

Video demo link: [COMING SOON]

Scenario: Establishing the Heart of 555Lab

Background:

555Lab, a fictional cybersecurity research firm that I've created, is expanding its internal infrastructure to support a growing team. To enhance security and centralized management, the IT department has decided to **deploy Windows Server 2022 as a Domain Controller (DC)**.

My task is to **set up and configure 555Lab's domain controller**, ensuring it provides authentication, authorization, and directory services for the organization.

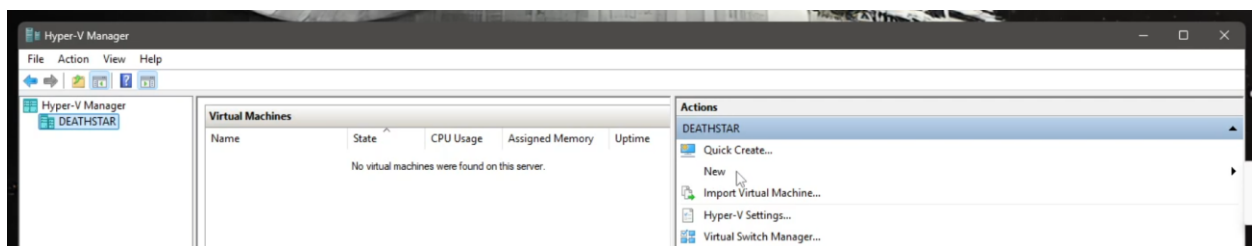
The Deployment Begins...

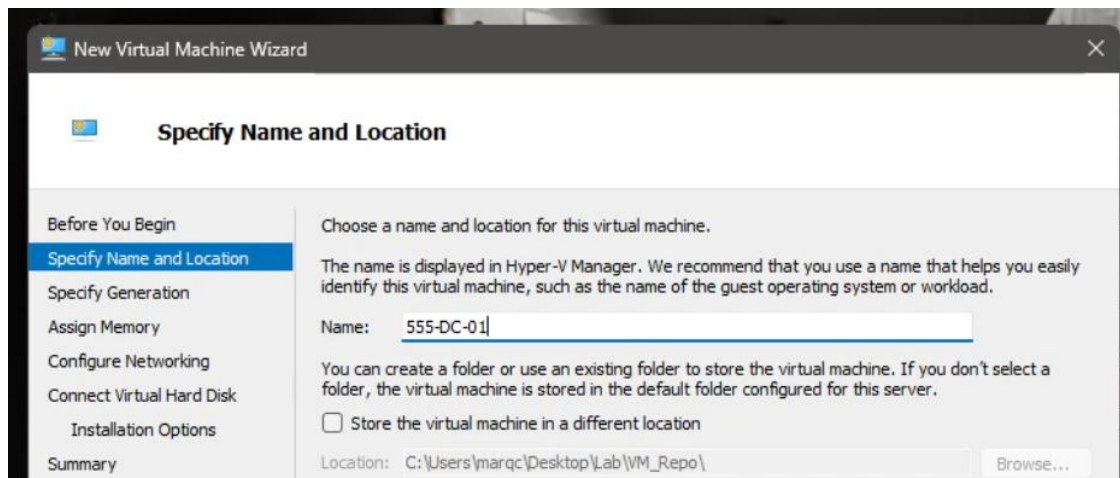
Step 1: Installing Windows Server 2022

I would begin by provisioning a **virtual machine** in **Hyper-V**, assigning:

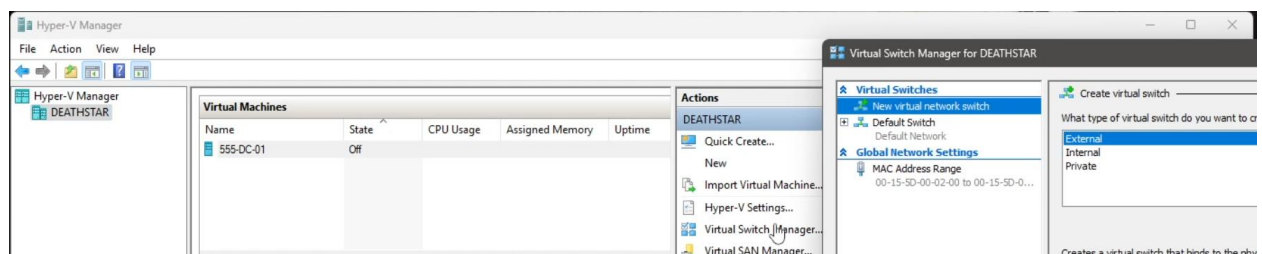
- **4 vCPUs**
- **4GB RAM**
- **100GB Storage**
- **Static IP: 192.168.10.10**

