AI-100

Number: AI-100
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AI-100

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Analyze solution requirements

Question Set 1

QUESTION 1
You are designing an AI solution that will analyze millions of pictures by using Azure HDInsight Hadoop cluster.

You need to recommend a solution for storing the pictures. The solution must minimize costs.

Which storage solution should you recommend?

A. an Azure Data Lake Storage Gen1
B. Azure File Storage
C. Azure Blob storage
D. Azure Table storage

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Data Lake will be a bit more expensive although they are in close range of each other. Blob storage has more options for pricing depending upon things like how frequently you need to access your data (cold vs hot storage).

Reference:
http://blog.pragmaticworks.com/azure-data-lake-vs-azure-blob-storage-in-data-warehousing

QUESTION 2
You are configuring data persistence for a Microsoft Bot Framework application. The application requires a structured NoSQL cloud data store.

You need to identify a storage solution for the application. The solution must minimize costs.

What should you identify?

A. Azure Blob storage
B. Azure Cosmos DB
C. Azure HDInsight
D. Azure Table storage

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Table Storage is a NoSQL key-value store for rapid development using massive semi-structured datasets
You can develop applications on Cosmos DB using popular NoSQL APIs.

Both services have a different scenario and pricing model.

While Azure Storage Tables is aimed at high capacity on a single region (optional secondary read only region but no failover), indexing by PK/RK and storage-optimized pricing; Azure Cosmos DB Tables aims for high throughput (single-digit millisecond latency), global distribution (multiple failover), SLA-backed predictive performance with automatic indexing of each attribute/property and a pricing model focused on throughput.

References:
https://db-engines.com/en/system/Microsoft+Azure+Cosmos+DB%3BMicrosoft+Azure+Table+Storage

QUESTION 3
You have an Azure Machine Learning model that is deployed to a web service.

You plan to publish the web service by using the name ml.contoso.com.

You need to recommend a solution to ensure that access to the web service is encrypted.

Which three actions should you recommend? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Generate a shared access signature (SAS)
B. Obtain an SSL certificate
C. Add a deployment slot
D. Update the web service

E. Update DNS
F. Create an Azure Key Vault

Correct Answer: BDE
Section: (none)
Explanation

Explanation/Reference:
The process of securing a new web service or an existing one is as follows:

1. Get a domain name.
2. Get a digital certificate.
3. Deploy or update the web service with the SSL setting enabled.
4. Update your DNS to point to the web service.

Note: To deploy (or re-deploy) the service with SSL enabled, set the ssl_enabled parameter to True, wherever applicable. Set the ssl_certificate parameter to the value of the certificate file and the ssl_key to the value of the key file.

References:
https://docs.microsoft.com/en-us/azure/machine-learning/service/how-to-secure-web-service

QUESTION 4
Your company recently deployed several hardware devices that contain sensors.

The sensors generate new data on an hourly basis. The data generated is stored on-premises and retained for several years.

During the past two months, the sensors generated 300 GB of data.

You plan to move the data to Azure and then perform advanced analytics on the data.

You need to recommend an Azure storage solution for the data.

Which storage solution should you recommend?

A. Azure Queue storage
B. Azure Cosmos DB
C. Azure Blob storage
D. Azure SQL Database

Correct Answer: C

Section: (none)
Explanation

Explanation/Reference:
References:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/data-storage

QUESTION 5
You plan to design an application that will use data from Azure Data Lake and perform sentiment analysis by using Azure Machine Learning algorithms.

The developers of the application use a mix of Windows- and Linux-based environments. The developers contribute to shared GitHub repositories.

You need all the developers to use the same tool to develop the application.

What is the best tool to use? More than one answer choice may achieve the goal.

A. Microsoft Visual Studio Code
B. Azure Notebooks
C. Azure Machine Learning Studio
D. Microsoft Visual Studio

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
References:
https://github.com/MicrosoftDocs/azure-docs/blob/master/articles/machine-learning/studio/algorithm-choice.md

QUESTION 6
You have several AI applications that use an Azure Kubernetes Service (AKS) cluster. The cluster supports a maximum of 32 nodes.

You discover that occasionally and unpredictably, the application requires more than 32 nodes.

You need to recommend a solution to handle the unpredictable application load.

Which scaling methods should you recommend? (Choose two.)

A. horizontal pod autoscaler
B. cluster autoscaler

C. AKS cluster virtual 32 node autoscaling
D. Azure Container Instances

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
B: To keep up with application demands in Azure Kubernetes Service (AKS), you may need to adjust the number of nodes that run your workloads. The cluster autoscaler component can watch for pods in your cluster that can't be scheduled because of resource constraints. When issues are detected, the number of nodes is increased to meet the application demand. Nodes are also regularly checked for a lack of running pods, with the number of nodes then decreased as needed. This ability to automatically scale up or down the number of nodes in your AKS cluster lets you run an efficient, cost-effective cluster.

A: You can also use the horizontal pod autoscaler to automatically adjust the number of pods that run your application.

Reference:
https://docs.microsoft.com/en-us/azure/aks/cluster-autoscaler

QUESTION 7
You deploy an infrastructure for a big data workload.

You need to run Azure HDInsight and Microsoft Machine Learning Server. You plan to set the RevoScaleR compute contexts to run `rx` function calls in parallel.

What are three compute contexts that you can use for Machine Learning Server? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

A. SQL
B. Spark
C. local parallel
D. HBase
E. local sequential

Correct Answer: ABC
Section: (none)
Explanation

Explanation/Reference:
Explanation:

Remote computing is available for specific data sources on selected platforms. The following tables document the supported combinations.

- RxInSqlServer, sqlserver: Remote compute context. Target server is a single database node (SQL Server 2016 R Services or SQL Server 2017 Machine Learning Services). Computation is parallel, but not distributed.
- RxSpark, spark: Remote compute context. Target is a Spark cluster on Hadoop.
- RxLocalParallel, localpar: Compute context is often used to enable controlled, distributed computations relying on instructions you provide rather than a built-in scheduler on Hadoop. You can use compute context for manual distributed computing.

References:
https://docs.microsoft.com/en-us/machine-learning-server/r/concept-what-is-compute-context

QUESTION 8
Your company has 1,000 AI developers who are responsible for provisioning environments in Azure.

You need to control the type, size, and location of the resources that the developers can provision.

What should you use?

A. Azure Key Vault
B. Azure service principals
C. Azure managed identities
D. Azure Security Center
E. Azure Policy

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
When an application needs access to deploy or configure resources through Azure Resource Manager in Azure Stack, you create a service principal, which is a credential for your application. You can then delegate only the necessary permissions to that service principal.

References:
https://docs.microsoft.com/en-us/azure/azure-stack/azure-stack-create-service-principals

QUESTION 9
You are designing an AI solution in Azure that will perform image classification.

You need to identify which processing platform will provide you with the ability to update the logic over time. The solution must have the lowest latency for inferencing without having to batch.

Which compute target should you identify?

A. graphics processing units (GPUs)
B. field-programmable gate arrays (FPGAs)
C. central processing units (CPUs)
D. application-specific integrated circuits (ASICs)

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
FPGAs, such as those available on Azure, provide performance close to ASICs. They are also flexible and reconfigurable over time, to implement new logic.

Incorrect Answers:
D: ASICs are custom circuits, such as Google's TensorFlow Processor Units (TPU), provide the highest efficiency. They can't be reconfigured as your needs change.

References:
https://docs.microsoft.com/en-us/azure/machine-learning/service/concept-accelerate-with-fpgas

QUESTION 10
You have a solution that runs on a five-node Azure Kubernetes Service (AKS) cluster. The cluster uses an N-series virtual machine.

An Azure Batch AI process runs once a day and rarely on demand.

You need to recommend a solution to maintain the cluster configuration when the cluster is not in use. The solution must not incur any compute costs.

What should you include in the recommendation?

A. Downscale the cluster to one node
B. Downscale the cluster to zero nodes
C. Delete the cluster

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

Explanation:
An AKS cluster has one or more nodes.

References:
https://docs.microsoft.com/en-us/azure/aks/concepts-clusters-workloads

QUESTION 11
Your company has recently deployed 5,000 Internet-connected sensors for a planned AI solution.

You need to recommend a computing solution to perform a real-time analysis of the data generated by the sensors.

Which computing solution should you recommend?

A. an Azure HDInsight Storm cluster
B. Azure Notification Hubs
C. an Azure HDInsight Hadoop cluster
D. an Azure HDInsight R cluster

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Azure HDInsight makes it easy, fast, and cost-effective to process massive amounts of data.
You can use HDInsight to process streaming data that's received in real time from a variety of devices.

References:
https://docs.microsoft.com/en-us/azure/hdinsight/hadoop/apache-hadoop-introduction

QUESTION 12
You deploy an application that performs sentiment analysis on the data stored in Azure Cosmos DB.

Recently, you loaded a large amount of data to the database. The data was for a customer named Contoso, Ltd.

You discover that queries for the Contoso data are slow to complete, and the queries slow the entire application.

