# Promoting a Domain Controller using Windows PowerShell

## **Pre-Requisites**

I worked on this project by doing the following:

* Step 1: Create a VM using Oracle VirtualBox with the following settings:
  + Name: AdminDC
  + OS Type: Microsoft Windows
  + OS Version: Windows Server 2019 Desktop Experience (64-bit)
  + RAM: 8 GB
  + HDD Space: 20 GB
* Step 2: Install the Server Operating System
* Step 3: Change IP and assign a FQDN
* Step 4: Assign a Static IP Address (192.168.25.1)
* Step 5: Assign the server a Fully Qualified Domain Name (RootDC.Misfits.org)

## **Verifications**

I verified whether the Domain Controller (DC) was promoted and whether the Active Directory Domain Services (AD DS) existed.

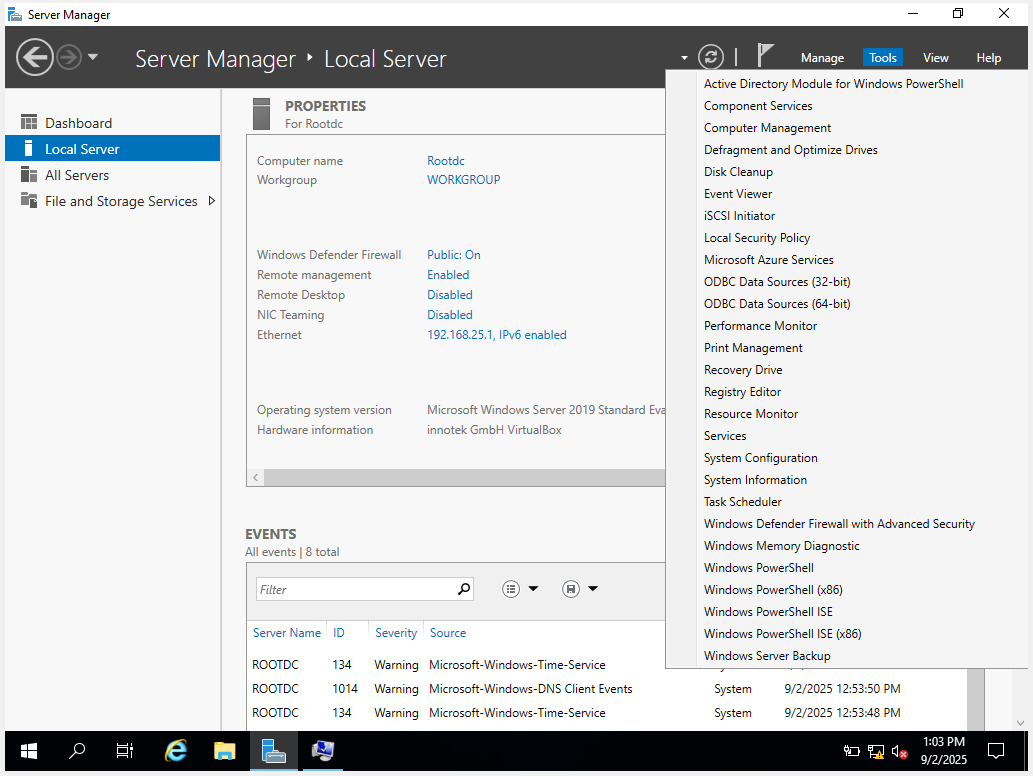


Figure 1: Verifying the ADDS (source: personal collection)

* After confirming it did not exist, I then verified if it was present using the PowerShell Command “Get-Windowsfeature AD-Domain-Services” as follows:

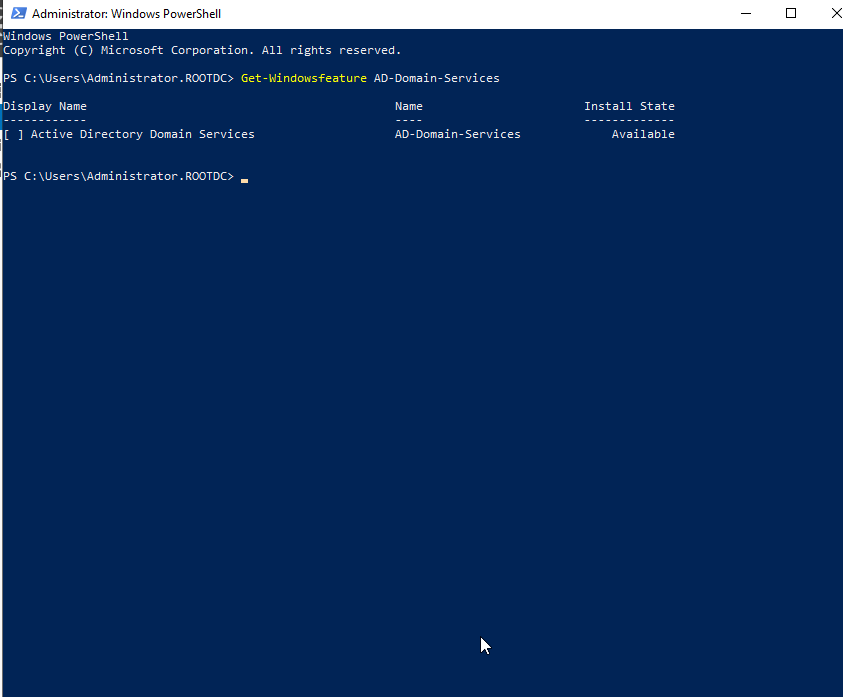


Figure 2: Verifying ADDS using PowerShell (source: personal collection)

* This confirmed that the AD DS was absent in its “Available” state.

