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NDES Installation Walkthrough

- OCTOBER 8, 2020OCTOBER 8, 2020
- CHDELAY

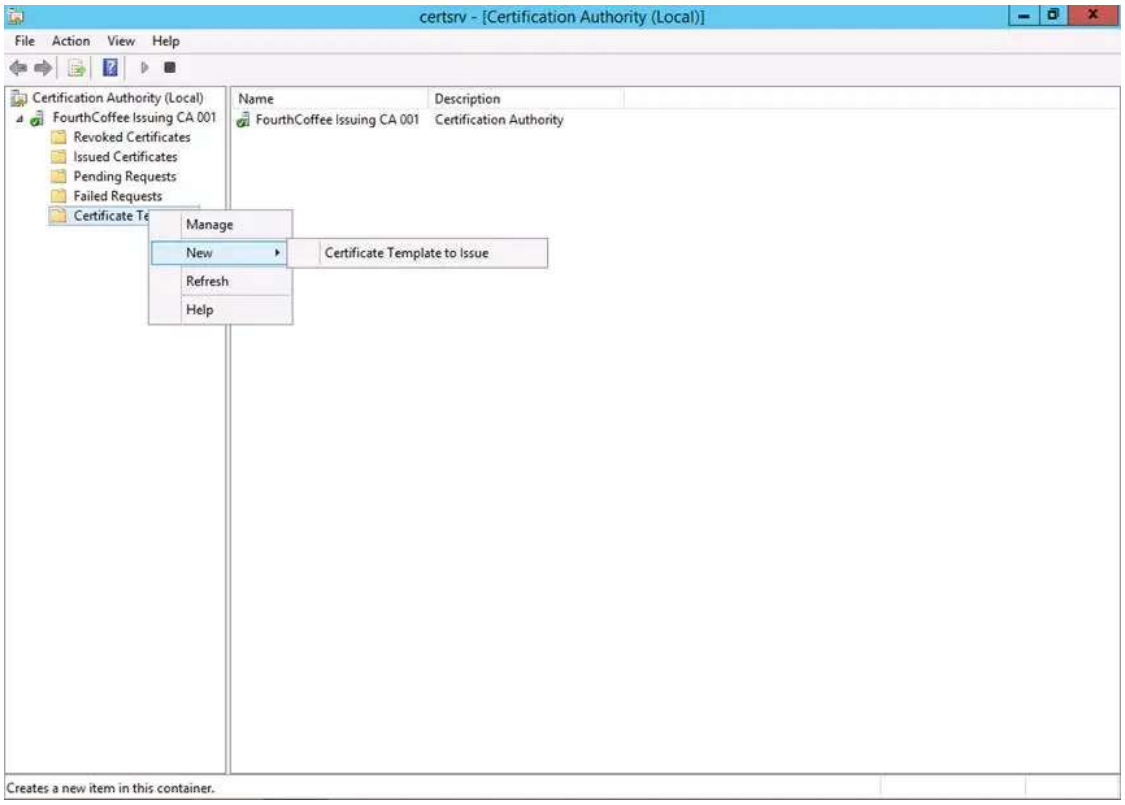
This blog is a simple walkthrough of the installation of NDES. The intent of this blog is just to show the steps so that an administrator could follow along with the installation.

For prerequisites and additional information on NDES see:
https://social.technet.microsoft.com/wiki/contents/articles/9063.active-directory-certificate-services-ad-cs-network-device-enrollment-service-ndes.aspx
(https://social.technet.microsoft.com/wiki/contents/articles/9063.active-directory-certificate-services-ad-cs-network-device-enrollment-service-ndes.aspx)

Preparing Certificate Templates for NDES

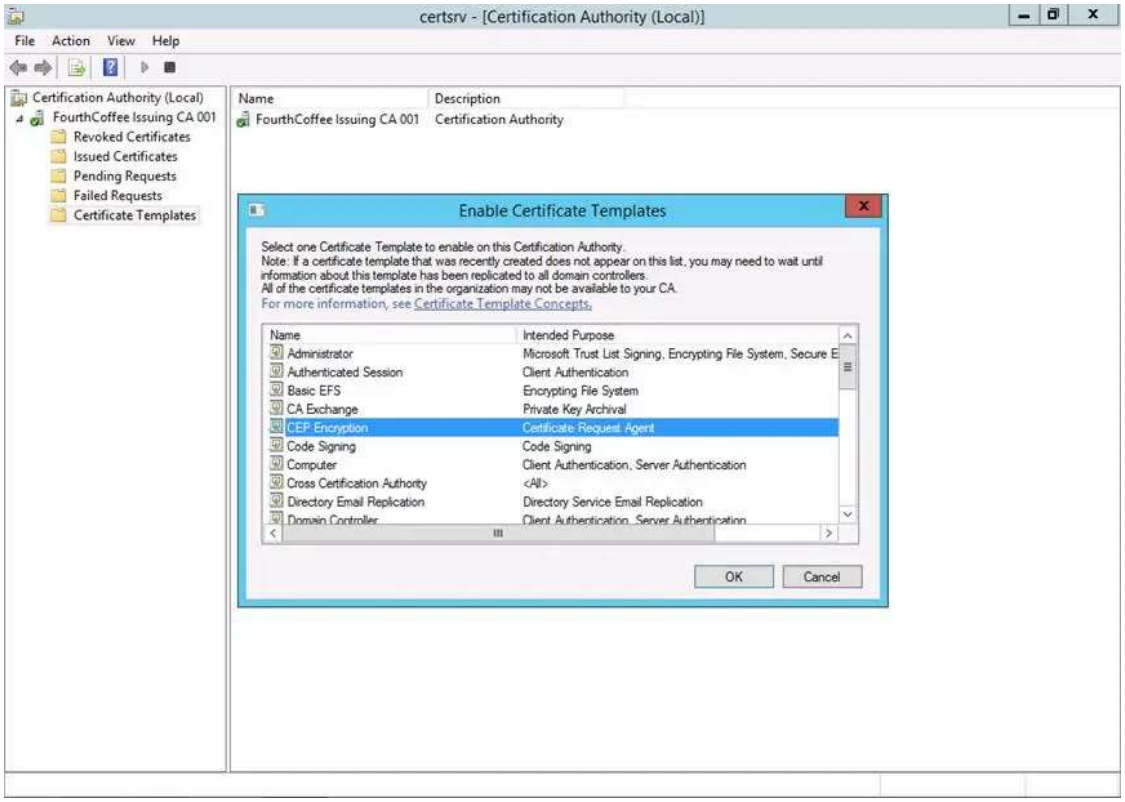
Step 1: Open the Certification Authority MMC (certsrv.msc)

Step 2: Right-click on **Certificate Templates** and select **New** and the **Certificate Template to Issue** from the context menu

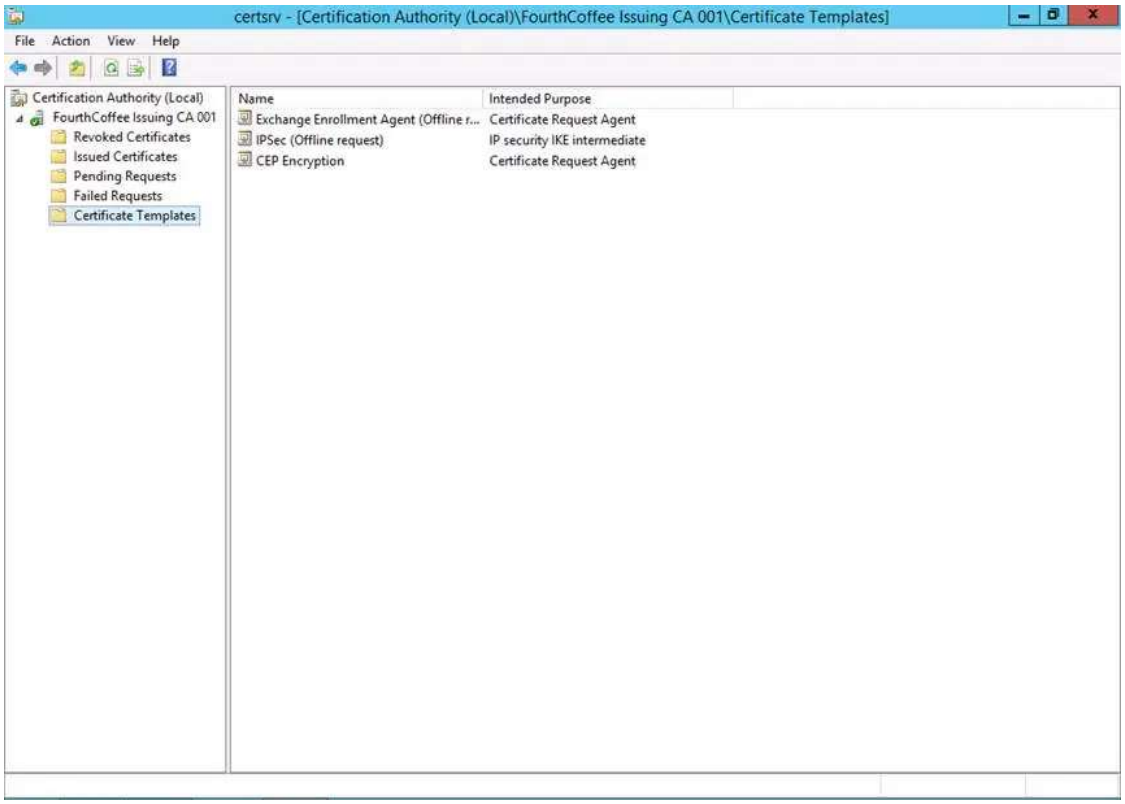


Step 3: Select the **CEP Encryption** certificate template

Step 4: Repeat Steps 2 and 3 for the **Exchange Enrollment Agent (Offline request)** and **IPSEC (Offline request)** certificate templates



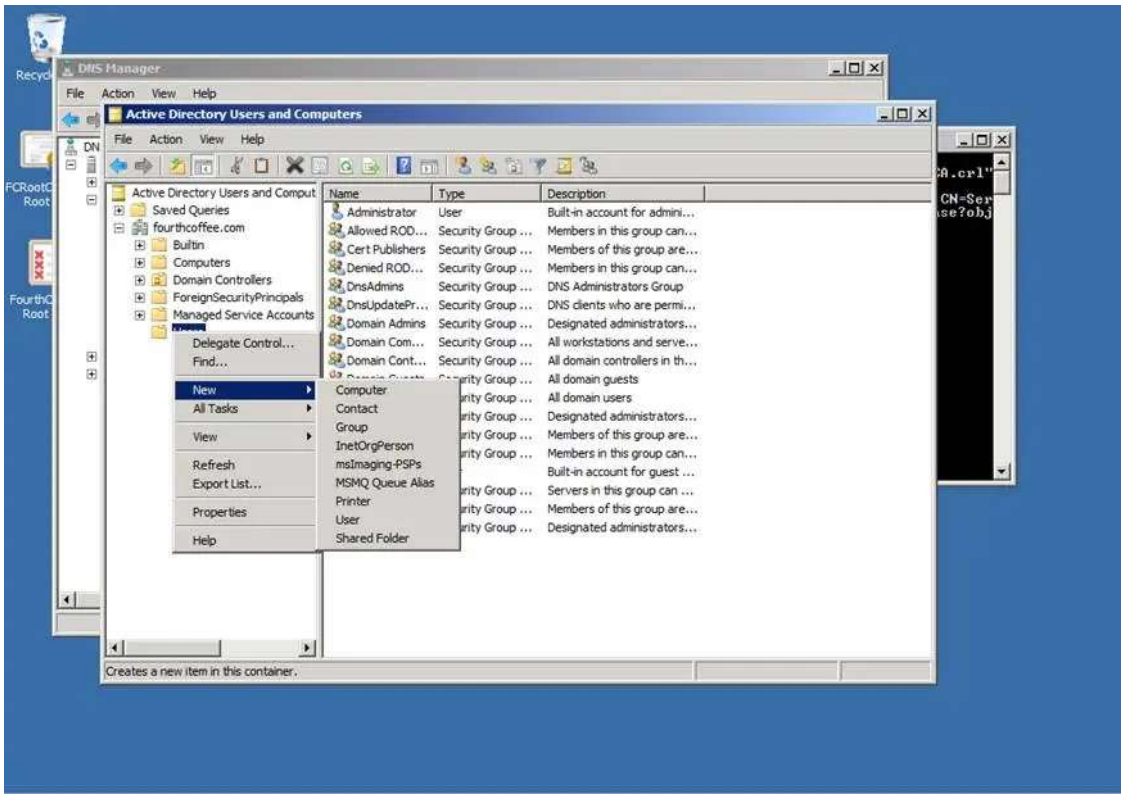
When completed you should see all 3 certificate templates listed



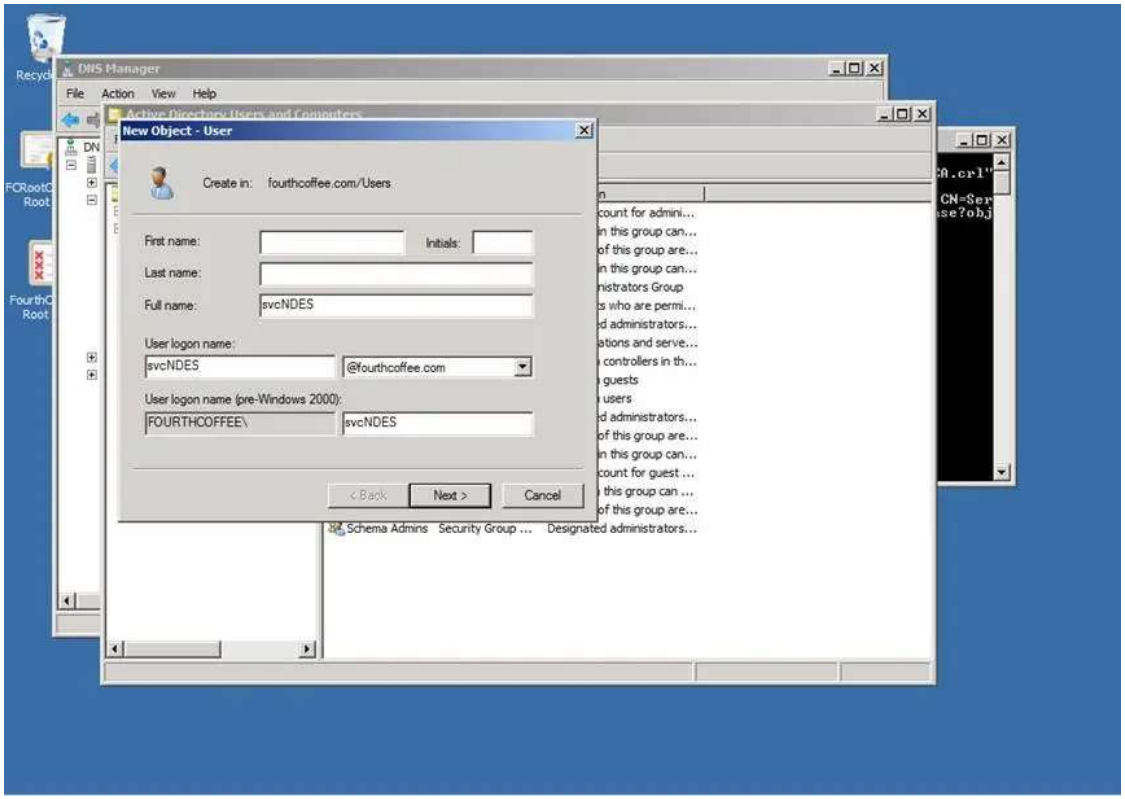
Configuring NDES Service Account

Step 1: Open up **Active Directory User and Computers** (dsa.msc)

Step 2: Right-click on the OU where you store service accounts and then select **New** then **User** from the context menu

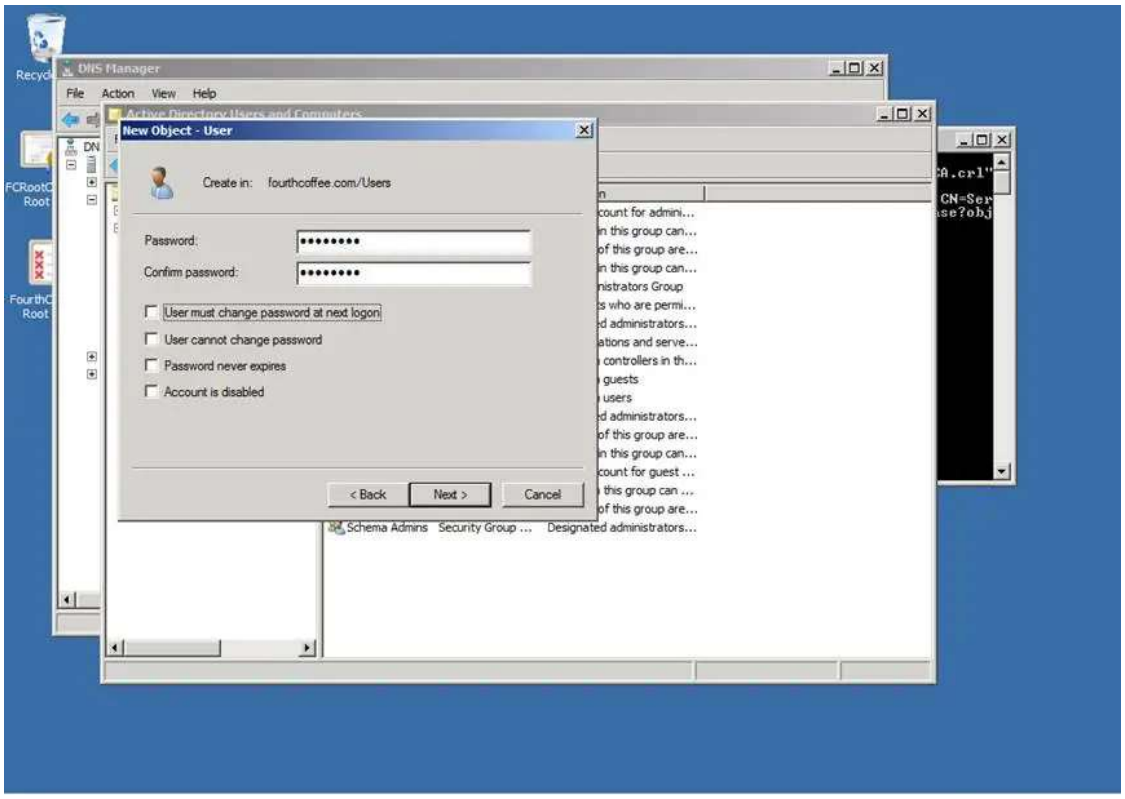


Step 3: Enter the **Full name** and **User logon name** for the service account and then click **Next**

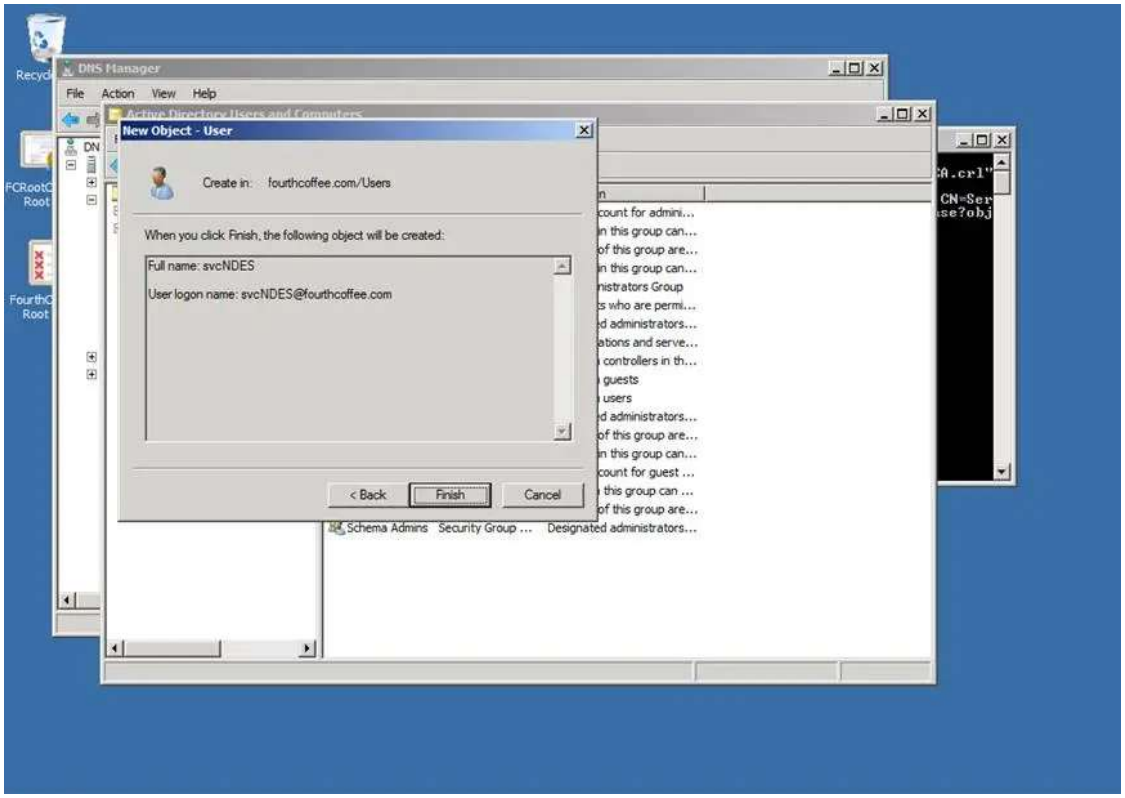


Step 4: Enter and confirm the password for the service account

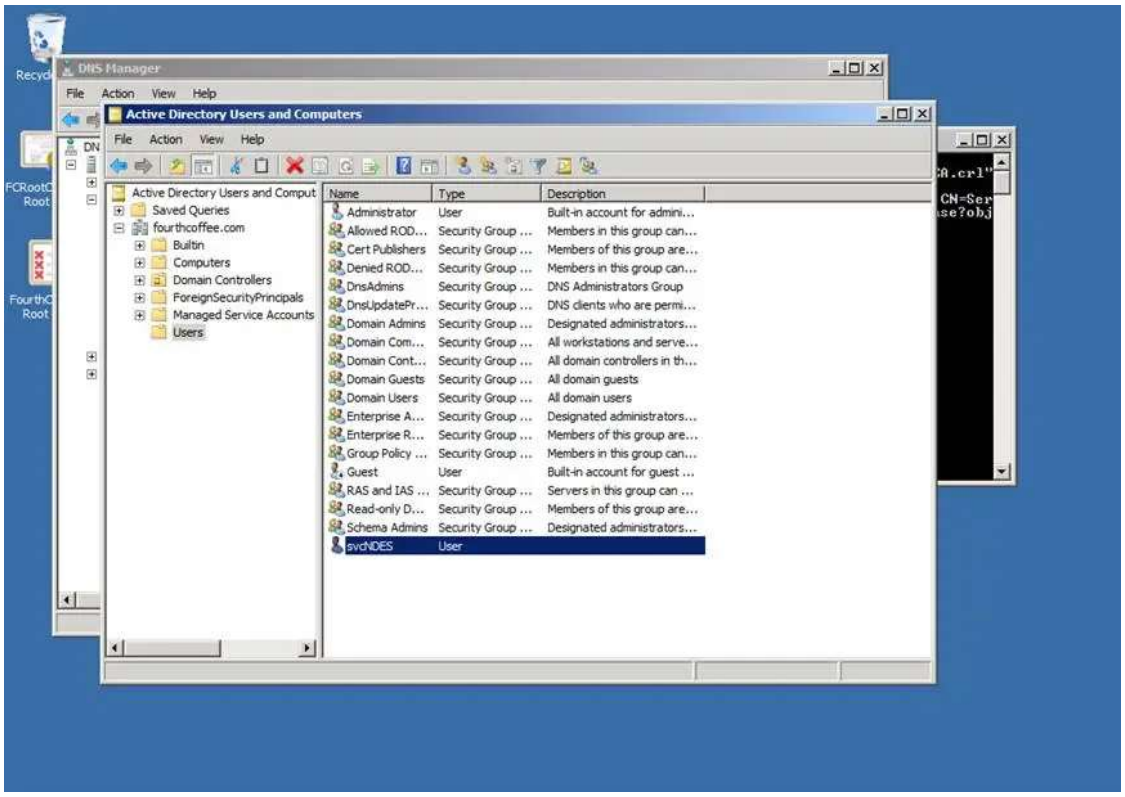
Step 5: Select or de-select any desired options and then click **Next**



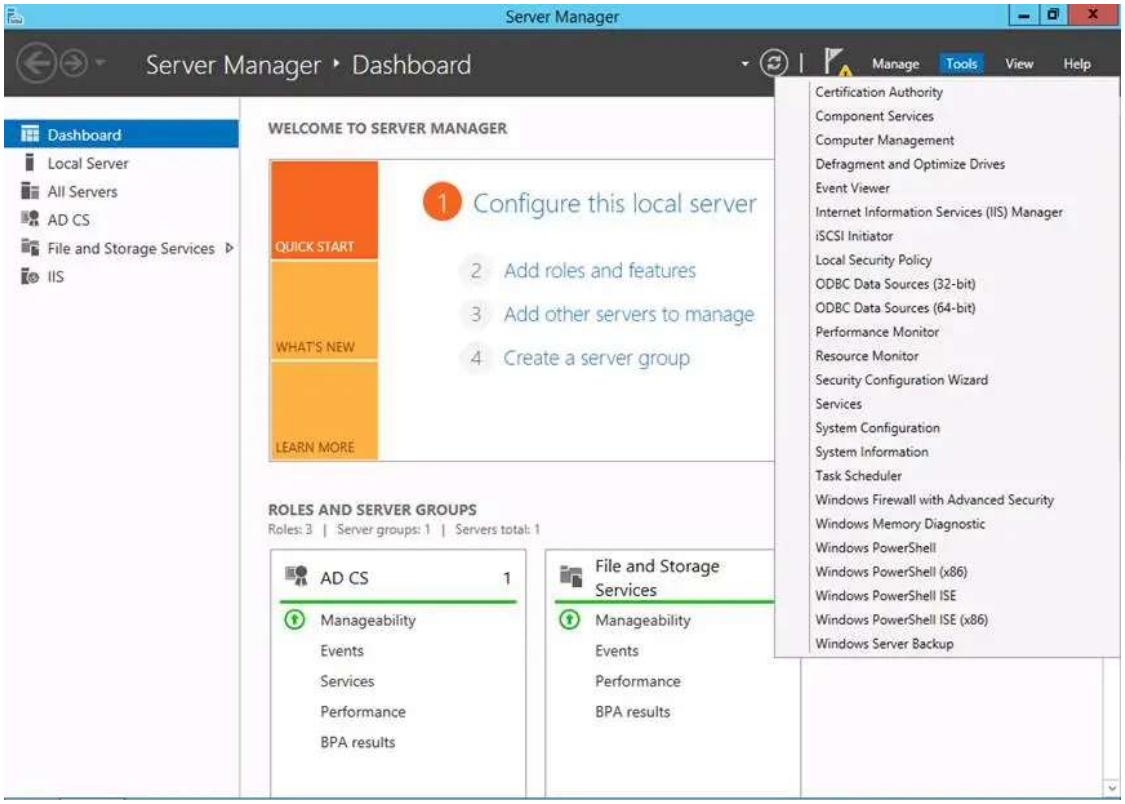
Step 6: Click **Finish**



The service account will now be created

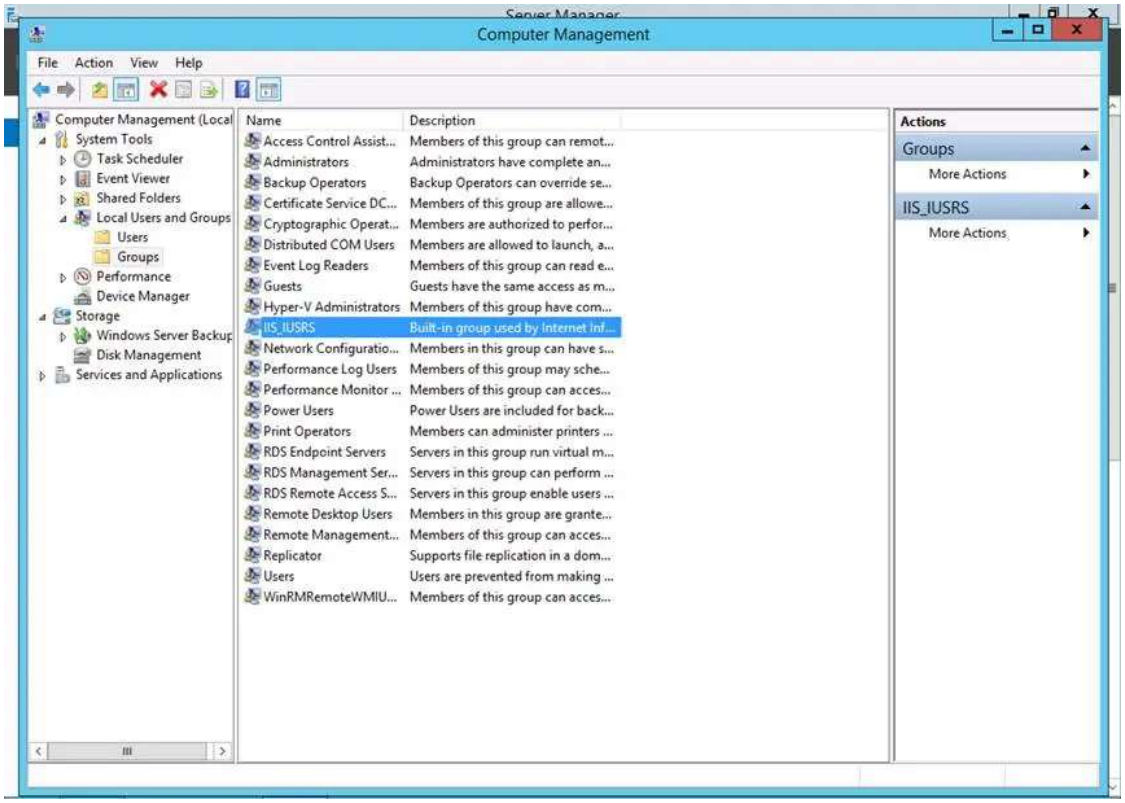


Step 7: Open **Server Manager**, Select the **Tools** menu, and the select **Computer Management**

