

Cisco Service Provider 5G Technologies Foundations (SPMBL100)

Cisco Service Provider 5G Technologies Foundations (SPMBL100)

In this Cisco Service Provider 5G Technologies Foundations course provides a comprehensive introduction to 5G architecture and Cisco's end-to-end 5G solutions, focusing on how service providers design, deploy, and operate modern mobile networks. It is designed for network engineers and architects who need to understand the technologies enabling 5G, from radio access and transport to core, cloud, and security domains. The curriculum blends architectural theory with practical deployment and operational workflows.

Students begin by exploring mobile network fundamentals and key 5G use cases, followed by enabling technologies such as 5G New Radio and cloud-based radio access networks. The course then examines Cisco's 5G Non-Standalone solution, including EPC evolution and StarOS configurations. Transport architecture is emphasized through Cisco's converged SDN approach, highlighting segment routing, application awareness, and network slicing across the 5G transport network.

The course expands into cloud-native infrastructure and automation, covering Cisco NFV infrastructure, virtual network functions, VIM, ESC, telemetry, and zero-touch provisioning. Cisco Ultra Cloud Core, Kubernetes, Docker, and Cisco ACI are introduced to demonstrate cloud-native 5G core deployment in distributed data centers. Security considerations specific to 5G are addressed, and hands-on labs reinforce real-world scenarios such as deploying VNFs, configuring network slicing, automating operations, and deploying Cisco Ultra Cloud Core, preparing learners to operate and secure modern 5G networks.

How you'll benefit

This class will help you:

- Use the higher data speeds of 5G to access data more quickly and accommodate every device with increased capacity
- Learn how 5G technology delivers lower latency, higher device capacity, and a more uniform user experience
- Earn 24 CE credits toward recertification

Why Attend with Current Technologies CLC

- Our Instructors are in the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

Who Should Attend

The primary audience for this course is as follows:

- Network Engineers
- Network Consulting Engineers
- Customer Support Engineers

Course Duration

4 days

Course Price

\$3,795.00 or 38 CLCs

Methods of Delivery

- Instructor Led
- Virtual ILT
- On-Site

- Field Engineers

Prerequisites

There are no prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are:

- Knowledge of general networking concepts
- Experience working with command-line interface (CLI)-based network devices
- Basic understanding of Multiprotocol Label Switching (MPLS)
- Familiarity with service provider architectures

OUTLINE

Module 1: Mobile Network Fundamentals

- 5G Key Use Cases
- Examining Mobile Network Components

Module 2: Enabling Technologies for 5G

- Introduction to 5G NR Characteristics
- Cloud Radio Access network (RAN)

Module 3: Cisco 5G NSA Solution

- 5G NSA Basics
- 5G NSA StarOS Configurations

Module 4: Cisco 5G Converged SDN Transport Architecture

- Cisco 5G Transport Ready Devices
- Application Awareness and Network Slicing with Segment Routing

Module 5: Cisco NFV Infrastructure, Cisco Virtualized Network Functions (VNFs), Cisco VIM, and Cisco ESC

- NFVI and SDN Architecture Overview
- Cisco VIM Pod Configurations

Module 6: Cisco Service Provider Automation and Orchestration Solutions

- Telemetry Basics
- ZTP Fundamentals

Module 7: Cisco Ultra Cloud Core

- Cisco Ultra Cloud Core Basics
- Kubernetes and Docker Fundamentals

Module 8: 5G Ready Distributed DC with Cisco ACI

- Cisco ACI in Telco Data Centers
- 5GC Deployment

Module 9: Mitigating Threats in 5G

- Introduction to 5G Cybersecurity Risks
- Mitigating 5G Cybersecurity Risks

LAB OUTLINE

Lab 1: Investigating the EPC and xHaul Device Operations

Lab 2: Deploying Cisco Ultra Gateway Platform with CUPS

Lab 3: Configuring the EPC for 5G NSA

Lab 4: Network Slicing with Segment Routing

Lab 5: Deploying a VNF using Cisco ESC

Lab 6: Using ZTP and Telemetry

Lab 7: Deploying the Cisco SMI and Cisco Ultra Cloud Core