HCIA-Cloud Computing

Huawei Certified ICT Associate-Cloud Computing
To train and certify engineers who are capable of using virtualization and virtual desktop technologies for cloud computing deployment and O&M

Overview

Have a good command of cloud computing basics, virtualization, and virtual desktops. Be able to use virtualization and virtual desktop technologies for cloud computing deployment and O&M

Objectives

On completion of this program, the participants will be able to:

➢ Describe what cloud computing is.
➢ Describe the history of cloud computing.
➢ List a few use cases of cloud computing.
➢ Describe the characteristics of cloud computing.
➢ Be able to describe what virtualization is.
➢ Understand the differences between virtualization and cloud computing.
➢ Understand KVM technology.
➢ Be able to design and deploy Huawei's FusionCompute virtualization solution and FusionAccess desktop solution.

HCIP-Cloud Computing

Huawei Certified ICT Professional-Cloud Computing
The HCIP-Cloud Computing V5.0 course aims to cultivate senior cloud computing operations engineers who are capable of using clouds and senior cloud computing O&M engineers who are capable of managing clouds

Overview

Upon completion of this course, trainees will have learned the knowledge of open source OpenStack and basic IaaS services of HUAWEI CLOUD Stack, and been able to perform operations and O&M on open source OpenStack and HUAWEI CLOUD Stack

Objectives

On completion of this program, the participants will be able to:

- ➢ Understand the OpenStack architecture and the working principles and invocation relationships of key OpenStack components.
- ➢ Understand the HUAWEI CLOUD Stack architecture and the relationship and differences
- ➢ between HUAWEI CLOUD Stack and open-source OpenStack.
- ➢ Have a good command of the principles and usage of basic IaaS services, such as computing, storage, and network services of HUAWEI CLOUD Stack.
- ➢ Understand HUAWEI CLOUD Stack operation and O&M concepts, and master HUAWEI CLOUD
- ➢ Stack operation and O&M management methods.

Training Content

HCIP-Cloud Computing V5.0
- ➢ OpenStack Architecture
  - ▪ OpenStack Overview
  - ▪ OpenStack Architecture
  - ▪ Introduction to OpenStack Core Services
  - ▪ Example of interaction between core OpenStack projects
- ➢ OpenStack GUI Management
  - ▪ Horizon Overview
  - ▪ Horizon Architecture
  - ▪ Introduction to the Horizon GUI
- ➢ OpenStack Authentication Management

- Keystone Overview
- Keystone Architecture
- Keystone Object Model
- Keystone Working Principle and Process
- OpenStack Image Management
  - Glance Overview
  - Glance Architecture
  - Glance Working Principle and Process
  - Creating a Glance Image
- OpenStack Computing Management
  - Nova Overview
  - Nova Architecture
  - Nova Working Principle and Process
  - Typical Nova Operations
- OpenStack Storage Management
  - OpenStack Storage Overview
  - Cinder: Block Storage
  - Swift: Object Store
- OpenStack Network Management
  - Linux Network Virtualization Foundations
  - Neutron Overview
  - Neutron Concepts
  - Neutron Architecture
  - Typical Neutron Operations and Processes
  - Neutron Network Traffic Analysis
- OpenStack Orchestration Management
  - Heat Overview
  - Heat Architecture
  - Typical Heat Orchestration Scenarios
- OpenStack Metering Management
  - Ceilometer Overview
  - Ceilometer Architecture
  - Ceilometer Data Management
- HUAWEI CLOUD Stack Architecture and Components
  - HUAWEI CLOUD Stack Solution and Architecture
  - HUAWEI CLOUD Stack Components and Public Components
- Service OM Resource Management
  - Service OM Overview
  - Service OM Computing Resource Management
  - Service OM Storage Resource Management
  - Service OM Network Resource Management
- HUAWEI CLOUD Stack Service Overview
  - Introduction to Cloud Service
  - Introduction to HUAWEI CLOUD Stack IaaS Services
  - Cloudification Cases
- Introduction to HUAWEI CLOUD Stack Computing Service

- HUAWEI CLOUD Stack Basic Computing Service Overview
- Introduction to HUAWEI CLOUD Stack Computing Service
- Computing Services Practices

➢ Introduction to HUAWEI CLOUD Stack Storage Service
- HUAWEI CLOUD Stack Basic Storage Service Overview
- Introduction to HUAWEI CLOUD Stack Storage Service
- Storage Solution Design

➢ Introduction to HUAWEI CLOUD Stack Network Services
- HUAWEI CLOUD Stack Network Service Overview
- Common Network Services on the Cloud
- Interworking Service
- Value-added Services
- Network Solution Design

➢ HUAWEI CLOUD Stack Operation
- Operation Overview
- Resource & Organization
- Service Supply
- Metering and Pricing
- Tenant O&M
- Multi-cloud Management

➢ HUAWEI CLOUD Stack O&M
- O&M Overview
- O&M Function - Collection and Control Layer
- O&M Function - Platform Layer
- O&M Function - O&M Scenario Layer

