- **Vendor: Microsoft**
- **Exam Code: AZ-301**
- **Exam Name: Microsoft Azure Architect Design**
- **New Updated Questions from Braindump2go (Updated in May/2020)**

QUESTION 130
Note: This question is part of series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
A company has custom ASP.NET and Java applications that run old versions of Windows and Linux. The company plans to place applications in containers.
You need to design a solution that includes networking, service discovery, and load balancing for the applications. The solution must support storage orchestration.
Solution: You create an Azure virtual network, public IP address, and load balancer. Then add virtual machines (VMs) to the solution and deploy individual containers on them.
Does the solution meet the goal?

A. Yes
B. No

Answer: B
Explanation:
Instead you should deploy each application to an Azure Container instance.
Note: Docker Containers are the global standard and are natively supported in Azure, offering enterprises an interesting and flexible way to migrate legacy apps for both future proofing and cost benefits.
References:
https://docs.microsoft.com/en-us/dotnet/standard/modernize-with-azure-and-containers/modernize-existing-apps-to-cloud-optimized/deploy-existing-net-apps-as-windows-containers

QUESTION 131
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After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
A company has custom ASP.NET and Java applications that run old versions of Windows and Linux. The company plans to place applications in containers.
You need to design a solution that includes networking, service discovery, and load balancing for the applications. The solution must support storage orchestration.
Solution: Deploy a Kubernetes cluster that has the desired number of instances of the applications.
Does the solution meet the goal?

A. Yes
B. No

Answer: B

Explanation:
Instead you should deploy each application to an Azure Container instance.
Note: Docker Containers are the global standard and are natively supported in Azure, offering enterprises an interesting and flexible way to migrate legacy apps for both future proofing and cost benefits.
References:
https://docs.microsoft.com/en-us/dotnet/standard/modernize-with-azure-and-containers/modernize-existing-apps-to-cloud-optimized/deploy-existing-net-apps-as-windows-containers

QUESTION 132
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After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
A company has custom ASP.NET and Java applications that run old versions of Windows and Linux. The company plans to place applications in containers.
You need to design a solution that includes networking, service discovery, and load balancing for the applications. The solution must support storage orchestration.
Solution: You deploy each application to an Azure Container instance.
Does the solution meet the goal?

A. Yes
B. No

Answer: A
Explanation:
Docker Containers are the global standard and are natively supported in Azure, offering enterprises an interesting and flexible way to migrate legacy apps for both future proofing and cost benefits.
Containers are modular and portable. Docker containers are supported on any server operating system (Linux and Windows), in any major public cloud (Microsoft Azure, Amazon AWS, Google, IBM), and in on-premises and private or hybrid cloud environments.
References:
https://docs.microsoft.com/en-us/dotnet/standard/modernize-with-azure-and-containers/modernize-existing-apps-to-cloud-optimized/deploy-existing-net-apps-as-windows-containers

QUESTION 133
You are designing an Azure solution.
The network traffic for the solution must be securely distributed by providing the following features:
```
- HTTPS protocol
- Round robin routing
- SSL offloading
```
You need to recommend a load balancing option.
What should you recommend?

A. Azure Load Balancer
B. Azure Traffic Manager
C. Azure Internal Load Balancer (ILB)
D. Azure Application Gateway

Answer: D
Explanation:
If you are looking for Transport Layer Security (TLS) protocol termination ("SSL offload") or per-HTTP/HTTPS request, application-layer processing, review Application Gateway.
Application Gateway is a layer 7 load balancer, which means it works only with web traffic (HTTP, HTTPS, WebSocket, and HTTP/2). It supports capabilities such as SSL termination, cookie-based session affinity, and round robin for load-balancing traffic. Load Balancer load-balances traffic at layer 4 (TCP or UDP).
References:
https://docs.microsoft.com/en-us/azure/application-gateway/application-gateway-faq

QUESTION 134
You manage a solution in Azure.
You must collect usage data including MAC addresses from all devices on the network.
You need to recommend a monitoring solution.
What should you recommend?

