



Course 40531 • Microsoft Azure

Microsoft Cloud Workshop: IoT for Business

Length

- 1 day

Prerequisites

- Workshop content presumes 300-level of architectural expertise of infrastructure and solutions design.
- We suggest students take a Microsoft Azure Essentials course (<http://www.microsoft.com/en-US/azureessentials>) prior to attending this workshop.

Audience

- Cloud Architects and IT professionals who have architectural expertise of infrastructure and solutions design in cloud technologies

What You'll Learn

- Use Azure IoT Edge to collect telemetry data, detect anomalies, and send summarized data to Azure IoT Hub
- Use IoT Hub to manage devices
- Store, visualize, and query data, as well as conduct root-cause analysis and anomaly detection
- Build a customer application using REST Query APIs
- Use Azure Location Based Services to visualize bus location data on a map

Use the unique benefits of Internet of Things (IoT) to build a smart city solution to help improve traffic and public transportation in New York City. Use a combination of the power of the cloud, along with IoT Edge devices to provide predictive maintenance of city buses, including machine learning for anomaly detection, location broadcasting to update bus route status, and to send traffic information to help inform the timing of traffic lights. Traffic lights will also receive new IoT devices that can help detect maintenance and performance issues, such as when a bulb is out. Easily view all of this information through a centralized reporting dashboard provided by Azure Time Series Insights.

Workshop Outline

Module 1: Whiteboard Design Session - IoT for business

- Review the customer case study
- Design a proof of concept solution
- Present the solution

Module 2: Hands-on Lab - IoT for business

- Azure data, storage, and serverless environment setup
- Provision additional Azure services
- Create bus and traffic light simulated devices, and add alerts and filters
- Create IoT Edge device and custom modules
- Run a console app to view critical engine alerts from the Service Bus Queue
- Create Azure Function App to ingest critical engine alerts and store them in Cosmos DB
- View all data in Azure Time Series Insights