Juniper Cloud Fundamentals (JCF)

Engineering Simplicity

COURSE LEVEL

Juniper Cloud Fundamentals (JCF) is an introductory-level course.

AUDIENCE

The primary audiences for this course are individuals responsible for planning and coordinating cloud enabled networks and services in data center, private cloud, public cloud, hybrid cloud, service provider, and enterprise WAN environments.

PREREQUISITES

- Basic TCP/IP skills
- Basic network understanding
- General understanding of data center environments
- General understanding of enterprise WAN environments
- Basic understanding of virtualization

RELEVANT JUNIPER PRODUCT

- Contrail
- Junos Space
- Junos Space Security Director
- Junos Space Network Director
- Junosphere/VJX
- MX Series
- NFX Series
- NorthStar Controller
- SSG Series
- NorthStar Planner

COURSE OVERVIEW

This three-day course is designed to provide students with an understanding of cloud enabled networks, cloud service deployment concepts, and virtualized network platforms such as vSRX and vMX. This course provides a high-level overview and understanding of the following concepts:

- Software Defined Networks
- Cloud Network Underlays
- Cloud Network Overlays
- Cloud Design
- Cloud Implementation Methods
- Cloud Services
- Juniper Networks Virtualized Platforms.

OBJECTIVES

- Explain network overlay and underlay concepts.
- Describe private, public, and hybrid cloud architecture and implementation.
- Describe the implementation of services in a cloud networking environment.
- Describe the implementation and functions of the Juniper vSRX platform.
- Describe the implementation and functions of the Juniper vMX platform.
- Describe the implementation and functions of the Juniper NFX platform.
- Explain the role of Juniper Networks virtualized platforms in public cloud offerings.
- Describe the functionality and use of Juniper Networks Cloud Connector.
- Explain the need for Software Defined Networking.
- List basic SDN concepts.
- Describe common types of SDN implementation.
- Describe the main Network Function Virtualization components.
- Describe cloud services monitoring.
- Explain the role and functions of AppFormix in cloud services.
- Explain SDN WAN concepts.
- Describe the role, functions, and features of the NorthStar Controller.
- Describe the role, functions, and features of NorthStar Planner.
- Describe the role and functions a vCPE and uCPE components.
- Explain the role, components and functions of Contrail Service Orchestration.
- Explain the role, components and functions of Contrail Networking.
- Explain Software Defined Secure Network concepts.
- Describe methods to secure an SDN environment.
- Explain the functionality of SDSN components.

CONTACT INFORMATION

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Course content subject to change. See www.juniper.net/courses for the latest details.

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COURSE CONTENT

Day 1

1	**COURSE INTRODUCTION**

2	**Cloud Components**

- Network Overlay and Underlay Concepts
- Private, Public, and Hybrid Cloud Architecture and Implementation
- Types of Services in a Cloud Network Environment

3	**Virtualized Platforms**

- Implementation of the vSRX Platform
- Implementation of the vMX Platform
- Implementation of the NFX Platform
- Juniper Networks Virtualized Platforms in Public Clouds
- Cloud Connector

Lab: Deploying Juniper Networks Virtual Devices - vMX

4	**SDN Fundamentals**

- The Need for SDN
- Main SDN Concepts
- Common Types of SDN

Day 2

5	**Network Function Virtualization**

- Introduction to NFV Architecture
- Main NFV Components
- Examples of VNFs

Lab: Manually Deploying VNFs

7	**AppFormix**

- Role of AppFormix
- Components of AppFormix
- Monitoring services in AppFormix

Lab: AppFormix

6	**Orchestration and Automation**

- Orchestration and Automation Tools in Cloud Networking
- Difference Between SDN Automation and Orchestration
- Roles of Cloud Networking Components
- Contrail Networking Components

Day 3

8	**SDN WAN Solutions**

- SDN WAN Concepts
- Components of the NorthStar SDN WAN Controller
- NorthStar Controller in WAN Environments
- NorthStar Planner Concepts
- Functionality of NorthStar Planner

10	**Cloud Security**

- Software Defined Security Network Concepts
- Security Risks in an SDN Environment
- Methods to Secure an SDN Environment

Lab: Cloud Security using Sky ATP

9	**Cloud CPE**

- Legacy Versus Cloud CPE Architecture
- Types of Services in a Cloud Network Environment

Lab: Cloud CPE (video demonstration)

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