Network Automation using the Contrail Controller (NACC)

COURSE LEVEL

Network Automation using the Contrail Controller (NACC) is an intermediate-level course.

AUDIENCE

This course benefits individuals responsible for working with software-defined networking solutions in data center, service provider, and enterprise network environments.

PREREQUISITES

- Basic TCP/IP skills;
- General understanding of data center virtualization;
- Basic understanding of the Junos operating system;
- Completion of the Junos Cloud Fundamentals (JCF) course prior to attending this class; and
- Basic knowledge of object-oriented programming and Python scripting is recommended.

ASSOCIATED CERTIFICATION

JNCIS-SDNA

RELEVANT JUNIPER PRODUCT

- Automation
- SDN
- Software
- Contrail
- Instructor-Led Training

RECOMMENDED NEXT COURSE

Network Automation in the Enterprise Cloud (NAEC)

CONTACT INFORMATION

training@juniper.net

course content subject to change. see www.juniper.net/courses for the latest details.
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OBJECTIVES (contd.)

- Work with Contrail Alarms.
- Understand how to analyze live traffic with Contrail.
- Describe Underlay Overlay mapping.
- Explain the need for Contrail Security.
- Discuss multidimensional firewall policy configuration.
- Use tags and labels.
- Discuss traffic visualization with Contrail Security.

COURSE CONTENT

Day 1

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Lab 1: Exploring OpenStack with the CLI

Day 2

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Lab 3: Exploring and Troubleshooting the Contrail vRouter and SDN Controller

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Lab 2: Configuring OpenStack

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<td>Configuring Network Policies and Security Groups</td>
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Lab 4: Virtual Networks and Policies

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Day 3

8 Interacting with External Networks
- Connecting Virtual and Physical Networks
- Floating IPs
- Using Device Manager
- Configuring Simple Virtual Gateway
- Underlay Connectivity without Gateway

Lab 5: Creating Floating IPs and Gateways

Day 4

10 Contrail Service Chains
- Service Chaining Overview
- In-Network Service Chain and Configuration
- Transparent Service Chain and Configuration
- Configuring Source NAT
- Automating Service Chaining

Lab 7: Creating Contrail Service Chains

Day 5

12 Contrail Monitoring and Analytics
- Analytics Overview
- Monitor > Infrastructure Workspace
- Monitor > Networking Workspace
- Flow Queries, Logs, and Statistics
- Configuring Contrail Analytics
- Analytics API

Lab 9: Using Contrail Analytics

13 Analyzing Network State and Traffic Flows
- Contrail Alarms
- Analyzing Live Traffic
- Underlay Overlay Mapping

Lab 10: Analyzing Traffic Flows with Contrail Analytics

9 Contrail Network Services
- Contrail and Container Networking
- BGP as a Service
- Graceful Restart Capabilities
- Implementing CoS
- Load Balancing as a Service Overview
- vRouter Support for DPDK and SR-IOV
- Contrail Global Controller Overview

Lab 6: Using Docker Containers with Contrail

11 Advanced Service Chaining
- Advanced Operation
- Service Instance Health Checks
- Troubleshooting Service Chains
- Service Chain with Docker Containers
- Physical Network Function Integration
- NFV for ISP Case Study

Lab 8: Advanced Service Chain Operation and Troubleshooting

14 Contrail Security
- The Need for Contrail Security
- Contrail Security Configuration
- Monitoring and Visualization