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MICROSOFT

Microsoft Certified: Azure IoT Developer Specialty

Validate your technical skills and grow your career.

This certification demonstrates that the recipient is proficient in working with data engineers and other professionals to ensure successful business integration. They will also be able to manage device lifecycle-setup, configuration and maintenance using cloud services and other tools.

They also carry out designs for Azure IoT solutions, like device topology, connectivity, debugging and security. In addition, they also implement solutions to manage, monitor and transform IoT – related data pipelines, as well as deploying Azure IoT Edge components and configure device networking on the edge.

Why Take The Microsoft Certified: Azure IoT Developer Specialty AZ-220 Exam?

The need AI tech professionals is going to increase dramatically in the near future and passing the exam will help you secure an excellent position in the industry as an Azure IoT Developer

Increase My Salary:

- The average salary for someone who holds a Microsoft Certified: Azure IoT Developer Specialty certification is around $115,000 / year.

Be Part Of The Team:

- As an Azure IoT Developer, you become part of the team that’s dedicated to managing cloud-based or hybrid environments for your organization’s cloud infrastructure.

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Abilities Validated By The Certification:

- Implement the IoT solution infrastructure
- Provision and manage devices
- Implement Edge
- Process and manage data
- Monitor, troubleshoot, and optimize IoT solutions
- Implement security

Recommended Knowledge & Experience:

- Candidates should have experience carrying out the Azure services that form an IoT solution, including data storage options, data analysis, data processing and platform-as-a-service options.
- They should also be able to recognize Azure IoT service configuration settings within the code portion of an IoT solution and perform specific IoT coding tasks in at least one Azure-supported language, like: C#, Node, C or Python.

Exam Topics & Scoring:

AZ-400 Exam: Microsoft IoT Developer

IMPLEMENT THE IOT SOLUTION INFRASTRUCTURE (15-20%)

Create and configure an IoT Hub

- create an IoT Hub
- register a device
- configure a device twin
- configure IoT Hub tier and scaling

Build device messaging and communication

- build messaging solutions by using SDKs (device and service)
- implement device-to-cloud communication
- implement cloud-to-device communication
- configure file upload for devices

Configure physical IoT devices

- recommend an appropriate protocol based on device specifications
- configure device networking, topology, and connectivity

PROVISION AND MANAGE DEVICES (20-25%)

Implement the Device Provisioning Service (DPS)

- create a Device Provisioning Service
- create a new enrollment in DPS
- manage allocation policies by using Azure Functions
- link an IoT Hub to the DPS

Manage the device lifecycle

- provision a device by using DPS
- deprovision an autoenrollment
- decommission (disenroll) a device

Manage IoT devices by using IoT Hub

- manage devices list in the IoT Hub device registry
- modify device twin tags and properties
- trigger an action on a set of devices by using IoT Hub Jobs and Direct Methods
- set up Automatic Device Management of IoT devices at scale

Build a solution by using IoT Central

- define a device type in Azure IoT Central
- configure rules and actions in Azure IoT Central
- define the operator view
- add and manage devices from IoT Central
- monitor devices
- custom and industry-focused application templates
- monitor application health using metrics

IMPLEMENT EDGE (15-20%)

Set up and deploy an IoT Edge device

- create a device identity in IoT Hub
- deploy a single IoT device to IoT Edge
- create a deployment for IoT Edge devices
- install container runtime on IoT devices
- define and implement deployment manifest
- update security daemon and runtime
- provision IoT Edge devices with DPS
- IoT Edge automatic deployments
- deploy on constrained devices
- secure IoT Edge solutions

- deploy production certificates

Develop modules

- create and configure an Edge module
- deploy a module to an Edge device
- publish an IoT Edge module to an Azure Container Registry

Configure an IoT Edge device

- select and deploy an appropriate gateway pattern
- implement Industrial IoT solutions with modules like Modbus and OPC
- implement module-to-module communication
- implement and configure offline support (including local storage)

PROCESS AND MANAGE DATA (15-20%)

Configure routing in Azure IoT Hub

- implement message enrichment in IoT Hub
- configure routing of IoT Device messages to endpoints
- define and test routing queries
- integrate with Event Grid

Configure stream processing

- create ASA for data and stream processing of IoT data
- process and filter IoT data by using Azure Functions
- configure Stream Analytics outputs

Configure an IoT solution for Time Series Insights (TSI)

- implement solutions to handle telemetry and time-stamped data
- create an Azure Time Series Insights (TSI) environment
- connect the IoT Hub and the Time Series Insights (TSI)

MONITOR, TROUBLESHOOT, AND OPTIMIZE IOT SOLUTIONS (15-20%)

Configure health monitoring

- configure metrics in IoT Hub
- set up diagnostics logs for Azure IoT Hub
- query and visualize tracing by using Azure Monitor
- use Azure Policy definitions for IoT Hub

Troubleshoot device communication

- establish maintenance communication
- verify device telemetry is received by IoT Hub
- validate device twin properties, tags and direct methods
- troubleshoot device disconnects and connects

Perform end-to-end solution testing and diagnostics

- estimate the capacity required for each service in the solution
- conduct performance and stress testing

IMPLEMENT SECURITY (15-20%)

Implement device authentication in the IoT Hub

- choose an appropriate form of authentication
- manage the X.509 certificates for a device
- manage the symmetric keys for a device

Implement device security by using DPS

- configure different attestation mechanisms with DPS
- generate and manage x.509 certificates for IoT Devices
- configure enrollment with x.509 certificates
- generate a TPM endorsements key for a device
- configure enrollment with symmetric keys

Implement Azure Security Center (ASC) for IoT

- enable ASC for IoT in Azure IoT Hub
- create security modules
- configure custom alerts

Prepare for your exam:

The best way to prepare is with first-hand experience. Taking advantage of the opportunities that Phoenix TS provides will assist you with gathering all the knowledge and skills you'll need for certification.

Phoenix TS Microsoft Certified: Azure IoT Developer Specialty – Learning Pathways

- **AZ-220T00: Microsoft Azure IoT Developer**

Course Overview Phoenix TS' 4-day instructor-led Microsoft Designing and Implementing a Data Science Solution on Azure training and certification boot camp in Washington, DC Metro, Tysons Corner, VA, Columbia, MD or Live Online provides students with the skills and knowledge required to successfully create and maintain the cloud and edge portions of an Azure IoT [...]

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Exam Details

- Multiple choice, multiple answers
- Testing in person or online proctored exam
- 130 Min to take the test
- $150 test fee
- Available in English, Japanese, Korean, and Simplified Chinese

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