



Kubernetes Master Class - TOC



Name: Kubernetes Master Class

Description: Kubernetes, also known as K8s, is an open-source system for automating deployment, scaling, and management of containerized applications. Helm is a package manager for Kubernetes applications. This master class contains hands-on on how to use Kubernetes for deployment, scaling, managing containerized applications and how to use Helm package manager.

Pre-requisites: Participants must complete min 70% Kubernetes for Developer Pathway (<https://degreed.com/pathway/39zrvlmzpq?orgsso=capgemini>) learning or complete the Post Assessment Test of pathway. Min 50 % score is excepted. For Helm, participants must complete one additional Pluralsight course 'Packaging Applications with Helm for Kubernetes'. The link for this course is <https://app.pluralsight.com/course-player?clipId=95ca9afd-8d27-4560-910b-ce2d91d75c6f>.

Pre-requisite for Learning Kubernetes: To understand Kubernetes participants will have to complete first Docker Pathway. The link for docker pathway is - <https://degreed.com/pathway/3pmez2n38n?path=docker>

Duration: 16 hours

Table of Contents:

- Installation and Configuration of Kubernetes Cluster
- Deploying node js application by Creating Pods - Using Kubectl and Using YAML
- Exploring deployed application-Viewing Pods and Nodes
- Creating and using Service to expose your application publicly
- Troubleshooting Kubernetes applications using the kubectl get, describe, logs and exec commands
- Scaling up and down an application
- Performing rolling updates of your application
- Configuring a Pod to use a PersistentVolume for Storage
- Deploying stateful application with StatefulSet
- Implementing routing using ingress routing
- Ensuring containers health using Liveness and Readiness probes

- Installing and configuring Helm
- Building Helm Charts
- Deploying, versioning, releasing and rollback to previous release using Helm
- Customizing Charts with Helm Templates
- Using existing Helm Charts

Outcome: After completion of this master class, participants will be able to deploy, scale, manage containerized applications using Kubernetes and use Helm package manager.