Exam Report: 15.1.5 Practice Questions

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Overall Performance

Your Score: 17%

Passing Score: 80%

View results by: ◯ Objective Analysis   ◉ Individual Responses

Individual Responses

▼ **Question 1:**   <u>Incorrect</u>

You are the server administrator for the eastsim.com domain.

You have an application server named Srv12 that runs a stateless web application using IIS. Because of recent growth, this server is becoming unable to process all incoming requests in a timely manner.

You would like to add a second server to run the application. Your solution should meet the following requirements:

- Client requests should be divided evenly between the two servers.
- If one server goes down, all requests should go to the other server.
- All application data will be stored on internal parallel SCSI drives on each server.

You install the application on the second server. You now need to configure a solution to meet the requirements.

What should you do?

◯ Configure DNS round robin with a host (A) record for each server.

◉ ~~Configure both servers in a Failover Clustering cluster.~~

◯ Configure both servers in a Remote Desktop server farm. Configure a third server as an RD Connection Broker.

➡ ◯ Configure both servers in a Network Load Balancing (NLB) cluster.

Explanation

For this scenario, use a Network Load Balancing (NLB) cluster. NLB provides both load balancing and failover for application servers. NLB works best with stateless applications (applications that do not save state information between sessions). Because each server maintains its own copy of the data, NLB works best for applications where the data is relatively static or where you can easily replicate data between servers.

Failover Clustering cannot be used in this scenario for several reasons:

- Failover Clustering works best for stateful applications. If you need to provide redundancy for stateless applications, NLB might be the better choice.
- Failover Clustering uses shared storage between servers.
- Failover Clustering does not support internal parallel SCSI storage.

Use a Remote Desktop server farm when you need to allow users to launch applications; Remote Desktop is not used to provide redundancy and fault tolerance for applications that are running on an application server.

DNS round robin is a way to distribute client requests between two servers. However, if one server goes down, client requests continue to be directed to that server.

References

LabSim for Server Pro 2016, Section 15.1.
[AllQuestions_ServerPro_2017.exm NLB 01]

▼

Question 2:   Incorrect

Drag the load balancing term on the left to the appropriate description on the right.

The process that cluster members use to reach a consistent state.

| Heartbeat | Convergence |

Periodic heartbeat signals sent by cluster members to maintain consistent information about cluster membership.

| Convergence | Heartbeat |

Cluster hosts retain their network adapter's original hardware MAC address.

| Unicast mode | Multicast mode |

MAC addresses used by cluster hosts are replaced by a single cluster MAC address.

| Multicast mode | Unicast mode |

Explanation

Load balancing is a technique that disperses a workload between two or more computers or resources to achieve optimal resource utilization, throughput, or response time. Network load balancing (NLB) improves performance by distributing the workload between multiple servers and provides fault tolerance so that if one server is unavailable, additional servers are available to fulfill the request.

Following are common terms used with NLB:

- **Heartbeat**: periodic heartbeat signals sent by cluster members to maintain consistent information about cluster membership.
- **Convergence**: the process that cluster members use to reach a consistent state.
- **Unicast mode**: MAC addresses used by cluster hosts are replaced by a single cluster MAC address.
- **Multicast mode**: cluster hosts retain their network adapter's original hardware MAC address.

References

LabSim for Server Pro 2016, Section 15.1.
[AllQuestions_ServerPro_2017.exm NLB 02]

▼ **Question 3:**   Incorrect

You are the network administrator for Corpnet.com. Management has requested that the intranet website intranet.corpnet.com be configured for high availability. You have two Windows servers named Web1 and Web2. IIS has been installed and configured with a copy of the website on both servers. The Network Load Balancing feature has also been installed on both servers.

You need to prepare the environment to create a Network Load Balancing cluster to provide high availability for the intranet web site.

What must you do so clients are able to access the website using http://intranet.corpnet.com? (Choose two.)

- ☑ Create A records in DNS that map intranet.corpnet.com to the IP addresses of Web1 and Web2.

- ➡ ☐ Create an A record in DNS that maps intranet.corpnet.com to the IP address reserved for the NLB cluster.

- ➡ ☐ Reserve an unused valid IP address on the network to be assigned to the NLB cluster.

- ☑ Create a CNAME record in DNS for each web server that maps intranet.corpnet.com to the IP addresses of the server.

- ☐ Manually add an unused IP address to the Advanced properties of TCP/IPv4.

Explanation

You should reserve an unused valid IP address on the network to be assigned to the NLB cluster and then create an A record in DNS that maps the FQDN, intranet.corpnet.com, to the IP address reserved for the NLB cluster.

When configuring an NLB cluster, each server has its own host name and IP address. The cluster name is assigned using the wizard. The wizard also requires you to provide an unused IP address on the network

that will be used for the NLB cluster. Clients should be pointed to the cluster IP address using an A record in DNS. Specify the IP address for the cluster using the NLB wizard, the IP address will be automatically added to the Advanced properties of TCP/IPv4. It is not necessary to do this manually; manual configuration may result in errors in the wizard.

Client requests should not be sent to the IP addresses of the node servers in the cluster, but should be pointed to the FQDN of the NLB cluster as specified during the configuration wizard. You must create an A record in DNS to map the cluster IP address to the FQDN of the cluster. This allows all of the machines in the NLB cluster to receive traffic simultaneously and implement load balancing and fault tolerance. If you created multiple CNAME records, you would be using DNS round robin load balancing, and NLB load balancing would not work properly. Additionally, if one of the servers failed, there would be no fault tolerance for the clients.

