Enterprise Computing Solutions - Education Services

TRAINING OFFERING

Du kan nå os her

.

Email: training.ecs.dk@arrow.com
Phone: +45 7025 4500

Data Center Automation using Juniper Apstra (APSTRA)

CODE:	LENGTH:	PRICE:
JUN_APSTRA	40 Hours (5 dage)	kr 35,400.00

Description

This five-day course provides students with the foundational knowledge required to manage data center networks with Juniper Apstra software.
This class will provide attendees with the knowledge to operate and manage Juniper Apstra software.
Attendees will be given a background on modern data center design and intent-based networking concepts.
Data Center Automation Using Juniper Apstra (APSTRA) is an intermediate-level course.
Related Juniper Products
• Juniper Apstra
• QFX Series

Objectives

After successfully completing this course, you should be able to:
• Describe what is meant by intent-based networking.
• Describe the Juniper Apstra architecture.
• Navigate the global Juniper Apstra UI.
• Configure role-based access control.
• Describe an IP fabric architecture.
• Explain VXLAN functions and operations.
• Describe Ethernet VPN (EVPN) routing and bridging.
• Describe the Juniper Apstra data center reference design.
• Describe IP fabric usage in the data center reference design.
• Describe host connectivity in the data center reference design.
• Describe the life cycle of the management of devices using Juniper Apstra.
• Create and use system agents to manage devices.
• Configure resources.
• Configure tags.
• Describe basic device abstractions used by Apstra.
• Describe logical devices.
• Describe device profiles.
• Describe interface maps.
• Configure a rack type.
• Configure templates.
• Build and deploy a blueprint.
• Navigate the blueprint UI.
• Perform basic fabric device operations and troubleshooting.
• Configure and apply property sets and configlets.
• Configure connectivity templates.
• Describe the multitenancy capabilities of Juniper Apstra.
• Describe the purpose of root cause identification.
• Create and manage security policies.
• Describe the security policy functionality and terminology.
• Describe the security policy workflow.
• Describe the security policy conflict resolution.
• Describe management of security policies.
• Create a device profile.
• Create a logical device.
• Create an interface map.
• Add a spine and a rack to an existing blueprint.
• Add a generic system to an existing blueprint.

• Use the Graph Explorer to traverse the graph datastore.
• Describe the function of an IBA probe.
• Create an IBA probe.
• Configure logging to a remote syslog server.
• Describe how Apstra integrates with vCenter.
• Describe how Apstra can enable a DCI.

Audience

The primary audience for this course includes:
• Networking architects and operators, system engineers, DevOps professionals, IT professionals
• Individuals responsible for configuring, monitoring, and troubleshooting modern spine-and-leaf data centers of any size, leveraging any networking vendor hardware or operating system

Prerequisites

The course prerequisites include:
• Basic knowledge of networking and data center designs
• Understanding of Clos IP fabric
• Understanding of routing protocol design, configuration, and performance
• Knowledge of overlay and underlay routing designs
• Basic knowledge of automation design and workflows
• Knowledge of network device configuration via CLI
• Knowledge of BGP — recommended but not required
• Completion of the Introduction to Juniper Data Center Networking (IJDC) course or equivalent knowledge

Programme

Day 1
Course Introduction
Intent-Based Networking
• What do we mean by intent?
• Where is Juniper Apstra positioned?
Juniper Apstra Overview
• Juniper Apstra server
• Juniper Apstra device agents
Apstra UI Walkthrough
• Navigate the global Apstra UI
Lab 1: Apstra UI Walkthrough
Role-Based Access Control
• Configure users, roles, and providers to enable local and remote authentication
Lab 2: Configuring RBAC
IP Fabric Architecture
• IP fabric options including collapsed (spineless), three-stage, and five-stage fabrics
• IP fabric routing strategy
• EBGP fabric
• IP fabric best practices
VXLAN Overview
• VPN terminology—control planes and data planes
• VXLAN broadcast domains
• VXLAN control plane evolution
• VXLAN fundamentals
• Hardware VTEPs and software VTEPs
Day 2
EVPN Protocol
• Overview of the EVPN protocol in a VXLAN environment
• Route targets (policy)
• Route distinguishers
• EVPN route types and usage
• Edge routing using Type 2 routes
• Edge routing using Type 5 routes
Data Center Reference Design
• Overview of using rack types to design your network
• Overview of using templates to design your network
• Host connectivity options
• Life-cycle management (design, build, deploy, validate)

