**Screenshot of Assessment Task 2 – Virtual Cluster**

1. **Hypervisor**
2. **Install and configure host systems.**
   1. Installed and configured hypervisors on both computer systems and assigned an IP address to both VM hosts.

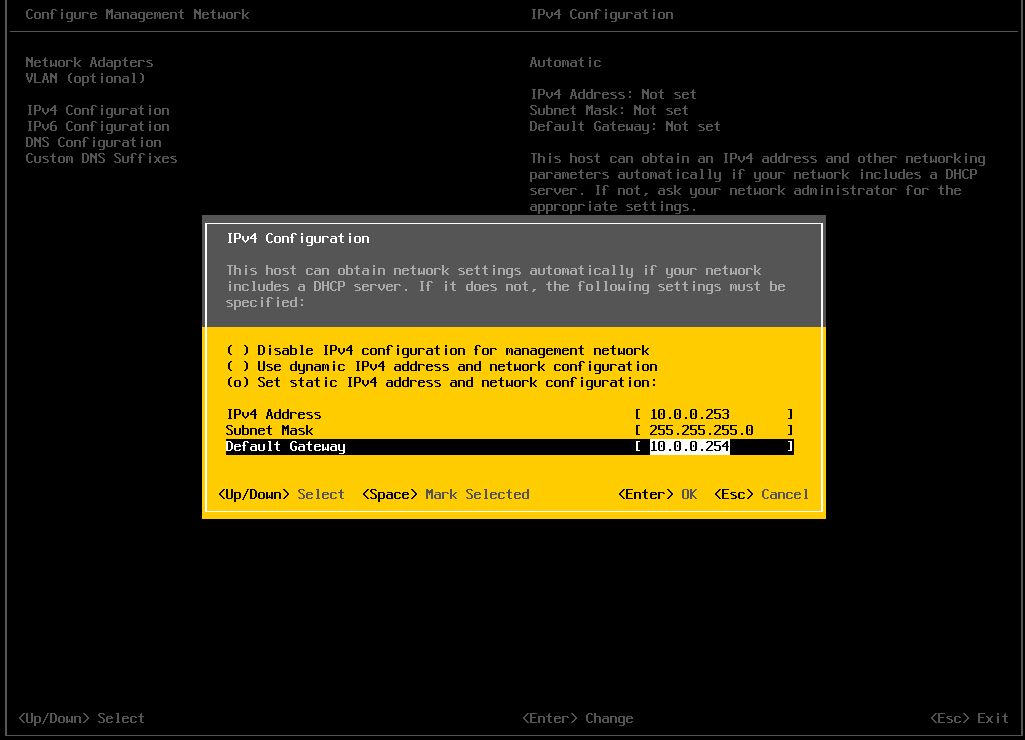


Figure AA-VMhost-1 IP Configuration

A screenshot of a computer

Description automatically generated

Figure AA-VMhost-1 DNS Configuration

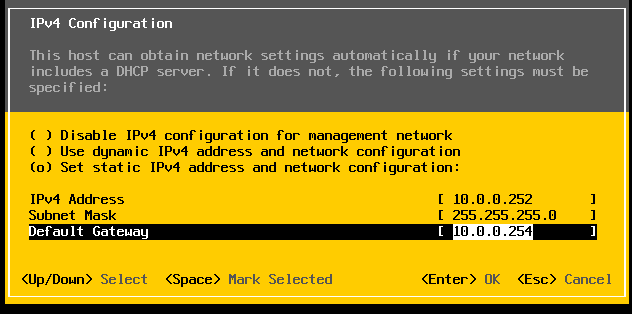


Figure AAVMhost-2 IP Configuration

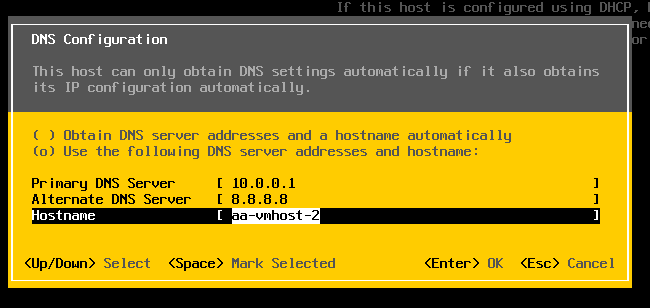


Figure AAVMhost-2 DNS Configuration

* 1. Accessed the remote administration interface of both VM hosts.

A screenshot of a computer

Description automatically generated

Figure aa-vmhost-2 and aa-vmhost-1 access from web browser.

1. **Creating the server infrastructure.**
   1. Uploaded all the installation images (ISOs) to datastores on both VM hosts.

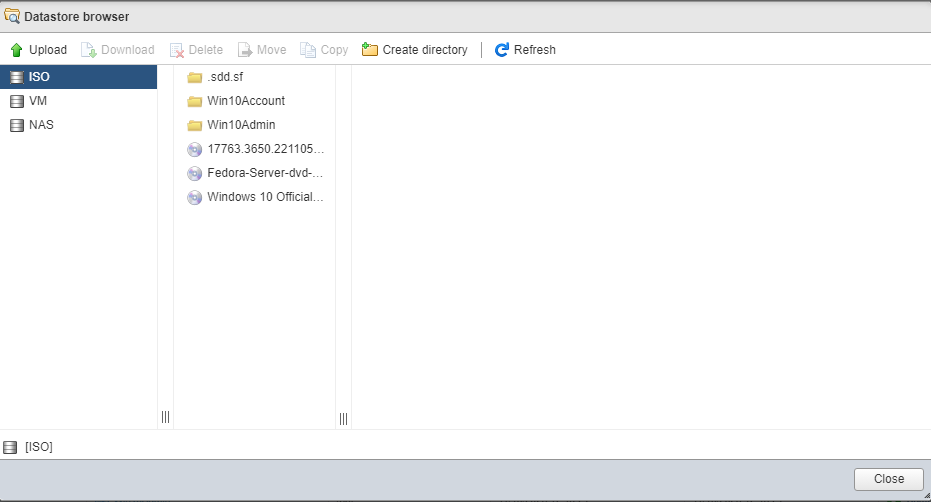


Figure AA-VMhost-1 Installation Images

A screenshot of a computer

Description automatically generated

Figure AA-VMhost-2 Installation Images

* 1. Created the new VMs inside the hosts and install the specified OS on each.



