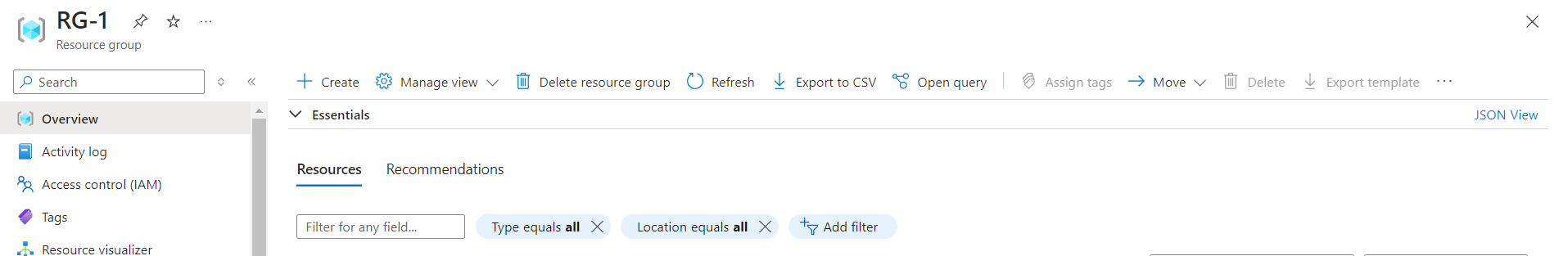
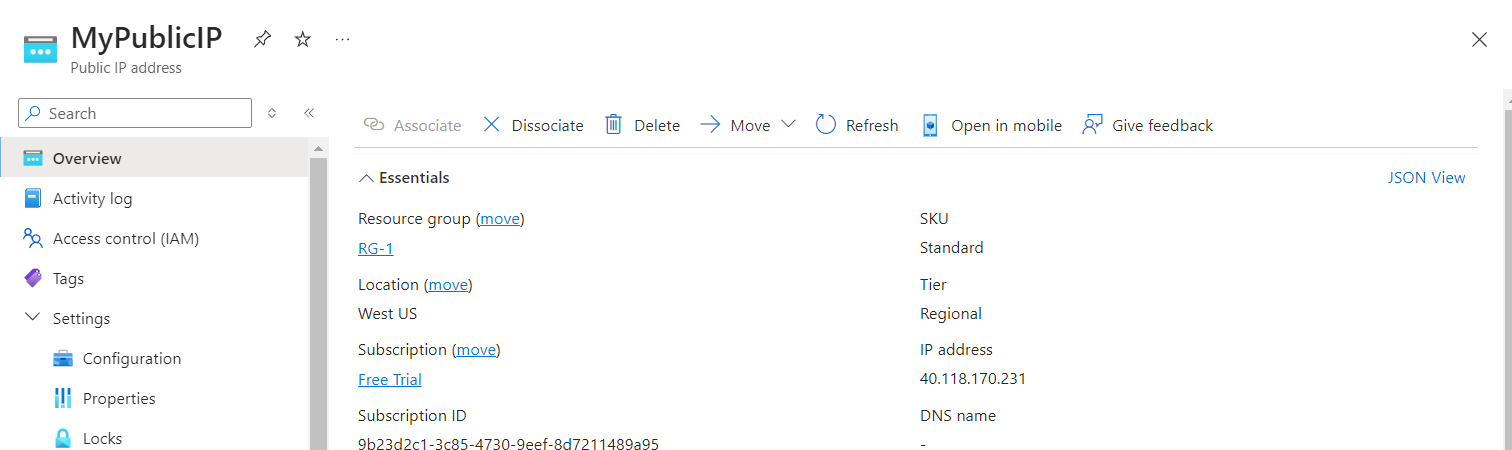
**Step 1: Create a Resource Group**

1. Go to the Azure Portal.
2. Search for and select "Resource groups".
3. Click on "Create".
4. Fill in the details:
   * **Resource group name**: RG-1
   * **Region**: Select "West US"
5. Click "Review + Create" and then "Create".



