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## Junos Intermediate Routing

**Duration: 2 Days**    **Course Code: JIR**

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### Overview:

The Junos Intermediate Routing (JIR) course provides students with intermediate routing knowledge and configuration examples. The course includes an overview of protocol-independent routing features, load balancing and filter-based forwarding, OSPF, BGP, IP tunneling, and high availability (HA) features.

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### Target Audience:

This course is designed for: Individuals responsible for configuring and monitoring devices running the Junos OS.

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### Objectives:

- Upon completing this course, the learner will be able to meet these overall objectives:
  - Describe typical uses of static, aggregate, and generated routes.
  - Configure and monitor static, aggregate, and generated routes.
  - Explain the purpose of Martian routes and add new entries to the default list.
  - Describe typical uses of routing instances.
  - Configure and share routes between routing instances.
  - Describe load-balancing concepts and operations.
  - Implement and monitor Layer 3 load balancing.
  - Illustrate benefits of filter-based forwarding.
  - Configure and monitor filter-based forwarding.
  - Explain the operations of OSPF.
  - Describe the role of the designated router.
  - List and describe OSPF area types.
  - Configure, monitor, and troubleshoot OSPF.
  - Describe BGP and its basic operations.
  - Name and describe common BGP attributes.
  - List the steps in the BGP route selection algorithm.
  - Describe BGP peering options and the default route advertisement rules.
  - Configure and monitor BGP.
  - Describe IP tunneling concepts and applications.
  - Explain the basic operations of generic routing encapsulation (GRE) and IP over IP (IP-IP) tunnels.
  - Configure and monitor GRE and IP-IP tunnels.
  - Describe various high availability features supported by the Junos OS.
  - Configure and monitor some of the highlighted high availability features.
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### Prerequisites:

The knowledge and skills that a learner must have before attending this course are as follows:

- Basic networking knowledge and an understanding of the Open Systems Interconnection (OSI) reference model and the TCP/IP protocol suite.

To gain the prerequisite skills and knowledge, Juniper strongly recommends the knowledge of the following courses:

- Introduction to the Junos Operating System (IJOS)
- Junos Routing Essentials (JRE)

### Testing and Certification

Recommended preparation for exam(s):

- JN0-343 - Juniper Networks Certified Internet Specialist (JNCIS-ENT)

JIR and JEX are the courses required for the **Juniper Networks Certified Internet Specialist (JNCIS)** Certification

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## Follow-on-Courses:

- Junos Enterprise Switching (JEX)

The above course is part of the **Juniper Networks Certified Internet Specialist (JNCIS)** Certification

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## Content:

### Protocol-Independent Routing

- Static Routes
- Aggregated Routes
- Generated Routes
- Martian Addresses
- Routing Instances

### Load Balancing and Filter-Based Forwarding

- Overview of Load Balancing
- Configuring and Monitoring Load Balancing
- Overview of Filter-Based Forwarding
- Configuring and Monitoring Filter-Based Forwarding

### Open Shortest Path First

- Overview of OSPF
- Adjacency Formation and the Designated Router Election
- OSPF Scalability
- Configuring and Monitoring OSPF
- Basic OSPF Troubleshooting

### Border Gateway Protocol

- Overview of BGP
- BGP Attributes
- IBGP Versus EBGP
- Configuring and Monitoring BGP

### IP Tunneling

- Overview of IP Tunneling
- GRE and IP-IP Tunnels
- Implementing GRE and IP-IP Tunnels

### High Availability

- Overview of High Availability Networks
  - GR
  - Graceful RE Switchover
  - Nonstop Active Routing
  - BFD
  - VRRP
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## Further Information:

For More information, or to book your course, please call us on +254 713 027 191

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