

AZURE: CREATE VM USING CLI

STEP 1: Login with the Azure account --> **az login**

```
Microsoft Windows [Version 10.0.26100.3037]
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C:\Users\IQ-Swati>az login
Select the account you want to log in with. For more information on login with Azure CLI, see https://go.microsoft.com/fwlink/?linkid=2271136

Retrieving tenants and subscriptions for the selection...

[Tenant and subscription selection]

No  Subscription name  Subscription ID  Tenant
-----
[1] * Free Trial      3fe041a9-6832-44b5-ab69-00c5cc46338a  Default Directory

The default is marked with an *; the default tenant is 'Default Directory' and subscription is 'Free Trial' (3fe041a9-6832-44b5-ab69-00c5cc46338a).

Select a subscription and tenant (Type a number or Enter for no changes): 1

Tenant: Default Directory
Subscription: Free Trial (3fe041a9-6832-44b5-ab69-00c5cc46338a)

[Announcements]
With the new Azure CLI login experience, you can select the subscription you want to use more easily. Learn more about it and its configuration at https://go.microsoft.com/fwlink/?linkid=2271236

If you encounter any problem, please open an issue at https://aka.ms/azclibug

[Warning] The login output has been updated. Please be aware that it no longer displays the full list of available subscriptions by default.
```

STEP 2: Create Resource Group --> **az group create --name MyResourceGroup --location eastus**

```
C:\Users\IQ-Swati>az group create --name MyResourceGroup --location eastus
{
  "id": "/subscriptions/3fe041a9-6832-44b5-ab69-00c5cc46338a/resourceGroups/MyResourceGroup",
  "location": "eastus",
  "managedBy": null,
  "name": "MyResourceGroup",
  "properties": {
    "provisioningState": "Succeeded"
  },
  "tags": null,
  "type": "Microsoft.Resources/resourceGroups"
}
```

STEP 3: Create Virtual Machine --> **az vm create --resource-group MyResourceGroup --name MyVM --image Ubuntu2404 --admin-username azureuser --generate-ssh-keys**

```
C:\Users\IQ-Swati>az vm create --resource-group MyResourceGroup --name MyVM --image Ubuntu2404Pro --admin-username azureuser --generate-ssh-keys
{
  "fqdns": "",
  "id": "/subscriptions/3fe041a9-6832-44b5-ab69-00c5cc46338a/resourceGroups/MyResourceGroup/providers/Microsoft.Compute/virtualMachines/MyVM",
  "location": "eastus",
  "macAddress": "7C-1E-52-7C-F8-E8",
  "powerState": "VM running",
  "privateIpAddress": "10.0.0.4",
  "publicIpAddress": "0.157.246.239",
  "resourceGroup": "MyResourceGroup",
  "zones": ""
}
```

STEP 4: Open port 80 for web traffic --> **az vm open-port --port 80 --resource-group MyResourceGroup --name MyVM**

```
C:\Users\IQ-Sent>az vm open-port --port 80 --resource-group MyResourceGroup --name MyVM
{
  "defaultSecurityRules": [
    {
      "access": "Allow",
      "description": "Allow inbound traffic from all VMs in VNET",
      "destinationAddressPrefix": "VirtualNetwork",
      "destinationAddressPrefixes": [],
      "destinationPortRange": "*",
      "destinationPortRanges": [],
      "direction": "Inbound",
      "etag": "W/\"2458654c-777a-49fc-984e-990a6b6586d1\"",
      "id": "/subscriptions/3fe841a9-6832-44b5-ab69-00c5cc46338a/resourceGroups/MyResourceGroup/providers/Microsoft.Network/networkSecurityGroups/MyVMSG/defaultSecurityRules/AllowVnetInBound",
      "name": "AllowVnetInBound",
      "priority": 65000,
      "protocol": "*",
      "provisioningState": "Succeeded",
      "resourceGroup": "MyResourceGroup",
      "sourceAddressPrefix": "VirtualNetwork",
      "sourceAddressPrefixes": [],
      "sourcePortRange": "*",
      "sourcePortRanges": [],
      "type": "Microsoft.Network/networkSecurityGroups/defaultSecurityRules"
    }
  ],
}
```

STEP 5: SSH into VM --> **ssh azureuser@4.157.246.239**

```
C:\Users\IQ-Sent>ssh azureuser@4.157.246.239
The authenticity of host '4.157.246.239 (4.157.246.239)' can't be established.
ED25519 key fingerprint is SHA256:C5s2zb0k22It+D4Te6vXQcck7dVomH+j7FVzo2mkUJ.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '4.157.246.239' (ED25519) to the list of known hosts.
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1021-azure x86_64)
```

STEP 6: Install Apache on the VM --> **sudo apt update**

sudo apt install apache2 -y

```
azureuser@MyVM:~$ sudo apt update
sudo apt install apache2 -y
Hit:1 http://azure.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://azure.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://azure.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://azure.archive.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:5 http://azure.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:6 http://azure.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://azure.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:8 http://azure.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:9 http://azure.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:10 http://azure.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:11 http://azure.archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:12 http://azure.archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:13 http://azure.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [865 kB]
Get:14 http://azure.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [106 kB]
```

STEP 7: Accessing the Apache Home Page.

GENERATING CSR.pdf - Object in xThree-Month-Assessment/SECTMyVMPublicIP - Microsoft AzureApache2 Ubuntu Default Page: It x

←↻⚠ Not secure4.157.246.239



Apache2 Default Page

Ubuntu

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
/   |-- ports.conf
|-- mods-enabled
/   |-- *.load
/   |-- *.conf
|-- conf-enabled
/   |-- *.conf
|-- sites-enabled
/   |-- *.conf
```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- `ports.conf` is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.
- Configuration files in the `mods-enabled/`, `conf-enabled/` and `sites-enabled/` directories contain particular configuration snippets which manage modules, global configuration fragments, or virtual host configurations, respectively.
- They are activated by symlinking available configuration files from their respective `*-available/` counterparts. These should be managed by using our helpers `a2enmod`, `a2dismod`, `a2ensite`, `a2dissite`, and `a2enconf`, `a2disconf`. See their respective man pages for detailed information.