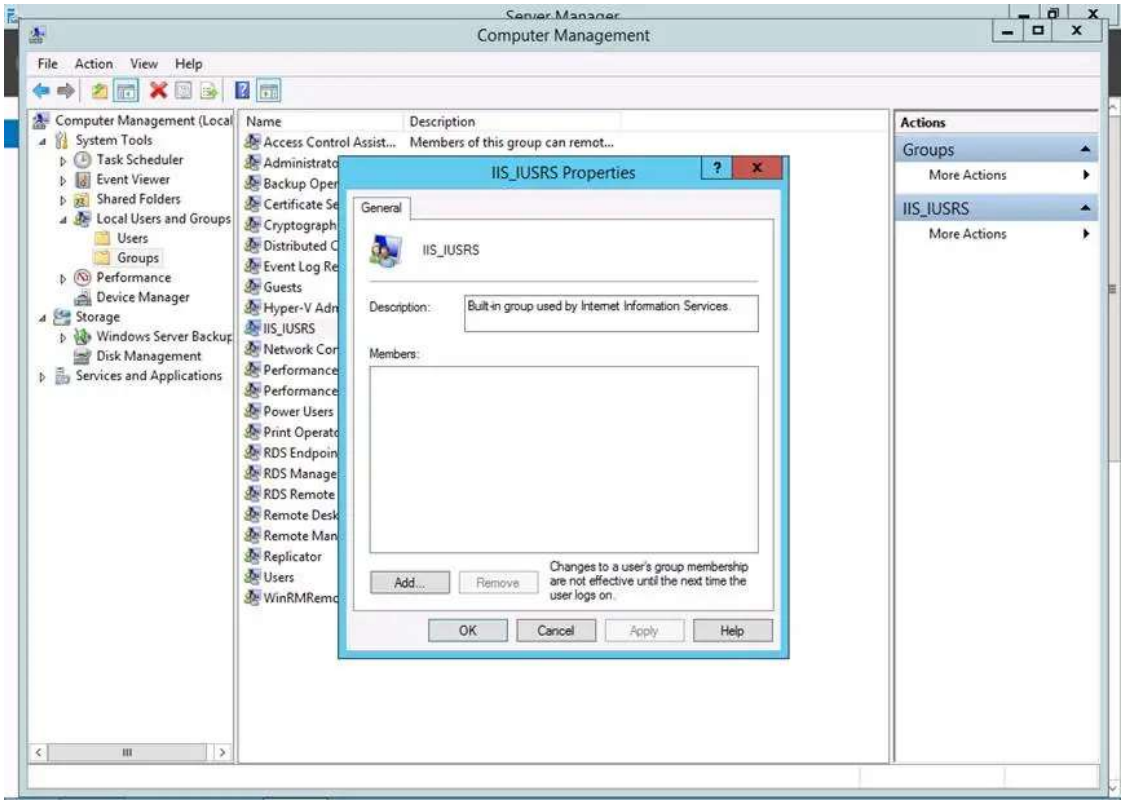


Step 8: Navigate to **Local Users and Groups**

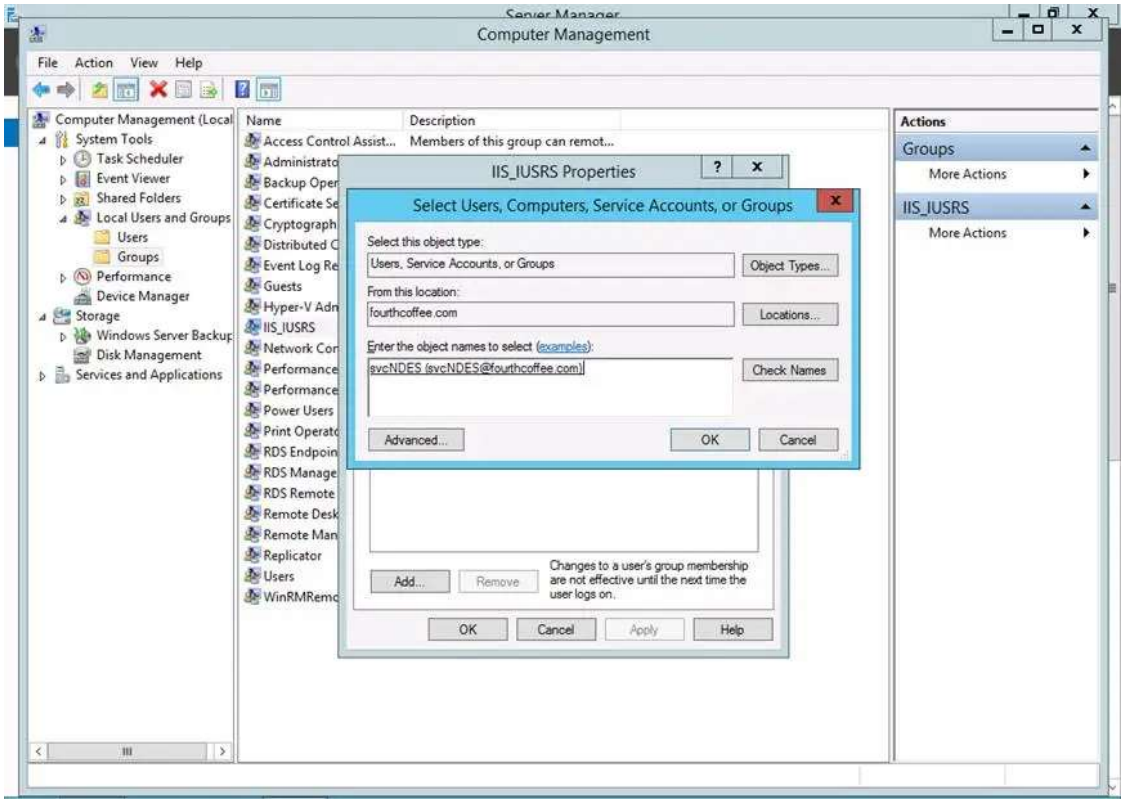
Step 9: Navigate to Groups and then open the group named **IIS_IUSRS**



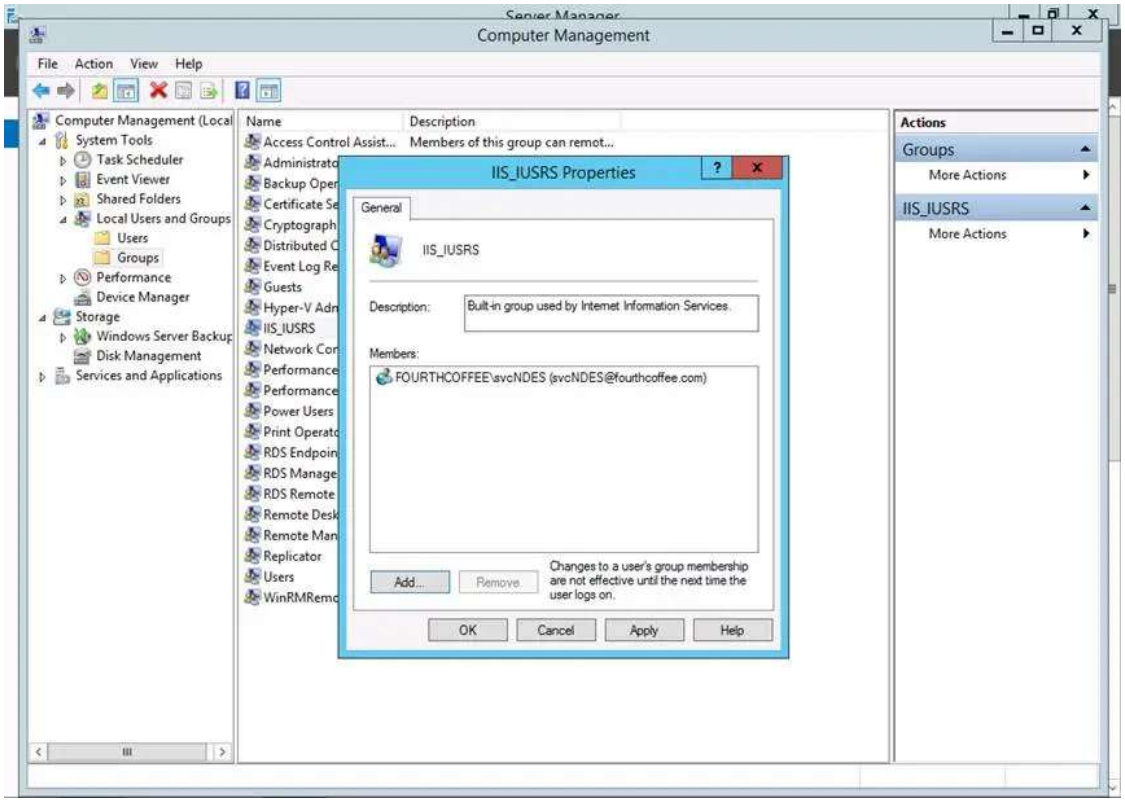
Step 10: Click **Add…**



Step 11: Enter the name of the service account that you previously created and click **Check Names**, and then **OK**



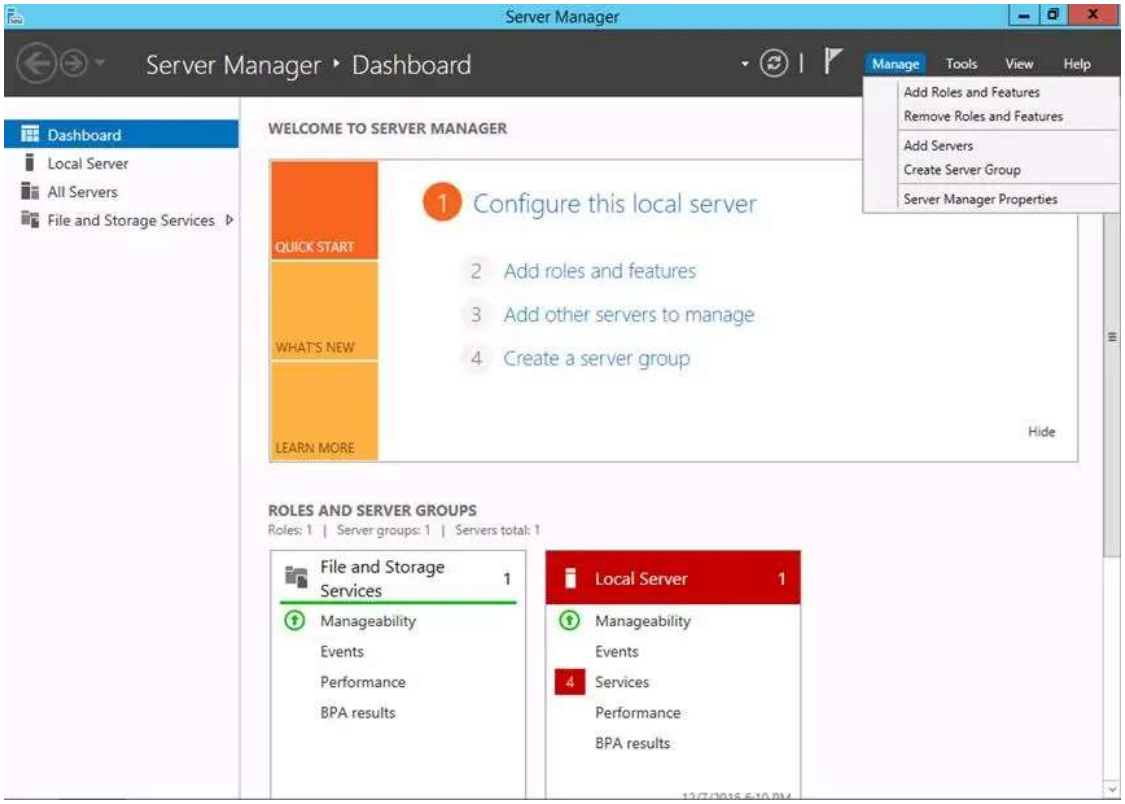
Step 12: Click **OK**



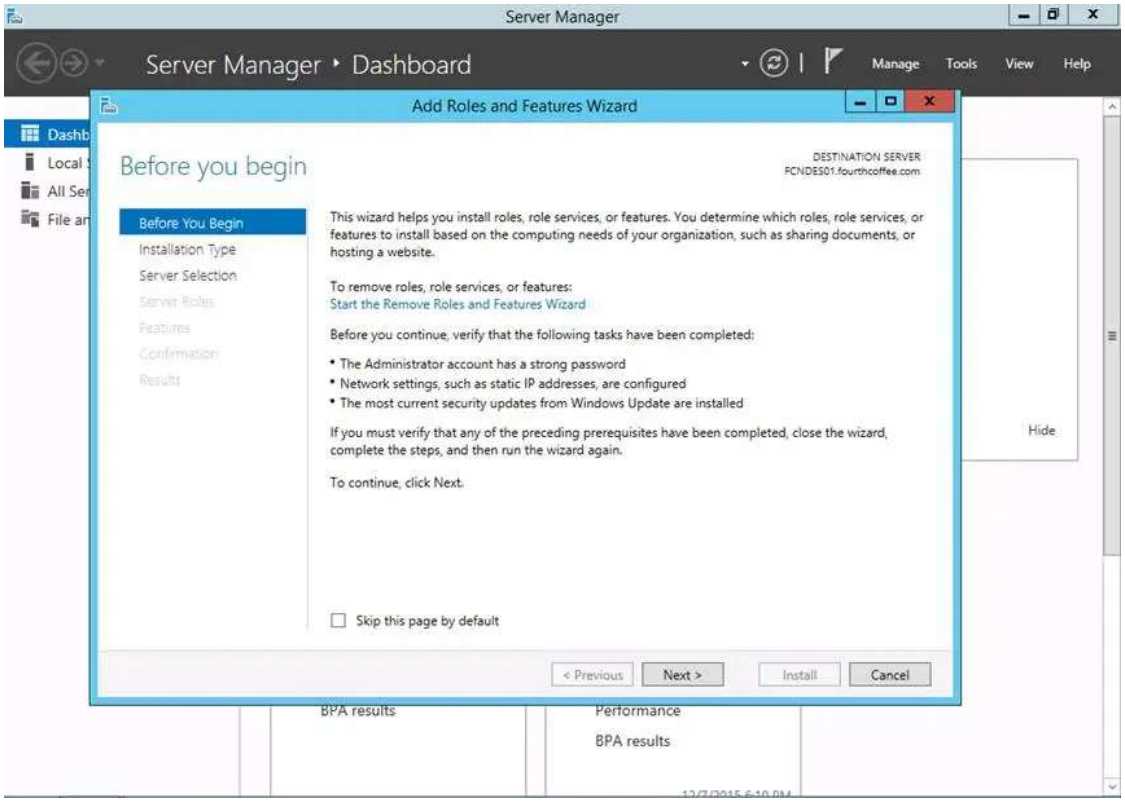
Installing NDES

Step 1: Open Server Manager

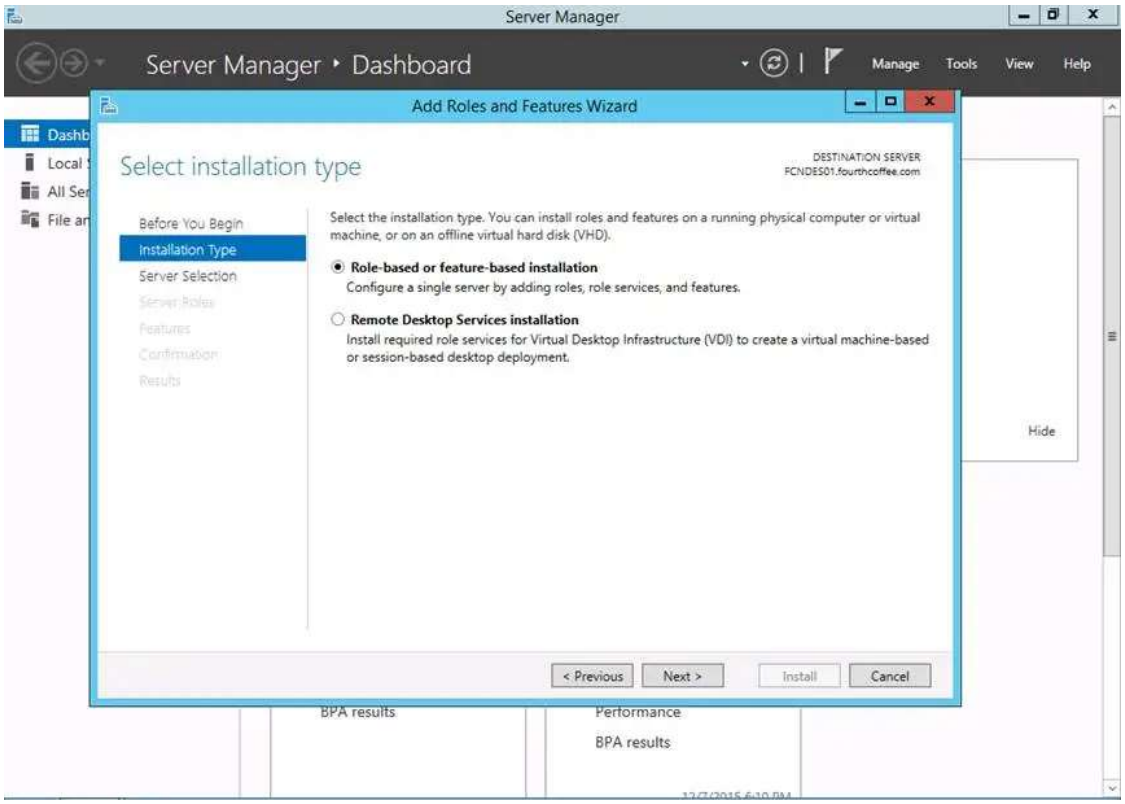
Step 2: Select the **Manage** menu and the select **Add Roles and Features**



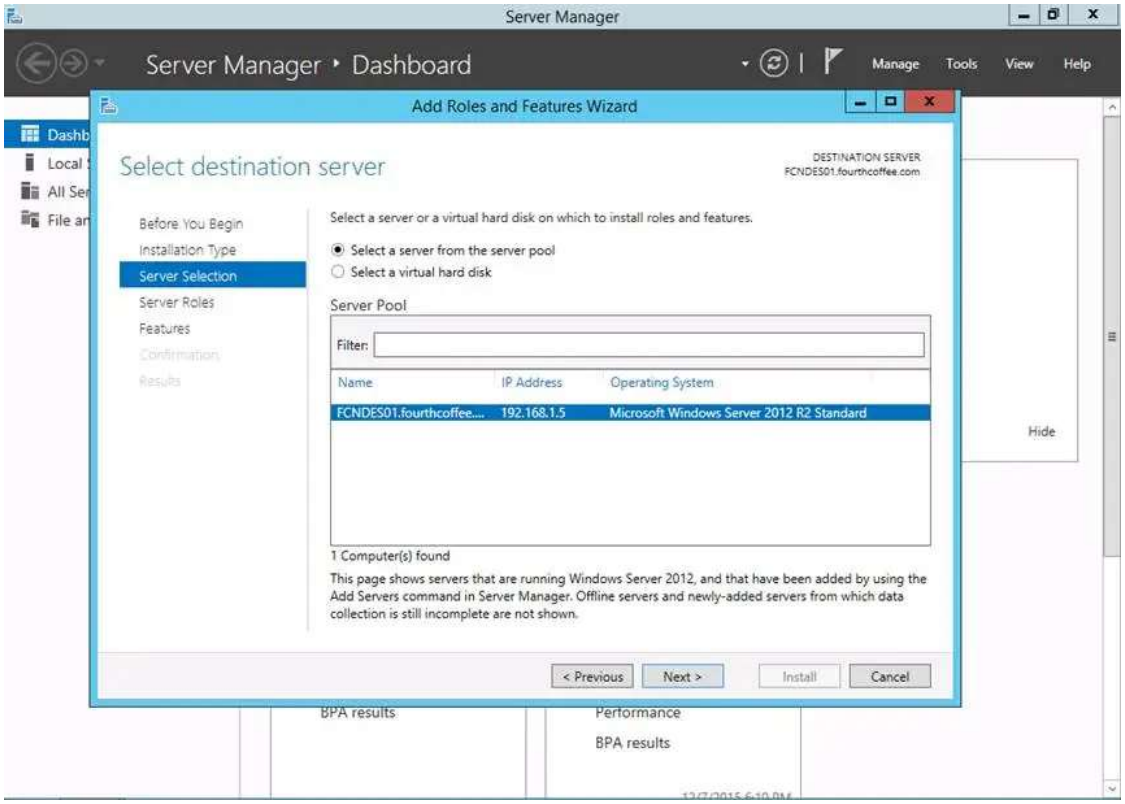
Step 3: On the Before you begin page of the wizard, click **Next**



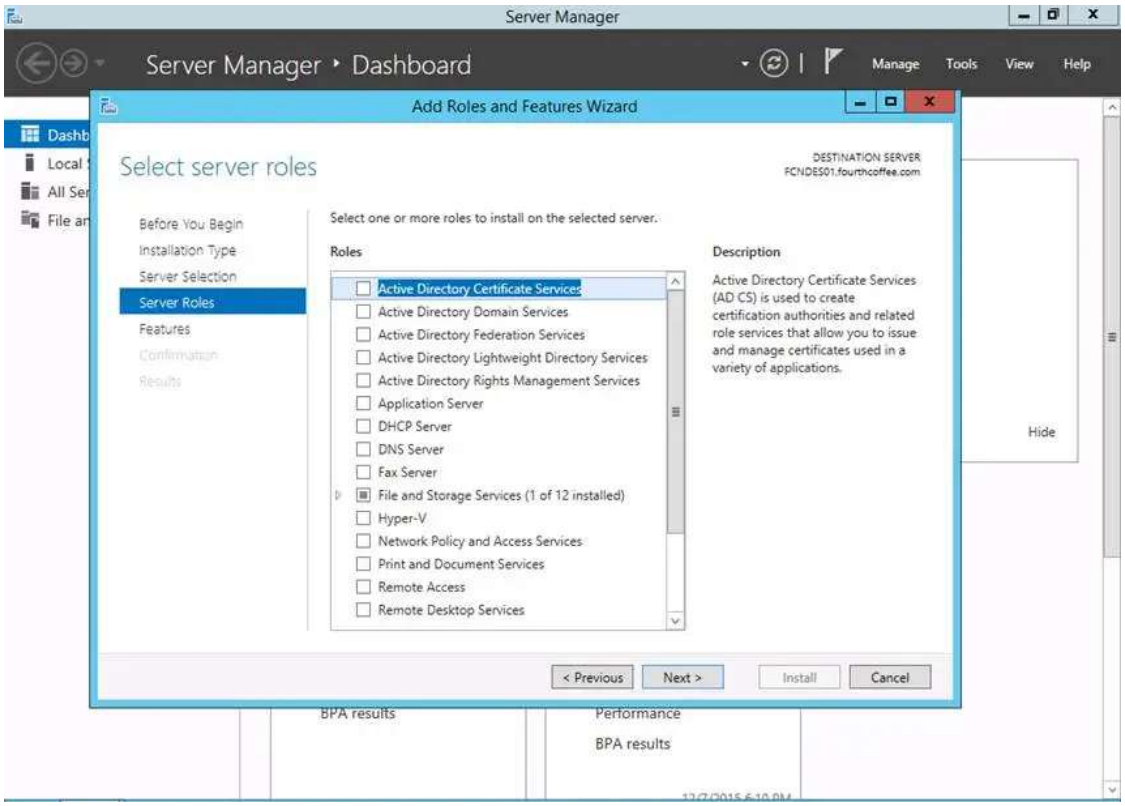
Step 4: On the **Select installation type** page of the wizard, select **Role-based or feature-based installation**, and then click **Next**



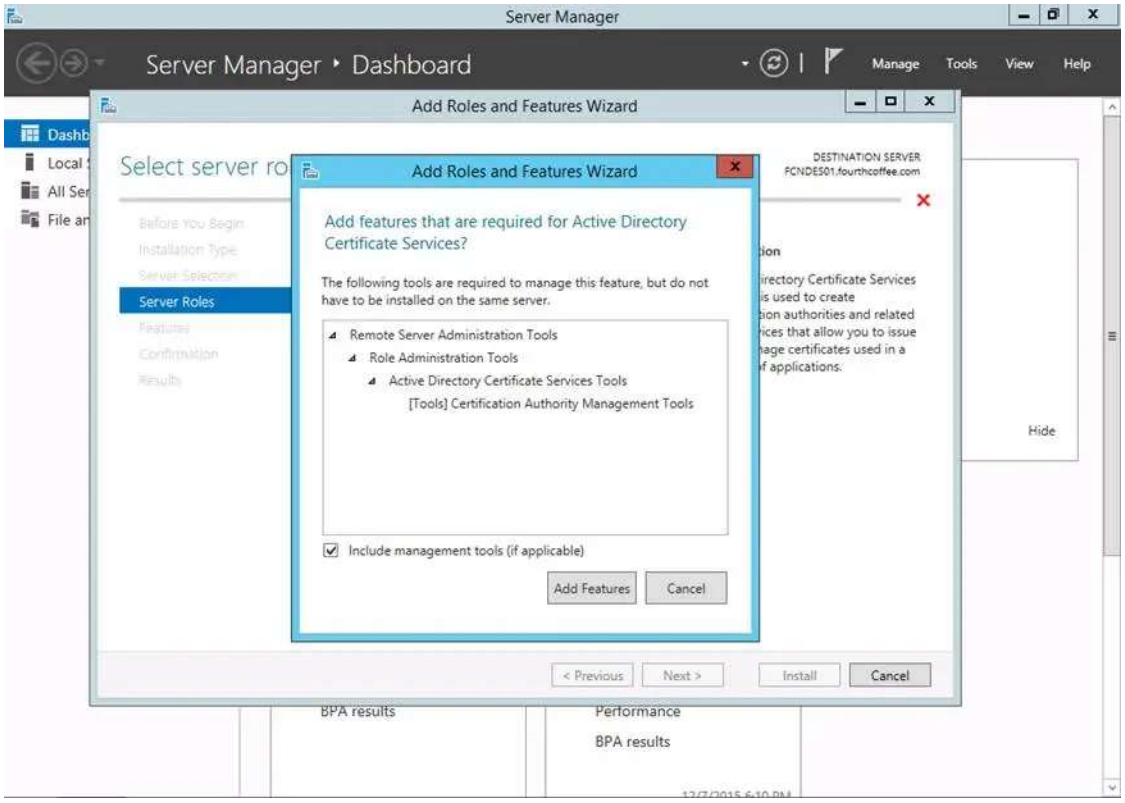
Step 5: On the **Select destination server** page, click **Next**



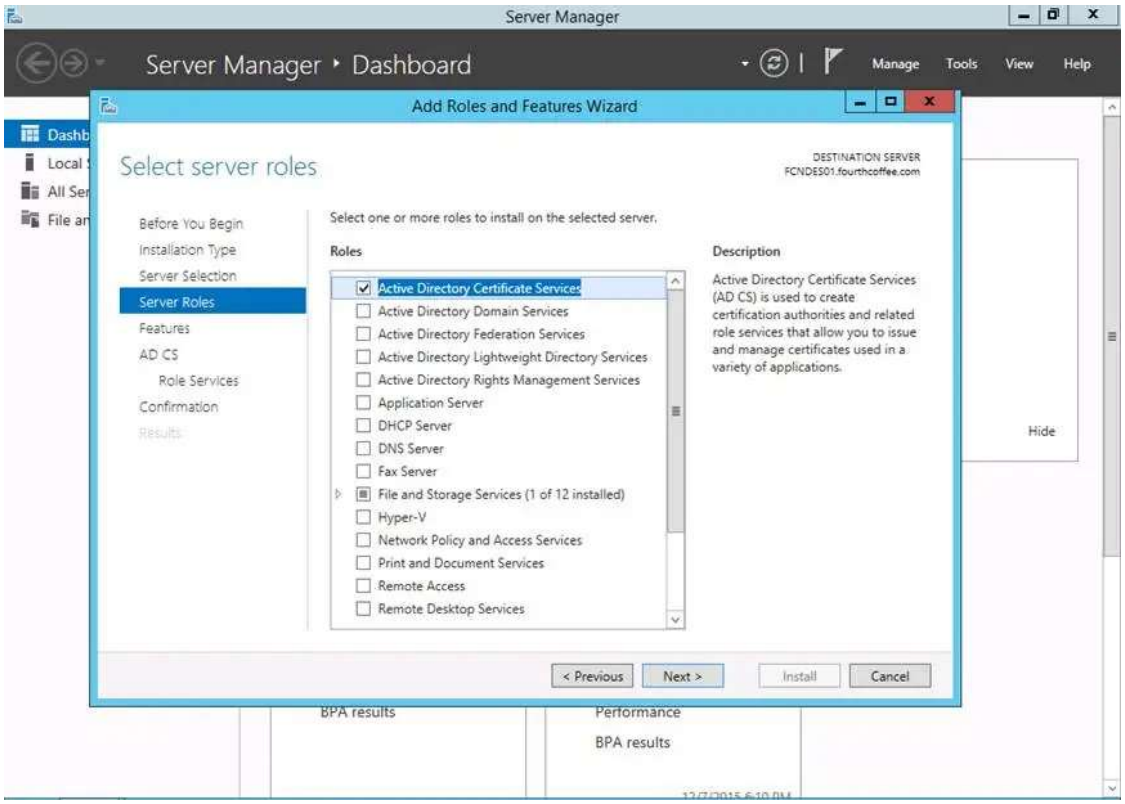
Step 6: On the **Select server roles** page of the wizard, select **Active Directory Certificate Services**



