

VMware Integrated OpenStack: Install, Configure, Manage

Course Overview

This five-day course provides you with the skills to build a private cloud using VMware® Integrated OpenStack on a proven VMware SDDC. Through a combination of lecture and hands-on labs, this course builds your skills in installing, configuring, and managing VMware Integrated OpenStack. You learn how to offer IaaS and PaaS with advanced networking and security features to end users using VMware Integrated OpenStack.

Course Objectives

By the end of the course, you should be able to meet the following objectives:

- Describe how VMware Integrated OpenStack fits into the VMware SDDC and its use cases
- List the deployment options and how to install VMware Integrated OpenStack
- Describe the architecture of VMware Integrated OpenStack and its components
- Configure tenancy and manage user authentication
- Integrate the OpenStack Neutron Networking service with VMware NSX-T™ Data Center networking platform
- Deploy and manage virtual machine instances
- Monitor VMware Integrated OpenStack with OpenStack monitoring services
- Design an auto-scale, multitier application using built-in automation tools
- Manage a VMware Integrated OpenStack control plane using Kubernetes
- Use the HTML5 Web UI and CLI commands to view and edit the configuration, monitor log files, and view database tables used by VMware Integrated OpenStack components

Target Audience

Cloud architects, systems engineers, data center administrators, and cloud administrators with experience in a service provider or managed services environment.

Prerequisites

This course requires the completion of the following courses:

- [VMware vSphere: Install, Configure, Manage \[V7\]](#) or equivalent knowledge
- [VMware Integrated OpenStack Fundamentals \[V6\]](#)
- [VMware Network Virtualization Fundamentals \[2017\]](#)

Substantial knowledge of Linux administration and TCP/IP networking is helpful.

Course Delivery Options

- Classroom
- Live Online
- [Onsite](#)

Product Alignment

- VMware Integrated OpenStack 7.0

Course Modules

1 Course Introduction

- Introductions and course logistics
- Course objectives
- References and resources

2 Introduction to VMware Integrated OpenStack

- Describe what an OpenStack is
- Describe the services that make up VMware Integrated OpenStack
- Describe what VMware Integrated OpenStack is
- Describe what is NFV and how does VIO fit in
- Understand the licensing model of VIO
- Understand the use cases of VMware Integrated OpenStack

3 VMware Integrated OpenStack Deployment

- Understand the role of Kubernetes in the VIO control plane
- List the VMware Integrated OpenStack deployment models
- How to perform VIO high-availability deployment
- How to perform VIO compact installation
- Pre-requisites for installing VMware Integrated OpenStack
- How to use the HTML5 web UI / VIOCLI to check the deployment configurations and deployment running status
- Explain steps involved in patching VIO high availability setup

4 VMware Integrated OpenStack Architecture

- List the VMs deployed after a VMware Integrated OpenStack high-availability installation
- Describe the overall architecture of the VIO HA setup
- List the VIO services running within Kubernetes pods
- Describe the role of each service
- Understand SSL certificates in VIO

5 Keystone Authentication

- Understand keystone use cases and services
- List the features offered by keystone in VIO
- How to integrate keystone with LDAP
- List the configuration, view logs, and database tables related to keystone

6 Glance Images

- Understand Glance use case and its services
- List the features offered by Glance in VIO
- Explain how to create flavors and images
- Describe how to set up metadata, for example SPBM storage policy
- List the custom resources/logs and database tables related to Glance

7 Networking with Neutron

- Understand the Neutron use case and its services
- Integrate Neutron with NSX-T Data Center
- List the custom resources, logs, and database tables related to Neutron

8 Managing Instances with Nova

- Understand Nova use cases and services
- Understand regions, availability zones, and host aggregates
- Understand the concept of tenant VDC
- Nova support for multiple vCenter instances
- How to deploy an instance using Nova
- How to resize an instance and view the console logs
- Configuration and logs related to Nova service

9 Cinder Block Storage

- Understand Cinder use cases and services
- List the features offered by Cinder
- Adding a persistent volume to an instance
- Explain the Snapshot of a Cinder volume and attach it to another instance
- List the custom resources, log files, and database tables related to Cinder



VMware, Inc. 3401 Hillview Avenue Palo Alto CA 94304 USA Tel 877-486-9273 Fax 650-427-5001 www.vmware.com

© 2020 VMware, Inc. All rights reserved. The product or workshop materials is protected by U.S. and international copyright and intellectual property laws. VMware products are covered by one or more patents listed at <http://www.vmware.com/download/patents.html>. VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.

