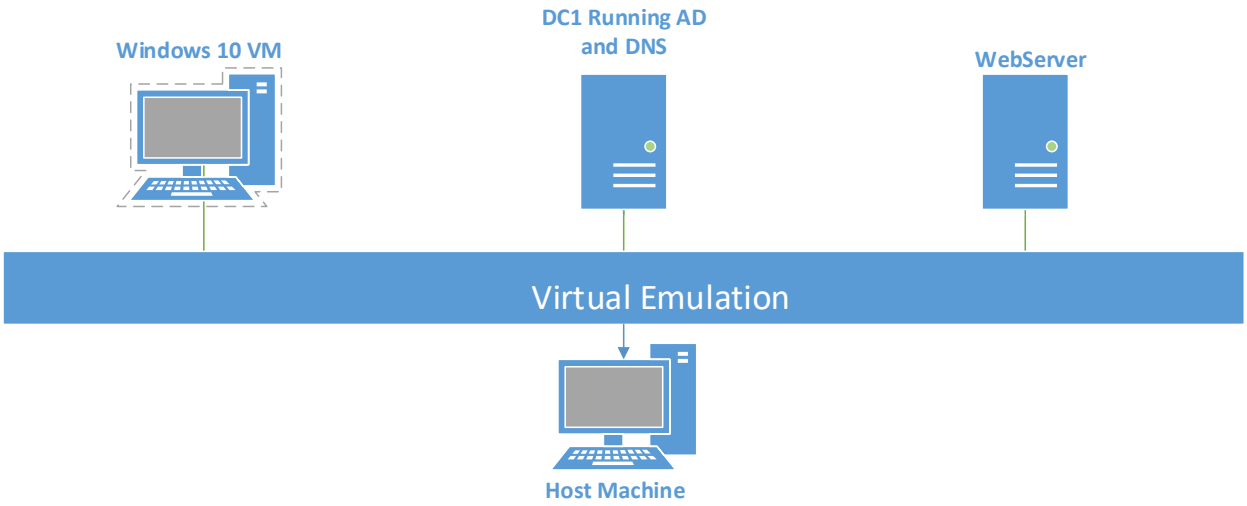
Lab – Create an IIS Website on Windows Server 2016

Overview

In this short lab, you will learn how to perform a basic website setup using Microsoft Internet Information Services (IIS), virtual directories, and changing ports. This lab is for installing and configuring IIS. We will not be discussing how to use HTML or build a web page.

Lab Requirement

- One installation of Server Core 2012, 2016, or 2019.
  - Joined to the domain.
  - Configured with a static IP address and primary address of the DNS server.
- One installation of Windows 10 joined to the domain.
- One installation of Server 2012, 2016 or 2019 running as a DC hosting DNS



Caveat!

I would not recommend installing IIS on a domain controller or any production machine because of the security risks involved but for this lab demonstration, installing IIS onto your DC is permissible.

This lab will work using an installation of Server Core. Server Core must be joined to the domain. By adding the machine to the All Servers in Server Manager, you can install IIS using either the GUI method or using PowerShell.

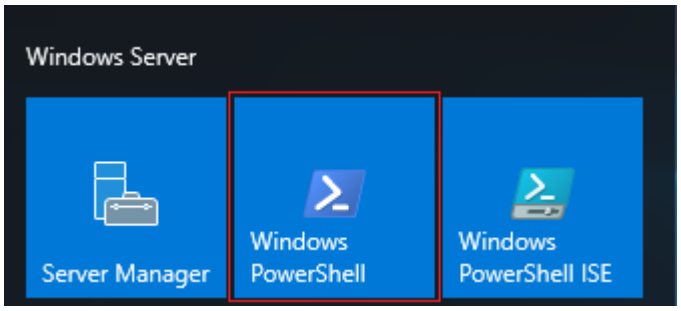
SYBEROFFENSE

Installing IIS Using PowerShell

In this first part of the lab, you will install IIS using PowerShell on a full install of Windows Server.

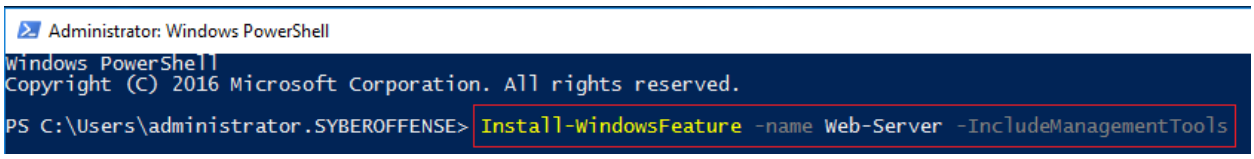
Installing IIS using PowerShell gives us the same default installation we achieve using the Server Manager Add Roles and Features Wizard, but it is much quicker.

To begin the installation of IIS using PowerShell, click on the start button and from the tiled menu select PowerShell.

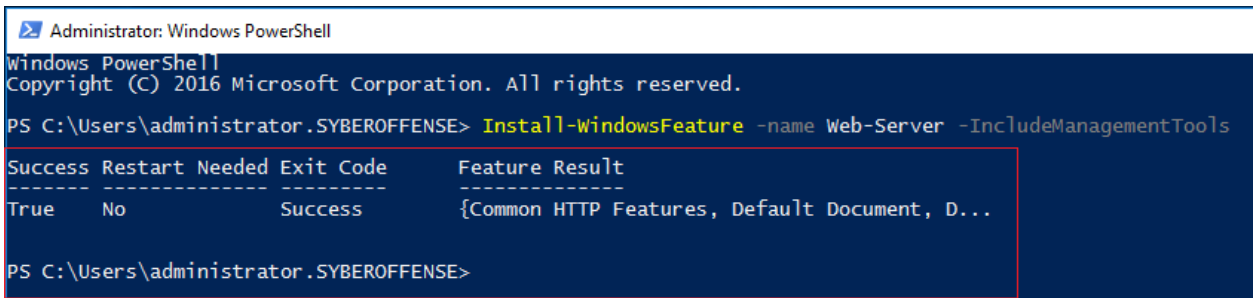


Once PowerShell is up and running, type or copy and paste the following command at the prompt.

```
Install-WindowsFeature -name Web-Server -IncludeManagementTools
```

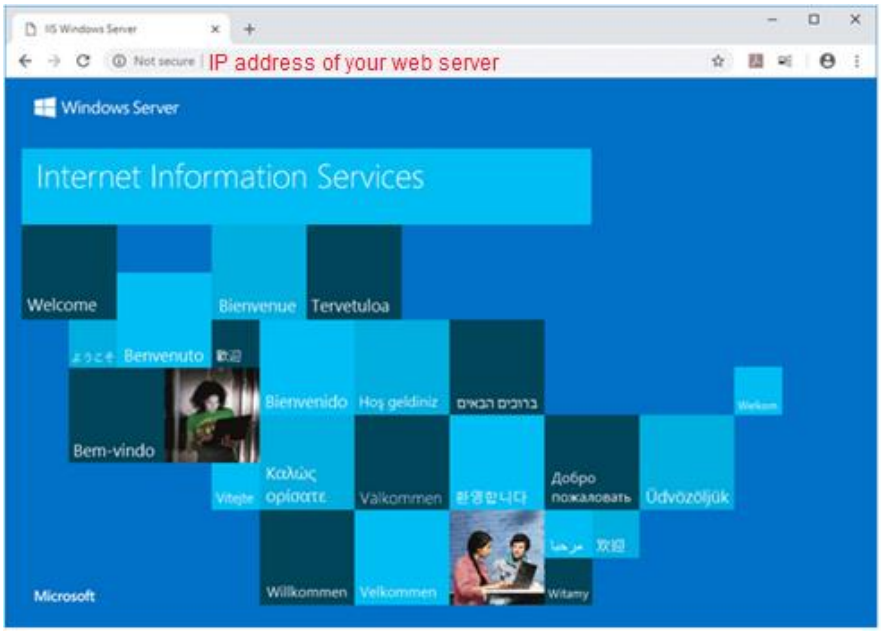


Once the installation is complete, you will be given a success message.

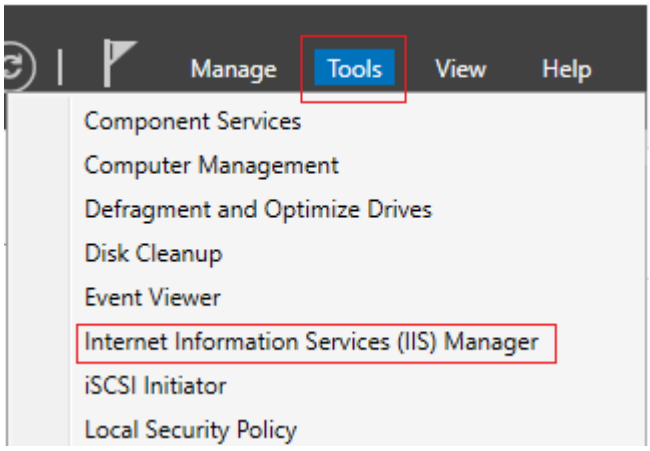


Optional - Post Installation

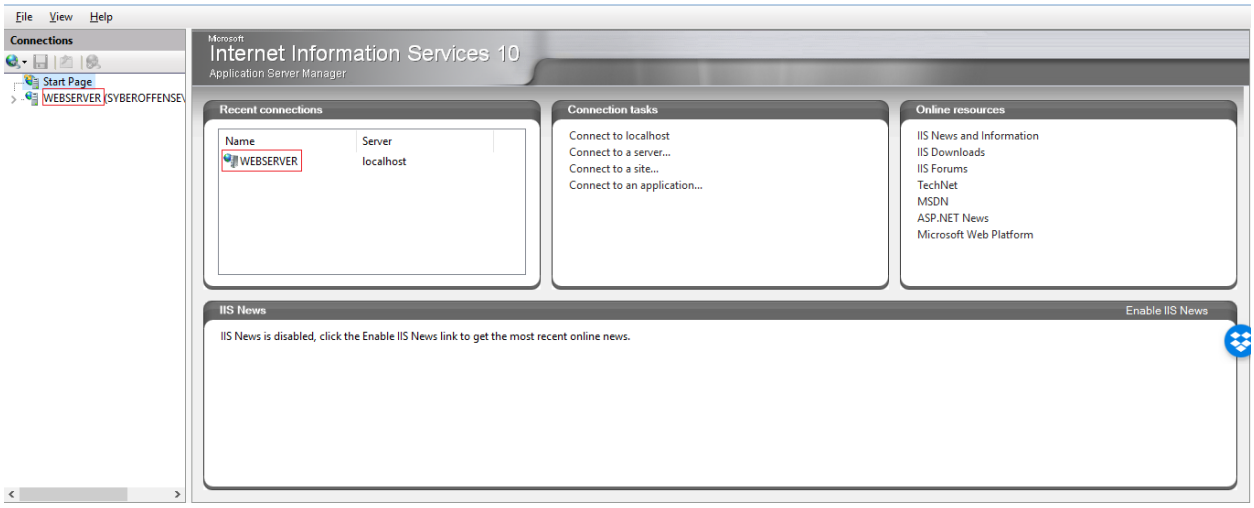
We can perform a simple test by opening a web browser and browsing to the server that we have installed IIS on. You should see the default IIS page.



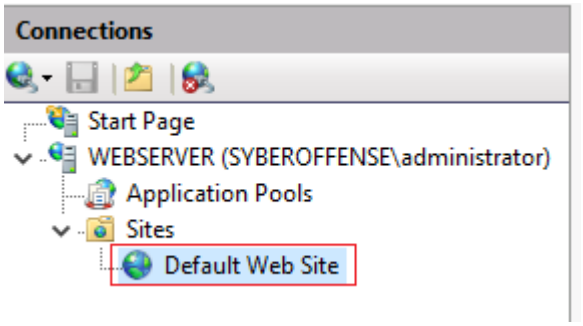
Open and Server Manager. From your Server Manager, go to tools and click on the Internet Information Services (II) Manager.



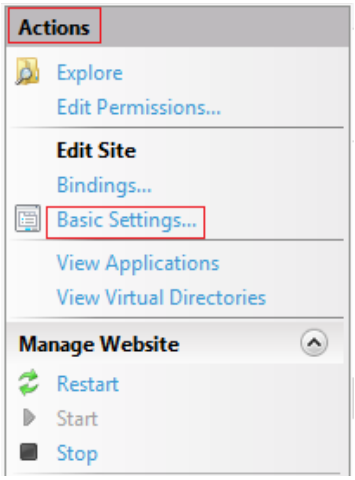
Inside the IIS management console on the left, we can see the name of our webserver.



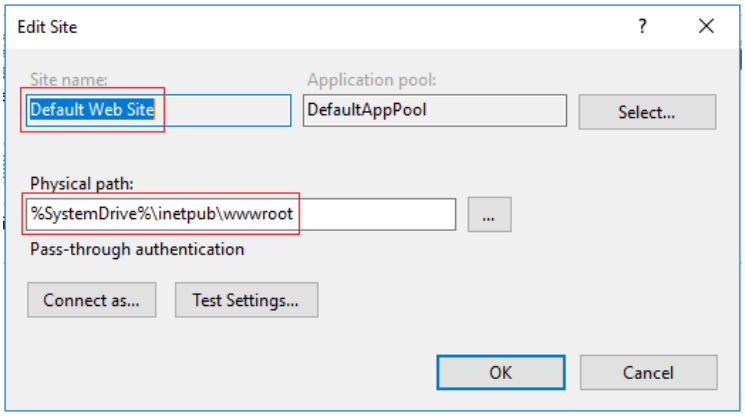
In the left-hand window pane, click on the name of your server to expand its contents. Expand the Sites container and click on the default site. At this point, there is nothing in our site. We need to add some content to see what our website might look like from another PC.