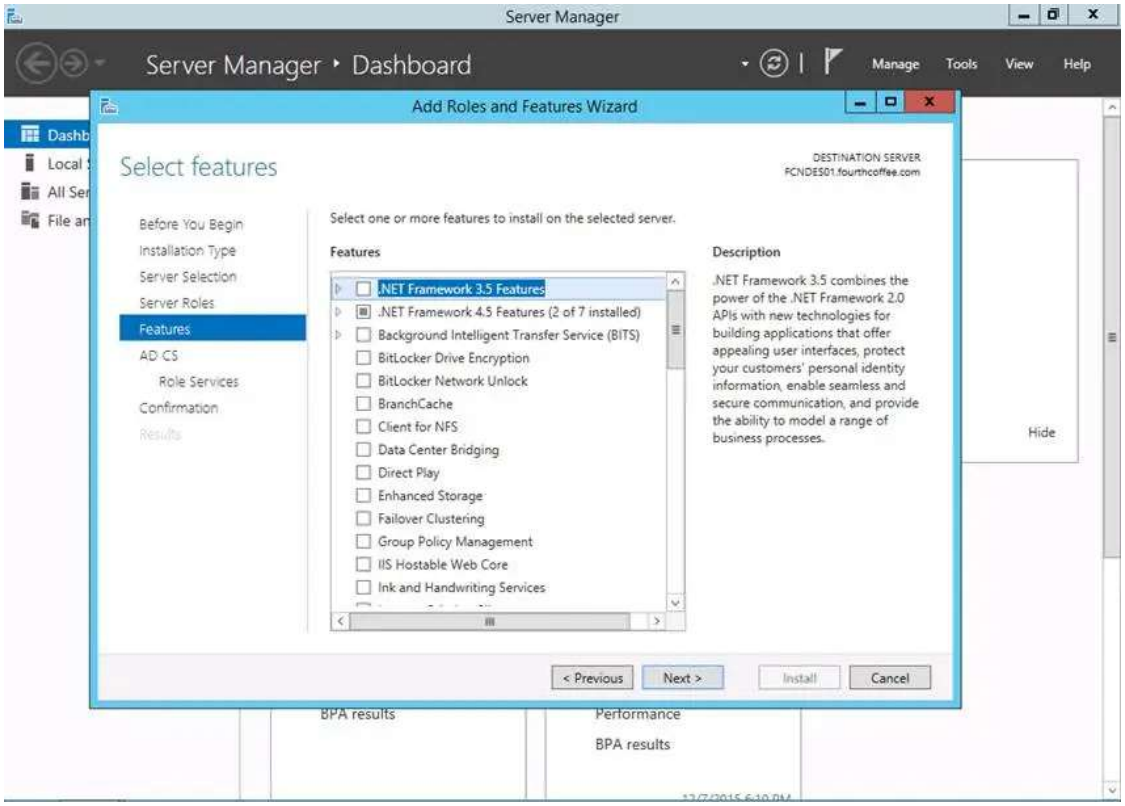
Step 7: Click **Add Features**



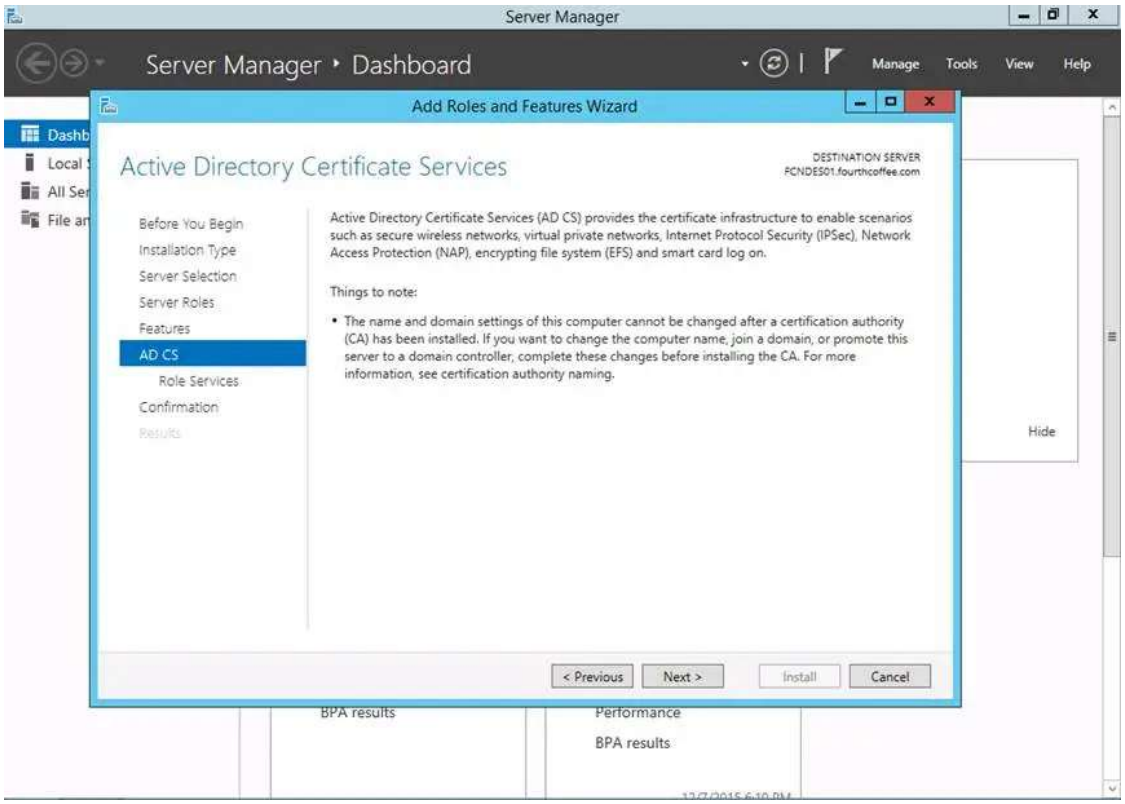
Step 8: Click **Next**



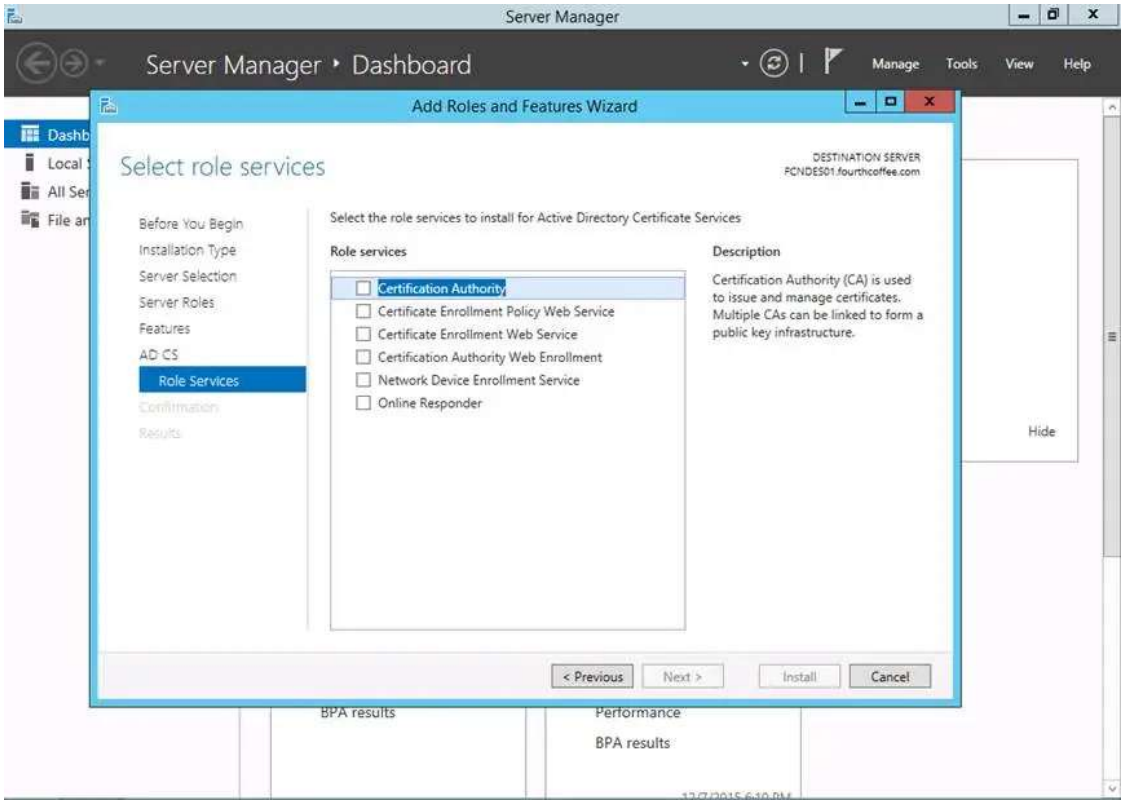
Step 9: On the **Select features** page of the wizard, click **Next**



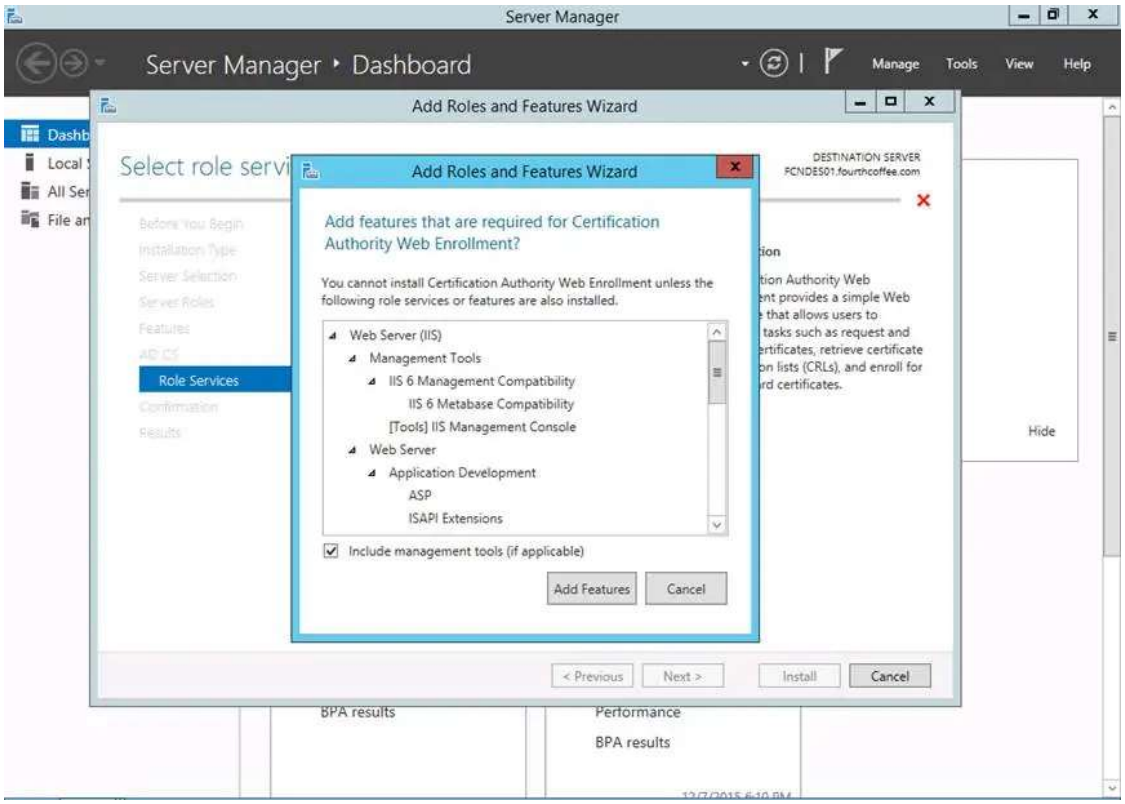
Step 10: On the **Active Directory Certificate Services** page, click **Next**



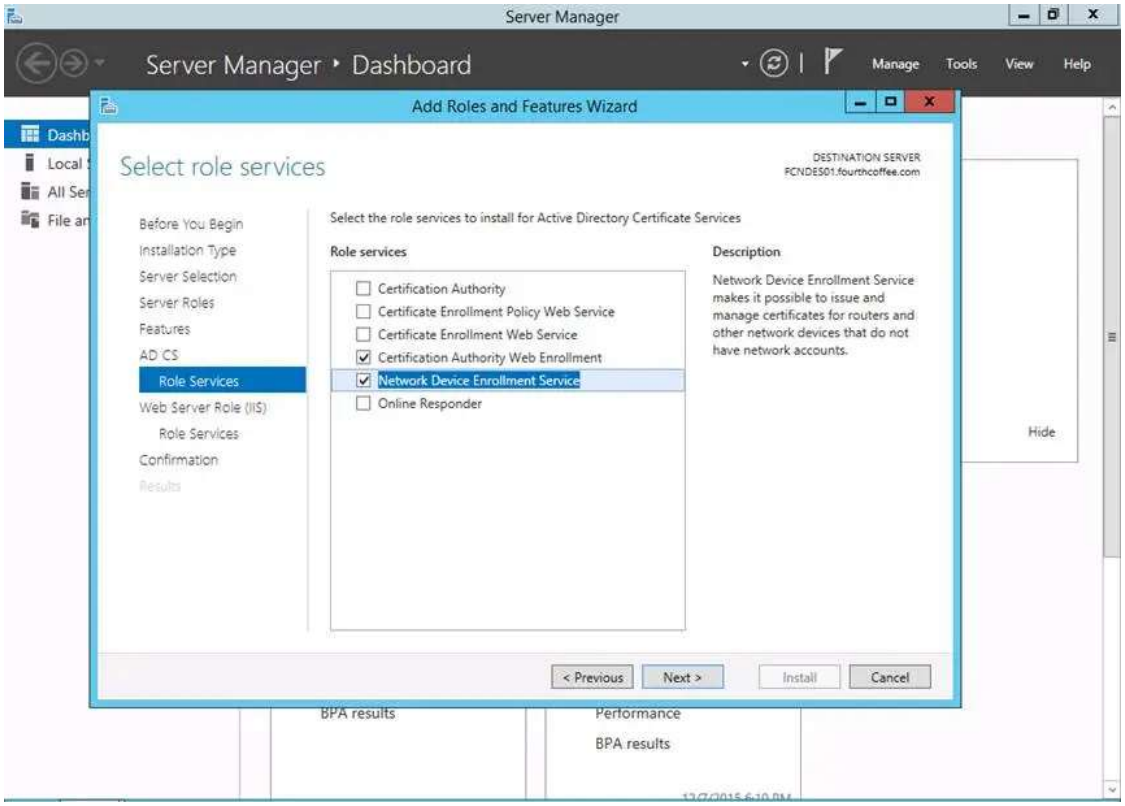
Step 11: On the Select role services page, select **Certification Authority Web Enrollment** (Note: The reason for selecting this role is so that the CertSrv virtual directory will be visible in IIS)



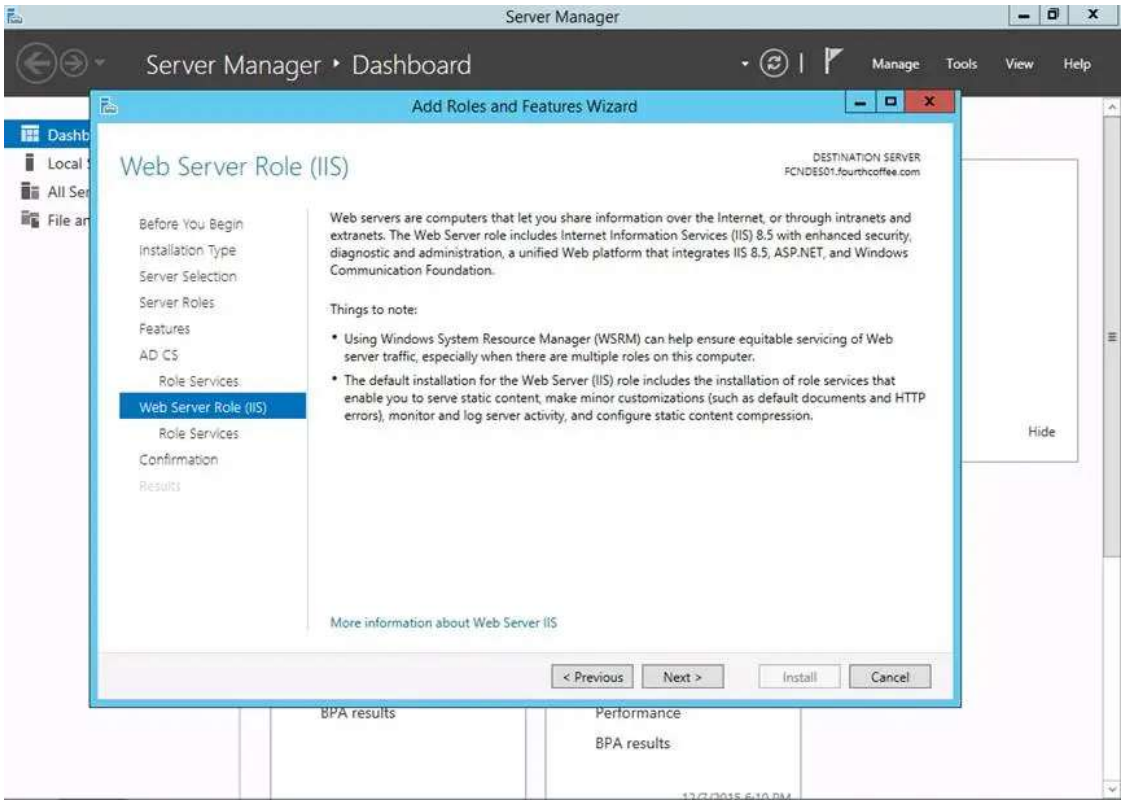
Step 12: When prompted add the features, click **Add Features**



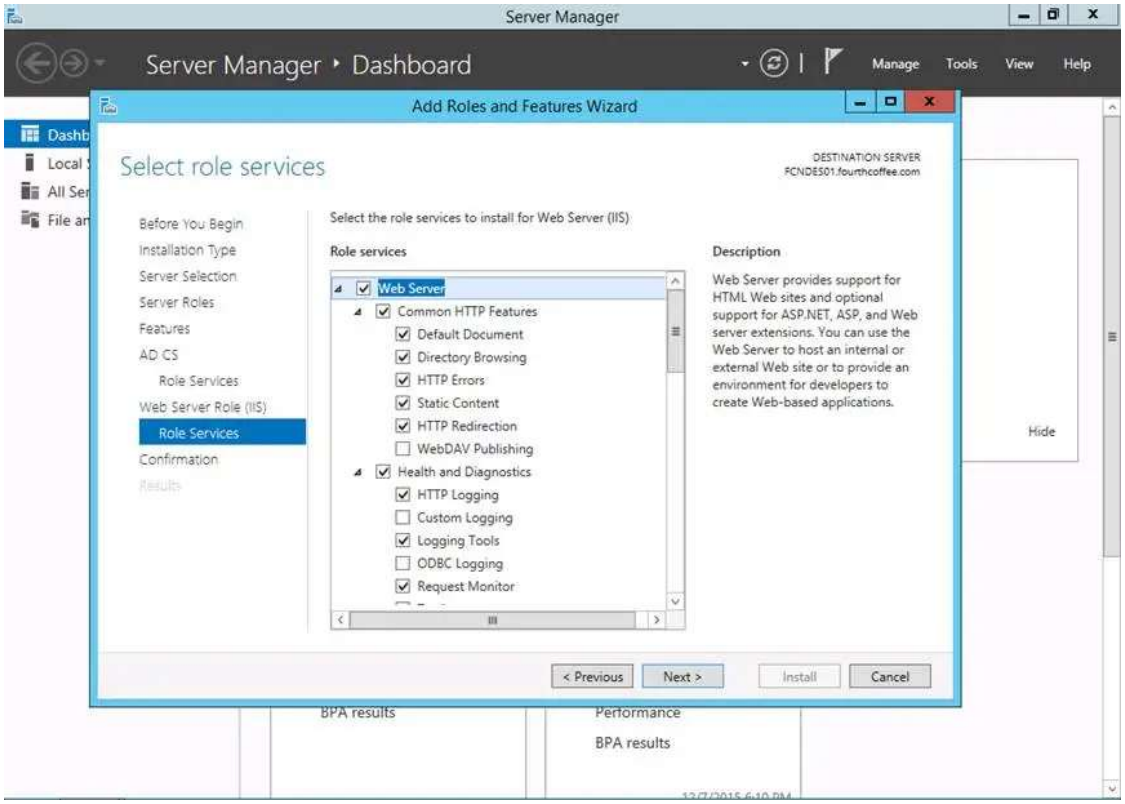
Step 13: Select **Network Device Enrollment Service** and then click **Next**



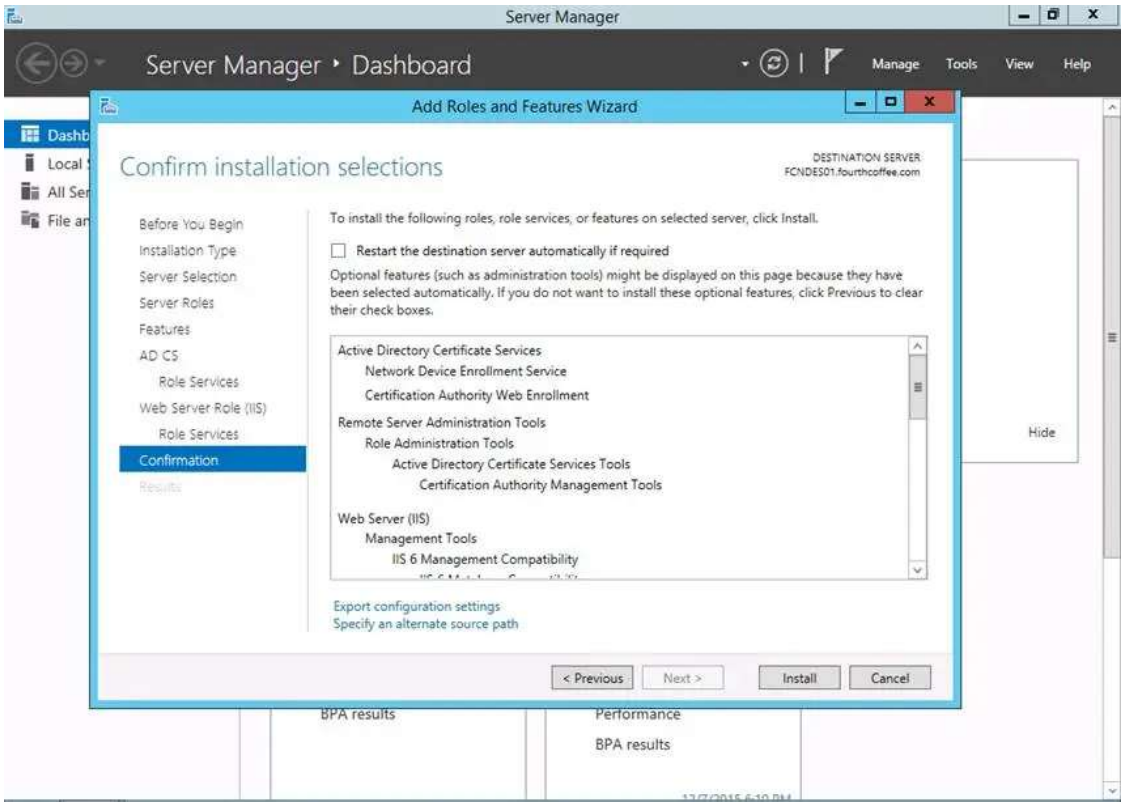
Step 14: On the **Web Server Role (IIS)** page, click **Next**



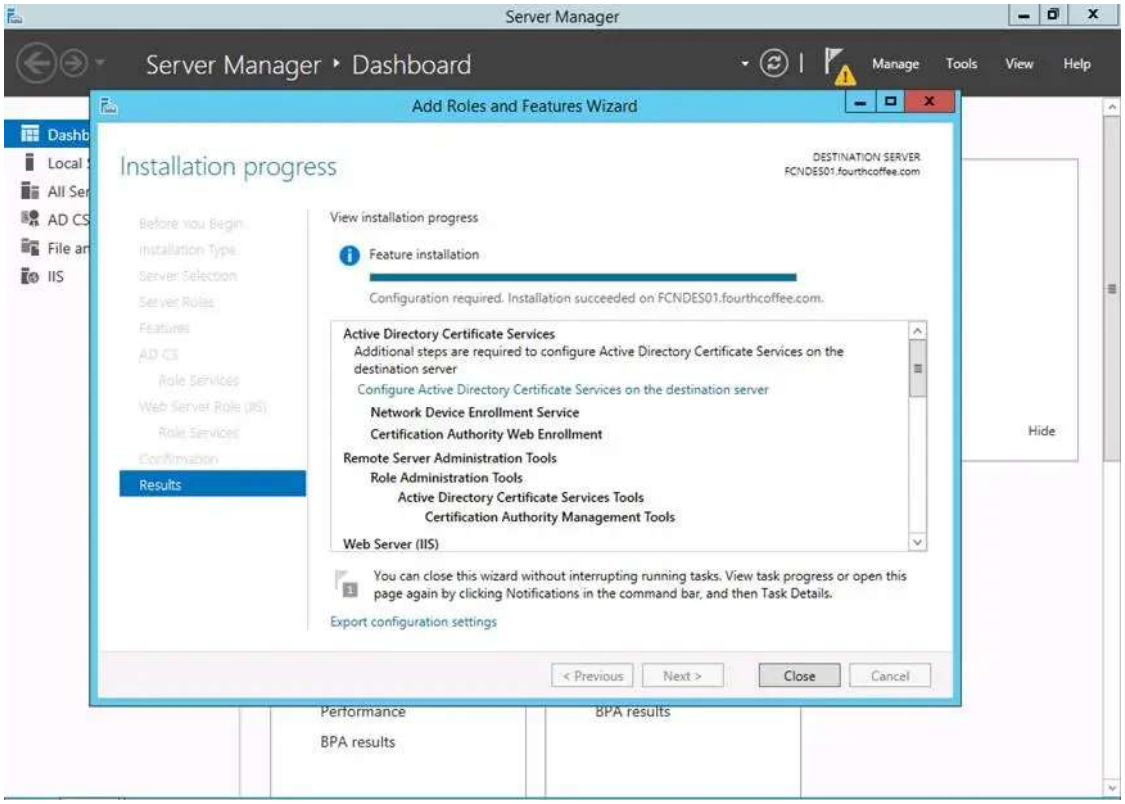
Step 15: On the **Select role service** page, click **Next**



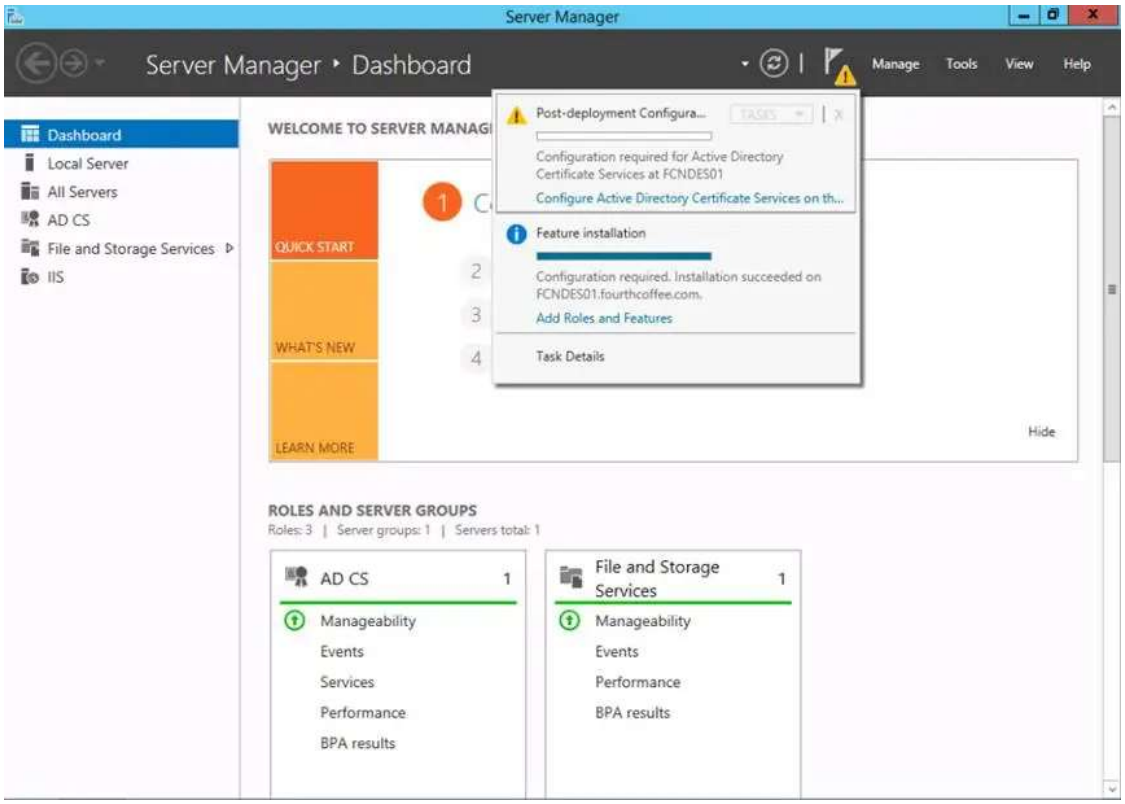
Step 16: On the **Confirm installation selection** page, click **Install**



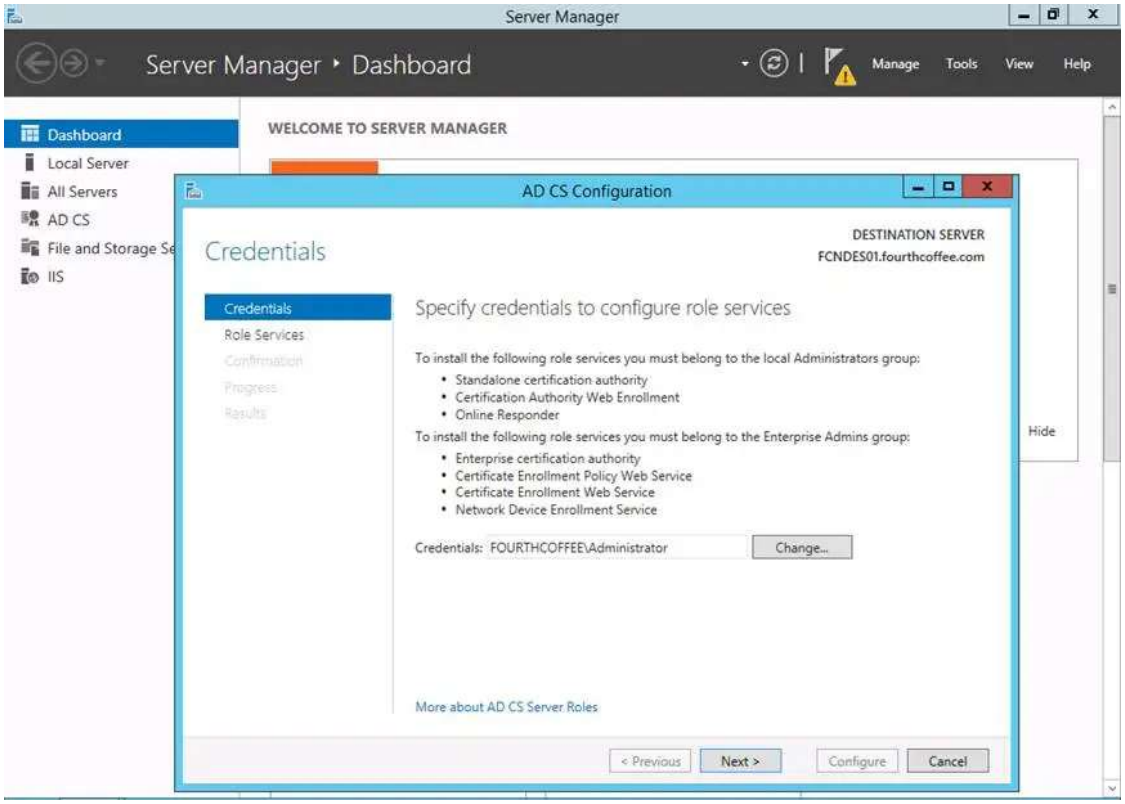
Step 17: When installation completes, click **Close**



