



Cisco Service Provider 5G Technologies Foundations (SPMBL100)

What you'll learn in this course

The Cisco Service Provider 5G Technologies Foundations (SPMBL100) v1.0 course introduces mobile network components, basic 5G concepts, and features of 5G technology including faster data speeds, higher device capacity, and improved user experience. You will examine the mobile packet core solutions, 5G transport architecture, and Cisco® automation and orchestration tools used in 5G networks. You will also learn about the Cisco 5G Non-standalone (NSA) and the Cisco Ultra Cloud Core 5G standalone (SA) platform solutions, the Cisco 5G converged Software-Defined Networking (SDN) transport architecture, and Cisco edge computing solutions. You will study the Cisco Network Function Virtualization (NFVI) architecture, Cisco Network Services Orchestrator (NSO), and Cisco Elastic Services Controller (ESC). You will learn how 5G is distributed with Telco Data Center (DC) with Cisco Application Centric Infrastructure (Cisco ACI®). And finally, Zero-Touch Provisioning (ZTP), Cisco Crosswork™, and the Cisco 5G security architecture will also be presented.

Course duration

- Instructor-led training: 4 days in the classroom with hands-on lab practice
- Virtual instructor-led training: 4 days of web-based classes with hands-on lab practice
- E-learning: Equivalent to 4 days in the classroom

How you'll benefit

This course 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

Who should enroll

- Customer support engineers
- Field engineers
- Network engineers
- Network consulting engineers

Technology areas

- Service Provider
- Networking

Course details

Objectives:

After taking this course, you should be able to:

- Describe mobile network architecture basics
- List enabling technologies for 5G and describe 5G key use cases
- Perform basic operations on a Cisco 5G NSA mobile packet core
- Describe the Cisco 5G Converged SDN Transport Architecture
- Describe Cisco NFVI and perform basic operations using Cisco ESC and Cisco Virtualized Infrastructure Manager (VIM)
- Describe Cisco service provider automation and orchestration solutions to deploy and manage 5G network functions
- Describe the Cisco Ultra Cloud Core architecture and deploy the Cisco SMI
- Explain the 5G ready distributed Telco DC with Cisco ACI solution
- Describe the Cisco 5G security architecture

Recommended knowledge and training

Before enrolling in this course, you should have knowledge in the following areas:

- 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

The following Cisco course may help you meet these prerequisites:

- Implementing and Administering Cisco Solutions (CCNA®)
- Understanding Cisco Service Provider Foundations (SPFNDU)

How to enroll

To enroll in the SPMBL100 course or explore our larger catalog of courses on Cisco Digital Learning, contact us at [<training@fastlane-mea.com>](mailto:training@fastlane-mea.com)

Outline

- Mobile Network Fundamentals
 - 5G Key Use Cases
 - Examining Mobile Network Components
- Enabling Technologies for 5G
 - Introduction to 5G NR Characteristics
 - Cloud Radio Access network (RAN)
- Cisco 5G NSA Solution
 - 5G NSA Basics
 - 5G NSA StarOS Configurations
- Cisco 5G Converged SDN Transport Architecture
 - Cisco 5G Transport Ready Devices
 - Application Awareness and Network Slicing with Segment Routing
- Cisco NFV Infrastructure, Cisco Virtualized Network Functions (VNFs), Cisco VIM, and Cisco ESC
 - NFVI and SDN Architecture Overview
 - Cisco VIM Pod Configurations
- Cisco Service Provider Automation and Orchestration
 - Telemetry Basics
 - ZTP Fundamentals
- Cisco Ultra Cloud Core
 - Cisco Ultra Cloud Core Basics
 - Kubernetes and Docker Fundamentals
- 5G Ready Distributed DC with Cisco ACI
 - Cisco ACI in Telco Data Centers
 - 5GC Deployment
- Mitigating Threats in 5G
 - Introduction to 5G Cybersecurity Risks
 - Mitigating 5G Cybersecurity Risks

Lab Practice

- Investigating the EPC and xHaul Device Operations
- Deploying Cisco Ultra Gateway Platform with CUPS
- Configuring the EPC for 5G NSA
- Network Slicing with Segment Routing
- Deploying a VNF using Cisco ESC
- Using ZTP and Telemetry
- Using Cisco Crosswork Optimization with NSO
- Deploying the Cisco SMI and Cisco Ultra Cloud Core

