

# Programming Use Cases for Cisco Digital Network Architecture (DNAPUC) v1.0

## Course content:

- 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

## **Lab outline**

- Generate Reports on Cisco Devices Using RESTful APIs
- Configure Cisco Devices Using RESTful APIs
- Get Real-Time Insight with Streaming Telemetry
- Configure Cisco Devices Using RESTful APIs
- Work with Devices That Support Consistent YANG Models with NETCONF and RESTCONF
- Perform Data Validation with YANG Models
- Path Trace an IP Address with Cisco DNA Center and Display the Results
- Display Intent APIs in Cisco DNA Center
- Post Message to Cisco Webex Teams Room with Link Layer Discovery Protocol (LLDP) Neighbors Change
- Discover Cisco CMX Notifications and Clients with GUI and APIs