Figure Created AAPDC in aa-vmhost-1

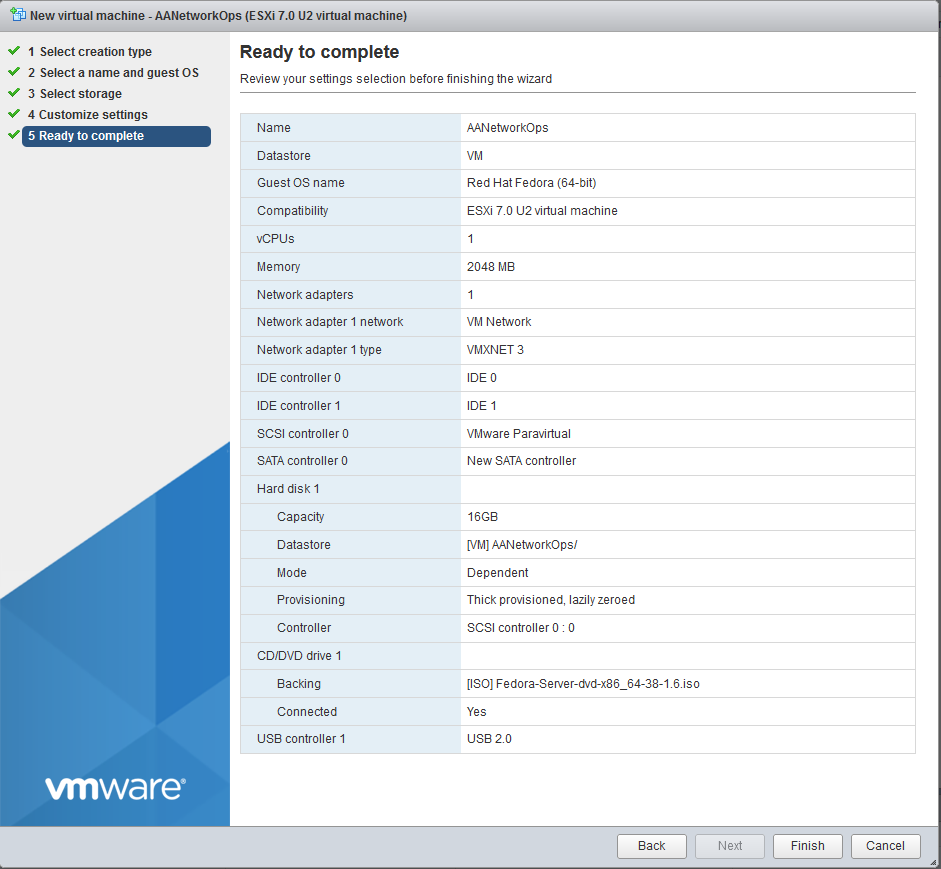


Figure Created AANetworkOps in aa-vmhost-1

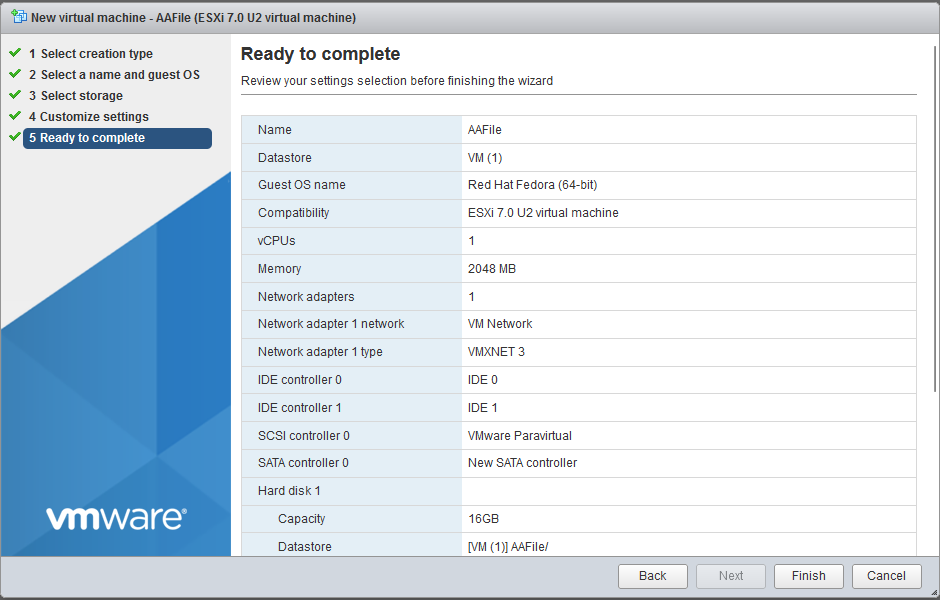


Figure Created AAFile in aa-vmhost-2

A screenshot of a computer

Description automatically generated

Figure Created AABDC in aa-vmhost-2

* 1. Managed the vSwitch connections and assigned IP addresses to the virtual servers.

