

AZ - 220 : Microsoft Azure IoT Developer

Course Outline

Module 1: Introduction to IoT and Azure IoT Services

- **Key Focus:** Business considerations for IoT implementations and Azure IoT services.
- **Key Learning:** IoT solution architecture, core Azure IoT services, and creating an Azure IoT Hub.
- **Labs:** Getting started with Azure IoT Services.

Module 2: Devices and Device Communication

- **Key Focus:** IoT Hub features and secure communication.
- **Key Learning:** Device lifecycle, IoT Hub SDKs, and device registration.
- **Labs:** Setup development environment and connect IoT device to Azure.

Module 3: Device Provisioning at Scale

- **Key Focus:** Managing device provisioning with Azure Device Provisioning Service (DPS).
- **Key Learning:** Device enrollment, security, and SDK implementation.
- **Labs:** Individual and automatic device enrollment in DPS.

Module 4: Message Processing and Analytics

- **Key Focus:** IoT message processing, routing, and analytics.
- **Key Learning:** Configuring message routing, implementing Azure Stream Analytics.
- **Labs:** Device message routing and filtering message data.

Module 5: Insights and Business Integration

- **Key Focus:** Data visualization and business integration.
- **Key Learning:** Using Azure Logic Apps, Power BI, Time Series Insights, and IoT Hub with Event Grid.
- **Labs:** Data analysis using Time Series Insights.

Module 6: Azure IoT Edge Deployment Process

- **Key Focus:** Deploying and managing IoT Edge devices.
- **Key Learning:** Configuring IoT Edge devices and gateway.
- **Labs:** IoT Edge setup and gateway configuration.

Module 7: Azure IoT Edge Modules and Containers

- **Key Focus:** Developing and deploying custom IoT Edge modules.
- **Key Learning:** Building custom edge modules, handling offline scenarios, and debugging modules on IoT Edge.
- **Labs:** Developing and debugging IoT Edge modules.

Module 8: Device Management

- **Key Focus:** Implementing IoT device management.

- **Key Learning:** Device twins, direct methods, and managing devices at scale.
- **Labs:** Remote device management with IoT Hub.

Module 9: Solution Testing, Diagnostics, and Logging

- **Key Focus:** Configuring logging and diagnostics for IoT solutions.
- **Key Learning:** Monitoring with Azure Monitor and troubleshooting.
- **Labs:** Configure logs and monitor connection failures.

Module 10: Azure Security Center and IoT Security Considerations

- **Key Focus:** Security architecture for IoT solutions.
- **Key Learning:** Best practices for securing IoT devices with Azure Security Center.
- **Labs:** Implement Azure Security Center for IoT.

Module 11: Build an IoT Solution with IoT Central

- **Key Focus:** Implementing IoT solutions using Azure IoT Central.
- **Key Learning:** Creating and managing device templates, scaling IoT solutions.
- **Labs:** Create IoT Central application and manage devices at scale.