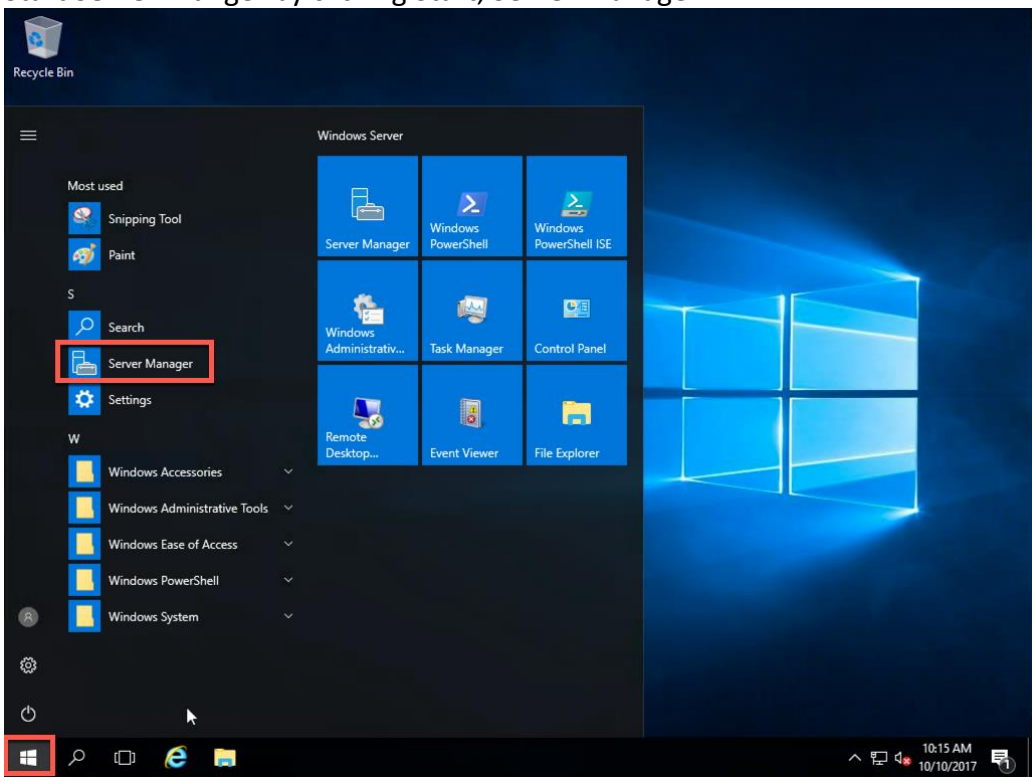
How To: Windows Server 2016 – Configure DNS, DHCP, and Active Directory

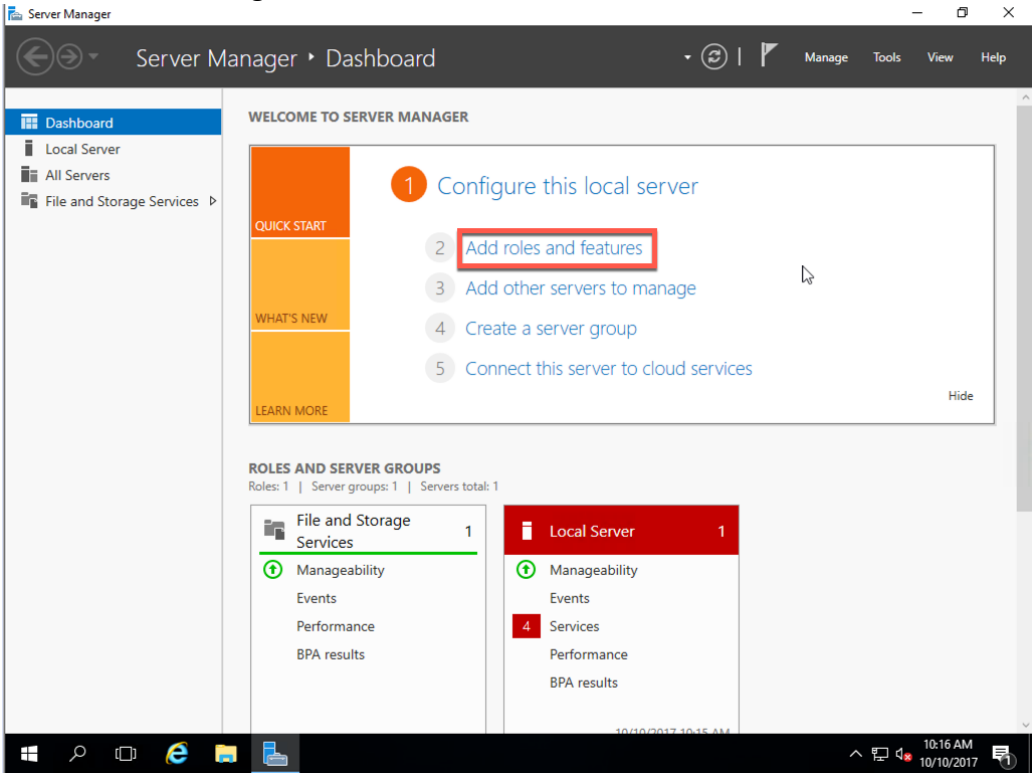
This document explains how to configure a standard Windows Server 2016 installation into a Domain Controller. This process will assume that you do not already have an existing domain. We will start by configuring DNS and DHCP. Once those roles have been configured we will add the Active Directory role and promote our server to the first domain controller in a new forest.

Add DHCP and DNS Roles

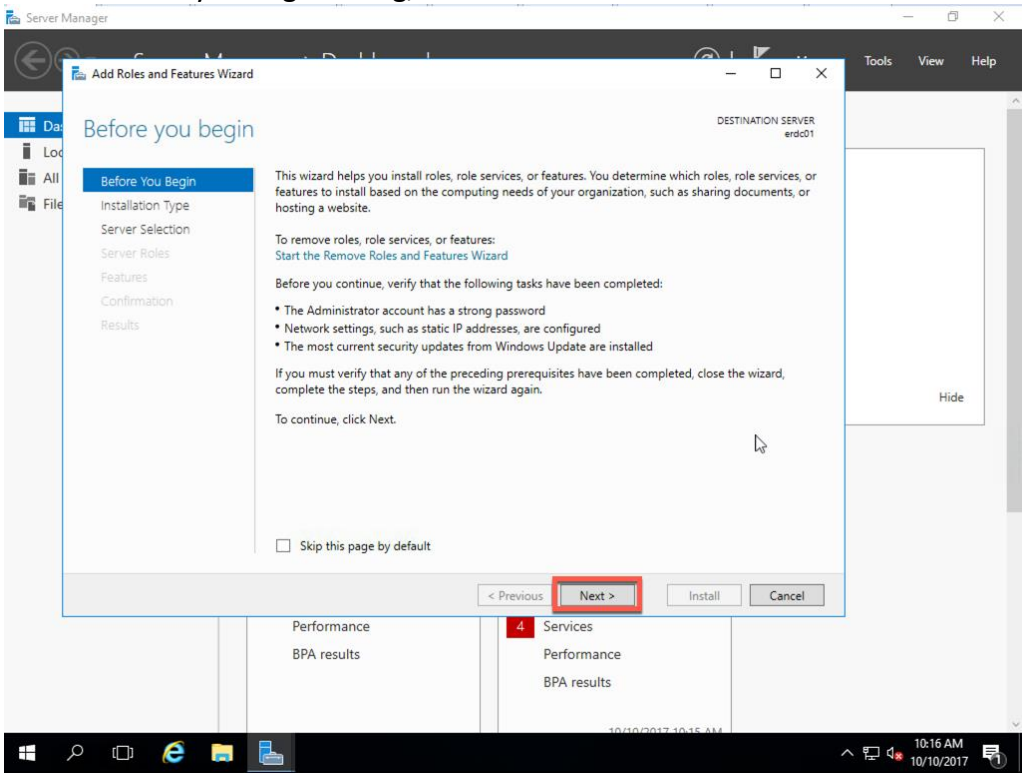
1. Start Server Manger by clicking Start, Server Manager.



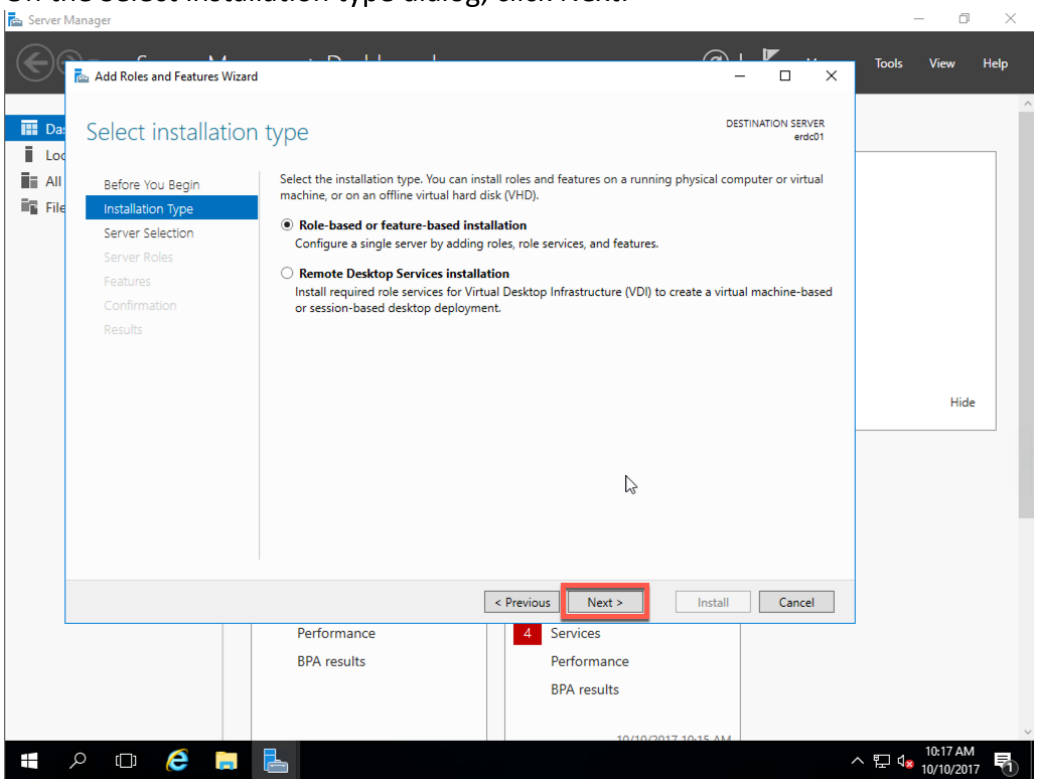
2. In the Server Manager window, click Add Roles and features.



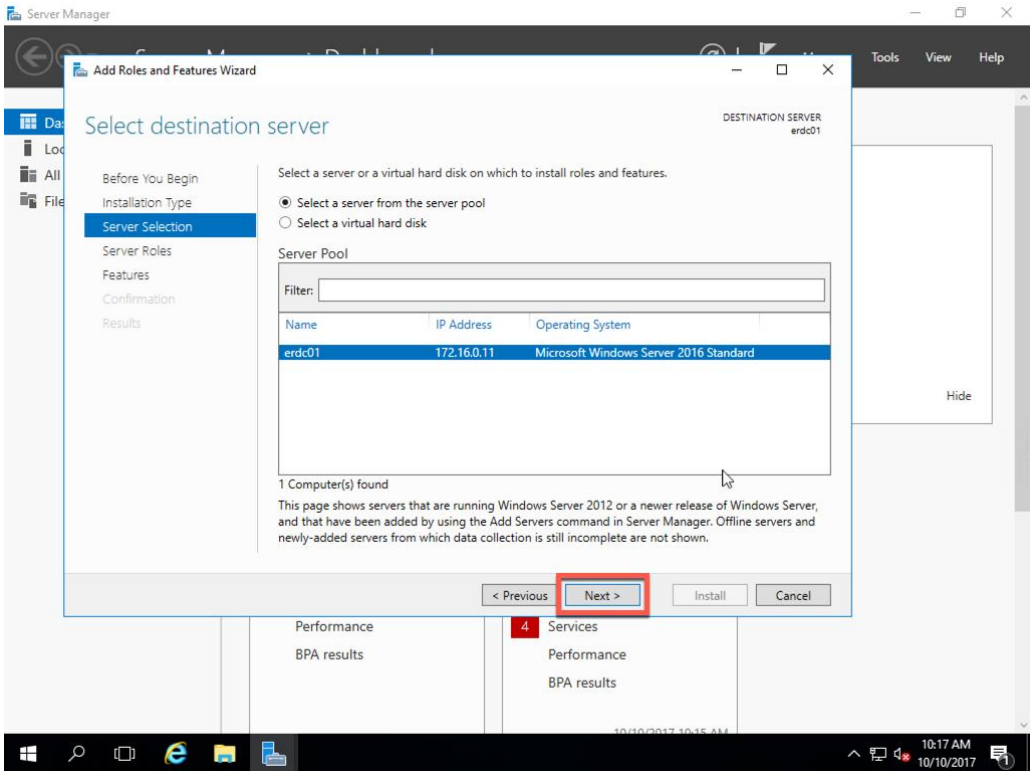
3. On the Before you begin dialog, click Next.



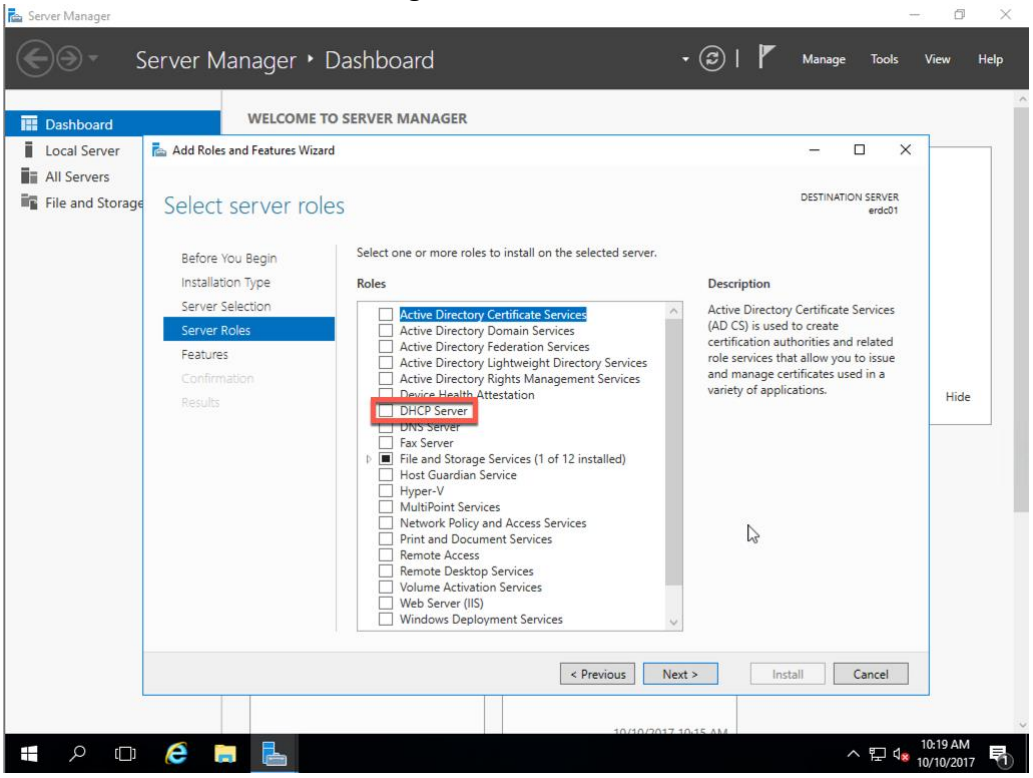
4. On the Select installation type dialog, click Next.



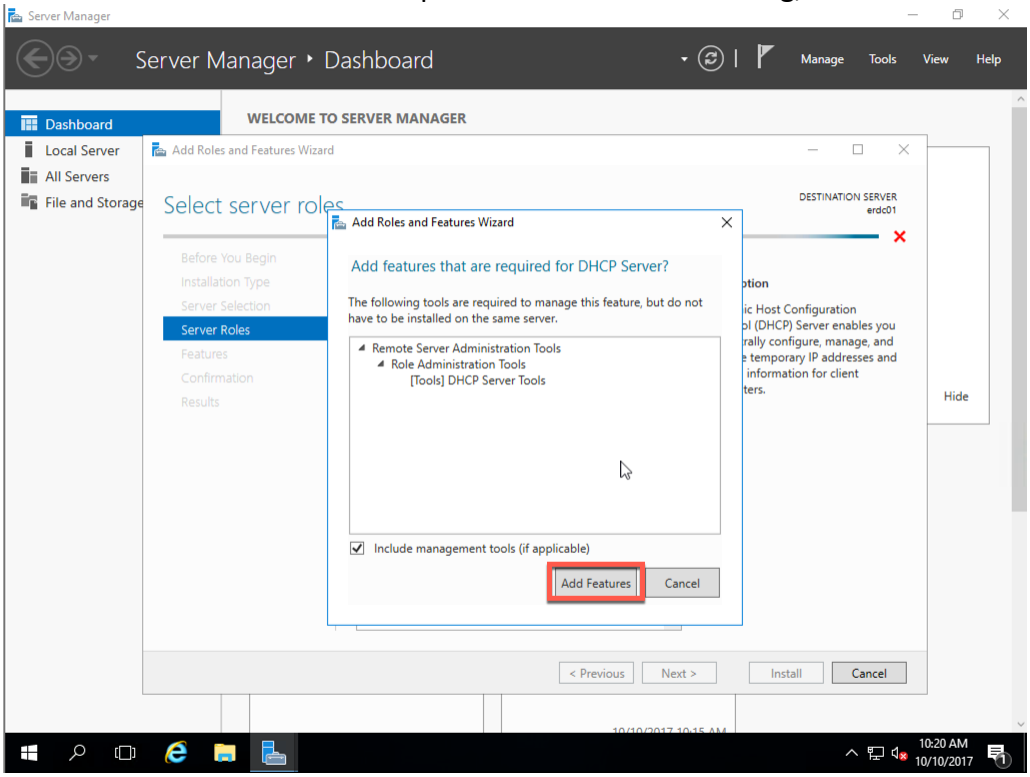
5. On the Select destination server dialog, click Next.



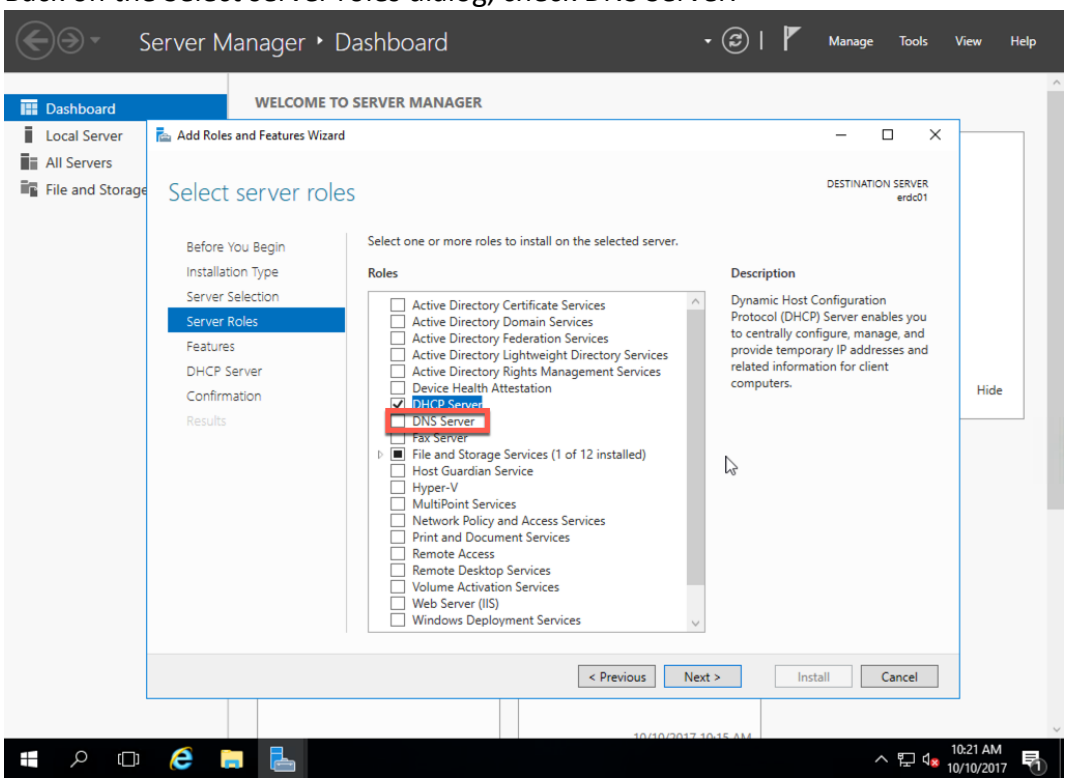
6. On the Select server roles dialog, check DHCP Server.



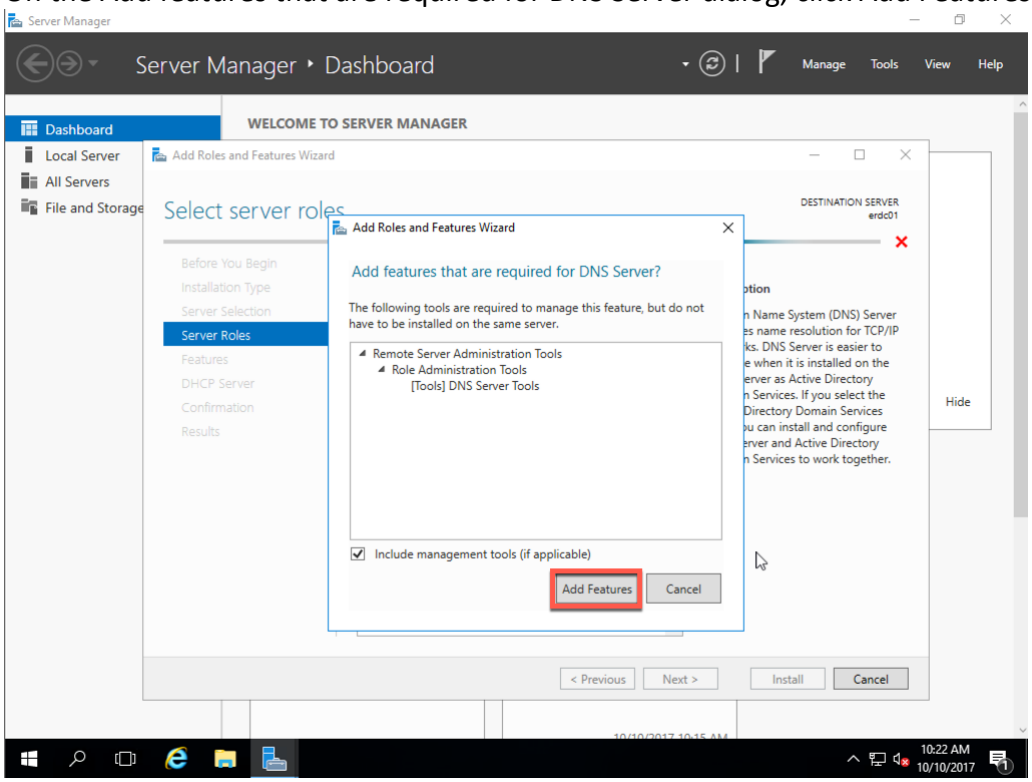
7. On the Add features that are required for DHCP server dialog, click Add Features.



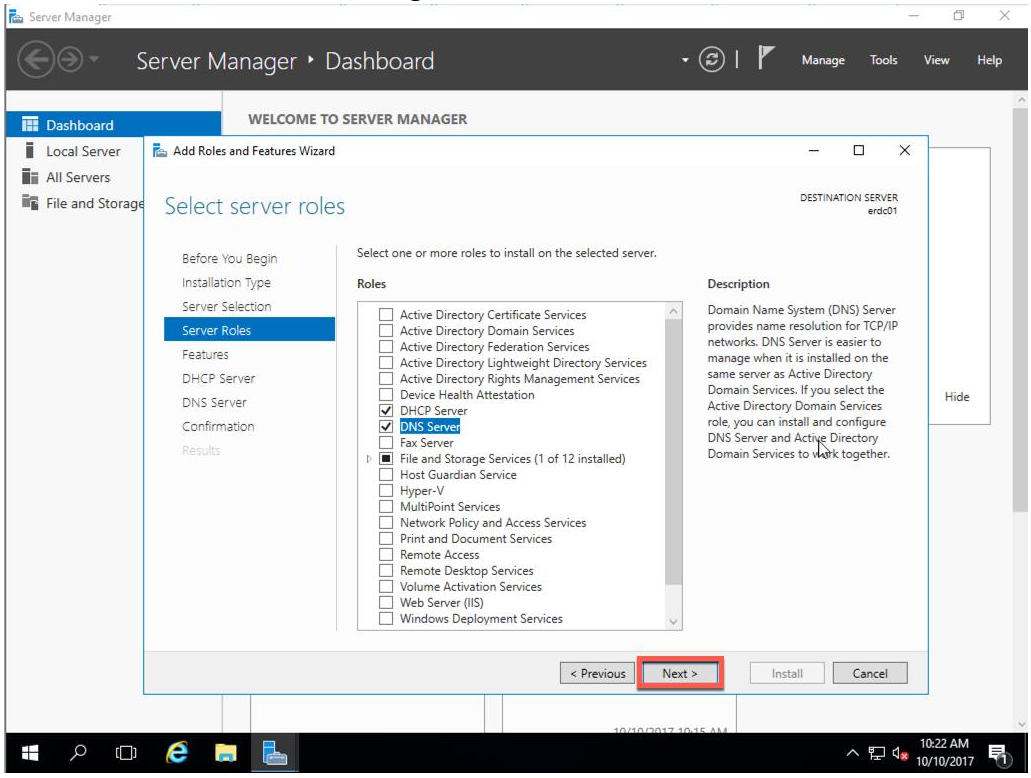
8. Back on the Select server roles dialog, check DNS Server.



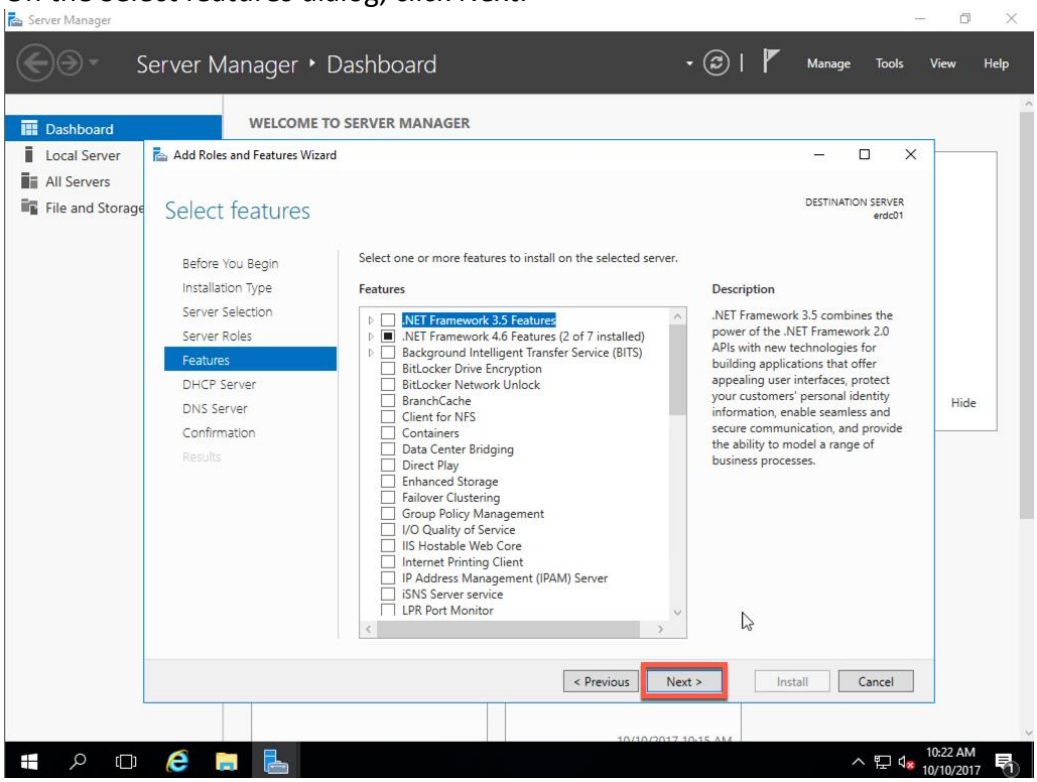
9. On the Add features that are required for DNS Server dialog, click Add Features.



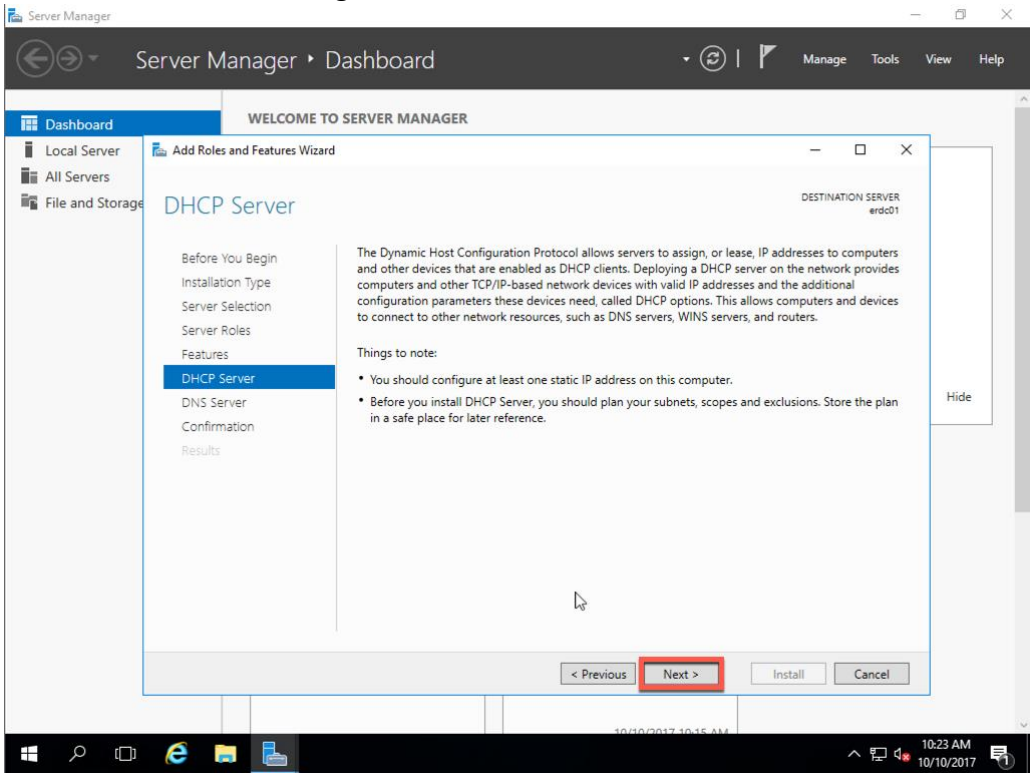
10. On the Select server roles dialog, click Next.



