

## 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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