**Q2 - SCENARIO**

1. *What are different artifacts you need to create - name of the artifacts and its purpose?*

Ans)

a) Git repo - to store the ARM template file and json paramater file

b) Azure key vault - to store the Azure VM credentials

c) ARM template and Paramater file

d) Powershell script - to deploy the Arm template

e) Azure DevOps - CI/CD pipeline to deploy the Arm template

2) *List the tools you will to create and store the ARM templates.*

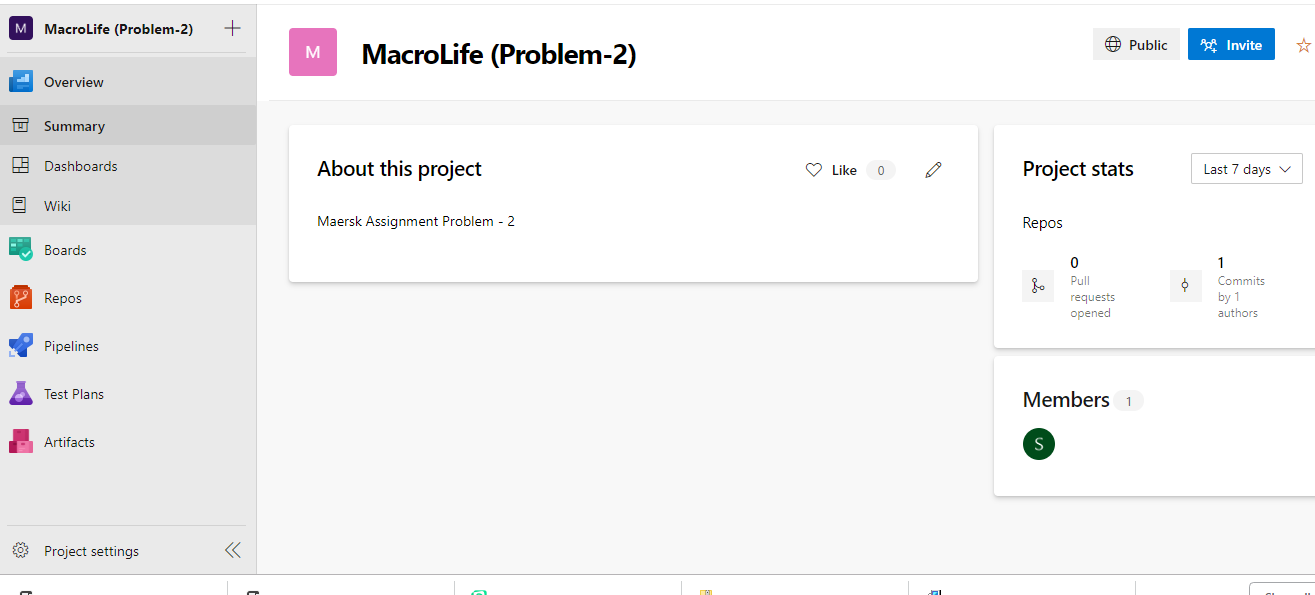
Ans)

