



Active Directory and DNS Setup

Theory

The Systems Administrator should be able to install, configure and troubleshoot services running on the server such as Active Directory, DNS, DHCP, IIS, etc. In this lab we are going to focus on Active Directory and DNS Server.

Objective

This lab will help you Install, configure and troubleshoot Active Directory and DNS Server related issues.

Tools/Equipment

- Virtual Software (**Oracle VirtualBox**)
- Virtual Hard disk (**Windows Server 2012.vdi, Windows 8.vdi and CentOS5.1_ST5.vdi**)
- Network connectivity

Lab Exercise

- Configure your Oracle VirtualBox and start Windows Server 2012.
- Logon as the user **Administrator** using the password **Pa\$\$w0rd**
- Assign IP version 4 address(es) to your virtual machine. The syntax for IPs is shown below:

IP Address:	10.100.55.x where x is any number between 181 and 250
Subnet Mask:	255.255.255.0.0
Default Gateway:	10.100.55.1
Name server(s):	10.100.55.x
- Test connectivity using the ping command. You can use the default gateway as your target or 10.100.255.10 or 10.100.255.12
- If you get negative results for step iv above, troubleshoot until you get it right.
- Change the hostname of your computer to your first 4 characters of your surname and the primary DNS suffix to example.com
- After changing the hostname, the machine will prompt you to reboot it. Restart your machine and continue with the next step.
- From the server manager dashboard click on add roles and features.
- Click next and select "Role-based or feature-based installation" and click next.
- Leave the defaults options and select your server from server pool and click next.
- Select Active Directory Domain Services and click add features → click next.
- On features window click next → next → install.
- After the installation is complete, click on close.
- On the top right corner click on yellow triangle and click promote this server to a domain controller.
- Select add a new forest and type example.com for the Root domain name and click next.
- Type a restore mode password. You can use **Passw0rd** as the password for lab setup. Click next. Click next again.
- The netbios name will be displayed. If your netbios name and the computer name are the same you need to change your netbios so that it will be different. Click next.



- xviii. Click next, click next and click install.
- xix. After the installation is complete the server will restart automatically.
- xx. After rebooting when you sign in the server will prompt you to change the old password because it expired. User **P@55w0rd** as your new password for lab environment.
- xxi. When you sign in remember to change the primary DNS server to your correct IP address not the loopback. This step is done only **once** you promote your server to be a domain controller for the first time.
- xxii. From the top right corner of your server manager dashboard click on tools and select DNS.
- xxiii. The forward lookup zone was created during the installation process of Active directory. Right click on reverse lookup zone and click new zone, click next, click next, click next, click next and type the first three octets of your IP address e.g. 10.100.55
- xxiv. Click next → next → finish.
- xxv. Check in the reverse lookup zone → xx.xx.xx.in-addr.arpa. You need to add a reverse pointer record. Your lecturer will show you the steps required.
- xxvi. Restart your DNS server process
- xxvii. And launch nslookup
- xxviii. Test your DNS server by using some of the tools we discussed in class.

Testing the client

- Start your Windows 8/10 client
- Assign appropriate TCP/IP settings (use IP version 4 only)
- Join the client to a domain

Evaluation

1. What do you understand by a netbios name when configuring Active Directory?
2. What do you understand by DNS forwarder?
3. State the purpose of Reverse and Forward lookup zones.
4. When setting up a DNS server you have an option to define the MX, NS, CNAME, PTR, SOA and A or AAAA records. Write short description of each entry.
5. Give one example of a top level domain.
6. How many root hints servers are available worldwide?
7. Distinguish between DNS recursive lookup and iterative lookup.

Linux (Challenge)

Install, configure and test DNS server [Hint: install the packages bind, bind-chroot, cachingnameserver]

>>>> End of Lab Exercise <<<<<