You need to reduce the amount of time it takes for the queries to complete. The solution must minimize costs.

What is the best way to achieve the goal? More than one answer choice may achieve the goal. Select the BEST answer.

A. Change the request units.
B. Change the partitioning strategy.
C. Change the transaction isolation level.
D. Migrate the data to the Cosmos DB database.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Throughput provisioned for a container is divided evenly among physical partitions.

Incorrect:
Not A: Increasing request units would also improve throughput, but at a cost.

Reference:
https://docs.microsoft.com/en-us/azure/architecture/best-practices/data-partitioning

QUESTION 13
You have an AI application that uses keys in Azure Key Vault.

Recently, a key used by the application was deleted accidentally and was unrecoverable.

You need to ensure that if a key is deleted, it is retained in the key vault for 90 days.

Which two features should you configure? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. The expiration date on the keys
B. Soft delete
C. Purge protection
D. Auditors
E. The activation date on the keys

Correct Answer: BC
Section: (none)
Explanation

Explanation/Reference:
References:
https://docs.microsoft.com/en-us/azure/architecture/best-practices/data-partitioning

QUESTION 14
You plan to implement a new data warehouse for a planned AI solution.

You have the following information regarding the data warehouse:

- The data files will be available in one week.
- Most queries that will be executed against the data warehouse will be ad-hoc queries.
- The schemas of data files that will be loaded to the data warehouse will change often.
- One month after the planned implementation, the data warehouse will contain 15 TB of data.

You need to recommend a database solution to support the planned implementation.

What two solutions should you include in the recommendation? Each correct answer is a complete solution.

NOTE: Each correct selection is worth one point.

A. Apache Hadoop
B. Apache Spark
C. A Microsoft Azure SQL database
D. An Azure virtual machine that runs Microsoft SQL Server

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
References:
https://docs.microsoft.com/en-us/azure/sql-database/saas-multitenantdb-adhoc-reporting

QUESTION 15
You need to build a solution to monitor Twitter. The solution must meet the following requirements:

- Send an email message to the marketing department when negative Twitter messages are detected.
- Run sentiment analysis on Twitter messages that mention specific tags.
- Use the least amount of custom code possible.

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

NOTE: Each correct selection is worth one point.

A. Azure Databricks
B. Azure Stream Analytics
C. Azure Functions
D. Azure Cognitive Services
E. Azure Logic Apps

Correct Answer: BE
Section: (none)
Explanation

Explanation/Reference:
References:
https://docs.microsoft.com/en-us/azure/stream-analytics/streaming-technologies

https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-twitter-sentiment-analysis-trends

QUESTION 16
You plan to build an application that will perform predictive analytics. Users will be able to consume the application data by using Microsoft Power BI or a custom website.

You need to ensure that you can audit application usage.

Which auditing solution should you use?

A. Azure Storage Analytics
B. Azure Application Insights
C. Azure diagnostics logs
D. Azure Active Directory (Azure AD) reporting

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
References:
https://docs.microsoft.com/en-us/azure/active-directory/reports-monitoring/concept-audit-logs

QUESTION 17
You are developing a mobile application that will perform optical character recognition (OCR) from photos.

The application will annotate the photos by using metadata, store the photos in Azure Blob storage, and then score the photos by using an Azure Machine Learning model.

What should you use to process the data?

A. Azure Event Hubs
B. Azure Functions
C. Azure Stream Analytics
D. Azure Logic Apps
E. Azure Batch AI

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
By using Azure services such as the Computer Vision API and Azure Functions, companies can eliminate the need to manage individual servers, while reducing costs and leveraging the expertise that Microsoft has already developed around processing images with Cognitive Services.

Incorrect:
Not E: The Azure Batch AI service was retired in 2019 and was replaced with Azure Machine Learning Compute.

References: https://docs.microsoft.com/en-us/azure/architecture/example-scenario/ai/intelligent-apps-image-processing

QUESTION 18
You create an Azure Cognitive Services resource.

A data scientist needs to call the resource from Azure Logic Apps by using the generic HTTP connector.

Which two values should you provide to the data scientist? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Endpoint URL

B. Resource name
C. Access key
D. Resource group name
E. Subscription ID

Correct Answer: DE
Section: (none)
Explanation

Explanation/Reference:
References:
https://social.technet.microsoft.com/wiki/contents/articles/36074.logic-apps-with-azure-cognitive-service.aspx

QUESTION 19
You plan to deploy an AI solution that tracks the behavior of 10 custom mobile apps. Each mobile app has several thousand users.

You need to recommend a solution for real-time data ingestion for the data originating from the mobile app users.

Which Microsoft Azure service should you include in the recommendation?

A. Azure Event Hubs
B. Azure Service Bus queries
C. Azure Service Bus topics and subscriptions
D. Apache Storm on Azure HDInsight

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
References:
https://docs.microsoft.com/en-in/azure/event-hubs/event-hubs-about

QUESTION 20
You plan to deploy Azure IoT Edge devices that will each store more than 10,000 images locally and classify the images by using a Custom Vision Service classifier.

Each image is approximately 5 MB.

You need to ensure that the images persist on the devices for 14 days.

What should you use?

A. The device cache
B. Azure Blob storage on the IoT Edge devices
C. Azure Stream Analytics on the IoT Esge devices
D. Microsoft SQL Server on the IoT Edge devices

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
References:
https://docs.microsoft.com/en-us/azure/iot-edge/how-to-store-data-blob

QUESTION 21
Your company is building custom models that integrate into microservices architecture on Azure Kubernetes Services (AKS).

The model is built by using Python and published to AKS.

You need to update the model and enable Azure Application Insights for the model.

What should you use?

A. the Azure CLI
B. MLNET Model Builder
C. the Azure Machine Learning SDK
D. the Azure portal

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
You can set up Azure Application Insights for Azure Machine Learning. Application Insights gives you the opportunity to monitor:

- Request rates, response times, and failure rates.
- Dependency rates, response times, and failure rates.

- Exceptions.

Requirements include an Azure Machine Learning workspace, a local directory that contains your scripts, and the Azure Machine Learning SDK for Python installed.

References:
https://docs.microsoft.com/bs-latn-ba/azure/machine-learning/service/how-to-enable-app-insights

QUESTION 22
You are designing an AI solution that will analyze millions of pictures by using Azure HDInsight Hadoop cluster.

You need to recommend a solution for storing the pictures. The solution must minimize costs.

Which storage solution should you recommend?

A. Azure Table storage
B. Azure File Storage
C. Azure Data Lake Storage Gen2
D. Azure Data Lake Storage Gen1

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Azure Data Lake Storage Gen1 is adequate and less expensive compared to Gen2.

References:
https://visualbi.com/blogs/microsoft/introduction-azure-data-lake-gen2/

QUESTION 23
You deploy an application that performs sentiment analysis on the data stored in Azure Cosmos DB.

Recently, you loaded a large amount of data to the database. The data was for a customer named Contoso, Ltd.

You discover that queries for the Contoso data are slow to complete, and the queries slow the entire application.

You need to reduce the amount of time it takes for the queries to complete. The solution must minimize costs.

What should you do? More than one answer choice may achieve the goal. (Choose two.)

A. Change the request units.
B. Change the partitioning strategy.
C. Change the transaction isolation level.
D. Migrate the data to the Cosmos DB database.

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Increasing request units would improve throughput, but at a cost.

Throughput provisioned for a container is divided evenly among physical partitions.

References:
https://docs.microsoft.com/en-us/azure/architecture/best-practices/data-partitioning

QUESTION 24
Your company has several AI solutions and bots.

You need to implement a solution to monitor the utilization of the bots. The solution must ensure that analysts at the company can generate dashboards to review the utilization.

What should you include in the solution?

A. Azure Application Insights
B. Azure Data Explorer
C. Azure Logic Apps
D. Azure Monitor

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Bot Analytics.
Analytics is an extension of Application Insights. Application Insights provides service-level and instrumentation data like traffic, latency, and integrations. Analytics provides conversation-level reporting on user, message, and channel data.

References:
https://docs.microsoft.com/en-us/azure/bot-service/bot-service-manage-analytics

QUESTION 25
Your plan to design a bot that will be hosted by using Azure Bot Service.

Your company identifies the following compliance requirements for the bot:

- Payment Card Industry Data Security Standards (PCI DSS)
- General Data Protection Regulation (GDPR)
- ISO 27001

You need to identify which compliance requirements are met by hosting the bot in the bot service.

What should you identify?

A. PCI DSS only
B. PCI DSS, ISO 27001, and GDPR
C. ISO 27001 only
D. GDPR only

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Azure Bot service is compliant with ISO 27001:2013, ISO 27019:2014, SOC 1 and 2, Payment Card Industry Data Security Standard (PCI DSS), and Health Insurance Portability and Accountability Act Business Associate Agreement (HIPAA BAA).

Microsoft products and services, including Azure Bot Service, are available today to help you meet the GDPR requirements.

References:
https://docs.microsoft.com/en-us/azure/bot-service/bot-service-compliance

https://blog.botframework.com/2018/04/23/general-data-protection-regulation-gdpr/

QUESTION 26
Your company plans to create a mobile app that will be used by employees to query the employee handbook.

