



Cloud Infrastructure 2019

Training Programs

Catalog of Course Descriptions



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Introduction

Ericsson has developed a comprehensive Training Programs service to satisfy the competence needs of our customers, from exploring new business opportunities to expertise required for operating a network. The Training Programs service is delineated into packages that have been developed to offer clearly defined, yet flexible training to target system and technology areas. Each package is divided into flows, to target specific functional areas within your organization for optimal benefits.

Service delivery is supported using various delivery methods including:

Delivery Method

Instructor Led Training (ILT)

Web-based Learning (WBL)



A Technology Primer on Virtualization and Cloud

LZU1082557 R1A

Description:

What is the difference between virtualization and cloud? What about containerization? How will the cloud improve utilization of computing resources? If these are some of the questions you are looking for to be answered, this technology primer will help you to understand the common terminologies often used in the market today.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Describe computer systems used today to support the execution of applications in delivering services to the end users.
 - 1.1 Identify the architecture of the modern computer.
 - 1.2 Identify the concept of distributed computing.
 - 1.3 Describe the enhancements in networking technology in connecting a global network of computers.
 - 1.4 Describe the storage requirement growth per the usage patterns and applications of the current market.
- 2 Define how virtualization supports the optimized use of computing resources.
 - 2.1 Describe a hypervisor.
 - 2.2 Describe a virtual machine and how applications are executed in the guest environment.
 - 2.3 Explain the evolution of legacy applications to virtualized environments.
- 3 Describe cloud computing.
 - 3.1 Identify components of a cloud computing environment.
 - 3.2 Describe the concept of automation in the cloud.
 - 3.3 Describe the concept of orchestration in the cloud.
- 4 Identify emerging technologies that further enhance the utilization of data center resources.
 - 4.1 Describe containers as mechanisms to further improve efficiency of application execution.
 - 4.2 List common providers of container technology such as Docker and LXD. identify further management efforts for containers such as MesOS and Kubernetes.
- 5 Describe management software to manage the cloud infrastructure.
 - 5.1 Describe data center infrastructure industrialization efforts.
 - 5.2 POD and vPOD definition



- 5.3 Describe discovery and inventory features for hardware management in the NFVI solution.
- 5.4 Identify functions for hardware management and control.

Target audience:

This course is suitable for anyone who is required to be familiar with Virtualization and Cloud.

Prerequisites:

Successful completion of the following courses:

None

Duration and class size:

The length of the course is 1 hour and the maximum number of participants per session is 1

Learning situation:

This is a web-based interactive training course with multimedia content.



An Overview of the Ericsson Cloud Infrastructure

LZU1082558 R1A

Description

The Ericsson Cloud provides an infrastructure to support all workloads, including next generation applications in the mobile networks such as 5G and IoT technologies. This course will provide the participant an overview of the products and solutions in the Ericsson Future Digital Infrastructure.

Learning objectives

On completion of this course the participants will be able to:

- 1 Describe the future digital infrastructure characteristics.
 - 1.1 Describe the concept of Software Defined Infrastructure (SDI).
 - 1.2 Describe the concept of hardware disaggregation.
 - 1.3 Describe the concept of distributed cloud infrastructure.
- 2 Identify the Ericsson Hyperscale Datacenter System 8000 as the data center infrastructure hardware solution.
 - 2.1 Describe the foundation of the Hyperscale Datacenter System 8000 with the concept of Intel® Rack Scale Design.
 - 2.2 Identify the hardware components for compute, networking and storage.
 - 2.3 Identify the optical interconnect providing for high speed connectivity within the solution.
 - 2.4 Identify the Command Center as a central management software providing for virtual Performance Optimized Datacenter (vPOD) operation.
- 3 Describe the solution for cloud infrastructure management software with the Ericsson Cloud Execution Environment.
 - 3.1 Describe the virtualization and abstraction function of the Cloud Execution Environment.
 - 3.2 Describe the virtual infrastructure management features.
 - 3.3 Identify components of the Cloud Execution Environment to manage virtual compute, networking and storage functions.
 - 3.4 Describe the function of Atlas providing a graphical interface for system administration purposes.
- 4 Explore the Ericsson Cloud Manager product as the BSS function.
 - 4.1 Identify the architecture of the Cloud Manager.
 - 4.2 Describe the service catalog capabilities to build services within the cloud.
 - 4.3 Describe the orchestration function providing automated deployment of applications and services.



