

JNCIP-ENT Certification Training

5 days (35 hours)

Overview

JNCIP-ENT is Juniper's professional certification for network engineers who are proficient in enterprise routing and switching environments. This certification validates advanced expertise in OSPF, IS-IS, BGP, MPLS, EVPN, multicast, and Junos high availability mechanisms.

Our JNCIP-ENT training will enable you to design, optimize, and troubleshoot complex network infrastructures. You will learn how to effectively use advanced routing protocols, configure MPLS and EVPN, implement robust high availability, and diagnose incidents in large-scale enterprise environments.

Part of the training is devoted to preparing for the JNCIP-ENT exam (JN0-649): understanding the blueprint, analyzing key points, and best practices for success.

Like all our training courses, this one is based on the latest version of [Junos](#) and emphasizes a highly practical and operational approach.

Note: Ambient IT does not own the JNCIP-ENT certification; it belongs to Juniper Networks Inc.

Objectives

- Master OSPF, IS-IS, BGP, and their advanced uses.
- Deploy and troubleshoot MPLS and LDP.
- Understand and implement EVPN.
- Configure PIM, IGMP, and advanced multicast.
- Ensure high availability of Junos equipment.
- Prepare effectively for the JNCIP-ENT exam.

Target audience

- Network engineers
- Experienced R&S administrators
- Enterprise network architects
- Professionals aiming for JNCIP-ENT certification

Prerequisites

- Good knowledge of routing and switching
- Level equivalent to JNCIS-ENT
- Experience with Junos desirable

JNCIP-ENT training program

[Day 1 - Morning]

Advanced Junos fundamentals

- Control and data plane architecture
- Advanced routing instances
- Policy options and filters
- Protocol management and hierarchy
- Basic Junos diagnostics
- Hands-on workshop: Multi-instance configuration.

[Day 1 - Afternoon]

Advanced OSPF:

Concepts

- Area types: normal, stub, NSSA
- Advanced LSAs and propagation
- DR/BDR election and priorities
- Interface types and impact on the network
- LSDB visualization
- Hands-on workshop: Multi-area design.

Advanced OSPF: Optimization and Troubleshooting

- Virtual links
- Inter-protocol redistribution
- Route manipulation with policies
- Adjacency analysis and LSDB
- Frequent troubleshooting
- Hands-on workshop: OSPF incident resolution.

[Day 2 - Morning]

IS-IS: Essential concepts

- L1/L2 Levels
- Adjacencies and hello parameters
- TLV structure
- Designing an IS-IS backbone
- Verification commands
- Hands-on workshop: Complete IS-IS configuration.

[Day 2 - Afternoon]

Advanced IS-IS and Troubleshooting

- IS-IS authentication
- SPF optimization
- BGP/IS-IS interaction
- LSP Analysis
- Common Failure Scenarios
- Hands-on workshop: IS-IS debugging.

Advanced BGP: Sessions and Structure

- Differences between iBGP and eBGP
- Route Reflector
- Confederations
- Filtering via policies
- RIB-IN/RIB-OUT Analysis
- Hands-on workshop: iBGP design with RR.

[Day 3 - Morning]

Advanced BGP: Traffic engineering

- Local Preference and MED
- Communities and Extended Communities
- AS-Path Prepend
- Multipath and Load Sharing
- Advanced Troubleshooting
- Hands-on workshop: BGP path control.

[Day 3 - Afternoon]

MPLS and LDP: Fundamentals

- Label switching
- Sessions and LDP discovery
- Label structure
- MPLS transport
- Validation commands
- Hands-on workshop: Simple MPLS backbone.

Advanced MPLS: Traffic Engineering

- Primary and secondary LSPs
- RSVP vs. LDP
- Constrained SPF
- Fast reroute
- LSP Analysis
- Hands-on workshop: Creating protected LSPs.

[Day 4 - Morning]

EVPN: Concepts

- Types of EVPN routes
- MAC/IP advertisement
- Interaction with MPLS
- EVPN multihoming
- Verification & Troubleshooting
- Hands-on workshop: Simple EVPN.

[Day 4 - Afternoon]

Advanced multicast

- IGMP v2/v3 and snooping
- PIM-DM / PIM-SM
- RP, BSR, and mapping
- RPF checks
- Multicast path analysis
- Hands-on workshop: Complete PIM-SM.

CoS: Advanced quality of service

- Traffic classification
- Schedulers and queues
- Rewrite rules
- Policing & shaping
- CoS monitoring

- Hands-on workshop: Complete CoS design.

[Day 5 - Morning]

High availability

- GRES
- NSR and NSB
- BFD for fast convergence
- Instance redundancy
- Failover simulations
- Hands-on workshop: Complete HA testing.

[Day 5 - Afternoon]

Loopback protocols and L2 protection

- RSTP, MSTP
- Loop protection
- Storm control
- Root/priority tuning
- L2 troubleshooting
- Hands-on workshop: Loop scenarios.

Preparation for JNCIP-ENT certification (JN0-649)

- Exam organization
- Key areas of the blueprint
- Strategies for success
- Useful labs and documentation
- Common mistakes
- Hands-on workshop: Taking the practice exam + correction.

Companies concerned

This training is intended for both individuals and companies, large or small, wishing to train their teams in new advanced IT technology or to acquire specific professional knowledge or modern methods.

Placement at the start of training

The placement test at the start of the training course complies with Qualiopi quality criteria. Upon final registration, learners receive a self-assessment questionnaire that allows us to assess their estimated level of proficiency in different types of technologies, as well as their expectations and personal objectives for the upcoming training course, within the limits imposed by the selected format. This

The questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could be problematic for the monitoring and smooth running of the training session.

Teaching methods

Practical training: 60% practical, 40% theory. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the trainer, supported by examples and discussion sessions, and group work.

Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been correctly acquired.

Certification

A certificate will be issued to each trainee who has completed the entire training course.