**Scenario based Tasks in Azure**

1. **Scenario: Basic Level**

   a. **Your team needs to deploy a virtual machine in Azure CLI to test a new software application. The team has requested both Windows and Linux Virtual Machines.**

   **Question:**

   a. How could you setup these VM and What considerations are needed for pricing and OS license?

   **Solution:**

   Deploying Windows and Linux VM. To set up both Windows and Linux VMs using Azure CLI, follow these steps:

1. **Create a Resource Group:**

   bash

   az group create --name myResourceGroup --location eastus

2. **Deploy a Linux VM:**

   bash

   az vm create --resource-group myResourceGroup --name MyLinuxVM --image UbuntuLTS --admin-username azureuser --generate-ssh-keys

3. **Deploy a Windows VM:**

   bash

   az vm create --resource-group myResourceGroup --name MyWindowsVM --image Win2019Datacenter --admin-username azureuser --admin-password YourPassword123!

**Considerations for Pricing and OS License**

- Pricing: It's billed on a selected size so that we want to choose essential appropriate VM size that meets performance requirements while managing costs effectively.
- OS License: For Windows VMs, the cost of the operating system license is included in the VM pricing. For Linux VMs, there are generally no additional licensing costs, but some distributions may have support costs.

2. **Scenario: Intermediate Level**

    a. **The IT Security team has requested that sensitive data stored in Azure Storage Account be encrypted to meet compliance requirements.**

**Questions:**

a. How could you ensure the data stored in Azure Storage is encrypted?

b. What encryption types are available?

**Solution:**

Ensuring Encryption of Data in Azure Storage

a. Azure Storage automatically encrypts data at rest using Storage Service Encryption (SSE).

- By default, SSE is enabled for all new storage accounts.

1. Use Azure CLI to check encryption status:

bash

az storage account show --name mystorageaccount --query "encryption"

- SSE Automatically encrypts data at rest. Client-Side Encryption, data is encrypted before it is sent to Azure Storage. Azure Disk Encryption (ADE), Encrypts Windows and Linux IaaS VM disks.

3. **Scenario: Advanced Level**

    a. **You are responsible for setting up DevOps Pipeline in Azure DevOps for your application. The pipeline must deploy code to an Azure App Service and not notify the team if the deployment fails.**

**Question:**

a. How could you configure this pipeline to meet the requirements?

**Solution:**

Configuring a DevOps Pipeline in Azure DevOps

To set up a CI/CD pipeline that deploys code to an Azure App Service without notifying the team on failure:

- Use Azure DevOps to create a new pipeline.
- Include stages for build, test, and deployment.
- You want to disable notifications for failed deployments by adjusting the settings in Azure DevOps under **Project Settings > Notifications**.

Example YAML configuration:

text

```
trigger:
- main

pool:
  vmImage: 'ubuntu-latest'

steps:
- task: AzureWebApp@1
  inputs:
    azureSubscription: 'YourServiceConnection'
    appType: 'webApp'
    appName: 'YourAppServiceName'
    package: '$(System.DefaultWorkingDirectory)/**/*.zip'
```

4. **Scenario:**

    a. **Your organization is moving the on-premise's SQL Database to Azure. The database must remain accessible during migration with minimal downtime.**

**Questions:**

a. Which Azure Service could you use?

b. How could you perform the migration?

**Solution:**

Moving On-Premises SQL Database to Azure

a. Recommended Azure Service

Use Azure Database Migration Service (DMS) to facilitate the migration of your SQL database with minimal downtime.

b. Performing the Migration

- Create an Instance of DMS: Set up an instance through the Azure portal.
- Configure Migration Project: Define source (on-premises) and target (Azure) databases.
- Run Assessment: Assess your database for compatibility with Azure SQL Database.
- Perform Migration: Start the migration process using online migration options to keep your database accessible during the transition.