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

a.) Azure ACR

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

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

The repository contains the following files:

* 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

* 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

* 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