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Exam : **AZ-301**

Title : Microsoft Azure Architect
Design

Version : DEMO

1. Topic 1, Case Study A

Overview:

Existing Environment

Fabrikam, Inc. is an engineering company that has offices throughout Europe. The company has a main office in London and three branch offices in Amsterdam Berlin, and Rome.

Active Directory Environment:

The network contains two Active Directory forests named corp.fabrikam.com and rd.fabrikam.com. There are no trust relationships between the forests. Corp.fabrikam.com is a production forest that contains identities used for internal user and computer authentication. Rd.fabrikam.com is used by the research and development (R&D) department only.

Network Infrastructure:

Each office contains at least one domain controller from the corp.fabrikam.com domain. The main office contains all the domain controllers for the rd.fabrikam.com forest.

All the offices have a high-speed connection to the Internet.

An existing application named WebApp1 is hosted in the data center of the London office. WebApp1 is used by customers to place and track orders. WebApp1 has a web tier that uses Microsoft Internet Information Services (IIS) and a database tier that runs Microsoft SQL Server 2016. The web tier and the database tier are deployed to virtual machines that run on Hyper-V.

The IT department currently uses a separate Hyper-V environment to test updates to WebApp1. Fabrikam purchases all Microsoft licenses through a Microsoft Enterprise Agreement that includes Software Assurance.

Problem Statement:

The use of Web App1 is unpredictable. At peak times, users often report delays. At other times, many resources for WebApp1 are underutilized.

Requirements:

Planned Changes:

Fabrikam plans to move most of its production workloads to Azure during the next few years. As one of its first projects, the company plans to establish a hybrid identity model, facilitating an upcoming Microsoft Office 365 deployment. All R&D operations will remain on-premises. Fabrikam plans to migrate the production and test instances of WebApp1 to Azure.

Technical Requirements:

Fabrikam identifies the following technical requirements:

- Web site content must be easily updated from a single point.
- User input must be minimized when provisioning new app instances.
- Whenever possible, existing on premises licenses must be used to reduce cost.
- Users must always authenticate by using their corp.fabrikam.com UPN identity.
- Any new deployments to Azure must be redundant in case an Azure region fails.
- Whenever possible, solutions must be deployed to Azure by using platform as a service (PaaS).

- An email distribution group named IT Support must be notified of any issues relating to the directory synchronization services.
- Directory synchronization between Azure Active Directory (Azure AD) and corp.fabhkam.com must not be affected by a link failure between Azure and the on premises network.

Database Requirements:

Fabrikam identifies the following database requirements:

- Database metrics for the production instance of WebApp1 must be available for analysis so that database administrators can optimize the performance settings.
- To avoid disrupting customer access, database downtime must be minimized when databases are migrated.
- Database backups must be retained for a minimum of seven years to meet compliance requirement

Security Requirements:

Fabrikam identifies the following security requirements:

- * Company information including policies, templates, and data must be inaccessible to anyone outside the company
- * Users on the on-premises network must be able to authenticate to corp.fabrikam.com if an Internet link fails.
- * Administrators must be able authenticate to the Azure portal by using their corp.fabrikam.com credentials.
- * All administrative access to the Azure portal must be secured by using multi-factor authentication.
- * The testing of WebApp1 updates must not be visible to anyone outside the company.

HOTSPOT

To meet the authentication requirements of Fabrikam, what should you include in the solution? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Minimum number of Azure AD tenants:

	▼
0	
1	
2	
3	
4	

Minimum number of custom domains to add:

	▼
0	
1	
2	
3	
4	

Minimum number of conditional access policies to create:

	▼
0	
1	
2	
3	
4	

Answer:

Minimum number of Azure AD tenants:

	▼
0	
1	
2	
3	
4	

Minimum number of custom domains to add:

	▼
0	
1	
2	
3	
4	

Minimum number of conditional access policies to create:

	▼
0	
1	
2	
3	
4	

2.You need to recommend a data storage strategy for WebApp1.

What should you include in in the recommendation?

- A. an Azure SQL Database elastic pool
- B. a vCore-based Azure SQL database
- C. an Azure virtual machine that runs SQL Server
- D. a fixed-size DTU AzureSQL database.

