**Manual Process:**

**Steps need to be followed:**

1. **Create a Resource Group:**

* Create a Resource Group (slb-demo) in one location (eastus)

1. **Create a Virtual Network:**

* Create a Virtual Network (vnet1) in same Resource Group you created in same location (eastus)
* V-NET Address Spaces and Subnet Address Spaces you’ll leave it default.
* In this case V-NET Address Spaces starts from 10.1.0.0/16
* And Subnet Address Spaces starts from 10.1.0.0/24
* Coming to security settings, leave everything default.
* BastionHost - Disable
* DDoS Protection Standard - Disable
* Firewall – Disable

1. **Create 2 Virtual Machine’s:**

**VM-1:**

* Create a Virtual Network in same Resource Group you created in same location (eastus)
* **Availability options** – default
* **Image** – Redhat
* **Size** – Standard\_DS1\_v2
* **Generate a new key pair** – slb-demo (Authentication type – SSH Public key and Username – azureuser)
* **Public Inbound Ports** – SSH (22) and HTTP (80)
* **Disks** – default
* **Networking**:
* **Virtual Network** – vnet1
* **Subnet** – default (10.1.0.0/24)
* **Public IP –** None (Because we’re associating VM’s to Load Balancer)
* **Network Security Group** – Basic
* **Public Inbound Ports** – SSH (22) and HTTP (80)
* **Accelerated networking** - default (Selected)
* **Load Balancer** – We’ll configure that separately, so leave it here.
* **Management** – Default
* **Advanced**:
* Custom Data:

|  |
| --- |
| #!/bin/sh |
|  | #sudo yum update -y |
|  | sudo yum install -y httpd |
|  | sudo systemctl enable httpd |
|  | sudo systemctl start httpd |
|  | sudo systemctl stop firewalld |
|  | sudo systemctl disable firewalld |
|  | sudo chmod -R 777 /var/www/html |
|  | sudo echo "Welcome to stacksimplify - WebVM App1 - VM Hostname: $(hostname)" > /var/www/html/index.html |
|  | sudo mkdir /var/www/html/app1 |
|  | sudo echo "Welcome to stacksimplify - WebVM App1 - VM Hostname: $(hostname)" > /var/www/html/app1/hostname.html |
|  | sudo echo "Welcome to stacksimplify - WebVM App1 - App Status Page" > /var/www/html/app1/status.html |
|  | sudo echo '<!DOCTYPE html> <html> <body style="background-color:rgb(250, 210, 210);"> <h1>Welcome to Stack Simplify - WebVM APP-1 </h1> <p>Terraform Demo</p> <p>Application Version: V1</p> </body></html>' | sudo tee /var/www/html/app1/index.html |
|  | sudo curl -H "Metadata:true" --noproxy "\*" "http://169.254.169.254/metadata/instance?api-version=2020-09-01" -o /var/www/html/app1/metadata.html |

* **VM Generation** – Gen1 (Default)

**VM-2:**

* Create a VM named vm2 in same Resource Group
* Use the same SSH Public key that is stored (slb-demo)
* **Remaining Same**

1. **Create a Load Balancer:**

* Create a Load Balancer (slb-lb-1) in same Resource Group you created in same location (eastus)
* **Type –** Public
* **SKU –** Standard
* **Tier –** Regional

**\*\*\* You can create a Public-IP and assign that here in Load Balancer or Create it here itself\*\*\***

* **Front-End IP Configuration:**
* **Add a Frontend IP:**

1. **Name -** slb-lb-1fip-1
2. **IP Version –** IPV4 (Default)
3. **IP Type - IP** Address
4. **Public IP Address –**
5. If you have one choose that and if not create a public IP Address here.
6. **Name -** slb-lb-1-ip-1
7. **Rest default and click add**

* **Backend pool** and **Inbound/Outbound** Configurations can be done later. (For now, leave them)
* **Inside the Load Balancer, perform the following steps:**
* Settings:

1. **Frontend IP configuration:** Will be assigned and it is same as IP Address of Load Balancer
2. **Backend pools:** Create a Backend pool(bepool1) in same V-NET and add 2 VM’s to this Pool.
3. **Health probe:** tcp-probe
4. **Load Balancing Rules:**

* **Port –** 80
* **Backend Port –** 80

1. **Inbound NAT Rules:**

**>> RULE-1**

* **Name –** NAT-1022-VM1
* **Service –** SSH
* **Port –** 1022
* **Target VM –** VM1
* **Network IP Configuration –** ipconfig (10.1.0.4)
* **Port Mapping –** Custom
* **Target Port –** 22

**>> RULE-2**

* **Name –** NAT-2022-VM2
* **Service –** SSH
* **Port –** 2022
* **Target VM –** VM2
* **Network IP Configuration –** ipconfig (10.1.0.5)
* **Port Mapping –** Custom
* **Target Port –** 22