The following project will deploy the follow resources to the Azure cloud with the help of Azure Devops:

a.) Azure ACR

b.) Azure Key Vault

The project files are accessible from the following repository in Github:

<https://github.com/ramsety/terraform-acr>

The repository contains the following files:

1. Terraform files :

i) main.tf : This file contains the all the deployments specification about the above 2 azure resources

ii) provider.tf : This file contains the provider information i.e. the azurerm and the version info

iii) variable.tf : This file contains the variable definition used in main.tf also contains the specification for Azure pipeline TF\_VAR variables which can be passed during the runtime

iv) locals.tf : additional file containing the definition of the local block variables

1. azure-pipelines.yml : this is azure pipeline yaml file contains the pipeline definition and and a job with the following Tasks for terraform script validation and deployment:

i) terraform install : this task will install the terraform executables on the pipeline agent

ii) 'Terraform : INIT' : this task will run the terraform initialization

iii) 'Terraform : PLAN' : this task will run the terraform plan to dry run the configuration and check everything further gives the plan output

iv) 'Terraform : VAL & APPLY' : this final task of the job will run the terraform validate and after the successful validation runs the terraform apply to initiate the deployment of the resources on azure subscription

1. README.md & project-info.doc : these files contains the necessary documentation about the project

The azure resources created with the following specifications:

a.) Azure ACR:

The ACR with the name variable (var.ACR\_NAME) which can be defined in azure pipeline is created under the resource group (var.RG\_NAME) which can be modified or else will be deployed on the default one is created in east-us region with the replication to a

Secondary region var.georeplicated\_region\_list and will accessible in the restricted networks defined in local.allowed\_virtual\_networks

b.) Azure Key Vault

The Azure Key Vault with the name variable (var.KV\_NAME) which can be defined in azure pipeline is created under the resource group (var.RG\_NAME) which can be modified or else will be deployed on the default one is created in east-us region with the policy attached to allow an Azure AD user with object\_id to access the key vault to manage Keys and Secrets and will accessible in the restricted networks defined in local.allowed\_virtual\_networks

Execution flow:

The trigger is set to invoke the pipeline whenever there is a commit in Master branch so whenever the user modifies the IAC code or add the resources then the trigger will send an

Invoke command to the ramsety.terraform-acr pipeline which get queued and start running the job which will insyc run the tasks which contains the terraform commands to initiate,

Validate & deploy the resources the Terraform variables defined in azure pipeline can modified in the Variables section of Azure Devops pipeline