### **Installing the AD DS and Active Directory Management Tools**

### I used the PowerShell Command “Install-WindowsFeature AD-Domain-Services –IncludeManagementTools” as follows:

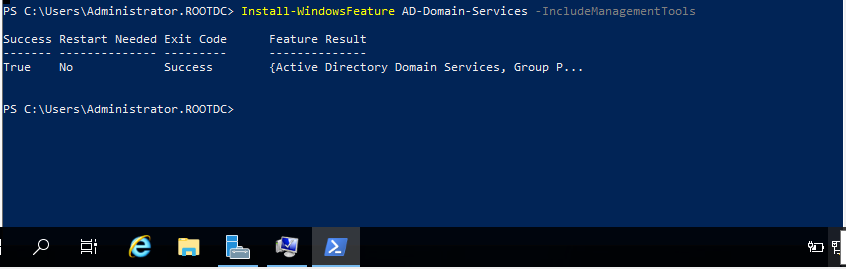


Figure 3: Installing ADDS with PowerShell (source: personal collection)

* After the installation, I then verified if the AD Management Tools were present as follows:

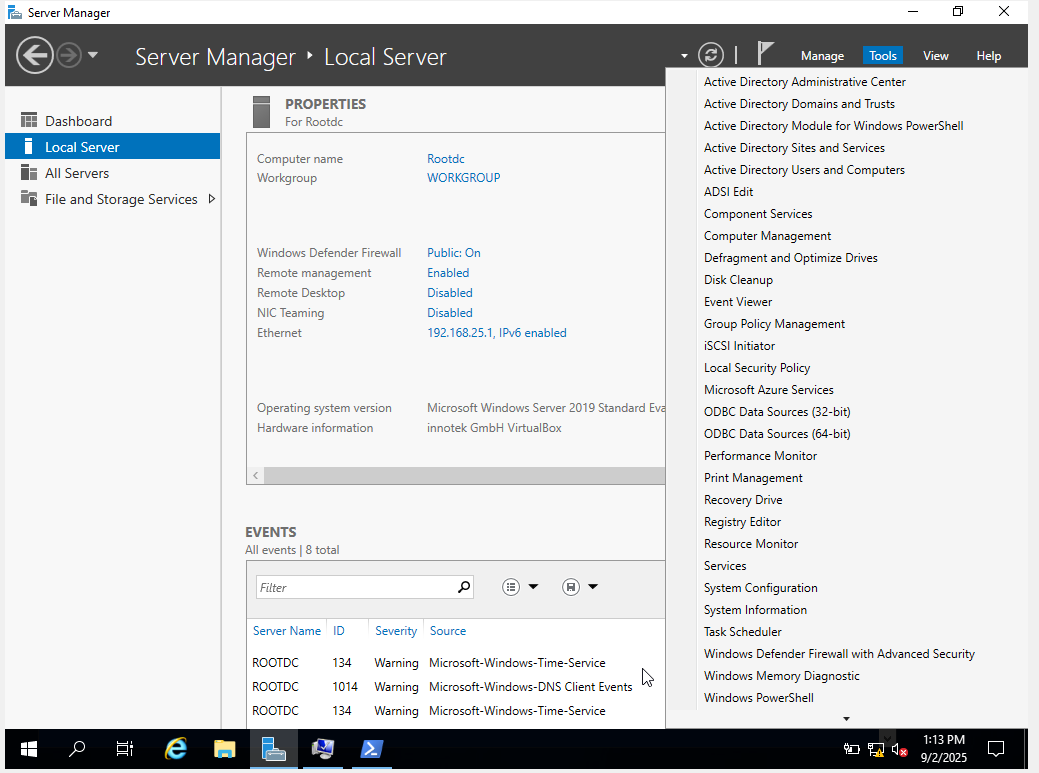


Figure 4: AD Manage Tool verification (personal collection)

### **Importing the AD Deployment module**

* I used the command: “Import-Module-ADDSDeployment” as follows:

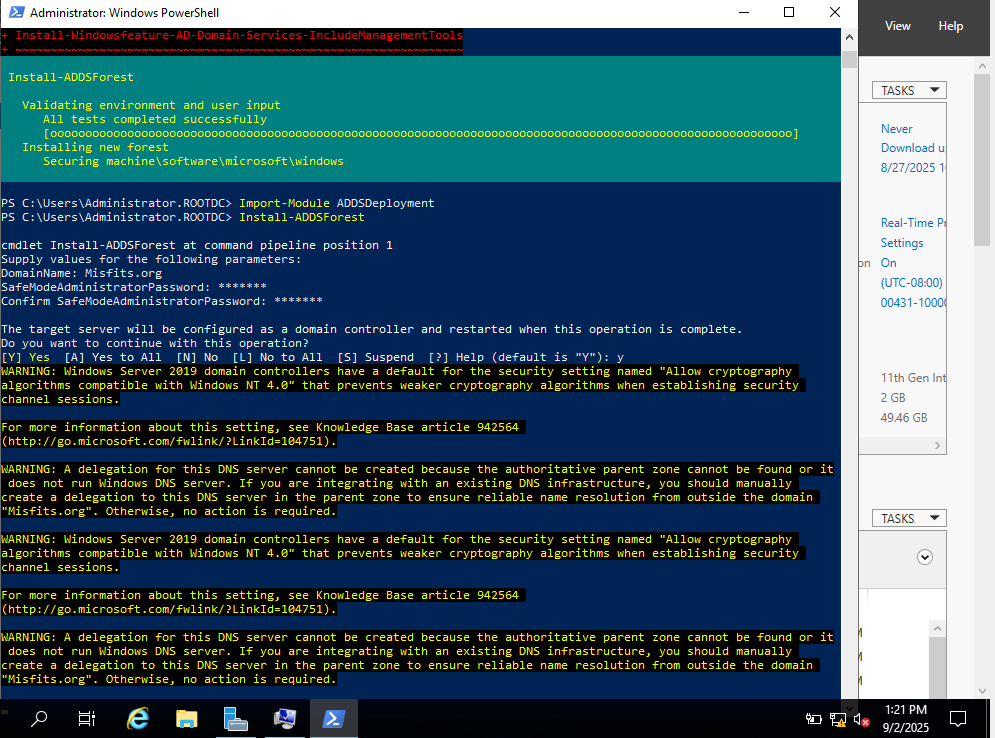


Figure 5: Importing the AD Deployment Module via PowerShell (source: personal collection)

* After the deployment, I noticed a notification about the post-deployment configuration as follows:

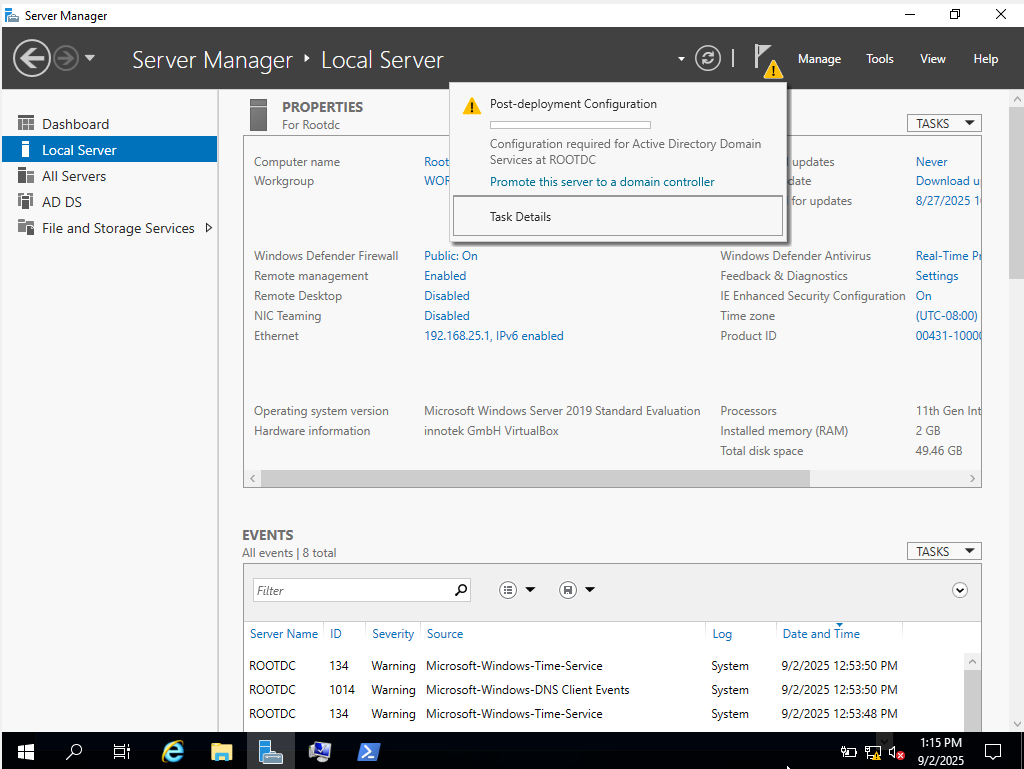


Figure 6: Post-deployment configuration notification (source: personal collection)

* For this lab, I did not click on the option: “Promote this server to a domain controller.”