You need to ensure that the employees can query the handbook by typing or by using speech.

Which core component should you use for the app?

A. Language Understanding (LUIS)
B. QnA Maker
C. Text Analytics
D. Azure Search

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Azure Cognitive Search (formerly known as "Azure Search") is a search-as-a-service cloud solution that gives developers APIs and tools for adding a rich search experience over private, heterogeneous content in web, mobile, and enterprise applications. Your code or a tool invokes data ingestion (indexing) to create and load an index. Optionally, you can add cognitive skills to apply AI processes during indexing. Doing so can add new information and structures useful for search and other scenarios.

Incorrect Answres:
B: QnA Maker is a cloud-based API service that lets you create a conversational question-and-answer layer over your existing data. Use it to build a knowledge base by extracting questions and answers from your semi-structured content, including FAQs, manuals, and documents. Answer users' questions with the best answers from the QnAs in your knowledge base—automatically.

References:
https://docs.microsoft.com/en-us/azure/search/search-what-is-azure-search

QUESTION 27
You have an existing Language Understanding (LUIS) model for an internal bot.

You need to recommend a solution to add a meeting reminder functionality to the bot by using a prebuilt model. The solution must minimize the size of the model.

Which component of LUIS should you recommend?

A. domain
B. intents
C. entities

Correct Answer: C

Section: (none)
Explanation

Explanation/Reference:
Explanation:
LUIS includes a set of prebuilt entities for recognizing common types of information, like dates, times, numbers, measurements, and currency. Prebuilt entity support varies by the culture of your LUIS app.

Note: LUIS provides three types of prebuilt models. Each model can be added to your app at any time.

Model type: Includes
- Domain: Intents, utterances, entities
- Intents: Intents, utterances
- Entities: Entities only

References:
https://docs.microsoft.com/en-us/azure/cognitive-services/luis/luis-concept-prebuilt-model

QUESTION 28
You have an on-premises repository that contains 5,000 videos. The videos feature demonstrations of the products sold by your company.

The company's customers plan to search the videos by using the name of the product demonstrated in each video.

You need to build a custom search tool for the customers.

What should you do first?

A. Deploy an Azure Media Services resource.
B. Create an Azure Storage account and a blob container.
C. Create an Azure Search resource.
D. Deploy a Custom Vision API service.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Azure Media Services can be used to encode and package content, stream videos on-demand, broadcast live, analyze your videos with Media Services v3.
You can snalyze recorded videos or audio content. For example, to achieve higher customer satisfaction, organizations can extract speech-to-text and build search indexes and dashboards. Then, they can extract intelligence around common complaints, sources of complaints, and other relevant data.

References:
https://docs.microsoft.com/en-us/azure/media-services/latest/media-services-overview

Analyze solution requirements

Testlet 2

Overview

Contoso, Ltd. has an office in New York to serve its North American customers and an office in Paris to serve its European customers.

Existing Environment

Infrastructure

Each office has a small data center that hosts Active Directory services and a few off-the-shelf software solutions used by internal users.

The network contains a single Active Directory forest that contains a single domain named contoso.com. Azure Active Directory (Azure AD) Connect is used to extend identity management to Azure.

The company has an Azure subscription. Each office has an Azure ExpressRoute connection to the subscription. The New York office connects to a virtual network hosted in the US East 2 Azure region. The Paris office connects to a virtual network hosted in the West Europe Azure region.

The New York office has an Azure Stack Development Kit (ASDK) deployment that is used for development and testing.

Current Business Model

Contoso has a web app named Bookings hosted in an App Service Environment (ASE). The ASE is in the virtual network in the East US 2 region. Contoso employees and customers use Bookings to reserve hotel rooms.

Data Environment

Bookings connects to a Microsoft SQL Server database named hotelDB in the New York office.
The database has a view named vwAvailability that consolidates columns from the tables named Hotels, Rooms, and RoomAvailability. The database contains data that was collected during the last 20 years.

Problem Statements

Contoso identifies the following issues with its current business model:

- European users report that access to Booking is slow, and they lose customers who must wait on the phone while they search for available rooms.
- Users report that Bookings was unavailable during an outage in the New York data center for more than 24 hours.

Requirements

Contoso identifies the following issues with its current business model:

- European users report that access to Bookings is slow, and they lose customers who must wait on the phone while they search for available rooms.
- Users report that Bookings was unavailable during on outage in the New York data center for more than 24 hours.

Business Goals

Contoso wants to provide a new version of the Bookings app that will provide a highly available, reliable service for booking travel packages by interacting with a chatbot named Butler.

Contoso plans to move all production workloads to the cloud.

Technical requirements

Contoso identifies the following technical requirements:

- Data scientists must test Butler by using ASDK.
- Whenever possible, solutions must minimize costs.
- Butler must greet users by name when they first connect.
- Butler must be able to handle up to 10,000 messages a day.
- Butler must recognize the users' intent based on basic utterances.
- All configurations to the Azure Bot Service must be logged centrally.
- Whenever possible, solutions must use the principle of least privilege.
- Internal users must be able to access Butler by using Microsoft Skype for Business.
- The new Bookings app must provide a user interface where users can interact with Butler.
- Users in an Azure AD group named KeyManagers must be able to manage keys for all Azure Cognitive Services.
- Butler must provide users with the ability to reserve a room, cancel a reservation, and view existing reservations.
- The new Bookings app must be available to users in North America and Europe if a single data center or Azure region fails.
- For continuous improvement, you must be able to test Butler by sending sample utterances and comparing the chatbot's responses to the actual intent.
- You must maintain relationships between data after migration.

QUESTION 1
You need to recommend a data storage solution that meets the technical requirements.

What is the best data storage solution to recommend? More than one answer choice may achieve the goal. Select the **BEST** answer.

A. Azure Databricks
B. Azure SQL Database
C. Azure Table storage
D. Azure Cosmos DB

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
References:
https://docs.microsoft.com/en-us/azure/architecture/example-scenario/ai/commerce-chatbot

Design solutions

Question Set 1

QUESTION 1
You plan to design a solution for an AI implementation that uses data from IoT devices.

You need to recommend a data storage solution for the IoT devices that meets the following requirements:

- Allow data to be queried in real-time as it streams into the solution.
- Provide the lowest amount of latency for loading data into the solution.

What should you include in the recommendation?

A. a Microsoft Azure Table Storage solution
B. a Microsoft Azure HDInsight R Server cluster
C. a Microsoft Azure HDInsight Hadoop cluster
D. a Microsoft Azure SQL database that has In-Memory OLTP enabled

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
You can use HDInsight to process streaming data that's received in real time from a variety of devices.

Internet of Things (IoT)
You can use HDInsight to build applications that extract critical insights from data. You can also use Azure Machine Learning on top of that to predict future trends for your business.

By combining enterprise-scale R analytics software with the power of Apache Hadoop and Apache Spark, Microsoft R Server for HDInsight gives you the scale and performance you need. Multi-threaded math libraries and transparent parallelization in R Server handle up to 1000x more data and up to 50x faster speeds than open-source R, which helps you to train more accurate models for better predictions.

References:
https://docs.microsoft.com/en-us/azure/hdinsight/hadoop/apache-hadoop-introduction

QUESTION 2
Your company has factories in 10 countries. Each factory contains several thousand IoT devices.

The devices present status and trending data on a dashboard.

You need to ingest the data from the IoT devices into a data warehouse.

Which two Microsoft Azure technologies should you use? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Azure Stream Analytics
B. Azure Data Factory
C. an Azure HDInsight cluster
D. Azure Batch
E. Azure Data Lake

Correct Answer: CE
Section: (none)
Explanation

Explanation/Reference:
Explanation:
With Azure Data Lake Store (ADLS) serving as the hyper-scale storage layer and HDInsight serving as the Hadoop-based compute engine services. It can be used for prepping large amounts of data for insertion into a Data Warehouse

References:
https://www.blue-granite.com/blog/azure-data-lake-analytics-holds-a-unique-spot-in-the-modern-data-architecture

QUESTION 3
You plan to deploy two AI applications named AI1 and AI2. The data for the applications will be stored in a relational database.

You need to ensure that the users of AI1 and AI2 can see only data in each user's respective geographic region. The solution must be enforced at the database level by using row-level security.

Which database solution should you use to store the application data?

A. Microsoft SQL Server on a Microsoft Azure virtual machine
B. Microsoft Azure Database for MySQL
C. Microsoft Azure Data Lake Store
D. Microsoft Azure Cosmos DB

Correct Answer: A

Section: (none)
Explanation

Explanation/Reference:
Explanation:
Row-level security is supported by SQL Server, Azure SQL Database, and Azure SQL Data Warehouse.

References:
https://docs.microsoft.com/en-us/sql/relational-databases/security/row-level-security?view=sql-server-2017

QUESTION 4
You are designing an AI workflow that will aggregate data stored in Azure as JSON documents.

You expect to store more than 2 TB of new data daily.

