**DV162\_18\_PAS ON DHCP Configuration**

**Possible Answer Sheet**

* What is an IP Scope?  
  Ans: An IP scope defines the range of IP addresses that the DHCP server can assign to devices.
* How do you exclude certain IP addresses?  
  Ans: We can exclude certain IP Addresses by specifying the scope or set DHCP Reservation. There are two ways to exclude certain IP addresses:  
   1. Single IP Address > Enter the specific IP address you want to exclude  
   (e.g. 192.168.1.100).  
   2. IP Address Range > Define the Range of IP Addresses with a subnet   
   mask (e.g. 192.168.1.0/25).
* What is a Scope of a subnet?  
  Ans: The scope of a subnet typically refers to the range of IP addresses available within that subnet. It defines the pool of IP addresses that can be assigned to devices connected to that subnet.  
  It helps determine the range of addresses that can be dynamically allocated or statically assigned to devices within that subnet.
* What is address leases within a scope?  
  Ans: Address leases within a scope mean that the dynamic assignment of IP addresses to devices by a DHCP server. When a device connects to a network configured with DHCP, it requests an IP address lease from the DHCP server. The DHCP server then assigns an IP address from its defined scope to the requesting device for a limited period, known as the lease duration.
* What are reservations within a scope?  
  Ans: Reservation within a scope refers to specifically designated IP addresses set aside for particular devices on the network. Unlike addresses assigned through leases, reservations guarantee a specific IP address to a specific device.
* What are Scope options?  
  Ans: Scope options allow us to configure additional parameters during assignment of IP addresses within DHCP.  
   E.g, we might want to add the IP address of a voice over IP (VoIP) gateway so  
   that all of the devices on our network would know exactly what IP address to  
   contact.
* What is a dynamic assignment?  
  Ans: A dynamic assignment refers to the process of automatically allocating IP addresses to devices on a network **for a temporary period**. This is the core function of DHCP compared to static IP assignment.
* What happens after the lease period has timed out?  
  Ans: After the lease period has timed out then those addresses that were leased will be available to other devices who want to connect to the network.
* What is address reservation?  
  Ans: Address Reservation refers to that a device connecting to the network will always receive that same IP address and that IP address will never be given to a different device on the network. This is usually configured based on the MAC address
* What is a DHCP lease?   
  Ans: A DHCP lease is a temporary assignment of an IP address from a DHCP server to a device on a network.
* What is automatic assignment?  
  Ans: This is the process of automatically distributing IP addresses to devices on a network **for a temporary period**.
* What is the amount of time on a lease?  
  Ans: The Amount of time on lease can be different or depends on network configuration. It may be 8 days or 24 Hours but can be administratively configured.
* What is the T1 timer?  
  Ans: T1 timer is a parameter used to manage the process of renewing IP address  
   leases between DHCP servers and Devices.  
   The T1 timer is calculated as a fraction of the total lease duration.  
   Typically, it is set to 50% of the lease duration. For example, if the lease  
   duration is 8 hours, the T1 timer would be set to 4 hours.
* What is the T2 timer?  
  Ans: It defines the timeframe after which a device attempts to obtain a new IP address from **DHCP server** if it fails to renew its lease with the original server that granted it the lease initially. T2 Timer rebinds with any DHCP server at 87.5% of the lease time when the original DHCP server is down.

Asif khan DV-500 Day-3 SLV-18 Q&A DHCP Configuration

Q1. What are DHCP scope properties?

A. A DHCP scope is a valid range of IP addresses that are available for assignment or lease to

client computers on a particular subnet. In a DHCP server, a scope is configured to determine

the address pool of IPs that the server can provide to DHCP clients. Scopes determine which IP

addresses are provided to the clients.

Q2. What are DHCP pools?

A. Address pool is a set of Internet Protocol addresses available for allocation to users, such as

in host configurations with the DHCP. An address-assignment pool can support either IPv4

address or IPv6 addresses. You cannot use the same pool for both types of address.

Q3. What is DHCP address assignment?

A. The assignment of IP addresses happens dynamically within a given address range. As a result, a device connected to the network doesn't have a forever address. The IP address can

periodically change as its lease time expires unless the lease is successfully renewed.

Q4. What is DHCP address allocation?

A. DHCP assigns an IP address from a pool of addresses for a limited period of time chosen by

the server, or until the client tells the DHCP server that it no longer needs the address.

Q5. What is dhcp address reservation?

A. When you use DHCP IP reservation, you're telling your Wi-Fi network to assign the same IP

address to a specific device whenever that device connects to your network.

Q6. What is dhcp address lease time?

A. When DHCP sends configuration information to a client, the information is sent with a lease

time. This is the length of time that the client can use the IP address it has been assigned. The

duration of the lease time can be changed according to your specific requirement.

Q7. What is DHCP address renewal time?

A. Generally, the recommended time to lease an IP address is 48 hours to renew the IP address

once a day. After applying the specified parameters, clients will receive an IP address for 1

minute, after which they will send a request to the DHCP server for a new IP address every 30

seconds.