A. Activity Log Analytics
B. Azure Network Security Group Analytics
C. Network Performance Monitor
D. Azure Application Gateway Analytics
E. Azure Wire Data

Answer: B
Explanation:
A network security group (NSG) includes rules that allow or deny traffic to a virtual network subnet, network interface, or both. When you enable diagnostic logging for an NSG, you can log the following categories of information:
Event: Entries are logged for which NSG rules are applied to VMs, based on MAC address. The status for these rules is collected every 60 seconds.
Rule counter: Contains entries for how many times each NSG rule is applied to deny or allow traffic.
References:
https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-nsg-manage-log

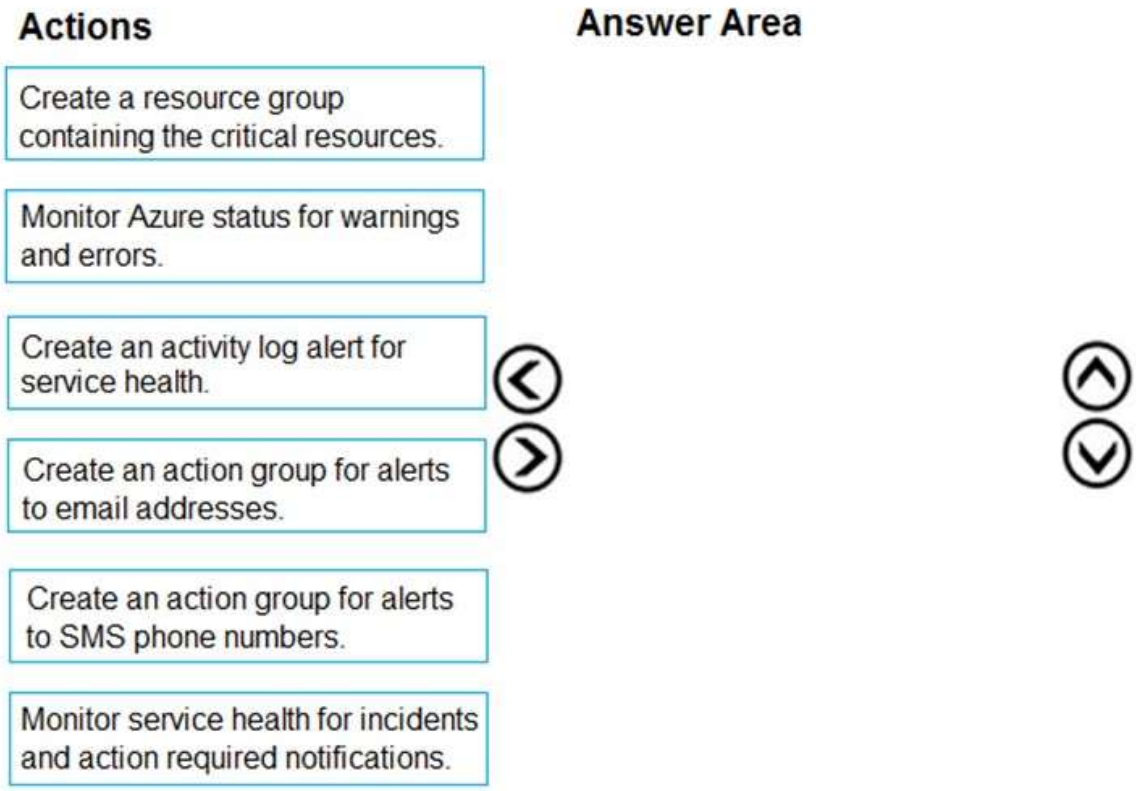
QUESTION 135
A partner manages on-premises and Azure environments. The partner deploys an on-premises solution that needs to use Azure services. The partner deploys a virtual appliance.
All network traffic that is directed to a specific subnet must flow through the virtual appliance.
You need to recommend solutions to manage network traffic.
Which two options should you recommend? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. Configure Azure Traffic Manager
B. Implement an Azure virtual network
C. Configure a routing table with forced tunneling
D. Implement Azure ExpressRoute