- 4.4 Identify features for building reports and analytics.
- 5 Describe security solutions provided with the Ericsson cloud infrastructure.
- 5.1 Identify security features built in to the Ericsson cloud portfolio, from basic physical security fencing to hardening practices.
- 5.2 Compare the differences between security, integrity and privacy.
- 6 Describe the Data Centric Security product providing for data integrity through blockchain and hashtree technology.

Target audience

This course is suitable for anyone who is required to be familiar with Ericsson Cloud Infrastructure.

Prerequisites

Successful completion of the following courses:

None

Duration and class size

The length of the course is 1 hour and the maximum number of participants per session is 1

Learning situation

This is a web-based interactive training course with multimedia content.



Creating High Impact Business with Cloud

LZU1082559 R1A

Description:

Cloud computing is widely stated to support and enhance businesses in delivery and optimized operations. However, the implementation is not generic and requires high levels of optimization in order to reach the best performance possible.

This module highlights benefits of the cloud in delivering high impact business, focusing on hyperscale and hyperconverged infrastructure.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Review cloud computing concepts.
 - 1.1 Define the characteristics of the cloud.
 - 1.2 Identify benefits of the cloud in business.
 - 1.3 Explore new ways of working introduced with cloud such as Agile, DevOps, etc.
- 2 Describe how the cloud supports applications
 - 2.1 Describe the different application delivery model, through virtual machines and containers
 - 2.2 Describe management functions available to manage the cloud supporting applications.
 - 2.3 Describe BigData and Analytics concepts.
- 3 Define what is "hyperscale" and "hyperconverged".
 - 3.1 Define hyperscale in terms of large scale industrialized data center infrastructure deployments.
 - 3.2 Define hyperconverged in terms of data center infrastructure capable of managing large scale, multi workload environments.
- 4 Explain how the cloud, 5G and IoT will drive high impact business.
 - 4.1 Identify 5G being the next generation radio networks capable of handling both largescale and mission critical applications and devices.
 - 4.2 Identify IoT and the concept of the Internet of Things, comprising of connected devices and the potential architectures supporting its implementation.
 - 4.3 Describe sample business use cases for 5G, IoT and cloud infrastructure.

**Target audience:**

This course is suitable for anyone who is required to be familiar with Business Impact with Cloud.

Prerequisites:

Successful completion of the following courses:

None

Duration and class size:

The length of the course is 1 hour and the maximum number of participants per session is 1

Learning situation:

This is a web-based interactive training course with multimedia content.



Foundation Series - Cloud Security

LZU1082355 R1A

Description:

Organizations within various verticals are steadily migrating to the Cloud as well as adopting its technologies. They have found new ways of delivering their services through the Cloud and in addition to reaching new customers. While adopting the Cloud brings new ways for organizations to reduce costs and extend their services, it also introduces security risks.

The purpose of this overview course is to introduce you to the components that make up the Cloud and the security considerations thereof.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Define cloud computing and its benefits, service models and deployment models.
 - 1.1 Explain the essential characteristics of the cloud.
 - 1.2 Define cloud computing and its benefits.
 - 1.3 Describe its service models.
 - 1.4 Define its service models and in what respect services are consumed.
 - 1.5 Describe its deployment models.
 - 1.6 Define its deployment models and how they are implemented.
- 2 Describe Cloud Actors and threat landscape.
 - 2.1 List the Cloud Actors
 - 2.2 Describe cloud threat landscape.
 - 2.3 Recognize the cloud security threat landscape relative to physical or virtual assets & consumer or provider assets.
 - 2.4 Explain multi-tenant threat within the context of Service Models.
 - 2.5 Document the top cloud computing threats.
 - 2.6 Explain the impact of multi-tenancy on private and public clouds.
 - 2.7 Discuss risks and concerns associated with virtualization.
 - 2.8 Describe and explain tenant and cloud provider security management responsibilities.
- 3 Describe cloud security risks and concerns.
 - 3.1 Explain the components of a cloud security architecture.
 - 3.2 Analyze Ericsson's Logical Cloud Security Architecture
 - 3.3 Discuss the components of a risk-based approach to security
- 4 Expose a risk-based approach to be used in mitigating security risks.
 - 4.1 Explain critical security areas
 - 4.2 Describe cloud security areas in terms of provider and consumer assets



- 4.3 Discuss the connection between service models within the context of security management
- 5 Describe cloud security within OpenStack and Ericsson Cloud Execution Environment (CEE) 16B.
 - 5.1 Describe the security components of OpenStack
 - 5.2 Explain the components that make up Ericsson's CEE
- 6 Describe best practices and recommendations.
 - 6.1 Discuss Ericsson's 6+1 Security Functions.
 - 6.2 Assess the thinking behind cloud security principles, best practices and recommendations.