You need to choose the data storage service for the data. The solution must minimize costs.

Which data storage service should you choose?

A. Azure Manage Disks
B. Azure Blob Storage
C. Azure File Storage
D. Azure Data Lake Storage

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Generally, Data Lake will be a bit more expensive although they are in close range of each other. Blob storage has more options for pricing depending upon things like how frequently you need to access your data (cold vs hot storage). Data Lake is priced on volume, so it will go up as you reach certain tiers of volume.

References:
http://blog.pragmaticworks.com/azure-data-lake-vs-azure-blob-storage-in-data-warehousing

QUESTION 5
Note: This question is part of a 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, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are developing an application that uses an Azure Kubernetes Service (AKS) cluster.

You are troubleshooting a node issue.

You need to connect to an AKS node by using SSH.

Solution: You run the kubect1 command, and then you create an SSH connection.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 6
Your company has a data team of Scala and R experts.

You plan to ingest data from multiple Apache Kafka streams.

You need to recommend a processing technology to broker messages at scale from Kafka streams to Azure Storage.

What should you recommend?

A. Azure Databricks
B. Azure Functions
C. Azure HDInsight with Apache Storm
D. Azure HDInsight with Microsoft Machine Learning Server

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

References:
https://docs.microsoft.com/en-us/azure/hdinsight/hdinsight-streaming-at-scale-overview?toc=https%3A%2F%2Fdocs.microsoft.com%2Fen-us%2Fazure%2Fhdinsight%2Fhadoop%2FTOC.json&bc=https%3A%2F%2Fdocs.microsoft.com%2Fen-us%2Fazure%2Fbread%2Ftoc.json

QUESTION 7
You are designing an AI application that will use an azure Machine Learning Studio experiment.

The source data contains more than 200 TB of relational tables. The experiment will run once a month.

You need to identify a data storage solution for the application. The solution must minimize compute costs.

Which data storage solution should you identify?

A. Azure Database for MySQL
B. Azure SQL Database
C. Azure SQL Data Warehouse

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
References:
https://azure.microsoft.com/en-us/pricing/details/sql-database/single/

QUESTION 8
You design an AI workflow that combines data from multiple data sources for analysis. The data sources are composed of:

- JSON files uploaded to an Azure Storage account
- On-premises Oracle databases
- Azure SQL databases

Which service should you use to ingest the data?

A. Azure Data Factory
B. Azure SQL Data Warehouse
C. Azure Data Lake Storage
D. Azure Databricks

Correct Answer: A

Section: (none)
Explanation

Explanation/Reference:
References:
https://docs.microsoft.com/en-us/azure/data-factory/introduction

QUESTION 9
Note: This question is part of a 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, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an app named App1 that uses the Face API.

App1 contains several PersonGroup objects.

You discover that a PersonGroup object for an individual named Ben Smith cannot accept additional entries. The PersonGroup object for Ben Smith contains 10,000 entries.

You need to ensure that additional entries can be added to the PersonGroup object for Ben Smith. The solution must ensure that Ben Smith can be identified by all the entries.

Solution: You modify the custom time interval for the training phase of App1.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Instead, use a LargePersonGroup. LargePersonGroup and LargeFaceList are collectively referred to as large-scale operations. LargePersonGroup can contain up to 1 million persons, each with a maximum of 248 faces. LargeFaceList can contain up to 1 million faces. The large-scale operations are similar to the conventional PersonGroup and FaceList but have some differences because of the new architecture.

References:

https://docs.microsoft.com/en-us/azure/cognitive-services/face/face-api-how-to-topics/how-to-use-large-scale

QUESTION 10
Note: This question is part of a 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, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an app named App1 that uses the Face API.

App1 contains several PersonGroup objects.

You discover that a PersonGroup object for an individual named Ben Smith cannot accept additional entries. The PersonGroup object for Ben Smith contains 10,000 entries.

You need to ensure that additional entries can be added to the PersonGroup object for Ben Smith. The solution must ensure that Ben Smith can be identified by all the entries.

Solution: You create a second PersonGroup object for Ben Smith.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Instead, use a LargePersonGroup. LargePersonGroup and LargeFaceList are collectively referred to as large-scale operations. LargePersonGroup can contain up to 1 million persons, each with a maximum of 248 faces. LargeFaceList can contain up to 1 million faces. The large-scale operations are similar to the conventional PersonGroup and FaceList but have some differences because of the new architecture.

References:
https://docs.microsoft.com/en-us/azure/cognitive-services/face/face-api-how-to-topics/how-to-use-large-scale

QUESTION 11
Note: This question is part of a 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, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an app named App1 that uses the Face API.

App1 contains several PersonGroup objects.

You discover that a PersonGroup object for an individual named Ben Smith cannot accept additional entries. The PersonGroup object for Ben Smith contains 10,000 entries.

You need to ensure that additional entries can be added to the PersonGroup object for Ben Smith. The solution must ensure that Ben Smith can be identified by all the entries.

Solution: You migrate all the entries to the LargePersonGroup object for Ben Smith.

Does this meet the goal?

A. Yes
B. No

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
LargePersonGroup and LargeFaceList are collectively referred to as large-scale operations. LargePersonGroup can contain up to 1 million persons, each with a maximum of 248 faces. LargeFaceList can contain up to 1 million faces. The large-scale operations are similar to the conventional PersonGroup and FaceList but have some differences because of the new architecture.

References:
https://docs.microsoft.com/en-us/azure/cognitive-services/face/face-api-how-to-topics/how-to-use-large-scale

QUESTION 12
Your company plans to develop a mobile app to provide meeting transcripts by using speech-to-text. Audio from the meetings will be streamed to provide real-time transcription.

You need to recommend which task each meeting participant must perform to ensure that the transcripts of the meetings can identify all participants.

Which task should you recommend?

A. Record the meeting as an MP4.
B. Create a voice signature.
C. Sign up for Azure Speech Services.
D. Sign up as a guest in Azure Active Directory (Azure AD)

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The first step is to create voice signatures for the conversation participants. Creating voice signatures is required for efficient speaker identification.

Note: In addition to the standard baseline model used by the Speech Services, you can customize models to your needs with available data, to overcome speech recognition barriers such as speaking style, vocabulary and background noise.

References:
https://docs.microsoft.com/bs-latn-ba/azure/cognitive-services/speech-service/how-to-use-conversation-transcription-service

QUESTION 13
You need to create a prototype of a bot to demonstrate a user performing a task. The demonstration will use the Bot Framework Emulator.

Which botbuilder CLI tool should you use to create the prototype?

A. Chatdown
B. QnAMaker
C. Dispatch
D. LuDown

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Use Chatdown to produce prototype mock conversations in markdown and convert the markdown to transcripts you can load and view in the new V4 Bot Framework Emulator.

Incorrect Answers:

B: QnA Maker is a cloud-based API service that lets you create a conversational question-and-answer layer over your existing data. Use it to build a knowledge base by extracting questions and answers from your semi-structured content, including FAQs, manuals, and documents. Answer users' questions with the best answers from the QnAs in your knowledge base—automatically. Your knowledge base gets smarter, too, as it continually learns from user behavior.

C: Dispatch lets you build language models that allow you to dispatch between disparate components (such as QnA, LUIS and custom code).

D: LuDown build LUIS language understanding models using markdown files

References:
https://github.com/microsoft/botframework/blob/master/README.md

QUESTION 14
You are designing an AI solution that will provide feedback to teachers who train students over the Internet. The students will be in classrooms located in remote areas. The solution will capture video and audio data of the students in the classrooms.

You need to recommend Azure Cognitive Services for the AI solution to meet the following requirements:

- Alert teachers if a student facial expression indicates the student is angry or scared.
- Identify each student in the classrooms for attendance purposes.
- Allow the teachers to log voice conversations as text.

Which Cognitive Services should you recommend?

A. Face API and Text Analytics
B. Computer Vision and Text Analytics
C. QnA Maker and Computer Vision
D. Speech to Text and Face API

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Speech-to-text from Azure Speech Services, also known as speech-to-text, enables real-time transcription of audio streams into text that your applications, tools, or devices can consume, display, and take action on as command input.

Face detection: Detect one or more human faces in an image and get back face rectangles for where in the image the faces are, along with face attributes which contain machine learning-based predictions of facial features. The face attribute features available are: Age, Emotion, Gender, Pose, Smile, and Facial Hair along with 27 landmarks for each face in the image.

References:
https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/speech-to-text

https://azure.microsoft.com/en-us/services/cognitive-services/face/

QUESTION 15
You need to evaluate trends in fuel prices during a period of 10 years. The solution must identify unusual fluctuations in prices and produce visual representations.

Which Azure Cognitive Services API should you use?

A. Anomaly Detector
B. Computer Vision
C. Text Analytics
D. Bing Autosuggest

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The Anomaly Detector API enables you to monitor and detect abnormalities in your time series data with machine learning. The Anomaly Detector API adapts by automatically identifying and applying the best-fitting models to your data, regardless of industry, scenario, or data volume. Using your time series data, the API determines boundaries for anomaly detection, expected values, and which data points are anomalies.

