**Objectives:** The objective of this lab was to promote a Windows server to be a domain controller for a new domain and add organizational units, users, and a client computer.

**Equipment List:** N/A

**Notes & Observations:**

To begin this lab, Justin and I added Active Directory Domain Services to our WinServer VM through the Server Manager. We then were able to promote our server to a domain controller. To promote our VM to a domain controller, we added a new forest, named the root domain name “domain3.local,” created the database folder in “C:\Windows\NTDS, and we made sure Global Catalog and DNS Server were active. After our server became a domain controller, we were able to access the Active Directory Users and Computers (ADUC) which was the main tool we used to manage our network resources.

Next, Justin and I created a new virtual machine through our console called Win3Client. We then set the Win3Client user’s IP to 10.136.214.102 and the gateway to 10.136.212.1. After that, we changed the DNS to point to our server (10.136.212.53), changed the name of the client computer to “Win3Client” and changed the domain to “domain3”.

Once we had Win3Client up and running, we used Remote Desktop to access it with the username “domain3\administrator.” Once we had access to the administrator account, Justin and I were then able to create our own user accounts through the Server Manager. After we created our accounts, we had to add said accounts to the group “Remote Desktop Users” so we would be able to remote desktop into them. The final step we took was logging into our accounts using the username “domain3\(username).”

**Diagrams, Flowcharts, & Figures:** N/A

**References:** N/A

**Questions:**

1. Why was it important we changed the Preferred DNS Server on the Client?

* We needed to change the preferred DNS server on the client VM to point to our server VM so the client would be able to access the internet through the sever.

1. What extra step did you have to do to allow you to log in to the client with a domain user? Why do you suppose that Microsoft added that extra requirement?

* We had to add our domain users to the Remote Desktop Users to login with them. I would imagine Microsoft added this as a requirement to keep unwanted users from accessing the VM.

1. Why Active Directory? What advantages does it offer over using just regular servers on your network?

* Active Directory provides the methods for storing directory data and making said data available to network users and admins. AD stores information about objects on the network and makes that information easy for admin users to find and use. AD also has integrated security that allows admin users to manage directory data and organize it with a single login. Authorized users are also able to access resources anywhere on the network.

1. List several reasons why companies use virtual servers.

* Using virtual servers reduces costs because a physical server is not needed for every application.
* Backing-up a virtual server is much easier than backing-up physical servers.
* Deploying a virtual server is much faster than setting up multiple physical servers.
* Virtual servers take up much less space than physical servers.
* Virtual servers require much less maintenance compared to physical servers.

**Conclusion and Reflection:** To complete this lab, Justin and I first added Active Directory Domain Services to our WinServer VM and made said server a domain controller. After our server was set up to be a domain controller, we created a new VM called Win3Client. Once we had Win3Client up and running, we were able to create new domain users. After setting up the correct permissions for our users, we were able to remote desktop into our Win3Client with our individual user accounts. Overall, we did not experience many issues throughout this lab.