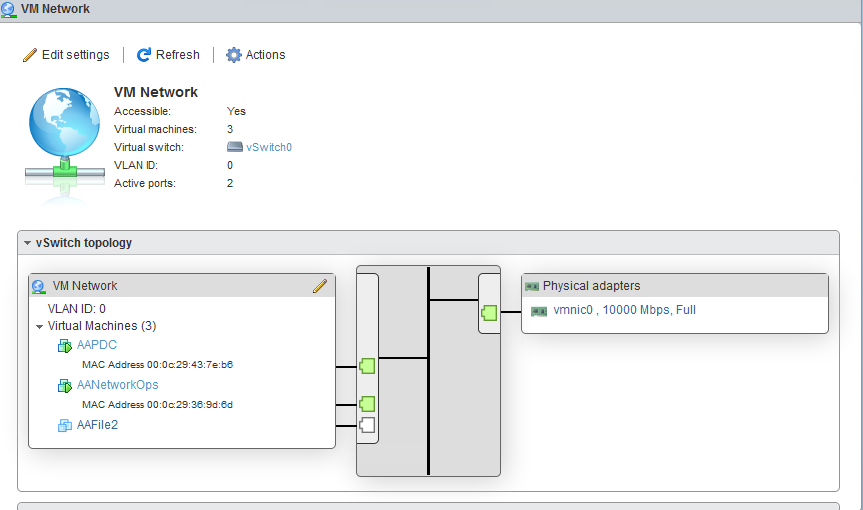


Figure In AA-VMHost-1 the vSwitch0 connected with VM Server

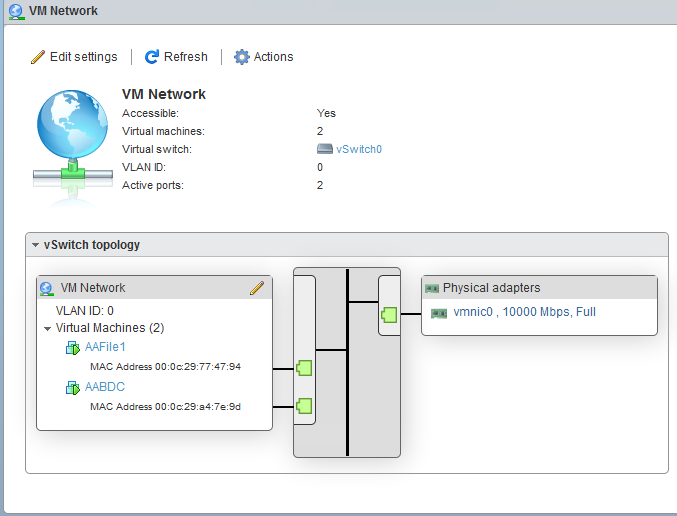


Figure 13 In AA-VMHost-2 the vSwitch0 connected with VM Server

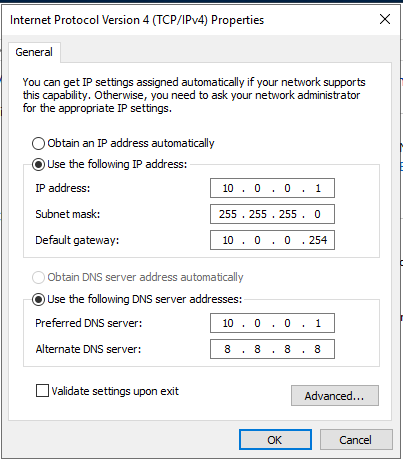


Figure 14 AAPDC IP Address Configuration

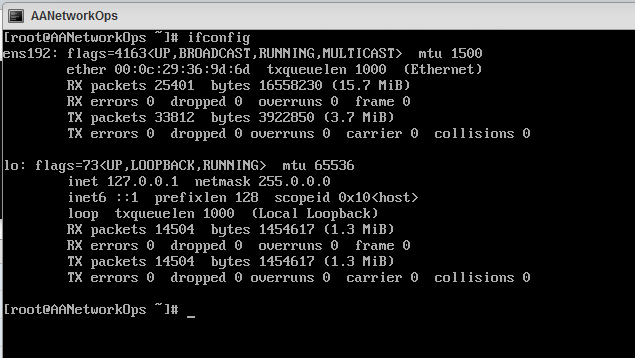


Figure 15 AANetworkOps IP Address Configuration

A screenshot of a computer screen

Description automatically generated

Figure 16 AAFile IP Address Configuration

A computer screen shot of a blue screen

Description automatically generated

Figure 17 AABDC IP Address Configuration

1. **Testing.**

| Test | Description | Action  (how did you test it?) |
| --- | --- | --- |
| 1. Connectivity | 1. Ping client to VMHost-1 and VMhost-2 2. Ping client to all servers 3. Test FTP Connections 4. Test DNS | 1. Using ping command to VMhost-1 and 2 by IP. 2. Using ping command to all servers (Linux Servers and Windows Servers) 3. Using ftp command 4. Using nslookup command |
| 1. Ping client to VMHost-1 and VMHost-2      1. Ping client to all servers  * Ping to Windows server by IP (AAPDC and AABDC)      * Ping to Linux Server by IP (AAFile and AANetworkOps)      1. Test FTP Connections   A computer screen shot of a black screen  Description automatically generated   1. Test DNS | | |
| 1. Availability | 1. Test the availability of web server. 2. Test availability of files/folders 3. Test availability of vCenter Server | 1. Access web server on browser by Domain Name. 2. Access sharing file by Windows Explorer. 3. Access vCenter on browser by Domain Name. |
| 1. Test Web Server      1. Test Files and Folders      1. Test access to vCenter Server | | |
| 1. Performance | 1. Test and monitor the Windows server. 2. Test and monitor Linux server. | 1. Test and monitor the Windows Server  * Install performance Test for test network speed between server and Client. * Run perfmon /report command.  1. Test and Monitor Linux Server  * Run btop command for monitor Linux server. * Run iptraf-ng for monitor network connection. |
| 1. Test and monitor the Windows Server  * Test Network Speed between server and client.      * Run perfmon /report for diagnostics report for monitor Windows Server.      1. Test and monitor Linux Server  * Run btop command for monitor Linux Server      * Run iptraf-ng for monitor Linux Network Connection | | |

1. **Managing the VM infrastructure.**
   1. Cloned a virtual machine.

A screenshot of a computer

Description automatically generated

Figure Clone AAFile

* 1. Created a VM template and deployed a new VM from the template.

A screenshot of a computer

Description automatically generated

Figure Clone AANetworkOps to Template

* 1. Created a VM snapshot and create a resource pool to manage the resources and backing up of the VMs in NAS.

A screenshot of a computer

Description automatically generated

Figure Snapshot AAFile VM

A screenshot of a computer

Description automatically generated

Figure Add NAS to VM

1. **High Availability.**
   1. Created a cluster and configure High Availability and tested by migrating the VMs from.