Target audience:

This course is suitable for anyone who is required to be familiar with Cloud Security.

Prerequisites:

Successful completion of the following courses:

None

Duration and class size:

The length of the course is 1 day and the maximum number of participants per session is 16

Learning situation:

This course is based on theoretical instructor-led lessons given in a classroom environment.



NFV Infrastructure for Telecoms Transformation

LZU1082560 R1A

Description

The Ericsson Network Functions Virtualization Infrastructure (NFVI) is a comprehensive solution for building a cloud capable of supporting both Telco and IT workloads. The foundation of this solution is disaggregated hardware architecture, based on Intel RSD, enabling right-sized infrastructure with the economics of the hyperscale cloud providers.

After completing this module, the participant will be able to describe the architecture and components of the Ericsson NFVI.

Learning objectives

On completion of this course the participants will be able to:

- 1 Identify the ETSI NFV reference architecture.
 - 1.1 Identify the components of the ETSI NFV architecture.
 - 1.2 Identify the MANO architecture.
 - 1.3 Describe the NFV Orchestrator, VNF Manager and VIM components of the NFVI architecture.
- 2 Describe the Ericsson solution for NFV Management and Orchestration.
 - 2.1 Identify the Ericsson products for NFV MANO including ECM, HDS 8000, CEE and Cloud SDN.
 - 2.2 Describe the NFVI deployment options for medium/large and micro datacenters.
 - 2.3 Describe lifecycle management, fault management and performance management aspects for the NFVI solution.
- 3 Identify the NFVI component for Hardware Management.
 - 3.1 Describe discovery and inventory features for hardware management in the NFVI solution.
 - 3.2 Identify functions for hardware management and control.
- 4 Identify the Data Center Networking and Orchestration component for NFVI.
 - 4.1 Describe the networking architecture in the NFV Infrastructure.
 - 4.2 Identify SDN capabilities in the networking layer.



Target audience

This course is suitable for anyone who is required to be familiar with the Ericsson Network Functions Virtualization Infrastructure (NFVI).

Prerequisites

Successful completion of the following courses:

None

Duration and class size

The length of the course is 1 hour and the maximum number of participants per session is 1

Learning situation

This is a web-based interactive training course with multimedia content.



Ericsson Cloud Container Distribution Overview

LZU1082847 R1A

Description:

Ericsson Cloud Container Distribution is a software-only product. It provides an integrated container orchestration and management solution based on Kubernetes and other open-source components. It serves as a generic execution environment for any type of container-based workloads, from cloud-native telecom network functions to web applications and microservices.

Ericsson Cloud Container Distribution provides advanced life cycle management features. Deployment and upgrade are simple on most common cloud infrastructures. Cloud Container Distribution is continuously validated as the included software components and the underlying infrastructures evolve

Upon the completion of this overview course, the participants will have holistic view of the Ericsson Cloud Container Distribution function and its components.

Learning situation:

This is a Web-Based Learning.

This is a self-paced interactive learning with multimedia content, delivered online.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Introduction on Cloud Container Distribution
 - 1.1 Describe the technology called container
 - 1.2 Highlight the different approach to lightweight virtual machines
- 2 Explain key benefits of having Ericsson Cloud Container Distribution engine
 - 2.1 Describe the main functionalities of Ericsson CCD
- 3 Describe Networking architecture in Ericsson CCD
 - 3.1 Explore Ericsson CCD topology
- 4 Discuss high-level architecture of Ericsson CCD
 - 4.1 Elaborate life cycle management using Ericsson CCD
 - 4.2 Discuss functional architecture of Ericsson CCD



Target audience:

This course is suitable for anyone who is required to be familiar with Ericsson Cloud Container Distribution .

Prerequisites:

Successful completion of the following courses:

N/A

Duration and class size:

The length of the course is approximately 50 minutes.



Ericsson Cloud Container Distribution System Administration

R2.0

LZU1082860 R1A

Description:

Ericsson Cloud Container Distribution is a software-only product. It provides an integrated container orchestration and management solution based on Kubernetes and other open-source components. It serves as a generic execution environment for any type of container-based workloads, from cloud-native telecom network functions to web applications and microservices.