**1) Visual Studio Code with ARM templates extensions**

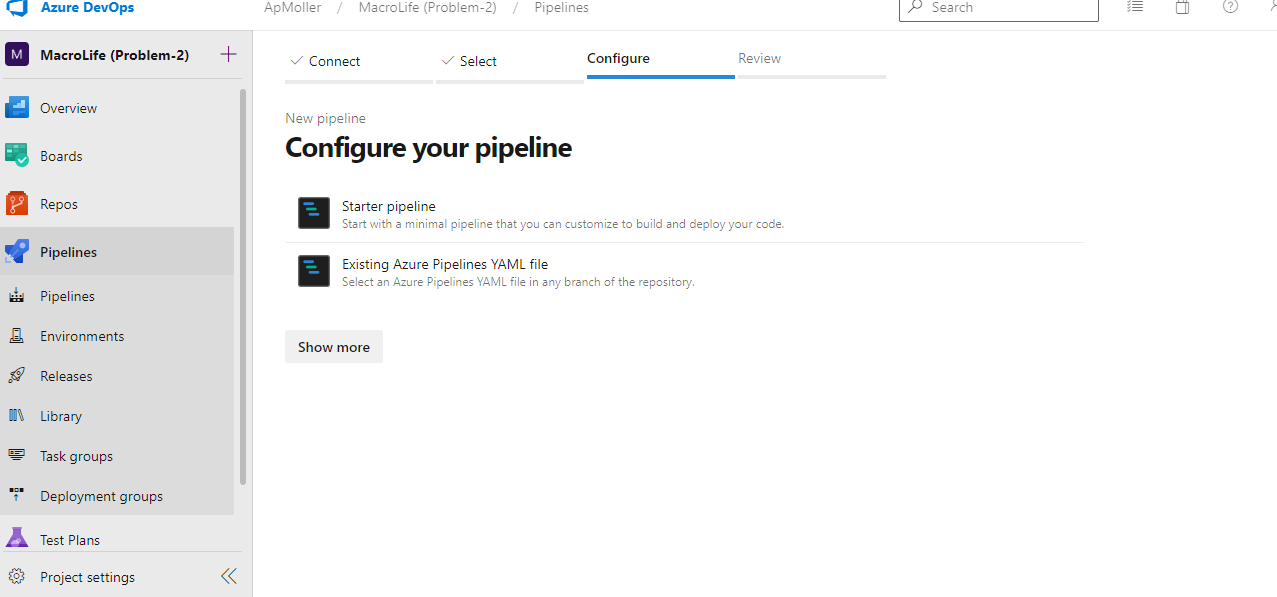
**2) GitHub or azure Storage Account - Blob Storage**

