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AZ-302

Microsoft Azure Solutions Architect Certification Transition



Testlet 1

Case Study

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Background

You are a developer for Proseware, Inc. You are developing an application that applies a set of governance policies for Proseware's internal services, external services, and applications. The application will also provide a shared library for common functionality.

Requirements

Policy service

You develop and deploy a stateful ASP.NET Core 2.1 web application named Policy service to an Azure App Service Web App. The application reacts to events from Azure Event Grid and performs policy actions based on those events.

The application must include the Event Grid and Event ID field in all Application Insights telemetry.

Policy service must use Application Insights to automatically scale with the number of policy actions that it is performing.

Policies

Log policy

All Azure App Service Web Apps must write logs to Azure Blob storage. All log files should be saved to a container named **logdrop**. Logs must remain in the container for 15 days.

Authentication events

Authentication events are used to monitor users signing in and signing out. All authentication events must be processed by Policy service. Sign outs must be processed as quickly as possible.

PolicyLib

You have a shared library named PolicyLib that contains functionality common to all ASP.NET Core web services and applications. The PolicyLib library must:

- Exclude non-user actions from Application Insights telemetry.
- Provide methods that allow a web service to scale itself.
- Ensure that scaling actions do not disrupt application usage.

Other

Anomaly detection service

You have an anomaly detection service analyzes log anomalies. It is implemented as an Azure Machine Learning model. The model is deployed as a web service. If an anomaly is detected, an Azure Function that emails administrators is called by using an HTTP WebHook.

Health monitoring

All web applications and services have health monitoring at the /health service endpoint.

Issues

Policy loss

When you deploy Policy service, policies may not be applied if they were in the process of being applied during the deployment.

Performance issue

When under heavy load, the anomaly detection service undergoes slowdowns and rejects connections.

Notification latency

Users report that anomaly detection emails can sometimes arrive several minutes after an anomaly is detected.

App code**EventGridControllers**

Relevant portions of the app files are shown below. Line numbers are included for reference only and include a two-character prefix that denotes the specific file to which they belong.



EventGridController.es

```

EG01 public class EventGridController : Controller
EG02 {
EG03     public static AsyncLocal<string> EventId = new AsyncLocal<string>();
EG04     public IActionResult Process([FromBody] string eventsJson)
EG05     {
EG06         var events = JArray.Parse(eventsJson);
EG07     }
EG08     foreach (var @event in events)
EG09     {
EG10         EventId.Value = @event["id"].ToString();
EG11         if (@event["topic"].ToString().Contains("providers/Microsoft.Storage"))
EG12         {
EG13             SendToAnomalyDetectionService(@event["data"]["url"].ToString());
EG14         }
EG15     }
EG16     {
EG17         EnsureLogging(@event["subject"].ToString());
EG18     }
EG19 }
EG20 return null;
EG21 }
EG22 private void EnsureLogging(string resource)
EG23 {
EG24     ...
EG25 }
EG26 private async Task SendToAnomalyDetectionService(string url)
EG27 {
EG28     var content = GetLogData(url);
EG29     var scoreRequest = new
EG30     {
EG31         Inputs = new Dictionary<string, List<Dictionary<string, string>>>()
EG32         {
EG33             {
EG34                 "input1",
EG35                 new List<Dictionary<string, string>>()
EG36                 {
EG37                     new Dictionary<string, string>()
EG38                     {
EG39                         {
EG40                             "logcontent", content
EG41                         }
EG42                     }
EG43                 },
EG44             },
EG45         },
EG46         GlobalParameters = new Dictionary<string, string>() {}
EG47     };
EG48     var result = await (new HttpClient()).PostAsJsonAsync("...", scoreRequest);
EG49     var rawModelResult = await result.Content.ReadAsStringAsync();
EG50     var modelresult = JObject.Parse(rawModelResult);
EG51     if (modelresult["notify"].HasValues)
EG52     {
EG53         ...
EG54     }
EG55 }
EG56 private (string name, string resourceGroup) ParseResourceId(string resourceId)
EG57 {
EG58     ...
EG59 }
EG60 private string getLogData(string url)
EG61 {
EG62     ...
EG63 }
EG64 static string BlobStoreAccountSAS(string containerName)
EG65 {
EG66     ...
EG67 }
EG68 }

```



Relevant portions of the app files are shown below. Line numbers are included for reference only and include a two-character prefix that denotes the specific file to which they belong.

```
LoginEvent.cs
LE01 public class LoginEvent
LE02 {
LE03
LE04     public string subject { get; set; }
LE05     public DateTime eventTime { get; set; }
LE06     public Dictionary<string, string> data { get; set; }
LE07     public string Serialize()
LE08     {
LE09         return JsonConvert.SerializeObject(this);
LE10     }
LE11 }
```

QUESTION 1

You need to meet the scaling requirements for Policy Service.

What should you store in Azure Redis Cache?

- A. Session state
- B. ViewState
- C. TempData
- D. HttpContext.Items

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:



QUESTION 2

You need to ensure that the solution can meet the scaling requirements for Policy Service.

Which Azure Application Insights data model should you use?

- A. an Application Insights trace
- B. an Application Insights metric
- C. an Application Insights dependency
- D. an Application Insights event

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Question Set 2

QUESTION 1 You create an Azure Time Series Insights event handler.

You need to send data over the network as efficiently as possible and optimize query performance.

What should you do?

- A. Use a Tag ID.
- B. Use reference data.
- C. Send all properties.
- D. create a query plan.

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

QUESTION 2

DRAG DROP

You develop a web app that needs to use image analysis and processing for identifying individuals.

This involves rendering of large three-dimensional images stored in Azure storage and performing GRP-intensive calculations on the processed images for input into other services. Scaling and provisioning of the underlying infrastructure needs to occur during rendering and calculations as needed.

You need to find services for the tasks that will not impact the web app.

Which services should you use? To answer, drag the appropriate services to the correct tasks. Each service 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation



Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/batch/batch-technical-overview>

QUESTION 3 HOTSPOT

You are developing a workflow solution using Azure technologies.

What should you implement to meet each requirement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

QUESTION 4

Your company has 300 virtual machines hosted in a VMWare environment. The virtual machines vary in size and have various utilization levels.

You plan to move all the virtual machines to Azure.

You need to recommend how many and what size Azure virtual machines will be required to move the current workloads to Azure. The solution must minimize administrative effort.

What should you use to make the recommendation?

- A. Azure Advisor recommendations
- B. Azure Cost Management
- C. Azure Pricing Migrate
- D. Azure Pricing calculator

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

References: <https://azure.microsoft.com/en-gb/pricing/details/azure-migrate/>

QUESTION 5

You have an on-premises Hyper-V cluster. The cluster contains Hyper-V hosts that run Windows Server 2016 Datacenter. The hosts are licensed under a Microsoft Enterprise agreement that has Software Assurance.

The Hyper-V cluster contains 30 virtual machines that run Windows Server 2012 R2. Each virtual machine runs a different workload. The workloads have predictable consumption patterns.

You plan to replace the virtual machines with Azure virtual machines that run Windows Server 2016. The virtual machines will be sized according to the consumption pattern of each workload.