References:
https://docs.microsoft.com/en-us/azure/cognitive-services/anomaly-detector/overview

QUESTION 16
You plan to perform analytics of the medical records of patients located around the world.

You need to recommend a solution that avoids storing and processing data in the cloud.

What should you include in the recommendation?

A. Azure Machine Learning Studio
B. the Text Analytics API that has container support
C. Azure Machine Learning services
D. an Apache Spark cluster that uses MMLSpark

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The Microsoft Machine Learning Library for Apache Spark (MMLSpark) assists in provisioning scalable machine learning models for large datasets, especially for building deep learning problems. MMLSpark works with SparkML pipelines, including Microsoft CNTK and the OpenCV library, which provide end-to-end support for the ingress and processing of image input data, categorization of images, and text analytics using pre-trained deep learning algorithms.

References:
https://subscription.packtpub.com/book/big_data_and_business_intelligence/9781789131956/10/ch10lvl1sec61/an-overview-of-the-microsoft-machine-learning-library-for-apache-spark-mmlspark

QUESTION 17
Your company has an on-premises datacenter.

You plan to publish an app that will recognize a set of individuals by using the Face API. The model is trained.

You need to ensure that all images are processed in the on-premises datacenter.

What should you deploy to host the Face API?

A. a Docker container
B. Azure File Sync
C. Azure Application Gateway
D. Azure Data Box Edge

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
A container is a standard unit of software that packages up code and all its dependencies so the application runs quickly and reliably from one computing environment to another. A Docker container image is a lightweight, standalone, executable package of software that includes everything needed to run an application: code, runtime, system tools, system libraries and settings.

Incorrect Answers:
D: Azure Data Box Edge is an AI-enabled edge computing device with network data transfer capabilities. This article provides you an overview of the Data Box Edge solution, benefits, key capabilities, and the scenarios where you can deploy this device.

Data Box Edge is a Hardware-as-a-service solution. Microsoft ships you a cloud-managed device with a built-in Field Programmable Gate Array (FPGA) that enables accelerated AI-inferencing and has all the capabilities of a storage gateway.

References:
https://www.docker.com/resources/what-container

QUESTION 18
You have a Bing Search service that is used to query a product catalog.

You need to identify the following information:

- The locale of the query
- The top 50 query strings
- The number of calls to the service
- The top geographical regions of the service

What should you implement?

A. Bing Statistics
B. Azure API Management (APIM)
C. Azure Monitor
D. Azure Application Insights

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The Bing Statistics add-in provides metrics such as call volume, top queries, API response, code distribution, and market distribution. The rich slicing-and-dicing capability lets you gather deeper understanding of your users and their usage to inform your business strategy.

References:
https://www.bingapistatistics.com/

QUESTION 19
You have a Face API solution that updates in real time. A pilot of the solution runs successfully on a small dataset.

When you attempt to use the solution on a larger dataset that continually changes, the performance degrades, slowing how long it takes to recognize existing faces.

You need to recommend changes to reduce the time it takes to recognize existing faces without increasing costs.

What should you recommend?

A. Change the solution to use the Computer Vision API instead of the Face API.
B. Separate training into an independent pipeline and schedule the pipeline to run daily.
C. Change the solution to use the Bing Image Search API instead of the Face API.
D. Distribute the face recognition inference process across many Azure Cognitive Services instances.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Incorrect Answers:
A: The purpose of Computer Vision is to inspects each image associated with an incoming article to (1) scrape out written words from the image and (2) determine what types of objects are present in the image.

C: The Bing API provides an experience similar to Bing.com/search by returning search results that Bing determines are relevant to a user's query. The results include Web pages and may also include images, videos, and more.

D: That would increase cost.

References:
https://github.com/Azure/cognitive-services

QUESTION 20
You have a database that contains sales data.

You plan to process the sales data by using two data streams named Stream1 and Stream2. Stream1 will be used for purchase order data. Stream2 will be used for reference data.

The reference data is stored in CSV files.

You need to recommend an ingestion solution for each data stream.

What two solutions should you recommend? Each correct answer is a complete solution.

NOTE: Each correct selection is worth one point.

A. an Azure event hub for Stream1 and Azure Blob storage for Stream2

B. Azure Blob storage for Stream1 and Stream2
C. an Azure event hub for Stream1 and Stream2
D. Azure Blob storage for Stream1 and Azure Cosmos DB for Stream2
E. Azure Cosmos DB for Stream1 and an Azure event hub for Stream2

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Stream1 - Azure Event
Stream2 - Blob Storage
Azure Event Hubs is a highly scalable data streaming platform and event ingestion service, capable of receiving and processing millions of events per second. Event Hubs can process and store events, data, or telemetry produced by distributed software and devices. Data sent to an event hub can be transformed and stored using any real-time analytics provider or batching/storage adapters. Event Hubs provides publish-subscribe capabilities with low latency at massive scale, which makes it appropriate for big data scenarios.

Stream1, Stream2 - Blob Storage
Stream Analytics has first-class integration with Azure data streams as inputs from three kinds of resources:
Azure Event Hubs
Azure IoT Hub
Azure Blob storage
These input resources can live in the same Azure subscription as your Stream Analytics job or a different subscription.

References:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/real-time-ingestion

QUESTION 21
Note: This question is part of a 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, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are developing an application that uses an Azure Kubernetes Service (AKS) cluster.

You are troubleshooting a node issue.

You need to connect to an AKS node by using SSH.

Solution: You create a managed identity for AKS, and then you create an SSH connection.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Instead add an SSH key to the node, and then you create an SSH connection.

References:
https://docs.microsoft.com/en-us/azure/aks/ssh

QUESTION 22
Note: This question is part of a 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, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are developing an application that uses an Azure Kubernetes Service (AKS) cluster.

You are troubleshooting a node issue.

You need to connect to an AKS node by using SSH.

Solution: You change the permissions of the AKS resource group, and then you create an SSH connection.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Instead add an SSH key to the node, and then you create an SSH connection.

References:
https://docs.microsoft.com/en-us/azure/aks/ssh

QUESTION 23
Note: This question is part of a 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, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are developing an application that uses an Azure Kubernetes Service (AKS) cluster.

You are troubleshooting a node issue.

You need to connect to an AKS node by using SSH.

Solution: You add an SSH key to the node, and then you create an SSH connection.

Does this meet the goal?

A. Yes
B. No

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
By default, SSH keys are generated when you create an AKS cluster. If you did not specify your own SSH keys when you created your AKS cluster, add your public SSH keys to the AKS nodes.
You also need to create an SSH connection to the AKS node.

References:
https://docs.microsoft.com/en-us/azure/aks/ssh

QUESTION 24
You are developing a Computer Vision application.

You plan to use a workflow that will load data from an on-premises database to Azure Blob storage, and then connect to an Azure Machine Learning service.

What should you use to orchestrate the workflow?

A. Azure Kubernetes Service (AKS)
B. Azure Pipelines
C. Azure Data Factory
D. Azure Container Instances

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
With Azure Data Factory you can use workflows to orchestrate data integration and data transformation processes at scale.
Build data integration, and easily transform and integrate big data processing and machine learning with the visual interface.

References:
https://azure.microsoft.com/en-us/services/data-factory/

QUESTION 25
Note: This question is part of a 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, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You need to create an IoT solution that performs the following tasks:

- Identifies hazards
- Provides a real-time online dashboard
- Takes images of an area every minute
- Counts the number of people in an area every minute

Solution: You implement Azure Cognitive Services containers on the IoT devices, and then you configure results to be sent to an Azure IoT hub. You configure Microsoft Power BI to connect to the IoT hub by using Azure Stream Analytics.

Does this meet the goal?

A. Yes

B. No

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
There is support for running Azure Cognitive Services containers for Text Analytics and Language Understanding containers on edge devices with Azure IoT Edge. This means that all your workloads can be run locally where your data is being generated while keeping the simplicity of the cloud to manage them remotely, securely and at scale.
You would have to set up an IoT Edge device and its IoT Hub.

Note: Azure Stream Analytics enables you to take advantage of one of the leading business intelligence tools, Microsoft Power BI.

Get your IoT hub ready for data access by adding a consumer group.
Create, configure, and run a Stream Analytics job for data transfer from your IoT hub to your Power BI account.
Create and publish a Power BI report to visualize the data.

References:
https://azure.microsoft.com/es-es/blog/running-cognitive-services-on-iot-edge/

https://docs.microsoft.com/en-us/azure/iot-hub/iot-hub-live-data-visualization-in-power-bi

QUESTION 26
Note: This question is part of a 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, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You need to create an IoT solution that performs the following tasks:

- Identifies hazards
- Provides a real-time online dashboard
- Takes images of an area every minute
- Counts the number of people in an area every minute

Solution: You configure the IoT devices to send the images to an Azure IoT hub, and then you configure an Azure Functions call to Azure Cognitive Services that sends the results to an Azure event hub. You configure Microsoft Power BI to connect to the event hub by using Azure Stream Analytics.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Instead use Cognitive Services containers on the IoT devices.