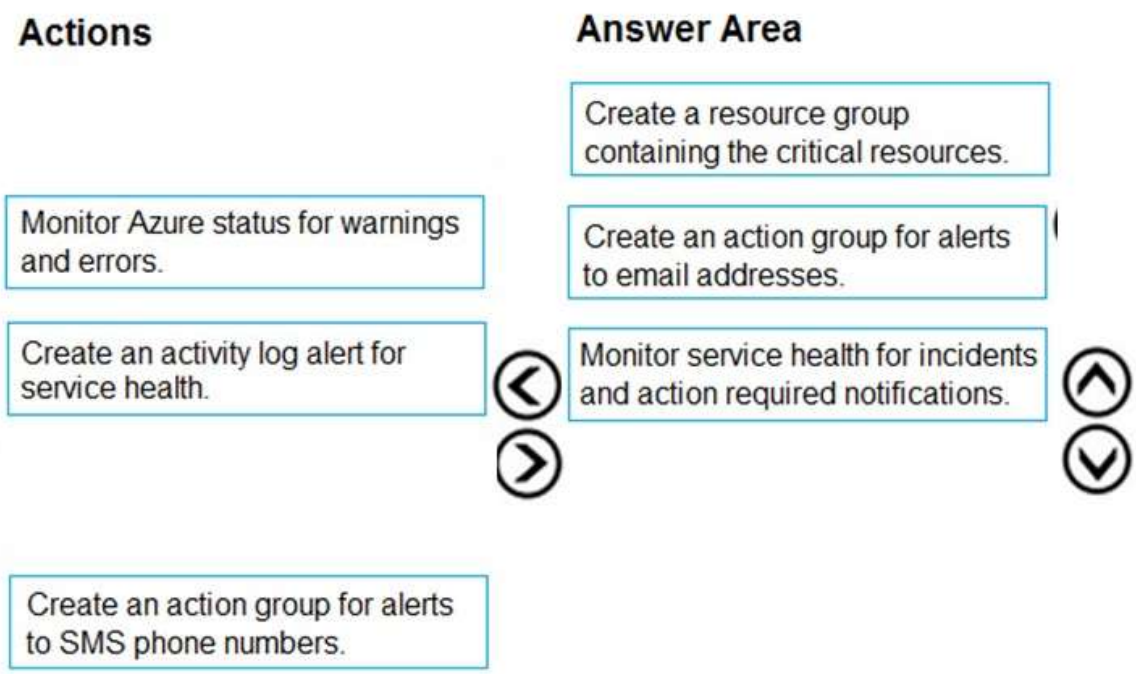
Answer: CD
Explanation:
C: Forced tunneling lets you redirect or "force" all Internet-bound traffic back to your on-premises location via a Site-to-Site VPN tunnel for inspection and auditing.
This is a critical security requirement for most enterprise IT policies. Without forced tunneling, Internet-bound traffic from your VMs in Azure always traverses from Azure network infrastructure directly out to the Internet, without the option to allow you to inspect or audit the traffic.
Forced tunneling in Azure is configured via virtual network user-defined routes.
D: ExpressRoute lets you extend your on-premises networks into the Microsoft cloud over a private connection facilitated by a connectivity provider. With ExpressRoute, you can establish connections to Microsoft cloud services, such as Microsoft Azure, Office 365, and Dynamics 365.
Connectivity can be from an any-to-any (IP VPN) network, a point-to-point Ethernet network, or a virtual cross-connection through a connectivity provider at a co- location facility. ExpressRoute connections do not go over the public Internet. This allows ExpressRoute connections to offer more reliability, faster speeds, lower latencies, and higher security than typical connections over the Internet.
References:
https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-forced-tunneling-rm
https://docs.microsoft.com/en-us/azure/expressroute/expressroute-introduction

QUESTION 136
Drag and Drop Question
You plan to move several apps that handle critical line-of-business (LOB) services to Azure.
Appropriate personnel must be notified if any critical resources become degraded or unavailable.
You need to design a monitoring and notification strategy that can handle up to 100 notifications per hour.

