

## CCNA 2 Chapter 10 v5.0 Exam Answers 2015 (100%)

1. Which DHCPv4 message will a client send to accept an IPv4 address that is offered by a DHCP server?
  - unicast DHCPACK
  - broadcast DHCPACK
  - unicast DHCPREQUEST
  - **broadcast DHCPREQUEST**
2. A company uses DHCP servers to dynamically assign IPv4 addresses to employee workstations. The address lease duration is set as 5 days. An employee returns to the office after an absence of one week. When the employee boots the workstation, it sends a message to obtain an IP address. Which Layer 2 and Layer 3 destination addresses will the message contain?
  - **FF-FF-FF-FF-FF-FF and 255.255.255.255**
  - both MAC and IPv4 addresses of the DHCP server
  - MAC address of the DHCP server and 255.255.255.255
  - FF-FF-FF-FF-FF-FF and IPv4 address of the DHCP server
3. Which is a DHCPv4 address allocation method that assigns IPv4 addresses for a limited lease period?
  - manual allocation
  - pre-allocation
  - automatic allocation
  - **dynamic allocation**
4. What is the reason why the DHCPREQUEST message is sent as a broadcast during the DHCPv4 process?
  - **to notify other DHCP servers on the subnet that the IP address was leased**
  - to notify other hosts not to request the same IP address
  - for hosts on other subnets to receive the information
  - for routers to fill their routing tables with this new information
5. Which set of commands will configure a router as a DHCP server that will assign IPv4 addresses to the 192.168.100.0/23 LAN while reserving the first 10 and the last addresses for static assignment?
  - ip dhcp excluded-address 192.168.100.1 192.168.100.10
  - ip dhcp excluded-address 192.168.100.254

- ip dhcp pool LAN-POOL-100
- network 192.168.100.0 255.255.255.0
- ip default-gateway 192.168.100.1
- ip dhcp excluded-address 192.168.100.1 192.168.100.10
- ip dhcp excluded-address 192.168.101.254
- ip dhcp pool LAN-POOL-100
- network 192.168.100.0 255.255.254.0
- default-router 192.168.100.1
- dhcp pool LAN-POOL-100
- ip dhcp excluded-address 192.168.100.1 192.168.100.9
- ip dhcp excluded-address 192.168.100.254
- network 192.168.100.0 255.255.254.0
- default-router 192.168.101.1
- ip dhcp excluded-address 192.168.100.1 192.168.100.9
- ip dhcp excluded-address 192.168.101.254
- ip dhcp pool LAN-POOL-100
- ip network 192.168.100.0 255.255.254.0
- ip default-gateway 192.168.100.1

**6. An administrator issues the commands:**

**Router(config)# interface g0/1**

**Router(config-if)# ip address dhcp**

**What is the administrator trying to achieve?**

- configuring the router to act as a DHCPv4 server
- configuring the router to obtain IP parameters from a DHCPv4 server
- configuring the router to act as a relay agent
- configuring the router to resolve IP address conflicts

**7. Under which two circumstances would a router usually be configured as a DHCPv4 client? (Choose two.)**

- The router is intended to be used as a SOHO gateway.
- The administrator needs the router to act as a relay agent.
- The router is meant to provide IP addresses to the hosts.
- This is an ISP requirement.
- The router has a fixed IP address.

**8. A network engineer is troubleshooting hosts on a LAN that are not being assigned an IPv4 address from a DHCP server after a new Ethernet switch has been installed on the LAN. The configuration of the DHCP server has been confirmed as correct and the clients have network connectivity to other networks if a static IP address is configured on each one. What step should the engineer take next to solve the issue?**

