

Actual exam question from Microsoft's AZ-220

Question #: 1

Topic #: 1

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure IoT solution that includes an Azure IoT hub, a Device Provisioning Service instance, and 1,000 connected IoT devices.

All the IoT devices are provisioned automatically by using one enrollment group.

You need to temporarily disable the IoT devices from the connecting to the IoT hub.

Solution: From the Device Provisioning Service, you disable the enrollment group, and you disable device entries in the identity registry of the IoT hub to which the IoT devices are provisioned.

Does the solution meet the goal?

A. Yes

B. No

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 2

Topic #: 1

[\[All AZ-220 Questions\]](#)

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All the IoT devices are provisioned automatically by using one enrollment group.

You need to temporarily disable the IoT devices from the connecting to the IoT hub.

Solution: You delete the enrollment group from the Device Provisioning Service.

Does the solution meet the goal?

A. Yes

B. No

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 3

Topic #: 1

[\[All AZ-220 Questions\]](#)

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All the IoT devices are provisioned automatically by using one enrollment group.

You need to temporarily disable the IoT devices from the connecting to the IoT hub.

Solution: From the IoT hub, you change the credentials for the shared access policy of the IoT devices.

Does the solution meet the goal?

A. Yes

B. No

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 4

Topic #: 1

[\[All AZ-220 Questions\]](#)

HOTSPOT -

You have an Azure IoT hub.

You plan to deploy 1,000 IoT devices by using automatic device management.

The device twin is shown below.

```
{
  "deviceId": "ContosoHyperDriveEngine1",
  "etag": "AAAAAAAAAAw=",
  "deviceEtag": "MTYyNDk20kw",
  "status": "enabled",
  "statusUpdateTime": "0001-01-01t00:00:00Z",
  "connectionTime": "Disconnected",
  "lastActivityTime": "0001-01-01T00:00:00Z",
  "cloudToDeviceMessageCount": 0,
  "authenticationType": "sas",
  "x509Thumbprint": {
    "primaryThumbprint": null,
    "secondaryThumbprint": null
  },
  "version": 13,
  "tags": {
    "engine": {
      "warpCorVersion": "1.2.65b",
      "warpDriveType": "WM105a"
    }
  },
  "properties": {
    "desired": {
      "$metadata": {
        "$lastUpdated": "2019-10-17T18:43:33.7599556Z"
      },
      "version": 1
    },
    "reported": {
      "$metadata": {
        "$lastUpdated": "2019-10-17T18:43:33.7599556Z"
      },
      "version": 1
    }
  }
}
```

You need to configure automatic device management for the deployment.

Which target Condition and Device Twin Path should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Target Condition:

properties.desired.warpDriveType='WM105a'
properties.reported.warpDriveType='WM105a'
tags.engine.warpDriveType='WM105a'

Device Twin Path:

properties.desired.warpOperating
properties.reported.warpOperating
properties.warpOperating

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 5

Topic #: 1

[\[All AZ-220 Questions\]](#)

You plan to deploy a standard tier Azure IoT hub.

You need to perform an over-the-air (OTA) update on devices that will connect to the IoT hub by using scheduled jobs.

What should you use?

- A. a device-to-cloud message
- B. the device twin reported properties
- C. a cloud-to-device message
- D. a direct method

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 6

Topic #: 1

[\[All AZ-220 Questions\]](#)

You have an IoT device that gathers data in a CSV file named Sensors.csv.

You deploy an Azure IoT hub that is accessible at ContosoHub.azure-devices.net.

You need to ensure that Sensors.csv is uploaded to the IoT hub.

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

NOTE: Each correct selection is worth one point.

- A. Upload Sensors.csv by using the IoT Hub REST API.
- B. From the Azure subscription, select the IoT hub, select Message routing, and then configure a route to storage.
- C. From the Azure subscription, select the IoT hub, select File upload, and then configure a storage container.
- D. Configure the device to use a GET request to ContosoHub.azure-devices.net/devices/ContosoDevice1/files/notifications.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 7

Topic #: 1

[\[All AZ-220 Questions\]](#)

You plan to deploy an Azure IoT hub.

The IoT hub must support the following:

- ⇒ Three Azure IoT Edge devices
- ⇒ 2,500 IoT devices

Each IoT device will spend a 6 KB message every five seconds.

You need to size the IoT hub to support the devices. The solution must minimize costs.

What should you choose?

- A. one unit of the S1 tier
- B. one unit of the B2 tier
- C. one unit of the B1 tier
- D. one unit of the S3 tier

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 8

Topic #: 1

[\[All AZ-220 Questions\]](#)

DRAG DROP -

You deploy an Azure IoT hub.

You need to demonstrate that the IoT hub can receive messages from a device.

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

Select and Place:

Actions

Get a service primary key for the IoT hub.

Configure the Device Provisioning Service on the IoT hub.

Configure the device connection string on a device client.

Register a device in IoT Hub.

Trigger a new send event from a device client.

Answer Area



Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 9

Topic #: 1

[\[All AZ-220 Questions\]](#)

DRAG DROP -

You have an Azure IoT hub.

You plan to attach three types of IoT devices as shown in the following table.

Name	Specification	Note
Transparent Field Gateway Device	High-power device with a fast processor and 4 GB of RAM	Will connect to multiple devices, each with its own credentials, by using the same TLS connection.
Low Resource Device	Low resource specifications, battery-operated, and 512 KB of RAM	Will connect directly to an IoT hub and will NOT connect to any other devices. Will use cloud-to-device messages.
Limited Sensor Device	Extremely low-power device with a limited microcontroller (MCU) and 256 KB of RAM	Will NOT support the Azure SDK. Messages must be as small as possible.

You need to select the appropriate communication protocol for each device.

What should you select? To answer, drag the appropriate protocols to the correct devices. Each protocol may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

Protocols

AMQP

HTTPS

MQTT

Answer Area

Device

Protocol

Transparent Field Gateway Device:

Protocol

Low Resource Device:

Protocol

Limited Sensor Device:

Protocol

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 10

Topic #: 1

[\[All AZ-220 Questions\]](#)

You create an Azure IoT hub by running the following command. `az iot hub create --resource-group MyResourceGroup --name MyIotHub --sku B1 --location westus --partition-count 4`

What does MyIotHub support?

- A. Device Provisioning Service
- B. cloud-to-device messaging
- C. Azure IoT Edge
- D. device twins

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 11

Topic #: 1

[\[All AZ-220 Questions\]](#)

You have an existing Azure IoT hub.

You need to connect physical IoT devices to the IoT hub.

You are connecting the devices through a firewall that allows only port 443 and port 80.

Which three communication protocols can you use? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. MQTT over WebSocket
- B. AMQP
- C. AMQP over WebSocket
- D. MQTT
- E. HTTPS

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 12

Topic #: 1

[\[All AZ-220 Questions\]](#)

You have an Azure IoT solution that includes an Azure IoT hub and 100 Azure IoT Edge devices.

You plan to deploy the IoT Edge devices to external networks. The firewalls of the external networks only allow traffic on port 80 and port 443.

You need to ensure that the devices can connect to the IoT hub. The solution must minimize costs.

What should you do?

- A. Configure the upstream protocol of the devices to use MQTT over TCP.
- B. Configure the upstream protocol of the devices to use MQTT over WebSocket.
- C. Connect the external networks to the IoT solution by using ExpressRoute.
- D. Integrate cellular communication hardware onto the devices and avoid the use of the external networks.

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 13

Topic #: 1

[\[All AZ-220 Questions\]](#)

You have 100 devices that connect to an Azure IoT hub named Hub1. The devices connect by using a symmetric key.

You deploy an IoT hub named Hub2.

You need to migrate 10 devices from Hub1 to Hub2. The solution must ensure that the devices retain the existing symmetric key.

What should you do?

- A. Add a desired property to the device twin of Hub2. Update the endpoint of the 10 devices to use Hub2.
- B. Add a desired property to the device twin of Hub1. Recreate the device identity on Hub2.
- C. Recreate the device identity on Hub2. Update the endpoint of the 10 devices to use Hub2.
- D. Disable the 10 devices on Hub1. Update the endpoint of the 10 devices to use Hub2.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 14

Topic #: 1

[\[All AZ-220 Questions\]](#)

DRAG DROP -

You have an Azure subscription that contains an Azure IoT hub and 100 IoT devices.

The devices connect to the IoT hub by using the Advanced Message Queuing Protocol (AMQP) protocol and authenticate to the IoT hub by using symmetric keys.

You need to configure the SASL PLAIN username for the AMQP connection.

How should you configure the username? To answer, drag the appropriate options to the correct targets. Each option may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

Options

Answer Area

Device symmetric key

Deviceld

IoT hub name

root

sas

Shared access
signature (SAS) token

@ .

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 15

Topic #: 1

[\[All AZ-220 Questions\]](#)

You are configuring a production environment for an Azure IoT solution.

You plan to deploy 1,000 IoT devices. Each device will send one device-to-cloud message every hour. Each message will be 4 KB.

You need to deploy an Azure IoT hub that will support the IoT device deployment. The solution must meet the following requirements:

- ⇒ Perform bulk device operations such as creating multiple device identities.
- ⇒ Minimize costs

What should you deploy?

- A. one unit of the B1 tier
- B. one unit of the free tier
- C. one unit of the S1 tier
- D. one unit of the S2 tier

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Actual exam question from Microsoft's AZ-220

Question #: 16

Topic #: 1

[\[All AZ-220 Questions\]](#)

You have an Azure IoT hub that receives messages from an IoT device. The messages are serialized as Protobuf.

You need the IoT hub to route the messages.

What should you do first?

