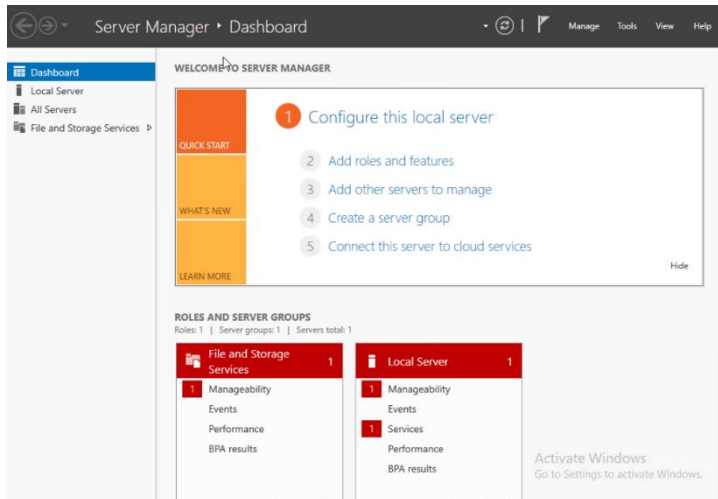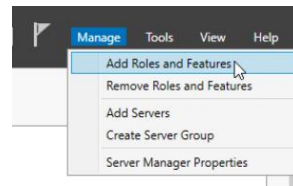# Internet Information Services

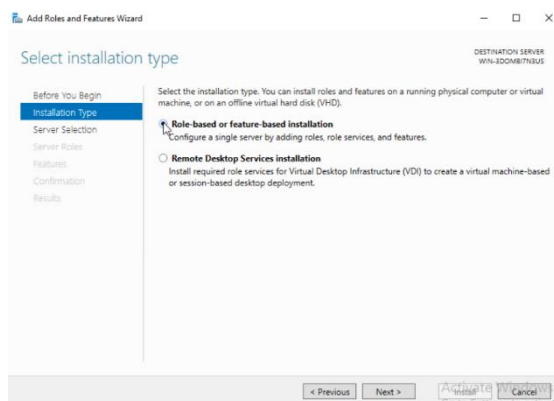## 1.1 How to install the ISS on a Windows Server virtual machine

1. First, you need to connect yourself on your virtual machine on VCenter.
2. Then you search **Server Manager** and open it. It looks like that:
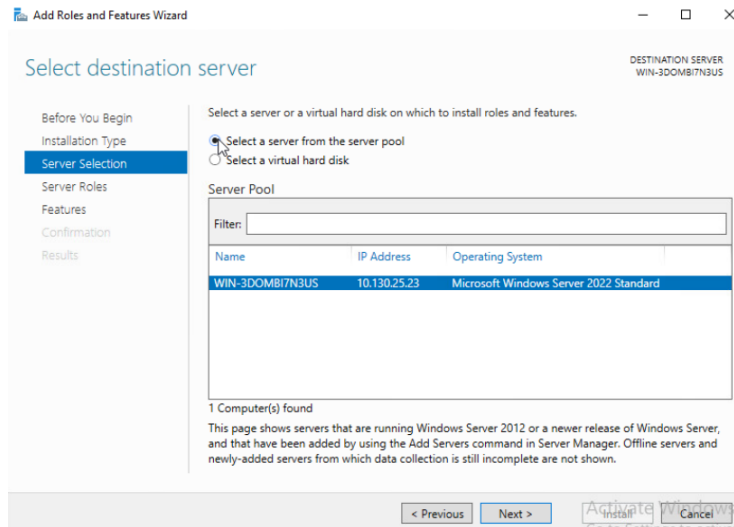

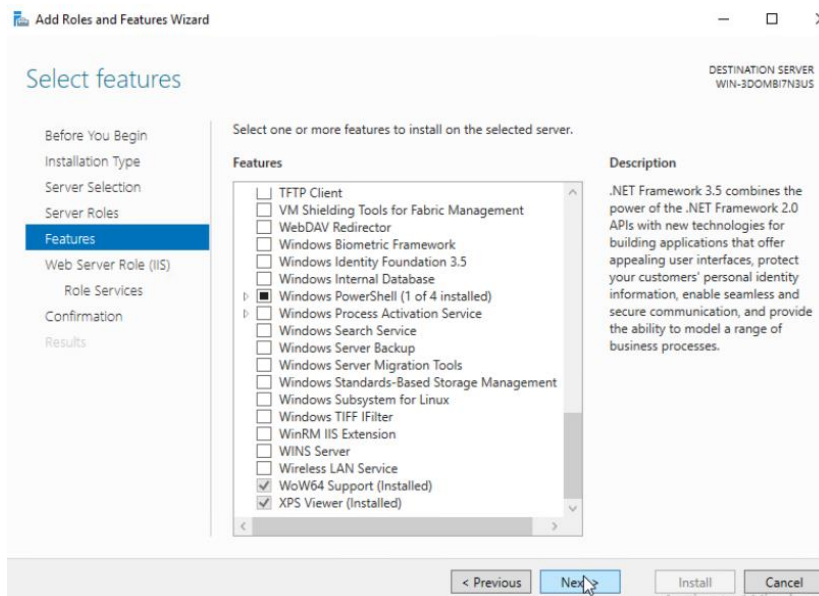3. You go to **"Manage"** → **"Add Roles and Features".**

