Packer Lab04

1. Create an Azure VM with Identity Management Enabled:

1. **Navigate to the Azure Portal**: Go to the [Azure Portal](#).
2. **Create a Virtual Machine**:
   - Click on "Create a resource".
   - Choose "Virtual machines".
   - Fill in the necessary details such as subscription, resource group, VM name, region, image, size, and administrative credentials.
3. **Enable Identity Management**:
   - In the "Management" tab, find the "Identity" section.
   - Under "System assigned managed identity", switch the status to "On".
   - Click "Review + create" and then "Create" to deploy the VM.

2. Create Managed Identity and Assign It Contributor Role at Subscription Level:

1. **Assign Identity Contributor Role**:
   - After the VM is created, go to the VM's page in the Azure Portal.
   - Under the "Settings" section, click on "Identity".
   - In the "System assigned" tab, you will see the status as "On". Azure automatically creates a managed identity for the VM.
   - Click on "Azure role assignments" to assign a role.
   - Click "Add role assignment", select the "Contributor" role, and then apply it at the subscription level. Ensure the managed identity of your VM is selected.

Create a Windows 10 VM with Managed Identity Enabled:

1. **Create a New Virtual Machine**:
   - Navigate to "Virtual machines" from the side menu or search for "Virtual machines" in the search bar.
   - Click on "+ Create" and then "Virtual machine".
2. **Basics Tab Configuration**:
   - Subscription: Select the Azure subscription in which you want to create the VM.
   - Resource Group: Select an existing resource group or create a new one by clicking on "Create new".

- Virtual Machine Name: Enter a name for your VM, such as "Win10VM".
- Region: Select the Azure region where you want to deploy the VM.
- Availability Options: Choose an option based on your availability requirements.
- Image: Click on "See all images" then search for "Windows 10 Pro", select the image, and click "Select". Note: Availability of Windows 10 images may vary based on your Azure subscription and region.
- Size: Choose a VM size that suits your needs. Click on "See all sizes" if you need more options.
- Administrator Account: Set up a username and a password. Remember these credentials for remote access.
- Inbound Port Rules: Choose "Allow selected ports" and select RDP (3389) for remote desktop access.

Assign Contributor Role to the Managed Identity:

1. **Assign Role After VM Creation**:
   - Once the VM is deployed, go to the VM page in the Azure Portal.
   - Under the "Settings" section, click on "Identity".
   - You will see the System assigned identity is "On".
   - Click on "Azure role assignments" then "Add role assignment".
   - In the "Role" dropdown, select "Contributor".
   - For "Assign access to", the default option "Azure AD user, group, or service principal" is appropriate.
   - The "Select" field should automatically populate with the managed identity of your VM. If not, search and select it.
   - Click "Save" to assign the role.

3. Install the Az Module on the Remote VM:

1. **Access the Remote VM**:
   1. Create Windows 10 VM with Manged Indentiny,
   - Use Remote Desktop (for Windows VMs) or SSH (for Linux VMs) to connect to your VM.
2. **Open PowerShell as Administrator** and run the following command to install the Az module:

```
Install-Module -Name Az -AllowClobber -Scope CurrentUser
```
   - If prompted to install the NuGet provider, type `Y` and press Enter.
   - If asked to install from 'PSGallery', type `Y` and press Enter.

4. Authenticate Using the Az Module:

1. **Authenticate to Azure**:
   - In the same PowerShell session, enter
     `Connect-AzAccount`
   - If your VM uses a managed identity and you're not prompted for login credentials, it means the managed identity is being used for authentication.
   - If you need to authenticate manually, follow the prompts in the browser window that opens.

5. Build an Image with Packer:

1. **Install Packer**:
   - Download and install Packer from Packer.io if not already installed.
   - Ensure `packer.exe` is in your system's PATH.
2. **Run Packer Build**:
   - Open a command prompt or PowerShell window in the directory where your `lab04-Packer.pkr.hcl` file is located.
   - Execute the following command:
     `packer.exe build lab04-Packer.pkr.hcl`
   - Packer will begin the process of creating the image based on your `.pkr.hcl` configuration file. Monitor the output for any errors or completion messages.