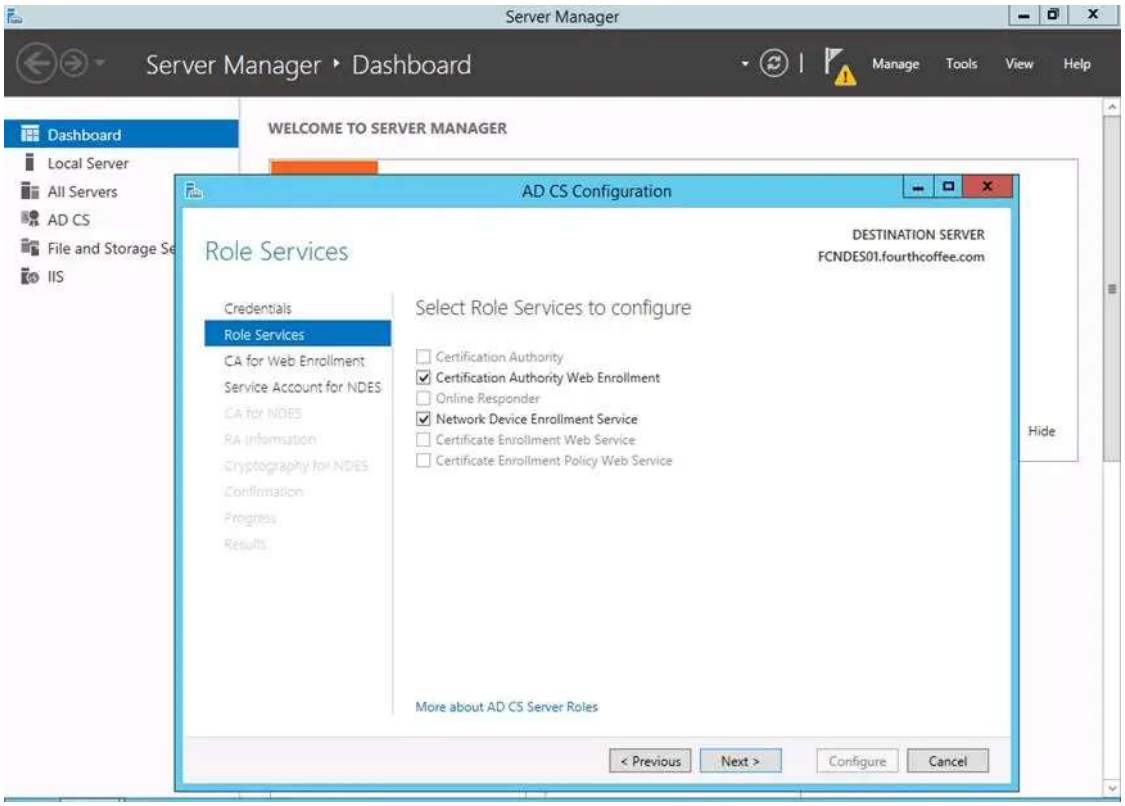
Step 18: In **Server Manager** click on the warning symbol and then select **Configure Active Directory Certificate Services on th…**



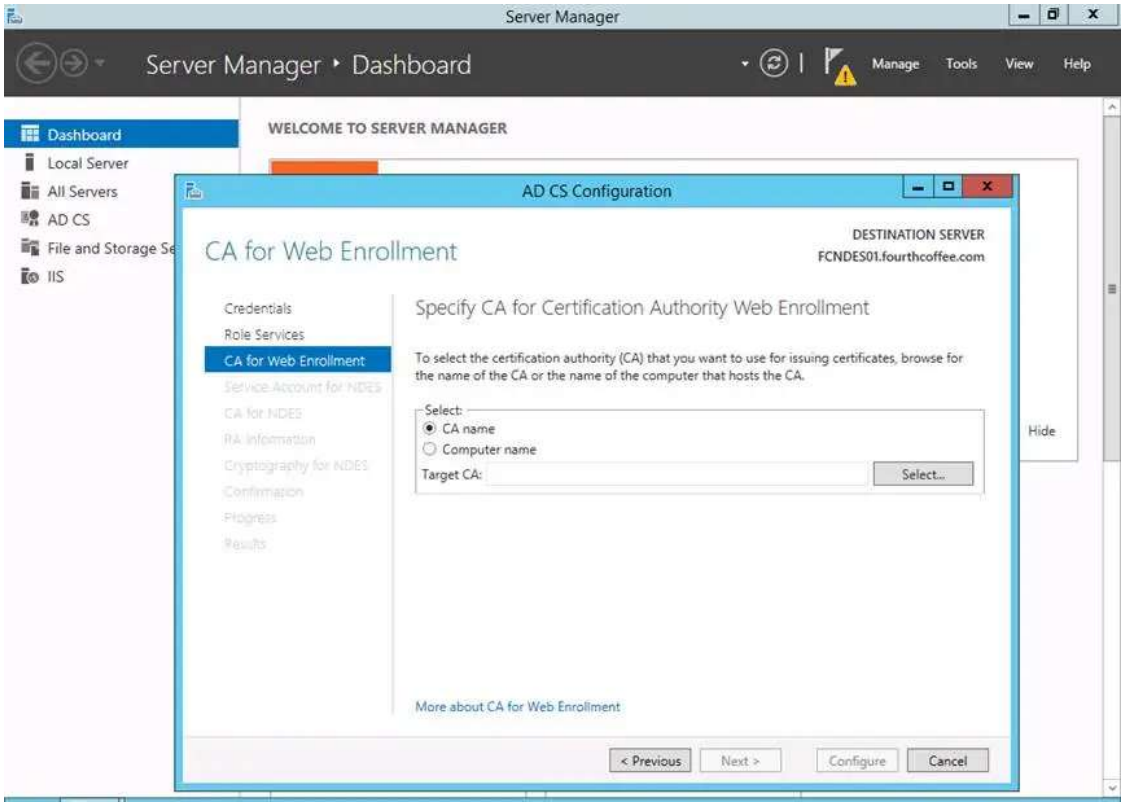
Step 19: On **the Specify credentials to configure role services** page ensure that the account selected is a member of the Enterprise Admins group, and then click **Next**



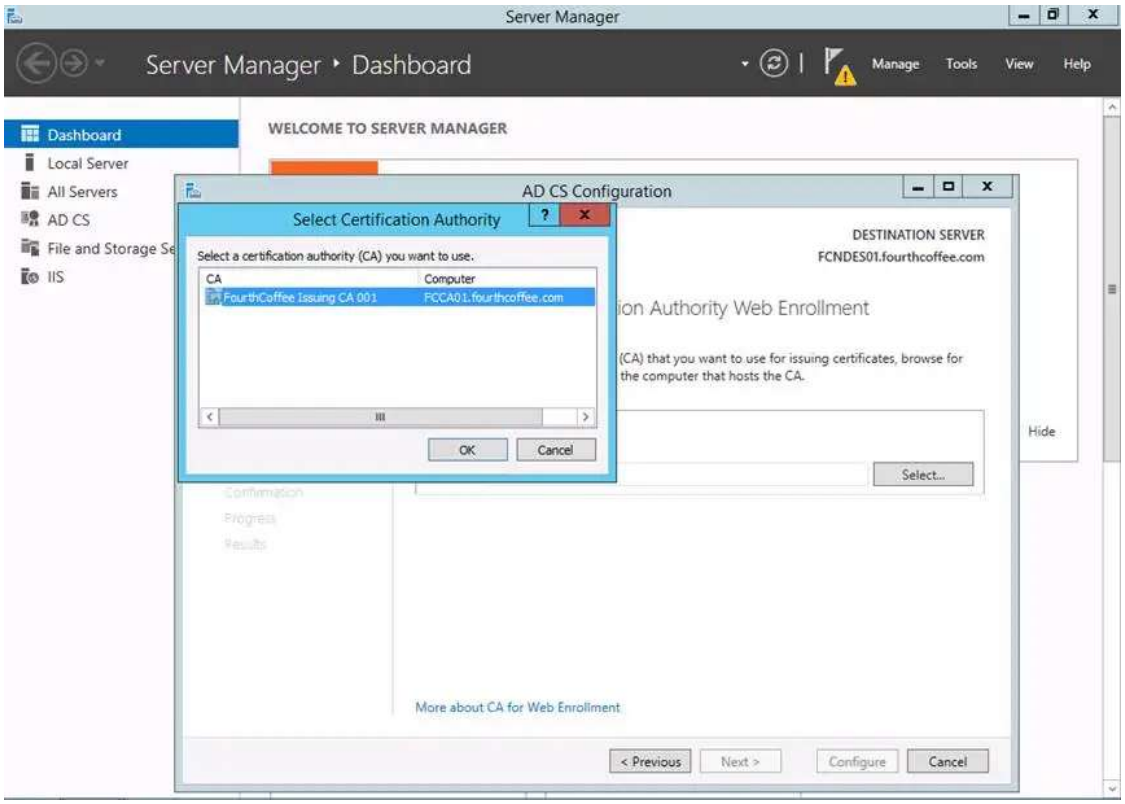
Step 20: On the Select Role Services to configure page of the wizard select **Certification Authority Web Enrollment** and **Network Device Enrollment Service**, then click **Next**



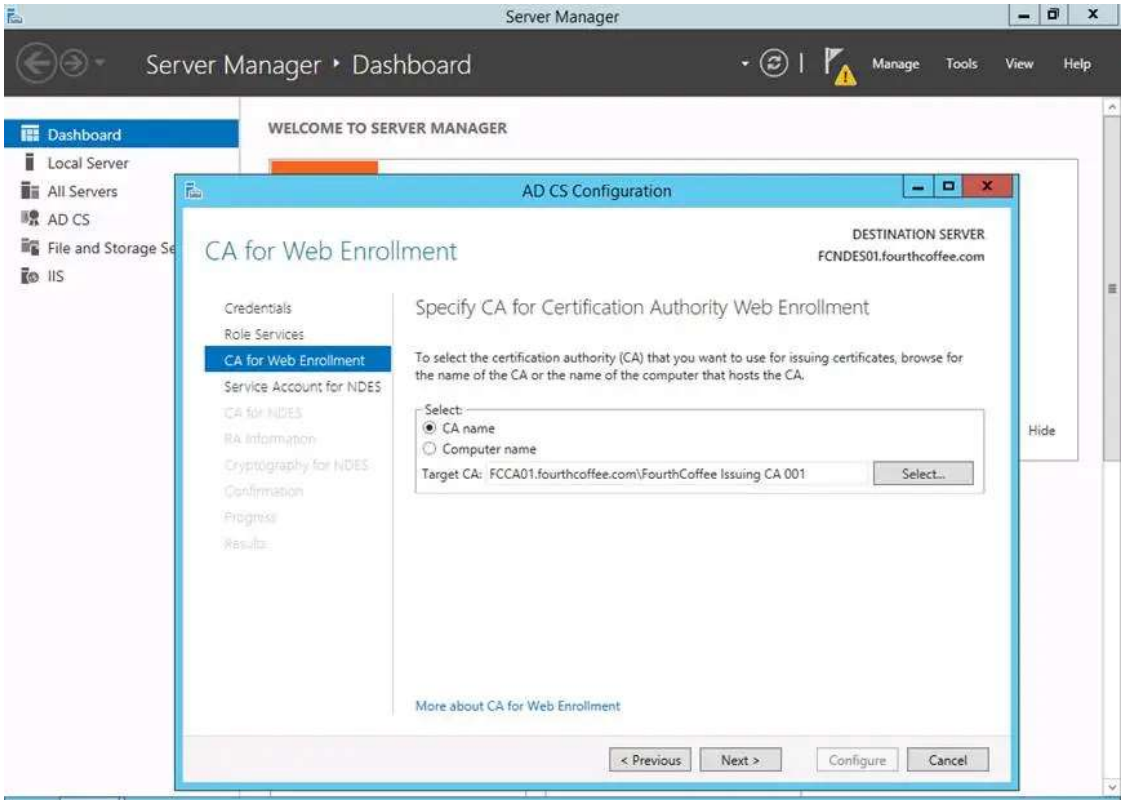
Step 21: On the **CA for Web Enrollment** page, click **Select…**



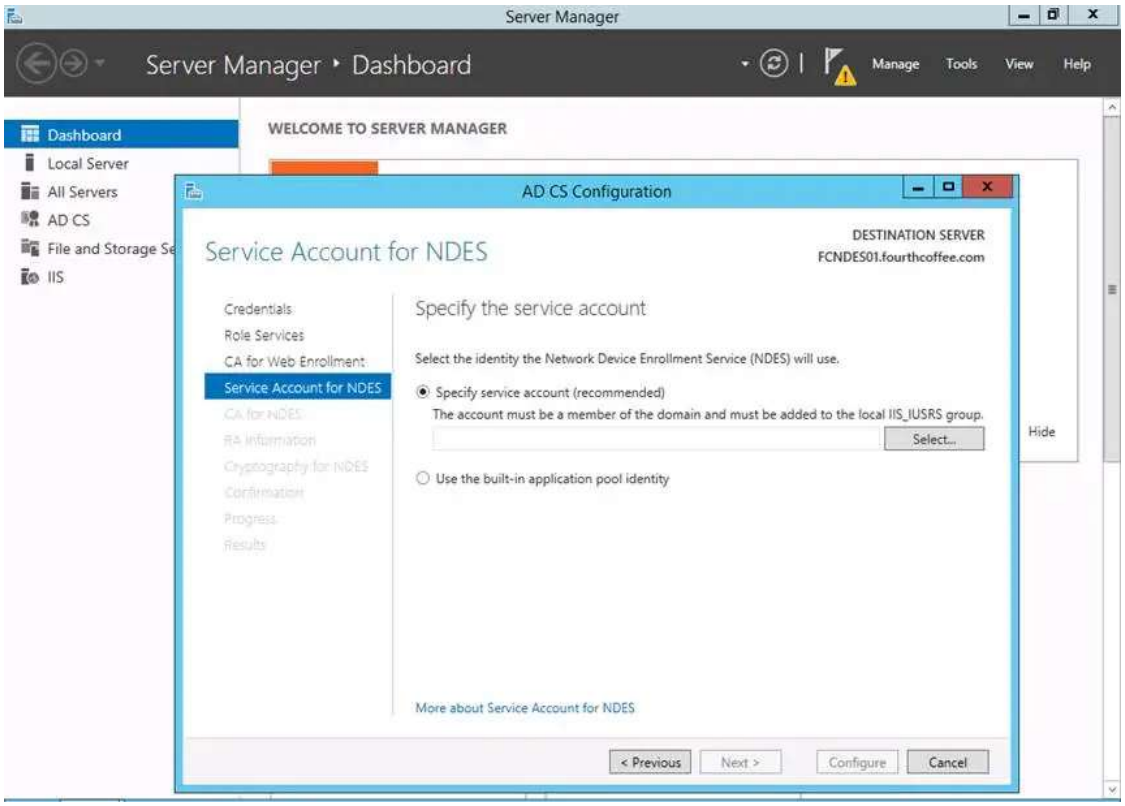
Step 22: Select the appropriate CA and then click **OK**



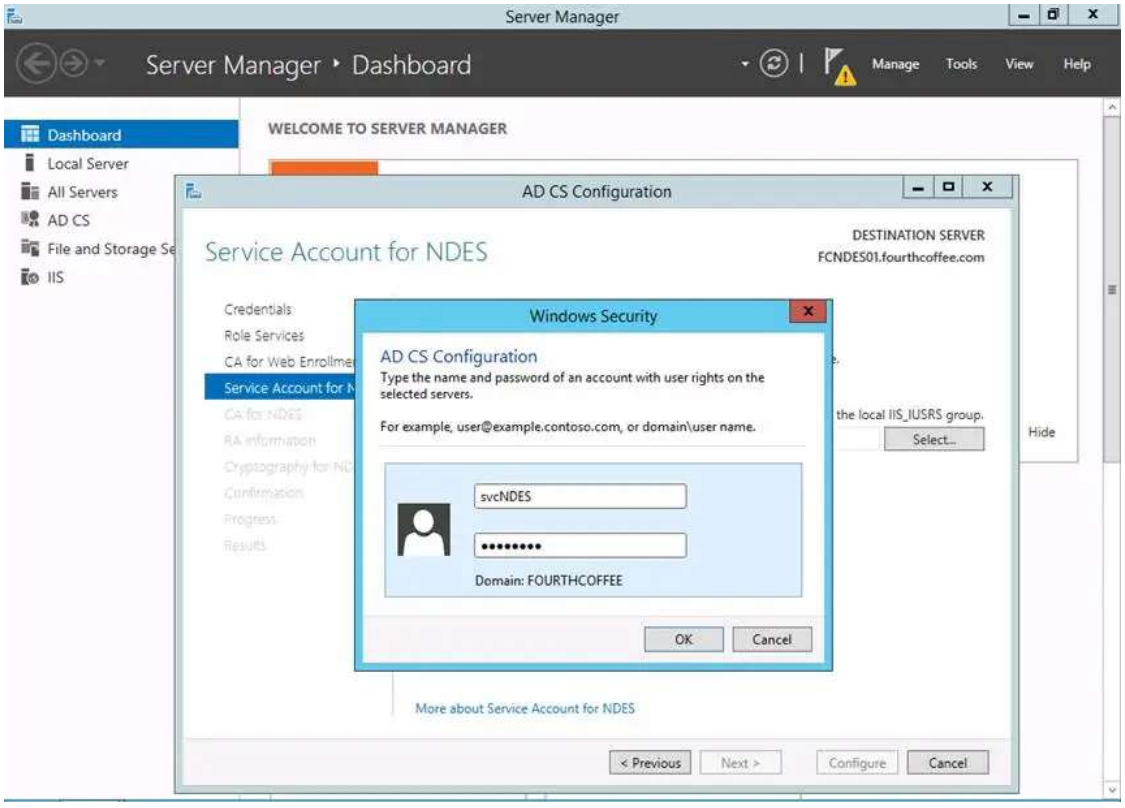
Step 23: Click **Next**



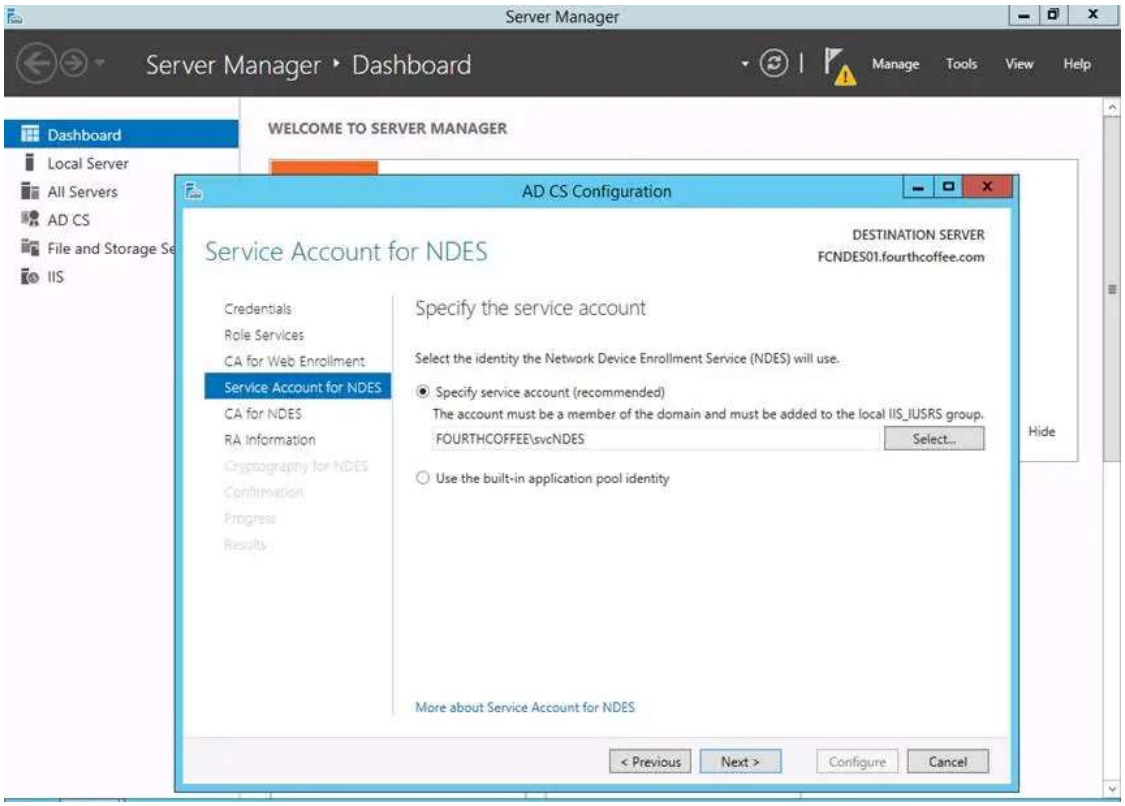
Step 24: On the **Service Account for NDES** page, click **Select…**



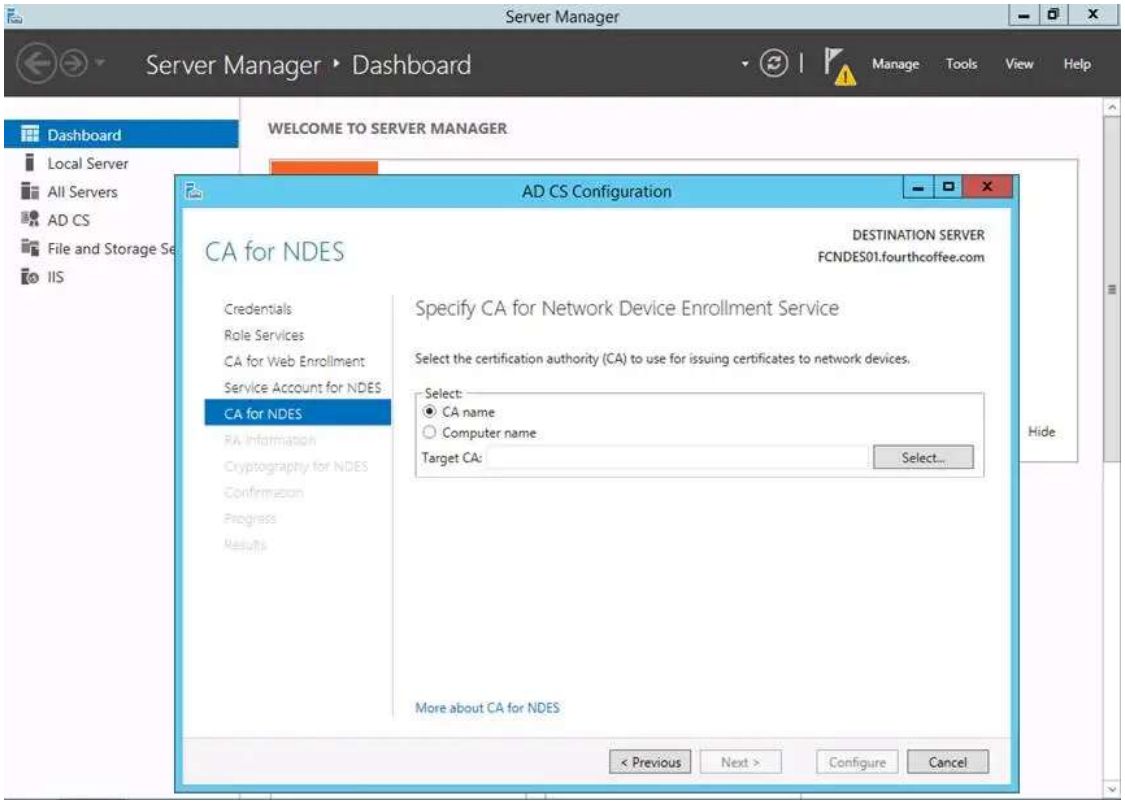
Step 25: Enter the username and password for the NDES service account and then click **OK**



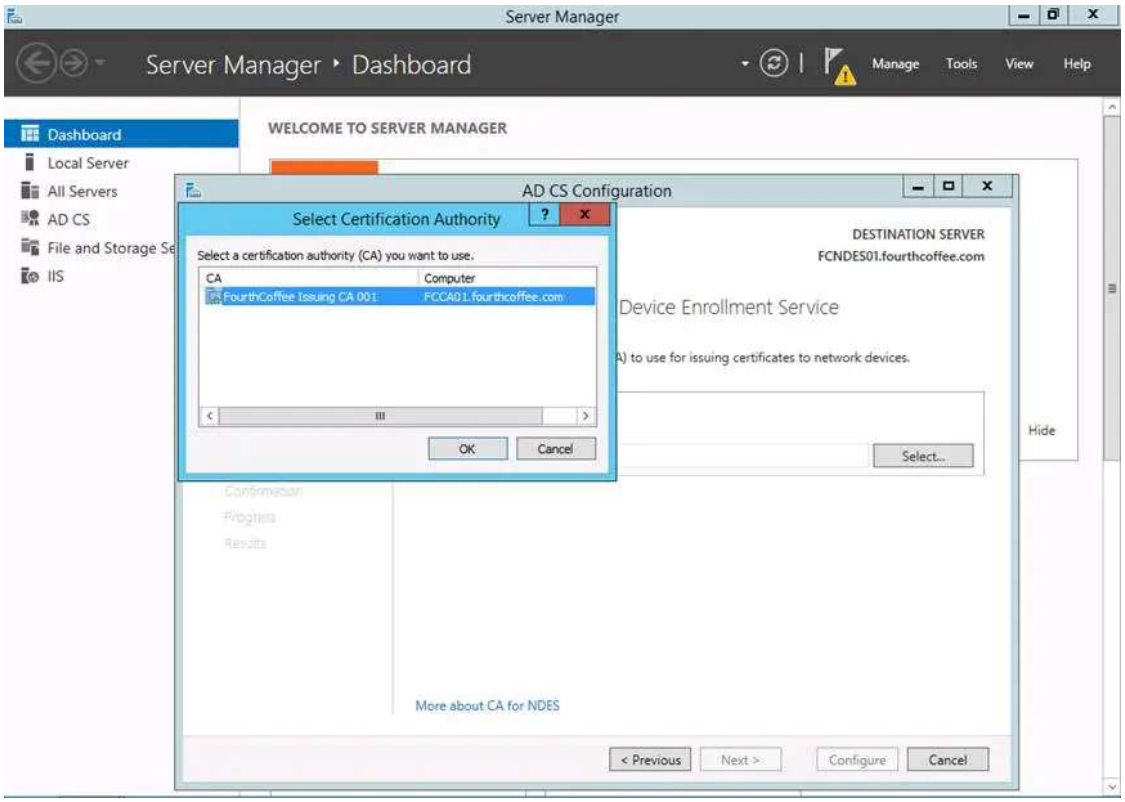
Step 26: Click **Next**



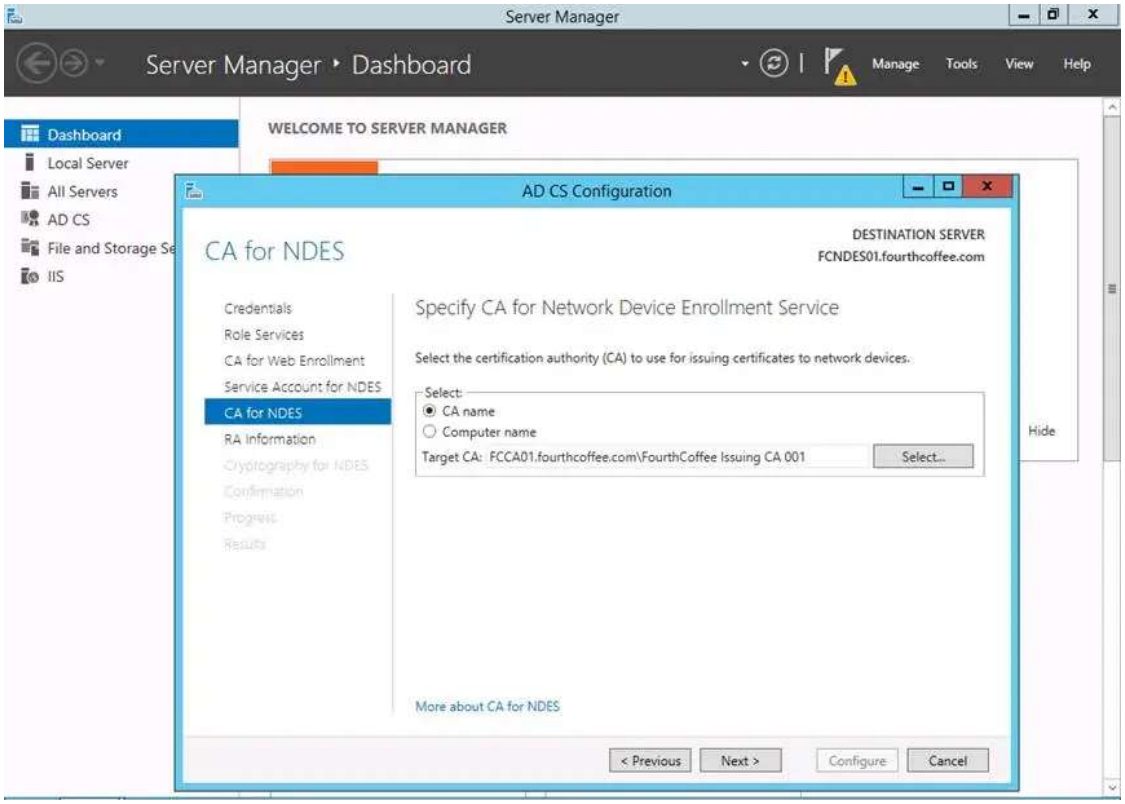
Step 27: On the **CA for NDES** page, click **Select…**