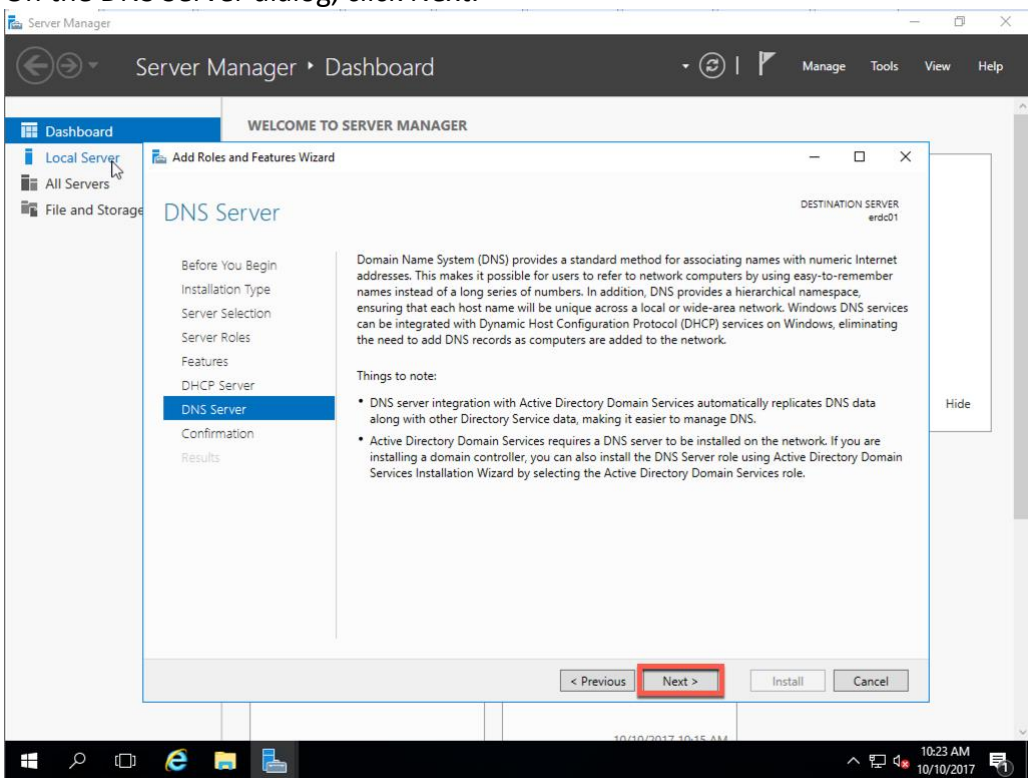
11. On the Select features dialog, click Next.



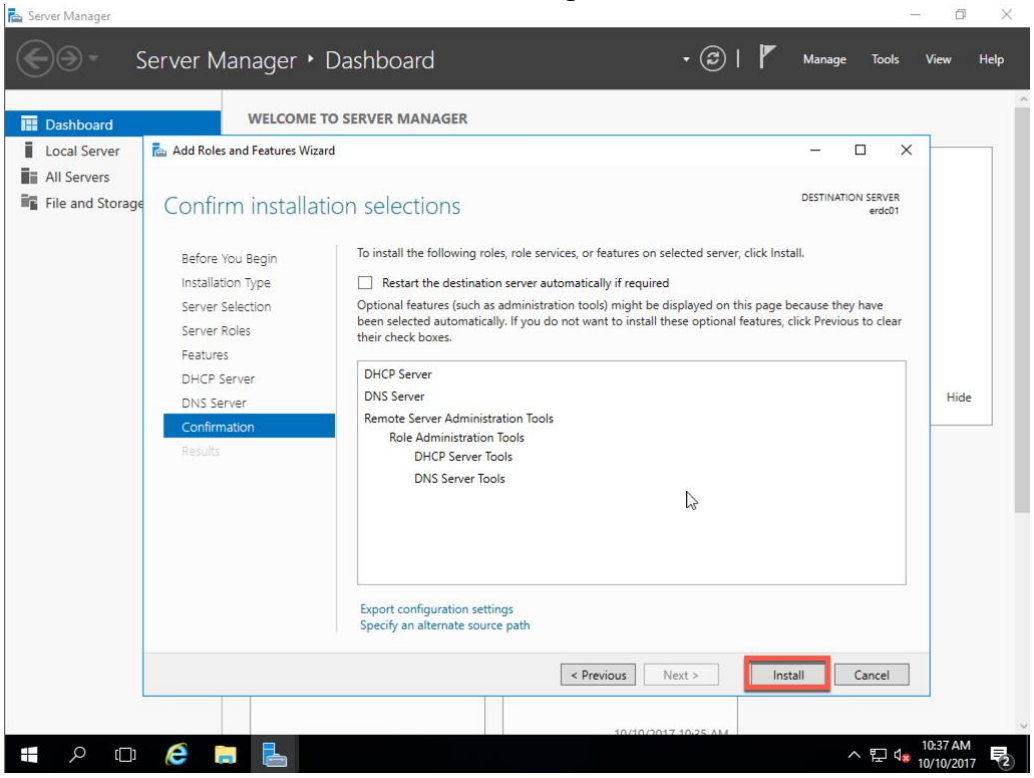
12. On the DHCP Server dialog, click Next.



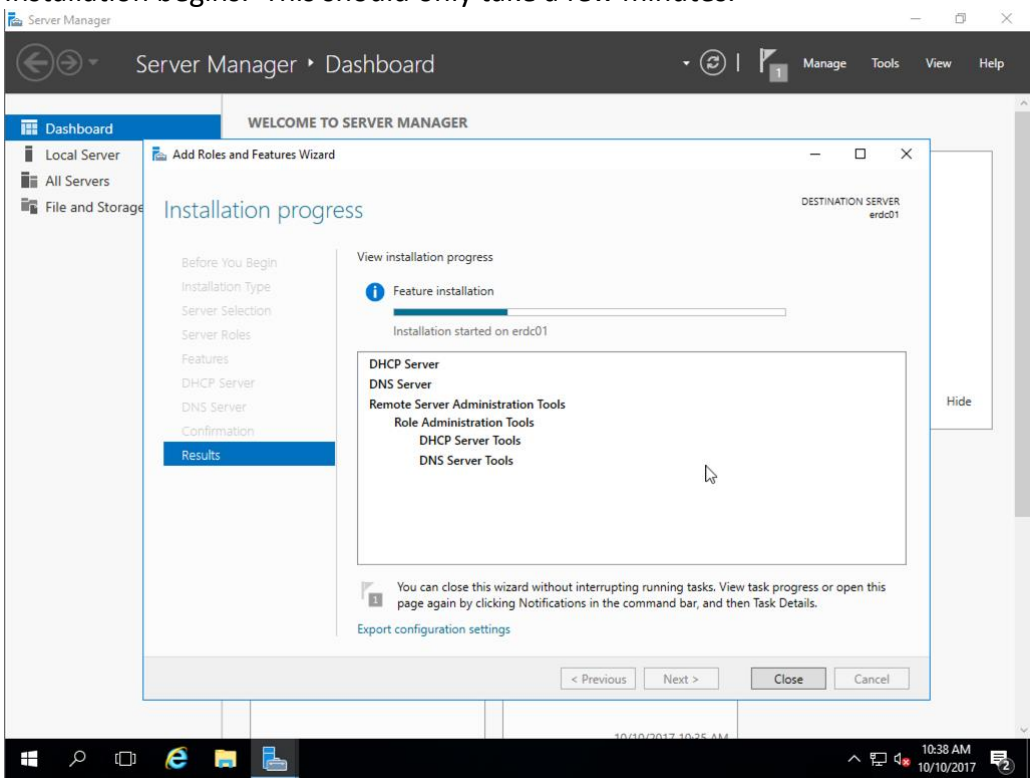
13. On the DNS Server dialog, click Next.



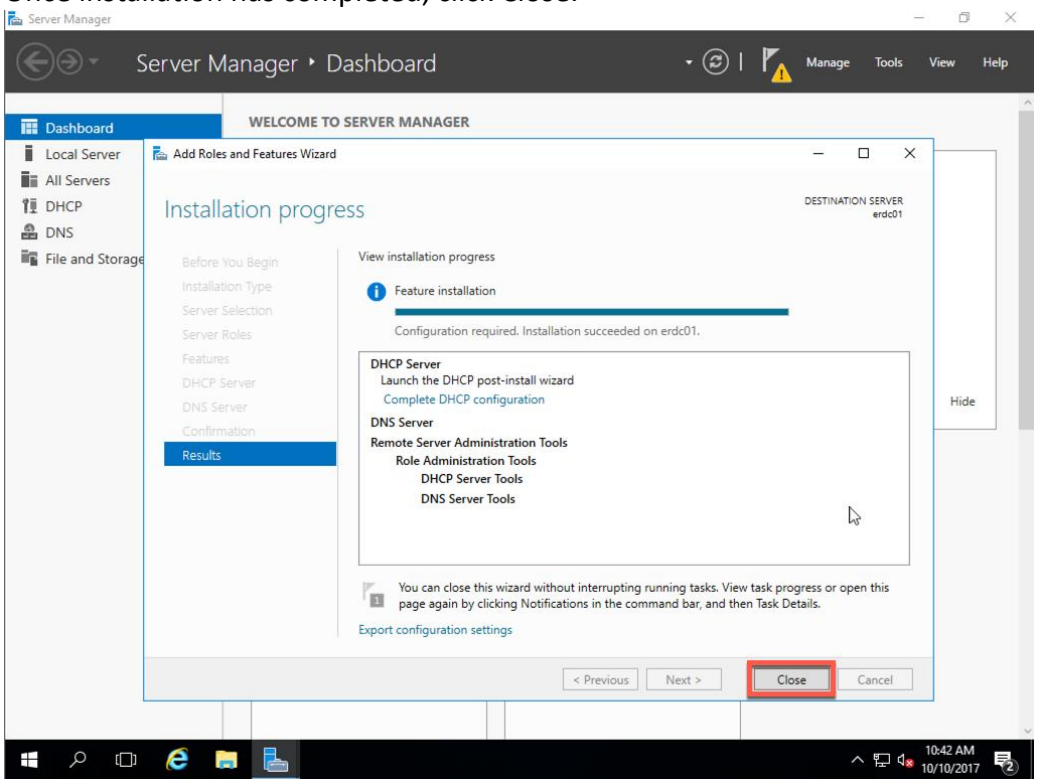
14. On the Confirm installation selections dialog, click Install.



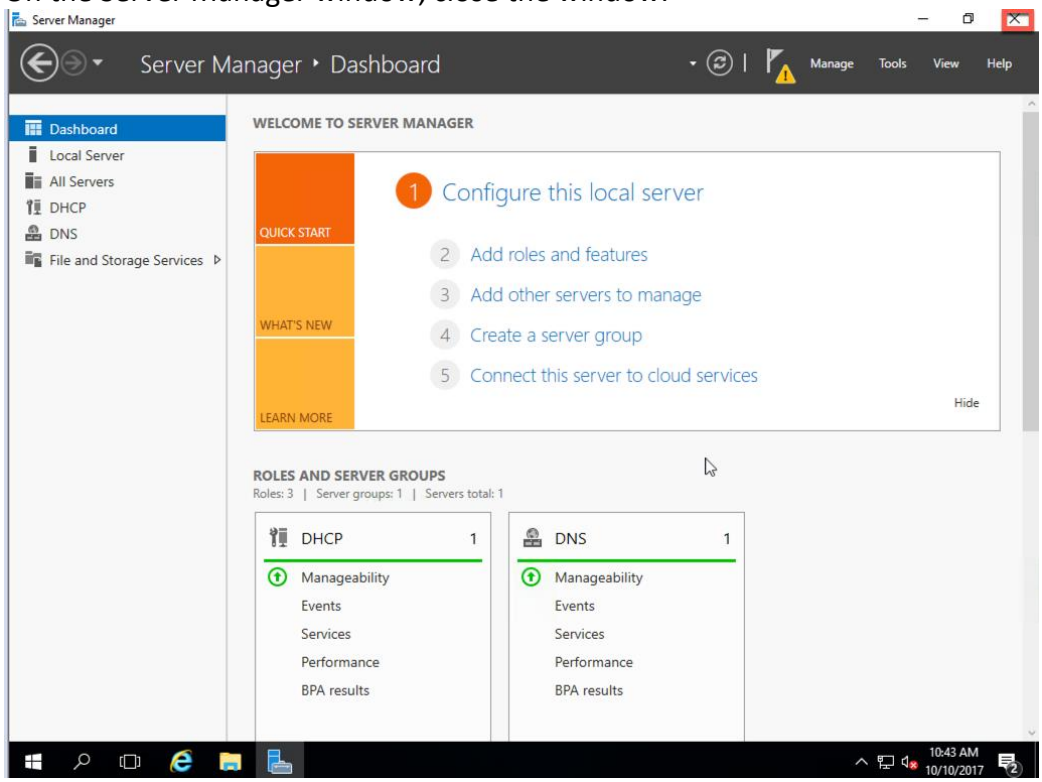
15. Installation begins. This should only take a few minutes.



16. Once installation has completed, click Close.

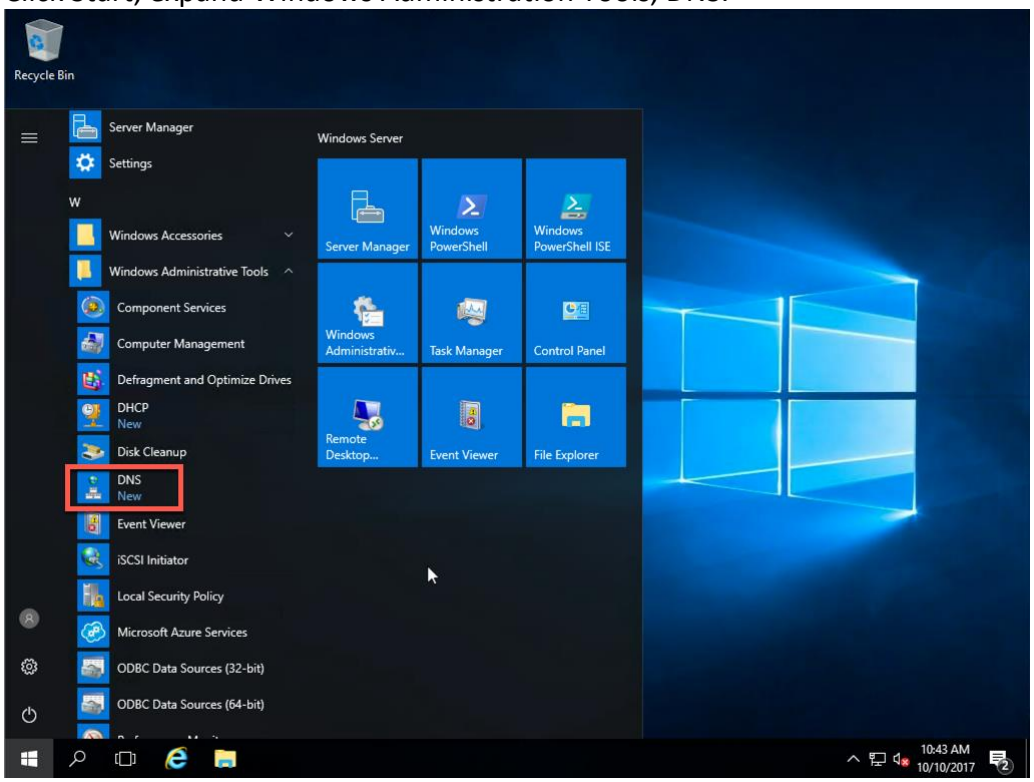


17. On the Server Manager window, close the window.

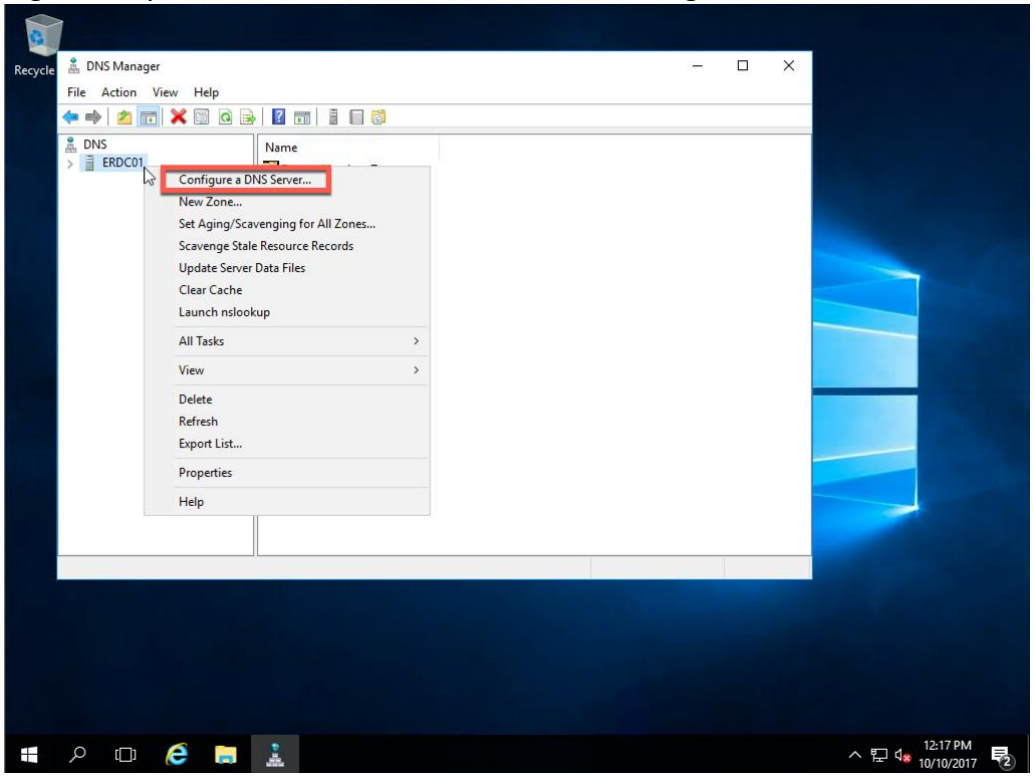


Configure DNS Server

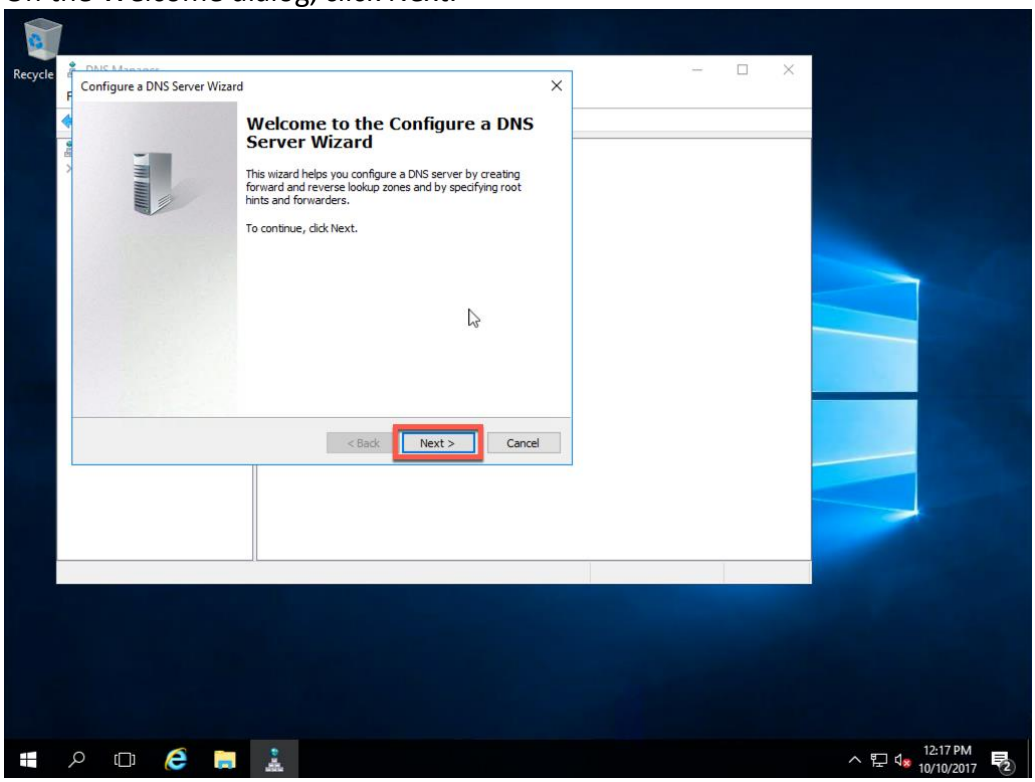
1. Click Start, expand Windows Administration Tools, DNS.



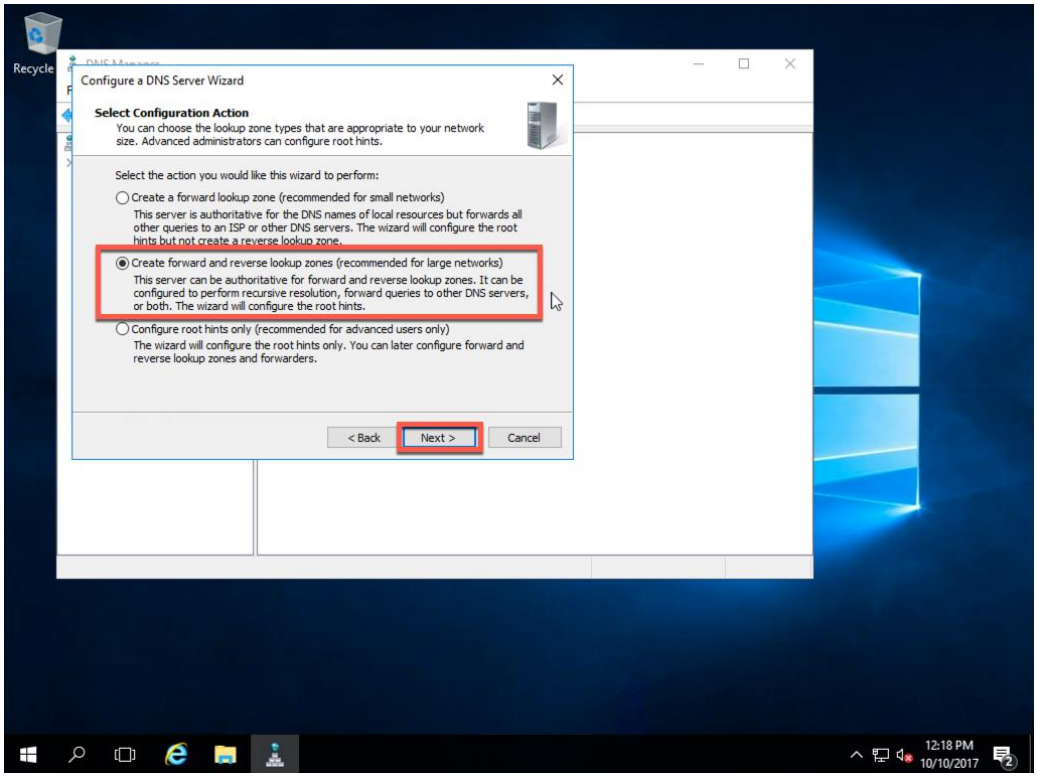
2. Right-click your server name, and then click on Configure a DNS Server...



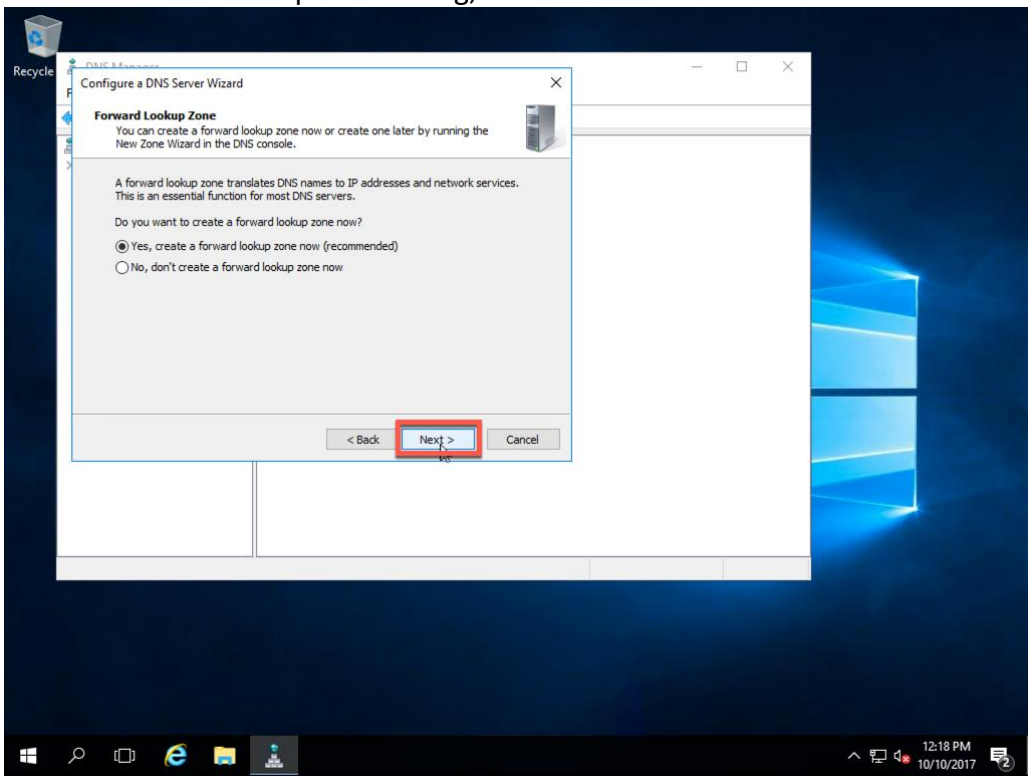
3. On the Welcome dialog, click Next.



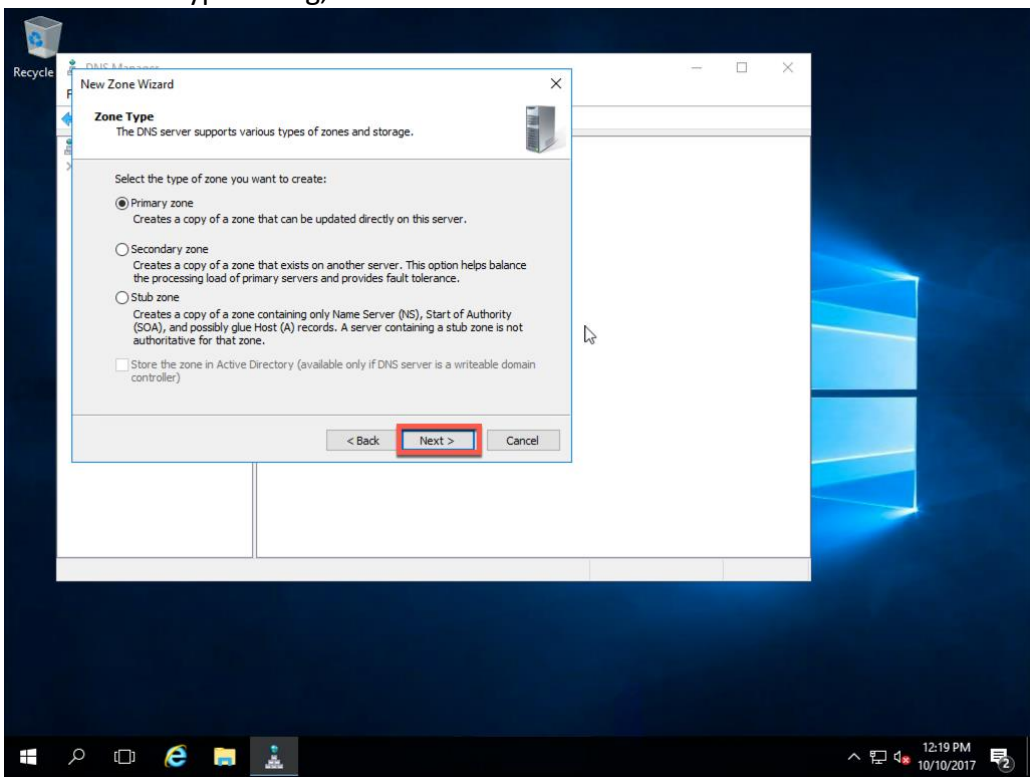
4. On the Select Configuration Action dialog, select Crate forward and reverse lookup zones and click Next.



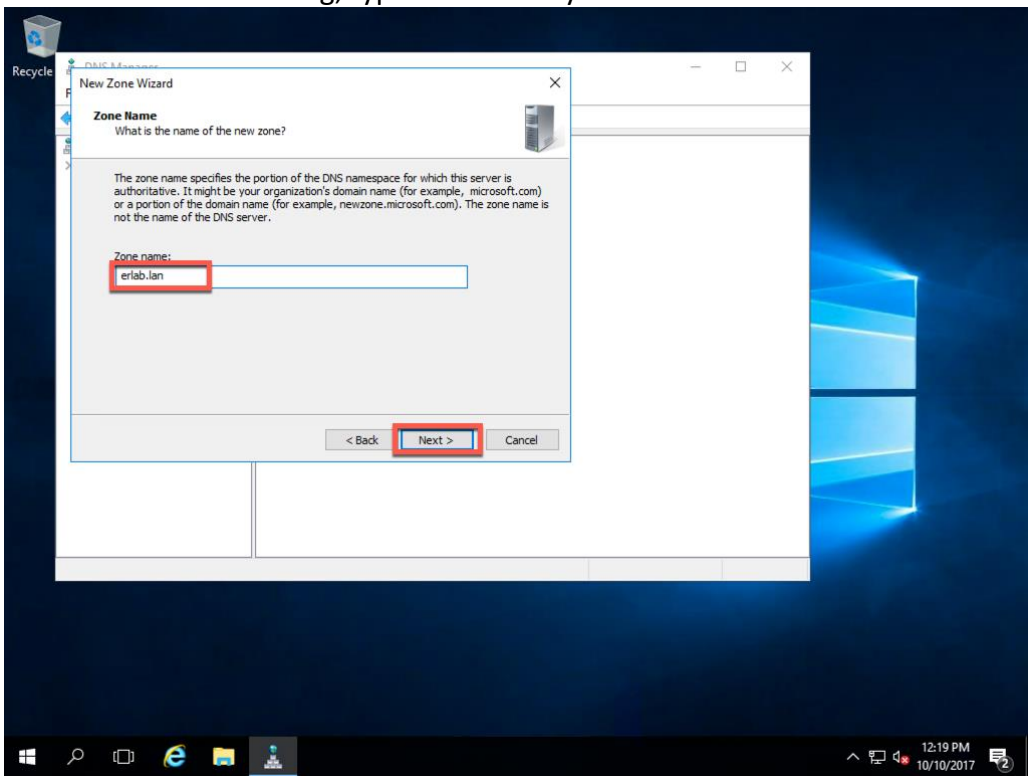
5. On the Forward Lookup Zone dialog, click Next.