- Issue the ipconfig/release command on each client.
  - Issue the show ip dhcp binding command on the switch.
  - **Confirm that ports on the Layer 2 LAN switch are configured as edge ports.**
  - Issue the show interface command on the router to confirm that the LAN gateway is operational.
- 9. A host on the 10.10.100.0/24 LAN is not being assigned an IPv4 address by an enterprise DHCP server with the address 10.10.200.10/24. What is the best way for the network engineer to resolve this problem?**
- **Issue the command ip helper-address 10.10.200.10 on the router interface that is the 10.10.100.0/24 gateway.**
  - Issue the command default-router 10.10.200.10 at the DHCP configuration prompt on the 10.10.100.0/24 LAN gateway router.
  - Issue the command ip helper-address 10.10.100.0 on the router interface that is the 10.10.200.0/24 gateway.
  - Issue the command network 10.10.200.0 255.255.255.0 at the DHCP configuration prompt on the 10.10.100.0/24 LAN gateway router.
- 10. A company uses the method SLAAC to configure IPv6 addresses for the workstations of the employees. A network administrator configured the IPv6 address on the LAN interface of the router. The interface status is UP. However, the workstations on the LAN segment did not obtain the correct prefix and prefix length. What else should be configured on the router that is attached to the LAN segment for the workstations to obtain the information?**
- R1(config-if)# ipv6 enable
  - **R1(config)# ipv6 unicast-routing**
  - R1(config-if)# ipv6 nd other-config-flag
  - R1(config)# ipv6 dhcp pool <name of the pool>
- 11. A company uses the SLAAC method to configure IPv6 addresses for the employee workstations. Which address will a client use as its default gateway?**
- the all-routers multicast address
  - **the link-local address of the router interface that is attached to the network**
  - the unique local address of the router interface that is attached to the network
  - the global unicast address of the router interface that is attached to the network
- 12. A network administrator configures a router to send RA messages with M flag as 0 and O flag as 1. Which statement describes the effect of this configuration when a PC tries to configure its IPv6 address?**
- It should contact a DHCPv6 server for all the information that it needs.

- It should use the information that is contained in the RA message exclusively.
- **It should use the information that is contained in the RA message and contact a DHCPv6 server for additional information.**
- It should contact a DHCPv6 server for the prefix, the prefix-length information, and an interface ID that is both random and unique.

**13. A company implements the stateless DHCPv6 method for configuring IPv6 addresses on employee workstations. After a workstation receives messages from multiple DHCPv6 servers to indicate their availability for DHCPv6 service, which message does it send to a server for configuration information?**

- DHCPv6 SOLICIT
- DHCPv6 REQUEST
- DHCPv6 ADVERTISE
- **DHCPv6 INFORMATION-REQUEST**

**14. An administrator wants to configure hosts to automatically assign IPv6 addresses to themselves by the use of Router Advertisement messages, but also to obtain the DNS server address from a DHCPv6 server. Which address assignment method should be configured?**

- SLAAC
- **stateless DHCPv6**
- stateful DHCPv6
- RA and EUI-64

**15. Which protocol supports Stateless Address Autoconfiguration (SLAAC) for dynamic assignment of IPv6 addresses to a host?**

- ARIPv6
- DHCPv6
- **ICMPv6**
- UDP

**16. Refer to the exhibit. Based on the output that is shown, what kind of IPv6 addressing is being configured?**

```

R1# show running-config
<output omitted>
!
ipv6 dhcp pool IPV6
  dns-server 2001:DB8:1234:5678::100
  domain-name netacad.com
!
interface FastEthernet0/0
  <output omitted>
!
  ipv6 nd other-config-flag
  ipv6 dhcp server IPV6
!
<output omitted>

```

- SLAAC
- stateful DHCPv6
- **stateless DHCPv6**
- static link-local

17. A network administrator is implementing DHCPv6 for the company. The administrator configures a router to send RA messages with M flag as 1 by using the interface command `ipv6 nd managed-config-flag`. What effect will this configuration have on the operation of the clients?

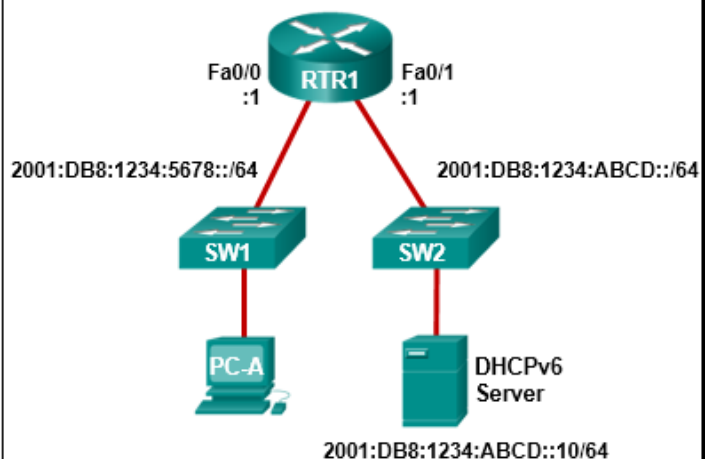
- Clients must use the information that is contained in RA messages.
- **Clients must use all configuration information that is provided by a DHCPv6 server.**
- Clients must use the prefix and prefix length that are provided by a DHCPv6 server and generate a random interface ID.
- Clients must use the prefix and prefix length that are provided by RA messages and obtain additional information from a DHCPv6 server.

