🧪 **Lab: Create an Azure VM and Deploy a Sample App**

🔧 **Part 1: Create the Virtual Machine**

1. Log into the [Azure Portal](#)

2. Navigate to "Virtual machines" > Click "+ Create" > "Azure virtual machine"

3. Basics tab:

- **Subscription:** Select your Azure subscription

- **Resource group:** Create or select an existing one (e.g., LabRG)

- **Virtual machine name:** SampleVM

- **Region:** Choose one near you

- **Image:** Ubuntu 20.04 LTS

- **Size:** e.g., Standard B1s (cheap and good for testing)

- **Authentication type:** SSH public key (recommended) or password

- **Username:** azureuser

- **SSH key:** Generate or paste your public key

4. Disks tab:

- Leave default (Premium SSD or Standard SSD)

5. Networking tab:

- Use default virtual network and subnet

- **Public IP:** Yes (for remote access)

- **NIC network security group (NSG):**

    - Allow **SSH (port 22)**

    - Click **"Add inbound port rule"** > Allow **HTTP (port 80)**

6. Management, Monitoring, and Advanced: leave defaults (or disable diagnostics if not needed)

7. Click "Review + create" > Create

Wait for deployment to complete (1–2 minutes).

💻 **Part 2: Connect to the VM via SSH**

1. Get the public IP address from the VM overview page.

2. Open a terminal and connect:

ssh azureuser@<your-public-ip>efb

If you're using Windows and don't have a native terminal, use **PuTTY** or Windows Terminal with WSL.

🛠️ **Lab Steps**

Step 1: Update Package Repository

Run the following command to update Ubuntu's package index:

sudo apt update

✅ This ensures you get the latest available version of Nginx.

Step 2: Install Nginx

Install the Nginx package:

sudo apt install nginx -y

✅ The -y flag auto-confirms installation.

Step 3: Start Nginx Service

Start the Nginx service:

sudo systemctl start nginx

Step 4: Enable Nginx on Boot

Ensure Nginx starts automatically when the system reboots:

sudo systemctl enable nginx

Step 5: Verify Nginx Service Status

Check if Nginx is running:

systemctl status nginx

✅ You should see Active: running in green.

Step 6: Configure Firewall (if enabled)

If UFW firewall is enabled, allow HTTP traffic:

sudo ufw allow 'Nginx HTTP'
sudo ufw status

✅ This opens port 80 (HTTP).

Step 7: Verify Installation in Browser

Get your server's IP:

hostname -I

   1.

Open a web browser and go to:

http://<your-server-ip>

   2.

✅ You should see the Nginx Welcome Page.

⚡ **Useful Nginx Commands**

Action	Command
Start Nginx	sudo systemctl start nginx
Stop Nginx	sudo systemctl stop nginx
Restart Nginx	sudo systemctl restart nginx
Reload Config	sudo systemctl reload nginx
Check Status	systemctl status nginx

📌 Lab Verification

✔️ Run systemctl status nginx → should show running
✔️ Access http://<server-ip> → should display the Nginx default page

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🔍 Part 4: Test Your App

1. Open your browser

2. Navigate to: http://<your-public-ip>

You should see the "Welcome to Azure VM Web App" page 🎉

✅ Optional: Clean Up

To avoid charges:

- Stop or delete the VM

- Delete the resource group (LabRG) to remove everything