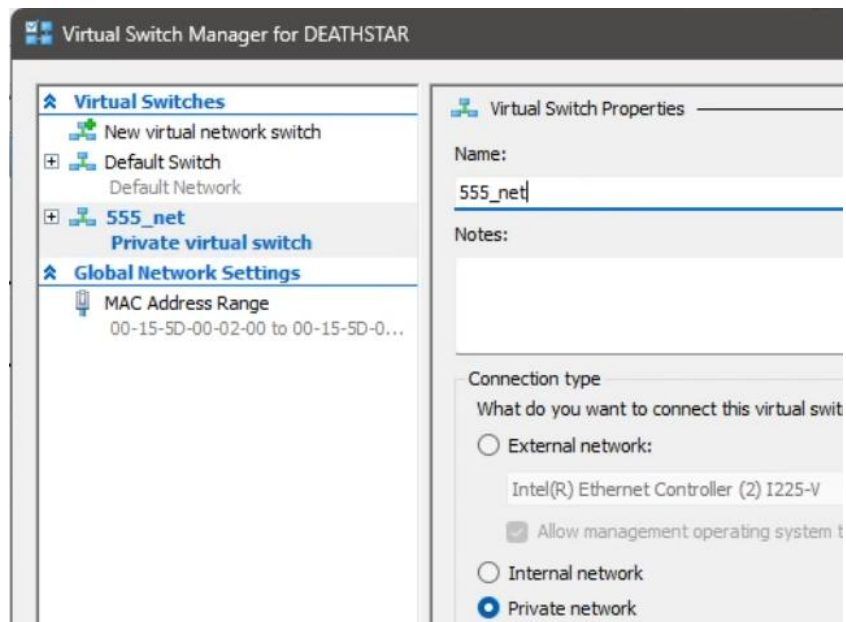
First, we start by creating our domain controller...



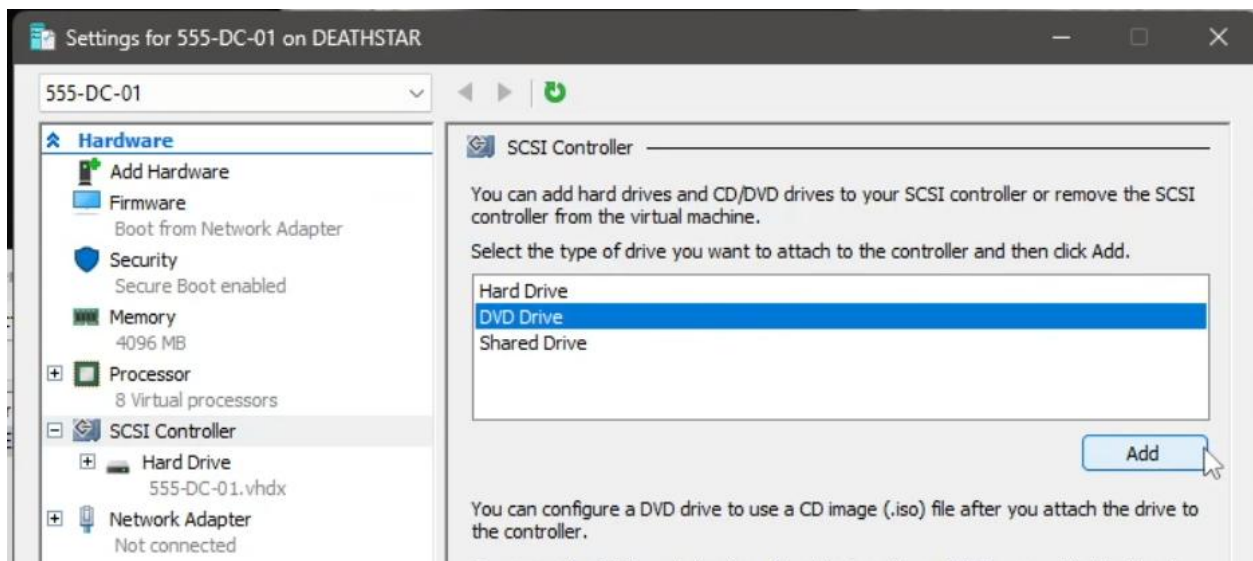
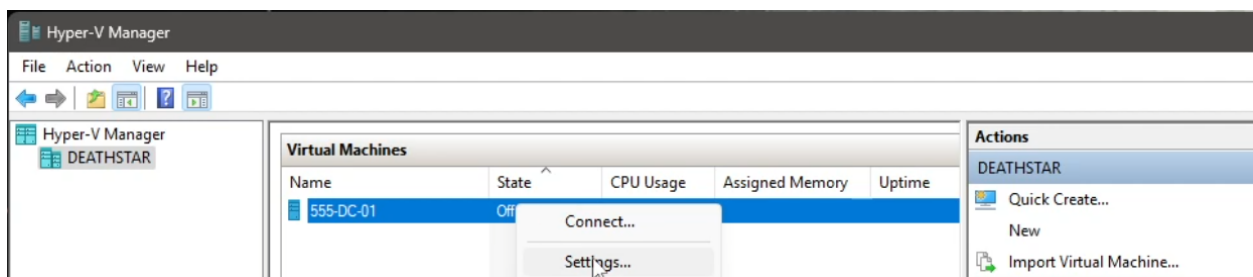