Ericsson Cloud Container Distribution provides advanced life cycle management features. Deployment and upgrade are simple on most common cloud infrastructures. Cloud Container Distribution is continuously validated as the included software components and the underlying infrastructures evolve

Upon the completion of this practical course, the participants will be able to deploy and manage cloud-native applications and they will have holistic view on how to operate and manage the Ericsson Cloud Container Distribution system and its components.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Describe Cloud Container Distribution
 - 1.1 Understand core Kubernetes and components of Ericsson Cloud Container Distribution
 - 1.2 Explain the Ericsson Cloud Container Distribution architecture
 - 1.3 Describe different models and templates supported by Ericsson Cloud Container Distribution
 - 1.4 Understand the software delivery and CNCF validation
- 2 Explain Ericsson Cloud Container Distribution support and lifecycle management architecture
 - 2.1 Explain life cycle management on pre-provisioned server
 - 2.2 Explain life cycle management using Image based deployment
 - 2.3 Elaborate different dependencies when upgrading different components
- 3 Describe Ansible deployment use cases



- 3.1 Explain the workflow for deployment using ansible
- 3.2 Describe the scaling concept using ansible
- 4 Explain image base deployment scenario
 - 4.1 Describe the workflow for image deployment
 - 4.2 Explain different prerequisites for image deployment
 - 4.3 Describe scaling in/out concept using image deployed applications
- 5 Describe operation and maintenance architecture of CCD
 - 5.1 Explain fault management feature
 - 5.2 Describe configuration management feature
 - 5.3 Elaborate performance management feature
 - 5.4 Explore the security management of Ericsson Cloud Container Distribution

Target audience:

This course is suitable for anyone who is required be able to administer ECCD.

Prerequisites:

Successful completion of the following courses:

Ericsson Cloud Container Distribution Overview -LZU1082847

Duration and class size:

The length of the course is 2 days and the maximum number of participants per session is 8.



Ericsson Cloud Execution Environment System Administration R9

LZU1082864 R1A

Description:

The Ericsson Cloud Execution Environment (CEE) R9 provides virtual infrastructure management for cloud services. This allows various applications to make use of the virtual resources for compute, storage and networking. The CEE provides virtual machine lifecycle management in a high available and low latency performance environment.

The Ericsson Cloud System provides enterprises with a flexible, secure and highly scalable solution for all types of workloads. Deployed as an Infrastructure as a Service (IaaS) solution, the Ericsson Cloud Execution Environment (CEE) abstracts and manages resources for compute, data and network infrastructure for applications. The CEE R9 is a practical course that explores the CEE architecture to allow a better understanding of its components and functions.

The course consists of two parts – a digital part (video recording, Learning Objectives 1-3) and an Instructor-Led Training part (ILT, Learning Objectives 4-7). Upon the completion of this course, the participant will be able to understand the basic function of the CEE, its architecture and VM lifecycle management. The participant will be able to manage the various functions provided by the Ericsson CEE such as fault management and understand the overall architecture to enable management of the virtual infrastructure.

Upon completion of this course, the participant will be able to manage the various functions provided by the Ericsson CEE such as fault management and understand the overall architecture to enable management of the virtual infrastructure.

Learning situation:

This is a Blended Learning.

The WBL component(s) is self-paced interactive learning with multimedia content, delivered online and the ILT component is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Describe the highlights of the Cloud Execution Environment (CEE)
- 1.1 Discuss the positioning of the CEE software in the overall Ericsson Cloud System solution
- 1.2 Identify the logical architecture of the CEE



- 1.3 Describe the functional architecture of CEE R9
- 1.4 List the hardware integrations for the CEE
- 1.5 Discuss the enhancements introduced with the CEE R9 release
- 2 Describe the functions of the CEE for virtual machine lifecycle management
 - 2.1 Explore the virtual machine lifecycle management through the Openstack services in CEE
 - 2.2 Describe the services running in the infrastructure hosts, such as operating system, hypervisor and storage architecture
- 3 Describe the virtual infrastructure management function of the CEE
 - 3.1 Describe the function of the vCIC in CEE
 - 3.2 List high availability (HA) features in CEE for services and databases
 - 3.3 Describe the function of Atlas as a virtual infrastructure management dashboard
- 4 Perform system administration activities on the CEE
 - 4.1 Navigate the CEE portal manager user interface
 - 4.2 Perform basic virtual infrastructure management tasks through the CLI interface
 - 4.3 Perform application deployment through the orchestration function in the CEE
- 5 Perform health check and fault management on the CEE
 - 5.1 Identify infrastructure alarms using the dashboard
 - 5.2 Explore the CEE CPI library to find more information to interpret system alarms
- 6 Perform performance management on the CEE
 - 6.1 Identify CEE tools available for performance management
 - 6.2 Extract information for counters and meters in the CEE
- 7 Perform software management activities on the CEE
 - 7.1 Identify software management tools for upgrade and update
 - 7.2 Discuss CEE infrastructure backup and restore

Target audience:

This course is suitable for anyone who is required be able to administer CEE.