1. *Explain the process and steps to create automated deployment pipeline.*

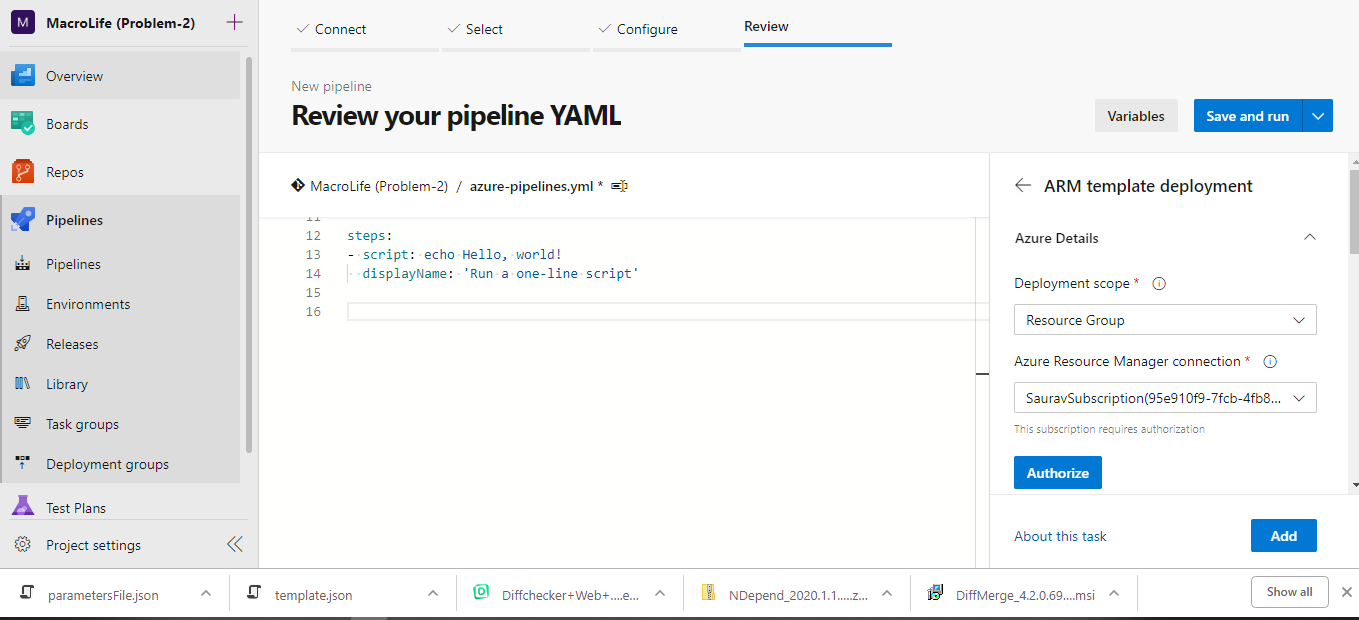
a) Create a project



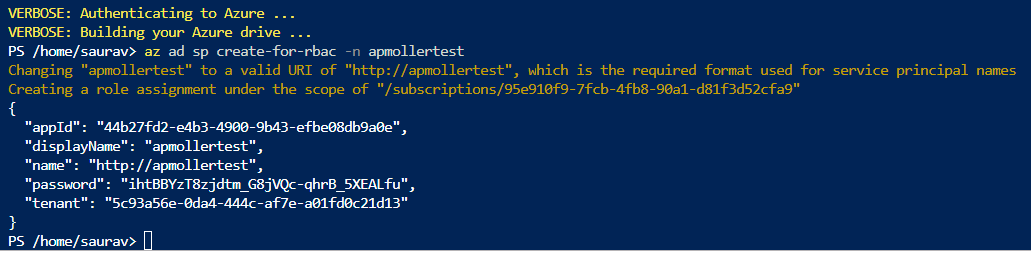
b) Create and Configure a pipeline



c) Create a YAML pipeline for ARM template as shown below -:



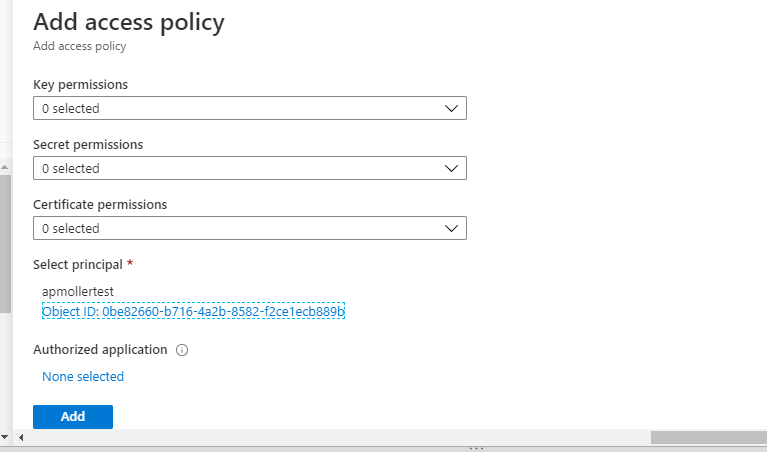
d) Login to Azure Portal and Create a ServicePrinciple with the below command



Output as shown above

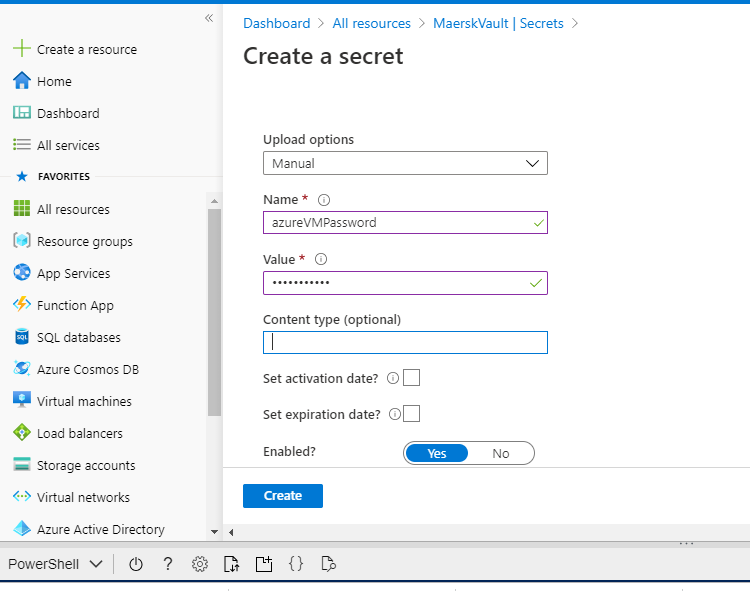
e) Create a keyvault with the name MaerskVault