VMware warrants that it will perform these workshop services in a reasonable manner using generally accepted industry standards and practices. THE EXPRESS WARRANTY SET FORTH IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE SERVICES AND DELIVERABLES PROVIDED BY VMWARE, OR AS TO THE RESULTS WHICH MAY BE OBTAINED THEREFROM. VMWARE WILL NOT BE LIABLE FOR ANY THIRD-PARTY SERVICES OR PRODUCTS IDENTIFIED OR REFERRED TO CUSTOMER. All materials provided in this workshop are copyrighted by VMware ("Workshop Materials"). VMware grants the customer of this workshop a license to use and make reasonable copies of any Workshop Materials strictly for the purpose of facilitating such company's internal understanding, utilization, and operation of its licensed VMware product(s). Except as set forth expressly in the sentence above, there is no transfer of any intellectual property rights or any other license granted under the terms of this workshop. If you are located in the United States, the VMware contracting entity for the service will be VMware, Inc., and if outside of the United States, the VMware contracting entity will be VMware International Limited.

10 Monitoring with Ceilometer

- List the Telemetry use cases and services
- How to enable Ceilometer in VIO
- How to monitor the VIO environment using Ceilometer
- Configuration and log files related to Ceilometer service

11 Automating with Heat

- Define Heat use cases, templates, and services
- Describe use cases of Heat

12 Troubleshooting Concepts

- List common issues in VMware Integrated OpenStack
- Use troubleshooting tools
- Describe simple troubleshooting procedures
- List and explain Day-2 operations

13 Advanced Features

- Describe Load Balancer as a Service (Octavia)
- Explain Firewall as a Service
- Describe Designate (DNS as a Service)
- Describe automating scaling
- Describe selective vCPU pinning
- Explain SRIOV network redundancy support
- Describe network trunk services support
- Describe Live resize
- Describe hardware passthrough (GPU pass through)
- Describe external REST API

Contact

If you have questions or need help registering for this course, click [here](#).



VMware, Inc. 3401 Hillview Avenue Palo Alto CA 94304 USA Tel 877-486-9273 Fax 650-427-5001 www.vmware.com
© 2020 VMware, Inc. All rights reserved. The product or workshop materials is protected by U.S. and international copyright and intellectual property laws. VMware products are covered by one or more patents listed at <http://www.vmware.com/download/patents.html>. VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.

VMware warrants that it will perform these workshop services in a reasonable manner using generally accepted industry standards and practices. THE EXPRESS WARRANTY SET FORTH IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE SERVICES AND DELIVERABLES PROVIDED BY VMWARE, OR AS TO THE RESULTS WHICH MAY BE OBTAINED THEREFROM. VMWARE WILL NOT BE LIABLE FOR ANY THIRD-PARTY SERVICES OR PRODUCTS IDENTIFIED OR REFERRED TO CUSTOMER. All materials provided in this workshop are copyrighted by VMware ("Workshop Materials"). VMware grants the customer of this workshop a license to use and make reasonable copies of any Workshop Materials strictly for the purpose of facilitating such company's internal understanding, utilization, and operation of its licensed VMware product(s). Except as set forth expressly in the sentence above, there is no transfer of any intellectual property rights or any other license granted under the terms of this workshop. If you are located in the United States, the VMware contracting entity for the service will be VMware, Inc., and if outside of the United States, the VMware contracting entity will be VMware International Limited.