

SPMBL100**Cisco Service Provider 5G Technologies Foundations**

32 horas

Service Provider

Cisco

Cisco Continuing Education Credits

24 CE Credits**INTRODUÇÃO**

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.

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.

OBJETIVO DO CURSO

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.

PÚBLICO-ALVO

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

PRÉ-REQUISITOS

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).

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 outline

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