- A. From the Azure portal, add desired properties to the device twin.
- B. Configure the IoT device to add application properties to the messages.
- C. From the Azure portal, configure the IoT hub to add message enrichments.
- D. Configure the IoT device to add ASCII-encoded properties to the body of the messages.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 18

Topic #: 1

[\[All AZ-220 Questions\]](#)

DRAG DROP

-

You have an Azure subscription that contains an Azure IoT hub and 100 IoT devices.

The devices connect to the IoT hub by using the Message Queuing Telemetry Transport (MQTT) protocol and authenticate to the IoT hub by using symmetric keys.

You need to configure the username and password for the MQTT connection.

What should you use? To answer, drag the appropriate components to the correct targets. Each component may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Components

The device ID

The MAC address

The X.509 public key

The symmetric key of the device

The shared access signature (SAS) token

Answer Area

Username: {IoThubhostname} /

Password:

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 22

Topic #: 1

[\[All AZ-220 Questions\]](#)

HOTSPOT

-

You have an Azure subscription that contains the following Azure IoT hub:

- Name: Hub1
- Tier: S1
- Number of units: 14

The subscription has the tiers and unit costs shown in the following table.

Tier	Number of units	Messages per day	Costs per month
S1	1	400,000	18.63
S2	1	6,000,000	186.33
S3	1	300,000,000	18633.30

You have 60 IoT devices that connect to Hub1. Each IoT device sends a single 1-KB message to Hub1 per second.

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

NOTE: Each correct selection is worth one point.

Answer Area

Statements

Yes

No

Hub1 can support an additional five IoT devices before throttling messages.

To minimize costs without affecting message throughput, Hub1 must be configured as one unit of S2.

If the IoT devices are configured to send a single 60-KB message per minute, the number of units configured can be reduced to nine before throttling messages.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 23

Topic #: 1

[\[All AZ-220 Questions\]](#)

HOTSPOT

-

You create an Azure IoT hub as shown in the following exhibit.

[Home](#) > [New](#) >


IoT hub

Microsoft

[Basics](#) [Networking](#) [Management](#) [Tags](#) [Review + create](#)


Each IoT hub is provisioned with a certain number of units in a specific tier. The tier and number of units determine the maximum daily quota of messages that you can send. [Learn more](#)

Scale tier and units

Pricing and scale tier * 

S1: Standard tier

[Learn how to choose the right IoT hub tier for your solution](#)

Number of S1 IoT hub units 



1









Determines how your IoT hub can scale. You can change this later if your needs increase.

Defender for IoT




On

Turn on Defender for IoT and add an extra layer of threat protection to IoT Hub, IoT Edge, and your devices. [Learn more](#)

Pricing and scale tier 	S1	Device-to-cloud-messages 	Enabled
Messages per day 	400,000	Message routing 	Enabled
Cost per month	18.63 GBP	Cloud-to-device commands 	Enabled
Defender for IoT 	0.000745309 GBP per device per month	IoT Edge 	Enabled
		Device management 	Enabled

 Advanced settings

Scale

Device-to-cloud partitions 



2

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

NOTE: Each correct selection is worth one point.

Answer Area

Statements

Yes

No

To support 1,200,000 messages per day and have Cloud-to-device commands enabled, the tier must be set to **S3: Standard tier**.

Defender for IoT can be enabled if the tier is set to **B3: Basic tier**.

Increasing Device-to-cloud partitions will increase the number of possible concurrent readers.

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 24

Topic #: 1

[\[All AZ-220 Questions\]](#)

DRAG DROP

You are building an IoT device management application by using the Azure IoT Hub Service SDK.

You need to configure the application to send instructions via an IoT hub to IoT devices.

How should you complete the code? To answer, drag the appropriate values to the correct targets. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Values

DeviceClient

DeviceJob

FileNotification

JobClient

Message

ServiceClient

Answer Area

```
static string connectionString = ".....";
static string targetDevice = ".....";
private async static Task SendCloudToDeviceAsync()
{
    var command = new [ ] (Encoding.ASCII.GetBytes("Cloud to device command."));
    await dvconnect.SendAsync(targetDevice, command);
}
...
var dvconnect = [ ].CreateFromConnectionString(connectionString);
SendCloudToDeviceAsync().Wait();
```

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 25

Topic #: 1

[\[All AZ-220 Questions\]](#)

You have an Azure IoT solution that includes an Azure IoT hub. The hub has the following configurations:

- Name: IoTHub1
- Retain for: 1 Day
- Azure region: East US
- Number of IoT hub units: 1
- Pricing and scale tier: B1 - Basic
- Consumer groups: \$Default Only
- Connectivity method: Public endpoint (all networks)

You need to ensure that the solution supports IoT Hub jobs that update device twin properties.

What should you do first?

- A. Create a device twin.
- B. Create a module twin.
- C. Create a shared access policy.
- D. Upgrade to a standard tier IoT hub.

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 26

Topic #: 1

[\[All AZ-220 Questions\]](#)

You have an Azure subscription that contains the Azure IoT hubs shown in the following table.

Name	Price tier
Hub1	F1 Free
Hub2	B1 Basic
Hub3	B3 Basic
Hub4	S1 Standard

You plan to evaluate the Microsoft Defender for IoT agent-based solution in Built-in mode.

Which IoT hubs can you use for the evaluation?

- A. Hub4 only
- B. Hub3 and Hub4 only
- C. Hub2, Hub3, and Hub4 only
- D. Hub1, Hub2, Hub3, and Hub4

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 27

Topic #: 1

[\[All AZ-220 Questions\]](#)

You have an Azure IoT solution that contains an Azure IoT hub in the S1 - Standard-tier. The IoT hub has four built-in event endpoint partitions.

You need to increase the number of partitions to eight. The solution must minimize administrative effort.

What should you do?

- A. From the Pricing and scale blade of the IoT hub, change the tier to S2 - Standard.
- B. From the Pricing and scale blade of the IoT hub, increase the number of IoT Hub units to eight.
- C. Create a new IoT hub and set Device-to-cloud partitions to eight.
- D. Create a new IoT hub and set the number of IoT Hub units to eight.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 28

Topic #: 1

[\[All AZ-220 Questions\]](#)

HOTSPOT

-

You have an Azure IoT solution that includes an IoT device named Device1.

You are creating an IoT Plug and Play model for Device1.

On Device1, you create a device model file in a folder named dtmi/com/source/.

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

NOTE: Each correct selection is worth one point.

Answer Area

```
{
  "@context": "dtmi:dtdl:context;3",
  "@id": 
    
    
    ,
  "@type": 
    
    ,
  "displayName": "Humidity",
  "description": "Reports current humidity",
  "contents": [
    ...
  ]
}
```

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 1

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure subscription that contains a resource group named RG1.

You need to deploy the Device Provisioning Service. The solution must ensure that the Device Provisioning Service can accept new device enrollments.

You create a Device Provisioning Service instance.

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

NOTE: Each correct selection is worth one point.

- A. From the Linked IoT hubs blade of the Device Provisioning Service, link an Azure IoT hub.
- B. From the Azure portal, create a new Azure IoT hub.
- C. From the Manage allocation policy blade of the Device Provisioning Service, configure an allocation policy.
- D. From the Certificates blade of the Device Provisioning Service, upload an X.509 certificate to the Device Provisioning Service.

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 2

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have 10,000 IoT devices that connect to an Azure IoT hub. The devices do not support over-the-air (OTA) updates.

You need to decommission 1,000 devices. The solution must prevent connections and autoenrollment for the decommissioned devices.

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

NOTE: Each correct selection is worth one point.

- A. Update the connectionState device twin property on all the devices.
- B. Blacklist the X.509 root certification authority (CA) certificate for the enrollment group.
- C. Delete the enrollment entry for the devices.
- D. Remove the identity certificate from the hardware security module (HSM) of the devices.
- E. Delete the device identity from the device registry of the IoT hub.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 3

Topic #: 2

[\[All AZ-220 Questions\]](#)

HOTSPOT -

You have an Azure IoT Central application that has a custom device template.

You need to configure the device template to support the following activities:

- ⇒ Return the reported power consumption.
- ⇒ Configure the desired fan speed.
- ⇒ Run the device reset routine.
- ⇒ Read the fan serial number.

Which option should you use for each activity? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Return the reported power consumption:

	▼
Command	
Measurement	
Properties	
Settings	

Configure the desired fan speed:

	▼
Command	
Measurement	
Properties	
Settings	

Read the fan serial number:

	▼
Command	
Measurement	
Properties	
Settings	

Run the device reset routine:

	▼
Command	
Measurement	
Properties	
Settings	

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 4

Topic #: 2

[\[All AZ-220 Questions\]](#)

DRAG DROP -

You have an Azure IoT Central application that includes a Device Provisioning Service instance.

You need to connect IoT devices to the application without first registering the devices.

In which order should you perform the actions? To answer, move all actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Actions

Flash unique credentials to the devices.

Obtain the credentials.

Generate device credentials.

Associate the devices to a template and approve the connections.

Connect the devices to IoT Central.

Answer Area



Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 5

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure IoT Central application.

You need to connect an IoT device to the application.

Which two settings do you require in IoT Central to configure the device? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Group SAS Primary Key
- B. the IoT hub name
- C. Scope ID
- D. Application Name
- E. Device ID

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 6

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an existing Azure IoT hub.

You use IoT Hub jobs to schedule long running tasks on connected devices.

Which three operations do the IoT Hub jobs support directly? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Trigger Azure functions.
- B. Invoke direct methods.
- C. Update desired properties.
- D. Send cloud-to-device messages.
- E. Disable IoT device registry entries.
- F. Update tags.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 7

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure IoT hub.

You need to recommend a solution to scale the IoT hub automatically.

What should you include in the recommendation?

- A. Create an SMS alert in IoT Hub for the Total number of messages used metric.
- B. Create an Azure function that retrieves the quota metrics of the IoT hub.
- C. Configure autoscaling in Azure Monitor.
- D. Emit custom metrics from the IoT device code and create an Azure Automation runbook alert.

