CLOUD VISION TECHNOLOGIES

Azure Devops

{Duration (60 Hours)}

➢ **Experienced Trainer**

Microsoft Azure Syllabus

·   Introduction to Azure

·   Different segments SaaS, PaaS, and IaaS

·   Azure Regions and Data Centers

·   Understanding of Microsoft Azure portal

·   Introduction to all Azure services

·   Windows Azure Subscription

·   Setting Up a Trial Subscription

Lab:

·   Installation of Azure cmdlets on windows PowerShell

Module-2: Azure Virtual Machines

·   Operating System Images Supported

·   Virtual Machine instances

·   Azure VM types and Pricing

·   Types of Provisioning

·   Disks & Images

· Virtual Machine management, automation and scripting

· Cloud Service and Resource Model Deployment

· Setting up VM in Availability set using Load Balanced Endpoint

· VM Availability using Availability Sets

Lab:

· Creation of VMs with portal, ARM Templates and PowerShell

· Deploying two VMs in Availability Set and load balancing it.

Module-3: Introduction to Azure Virtual Network and Services

· Types of Azure Virtual Network VNET to VNET, point-to-site and site-to-site, Express Route

· Creating Virtual Networks in Azure

· Azure Subnet and IP ranges

· Endpoints

· Load Balancing Endpoints

· Understanding Network ACL and Network Security Group Setting up Private and Public IP

· Introduction to Azure Traffic Manager

· Available options in Azure Traffic Manager

· Understanding of Deployment Traffic Manager

Lab:

· Create a VET-to-VNET virtual networks

· Create a point-to-site virtual network.

· Create a site-to-site virtual network.

· Load Balancing using Azure Traffic Manager.

Module-4: Microsoft Azure Storage

· Overview of Microsoft Azure Storage

· Storage Account

· Storage Account Replication Techniques

· Protocols and Consistency Model

· Type of Azure Storage Account

· Storage Services Blob, Table, queue, File

· Azure CDN Services, Managed and Unmanaged Disk

Lab:

· Provisioning Azure Storage services

· Create an Azure Storage Account

· Deploying Blob Storage

· Deploying Table Storage

· Deploying Queue Storage

· Deploying File Storage

Module-5: Manage Azure Active Directory (AD)

· Azure Active Directory Overview

· Self-Service Password Reset

· Azure AD Identity Protection

· Integrating SaaS Applications with Azure AD

· Azure Domains and Tenants

· Azure Users and Groups

· Azure Roles

· Managing Devices

Lab:

- Implement Azure Active Directory.

- Configure Self-Service Password Reset

- Implement Azure AD Identity Protection

- Configure integrated SaaS applications

- Configure domains and tenants, users and groups

- Manage roles and devices

- Migration of OnPrem AD Users to Azure AD

- Configure MFA

Module 6: Manage App Service Plans

- App Service Overview

- App Service monitoring overview

- Web Role and Worker Role

Lab:

- App Service Plan

- Deploy Web App

- App Service Diagnostics

Module 7: Azure SQL Database

·   Understanding Database as a service

·   Difference between SQL server and Azure SQL

·   Advantage and Benefits of SQL database Scaling SQL database

·   Backup and Performance Options Security in Azure

·   SQL Pricing Model

·   Azure SQL Data Warehouse

Lab:

·   Migrate a database from on premise to SQL Azure

Module-8: Azure Backup and Site Recovery

·   Azure Vaults

·   Configuring backups

·   Data Protection Manager

·   Azure Site Recovery and Disaster Recovery

·   On Premise Migration using Recovery Services

Lab:

·   Configure a Recovery Service Vault and backup files from on premise to cloud

·   Site Recovery of a VM

·   Back up of a VM

BELOW Content is for Developing Solutions for Microsoft Azure – AZ -203 Exam [Will be conducted extra]

Module-9: Azure ARM Template

·   Introduction to Azure ARM Templates and its content

Lab:

·   Deploying ARM Template with PowerShell

Module 10: Configure Server less Computing

·   Server less Computing, Functions and Logic Apps

Lab:

· Logic Apps

· Creating a Function App

Module 11: Manage App Services

· App Settings

· Deployment Slots

Labs:

· App Settings

· Deployment Slots

Module 12: Data Factory

· Introduction to Azure Data Factory

· Core Concepts – Data sets, Pipelines and activities, Scheduling and execution

· Run Samples – Customer Profiling

· Moving Data, Transformation and Analysis

· Monitoring and managing the Pipelines

· Common Use Cases and Samples

Lab:

·   Orchestrating the On-Prem data from SQL DB to Azure DB by creating a data pipeline using Blob storage.

Module-13: Azure Container Service

·   Introduction to Azure Container Service

·   Overview of Containers

·   Introduction to Azure Container Registry

·   Azure Kubernetes Services

·   Introduction

Lab:

·   Deploy an Azure container registry

·   Build a container image using Azure Container Registry Tasks

·   Deploy the container to an Azure container instance

·   Replicate the container image to multiple Azure datacenters

·   Run Docker containers with Azure Container Instance

·   Run Azure Container Instances

·   Deploying AKS in Azure

Module-14: Azure Cosmos DB:

- Introduction

- What is a request unit?

- What is Partition Strategy and Key?

- Query types

Lab:

- Create an Azure Cosmos DB account in the Azure portal

- Create a database and collection in Azure Cosmos DB

- Run queries in the Azure portal

Projects:

- Deploying VM in Availability set and load balancing the traffic through External Load Balancer.

- Deploying Web Apps in two different regions and managing it thr

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Devops Overview:

⬚ Introduction to the Azure DevOps

⬚ Creating Azure DevOps Organization

⬚ Creating Team Projects and Teams

⬚ DevOps Licensing

Azure Boards

⬚ Azure Boards Overview

⬚ Work Items

⬚ Working with Boards and Sprints

⬚ Working with Backlog

⬚ Bugs

Azure Repository

⬚ Introduction to Azure Repos

⬚ Source Control

⬚ Working with Git Repo o Understanding Git

o Creating a Git Repo in Azure DevOps

o Git Branching

o Branching strategies

⬚ Git Glow

⬚ Git Hub Flow

⬡ Branching and Merging

⬡ Managing Git Repositories

⬡ Branch Authorizations and Policies

Azure Pipelines

⬡ Azure Pipelines Overview

⬡ Manage Azure Pipeline Infrastructure

o DevOps Agents overview

o Hosted vs Self-hosted Agents

o Implementing Self-hosted Agents

o Docker with Azure Pipeline

⬡ Creating Build Pipeline

o Build Fundamentals

o Build Details

o Build Triggers

o Build options

o Optimizing the build

o Building a Docker Image

o Build Pipeline for .Net Core Application

⬡ Creating Release Pipeline

o Azure DevOps Release Management

o Artifacts, Stages and Gates

o Agent Jobs and Tasks

o Release Variables

o Continuous Deployment

o Create a release for an ASP.Net web application

☐ Deployment and Task Groups

o Understanding Deployment Groups

o Understanding Task Groups

Azure Test Plans

☐ Introduction to Azure Test Plans

☐ Types of Tests

☐ Running Automated Tests in a Pipeline

☐ Creating and Executing Manual Tests

Azure Artifacts

☐ Introduction to Azure Artifacts

☐ About Feeds

□ Creating a Feed

□ Publishing NuGet Packages

□ Consuming NuGet Packages

- Ansible

- Terraform

- Docker

- Git

- Git hub

- Kuberenetes