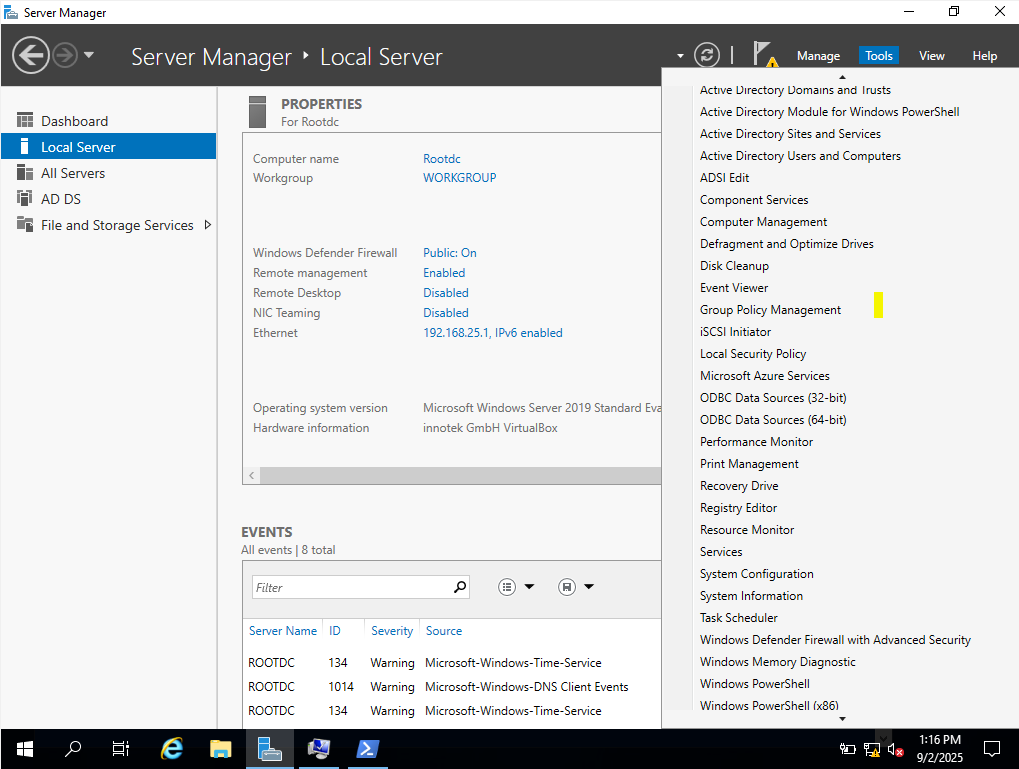


Figure 7: No DNS present after deployment (source: personal collection)

### **Promoting the server with PowerShell**

* I installed the forest using the command: “install-ADDSForest” as follows:

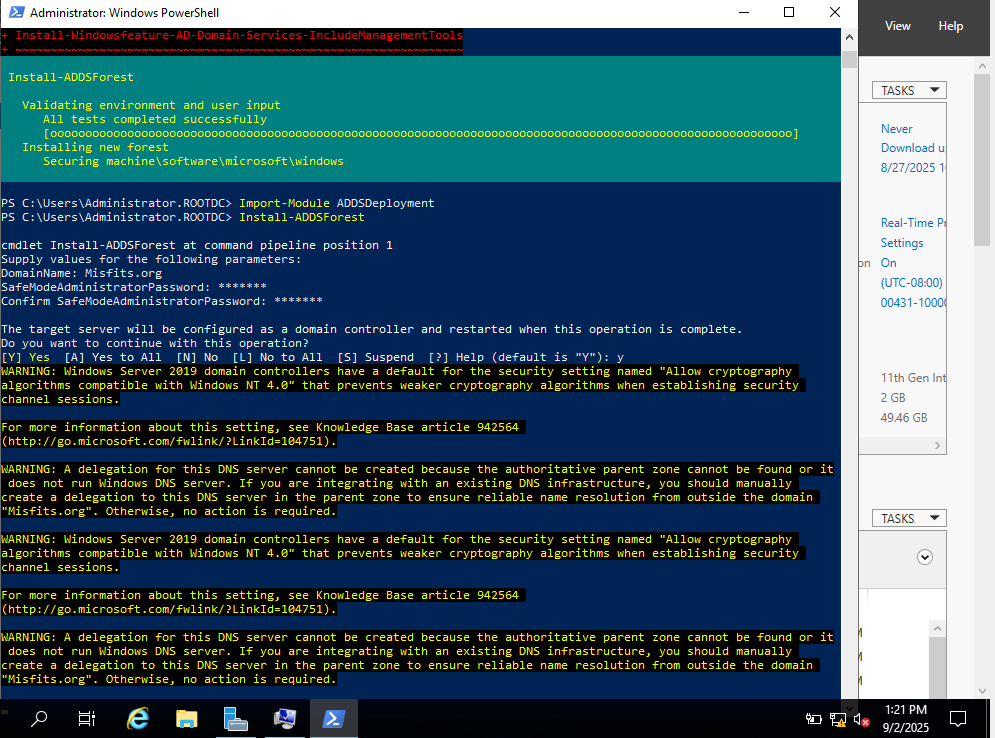


Figure 8: Forest promotion via PowerShell (source: personal collection)