18. Refer to the exhibit. What should be done to allow PC-A to receive an IPv6 address from the DHCPv6 server?

```

RTR1# show running-config
hostname RTR1
!
<output omitted>
interface FastEthernet0/0
  ip address dhcp
  duplex auto
  speed auto
  ipv6 address 2001:DB8:1234:5678::1/64
  ipv6 nd managed-config-flag
!
interface FastEthernet0/1
  no ip address
  duplex auto
  speed auto
  ipv6 address 2001:DB8:1234:ABCD::1/64
!
<output omitted>

```



- Add the **ipv6 dhcp relay** command to interface Fa0/0.
- Configure the **ipv6 nd managed-config-flag** command on interface Fa0/1.
- Change the **ipv6 nd managed-config-flag** command to **ipv6 nd other-config-flag**.
- Add the IPv6 address 2001:DB8:1234:5678::10/64 to the interface configuration of the DHCPv6 server.

**19. Refer to the exhibit. A network administrator is implementing stateful DHCPv6 operation for the company. However, the clients are not using the prefix and prefix-length information that is configured in the DHCP pool. The administrator issues a show ipv6 interface command. What could be the cause of the problem?**

```
R1# show ipv6 interface gigabitEthernet 0/0
GigabitEthernet0/0 is up, line protocol is up
  IPv6 is enabled, link-local address is
FE80::523D:E5FF:FEAA:COA0
  No Virtual link-local address(es):
  Global unicast address(es):
    2001:DB8:ACAD:1::1, subnet is 2001:DB8:ACAD:1::/64

<output omitted>

  ICMP error messages limited to one every 100 milliseconds
  ICMP redirects are enabled
  ICMP unreachables are sent
  ND DAD is enabled, number of DAD attempts: 1
  ND reachable time is 30000 milliseconds (using 30000)
  ND advertised reachable time is 0 (unspecified)
  ND advertised retransmit interval is 0 (unspecified)
  ND router advertisements are sent every 200 seconds
  ND router advertisements live for 1800 seconds
  ND advertised default router preference is Medium
  Hosts use stateless autoconfig for addresses.
  Hosts use DHCP to obtain other configuration.
R1#
```

- No virtual link-local address is configured.
- The Duplicate Address Detection feature is disabled.
- The router is configured for SLAAC DHCPv6 operation.
- **The router is configured for stateless DHCPv6 operation.**

**20. Refer to the exhibit. A network administrator is implementing the stateless DHCPv6 operation for the company. Clients are configuring IPv6 addresses as expected. However, the clients are not getting the DNS server address and the domain name information configured in the DHCP pool. What could be the cause of the problem?**

```
R1# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)# ipv6 unicast-routing
R1(config)# ipv6 dhcp pool ACAD_NET
R1(config-dhcp)# dns-server 2001:db8:acad:a1::10
R1(config-dhcp)# domain-name netacad.net
R1(config-dhcp)# exit
R1(config)# interface gigabitEthernet 0/0
R1(config-if)# ipv6 address 2001:db8:acad:1::1/64
R1(config-if)# ipv6 dhcp server ACAD_NET
R1(config-if)# end
R1#

R1# show ipv6 dhcp pool
DHCPv6 pool: ACAD_NET
  DNS server: 2001:DB8:ACAD:A1::10
  Domain name: netacad.net
  Active clients: 0
R1#
```

- The GigabitEthernet interface is not activated.
- **The router is configured for SLAAC DHCPv6 operation.**
- The DNS server address is not on the same network as the clients are on.
- The clients cannot communicate with the DHCPv6 server, evidenced by the number of active clients being 0.