You need to recommend a solution to minimize the compute costs of the Azure virtual machines.

Which two recommendations should include in the solution? Each correct answer presents part of the solution? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Configure a spending limit in the Azure account center.
- B. Activate Azure Hybrid Benefit for the Azure virtual machines.
- C. Purchase Azure reserved Virtual Machine Instances for the Azure virtual machines.
- D. Create a lab in Azure DevTest Labs and place the Azure virtual machines in the lab.
- E. Create a virtual machine scale set that uses autoscaling.



Correct Answer: BC

Section: [none]

Explanation

Explanation/Reference:

References: <https://azure.microsoft.com/en-gb/pricing/hybrid-benefit/>

QUESTION 6 You have 100 Standard_F2s_v2 Azure virtual machines. Each virtual machine has two network adapters.

You need to increase the network performance of the workloads running on the virtual machines. The solution must meet the following requirements:

- The CPU-to-memory ratio must remain the same. ▪
- The solution must minimize costs.

What should you do?

- A. Configure NIC teaming.
- B. Enable SR-IOV.
- C. Install an additional network adapter.
- D. Enable RDMA over InfiniBand.

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/virtual-network/create-vm-accelerated-networking-powershell?toc=%2fazure%2fvirtual-machines%2fwindows%2ftoc.json>



Question Set 1

QUESTION 1

A company named Contoso Ltd., has a single-domain Active Directory forest named contoso.com.

Contoso is preparing to migrate all workloads to Azure. Contoso wants users to use single sign-on (SSO) when they access cloud-based services that integrate with Azure Active Directory (Azure AD).

You need to identify any objects in Active Directory that will fail to synchronize to Azure AD due to formatting issues. The solution must minimize costs.

What should you include in the solution?

- A. Azure Advisor
- B. Password Export Server version 3.1 (PES v3.1) in Active Directory Migration Tool (ADMT)
- C. Azure AD Connect Health
- D. Microsoft Office 365 IdFix

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

QUESTION 2

You host an on-premises ASP.NET Web API at the company headquarters. The Web API is consumed by applications running at the company's branch offices using the Azure Relay service. All the users of the applications are on the same Azure Active Directory (Azure AD).

You need to ensure that the applications can consume the Web API.

What should you do?

- A. Create separate AD groups named **Senders** and **Receivers**. In Access Control (IAM) for the relay namespace, assign **Senders** the Reader role and assign **Receivers** the Reader role.
- B. Create a Shared Access policy for send permissions and another for Receive permissions.
- C. Create dedicated Azure AD identities named Sender and Receiver. Assign Sender the Azure AD Identity Reader role. Assign Receiver the Azure AD Identity reader role. Configure applications to use the respective identities.
- D. Create a Shared Access policy for the namespace. Use a connection string in the Web API and use a different connection string in consumer applications.

Correct Answer: D

Section: [none]


Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/service-bus-relay/relay-authentication-and-authorization>

QUESTION 3 HOTSPOT

You configure OAuth 2 authorization in API Management as shown in the following exhibit.



Add OAuth2 service

×

* Display name

Unique name used to reference this authorization server on the p...

✓

* Id ⓘ

✓

Description

Authorization server description

* Client registration page URL

https://contoso.com/register

✓

Authorization grant types

☒ Authorization code

☐ Implicit

☐ Resource owner password

☐ Client credentials

* Authorization endpoint URL

https://login.microsoftonline.com/onmicrosoft.com/

✓

☐ Support state parameter

Authorization request method

☒ GET

☐ POST

* Token endpoint URL

Additional body parameters using
application/x-www-form-urlencoded format

Create

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Question Set 1

QUESTION 1

Note: This question is a part of a series of questions that presents the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some questions sets might have more than one correct solution, while others 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.

You need to deploy resources to host a stateless web app in an Azure subscription. The solution must meet the following requirements:

- Provide access to the full .NET framework.
- Provide redundancy if an Azure region fails.
- Grant administrators access to the operating system to install custom application dependencies.

Solution: You deploy a virtual machine scale set that uses autoscaling.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

QUESTION 2

Note: This question is a part of a series of questions that presents the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some questions sets might have more than one correct solution, while others not have a correct solution.

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- Provide access to the full .NET framework.
- Provide redundancy if an Azure region fails.
- Grant administrators access to the operating system to install custom application dependencies.

Solution: You deploy an Azure machine to two Azure regions, and you create a traffic manager profile.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

QUESTION 3

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- Provide access to the full .NET framework.
- Provide redundancy if an Azure region fails.
- Grant administrators access to the operating system to install custom application dependencies.

Solution: You deploy an Azure machine to two Azure regions, and you deploy an Azure Application Gateway.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

An Azure Application Gateway can connect to backend VMs in separate availability zones but not separate regions. Availability Zones are unique physical locations within an Azure region.

QUESTION 4 You plan to move a web application named App1 from an on-premises data center to Azure.

App1 depends on a custom framework that is installed on the host server.

You need to recommend a solution to host App1 in Azure. The solution must meet the following requirements:

- App1 must be available to users if an Azure data center becomes unavailable. ▪
- Costs must be minimized.

What should you include in the recommendation?

- A. In two Azure regions, deploy a load balancer and a web app.
- B. Deploy a load balancer and a virtual machine scale set across two availability zones.
- C. In two Azure regions, deploy a traffic manager profile and a web app.
- D. In two Azure regions, deploy a load balancer and a virtual machine scale set.

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

QUESTION 5

HOTSPOT

You have 20 Azure virtual machines that run Windows Server 2016 based on a custom virtual machine image. Each virtual machine hosts an instance of a VSS-capable web app that was developed in-house. Each instance is accessed by using a public endpoint. Each instance uses a separate database. The average database size is 200 GB.

You need to design a disaster recovery solution for individual instances. The solution must meet the following requirements:

- Provide a recovery time objective (RTO) of six hours.
- Provide a recovery point (RPO) of eight hours.
- Support recovery to a different Azure region.
- Support VSS-based backups. ▪

Minimize costs.

What should you include in the recommendation? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.



Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

QUESTION 6

You have an Azure subscription used for testing and development purposes only. The subscription contains Azure virtual machines that use unmanaged, standard hard disks drives (HDD).

You need to recommend a recovery strategy for the virtual machines if an Azure region fails for a sustained period. The recovery time objective (RTO) can be up to seven days. The solution must minimize costs.

What should you include in the recommendation?

- A. Store disks in a Standard_LRS storage account. If a disaster occurs, manually create the virtual machines by using Azure Resource manager templates.
- B. Store disks in a Standard_LRS storage account. Configure Azure Site Recovery. If a failure occurs, initiate a manual failover.
- C. Store disks in a Standard_GRS storage account. Configure Azure Site Recovery. If a failure occurs, initiate a manual failover.
- D. Store disks in a Standard_GRS storage account. If a disaster occurs, manually create the virtual machines by using Azure Resource manager templates.

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:



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Case Study

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Background

Best For You Organics Company is a global restaurant franchise that has multiple locations. The company wants to enhance user experiences and vendor integrations. The company plans to implement automated mobile ordering and delivery services.