Which three actions should you recommend be performed in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.
NOTE: More than one order of answer choices is correct. You will receive credit for any of the correct orders you select.



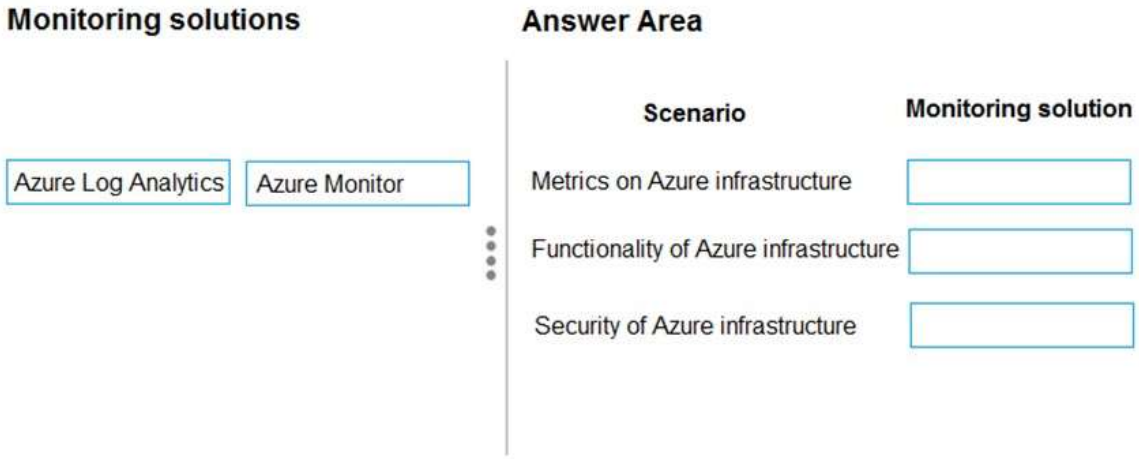
Answer:



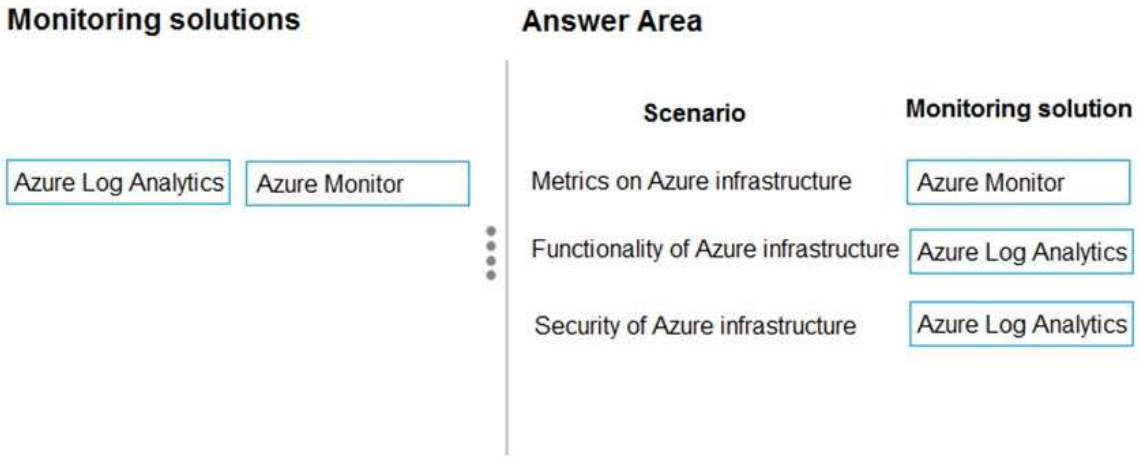
Explanation:
Step 1: Create a resource group containing the critical resources.