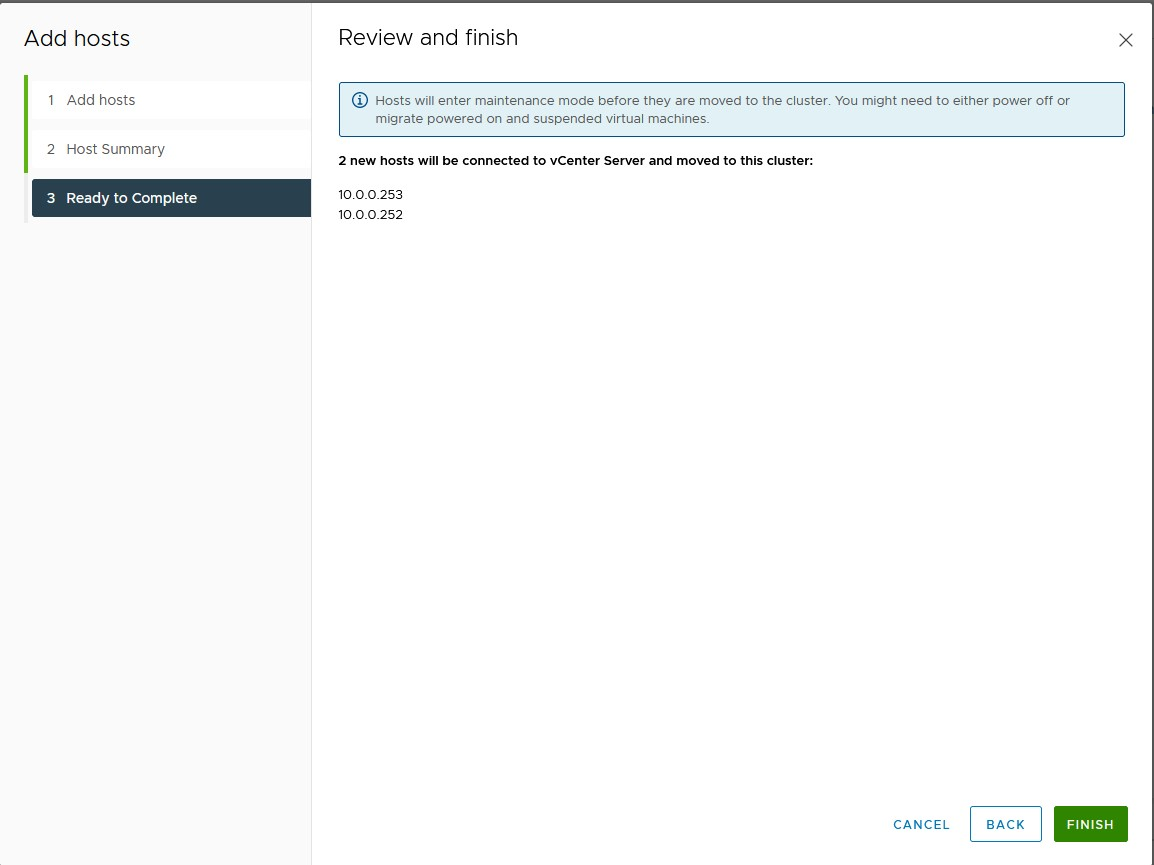


Figure Create a Cluster in vCenter.

1. **Segmenting the Network.**
   1. Created two Microsoft Windows 10 Pro VM and connected to the domain as a user in the accounts section and user from the administration section.

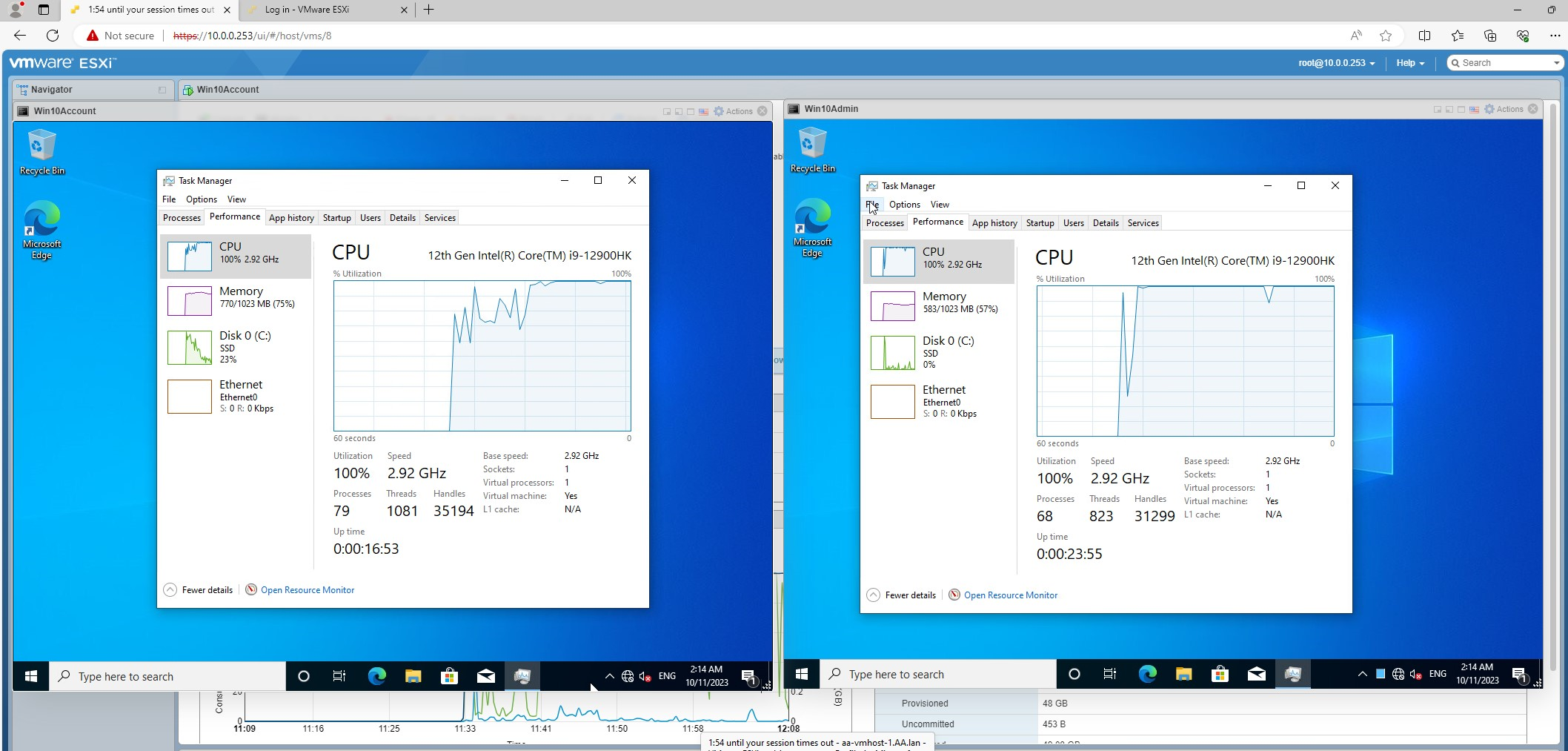


Figure Two Windows 10 Pro VM connected to domain user Account and Administration

* 1. Created a virtual switch and apply two VLAN.