References:
https://azure.microsoft.com/es-es/blog/running-cognitive-services-on-iot-edge/

https://docs.microsoft.com/en-us/azure/iot-hub/iot-hub-live-data-visualization-in-power-bi

QUESTION 27
Note: This question is part of a 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, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You need to create an IoT solution that performs the following tasks:

- Identifies hazards
- Provides a real-time online dashboard
- Takes images of an area every minute
- Counts the number of people in an area every minute

Solution: You configure the IoT devices to send the images to an Azure IoT hub, and then you configure an Azure Automation call to Azure Cognitive Services that sends the results to an Azure event hub. You configure Microsoft Power BI to connect to the event hub by using Azure Stream Analytics.

Does this meet the goal?

A. Yes
B. No

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Instead use Cognitive Services containers on the IoT devices.

References:
https://azure.microsoft.com/es-es/blog/running-cognitive-services-on-iot-edge/

https://docs.microsoft.com/en-us/azure/iot-hub/iot-hub-live-data-visualization-in-power-bi

QUESTION 28
You plan to deploy Azure IoT Edge devices. Each device will store more than 10,000 images locally. Each image is approximately 5 MB.

You need to ensure that the images persist on the devices for 14 days.

What should you use?

A. Azure Stream Analytics on the IoT Edge devices
B. Azure Database for Postgres SQL
C. Azure Blob storage on the IoT Edge devices
D. Microsoft SQL Server on the IoT Edge devices

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Azure Blob Storage on IoT Edge provides a block blob and append blob storage solution at the edge. A blob storage module on your IoT Edge device behaves like an Azure blob service, except the blobs are stored locally on your IoT Edge device.
This e is useful where data needs to be stored locally until it can be processed or transferred to the cloud. This data can be videos, images, finance data, hospital data, or any other unstructured data.

References:
https://docs.microsoft.com/en-us/azure/iot-edge/how-to-store-data-blob

QUESTION 29
You have an Azure Machine Learning experiment.

You need to validate that the experiment meets GDPR regulation requirements and stores documentation about the experiment.

What should you use?

A. Compliance Manager
B. an Azure Log Analytics workspace
C. Azure Table storage
D. Azure Security Center

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Compliance Manager for Azure helps you assess and manage GDPR compliance. Compliance Manager is a free, Microsoft cloud services solution designed to help organizations meet complex compliance obligations, including the GDPR, ISO 27001, ISO 27018, and NIST 800-53. Generally available today for Azure customers, the Compliance Manager GDPR dashboard enables you to assign, track, and record your GDPR compliance activities so you can collaborate across teams and manage your documents for creating audit reports more easily.

References:
https://azure.microsoft.com/en-us/blog/new-capabilities-to-enable-robust-gdpr-compliance/

QUESTION 30
You are designing a solution that will integrate the Bing Web Search API and will return a JSON response. The development team at your company uses C# as its primary development language.

You provide developers with the Bing endpoint.

Which additional component do the developers need to prepare and to retrieve data by using an API call?

A. the subscription ID
B. the API key
C. a query
D. the resource group ID

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The Bing Web Search SDK makes it easy to integrate Bing Web Search into your C# application. You instantiate a client, send a request, and receive a response.

References:
https://docs.microsoft.com/en-us/azure/cognitive-services/bing-web-search/web-search-sdk-quickstart

QUESTION 31
Your company has a data team of Transact-SQL experts.

You plan to ingest data from multiple sources into Azure Event Hubs.

You need to recommend which technology the data team should use to move and query data from Event Hubs to Azure Storage. The solution must leverage the data team's existing skills.

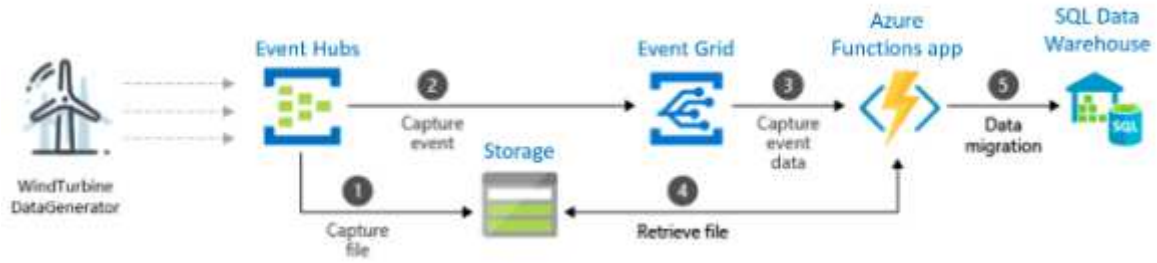
What is the best recommendation to achieve the goal? More than one answer choice may achieve the goal.

A. Azure Notification Hubs
B. Azure Event Grid
C. Apache Kafka streams
D. Azure Stream Analytics

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Event Hubs Capture is the easiest way to automatically deliver streamed data in Event Hubs to an Azure Blob storage or Azure Data Lake store. You can subsequently process and deliver the data to any other storage destinations of your choice, such as SQL Data Warehouse or Cosmos DB.
You to capture data from your event hub into a SQL data warehouse by using an Azure function triggered by an event grid.

Example:



First, you create an event hub with the Capture feature enabled and set an Azure blob storage as the destination. Data generated by WindTurbineGenerator is streamed into the event hub and is automatically captured into Azure Storage as Avro files.
Next, you create an Azure Event Grid subscription with the Event Hubs namespace as its source and the Azure Function endpoint as its destination.
Whenever a new Avro file is delivered to the Azure Storage blob by the Event Hubs Capture feature, Event Grid notifies the Azure Function with the blob URI. The Function then migrates data from the blob to a SQL data warehouse.

References:
https://docs.microsoft.com/en-us/azure/event-hubs/store-captured-data-data-warehouse

QUESTION 32
You are designing a Computer Vision AI application.

You need to recommend a deployment solution for the application. The solution must ensure that costs scale linearly without any upfront costs.

What should you recommend?

A. a containerized Computer Vision API on Azure Container Instances
B. the Computer Vision API as a single resource
C. an Azure Container Service
D. a containerized Computer Vision API on Azure Kubernetes Service (AKS) that has virtual nodes configured

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Containers enable you to run the Computer Vision APIs in your own environment.

Note: The host is a x64-based computer that runs the Docker container. It can be a computer on your premises or a Docker hosting service in Azure, such as:
- Azure Container Instances.
- Azure Kubernetes Service.
- A Kubernetes cluster deployed to Azure Stack.

References:
https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/computer-vision-how-to-install-containers

QUESTION 33
You are implementing the Language Understanding (LUIS) API and are building a GDPR-compliant bot by using the Bot Framework.

You need to recommend a solution to ensure that the implementation of LUIS is GDPR-compliant.

What should you include in the recommendation?

A. Enable active learning for the bot.
B. Configure the bot to send the active learning preference of a user.
C. Delete the utterances from Review endpoint utterances.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Deleting personal data from the device or service and can be used to support your obligations under the GDPR.

References:
https://docs.microsoft.com/bs-latn-ba/azure/cognitive-services/luis/luis-user-privacy

QUESTION 34
You need to build a reputation monitoring solution that reviews Twitter activity about your company. The solution must identify negative tweets and tweets that contain inappropriate images.

You plan to use Azure Logic Apps to build the solution.

Which two additional Azure services should you include in the solution? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Corporate Vision
B. Azure Blueprint
C. Content Moderator
D. Text Analytics
E. Azure Machine Learning Service
F. Form Recognizer

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:
Explanation:
C: You can filter your tweets using Azure Logic Apps & Content Moderation. Azure Content Moderator is a cognitive service that checks text, image, and video content for material that is potentially offensive, risky, or otherwise undesirable. When this material is found, the service applies appropriate labels (flags) to the content. Your app can then handle flagged content in order to comply with regulations or maintain the intended environment for users.

D: You can write an application so that when a user tweets with configured Twitter Hashtag, Logic App gets triggered and passed to Cognitive Text Analytics Connector for detecting the sentiments of the tweet (text). If the tweeted text is found to be harsh or with bad or abusive language, the tweet can be handled appropriately.

References:
https://docs.microsoft.com/en-us/azure/cognitive-services/content-moderator/overview

https://www.c-sharpcorner.com/article/role-of-text-analytics-service-as-a-connector-in-azure-logic-apps/

QUESTION 35
Your company uses an internal blog to share news with employees.

You use the Translator Text API to translate the text in the blog from English to several other languages used by the employee.

Several employees report that the translations are often inaccurate.

You need to improve the accuracy of the translations.

What should you add to the translation solution?

A. Text Analytics
B. Language Understanding (LUIS)
C. Azure Media Services
D. Custom Translator

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Custom Translator is a feature of the Microsoft Translator service. With Custom Translator, enterprises, app developers, and language service providers can build neural translation systems that understand the terminology used in their own business and industry. The customized translation system will then seamlessly integrate into existing applications, workflows and websites.

