 **Kubernetes TOC – 5 Days**

**Module 1**

Introduction to Kubernetes

Brief history of Deployment era

Features of Containers

Introduction to Kubernetes

Working of Kubernetes (overview)

Installation of Kubernetes

**Module 2**

Kubernetes Architecture

Understand Kubernetes Architecture

What are Kubernetes objects?

What are YAML files?

Name, Namespaces, Labels & selectors , Annotations

**Module 3**

Introduction to Pods and Services

What are Pods?

What are Replication Controllers?

What is a Deployment?

Introduction to Kube Services and its types

Stateful and Demon sets

Jobs

ExternalName

**Module 4**

Introduction to Volumes

What are volumes?

Types of volumes

Persistent volumes

Introduction to secrets

Taints and tolerations

**Module 5**

Ingress, Dashboard and Kubernetes best security practices

What is Ingress

What is a Kubernetes Dashboard?

Setting up Kubernetes Dashboard

Security practices for Kubernetes

**Module 6**

Monitoring

Introduction to Federation

Kubernetes Monitoring

Setting up Prometheus

Setting up Grafana

**Module 7: Getting started with Openshift**

How OpenShift, Kubernetes and docker work together?

Accessing your cluster and logging in

Creating projects and deploying applications

Accessing your application by creating routes

Investigating application components

**Module 8: Using Helm to Automate Microservices Deployment on Kubernetes**

Understanding Helm Basics and Setting up Kubernetes Cluster

Using Helm Charts to deploy to Kubernetes

Using Helm Charts to manage Releases to Kubernetes Cluster