address and default gateway
- IP address, subnet mask, and default gateway
- IP address and subnet mask
- IP address

Explanation

On a single subnet, you only need to configure an IP address and a subnet mask. The default gateway identifies the router address used to reach remote networks. You would only use the default gateway if the network was connected to another subnet or the internet.

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm C802_109 MULTIPLE CHOICE [36]]

Question 3: Correct

Which of the following is the last IP address that can be assigned to hosts on the 166.70.0.0 network using the default subnet mask?

- 166.70.0.255
- 166.71.0.0
- 166.70.255.254
- 166.70.0.254
- 166.70.255.255

Explanation

The last address you can assign to hosts on the 166.70.0.0 network is 166.70.255.254. The network address is a Class B address and uses a default subnet mask of 255.255.0.0. The last two octets are used for host addresses. 166.70.0.0 cannot be used as a host address because it is the network address. 166.70.255.255 cannot be used as a host address because it is the broadcast address.

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm NP05_2-6 #233]

Question 4: Correct

Your network has been assigned the Class C network address 200.78.151.0. Which of the following addresses can be assigned to hosts on your network? (Select three.)

- [x] 200.78.151.252
- [ ] 200.78.151.257
- [ ] 200.78.151.0
- [ ] 200.78.151.255
- [x] 200.78.151.12
- [x] 200.78.151.111
- [ ] 200.78.152.14

Explanation

All hosts on this network must share the first three octets of the IP address (200.78.151). You cannot assign 200.78.151.0 to a host because this address indicates the address of the network. You cannot assign 200.78.151.255 because this address is reserved for the broadcast address.

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm NP05_2-6 #97]

Question 5: Correct

Your network has been assigned the Class B network address of 179.113.0.0. Which three of the following addresses can be assigned to hosts on your network?

- [ ] 179.113.0.0
- [ ] 179.112.95.64
- [x] 179.113.65.12
- [x] 179.113.89.0
- [ ] 180.113.0.67
- [ ] 179.114.88.0
- [x] 179.113.0.118

Explanation

All hosts on this network must share the first two octets of the IP address (179.113). You cannot assign 179.113.0.0 to a host because this address indicates the address of the network.

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm NP05_2-6 #86]

Question 6: Correct

Assuming the network is indicated by the default portion of the IP address, which three of the following IP addresses belong to the Class A network 114.0.0.0? (Select three.)

- [ ] 115.77.89.4
- [x] 114.0.0.15
- [ ] 115.88.0.55
- [ ] 115.0.0.66
- [x] 114.122.66.12
- [x] 114.58.12.0

Explanation

With a Class A network, the first octet indicates the network address. All hosts on the network must have the same value in the first octet (114).

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm NP05_2-6 #76]

Question 7: Incorrect

A host on the network has an IP address of 129.11.99.78 using the default subnet mask. How would you identify the address and mask using CIDR notation?

- ( ) 129.11.99.78:16
- ( )

- 129.11.99.78/16
- 129.11.99.78:24
- ~~129.11.99.78/24~~
- 129.11.99.78/8
- 129.11.99.78:8

Explanation

Use 129.11.99.78/16 for the address and the mask. With CIDR notation, follow the IP address with a slash (/) and the number of bits in the mask. The default subnet mask for this address is 255.255.0.0, which uses 16 bits in the mask.

A mask value of 255.0.0.0 uses 8 bits, and a mask value of 255.255.255.0 uses 24 bits.

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm NP09_1-3 #2]

Question 8: Correct

Which of the following best describes the purpose of using subnets?

- Subnets place each device within its own collision domain.
- Subnets divide an IP network address into multiple network addresses.
- Subnets combine multiple IP network addresses into one network address.
- Subnets let you connect a private network to the internet.

Explanation

Subnets divide an IP network address into multiple network addresses. This allows you to have several smaller networks while using only one network address.

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm NP05_2-7 #48]

Question 9: Correct

Which of the following terms are often synonymous with or made possible with CIDR? (Select two.)

- [ ] NAT
- [x] VLSM
- [x] Classless
- [ ] Classful
- [ ] OSPF

Explanation

Classless inter-domain routing (CIDR) allows non-default subnet masks (variable-length subnet masks, or VLSMs). Routers use the following information to identify networks:

- The beginning network address in the range.
- The number of bits used in the subnet mask.

For example, the subnet 199.70.0.0 with a mask of 255.255.0.0 is represented as 199.70.0.0/16 (16 being the number of 1 bits in the subnet mask).

Classful addresses rely on the IP address class to identify the subnet mask. Network address translation (NAT) allows you to connect a private network to the internet without obtaining registered addresses for every host. Private addresses are translated to the public address of the NAT router. OSPF is a routing protocol that supports CIDR features.

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm NP09_1-4 #12]

Question 10: Incorrect

You've decided to use a subnet mask of 255.255.192.0 on the 172.17.0.0 network to create four separate subnets.

Which network IDs will be assigned to these subnets in this configuration? (Select two.)

- [ ] 172.17.0.0
- [ ] 172.17.128.0
- [ ] 172.17.96.0
- [x] ~~172.17.16.0~~
- [x] ~~172.17.32.0~~

Explanation

The subnet mask used for the 172.17.0.0 network can be viewed in binary notation as 11111111.11111111.11000000.000000. Because the first two bits of the third octet are used for the network portion of the address, four subnets are possible:

- 172.17.0.0
- 172.17.64.0
- 172.17.128.0
- 172.17.192.0

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm RT-SP-6.1-1]

Question 11: Incorrect


This question includes an image to help you answer the question. View Image

You have a small network connected to the internet as shown in the Exhibit. You need to configure the default gateway address on Wrk1 so that it can communicate with hosts on the internet.

Which address would you use for the default gateway address?

