# Cloud computing:

* Introduction to cloud
* Public private and hybrid cloud
* Benefits of cloud
* Introduction to azure
* Azure regions, zones and Data centers

# Azure Virtual Machines:

* Into to azure virtual machines
* Types of provisioning – cli and portal
* Availability set and availability zone
* VMSS
* Connecting to Windows and linux vm
* Creating VM using cli, portal and powershell

# Azure Network Services:

* Intro to azure network services
* Virtual network and subnet
* Creating Virtual network
* NSG and application security group
* Service endpoint and private end point
* Virtual Private network
* Point to site, site to site and express route
* Vneet peering

**Microsoft Azure Storage**

• Storage Account Replication Techniques

• Protocols and Consistency Model

• Type of Azure Storage Account

• Storage Services Blob, Table, queue, File

**Azure Load Balancers**

* Types of LB
* Use cases of LB
* Limitation and best practices of using LB
* Health checks
* Configuration of a LB

# Azure App Service:

* App service overview
* App service plan
* Deployment center
* scaling app service
* deployment slots

**Server less computing:**

* what is server less computing
* introduction to azure function app
* introduction to azure logic app
* deploying function and logic app

# Azure bastion service:

* introduction to azure bastion services
* use case of bastion
* deployment of azure bastion

# Azure firewall:

* introduction to azure firewall
* NSG vs azure firewall
* Use case and benefit of azure firewall
* Firewall pricing

AKS

Container instances

Azure container registry

# Version control:

* + Introduction to git
  + Git Vs Github
  + Installation and setup
  + Git workflow & demo
  + Branching and merging
  + Clone, Remote Branches, Fetch, Pull
  + Git Branch Merge Demo
  + Git Fetch Pull Demo
  + Pull Request & Demo
  + Forking and updating repo
  + Merge conflict
  + Ignoring files
  + Git revert & reset
  + Rebase, Rebase Vs Merge
  + Rebase demo
  + Git cherrypick
  + Git stash
  + Branching Strategies
  + Github hooks
  + Interview tips and questions

# Docker

* + - introduction
    - Installation and setup
    - Docker Architecture
    - Docker commands
    - Docker network and demo
    - Docker volumes and demo
    - Docker images
    - Docker registry
    - Docker compose
    - Docker Orchestration swarm & Kubernetes.

# Azure DevOps

* + - * + Introduction to Azure DevOps
        + Azure Boards.
        + Azure Repo
        + Azure Pipeline
        + Introduction to YAML
        + CI/CD pipeline with classic editor
        + CI/CD pipeline with YAML file

# Projects:

Setting up CI/CD pipeline for AKS

Setting up CI/CD pipeline for app service using code on github

Setting up CI/CD pipeline for docker container using docker hub

Setting up CI/CD pipeline for app service using ACR

Setting up CI/CD pipeline for Database with secret variables

**Jenkins**

**Terraform**

Introduction to IAC and its importance

Terraform lifecycle

Terraform setup

Terraform versioning

Terraform blocks and modules

Terraform operators

Tools to write terraform scripts

# Ansible:

Introduction to Ansible

Setting up Ansible environment

Ansible roles, variables, Modules, Loops, conditions, Inventory and vault

# Kubernetes:

Introduction To Kubernetes.

Kubernetes Architecture.

Minikube installation.

Yaml introduction

Introduction to pods, replica sets and deployment

Imperative approach for pods, replica sets and deployment

Declarative approach for pods, replica sets and deployment

Introduction to different Kubernetes services.

Use case of each type of service with application

Resource management in pods

Volumes in Kubernetes: SC, PV and PVC

Auto scaling in Kubernetes: cluster auto scaling and pod auto scaling

Secret management in Kubernetes

Config maps

Kubernetes namespaces

Kubernetes on cloud

Monitoring tools

Setting up EFK stack