**Introduction to cloud computing**

* What is Cloud?
* History and evolution of cloud
* Cloud computing concepts
* Public, Private, Hybrid clouds
* IAAS,SAAS,PAAS Cloud Models
* Public Clouds
* Azure, AWS, Oracle cloud, IBM.

**Microsoft Azure Infrastructure and Deployment**

**1.Manage Subscriptions and Resources**

Module 1: Managing Azure Subscriptions

# Lessons

Overview of Azure Subscriptions

Billing

Azure Policy

Module 2: Access Management for Cloud Resources

# Lessons

Azure Users and Groups

Role-based Access Control

Module 3: Monitoring and Diagnostics

# Lessons

Exploring Monitoring Capabilities in Azure

Azure Alerts

Azure Activity Log

Module 4: Log Analytics

# Lessons

Introduction to Log Analytics

Querying and Analyzing Log Analytics Data

**2. Implementing and Managing Storage**

Module 1: Overview of Azure Storage

# Lessons

Azure storage accounts

Data replication

Azure Storage Explorer

Module 2: Storage Services

**Lessons**

Virtual machine storage

Blob storage

Azure files

Structured storage

Module 3: Securing and Managing Storage

# Lessons

Shared access keys

Azure backup

Azure File Sync

Module 4: Storing and Accessing Data

# Lessons

Azure Content Delivery Network

Import and Export service

Module 5: Monitoring Storage

# Lessons

Metrics and Alerts

Activity Log

**3.Deploying and Managing Virtual Machines**

Module 1: Overview of Azure Machines

# Lessons

Azure Virtual Machines Overview

Planning Considerations

Module 2: Creating Virtual Machines

# Lessons

Overview of the Virtual Machine Creation Overview

Creating Virtual Machines in the Azure Portal

Creating Virtual Machines (PowerShell)

Creating Virtual Machines using ARM Templates

Module 3: Deploying Virtual Machine Images

# Lessons

Deploying Custom Images

Deploying Linux Virtual Machines

Module 4: Configuring Virtual Machines

# Lessons

Overview of Virtual Machine Configuration

Virtual Machine Networking

Virtual Machine Storage

Module 5: Configuring Availability and Extensibility

# Lessons

Virtual Machine Availability

Virtual Machine Scalability

Applying Virtual Machine Extensions

Module 6: Managing and Monitoring Virtual Machines

# Lessons

Backup and Restore

Monitoring Virtual Machines

Module 7: Scaling and Performance

# Lessons

Scale Up and Scale Out

Autoscale and Grow out

Optimizing Bandwidth and Web Traffic

**4.Configuring and Managing Virtual Networks**

Module 1: Azure Virtual Networks

# Lessons

Introducing Virtual Networks

Creating Azure Virtual Networks

Review of IP Addressing

Network Routing

Module 2: Azure DNS

# Lessons

Azure DNS Basics

Implementing Azure DNS

Module 3: Securing virtual Network Resources

**Lessons**

Introduction to Network Security Groups

Implementing Network Security Groups and Service Endpoints

Module 4: Connecting Virtual Networks

# Lessons

Inter site Connectivity (VNet-to-VNet Connections)

Virtual Network Peering

**5. Manage Identities**

Module 1: Managing Azure Active Directory

# Lessons

Azure Active Directory Overview

Self-Service Password Reset

Azure AD Identity Protection

Integrating SaaS Applications with Azure AD

Module 2: Managing Azure Active Directory Objects

# Lessons

Azure Domains and Tenants

Azure Users and Groups

Azure Roles

Managing Devices

Module 3: Implementing and Managing Hybrid Identities

# Lessons

Azure Active Directory Integration Options

Azure AD Application Proxy

**6. Secure Identities**

Module 1: Introduction to Identity Protection in Azure

# Lessons

Role-Based Access Control

Azure Active Directory (Refresher)

Protecting Privileged Access in the Environment

Module 2: Using Multi-Factor Authentication for Secure Access

# Lessons

Introducing Multi-Factor Authentication

Implementing MFA

Module 3: Azure AD Privileged Identity Management

# Lessons

Getting Started with PIM

PIM Security Wizard

PIM for Directory Roles

PIM for Role Resources

7**. Introduction to Kubernetes using Docker:**

Module 1: Working with Docker

**Lessons:**

Deep Dive into architecture

Running images with Docker

Docker Hub pull

Docker Build create own images

Module 2: All about kubernetes

**Lessons:**

Creating Cluster

Deploying app to cluster

Push images container Registry

**ADDITIONAL OVERVIEW**

* Introduction to AWS
* AWS EC2
* EC2 Essentials
* Build EC2 instances
* Security Groups
* Key Pairs,AMI.