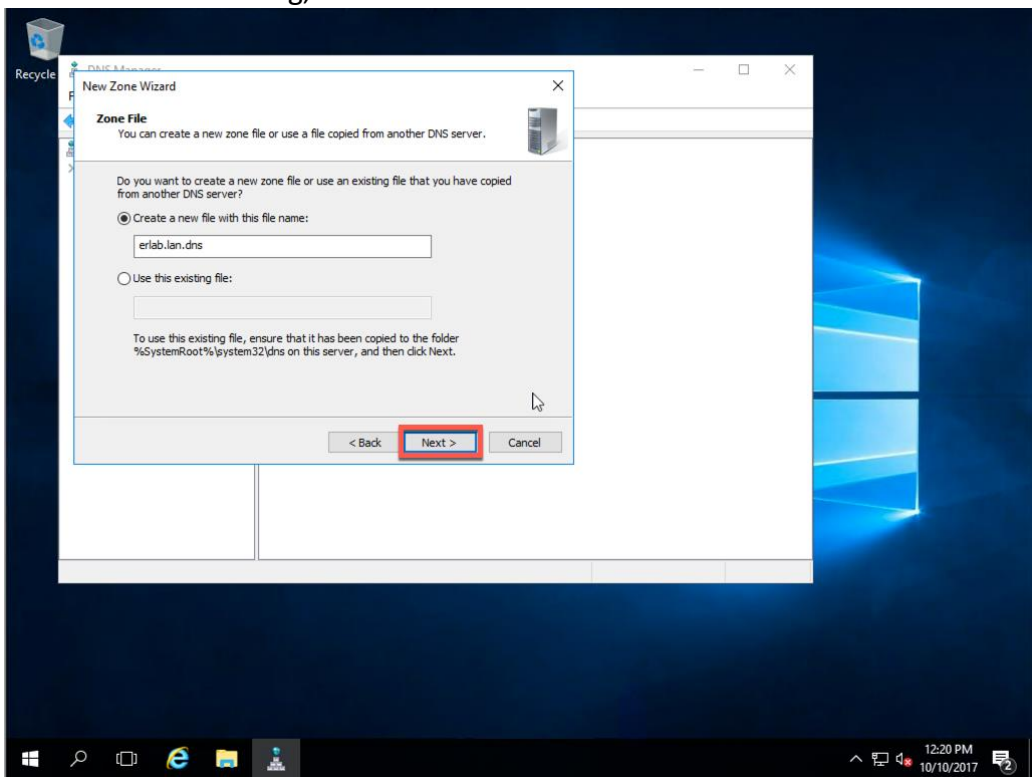
6. On the Zone Type dialog, click Next.



7. On the Zone Name dialog, type a name for your zone and click Next.

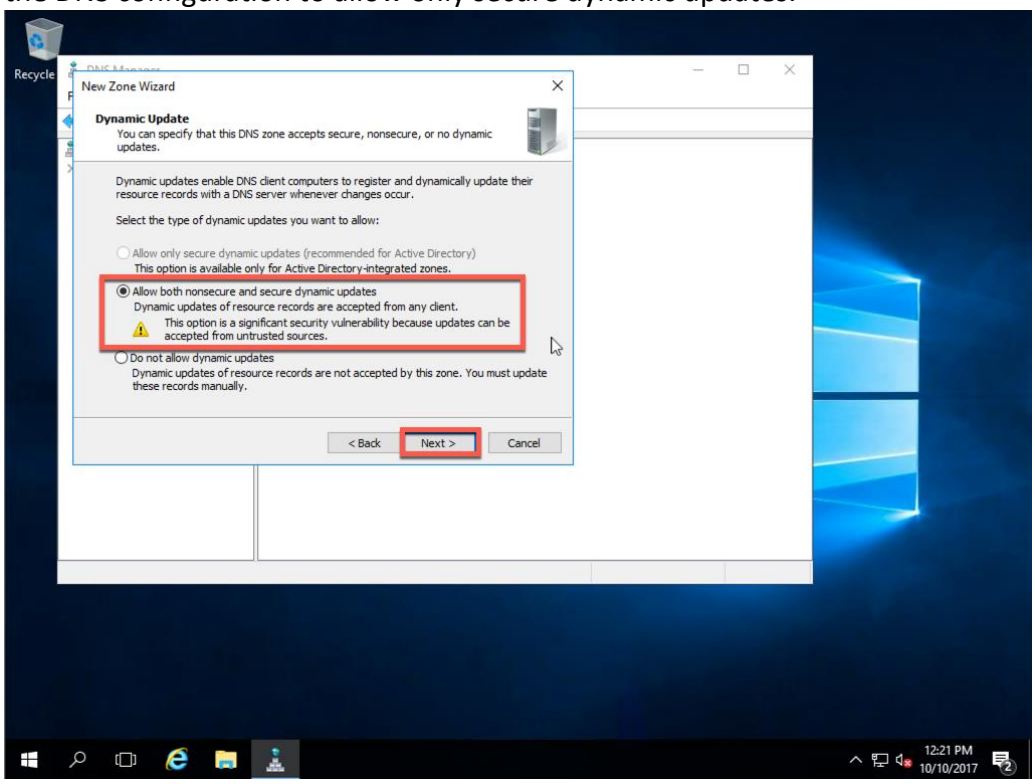


8. On the Zone File dialog, click Next.

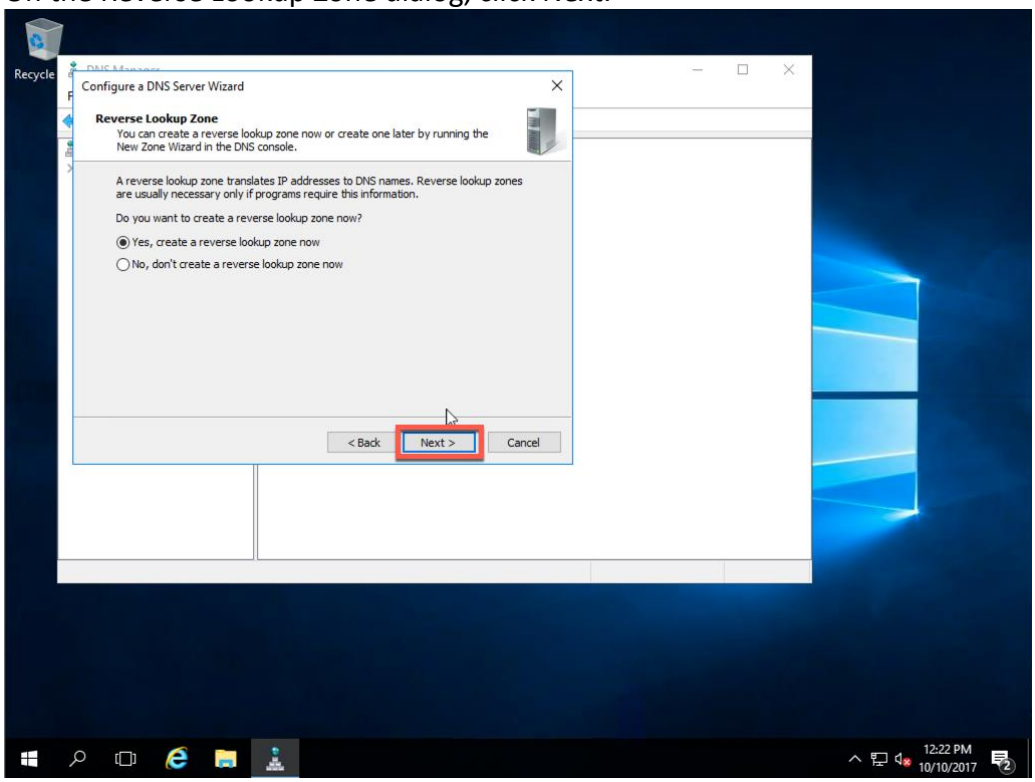


9. On the Dynamic Update dialog, select Allow both nonsecure and secure dynamic updates and click Next. After Active Directory has been configured we will come back and change

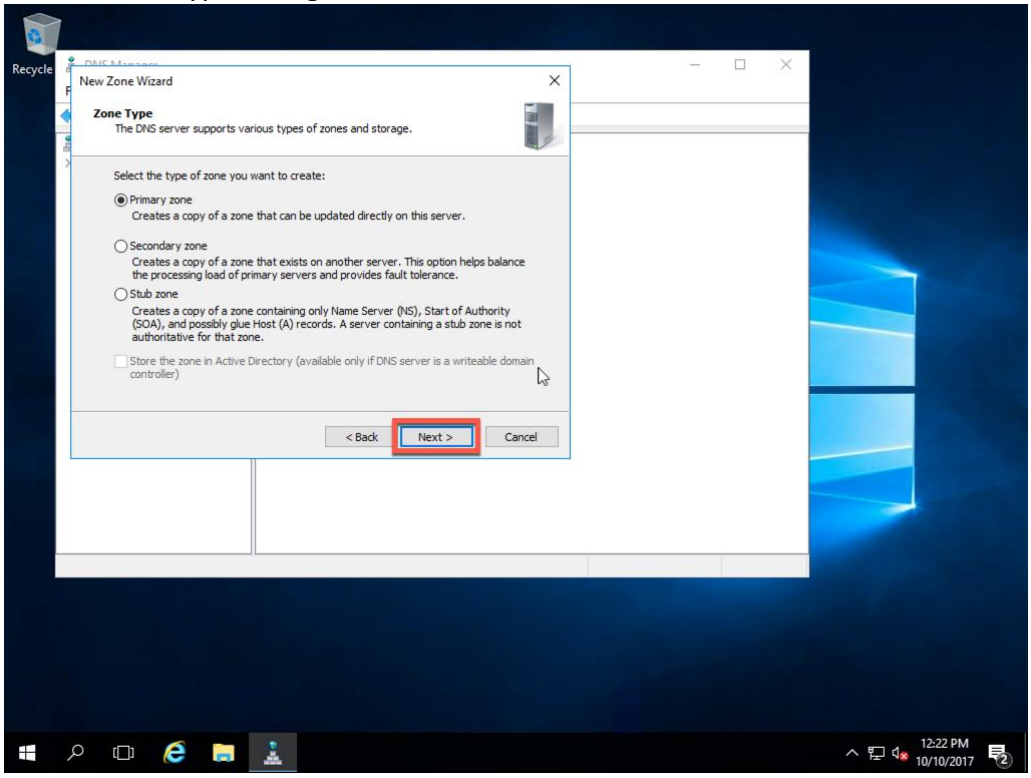
the DNS configuration to allow only secure dynamic updates.



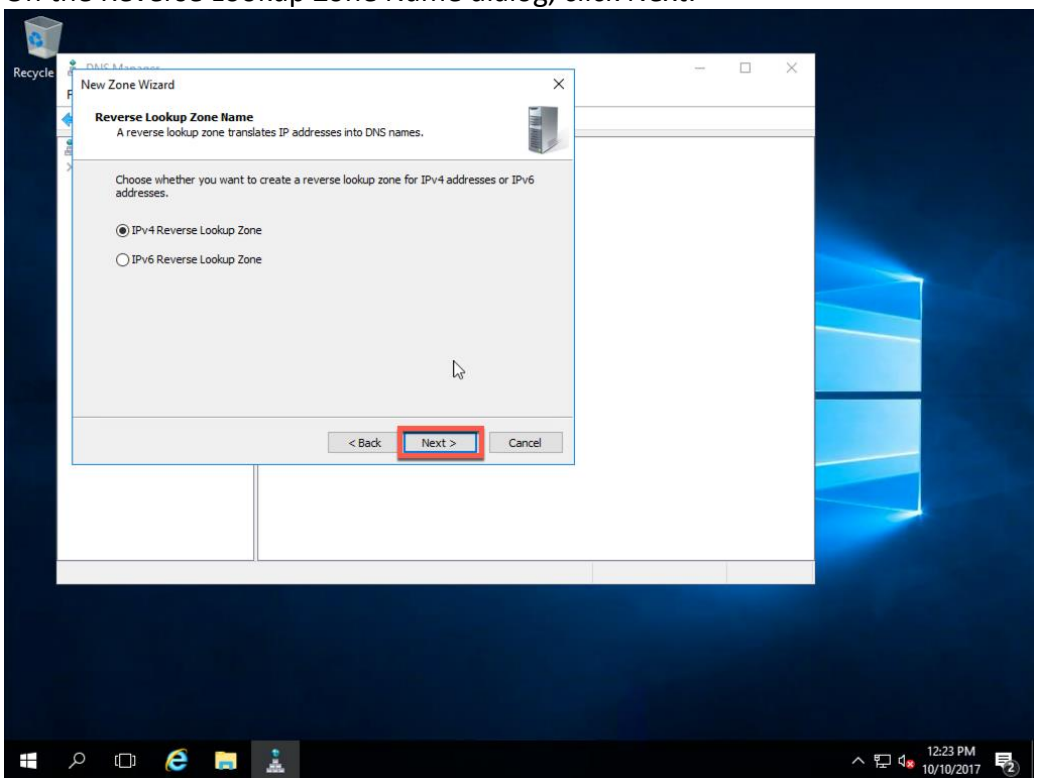
10. On the Reverse Lookup Zone dialog, click Next.



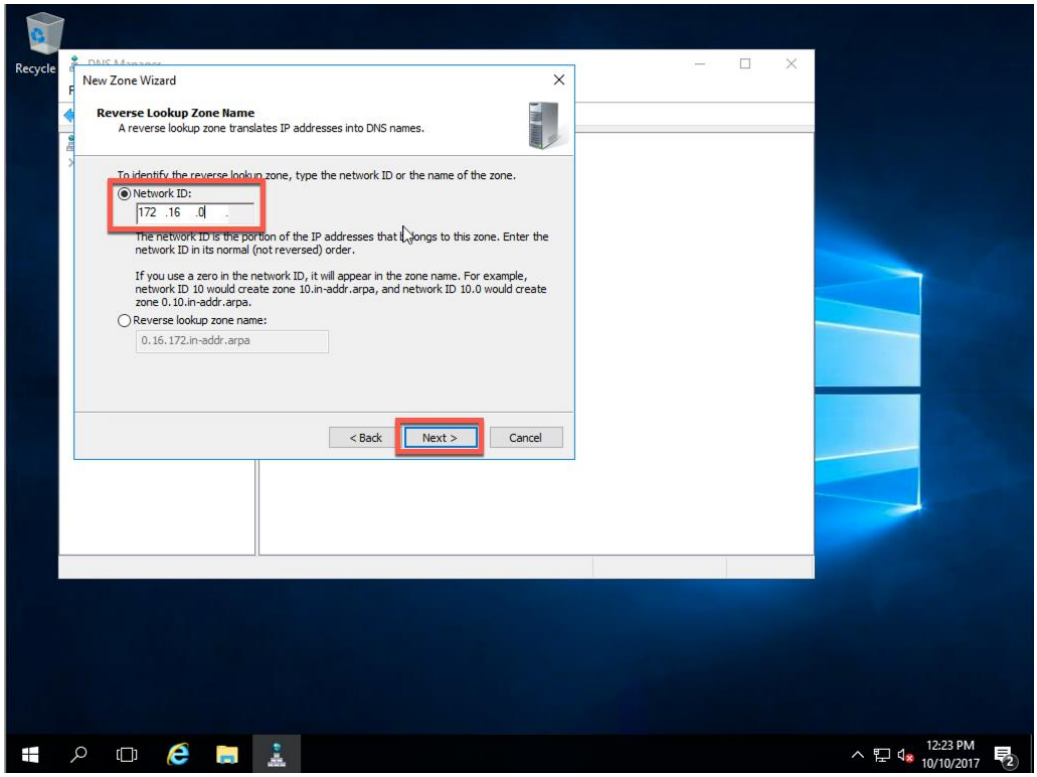
11. On the Zone Type dialog, click Next.



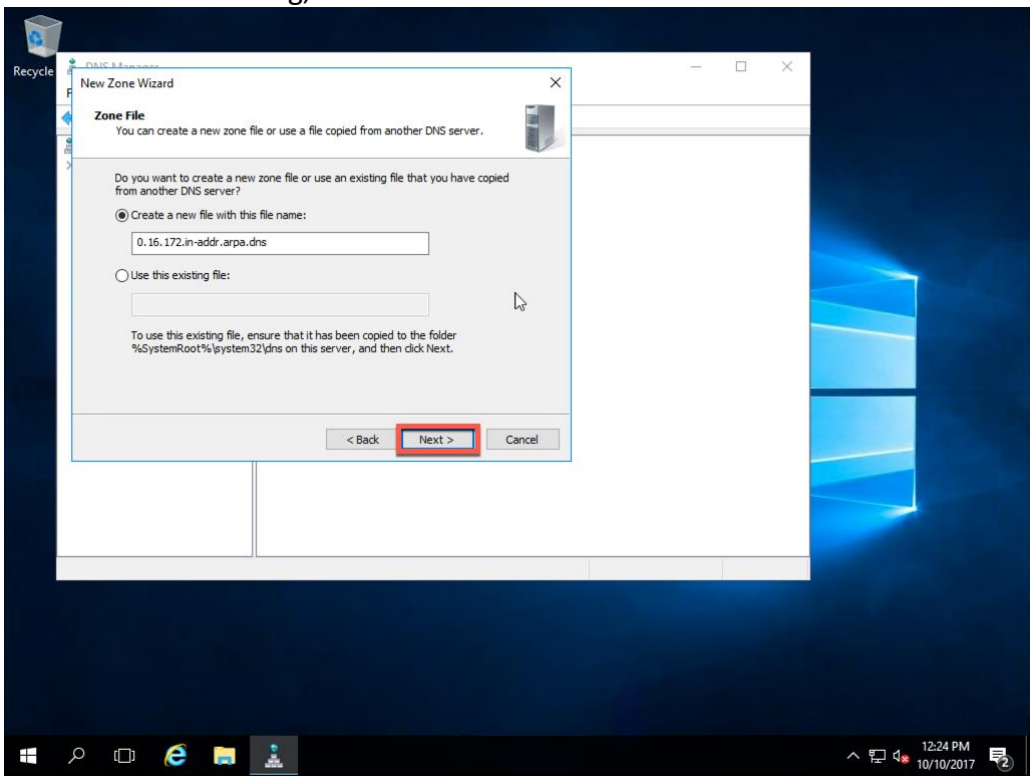
12. On the Reverse Lookup Zone Name dialog, click Next.



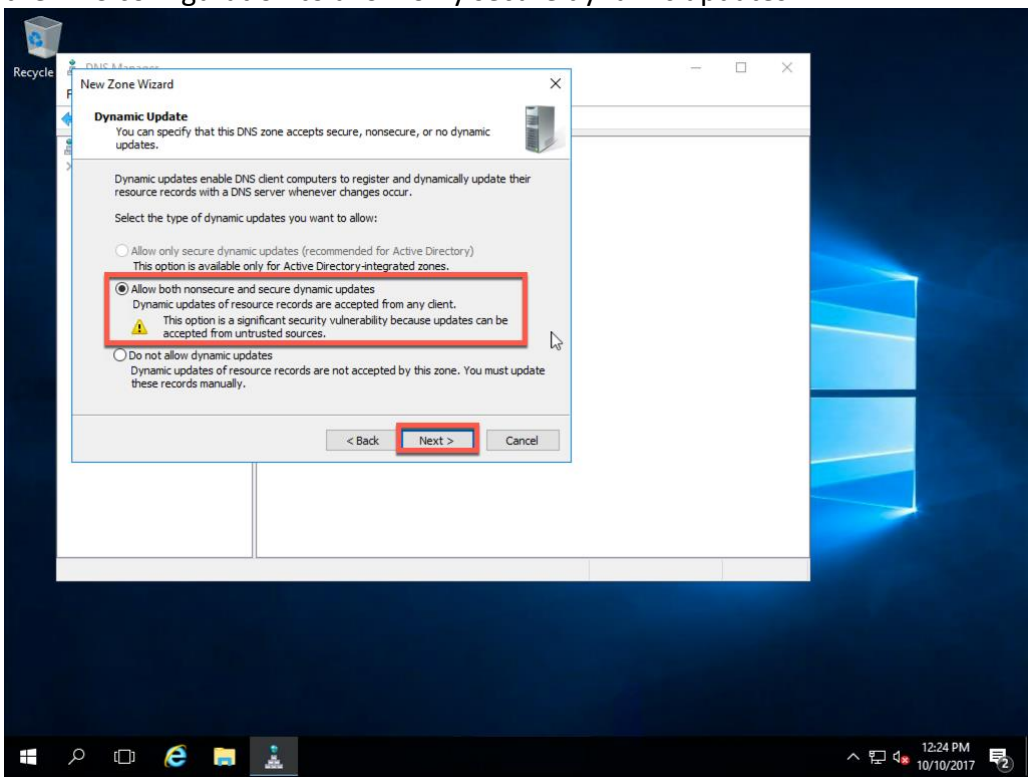
13. On the Reverse Lookup Zone Name dialog, enter the IP address range you will use and click Next.



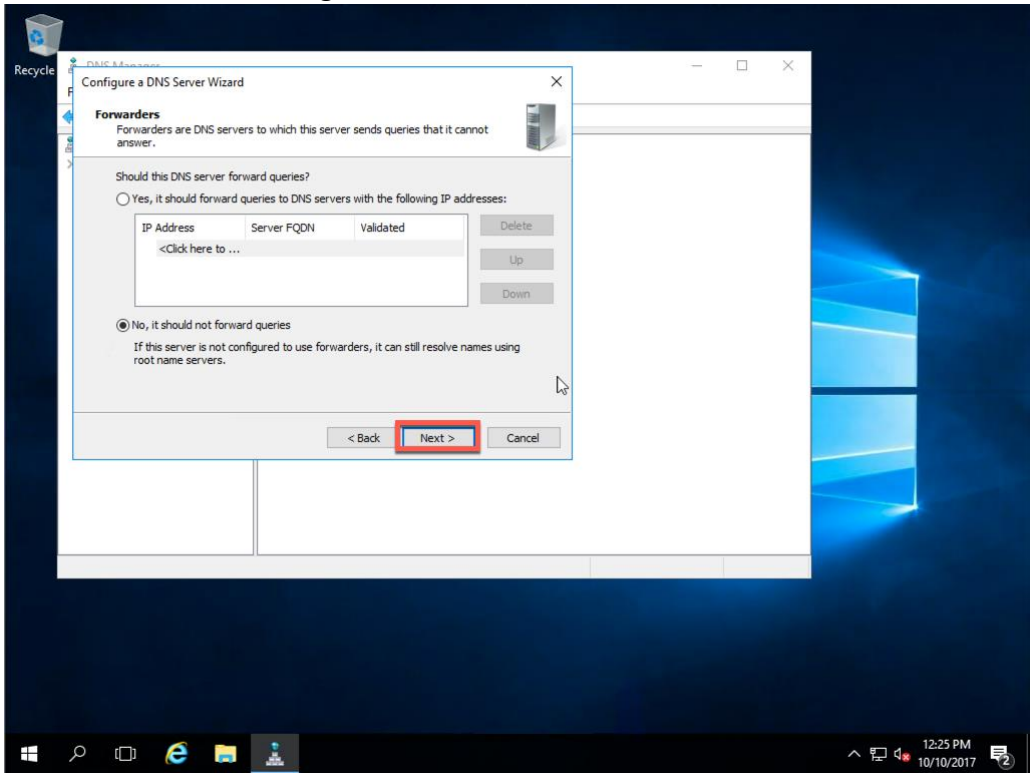
14. On the Zone File dialog, click Next.



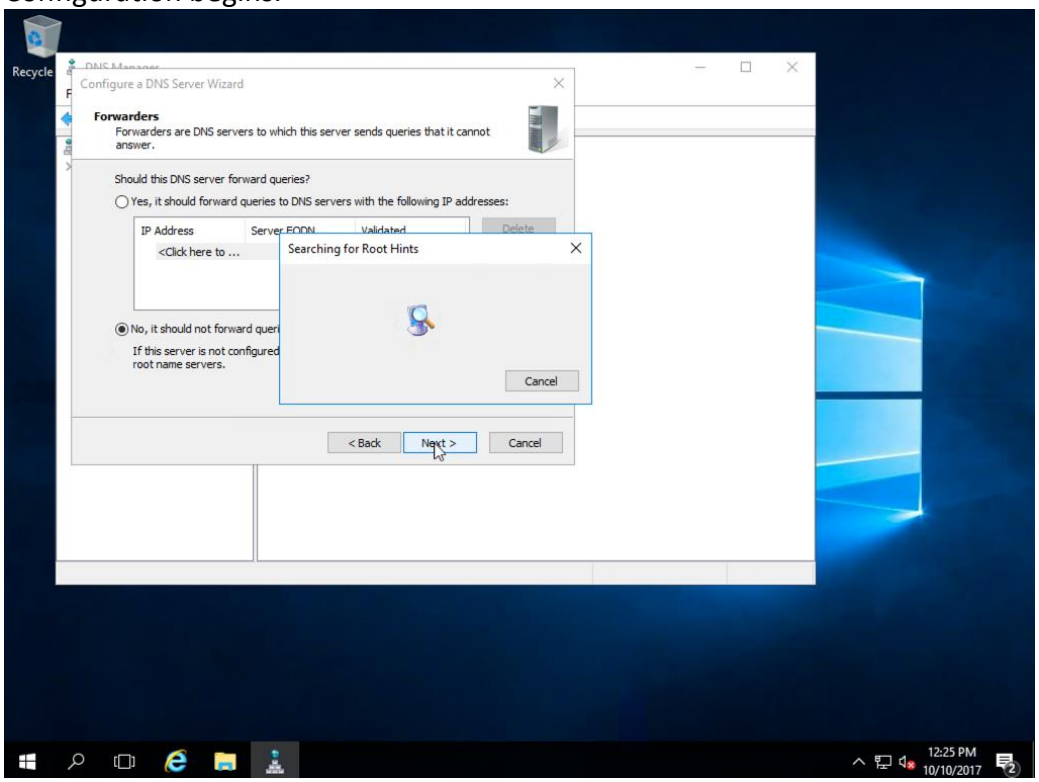
15. On the Dynamic Update dialog, select Allow both nonsecure and secure dynamic updates and click Next. After Active Directory has been configured we will come back and change the DNS configuration to allow only secure dynamic updates.



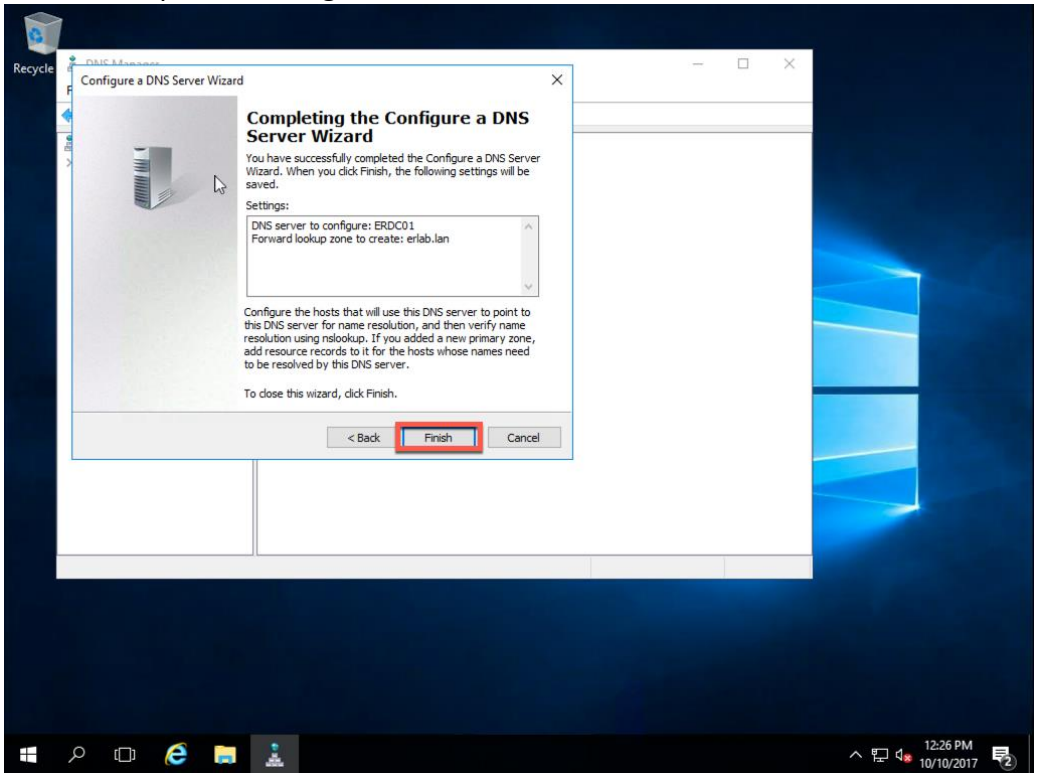
16. On the Forwarders dialog, click Next.



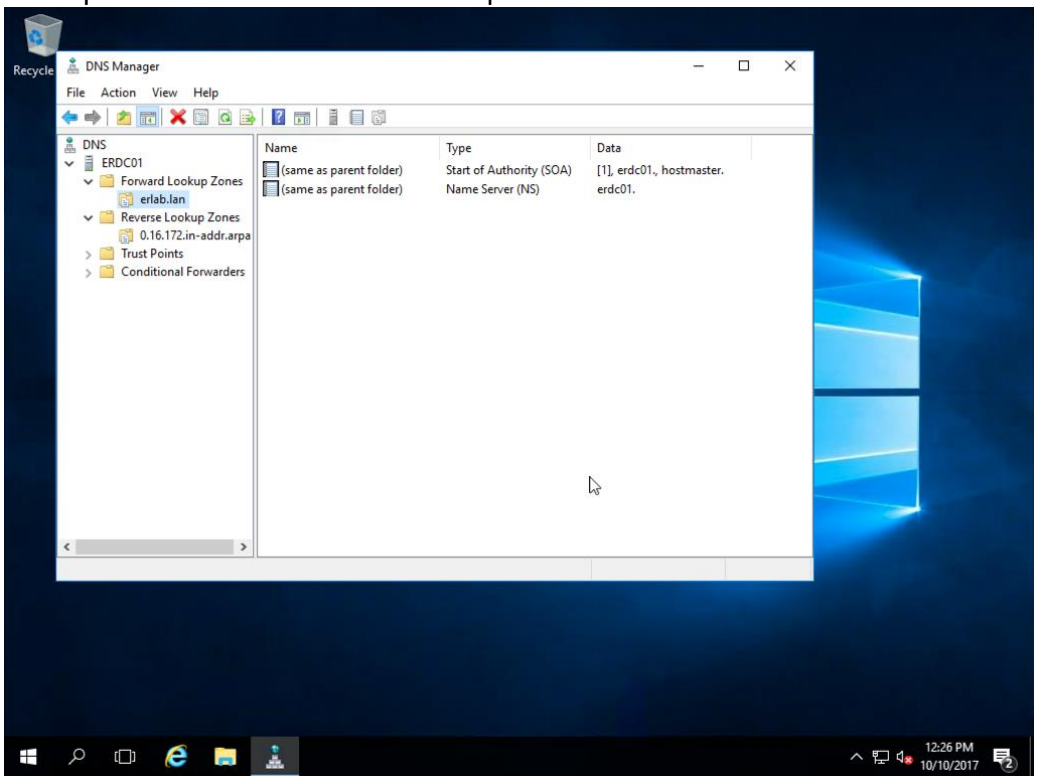
17. Configuration begins.