Over in the far-right Actions window pane, click on where it says, Basic Settings.



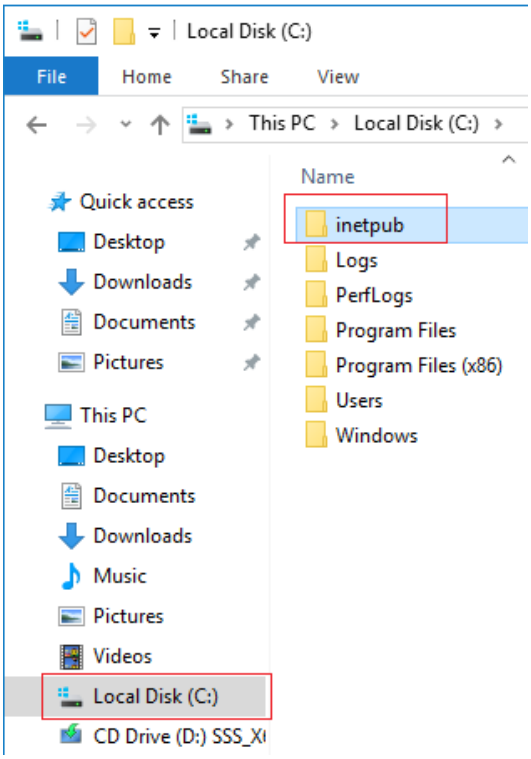
Here we can find the name of our Web Server and the default location for any web content.

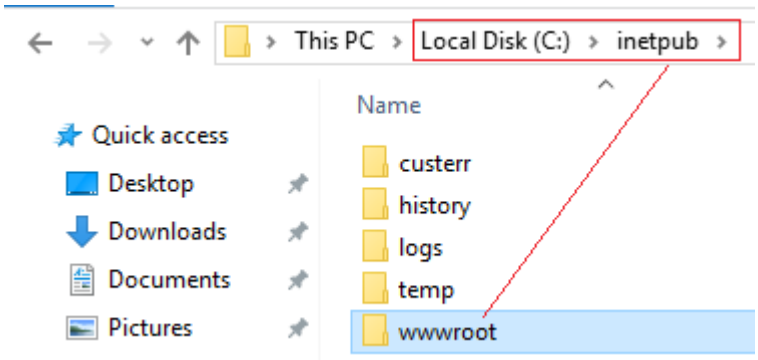


Under Physical path, we see that the default location is the root of C:\interpub\wwwroot folder.

Open your File Explorer. 

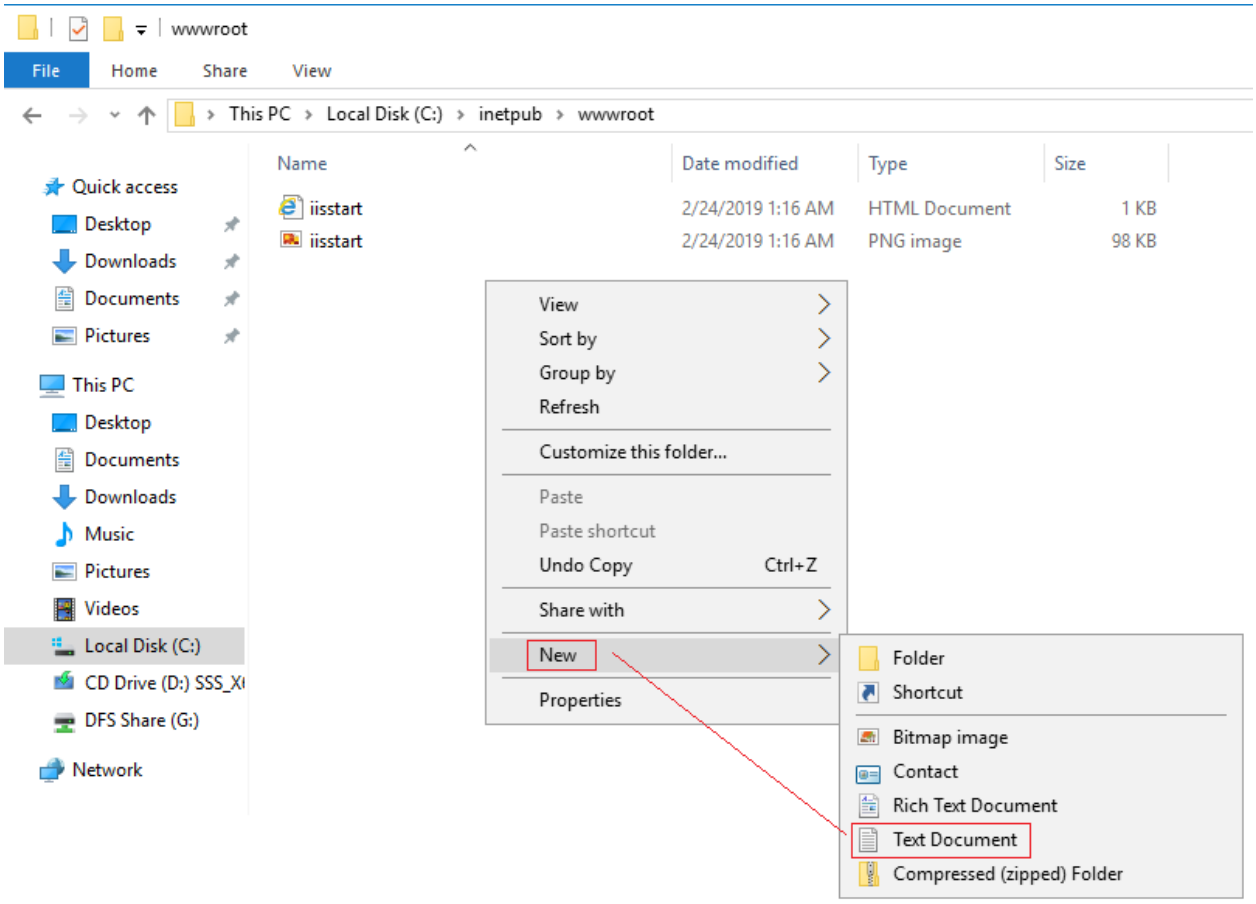
Brose to your Local Disk (C:). open the inetpub folder and then open the wwwroot folder.



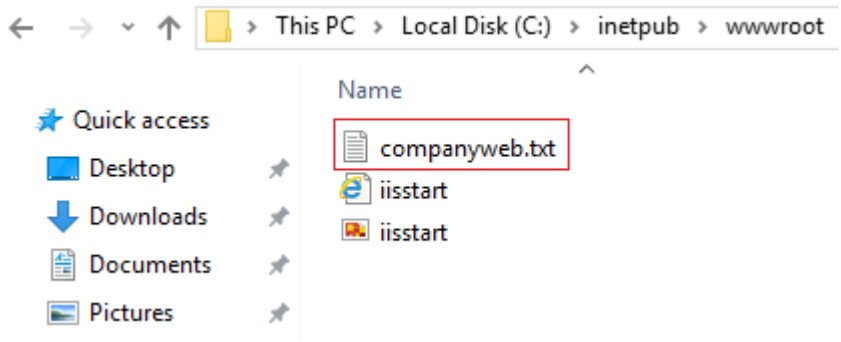


This is the default storage location for all our web content. This is the same location we see in the basic setting for our we server.

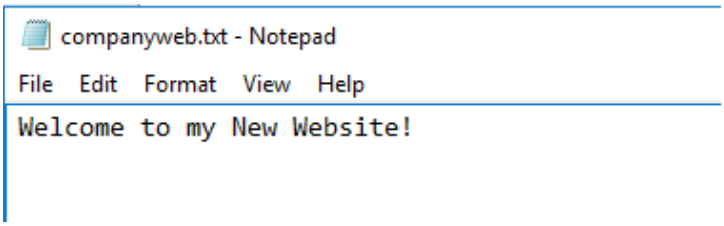
Inside the wwwroot folder, right click anywhere in the center window pane and create a new text file.



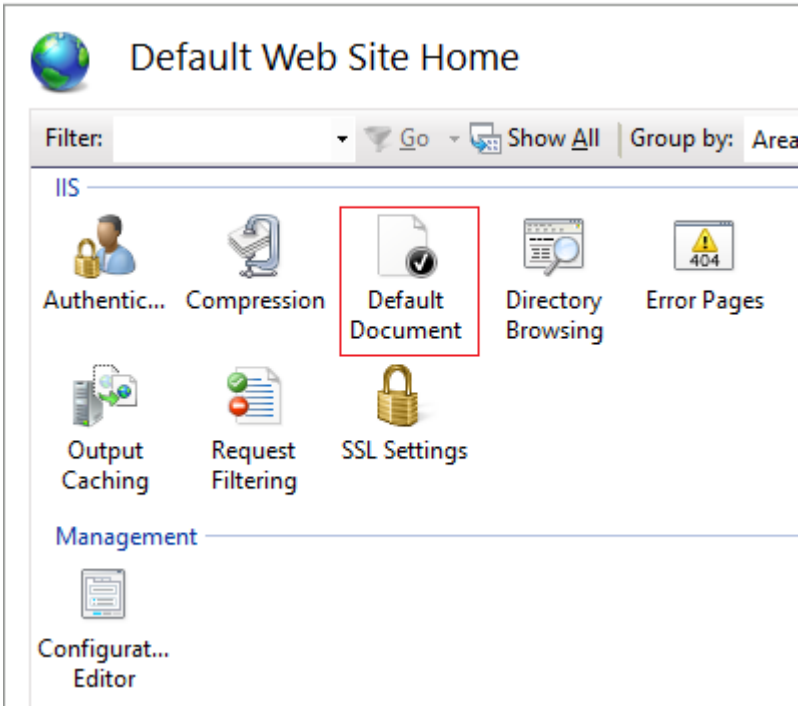
Name the new text document, companyweb.txt



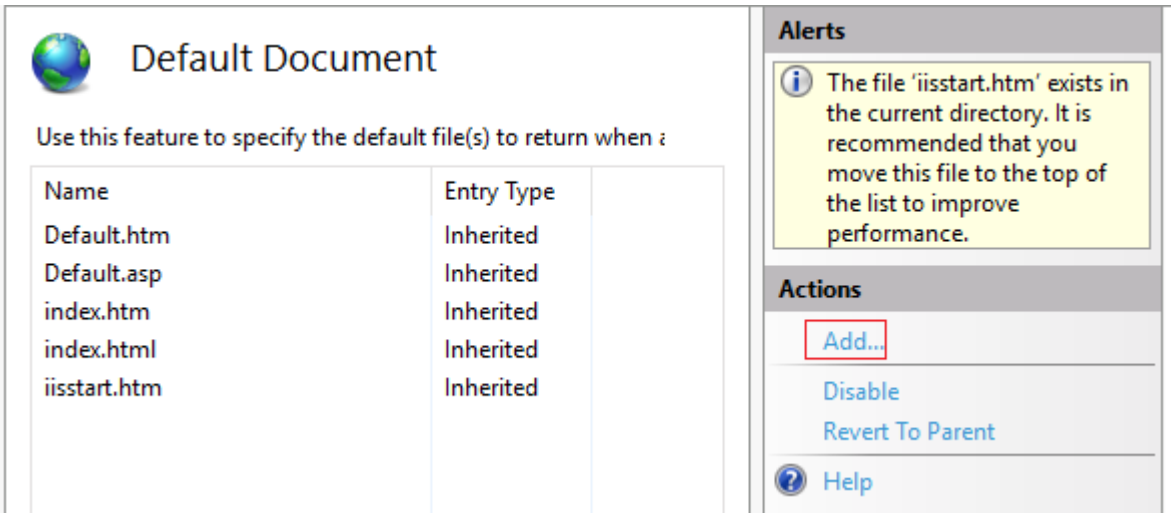
Open the new text document and type, "Welcome to My New Website!" without the quotes. Save the changes.



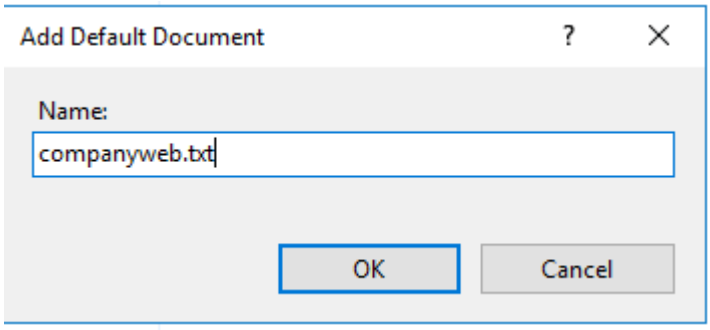
Return to your default website in the IIS management console. In the center window pane, click on the icon for Default Documents.



Inside the default documents container, go to the action's menu on the far right and click on. Add.

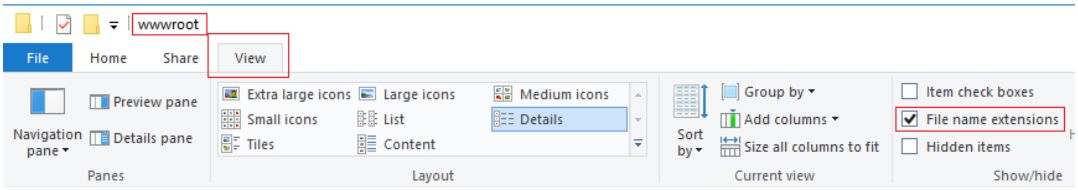


In the Add Default Document dialog box, type the name of your new default document we made inside the wwwroot folder. Click Ok.

