

Junos Layer 2 VPNs (JL2V)

ID JL2V Price CHF 2,100.—(excl. VAT) Duration 2 days

Who should attend

This course benefits individuals responsible for configuring and monitoring devices running the Junos OS.

This course is part of the following Certifications

Juniper Networks Certified Internet Professional Service Provider Routing & Switching (JNCIP-SP)

Prerequisites

The prerequisites for this course include the following:

- An intermediate-level networking knowledge and an understanding of OSPF, IS-IS, BGP, and Junos policy;
- Experience configuring MPLS label-switched paths using Junos;
- [Introduction to the Junos Operating System \(IJOS\)](#) course or equivalent;
- [Junos Service Provider Switching \(JSPX\)](#) course or equivalent;
- [Junos Intermediate Routing \(JIR\)](#) course or equivalent; and
- [Junos MPLS Fundamentals \(JMF\)](#) course or equivalent.

Course Objectives

After successfully completing this course, you should be able to:

- Define the term virtual private network.
- Describe the business drivers for MPLS VPNs.
- Describe the differences between Layer 2 VPNs and Layer 3 VPNs.
- List advantages for the use of MPLS Layer 3 VPNs and Layer 2 VPNs.
- Describe the roles of a CE device, PE router, and P router in a BGP Layer 2 VPN.
- Explain the flow of control traffic and data traffic for a BGP Layer 2 VPN.
- Configure a BGP Layer 2 VPN and describe the benefits and requirements of over-provisioning.
- Monitor and troubleshoot a BGP Layer 2 VPN.
- Explain the BGP Layer 2 VPN scaling mechanisms and route reflection.

- Describe the Junos OS BGP Layer 2 VPN CoS support.
- Describe the flow of control and data traffic for an LDP Layer 2 circuit.
- Configure an LDP Layer 2 circuit.
- Monitor and troubleshoot an LDP Layer 2 circuit.
- Describe the operation of FEC 129 BGP autodiscovery for Layer 2 VPNs.
- Configure a FEC 129 BGP autodiscovery Layer 2 VPN.
- Monitor and troubleshoot a FEC 129 BGP autodiscovery for Layer 2 VPNs.
- Describe the difference between Layer 2 MPLS VPNs and VPLS.
- Explain the purpose of the PE device, the CE device, and the P device.
- Explain the provisioning of CE and PE routers.
- Describe the signaling process of VPLS.
- Describe the learning and forwarding process of VPLS.
- Describe the potential loops in a VPLS environment.
- Configure BGP, LDP, and FEC 129 BGP autodiscovery VPLS.
- Troubleshoot VPLS.
- Describe the purpose and features of Ethernet VPN.
- Configure Ethernet VPN.
- Monitor and troubleshoot Ethernet VPN.
- Describe the Junos OS support for hierarchical VPN models.
- Describe the Junos OS support for Carrier-of-Carriers VPN Option C.
- Configure the interprovider VPN Option C.
- Describe the Junos OS support for multisegment pseudowire for FEC 129.
- Describe and configure circuit cross-connect (CCC).

Course Content

This two-day course is designed to provide students with MPLS-based Layer 2 virtual private network (VPN) knowledge and configuration examples. The course includes an overview of MPLS Layer 2 VPN concepts, such as BGP Layer 2 VPNs, LDP Layer 2 circuits, FEC 129 BGP autodiscovery, virtual private LAN service (VPLS), Ethernet VPN (EVPN), and Inter-AS Layer 2 VPNs. This course also covers Junos operating system-specific implementations of Layer 2 VPN instances, VPLS, and EVNs. This course is based on the Junos OS Release 15.1R2.9.

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Through demonstrations and hands-on labs, students will gain experience in configuring and monitoring the Junos OS and in device operations.

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Training Centres worldwide



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