Azure DevOps

1. **Introduction to Microsoft Azure**
   * Introduction to cloud computing
   * What is Microsoft Azure?
   * Microsoft Azure Services
   * Creating a Microsoft Azure Account
   * Azure CLI, Azure PowerShell
   * Microsoft Azure Architecture

# Introduction to Azure Storage

* + Azure Resources & Subscriptions
  + Azure Resource Manager
  + Managing Azure Resources
  + Azure Tags
  + Azure Storage Account & its types
  + Azure Blob Storage
  + Azure Files Storage
  + Azure File Sync

# Azure Virtual Machines

* + Azure Virtual Machines
  + Data Disks in Azure
  + Azure VMs & Interfaces
  + Custom Images of Azure VM

# Azure Networking

* + Azure Virtual Networks
  + Azure Vnet Components
  + IP Address – Public & Private IPs
  + Azure Vnet Subnets
  + Azure Network Interface Cards (NIC)
  + Network Security Group (NSG)
  + Azure DNS
  + Private DNS

# Introduction to DevOps

* + What is Software Development
  + Software Development Life Cycle
  + Traditional Models for SDLC
  + Why DevOps?
  + What is DevOps?
  + DevOps Lifecycle
  + DevOps Tools

# Project Management

* + What PM?
  + What is the importance of PM in the Org?
  + What is Agile/Scrum?
  + What is a backlog?
  + What are Sprint/Iterations?

# Software Version Control

* + What is Version Control?
  + Types of Version Control System
  + Introduction to SVN
  + Introduction to Azure Repo
  + Introduction to Git
  + Git Lifecycle
  + Common Git Commands
  + Working with Branches in Git
  + Merging Branches
  + Resolving Merge Conflicts
  + Git Workflow

# Build Tools

* + AGENDA
  + WHY Build tools
  + WHAT IS MAVEN
  + WHAT DOES MAVEN DO
  + MAVEN REPOSITORIES
  + MAVEN INSTALLATION
  + Types of Build Tools
  + Introduction to framework

# Docker

* + Introduction to Docker
  + Understanding Docker Lifecycle
  + Components of Docker Ecosystem
  + Committing changes in a Container
  + Pushing a Container Image to Docker Hub
  + Creating Custom Docker Images using Dockerfile
  + Docker Volumes
  + Docker Networking

# Azure DevOps and Azure Repos

* + Azure DevOps architecture
  + Key features
  + Azure DevOps tools
  + Azure DevOps organizations and projects
  + Introduction to Azure Repos
  + Compare TFVC and Git
  + Key concepts in azure repos
  + Search your code in Repos
  + What is TFVC
  + Azure Repos Integrations

# Azure Pipelines

* + Introduction to Azure Pipelines
  + Why use Azure Pipelines
  + Deploying to Azure
  + Key concepts in Pipelines
  + CI Triggers in pipelines
  + YAML Basics
  + Classic vs YAML
  + Ecosystems and Integration
  + Setting up CI build
  + Adding Tests to the Pipeline
  + Agents and Tasks
  + Agent Pools
  + Build and Release Pipelines

# Azure Boards

* + What is Azure Boards
  + Why use azure boards
  + Agile project management best practices
  + Basic concepts of Azure Boards
  + Work items
  + Sprints

# AKS

* + Create-AKS-Cluster
  + Ingress-Basic
  + Ingress - Context Path Based Routing
  + Kubernetes-Namespaces
  + Azure-VirtualNodes-for-AKS
  + Azure-VirtualNodes-MixedMode-Deployments
  + Azure-Container-Registry-ACR

# Azure Artifacts

* + What are Azure artifacts
  + Key concepts in artifacts
  + Build Artifacts vs Pipeline artifacts
  + working with packages
  + Feeds
  + views and upstream sources
  + Connecting to azure pipelines