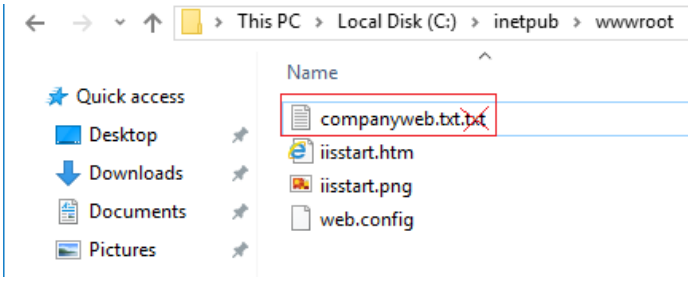


Our Default web site will now look for this document in the location we created it in. Be sure to check you new default document inside the wwwroot folder to ensure it only has one extension and not showing as **companyweb.txt.txt**

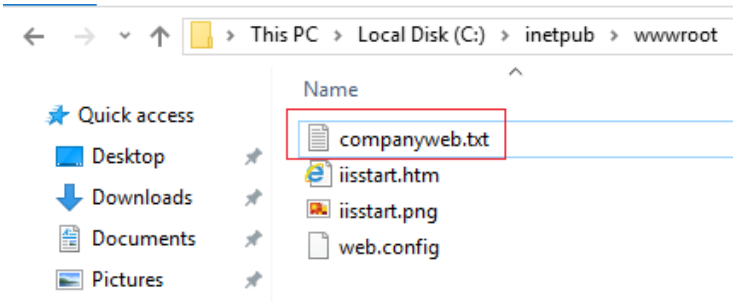
Back at the default location for our new default document, in the File Explorer task bar click on view and then check the box to show file extensions.



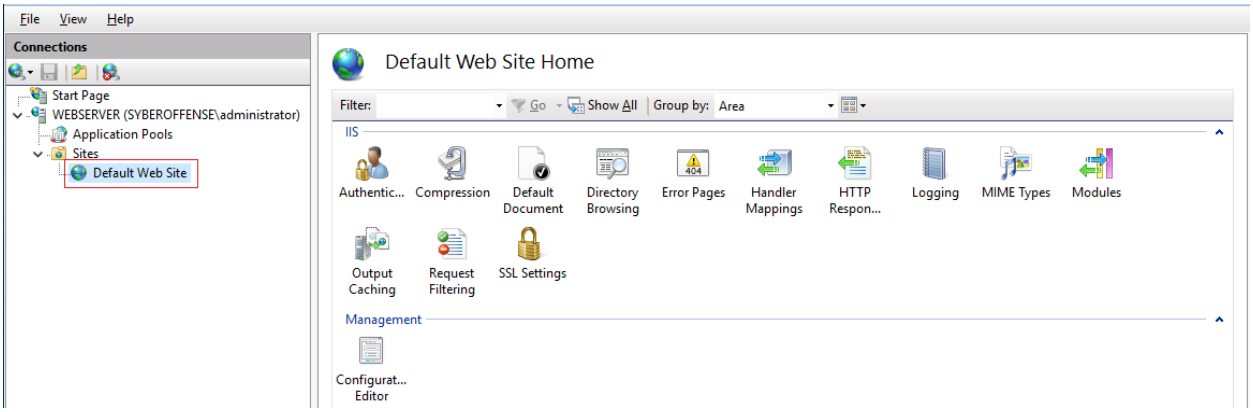
You can now see that the file contains an extra file extension of .txt. Remove the second extension.



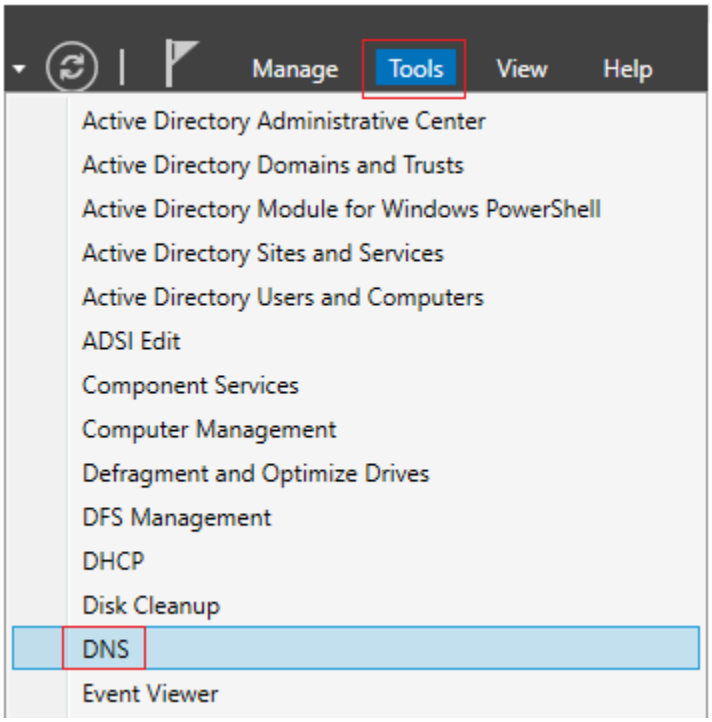
This is how you new default document should be named. Check to ensure the file opens correctly.



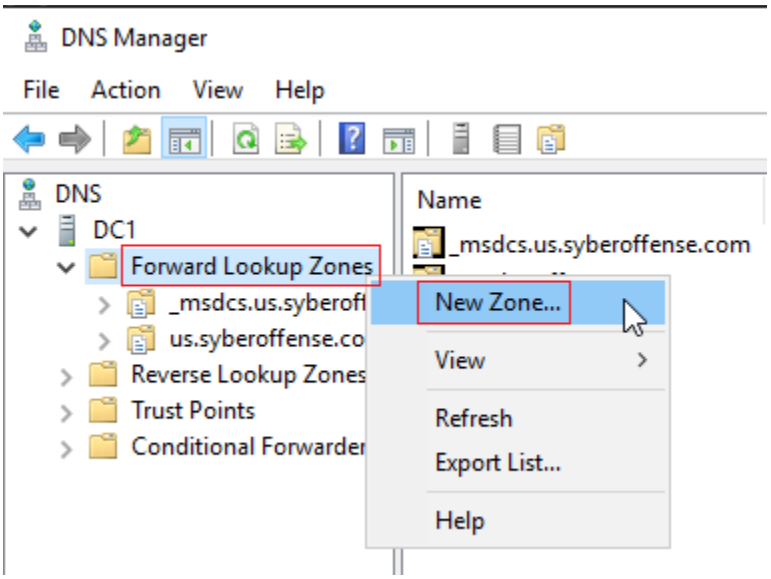
Return your IIS management console and close out any dialog boxes and under Sites, click on the Default Web site.



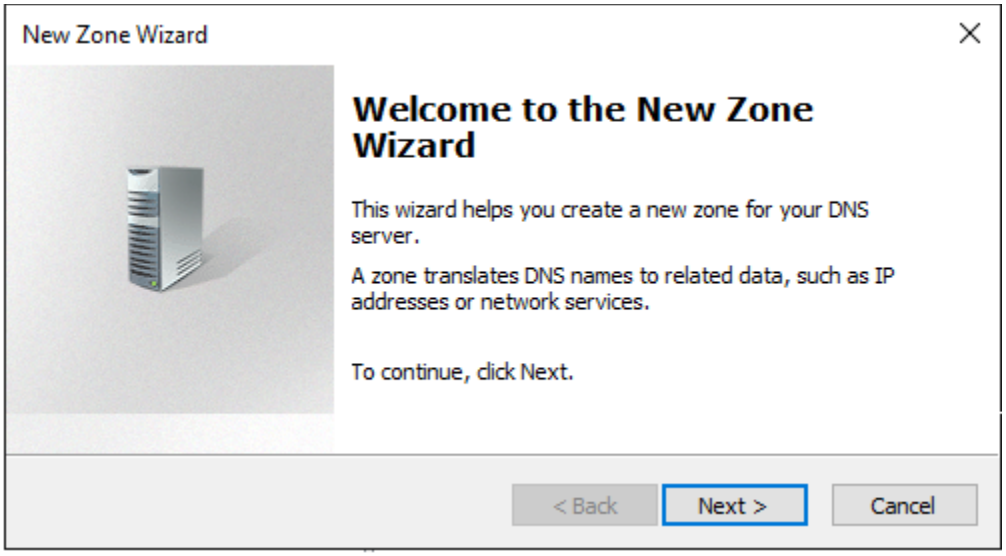
Leave the console open logon onto your Domain Controller. The Server Manager of your Domain controller, open Server Manager and from the Tools Menu, click on your DNS management console snap-in.



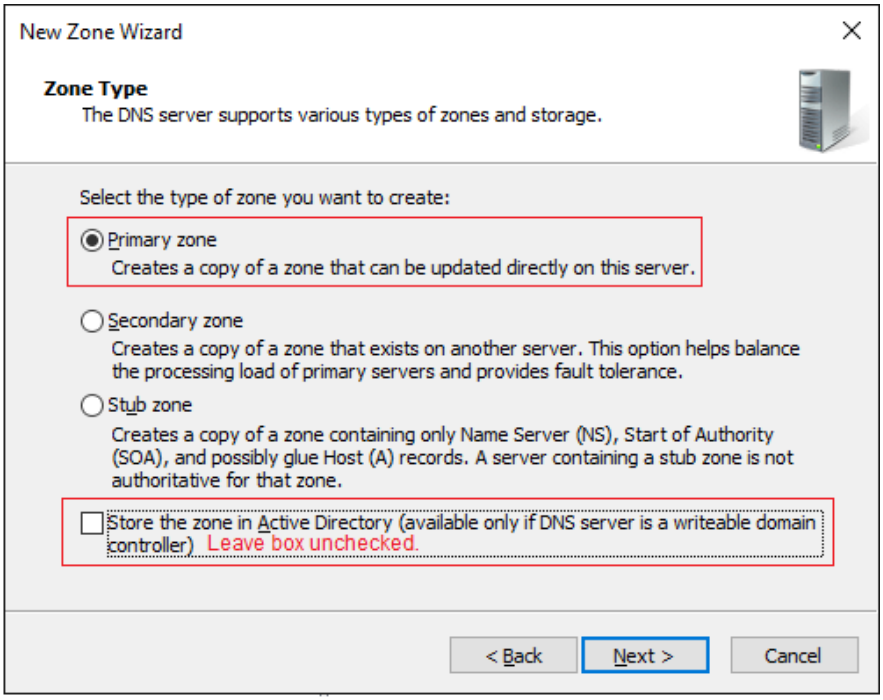
From the DNS management console, expand your Forward Lookup Zones, right click and from the context menu, select New Zone.



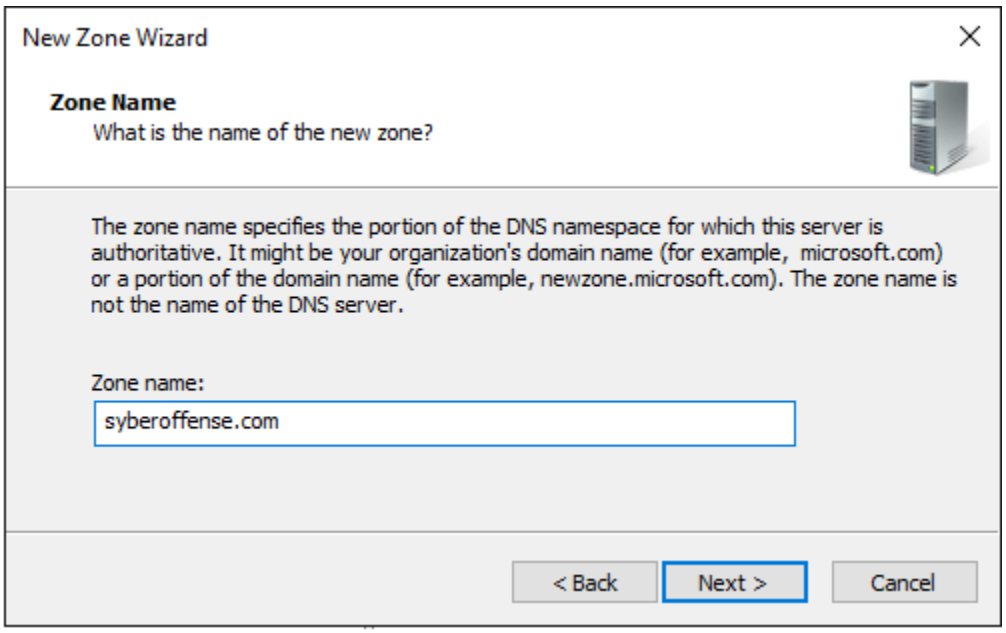
On the first page, click next.



