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## Cisco® Developing Solutions Using Cisco® IoT and Edge Platforms v1.0 (DEVIOT)

### Overview

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This course prepares you to develop Internet of Things (IoT) applications for Cisco® IoT edge compute and network architecture. Through a combination of lessons and hands-on experience, you will learn to implement and deploy Cisco IOx applications using Cisco Field Network Director and Cisco Kinetic. This course covers designing, deploying, and troubleshooting edge applications, and understanding the use of management tools, so you can control your industrial network and connected devices at scale. This course will prepare you for the certification exam 300-915 Developing Solutions Using Cisco IoT and Edge Platforms (DEVIOT), a concentration in the CCNP DevNet track.

### Prerequisite Comments

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Before taking this course, you should have the following knowledge and skills:

General software development or coding skills

Basic functional and object-oriented programming skills

Basic understanding of where applications live and how they are deployed in real-world scenarios

Basic understand of how networking works

Basic Linux OS skills: installing code language dependencies, installing code libraries, and general scripting

Understanding of how to store code using git or another Version-Control System (VCS)

### Target Audience

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This course is designed primarily for network and software engineers who are interested in learning about automation and programmability and hold the following job roles:

Consulting systems engineer

IoT Designer

Network administrator

Network engineer

Network manager

Sales engineer

Systems engineer

Technical solutions architect

### Course Objectives

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After taking this course, you should be able to:

Explain the fundamentals of Cisco IoT and list common devices involved

List the common protocols, standards, and data flows of IoT

Explain the Cisco IoT, common needs, and the corresponding solutions

Explain how programmability can be used to automate and make operations, deployment, and support of Cisco IoT more effective

Describe common Cisco IoT applications and how they apply to Cisco IoT use cases

Explain the functions and use cases for Cisco security applications and Cisco IoT

## Course Outline

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### 1 - Course Outlines

DEFINING CISCO IOT  
IOT NETWORKING AND OTHER DEVICES  
EXAMINING IOT PROTOCOLS  
EXAMINING IOT STANDARDS  
RECOGNIZING CISCO IOT NEEDS AND SOLUTIONS  
USING PROGRAMMABILITY WITH CISCO IOT  
DESCRIBING CISCO IOT APPLICATIONS: CISCO IOX  
DESCRIBING CISCO IOT APPLICATIONS: CISCO KINETIC AND CISCO FIELD NETWORK DIRECTOR  
DEFINING CISCO SECURITY APPLICATIONS

### 2 - Lab outline

Use an MQTT Consumer to Subscribe to Sensor Data  
Use Cisco IOx Applications to Receive and Process Sensor Data  
Troubleshoot a Sensor Connection  
Use and Interpret Freeboard Data  
Use and Interpret Grafana Data  
Use and Interpret Kibana Data  
Cisco IOx Familiarity Lab  
Develop and Deploy a Cisco IOx Application  
Troubleshoot Cisco IOx  
Navigate Cisco Field Network Director  
Explore Cisco Field Network Director API

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