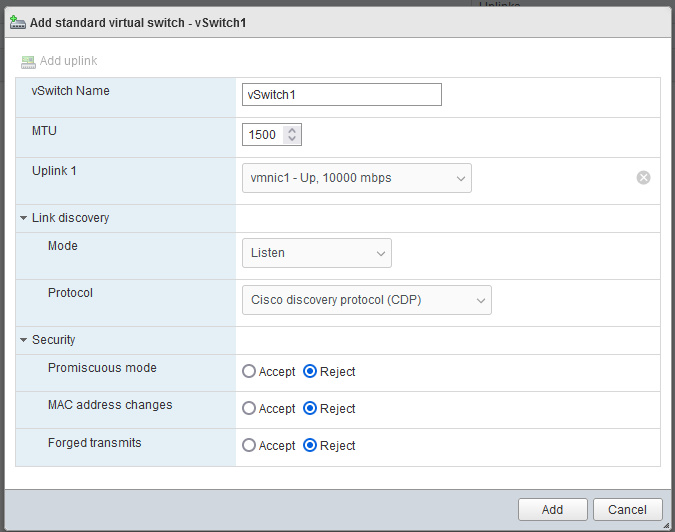


Figure 24 Create vSwitch with high bandwidth for two VLAN.

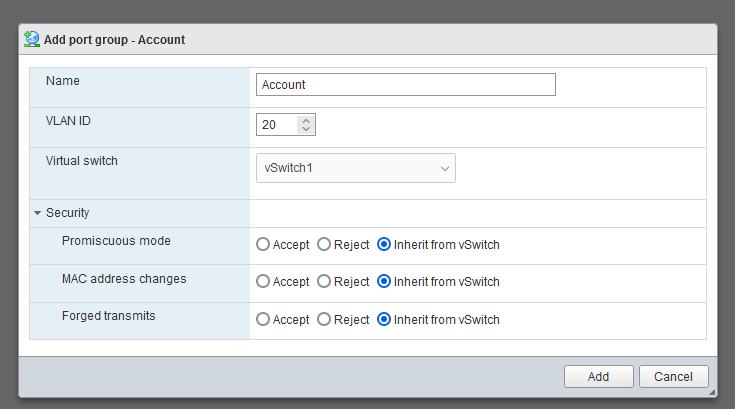


Figure Account vSwitch VLAN 20

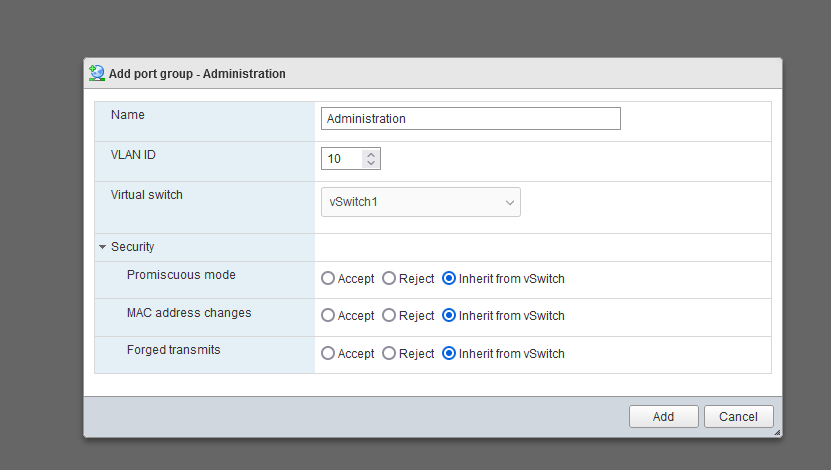


Figure 26 Administration vSwitch VLAN 10

1. **Server Configuration.**
2. **Primary Domain Controller (AAPDC)**

* AAPDC IP setting

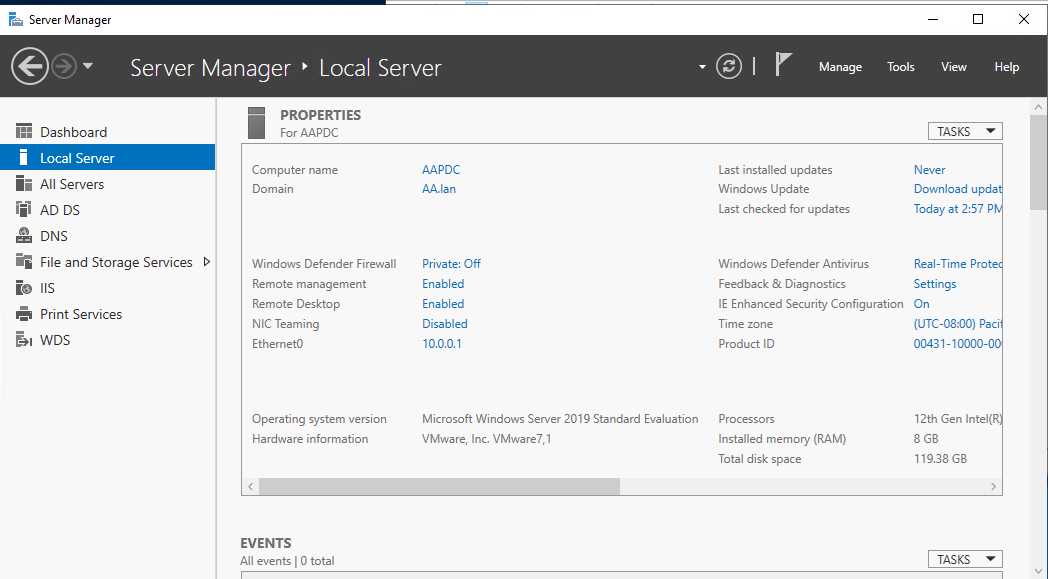


Figure Primary DC IP and Device name setting.

