AUTOMATION OF LINUX WEBSERVER CREATION IN AZURE USING TERRAFORM AND PACKER

SYSTEM ARCHITECTURE

Requirements:
- Resources in Resource groups must have tags. *(Tagging policy to be applied)*
- Deny Internet access to the VMs using NSG Policy.
- Terraform to create 2 to 5 VMs based on user deployment

Tasks done in CLI:
- Save Resource Group Name and Location in Environment Variable.
- Save Tagging Key and Values in Environment Variable
- Create Resource Group
- Create Tagging Policy
- Run Packer Build command (using variables)
- Run Terraform commands (using variables)

Tasks done by Packer:
Create VM Image with following:
- OS: Linux
- Image Publisher: Canonical
- Image offer: UbuntuServer
- SKU: 18.04-LTS

Resources Created by Terraform:
- Virtual Network
  - *Subnet*
- Network Security Group (Deny Internet Access to VM)
- Public IP Address
- Load Balancer
  - *Backend Address Pool*
- Availability Set
- Network Interface
  - *Address Pool NI to LB association*
- *Get Packer image*
- Linux VM
- Managed Disks
  - *Attach Managed Disks*

USERS

Internet

RESOURCE GROUP

Project Required Taging Policy to ensure that every resource in resource group is tagged.

VIRTUAL NETWORK (VNet)

NSG

Project Required NSG Policy to Deny Internet Traffic to the VNet

frontend address

Example of Web Server Request path from one VM in the Availability Set of VMs

LOAD BALANCER

backend Address Pool

<backend subnet>

Note: A private IP is generated from the backend-subnet reservation that will be used as the front end to the "internal" load balancer.

80, WEB SERVER
80, WEB SERVER
80, WEB SERVER

availablility set

VIRTUAL MACHINE

MANAGED DISK

(Other VM instances as required)

VIRTUAL MACHINE

MANAGED DISK

NETWORK INTERFACE

Project Requirement: Web Server to be provisioned as required. Minimum (and Default): 2, Maximum 5. *n = no of Web Servers*

WEB SERVER 1

NETWORK INTERFACE

WEB SERVER n