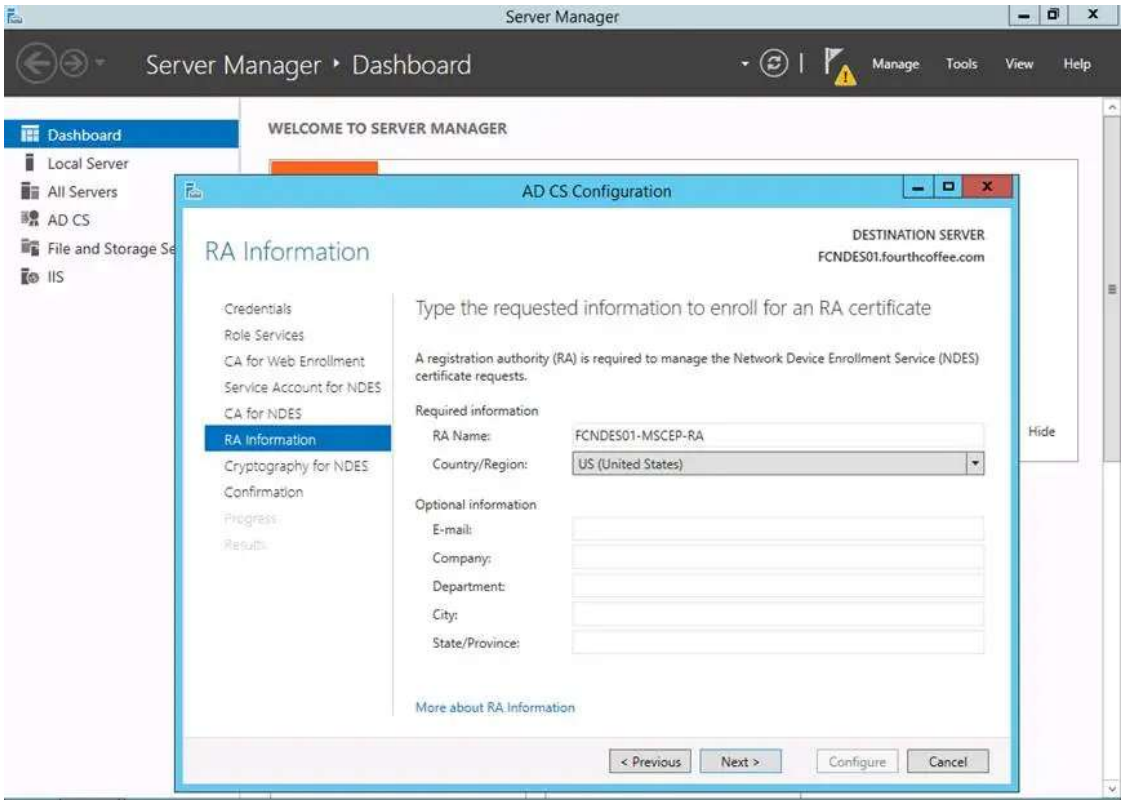
Step 28: Select the appropriate CA and then click **OK**



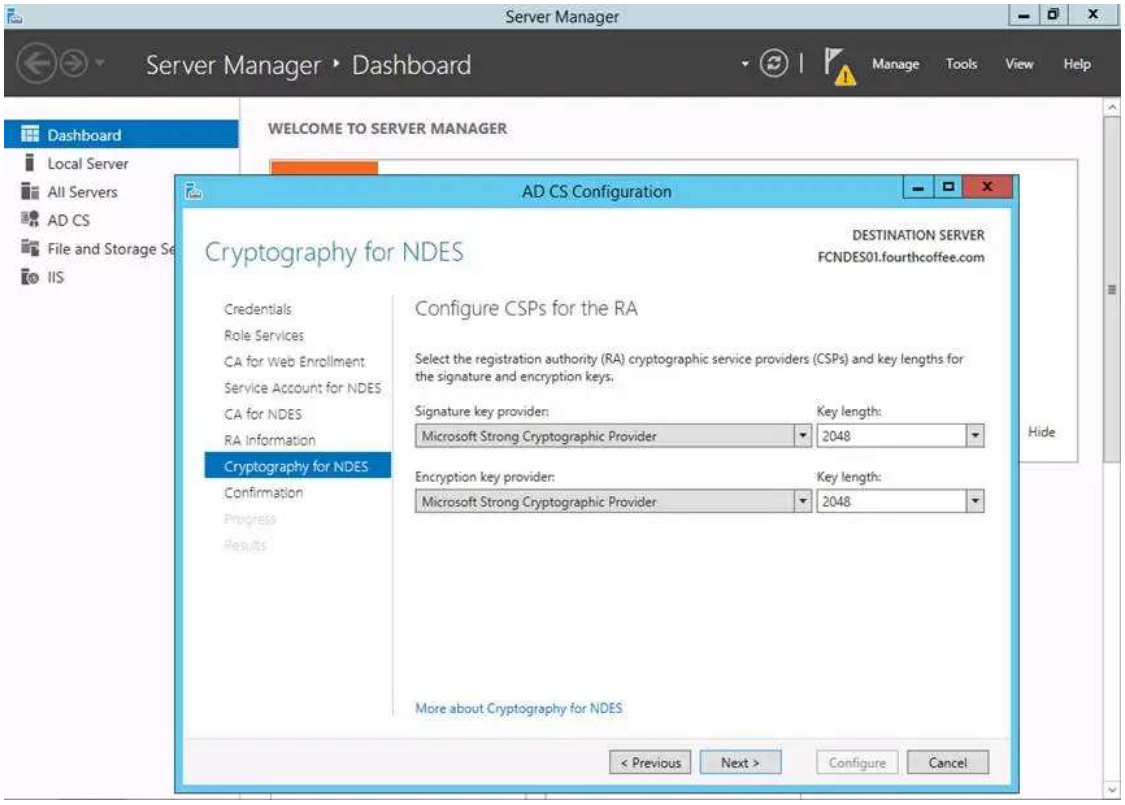
Step 29: Click **Next**



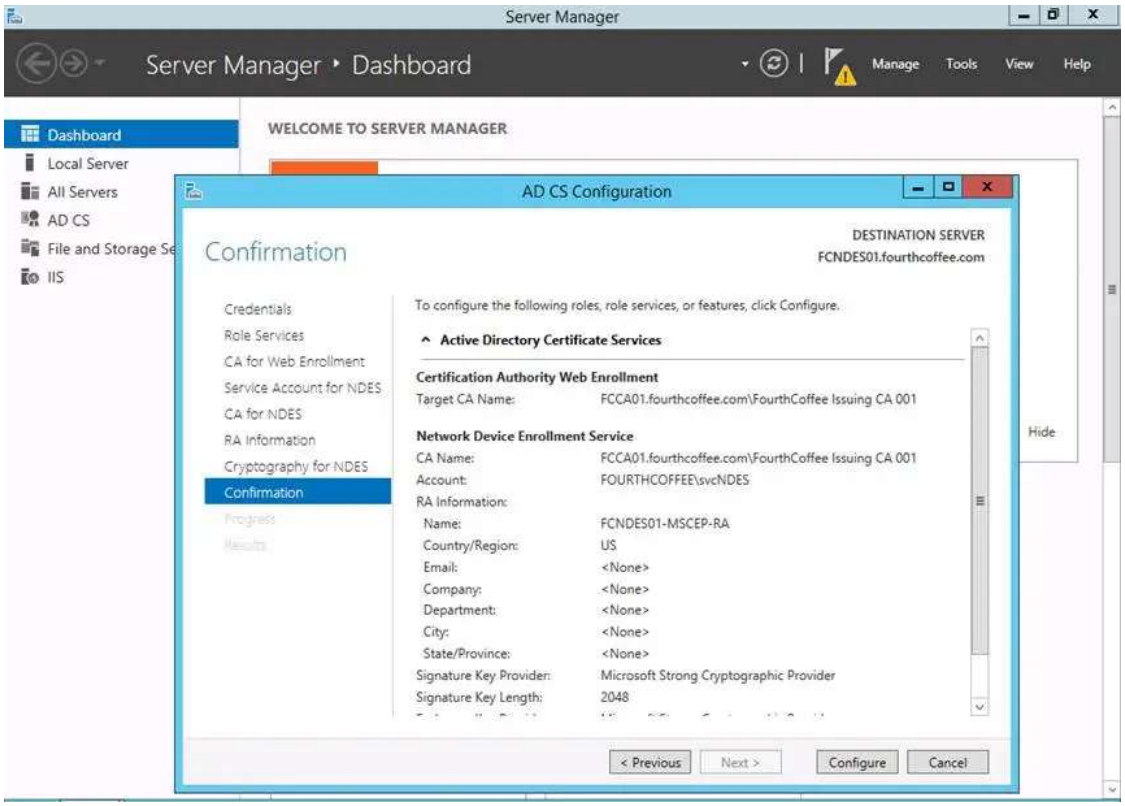
Step 30: On the **RA Information** page, fill out any information that your organization requires and then click **Next**



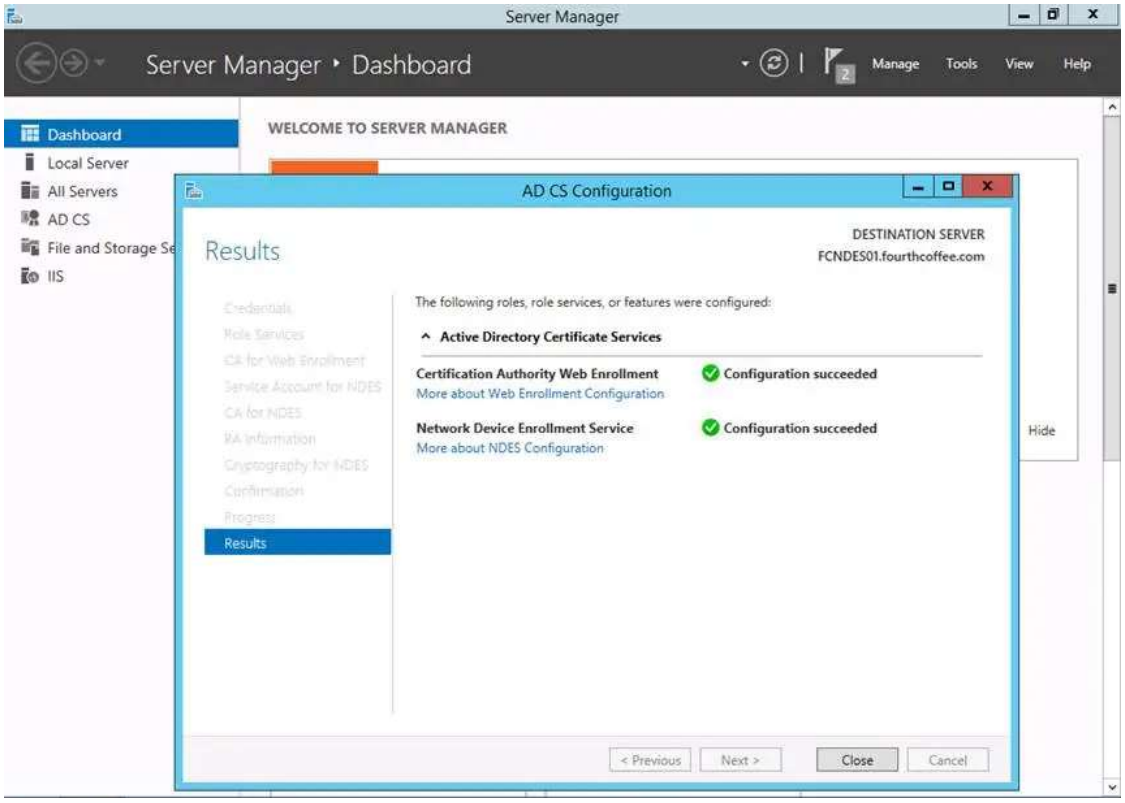
Step 31: On the Cryptography for NDES page click **Next**



Step 32: On the **Confirmation** page, click **Configure**



Step 33: On the **Results** page, click **Close**

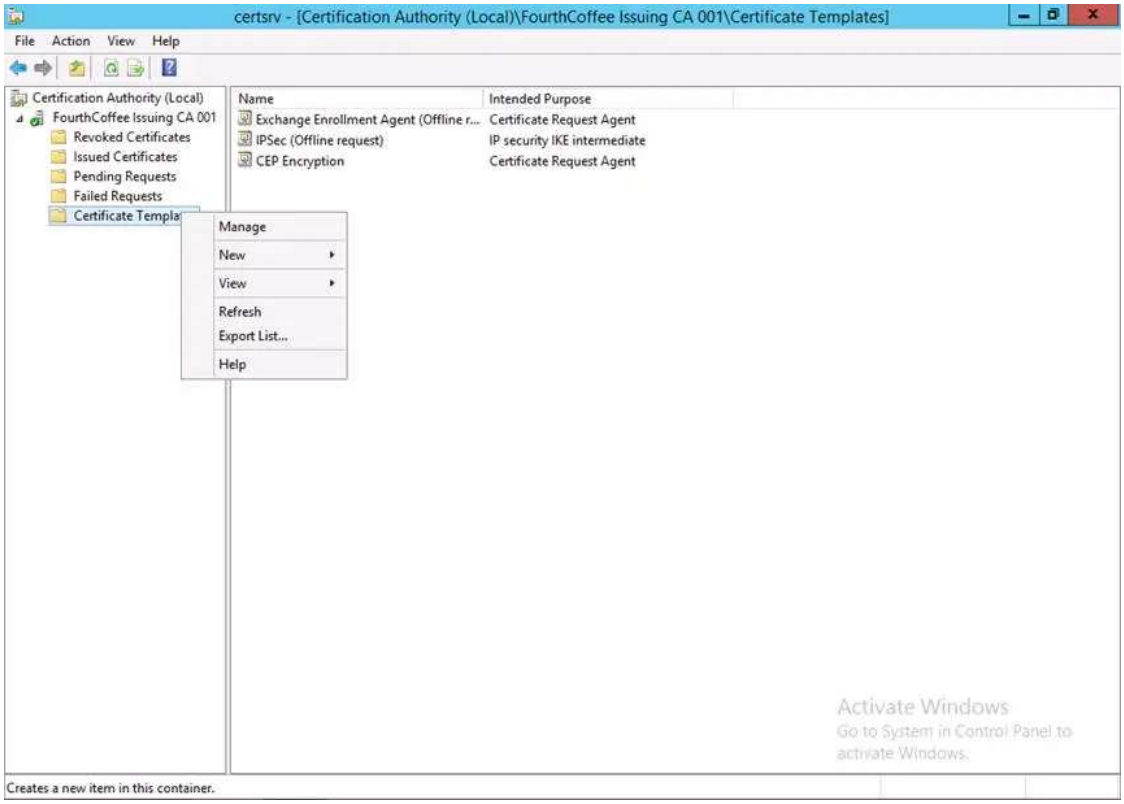


Provision Permission to Request Certificates via

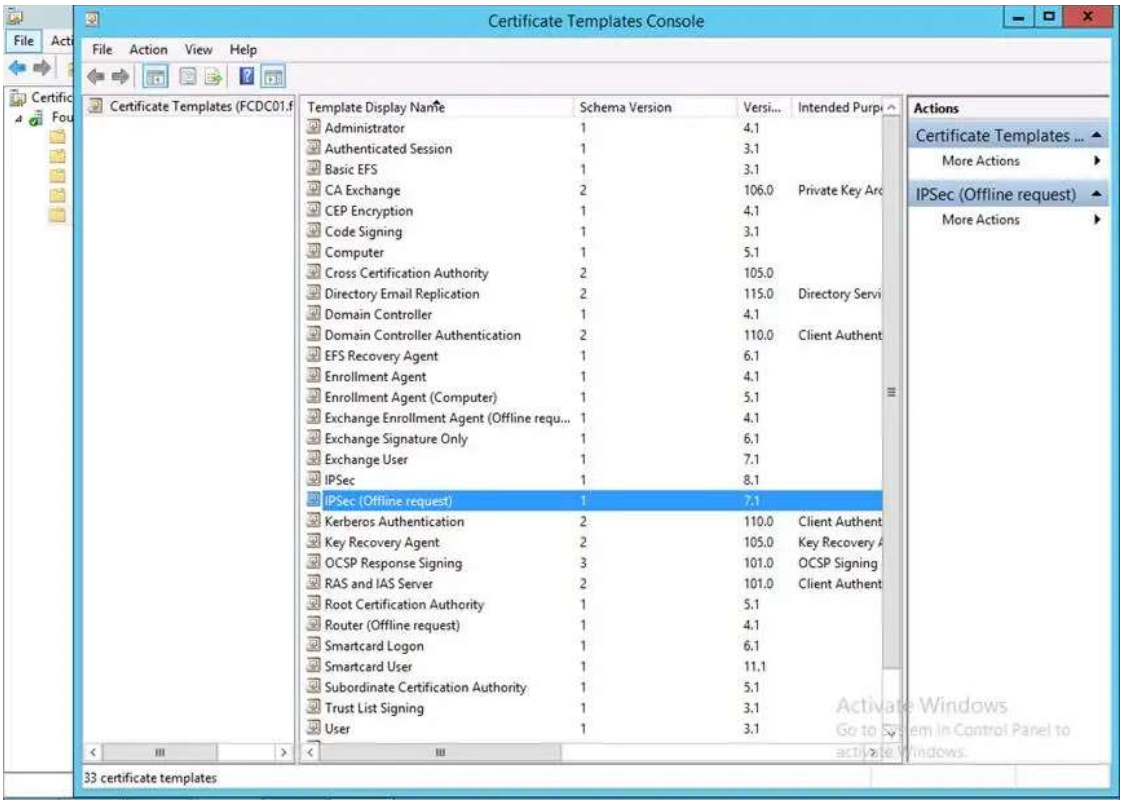
NDES

Step 1: Open the Certification Authority MMC (certsrv.msc)

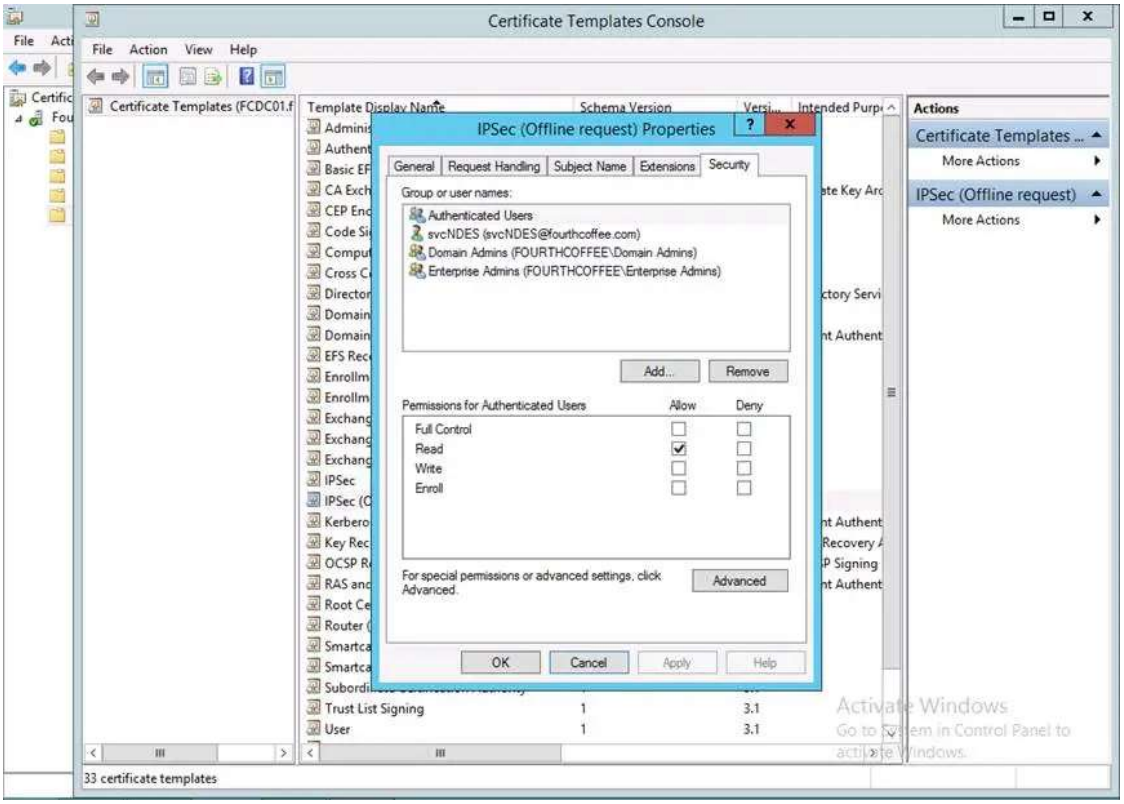
Step 2: Right-click on **Certificate Templates**, then select **Manage**



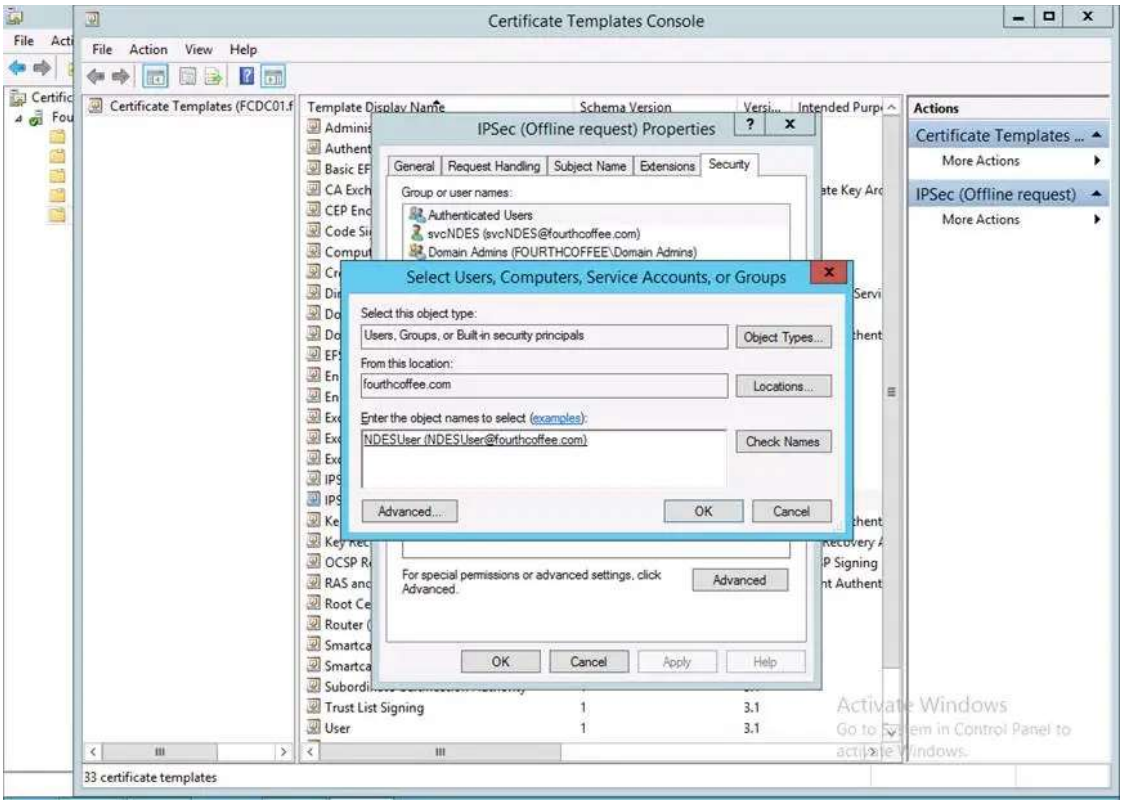
Step 3: Open the **IPSEC (Offline request)** certificate template



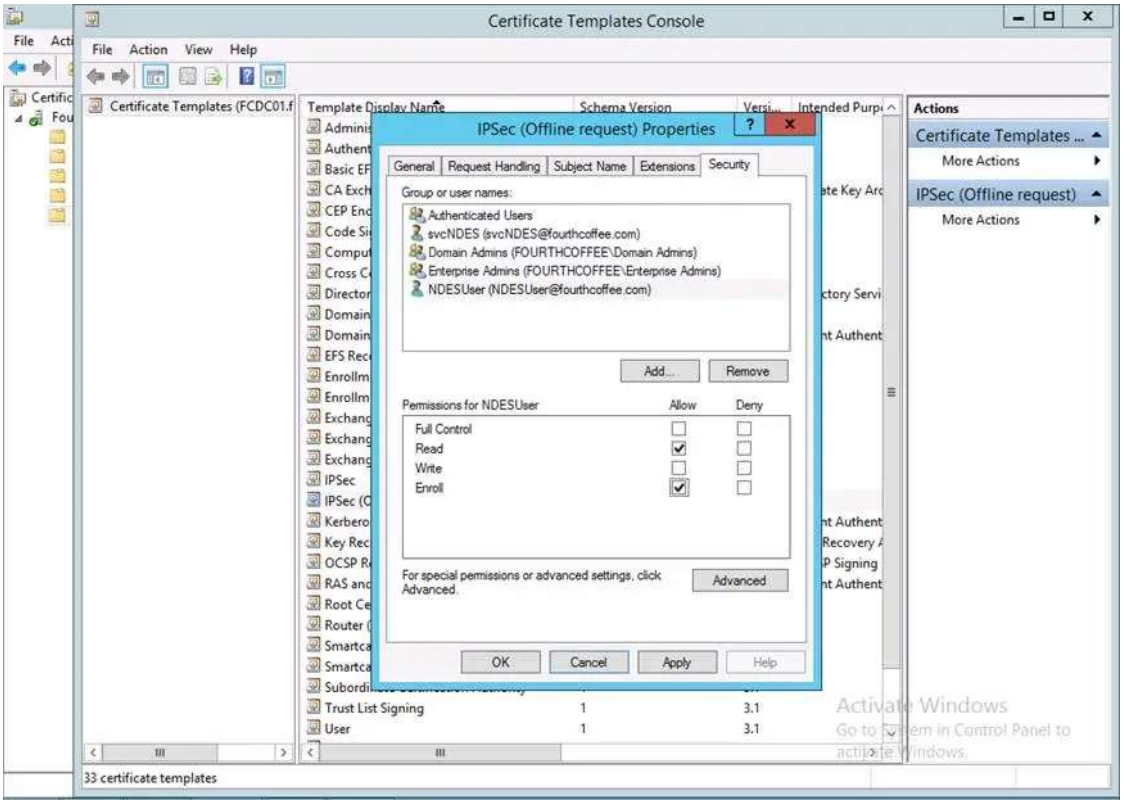
Step 4: Click the **Add…** button



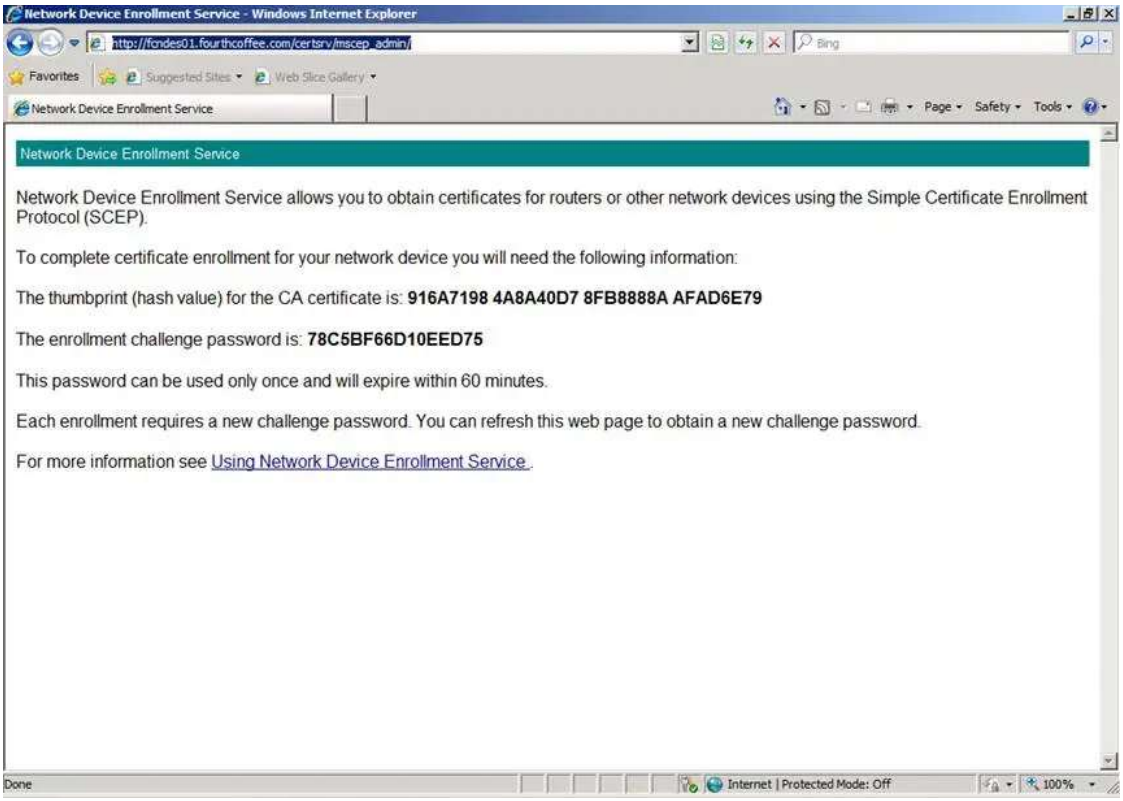
Step 5: Enter the name of the user or group for which you want to grant access, click **Check Names**, and then click **OK**



Step 6: With that group selected, select Allow **Enroll** permission, and then click **OK**



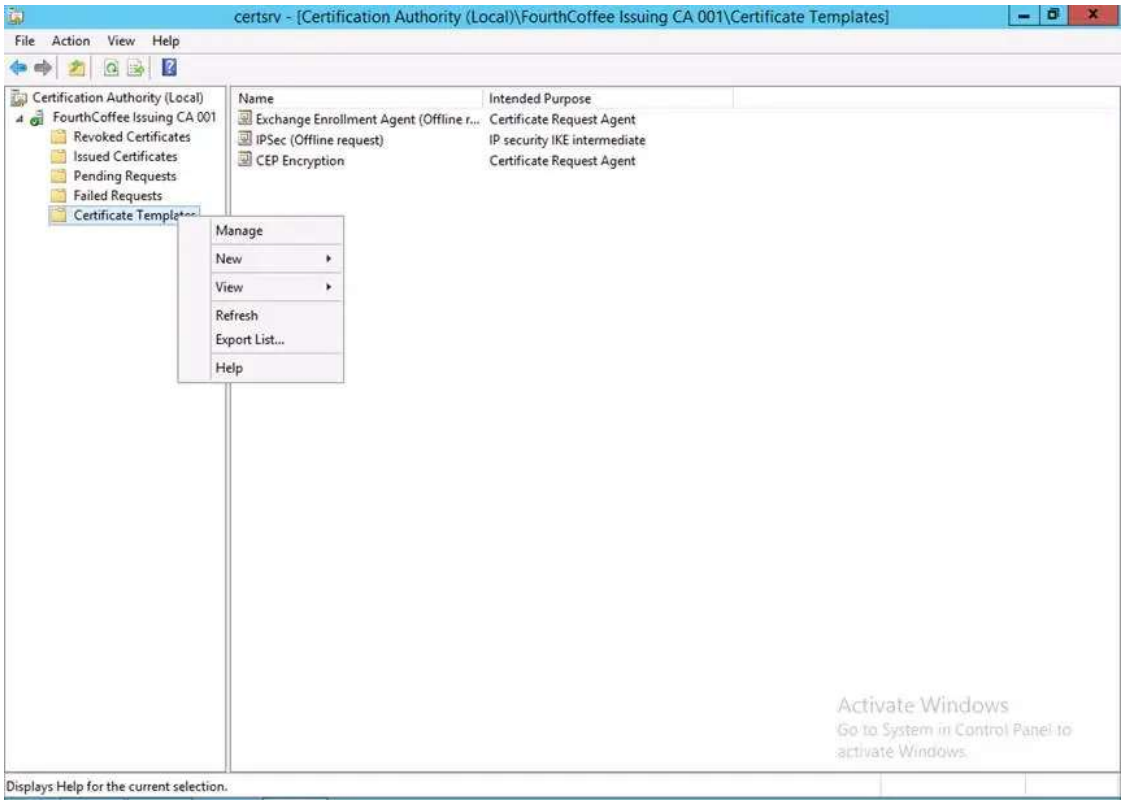
Step 7: Open a web browser running under the context of that newly provisioned user and verify that the user is given an enrollment challenge password. If they do they have been successfully provisioned.



