Windows Server Part 2 - DNS

Activities

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How to Create Screenshots: Please use the Windows Snip and Sketch Tool or the Snipping Tool. Paste a screenshot of just the program you are working on. If you are snipping a virtual machine, make sure your focus is outside the virtual machine before you snip.

1. Press and hold down the **Windows key** & **Shift**, then type **S.** This brings up the on-screen snipping tool.
2. Click and Drag your mouse around whatever you want to snip.
3. Release the mouse button. This places the snip into the Windows Clipboard.
4. Go into Word or wherever you want to paste the snip. Hold down **CTRL**, then type **V** to paste the snip.

Figure It Out

There will be times in any assignment where you may miss a step or the instructions are not quite correct or as clear as they could be. Research and figure out what is needed to complete the assignment. Explain what you did and why. I am looking for evidence of understanding. Directions in IT are not always complete or accurate. They need interpretation and research. Take the concepts of that we are learning and figure out an answer.

1. Google it

2. Watch the videos
3. Read the book
4. Ask for help

Activity 2-1: Creating User Accounts in Active Directory

Time Required: Approximately 15 minutes

Objective: Learn how to create a user account in Active Directory.

Description: Management and access to resources through Active Directory begins through user accounts. In this activity, you learn how to set up a new account.

1. Start and logon to Server1 with your administrator account.
2. In **Server Manager**, go to **Tools → Active Directory Users and Computers**.
3. Right-click the top domain in the tree in the left pane, **business.local**, point to New, and click **Organizational Unit**.
4. Enter **Employees**. Click OK.
5. Under the **Employees** OU (Organizational Unit), create a **Sales** OU and an **Accounting** OU.
6. Right Click the **Sales** OU, and Click New, User.
7. Type **Sales1** in the first name box, **Test** in the Last name box. Enter **Sales1** in the User logon name box.
8. **What options are automatically completed for you?**

Click or tap here to enter text.

9. **Insert a screenshot:**

Click or tap here to enter text.

10. Click Next.
11. Use **Password02** as the password. Ensure the box is checked for User must change password at next logon. This option forces users to enter a new password the first time they sign in, so that the account creator will not know their password. The other options include:
    User cannot change password: This means that only the account administrator can change the user's password.
    Password never expires: This is used in situations in which an account must

always be accessed, such as when a program accesses an account to run a special process

Account is disabled: This provides a way to prevent access to an account without deleting it. The Windows Server default password requirements are enabled when you create an account. A password must be seven characters or longer and cannot contain the account name or portions of the user's full name (beyond two characters of the name). Also, a minimum of three of the following four rules apply: includes numbers, includes uppercase letters, includes lowercase letters, includes characters such as $, #, and !.

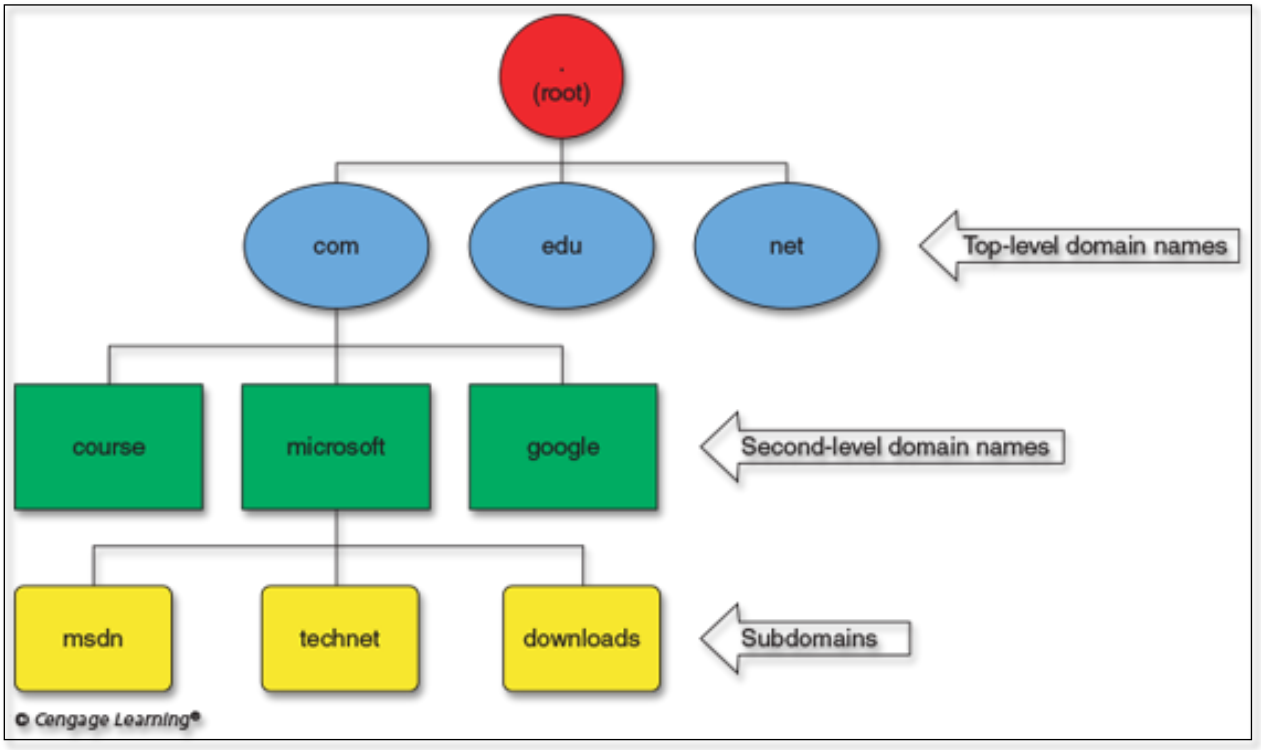
12. Click **Next**.
13. Verify the information you have entered and click Finish.
14. To continue configuring the account, in the middle pane, double-click the account you just created, **Sales1** (alternatively, you can right-click the account and click Properties).
15. **Insert a screenshot:**