Custom Translator allows users to customize Microsoft Translator's advanced neural machine translation for Translator's supported neural translation languages. Custom Translator can be used for customizing text when using the Microsoft Translator Text API , and speech translation using the Microsoft Speech services.

References:
https://www.microsoft.com/en-us/translator/business/customization/

QUESTION 36
You plan to develop a bot that tracks communications between the employees at your company.

You need to identify which channel the bot must use to monitor reactions to messages by employees.

What should you identify?

A. Microsoft Cortana
B. Microsoft Outlook
C. Microsoft Teams

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Bots in Microsoft Teams can be part of a one-to-one conversation, a group chat, or a channel in a Team.

Note: In Microsoft Teams, teams are groups of people brought together for work, projects, or common interests. Teams are made up of channels. Each channel is built around a topic, like "Team Events," a department name, or just for fun. Channels are where you hold meetings, have conversations, and work on files together.

References:
https://docs.microsoft.com/en-us/microsoftteams/platform/bots/what-are-bots

QUESTION 37
You plan to implement a bot that will require user authentication.

You need to recommend a secure solution that provides encryption for the authentication of the bot.

Which two security solutions should you include in the recommendation? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

A. NTLM
B. JSON Web Token (JWT)
C. API keys
D. smart cards
E. SSL/TLS

Correct Answer: BE
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Your bot communicates with the Bot Connector service using HTTP over a secured channel (SSL/TLS).

JSON Web Tokens are used to encode tokens that are sent to and from the bot.

References:
https://docs.microsoft.com/en-us/azure/bot-service/rest-api/bot-framework-rest-connector-authentication

Design solutions

Testlet 2

Overview

Contoso, Ltd. has an office in New York to serve its North American customers and an office in Paris to serve its European customers.

Existing Environment

Infrastructure

Each office has a small data center that hosts Active Directory services and a few off-the-shelf software solutions used by internal users.

The network contains a single Active Directory forest that contains a single domain named contoso.com. Azure Active Directory (Azure AD) Connect is used to extend identity management to Azure.

The company has an Azure subscription. Each office has an Azure ExpressRoute connection to the subscription. The New York office connects to a virtual network hosted in the US East 2 Azure region. The Paris office connects to a virtual network hosted in the West Europe Azure region.

The New York office has an Azure Stack Development Kit (ASDK) deployment that is used for development and testing.

Current Business Model

Contoso has a web app named Bookings hosted in an App Service Environment (ASE). The ASE is in the virtual network in the East US 2 region. Contoso employees and customers use Bookings to reserve hotel rooms.

Data Environment

Bookings connects to a Microsoft SQL Server database named hotelDB in the New York office.
The database has a view named vwAvailability that consolidates columns from the tables named Hotels, Rooms, and RoomAvailability. The database contains data that was collected during the last 20 years.

Problem Statements

Contoso identifies the following issues with its current business model:

- European users report that access to Booking is slow, and they lose customers who must wait on the phone while they search for available rooms.
- Users report that Bookings was unavailable during an outage in the New York data center for more than 24 hours.

Requirements

Contoso identifies the following issues with its current business model:

- European users report that access to Bookings is slow, and they lose customers who must wait on the phone while they search for available rooms.
- Users report that Bookings was unavailable during on outage in the New York data center for more than 24 hours.

Business Goals

Contoso wants to provide a new version of the Bookings app that will provide a highly available, reliable service for booking travel packages by interacting with a chatbot named Butler.

Contoso plans to move all production workloads to the cloud.

Technical requirements

Contoso identifies the following technical requirements:

- Data scientists must test Butler by using ASDK.
- Whenever possible, solutions must minimize costs.
- Butler must greet users by name when they first connect.
- Butler must be able to handle up to 10,000 messages a day.
- Butler must recognize the users' intent based on basic utterances.
- All configurations to the Azure Bot Service must be logged centrally.
- Whenever possible, solutions must use the principle of least privilege.
- Internal users must be able to access Butler by using Microsoft Skype for Business.
- The new Bookings app must provide a user interface where users can interact with Butler.
- Users in an Azure AD group named KeyManagers must be able to manage keys for all Azure Cognitive Services.
- Butler must provide users with the ability to reserve a room, cancel a reservation, and view existing reservations.
- The new Bookings app must be available to users in North America and Europe if a single data center or Azure region fails.
- For continuous improvement, you must be able to test Butler by sending sample utterances and comparing the chatbot's responses to the actual intent.
- You must maintain relationships between data after migration.

QUESTION 1
You need to design the Butler chatbot solution to meet the technical requirements.

What is the best channel and pricing tier to use? More than one answer choice may achieve the goal. Select the **BEST** answer.

A. Standard channels that use the S1 pricing tier
B. Standard channels that use the Free pricing tier
C. Premium channels that use the Free pricing tier
D. Premium channels that use the S1 pricing tier

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
References:
https://azure.microsoft.com/en-in/pricing/details/bot-service/

QUESTION 2
You need to meet the testing requirements for the data scientists.

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

NOTE: Each correct selection is worth one point.

A. Deploy an Azure Kubernetes Service (AKS) cluster to the East US 2 region
B. Get the docker image from mcr.microsoft.com/azure-cognitive-services/sentiment:latest
C. Deploy an Azure an Azure Container Service cluster to the West Europe region
D. Export the production version of the Language Understanding (LUIS) app
E. Deploy a Kubernetes cluster to Azure Stack
F. Get the docker image from mcr.microsoft.com/azure-cognitive-services/luis:latest
G. Export the staging version of the Language and Understanding (LUIS) app

Correct Answer: EFG
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Scenario: Data scientists must test Butler by using ASDK.
Note: Contoso wants to provide a new version of the Bookings app that will provide a highly available, reliable service for booking travel packages by interacting with

a chatbot named Butler.

E: The ASDK (Azure Stack Development Kit) is meant to provide an environment in which you can evaluate Azure Stack and develop modern applications using APIs and tooling consistent with Azure in a non-production environment.

Microsoft Azure Stack integrated systems range in size from 4-16 nodes, and are jointly supported by a hardware partner and Microsoft.

F: The Language Understanding (LUIS) container loads your trained or published Language Understanding model, also known as a LUIS app, into a docker container and provides access to the query predictions from the container's API endpoints.

Use the docker pull command to download a container image from the mcr.microsoft.com/azure-cognitive-services/luis repository:

docker pull mcr.microsoft.com/azure-cognitive-services/luis:latest

G: You can test using the endpoint with a maximum of two versions of your app. With your main or live version of your app set as the production endpoint, add a second version to the staging endpoint.

Reference:
https://docs.microsoft.com/en-us/azure-stack/asdk/asdk-what-is

https://docs.microsoft.com/en-us/azure/cognitive-services/luis/luis-container-howto

https://docs.microsoft.com/en-us/azure/cognitive-services/luis/luis-concept-test

Integrate AI models into solutions

Question Set 1

QUESTION 1
You design an AI solution that uses an Azure Stream Analytics job to process data from an Azure IoT hub. The IoT hub receives time series data from thousands of IoT devices at a factory.

The job outputs millions of messages per second. Different applications consume the messages as they are available. The messages must be purged.

You need to choose an output type for the job.

What is the best output type to achieve the goal? More than one answer choice may achieve the goal.

A. Azure Event Hubs
B. Azure SQL Database
C. Azure Blob storage
D. Azure Cosmos DB

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Stream Analytics can target Azure Cosmos DB for JSON output, enabling data archiving and low-latency queries on unstructured JSON data.

References:
https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-documentdb-output

QUESTION 2
You need to deploy cognitive search.

You provision an Azure Search service.

What should you do next?

A. Search by using the .NET SDK.
B. Load data.
C. Search by using the REST API.

D. Create an index.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
You create a data source, a skillset, and an index. These three components become part of an indexer that pulls each piece together into a single multi-phased operation.

Note: At the start of the pipeline, you have unstructured text or non-text content (such as image and scanned document JPEG files). Data must exist in an Azure data storage service that can be accessed by an indexer. Indexers can "crack" source documents to extract text from source data.

References:
https://docs.microsoft.com/en-us/azure/search/cognitive-search-tutorial-blob

QUESTION 3
You need to design an application that will analyze real-time data from financial feeds.

The data will be ingested into Azure IoT Hub. The data must be processed as quickly as possible in the order in which it is ingested.

Which service should you include in the design?

A. Azure Data Factory
B. Azure Queue storage
C. Azure Stream Analytics
D. Azure Notification Hubs
E. Apache Kafka
F. Azure Event Hubs

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Stream processing can be handled by Azure Stream Analytics. Azure Stream Analytics can run perpetual queries against an unbounded stream of data. These queries consume streams of data from storage or message brokers, filter and aggregate the data based on temporal windows, and write the results to sinks such as storage, databases, or directly to reports in Power BI. Stream Analytics uses a SQL-based query language that supports temporal and geospatial constructs, and

can be extended using JavaScript.

Incorrect Answers:
E: Apache Kafka is used for ingestion, not for stream processing.
F: Azure Event Hubs is used for ingestion, not for stream processing.

Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/big-data/real-time-processing

QUESTION 4
You are designing an AI solution that will provide feedback to teachers who train students over the Internet. The students will be in classrooms located in remote areas. The solution will capture video and audio data of the students in the classrooms.

You need to recommend Azure Cognitive Services for the AI solution to meet the following requirements:

- Alert teachers if a student seems angry or distracted.
- Identify each student in the classrooms for attendance purposes.
- Allow the teachers to log the text of conversations between themselves and the students.

Which Cognitive Services should you recommend?

A. Computer Vision, Text Analytics, and Face API
B. Video Indexer, Face API, and Text Analytics
C. Computer Vision, Speech to Text, and Text Analytics
D. Text Analytics, QnA Maker, and Computer Vision
E. Video Indexer, Speech to Text, and Face API

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Azure Video Indexer is a cloud application built on Azure Media Analytics, Azure Search, Cognitive Services (such as the Face API, Microsoft Translator, the Computer Vision API, and Custom Speech Service). It enables you to extract the insights from your videos using Video Indexer video and audio models.

Face API enables you to search, identify, and match faces in your private repository of up to 1 million people.

The Face API now integrates emotion recognition, returning the confidence across a set of emotions for each face in the image such as anger, contempt, disgust, fear, happiness, neutral, sadness, and surprise. These emotions are understood to be cross-culturally and universally communicated with particular facial expressions.

Speech-to-text from Azure Speech Services, also known as speech-to-text, enables real-time transcription of audio streams into text that your applications, tools, or devices can consume, display, and take action on as command input. This service is powered by the same recognition technology that Microsoft uses for Cortana and Office products, and works seamlessly with the translation and text-to-speech.

Incorrect Answers:
Computer Vision or the QnA is not required.

References:
https://docs.microsoft.com/en-us/azure/media-services/video-indexer/video-indexer-overview

https://azure.microsoft.com/en-us/services/cognitive-services/face/

https://docs.microsoft.com/en-us/azure/cognitive-services/speech-service/speech-to-text

QUESTION 5
Your company plans to deploy an AI solution that processes IoT data in real-time.

You need to recommend a solution for the planned deployment that meets the following requirements:

- Sustain up to 50 Mbps of events without throttling.
- Retain data for 60 days.

What should you recommend?

A. Apache Kafka
B. Microsoft Azure IoT Hub
C. Microsoft Azure Data Factory
D. Microsoft Azure Machine Learning

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Apache Kafka is an open-source distributed streaming platform that can be used to build real-time streaming data pipelines and applications.

References:
https://docs.microsoft.com/en-us/azure/hdinsight/kafka/apache-kafka-introduction

QUESTION 6
You are designing a solution that will use the Azure Content Moderator service to moderate user-generated content.

You need to moderate custom predefined content without repeatedly scanning the collected content.

Which two APIs should you use? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.)

A. Term List API
B. Text Moderation API
C. Image Moderation API
D. Workflow API

Correct Answer: AC
Section: (none)
Explanation

Explanation/Reference:
Explanation:
The default global list of terms in Azure Content Moderator is sufficient for most content moderation needs. However, you might need to screen for terms that are specific to your organization. For example, you might want to tag competitor names for further review.

Use the List Management API to create custom lists of terms to use with the Text Moderation API. The Text - Screen operation scans your text for profanity, and also compares text against custom and shared blacklists.

C: Use Content Moderator's machine-assisted image moderation and human-in-the-loop Review tool to moderate images for adult and racy content.
Instead of moderating the same image multiple times, you add the offensive images to your custom list of blocked content. That way, your content moderation system compares incoming images against your custom lists and stops any further processing.

Incorrect Answers:
B: Use the Text Moderation API in Azure Content Moderator to scan your text content. The operation scans your content for profanity, and compares the content against custom and shared blacklists.

References:
https://docs.microsoft.com/en-us/azure/cognitive-services/content-moderator/try-terms-list-api
https://docs.microsoft.com/en-us/azure/cognitive-services/content-moderator/image-moderation-api

QUESTION 7
You need to configure versioning and logging for Azure Machine Learning models.

Which Machine Learning service application should you use?

A. Models
B. Activities
C. Experiments
D. Pipelines
E. Deployments

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:
References:
https://docs.microsoft.com/en-us/azure/machine-learning/service/how-to-enable-logging#logging-for-deployed-models

QUESTION 8
You have an app that records meetings by using speech-to-text capabilities from the Speech Services API.

You discover that when action items are listed at the end of each meeting, the app transcribes the text inaccurately.

You need to improve the accuracy of the meeting records.

What should you do?

A. Add a phrase list
B. Create a custom wake word
C. Parse the text by using the Language Understanding (LUIS) API
D. Train a custom model by using Custom Translator

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Speech Services API with subscribtion to the Microsoft Text Translation API enables you to use Custom Translator to use your own data for more accurate translations.

References:
https://www.microsoft.com/en-us/translator/business/customization/

QUESTION 9
You have Azure IoT Edge devices that collect measurements every 30 seconds.

You plan to send the measurements to an Azure IoT hub.

You need to ensure that every event is processed as quickly as possible.

What should you use?

A. Apache Kafka
B. Azure Stream Analytics record functions
C. Azure Stream Analytics windowing functions
D. Azure Machine Learning on the IoT Edge devices

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Use Azure Notebooks to develop a machine learning module and deploy it to a Linux device running Azure IoT Edge.
You can use IoT Edge modules to deploy code that implements your business logic directly to your IoT Edge devices.

References:
https://docs.microsoft.com/en-us/azure/iot-edge/tutorial-deploy-machine-learning

QUESTION 10
Your company recently purchased several hundred hardware devices that contain sensors.

You need to recommend a solution to process the sensor data. The solution must provide the ability to write back configuration changes to the devices.

What should you include in the recommendation?

A. Microsoft Azure IoT Hub
B. API apps in Microsoft Azure App Service
C. Microsoft Azure Event Hubs
D. Microsoft Azure Notification Hubs

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
References:
https://azure.microsoft.com/en-us/resources/samples/functions-js-iot-hub-processing/

QUESTION 11
You have thousands of images that contain text.

You need to process the text from the images to a machine-readable character stream.

Which Azure Cognitive Services service should you use?

A. the Image Moderation API
B. Text Analytics
C. Translator Text
D. Computer Vision

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
With Computer Vision you can detect text in an image using optical character recognition (OCR) and extract the recognized words into a machine-readable character stream.

Incorrect Answers:
A: Use Content Moderator's machine-assisted image moderation and human-in-the-loop Review tool to moderate images for adult and racy content. Scan images for text content and extract that text, and detect faces. You can match images against custom lists, and take further action.

Reference:
https://azure.microsoft.com/en-us/services/cognitive-services/computer-vision/

https://docs.microsoft.com/en-us/azure/cognitive-services/content-moderator/image-moderation-api

QUESTION 12
You have Azure IoT Edge devices that collect measurements every 30 seconds.

You plan to send the measurements to an Azure IoT hub.

You need to process events in the cloud and account for missing data.

What should you use?

A. Apache Kafka
B. Azure Stream Analytics record functions
C. Azure Stream Analytics windowing functions
D. Azure Machine Learning on the IoT Edge devices

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Use Azure Notebooks to develop a machine learning module and deploy it to a Linux device running Azure IoT Edge.
You can use IoT Edge modules to deploy code that implements your business logic directly to your IoT Edge devices.
Use Clean Missing Data module in Azure Machine Learning to to remove, replace, or infer missing values.

Reference:
https://docs.microsoft.com/en-us/azure/iot-edge/tutorial-deploy-machine-learning

QUESTION 13
Note: This question is part of a 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, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are deploying an Azure Machine Learning model to an Azure Kubernetes Service (AKS) container.

You need to monitor the scoring accuracy of each run of the model.

Solution: You modify the Config.json file.

Does this meet the goal?

A. Yes

B. No

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Instead update the manifest file.

Reference:
https://azure.github.io/learnAnalytics-UsingAzureMachineLearningforAIWorkloads/lab07-deploying_a_scoring_service_to_aks/0_README.html

QUESTION 14
You need to build an API pipeline that analyzes streaming data. The pipeline will perform the following:

- Visual text recognition
- Audio transcription
- Sentiment analysis
- Face detection

Which Azure Cognitive Services should you use in the pipeline?

A. Custom Speech Service
B. Face API
C. Text Analytics
D. Video Indexer

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Azure Video Indexer is a cloud application built on Azure Media Analytics, Azure Search, Cognitive Services (such as the Face API, Microsoft Translator, the Computer Vision API, and Custom Speech Service). It enables you to extract the insights from your videos using Video Indexer video and audio models described below:

- Visual text recognition (OCR): Extracts text that is visually displayed in the video.
- Audio transcription: Converts speech to text in 12 languages and allows extensions.
- Sentiment analysis: Identifies positive, negative, and neutral sentiments from speech and visual text.
- Face detection: Detects and groups faces appearing in the video.

References:
https://docs.microsoft.com/en-us/azure/media-services/video-indexer/video-indexer-overview