* AA Group, User and Department Creation

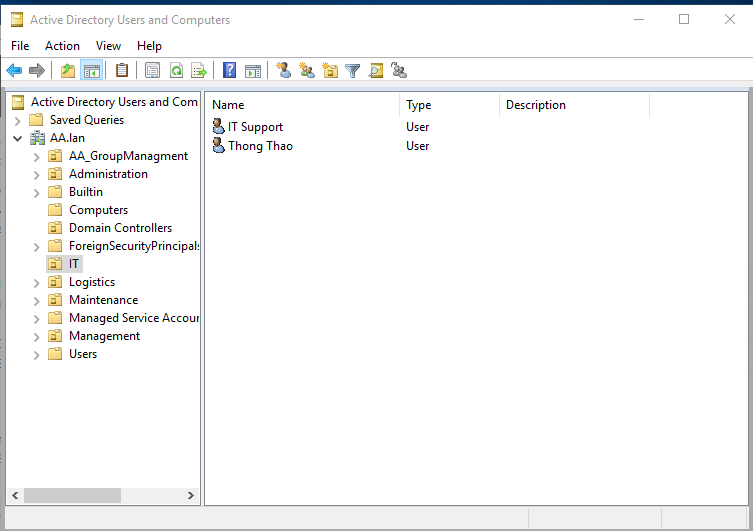


Figure AA Group, User and OU

* Domain Name System (DNS)

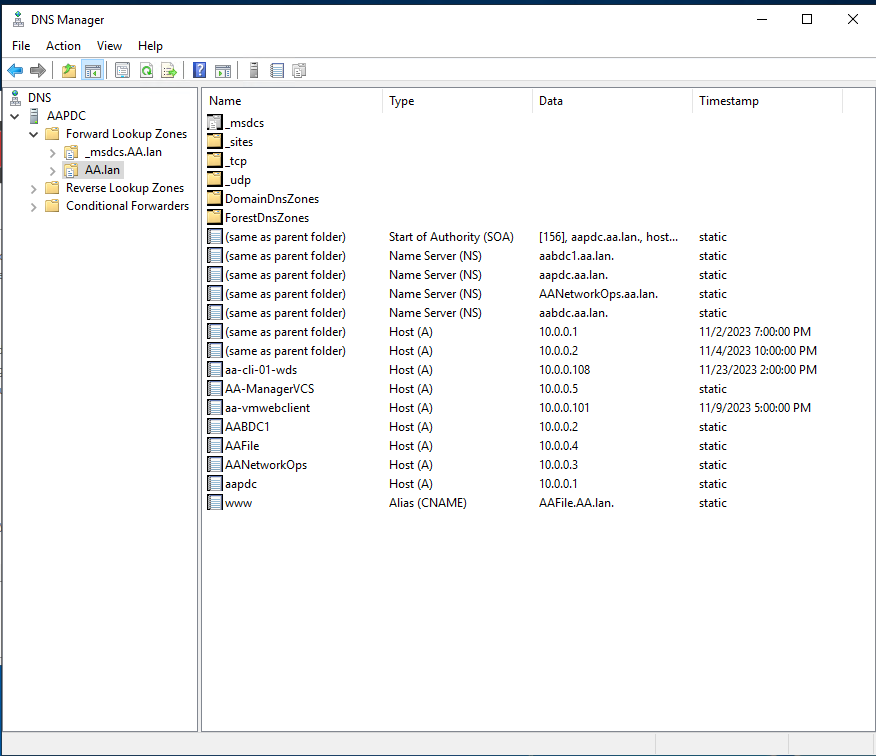


Figure DNS in Primary DC

* DFS

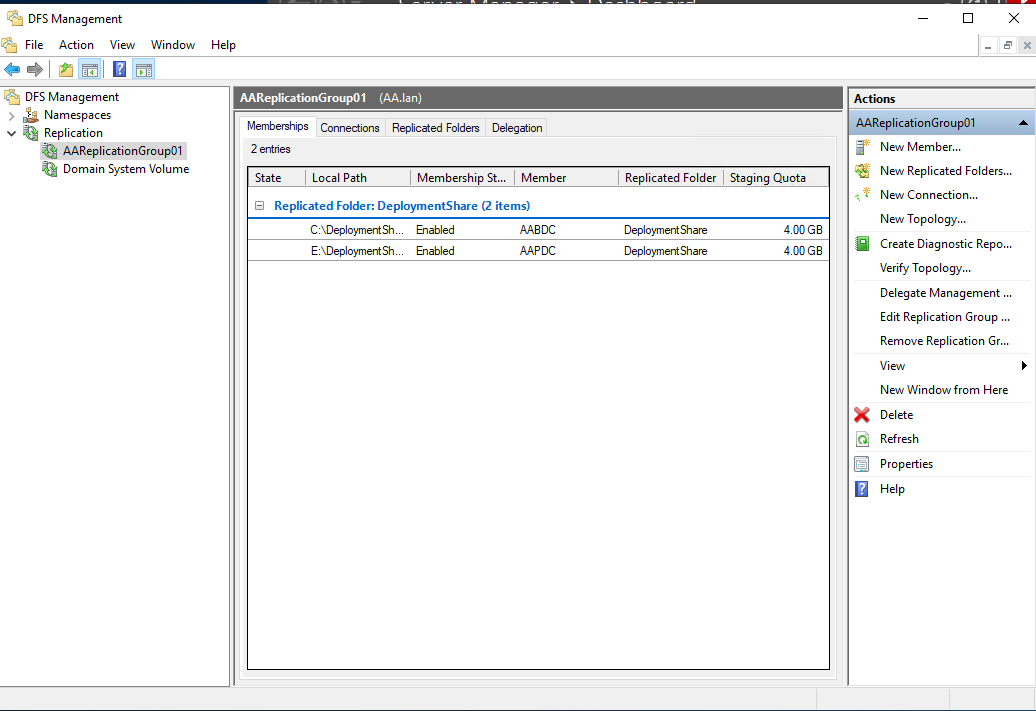


Figure AA Replication between AAPDC and AABDC

* Printer Server

A computer screen shot of a computer

Description automatically generated

Figure Printer Server Completed setup.