Answer: B

3.You need to recommend a strategy for migrating the database content of WebApp1 to Azure.

What should you include in the recommendation?

- A. Use Azure Site Recovery to replicate the SQL servers to Azure.
- B. Use SQL Server transactional replication.
- C. Copy the BACPAC file that contains the Azure SQL database file to Azure Blob storage.
- D. Copy the VHD that contains the Azure SQL database files to Azure Blob storage

Answer: B

4.You need to recommend a strategy for the web tier of WebApp1. The solution must minimize What should you recommend?

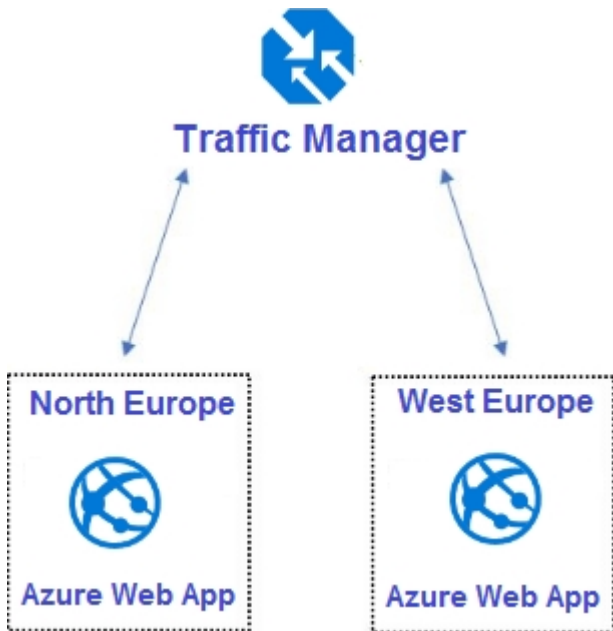
- A. Create a runbook that resizes virtual machines automatically to a smaller size outside of business hours.
- B. Configure the Scale Up settings for a web app.

- C. Deploy a virtual machine scale set that scales out on a 75 percent CPU threshold.
- D. Configure the Scale Out settings for a web app.

Answer: D

5.HOTSPOT

You design a solution for the web tier of WebApp1 as shown in the exhibit.



For each of the following statements, select Yes if the statement is true. Otherwise, select No.

Answer Area

Statements	Yes	No
The design supports the technical requirements for redundancy.	<input type="radio"/>	<input type="radio"/>
The design supports autoscaling.	<input type="radio"/>	<input type="radio"/>
The design requires a manual configuration if an Azure region fails.	<input type="radio"/>	<input type="radio"/>

Answer:

Answer Area

Statements	Yes	No
The design supports the technical requirements for redundancy.	<input checked="" type="radio"/>	<input type="radio"/>
The design supports autoscaling.	<input checked="" type="radio"/>	<input type="radio"/>
The design requires a manual configuration if an Azure region fails.	<input type="radio"/>	<input checked="" type="radio"/>

Explanation:

Box 1: Yes

Any new deployments to Azure must be redundant in case an Azure region fails.

Traffic Manager uses DNS to direct client requests to the most appropriate service endpoint based on a traffic-routing method and the health of the endpoints. An endpoint is any Internet-facing service hosted inside or outside of Azure. Traffic Manager provides a range of traffic-routing methods and endpoint monitoring options to suit different application needs and automatic failover models. Traffic Manager is resilient to failure, including the failure of an entire Azure region.

Box 2: Yes

Recent changes in Azure brought some significant changes in autoscaling options for Azure Web Apps (i.e. Azure App Service to be precise as scaling happens on App Service plan level and has effect on all Web Apps running in that App Service plan).

Box 3: No

Traffic Manager provides a range of traffic-routing methods and endpoint monitoring options to suit different application needs and automatic failover models. Traffic Manager is resilient to failure, including the failure of an entire Azure region.

Reference:

<https://docs.microsoft.com/en-us/azure/traffic-manager/traffic-manager-overview>

<https://blogs.msdn.microsoft.com/hsirtl/2017/07/03/autoscaling-azure-web-apps/>