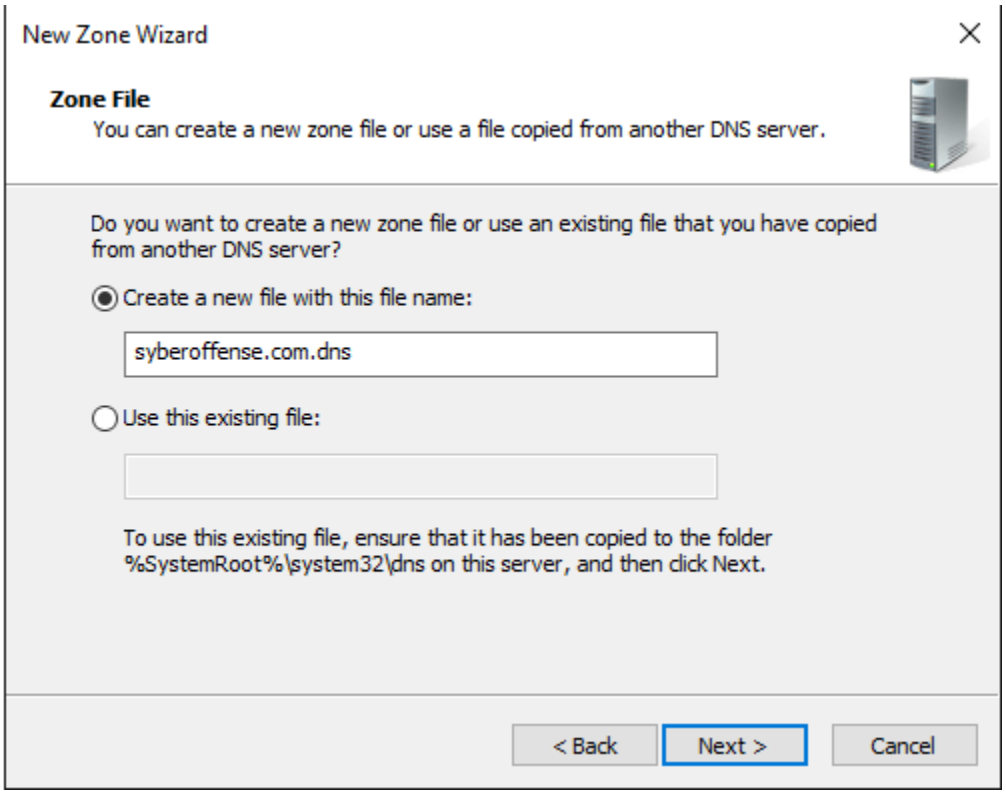
On the next screen, accept the default for a primary zone but do not store in Active Directory by ensuring the box is unchecked.



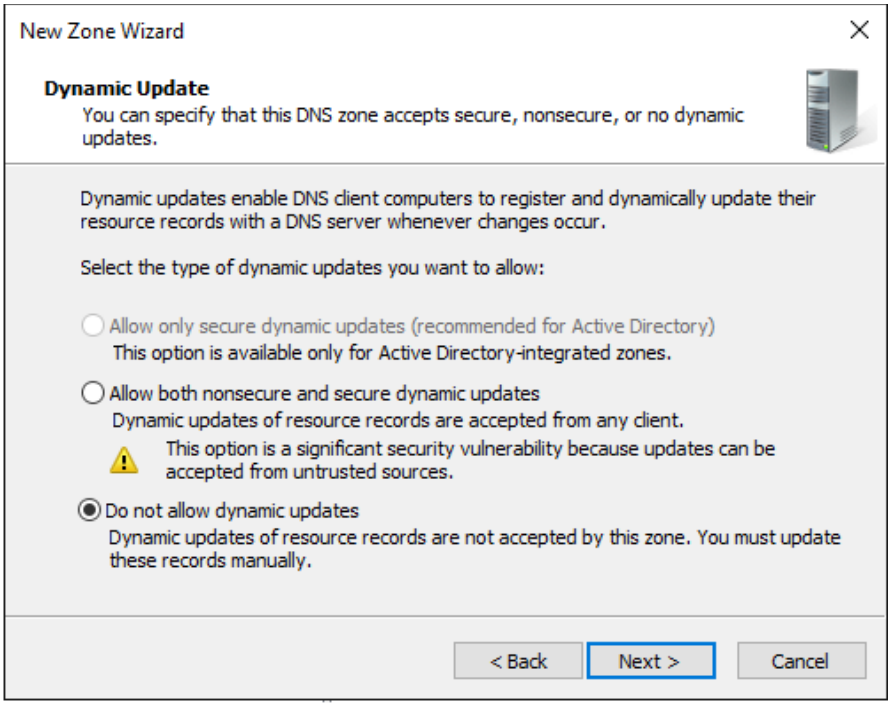
Use the name of your domain or a portion or your domain name is you so choose. I have chosen to call this primary zone, syberoffense.com.



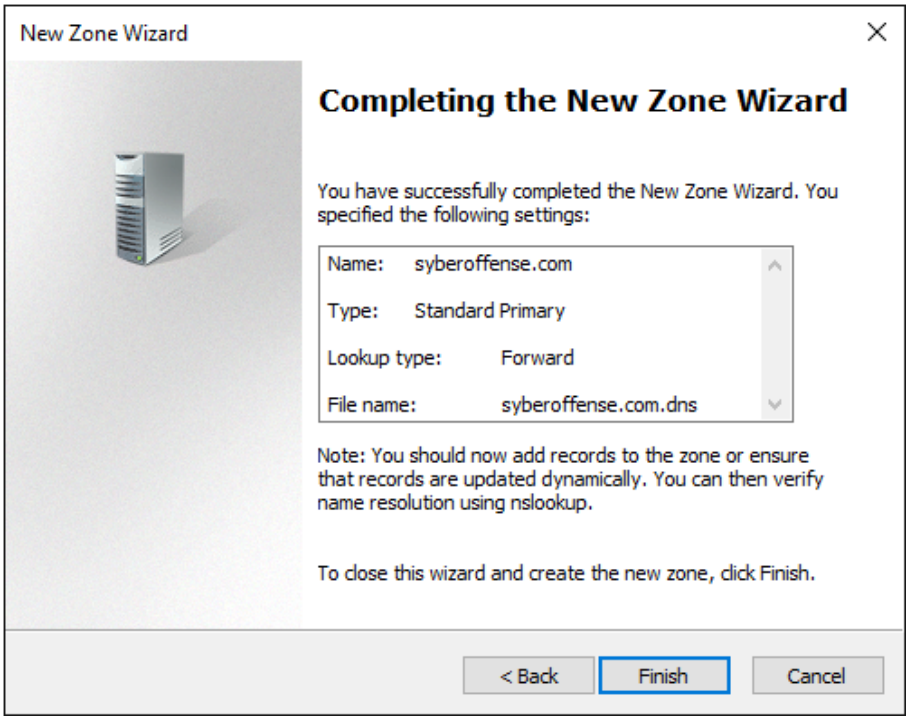
On the remain screens, choose the defaults, and click finish.



Click Next.

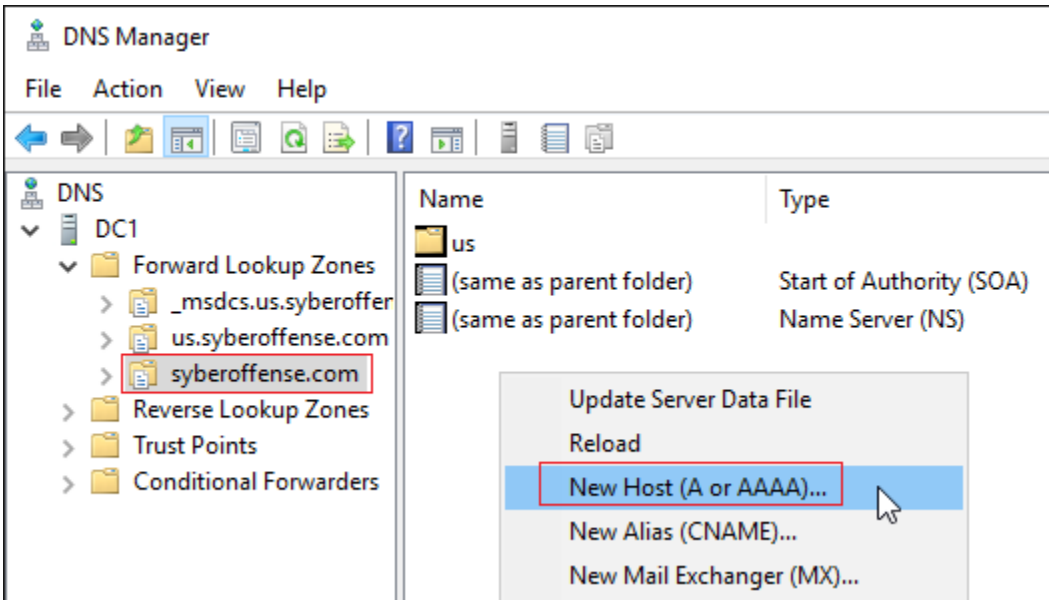


Click Finish

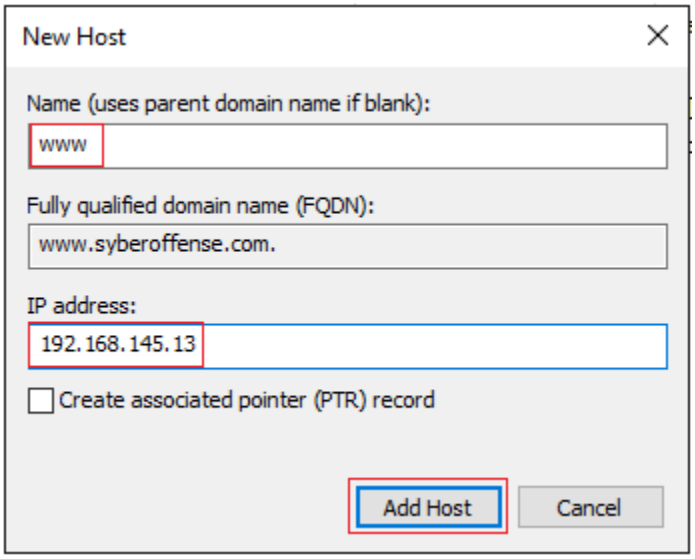


Create a new host record

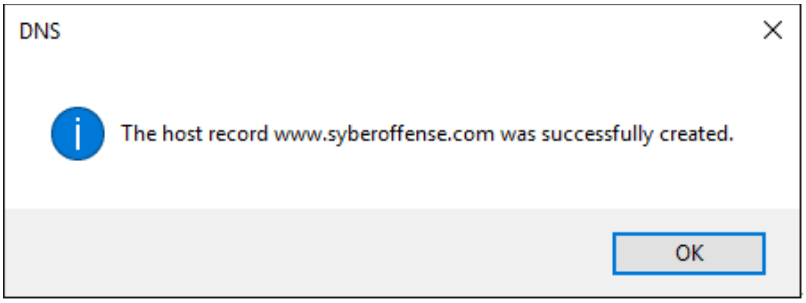
From the left window pane of your DNS console window, click on the name of your new primary zone. Right click in the white area of your center window pane and form the context menu, sect **New Host (A or AAAA)** …. Record.

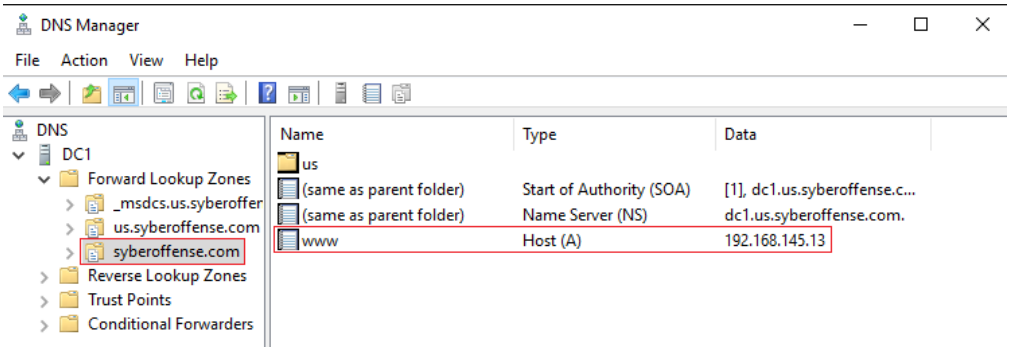


Give the new host record the name of www and in the box for the IP address, type in the IP address for your new web server. Click the add host button.

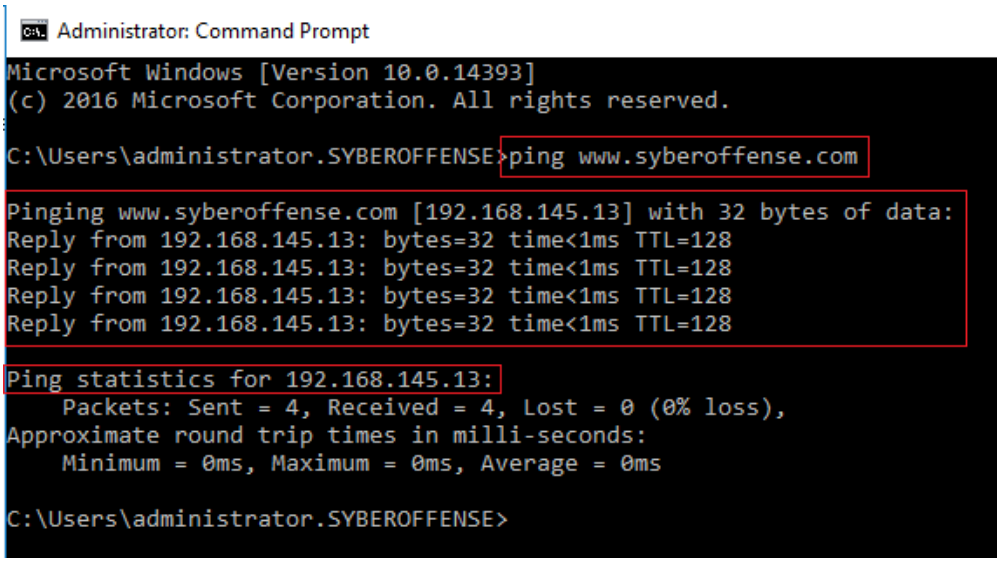


Click OK.



