

### Description

In this half-day, advanced-level course, you learn how to overcome the challenges of managing large fleets of Internet of Things (IoT) devices, including provisioning, setting configurations and updates, and protecting fleets from threats. You also learn how to apply best practices that leverage AWS IoT services to successfully manage and monitor large fleets.

You have the opportunity to dive deep into each of the services to build an IoT solution through guided, hands-on labs. Practical exercises include working with AWS IoT Core for device provisioning, AWS IoT Device Management for fleet handling and OTA updates, and AWS IoT Device Defender to extend device security and audit.

### Intended Audience

This course is intended for:

- Solutions architects
- Developers
- Fleet managers and device engineers working with IoT solutions
- Security architects and operations responsible for managing and protecting IoT devices
- Individuals who are interested in designing, managing, and monitoring IoT solutions at scale using Amazon services

### Course Objectives

In this course, you will learn how to:

- Work with AWS IoT services: AWS IoT Core, AWS IoT Device Management, and AWS IoT Device Defender
- Provision IoT devices using different approaches, such as batch, just-in-time registration (JITR) and just-in-time provisioning (JITP)
- Build an IoT solution with a simulated fleet and leverage deployment strategies
- Protect your fleet and automate security mitigation procedures based on Device Defender findings

### Prerequisites

We recommend that attendees of this course have the following prerequisites:

- Understanding of AWS IoT Core and IoT architectures
- Understanding of AWS IoT security principles
- Basic knowledge of Python programming language

### Delivery Method

This course is delivered through a mix of:

- Classroom training
- Hands-on labs

**Note:** A laptop is required to complete technical lab exercises; tablets are not appropriate.

### Duration

0.5 day

### Course Outline

This course covers the following concepts:

- Best practices on provisioning a large number of devices
- Device management and IoT deployment strategies
- Updating a fleet configuration remotely
- Defending a fleet and automating security mitigation responses