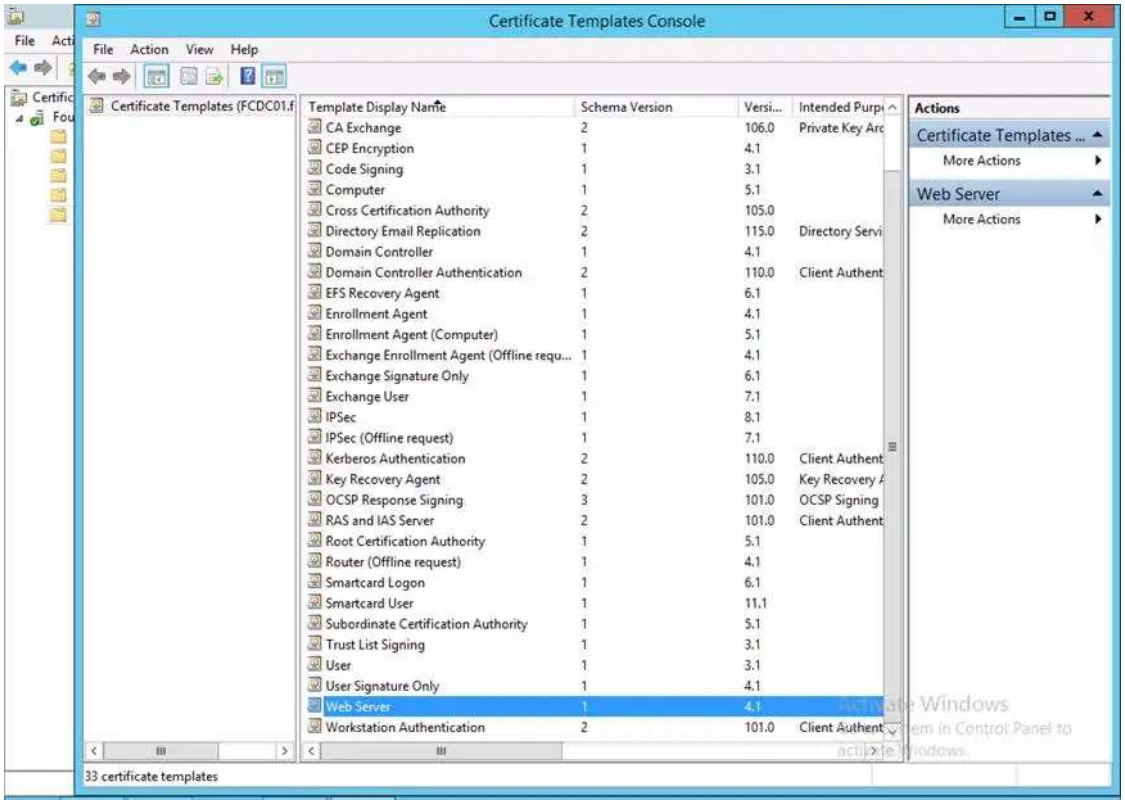
Enabling SSL on the Web Enrollment Pages and mscep_admin page

Step 1: Open the Certification Authority MMC (certsrv.msc)

Step 2: Right-click on **Certificate Templates**, then click **Manage**

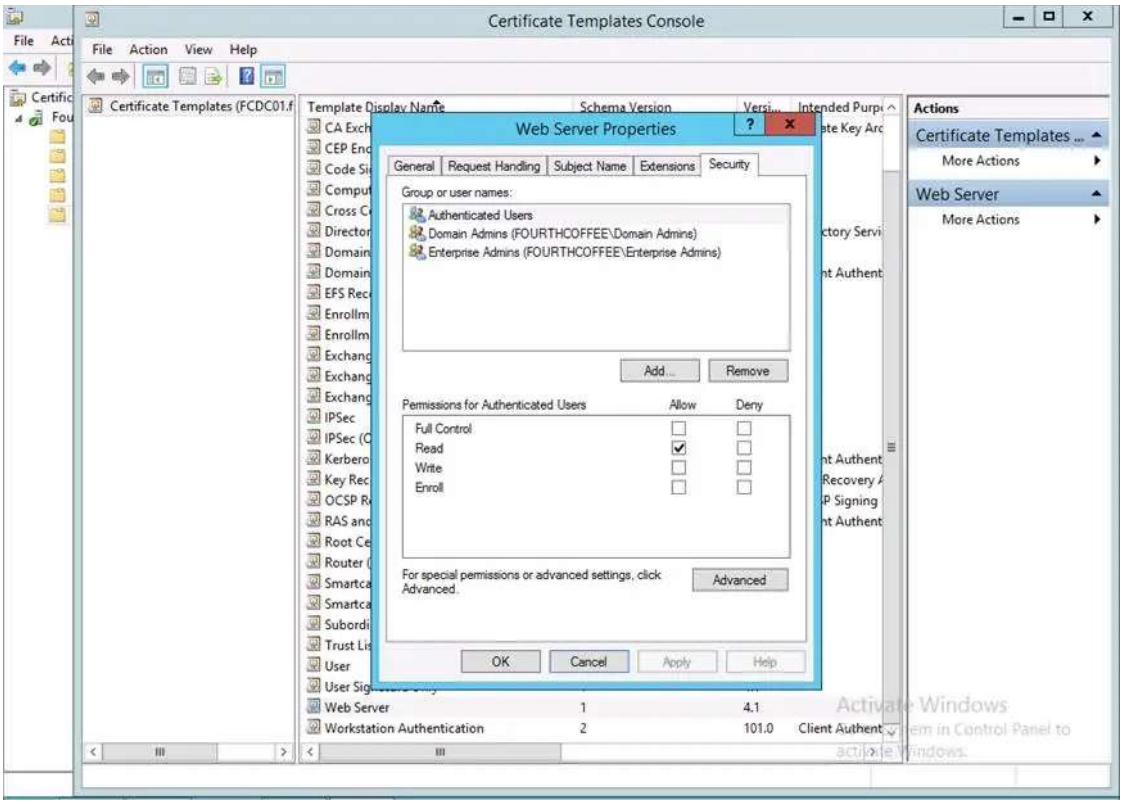


Step 3: Open the **Web Server** template or whichever Certificate Template your organization uses to issue SSL certificates

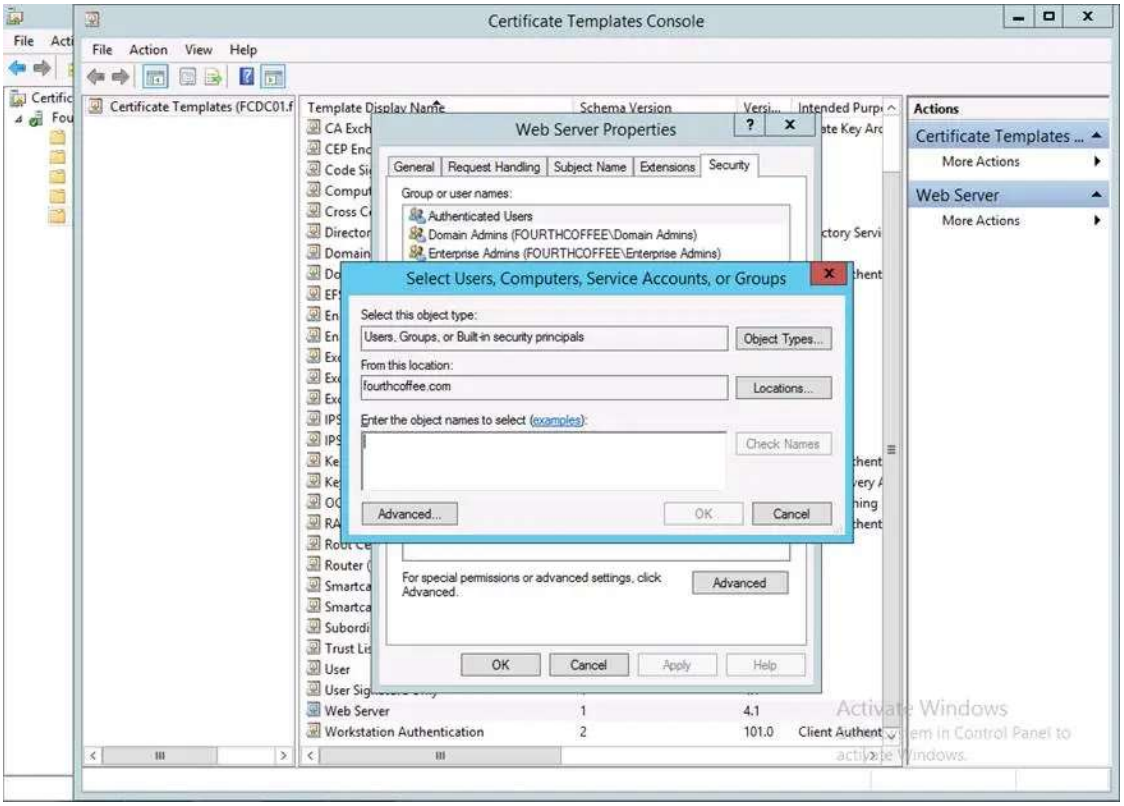


Step 4: Navigate to the **Security** tab

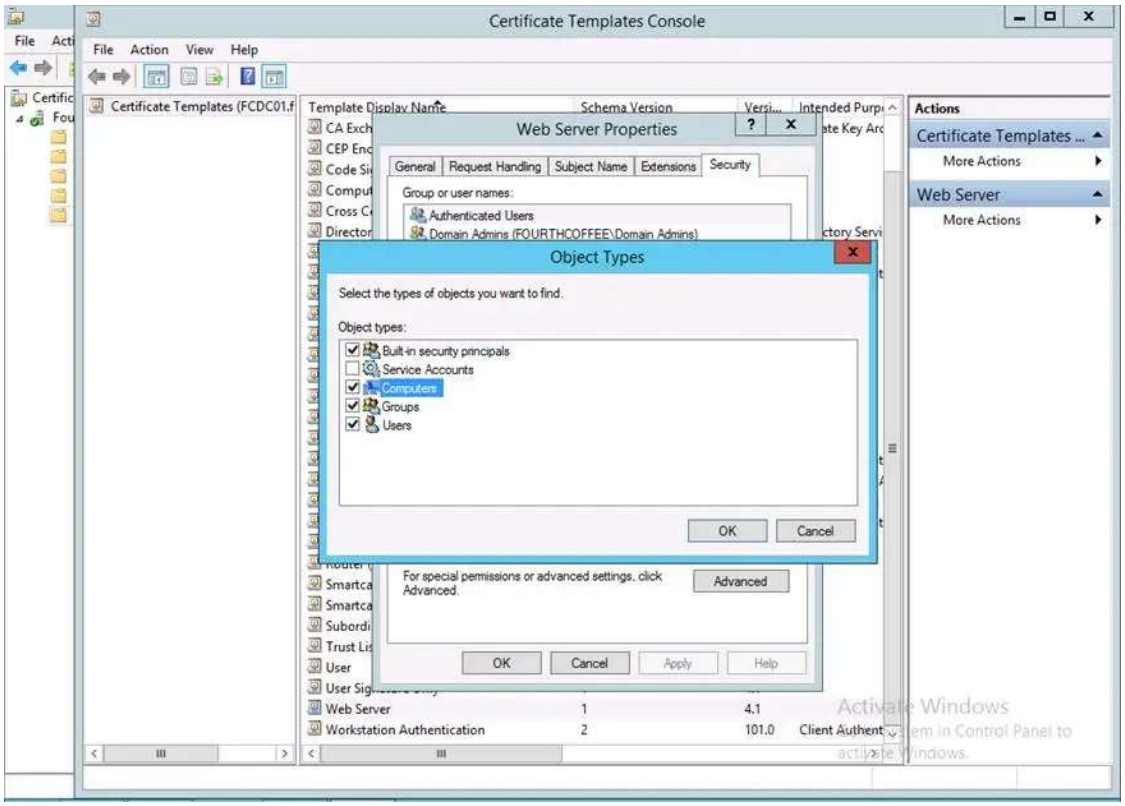
Step 5: Click **Add…**



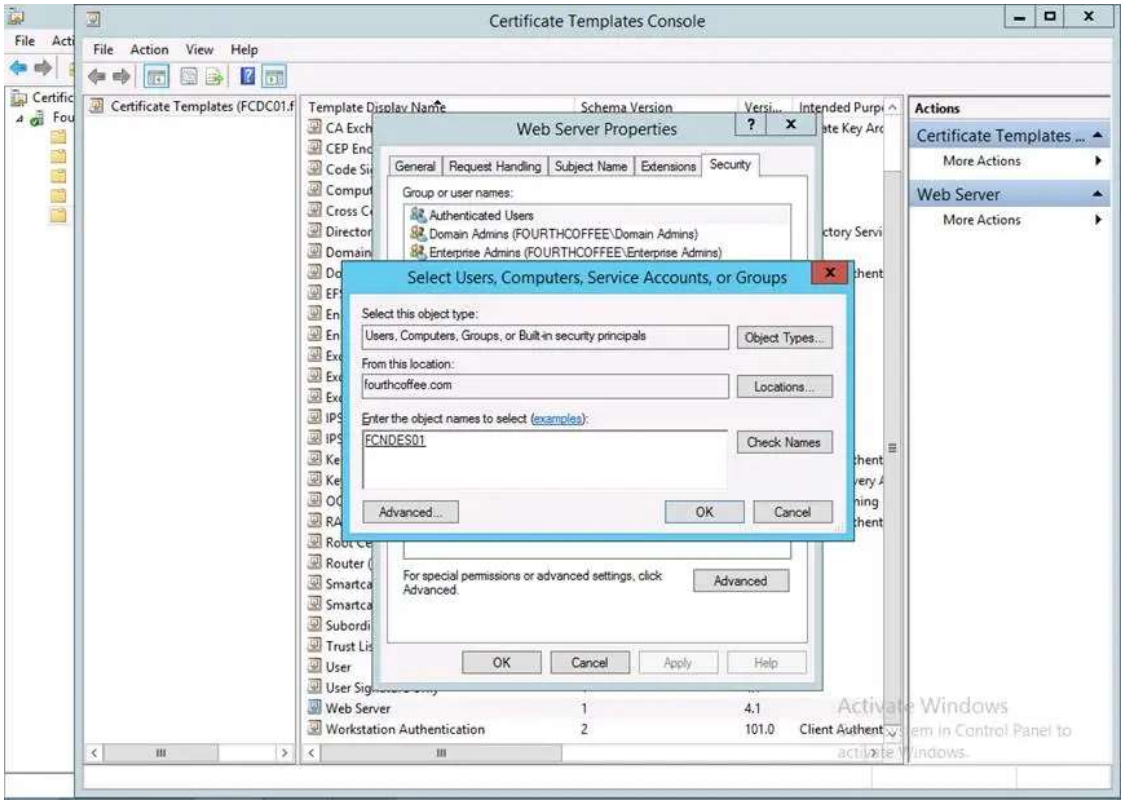
Step 6: Click **Object types…**



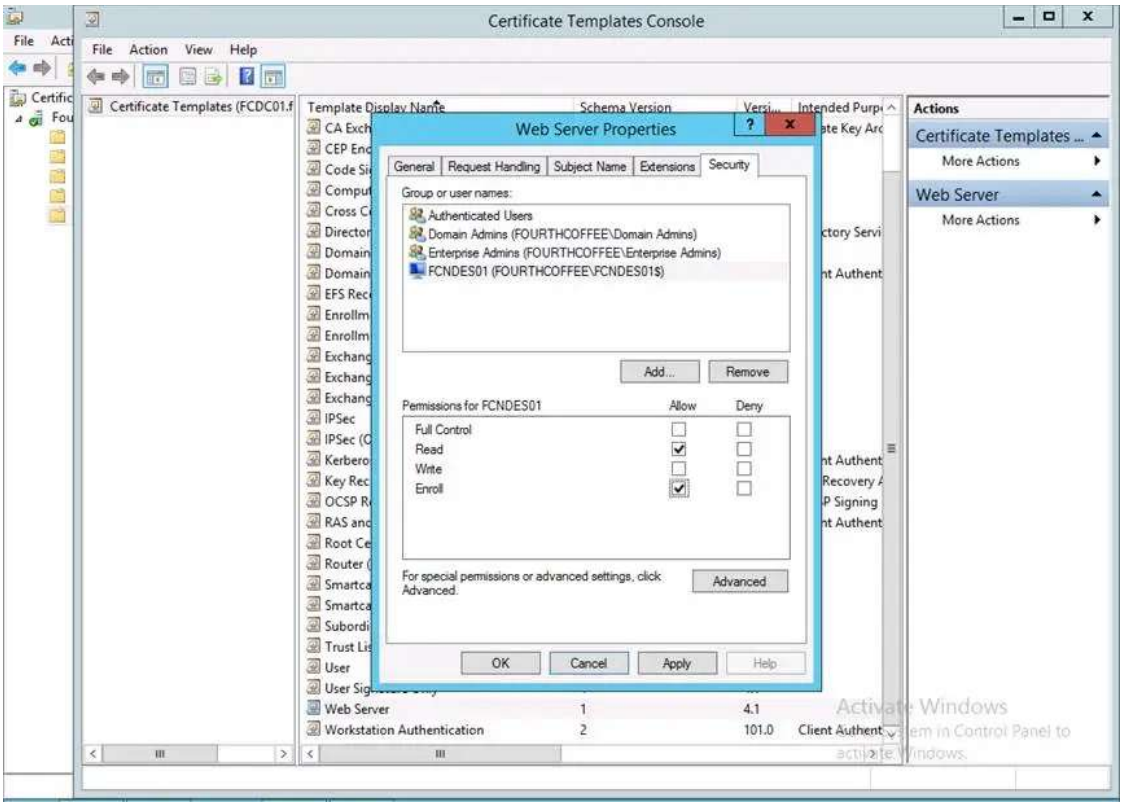
Step 7: **Check**, **Computers** and then click **OK**



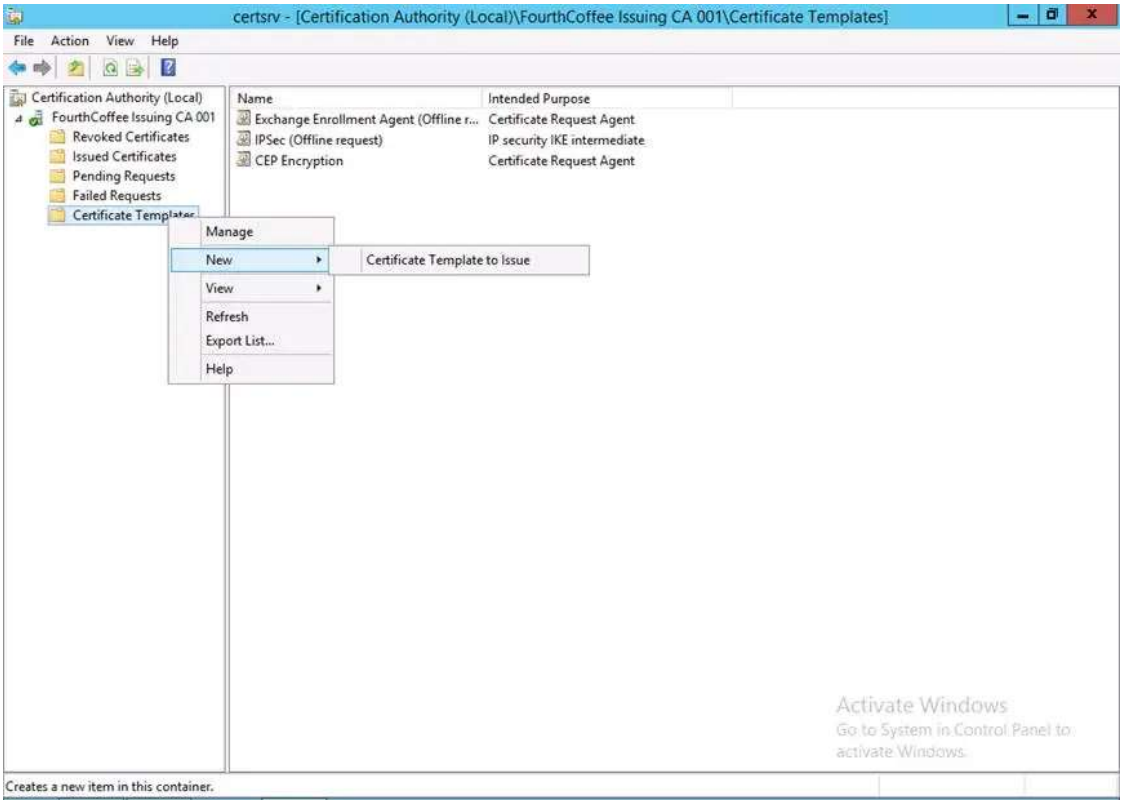
Step 8: Enter the hostname of the machine hosting NDES, click **Check Names**, and then **OK**



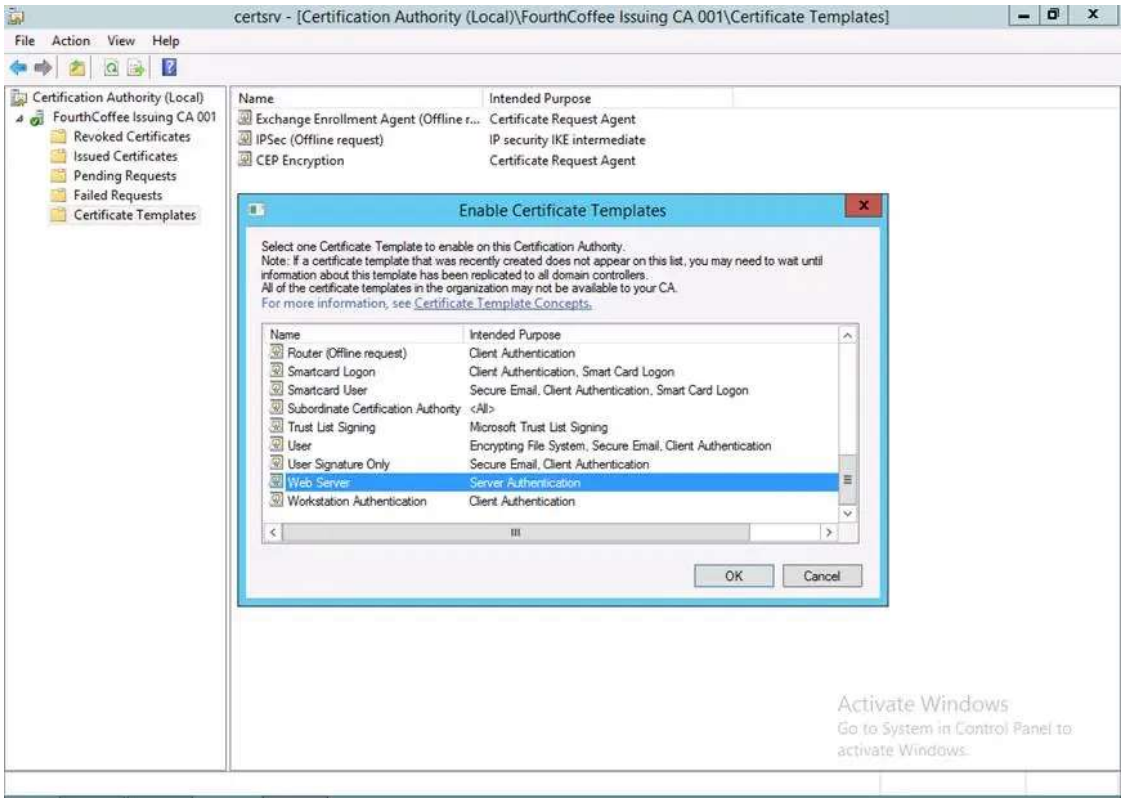
Step 9: Make sure the machine you just added is selected and the click **Enroll** under the **Allow** column



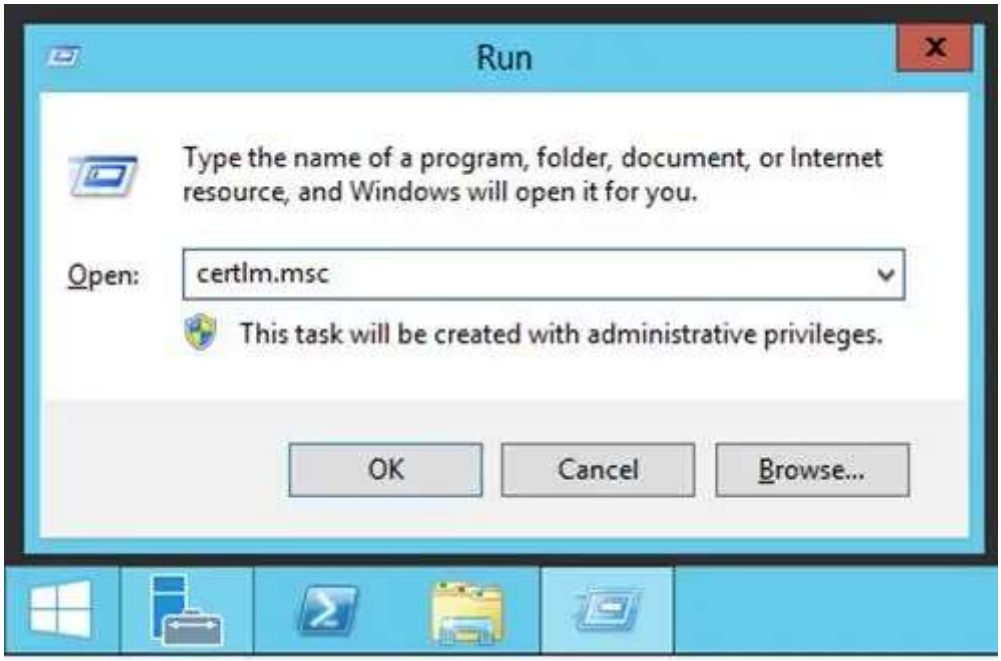
Step 10: In the Certification Authority MMC, right-click on **Certificate Templates** and select **New** and then **Certificate Template to Issue**



Step 11: Select the **Web Server** template or whichever template your organization uses to issue SSL certificates, then click **OK**