Prerequisites:

Successful completion of the following courses:

None

Duration and class size:

The length of WBL component(s) is approximately 1 hour and the maximum.

The length of ILT component is 2 days and the maximum number of participants per session is 8.

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Ericsson Cloud NFVI Overview R6

LZU1082848 R1A

Description:

The Ericsson NFVI solution is a verified reference cloud infrastructure design. This document describes the Ericsson NFVI Release 6 solution.

A cloud deployment can be composed of one or multiple PODs within the same or multiple data centers. These PODs can be composed of different hardware, built with different architectures and scaled differently.

This course will give the audience an overview of the Ericsson Network Function Virtualization Infrastructure R6.

Learning situation:

This is a Web-Based Learning.

This is a self-paced interactive learning with multimedia content, delivered online.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Describe ETSI NFVI Architecture
 - 1.1 Ericsson's approach to NFVI
 - 1.2 Describe concepts and functions of Ericsson's architecture
 - 1.3 Explain the benefits and features of Ericsson NFVI
- 2 Identify the different Ericsson NFVI components
 - 2.1 Describe Ericsson NFVI base configuration
 - 2.2 Describe 3rd party products that can be used in Ericsson NFVI solution
- 3 Explain Ericsson NFVI hardware architecture
 - 3.1 Describe Ericsson HDS hardware management
 - 3.2 Describe Ericsson BSP platform
- 4 Explain NFVI Datacenter approach to networking
- 5 Explain Ericsson Orchestrator
- 6 Describe Virtual Infrastructure Manager
- 7 Discuss Ericsson cloud SDN
- 8 Explain the different tools used for operation and maintenance
 - 8.1 Describe the configuration management framework
 - 8.2 Explain life cycle management



8.3 Elaborate the security framework

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Target audience:

This course is suitable for anyone who is required to be familiar with Ericsson Cloud NFVI

Prerequisites:

Successful completion of the following courses:

N/A

Duration and class size:

The length of the course is approximately 1 hour.



Ericsson Cloud NFVI System Administration R6

LZU1082865 R1A

Description:

Ericsson NFVI R6 solution is based from great experience about integrating telco-grade solutions, including how to reduce cost and complexity.

The Network Functions Virtualization Infrastructure (NFVI) based on R6 provides the virtual resources required to support the execution of Virtualized Network Functions (VNF). It includes hardware as well as virtualization and management software components that abstract the underlying hardware. The network providing connectivity between the hardware components is considered part of the NFV infrastructure.

This course gives the audience a hands-on experience on how to manage the Ericsson Network Function Virtualization Infrastructure environment.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Review the Ericsson NFVI system architecture
 - 1.1 Describe the different NFVI components
 - 1.2 Identify the optional components of Ericsson NFVI solution
 - 1.3 Describe the different integration points in the Ericsson NFVI systems
 - 1.4 Explain the NFV Orchestration possibilities using EO, Atlas and CLI
 - 1.5 Describe how the virtual datacenter is realized in Ericsson NFVI
- 2 Describe HOT, OVF and TOSCA templates
 - 2.1 Describe the networking definition between cloud sdn controller and cloud sdn switch
 - 2.2 Explain the networking definition between cloud sdn controller and NRU switches
 - 2.3 Describe how on-boarding applications (VNFs, VMs) works in Ericsson NFVI solution
 - 2.4 Perform application on-boarding
- 3 Describe how the internal and external gateway is realized in the NFVI
 - 3.1 Describe how the network between the NFVI and DC-GW is realized
 - 3.2 Explain how overlay network support using cloud sdn can help with packet forwarding
 - 3.3 Create IP internal gateway using the CCM
 - 3.4 Create IP external gateway towards the external DC-GW



- 4 Explain the concept of VNF scaling
 - 4.1 Describe how scaling is realized in Ericsson NFVI
 - 4.2 Perform manual scaling of a VM
- 5 Describe REST api in Ericsson NFVI
 - 5.1 Perform api interaction with some network elements in Ericsson NFVI
- 6 Review the operation and management architecture of Ericsson NFVI
 - 6.1 Perform basic health check on different components
 - 6.2 Perform performance management exercises
 - 6.3 Create backup on different components on different network elements
- 7 Software Define Infrastructure NRU network management
 - 7.1 Compute host traffic snooping
 - 7.2 Explore NRU switch cli commands
 - 7.3 Analyze DCC traffic flows
- 8

Target audience:

This course is suitable for anyone who is required be able to administer Ericsson Cloud NFVI .