Best For You Organics hosts an Azure web app at the URL <https://www.bestforyouorganics.com>. Users can use the web app to browse restaurant location, menu items, nutritional, information, and company information. The company developed and deployed a cross-platform mobile app.

Requirements

Chatbot

You must develop a chatbot by using the Bot Builder SDK and Language Understanding Intelligence Service (LUIS). The chatbot must allow users to order food for pickup or delivery.

The chatbot must meet the following requirements:

- Ensure that chatbot by using the Bot Framework connector.
- Use natural language processing and speech recognition so that users can interact with the chatbot by using text and voice. Processing must be server-based. ▪

Alert users about promotions at local restaurants.

- Enable users to place an order for delivery or pickup by using their voice.
- Greet the user upon sign-in by displaying a graphical interface that contains action buttons. ▪

The chatbot greeting interface must match the formatting of the following example:

Welcome to the Restaurant!



John Doe
Sun, Aug 26, 2018

Welcome to Best For You Organics Company!
How can we help you today?

Specials: Chicken Marsala

Order Pickup **Order Delivery**

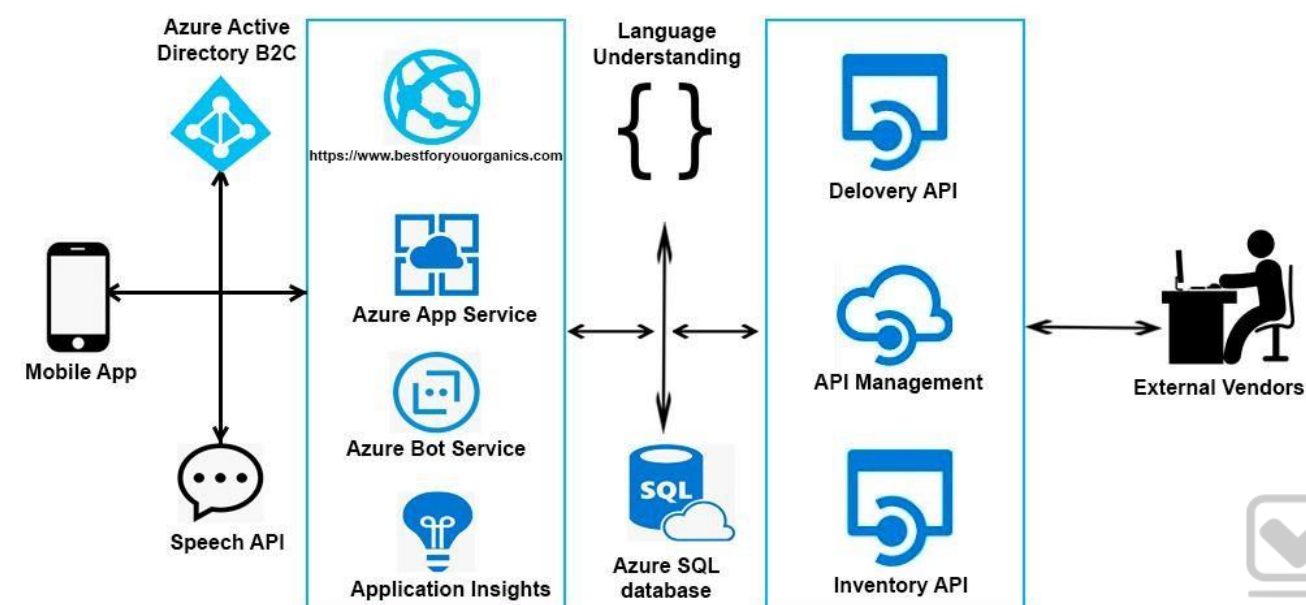
Vendor API

Vendors receive and provide updates for the restaurant inventory and delivery services by using Azure API Management hosted APIs. Each vendor uses their own subscription to access each of the APIs.

APIs must meet the following conditions:

- API usage must not exceed 5,000 calls and 50,000 kilobytes of bandwidth per hour per vendor.
 - If a vendor is nearing the number of calls or bandwidth limit, the API must trigger email notifications to the vendor.
 - API must prevent API usage spikes on a per-subscription basis by limiting the call rate to 100 calls per minute.
 - The Inventory API must be written by using ASP.NET Core and Node.js.
 - The API must be updated to provide an interface to Azure SQL Database objects must be managed by using code.
 - The Delivery API must be protected by using the OAuth 2.0 protocol with Azure Active Directory (Azure AD) when called from the Azure web app.
- The delivery API must update the Products table, the Vendor transactions table, and the Billing table in a single transaction.

The Best For You Organics Company architecture team has created the following diagram depicting the expected deployments into Azure:



Issues

Delivery API

The Delivery API intermittently throws the following exception:

```
"System.Data.Entity.Core.EntityCommandExecutionException: An error occurred while executing the command definition. See the inner exception for details. ---> System.Data.SqlException: A transport-level error has occurred when receiving results from the server. (provider: Session Provider, error: 19 - Physical connection is not usable)".
```

Chatbot greeting

The chatbot's greeting does not show the user's name. You need to debug the chatbot locally.

Language processing Users report that the bot fails to understand when a customer attempts to order dishes that use Italian names.

App code

Relevant portions of the app files are shown below. Line numbers are included for reference only and include a two-character prefix that denotes the specific file to which they belong.


```
Startup.cs
SU01 namespace DeliveryApi
SU02 {
SU03     public class Startup
SU04     {
SU05         public Startup(IConfiguration configuration)
SU06         {
SU07             Configuration = configuration;
SU08         }
SU09         public IConfiguration Configuration { get; }
SU10         public void ConfigureServices(IServiceCollection services)
SU11         {
SU12             services.AddDbContext<RestaurantsContext>(opt =>
SU13                 opt.UseSqlServer(Configuration.GetSection("ConnectionStrings")
["RestaurantDatabase"],
SU14                 sqlServerOptionsAction: sqlOptions =>
SU15                 {
SU16                     . . .
SU17                 }));
SU18             services.AddMvc()
SU19                 .SetCompatibilityVersion(CompatibilityVersion.Version_2_1);
SU20         }
SU21         public void Configure(IApplicationBuilder app)
SU22         {
SU23             app.UseMvc();
SU24         }
SU25     }
SU26 }
```



QUESTION 1 You need to meet the security requirements. What should you use?

- A. HTTP Strict Transport Security (HSTS)
- B. Bot Framework Portal
- C. Bot Framework authentication
- D. Direct Line API
- E. Multi-Factor Authentication (MFA)

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Question Set 2

QUESTION 1

You plan to develop an Azure Stream Analytics job that ingests streaming data from legacy SaaS, and cloud applications. The data will be used to launch workflows which perform data analysis.

You need to select Azure resources to handle the data input and output for the solution.

Which resources should you use?

- A. Input: Event Hub, output: IoT Hub
- B. Input: Blobs, output: IoT Hub

- C. Input: Event Hub, output: Service Bus
- D. Input: Event Hub, output: Azure SQL database

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

QUESTION 2

DRAG DROP

You have an on-premises network that includes a Microsoft SQL Server instance named SQL1.