HCIE-Cloud Computing

Huawei Certified ICT Expert-Cloud Computing
Cloud Computing V3.0 is designed to cultivate and certify cloud infrastructure experts capable of cloud construction, use, and management, and cloud software architecture experts capable of planning service cloud migration, designing cloud native, and ensuring high reliability

Overview

Passing the certification means that you are capable of planning and designing cloud computing architectures, deploying and migrating services to the cloud. The certificate is also proof of your qualification for positions such as cloud infrastructure expert and cloud software architecture expert

Objectives

On completion of this program, the participants will be able to:

 Have general knowledge of the overall architecture of HUAWEI CLOUD Stack and typical application scenarios of HUAWEI CLOUD Stack IaaS and high-level services.
 Understand the HUAWEI CLOUD Stack deployment solution and network traffic model, and master the planning, design, and deployment capabilities of HUAWEI CLOUD Stack.
 Have a good command of HUAWEI CLOUD Stack troubleshooting, resource management, and upgrade capabilities.
 Master the capability of migrating services to the cloud.
 Have a good command of open-source container and container orchestration technologies and be able to apply container technologies in HUAWEI CLOUD Stack.

Training Content

HCIE-Cloud Computing V3.0 Training
- ➢ HUAWEI CLOUD Stack Solution Introduction
    - o Cloud Computing Development Background
    - o HUAWEI CLOUD Stack Features
- ➢ HUAWEI CLOUD Stack Planning and Design
    - o HUAWEI CLOUD Stack Delivery Overview
    - o Requirement survey and resource planning
    - o HUAWEI CLOUD Stack Standard Networking
    - o HUAWEI CLOUD Stack Standard Configuration
- ➢ HUAWEI CLOUD Stack Network Traffic Details
    - o VXLAN Overview

- o   Internal network structure of HUAWEI CLOUD Stack nodes
- o   Traffic Direction of HUAWEI CLOUD Stack Network Services
- ➢ HUAWEI CLOUD Stack LLD Design
  - o   Design Overview
  - o   Overall Architecture Design
  - o   Network Design
  - o   Deployment Design
  - o   Resource design
  - o   Service Design
- ➢ Introduction to HUAWEI CLOUD Stack Deploy
  - o   Introduction to HUAWEI CLOUD Stack Deploy
  - o   Functions of HUAWEI CLOUD Stack Deploy
- ➢ HUAWEI CLOUD Stack Deployment Practice
  - o   HUAWEI CLOUD Stack Deployment Practice
- ➢ Capacity Expansion of HUAWEI CLOUD Stack Resources and Services
  - o   Introduction to HUAWEI CLOUD Stack Capacity Expansion Project
  - o   Expanding the management scale of HUAWEI CLOUD Stack
  - o   Capacity Expansion and Reduction of HUAWEI CLOUD Stack Computing Resources
  - o   HUAWEI CLOUD Stack Cloud Service Capacity Expansion
- ➢ HUAWEI CLOUD Stack Troubleshooting
  - o   General Troubleshooting Principles
  - o   Common HUAWEI CLOUD Stack Troubleshooting
- ➢ HUAWEI CLOUD Stack Version Upgrade
  - o   HUAWEI CLOUD Stack Version Upgrade
  - o   Procedure for Upgrading HUAWEI CLOUD Stack Versions
- ➢ HUAWEI CLOUD Stack Contingency Plan
  - o   Emergency Plan Introduction
  - o   IaaS Contingency Plan
- ➢ Service migration to the cloud
  - o   Overview of Huawei Service Migration Solution
  - o   Introduction to Rainbow Migration Tool
  - o   Huawei Service Migration Cases
- ➢ Introduction to HUAWEI CLOUD Stack DR Service
  - o   DR Solution Overview
  - o   Introduction to the Backup Solution
  - o   DR Solution Introduction
  - o   DR Solution Architecture
  - o   Management Component DR Solution
  - o   Introduction to Advanced Cloud Service DR
- ➢ Introduction to Cloud Native

- o Introduction to Cloud Native
- o Introduction to Cloud Native Services in HUAWEI CLOUD Stack
- ➢ Container details
    - o What's the container
    - o How the container works
    - o Container Management
    - o Container network
    - o Container storage
    - o Container image
    - o Dockerfile Details
- ➢ Container orchestration
    - o Problems faced by a single-node container
    - o Introduction to Kubernetes
    - o Kubernetes Installation
    - o Basic Operations on Kubernetes Objects
    - o Kubernetes YAML File Writing Basics
    - o Kubernetes Common Workloads
    - o Introduction to Kubernetes Scheduler
    - o Introduction to Helm
- ➢ Introduction to the CCE
    - o CCE Technical Architecture
    - o CCE Feature Introduction
    - o Introduction to CCE Management
- ➢ HUAWEI CLOUD Stack Security Solution
    - o Introduction to Cloud Computing Security
    - o HUAWEI CLOUD Stack Security Solution Overview
- ➢ HUAWEI CLOUD Stack Network Security
    - o Network Security Overview
    - o Network Security Services