DevOpsSchool
Lets Learn, Share & Practice DevOps

Day - 1	Day - 2
o Understanding the Need of Kubernetes o Understanding Kubernetes Architecture o Understanding Kubernetes Masters and its Component o Understanding Kubernetes Nodes and its Component o Understand Kubernetes Concepts o Understand Kubernetes Terminology o Kubernetes Clusters Requirements o Understanding Kubernetes Clusters using kubeadm o Demo: Installing and Configuring Kubernetes Master o Demo: Installing and Configuring Kubernetes Workers o Demo: Install and Configure Workstation using Kubectl o Understanding a concept of Namespace o Demo: Define your first Kubernetes pod o Demo: Working and Deep Dive with Kubernetes pod	o **Understanding Kubernetes replication controllers** o **Demo: Define your first replication controllers** o **Demo: Working with Kubernetes replication controllers** o **Understanding Kubernetes deployments** o **Demo: Define your first deployment** o **Demo: Working and Deep Dive with Kubernetes deployment** o **Understanding Kubernetes Lebels** o **Demo: Define your first Kubernetes Lebels** o **Demo: Working with Kubernetes Lebels** o **Understanding Kubernetes Services** o **Demo: Define your first Kubernetes Services** o **Demo: Working and Deep Dive with Kubernetes Services** o **Demo: Deploy a Java Stake app using Kubernetes** o **Demo: Deploy a Nodejs Stake app using Kubernetes**

Day - 3	Day - 4
o Understanding Kubernetes Volumes	o **What is a Kubernetes Pod networking?**
o Understanding Types of Volumes	o **How does networking work in Kubernetes?**
o Static and Dynamic Provisioning	o **How to implement Kubernetes networking?**
o Understanding Persistent Volume and Persistent Volume Claim	o **The Kubernetes network model**
o Understanding ConfigMap and Secret	o **Kubernetes Network Plugins**
o Understanding Storage Class	o **Understanding Flannel Network Plugins**
o Demo: Working with Persistent Volume and Persistent Volume Claim	o **Understanding Project Calico Network Plugins**
o Demo: Working with ConfigMap and Secret	o **Understanding Weave Net Network Plugins**
o Demo: Storage Class	o **Demo: Implementing Project Calico Network Plugins**
o Understanding StatefulSet and DaemonSet	o **Understanding Ingress and Ingress Controllers**
o Understanding CronJob and Job	o **Understanding Network Policies**
o Demo: Working with Working StatefulSet	o **Understanding DNS for Services and Pods**
o Demo: Working with DaemonSet	o **Demo: Implementing Ingress and Ingress Controllers**
o Demo: Working with CronJob	o **Demo: Implementing Network Policies**
o Demo: Working with Job	o **Understanding Kubernetes Authentication**
o Demo: Stateless Example: PHP Guestbook with Redis	o **Understanding Kubernetes Authentication Modules**
	o **Understanding Kubernetes Authorization**
	o **Demo: Using RBAC Authorization**
	o **Demo: Using ABAC Authorization**

Day - 5

- Understanding Kubernetes Pods Observability
- Demo: Pods LivenessProbes and Readiness Probes
- Demo: Pods LivenessProbes and ReadinessProbes
- Demo: Static Pods
- Demo: Assign Pods to Nodes using nodeselector
- Demo: Assign Pods to Nodes using node Affinity
- Demo: Working with Kubernetes Addons(Dashboard)
- Demo: Upgrading the Kubernetes Cluster
- Demo: Kubernetes Cluster Node Maintainance
- Demo: Backing Up and Restoring a Kubernetes Cluster
- Demo: Troubleshooting Application Failure
- Troubleshooting Control Plane Failure
- Troubleshooting Worker Node Failure
- Troubleshooting Networking
- Monitoring the Cluster Components
- Monitoring the Applications Running within a Cluster
- Managing Cluster Component Logs
- Managing Application Logs
- Project