* The installation required:
  + The domain name: Misfits.org
  + The SafeModeAdministratorPassword: Admin@1234Admin
  + Confirm SafeModeAdministratorPassword: Admin@1234Admin
  + Then type: Yes (Y)

### **Promotion verification**

* I verified the promotion from the server manager dashboard as follows:

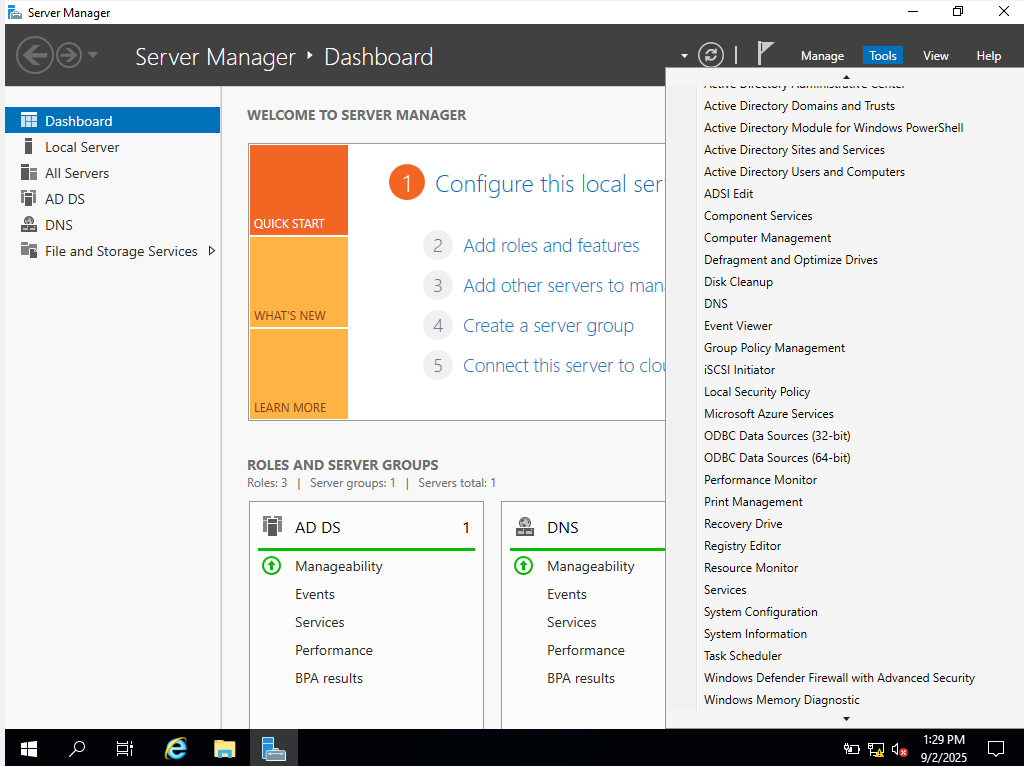


Figure 9: Promotion verification (source: personal collection)

* I was able to confirm that the ADDS management tools, Group Policy Management, and DNS were successfully installed.

### **Exploring the ADDS and DNS manager from the tools tab**

* **Active Directory Administrative Center (ADAC):** This came with details about the Domain Controller as follows:

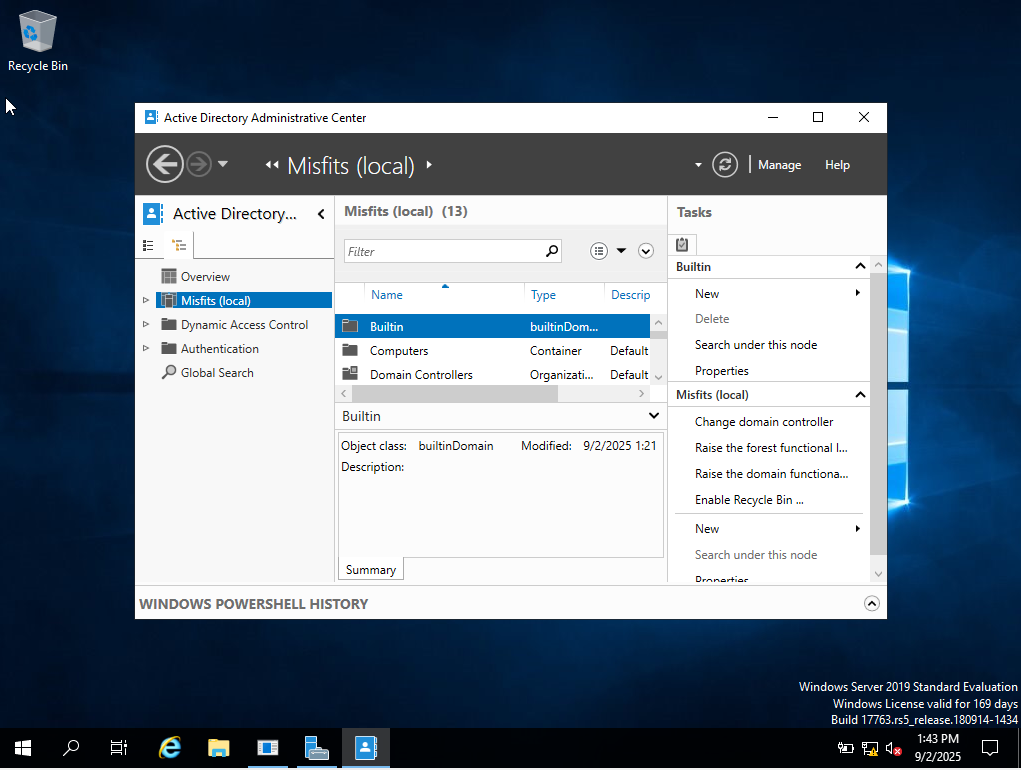


Figure 10: ADAC overview (source: personal collection)

* **Active Directory domains and Trust:** I changed the ”Forest Functional Level” as follows:

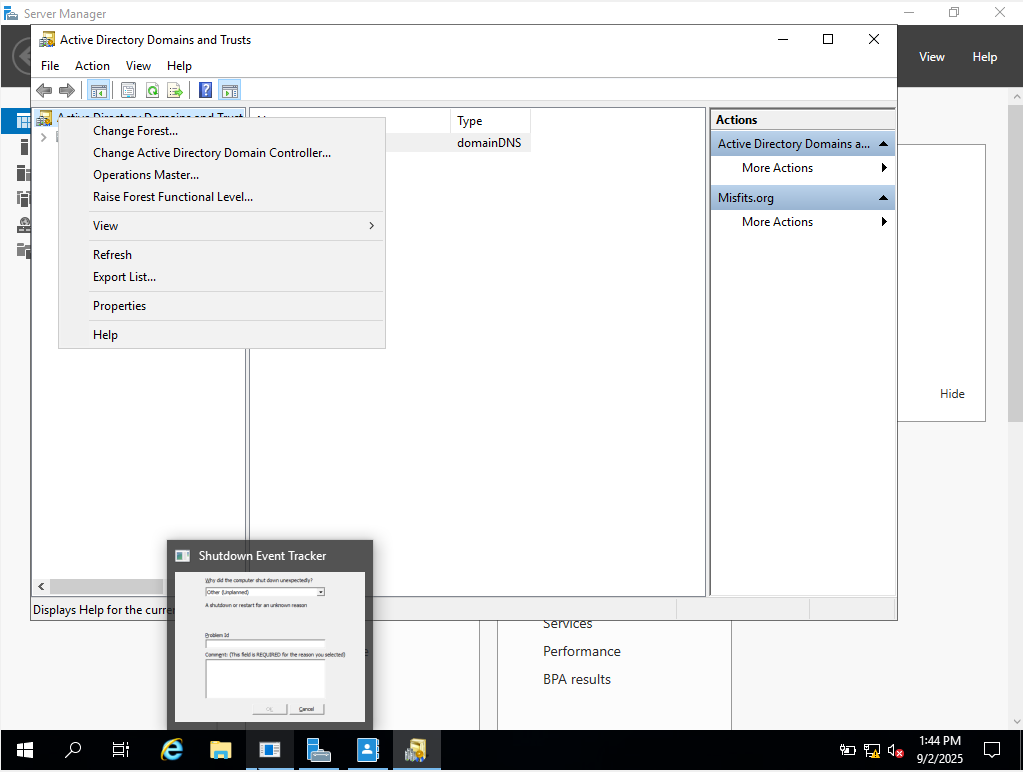


Figure 11: Forest state before the Raise Functional Level (source: personal collection)