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 8

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure IoT hub that uses a Device Provisioning Service instance.

You create a new individual device enrollment that uses symmetric key attestation.

Which detail from the enrollment is required to auto provision the device by using the Device Provisioning Service?

- A. the registration ID of the enrollment
- B. the primary key of the enrollment
- C. the device identity of the IoT hub
- D. the hostname of the IoT hub

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 9

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure IoT hub that uses a Device Provisioning Service instance to automate the deployment of Azure IoT Edge devices.

The IoT Edge devices have a Trusted Platform Module (TPM) 2.0 chip.

From the Azure portal, you plan to add an individual enrollment to the Device Provisioning Service that will use the TPM of the IoT Edge devices as the attestation mechanism.

Which detail should you obtain before you can create the enrollment?

- A. the scope ID and the Device Provisioning Service endpoint
- B. the primary key of the Device Provisioning Service shared access policy and the global device endpoint
- C. the X.509 device certificate and the certificate chain
- D. the endorsement key and the registration ID

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 10

Topic #: 2

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have devices that connect to an Azure IoT hub. Each device has a fixed GPS location that includes latitude and longitude.

You discover that a device entry in the identity registry of the IoT hub is missing the GPS location.

You need to configure the GPS location for the device entry. The solution must prevent the changes from being propagated to the physical device.

Solution: You use an Azure policy to apply tags to a resource group.

Does the solution meet the goal?

A. Yes

B. No

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Actual exam question from Microsoft's AZ-220

Question #: 11

Topic #: 2

[\[All AZ-220 Questions\]](#)

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After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have devices that connect to an Azure IoT hub. Each device has a fixed GPS location that includes latitude and longitude.

You discover that a device entry in the identity registry of the IoT hub is missing the GPS location.

You need to configure the GPS location for the device entry. The solution must prevent the changes from being propagated to the physical device.

Solution: You add tags to the device twin.

Does the solution meet the goal?

A. Yes

B. No

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 12

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an existing Azure IoT hub.

You use IoT Hub jobs to schedule long running tasks on connected devices.

Which two operations do the IoT Hub jobs support directly? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Trigger Azure functions.
- B. Invoke direct methods.
- C. Update desired properties.
- D. Send cloud-to-device messages.
- E. Disable IoT device registry entries.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 13

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have 1,000 IoT devices that connect to an Azure IoT hub.

Each device has a property tag named city that is used to store the location of the device.

You need to update the properties on all the devices located at an office in the city of Seattle as quickly as possible. Any new devices in the Seattle office that are added to the IoT hub must receive the updated properties also.

What should you do?

- A. From Automatic Device Management, create an IoT device configuration.
- B. From the IoT hub, generate a query for the target devices.
- C. Create a scheduled job by using the IoT Hub service SDKs.
- D. Deploy an Azure IoT Edge transparent gateway to the Seattle office and deploy an Azure Stream Analytics edge job.

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 14

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure IoT Central application.

You add an IoT device named Oven1 to the application. Oven1 uses an IoT Central template for industrial ovens.

You need to send an email to the managers group at your company as soon as the oven temperature falls below 400 degrees.

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

NOTE: Each correct selection is worth one point.

- A. Create a SendGrid account in the same resource group as the IoT Central application.
- B. Add a condition that has Time Aggregation set to Off.
- C. Add a condition that has Aggregation set to Minimum.
- D. Add the Manager role to the IoT Central application.
- E. From IoT Central, create a telemetry rule for the template.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 15

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure IoT solution that includes multiple Azure IoT hubs in different geographic locations and a single Device Provision Service instance. You need to configure device enrollment to assign devices to the appropriate IoT hub based on the following requirements:

- ⇒ The registration ID of the device
- The geographic location of the device

-

The load between the IoT hubs in the same geographic location must be balanced.

What should you use to assign the devices to the IoT hubs?

- A. Static configuration (via enrollment list only)
- B. Lowest latency
- C. Evenly weighted distribution
- D. Custom (Use Azure Function)

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 16

Topic #: 2

[\[All AZ-220 Questions\]](#)

You are developing an Azure IoT Central application.

You add a new custom device template to the application.

You need to add a fixed location value to the device template. The value must be updated by the physical IoT device, read-only to device operators, and not graphed by IoT Central.

What should you add to the device template?

- A. a Location property
- B. a Location telemetry
- C. a Cloud property

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 17

Topic #: 2

[\[All AZ-220 Questions\]](#)

DRAG DROP -

You have an Azure IoT solution that includes an Azure IoT hub, a Device Provisioning Service instance, and 1,000 connected IoT devices. The IoT devices are allocated to four enrollment groups. Each enrollment group is configured to use certificate attestation.

You need to decommission all the devices in a single enrollment group and the enrollment group itself.

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

Select and Place:

Actions

Delete each device from the identity registry.

Delete the IoT hub.

Remove the X.509 root certificate.

Disable the enrollment group.

Delete the enrollment group.

Answer Area



Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 18

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure IoT hub that uses a Device Provision Service instance.

You plan to deploy 100 IoT devices.

You need to confirm the identity of the devices by using the Device Provision Service.

Which three device attestation mechanisms can you use? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. X.509 certificates
- B. Trusted Platform Module (TPM) 2.0
- C. Trusted Platform Module (TPM) 1.2
- D. Symmetric key
- E. Device Identity Composition Engine (DICE)

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 19

Topic #: 2

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have a Standard tier Azure IoT hub and a fleet of IoT devices.

The devices connect to the IoT hub by using either Message Queuing Telemetry Transport (MQTT) or Advanced Message Queuing Protocol (AMQP).

You need to send data to the IoT devices and each device must respond. Each device will require three minutes to process the data and respond.

Solution: You update the twin desired property and check the corresponding reported property.

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 20

Topic #: 2

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have a Standard tier Azure IoT hub and a fleet of IoT devices.

The devices connect to the IoT hub by using either Message Queuing Telemetry Transport (MQTT) or Advanced Message Queuing Protocol (AMQP).

You need to send data to the IoT devices and each device must respond. Each device will require three minutes to process the data and respond.

Solution: You use direct methods and check the response.

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 21

Topic #: 2

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have a Standard tier Azure IoT hub and a fleet of IoT devices.

The devices connect to the IoT hub by using either Message Queuing Telemetry Transport (MQTT) or Advanced Message Queuing Protocol (AMQP).

You need to send data to the IoT devices and each device must respond. Each device will require three minutes to process the data and respond.

Solution: You use cloud-to-device messages and watch the cloud-to-device feedback endpoint for successful acknowledgement.

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 22

Topic #: 2

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure IoT solution that includes an Azure IoT hub, a Device Provisioning Service instance, and 1,000 connected IoT devices.

All the IoT devices are provisioned automatically by using one enrollment group.

You need to temporarily disable the IoT devices from connecting to the IoT hub.

Solution: You disconnect the Device Provisioning Service from the IoT hub.

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 23

Topic #: 2

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have devices that connect to an Azure IoT hub. Each device has a fixed GPS location that includes latitude and longitude.

You discover that a device entry in the identity registry of the IoT hub is missing the GPS location.

You need to configure the GPS location for the device entry. The solution must prevent the changes from being propagated to the physical device.

Solution: You add the desired properties to the device twin.

Does the solution meet the goal?

A. Yes

B. No

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 24

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have three Azure IoT hubs named Hub1, Hub2, and Hub3, a Device Provisioning Service instance, and an IoT device named Device1.

Each IoT hub is deployed to a separate Azure region.

Device enrollment uses the Lowest latency allocation policy.

The Device Provisioning Service uses the Lowest latency allocation policy.

Device1 is auto-provisioned to Hub1 by using the Device Provisioning Service.

Device1 regularly moves between regions.

You need to ensure that Device1 always connects to the IoT hub that has the lowest latency.

What should you do?

- A. Configure device attestation that uses X.509 certificates.
- B. Implement device certificate rolling.
- C. Disenroll and reenroll Device1.
- D. Configure the re-provisioning policy.

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 25

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure IoT Central solution that includes multiple IoT devices. The devices report temperature, humidity, and pressure.

You need to export the sensor data captured during a 48-hour period as a CSV file.

What should you use in IoT Central?

- A. Devices
- B. Jobs
- C. Device groups
- D. Analytics

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 26

Topic #: 2

[\[All AZ-220 Questions\]](#)

DRAG DROP -

You have an Azure IoT Central application.

You need to connect IoT devices that use SAS tokens to the application without first registering the devices.

In which order should you perform the actions? To answer, move all actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Actions

Answer Area

Generate device SAS keys.

Obtain the group primary key.

Flash unique credentials to the devices.

Associate the devices to a template and approve the connections.

Connect the devices to IoT Central.



Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 27

Topic #: 2

[\[All AZ-220 Questions\]](#)

HOTSPOT

-

You have an Azure IoT Edge automatic deployment named D1 that deploys a temperature module to five IoT Edge devices.

D1 has a deployment priority of 10 and the following module configuration.

```
"TemperatureModule": {
  "properties.desired": {
    "SendData": true,
    "SendInterval": 5
  }
}
```

You need to create a new layered deployment that will add a new twin property named ReportingMode. The new deployment must not overwrite the existing module configurations set by D1.

How should you configure the deployment? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Deployment Priority:

	▼
1	
10	
20	

Deployment Configuration:

```
"TemperatureModule": {
```

	▼
<pre>"properties.desired": { "properties.desired.reportingSettings": { "properties.reported": { "properties.tags": {</pre>	

```
  "ReportingMode": "batch"
```

```
}
```

```
}
```

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 29

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure IoT solution that includes an Azure IoT hub and a Device Provisioning Service instance.

Several enrolled devices are stolen.

You need to prevent the stolen devices from connecting to the IoT solution. The solution must prevent the devices from re-enrollment and must be implemented as soon as possible.

