SPFNDU

Understanding Cisco Service Provider Network Foundations

40 horas | Service Provider | Cisco

Cisco Continuing Education Credits

30 CE Credits

INTRODUÇÃO

The Understanding Cisco Service Provider Network Foundations (SPFNDU) v1.0 course is designed to provide you with the foundational knowledge for the suite of Cisco® CCNP® Service Provider courses. The course expands what you learned from the Cisco CCNA® course with a focus on theoretical and practical knowledge needed for the Service Provider environment. Through a combination of lessons and hands-on practice, you will learn about architectures, protocols, software and hardware platforms, and solutions within the Service Provider realm. While this course does not lead directly to a certification exam, it does cover foundational knowledge critical to the success in the Service Provider Technology track. This course also earns you 30 Continuing Education (CE) credits towards recertification.

This course will help you:

• Acquire the foundational knowledge to understand the Cisco Service Provider Network methodologies, tools, and functions;

• Learn the skills to manage the software and hardware platforms, structures, and protocols within the Service Provider realm.

OBJETIVO DO CURSO

After taking this course, you should be able to:

• Describe network architectures, devices, and software used by service providers;

• Describe the various Internet governance organizations, their roles, and tools available for governance information verification;

• Configure Cisco Internetwork Operating System (Cisco IOS®) and Cisco IOS XE routers;

• Describe Cisco IOS XR software, perform initial configuration, and explain platform daily tasks;

• Describe various access and core technologies used by service providers;

• Describe various major switching technologies used by service providers;

• Describe major overlay technologies and their usage, and configure Virtual Extensible LAN I (VxLAN);

• Describe various major routing protocols used by service providers;

• Configure Layer 3 services used by service providers;

• Describe Multiprotocol Label Switching (MPLS), components, protocols, and MPLS usage;

• Describe usage of various services used and maintained by service providers;

• Introduce Linux networking, Bourne Again Shell (BASH) scripting, and their usage within Cisco IOS XR software.

PÚBLICO-ALVO

This course is designed for network and software engineers and hold job roles such as:

- Network administrator
- Network engineer
- Network manager
- System engineer
- Project manager
- Network designer

PRÉ-REQUISITOS

Before taking this course, you should have the following knowledge and skills:

- Knowledge of IPv4 and IPv6 Transmission Control Protocol/Internet Protocol (TCP/IP) networking;
- Familiarity with typical service provider environment;
- Basic knowledge about networking devices and their roles.

CONTEÚDO PROGRAMÁTICO

Introducing Service Provider Architectures

Describing Internet Governance Organizations

Configuring the Cisco IOS and Cisco IOS XE Router

Configuring Cisco IOS XR Router

Introducing Access and Core Technologies in the Service Provider Environment

Introducing Routing Technologies in the Service Provider Environment

Describing MPLS

Implementing Layer 3 Services

Introducing Switching Technologies in the Service Provider Environment

Introducing Overlay Technologies

Implementing Service Provider Services

Introducing Programmability on Cisco IOS XR Routers

Lab outline

Review Lab Environment

Examine Governance Data

Perform an Initial Cisco Internetworking Operating System (IOS XE) Configuration

Configure Connectivity and Connectivity Verification on Cisco IOS XE Devices

Perform Initial Cisco IOS XR Configuration

Configure and Verify Connectivity on Cisco IOS XR

Configure Intermediate System to Intermediate System (IS-IS)

Configure Routing Information Protocol (RIPv2) and RIP extension (RIPng)

Configure Basic Border Gateway Protocol (BGP)

Configure MPLS

Configure Internet Protocol Service Level Agreement (IP SLA)

Configure Hot Standby Router Protocol (HSRP) with Object Tracking

Configure Virtual Routing and Forwarding (VRFs)

Configure Network Time Protocol (NTP)

Use Linux Command Line Interface

Configure IOS XR Using a Bash Script