Microsoft Cloud Workshop: IoT and the Smart City (40531)

**ID** MS-40531  **Price** on request  **Duration** 1 day

**Who should attend**

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 “Summary” and “Skills gained” 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 Objectives**

By the end of this workshop, you will learn to use IoT Hub to manage IoT devices, configure and run the IoT Remote Monitoring starter solution to provision, manage, and simulate telemetry for IoT devices via IoT Hub SDKs, use Azure IoT Edge to collect vehicle telemetry data, detect anomalies, and send the summarized data to Azure IoT Hub as needed. In addition, you’ll create a custom endpoint in IoT Hub to route critical alerts to a Service Bus Queue, create an Azure function that extracts critical alerts from the Service Bus Queue and stores them in Cosmos DB, as well as use Azure Time Series Insights to store, visualize, and query the large amounts of time series data generated by various IoT devices and conduct root-cause analysis and anomaly detection.

**Course Content**

**Module 1: Whiteboard Design Session - IoT and the Smart City**

Lessons

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

**Module 2: Hands-on Lab - IoT and the Smart City**

Lessons

- Set up IoT Remote Monitoring solution environment
- Provision additional Azure services
- Create bus and traffic light simulated devices, and add alerts and filters
- Create IoT Edge device and custom modules
- Create an Azure Function to add critical engine alerts to the Service Bus Queue
- Run a console app to view critical engine alerts from the Service Bus Queue
- Create an Azure Function to ingest critical engine alerts and store them in Cosmos DB
- View critical engine alerts in the IoT Remote Monitoring web interface
- Add a tag to IoT Edge Device Twin
- View all data in Azure Time Series Insights