Understanding Cisco Service Provider Network Foundations (SPFNDU)

Cisco

- **Nível:** Intermédio
- **Duração:** 35h

Sobre o curso

The **Understanding Cisco Service Provider Network Foundations (SPFNDU)** 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 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
- Earn 30 CE credits toward recertification

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

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Destinatários

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

Programa

- 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