You create an Azure Logic App named App1.

You need to ensure that App1 can query a database on SQL1.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-gateway-connection>



QUESTION 3 HOTSPOT

You have an Azure Service Bus.

You create a queue named Queue1. Queue1 is configured as shown in the following exhibit.

* Name
Queue1 ✓

Max size
1 GB ▼

Message time to live (default)

Days	Hours	Minutes	Seconds
0	2	0	0

Days	Hours	Minutes	Seconds
0	0	5	0

☒ Enable dead lettering on message expiration

☐ Enable duplicate detection

☐ Enable sessions

☒ Enable partitioning

Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

QUESTION 4 You are building a custom Azure function app to connect to Azure Event Grid.

You need to ensure that resources are allocated dynamically to the function app. Billing must be based on the executions of the app.

What should you configure when you create the function app?

- A. The Windows operating system and the App Service plan hosting plan.
- B. The Docker container and an App Service plan that uses the S1 pricing tier.
- C. The Docker container and an App Service plan that uses the B1 pricing tier.
- D. The Windows operating system and the Consumption plan hosting plan.

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

References:

<https://docs.microsoft.com/en->

[us/azure/azure-functions/functions-scale](#)



Question Set 1

QUESTION 1

DRAG DROP

You maintain an existing Azure SQL database instance. Management of the database is performed by an external party. All cryptographic keys are stored in an Azure Key Vault.

You must ensure that the external party cannot access the data in the SSN column of the Person table.

Will each protection method meet the requirement? To answer, drag the appropriate responses to the correct protection methods. Each response 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/security/azure-database-security-overview>

QUESTION 2

HOTSPOT

You are designing a software as a service (SaaS) application that will enable Azure Active Directory (Azure AD) users to create and publish online surveys. The SaaS application will have a front-end web app and back-end web API. The web app will rely on the web API to handle updates to customer surveys.

You need to design an authorization flow for the SaaS application. The solution must meet the following requirements:

- To access the back-end web API, the web app must authenticate by using OAuth 2 bearer tokens. ▪
- The web app must authenticate by using the identities of individual users.

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.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/lb-lu/azure/architecture/multitenant-identity/web-api>
<https://docs.microsoft.com/en-us/azure/active-directory/develop/quickstart-v1-dotnet-webapi>

QUESTION 3

HOTSPOT

You are creating an app that uses Event Grid to connect with other services. Your app's event data will be sent to a serverless function that checks compliance. This function is maintained by your company.

You write a new event subscription at the scope of your resource. The event must be invalidated after a specific period of time.

You need to configure Event Grid to ensure security.

What should you implement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:



Testlet 1

Case Study

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Background

You are a developer for Proseware, Inc. You are developing an application that applies a set of governance policies for Proseware's internal services, external services, and applications. The application will also provide a shared library for common functionality.

Requirements

Policy service

You develop and deploy a stateful ASP.NET Core 2.1 web application named Policy service to an Azure App Service Web App. The application reacts to events from Azure Event Grid and performs policy actions based on those events.

The application must include the Event Grid and Event ID field in all Application Insights telemetry.

Policy service must use Application Insights to automatically scale with the number of policy actions that it is performing.

Policies

Log policy

All Azure App Service Web Apps must write logs to Azure Blob storage. All log files should be saved to a container named **logdrop**. Logs must remain in the container for 15 days.

Authentication events

Authentication events are used to monitor users signing in and signing out. All authentication events must be processed by Policy service. Sign outs must be processed as quickly as possible.

PolicyLib

You have a shared library named **PolicyLib** that contains functionality common to all ASP.NET. Core web services and applications. The **PolicyLib** library must:

- Exclude non-user actions from Application Insights telemetry.
- Provide methods that allow a web service to scale itself.
- Ensure that scaling actions do not disrupt application usage.

Other

Anomaly detection service

You have an anomaly detection service analyzes log anomalies. It is implemented as an Azure Machine Learning model. The model is deployed as a web service. If an anomaly is detected, an Azure Function that emails administrators is called by using an HTTP WebHook.

Health monitoring

All web applications and services have health monitoring at the /health service endpoint.

Issues

Policy loss

When you deploy Policy service, policies may not be applied if they were in the process of being applied during the deployment.

Performance issue

When under heavy load, the anomaly detection service undergoes slowdowns and rejects connections.

Notification latency

Users report that anomaly detection emails can sometimes arrive several minutes after an anomaly is detected.

App code**EventGridControllers**

Relevant portions of the app files are shown below. Line numbers are included for reference only and include a two-character prefix that denotes the specific file to which they belong.



EventGridController.es

```

EG01 public class EventGridController : Controller
EG02 {
EG03     public static AsyncLocal<string> EventId = new AsyncLocal<string>();
EG04     public IActionResult Process([FromBody] string eventsJson)
EG05     {
EG06         var events = JArray.Parse(eventsJson);
EG07     }
EG08     foreach (var @event in events)
EG09     {
EG10         EventId.Value = @event["id"].ToString();
EG11         if (@event["topic"].ToString().Contains("providers/Microsoft.Storage"))
EG12         {
EG13             SendToAnomalyDetectionService(@event["data"]["url"].ToString());
EG14         }
EG15     }
EG16     {
EG17         EnsureLogging(@event["subject"].ToString());
EG18     }
EG19 }
EG20 return null;
EG21 }
EG22 private void EnsureLogging(string resource)
EG23 {
EG24     ...
EG25 }
EG26 private async Task SendToAnomalyDetectionService(string url)
EG27 {
EG28     var content = GetLogData(url);
EG29     var scoreRequest = new
EG30     {
EG31         Inputs = new Dictionary<string, List<Dictionary<string, string>>>()
EG32         {
EG33             {
EG34                 "input1",
EG35                 new List<Dictionary<string, string>>()
EG36                 {
EG37                     new Dictionary<string, string>()
EG38                     {
EG39                         {
EG40                             "logcontent", content
EG41                         }
EG42                     }
EG43                 },
EG44             },
EG45         },
EG46         GlobalParameters = new Dictionary<string, string>() {}
EG47     };
EG48     var result = await (new HttpClient()).PostAsJsonAsync("...", scoreRequest);
EG49     var rawModelResult = await result.Content.ReadAsStringAsync();
EG50     var modelresult = JObject.Parse(rawModelResult);
EG51     if (modelresult["notify"].HasValues)
EG52     {
EG53         ...
EG54     }
EG55 }
EG56 private (string name, string resourceGroup) ParseResourceId(string resourceid)
EG57 {
EG58     ...
EG59 }
EG60 private string getLogData(string url)
EG61 {
EG62     ...
EG63 }
EG64 static string BlobStoreAccountSAS(string containerName)
EG65 {
EG66     ...
EG67 }
EG68 }

```



Relevant portions of the app files are shown below. Line numbers are included for reference only and include a two-character prefix that denotes the specific file to which they belong.


```

LoginEvent.cs
LE01 public class LoginEvent
LE02 {
LE03
LE04     public string subject { get; set; }
LE05     public DateTime eventTime { get; set; }
LE06     public Dictionary<string, string> data { get; set; }
LE07     public string Serialize()
LE08     {
LE09         return JsonConvert.SerializeObject(this);
LE10     }
LE11 }

```

QUESTION 1 You need to ensure that the Policy service can implement the policy actions.