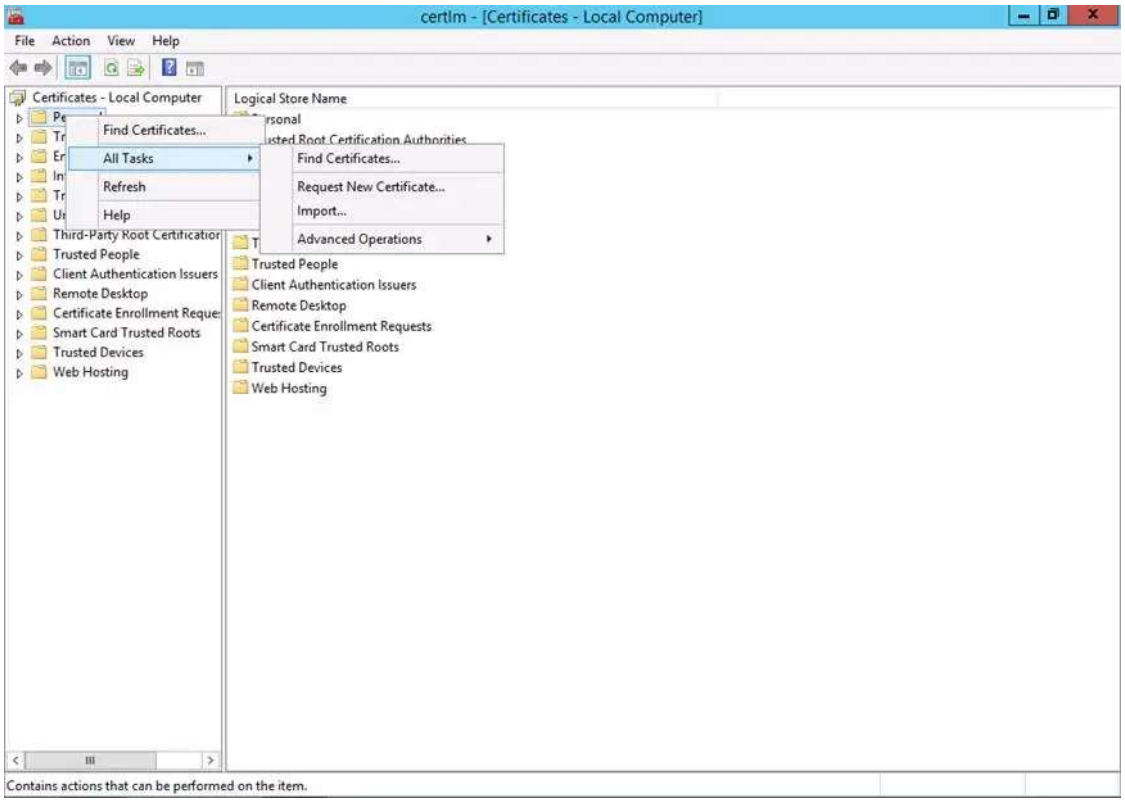


Step 12: On the NDES server, run **certlm.msc**

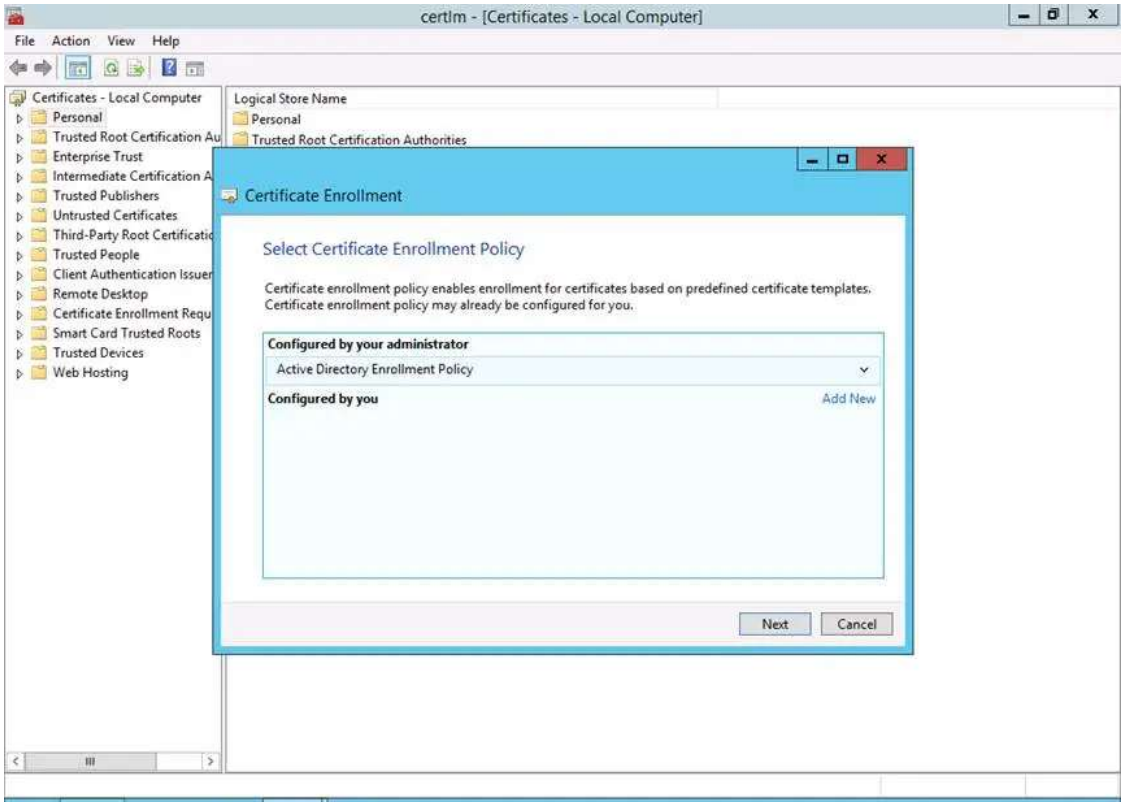


Step 13: Within the Certificates MMC locate the **Personal** node

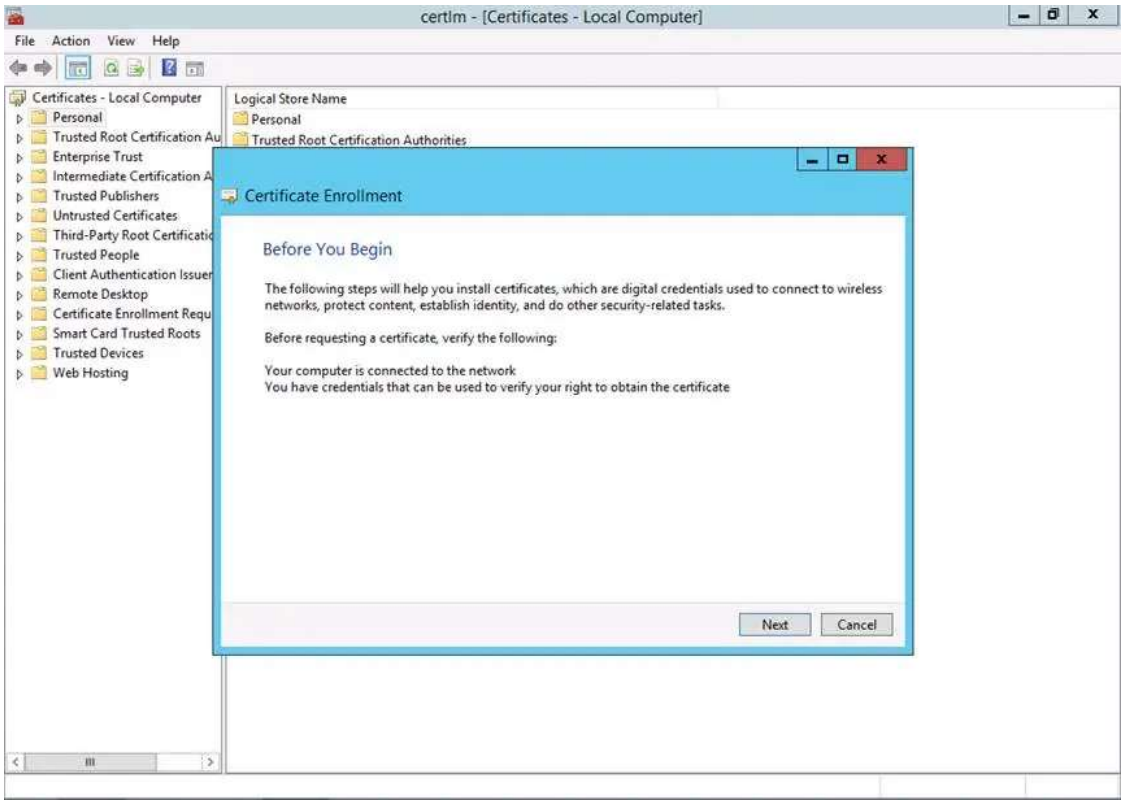
Step 14: Right-click on the **Personal** node select **All Tasks**, and then **Request New Certificate…**



Step 15: On the **Select Certificate Enrollment Policy** page, click **Next**

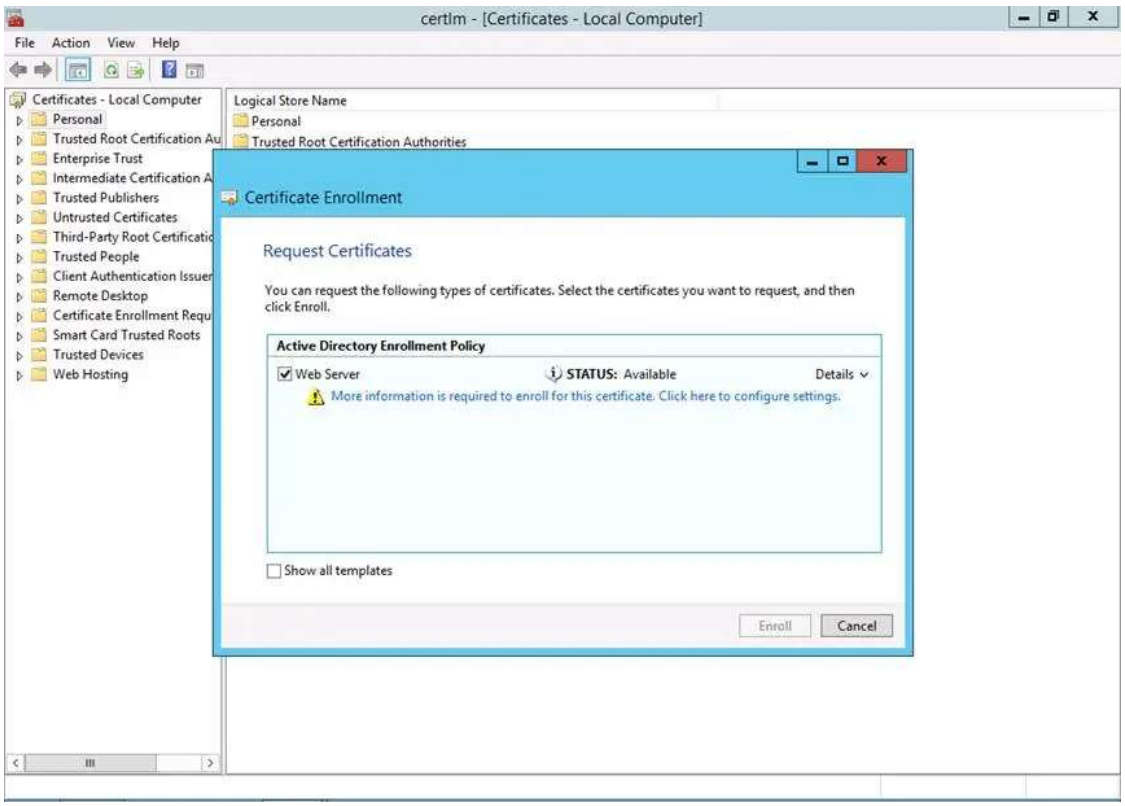


Step 16: On the **Before You Begin** page, click **Next**



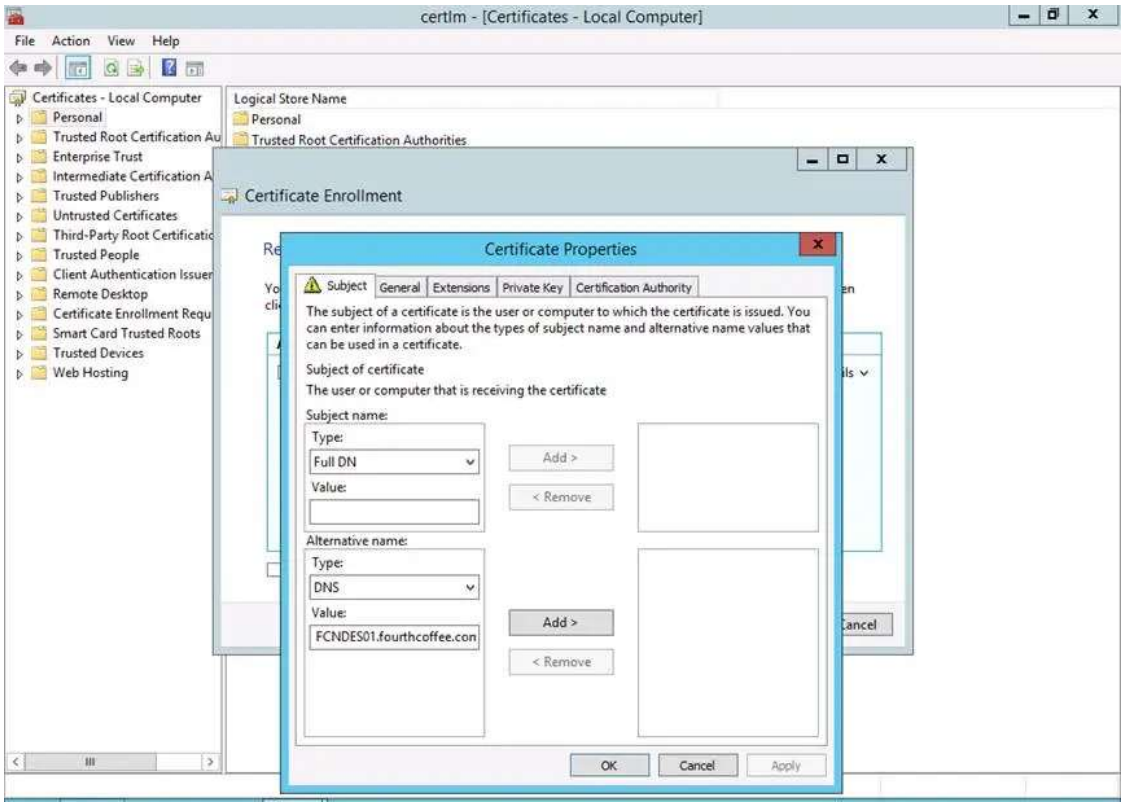
Step 17: Select the **Web Server** certificate template or whichever Certificate Template your organization uses to issue SSL certificates

Step 18: Click the **More information is required to enroll for this certificate. Click here to configure settings.** hyperlink.

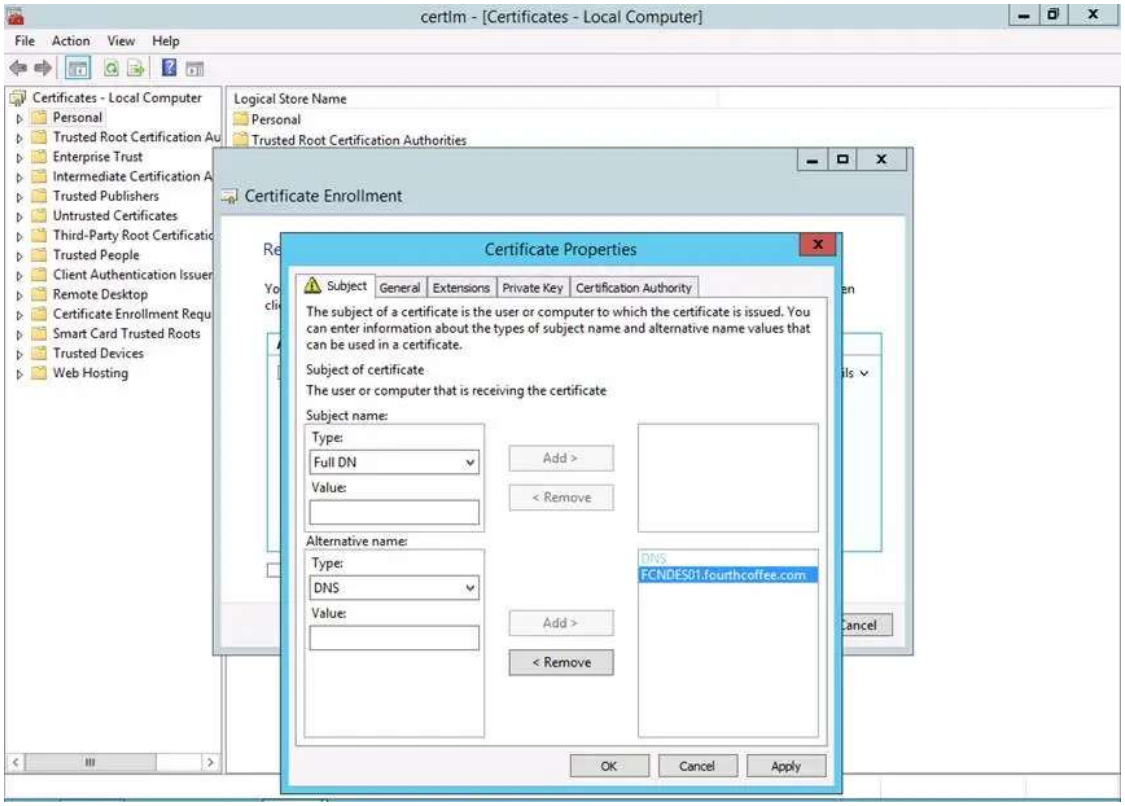


Step 19: On the **Subject** Tab, under **Alternative Name**, change the type to **DNS**

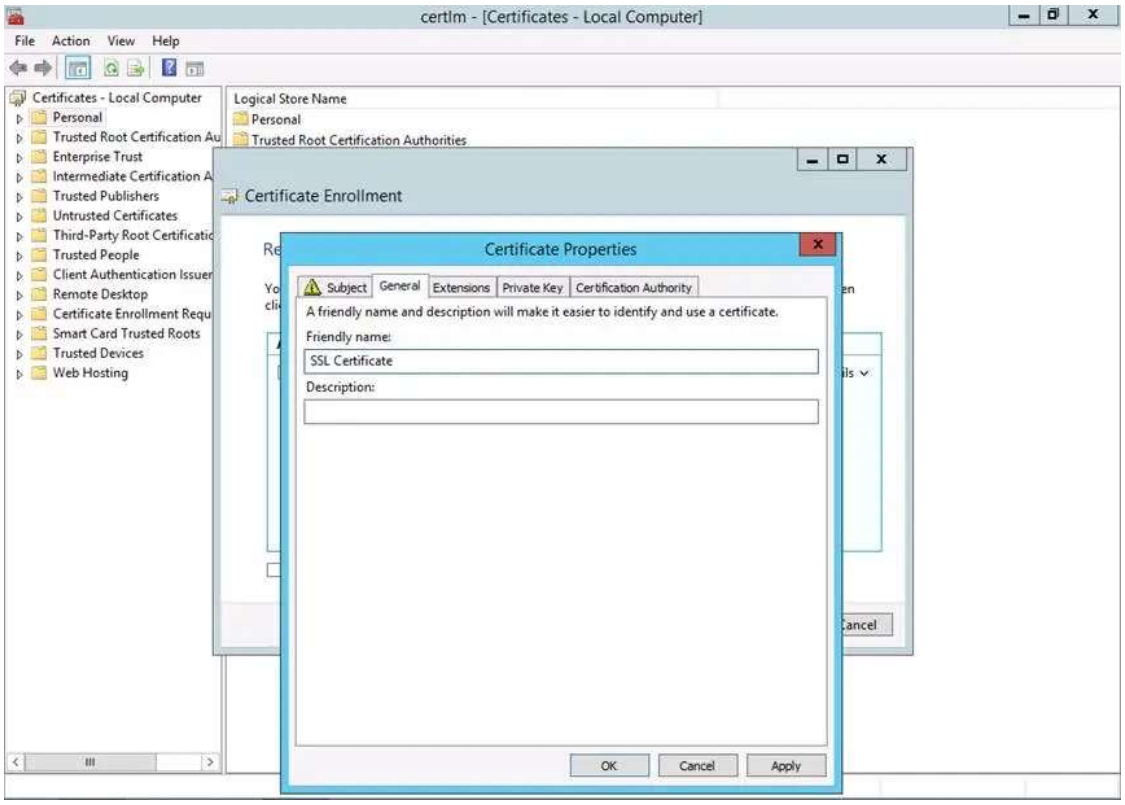
Step 20: Under value enter the DNS name for the NDES server, and then click **Add**



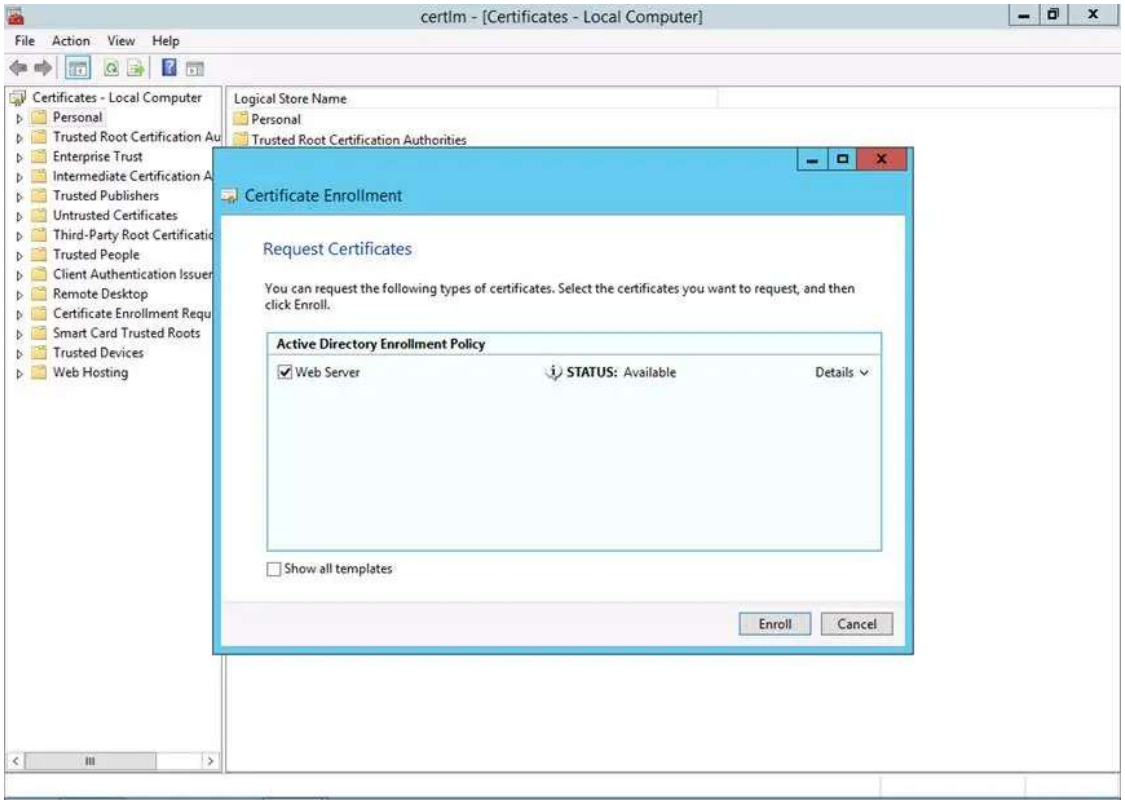
Below is the result of the previous step.



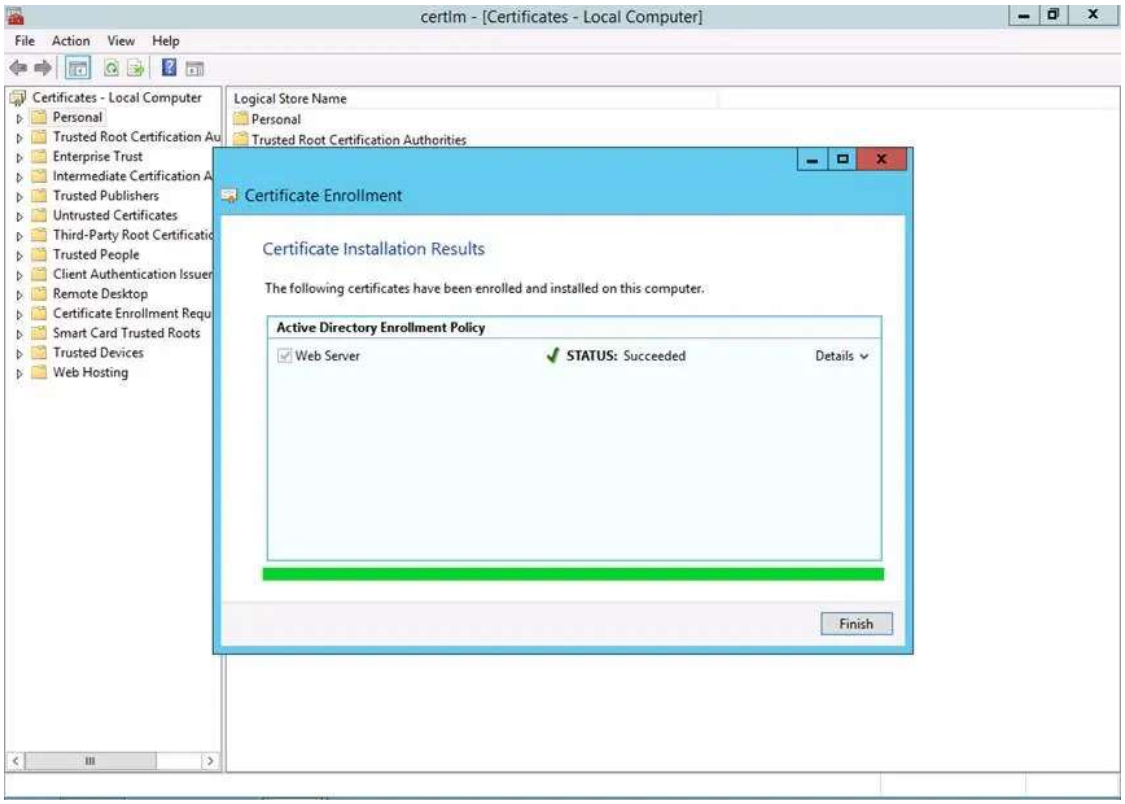
Step 21: Click on the **General** tab and under Friendly name type **SSL Certificate**, then click **OK**



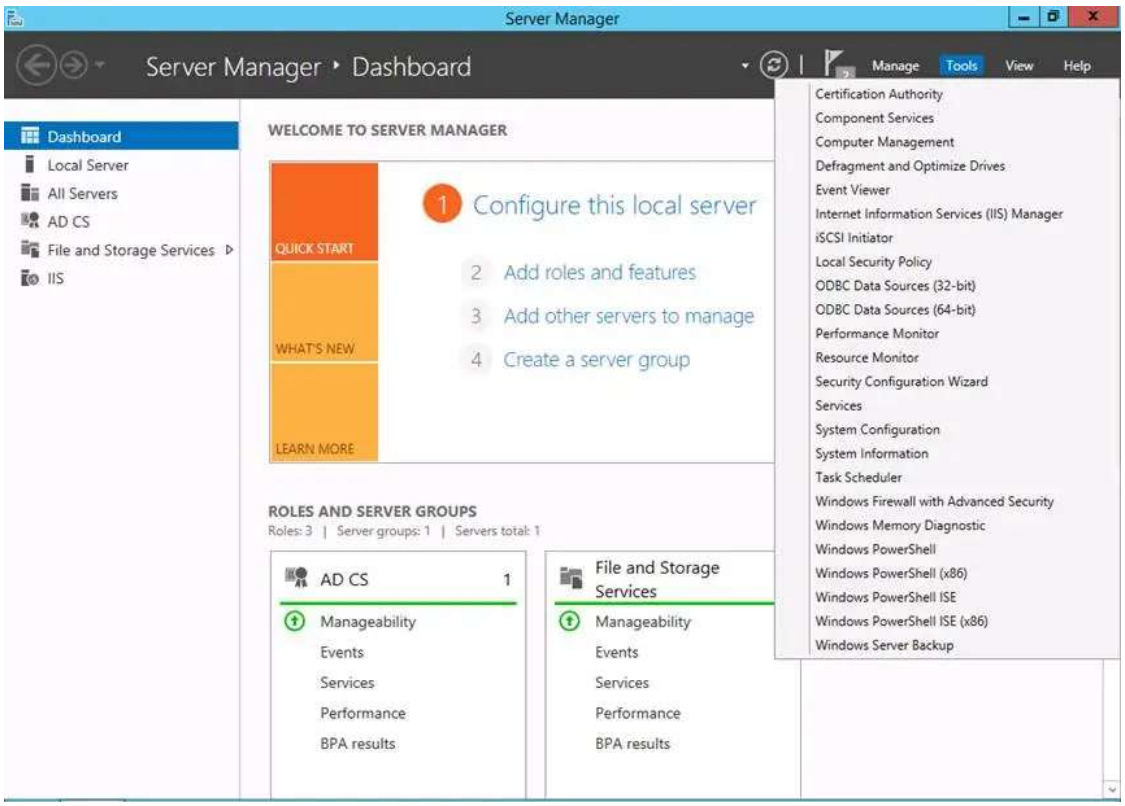
Step 22: Click **Enroll**



Step 23: On the **Certificate Installation Results** page, click **Finish**

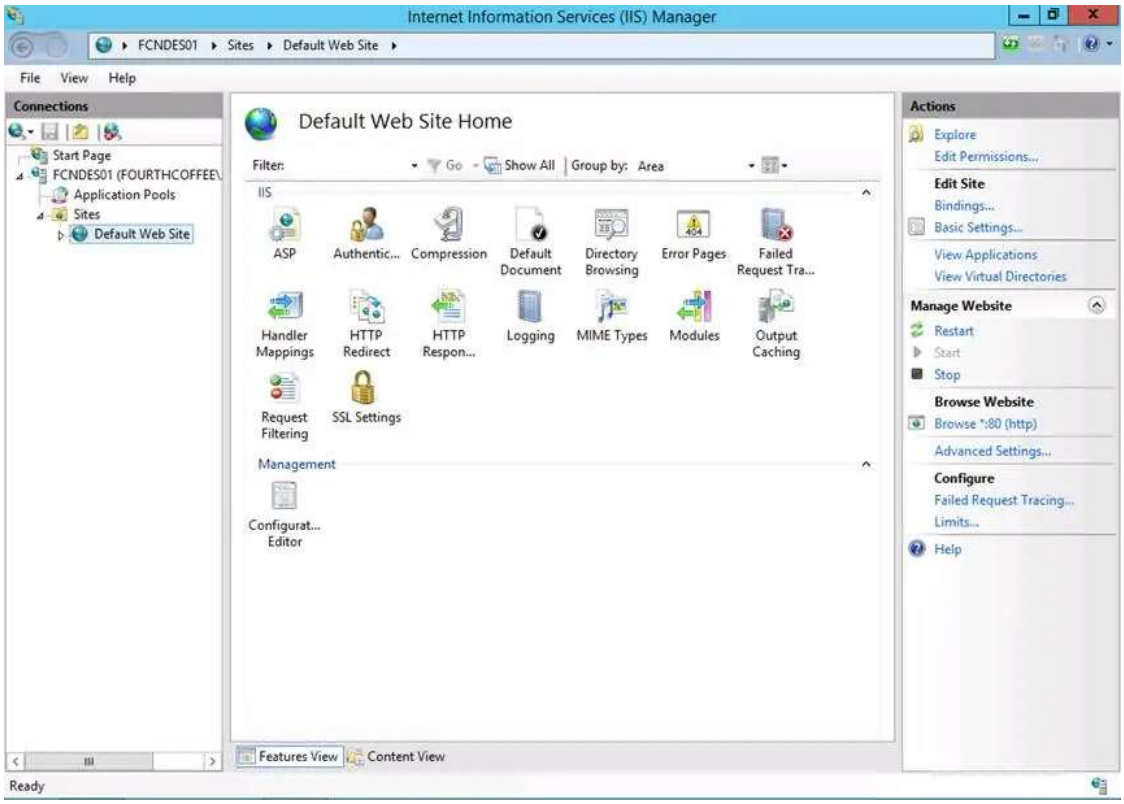


Step 24: Open **Server Manager** and from the **Tools** menu select **Internet Information Services (IIS) Manager**