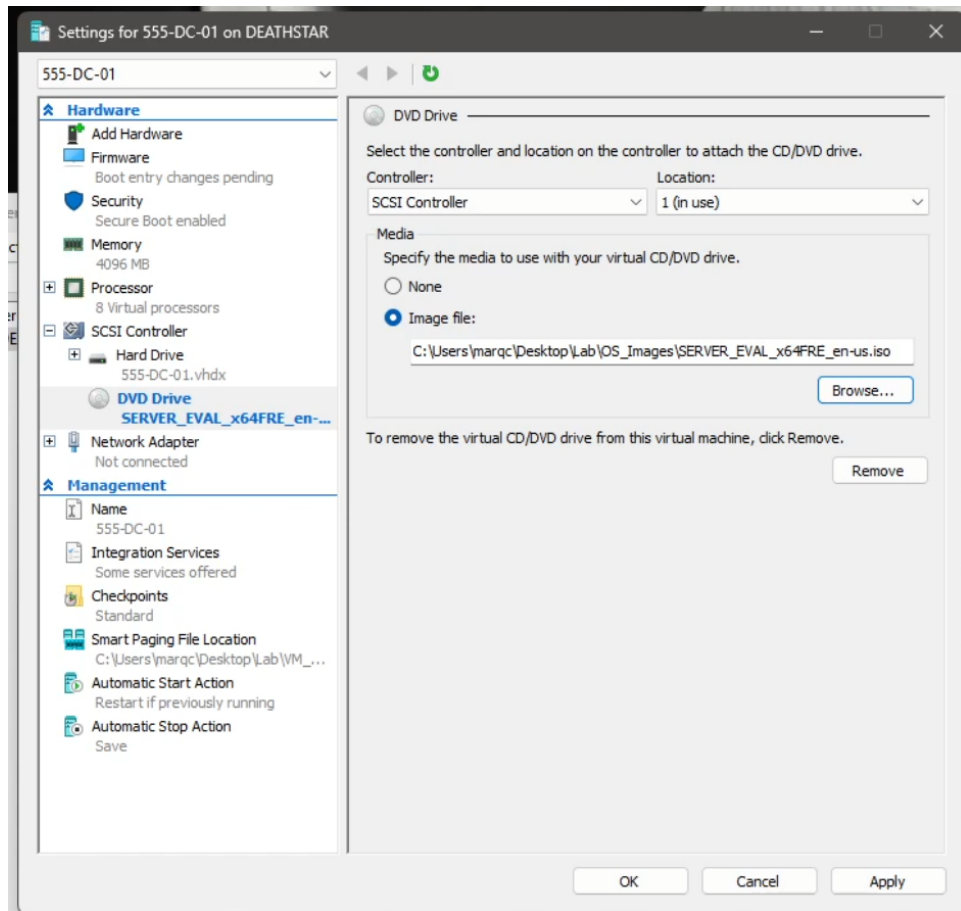
Once the domain controller virtual machine was created, I moved onto setting up the private network before installing Windows Server onto the virtual machine – naming the Private virtual switch “555_net” and not touching any other settings for now...