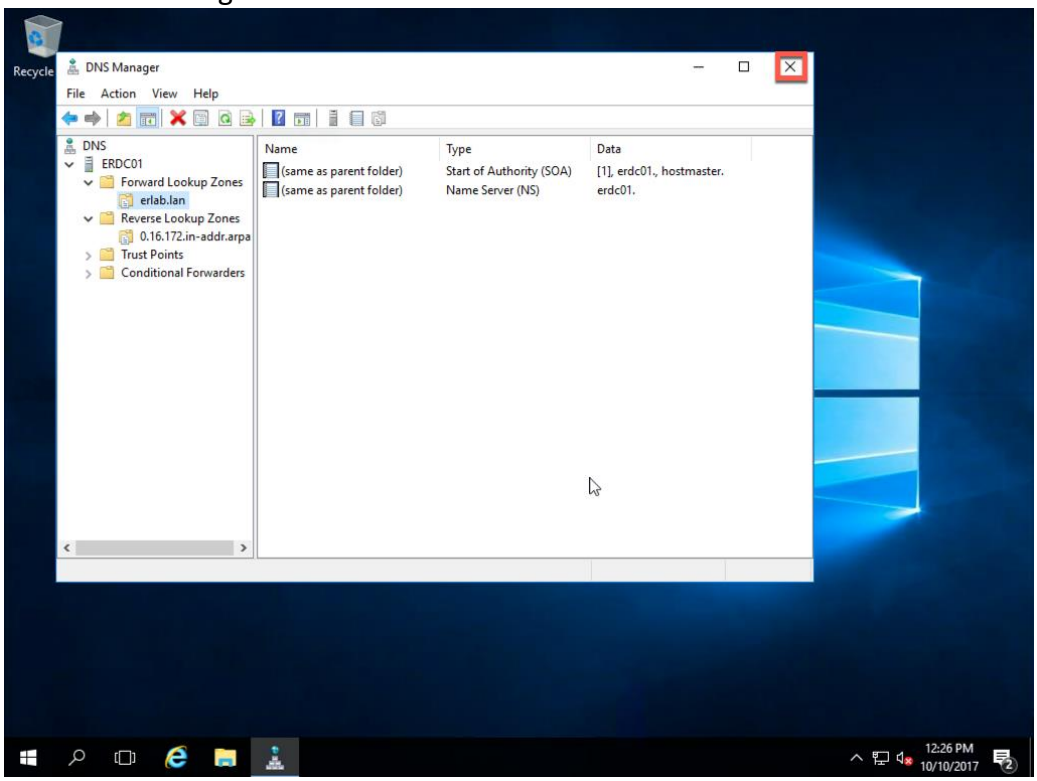
18. On the Completion dialog, click Finish.



19. In the DNS Manager window, you can now expand your server name and both the Forward Lookup Zones and the Reverse Lookup Zones.

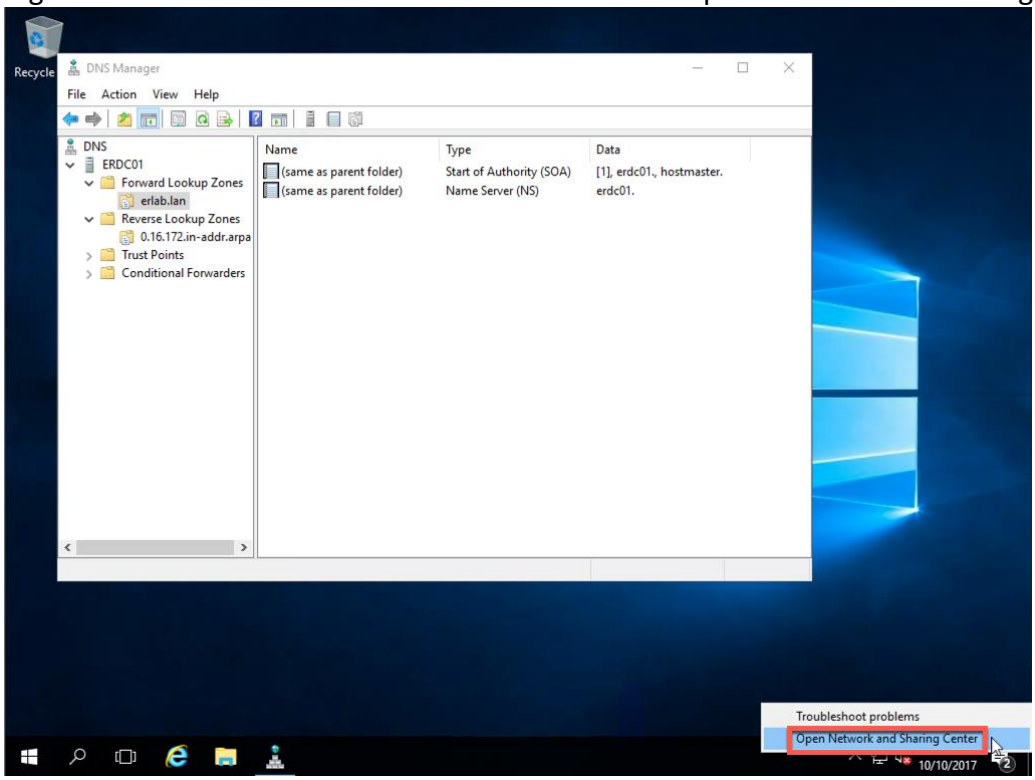


20. Close DNS Manager.

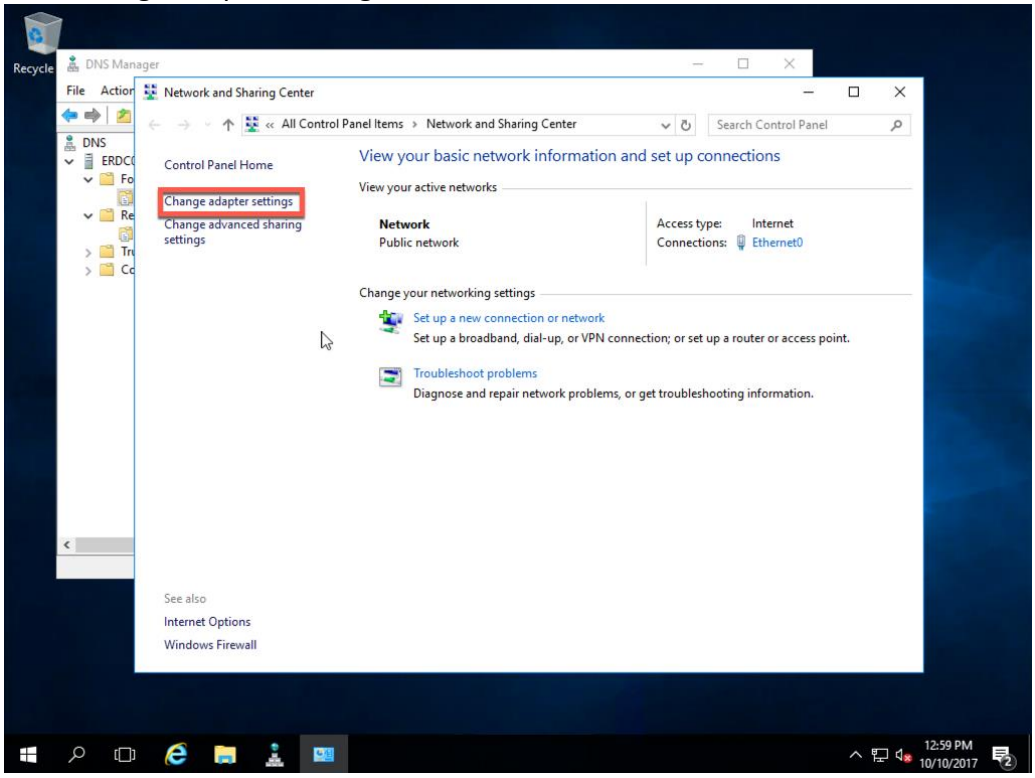


Configure Server to Use Itself as Primary DNS Server

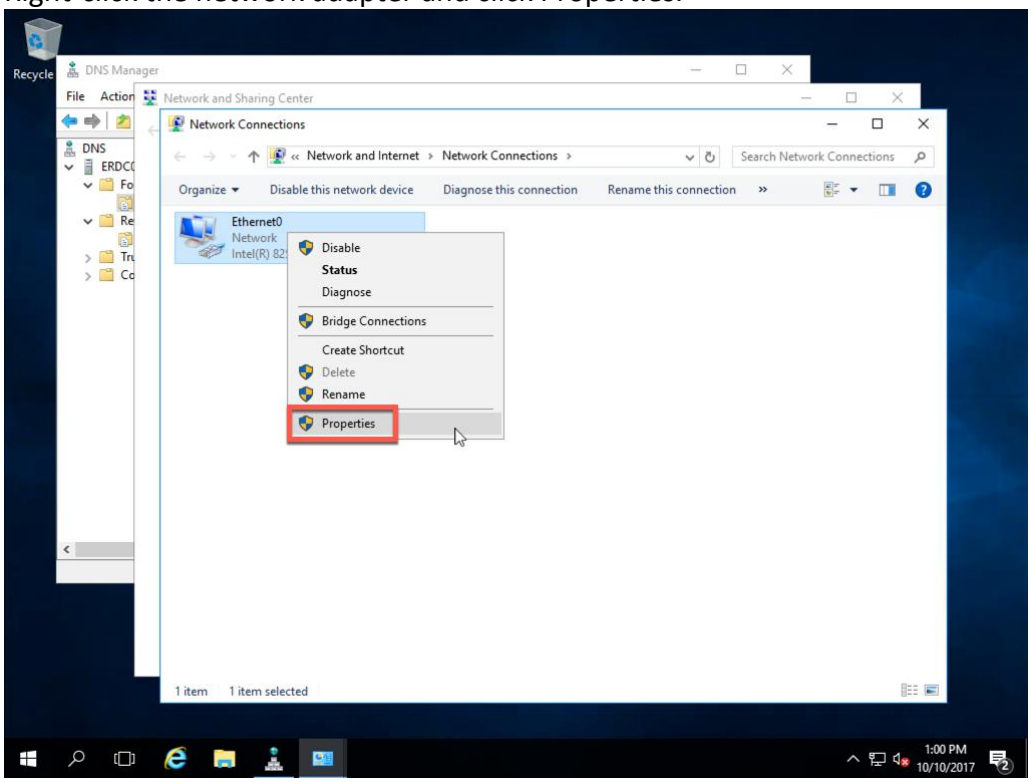
1. Right-click the Network icon in the taskbar and click Open Network and Sharing Center.



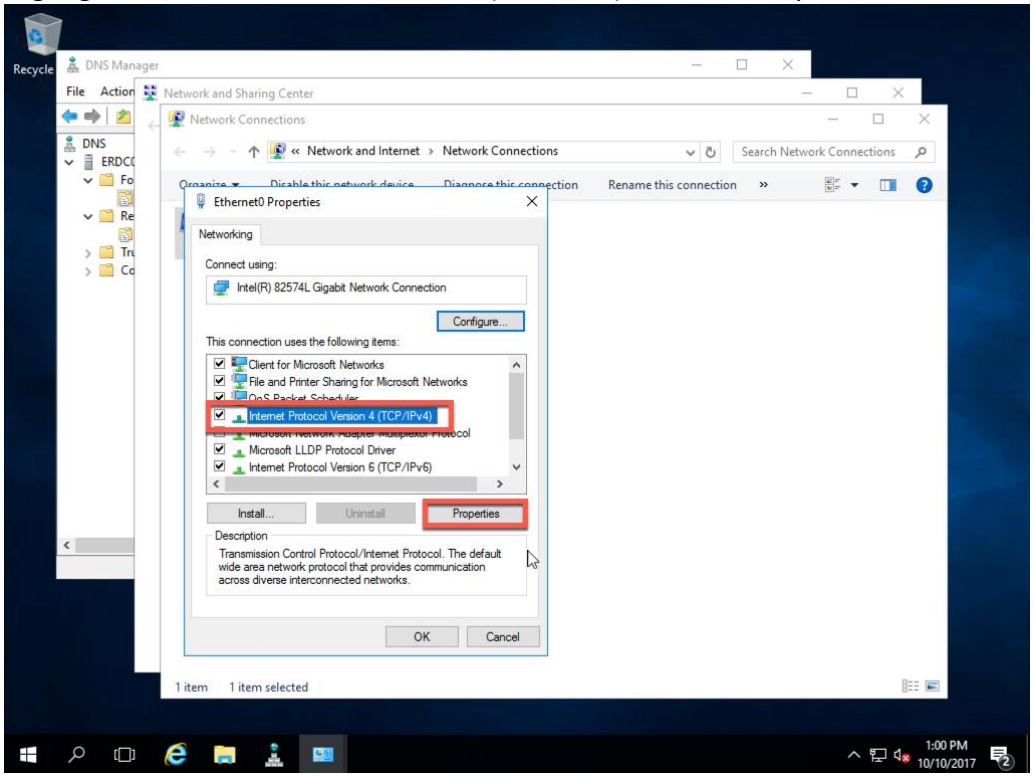
2. Click Change adapter settings.



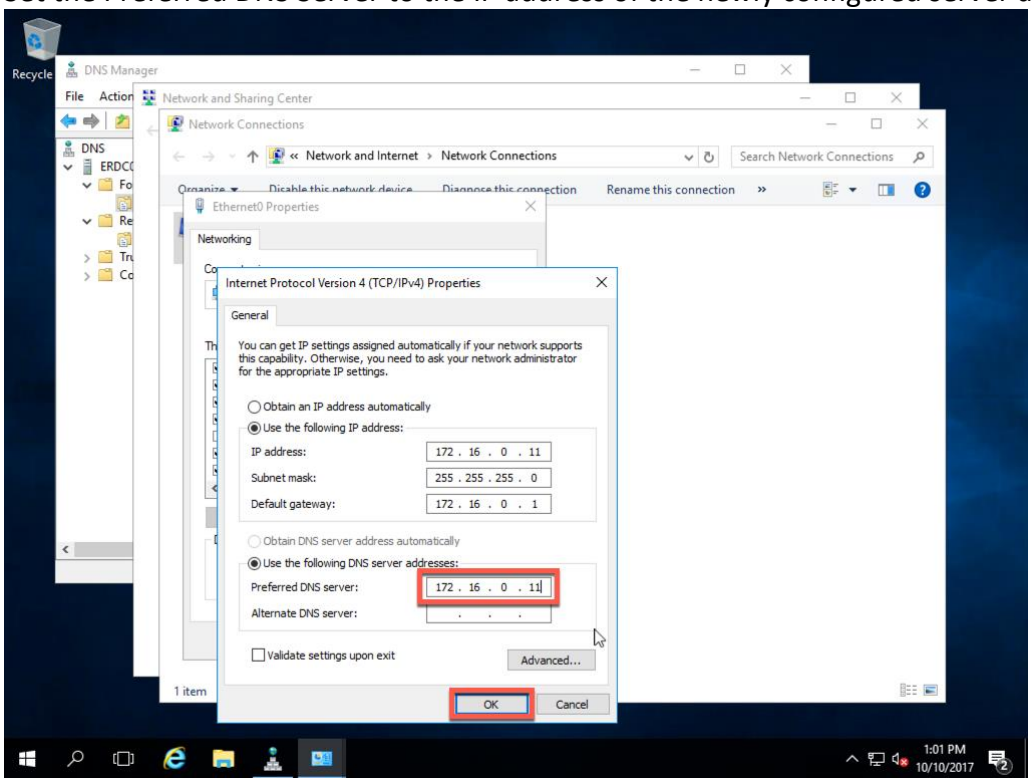
3. Right-click the network adapter and click Properties.



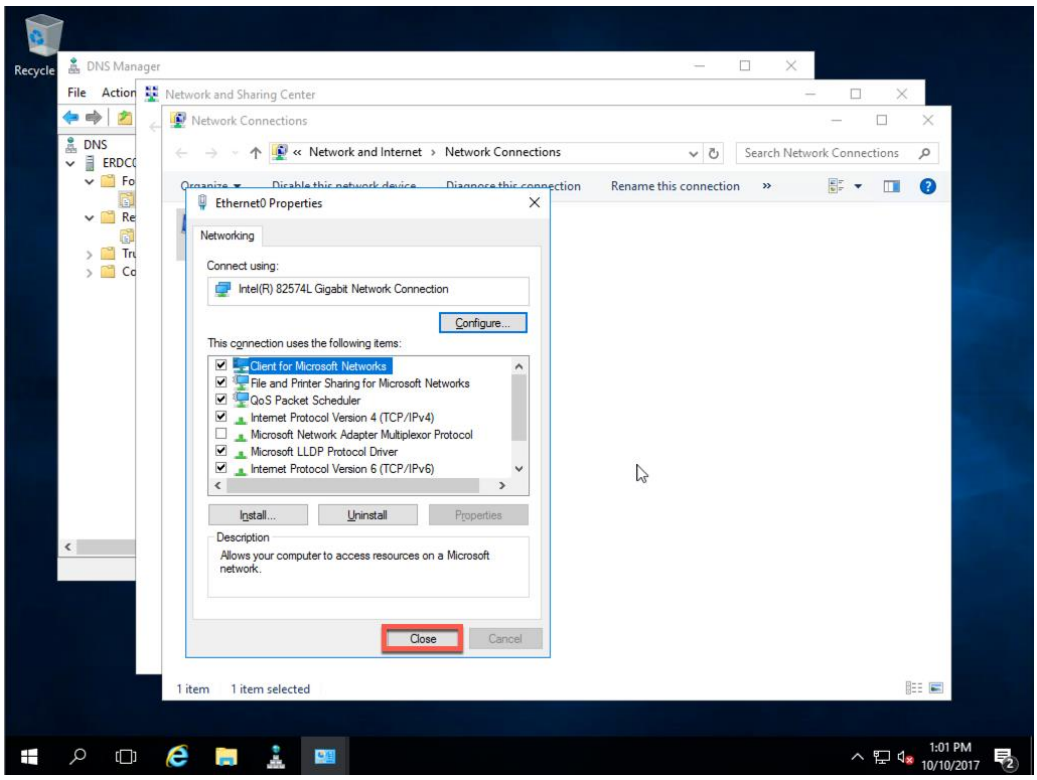
4. Highlight Internet Protocol Version 4 (TCP/IPv4) and click Properties.



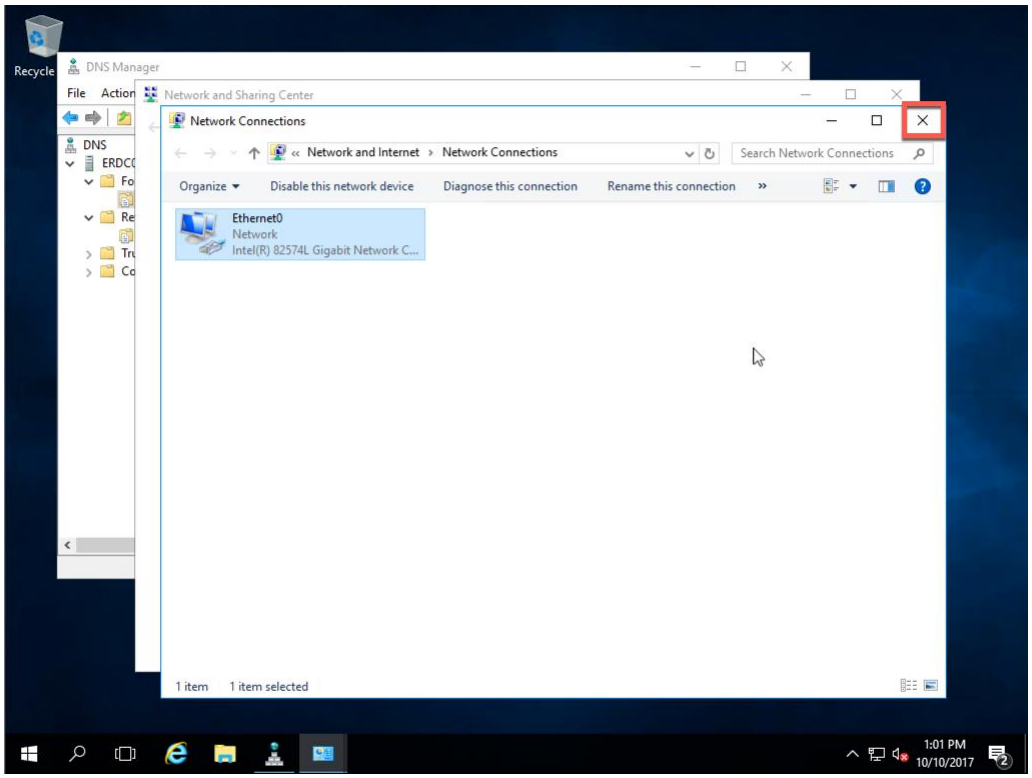
5. Set the Preferred DNS Server to the IP address of the newly configured server and click OK.



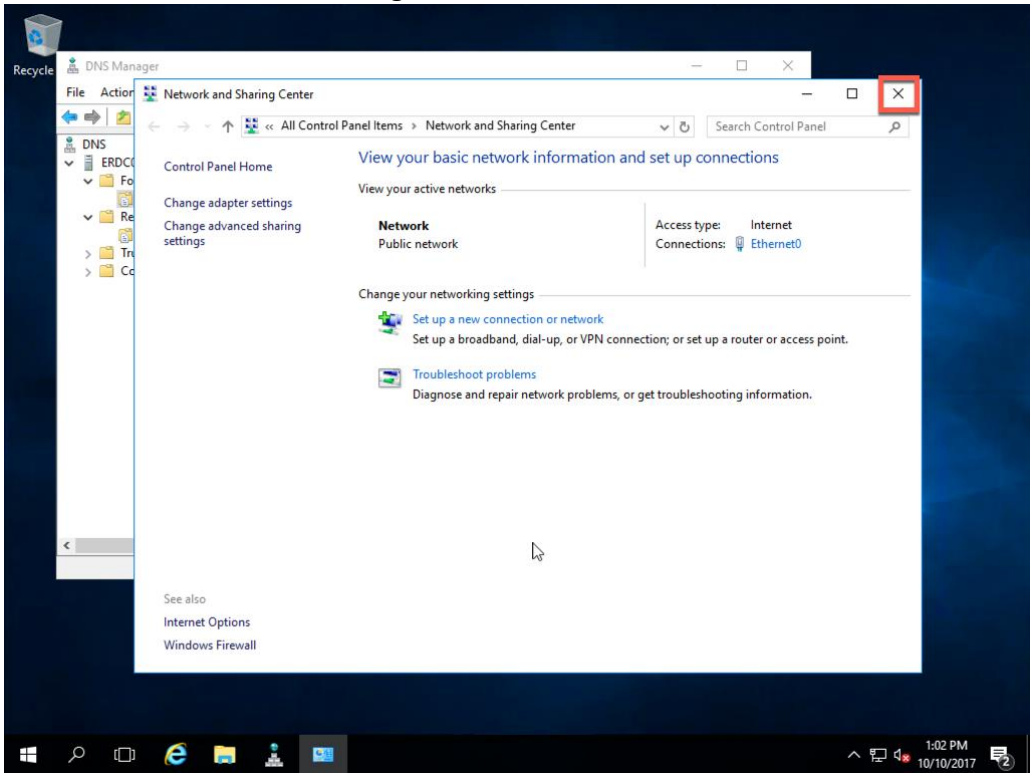
6. Click Close.



7. Close the Network Connections window.

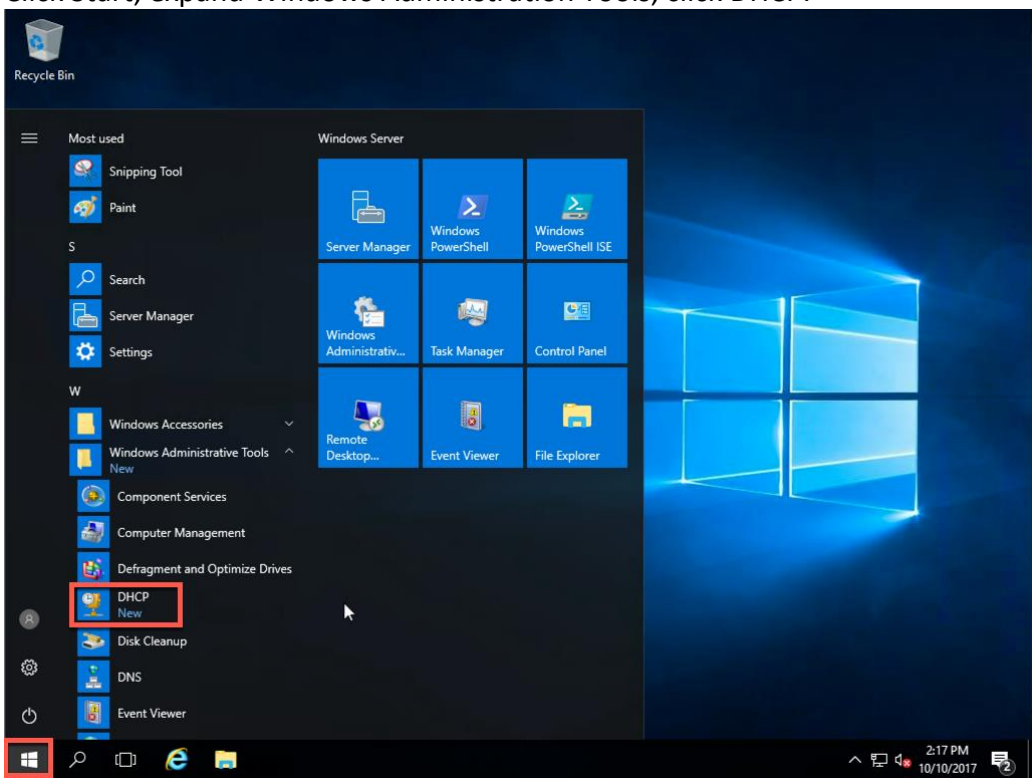


8. Close the Network and Sharing Center window.

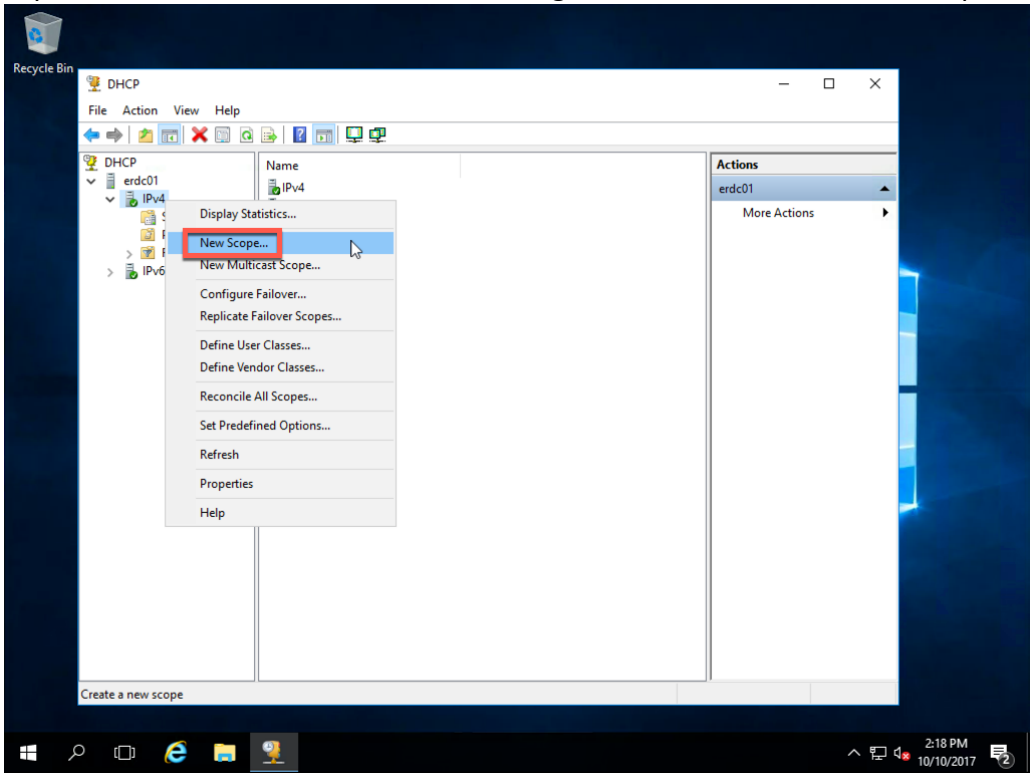


Configure DHCP Server

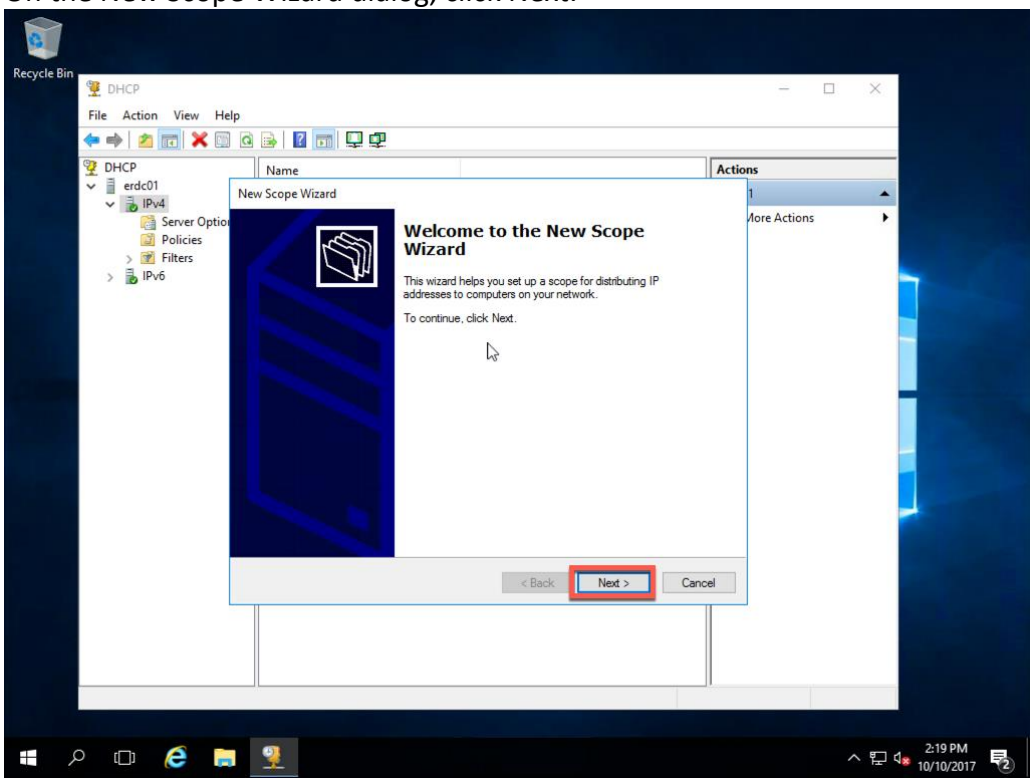
1. Click Start, expand Windows Administration Tools, click DHCP.