Prerequisites:

Successful completion of the following courses:

N/A

Duration and class size:

The length of the course is 3 days and the maximum number of participants per session is 8.



Ericsson Software Define Networking System Administration R7

LZU1082862 R1A

Description:

Ericsson Cloud SDN solution automates and controls network connectivity within Data Centers (DCs).

The Ericsson Cloud SDN solution provides overlay network connectivity for virtual or physical network functions within a Data Center (DC). Service Providers (SPs) can use this solution to set up logical overlay networks within the DC, automating network service provisioning and optimizing the use of their DC compute and networking investments.

This is a practical course and it will give the participants to have hands-on experience to Ericsson Cloud SDN R7.

Learning situation:

This is a Blended Learning.

The WBL component(s) is self-paced interactive learning with multimedia content, delivered online and the ILT component is based on theoretical instructor-led lessons.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Describe ODL architecture
 - 1.1 Describe the different interfaces and specifications
 - 1.2 Explain Ericsson cloud sdn functional architecture
- 2 Discuss cloud sdn controller
 - 2.1 Describe the different interfaces and specifications
 - 2.2 Discuss cloud sdn controller
 - 2.3 Discuss cloud sdn switch
 - 2.4 Discuss use case and non-use case scenarios
- 3 Describe Ericsson cloud sdn benefits and features
- 4 Describe overlay and underlay transport
- 5 Explain the different tools used for operation and maintenance
 - 5.1 Describe the configuration management framework of cloud sdn
 - 5.2 Explain life cycle management of cloud sdn
 - 5.3 Elaborate the security framework of Ericsson cloud sdn
- 6 Review transport networks technology in cloud sdn networks



- 6.1 Create overlay networks using vxlan
- 6.2 Create L2 gateway (TOR)
- 7 Explain NAT and floating IPs using cloud sdn controller feature
 - 7.1 Create NAT on a specific virtual machine
 - 7.2 Create floating IP and associate this to a virtual machine
- 8 Describe security groups and rules
 - 8.1 Create security policy that will prevent a virtual machine from sending packets to non-authorized destination IP address
 - 8.2 Describe anti-spoofing feature in Ericsson sdn solution
 - 8.3 Create security policy that will prevent a vm from sending with non-authorized source IP/MAC addresses
 - 8.4 Create a security policy that will prevent a vm from receiving packets with non-authorized destination IP/MAC addresses
- 9 Describe the support for BGP L3VPN Service
 - 9.1 Create a VRF through cloud manager
 - 9.2 Create different networks and associate them to the VRF
- 10 Explain the Cloud SDN configuration management
 - 10.1 Describe REST api and how to use API to communicate with cloud SDN
 - 10.2 Explore some of the rest api's of cloud sdn (exercise)
- 11 Describe key performance indicators of cloud SDN controller
 - 11.1 Explain the key performance indicators of cloud sdn switch
- 12 Explain software management of Ericsson cloud sdn
- 13 Describe cloud sdn security management framework
 - 13.1 Describe cloud sdn hardening guideline
 - 13.2 Explain identity and access management for Ericsson cloud sdn

**Target audience:**

This course is suitable for anyone who is required be able to administer SDN.

Prerequisites:

Successful completion of the following courses:

Ericsson Cloud SDN Overview R6.1-LZU1082721

Ericsson Cloud Execution Environment System Administration R9-LZU1082864 R1A

Duration and class size:

The length of WBL component(s) is approximately 1 hour.

The length of ILT component is 1 day and the maximum number of participants per session is 8.



Ericsson Software Defined Infrastructure System Administration R2.10

LZU1082863 R1A

Description:

The Ericsson Software Defined Infrastructure is a cutting-edge data center hardware solution, built on the Intel RSA architecture for disaggregated hardware. The SDI Manager is Ericsson's data center management interface software which allows the data center administrator the ability to discover and manage physical resources into virtual Performance Optimized Datacenters (vPODs).

This course will cover architecture, main features, operational aspects, and configuration of the Ericsson Software Define Infrastructure software and hardware components. The course is practical and includes tasks like configuring SDI Manager, networking component like the NRUs etc. The course consists of two parts – a digital part (WBL with video recording) and an Instructor-Led Training part.

Upon the completion of this course, the participant will be able to perform tasks such as discovering and managing resources using the SDI manager, create networks to connect the resources and manage vPODs.

Learning situation:

This is a Blended Learning.