In step 2 the action group should be created within this Resource Group.
Step 2: Create an action group for alerts to email addresses.
You configure an action to notify a person by email or SMS, they receive a confirmation indicating they have been added to the action group.
The rate limit thresholds are:
SMS: No more than 1 SMS every 5 minutes.
Voice: No more than 1 Voice call every 5 minutes.
Email: No more than 100 emails in an hour.
Step 3: Monitor service health for incidents and action required notifications
An action group is a collection of notification preferences defined by the owner of an Azure subscription. Azure Monitor and Service Health alerts use action groups to notify users that an alert has been triggered.
References:
https://docs.microsoft.com/en-us/azure/azure-monitor/platform/alerts-rate-limiting

QUESTION 137
Drag and Drop Question
You manage a solution in Azure.
The solution is performing poorly.
You need to recommend tools to determine causes for the performance issues.
What should you recommend? To answer, drag the appropriate monitoring solutions to the correct scenarios. Each monitoring solution may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.
NOTE: Each correct selection is worth one point.



Answer:



Explanation:
Box 1: Azure Monitor
Metrics in Azure Monitor are stored in a time-series database which is optimized for analyzing time-stamped data. This makes metrics particularly suited for alerting and fast detection of issues.
Box 2: Azure Log Analytics

Log data collected by Azure Monitor is stored in a Log Analytics workspace, which is based on Azure Data Explorer. Logs in Azure Monitor are especially useful for performing complex analysis across data from a variety of sources.
Box 3: Azure Log Analytics
References:
https://docs.microsoft.com/en-us/azure/azure-monitor/platform/data-platform
https://docs.microsoft.com/en-us/azure/azure-monitor/platform/data-platform-logs

QUESTION 138
Hotspot Question
You manage a network that includes an on-premises Active Directory Domain Services domain and an Azure Active Directory (Azure AD).
Employees are requires to use different accounts when using on-premises or cloud resources. You must recommend a solution that lets employees sign in to all company resources by using a single account. The solution must implement an identity provider.
You need provide guidance on the different identity providers.
How should you describe each identity provider? To answer, select the appropriate description from each list in the answer area.
NOTE: Each correct selection is worth one point.

Answer Area

Identity provider	Description
synchronized identity	User management occurs on-premises. Azure AD authenticates employees by using on-premises passwords. User management occurs on-premises. The on-premises domain controller authenticates employee credentials. Both user management and authentication occur in Azure AD.
federated identity	User management occurs on-premises. Azure AD authenticates employees by using on-premises passwords. User management occurs on-premises. The on-premises domain controller authenticates employee credentials. Both user management and authentication occur in Azure AD.