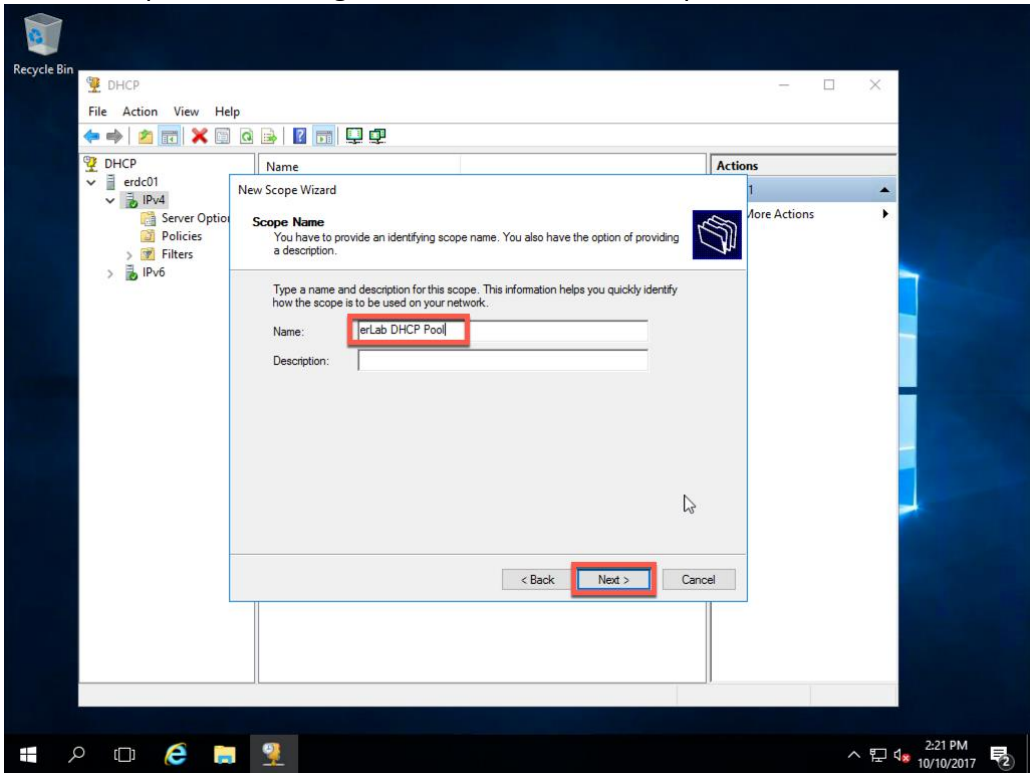
2. Expand the server name and IPv4. Then right-click IPv4 and click New Scope.



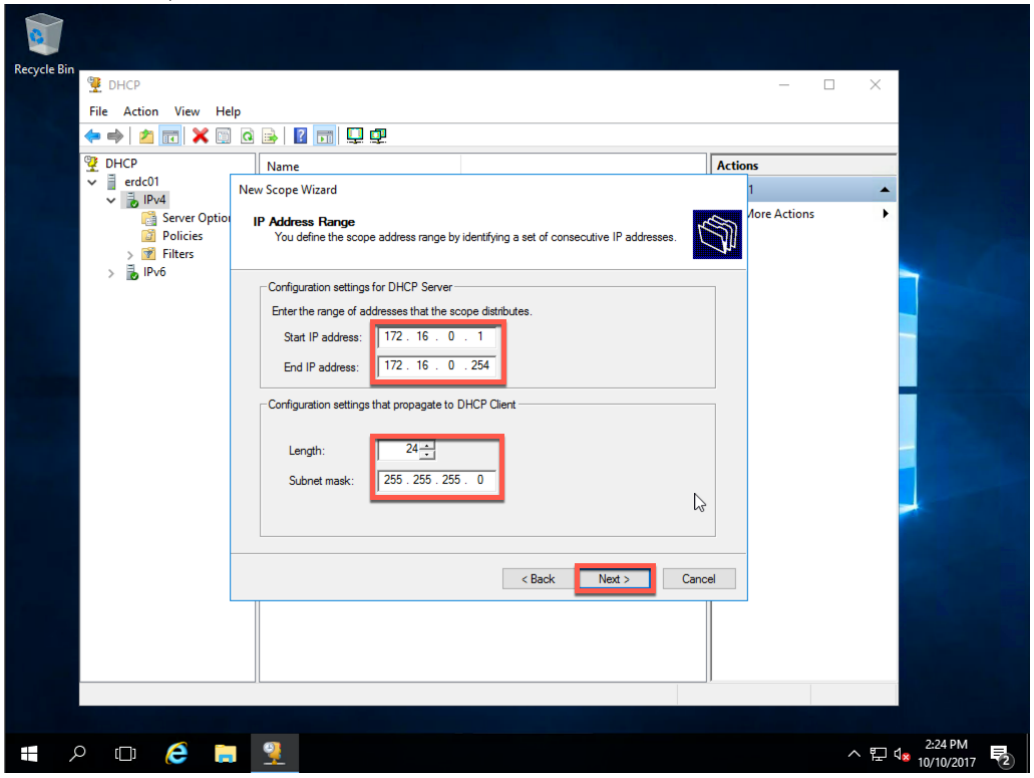
3. On the New Scope Wizard dialog, click Next.



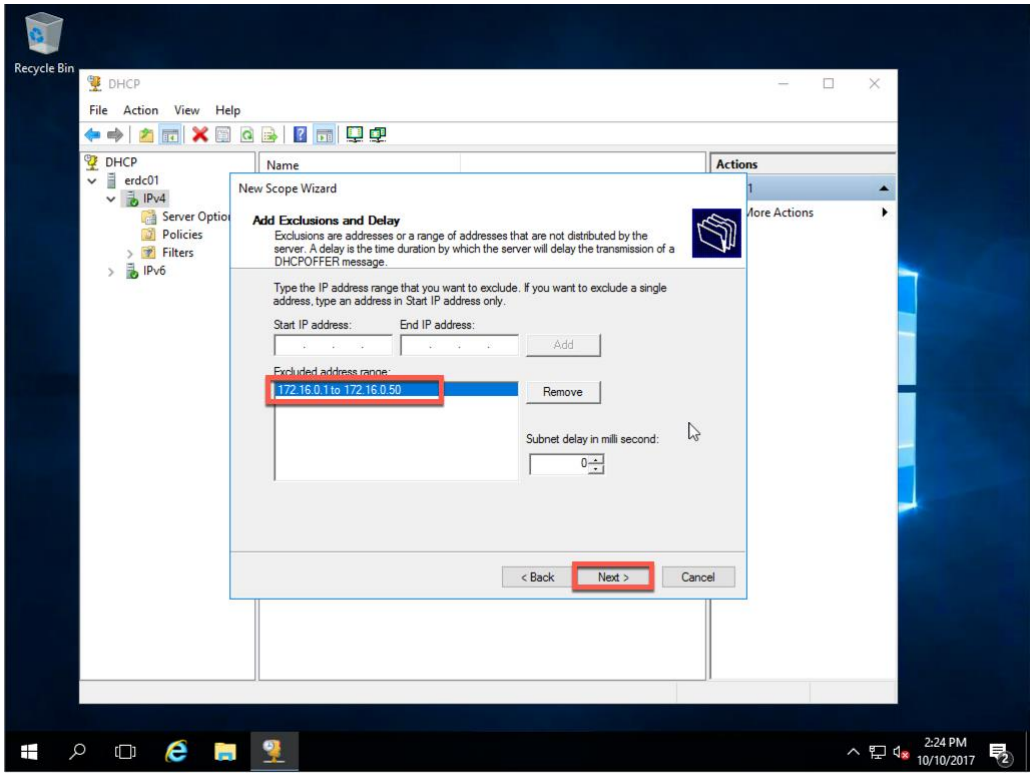
4. On the Scope Name dialog, enter a name for the scope and click Next.



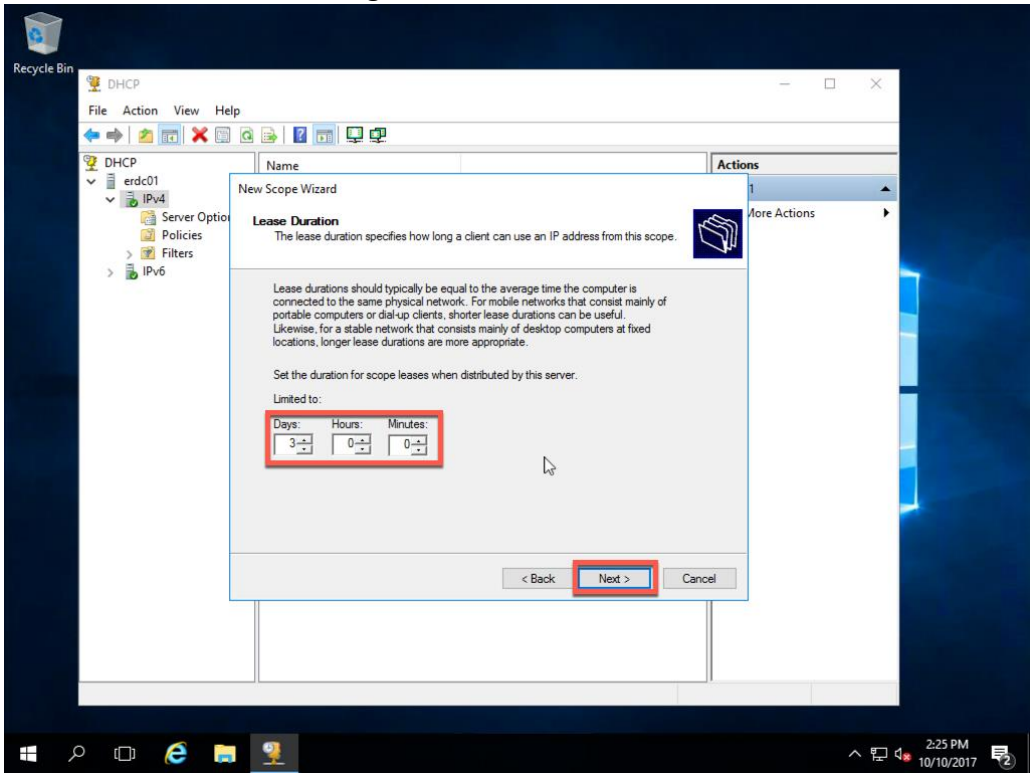
5. On the IP Address Range dialog, enter the first and last IP address in the scope, set the subnet mask, and click Next.



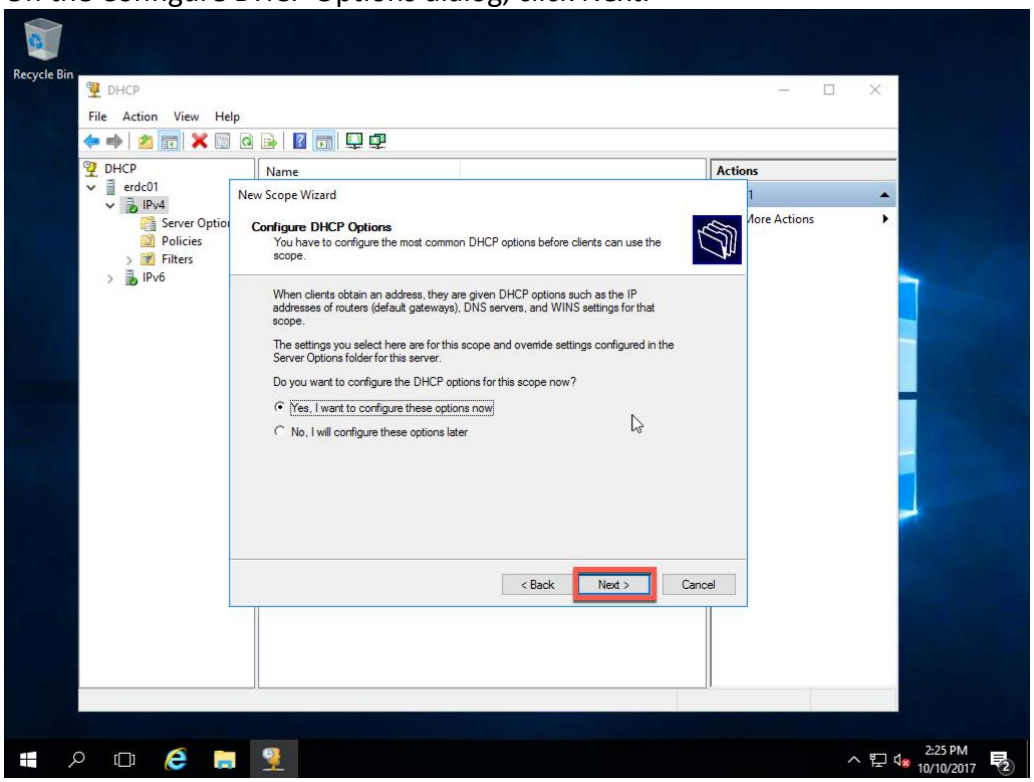
6. On the Add Exclusions and Delay dialog, add any IP Addresses you want to exclude and click Next. These addresses will not be assigned automatically to computers asking for an IP Address.



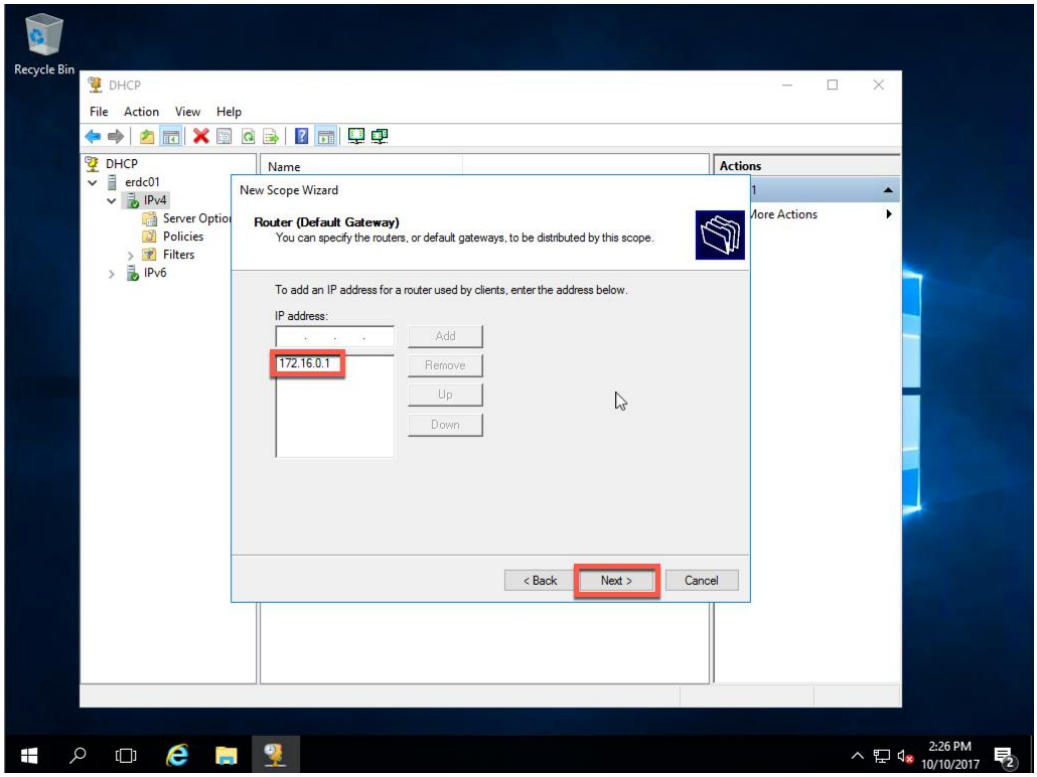
7. On the Lease Duration dialog, set the duration and click Next.



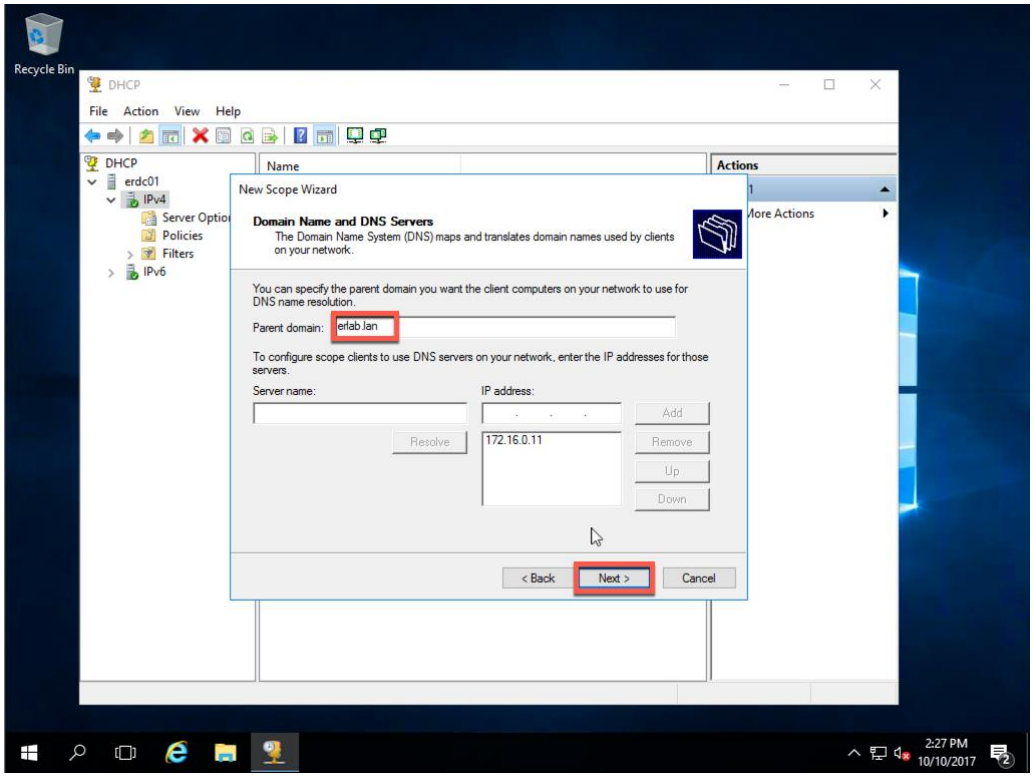
8. On the Configure DHCP Options dialog, click Next.



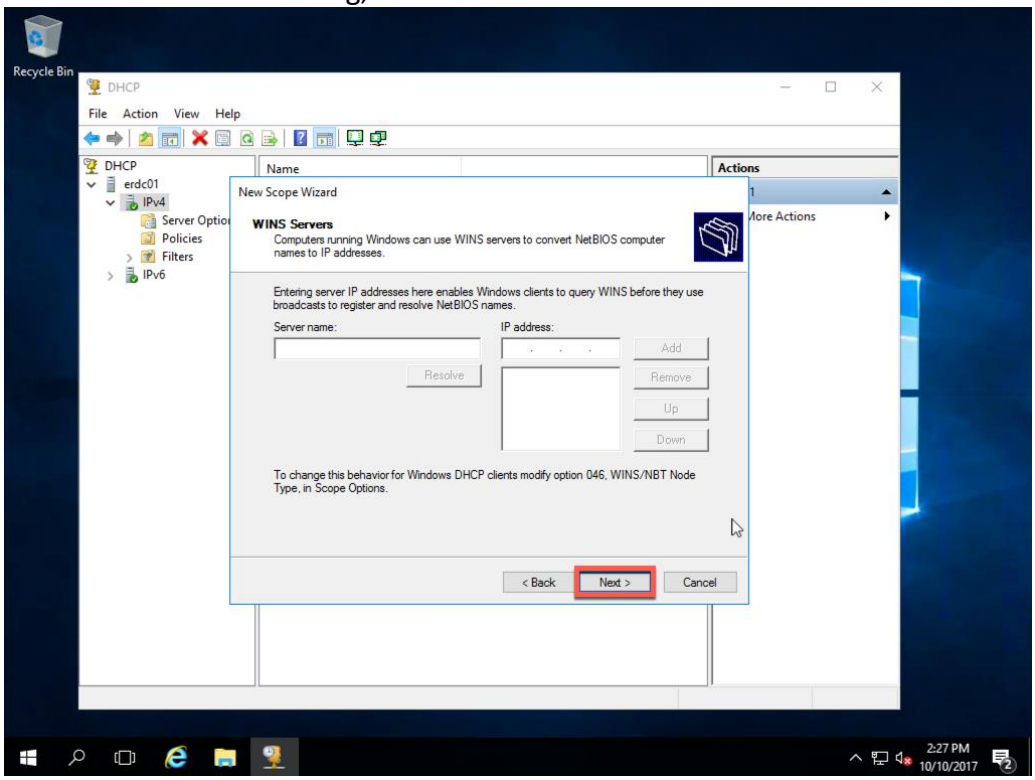
9. On the Router (Default Gateway) dialog, add the default gateway for your network and click Next.



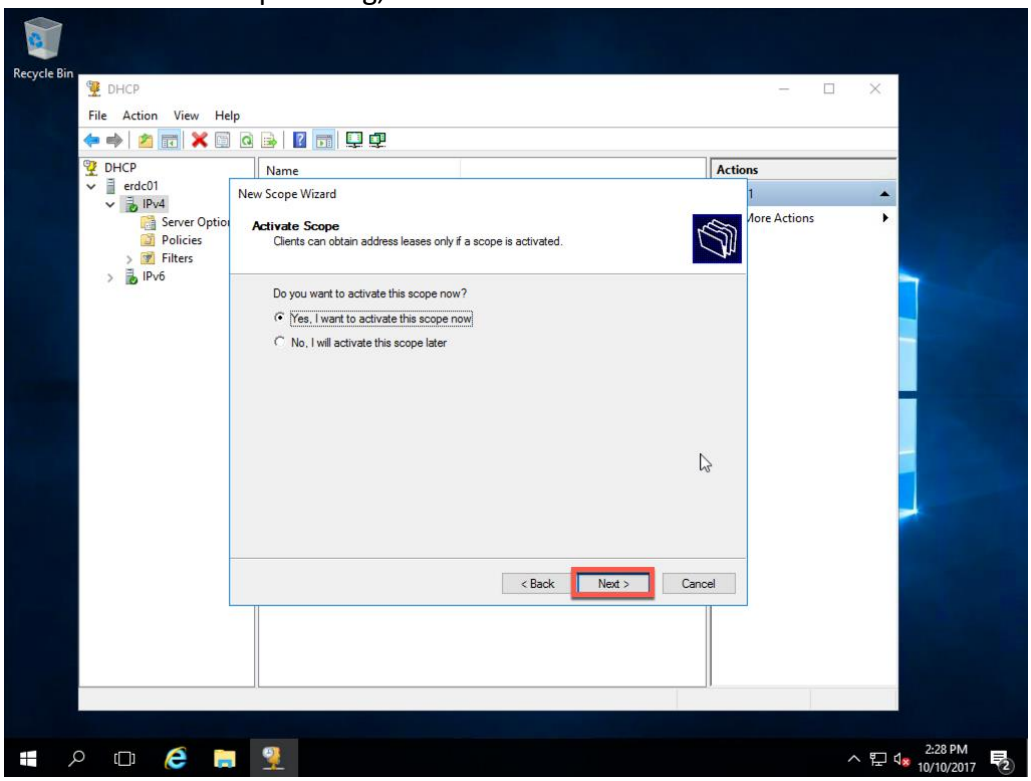
10. On the Domain Name and DNS Servers dialog, enter the parent domain name, verify the DNS server address is correct, and click Next.



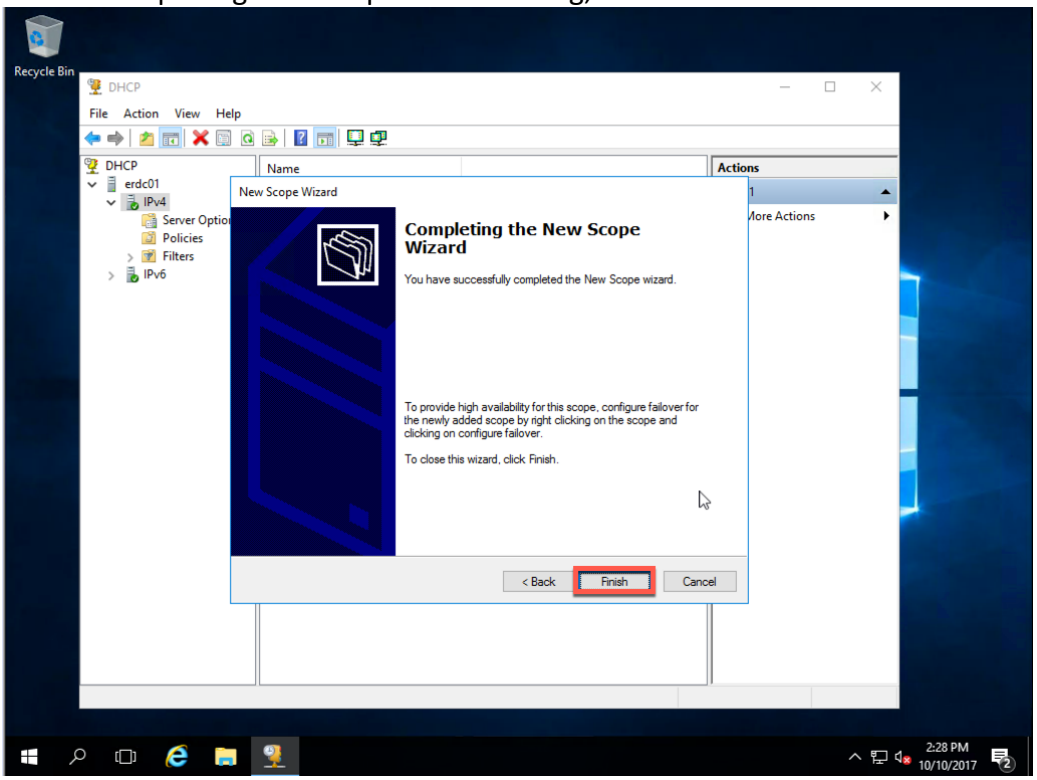
11. On the WINS Servers dialog, click Next.



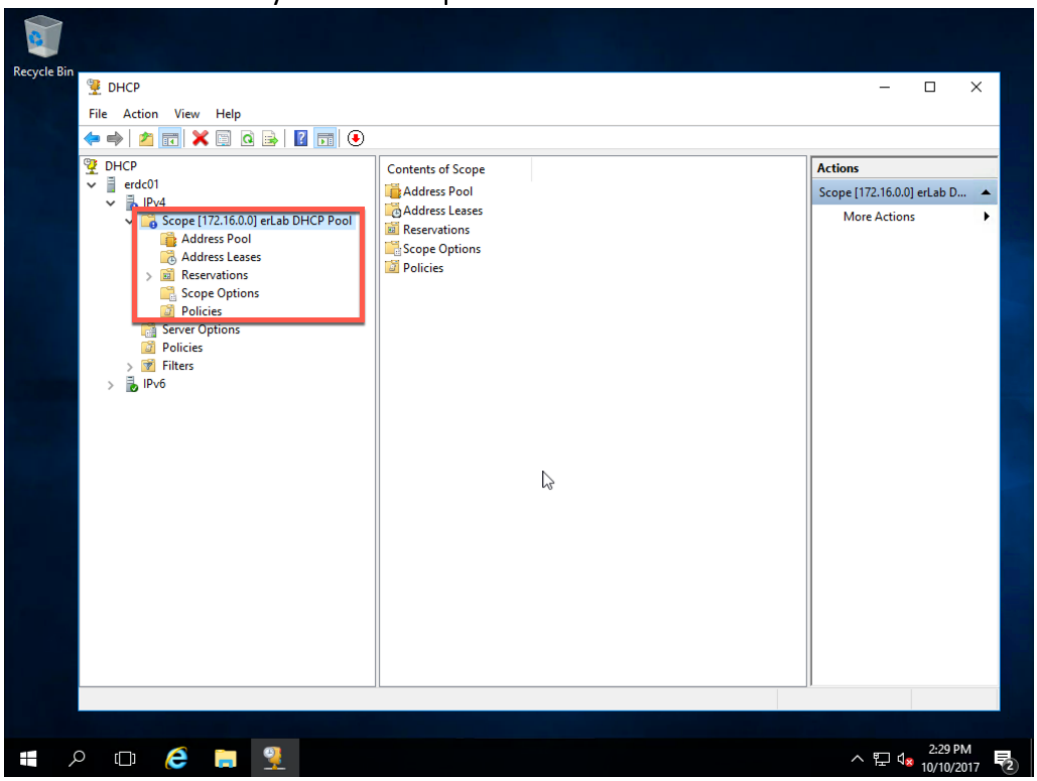
12. On the Activate Scope dialog, click Next.



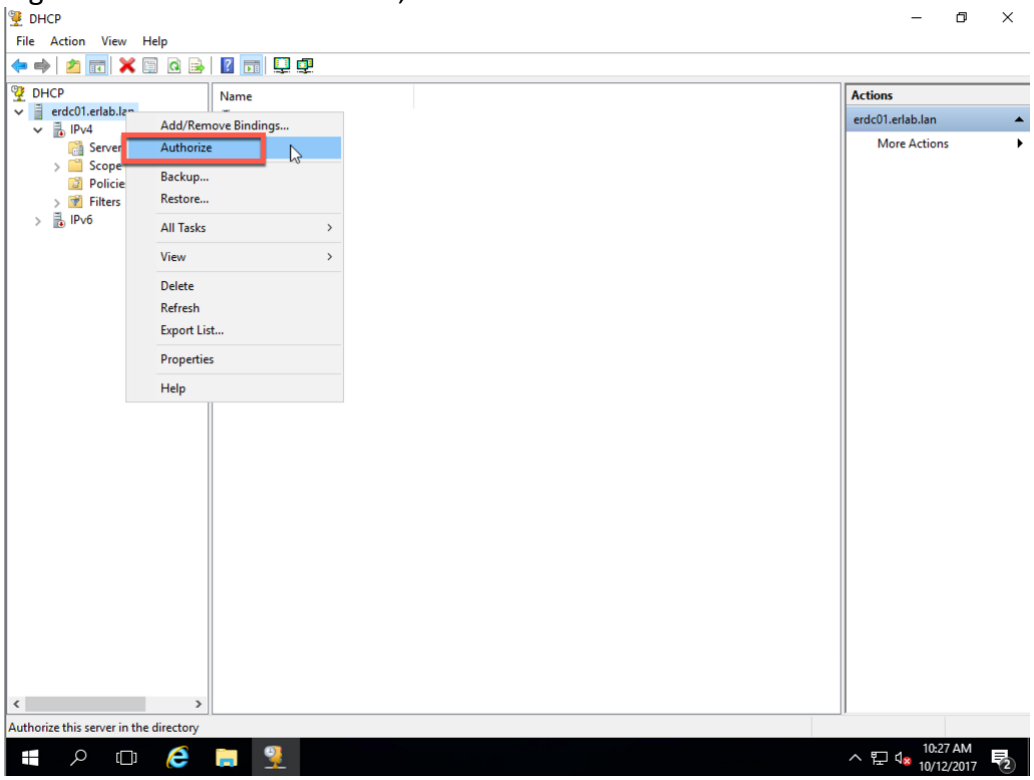
13. On the Completing New Scope Wizard dialog, click Finish.