The WBL component(s) is self-paced interactive learning with multimedia content, delivered online and the ILT component is based on theoretical instructor-led lessons.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Identify Ericsson's Software Defined Infrastructure in a cloud environment
 - 1.1 Explain the Ericsson Software Defined Infrastructure (SDI) concept
 - 1.2 Review the virtual Performance Optimized Datacenters (vPODs)
 - 1.3 Explore the SDI Hardware Management
- 2 Explore the SDI R2.10 architecture
 - 2.1 List the HDS 8000 hardware components
 - 2.2 Determine the characteristics of the HDS components
- 3 Explore the Software Defined Infrastructure Manager and its possibilities
 - 3.1 Describe the SDI Management architecture
 - 3.2 Identify the SDI Manager and all its components
- 4 Review the SDI solution architecture



- 4.1 Describe the SDI hardware, networking and SDI manager components
- 4.2 Explore the support for third party hardware management provided by SDI manager
- 5 Explain and handle SDI operational support functions
 - 5.1 Explore the different components of SDI manager
 - 5.2 Describe IPMI technology and how it relates to management of the hardware
 - 5.3 Describe the SDI Manager GUI and its use to create and manage tenants
- 6 Describe SDI manager architecture
 - 6.1 Identify the management interfaces for SDI
 - 6.2 Describe the REST API functions available through the CCM interface
 - 6.3 Create and manage vPOD using the SDI manager
 - 6.4 Create networks for vPOD connectivity using SDI manager
 - 6.5 Describe asset management using SDI manager
- 7 Explain and manage the fault management functions of SDI
 - 7.1 Explain the alarm Operating Instruction (OPI) and Check alarms
 - 7.2 Explain and perform health check
 - 7.3 Explain the log management and possibility to create external log server
- 8 Explore the process of performance and software management in HDS
 - 8.1 Describe the backup and restore procedure
 - 8.2 Describe the metrics charts and its use
 - 8.3 Explain the data collection guidelines

Target audience:

This course is suitable for anyone who is required be able to administer Ericsson Software Defined Infrastructure .

Prerequisites:

Successful completion of the following courses:

Ericsson Software Defined Infrastructure Overview-LZU108XXXX

Duration and class size:

The length of WBL component(s) is approximately 1 hour and the maximum.

The length of ILT component is 2 days and the maximum number of participants per session is 8.

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Cloud Ecosystem Support-Ericsson Intelligent Assets Overview

LZU1082846 R1A

Description:

Ericsson Cloud Ecosystem Support (CES) provides our customers with a single point of accountability for solution support tasks including e.g. ecosystem fault isolation, issue & emergency recovery services, root cause analysis, management of the integrity of our customers solution and vendor coordination.

This course would give the overview of this service and gives an introduction to what is being offered.

Learning situation:

This is a Web-Based Learning.

This is a self-paced interactive learning with multimedia content, delivered online.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Familiarize with the offering of CES.
 - 1.1 Understand the driver for the NFV Transformation
 - 1.2 Describe the multiple support area: Ecosystem Support, Multi-Vendor Handling, Sw Update Management, Success Options and Support for DevOps
- 2 Highlight the benefit of the CES
 - 2.1 Identify the difference between Product Support vs Cloud Ecosystem Support
 - 2.2 Acknowledge the Value Added Service
 - 2.3 Understand the value of CES
- 3 Describe the components of the CES
 - 3.1 Analyze the Cloud Network Analyzer and it's use case
 - 3.2 Understand the Call Flow Analyzer and it's use case



Target audience:

This course is suitable for anyone who is required to be familiar with Cloud Ecosystem Support

Prerequisites:

Successful completion of the following courses:

N/A

Duration and class size:

The length of the course is approximately 1 hour.



Ericsson Orchestrator Fundamentals

LZU1082838 R1A

Description:

This is a web based learning training session covering a high level overview of EO features and use-case demonstrations.

Learning situation:

This is a Web-Based Learning.

This is a self-paced interactive learning with multimedia content, delivered online.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Recall the transformation story of Telco Cloud
- 2 Describe the features of Ericsson Orchestrator in terms of VFNM and NFVO and Service Orchestration
- 3 Summarize the Ericsson Orchestrator components and value packs.
- 4 State the reference Ericsson Orchestrator architecture
- 5 Discuss the relationship EO had with both NFVi and Dynamic Orchestration solutions.
- 6 Demonstrate how EO fulfills Resource Orchestration
- 7 Demonstrate how EO fulfills internal and external VFNM
- 8 Demonstrate how EO fulfills Service Orchestration
- 9 Demonstrate how EO fulfills Fault Management
- 10 Demonstrate how EO fulfills Performance Management



Target audience:

This course is suitable for anyone who is required to be familiar with Ericsson Orchestrator.

