

Developing IoT Solutions with Azure IoT

Modality: Self-Paced Learning

Duration: 12 Hours

SATV Value:

CLC:

NATU:

SUBSCRIPTION: Learn, Master

This course prepares you for the 70-535 Exam leading to 70-535 Certification. This course does not include the **Official Exam Voucher**, however, you can request to purchase the **Official Exam Voucher** separately.

About this course:

Ready to take your first steps in IoT device development? Bring your basic programming skills, and get started with this practical exploration of what IoT means and how to use Microsoft Azure technologies in IoT solutions. See how IoT is being implemented by businesses around the world, and configure and implement your own end-to-end IoT solution using the Azure IoT Hub.

With help from the experts, learn the fundamentals of key platform features. Start out with device basics, like registration and tracking, and then implement cloud-to-device and device-to-cloud messaging. Take a look at Azure analytics, including Azure Stream Analytics, to perform real-time monitoring of incoming data and to generate alerts. Then, store sensor data in the cloud using DocumentDB, implement basic Power BI features, and add remote management and update capabilities to your device. In this self-paced course, explore different starter kits and work through a practical project with the Raspberry Pi kit. Using a combination of written and video-based instructional materials, along with a comprehensive series of hands-on lab activities, get an up-close look at real-world IoT skills that you can start using right away. This course also prepares the students for the Microsoft 70-535: Architecting Microsoft Azure Solutions certification exam

The average salary for Software Developer with Microsoft Azure skills is **\$76,767** per year.

Course Objective:

After completing this course, students will have a working understanding of:

- IoT and the Azure IoT Hub technologies
- Data Analysis and Azure Stream Analytics
- Data Storage and Visualization with DocumentDB and Power BI
- Remote Device Management

Audience:

This course is intended for

- Computer programmers who are interested in automation through IoT.

Prerequisites:

- Basic programming skills are required.
- Experience programming in C, Java, JavaScript, or C# will be beneficial.
- Experience programming a Raspberry Pi, Arduino, or other single-board computer will be beneficial.

Suggested prerequisites courses:

- [Basics of JavaScript coding](#)
- [Programming in C# - MOC On Demand \(MS-20483\)](#)
- [Programming for Absolute Beginners](#)
- [Java Programming](#)
- [Azure Fundamentals](#)
- [From 0 to 1: Raspberry Pi and the Internet of Things](#)

Course Outline:

Module 1 | IoT and the Azure IoT Hub

- Resource Content: IoT and Azure IoT Hub
- Labs Overview and Configuration
- Tutorial Lab: Getting Started with Azure
- Tutorial Lab: Creating an IoT Hub
- Tutorial Lab: Setting Up Your IoT Device
- Tutorial Lab: Sending and Receiving Messages
- Self-Assessment Lab: Messaging

Module 2 | Data Analysis

- Resource Content: Data Analysis
- Labs Overview and Configuration
- Tutorial Lab: Creating a Stream Analytics Job
- Tutorial Lab: Using Azure Functions
- Self-Assessment Lab: Processing Additional Telemetry

Module 3 | Data Storage and Visualization

- Resource Content: Data Storage and Visualization
- Labs Overview and Configuration
- Tutorial Lab: Using Long Term Storage
- Tutorial Lab: Getting Started with Power BI

- Self-Assessment Lab: Creating Additional Power BI Reports

Module 4 | Remote Management of Devices

- Resource Content: Remote Management of Devices
- Labs Overview and Configuration
- Tutorial Lab: Implementing a Direct Method
- Tutorial Lab: Simulating a Firmware Update
- Tutorial Lab: Implementing a Firmware Update (Optional)
- Self-Assessment Lab: Implementing a Direct Method

Final Evaluation

- Final Assessment?