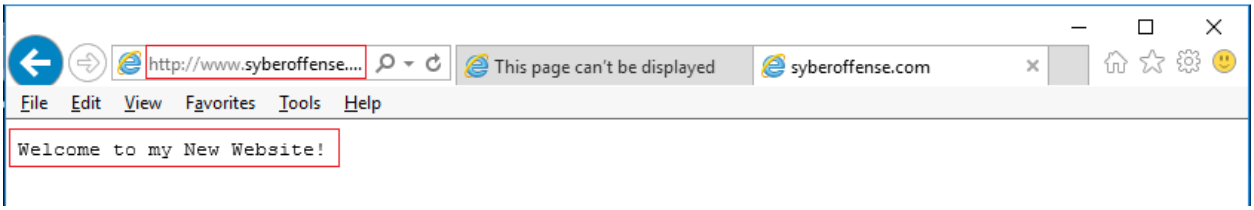


Back at your web server, open a command prompt and attempt to ping your new web server using the new host name.



Go to your Windows 10 machine, ensure you are logged onto your domain, open a browser and attempt to open the website using the new host name.

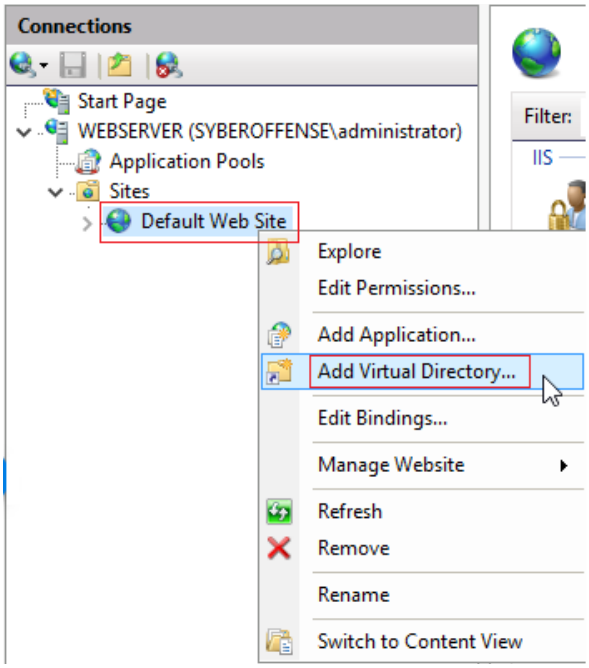
If your Windows 10 machine can see the domain and its DNS settings are configured properly, you should be able to type in the name of your web server and see the default document we created earlier.



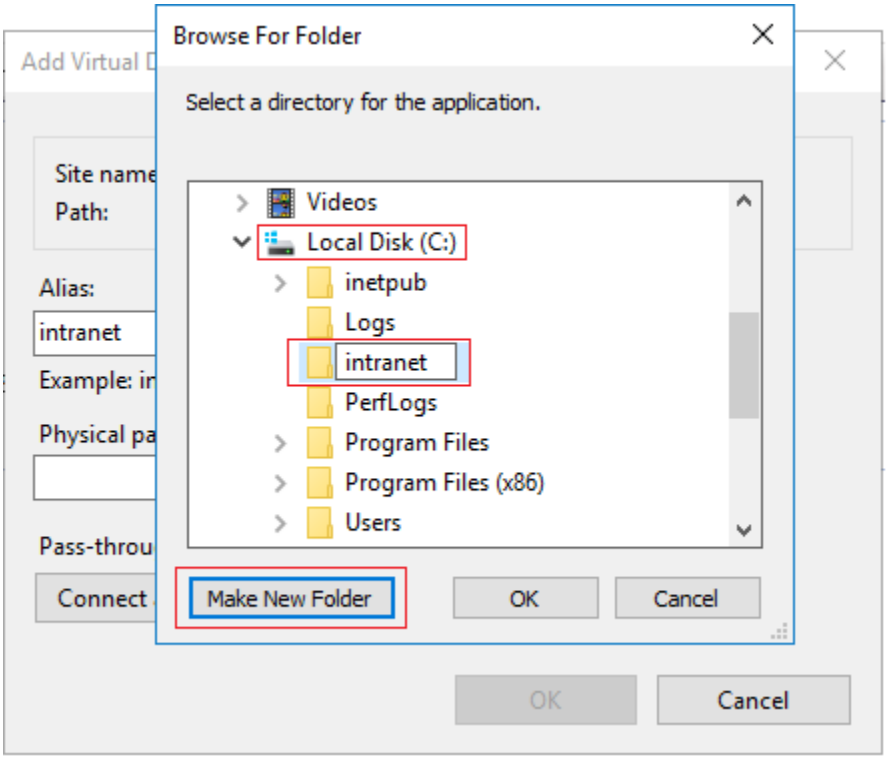
Creating a Virtual Directory

Return to the IIS management console of your web server.

From the left Window pane, right click on your Default Web site and from the context menu, select, **Add Virtual Directory**.

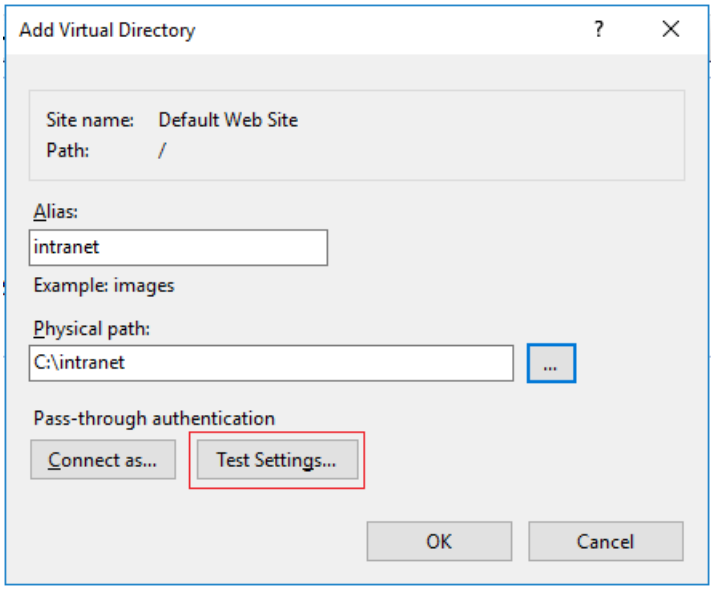


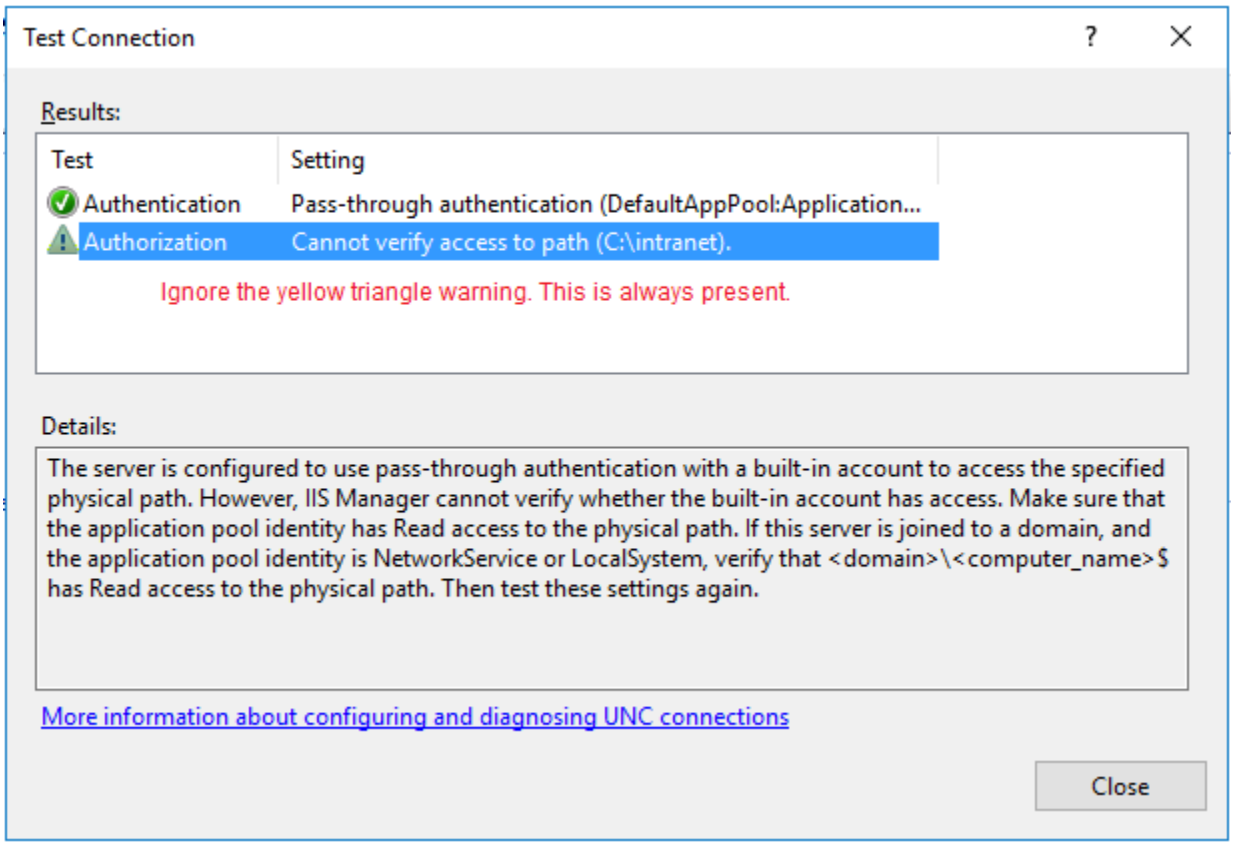
For the Alias name, call the directory intranet. On the physical path, click on browse and open the C: drive. Click the button to Make a New folder at the root of your C drive. Call the new folder, intranet.



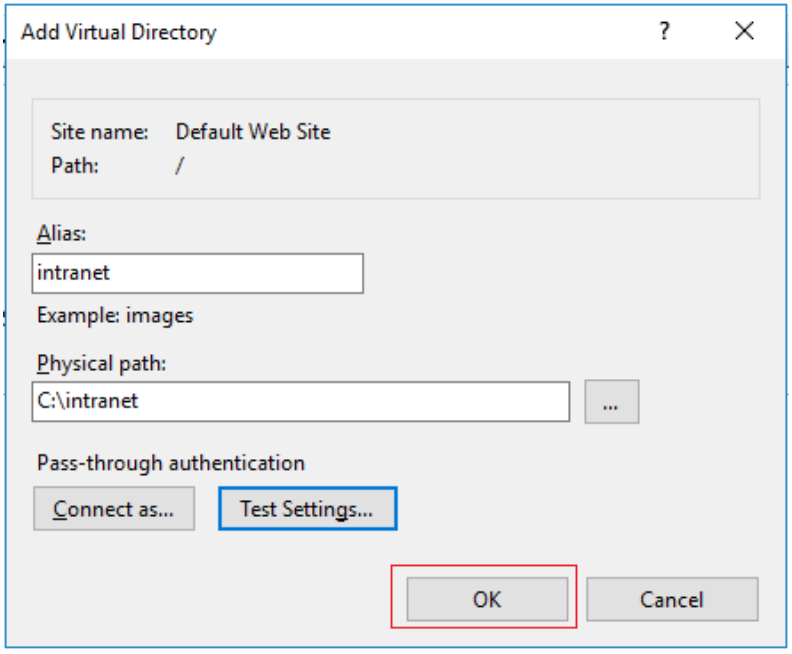
Click OK.

Click on, Test Settings to ensure it is working OK.



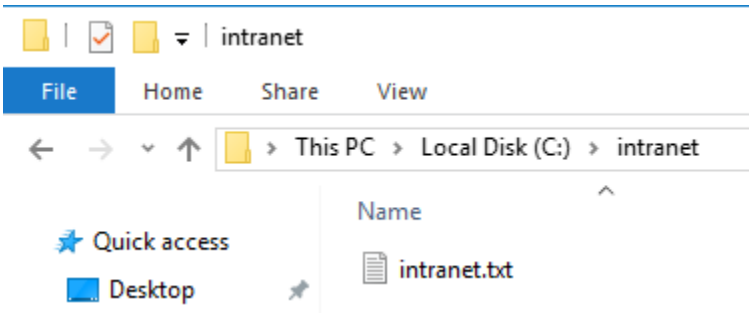


And click OK to Add the New Virtual Directory.

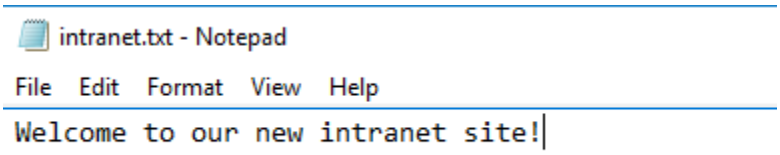


From your web server, open file explorer. Go your C: drive and open the new intranet folder we just created.

Right in the window pane and create a new text document. Name the new text document intranet.txt. Ensure the file name only has one extension appended to it.