Prerequisites:

Successful completion of the following courses:

None

Duration and class size:

The length of the course is days and 1 hours and the maximum number of participants is 1



Ericsson Orchestrator R18 Cloud Manager Operations

LZU1082835 R1A

Description:

Ericsson Orchestrator - Cloud Manager provides an integrated platform for managing lifecycle of NFV and IT workloads in a geographically distributed cloud infrastructure and enables secure and hierarchical multi-tenancy for cloud infrastructure. Cloud Manager is a component of Ericsson Orchestrator.

In this course you will learn how Cloud Manager provides internal and external VNF Manager support (VNFM). Also, you will learn how tenants, sub-tenants and users interact with multiple Infrastructure Zones to manage various virtual assets used for Virtualized Network Services and Virtualized Network Functions with open and standards-based interfaces

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Introduce Ericsson Orchestrator - Cloud Manager
 - 1.1 Differentiate between Cloud Manager software components.
 - 1.2 State the logical architecture of Cloud Manager
- 2 Navigate the Cloud Manager interface
- 3 Manage tenant(s)/Sub-Tenant(s) and User(s).
 - 3.1 Define tenants in Ericsson Orchestrator
 - 3.2 Explain the concept of a Project, and Project Type in relation to a Cloud Manager Tenant
 - 3.3 Relate Provider Administrator, Tenant and Sub-Tenant hierarchies
- 4 Manage Virtual Assets in EO - Cloud Manager
- 5 Examine the ETSI MANO reference architecture and interfaces.
 - 5.1 Distinguish between ETSI MANO "or-vnfm support" in Cloud Manager and proprietary instantiation use cases
- 6 Manage Virtual Assets in EO - Cloud Manager via VNF Packages & Templates
- 7 Discuss Use Cases for implementing Custom Workflows
- 8 Review service impacting fault management alarms in Cloud Manager.



- 8.1 Locate FM data in Cloud Manager.
- 9 Practice running Performance Management tasks on assets deployed on NFVI
- 9.1 Locate PM data in Cloud Manager.

Target audience:

This course is suitable for anyone who is required be able to configure/operate/maintain Ericsson Orchestrator - Cloud Manager

Prerequisites:

Successful completion of the following courses:

None

Duration and class size:

The length of the course is 3 days and the maximum number of participants per session is 8.



Ericsson Orchestrator R18 System Administration

LZU1082834 R1A

Description:

In this course you will learn about how to manage a running Ericsson Orchestrator deployment. Performing health checks, housekeeping and standard operating procedures.

Learning situation:

This is an Instructor-Led Training.

This course is based on theoretical and practical instructor-led lessons given in a technical environment using equipment and tools.

Learning objectives:

On completion of this course the participants will be able to:

- 1 Outline EO-CM Architecture.
 - 1.1 Discuss the logical architecture of EO Cloud Manager.
 - 1.2 Review the physical architecture of EO Cloud Manager.
 - 1.3 State relevant deployment models and dimensioning requirements for EO Cloud Manager.
- 2 Identify EO-CM installation and configuration requirements.
 - 2.1 Review the EO Cloud Manager installation process.
 - 2.2 Perform post-installation configuration activities.
- 3 Implement user administration tasks.
 - 3.1 Manage a multi-tenant and multi-project environment.
 - 3.2 Create and manage user-groups.
 - 3.3 Manage user roles via OpenDJ
 - 3.4 Create a custom role
 - 3.5 Review password maintenance processes (system account/users)
- 4 Demonstrate system administration tasks.
 - 4.1 Locate log files for all main EO-CM components
 - 4.2 Onboard vendor templates and set definitions for Service Configuration Management objects.
 - 4.3 Manage characteristics for a Tenant and VIM zone
 - 4.4 Add and modify configuration in the CMDB
 - 4.5 Perform VIM zone management (Configure EO-CM with an external VIM network ID)
- 5 Summarize troubleshooting tasks.



- 5.1 Health-check/Troubleshoot EO Cloud Manager: (Core , Activation, CA, CWF, NS LCM virtual machines)
- 5.2 Execute CLI commands to verify base and value packs components status
- 5.3 Execute CLI commands to stop/start base and value packs components
- 5.4 Verify order status in Core VM and Activation VM components
- 5.5 View order-related logs in Core VM and Activation VM components
- 5.6 View process-related logs in Core VM and Activation VM components

Target audience:

This course is suitable for anyone who is required be able to administer Ericsson Orchestrator.

Prerequisites:

Successful completion of the following courses:

Ericsson Orchestrator R18 Cloud Manager Operations-LZU1082835

Duration and class size:

The length of the course is 2 days and the maximum number of participants per session is 8.