

Creating a VM using Azure

Creating the VM manually on Azure

After creating an account on Azure with my personal email (while waiting for my PNC credentials to get processed), I used the free services page on azure portal (<https://go.microsoft.com/fwlink/?linkid=859151>) to create a Linux Virtual Machine.

The details of the machine I created are shown below:

Create a virtual machine

✓ Validation passed

Basics Tags Review + create

⚠ **You have set SSH port(s) open to the internet.** This is only recommended for testing. If you want to change this setting, go back to Basics tab.

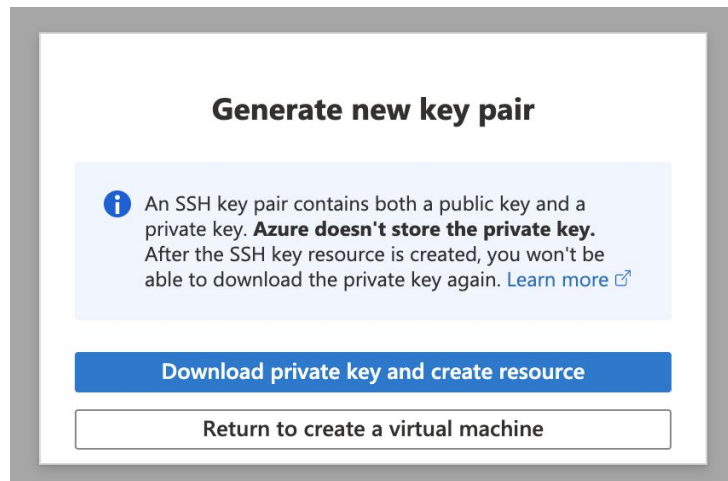
Ubuntu Server 16.04-LTS
Image

Standard B1s
1 vcpu, 1 GiB memory

Basics

Subscription	Free Trial
Resource group	pncvm_group
Virtual machine name	pncvm
Region	West US 2
Image	Ubuntu Server 16.04-LTS - Gen1
Size	Standard B1s (1 vcpu, 1 GiB memory)
Authentication type	SSH public key
Username	azureuser
Key pair name	pncvm_key
Public inbound ports	SSH
Azure Spot	No

After selecting “create”, I was prompted to generate and save the key-value pair to my computer



After this the VM began to deploy.

... Deployment is in progress



Deployment name: CreateVm-canonical.UbuntuServer-16.04-LTS-2...
Subscription: [Free Trial](#)
Resource group: [pncvm](#)

Start time: 1/19/2021, 2:56:37 PM
Correlation ID: 74ad9bb9-2c99-4435-9dc5-31b18dad8584

And as soon as it was complete, I could see it in my dashboard of VMs



Your deployment is complete



Deployment name: CreateVm-canonical.UbuntuServer-16.04-LTS-2...
Subscription: [Free Trial](#)
Resource group: [pncvm](#)

Start time: 1/19/2021, 2:56:37 PM
Correlation ID: 74ad9bb9-2c99-4435-9dc5-31b18dad8584

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1 items

<input type="checkbox"/>	Name ↑↓	Type ↑↓	Status	Resource group ↑↓	Location ↑↓	Source	Maintenance status	Subscription ↑↓	
<input type="checkbox"/>	pncvm	Virtual machine	Creating	pncvm	West US 2	Marketplace	-	Free Trial	...

Connecting to the Virtual Machine from my computer

Initially I tried to use the instructions found here

<https://docs.microsoft.com/en-us/azure/virtual-machines/ssh-keys-portal> to use my SSH key to connect to my VM using 'ssh -i <path-to-key-file> <username>@<VM's-IP-address>'.

I got this error:

```
priyakanipakam@Priyas-MBP-2 virtualmachine % ssh -i pncvm_key_0119.pem azureuser@52.183.85.79
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@                WARNING: UNPROTECTED PRIVATE KEY FILE!                @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
Permissions 0644 for 'pncvm_key_0119.pem' are too open.
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
Load key "pncvm_key_0119.pem": bad permissions
azureuser@52.183.85.79: Permission denied (publickey).
```

This was because you need to switch the file with the key to a read only file for security reasons. I did this using the command "chmod 400 <file-name>.pem. After this, I was able to connect to my VM.

```
priyakanipakam@Priyas-MBP-2 virtualmachine % ssh -i pncvm_key_0119.pem azureuser@52.183.85.79
Welcome to Ubuntu 16.04.7 LTS (GNU/Linux 4.15.0-1103-azure x86_64)

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

0 packages can be updated.
0 of these updates are security updates.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

azureuser@pncvm:~$
```

Creating a VM using terraform

In order to explore how we could use automation to create VMs in azure, I will create a VM using terraform.

About terraform

- It is used for provisioning and managing cloud infrastructure. It codifies infrastructure in configuration files that describe the topology of cloud resources.

- Terraform CLI provides a simple mechanism to deploy and version the configuration files to Azure.

Instructions:

<https://docs.microsoft.com/en-us/azure/developer/terraform/create-linux-virtual-machine-with-infrastructure>