**Step 2: Create a Public IP Address for the Load Balancer**

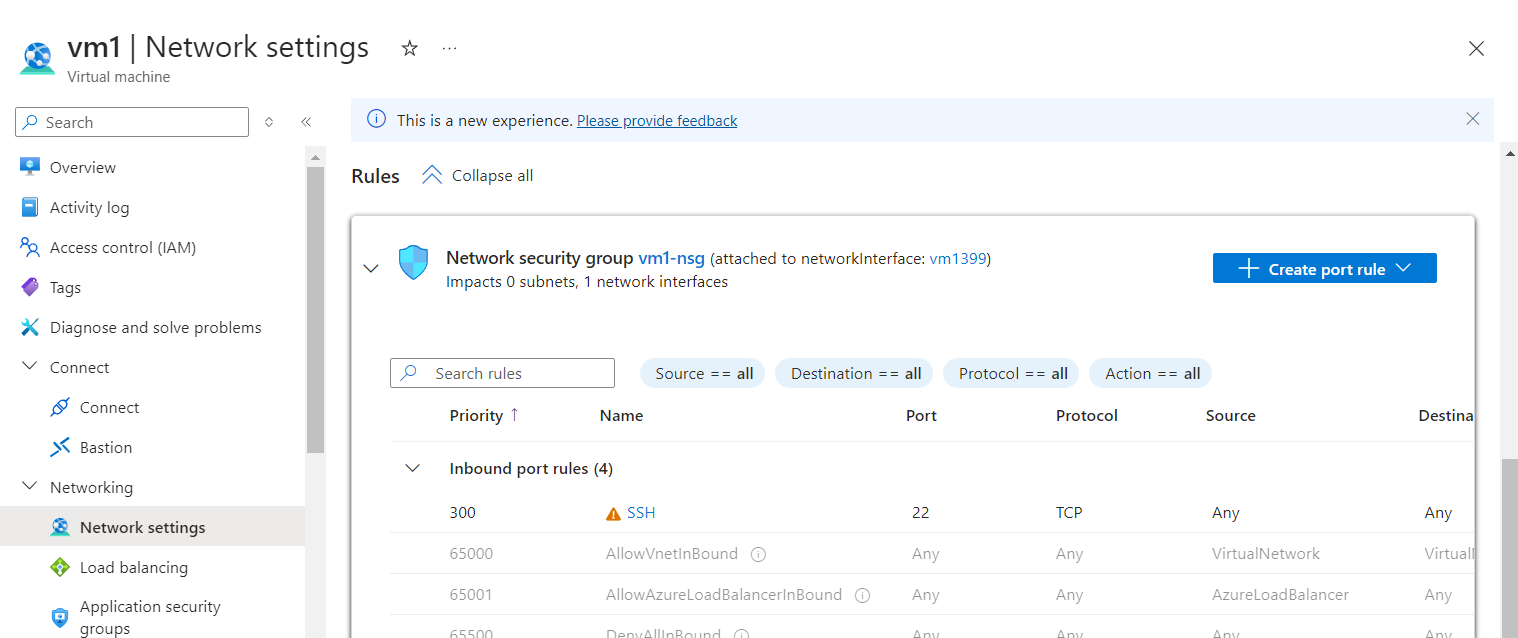
1. Go to the Azure Portal.
2. Search for and select "Public IP addresses".
3. Click on "Create".
4. Fill in the details:
   * **Name**: MyPublicIP
   * **SKU**: Standard
5. Click "Review + Create" and then "Create".



**Step 3: Deploy VM1**

1. Go to the Azure Portal.
2. Search for and select "Virtual machines".
3. Click on "Add" and select "Virtual machine".
4. Fill in the details:
   * **VM name**: VM1
   * **Region**: RG-1
   * **Image**: Ubuntu LTS
   * **Admin username**: azureuser
   * **Authentication type**: SSH public key
5. Click on "Review + Create" and then "Create".
6. After VM1 is created, navigate to the "VM1" blade, select "Run command", and then "RunShellScript". Enter the command to install Apache2:

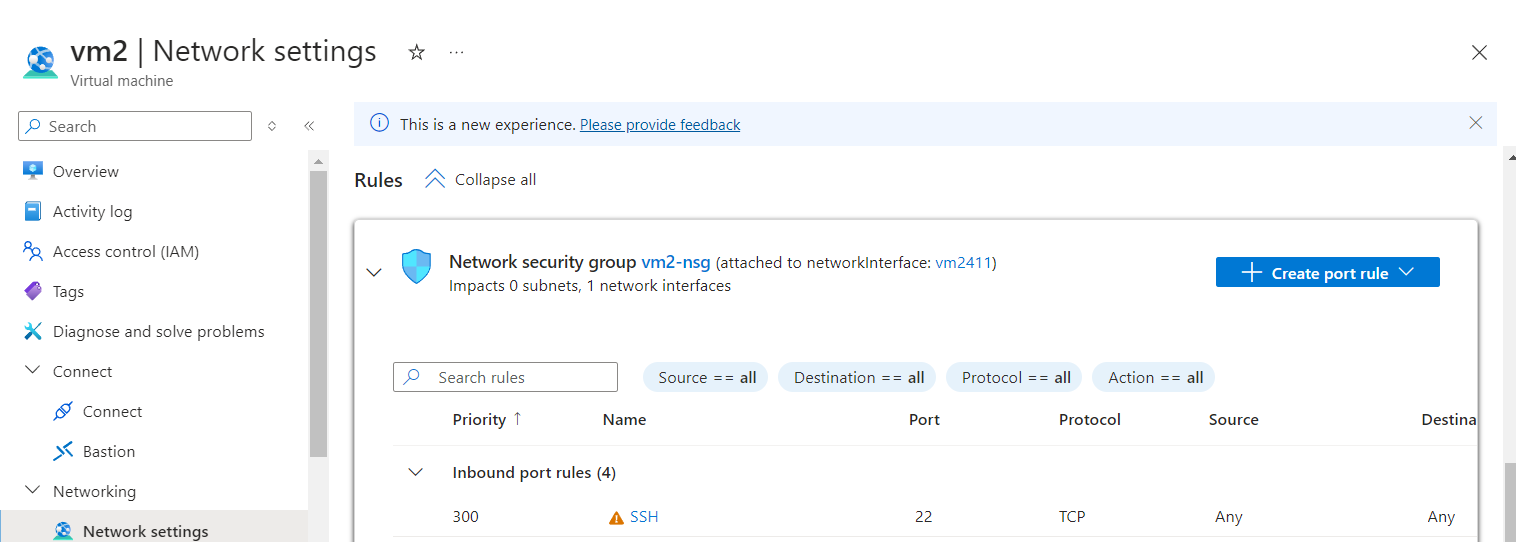
**sudo apt update && sudo apt install -y apache2**

****

**Step 4: Deploy VM2**

1. Go to the Azure Portal.
2. Search for and select "Virtual machines".
3. Click on "Add" and select "Virtual machine".
4. Fill in the details:
   * **VM name**: VM2
   * **Region**: RG-1
   * **Image**: Ubuntu LTS
   * **Admin username**: azureuser
   * **Authentication type**: SSH public key
5. Click on "Review + Create" and then "Create".
6. After VM2 is created, navigate to the "VM2" blade, select "Run command", and then "RunShellScript". Enter the command to install Apache2:

**sudo apt update && sudo apt install -y apache2**

****

**We do not require to allow port 80 in NSG because we are using App Gateway. It will not be accessible directly.**

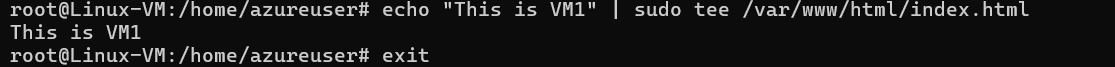
**Step 5: Update index.html on VM1**

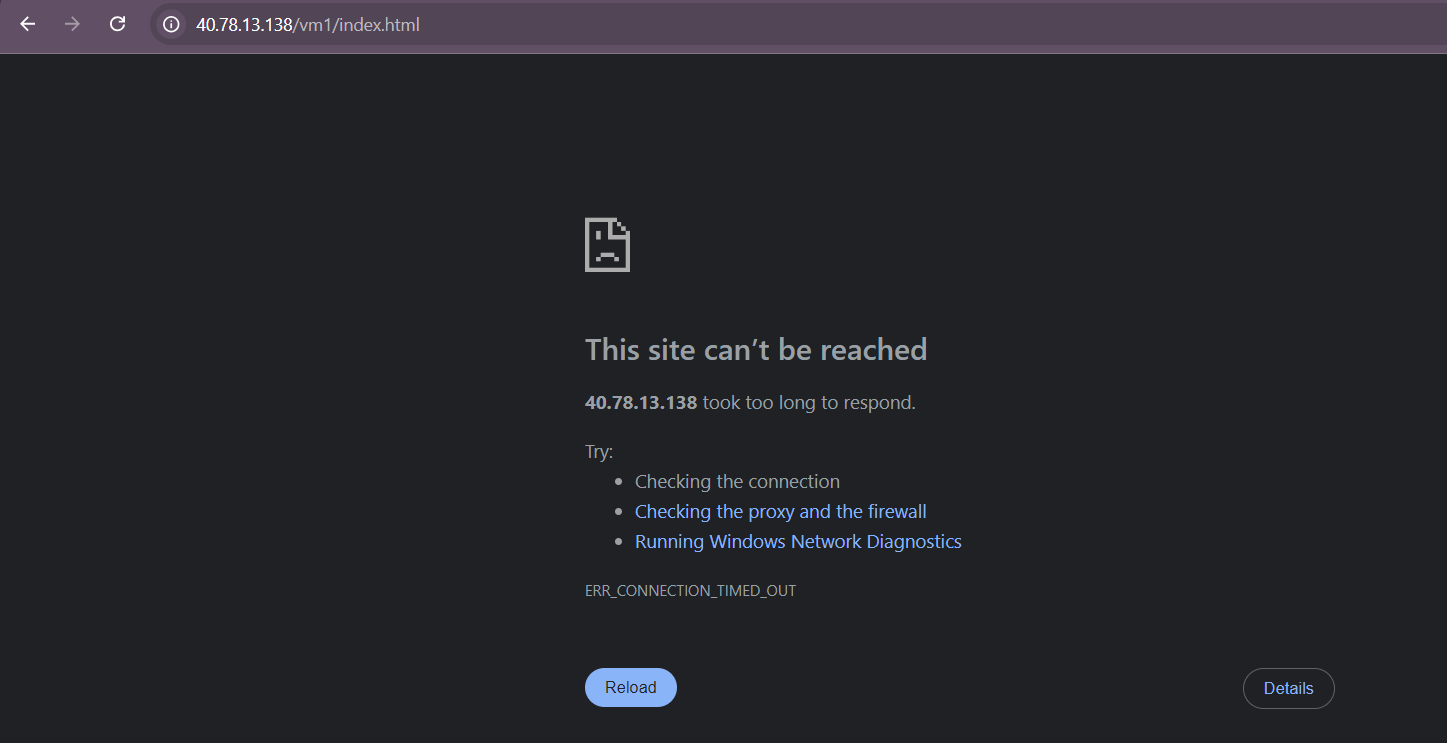
1. SSH into VM1:

**ssh azureuser@<VM1\_Public\_IP>**

1. Change the index.html file:

**echo "This is VM1" | sudo tee /var/www/html/vm1/index.html**

****

****

**Step 6: Update index.html on VM2**

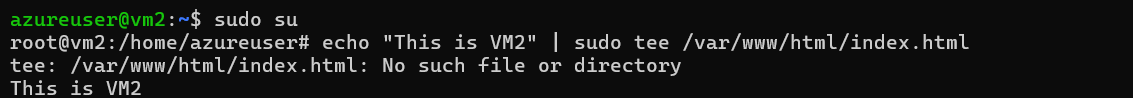
**Using Azure CLI:**

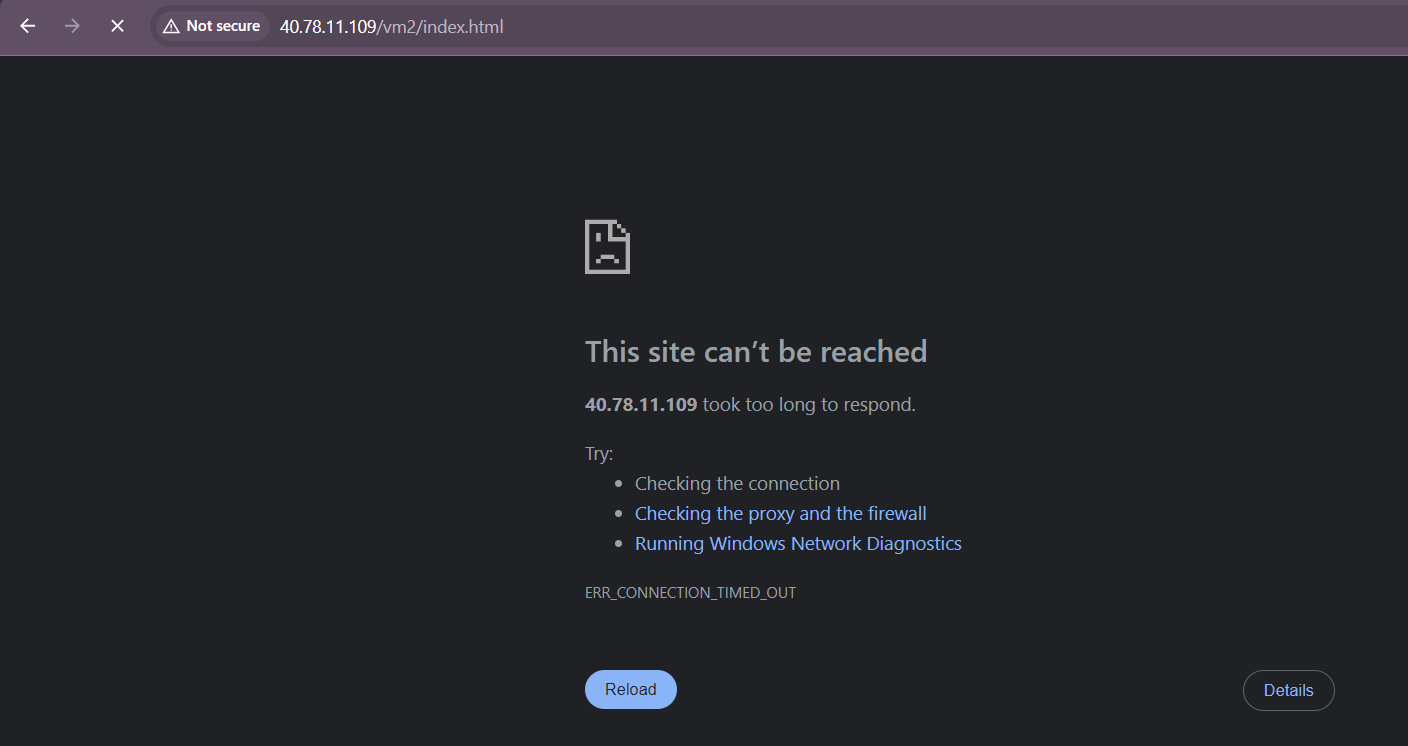
1. SSH into VM2:

**ssh azureuser@<VM2\_Public\_IP>**

1. Change the index.html file:

**echo "This is VM2" | sudo tee /var/www/html/vm2/index.html**

****

****

**Step 7: Create an Application Gateway**

1. In the Azure Portal, search for **Application Gateway** in the search bar and click **Create**.
2. Select your **Subscription** and an existing **Resource Group** (or create a new one).
3. In the **Instance Details** section:
   * Provide the **Name** for the Application Gateway (AppGateway).
   * Select **Region** where both your VMs are located.
   * Choose **Tier** as **Standard V2** depending on your needs.
4. In the **Virtual Network** section:
   * Select the **VNet** that your VMs are connected to.
   * Create a **Subnet** if not already available for the Application Gateway.
5. In the **Frontend IP** section:
   * Choose **Public** or **Private IP** based on your application.
   * Create a new **Public IP** if needed.
6. Click **Review + Create** and complete the deployment process.

**Step 3: Configure Backend Pools**

1. Once the Application Gateway is deployed, go to the resource and select **Backend pools** in the left menu.
2. Create two backend pools:
   * **backendpool**: Add **VM1** as a target.
   * **backendpool1**: Add **VM2** as a target.

**Step 4: Create HTTP Settings**

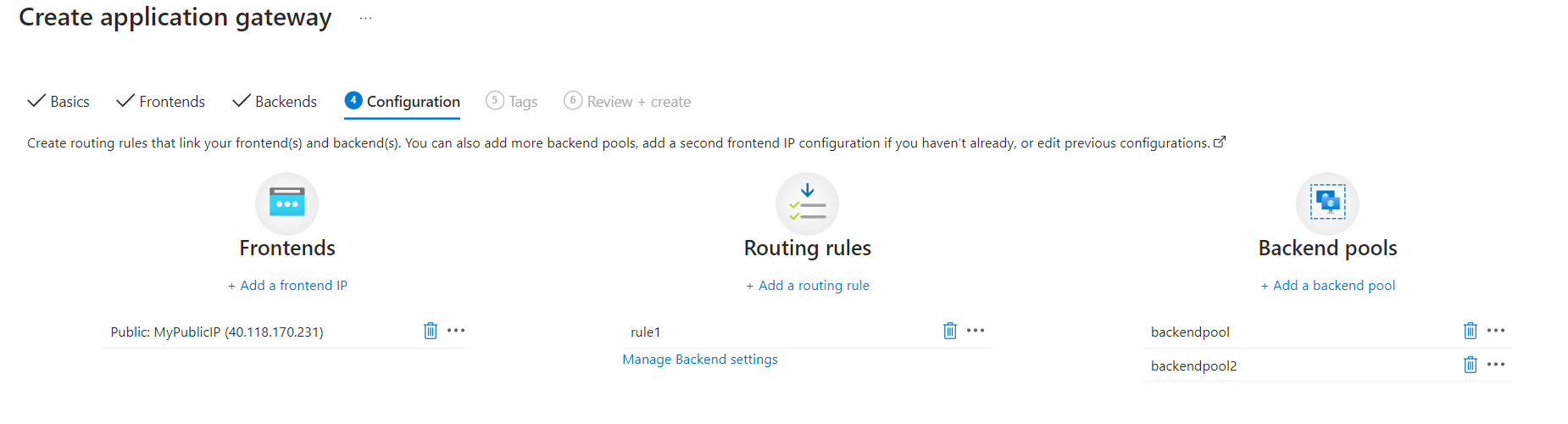
1. In the Application Gateway settings, navigate to **HTTP settings**.
2. Click **+ Add** and create HTTP settings:
   * Name: httpsetting
   * Protocol: **HTTP**
   * Port: **80**
3. Save both settings.