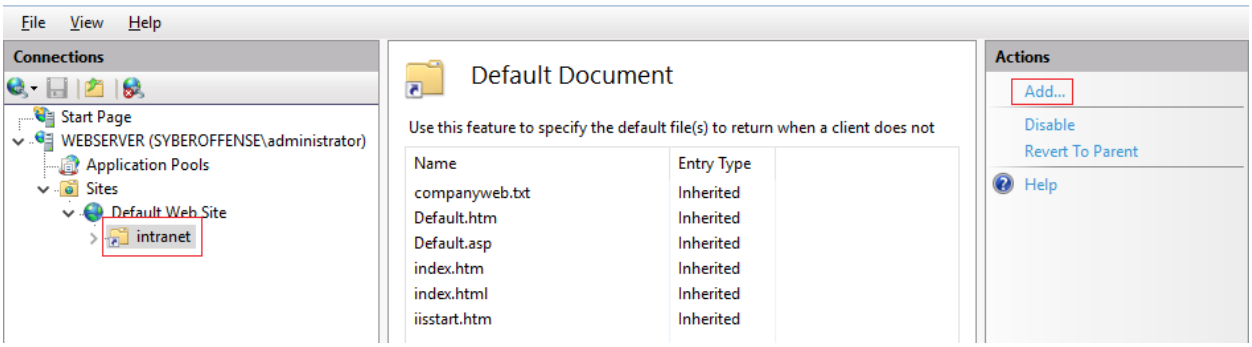
Open the new itranet.txt file and type, “Welcome to our new intranet site!” without the quotes.



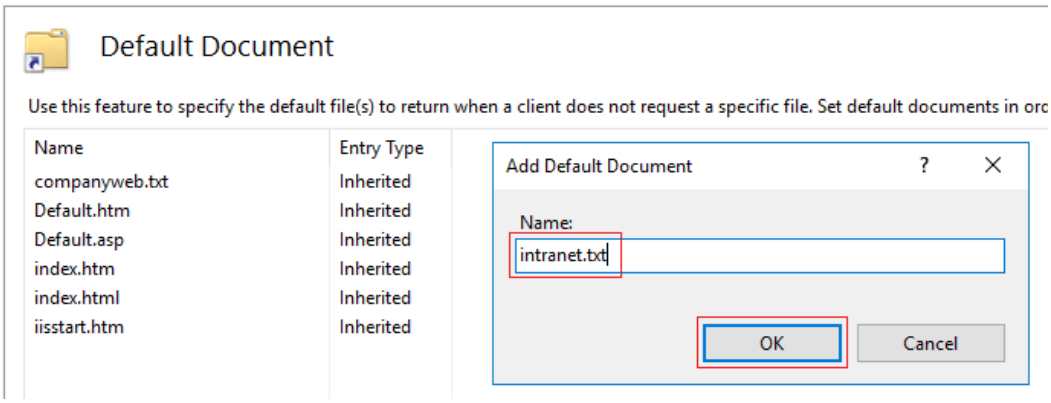
Save the changes and confirm you have spelled the name of the file correctly and there is only one file extension. Return to the IIS management console.

Just as we created a new default document for our default web site, we need to do the same for this new intranet virtual directory.

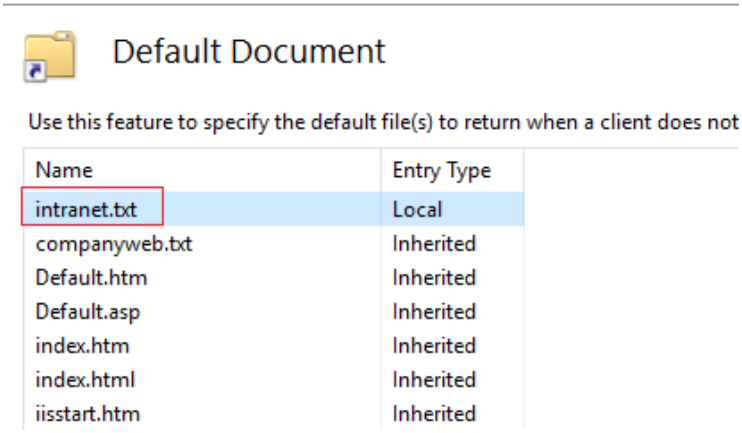
Click on the name of your new virtual directory and from the center console window x2 click the icon for default documents. From the right window Action pane, click on. Add.



For the name, type intranet.txt.



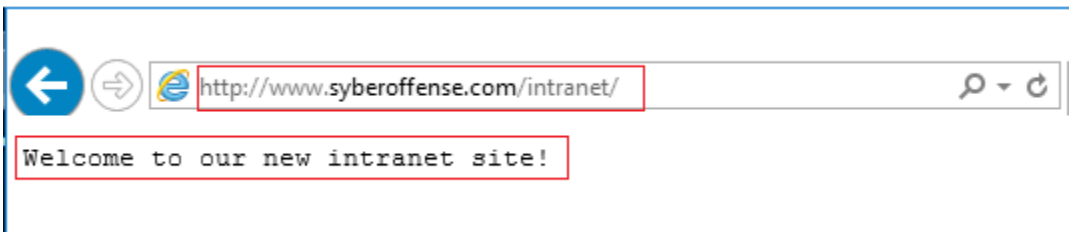
Make sure the new default document is at the top.



If you go back to your default web site and look the default document assigned to it, you'll note it is different. Both of this web sites are being treated as different from each other.

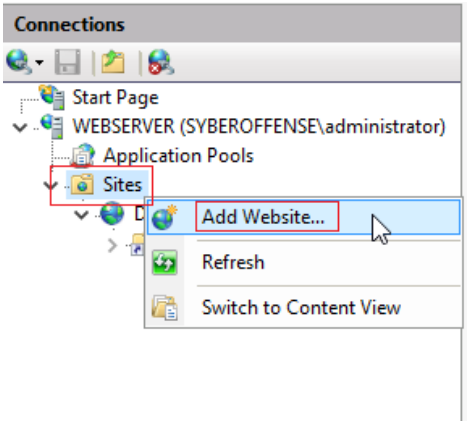
We can now return to our Windows 10 client and using a browser, we can see if the virtual directory is working.

To access the new virtual directory, we need to append **/intranet** to the front of www.syberoffense.com or what ever the name of your default web site may be.

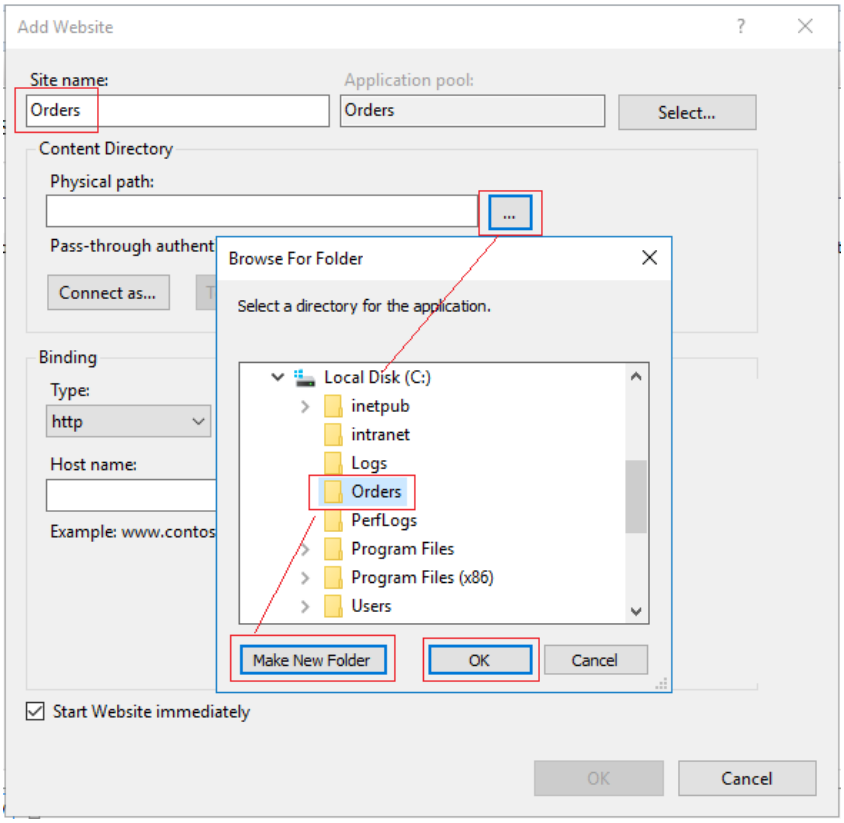


Add a new web site using different port

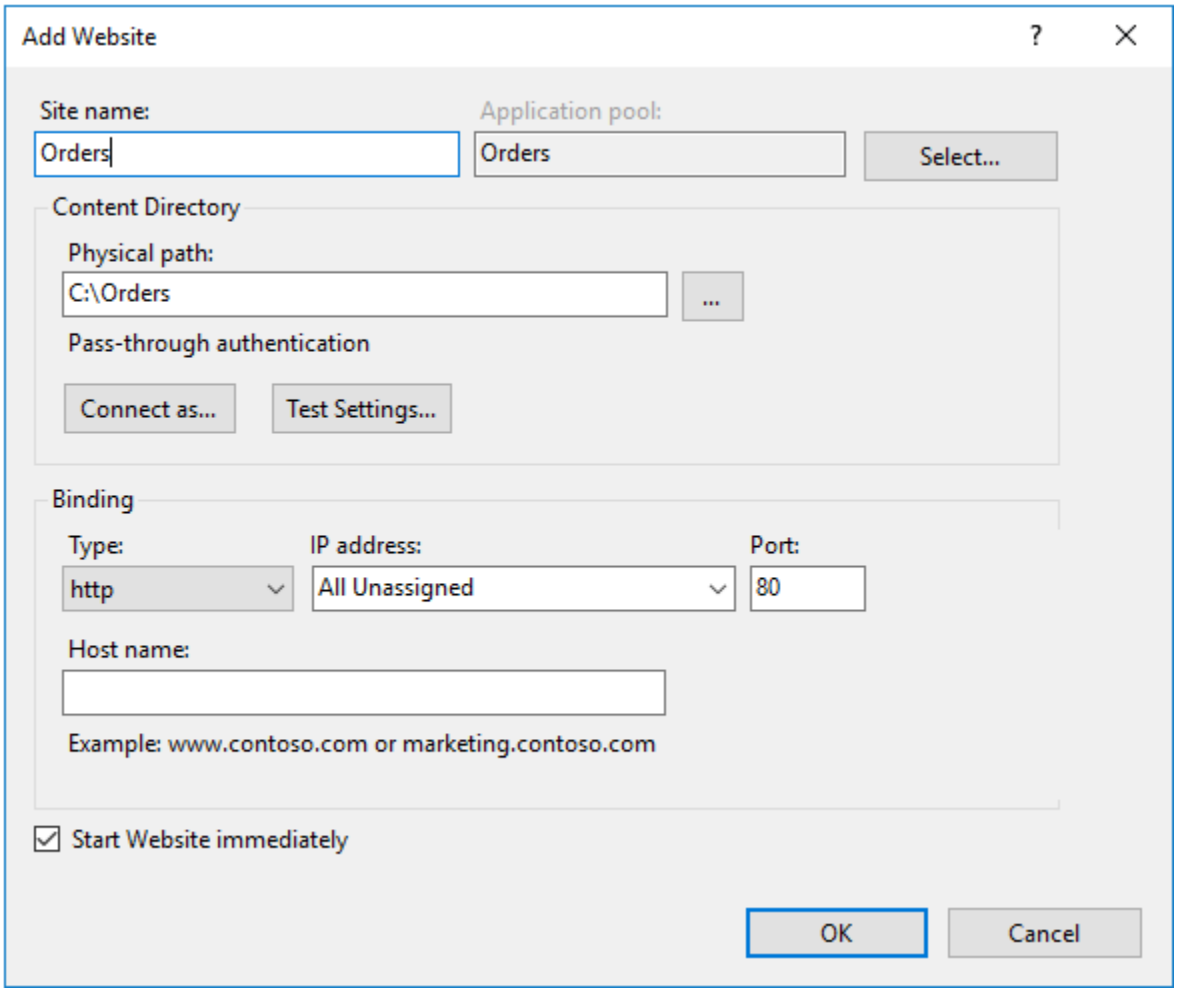
From your IIS management console, from your left window pane, right click on the Sites container and from the context menu, select Add Website.



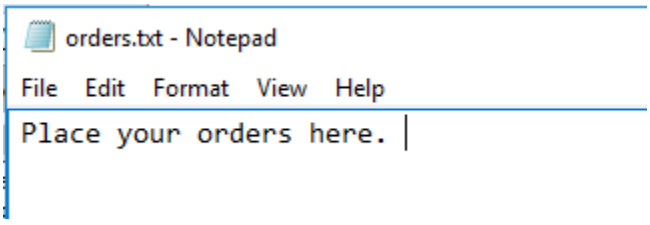
Give the website the name of, Orders. Again, for the physical path, browse to your C: Drive and at the root of the C: Drive, create a new folder naming it, Orders.



Do not click Ok. We will return to this window in a moment.