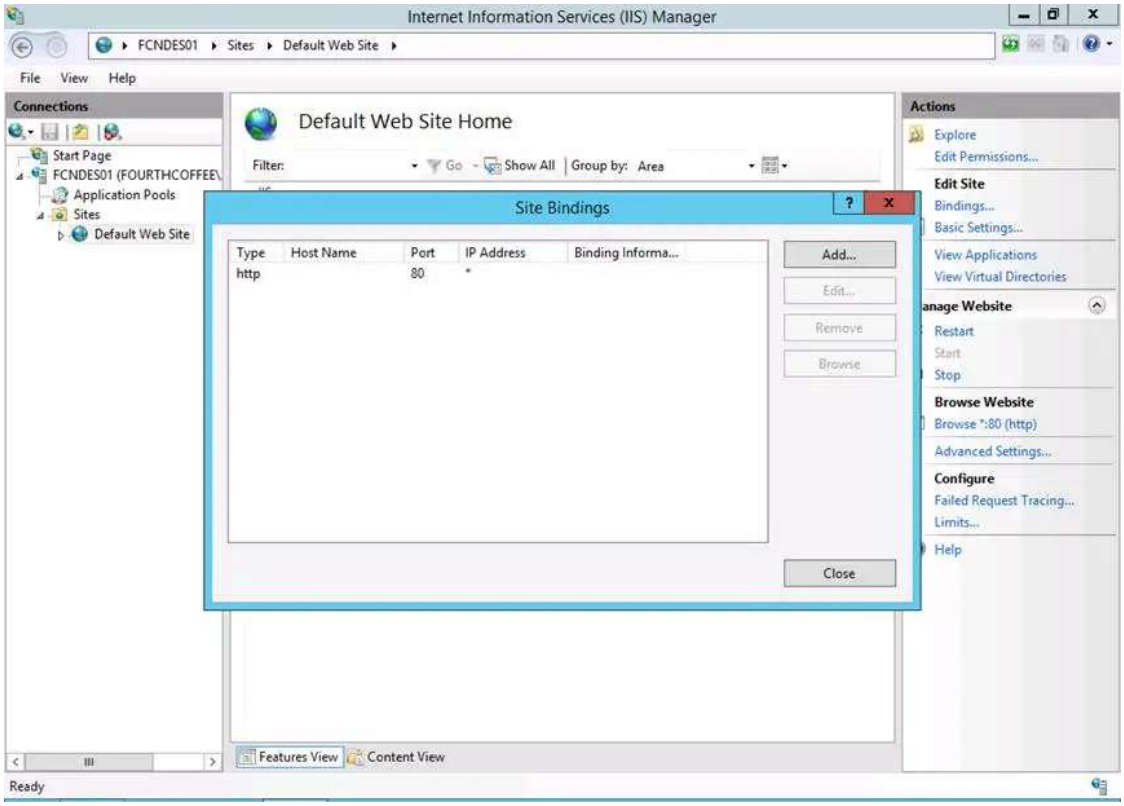


Step 25: In IIS Manager expand the Server Name node and then the **Sites** node

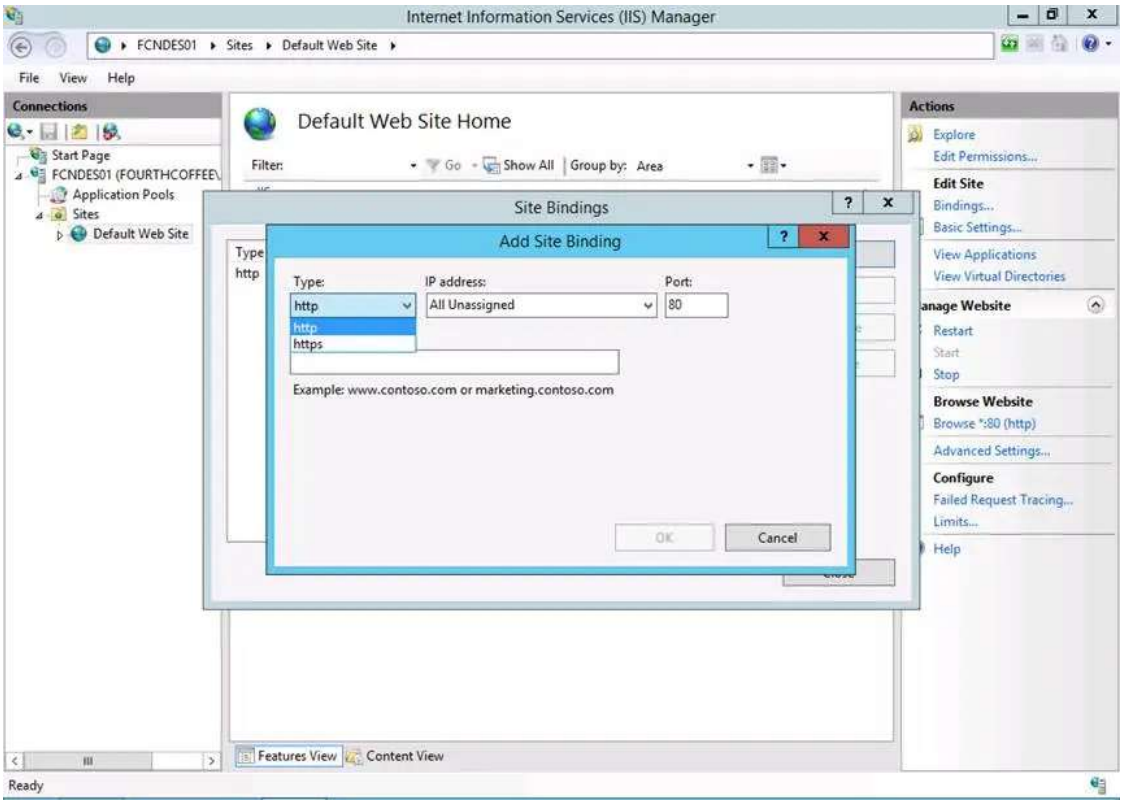
Step 26: In the **Actions** pane, click **Bindings…**



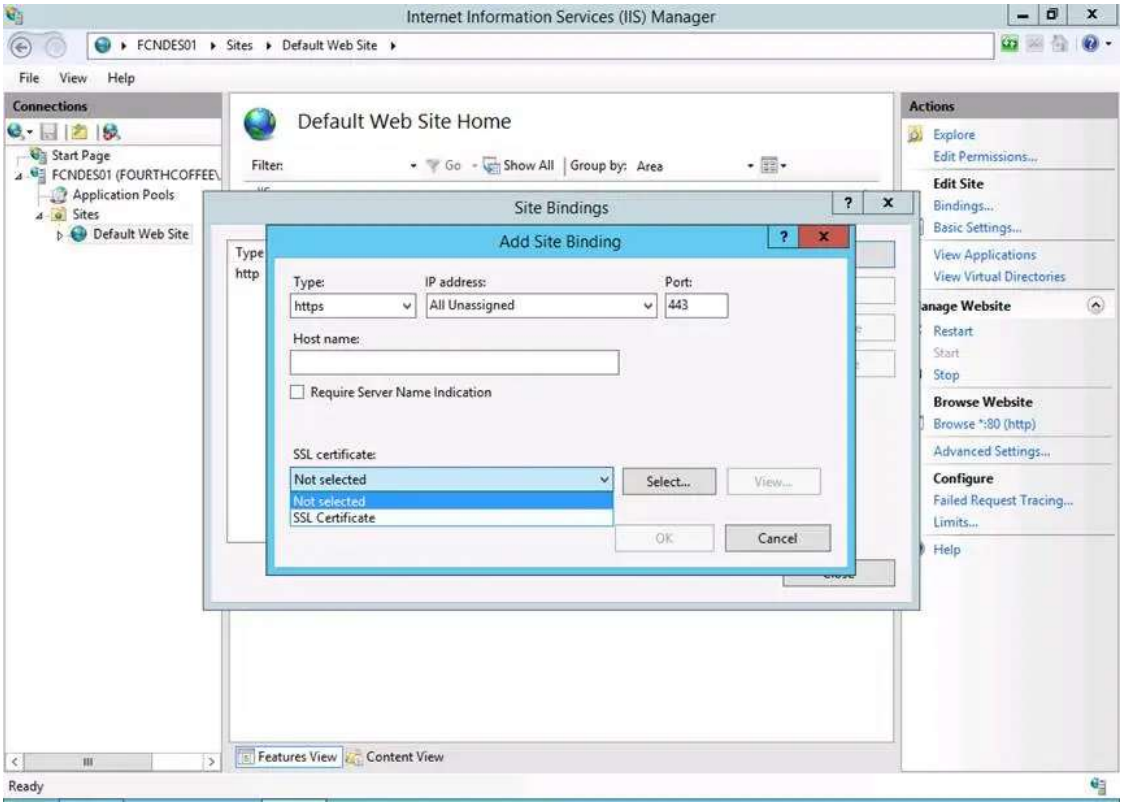
Step 27: Click Add…



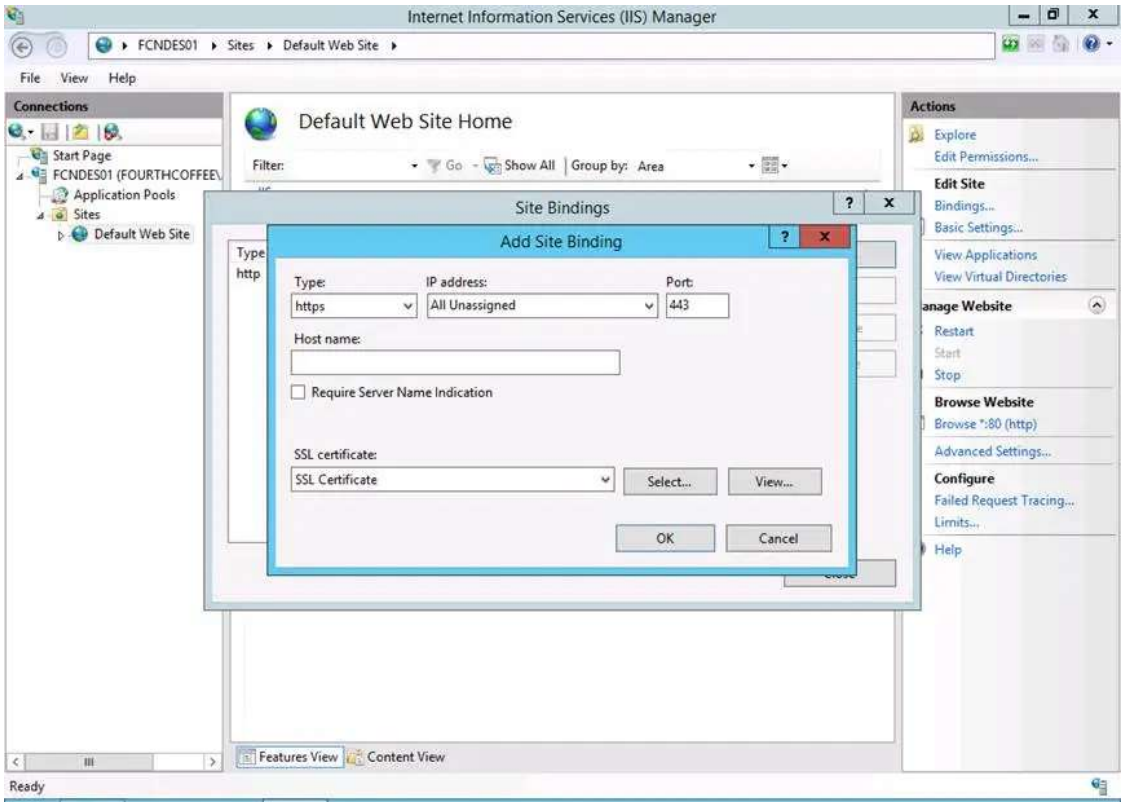
Step 28: Switch type from **http** to **https**



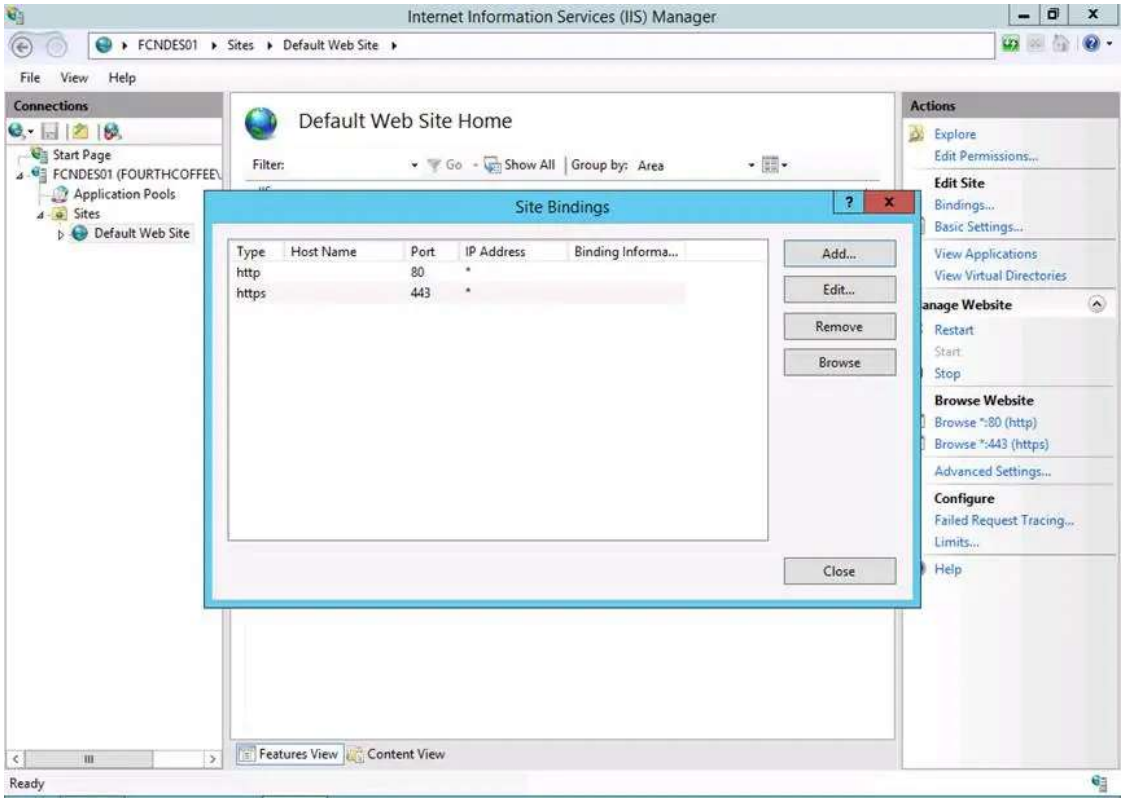
Step 29: Switch SSL Certificate from **Not selected** to **SSL Certificate**



Step 30: Click **OK**

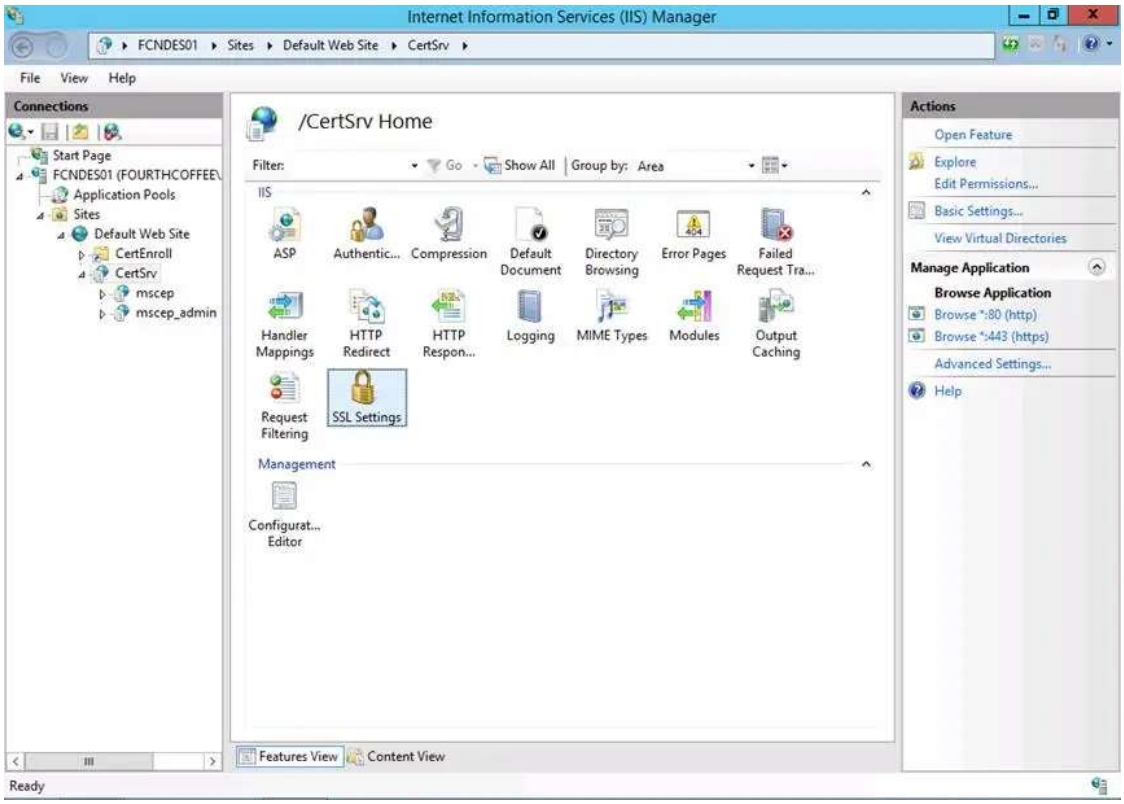


Step 31: Click **Close**

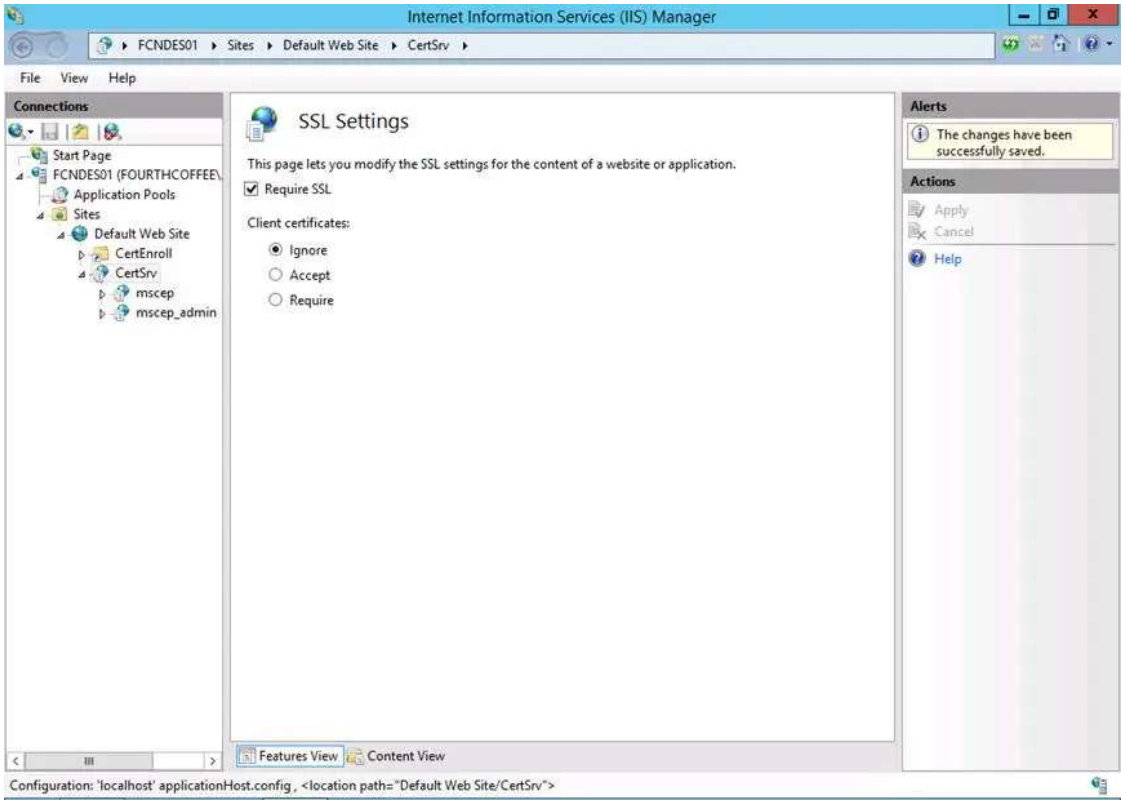


Step 32: Expand **Default Web Site** and then **CertSrv**

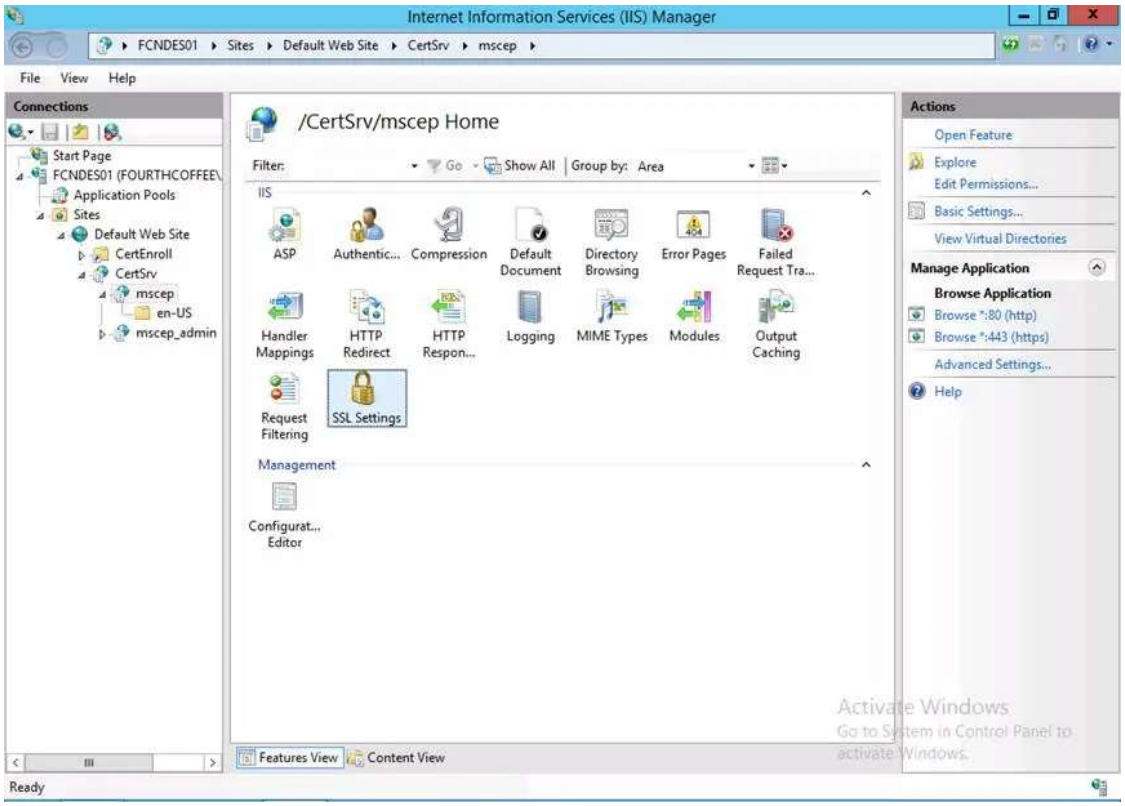
Step 33: In the middle pane double-click on **SSL Settings**



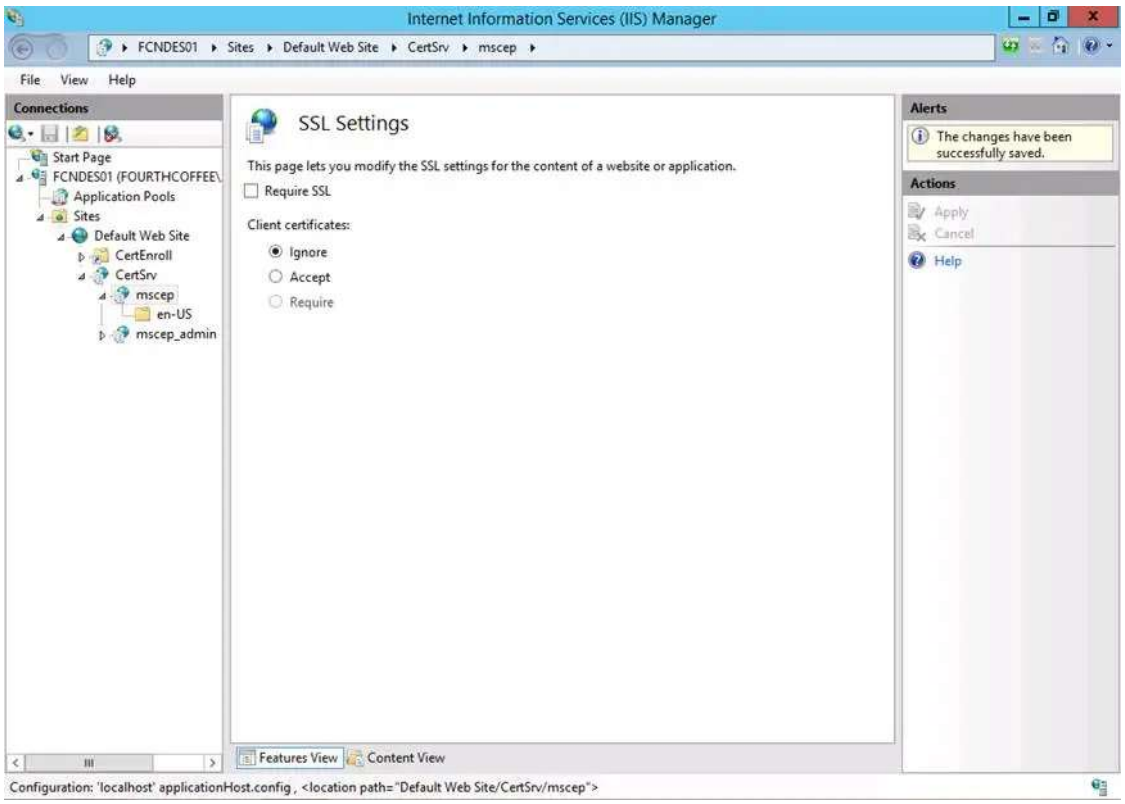
Step 34: Check **Require SSL** and then click **Apply**



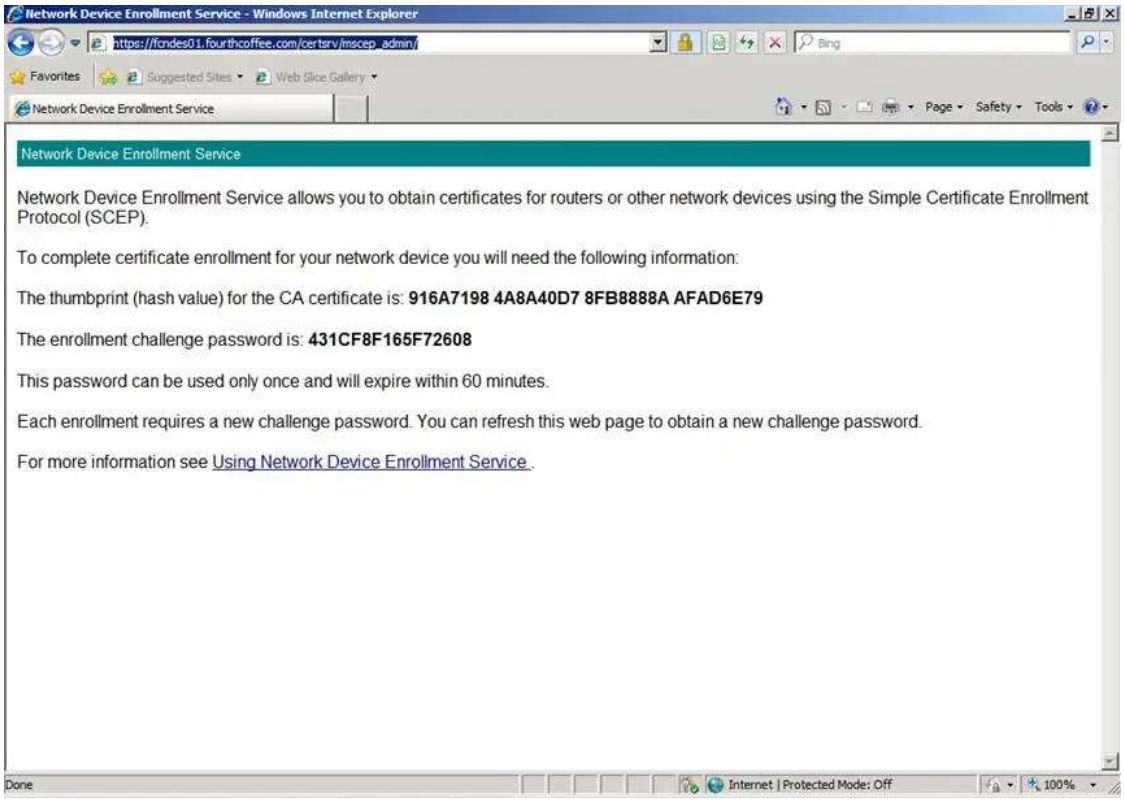
Step 35: Navigate to **mscep** and the double-click on **SSL Settings**



Step 36: Uncheck **Require SSL** and click **Apply**



Step 37: Verify that an authorized user can access the mscep_admin web page via https



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