14. You should now see your new scope listed.

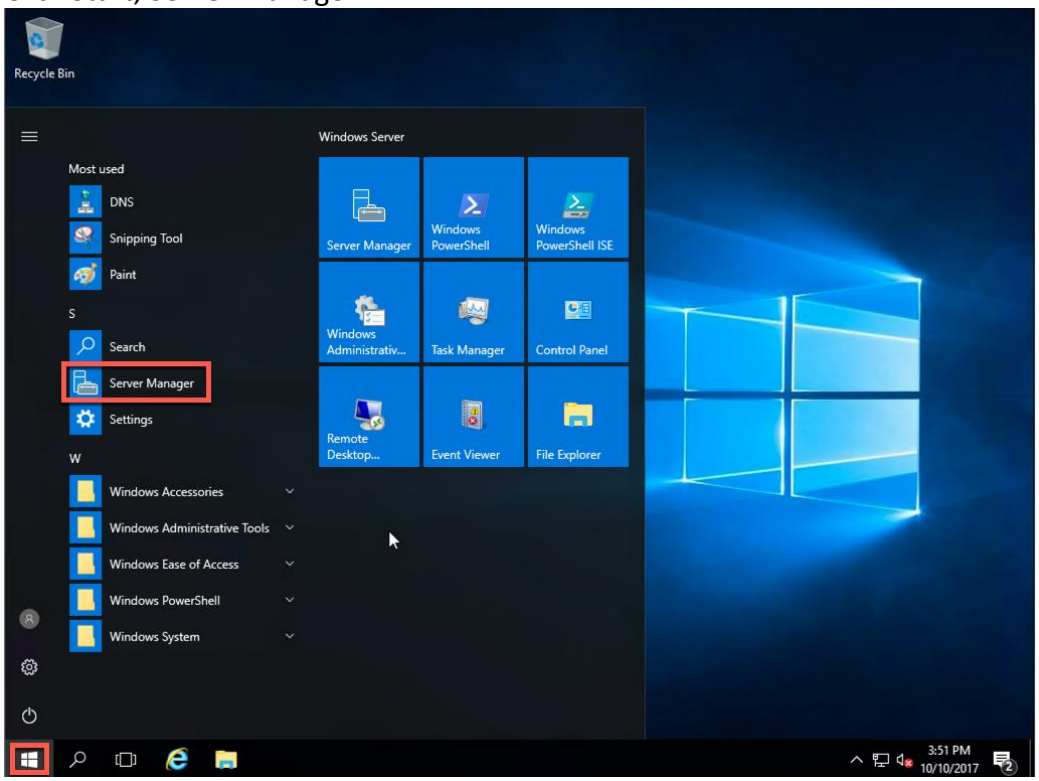


15. Right-click on the server name, and click Authorize.

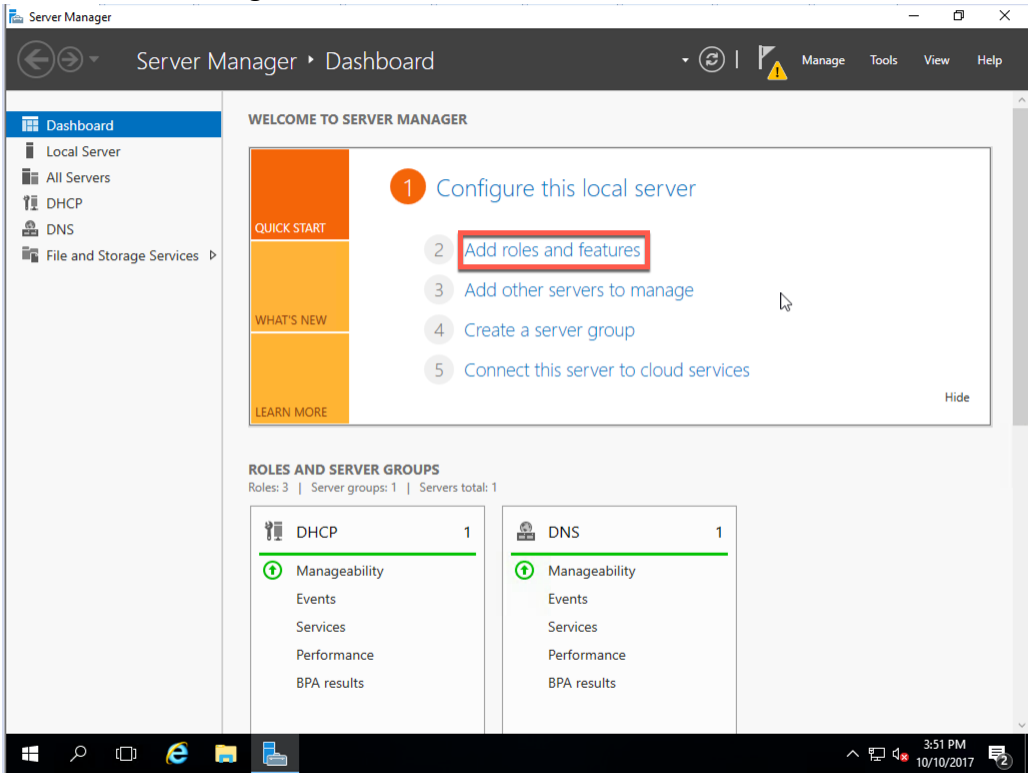


Add Active Directory Services Role

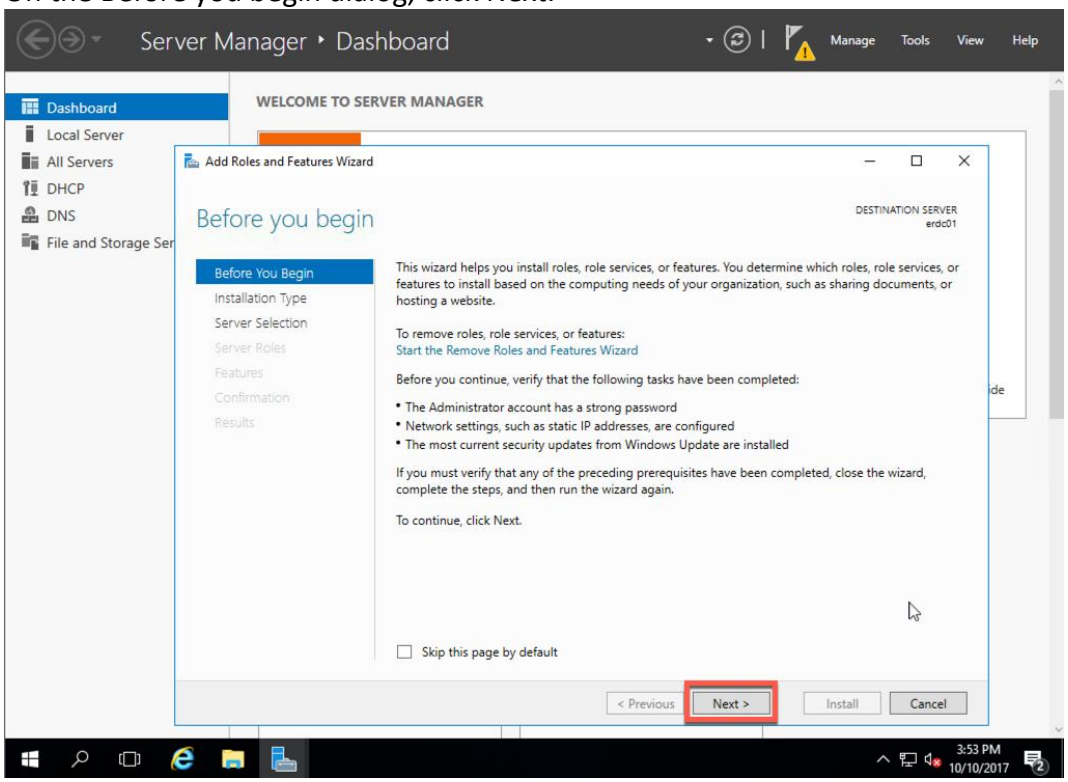
1. Click Start, Server Manager.



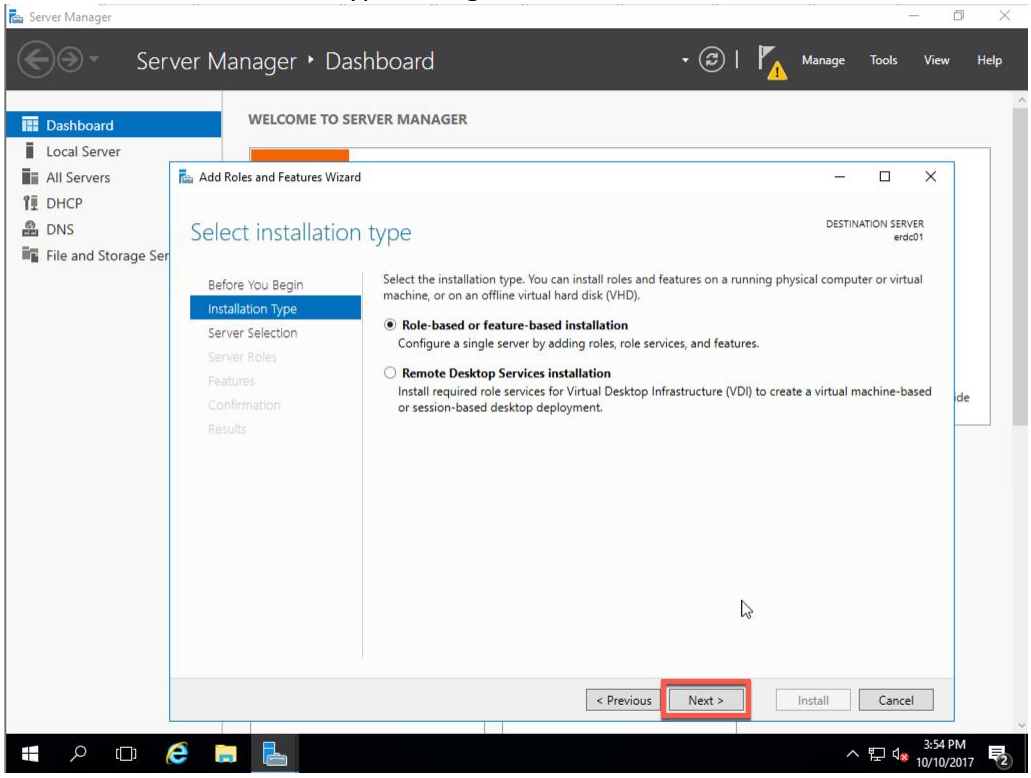
2. On the Server Manger window, click Add roles and features.



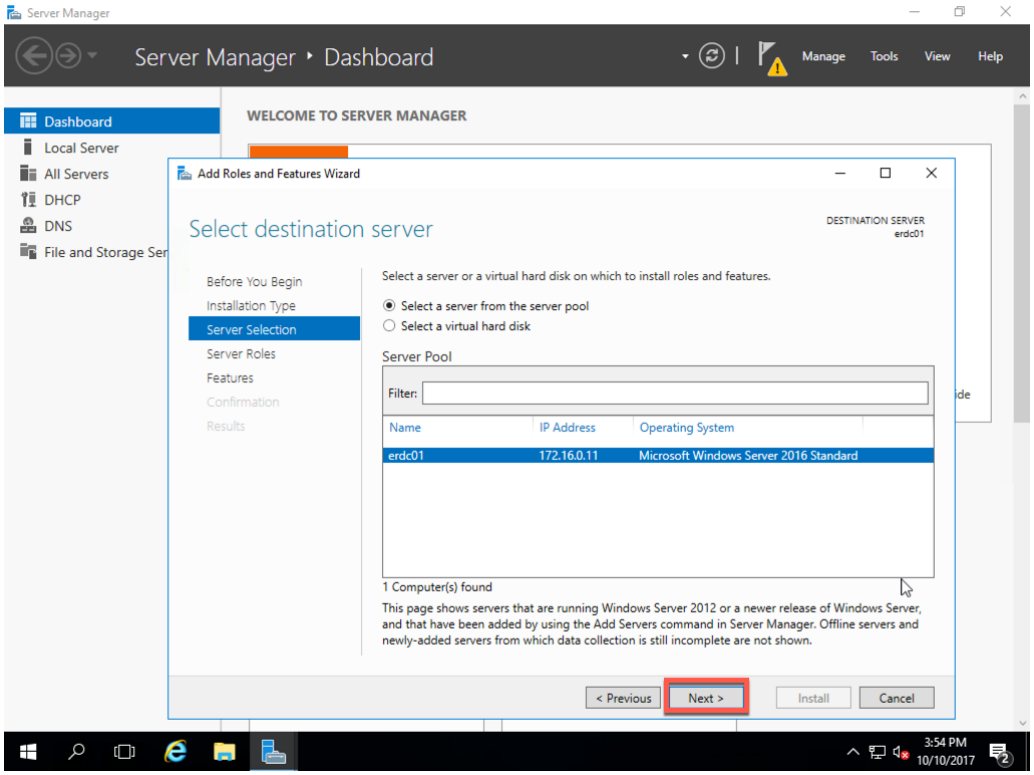
3. On the Before you begin dialog, click Next.



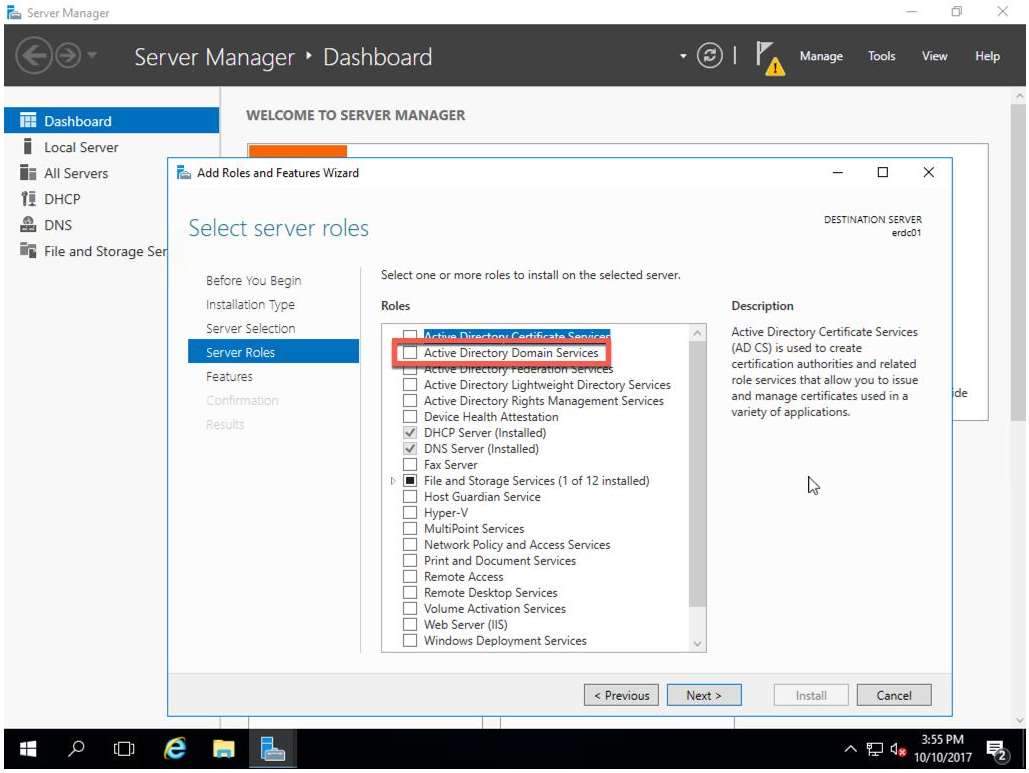
4. On the Select installation type dialog, click Next.



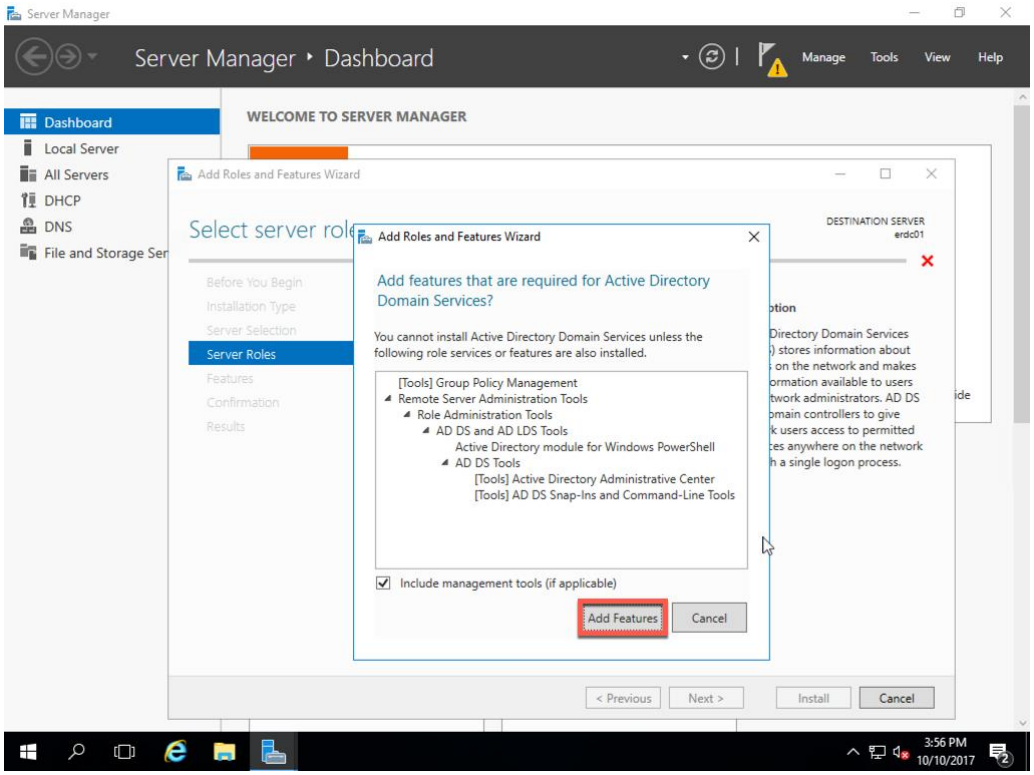
5. On the Select destination server dialog, click Next.



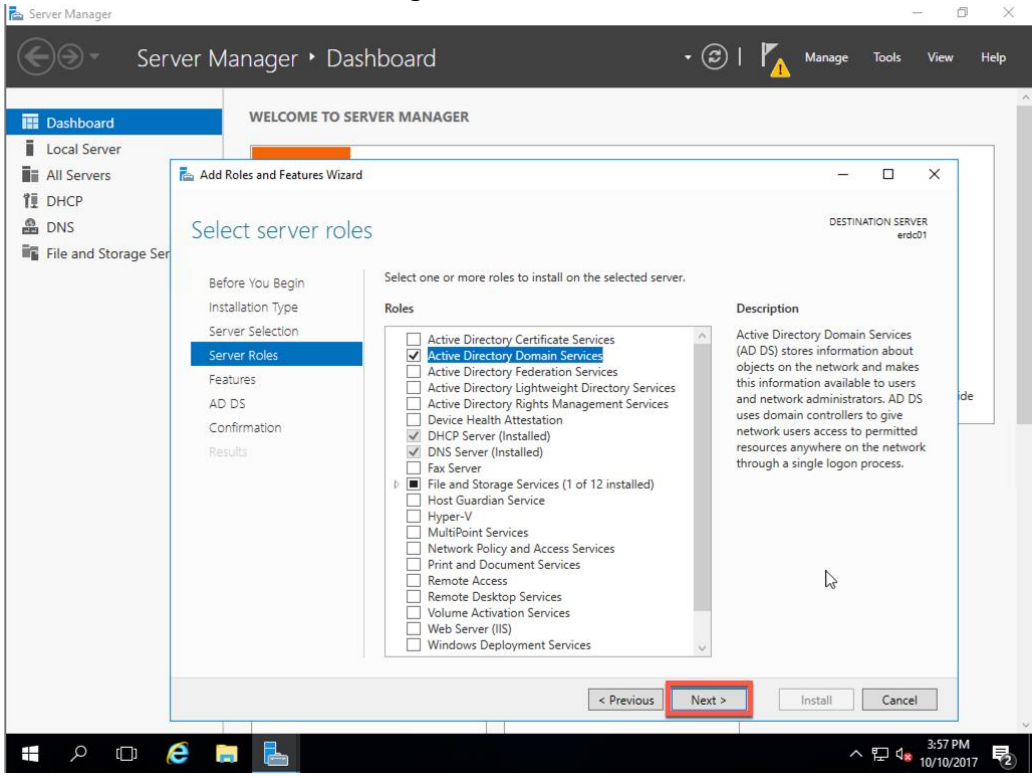
6. On the Select server roles dialog, check Active Directory Domain Services.



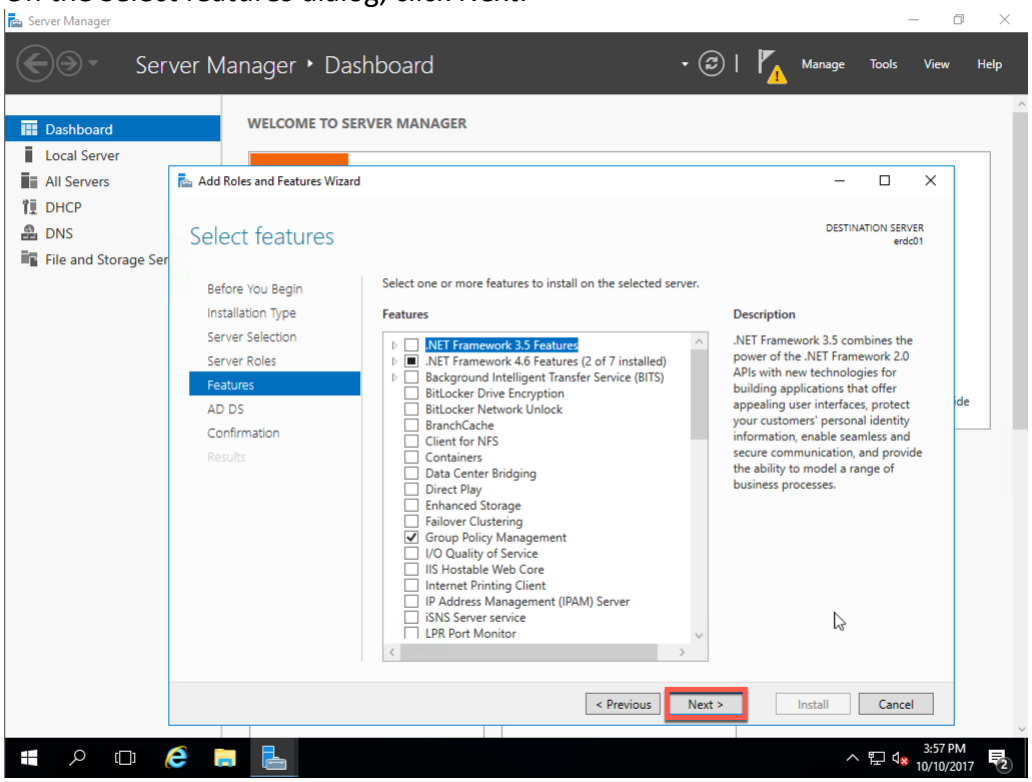
7. On the Add features that are required… dialog, click Add Features.



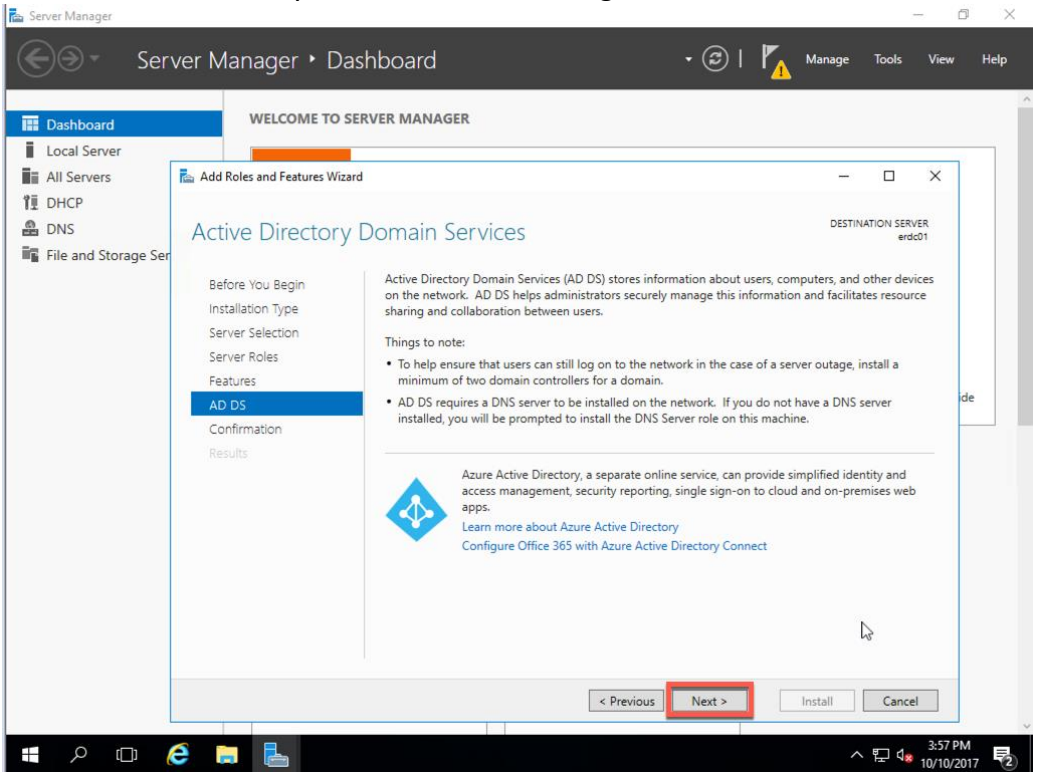
8. On the Select server roles dialog, click Next.



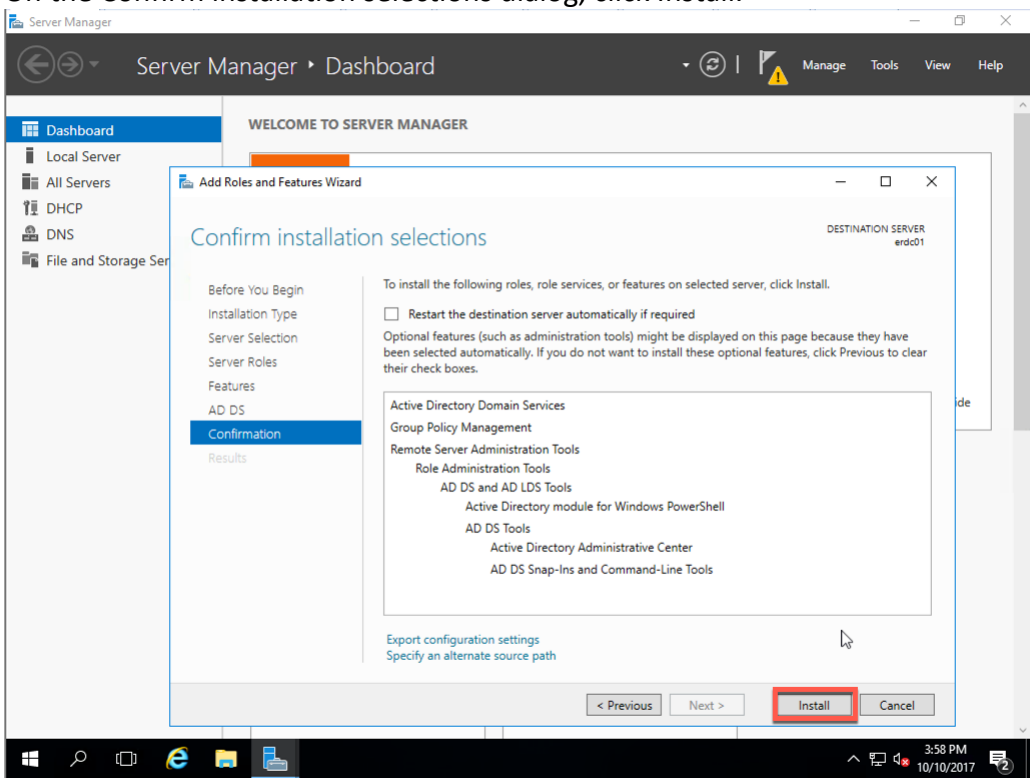
9. On the Select features dialog, click Next.



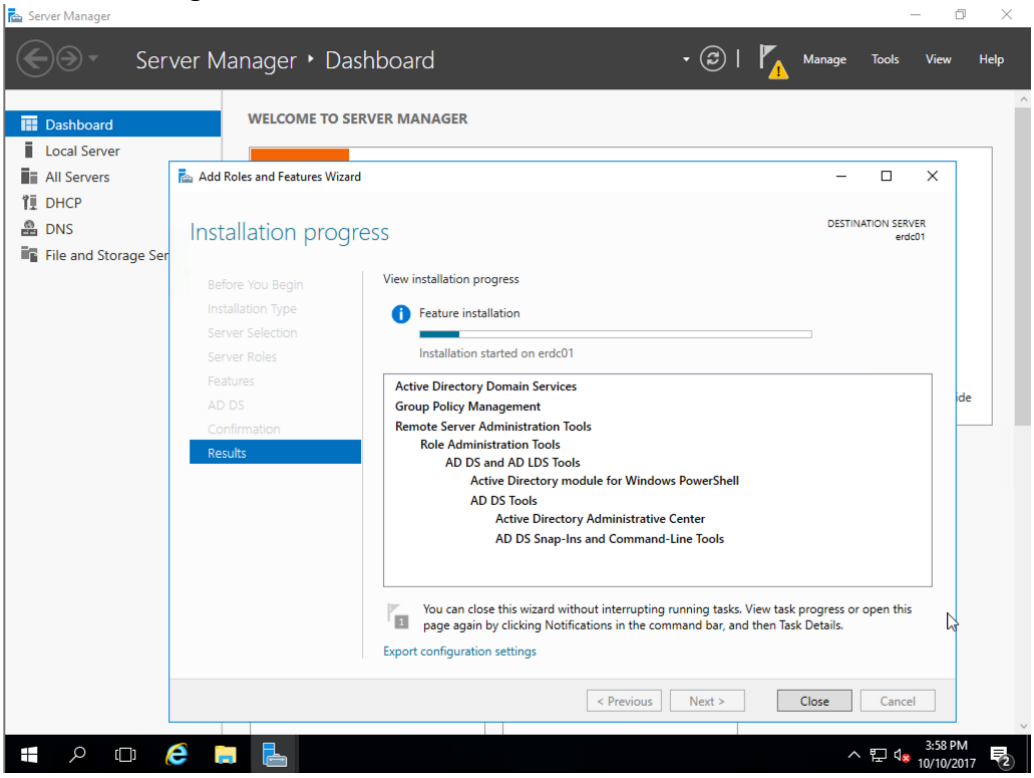
10. On the Active Directory Domain Services dialog, click Next.



