

Juniper Networks Design Fundamentals (JNDF)

Duration: 3 Days **Course Code: JUN-JNDF** **Delivery Method: Virtual Learning**

Overview:

This three-day course is designed to cover introductory best practices, theory, and design principles for overall network design. Key topics include fundamental network design concepts as well as basic design concepts of data centers, enterprise WAN, wireless LAN (WLAN), software-defined WAN (SD-WAN), security, network management, and network automation. Other key concepts included are Request for Proposal (RFP) and Request for Information (RFI) creation, Juniper product review, network migration strategies, IP fabric design, and business continuity.

Juniper Networks Design Fundamentals is an introductory level course

Related Juniper Product:

• ACX Series • EX Series • JSA Series • Juniper Apstra • Junos Space Security Director • Mist AI • NFX Series • Paragon • PTX Series • SRX Series

Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

Target Audience:

- Individuals with a solid understanding of operation and configuration
- Individuals who are looking to enhance their skill sets by learning introductory principles of network design

Objectives:

- Provide an overview of network design needs and common business requirements.
- Identify key product groups related to campus, WAN, data center, and security architectures.
- Describe and interpret common RFP requirements.
- Describe a network design by gathering data and working with key stakeholders.
- List ways of processing customer data and design requests.
- Identify boundaries and scope for the design proposal.
- List some considerations when creating a design proposal.
- Provide an overview of network security design principles and common vulnerabilities.
- List high-level design considerations and best practices for securing the network.
- List the components of the campus network design.
- State best practices and design considerations for the campus.
- Describe architectural design options for the campus.
- Define business continuity and its importance in a network design.
- Describe high availability design considerations and best practices.
- Provide an overview of high-availability offerings and solutions.
- Describe class-of-service design considerations.
- Provide an overview of environmental considerations in network design.
- List design considerations and best practices for managing the network.
- Provide an overview of both Juniper Networks and third-party options for network management.
- List design considerations and best practices for network automation.
- Provide an overview of automation tools.
- Explain the foundational topics that have been taught throughout the course.
- Create a network design proposal that satisfies customer requirements and business needs.
- Provide an overview of the steps involved in migrating a network.

- • List the components of the WAN.
- • Describe best practices and design considerations for the WAN.
- • Describe design options for the WAN.
- • List the components of the data center design.
- • Describe best practices and design considerations for the data center.
- • Describe architectural design options for the data center.
- • Describe best practices used in network migration.
- • List the various campus network topographies.
- • Describe sample design options for the campus.
- • Explain how to design wireless LANs.
- • Describe how to design IP fabrics in a data center.
- • List the best practices for deploying SD-WAN.

Prerequisites:

- Knowledge of routing and switching architectures and protocols
- Knowledge of Juniper Networks products and solutions
- Understanding of infrastructure security principles
- Basic knowledge of hypervisors and load balancers

Testing and Certification

JNCIA-Design

Follow-on-Courses:

JNCIE-SP Self-Study Bundle

Content:

