



Certificate in Kubernetes and Docker

Vskills Certifications

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Certificate in Kubernetes and Docker

Containers provide portable environments for hosting an application, or parts of an application. Docker is a set of platform as a service products that use OS-level virtualization to deliver software in packages called containers. Containers are isolated from one another and bundle their own software, libraries and configuration files; they can communicate with each other through well-defined channels.

Kubernetes is an open-source container-orchestration system for automating computer application deployment, scaling, and management.

This certification covers the popular container platform and their management - Kubernetes and Docker.

Pre-requisite: Basic knowledge of Linux Command line

Note: Please note that the course comes with online e-learning (videos) only. No hard copy will be provided.

Why should one take this certification?

Kubernetes and Docker are the de facto technology for containers and their management. They have gained popularity with the rise in cloud computing, virtualization and anything-as-a-service.

The course covers

- Container Basics
- Docker, Dockerfiles and Docker Compose files
- Docker CLI
- Containerize and deploy web applications
- Docker Swarm Cluster
- Kubernetes
- Single node Kubernetes cluster using Minikube
- Multi-node cluster on Cloud using Kubeadm
- Deploy, Scale, Update, Schedule containers with advanced Kubernetes orchestration options
- Containerize and Deploy multi-tier applications
- On-premise vs Kubernetes as a managed service
- Google Kubernetes Engine and Azure Container Service

Who will benefit from taking this certification?

The certification is apt for professionals and senior executives in IT management or administration with emphasis on containerization and cloud computing.

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Test Details

- **Duration:** 60 minutes
- **No. of questions:** 50
- **Maximum marks:** 50, Passing marks: 25 (50%)

There is no negative marking in this module.

Fee Structure

Rs. 3,499/- (Excludes taxes)*

*Fees may change without prior notice, please refer <http://www.vskills.in> for updated fees

Table of Contents

1. Introduction to Container

- 1.1 Making a Web Application
- 1.2 A Forest of Virtual Machines (VMs)
- 1.3 Hello Containers
- 1.4 Hello Docker!

2. Docker Architecture and Dockerfiles

- 2.1 Stages of Containerization
- 2.2 Working of Docker
- 2.3 A Quick Look at the Format of a Dockerfile

3. Docker Images and Containers

- 3.1 Understanding Docker Images
- 3.2 Working with Docker Images
- 3.3 Container lifecycle

4. Docker Networks

- 4.1 Multi-container Applications and Introduction to Networking in Docker
- 4.2 Container Networking Model (CNM) of Docker
- 4.3 Docker's Native Network Drivers
- 4.4 Demo: Creating Docker Networks
- 4.5 Ping One Container from another

5. Storage with Docker

- 5.1 Never Lose a "Bit" of Your Data
- 5.2 Working with Volumes
- 5.3 Bind Mounts

6. Docker Compose

- 6.1 Docker Compose
- 6.2 Structure and Setting up Docker Compose

7. Container Orchestration with Docker Swarm.

- 7.1 Introduction to Container Orchestration and Docker Swarm
- 7.2 Handling Swarm Failure

8. Introduction to Kubernetes

- 8.1 What about the More Popular One?
- 8.2 Kubernetes: An Origin Story
- 8.3 Kubernetes: Architecture

9. Understanding Container Orchestration with Pods

- 9.1 What are Pods?
- 9.2 Operating Kubernetes
- 9.3 Working with Pods
- 9.4 Lifecycle of a Pod
- 9.5 Labels, Selectors, and Namespaces

10. Kubernetes Workloads

- 10.1 Kubernetes Controllers – Concept and Types
- 10.2 ReplicaSets
- 10.3 Introduction to Deployments
- 10.4 Introduction to Jobs

11. Networking and Storage with Kubernetes

- 11.1 Introduction to Services and Service Types
- 11.2 ClusterIP Services and NodePort Services
- 11.3 Storage in Kubernetes

12. Advanced Orchestration with Kubernetes

- 12.1 Node Eviction from a Kubernetes Cluster
- 12.2 Taints and Tolerations

13. Managed Kubernetes as a Service on the Cloud.

- 13.1 Setting up a Google Kubernetes Engine (GKE) Cluster
- 13.2 Persistent Volume and Load Balancing on GKE
- 13.3 Kubernetes on Microsoft Azure Cloud
- 13.4 Docker GUI with Kitematic
- 13.5 Minikube

14. Serverless Kubernetes

- 14.1 Introduction to Serverless Kubernetes

Certifications

- ▶ **Accounting, Banking & Finance**
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 - Certified IT Support Professional
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 - Certified iPhone Apps Developer
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 - Certified Network Security Professional
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 - Certified Corporate Social Responsibility Professional
 - Certified Leadership Skills Professional
- ▶ **Life Skills**
 - Certified Business Communication Specialist
 - Certified Public Relations Officer
- ▶ **Media**
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 - Certified Advertising Sales Professional
- ▶ **Sales, BPO**
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 - Certified Telesales Executive

& many more job related certifications

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