**21. Fill in the blank. Do not abbreviate.**

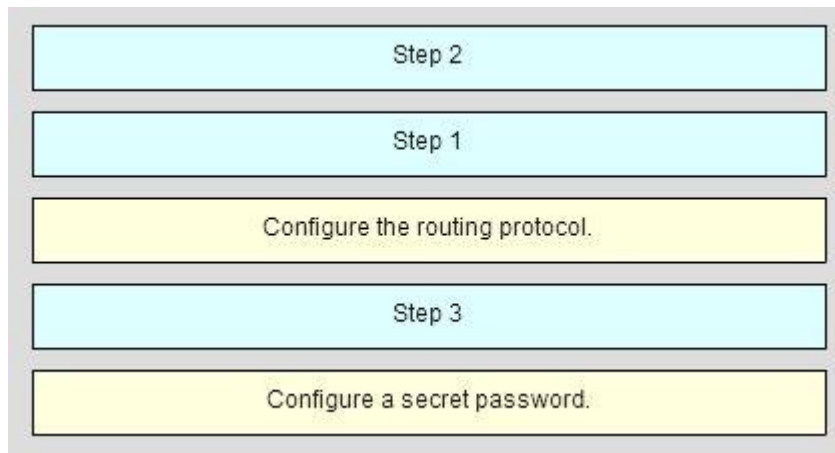
Type a command to exclude the first fifteen useable IP addresses from a DHCPv4 address pool of the network 10.0.15.0/24.

Router(config)# ip dhcp

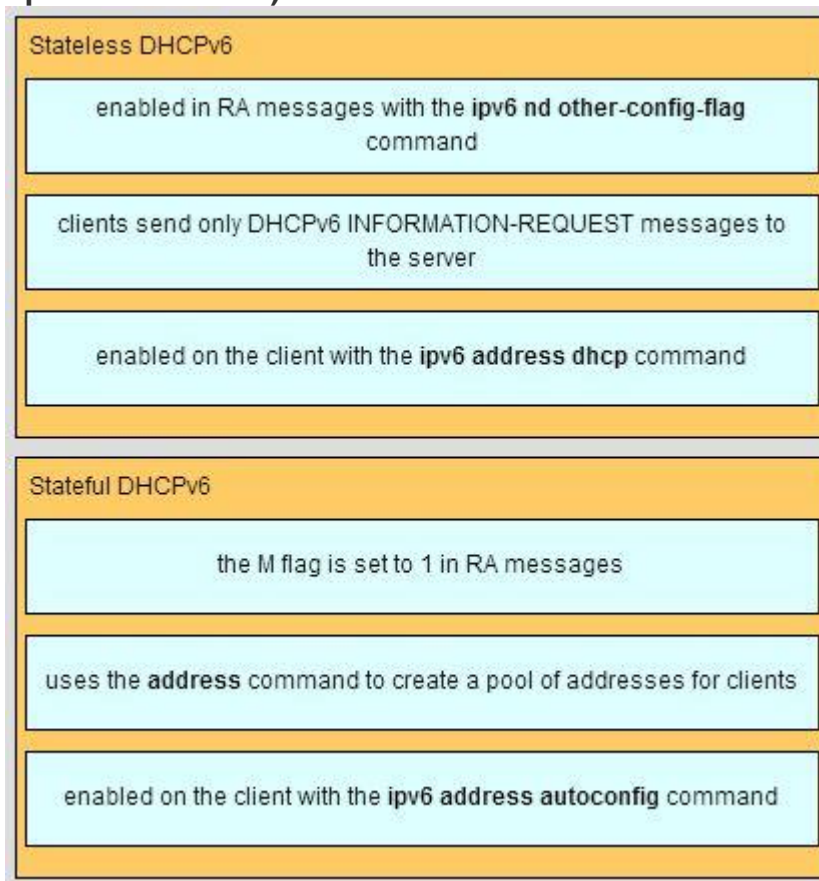
**excluded-address 10.0.15.1 10.0.15.15**

**22. Order the steps of configuring a router as a DHCPv4 server. (Not all options are used.)**





23. Match the descriptions to the corresponding DHCPv6 server type. (Not all options are used.)



24. Open the PT Activity. Perform the tasks in the activity instructions and then answer the question.

How many IP addresses has the DHCP server leased and what is the number of DHCP pools configured? (Choose two.)



- three leases
- six pools
- five leases
- one pool
- two pools
- seven leases