

Microsoft Cloud Workshop: IoT for Business (MS-40531)

Modality: Virtual Classroom

Duration: 1 Day

SATV Value: 1 Day

SUBSCRIPTION: Master, Master Plus

About this course:

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.

Course Objective:

- Use Azure IoT Edge to collect vehicle telemetry data, detect anomalies with the help of a local Azure Machine Learning model, and send the summarized data to Azure IoT Hub as needed
- Use IoT Hub to manage IoT devices
- Use Azure Time Series Insights to store, visualize, and query the large amounts of time series data generated by various IoT devices, as well as conduct root-cause analysis and anomaly detection
- Build a customer application on top of Time Series Insights, using its available REST Query APIs
- Use Azure Location Based Services to visualize bus location data on a map

Audience:

This workshop is intended for Cloud Architects and IT professionals who have architectural expertise of infrastructure and solutions design in cloud technologies and want to learn more about Azure and Azure services as described in the 'About this Course' and 'At Course Completion' areas. Those attending this workshop should also be experienced in other non-Microsoft cloud technologies, meet the course prerequisites, and want to cross-train on Azure.

Course Outline:

Module 1: Whiteboard Design Session - IoT for businessLessons

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

Module 2: Hands-on Lab - IoT for businessLessons

- 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