

# IoT with Microsoft Azure and Raspberry Pi

1-Day Workshop

*You approach the front door of your home at the end of your morning run and hear the lock automatically unlocking the door. The moment you enter in, the voice of your home assistant greets you: "Good morning! You just burned 368 calories on a 3.5-mile run. Would you like me to prepare your bath at 98.6 degrees Fahrenheit as usual?" By the time you finish your water bottle and take off your sweats, the bathtub is full of water, and you start hearing ambient music from the bathroom. The aroma of the fragrances fills in the room and starts soothing your senses. You dip your body into the water and let your muscles relax slowly...*

*A decade ago, this scenario would have only been seen in Sci-Fi movies but today it is all possible thanks to the Internet-of-Things and cloud services. Having your fitness tracker talk to your home assistant that controls various things in your home is a reality that needs to be perfect.*

*The IoT use cases are unlimited. Starting with the consumer ones like wearables and connected homes, going through the industrial ones like predictive maintenance, smart metering, fleet management or asset tracking and expanding into the smart city ones that offer benefits to large communities in areas like transportation and smart parking, public infrastructure and safety, climate or waste management.*

*If you are looking to expand your knowledge into the world of IoT, our 1-day workshop will help you get started.*

## What Will You Learn?

- How to set up and configure Raspberry Pi IoT device
- How to set up and configure essential IoT services on Microsoft Azure cloud platform
- How to send IoT data to Azure IoT services
- How to visualize the IoT data using Power BI

## Workshop Agenda

- Overview of Internet-of-Things
- Configure Raspbian OS on the device
- Configure device networking
- Configure temperature and humidity sensor on the device
- Configure Azure IoT Hub resource
- Configure Azure Storage resource
- Configure Azure Stream Analytics resource
- Configure Power BI data sources
- Create IoT dashboard in Power BI
- Wrap up

## Who is this Workshop For?

This workshop is designed to give the student an introduction to the IoT technologies and an overview of the offering Azure has for IoT while also bringing a hands-on approach to utilizing those features and services. It is well suited for beginners as it doesn't require any prior knowledge of IoT and Azure services. Prior programming or IT experience will be beneficial but is not required.

If you are an employer from one of the industries in the sidebar, you can benefit from our proven approach to deliver quality IoT training, and provide your employees with an opportunity to jumpstart their next IoT solution.

## How is this Workshop Delivered?

This workshop is delivered in person to classes between 12 and 16 people. Students work in pairs to configure the Raspberry Pi device and the Azure services. IoT devices and access to Azure services is provided for use during the workshop. Students are required to bring their laptop.

Enterprises can purchase the workshop through us or from our educational partner Bellevue College.

Individuals can sign up for the workshop through Bellevue College or other educational institutions or communities we partner with.

## Where is IoT Useful?

The below industries can utilize IoT technologies to bring efficiency to their operations and develop new products and revenue streams.

- Chemicals
- Forestry & Fishing
- Healthcare
- Manufacturing
- Mining, Oil & Gas
- Power & Utilities
- Public Safety
- Retail
- Telecommunications
- Transportation

*Delivered in partnership with*