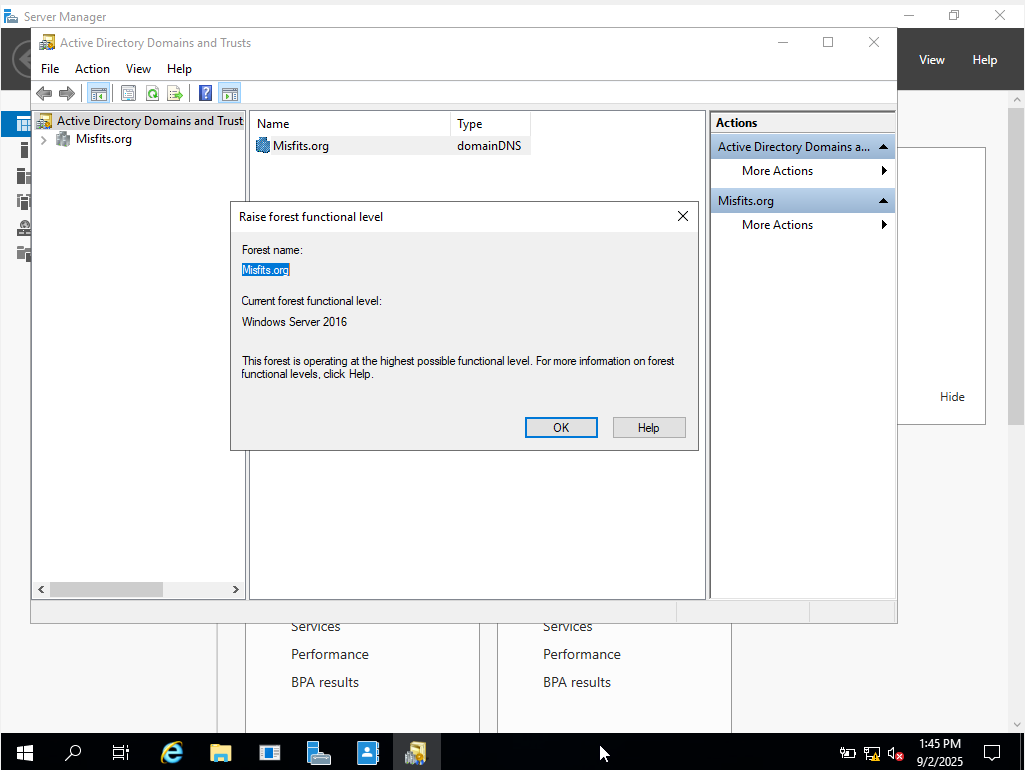


Figure 12: After Raise Functional Level (source: personal collection)

* **Active Directory Sites and Services:** Here, I explored the sites and services as follows:

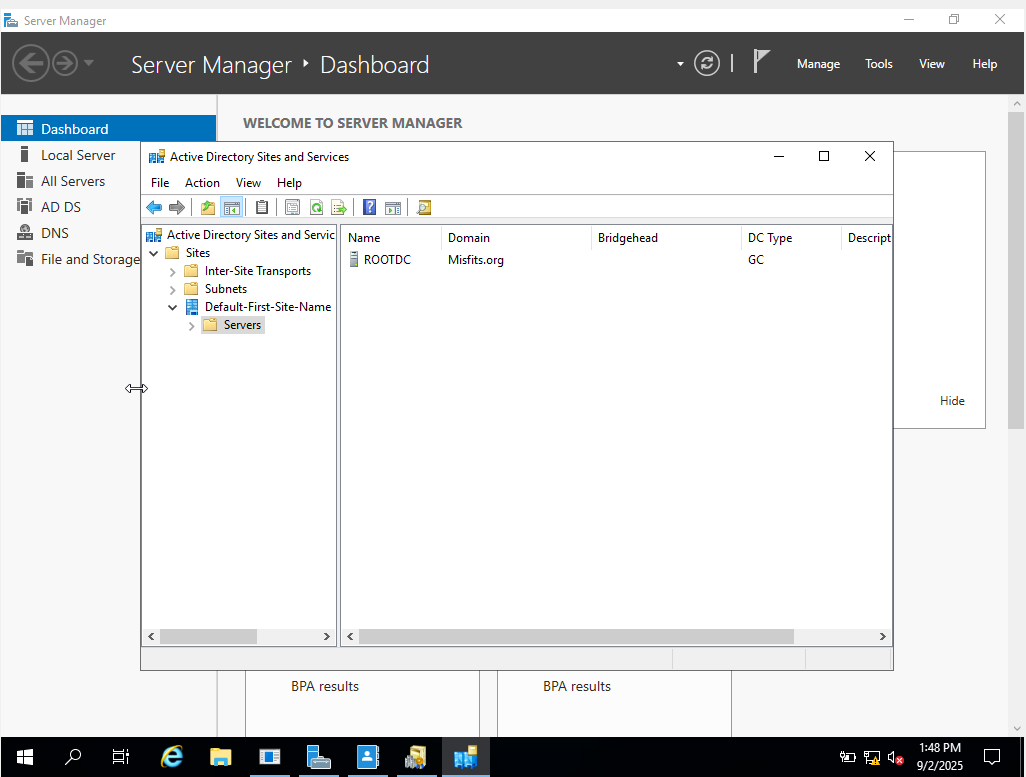
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Figure 13: ADDS overview (source: personal collection)

* I noticed that the Domain Controller type was a “Global Catalog Server” (GC), the domain was set to “Misfits.org”, and the name was “ROOTDC”.
* **Active Directory Users and Computers (ADUC):** I verified this as follows:

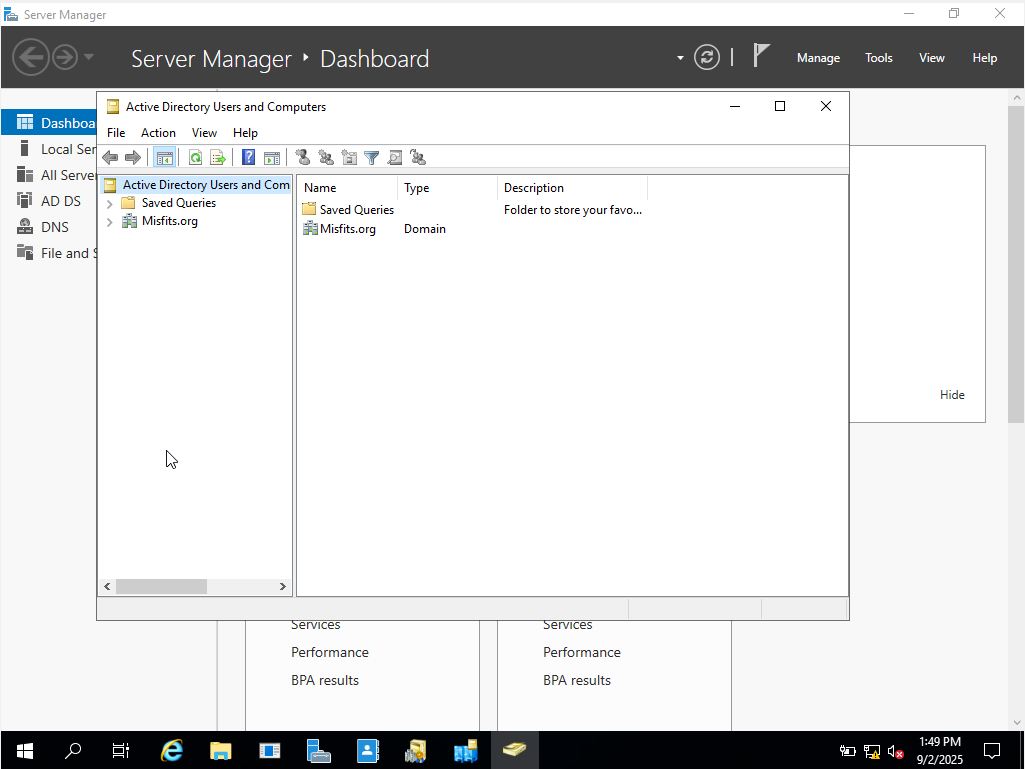
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Figure 14: ADUC overview (source: personal collection)

* **DNS Manager overview:** I verified the DNS configuration as follows:

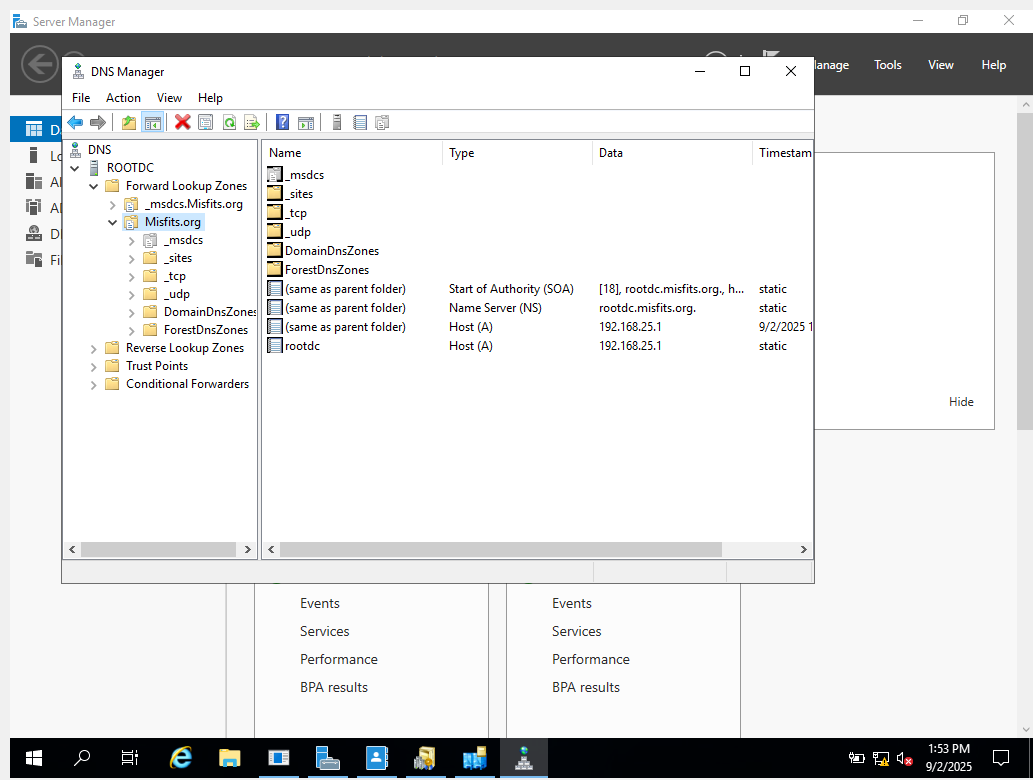
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Figure 15: DNS Manager overview (source: personal collection)

#### **Conclusion**

I learned that a Windows Server can also be promoted using the Windows PowerShell command line interface. This is a valuable option because it allows faster promotion and configuration. I was quite impressed by the command “install-ADDSForest” because it executed the operation faster and made the work easier.