What should you do?

- A. Delete the devices from the IoT hub.
- B. Delete the device enrollments from the Device Provisioning Service.
- C. Disable the devices in the IoT hub and delete from the IoT hub.
- D. Disable the device enrollments in the Device Provisioning Service and delete the devices from the IoT hub.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 31

Topic #: 2

[\[All AZ-220 Questions\]](#)

DRAG DROP

-

You have an Azure IoT hub.

You need to deploy a Device Provisioning Service instance that uses X.509 attestation to support new IoT devices.

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

Actions

Answer Area

Export the Device Provisioning Service configuration to an Azure Resource Manager template.

Create an IoT Hub Device Provisioning Service instance.

Set the re-provisioning policy to **Never re-provision**.

Create an enrollment group for X.509 and set an allocation policy.

Link the IoT hub to the Device Provisioning Service instance.



Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 33

Topic #: 2

[\[All AZ-220 Questions\]](#)

DRAG DROP

You need to configure a digital twin to accept device telemetry data from the IoT hub.

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

Actions

Answer Area

Upload the digital twin model.

Configure user access permissions.

Create a digital twin.

Configure a system-assigned managed identity for Azure Digital Twins.

Deploy an Azure Digital Twins instance.

Configure Azure Digital Twins Explorer.

Create an event route.

Create an Azure Digital Twins endpoint.



Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 34

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure IoT Central solution.

You need to verify that telemetry messages from devices arrive to IoT Central.

What should you use?

- A. the Azure IoT explorer
- B. the az command in Azure CLI
- C. Azure Service Bus Explorer
- D. the Azure IoT Tools for VS Code extension pack

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 37

Topic #: 2

[\[All AZ-220 Questions\]](#)

HOTSPOT

-

You have an Azure IoT Central application that has a custom device template.

You need to configure the device template to support the following activities:

- Return the reported power consumption.
- Configure the desired fan speed.
- Run the device reset routine.
- Read the fan serial number.

Which option should you use for each activity? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

Answer Area

Return the reported power consumption:

Command
Telemetry
Cloud Properties
Property

Configure the desired fan speed:

Command
Telemetry
Cloud Properties
Property

Read the fan serial number:

Command
Telemetry
Cloud Properties
Property

Run the device reset routine:

Command
Telemetry
Cloud Properties
Property

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 38

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure IoT hub that uses a Device Provisioning Service (DPS) instance.

For 100 legacy devices, you plan to create a new device enrollment that will use symmetric key attestation. The solution must minimize administrative effort.

What should you use to derive the device key?

- A. the subscription ID
- B. the IoT hub name
- C. the group master key
- D. the primary key of the DPS shared access policy

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 40

Topic #: 2

[\[All AZ-220 Questions\]](#)

You have an Azure IoT Hub deployment.

You plan to deploy 1,000 IoT devices that will have 1 MB of RAM. The devices will be deployed behind firewalls that block port 443.

You need to configure the communication protocol for the devices. The solution must ensure that each device uses unique credentials.

Which protocol should you use?

- A. AMQP
- B. MQTT over WebSockets
- C. MQTT
- D. AMQP over WebSockets

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 1

Topic #: 3

[\[All AZ-220 Questions\]](#)

HOTSPOT -

You have the following device twin for the IoT device.

```
{
  "deviceId": "device1",
  "etag": "AAAAAAAAAAk=",
  "deviceEtag": "NDcwMTU4Mzk=",
  "status": "enabled",
  "statusUpdateTime": "0001-01-01T00:00:00Z",
  "connectionState": "Disconnected",
  "lastActivityTime": "2019-10-21T22:45:57.9732805Z",
  "cloudToDeviceMessageCount": 0,
  "authenticationType": "sas",
  "x509Thumbprint": {
    "primaryThumbprint": null,
    "secondaryThumbprint": null
  },
  "version": 17,
  "properties": {
    "desired": {
      "$metadata": {
        "$lastUpdated": "2019-10-24T19:40:46.4809147Z",
        "$lastUpdatedVersion": 9
      },
      "$version": 9
    },
    "reported": {
      "fanSpeed": 73,
      "$metadata": {
        "$lastUpdated": "2019-10-24T19:41:28.8839751Z",
        "fanSpeed": {
          "$lastUpdated": "2019-10-24T19:41:28.8839751Z"
        }
      },
      "$version": 8
    }
  },
  "capabilities": {
    "iotEdge": false
  }
}
```

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

NOTE: Each correct selection is worth one point.

Hot Area:

Statements	Yes	No
You can add a property that contains multiple nested values to the device twin.	<input type="radio"/>	<input type="radio"/>
The device twin will set <code>fanSpeed</code> for the physical IoT device to 73.	<input type="radio"/>	<input type="radio"/>
You can change the device identity of the physical IoT device by modifying the <code>deviceId</code> property.	<input type="radio"/>	<input type="radio"/>

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 2

Topic #: 3

[\[All AZ-220 Questions\]](#)

You are deploying an Azure IoT Edge solution that includes multiple IoT Edge devices.

You need to configure module-to-module routing.

To which section of the deployment manifest should you add the routes?

- A. `storeAndForwardConfiguration`
- B. `$edgeHub`
- C. `modules`
- D. `systemModules`

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 3

Topic #: 3

[\[All AZ-220 Questions\]](#)

You have an IoT device that has the following configurations:

⇒ Hardware: Raspberry Pi

⇒ Operating system: Raspbian

You need to deploy Azure IoT Edge to the device.

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

NOTE: Each correct selection is worth one point.

- A. Update the IoT Edge runtime.
- B. Install the IoT Edge security daemon.
- C. Run the Deploy-IoTEdge PowerShell cmdlet on the IoT Edge device.
- D. Install the container runtime.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 4

Topic #: 3

[\[All AZ-220 Questions\]](#)

You develop a custom Azure IoT Edge module named temperature-module.

You publish temperature-module to a private container registry named mycr.azurecr.io

You need to build a deployment manifest for the IoT Edge device that will run temperature-module.

Which three container images should you define in the manifest? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. mcr.microsoft.com/azureiotedge-simulated-temperature-sensor:1.0
- B. mcr.microsoft.com/azureiotedge-agent:1.0
- C. mcr.microsoft.com/iotedgedev:2.0
- D. mycr.azurecr.io/temperature-module:latest
- E. mcr.microsoft.com/azureiotedge-hub:1.0

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 5

Topic #: 3

[\[All AZ-220 Questions\]](#)

DRAG DROP -

You need to install the Azure IoT Edge runtime on a new device that runs Windows 10 IoT Enterprise.

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

Select and Place:

Actions

From an elevated PowerShell prompt, run the following command.

```
•{Invoke-WebRequest -useb https://aka.ms/
iotedge-win} |
Invoke-Expression; Initialize-IoTEdge
```

From Azure IoT Hub, create an IoT Edge device.

From a Bash prompt, run the following commands.

```
curl https://packages.
microsoft.com/keys/microsoft.asc |
gpg --dearmor > microsoft.gpg
sudo cp ./microsoft.gpg /etc/apt/trusted.gpg.d/
```

From an elevated PowerShell prompt, run the following command.

```
•{Invoke-WebRequest -useb https://aka.ms/
iotedge-win} |
Invoke-Expression; Deploy-IoTEdge
```

Enter the IoT Edge device connection string.

From a Bash prompt, run the following commands.

```
sudo apt-get install moby-engine
```

Answer Area



Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 6

Topic #: 3

[\[All AZ-220 Questions\]](#)

You have an Azure IoT solution that includes an Azure IoT Hub named Hub1 and an Azure IoT Edge device named Edge1. Edge1 connects to Hub1.

You need to deploy a temperature module to Edge1.

What should you do?

- A. From the Azure portal, navigate to Hub1 and select IoT Edge. Select Edge1, and then select Manage Child Devices. From a Bash prompt, run the following command: `az iot edge set-modules --device-id Edge1 --hub-name Hub1 --content deploymentMan1.json`
- B. Create an IoT Edge deployment manifest that specifies the temperature module and the route to \$upstream. From a Bash prompt, run the following command: `az iot hub monitor-events --device-id Edge1 --hub-name Hub1`
- C. From the Azure portal, navigate to Hub1 and select IoT Edge. Select Edge1, select Device Twin, and then set the deployment manifest as a desired property. From a Bash prompt, run the following command: `az iot hub monitor-events --device-id Edge1 --hub-name Hub1`
- D. Create an IoT Edge deployment manifest that specifies the temperature module and the route to \$upstream. From a Bash prompt, run the following command: `az iot edge set-modules --device-id Edge1 --hub-name Hub1 --content deploymentMan1.json`

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 7

Topic #: 3

[\[All AZ-220 Questions\]](#)

DRAG DROP -

Your company is creating a new camera security system that will use Azure IoT Hub.

You plan to use an Azure IoT Edge device that will run Ubuntu Server 18.04.

You need to configure the IoT Edge device.

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

Select and Place:

Actions

Create an individual device enrollment by using the Device Provisioning Service.

Run the following commands.

```
sudo apt-get install moby-engine  
sudo apt-get install moby-cli  
sudo apt-get install iotedge
```

Add the connection string to the `/etc/iotedge/config.yaml` file, and then run the following command.

```
sudo systemctl restart iotedge
```

Install the IoT edge repository for Ubuntu Server 18.04 on the physical device. From IoT Hub, create a new IoT Edge device.

From IoT Hub, create an IoT Edge device registry entry.

Answer Area



Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 8

Topic #: 3

[\[All AZ-220 Questions\]](#)

You have the devices shown in the following table.

Name	Type	Hardware configuration
Device1	Azure Sphere microcontroller unit (MCU)	4 MB of RAM ARM processor
Device2	Raspberry Pi single board computer (SBC)	1 GB of RAM ARM processor
Device3	Desktop computer	8 GB of RAM x64 processor
Device4	Apple iPhone	4 GB of RAM ARM processor

You are implementing a proof of concept (POC) for an Azure IoT solution.

