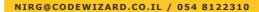




visitors 42058







Kubernetes

	Level	Duration
®	Introduction/Advanced	3 days

Course Description

Audience and prerequisites

This course is for DevOps developers who is intend or are currently working with K8S

Main Goals

- The main objective of this course is to get familiar with Kubernetes in a depth level
- Learn Containers and Kubernetes Fundamentals its architecture of (Control plane, components, worker nodes and more)
- Practice K8S Cluster Operations.
- HandsOn: deploying multiple resources & applications into Kubernetes.
- Become familiar with K8S YAML files & Kubernetes objects
- Understand Kubernetes core concepts & Objects.
- · Use kubectl, the Kubernetes CLI, and become familiar with its commands and options
- · Learn how to troubleshoot Kubernetes

Content

Session	Content	
Introduction		
	♦ What is K8s?	
	 Kubernetes Overview 	
	 Introduction to Container Orchestration 	
	◆ Kubernetes Architecture	
	 Kubernetes Core Concepts 	
Getting Started with Kubernetes		
	◆ Labels & Selectors	
	 Kubernetes Clusters (tools for our HandsOn Labs) 	
	minikube	
	♦ limactl	
	Rancher	
	♦ k3d / microk8s / kind	
Kubernetes CLI		
	♦ kubectl	
	◆ Commands	
	◆ JSONPath	
Common Kubernetes Objects		
	◆ Config files	
	◆ DaemonSet	
	◆ Deployments	
	◆ Jobs	
	◆ Pods	
	 ReplicaSets (+ Rolling update) 	
	◆ StatefulSets	
	◆ Services	
	◆ CRD	
Scaling Kubernetes / Auto-Scaling		
Manage Cluster content	A Donlov multiple revisions	
	Deploy multiple revisions	

	Replica (sets, controller, etc)
	 Update / Upgrade existing container
	◆ Rollout
	• init Containers
Health Checking	
	◆ Liveness
	◆ Readiness
	◆ Resources
Kubernetes Networking	
	◆ Services
	◆ Ingress / Egress
	Network Policy
	 ClusterIP, NodePort, and LoadBalancer
	 Networking within a pod
	◆ Pod-to-Pod Networking
	Ingress controllers
	 DNS & Service Discovery
Stateful Applications in Kubernetes	
	 Stateless versus Stateful
	◆ Volumes
	 Persistent volumes claims
	StorageClasses
	StatefulSets
Configuration	
	◆ etcd
	♦ Secrets
	◆ ConfigMap
	Dynamic configuration
	◆ Jobs, CronJobs
Security	
	◆ RBAC
	SecurityContext

Auditing logs events debugging High Availability Custom HPA Keda Backup cluster Admission Controls hooks api/metrics Additional Content Wustomization CRD HELM What is Helm Working with Helm Build Helm package Tools: (Most of this section is hands on) Service Mesh Istio / Linkerd Keda Lens Prometheus Orafina Orafin			
	Auditing		
High Availability Custom HPA Keda Backup cluster Kubernetes API Admission Controls hooks api/metrics Additional Content Kustomization CRD HELM What is Helm Working with Helm Build Helm package Tools: (Most of this section is hands on) Service Mesh Istio / Linkerd Keda Lens Prometheus		◆ logs	
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KedaLensPrometheus		 Service Mesh 	
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