

# 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)

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## 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
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## 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"
}
}
```

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## Step 6: Initialize Terraform

```
terraform init
```

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## Step 7: Preview Changes

```
terraform plan
```

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## Step 8: Apply Configuration

```
terraform apply
```

Type:

```
yes
```

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## 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

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## **Step 10: Get Public IP of VM**

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

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## **Step 11: Connect to VM using SSH**

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

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## **Step 12: Cleanup**

```
terraform destroy
```

Type:

```
yes
```