You need to deploy an Azure IoT Edge device as part of the POC.

On which two devices can you deploy IoT Edge? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Device1
- B. Device2
- C. Device3
- D. Device4

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

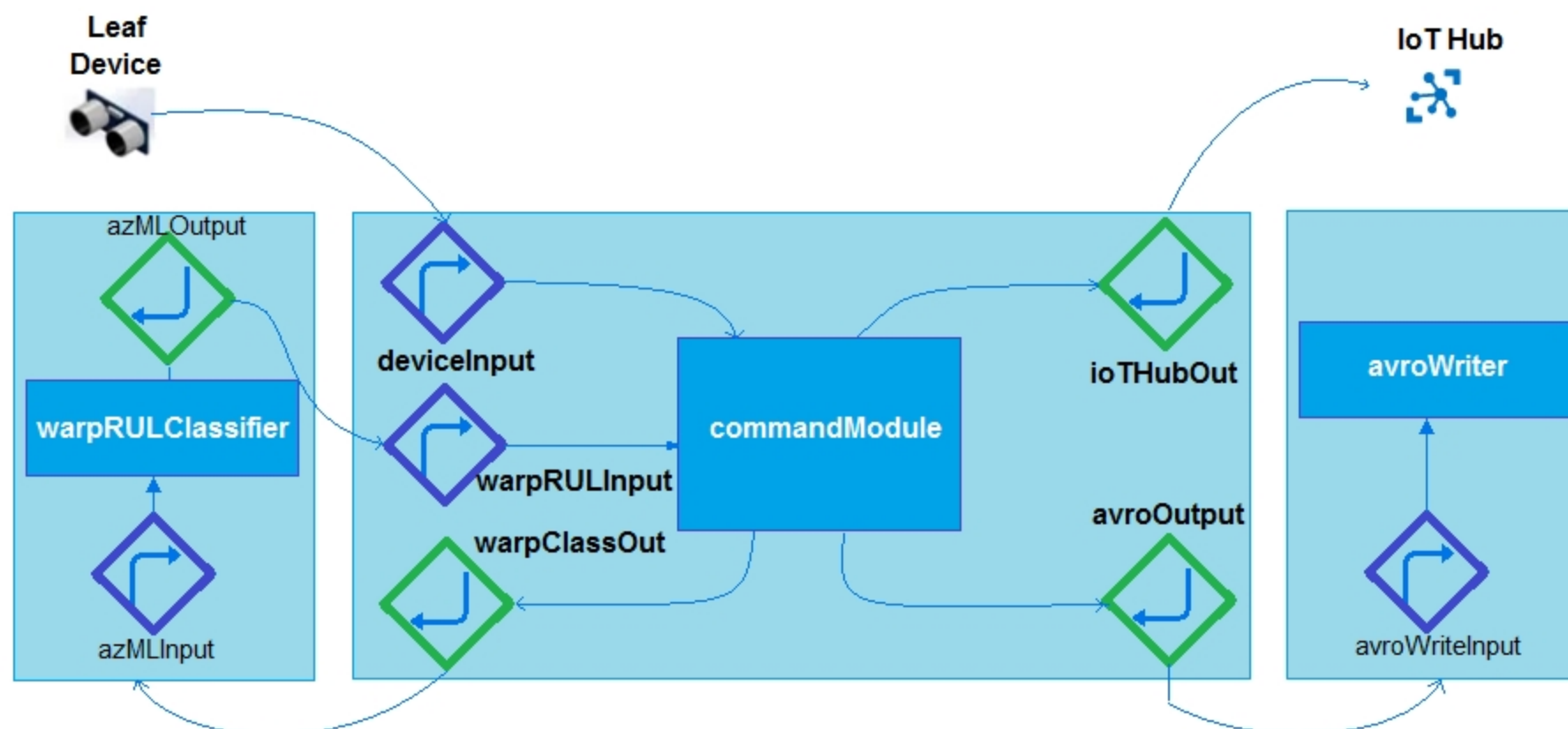
Question #: 9

Topic #: 3

[\[All AZ-220 Questions\]](#)

HOTSPOT -

You need to configure Azure IoT Edge module routing to ensure that modules route traffic as shown in the following exhibit.



How should you complete the IoT Edge module routes? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

```

"schemaVersion": "1.0",
"routes": {
  "deviceToCommand": "FROM /messages/" WHERE NOT IS_DEFINED(
    INTO BrokeredEndpoint(\
modules/commandModule/inputs/deviceInput\)",
  "warpClassifierToCommand": "FROM
/messages/modules/warpRULClassifier/outputs/azmlOutput
  INTO BrokeredEndpoint
(\"/modules/commandModule/inputs/warpRULInput\)",
  "commandToWarpClassifier": "FROM
/messages/modules/commandModule/outputs/warpClassOut
  INTO BrokeredEndpoint(\
 /modules/warpRULClassifier/inputs/azmlInput\)",
  "commandToAvroWriter": "FROM
/messages/modules/commandModule/outputs/avroOutput
  INTO BrokeredEndpoint
(\"/modules/avroWriter/inputs/avroWriterInput\)",
  "commandToCloud": "FROM
/messages/modules/commandModule/outputs/iotHubOut INTO
  },
  "storeAndForwardConfiguration": {
    "timeToLiveSecs": 7200
  }
}

```

	▼
*commandModule	
\$connectionModuled	
\$upstream	

	▼	*
*commandModule		
\$connectionModuled		
\$upstream		

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 10

Topic #: 3

[\[All AZ-220 Questions\]](#)

DRAG DROP -

You have an Azure IoT Edge device named Edge1.

You need to configure the module container to link the module storage to the host storage.

How should you configure the deployment manifest? To answer, drag the appropriate keys to the correct targets. Each key may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

Keys

Answer Area

```
"edgeAgent": {  
  "settings": {  
    "image": "mcr.microsoft.com/azureiotedge-agent:1.0",  
     {  
      "HostConfig": {  
         ["<HostStoragePath>:<ModuleStoragePath>"]  
      }  
    }  
  }  
}
```

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 11

Topic #: 3

[\[All AZ-220 Questions\]](#)

You are developing an Azure IoT solution for a shipping company. The company's ships will have sensors used for predictive maintenance. Some sensor devices will be MQTT-capable, and others will use Modbus.

Each ship has an internet connection that is available only when the ship is docked.

You create an Azure IoT hub.

You need to implement an IoT solution that uses Azure IoT Edge.

What should you do?

- A. Configure an IoT Edge gateway. Deploy an IoT Edge Modbus module. From the Azure portal, create IoT devices and add connection strings to the devices.
- B. Add the MQTT devices to the IoT hub and configure an IoT Edge gateway. From the IoT Edge gateway device, assign the MQTT devices as child devices of the gateway. Use the File upload feature of IoT Hub when internet connectivity is available.
- C. Add the MQTT devices to the IoT hub, configure an IoT Edge gateway, and set Enable connection to IoT Hub to Disable. From the IoT Edge gateway device, assign the MQTT devices as child devices of the gateway. Deploy the IoT Edge Modbus module.
- D. Add the MQTT devices to the IoT hub and configure an IoT Edge gateway. From the IoT Edge gateway device, assign the MQTT devices as child devices of the gateway. Deploy an IoT Edge Modbus module.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 12

Topic #: 3

[\[All AZ-220 Questions\]](#)

HOTSPOT -

You have an Azure subscription that contains an Azure IoT hub, an Azure IoT Edge gateway, and 1,000 leaf devices. The leaf devices use a custom communication protocol that is NOT supported by the IoT hub.

You need to configure the gateway to meet the following requirements:

- ⇒ Minimize the number of connections between the gateway and the IoT hub.
- ⇒ Support addressing cloud-to-device messages to individual leaf devices.

How should you configure the gateway? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Gateway pattern:

	▼
Identity translation	
Protocol translation	
Transparent gateway	

Connection protocol:

	▼
Advanced Message Queuing Protocol (AMQP)	
Hypertext Transfer Protocol Secure (HTTPS)	

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 13

Topic #: 3

[\[All AZ-220 Questions\]](#)

You have an Azure IoT Edge module named SampleModule that runs on a device named Device1.

You make changes to the code of SampleModule by using Microsoft Visual Studio Code.

You need to push the code to the container registry and then deploy the module to Device1.

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

NOTE: Each correct selection is worth one point.

- A. Build and push the SampleModule code to the registry.
- B. Create a deployment for a single device.
- C. Generate a deployment manifest.
- D. Build an IoT Edge solution.
- E. Generate a shared access signature (SAS) token for Device1.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 14

Topic #: 3

[\[All AZ-220 Questions\]](#)

HOTSPOT -

You have an Azure subscription that contains an Azure IoT hub and two IoT devices named Device1 and Device2.

You plan to deploy an Azure IoT Edge gateway device named Gateway1.

You need to ensure that all device-to-cloud messages and twin change notifications from Device1 and Device2 to the IoT hub are routed by using Gateway1.

What tasks should you perform to configure the devices? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Update the connection string to specify the `GatewayHostName` parameter on:

	▼
Gateway1	
Device1 and Device2	
Gateway1, Device1, and Device2	

Update the route value on:

	▼
Gateway1	
Device1 and Device2	
Gateway1, Device1, and Device2	

Set the route value to:

	▼
FROM /*INTO \$upstream	
FROM /messages/* INTO \$upstream	
FROM /messages/modules/* INTO \$upstream	

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 15

Topic #: 3

[\[All AZ-220 Questions\]](#)

DRAG DROP -

Your company develops a custom module and exports the module as a Linux Dockerfile.

You need to deploy the module to an Azure IoT Edge device that runs Ubuntu Server 18.04.