Which code segment should you insert at line EG07 in EventGridController.cs? A.

```

if (HttpContext.Request.Headers["aeg-event-type"].FirstOrDefault()
    == "SubscriptionValidation")
{
    return new JsonResult(new
    {
        validationResponse = events[0]["validationCode"]
    });
}

if (events[0]["eventType"].ToString() == "SubscriptionValidation")
{
    return new JsonResult(new
    {
        validationResponse = events[0]["validationCode"]
    });
}

if (HttpContext.Request.Headers["aeg-event-type"].FirstOrDefault() ==
    "SubscriptionValidation")
{
    return new JsonResult(new
    {
        validationResponse = events[0]["data"]["validationCode"]
    });
}

if (events[0]["subject"].ToString() == "SubscriptionValidation")
{
    return new JsonResult(new
    {
        validationResponse = events[0]["data"]["validationCode"]
    });
}

```

B. C.

D.

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:



Testlet 2

Case Study

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Background

Best For You Organics Company is a global restaurant franchise that has multiple locations. The company wants to enhance user experiences and vendor integrations. The company plans to implement automated mobile ordering and delivery services.

Best For You Organics hosts an Azure web app at the URL <https://www.bestforyouorganics.com>. Users can use the web app to browse restaurant location, menu items, nutritional, information, and company information. The company developed and deployed a cross-platform mobile app.

Requirements

Chatbot

You must develop a chatbot by using the Bot Builder SDK and Language Understanding Intelligence Service (LUIS). The chatbot must allow users to order food for pickup or delivery.

The chatbot must meet the following requirements:

- Ensure that chatbot by using the Bot Framework connector.
- Use natural language processing and speech recognition so that users can interact with the chatbot by using text and voice. Processing must be server-based. ▪

Alert users about promotions at local restaurants.

- Enable users to place an order for delivery or pickup by using their voice.
- Greet the user upon sign-in by displaying a graphical interface that contains action buttons.
- the chatbot greeting interface must match the formatting of the following example:

Welcome to the Restaurant!



John Doe
Sun, Aug 26, 2018

Welcome to Best For You Organics Company!
How can we help you today?

Specials: Chicken Marsala

Order Pickup **Order Delivery**

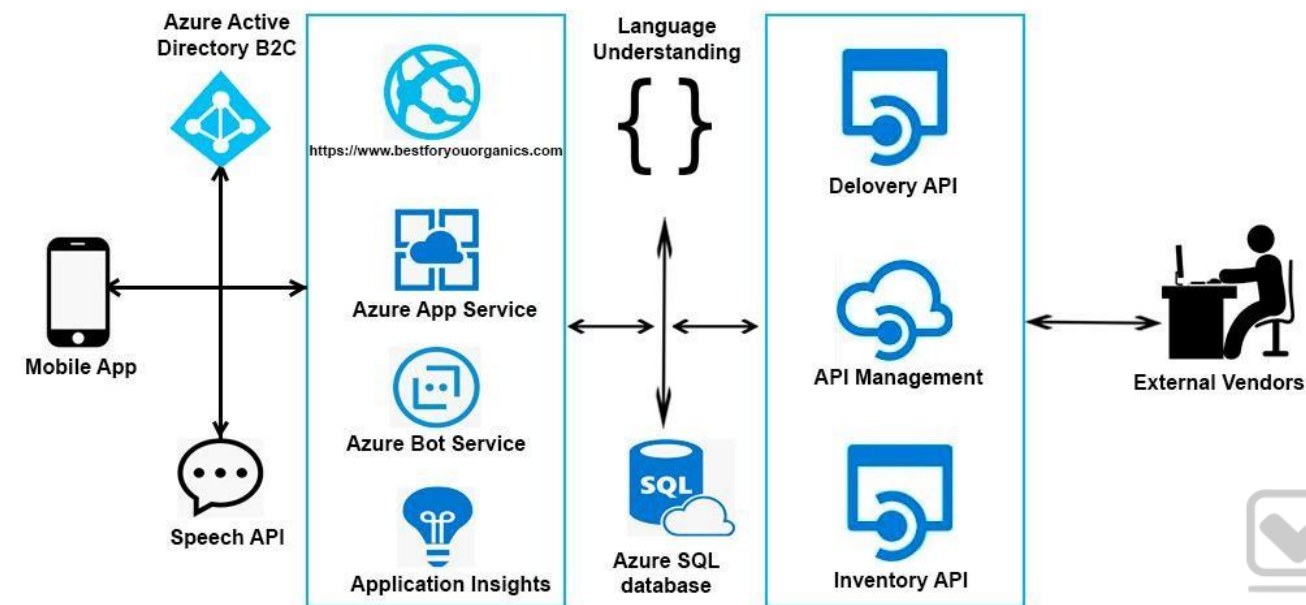
Vendor API

Vendors receive and provide updates for the restaurant inventory and delivery services by using Azure API Management hosted APIs. Each vendor uses their own subscription to access each of the APIs.

APIs must meet the following conditions:

- API usage must not exceed 5,000 calls and 50,000 kilobytes of bandwidth per hour per vendor.
 - If a vendor is nearing the number of calls or bandwidth limit, the API must trigger email notifications to the vendor.
 - API must prevent API usage spikes on a per-subscription basis by limiting the call rate to 100 calls per minute.
 - The Inventory API must be written by using ASP.NET Core and Node.js.
 - The API must be updated to provide an interface to Azure SQL Database objects must be managed by using code.
 - The Delivery API must be protected by using the OAuth 2.0 protocol with Azure Active Directory (Azure AD) when called from the Azure web app.
- The delivery API must update the Products table, the Vendor transactions table, and the Billing table in a single transaction.

The Best For You Organics Company architecture team has created the following diagram depicting the expected deployments into Azure:



Issues

Delivery API

The Delivery API intermittently throws the following exception:

```
"System.Data.Entity.Core.EntityCommandExecutionException: An error occurred while executing the command definition. See the inner exception for details. ---> System.Data.SqlException: A transport-level error has occurred when receiving results from the server. (provider: Session Provider, error: 19 - Physical connection is not usable)".
```

Chatbot greeting

The chatbot's greeting does not show the user's name. You need to debug the chatbot locally.

Language processing Users report that the bot fails to understand when a customer attempts to order dishes that use Italian names.

App code

Relevant portions of the app files are shown below. Line numbers are included for reference only and include a two-character prefix that denotes the specific file to which they belong.