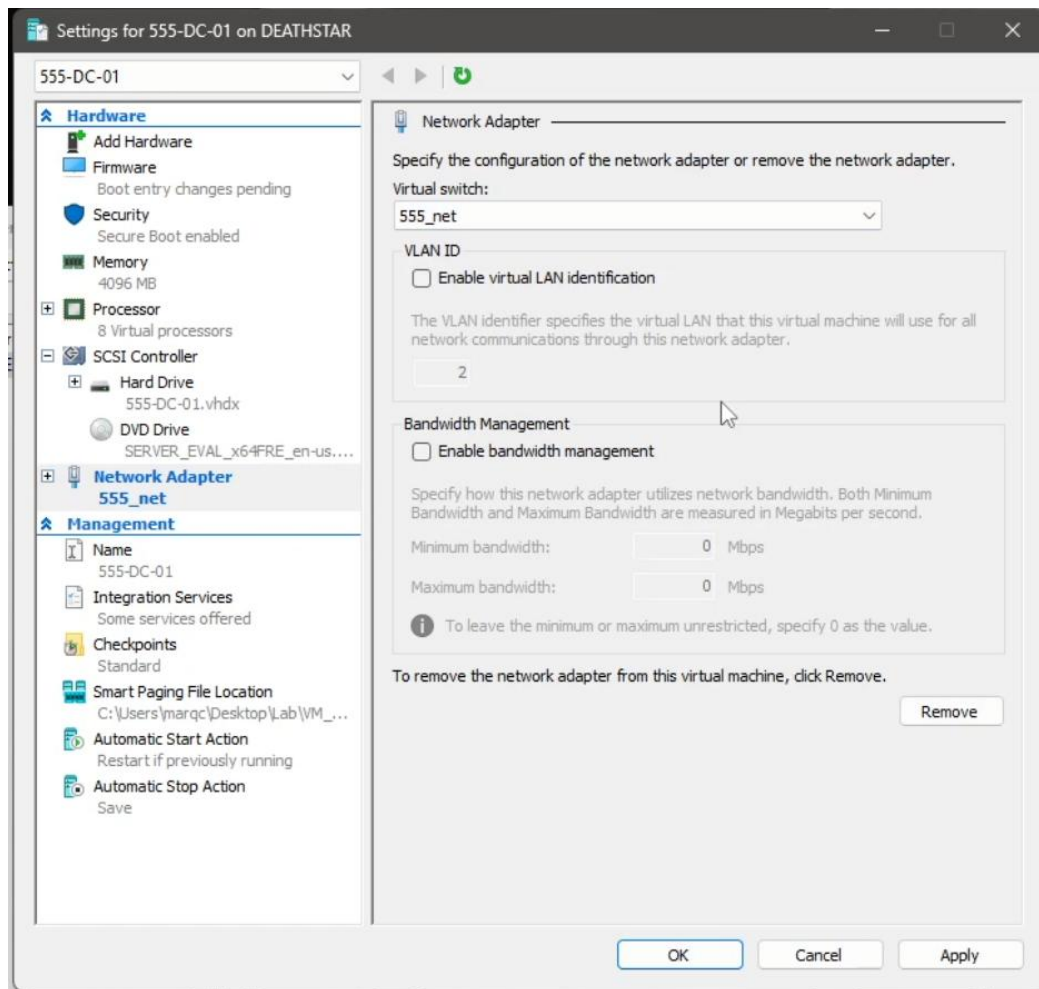


Then, we move onto configuring the settings for the domain controller virtual machine. Starting with attaching a DVD drive and loading the Windows Server 2022 iso ...