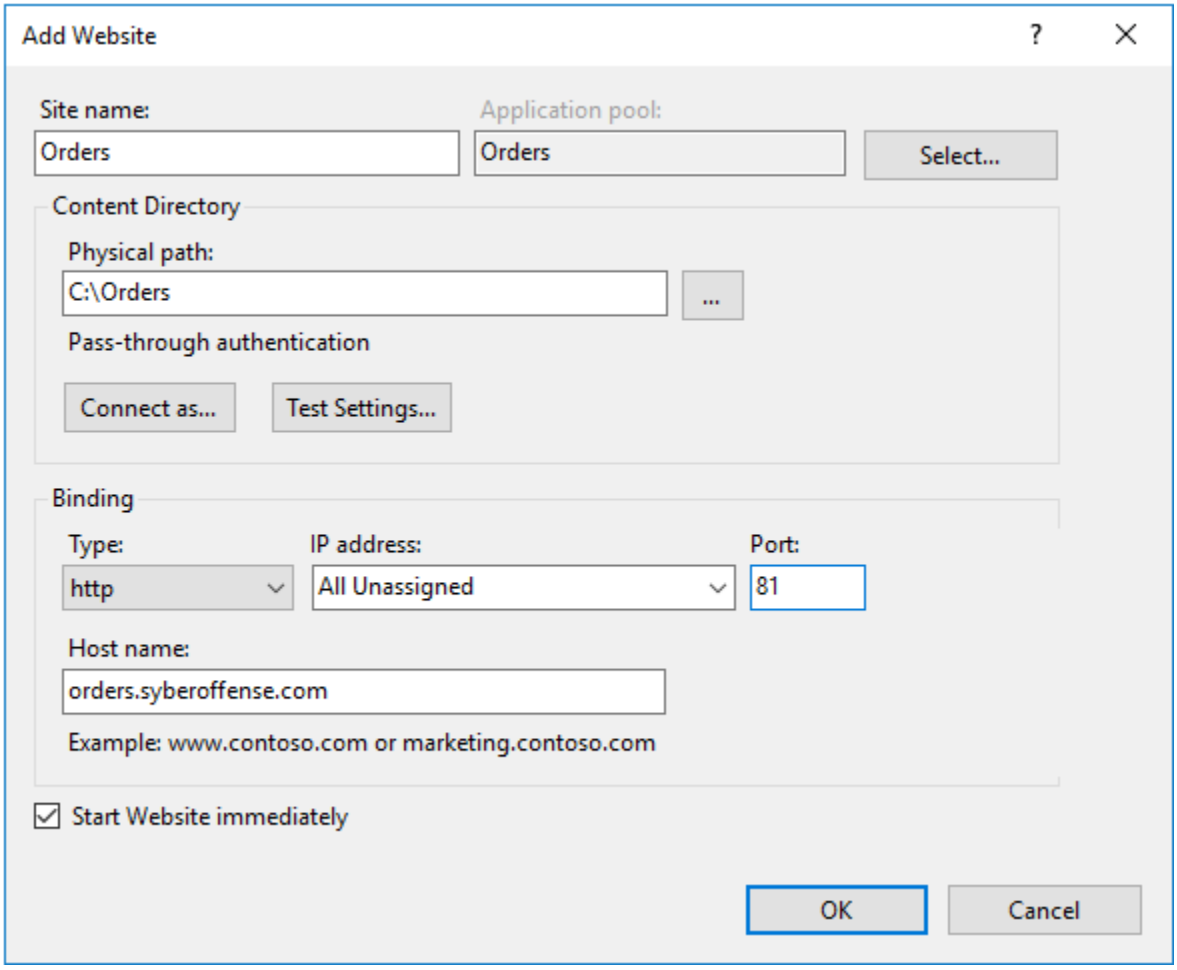


Open you File Explorer and open the new orders folder you created at the root of your C: Drive. Inside the orders folder, create a new text document called orders. Open the new text document and type, "Place your orders here!" with out the quotation marks. Close the documents and save your changes.



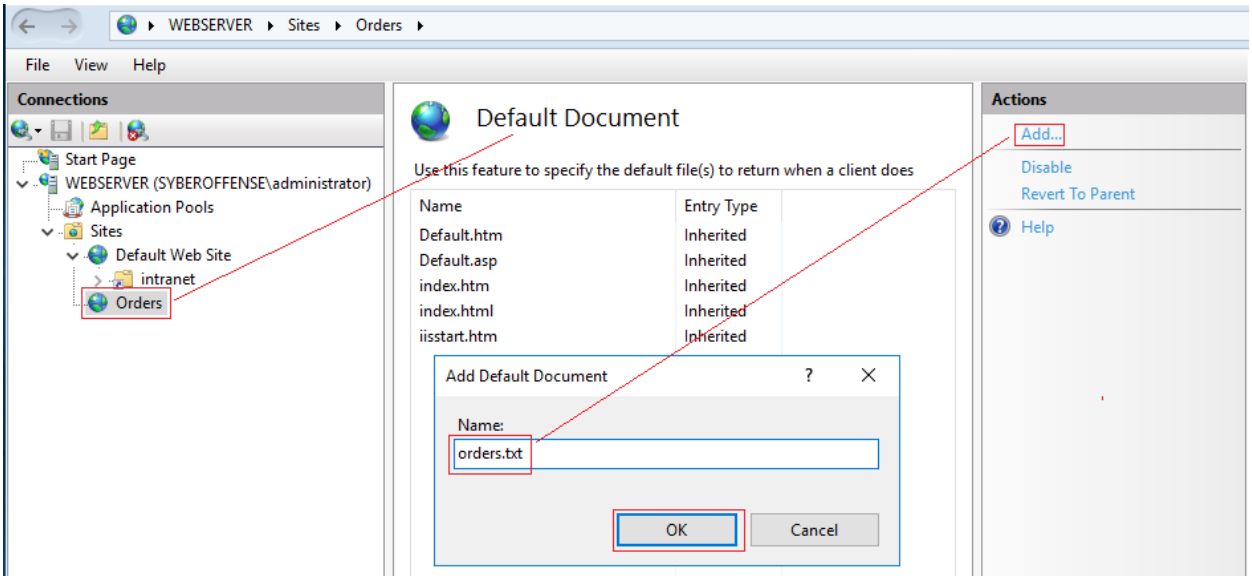
Return to you open dialog box in your IIS management console. In the Add Website dialog box, for the host name, type in **orders.syberoffense.com** or append the word orders to the back of your previous name for your default web site.

Change the default to port from 80 to port 81. This will allow both websites to run at the same time. If we leave it at port 80, only one website will be able to start. If this were a secure site, under type, you could select HTTPS.

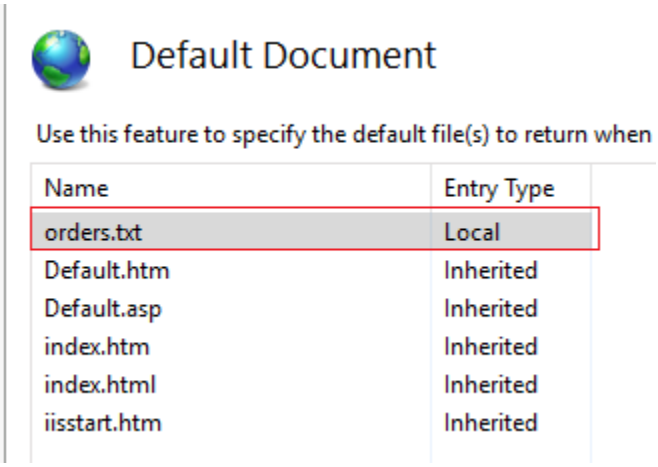


Click OK.

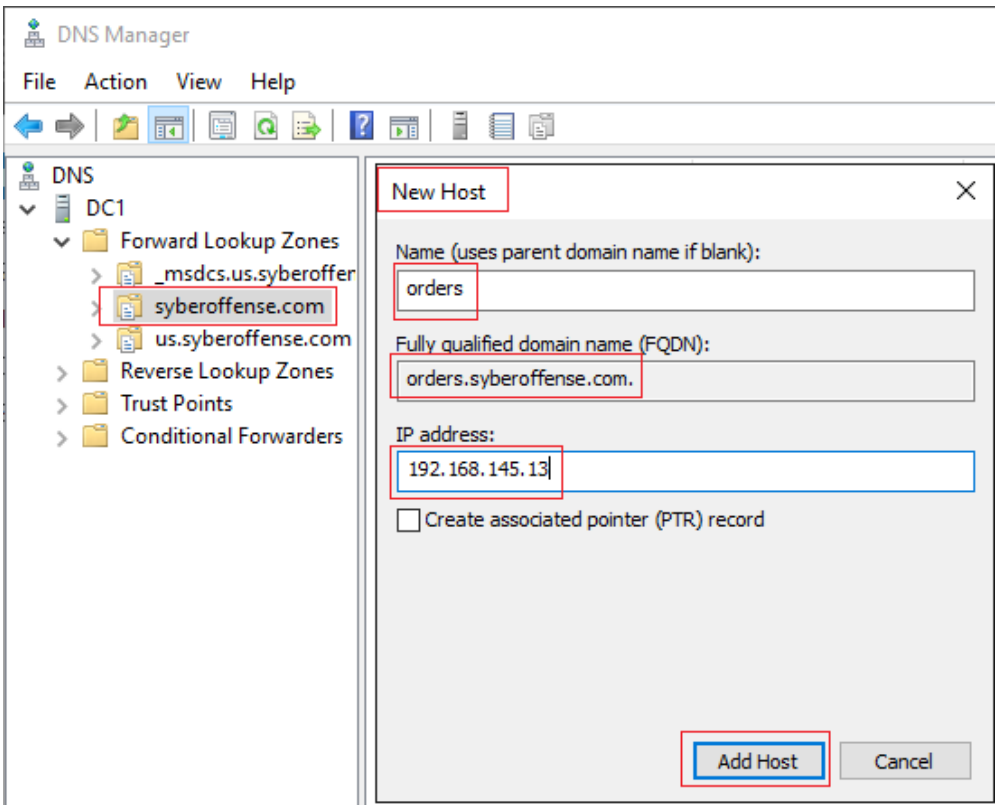
Click on the new Orders site and once again, x2 click on Default Documents and in the right window pane under Actions, click on Add. In the name dialog box, type the name of your orders.txt file.



Ensure the file is at the top of your Default Documents.

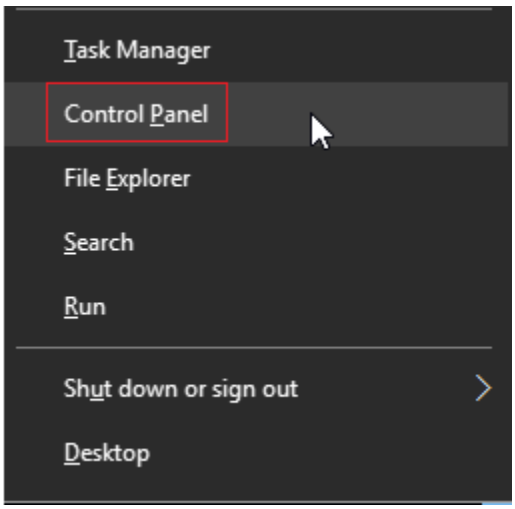


We next need to go back to our Domain controller, open our DNS management console and inside the new forward lookup zone we created earlier, create a new host record for our new website.



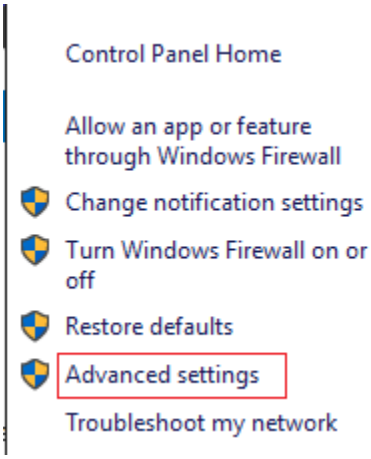
We next need to make a change to our firewall on the web server.

Go into your control panel. (Windows Key+X).

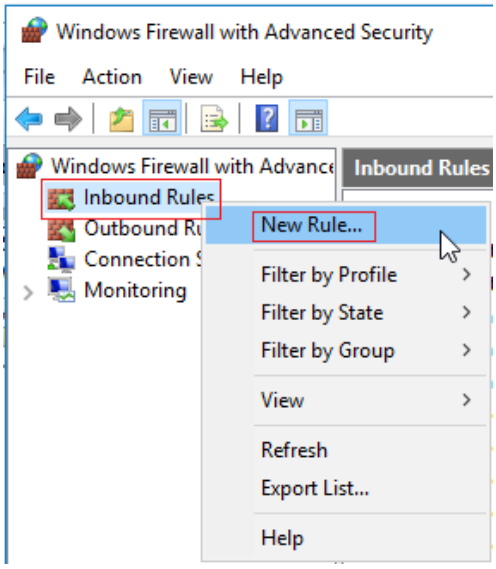


Open the Firewall.

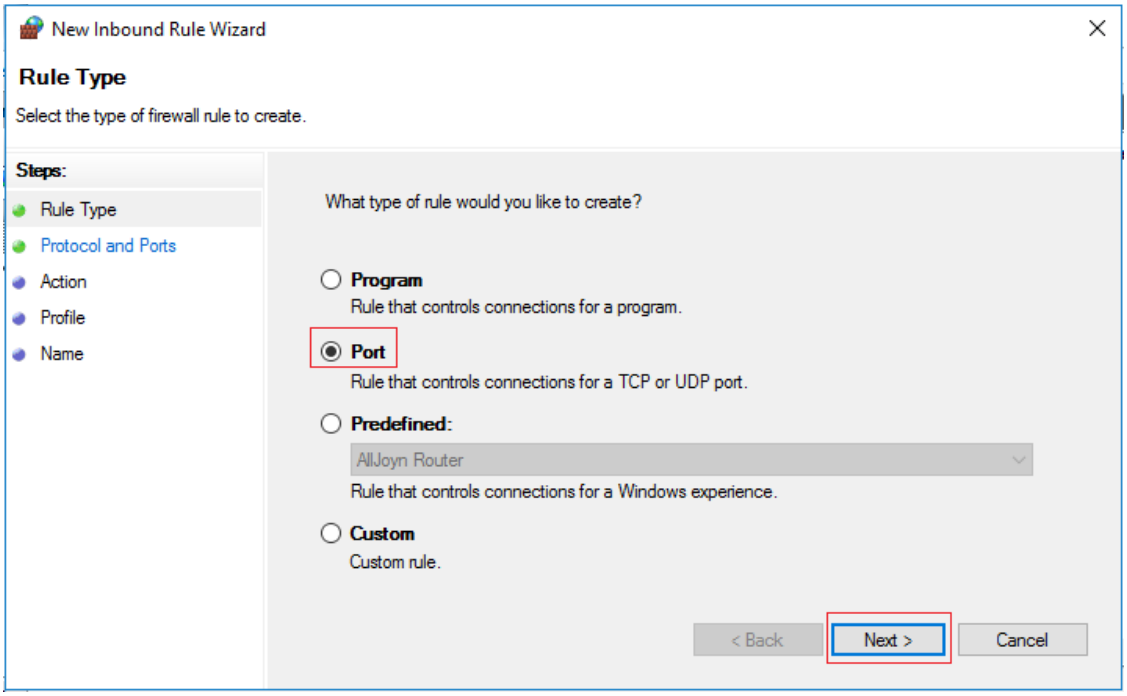
In the menu on the left, click on Advanced settings.