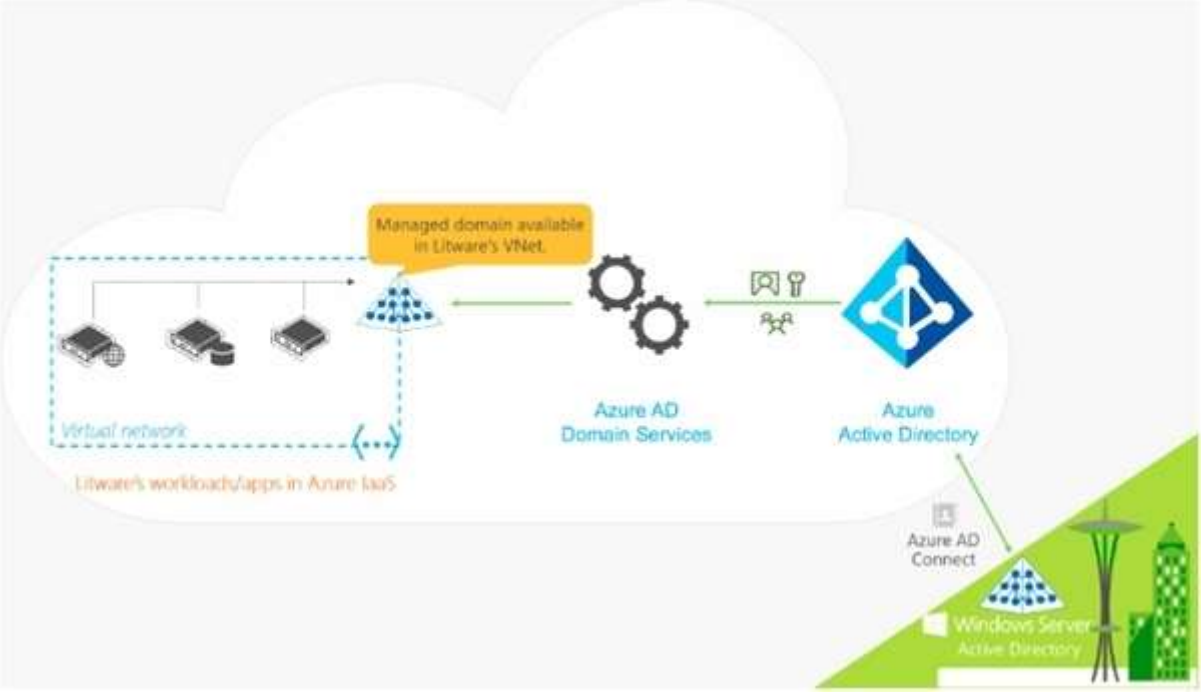
Answer:

Answer Area

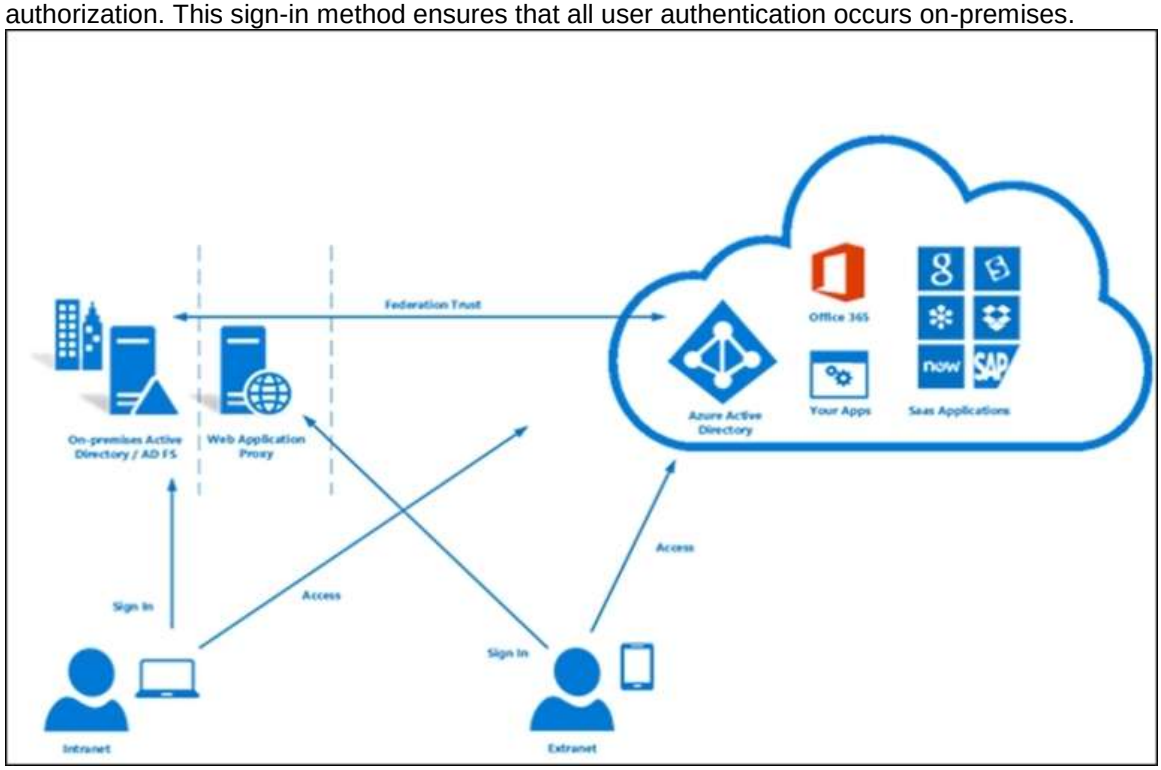
Identity provider	Description
synchronized identity	User management occurs on-premises. Azure AD authenticates employees by using on-premises passwords. User management occurs on-premises. The on-premises domain controller authenticates employee credentials. Both user management and authentication occur in Azure AD.
federated identity	User management occurs on-premises. Azure AD authenticates employees by using on-premises passwords. User management occurs on-premises. The on-premises domain controller authenticates employee credentials. Both user management and authentication occur in Azure AD.