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

Select and Place:

Actions

From Microsoft Visual Studio Code, create an IoT Edge solution and add the Dockerfile to the solution.

Delete the \$edgeHub module from the IoT Edge device.

Attach a child device to the IoT Edge device.

Create a deployment for the IoT Edge device.

Build and push the module to Azure Container Registry.

Answer Area



Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 16

Topic #: 3

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are developing a custom Azure IoT Edge module.

The module needs to identify the device ID of the local device.

Solution: You configure the module to read the IOTEDGE_DEVICEID environment variable.

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 18

Topic #: 3

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are developing a custom Azure IoT Edge module.

The module needs to identify the device ID of the local device.

Solution: You configure the module to read the device ID of the device twin.

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 20

Topic #: 3

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure IoT solution that includes an Azure IoT hub and an Azure IoT Edge device.

You plan to deploy 10 Bluetooth sensors. The sensors do not support MQTT, AMQP, or HTTPS.

You need to ensure that all the sensors appear in the IoT hub as a single device.

Solution: You configure the sensors to connect directly to the IoT hub.

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 21

Topic #: 3

[\[All AZ-220 Questions\]](#)

You plan to develop modules for an Azure IoT Edge solution.

You need to recommend a development tool that supports the following:

- Node.js
- Module templates
- Development on Linux workstations

What should you recommend?

- A. the Azure IoT explorer
- B. Microsoft Visual Studio
- C. Microsoft Visual Studio Online
- D. Microsoft Visual Studio Code

Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 22

Topic #: 3

[\[All AZ-220 Questions\]](#)

You have an Azure subscription that contains an Azure IoT hub and two Azure IoT Edge devices named Device1 and Device2.

You need to ensure that the IoT hub only accepts connections from Device1 and Device2.

What should you configure?

- A. Azure API Management
- B. Azure Active Directory (Azure AD) Identity Protection
- C. Azure Defender for IoT
- D. an IP filter

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 23

Topic #: 3

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure IoT solution that includes an Azure IoT hub and an Azure IoT Edge device.

You plan to deploy 10 Bluetooth sensors. The sensors do not support MQTT, AMQP, or HTTPS.

You need to ensure that all the sensors appear in the IoT hub as a single device.

Solution: You configure the IoT Edge device as an IoT Edge identity translation gateway. You configure the sensors to connect to the device.

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 24

Topic #: 3

[\[All AZ-220 Questions\]](#)

You have an Azure IoT Edge module named SampleModule that runs on a device named Device1.

You make changes to the code of SampleModule by using Microsoft Visual Studio Code.

You need to push the code to the container registry and then deploy the module to Device1.

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

NOTE: Each correct selection is worth one point.

- A. Build and push the SampleModule code to the registry.
- B. Create a deployment for a single device.
- C. Upload to Azure Storage.
- D. Build an IoT Edge solution.
- E. Generate a shared access signature (SAS) token for Device1.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 27

Topic #: 3

[\[All AZ-220 Questions\]](#)

You need to update the IoT Edge runtime by using rolling tags.

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

NOTE: Each correct selection is worth one point.

- A. On the IoT Edge device, remove the edgeHub and edgeAgent container images.
- B. Modify the systemModules section of the deployment manifest JSON file.
- C. On the IoT Edge device, update the security daemon.
- D. Add an update tag to the IoT Edge device twin.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 28

Topic #: 3

[\[All AZ-220 Questions\]](#)

DRAG DROP

You have sites that contain IoT devices as shown in the following table.

Name	Device twin required	Protocol
Site1	Yes	Message Queuing Telemetry Transport (MQTT)
Site2	No	Extensible Messaging and Presence Protocol (XMPP)
Site3	Yes	Extensible Messaging and Presence Protocol (XMPP)

You have an Azure subscription.

You need to create the Azure IoT Edge devices shown in the following table.

Name	Deploy to
Gateway1	Site1
Gateway2	Site2
Gateway3	Site3

Which type of gateway pattern should you use for each IoT Edge device? To answer, drag the appropriate gateway pattern types to the correct devices. Each pattern type may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Patterns

Answer Area

Transparent

Gateway1:

Identity translation

Gateway2:

Protocol translation

Gateway3:

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 29

Topic #: 3

[\[All AZ-220 Questions\]](#)

You have an Azure IoT solution.

You prepare a new Azure IoT Edge device for deployment to the solution.

You need to ensure that the device is configured to meet Azure best practices.

What should you do?

- A. From the IoT Edge device, run the `iotedge check` command.
- B. From the IoT Edge device, run the `iotedge logs edgeAgent` and `iotedge logs edgeHub` commands.
- C. From Azure Cloud Shell, run the `Get-AzSecurityCompliance` cmdlet.
- D. From Azure Cloud Shell, run the `az iot edge deployment show` command.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 30

Topic #: 3

[\[All AZ-220 Questions\]](#)

HOTSPOT

-

You are developing an Azure IoT Edge solution that has the following requirements:

- Each IoT Edge device must be deployed behind a firewall that only allows internet access over port 443.
- The number of connections from each IoT Edge device to an Azure IoT hub must be minimized.
- Each IoT Edge device must act as a gateway for the leaf devices on a private network.
- The container solution must be supported by Microsoft in production.

What should you recommend as a container solution and an upstream protocol for the IoT Edge devices?

To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Container solution:

 Azure Kubernetes Service (AKS)
 Docker
 Moby

Upstream protocol:

 Advanced Message Queuing Protocol (AMQP)
 Advanced Message Queuing Protocol (AMQP) over WebSocket
 Message Queuing Telemetry Transport (MQTT)

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 32

Topic #: 3

[\[All AZ-220 Questions\]](#)

DRAG DROP

You have an Azure subscription that contains an Azure IoT hub and Azure IoT Edge devices.

You need to create a custom IoT Edge module and deploy the module to an IoT Edge device by using Microsoft Visual Studio Code.

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

Actions

Add custom code

Build and push the IoT Edge solution

Build the IoT Edge solution

Build and run the IoT Edge solution

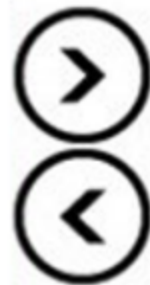
Create a new IoT solution

Generate a deployment manifest

Create a deployment for a single device

Create a new IoT Edge solution and set the target platform

Answer Area



Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 33

Topic #: 3

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure subscription that contains an Azure IoT hub named Hub1 and an Azure IoT Edge device named Device1.

You need to configure Device1 to operate in extended offline mode and to support modifying the configuration of modules deployed to Device1 while the device offline.

Solution: From Azure Cloud Shell, you run the following Azure CLI command.

```
az iot edge set-modules --device-id Device1 --hub-name Hub1 --content deployment.json
```

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 34

Topic #: 3

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure subscription that contains an Azure IoT hub named Hub1 and an Azure IoT Edge device named Device1.

You need to configure Device1 to operate in extended offline mode and to support modifying the configuration of modules deployed to Device1 while the device offline.

Solution: From Device1, you edit the `/etc/iotedge/config.yaml` file, you modify the `ConfigSource` and `LocalConfigPath` environment variables in the agent section, and then you restart the IoT Edge security daemon.

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 36

Topic #: 3

[\[All AZ-220 Questions\]](#)

HOTSPOT

You have an Azure IoT hub and three Azure IoT Edge devices. The device twin code for each device is shown in the following table.

Name	Device twin code fragment
Device1	<pre>"tags": { "office": "Seattle1" },</pre>
Device2	<pre>"tags": { "office": "Seattle2" },</pre>
Device3	<pre>"tags": { "office": "London" },</pre>

A standard automatic deployment is already applied.

You have three layered deployments. The deployment code for each deployment is shown in the following table.

Name	Deployment code
Deployment1	<pre>{ "id": "deploy1", "priority": 90, "targetCondition": " tags.office='Seattle1' OR tags.office='Seattle2' ", ... "\$edgeAgent": { "properties.desired.modules.MyModule1": { ... } } "\$edgeHub": { "properties.desired.routes.MyModule1": "FROM /messages/modules/MyModule1/outputs/seattle1 INTO \$upstream", "properties.desired.routes.MyModule1A": "FROM /messages/modules/MyModule1/* INTO \$upstream" } }</pre>
Deployment2	<pre>{ "id": "deploy2", "priority": 80, "targetCondition": " tags.office='Seattle1' OR tags.office='Seattle2' OR tags.office='London' ", ... "\$edgeAgent": { "properties.desired.modules.MyModule1": { ... } } "\$edgeHub": { "properties.desired.routes.MyModule1": "FROM /messages/modules/MyModule1/ouputs/seattle2 INTO \$upstream", "properties.desired.routes.MyModule1A": "FROM /messages/modules/MyModule1/* INTO \$upstream" "properties.desired.routes.MyModule1B": "FROM /messages/modules/MyModule1/* INTO \$upstream" } }</pre>
Deployment3	<pre>{ "id": "deploy3", "priority": 70, "targetCondition": " tags.office='London' ", ... "\$edgeAgent": { "properties.desired.modules.MyModule1": { ... }, "properties.desired.modules.MyModule2": { ... } } "\$edgeHub": { "properties.desired.routes.MyModule1": "FROM /messages/modules/MyModule1/* INTO \$upstream", "properties.desired.routes.MyModule2": "FROM /messages/modules/MyModule2/* INTO \$upstream" } }</pre>

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

NOTE: Each correct selection is worth one point.

Answer Area

Statements	Yes	No
Device1 routes messages to <code>/messages/modules/MyModule1/outputs/seattle2</code> .	<input type="radio"/>	<input type="radio"/>
Device2 has the <code>MyModule1B</code> route deployed.	<input type="radio"/>	<input type="radio"/>
Device3 has the <code>MyModule2</code> route deployed.	<input type="radio"/>	<input type="radio"/>

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 38

Topic #: 3

[\[All AZ-220 Questions\]](#)

HOTSPOT

-

You have an Azure IoT solution that contains the Azure IoT Edge devices shown in the following table.

