Enterprise Computing Solutions - Education Services

TRAINING OFFERING

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Juniper Cloud Fundamentals (JCF)

CODE:	LENGTH:	PRICE:
JUN_JCF	24 Hours (3 days)	£2,195.00

Description

This three-day course provides students with the foundational knowledge required to work with basic cloud components in a Juniper environment.
The course summarizes cloud concepts, virtual networks, containerization, and cloud management.
Through demonstrations and hands-on labs, students will gain experience in configuring and monitoring cloud automation tools and using various cloud configuration formats.
Students will also become familiar with several cloud-native applications.
Students will learn and better identify the Juniper solutions for cloud infrastructure, including virtualization (vSRX, vMX), containerization (cSRX, cRPD), and CN2.
This course is based on Junos OS Release 22.4. Key topics include: • Learning fundamental cloud concepts
• Identifying the concepts of Linux virtualization • Describing the concepts of Linux namespaces
• Learning how Linux containerization works • Identifying the basics behind a virtual network
• Understanding how software-defined networking (SDN) and Network Functions Virtualization (NFV) work
• Learning the basics of OpenStack and how to configure and implement OpenStack networking
• Describing how Kubernetes operates and examining the various Kubernetes networking utilities
• Identifying the key concepts of Red Hat OpenShift • Reviewing the basics of Cloud-Native Contrail Networking (CN2)
Course Level Juniper Cloud Fundamentals (JCF) is a foundational-level course.

Objectives

• Identify the key fundamental cloud concepts. • Identify the concepts of Linux virtualization.
• Identify the concepts of Linux namespaces. • Identify the concepts of Linux containerization.
• Identify the basics of network virtualization.
• Describe the main concepts of software-defined networking and Network Functions Virtualization. • Describe the fundamentals of OpenStack.
• Identify the key concepts of the OpenStack configuration. • Identify the basics of OpenStack networking.
• Identify the basics of Kubernetes. • Identify the key concepts of Kubernetes networking.
• Identify the key concepts of Red Hat OpenShift. • Describe the Cloud-Native Contrail Networking (CN2) solution.

Audience

Individuals who want a basic understanding of cloud solutions using Juniper products, virtualization, OpenStack, Red Hat OpenShift, and containerization, including Docker and Kubernetes.

Prerequisites

• Basic networking knowledge and general understanding of data center environments
• General understanding of enterprise WAN environments, and basic understanding of virtualization • General understanding of Linux and basic Linux CLI commands
• Basic understanding of containerization and some experience using Docker or the equivalent
• Completion of the e-learning course, Getting Started with Cloud

Programme

Day 1 Course Introduction Fundamental Cloud Concepts • Describe key cloud concepts
• Describe components of a cloud architecture • Identify Juniper solutions for cloud infrastructure Linux Virtualization
• Describe virtualization techniques • Describe the Linux architecture • Examine key virtualization concepts
Lab 1: Linux Virtualization Linux Namespaces • Describe Linux namespaces and other kernel containment features
• Describe network namespaces • Identify the concept of routing instance segregation Lab 2: Linux Namespaces Containerization

• Describe a container • Define the Docker architecture • Examine the process of creating a container using Docker
• Describe Docker networking Lab 3: Containerization Lab 4: cSRX Network Virtualization
• Explain the concepts of a virtual network • Describe how to extend virtual networks Lab 5: Network Virtualization Day 2
Software-Defined Networking and Network Functions Virtualization • Describe SDN architecture and its benefits
• Describe NFV architecture and its benefits • Summarize the relationship between SDN and NFV Introduction to OpenStack
• Describe the basics of OpenStack • Discuss OpenStack services • Review basic OpenStack concepts
• Create and manage OpenStack instances Lab 6: OpenStack web UI Configuration OpenStack Configuration
• Describe the OpenStack CLI • Examine the OpenStack API • Describe orchestration through Heat templates
Lab 7: OpenStack CLI Configuration OpenStack Networking • Explain how OpenStack networking is implemented
• Determine how to create a network • Describe security groups for VMs • Explain how to set up OpenStack routing
• Describe the concept of floating IP addresses • Review the load-balancing techniques
Lab 8: Exploring OpenStack Networking Concepts Day 3 Introduction to Kubernetes • Explain the fundamentals of Kubernetes
• Describe the Kubernetes objects • List the Kubernetes tools • Illustrate the basics of KubeVirt • Define Kubernetes namespaces
Lab 9: Reviewing Kubernetes Fundamental Concepts Kubernetes Networking • Describe Kubernetes networking
• Examine connecting applications with services • Review a multitier application deployment on a Kubernetes cluster
Lab 10: Kubernetes Networking Red Hat OpenShift • Describe the relationship between Kubernetes and OpenShift
• Explain the installation process for OpenShift • Navigate the Web UI for OpenShift
• Create an application using the OpenShift Web UI • Navigate the OpenShift CLI • Create an application using the OpenShift CLI
Introduction to Cloud-Native Contrail Networking and Basic Configuration • Explain the CN2 challenges
• Summarize the CN2 solution • Identify features of the CN2 solution and key use cases
• Describe the CN2 architecture and core components • Cover the CN2 installation requirements
• Explain what configuration resources are available • Create custom Kubernetes networks and multiinterface pods using CN2
Lab 11: Implementing Virtual Networks J

Follow on courses

Recommended Next Course Implementing Cloud-Native Contrail Networking (CN2)

Test and Certification

Associated Certification
JNCIA-Cloud exam topics are based on the content of the recommended instructor-led training courses, as well as the additional resources.

- Exam code: JN0-212
- Written exam
- Administered by Pearson VUE
- Exam length: 90 minutes
- Exam type: 65 multiple-choice questions
- Software versions:
  - Contrail 22.1
  - OpenStack Wallaby
  - Kubernetes 1.21

The JNCIA-Cloud certification is valid for three years. Please contacteducationteam.ecs.uk@arrow.com to purchase an exam voucher.

Session Dates

Date	Location	Time Zone	Language	Type	Guaranteed	PRICE
08 May 2024	Virtual Classroom	BST	English	Instructor Led Online		~~£ 2,195.00~~ £1,975.50
18 Nov 2024	Virtual Classroom	GMT	English	Instructor Led Online		£2,195.00

Additional Information

This training is also available as onsite training. Please contact us to find out more.