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Lab 1

**Question 1:**

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**Question 2**

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**Question 3**

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**Question 4**

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**Question 5**

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**Question 6: Explain Raid 0, 1, and 5?**

The standard Raid Levels of computer storage system consist of basic RAID which is also known as Redundant Array of Independent Disk. Raid comprises of configuration that takes care of techniques like stripping, mirroring, and parity to create large reliable data stores from multiple general purpose computer hard disk drives. Raid 0 or stripes evenly distributes data across two or more disks with no parity, redundancy or faulty data. Raid 1 or mirror contains a copy of a set of data on two or more disks. Raid 5 or distributed parity consists of block-level striping with distributed parity.

**Question 7: Explain why you need a static IP Address on a server. What are the drawbacks, if any? Why was the DNS server IP address set to DC1 rather than some external DNS server and how is that preparing for loading Active Directory?**

A Static IP Address would make sure that the server always has the same address. This is crucial for the stability within the network. One of the drawbacks to IP being static is managing the IP addresses for multiple servers can become cumbersome as the network grows. Setting the DNS server IP address to a domain controller is a best practice in active directory environments, as it ensures that the server has a secure access to the necessary DNS server for the respective Active directory operation and lays the foundation for expansion and redundancy.

**Question 8: Explain why you didn’t install the default gateway? What are the implications of not having default gateway?**

The reason why we didn’t install default gateway is based on the specific network requirement and security consideration. It limits the capability of the device to communicate with external network and this could be acceptable based on the organization requirement and the network infrastructure. This could be one of the implications. Another implication could be isolation of the device and limited functionality.

**Question 9: Explain why in our lab environment we have not enabled automatic updating?**

**Question 10: Even though the “DHCPv4 client service is started”, why does DC1 initially have a “169.254”-based IP Address? What is missing on the network?**

The reason DC1 initially had a “169.254” based IP Address is cause it was unable to obtain an IP address from a DHCP server. The IP address comes under Automatic Private IP Addressing range and it is used in case of device being configured to utilize DHCP but fails to obtain a valid IP address from a DHCP server. The reason behind the machine receiving 169.254 is DHCP server configuration issue, server overload, or connectivity issue. To troubleshoot this, we need to ensure that DHCP server is available to properly configure on the network. Verify the proper connectivity to the DHCP server. Check the server logs for any error and make sure if there are enough IP address available.

**Question 11: What processor is being used?**



**Question 12: How much RAM (“Installed memory”) is available?**

**4.00 gb**

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Question 13: What is the operating system version ?

Microsoft Windows server 2019 Standard



**Question 14: Servers frequently use RAM that is labeled “ECC”, explain what “ECC” is and why it would be useful for a server?**

ECC stands for Error Correcting Code, and it is a type of memory technology servers use. It is designed to investigate and troubleshoot the errors in data stored in the RAM. ECC provides a high level of reliability and data integrity compared to non-ECC memory RAMs. This ECC servers provide longer uptime by detecting and correcting errors. Data integrity is also one of the useful features ECC has for servers. ECC’s memory helps prevent such errors where incorrect calculations, file corruption and system crash doesn’t occur.