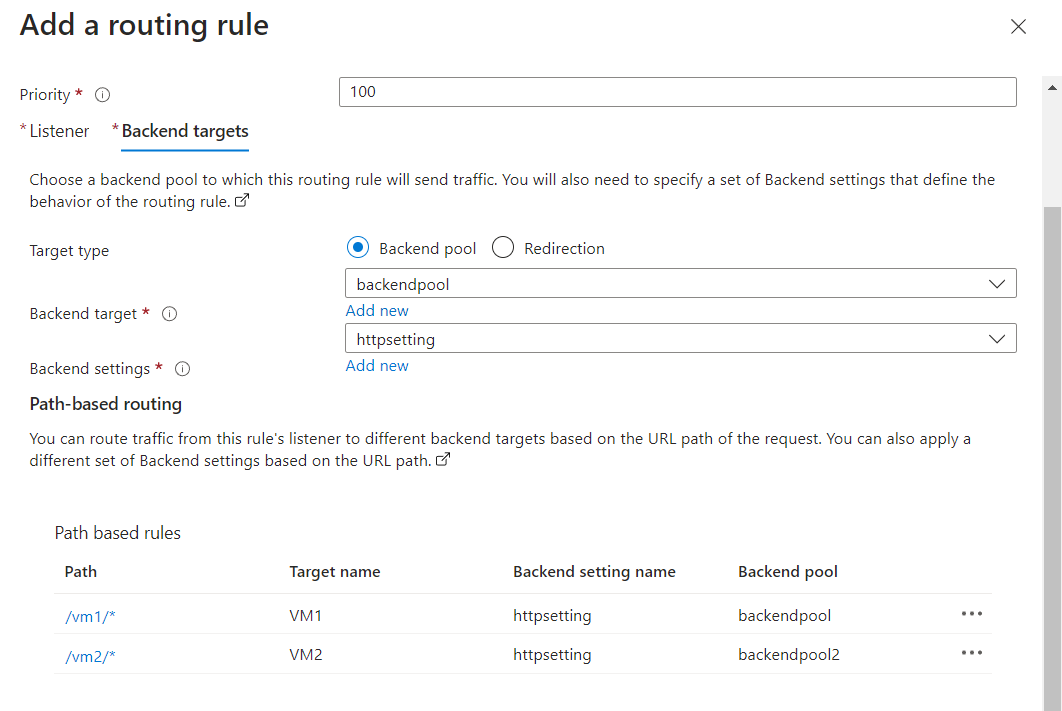
**Step 5: Set Up Listeners**

1. In the **Listeners** section of the Application Gateway, create a new listener:
   * **Name**: HTTPListener
   * **Frontend IP**: Select the **Public IP** created in Step 2.
   * **Port**: **8080**
   * **Protocol**: **HTTP**
2. Save the listener configuration.

**Step 6: Set Up Path-Based Routing Rules**

1. In the **Rules** section, click **+ Add Rule**.
2. Set up a rule with **path-based routing**:
   * **Name**: rule1
   * **Listener**: Choose the **HTTPListener**
3. In the **Routing rules** section:
   * Under **Paths**, add the following rules:
     + Path /vm1/\*: Select **backendpool** and **httpsetting** as the target.
     + Path /vm2/\*: Select **backendpool1** and **httpsetting** as the target.





1. Save the rule.