Startup.cs

```
SU01 namespace DeliveryApi
SU02 {
SU03     public class Startup
SU04     {
SU05         public Startup(IConfiguration configuration)
SU06         {
SU07             Configuration = configuration;
SU08         }
SU09         public IConfiguration Configuration { get; }
SU10         public void ConfigureServices(IServiceCollection services)
SU11         {
SU12             services.AddDbContext<RestaurantsContext>(opt =>
SU13                 opt.UseSqlServer(Configuration.GetSection("ConnectionStrings")
["RestaurantDatabase"],
SU14                 sqlServerOptionsAction: sqlOptions =>
SU15                 {
SU16                     . . .
SU17                 }));
SU18             services.AddMvc()
SU19                 .SetCompatibilityVersion(CompatibilityVersion.Version_2_1);
SU20         }
SU21         public void Configure(IApplicationBuilder app)
SU22         {
SU23             app.UseMvc();
SU24         }
SU25     }
SU26 }
```

**QUESTION 1**

Note: In this section, you will see one or more sets of questions with the same scenario and problem. Each question presents a unique solution to the problem, and you must determine whether the solution meets the stated goals. More than one solution might solve the problem. It is also possible that none of the solutions solve the problem.

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.

Note: This question is part of a series of questions that presents the same scenario. Each question in the series contains a unique solution. Determine whether the solution meets the stated goals.

You need to meet the vendor notification requirement.

Solution: Update the Delivery API to send emails by using a cloud-based email service.

Does the solution meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-configure-notifications>

QUESTION 2

Note: In this section, you will see one or more sets of questions with the same scenario and problem. Each question presents a unique solution to the problem, and you must determine whether the solution meets the stated goals. More than one solution might solve the problem. It is also possible that none of the solutions solve the problem.

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.

Note: This question is part of a series of questions that presents the same scenario. Each question in the series contains a unique solution. determine whether the solution meets the stated goals.

You need to meet the vendor notification requirement.

Solution: Create and apply a custom outbound Azure API Management policy.

Does the solution meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-configure-notifications>

QUESTION 3

Note: In this section, you will see one or more sets of questions with the same scenario and problem. Each question presents a unique solution to the problem, and you must determine whether the solution meets the stated goals. More than one solution might solve the problem. it is also possible that none of the solutions solve the problem.

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.

Note: This question is part of a series of questions that presents the same scenario. Each question in the series contains a unique solution. determine whether the solution meets the stated goals.

You need to meet the vendor notification requirement.

Solution: Configure notifications in the Azure API management instance.

Does the solution meet the goal?

- A. Yes
- B. No

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-configure-notifications>

QUESTION 4

Note: In this section, you will see one or more sets of questions with the same scenario and problem. Each question presents a unique solution to the problem, and you must determine whether the solution meets the stated goals. More than one solution might solve the problem. it is also possible that none of the solutions solve the problem.

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.

Note: This question is part of a series of questions that presents the same scenario. Each question in the series contains a unique solution. determine whether the solution meets the stated goals.

You need to meet the vendor notification requirement.

Solution: Update the Delivery API to send emails by using a Microsoft Office 365 SMTP server.

Does the solution meet the goal?

- A. Yes

B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-configure-notifications>

QUESTION 5

Note: In this section, you will see one or more sets of questions with the same scenario and problem. Each question presents a unique solution to the problem, and you must determine whether the solution meets the stated goals. More than one solution might solve the problem. It is also possible that none of the solutions solve the problem.

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.

Note: This question is part of a series of questions that presents the same scenario. Each question in the series contains a unique solution. Determine whether the solution meets the stated goals.

You need to resolve the delivery API error.

What should you do?

- A. Implement simple retry using the EnableRetryOnFailure feature of Entity Framework.
- B. Implement exponential back off by using the EnableRetryOnFailure feature of Entity Framework.
- C. Implement the Circuit Breaker pattern by using the EnableRetryOnFailure feature of Entity Framework.
- D. Invoke custom execution strategy in Entity framework.

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/sql-database/sql-database-develop-error-messages>

QUESTION 6

DRAG DROP

You need to resolve the language processing issue.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

Question Set 3

QUESTION 1

Note: This question is a part of a series of questions that presents the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some questions sets might have more than one correct solution, while others 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.

You use ASP.NET Core MVC with ADO.NET to develop an application. You implement database sharding for the application by using Azure SQL Database. You establish communication links between the shard databases.

You need to implement a strategy that allows a group of operations that are performed on multiple Azure databases to be rolled back on all databases if any of the operations fail.

Solution:

- Create stored procedures in each Azure SQL database instance to perform operations for each respective database.
 - Invoke a named transaction in each stored procedure.
 - Establish a new transaction scope in a using block. Within the block, establish connections to each Azure SQL Databases instance and run the stored procedure. ▪
- If no exception occurs, commit the scoped transaction.

Does the solution meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

QUESTION 2 A company plans to automate specific sections of a customer service call center solution.

You must develop a bot that can be used on the company's website to provide answers to frequently asked questions (FAQ). You must create a bot that includes the existing FAQs by using Azure Bot Service with QnA Maker.

You need to test the bot.

What are two ways to achieve this goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. MSBot
- B. Bot Framework Emulator
- C. Web chat in Azure portal
- D. ngrok

Correct Answer: BC

Section: [none]

Explanation

Explanation/Reference:

QUESTION 3

HOTSPOT

You develop software solutions for a web services company. You have the following code. (Line numbers are for reference only.)




```

01 public class MessageController : ApiController
02 {
03     public async Task<HttpResponseMessage> Post([FromBody] Activity activity)
04     {
05         if (activity.GetActivityType() == ActivityTypes.Message)
06         {
07             await Conversation.SendAsync(activity, () => new Dialogs.RootDialog());
08         }
09         else
10         {
11             HandleSystemMessage(activity);
12         }
13         var response = Request.CreateResponse(HttpStatusCode.OK);
14         return response;
15     }
16 }
17 [Serializable]
18 public class RootDialog : IDialog<object>
19 {
20     public Task StartAsync(IDialogContext context)
21     {
22         context.Wait(MessageReceiveAsync);
23         return Task.CompletedTask;
24     }
25     public virtual async Task MessageReceivedAsync(IDialogContext context,
26     IAwaitable<IMessageActivity> result)
27     {
28         var message = await result;
29         if (message.Text.ToLower().Contains("help") ||
30         message.Text.ToLower().Contains("support"))
31         {
32             await context.Forward(new SupportDialog(),
33             this.ResumeAfterSupportDialog, message);
34         }
35         else
36         {
37             await context.PostAsync($"Hello. I can help you with the following
38             keywords : help | support");
39             context.Wait(MessageReceiveAsync);
40         }
41     }
42     private async Task ResumeAfterSupportDialog(IDialogContext context,
43     IAwaitable<object> result)
44     {
45         try
46         {
47             var message = await result;
48         }
49         finally
50         {
51             context.Wait(this.MessageReceivedAsync);
52         }
53     }
54 }

```



You need to implement an immediate response customer support solution for the company's website.

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

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

QUESTION 4

DRAG DROP

You are developing an IoT solution. The solution requires bidirectional communication between a .NET application and Azure IoT Hub.

You need to obtain connection information for a single test device.

Which three commands should you use to develop the solution? To answer, move the appropriate commands from the list of commands to the answer area and arrange them in the correct order.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

QUESTION 5 HOTSPOT

You are developing an IoT solution.

The solution requires bidirectional communication between a client .NET back-end application that will connect to the IoT Hub to process information.

You need to collect the values required for the back-end application to connect with the newly created IoT Hub.

