

Vyas IT



Azure DevOps Course

"Invest in your skills — it's the best investment you'll ever make."

1 Docker and Kubernetes on Azure

2 Azure CI-CD Pipelines

3 Azure Services

4 Terraform

5 Ansible

6 Git

Docker and Kubernetes Detailed Content

➤ Introduction

- ✓ Introduction
- ✓ Docker Overview

➤ Docker Commands

- ✓ Image and Containers
- ✓ Understanding docker architecture
- ✓ Docker host, Docker client, Docker registry
- ✓ Basic Docker Commands
- ✓ Advanced Docker Run Features
- ✓ Creating multi container architecture using –link

➤ Docker Compose

- ✓ Creating dev environment
- ✓ Creating testing environment
- ✓ Creating ci-cd environment
- ✓ Creating LAMP architecture

➤ Docker File

- ✓ Creating customized docker images using "commit"
- ✓ Creating customized docker images using dockerfile

➤ Docker Networking

- ✓ Docker Networking
- ✓ Setting up virtual bridge and overlay networks

➤ Docker Volumes

- ✓ Simple docker volumes
- ✓ Docker volume containers

➤ Docker Registry

- ✓ Setting up public registry
- ✓ Setting up private registry

KUBERNETES

➤ Kubernetes Overview

- ✓ Introduction
- ✓ Container Orchestration
- ✓ Kubernetes Architecture

➤ Setup Kubernetes

- ✓ KIND (Kubernetes on docker)
- ✓ AKS (Azure Kubernetes Service)

➤ Introduction to YAML

- ✓ PODs with YAML
- ✓ Replication Controllers and ReplicaSets using yaml
- ✓ Container Orchestration in Kubernetes
- ✓ Load Balancing using Kubernetes
- ✓ High availability using Kubernetes
- ✓ Auto Scalling in Kubernetes
- ✓ Performing Rolling updates and roll back
- ✓ Handling Fail over scenarios
- ✓ Deployments
- ✓ Deployments – Update and Rollback
- ✓ StatefullSets.
- ✓ Volumes (Emptydir, PersistentVolumes, PersistentVolumeclaims)
- ✓ Node Affinity, Taints and Tolerations
- ✓ Secrets.
- ✓ Working on Azure Container Registries.

➤ Services

- ✓ Service – NodePort
- ✓ Service - LoadBalancer
- ✓ Services – ClusterIP

➤ Microservices Architecture

- ✓ Microservices Application (Python-NodeJS based application)
- ✓ Deploying Microservices Application Kubernetes Cluster

➤ Azure Storage Classes and Azure MYSQL Databases.

Azure Resources and Terraform

- ✓ Introduction to Terraform and IAC using HCL.
- ✓ Terraform Setup and statefile concepts.
- ✓ Creating Azure VM's using Terraform.
- ✓ Azure Virtual Networks automation in Terraform.
- ✓ Creating Reusable scripts to handle Terraform Storage (Disk, File, Blob storage etc.).
- ✓ Working on Azure Container Registries using Terraform scripts.
- ✓ Setup of AKS cluster as IAC.
- ✓ Azure MYSQL data bases.
- ✓ Azure Load Balancers.
- ✓ Azure Active Directories and User administration.

Ansible

- ✓ Introduction to Ansible.
- ✓ Setup of Ansible controller and remote servers on Azure with Terraform automation scripts.
- ✓ Understanding ansible modules.
- ✓ Ansible adhoc commands.
- ✓ Ansible playbooks for user management and software package management.
- ✓ Variables in Ansible for reusability.

- ✓ Handlers and Error Handling on Ansible.
- ✓ Loops and if conditions in Ansible playbooks

Git

- ✓ Introduction to Version Controlling
- ✓ Working on Git local and remote repositories
- ✓ Important git commands
- ✓ Git add
- ✓ Git commit
- ✓ Git push
- ✓ Git clone
- ✓ Git pull
- ✓ Git fetch
- ✓ Git branching
- ✓ Git merging
- ✓ Git cherry pick
- ✓ Git rebase
- ✓ Git reset
- ✓ Git revert
- ✓ Git stash
- ✓ Git Tags

Azure CI-CD Pipelines

- ✓ Introduction to CI-CD on Azure Devops dash board.
- ✓ Working on Azure repos and Pipelines
- ✓ Automating END-END Pipeline on 3 projects
- ✓ CI-CD on Java Based project.
- ✓ CI-CD on Docker and Kubernetes Based Project.
- ✓ CI-CD on Python, NodeJS, Dot Net based micro services application.



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Course Content

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