Explanation:
Box1: User management occurs on-premises. Azure AD authenticates employees by using on-premises passwords.
Azure AD Domain Services for hybrid organizations
Organizations with a hybrid IT infrastructure consume a mix of cloud resources and on-premises resources. Such

organizations synchronize identity information from their on-premises directory to their Azure AD tenant. As hybrid organizations look to migrate more of their on-premises applications to the cloud, especially legacy directory-aware applications, Azure AD Domain Services can be useful to them.
Example: Litware Corporation has deployed Azure AD Connect, to synchronize identity information from their on-premises directory to their Azure AD tenant. The identity information that is synchronized includes user accounts, their credential hashes for authentication (password hash sync) and group memberships.



User accounts, group memberships, and credentials from Litware's on-premises directory are synchronized to Azure AD via Azure AD Connect. These user accounts, group memberships, and credentials are automatically available within the managed domain.
Box 2: User management occurs on-premises. The on-promises domain controller authenticates employee credentials. You can federate your on-premises environment with Azure AD and use this federation for authentication and authorization. This sign-in method ensures that all user authentication occurs on-premises.

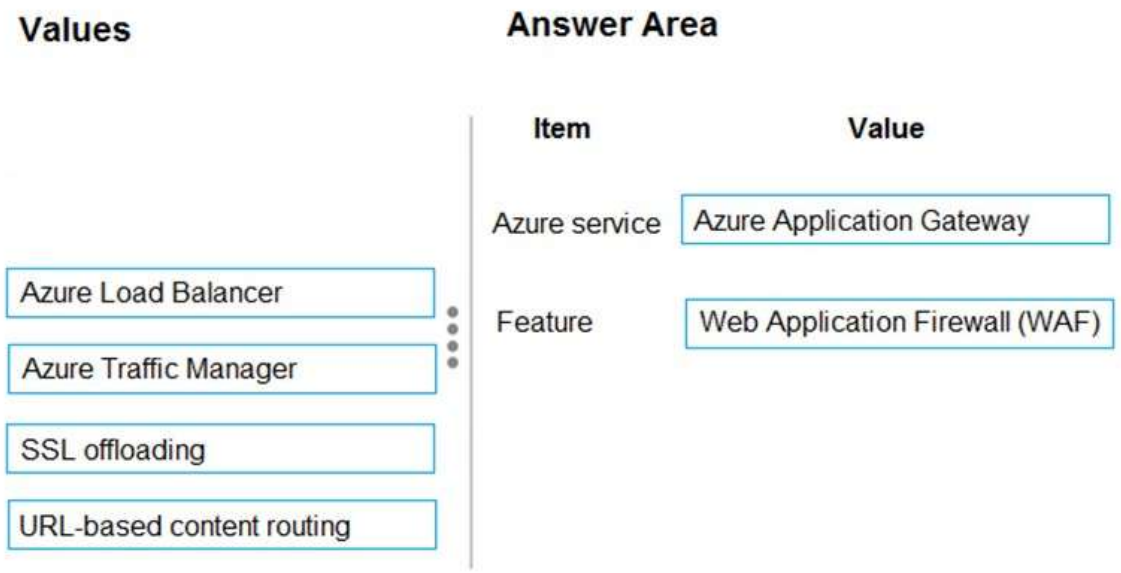


References:

https://docs.microsoft.com/en-us/azure/active-directory-domain-services/active-directory-ds-overview
https://docs.microsoft.com/en-us/azure/active-directory/hybrid/whatis-fed

