

Lab 6: Creating a Linux Virtual Machine in Microsoft Azure using Terraform

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Level: Beginner

Platform: Ubuntu Linux + Microsoft Azure

Prerequisite: Lab 1 (Setup), Lab 2 (Resource Group), Lab 3 (VNet + Subnet), Lab 4 (NSG), Lab 5 (Public IP + NIC)

Learning Objective

Participants will learn how to:

- Create a Linux Virtual Machine in Azure using Terraform
 - Attach Network Interface (NIC) to VM
 - Configure admin user
 - Use SSH key authentication
 - Provision a complete VM infrastructure
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Learning Outcome

After completing this lab, participants will be able to:

- Provision Linux VM using Terraform
 - Connect VM with Azure networking
 - Access VM securely using SSH
 - Understand VM provisioning workflow
-

Hands-On Lab

Step 1: Go to Terraform Directory

```
cd terraform-azure-lab
```

Step 2: Create Terraform File for VM

```
touch linux_vm.tf
```

Step 3: Open File

```
nano linux_vm.tf
```

Step 4: Generate SSH Key (If Not Exists)

```
ssh-keygen -t rsa -b 4096
```

Press Enter for all options.

Step 5: Create Linux Virtual Machine

```
resource "azurerm_linux_virtual_machine" "vm1" {
  name                        = "Sandeep-machine"
  resource_group_name        = azurerm_resource_group.rg1.name
  location                   = azurerm_resource_group.rg1.location
  size                       = "Standard_B1s"
  admin_username              = "azureuser"

  network_interface_ids = [
    azurerm_network_interface.nic1.id
  ]

  admin_ssh_key {
    username   = "azureuser"
    public_key = file("~/ssh/id_rsa.pub")
  }

  os_disk {
    caching              = "ReadWrite"
    storage_account_type = "Standard_LRS"
  }

  source_image_reference {
```

```
    publisher = "Canonical"
    offer      = "0001-com-ubuntu-server-focal"
    sku        = "20_04-lts"
    version    = "latest"
  }
}
```

Step 6: Initialize Terraform

```
terraform init
```

Step 7: Preview Changes

```
terraform plan
```

Step 8: Apply Configuration

```
terraform apply
```

Type:

```
yes
```

Step 9: Verify in Azure Portal

Go to:

Resource Group → rg-terraform-lab

Verify: - Virtual Machine: Sandeep-machine - Status: Running - NIC attached - Public IP attached

Step 10: Get Public IP of VM

```
az vm list-ip-addresses -g rg-terraform-lab -n Sandeep-machine -o table
```

Step 11: Connect to VM using SSH

```
ssh azureuser@<PUBLIC_IP>
```

Step 12: Cleanup

```
terraform destroy
```

Type:

```
yes
```