

Creation Of Virtual Machine in cloud and connecting using SSH

ABOUT:

SSH (Secure Shell) in an **Azure Virtual Machine (VM)** is a secure protocol used to remotely connect and manage Linux-based VMs over an encrypted connection. It allows you to execute commands, transfer files, and perform administrative tasks securely.

SIGNIFICANCE:

1 Secure Remote Access

- Provides encrypted communication between the client and VM, preventing unauthorized access and eavesdropping.
- Protects credentials and sensitive data over the network.

2 Remote Management & Automation

- Enables remote administration, software installation, and system configuration.
- Can be used for automation via shell scripts and tools like Ansible, Terraform, or Azure CLI.

3 Key-Based Authentication (Enhanced Security)

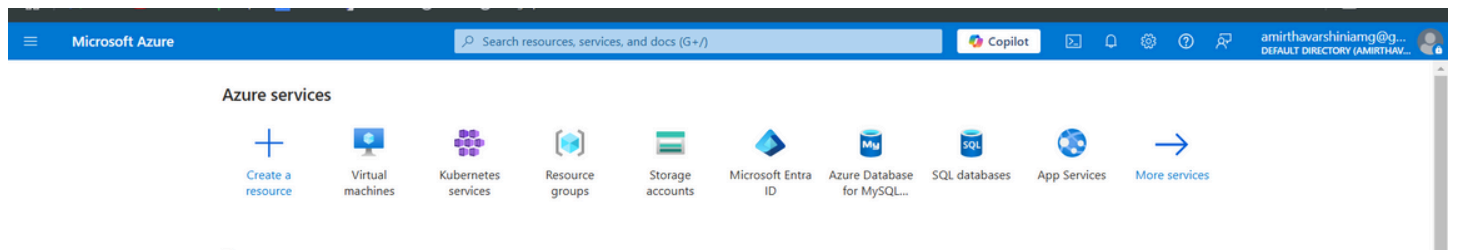
- Uses public-private key pairs for authentication, reducing risks compared to password-based login.
- Helps enforce security policies by disabling password authentication.

4 Secure File Transfers

- Supports SCP (Secure Copy Protocol) and SFTP (Secure File Transfer Protocol) for transferring files between local and remote systems securely.

STEP 1:

Sign-in to the azure user portal



STEP 2:

Click on virtual Machine and configure it as per requirement

- Create a resource group
- Authentication type - choose SSH
- Give a key-pair name

HOME / virtual machines /

Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my

Subscription * ⓘ Azure subscription 1

Resource group * ⓘ (New) new
[Create new](#)

Instance details

Virtual machine name * ⓘ VM1 ✓

Region * ⓘ (US) East US

Availability options ⓘ Availability zone

Zone options ⓘ

☒ Self-selected zone
Choose up to 3 availability zones, one VM per zone

☐ Azure-selected zone (Preview)
Let Azure assign the best zone for your needs

i Using an Azure-selected zone is not supported in region 'East US'.