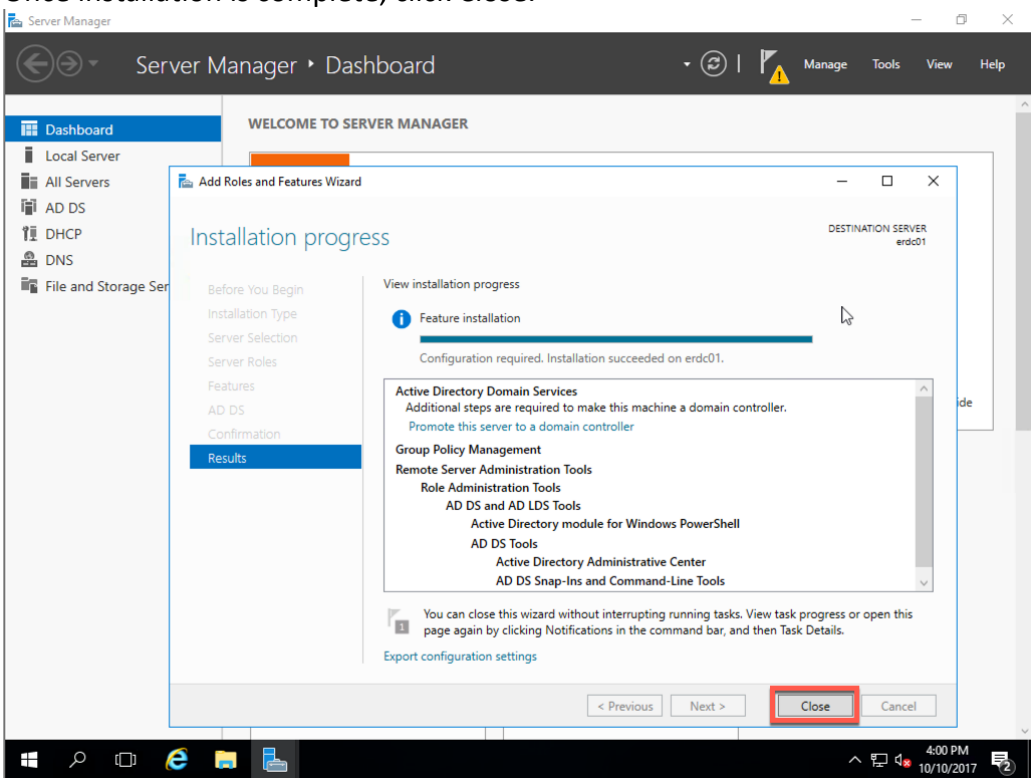
11. On the Confirm installation selections dialog, click Install.



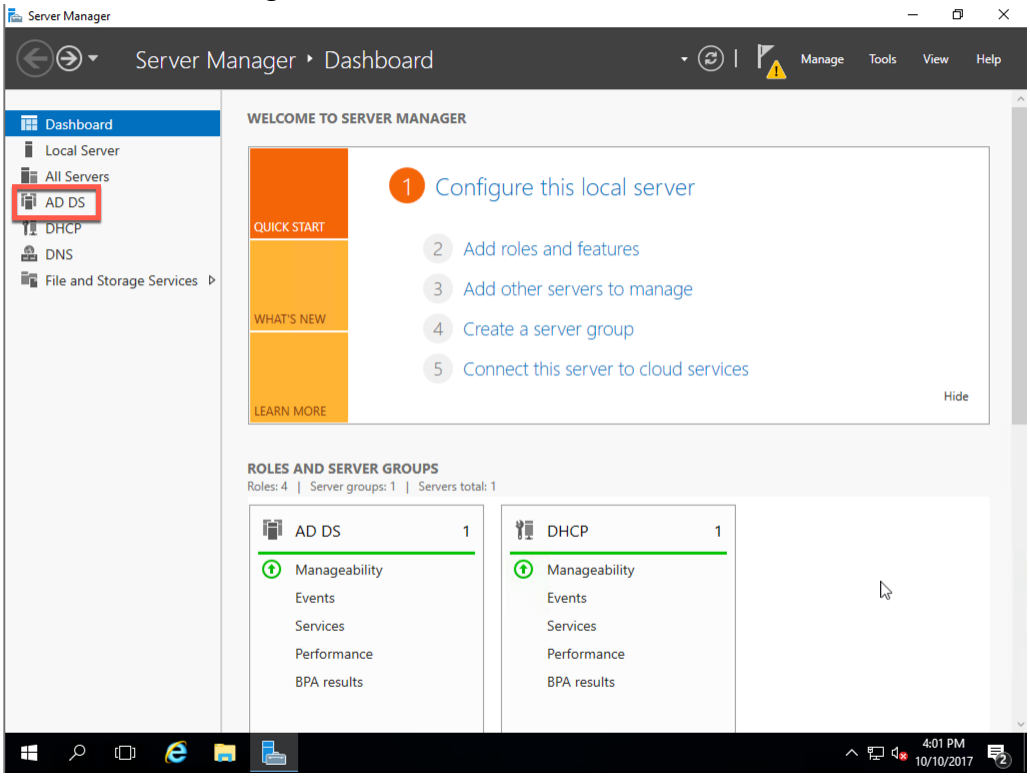
12. Installation begins.



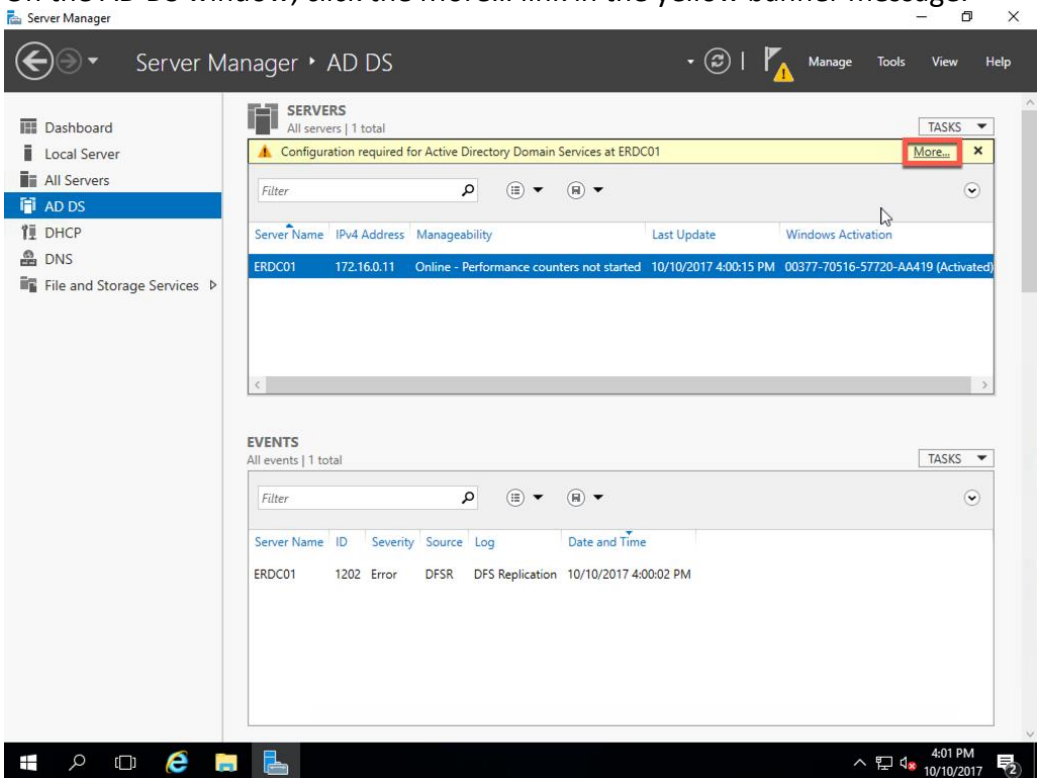
13. Once installation is complete, click Close.



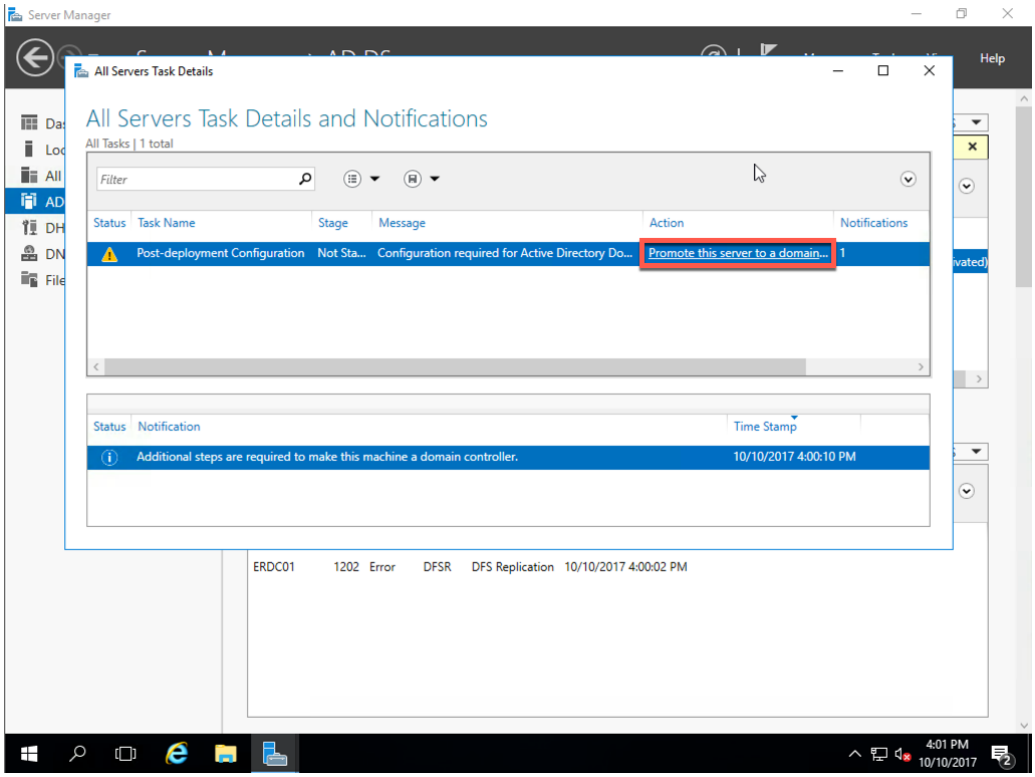
14. On the Server Manager window, click AD DS.



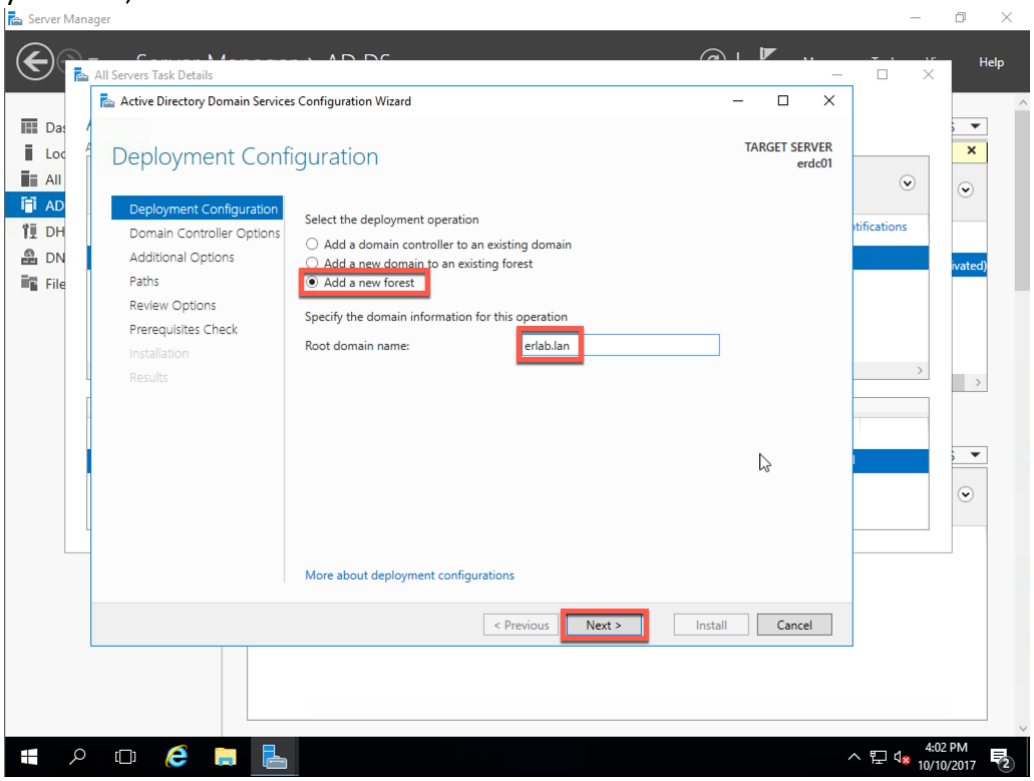
15. On the AD DS window, click the More… link in the yellow banner message.



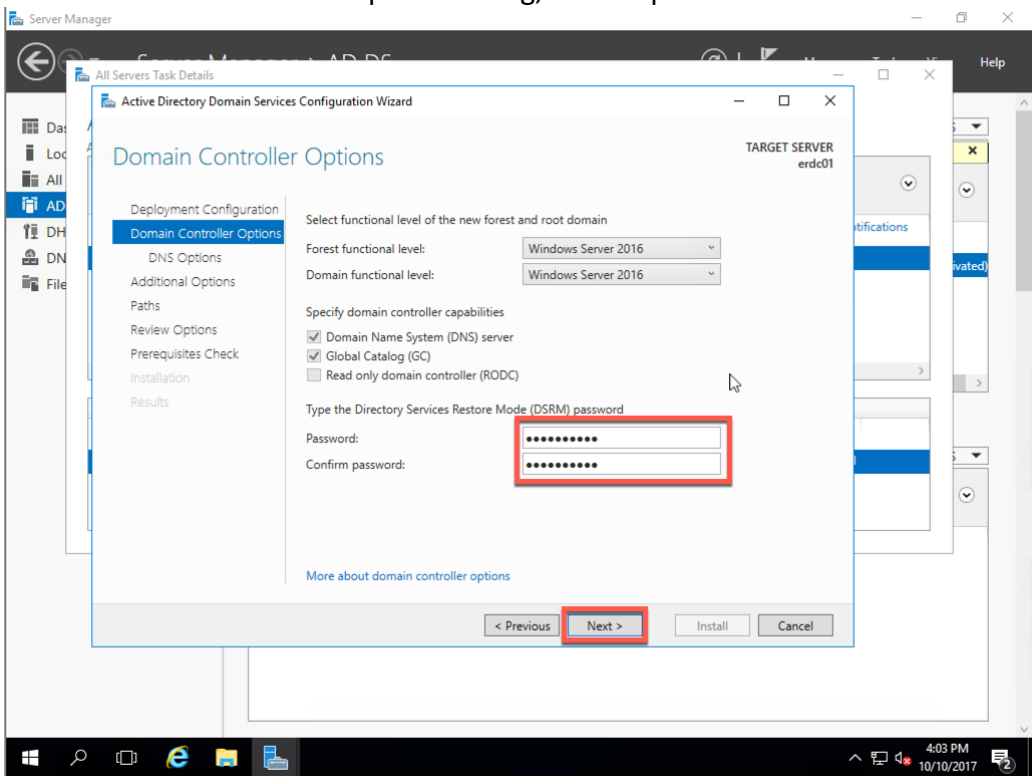
16. On the All Servers Task Details and Notifications dialog, click Promote this server to a domain…



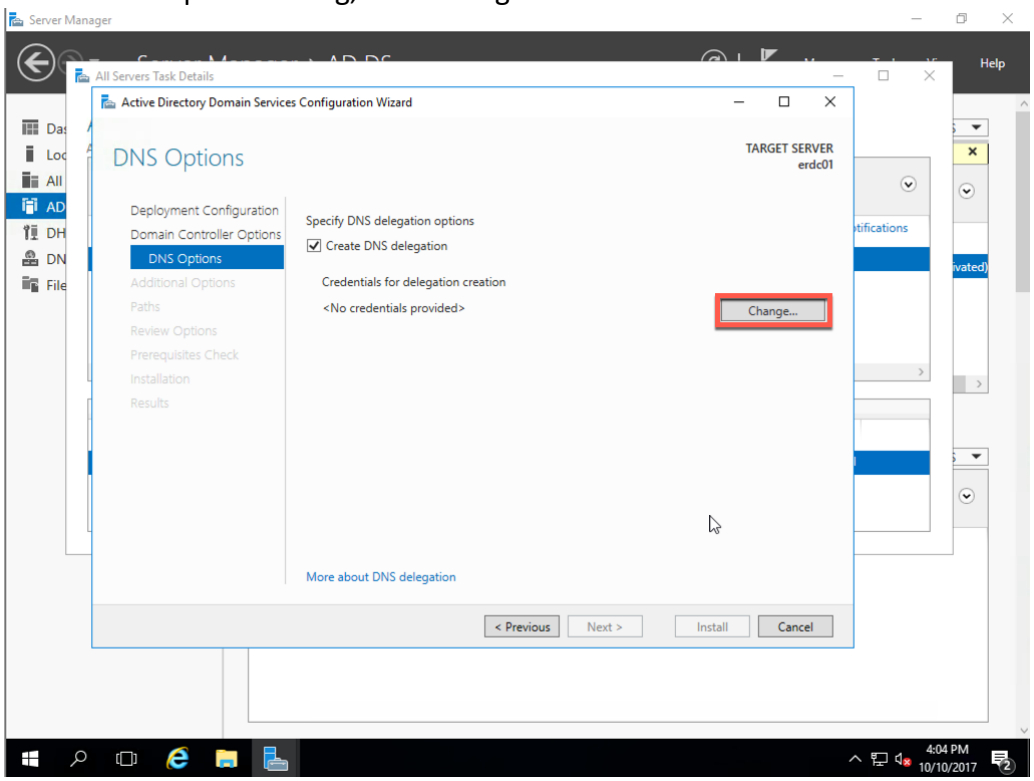
17. On the Deployment Configuration dialog, select Add a new forest, enter the domain name you want, and click Next.



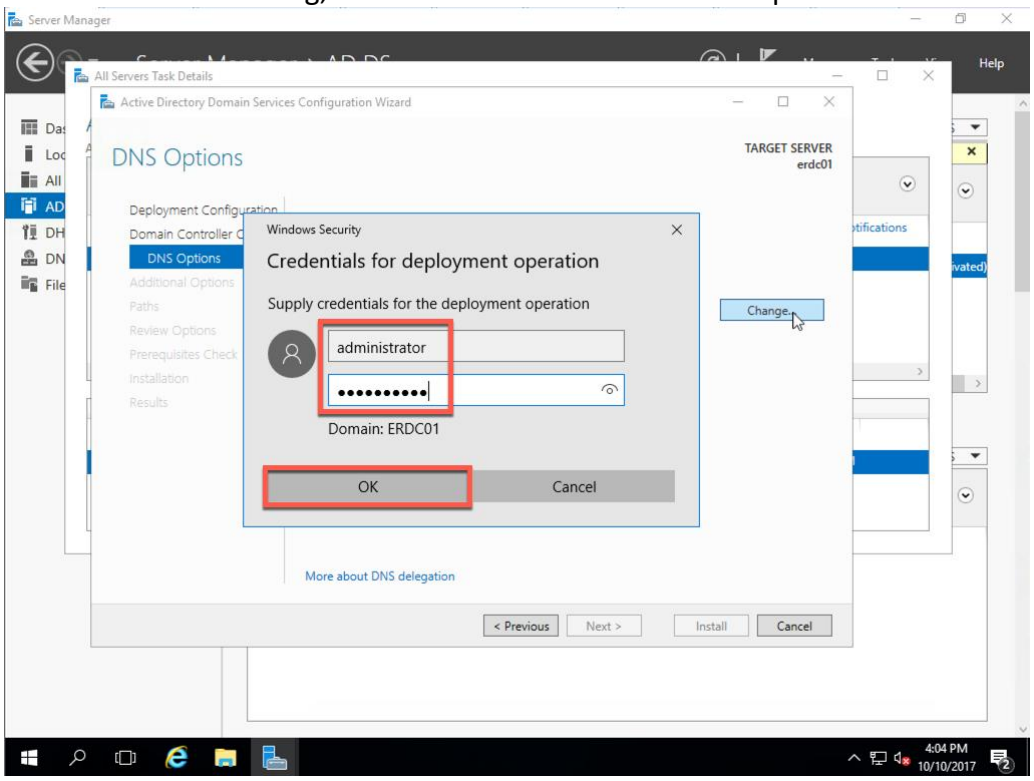
18. On the Domain Controller Options dialog, enter a password for DSRM and click Next.



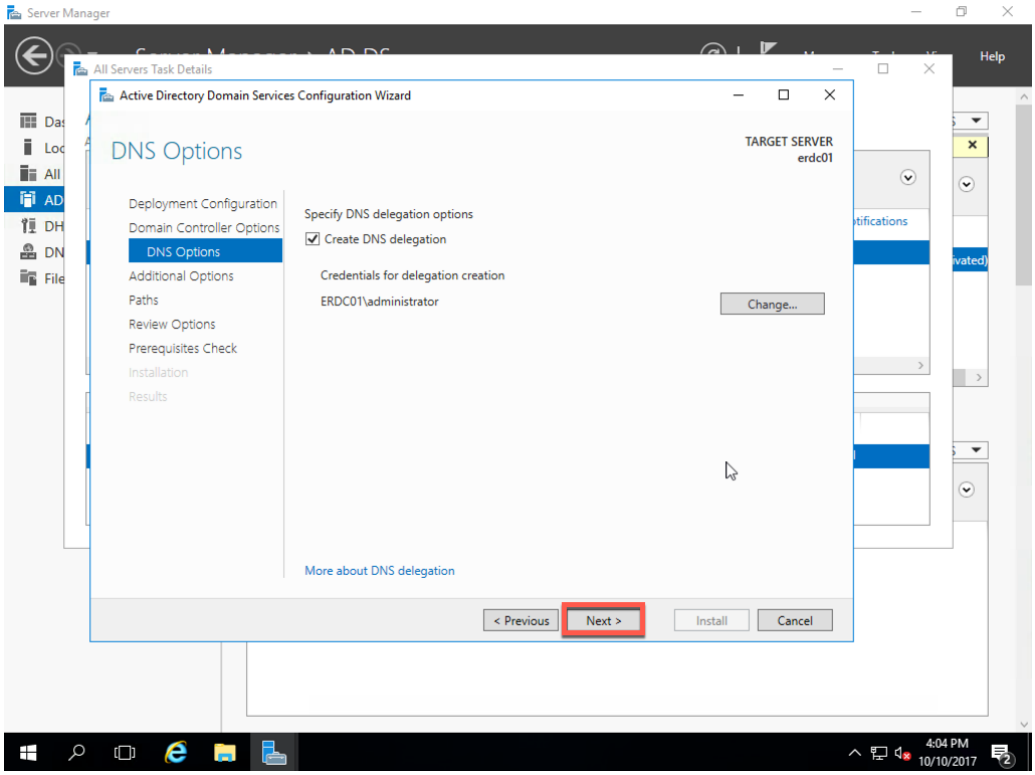
19. On the DNS Options dialog, click Change.



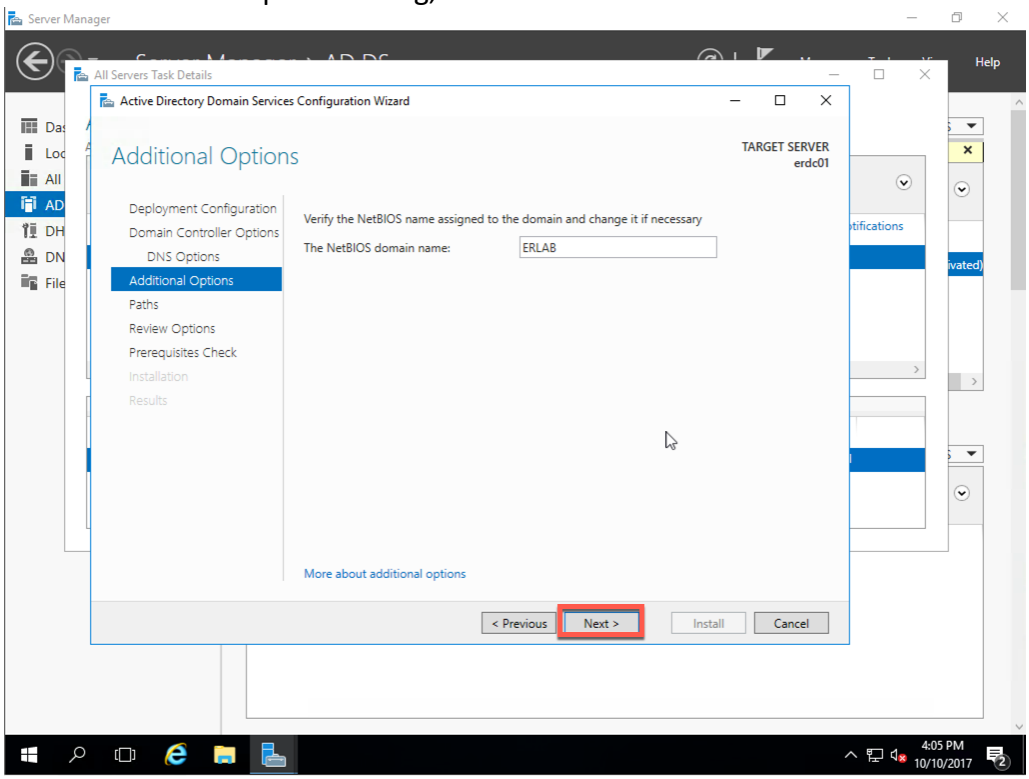
20. In the Credentials dialog, enter the local administrator and password and click OK.



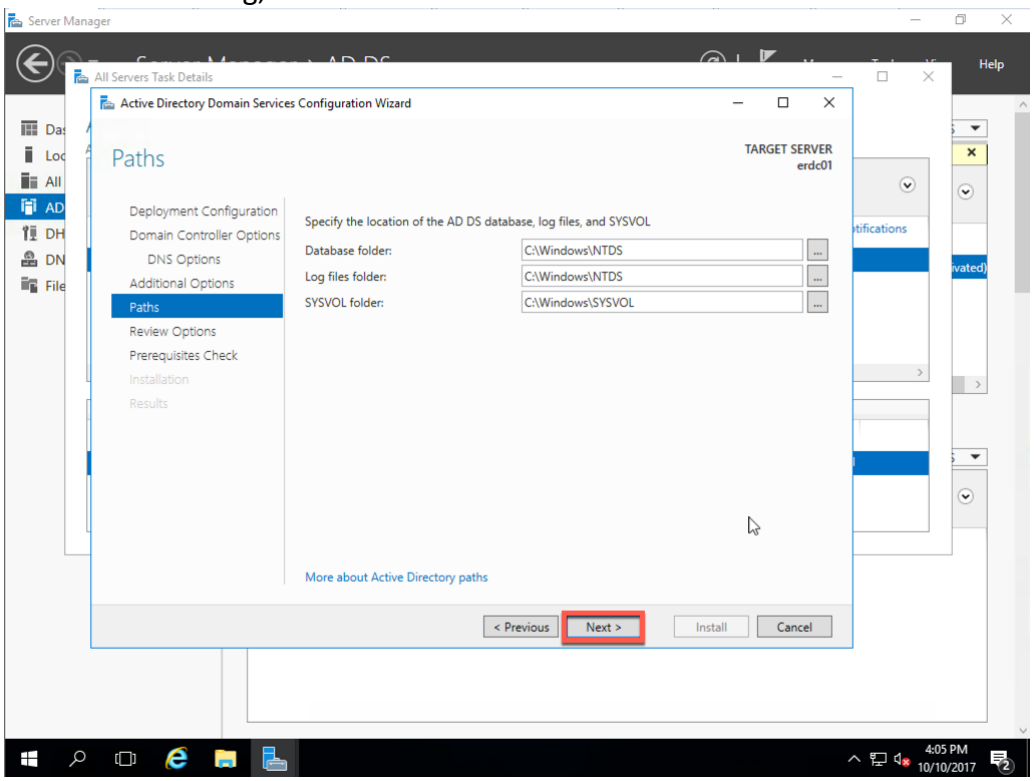
21. On DNS Options dialog, click Next.



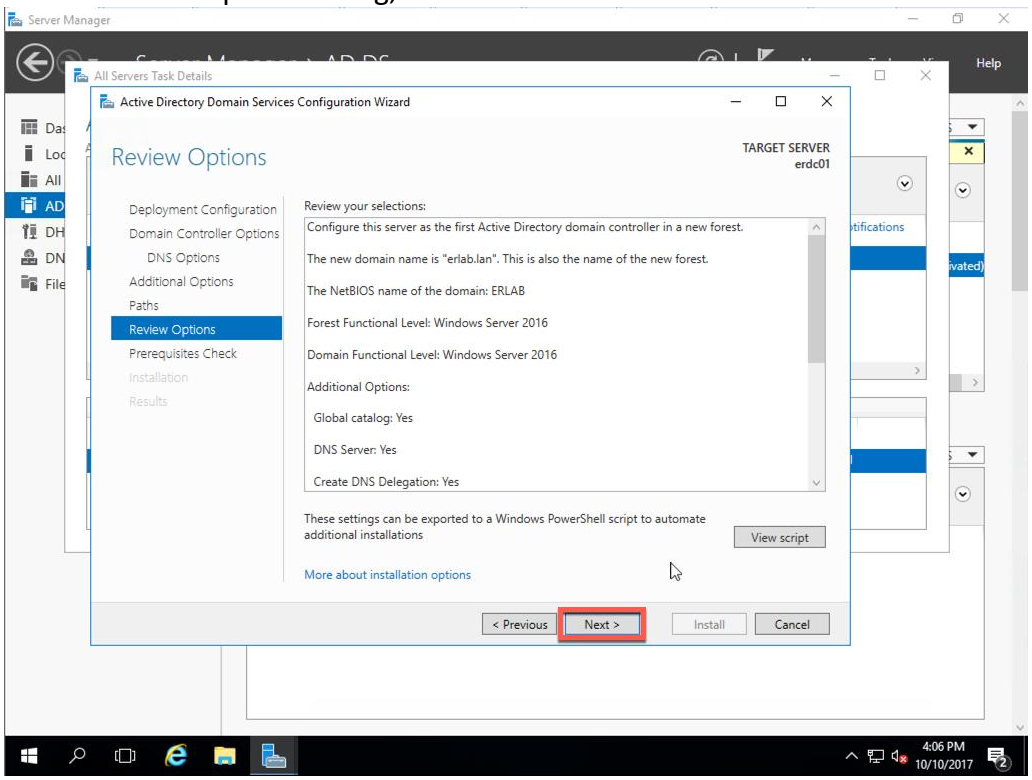
22. On the Additional Options dialog, click Next.