f) Add access policy to the keyvault

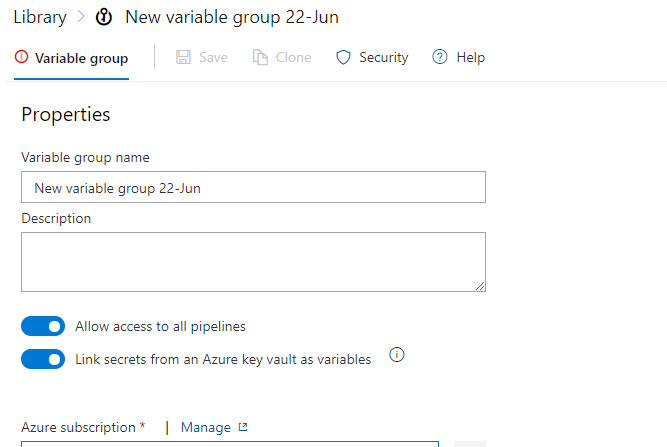


g) Provide Permission (GET,LIST)

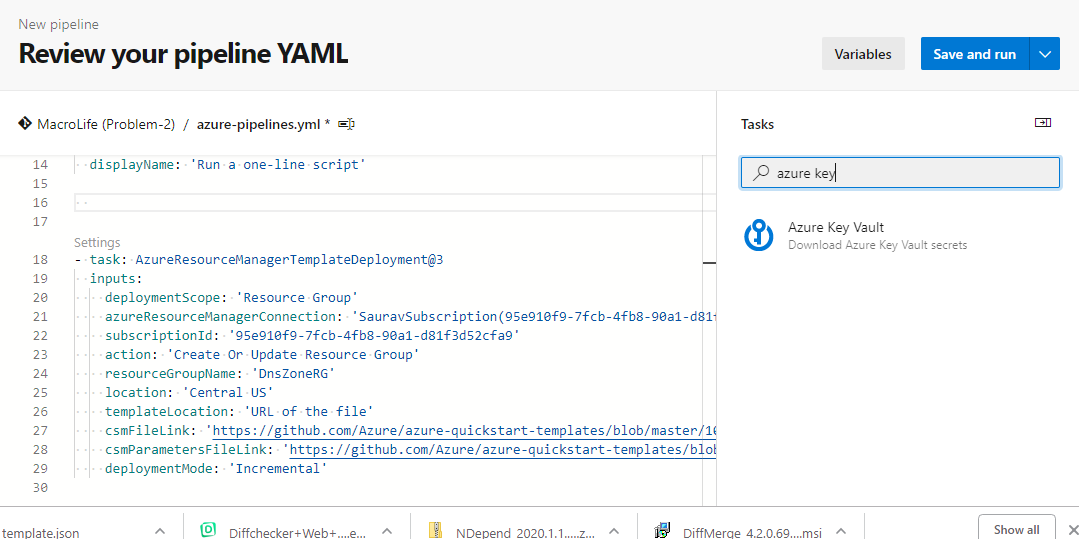
h) Create a secret



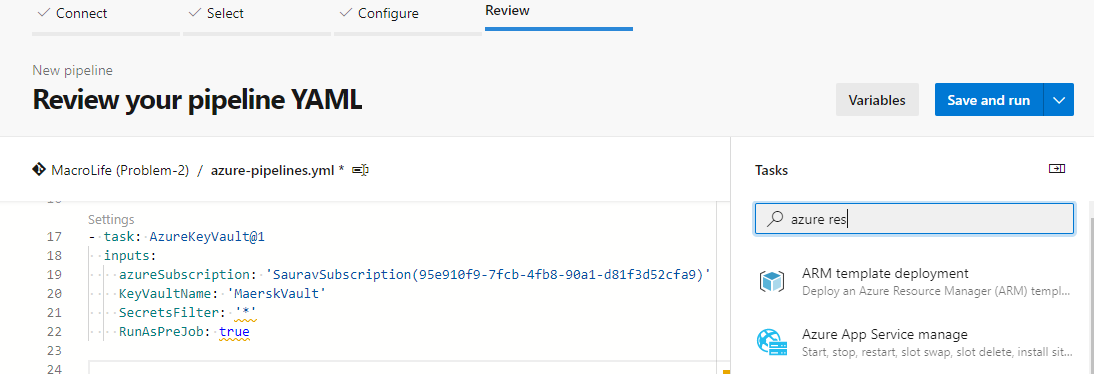
Create a variable group in Azure DevOps and Enable Link secrets from key vaults button



1. Add Azure Key value Task in the DevOps Pipeline



j) Add ARM template as the next Task



k) **Complete YAML**

# Starter pipeline

# Start with a minimal pipeline that you can customize to build and deploy your code.

# Add steps that build, run tests, deploy, and more:

# https://aka.ms/yaml

trigger:

- master

pool:

  vmImage: 'windows-latest'

steps:

- script: Starting ARM Demployemnt !

  displayName: 'Run a one-line script'

- task: AzureKeyVault@1

  inputs:

    azureSubscription: 'SauravSubscription(95e910f9-7fcb-4fb8-90a1-d81f3d52cfa9)'

    KeyVaultName: 'MaerskVault'

    SecretsFilter: '\*'

    RunAsPreJob: false

- task: AzureResourceManagerTemplateDeployment@3

  inputs:

    deploymentScope: 'Resource Group'

    azureResourceManagerConnection: 'SauravSubscription(\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*)'

    subscriptionId: '\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*'

    action: 'Create Or Update Resource Group'

    resourceGroupName: 'DnsZoneRG'

    location: 'Central US'

    templateLocation: 'URL of the file'

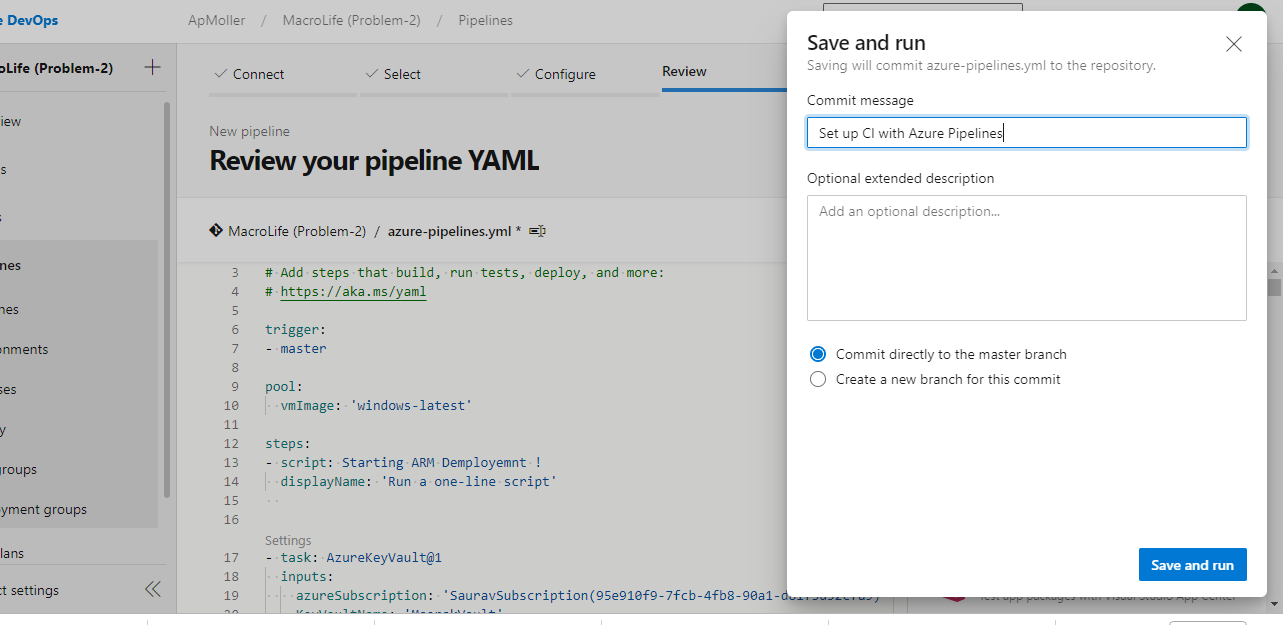
    csmFileLink: 'https://github.com/imsauravroy007/APMoller/blob/master/template.json'

    csmParametersFileLink: 'https://github.com/imsauravroy007/APMoller/blob/master/parametersFile.json'

    overrideParameters: '-adminUsername  $(vmPassword)'

    deploymentMode: 'Incremental'

l) SAVE and RUN the Build Pipeline



*4) Create a sample ARM template you will use to deploy a Windows VM of any size*

**Please find in the root folder**

1. **template.json**
2. **parametersFile.json**
3. *Explain how will you access the password stored in Key Vault and use it as Admin Password in the VM ARM template.*

**Already Explained in the Above Steps with Screenshots**