A computer screen shot of a computer

Description automatically generated

Figure Sharing Printer by Group Policy

* Windows Deployment (WDS)

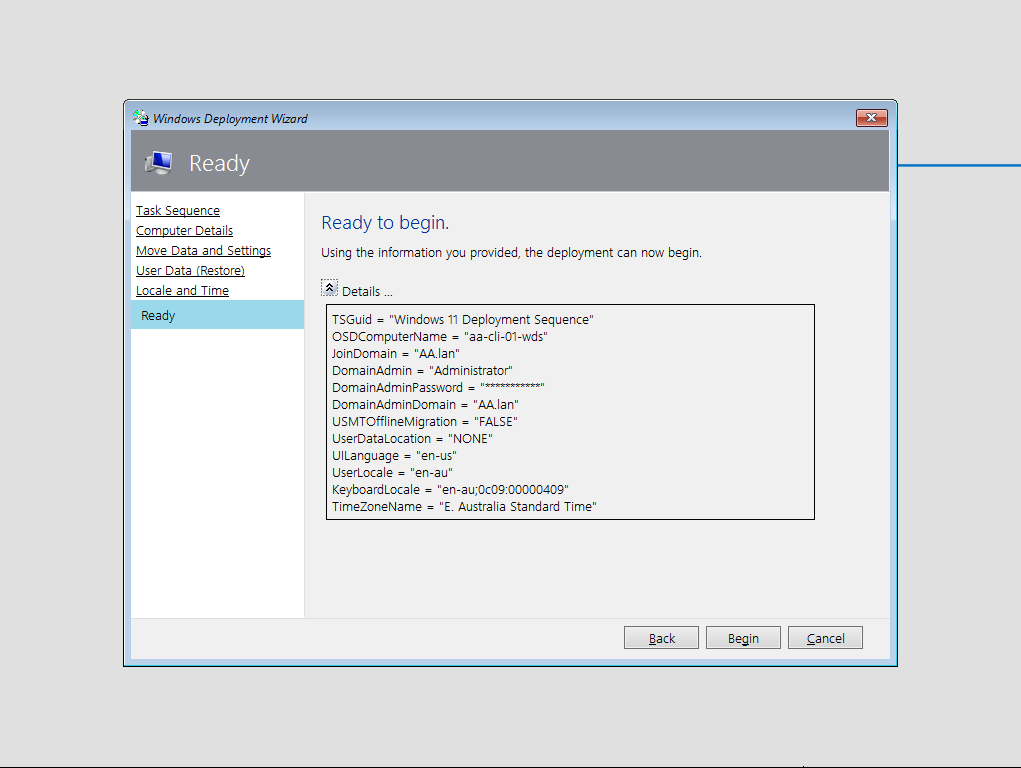


Figure Install Windows 11 by WDS

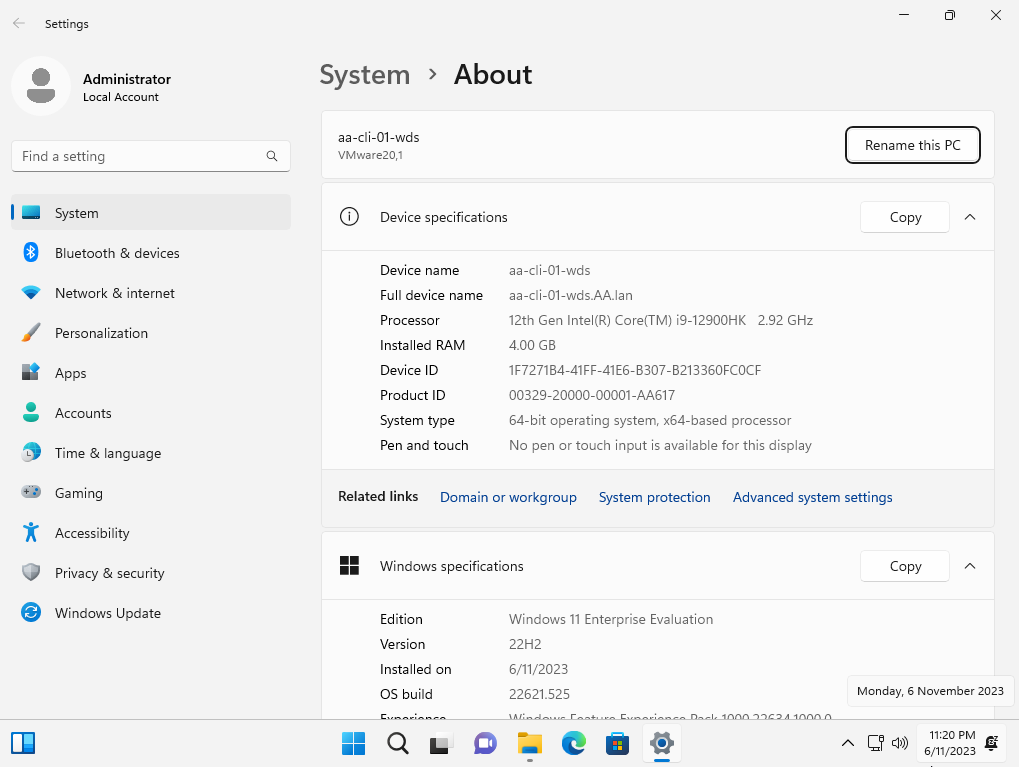


Figure Completed Install Windows 11 by WDS

1. **Secondary Domain Controller (AABDC)**

* AABDC IP setting.

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Description automatically generated

Figure Figure 19 Backup DC IP and Device name setting.

