

# **Programming Use Cases for Cisco Digital Network Architecture (DNAPUC) v1.0 - On Demand**

**Modality:** On Demand

**Duration:** 40 Hours

**CLC:** 5 Units

## **Course Information**

### **About this course:**

This course examines the use cases, components and benefits of Cisco Digital Network Architecture (Cisco DNA) in an enterprise environment, while highlighting the shift toward the digital enterprise.

You will be learning about key platforms including Cisco Connected Mobile Experiences (CMX) Cisco WebEx Teams, Cisco DNA Center and their related APIs. This course also covers open standards, tools, and network APIs that you can use to complement the Cisco DNA software portfolio, including Python, JavaScript Object Notation (JSON), Network Configuration Protocol (NETCONF), Representational State Transfer Configuration Protocol (RESTCONF), and Yet Another Next Generation (YANG).

### **Course Objective:**

After taking this course, you should be able to:

- Describe Cisco DNA Center REST APIs
- Understand the functionality provided by Cisco WebEx Teams
- Describe Cisco CMX, services, and related APIs
- Describe the importance of DevOps culture within network operations in the shift to becoming a digital enterprise
- Understand the role that programmable infrastructure is having on the transition to the digital enterprise
- Describe Cisco DNA, its components and benefits, and explain a few use cases
- Describe the different technologies and solutions within the Cisco programmable infrastructure portfolio

### **Audience:**

- Networking engineers
- Technical and non-technical audiences
- Sales engineers
- Account managers

### **Prerequisite:**

You should have the following knowledge and skills before taking this course:

- CCNA certification or equivalent experience

The following Cisco learning offering can help you prepare:

- Programming for Network Engineers (PRNE)

## **Course Outline:**

### **Understanding Programmable Infrastructure**

- Digital Enterprise
- Four Pillars of Digitization
- Network Programmability and Automation
- What Should Be Automated?
- Quantifying Programmability and Automation for the Business
- Network Programmability and Automation Use Cases

### **Introducing Cisco DNA**

- Cisco DNA Overview
- Cisco DNA Components
- Benefits of Cisco DNA
- Cisco DNA Use Cases

### **Describing Programmable Infrastructure**

- Cisco Programmability Options
- Data Center Infrastructure
- Enterprise Network Programmability
- Streaming Telemetry
- Collaboration
- Management, Monitoring, and Analytics

### **Describing Network APIs**

- How APIs Enable Business Automation
- API Overview
- Data Encoding with JSON and XML
- RESTful APIs
- RESTCONF and NETCONF Overview
- Data Modeling with YANG

### **Describing Cisco DNA Center APIs**

- Cisco DNA Center Overview
- Cisco DNA Center Automation Enterprise Benefits

- Cisco DNA Center Applications and Use Cases
- Cisco DNA Center REST API Overview
- Case Study: Network Automation at Symantec

## **Describing Cisco Collaboration APIs**

- Cisco Webex Teams Overview
- Cisco Webex Teams Business Benefits
- Cisco Webex Teams API Overview

## **Describing Cisco Mobility APIs**

- Cisco CMX Overview
- Cisco CMX Programmability Business Benefits
- Cisco CMX Mobility Services API Overview
- Case Study: Victoria University and Cisco CMX

## **Implementing DevOps Culture Within Network Operations**

- Transition to DevOps
- CALMS Model (Culture, Automation, Lean, Measurement, Sharing)
- Role of Cisco Technology in the Transition to DevOps