Name	Country	City
iotDevice1	UK	London
iotDevice2	France	Paris
iotDevice3	UK	Birmingham

You have the standard deployments and target conditions shown in the following table.

Deployment number	Country	City	Priority
1	UK	London	5
2	UK	London	3
3	France	Paris	1
4	UK	Birmingham	1
5	UK	London	1

You have the modules shown in the following table.

Module	Deployment
Module1	2,5
Module2	3,4
Module3	1

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

NOTE: Each correct selection is worth one point.

Answer Area

Statements

If deployment 4 is deleted, Module2 will be removed from iotDevice3.

Yes

No

If deployment 1 is deleted, iotDevice1 will receive deployment 2.

If iotDevice3 moves to London, the device will receive Module1.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 39

Topic #: 3

[\[All AZ-220 Questions\]](#)

HOTSPOT

You have an Azure subscription that contains an Azure IoT hub named Hub1 and the IoT devices shown in the following table.

Name	Tag: "location"	Tag: "environment"	Date registered in Hub1
Device1	East	Test	January 15
Device2	East	Prod	March 12, 2022
Device3	East	Prod	April 1, 2022

You have the automatic device configurations shown in the following table.

Name	Device twin property	Date configuration added	Target condition	Priority
Conf1	Fan=1	January 1, 2022	tags.location = 'East' AND tags.environment = 'Test'	10
Conf2	Fan=2	March 1, 2022	tags.location = 'East' AND tags.environment = 'Prod'	10
Conf3	Fan=3	March 15, 2022	tags.location = 'East' AND tags.environment = 'Prod'	10
Conf4	Fan=4	February 22, 2022	tags.location = 'East' AND tags.environment = 'Test'	20

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

NOTE: Each correct selection is worth one point.

Answer Area

Statements	Yes	No
Device1 will have a device twin property of Fan=4.	<input type="radio"/>	<input type="radio"/>
Device2 will have a device twin property of Fan=2.	<input type="radio"/>	<input type="radio"/>
Device3 will have a device twin property of Fan=3.	<input type="radio"/>	<input type="radio"/>

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 41

Topic #: 3

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure IoT solution.

You plan to register an Azure IoT Edge device by using X.509 self-signed certificates.

You need to provide the thumbprint for the primary and secondary certificates.

Solution: You generate a 64-hex character SHA256 hash for the certificates.

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 42

Topic #: 3

[\[All AZ-220 Questions\]](#)

HOTSPOT

You have an Azure IoT solution that includes an IoT device named Device1.

You need to enable an IoT Plug and Play app for Device1.

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

NOTE: Each correct selection is worth one point.

Answer Area

```
private static void Main(string[] args)
{
    var connectionString = "-----";
    using var deviceClient = DeviceClient.CreateFromConnectionString(
        connectionString,
        new ClientOptions {  = "  :com:example:TemperatureController;1" });
    deviceClient.OpenAsync().Wait();
    SendMessage(deviceClient);
}
```

The code block shows a C# snippet for creating a DeviceClient. Two dropdown menus are present in the ClientOptions constructor. The first dropdown menu contains the following options: deviceEtag, deviceId, etag, and modelId. The second dropdown menu contains the following options: dtmi, dtId, pnp, and type.

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 43

Topic #: 3

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure IoT solution.

You plan to register an Azure IoT Edge device by using X.509 self-signed certificates.

You need to provide the thumbprint for the primary and secondary certificates.

Solution: You generate a 96-hex character SHA384 hash for the certificates.

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 44

Topic #: 3

[\[All AZ-220 Questions\]](#)

DRAG DROP

You have an Azure subscription that contains an Azure IoT Edge device named Edge1 and an Azure container registry named Registry1.

You need to configure Edge1 to connect to Registry1.

How should you complete the deployment manifest? To answer, drag the appropriate values to the correct targets. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Values

"createOptions"

"\$edgeAgent"

"\$edgeHub"

"image"

"settings"

Answer Area

```
{  
  "modulesContent": {  
    [ ] : {  
      "properties.desired": {  
        "schemaVersion": "1.1",  
        "runtime": {  
          "type": "docker",  
          [ ] : {  
            "minDockerVersion": "v1.25",  
            "loggingOptions": "",  
            "registryCredentials": {  
              "Registry1": {  
                ...  
              }  
            }  
          }  
        }  
      }  
    }  
  }  
}
```

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 45

Topic #: 3

[\[All AZ-220 Questions\]](#)

You have an Azure Stream Analytics workspace that contains a Stream Analytics job.

You need to create a JavaScript user-defined aggregate (UDA) method that will recalculate the UDA state based on the previous state and the current event values. The UDA method must be called when an event leaves a SLIDINGWINDOW.

Which UDA method should you use?

- A. deaccumulateState()
- B. accumulate()
- C. computeResult()
- D. deaccumulate()

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 46

Topic #: 3

[\[All AZ-220 Questions\]](#)

You have an Azure IoT solution that contains an Azure IoT Edge device named Edge1.

Edge1 fails to start.

You connect to Edge1 and identify the following:

- The IoT Edge agent is running.
- The IoT Edge agent continually reports the following error: "Empty dconfig file."
- No modules have started.

You need to ensure that Edge1 starts successfully.

What should you do?

- Update the `/etc/hosts` file for the host operating system and restart Edge1.
- Reapply the `iotedge` config and restart Edge1.
- Specify a DNS server for the container engine and restart Edge1.
- Restart the Docker service.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 47

Topic #: 3

[\[All AZ-220 Questions\]](#)

You are prototyping an IoT edge solution.

You are creating a deployment manifest for an IoT edge device that will connect to an Azure IoT hub.

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

NOTE: Each correct selection is worth one point.

- A. azureiotsecurity
- B. edgeHub
- C. opc-publisher
- D. edgeAgent
- E. iotedgeModbus

[Show Suggested Answer](#)





Actual exam question from Microsoft's AZ-220

Question #: 1

Topic #: 4

[\[All AZ-220 Questions\]](#)

You have 100 devices that connect to an Azure IoT hub.

You plan to use Azure functions to process all the telemetry messages from the devices before storing the messages.

You need to configure the functions binding for the IoT hub.

Which two configuration details should you use to configure the binding? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. the name of the resource group that contains the IoT hub
- B. the IoT hub's connection string shared access key that has Service connect permissions
- C. the connection string of the Azure Event Hub-compatible endpoint from the IoT Hub built-in endpoints
- D. the Azure Event-Hub compatible name

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 2

Topic #: 4

[\[All AZ-220 Questions\]](#)

HOTSPOT -

You have an Azure IoT hub named Hub1 and an Azure Time Series Insights environment named tsi1. Tsi1 connects to Hub1. The solution has been operational for 6 months.

Tsi1 is configured as shown in the following exhibit.

tsi1 | Storage Configuration
Time Series Insights environment

Search (Ctrl+ /)

Save

Capacity ⓘ
1

Capacity is the multiplier applied to the ingress rate, storage capacity and cost associated with your selected Sku.

Data retention time (in days) ⓘ
100

The data will be deleted based on the environment storage capacity or retention duration (1-400), whichever comes first.

Ingress rate:
1 M events per day

Storage capacity:
30 M events

Estimated cost:
USD 149.73 / month

Storage limit exceeded behavior
Purge old data Pause ingress

The pause ingress setting is only recommended for users who wish to store their oldest data in the event they exceed their capacity. We suggest that you review our [documentation](#) to learn more about this setting.

Hub1 receives 1 million messages per day. Each message is up to 1 KB and is formatted as JSON.

Hub1 has seven days of retained telemetry.

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

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statement	Yes	No
Tsi1 will display 100 days of telemetry.	<input type="radio"/>	<input type="radio"/>
Tsi1 will display telemetry that arrived three months ago.	<input type="radio"/>	<input type="radio"/>
Tsi1 will display real-time data after the Time Series Insights environment has been connected to the event source of Hub1 for two days.	<input type="radio"/>	<input type="radio"/>

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 3

Topic #: 4

[\[All AZ-220 Questions\]](#)

DRAG DROP -

You have an instance of Azure Time Series Insights and an Azure IoT hub that receives streaming telemetry from IoT devices.

You need to configure Time Series Insights to receive telemetry from the devices.

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

Select and Place:

Actions

Configure the Time Series Insights event source to connect to an existing IoT hub.

Create an Azure event hub.

Add a new Time Series Insights event source.

Increase the events retention to seven days for the built-in endpoints of the IoT hub.

Create a dedicated consumer group in the built-in events endpoints of the IoT hub.

Answer Area



Show Suggested Answer





Actual exam question from Microsoft's AZ-220

Question #: 4

Topic #: 4

[\[All AZ-220 Questions\]](#)

You have 1,000 devices that connect to a standard tier Azure IoT hub.

All the devices are commissioned and send telemetry events to the built-in IoT Hub endpoint.

You configure message enrichment on the events endpoint and set the enrichment value to `$twin.tags.ipV4`.

When you inspect messages on the events endpoint, you discover that all the messages are stamped with a string of `"$twin.tags.ipV4"`.

What are two possible causes of the issue? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. The ipV4 tag is a restricted twin property that is unavailable for message enrichment.
- B. A standard tier IoT hub does not support device twin properties in message enrichments.
- C. The device sending the message has no device twin.
- D. Message enrichment cannot be added to messages going to a built-in endpoint.
- E. The device twin path used for the value of the enrichment does not exist.
- F. The device twin property value used for message enrichment is set to `"$twin.tags.ipV4"`.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 5

Topic #: 4

[\[All AZ-220 Questions\]](#)

You have an Azure IoT hub.

You plan to implement IoT Hub events by using Azure Event Grid.