How should you complete the commands? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

QUESTION 6 You are developing a speech-enabled home automation control bot.

The bot interprets some spoken words incorrectly.

You need to improve the spoken word recognition for the bot.

What should you implement?

A. The Cortana Channel and use scorable dialogs for improving conversation flow

B. The Skype for Business Channel and use scorable dialogs for improving conversation flow

- C. The Skype Channel and Speech priming using a LUIS app
- D. The Web Chat Channel and Speech priming using a Bing Speech Service and LUIS app

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

QUESTION 7 HOTSPOT

You are creating a bot for a company by using QnA Maker.

You need to ensure that the company can update the bot without third-party assistance.

What should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/cognitive-services/qnamaker/overview/overview>

QUESTION 8

A company sells products worldwide and provides customer service in many languages. The company has a customer service email address for customer requests.

The language the email is written in needs to be recognized and routed to the appropriate local department.

You need to use the appropriate cognitive service to detect the language of the email.

How should you initiate language detection?

- A. Use the Spark natural language processing functionality on Azure HDInsight.
- B. Post the content to <https://westus.api.cognitive.microsoft.com/luis/v2.0/apps/...?subscription-key...&verbose=false>.
- C. Use the Entity Linking Intelligence Service (ELIS) API.
- D. Post the content to `<region>.api.cognitive.microsoft.com/text/analytics/v2.0/languages.endpoint`.

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

QUESTION 9

DRAG DROP

You develop a web app that uses the tier D1 app service plan by using the Web Apps feature of Microsoft Azure App Service.

Spikes in traffic have caused increases in page load times.

You need to ensure that the web app automatically scales when CPU load is about 85 percent and minimize costs.

Which four actions should you perform in sequence?

Select and Place:

Correct Answer:

Section: [none]
Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/azure-monitor/platform/autoscale-get-started>

QUESTION 10
HOTSPOT

You have a task that includes a WebJob that should run continuously. The **WebJob Log** exhibit shows the text that is displayed when the WebJob runs. (Click the **WebJob Log** tab.)

Continuous WebJob Details

WebJob1

Pending restart
Run commans: WebJob1.exe

Toggle Output

Refreshed a moment ago, [refresh](#) or [download](#)

[08/18/2018 17:28:24 > e013ed:SYS INFO] Run script 'WebJob1.exe' with script host - 'WindowsScriptHost'

[08/18/2018 17:28:24 > e013ed:SYS INFO]Status changed to Running

[08/18/2018 17:28:25 > e013ed:INFO] WebJob Started

[08/18/2018 17:28:25 > e013ed:SYS INFO] Status changed to Success

[08/18/2018 17:28:25 > e013ed:SYS INFO] Process went down waiting for 60 seconds

[08/18/2018 17:28:25 > e013ed:SYS INFO] Status changes to PendingRestart

The WebJob is configured as shown in the **WebJob Configuration** exhibit. (Click the **WebJob Configuration** tab.)

WebApp0909 - WebJobs

App Service

Search (Ctrl+ /)

SETTINGS

Authentication / Authorization

Application Insights

Managed service identity

Backups

Custom domains

SSL certificates

Networking

Scale up (App Service plan)

Scale out (App Service plan)

WebJobs

+ Add Refresh Logs Delete Properties

WebJobs

WebJobs provide an easy way to run scripts or programs as background processes in the context of your app.

NAME	TYPE	STATUS	SCHEDULE
WebJob1	Continuous	Pending Restart	n/a

The WebJob is not functioning as expected. The **WebJob Code** exhibit has a comment that shows where code should be added. (Click the **WebJob Code** tab.)



```

0 references
8 class Program
9 {
10 private static Timer workTimer = new Timer();
11
12 0 references
12 static void Main()
13 {
14     Trace.WriteLine("WebJob Setup Starting");
15     var config = new JobHostConfiguration();
16
17     if (config.IsDevelopment)
18     {
19         config.UseDevelopmentSettings();
20     }
21
22     workTimer.Interval = TimeSpan.FromSeconds(10).TotalMilliseconds;
23     workTimer.Elapsed += WorkTimer_Elapsed;
24     workTimer.AutoReset = true;
25     workTimer.Enabled = true;
26
27     Console.WriteLine("WebJob Started");
28 }
29
30 1 reference
30 private static void WorkTimer_Elapsed(object sender, ElapsedEventArgs e)
31 {
32     Console.WriteLine("Workload Processing ");
33     //ToDo-Implement code
34     Trace.WriteLine("Workload Complete");
35 }
36 }
37

```



You need to identify any issues with the WebJob. For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

QUESTION 11

HOTSPOT

A company is developing a new website that uses Azure Cosmos DB for data storage.

You need to implement a method to retrieve one item by identifier. The method must run as efficiently as possible.

How should you complete the code segment? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

```
private static readonly string DatabaseId = ConfigurationManager.AppSettings["database"];
private static readonly string Collection Id = ConfigurationManager.AppSettings["collection"];
private static DocumentClient;
public static async Task<T> GetItemAsync(string id, string category)
{
    try
    {
        Document document = 
            await client.ReadDocumentAsync
            client.readDocumentFeedAsync
            client.CreateDocumentQuery<T>
            await client.ExecuteNextAsync<T>

        (
            UriFactory.CreateDocumentUri(DatabaseId, CollectionId, id)
            UriFactory.CreateDatabaseUri(DatabaseId, CollectionId, id)
            UriFactory.CreateCollectionuri(DatabaseId, Collection, id)
            DatabaseId, CollectionId, id

        return (T) (dynamic) document;
    }
    catch (DocumantClientException e)
    {
        . . .
    }
}
```

Correct Answer:

Answer Area

```
private static readonly string DatabaseId = ConfigurationManager.AppSettings["database"];
private static readonly string CollectionId = ConfigurationManager.AppSettings["collection"];
private static DocumentClient;
public static async Task<T> GetItemAsync(string id, string category)
{
    try
    {
        Document document = 
            (
                await client.ReadDocumentAsync
                client.readDocumentFeedAsync
                client.CreateDocumentQuery<T>
                await client.ExecuteNextAsync<T>
                UriFactory.CreateDocumentUri(DatabaseId, CollectionId, id)
                UriFactory.CreateDatabaseUri(DatabaseId, CollectionId, id)
                UriFactory.CreateCollectionUri(DatabaseId, CollectionId, id)
                DatabaseId, CollectionId, id
            )

        return (T) (dynamic) document;
    }
    catch (DocumentClientException e)
    {
        . . .
    }
}
```

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.documents.client.documentclient.readdocumentasync?view=azure-dotnet>

QUESTION 12

DRAG DROP

You are creating a collaborative image hosting platform as an ASP.NET MVC web application. Users add, update, and modify images on the platform. Images are stored in Azure Blob storage.

More than one user at a time must be able to modify the same image.

You need to implement optimistic concurrency for uploading images.

Which four actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

References: <https://azure.microsoft.com/en-gb/blog/managing-concurrency-in-microsoft-azure-storage-2/>

QUESTION 13 You develop a payment processing solution by using a .NET Framework application.