References

LabSim for Server Pro 2016, Section 15.1.
[AllQuestions_ServerPro_2017.exm NLB 03]

▼ **Question 4:**   <u>Incorrect</u>

You are the network administrator for Corpnet.com. You have created a Network Load Balancing cluster to provide high availability for the intranet website. The NLB cluster consists of three web servers, Web1, Web2 and Web3. Each web server has one network card installed.

After configuring the NLB cluster, you determine that the web servers in the cluster are unable to communicate with each other.

What must you do to reconfigure the cluster to allow communication between the cluster members?

- ◯ Modify the port rules on each member of the cluster.

- ◉ ~~Change the cluster operation mode to Unicast.~~

➡ ◯ Change the cluster operation mode to Multicast.

- ◯ Change the affinity for the default port rule.

Explanation

You should change the cluster operation mode to Multicast.

You distribute incoming requests to cluster members using unicast or multicast cluster operation mode. Both methods send the incoming client requests to all hosts by sending the request to the cluster's MAC address. The unicast method overwrites the original MAC address of the cluster adapter with the unicast MAC address that is assigned to all the cluster hosts so that all cluster hosts share an identical unicast MAC address. The multicast method allows each host to retain the original MAC address of the adapter. In addition to the original MAC address of the adapter, the adapter is assigned a multicast MAC address, which is shared by all cluster hosts. Since Unicast mode modifies the MAC address of all cluster hosts to be identical, the cluster hosts cannot communicate directly with one another when using unicast unless they have an additional network card. Therefore, if the cluster hosts have only one network card, you should use the Multicast cluster operation mode.

Port rules specify which ports will be serviced by Network Load Balancing and the affinity for that port. They would not affect intra-cluster communication.

References

LabSim for Server Pro 2016, Section 15.1.
[AllQuestions_ServerPro_2017.exm NLB 04]

▼ **Question 5:**   <u>Incorrect</u>

You are the network administrator for corpnet.com. You are creating a Network Load Balancing cluster to provide high availability for the intranet website. You have three web servers, Web1, Web2, and Web3, which are configured as follows:

- Each server has one network card installed.
- Each server has its own disk storage.
- Each server has the same data.
- Each server receives an IP address dynamically from the DHCP server.
- Each server has the IIS role installed.
- Each server has the NLB feature installed.

Are you ready to configure these servers into an NLB cluster?

- ◉

○ Yes. These servers are ready to be configured as an NLB cluster.

➡ ○ No. Each server should be assigned a static IP address.

○ No. These servers should be using a SAN for storing data.

○ No. Each server must have two network cards installed.

Explanation

No. You are not ready to configure these servers into an NLB cluster. The problem with this configuration is that these servers are getting their IP addresses dynamically from a DHCP server. Servers in an NLB cluster must use static IP addresses.

Each server in an NLB cluster must have its own disk storage system. To provide a consistent experience for all clients regardless of which cluster member they connect to, data accessible through the cluster should be duplicated between cluster members. Each server in a cluster needs at least one network adapter to communicate with clients on the network; a second network adapter can be installed in each server, if desired, to provide connectivity between cluster hosts.

References

LabSim for Server Pro 2016, Section 15.1.
[AllQuestions_ServerPro_2017.exm NLB 05]

▼ **Question 6:**   Correct

You are the network administrator for corpnet.com. You are creating a Network Load Balancing cluster to provide high availability for the intranet website www.corpnet.com. You have three web servers, web1.corpnet.com, web2.corpnet.com, and web3.corpnet.com.

You have performed the following configuration tasks:

   • Each server has one network card installed.
   • Each server has its own disk storage.
   • Each server has the same data.
   • Each server has a static IP address.
   • Each server has the IIS role installed.
   • Each server has the NLB feature installed.
   • Each server has been added to the cluster.
   • The cluster has been assigned its own IP address.

When you test access to www.corpnet.com, you get a message that the site can't be reached.

Which step still needs to be done?

○ Configure a port rule with Multiple Host as the filtering mode.

○ Create A records in DNS that point to the IP addresses of web1.corpnet.com, web2.corpnet.com, and web3.corpnet.com.

➡ ⦿ Create an A record in DNS that points www.corpnet.com to the cluster's IP address.

○ Duplicate the data on each server's disk storage.

○ Configure a port rule with Single Host as the filtering mode.

○ Trigger convergence between the cluster members.

Explanation

When you test access to www.corpnet.com, you get a message that the site can't be reached because there is no DNS A record that points to the cluster's IP address. The DNS server does not have an address for www.corpnet.com. Be sure to create a host record (A or AAAA) in DNS to identify the cluster host name and IP address. Client computers use this host name and IP address to connect to the cluster.

Multiple host and single host are filtering modes used to control how traffic from clients is directed to member servers in the cluster. The data on each member server's disk storage should be duplicated to provide a consistent experience for the users of the website, but not having duplicate data will not return an error message.

Convergence is triggered by the following events:

   • An expected heartbeat from a known cluster member is not received within five seconds. This

condition identifies that a cluster member is missing.
• A heartbeat is received from a new cluster
member.
• A configuration change to the cluster or a cluster member occurs. Changes made to the cluster on
one member are propagated to all other members through convergence.

References

LabSim for Server Pro 2016, Section 15.1.
[AllQuestions_ServerPro_2017.exm NLB 06]