Click or tap here to enter text.

16. Notice the tabs that are displayed for the account properties.
17. Click the General tab, if it is not already displayed, and enter a description of the account, such as Test account.
18. Click the Account tab to view the information you can enter on it.
19. Click the tabs you have not yet viewed to find out what information can be configured through each one.
20. Click **OK**.
21. Startup **Win11**. Click **Other User** to logon to the domain. Logon to **Win11** as **Sales1**. Change the password when requested to **Password01**.
22. Click the Start button, point your mouse at the top icon on the left that will show your username.
23. **Insert a screenshot:**

Click or tap here to enter text.

Activity 2-2: Creating a Reverse Lookup Zone



Time Required: Approximately 10 minutes

Objective: Learn how to create a reverse lookup zone.

Description: If you plan to use a reverse lookup zone, create it before DNS forward lookup zone records are created. The reason for this is that when a DNS forward lookup zone record is created, either manually or through dynamic updating, an associated reverse lookup zone PTR record can be created automatically.

1. Start **Server1.** Log on as your administrator account.
2. Open Server Manager, if it is not open.
3. Click **Tools** → **DNS**.
4. In the left pane of DNS Manager, Double Click Server1.
5. In the left pane, Right Click **Reverse Lookup Zones** → Click **New Zone**.
6. **Welcome to the New Zone Wizard**. Click **Next**.

Configuring the zone type When you select the option to Store the zone in Active Directory (available only if DNS server is a writeable domain controller), this means that you are creating an Active Directory Integrated zone, so that the zone data is stored in Active Directory. The benefit is that zone data is replicated when Active Directory is replicated and

such zones are afforded Active Directory security. Zone data is also replicated to all new domain controllers.

7. Click **Next**.
8. **Active Directory Zone Replication Scope**: You can select how the DNS server is replicated through Active Directory. **To all DNS servers running on domain controllers in the domain: business.local** should be selected.
9. Click **Next**.
10. **Reverse Lookup Zone Name:** Leave IPv4 **Reverse Lookup Zone** selected.
11. Click **Next**.
12. Enter the network ID of the reverse lookup zone. **10.10.10** This is the first two or three octets that identify the network, depending on the subnet mask that you use. This information is used to build the **10.10.10.in-addr.arpa** reverse lookup zone for our network.
13. Click **Next**.
14. **Dynamic Update:** Ensure that **Allow only secure dynamic updates (recommended for Active Directory)** is selected.
15. Click **Next**.
16. Review the information you have entered.
17. **Insert a screenshot:**

Click or tap here to enter text.

18. Click Finish. You should see the new reverse lookup zone displayed in the right pane.
19. **Insert a screenshot:**

Click or tap here to enter text.

20. Leave **DNS Manager** open for the next activity.

Activity 2-3: Manually Creating DNS Host Address A Resource Records

Time Required: Approximately 10 minutes

Objective: Create a Host Address A Resource Record

Description: In this activity, you learn how to configure a Host Address A Resource Record in a forward lookup zone. We will put in a fake IP address and fake host name.