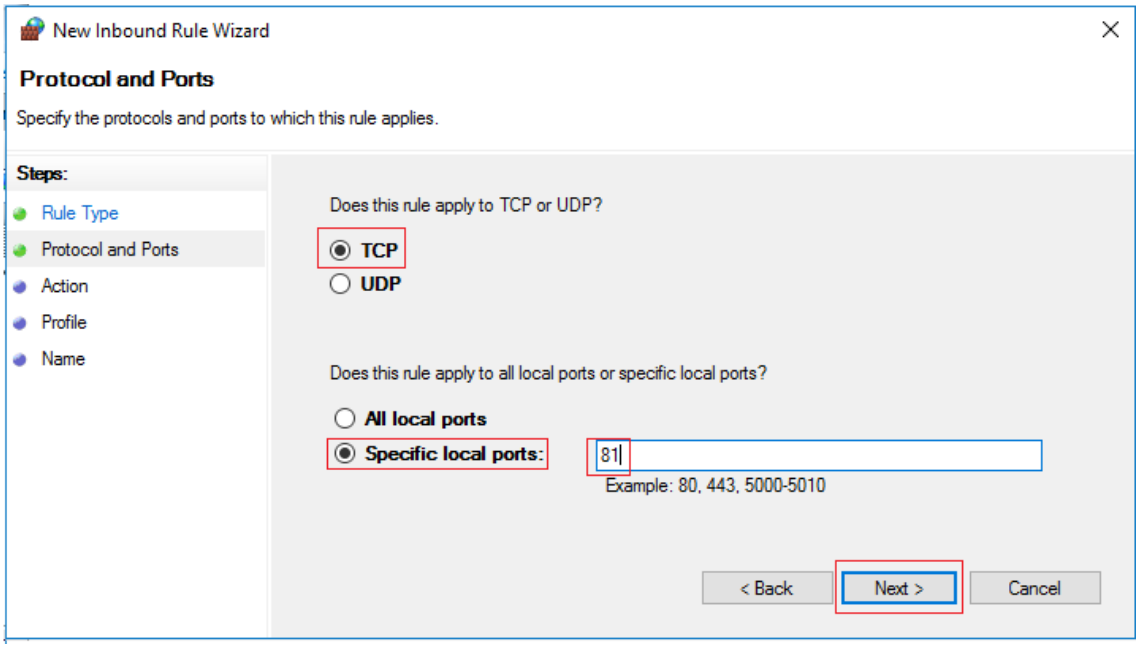
On the next screen, from the window pane on the left, right click on Inbound rule and from the context menu, select New Rule.



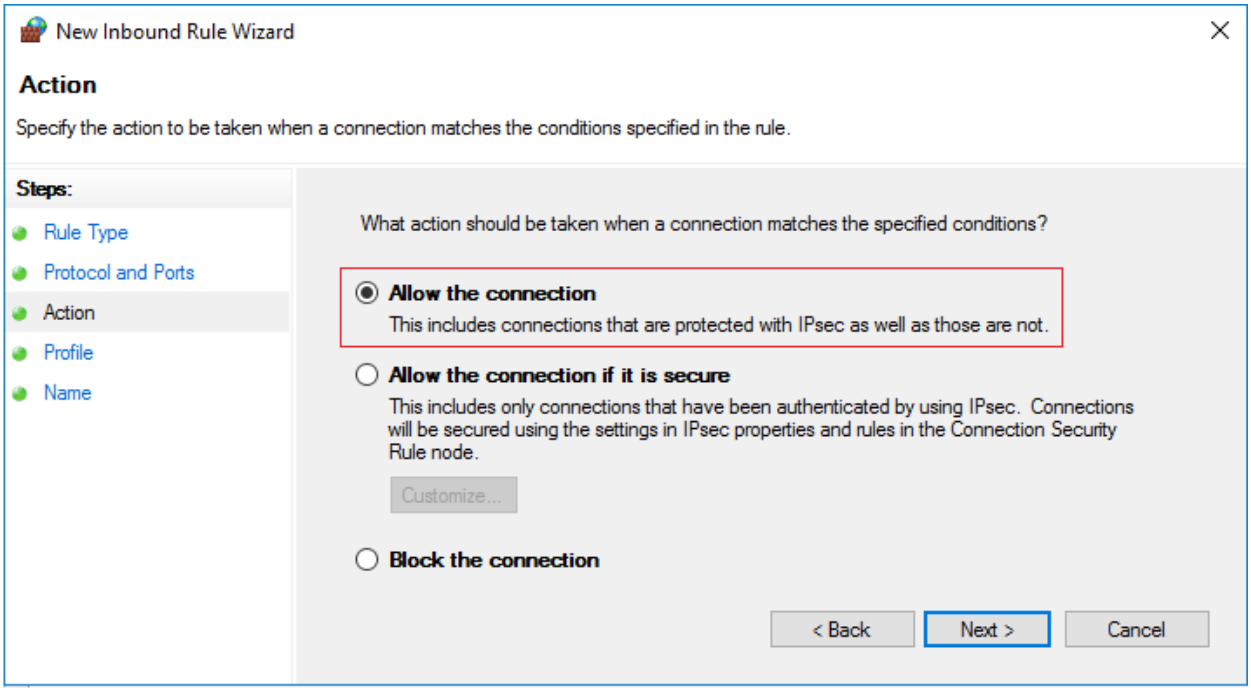
On the next screen, select Port and click next.



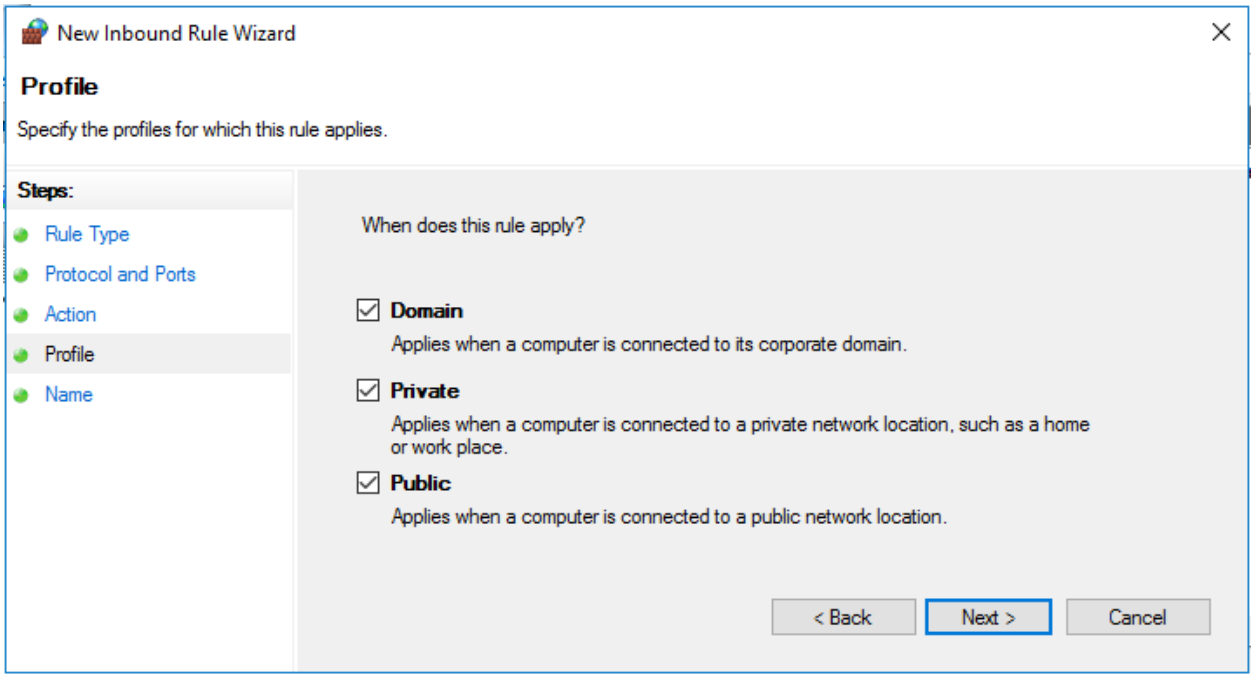
On the next screen, select TCP as the port type and specify the port as 81. Click next.



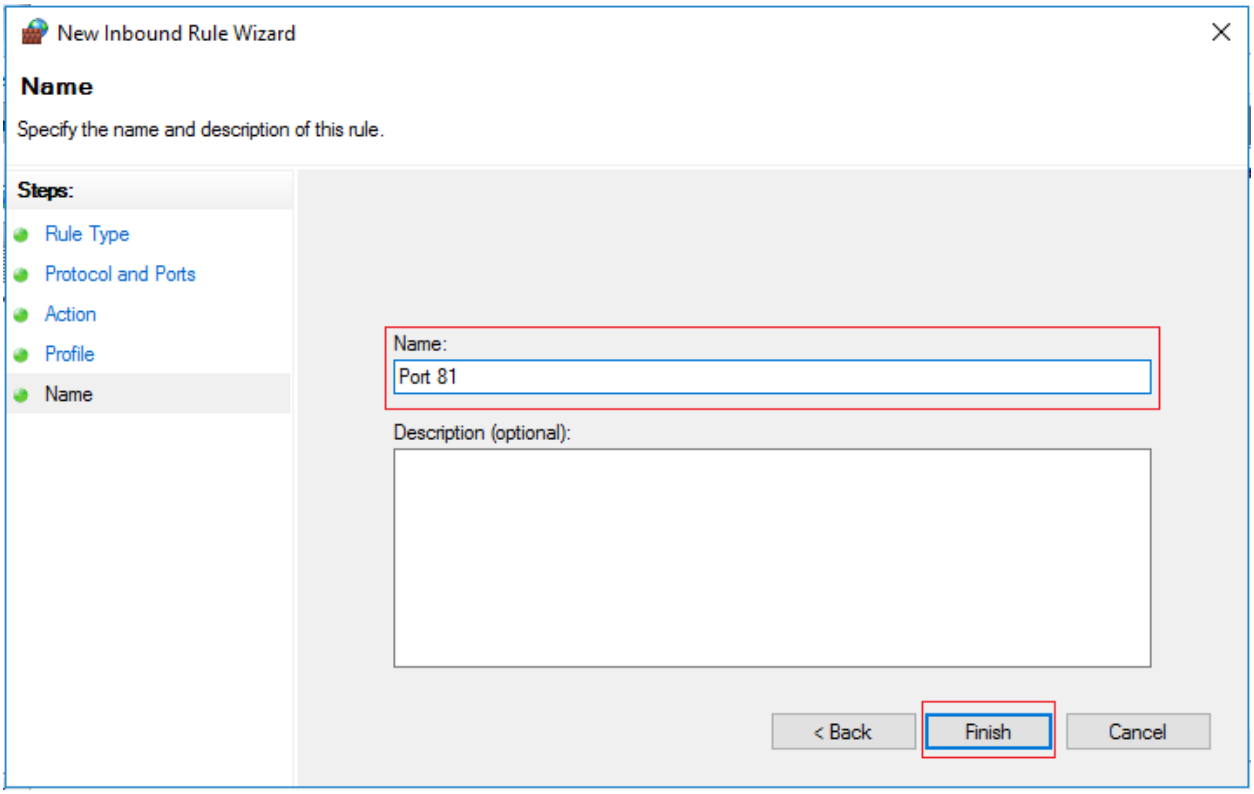
On the next screen, select to allow the connection.



On the next page, accept the defaults and click next.

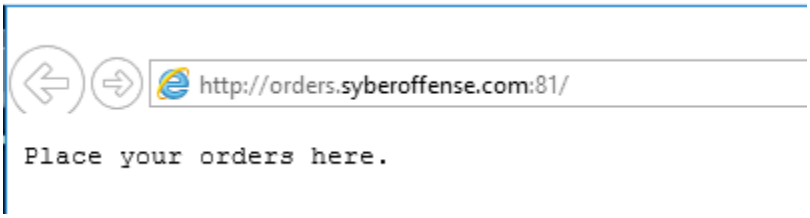


On the next page, give the new inbound rule a name. Click Finish.



From your Windows 10 client, open a web browser and in the address bar type, **orders.syberoffense.com:81**

Success!



Summary

In this lab, you learned how to install IIS using either PowerShell or the Server Manager. You also learned how use and modify the default web site. You also learned how to create a default document and to how to create a new primary look up zone and add new host records to resolve the names of your websites and virtual directories to an IP address. You also learned how to create a virtual directory for internal site and how to create a new website and assign it a different port number. Finally, you learned how to create an inbound rule using the advanced settings of the firewall.