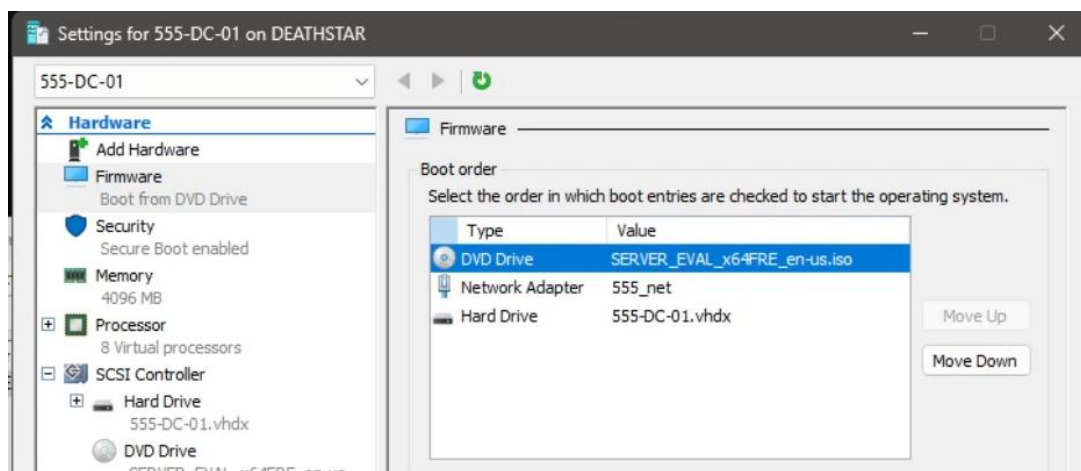


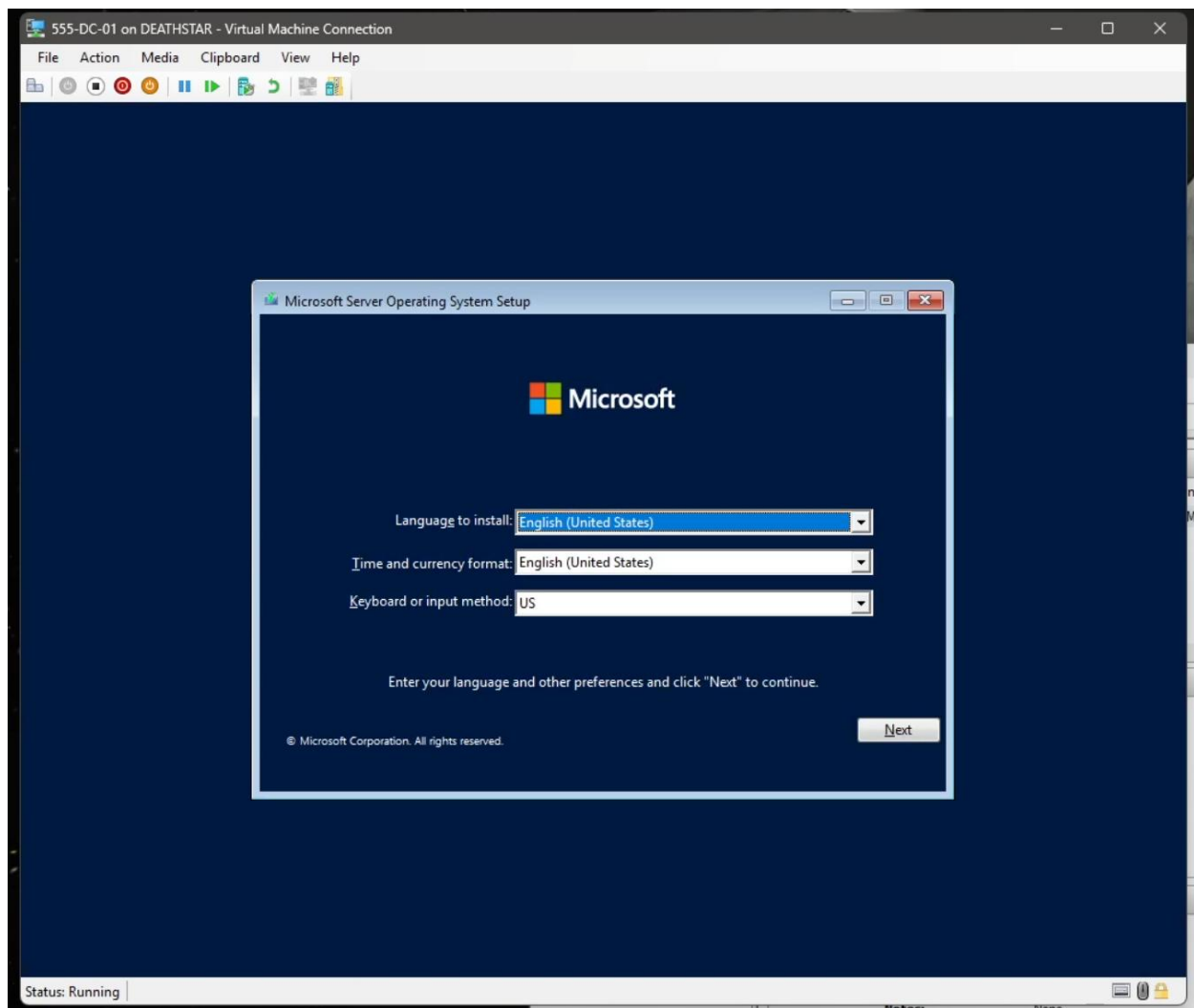


Then moving onto connecting the vNIC for our domain controller to the “555_net” Private network...



Following up with changing the boot order to make sure that we begin with the operating system installation process...



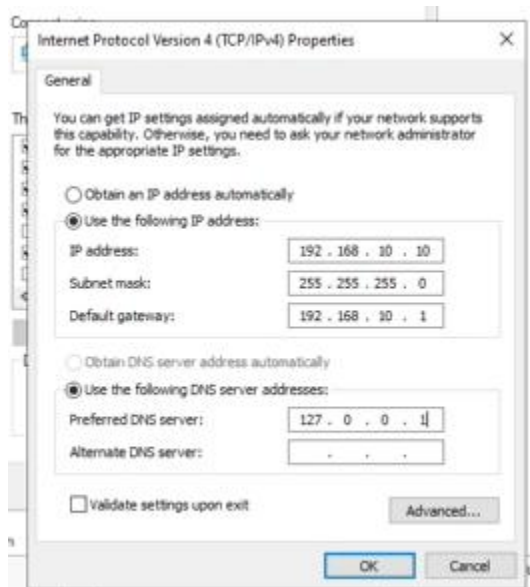


For the purposes of this demonstration, I wanted to select the “Windows Server 2022 Standard Evaluation (Desktop Experience)” option that way I could interact with the OS via desktop GUI. In an actual enterprise setting, needs may be different – to preserve resource usage, one may choose to opt for the option without the Desktop Experience instead and interact with the operating system via terminal.



Once Windows Server 2022 is installed, I would log into the Administrator account we created during setup and start with configuring a static IP address for the server:

1. Going into Control Panel > Network and Internet > Network Connections
2. Finding the primary NIC > Right Click and selecting Properties
3. Disabling TCP/IPv6 (for the purposes of this lab)
4. Left Click TCP/IPv4 and select the Properties option



5. Select "Use the following IP address:" and type in the following fields:
 - a. IP Address: 192.168.10.10
 - b. Subnet Mask: 255.255.255.0
 - c. Default Gateway: 192.168.10.1 (we'll get more into this later into the portfolio)
6. For the two DNS server fields:

- a. Preferred DNS server: 127.0.0.1 (it would be better to separate your DNS Server from your DC but for the purposes of this lab it is not necessary)
- b. Alternate DNS server: (leaving this blank)

Then I needed to change the hostname for the domain controller...

I could perform this task in one of two ways:

The quickest:

1. Open Powershell (as Admin)
2. Then run the following command "Rename-Computer -NewName "555-DC-01" -Restart"

For visuals:

1. Open Settings > System > About
2. Advanced System Settings > Computer Name tab > Change...
3. In the computer name field "555-DC-01" then click OK
4. Reboot

I prefer to script, for future provisioning purposes... If I ever had to build this back out it would be faster and less cumbersome to automate the process very quickly versus manually performing these steps and for the purpose of this portfolio, I will be using commands the rest of the way...

Step 2: Installing Active Directory Domain Services (AD DS)

Next, I would install the **AD DS role** using PowerShell (as admin):

```
Install-WindowsFeature -Name AD-Domain-Services -IncludeManagementTools
```

After installation, I would promote the server to a **Domain Controller**:

```
Install-ADDSForest -DomainName "555Lab.com" -CreateDnsDelegation:$false -  
DatabasePath "C:\NTDS" -SysvolPath "C:\SYSVOL" -LogPath "C:\Logs" -Force
```

And once the server reboots, we now have our primary domain, **555Lab.com**.