- ( ) The IP address assigned to Fa0/0 on Router2.
- ( ) The IP address assigned to SwitchA.
- ( ) The IP address assigned to Fa0/1 on Router2.
- (•) ~~The IP address assigned to Fa0/1 on Router1.~~

The IP address assigned to Fa0/0 on Router1.

Explanation

When assigning the default gateway address, use the address of the router interface connected to the same network that is used to reach remote networks. In this scenario, the workstation must be configured with the IP address assigned to the Fa0/0 interface on Router1. This default gateway configuration allows the workstation to communicate with hosts on the other internal subnet as well as with hosts on the network.

The IP address assigned to the switch is only used to remotely manage the switch. Packets sent to remote networks are not processed by the switch, but the frames are forwarded to the correct destination device. The Fa0/1 interface on Router1 is not on the same network as Wrk1, so cannot be used as its default gateway address. The Fa0/0 interface on Router2 would be the default gateway address for hosts connected to SwitchB.

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm C802_109 MULTIPLE CHOICE [18]]

Question 12: Correct


This question includes an image to help you answer the question. View Image

You have a small network, as shown in the Exhibit. You have configured the IP address and subnet mask on Wrk1. You want to be able to use Wrk1 to browse the internet to connect to sites like www.cisco.com.

Which other parameters are required on the workstation? (Select two.)

- [ ] Host name
- [x] DNS server address
- [x] Default gateway
- [ ] WINS server address
- [ ] DHCP server address

Explanation

To access a remote network, the workstation must be configured with a default gateway address. In addition, it must be configured with one or more DNS server addresses. The DNS server address is used to contact a DNS server and find the IP address of hosts using names such as www.cisco.com.

A host name is not required on the workstation to be able to contact hosts using host names on the internet. Host names are only used to identify hosts using logical names; they are not used by the device itself. If a host name is used, the computer must translate the host name (using DNS) into an IP address.

A WINS server address is used for NetBIOS name resolution. This process is used on local area networks by Windows computers and is not used on the internet. A DHCP server address identifies the IP address of a DHCP server that is used to get an IP address. Most workstations automatically contact a DHCP server without having to be configured with its IP address.

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm C802_109 MULTIPLE CHOICE [27]]

Question 13: Incorrect


This question includes an image to help you answer the question. View Image

You have a small network with a single subnet connected to the internet as shown in the Exhibit. The router has been assigned the two addresses shown.

You need to manually configure the workstation to connect to the network. The workstation should use RouterA as the default gateway and DNS1 as the DNS server address.

From the drop-down options, select the appropriate parameters to configure the workstation's TCP/IP settings.

IP address

192.168.12.32 — 192.168.12.30

Subnet mask

255.255.255.0 ✓

Default gateway

192.168.12.34 — 166.11.199.77

DNS Server

198.162.1.22 — 166.11.199.77

Explanation

Use the following values:

- Use 192.168.12.46 for the IP address. With a 28-bit mask, the router is on subnet 192.168.12.32, and valid addresses are 192.168.12.33 to 192.168.12.46. You cannot use 192.168.12.32 because it is the subnet address. You cannot use 192.168.12.47 because it is the broadcast address.
- A 28-bit mask is 255.255.255.240 in binary.
- For the default gateway address, use the address assigned to the router interface that is on the same subnet as the workstation (in this example, 192.168.12.34).
- For the DNS server address, use the IP address assigned to the DNS server (198.162.1.22).

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm C802_109 FILL IN THE BLANK [134]||/]

Question 14: Incorrect

You manage a subnet that uses the subnet address 198.162.1.0/23.

Which of the following best describes how addressing is configured for the subnet?

- ~~Subnetting~~
- Supernetting
- Classful
- Private

Explanation

The subnet address 198.162.1.0/23 is an example of a supernetted address. With supernetting, multiple smaller subnets are combined into a single larger subnet. Supernetting is performed by taking the default subnet mask and making it smaller (using less bits). For this

address, the default subnet mask uses 24 bits (255.255.255.0). With supernetting, the mask is altered to use only 23 bits (255.255.254.0) to combine multiple subnets together.

Subnetting is the process of dividing a larger network into smaller networks. With the subnet address in this example, a subnetted address would use a larger subnet mask (using more bits). A subnetted address might use 25 bits (255.255.255.128) or more to subdivide the network into multiple smaller subnets. Sometimes the term "subnetting" can be used to refer to both subnetting and supernetting. But in this example, supernetting better describes what is being done.

Classful addressing uses the default subnet mask based on the address class. If classful addressing were used, the subnet would use a 24-bit mask. Private addresses are within the following ranges:

- 10.0.0.1 to 10.255.255.254
- 172.16.0.1 to 172.31.255.254
- 192.168.0.1 to 192.168.255.254

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm NP09_1-4 #11]

Question 15: Incorrect

You manage a server that uses an IP address of 192.168.255.188 with a mask of 255.255.0.0.

Which of the following describes the address type?

- Broadcast
- ~~Classful~~
- Multicast
- Classless
- Public

Explanation

Because the IP address is not using the default subnet mask, it is using classless addressing. Classless addressing modifies the length of the subnet mask, using a custom mask value instead of the default subnet mask.

Classful addressing uses the default subnet mask. Devices that only support classful addressing assume the subnet mask based on the IP address class.

A broadcast address is an address that is sent to all hosts. Broadcast addresses are the last possible address on a subnet. A multicast address is an address that identifies a group of computers. Members of the group share the same multicast address. Multicast addresses are in the range of 224.0.0.0 to 239.255.255.255. A public address is an address that is registered for use on the internet.

References

LabSim for Network Pro, Section 5.1.
[netpro18v5_all_questions_en.exm NP09_1-4 #10]