QUESTION 139
Drag and Drop Question
A company has an existing web application that runs on virtual machines (VMs) in Azure.
You need to ensure that the application is protected from SQL injection attempts and uses a layer-7 load balancer. The solution must minimize disruption to the code for the existing web application.
What should you recommend? To answer, drag the appropriate values to the correct items. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.
NOTE: Each correct selection is worth one point.

Answer:



Explanation:
Box 1: Azure Application Gateway
Azure Application Gateway provides an application delivery controller (ADC) as a service. It offers various layer 7 load-balancing capabilities for your applications.
Box 2: Web Application Firwewall (WAF)
Application Gateway web application firewall (WAF) protects web applications from common vulnerabilities and exploits. This is done through rules that are defined based on the OWASP core rule sets 3.0 or 2.2.9.
There are rules that detects SQL injection attacks.
References:

https://docs.microsoft.com/en-us/azure/application-gateway/application-gateway-faq
https://docs.microsoft.com/en-us/azure/application-gateway/waf-overview

QUESTION 140
Hotspot Question
Your company deploys several Linux and Windows virtual machines (VMs) to Azure. The VMs are deployed with the Microsoft Dependency Agent and the Log Analytics Agent installed by using Azure VM extensions. On-premises connectivity has been enabled by using Azure ExpressRoute.
You need to design a solution to monitor the VMs.
Which Azure monitoring services should you use? To answer, select the appropriate Azure monitoring services in the answer area.
NOTE: Each correct selection is worth one point.

Answer Area

Scenario	Azure Monitoring Service
Analyze Network Security Group (NSG) flow logs for VMs attempting Internet access.	Azure Traffic Analytics Azure ExpressRoute Monitor Azure Service Endpoint Monitor Azure DNS Analytics
Visualize the VMs with their different processes and dependencies on other computers and external processes.	Azure Service Map Azure Activity Log Azure Service Health Azure Advisor

Answer:

Answer Area

Scenario	Azure Monitoring Service
Analyze Network Security Group (NSG) flow logs for VMs attempting Internet access.	Azure Traffic Analytics Azure ExpressRoute Monitor Azure Service Endpoint Monitor Azure DNS Analytics
Visualize the VMs with their different processes and dependencies on other computers and external processes.	Azure Service Map Azure Activity Log Azure Service Health Azure Advisor

Explanation:
Box 1: Azure Traffic Analytics
Traffic Analytics is a cloud-based solution that provides visibility into user and application activity in cloud networks. Traffic analytics analyzes Network Watcher network security group (NSG) flow logs to provide insights into traffic flow in your Azure cloud. With traffic analytics, you can:
Identify security threats to, and secure your network, with information such as open-ports, applications attempting internet access, and virtual machines (VM) connecting to rogue networks.
Visualize network activity across your Azure subscriptions and identify hot spots.
Understand traffic flow patterns across Azure regions and the internet to optimize your network deployment for performance and capacity.
Pinpoint network misconfigurations leading to failed connections in your network.

Box 2: Azure Service Map
Service Map automatically discovers application components on Windows and Linux systems and maps the communication between services. With Service Map, you can view your servers in the way that you think of them: as interconnected systems that deliver critical services. Service Map shows connections between servers, processes, inbound and outbound connection latency, and ports across any TCP-connected architecture, with no configuration required other than the installation of an agent.
References:
https://docs.microsoft.com/en-us/azure/network-watcher/traffic-analytics
https://docs.microsoft.com/en-us/azure/azure-monitor/insights/service-map