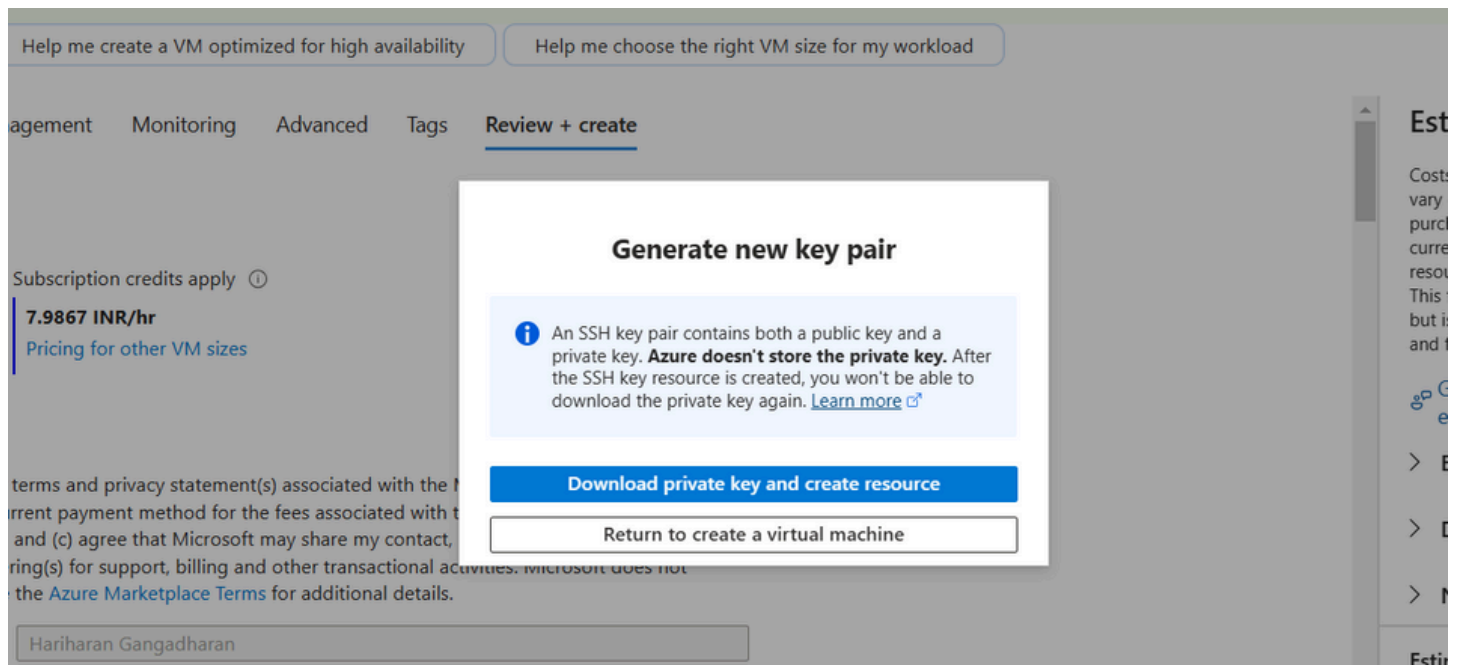
Availability zone * ⓘ Zone 1

🔗 You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

< Previous Next : Disks > **Review + create**

STEP 3:

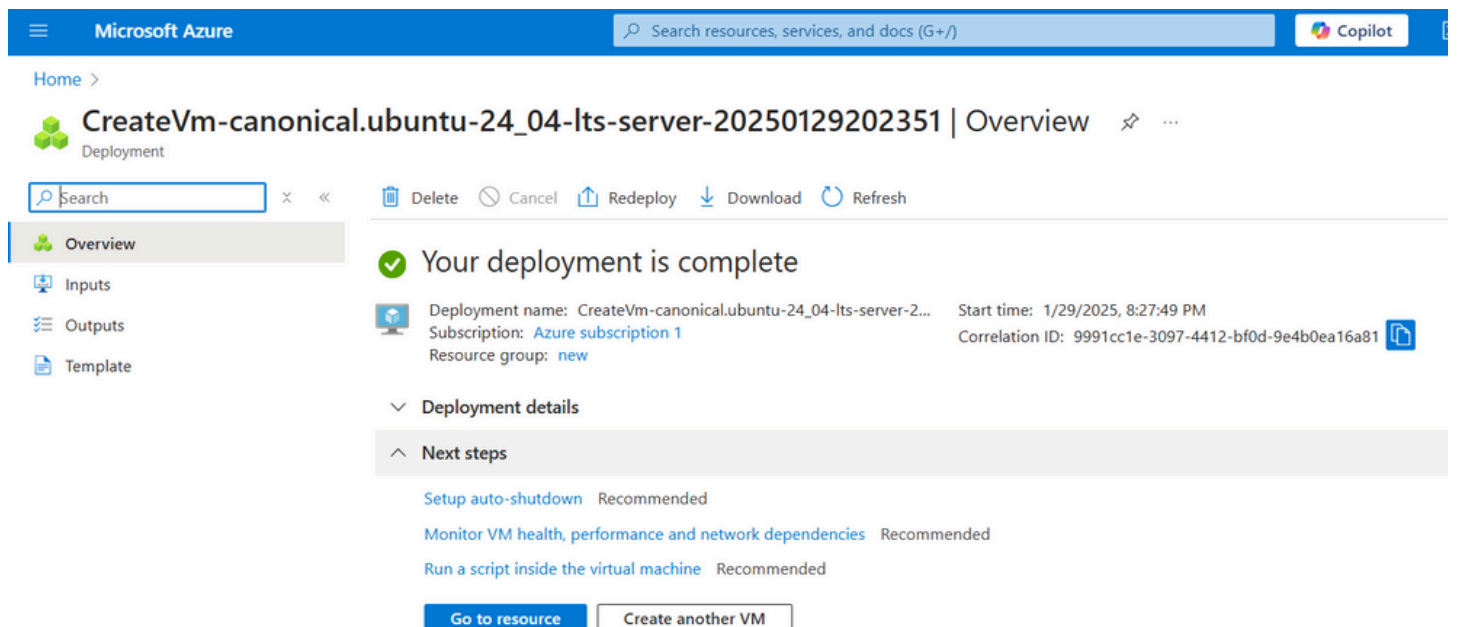
Click on review+create, select create



select Download private key

STEP 4:

Deployment is complete



STEP 5:

Click on go to resource, select connect

Microsoft Azure

Search resources, services, and docs (G+)

Home > CreateVm-canonical.ubuntu-24_04-lts-server-20250129202351 | Overview >

VM1
Virtual machine

Search

Help me copy this VM in any region

Connect Start Restart Stop Hibernate Capture Delete Refresh Open in mobile Feedback CLI / PS

Essentials

Resource group (move) : new

Status : Running

Location : East US (1)

Subscription (move) : Azure subscription 1

Subscription ID : 08ff6072-2cd8-4ef6-9efe-1ac2db5dab27

Availability zone : 1

Tags (edit) : Add tags

Operating system : Linux (ubuntu 24.04)

Size : Standard DC1s v2 (1 vcpu, 4 GiB memory)

Public IP address : 52.186.170.45

Virtual network/subnet : VM1-vnet/default

DNS name : Not configured

Health state : -

Time created : 1/29/2025, 2:58 PM UTC

Properties Monitoring Capabilities (7) Recommendations Tutorials

STEP 6:

Select SSH and copy the path

Microsoft Azure

Search resources, services, and docs (G+)

Home > CreateVm-canonical.ubuntu-24_04-lts-server-20250129202351 | Overview > VM1

VM1 | Connect
Virtual machine

Search

Refresh Troubleshoot More Options Feedback

Connecting using
Public IP address | 52.186.170.45

Admin username : azureuser

Port (change) : 22 Check access

Just-in-time policy : Unsupported by plan

Recommended

Local machine Azure portal

SSH using Azure CLI
Quickly connect in browser. Supports Microsoft Entra

Most common

Local

Native SSH
No additional software needed. Private key re

Native SSH

Connect from your local machine (Windows)

2 Open a local shell (on Windows)
Open Terminal (Windows 11), PowerShell (Windows 10 or less), or a shell of your choice. Or switch the local machine OS above to view more instructions.

3 Copy and execute SSH command
Provide a path to your SSH private key file on your local machine.

~/ssh/id_rsa.pem

Can't find your private key? Reset your SSH private key

SSH to VM with specified private key.

ssh -i ~/ssh/id_rsa.pem azureuser@52.186.170.45

Other Information

Using a Linux subsystem like WSL or Ubuntu on Terminal?

Copy your private key path to the Linux subsystem and ensure it has the correct read-only access.

Move your private key to the Linux subsystem. Use chmod to assign read-only access, then SSH.

Copied

STEP 7:

Open command prompt, copy the path of downloaded file and paste it here.
click enter

The VM is accessed successfully

```
C:\Users\DELL>ssh -i C:\Users\DELL\Downloads\VM1_key.pem azureuser@52.186.170.45
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1020-azure x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/pro

System information as of Wed Jan 29 15:09:43 UTC 2025

System load:  0.08          Processes:            111
Usage of /:   5.4% of 28.02GB Users logged in:        0
Memory usage: 6%          IPv4 address for eth0: 10.0.0.4
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
```

Outcomes of Using SSH in Azure Virtual Machines

1 Secure & Encrypted Access

- Ensures safe remote login and communication, protecting sensitive data from cyber threats.

2 Efficient Remote Management

- Enables seamless administration, troubleshooting, and automation of server tasks from anywhere.

3 Enhanced DevOps & CI/CD Integration

- Facilitates secure deployments, script execution, and server configuration in cloud environments.

4 Improved Access Control & Authentication

- Strengthens security with key-based authentication and supports multi-user role-based access.