Device Management
• Device profiles as a hardware compatibility list
• Install off-box agents
• Install on-box agents
• Perform ZTP
Lab 3: Managing Devices

Resources
• Create IP, VNI, and ASN Pools
Tags
• Create Tags
Lab 4: Configuring Resources and Tags
Logical Devices, Device Profiles, and Interface Maps
• Describe Logical Devices
• Describe Device Profiles
• Describe Interface Maps
Lab 5: Logical Devices, Device Profiles, and Interface Maps
Design: Racks
• Create Custom Rack Types
Design: Templates
• Create Custom Templates
Day 3
Build and Deploy: Blueprints
• Build and deploy a blueprint
Lab 6: Design, Build, and Deploy a Blueprint
Navigating the Blueprint UI
• Navigate the tabs—Dashboard, Analytics, Staged, Uncommitted, Active, and Time Voyager
• Describe layered views of the staged and active networks
• IBA probe versus service anomalies
Basic Blueprint Operation
• Use the Active tab to determine the status of a blueprint
• Select a node to see neighbors, links, headroom, telemetry, device, properties, tags, and virtual settings
• Query the blueprint (MAC, ARP, and VM)
• Find by tags
• Troubleshooting example
• Make changes to your blueprint
• Revert changes
• Use Time Voyager
Lab 7: Navigating and Operating a Blueprint

Property Sets and Configlets
• Configure Property Sets
• Configure and Deploy Configlets
Connectivity Templates
• Connectivity templates overview
• Example: Enable a BGP session between border leaf and external router
Virtual Networks
• Configure overlay virtual networks
Lab 8: Configuring Configlets, Connectivity Templates, and Virtual Networks
Day 4
Root Cause Identification
• Explain and enable RCI
Security Policies
• Describe security policy functionality and terminology
• Describe the security policy workflow
• Use conflict resolution
Lab 9: Configuring Root Cause Identification and Security Policies
Creating Device Profiles
• Create a custom device profile
Creating Logical Devices
• Create a custom logical device
Creating Interface Maps
• Create a custom interface map
Post-Deployment: Adding a Spine and a Rack
• Add a spine and a rack to an existing blueprint
Post-Deployment: Adding a Generic System
• Get familiar with global versus embedded rack types
• Add a generic system to an existing blueprint
Lab 10: Working with Interface Maps, Racks, and Generic Systems

Day 5
Graph Database
• Use Graph Explorer to visually inspect a blueprint's graph and its schema
• Use the Graph Explorer to learn to query the graph database
Intent-Based Analytics—Overview
• Describe the basics of an IBA probe
Create an IBA Probe
• Create a predefined IBA probe
• Create a new IBA probe
Syslog
• Configure and Monitor logging to a remote syslog server
VMware vCenter Integration
• Integrate Apstra with vCenter
Lab 11: Configuring IBA Probes, Syslog, and vCenter Integration
Data Center Interconnect
• Describe a L2 DCI
• Describe a L3 DCI
Lab 12: Configuring DCI

Test and Certification

Related Certification
JNCIS-DC
Exams can be purchased and scheduled at an additional cost – please ask for details – and can be scheduled at www.vue.com/junipernetworks

Session Dates

På anmodning. Kontakt os venligst

Yderligere Information

Denne træning er også tilgængelig som træning på stedet. Kontakt os for at finde ud af mere.