Day 1	Campus Design	<ul style="list-style-type: none"> • Define how to gather the technical requirements
Course Introduction	<ul style="list-style-type: none"> • List the components of the campus network 	<ul style="list-style-type: none"> • Describe how to determine the RF requirements
Network Design Fundamentals	<ul style="list-style-type: none"> • Describe best practices and considerations for the campus 	Wireless LAN Design – Design, Deploy, and Diagnose
<ul style="list-style-type: none"> • Describe the role of a network designer or architect 	<ul style="list-style-type: none"> • Describe architectural design options for the campus 	<ul style="list-style-type: none"> • Explain the Design phase of wireless LAN design
<ul style="list-style-type: none"> • List the main steps in creating a network design 	Lab 2: Designing Campus Networks	
Juniper Routers and Switches	Day 2	<ul style="list-style-type: none"> • Define the Deploy phase of wireless LAN design
<ul style="list-style-type: none"> • Explain the different types of Juniper routers and how to position them 	Campus WAN Design	<ul style="list-style-type: none"> • Describe the Diagnose phase of wireless LAN design
<ul style="list-style-type: none"> • Explain the different types of Juniper switches and how to position them 	<ul style="list-style-type: none"> • Explain the components of the campus WAN 	Lab 7: Designing a WLAN
Juniper Security and Wireless Solutions	<ul style="list-style-type: none"> • Describe best practices and considerations for the campus WAN 	Putting the Design into Practice
<ul style="list-style-type: none"> • Explain the different types of Juniper security products and how to position them 	<ul style="list-style-type: none"> • Describe design options for the campus WAN 	<ul style="list-style-type: none"> • Review the foundational topics that have been taught throughout the course
<ul style="list-style-type: none"> • Explain the different types of Juniper wireless products and how to position them 	Lab 3: Campus WAN Design	<ul style="list-style-type: none"> • Create a network design proposal that satisfies customer requirements and business needs
Juniper SDN and Network Management Solutions	SD-WAN Design	Lab 8: Putting the Network Design into Practice
<ul style="list-style-type: none"> • Explain Juniper's SDN solution and how to position it 	<ul style="list-style-type: none"> • Describe the SD-WAN approach 	SELF-STUDY MATERIALS
<ul style="list-style-type: none"> • Explain Juniper's network management solutions and how to position them 	<ul style="list-style-type: none"> • Explain how SD-WAN and intersite connectivity works 	Self-Study: Network Migration Strategies
Understanding Customer Requirements	<ul style="list-style-type: none"> • Review the SD-WAN intent model and deployment 	<ul style="list-style-type: none"> • Provide an overview of the steps necessary to migrate a network
<ul style="list-style-type: none"> • Define RFP requirements 	Lab 4: SD-WAN Design	<ul style="list-style-type: none"> • Explain approaches for network migration
<ul style="list-style-type: none"> • Evaluate the network design scope 	Basic Data Center Design	<ul style="list-style-type: none"> • Describe example scenarios used in network migration
Lab 1: Understanding Customer Requirements	<ul style="list-style-type: none"> • List the components of the data center 	Self-Study: Sample RFP
	<ul style="list-style-type: none"> • Describe best practices and considerations 	

Organizing the Data	<ul style="list-style-type: none"> • Describe architectural design options 	<ul style="list-style-type: none"> • Example of a Juniper Networks RFP response
<ul style="list-style-type: none"> • Describe ways of processing customer data and requests 	Lab 5: Creating the Design – Data Center	Self-Study: Designing IP Fabrics
<ul style="list-style-type: none"> • Identify boundaries and scope for the design proposal 	Day 3	<ul style="list-style-type: none"> • Explain IP fabric design options
<ul style="list-style-type: none"> • List some considerations when creating a design proposal 	Designing Network Automation	<ul style="list-style-type: none"> • Describe routing in an IP fabric
	<ul style="list-style-type: none"> • Overview of automation 	<ul style="list-style-type: none"> • Explain how to scale an IP fabric
Securing the Network	<ul style="list-style-type: none"> • Designing for network automation 	Self-Study: Business Continuity and Network Enhancements
<ul style="list-style-type: none"> • Explain the basics of network security 	Lab 6: Automation Design	<ul style="list-style-type: none"> • Define business continuity and its importance in a network
<ul style="list-style-type: none"> • Review Juniper Networks' security appliances 	Wireless LAN Design – Define	<ul style="list-style-type: none"> • Describe high availability design considerations and best practices
<ul style="list-style-type: none"> • Illustrate the concept of WAN security 	<ul style="list-style-type: none"> • Explain how to determine the business requirements 	<ul style="list-style-type: none"> • Provide an overview of high-availability offerings and solutions
<ul style="list-style-type: none"> • Describe the cloud-centered approach to securing the enterprise 		Self-Study: Network Management
<ul style="list-style-type: none"> • Explain Juniper Networks' Secure Access Service Edge 		<ul style="list-style-type: none"> • Design a management network

Additional Information:

Delegates will receive e-kit courseware.

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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