1. Start **Server1**. Log on as your administrator account.
2. Open **DNS Manager**, if it is not still open.
3. Double-click **Forward Lookup Zones** in the tree under Server1.
4. Double-click the domain name: **business.local**. Notice there is already a Host (A) record for your server and Win11 in the right pane.
5. Right Click **business.local** → Click **New Host (A or AAAA)**.
6. Enter the name of the host computer **Computer1** and its IP address **10.10.1.40** in the New Host dialog box.
7. Click the check box to **Create associated pointer (PTR) record**.
8. Click the check box to **Allow any authenticated user to update DNS records with the same owner name** (for computers running Windows 8.1, Windows 10, or Windows Server 2019, for example, that can update in coordination with DHCP; this option also ensures security, because it associates an ACL with the record).
9. **Insert a screenshot:**

Click or tap here to enter text.

10. Click **Add Host**.
11. Click OK when you see the message box that your host record was successfully created.
12. Click Done.
13. **Insert a screenshot showing the entire business.local zone:**

Click or tap here to enter text.

14. Leave DNS Manager open for the next activity.

Activity 2-4: Verifying the DNS Dynamic Update Configuration

Time Required: Approximately 5 minutes

Objective: Verify that DNS is configured to be dynamically updated using the DNS dynamic update protocol.

Description: In this activity, you make certain that dynamic DNS updating is properly configured. This step is important in two respects. One is to ensure that the workload for the

DNS server administrator is reduced and the other is to be sure security is set on dynamic updating.

1. Start **Server1.** Log on as your administrator account.
2. Open **DNS Manager**, if it is not still open.
1. Right-click **business.local** → Click **Properties**.
3. Make sure that the General tab is displayed.

In the **Data is stored in Active Directory** section of the dialog box, verify the setting for Dynamic updates. The best practice is for this parameter to be configured as **Secure only**, so that an ACL is associated with a host record (only an authorized client can perform an update). Click the down arrow in the list box to view the other options.

2. **Insert a screenshot:**

Click or tap here to enter text.

3. Click OK in the Properties dialog box for the domain.
4. Close the DNS management tool.

Activity 2-5: Configuring Forwarders

Time Required: 5 minutes

Objective: Setup DNS forwarders in AD DNS.

Description: Setting up DNS forwarders takes some of the work load off of your internal DNS server. It also helps secure your network.

1. Start **Server1**. Log on as your administrator account.
2. Open DNS Manager.
3. Right-click **Server1** → Click **Properties**.
4. Click the **Forwarders** tab → Click **Edit** → Enter:
   9.9.9.9
   8.8.8.8
5. **Insert a screenshot:**

Click or tap here to enter text.

6. Click **OK**.
7. Close **DNS Manager**.
8. Test internet access on each virtual machine.

9. **Does internet access work with the new DNS forwarders?**

Click or tap here to enter text.

Activity 2-6: Test DNS

Time Required: 10 minutes

Objective: Test DNS resolution internally and externally

Description: Use various network troubleshooting commands to confirm DNS resolution. Each command should be successful. If they are not, it is time to do some troubleshooting.

1. Start **Server1** and **Win11**.
2. Logon to Win11 as **Sales1**.
    a. The first time you may have to Click **Other User**.
    You should see → **Sign in to: BUSINESS**
3. Bring up a command prompt.
4. Confirm correct IP configuration. Type: **ipconfig /all**
5. **Insert a screenshot:**

Click or tap here to enter text.

6. Type: **ping 10.10.10.10**
7. **Insert a screenshot:**

Click or tap here to enter text.

8. Confirm internal ADS DNS resolution. Type: **ping server1**
9. **Insert a screenshot:**

Click or tap here to enter text.

10. Confirm the internal reverse lookup zone. Type: **nslookup Win11**
11. **Insert a screenshot:**

Click or tap here to enter text.

12. Confirm external DNS resolution. Type: **ping google.com**
13. **Insert a screenshot:**

Click or tap here to enter text.

14. Confirm external reverse lookup: Type: **nslookup google.com**
    Notice that the response says that Server1 is non-authoritative.

15. **Insert a screenshot:**

Click or tap here to enter text.

16. Type: **nslookup Server1**

    Notice there is nothing about non-authoritative. Server1 is the authoritative DNS server for the business.local domain.

17. **Insert a screenshot:**

Click or tap here to enter text.

18. Type: **ipconfig /displaydns**

    Notice that some of the cache entries are from our local network, and some are external.

19. **Insert a screenshot:**

Click or tap here to enter text.

Assignment Submission

Attach this completed document to the assignment in Blackboard.