You need to send an email when the following events occur:

- ☞ Device Created
- ☞ Device Deleted
- ☞ Device Connected
- ☞ Device Disconnected

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

NOTE: Each correct selection is worth one point.

- A. From the IoT hub, configure an event subscription that has API management as the Endpoint Type.
- B. From the IoT hub, configure an event subscription that has Web Hook as the Endpoint Type.
- C. Create an Azure logic app that has a Request trigger.
- D. From the IoT hub, configure an event subscription that has Service Bus Queue as the Endpoint Type.
- E. Create an Azure logic app that has a scheduled trigger.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 6

Topic #: 4

[\[All AZ-220 Questions\]](#)

HOTSPOT -

You create an Azure Stream Analytics job that has the following query.

```
SELECT
    Count(*) AS dailyCount,
    System.Timestamp() AS time
INTO FunctionOutput
FROM IotHubInput TIMESTAMP BY deviceTime
GROUP BY TumblingWindow(hour, 24)
```

The job is configured to have an Azure IoT Hub input and an output to an Azure function.

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

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
The function will be invoked at midnight UTC.	<input type="radio"/>	<input type="radio"/>
The function will be invoked only when the IoT hub receives telemetry.	<input type="radio"/>	<input type="radio"/>
When the Stream Analytics job is restarted, the function can be invoked more than once in a 24-hour period.	<input type="radio"/>	<input type="radio"/>

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 7

Topic #: 4

[\[All AZ-220 Questions\]](#)

DRAG DROP -

You need to install the Azure IoT Edge runtime on a new device that runs Windows 10 IoT Enterprise.

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

Select and Place:

Actions

From an elevated PowerShell prompt, run the Initialize-IoTEdge cmdlet.

Enter the IoT Edge device connection string.

From Azure IoT Hub, create an IoT Edge device.

From an elevated PowerShell prompt, run the Deploy-IoTEdge cmdlet.

Answer Area



Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 8

Topic #: 4

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure Stream Analytics job that receives input from an Azure IoT hub and sends the outputs to Azure Blob storage. The job has compatibility level 1.1 and six streaming units.

You have the following query for the job.

```
SELECT COUNT(*) AS Count, TollBoothID
INTO BlobOutput
FROM IoTHubInput
GROUP BY TumblingWindow(minute, 3), TollBoothID
```

You plan to increase the streaming unit count to 12.

You need to optimize the job to take advantage of the additional streaming units and increase the throughput.

Solution: You change the query to the following.

```
WITH Step1 AS (
SELECT COUNT(*) AS Count, TollBoothID, PartitionID
FROM IoTHubInput PARTITION BY PartitionID
GROUP BY TumblingWindow(minute, 3), TollBoothID, PartitionID
)
SELECT SUM(Count) AS Count, TollBoothID
INTO BlobOutput
FROM Step1
GROUP BY TumblingWindow(minute, 3), TollBoothID
```

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 9

Topic #: 4

[\[All AZ-220 Questions\]](#)

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.

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You have an Azure Stream Analytics job that receives input from an Azure IoT hub and sends the outputs to Azure Blob storage. The job has compatibility level 1.1 and six streaming units.

You have the following query for the job.

```
SELECT COUNT(*) AS Count, TollBoothID
INTO BlobOutput
FROM IotHubInput
GROUP BY TumblingWindow(minute, 3), TollBoothID
```

You plan to increase the streaming unit count to 12.

You need to optimize the job to take advantage of the additional streaming units and increase the throughput.

Solution: You change the query to the following.

```
SELECT COUNT(*) AS Count, TollBoothID
INTO BlobOutput
FROM IotHubInput PARTITION BY PartitionID
GROUP BY TumblingWindow(minute, 3), TollBoothID, PartitionID
```

Does this meet the goal?

A. Yes

B. No

Show Suggested Answer

Actual exam question from Microsoft's AZ-220

Question #: 10

Topic #: 4

[\[All AZ-220 Questions\]](#)

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 in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure Stream Analytics job that receives input from an Azure IoT hub and sends the outputs to Azure Blob storage. The job has compatibility level 1.1 and six streaming units.

You have the following query for the job.

```
SELECT COUNT(*) AS Count, TollBoothID
INTO BlobOutput
FROM IotHubInput
GROUP BY TumblingWindow(minute, 3), TollBoothID
```

You plan to increase the streaming unit count to 12.

You need to optimize the job to take advantage of the additional streaming units and increase the throughput.

Solution: You change the compatibility level of the job to 1.2.

Does this meet the goal?

- A. Yes
- B. No

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 11

Topic #: 4

[\[All AZ-220 Questions\]](#)

You need to visualize Azure IoT Hub telemetry data by using Microsoft Power BI.

Which service should you connect to the IoT hub?

- A. Azure Event Grid
- B. SendGrid
- C. Azure Stream Analytics
- D. Azure Notification Hubs

[Show Suggested Answer](#)



Actual exam question from Microsoft's AZ-220

Question #: 12

Topic #: 4

[\[All AZ-220 Questions\]](#)

You have an Azure subscription that contains an Azure Time Series Insights environment. The environment has the properties shown in the following table.

Name	Type
p1	String
p2	String
p4.p5	Nested double

You need to create a D.

Which two time series expressions can be correctly used as part of the query? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. `$event.p1.String = 'abc'`
- B. `$event.p2 = 'abc'`
- C. `$event['p1'] != NULL`
- D. `$event.p4.p5 = 0.0`

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 13

Topic #: 4

[\[All AZ-220 Questions\]](#)

You have an Azure subscription that contains an Azure IoT hub, 500 IoT devices, and an Azure Time Series Insights Gen2 environment named Environment1. You need to add calculated values to the Time Series Model. What should you use?

- A. instances
- B. types
- C. hierarchies

[Show Suggested Answer](#)



Actual exam question from Microsoft's AZ-220

Question #: 14

Topic #: 4

[\[All AZ-220 Questions\]](#)

You have an Azure IoT solution that includes an Azure IoT hub named hub1.

You plan to deploy an Azure Time Series Insights Gen 2 environment and connect the environment to hub1.

You need to use the device ID from hub1 as the Time Series ID.

What should you set as the Time Series ID when creating the environment?

- A. device-id
- B. connection-device-id
- C. iothub-connection-device-id
- D. deviceid

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 24

Topic #: 4

[\[All AZ-220 Questions\]](#)

You have an Azure IoT hub and an Azure virtual network.

You configure a private endpoint for the IoT hub.

You need to ensure that the IoT hub can send data to downstream services.

What should you create first?

- A. a consumer group
- B. a managed identity
- C. a message route
- D. an IP filter rule

[Show Suggested Answer](#)





Actual exam question from Microsoft's AZ-220

Question #: 1

Topic #: 5

[\[All AZ-220 Questions\]](#)

You have 10 IoT devices that connect to an Azure IoT hub named Hub1.

From Azure Cloud Shell, you run `az iot hub monitor-events --hub-name Hub1` and receive the following error message: "az iot hub: 'monitor-events' is not in the 'az iot hub' command group. See 'az iot hub --help'."

You need to ensure that you can run the command successfully.

What should you run first?

- A. `az iot hub monitor-feedback --hub-name Hub1`
- B. `az iot hub generate-sas-token --hub-name Hub1`
- C. `az iot hub configuration list --hub-name Hub1`
- D. `az extension add -name azure-cli-iot-ext`

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 2

Topic #: 5

[\[All AZ-220 Questions\]](#)

You have an Azure Stream Analytics job that connects to an Azure IoT hub named Hub1445 as a streaming data source. Hub1445 is configured as shown in the exhibit.

[Dashboard](#) >

Hub1445 | Message routing

Send data from your devices to endpoints that you choose.

Routes Custom endpoints Enrich messages

Enable fallback route

Create an endpoint, and then add a route (you can add up to 100 routes from each IoT hub). Since routing is based on a matching query, a message can be sent to multiple endpoints. Messages that don't match a query are automatically sent to messages/events if you've enabled the fallback route. When you create new endpoints and routes, messages stop flowing to the built-in endpoint unless you create a separate route and direct them there. If no routes to the built-in endpoint exist, enabling a fallback route will direct any messages that don't match a route query to that endpoint. [Learn more.](#)

+ Add Test all routes Delete

<input type="checkbox"/>	Name	Data Source	Routing Query	Endpoint	Enabled
<input type="checkbox"/>	Route1	DeviceMessages	false	Telemetry	true
<input type="checkbox"/>	Route2	DeviceMessages	true	BlobStorage	true
<input type="checkbox"/>	Route3	DeviceMessages	true	events	false

The Stream Analytics job fails to receive any messages from the IoT hub.

What should you do to resolve the issue?

- A. Disable the Route1 route.
- B. Enable the Route3 route.
- C. Disable the Route2 route.
- D. Enable the fallback route.

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 3

Topic #: 5

[\[All AZ-220 Questions\]](#)

You are troubleshooting an Azure IoT hub.

You discover that some telemetry messages are dropped before they reach downstream processing.

You suspect that IoT Hub throttling is the root cause.

Which log in the Diagnostics settings of the IoT hub should you use to capture the throttling error events?

- A. Routes
- B. DeviceTelemetry
- C. Connections
- D. C2DCommands

Show Suggested Answer



Actual exam question from Microsoft's AZ-220

Question #: 6

Topic #: 5

[\[All AZ-220 Questions\]](#)

You have 1,000 devices that connect to an Azure IoT hub.

You are performing a scheduled check of deployed IoT devices.

You plan to run the following command from the Azure CLI prompt. `az iot hub query --hub-name hub1 --query-command "SELECT * FROM devices WHERE connectionState = 'Disconnected'"`

What does the command return?

- A. the Device Disconnected events
- B. the device twins
- C. the Connections logs
- D. the device credentials

Show Suggested Answer