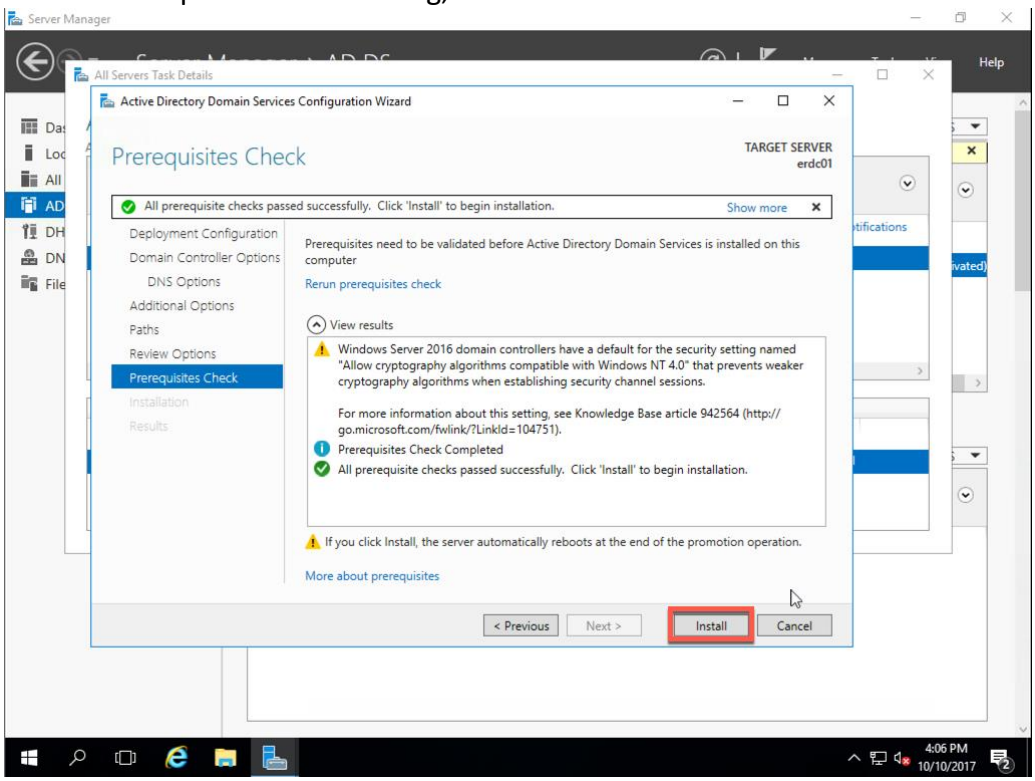
23. On the Paths dialog, click Next.



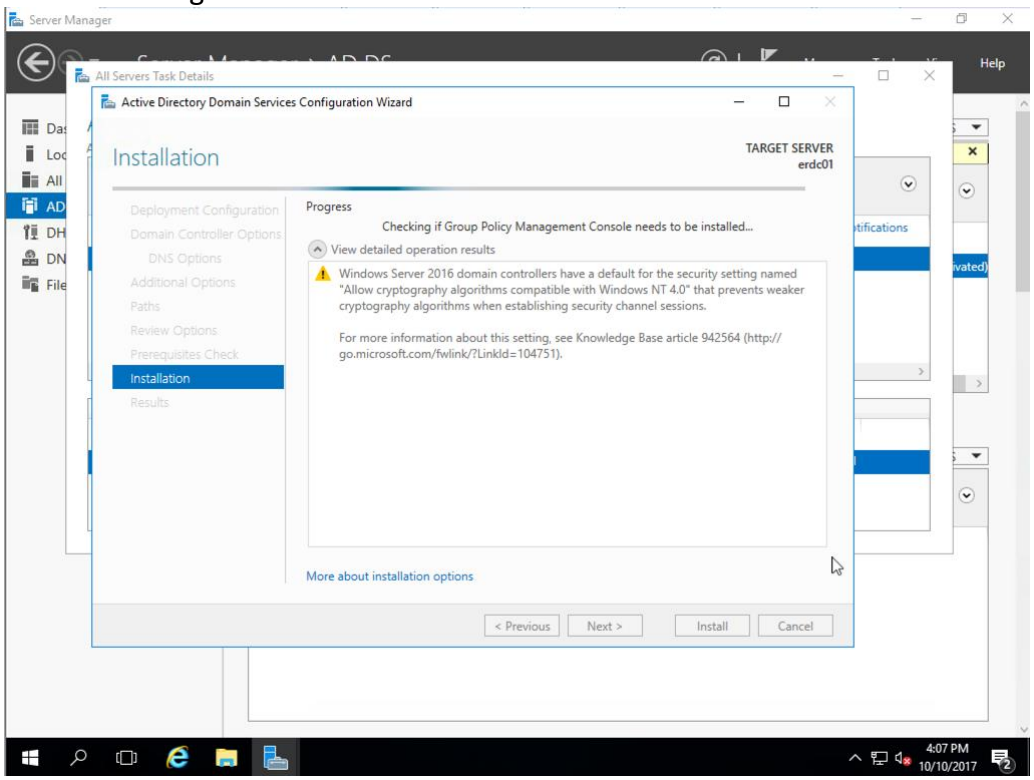
24. On the Review Options dialog, click Next.



25. On the Prerequisites Check dialog, click Install.



26. Installation begins.

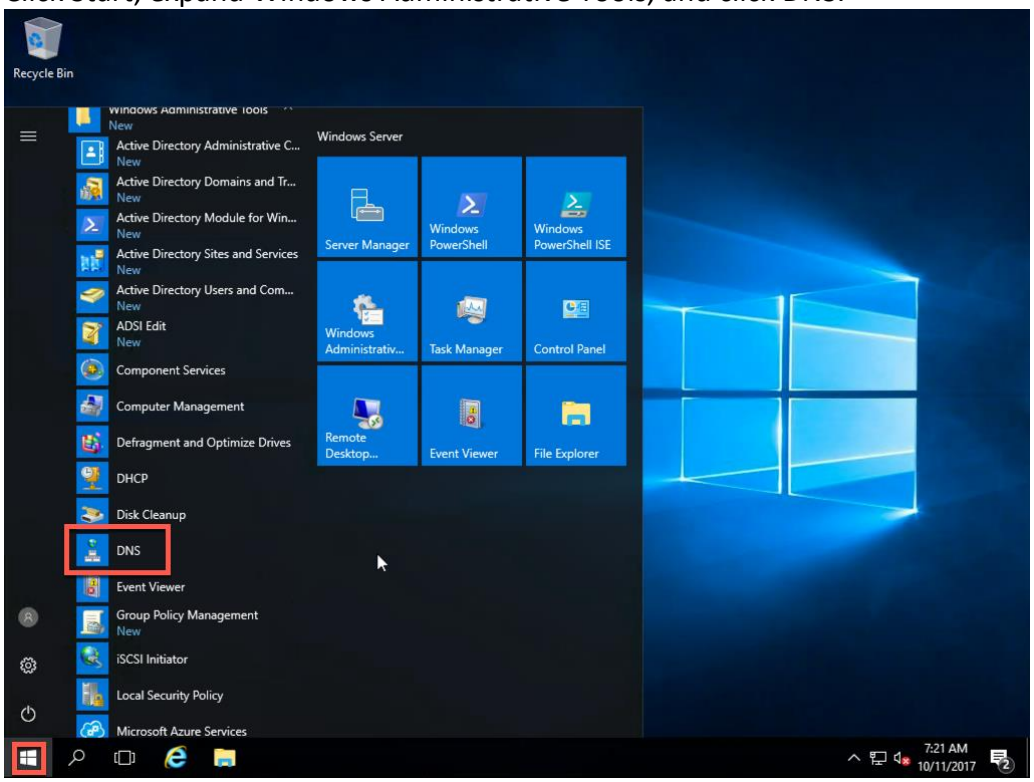


27. Once the installation is complete the server will automatically restart. Once the server comes back up it will be a full domain controller. You will login to the server using the same username and password as before, but now the account will be a domain account rather than a local account.

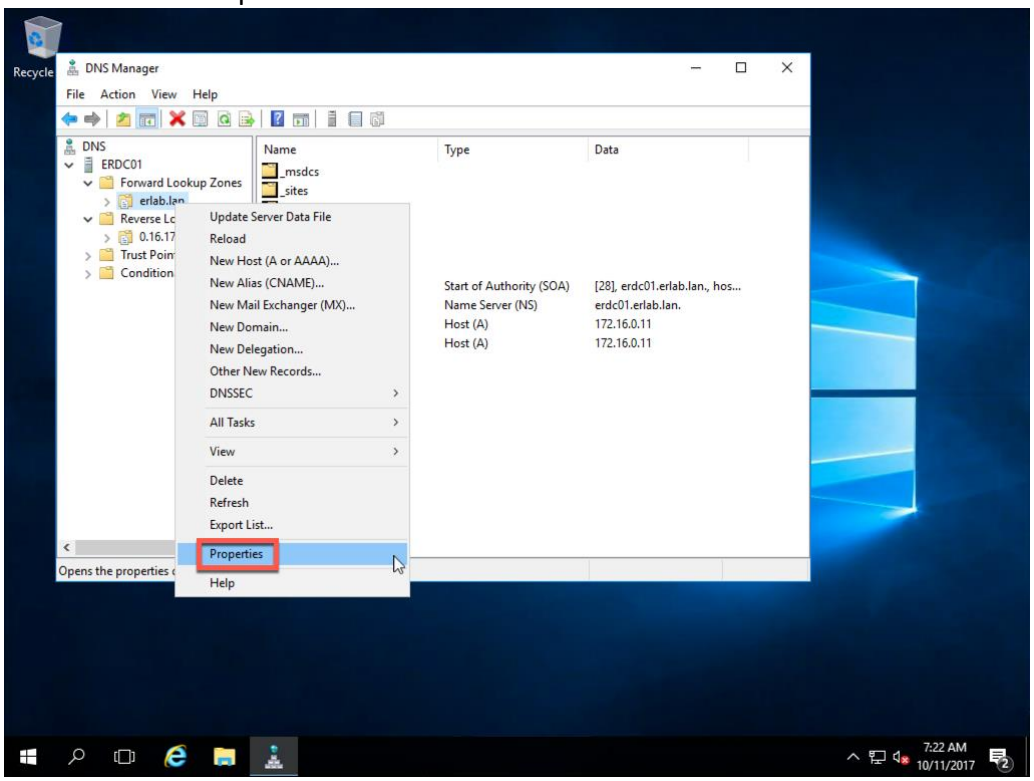
Configure Active Directory Integrated DNS

When we configured the DNS server options earlier, we set both the Forward and Reverse Lookup Zones to support secure and nonsecure dynamic updates. Now that we have an Active Directory Domain Controller we can configure DNS so it is Active Directory Integrated. This allows us to change the dynamic updates to secure only.

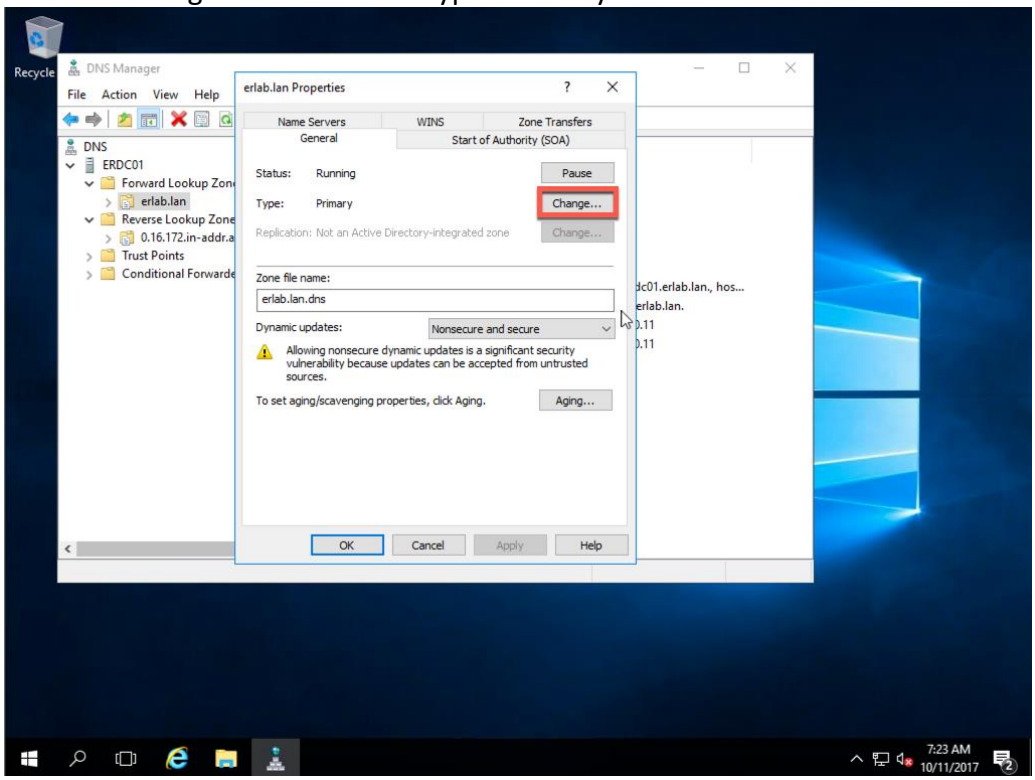
1. Click Start, expand Windows Administrative Tools, and click DNS.



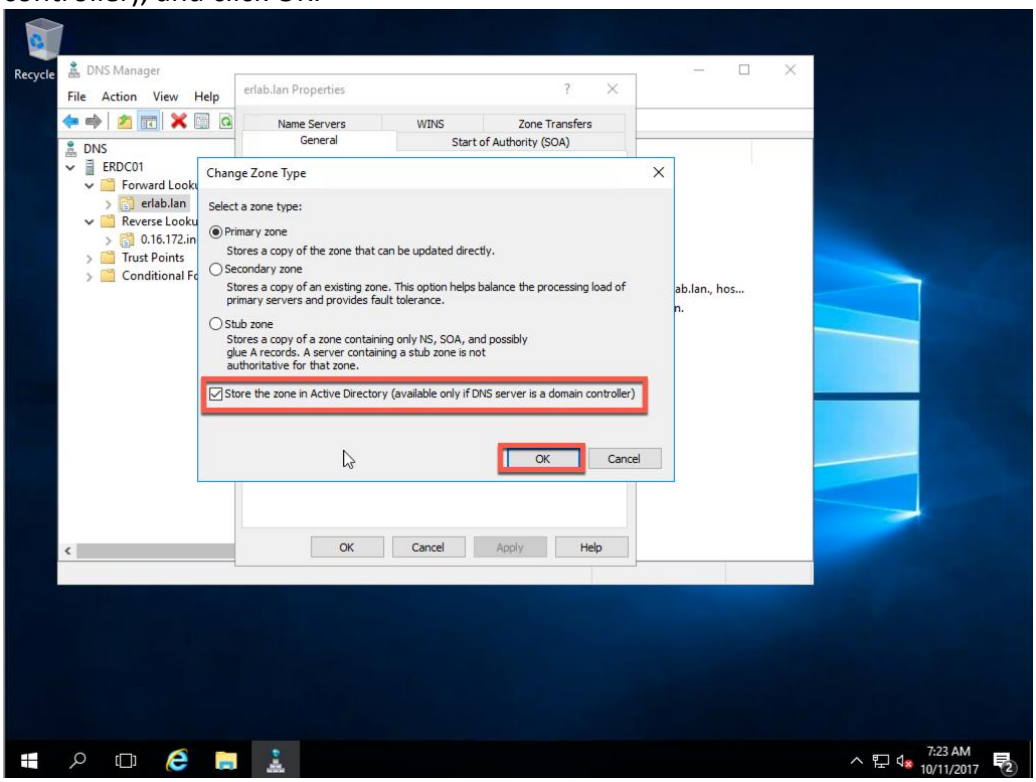
2. Expand the Forward and Reverse Lookup Zones, then right-click on your Forward Lookup zone and click Properties.



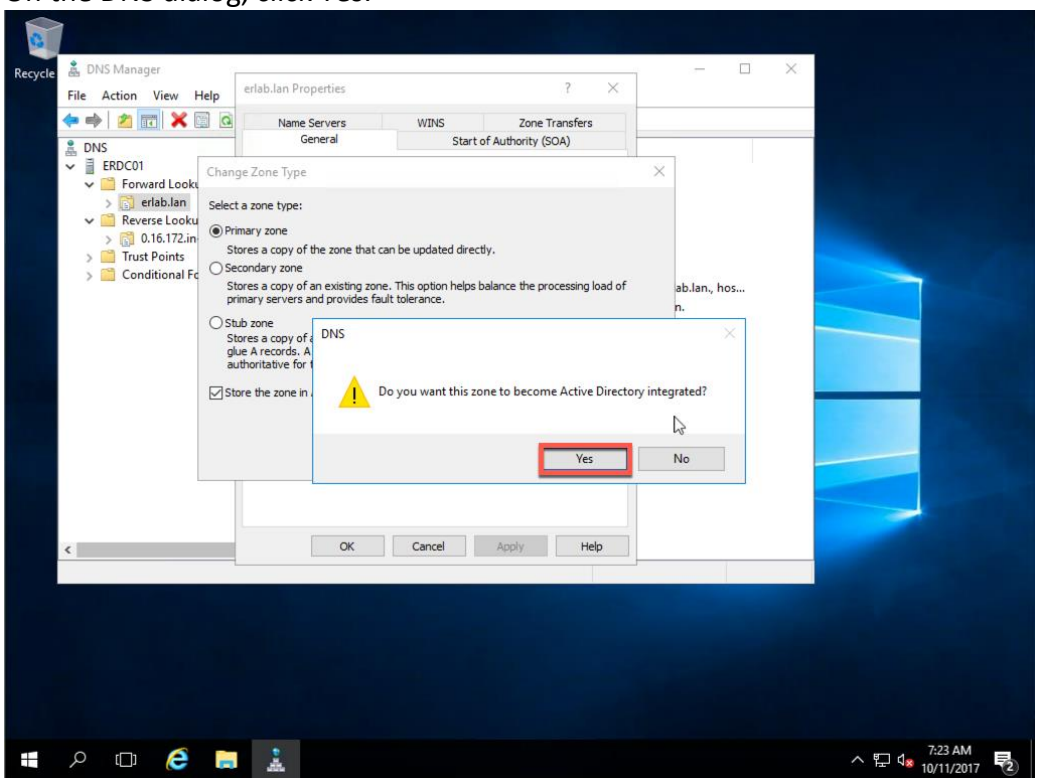
3. Click the Change button next to Type: Primary.



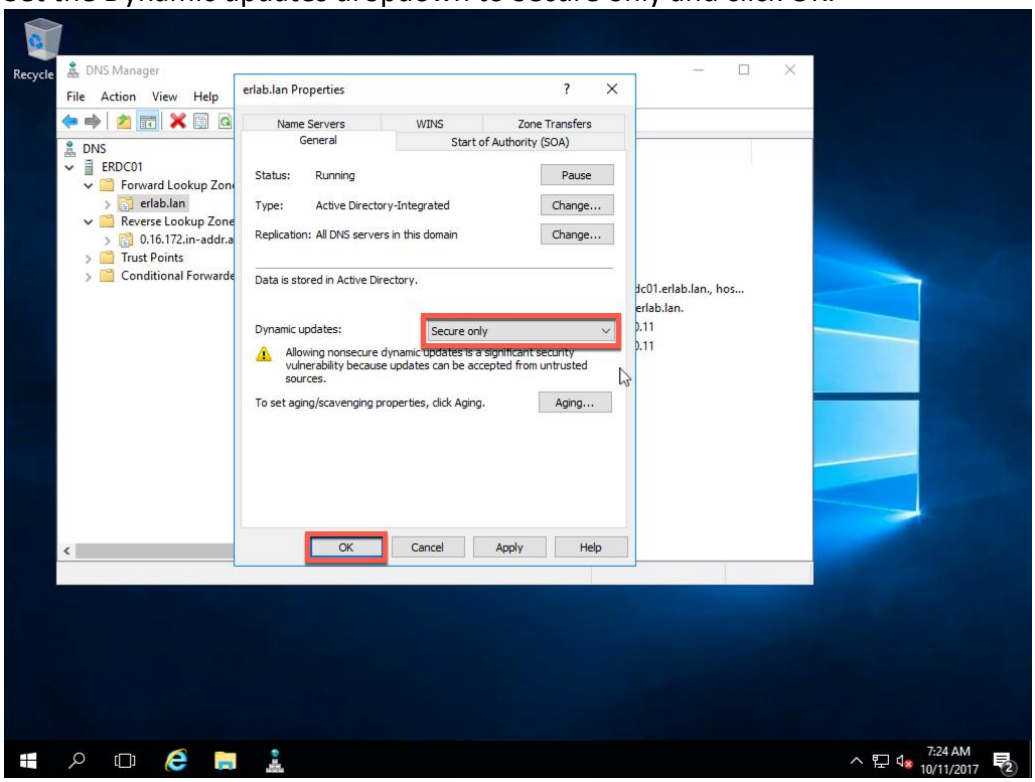
4. Check the box Store the zone in Active Directory (available only if DNS server is a domain controller), and click OK.



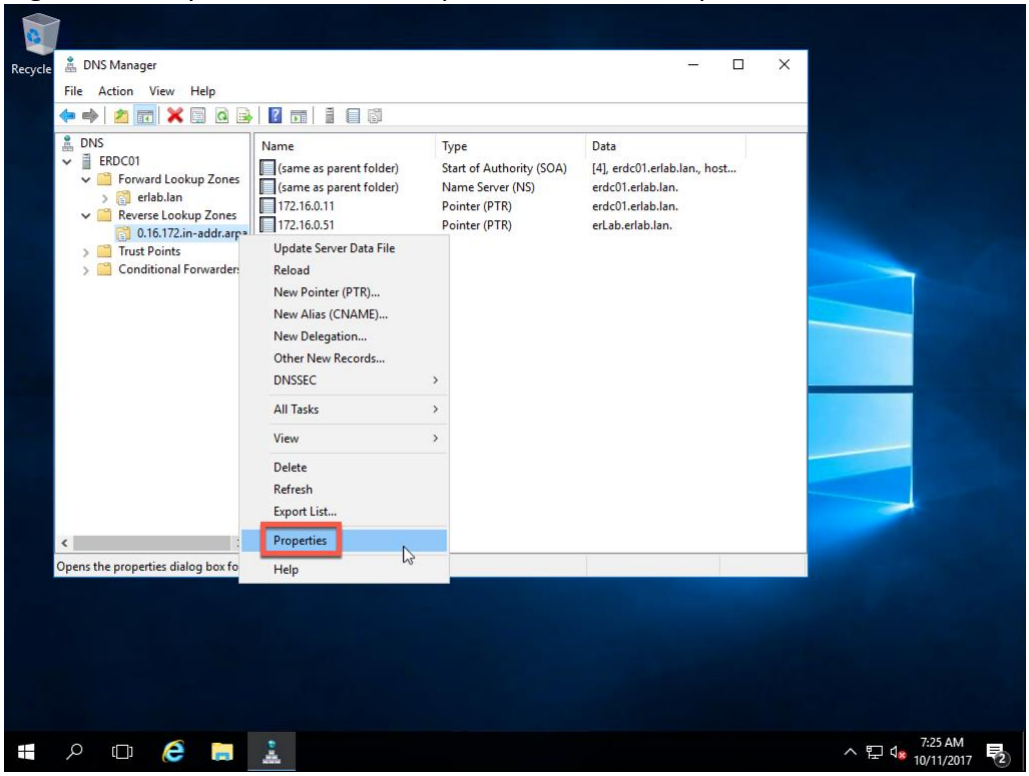
5. On the DNS dialog, click Yes.



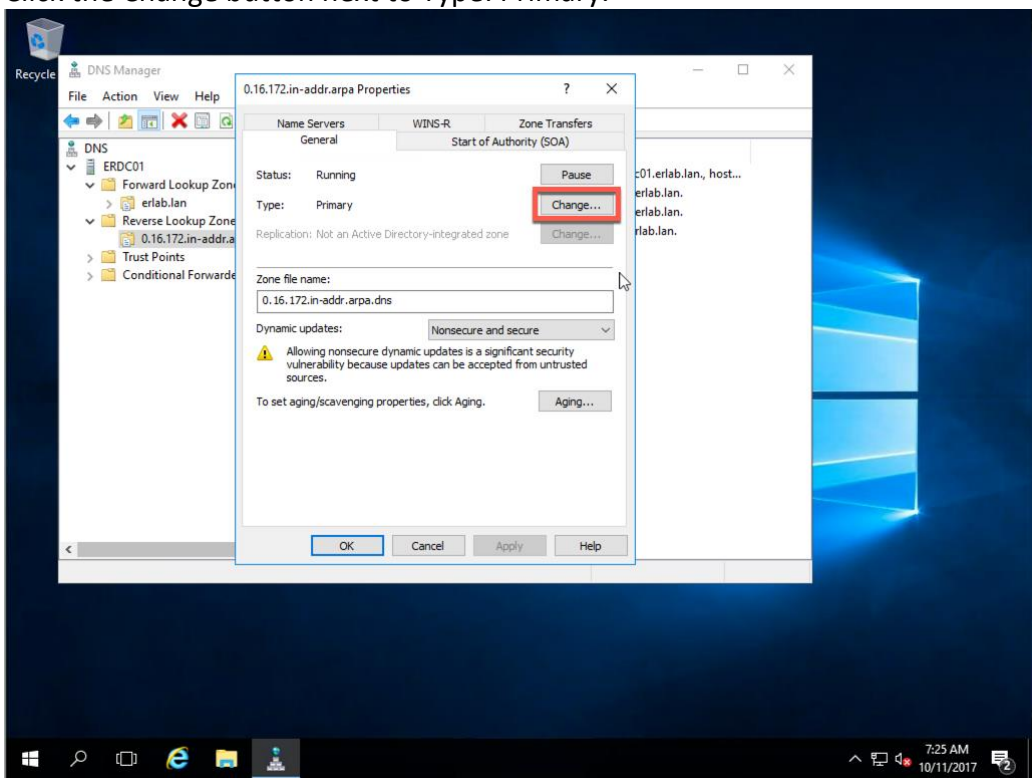
6. Set the Dynamic updates dropdown to Secure only and click OK.



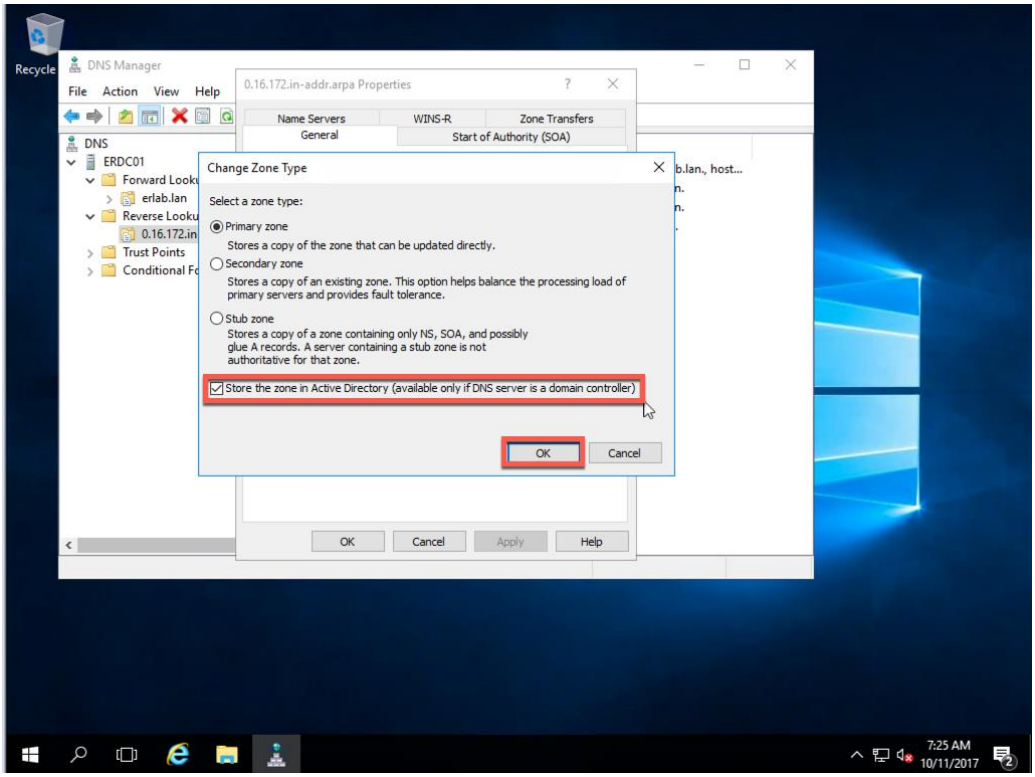
7. Right-click on your Reverse Lookup zone and click Properties.



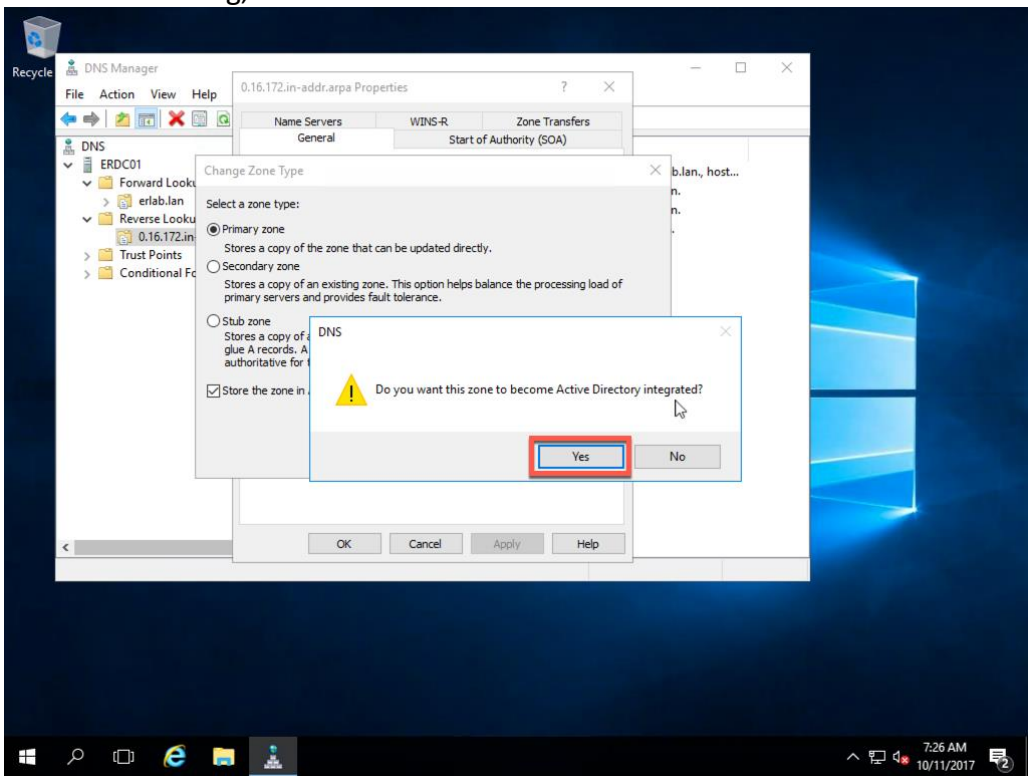
8. Click the Change button next to Type: Primary.



9. Check Store the zone in Active Directory (available only if DNS server is a domain controller) and click OK.



10. On the DNS dialog, click Yes.



11. Set the Dynamic updates dropdown to Secure only and click OK.