

Juniper JNCIA-DC: Data Center Associate (JN0-281)

Start your data center networking career with the JNCIA-DC. This Juniper course builds on foundational networking knowledge and introduces you to the core technologies and architectures of modern data centers. You'll explore how data centers operate, why they're critical to IT infrastructure, and how the pieces (from EVPN-VXLAN fabrics to high availability protocols) fit together. Whether you're an early-career network professional or simply expanding your networking horizons, this course sets you up for roles such as Data Center Engineer, Network Engineer or IT Infrastructure Specialist, and serves as the first step toward the JNCIA-DC certification exam.

[CBT Nuggets course material](#) →

WEEK 1

Features of Data Center Architectures

The End Goal - EVPN VXLAN

Underlays

Overlays

Layer 3 Gateway Placement

The Spine/Leaf Architecture

CHALLENGE

Implement Switching in Junos

Introducing Layer 2 in Junos

Switching Concepts

Configure a Basic VLAN

Port Modes

Internal Routing and Bridging (irb) Interfaces

Important Show Commands

CHALLENGE

Understand Protocol-Independent Routing

Introducing Junos Routing

Routing Refresher

A Brief Word About vQFX Labs

Configure Static Routes

Aggregate Routes vs Generated Routes

Martian Addresses

Routing Instances and RIB Groups

Load Balancing

Filter-Based Forwarding

CHALLENGE

Understand OSPF Concepts and Terminology

Introducing OSPF

Router IDs

Areas

The OSPF State Machine

OSPF Packet Types

OSPF LSAs

DRs and BDRs

CHALLENGE

Understand BGP Basic Concepts

Introducing BGP

Why BGP Exists

Peering Concepts

Group Types (iBGP vs eBGP)

Advertising Concepts

Scaling iBGP

CHALLENGE

BGP Best Path Algorithm

Introducing the JUNOS BGP Best Path Algorithm

Highest Local Preference

Lowest AIGP

Lowest AS Path Count

Origin Code

MED (Multi-Exit Discriminator)

eBGP vs iBGP

Lowest IGP Cost (Closest Exit)

Oldest Path First

Lowest Router ID

Shortest Cluster Length

IP Address

CHALLENGE

Configure OSPF and BGP for a Fabric

Introducing OSPF and BGP Configuration on JUNOS

Configure Basic OSPF

Verify OSPF

OSPF Reference Bandwidth Cost

Configure Basic BGP

Export Prefixes into BGP

CHALLENGE

Understand Junos High Availability Operations

Introducing Junos High Availability Protocols

Understand the Point of High Availability

LAG - Link Aggregation Concepts

Configuring 802.3ad on Junos

Understand Graceful Restart

Configure and Monitor GR

Understand Bidirectional Forwarding Detection

Configure BFD

Understand Juniper's Virtual Chassis

CHALLENGE