Customer data is spread across multiple Azure SQL Database servers and is not sharded. When a payment is made from one person to another person, data may be changed in multiple databases at once.

You need to ensure transactional atomicity across databases.

Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. In the solution, use the OpenConnectionForKey function to reference each database that will be included during a distributed transaction.
- B. In Azure PowerShell, create a new communication relationship between each database that requires distributed transactions.
- C. Use the Microsoft Distributed Transaction Coordination (MS DTC) service to configure distributed transactions between each database.
- D. In the solution, create new SqlConnection objects for each database that will be included during a distributed transaction.

Correct Answer: BD

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/sql-database/sql-database-elastic-transactions-overview#transactions-across-multiple-servers>

QUESTION 14

HOTSPOT

You have a cloud solution that uses an Azure Functions consumption plan to scale hundreds of processes. A portion of the code is shown below. (Line numbers are included for reference only.)

```
01 [FunctionName("StartFunction")]
02 public static async Task<HttpResponseBody> RunSingle(
03     [HttpTrigger(AuthorizationLevel.Function, methods:
04         "post", Route = "orchestrators/contoso_function01/{instance_id}")]
05     HttpRequestMessage req,
06     [OrchestrationClient] DurableOrchestrationClient starter,
07     string functionName, string instanceId, ILogger log)
08 {
09     var existingInstance = await starter.GetStatus.GetStatusAsync(instanceId);
10     if (existingInstance == null)
11     {
12         dynamic eventData = await req.Content.ReadAsAsync<object>();
13         await starter.StartNewAsync(functionName, instanceId, eventData);
14         log.LogInformation($"Created");
15         return starter.CreateCheckStatusResponse(req, instanceId);
16     }
17     else
18     {
19         return req.CreateErrorResponse(HttpStatusCode.Conflict, $"Cannot create");
20     }
21 }
```

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

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/azure-functions/durable/durable-functions-singletons>

QUESTION 15

DRAG DROP

You are developing a .Net Core WebJob that is triggered by an Azure Storage Queue.

The project uses dependency injection from the NuGet package Microsoft.Extensions.DependencyInjection. The WebJob logic is contained in the Worker class. The program.cs file contains the following code:

```
static void Main()
{
    var sc = new ServiceCollection();
    sc.AddSingleton<Worker>();
    var sp = sc.BuildServiceProvider();
    var jobHostConfig = new JobHostConfiguration()
    {
        JobActivator = new Helper(sp),
    };
    var host = new JobHost(jobHostConfig);
    host.RunAndBlock();
}
```

You need to ensure that the Worker class can run when an Azure Storage Queue message arrives.



Which code segments should you use to complete the code? To answer, drag the appropriate code segments to the correct locations. Each code segment 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

QUESTION 16

HOTSPOT

Contoso, Ltd hosts the following ASP.NET workloads in Azure:

Workload	Server	Database
Sales	db_srv_sales_contoso	db_sales_contoso
Inventory	db_inventory_contoso	db_inventory_contoso

Users of the Sales software report mismatches between shown inventory at the time of sale and actual availability. Transactions across two systems result in inconsistent reads and writes. You encapsulate Sales order creation and Inventory status updates in elastic transactions.

You need to recommend changes to code and the databases to support transactions.

Which actions should you recommend? To answer, select the appropriate options in the answer area.



NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

QUESTION 17

You are developing a .NET Core on-premises application that updates multiple Azure SQL Database instances. The application must log all update commands attempted to a separate Azure SQL database instance named AuditDb.

You define an outer TransactionScope with a loop to enumerate and run the SQL commands on each customer database connection and an inner TransactionScope to record all transactions attempted within the outer TransactionScope to the AuditDb database.

You need to develop a method to perform the updates to the databases. The solution must meet the following requirements:

- All rows written to the AuditDb database must be committed even if the outer transaction fails.
 - If an error occurs writing to the AuditDb database, the outer transaction must be rolled back.
 - If an error occurs writing to the Customer databases, only the outer transaction must be rolled back.
 - Values for TransactionScopeOption must be specified for the customer databases. ▪
- Values for TransactionScopeOption must be specified for the AuditDb database.

Which TransactionScopeOption values should you use?

- A. Required for TransactionScopeOption and Required for AuditTranScopeOption
- B. Required for TransactionScopeOption and Suppress for AuditTranScopeOption

- C. Suppress for TransactionScopeOption and Suppress for AuditTranScopeOption
- D. Suppress for TransactionScopeOption and RequiresNew for AuditTranScopeOption

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/dotnet/framework/data/transactions/implementing-an-implicit-transaction-using-transaction-scope?view=netframework-4.7.2>

QUESTION 18

You have implemented code that uses elastic transactions spanning across three different Azure SQL Database logical servers.

Database administrators report that some transactions take longer to complete than expected.

You need to use the correct tool to monitor all the transactions originating from the elastic transaction implementation.

Which tool should you use?

- A. Run the `sys.dm_tran_active_transactions` dynamic management view.
- B. Use the dependencies section of Azure Applications Insights.
- C. Run the `sys.dm_tran_current_snapshot` dynamic view.
- D. Run the `sys.dm_tran_active_snapshot_database_transactions` dynamic management view.

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/sql-database/sql-database-elastic-transactions-overview>



QUESTION 19

HOTSPOT

You are developing an SMS-based testing solution. The solution sends users a question by using SMS. Early responders may qualify for prizes.

Users must respond with an answer choice within 90 seconds. You must be able to track how long it takes each user to respond. You create a durable Azure Function named `SendsSmsQuizQuestion` that uses Twilio to send messages.

You need to write the code for `MessageQuiz`.

How should you complete the code? To answer, select the appropriate options in the answer area.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

QUESTION 20

HOTSPOT

You are developing an Azure Function that will be triggered using a webhook from an external application. The Azure Function will receive JSON data in the body of the request.

Calling applications send an account ID as part of the URL. The number at the end of the URL is an integer. The format for the URL resembles the following: `/api/account/1` The Azure Function must accept all incoming requests without requiring keys or tokens.

You need to complete the attributes for the Azure Function.

How should you complete the code? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

QUESTION 21

DRAG DROP

You are developing a multi-tenant ASP.NET Core application that will be hosted on Azure. The application will support multiple database platforms, including Azure SQL and on-premises SQL Server instances.

You need to ensure that the application supports distributed transactions.

Which technologies should you use? To answer, drag the appropriate technologies to the correct scenarios. Each technology may be used once, more than 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.

Select and Place:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:



QUESTION 22

HOTSPOT

You are developing a solution that requires serverless code execution in Azure.

The solution has two functions that must run in a specific order.

You need to ensure that the second function can use the output from the first function.

How should you complete the code? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Correct Answer:

Section: [none]

Explanation

Explanation/Reference:

QUESTION 23

DRAG DROP

You are configuring serverless computing in Azure.

You need to receive an email message whenever a resource is created in or deleted from a resource group.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:**Correct Answer:****Section: [none]****Explanation****Explanation/Reference:**

References: <https://docs.microsoft.com/en-us/azure/event-grid/monitor-virtual-machine-changes-event-grid-logic-app>