1. **AANetworkOps (Linux Server)**

* DHCP Server

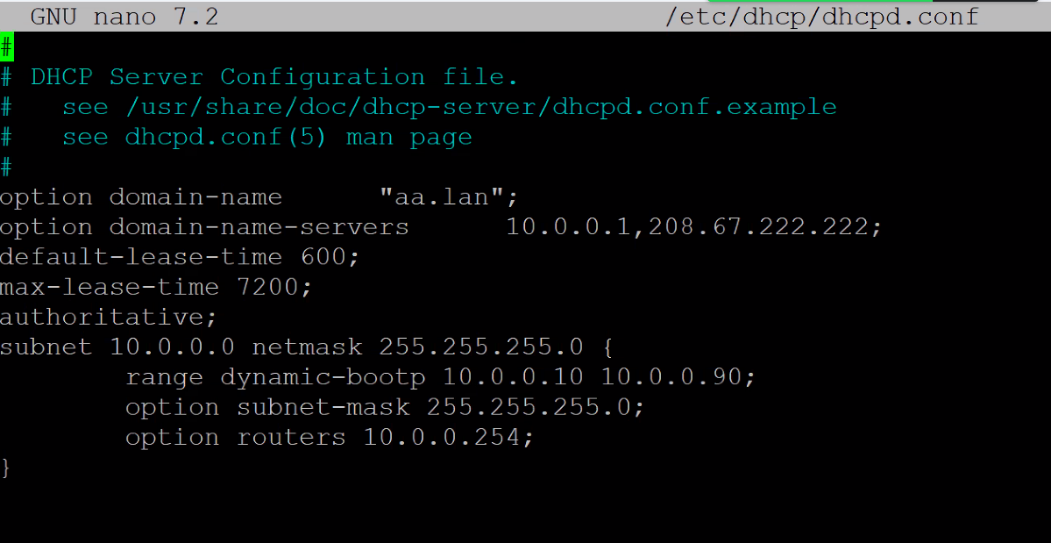


Figure DHCP Server setting up in AANetworkOps

* Domain Name System (DNS of NetworkOps)

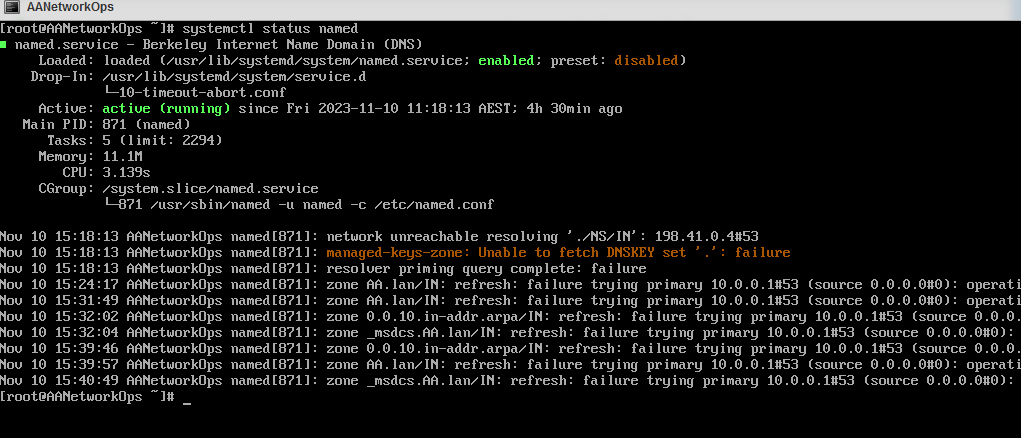


Figure Check DNS status in AANetworkOps

* Join Domain

A screenshot of a computer

Description automatically generated

Figure Join AANetworkOps to Domain Controller

1. **AAFile (Linux Server)**

* Samba (SMB)

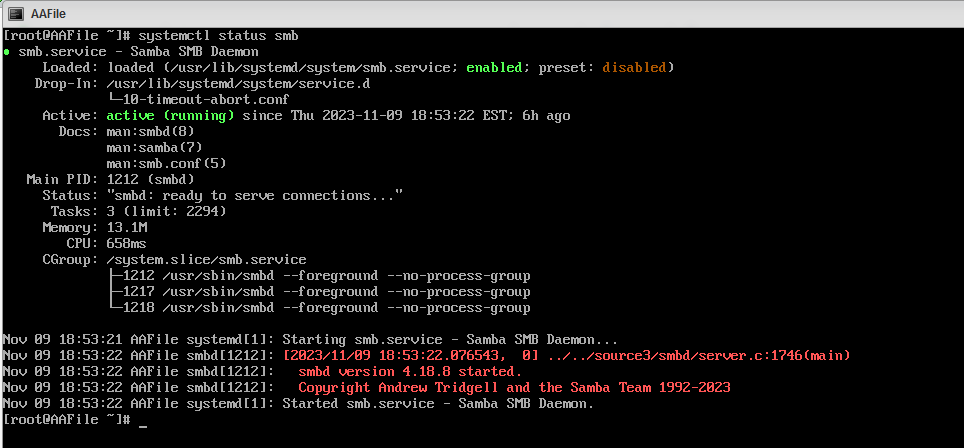


Figure Check samba (SMB) status in AAFile

* File Transfer Protocol

A screenshot of a computer

Description automatically generated

Figure Check FTP status in AAFile

* Web server

A screenshot of a computer

Description automatically generated

Figure Check Web Service status in AAFile

* Join Domain

A screenshot of a computer

Description automatically generated

Figure Join AAFile to Domain Controller

1. **VMware ESXi 7.0.3 (AAVMhost-1)**

* Join Domain

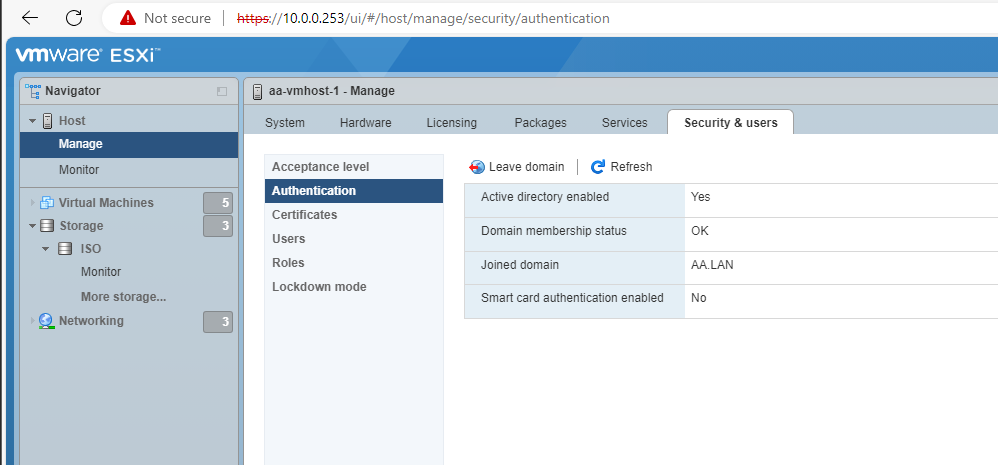


Figure Join AA-VMHost-1 to Domain Controller

1. **VMware ESXi 7.0.3 (AAVMhost-2)**

* Join Domain

A screenshot of a computer

Description automatically generated

Figure Join AA-VMHost-2 to Domain Controller