4. Skip the 1st page (if you want you can skip it by default).
5. Choose the **"Role-based or feature-based installation"** and click **next**.
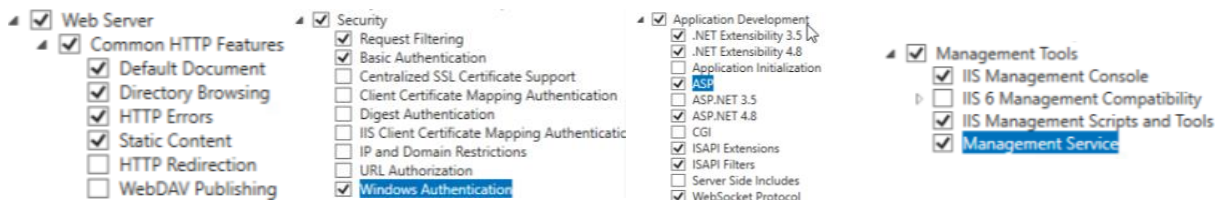
6. Choose **"Select a server from the server pool"** and click **next**. The local server is selected by default.

7. Choose **"Web Server (IIS)"** and click **next**.
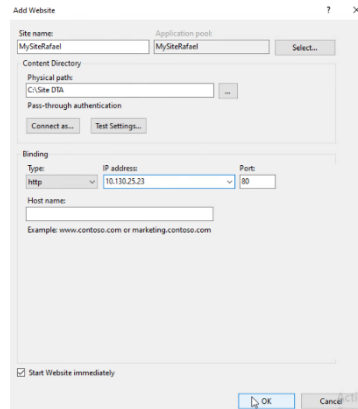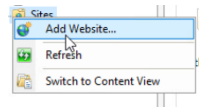8. On select features, don't do anything, just click **next**.

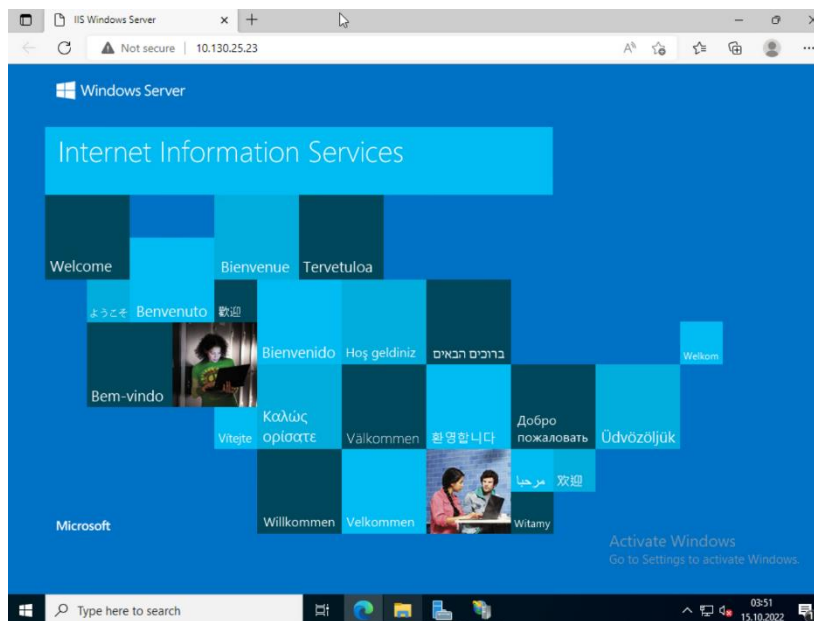9. On the features of Web Server Role (IIS) choose these ones and click **next**:

10. Confirm installation selections and **install**.

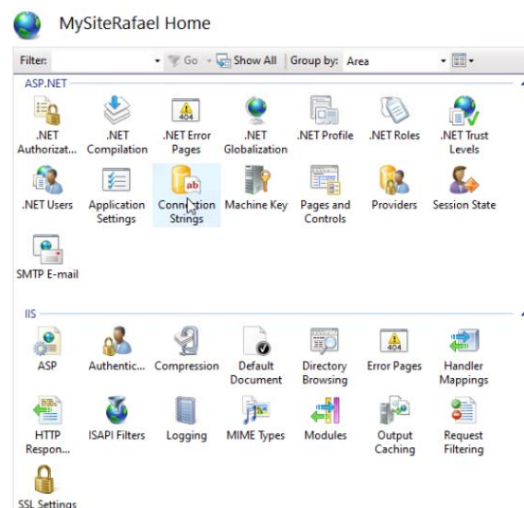## 1.2 Create a site on :80

1. Open the **ISS**.
2. On "sites", right click and select **"add website"**.
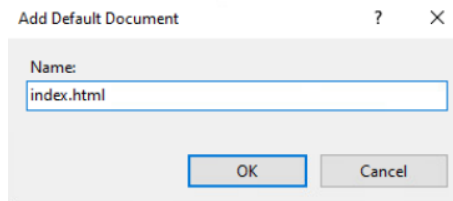3. Choose a site name, a physical path, an IP address and an 80 port.

4. We can see that when we open the website it looks like that:

5. To change the display of the website, we need to set up the order of the default documents. To do it, we need to choose **"default document"** on the site features.

6. Right click → **add**. Add a default document with the name **"index.html".**

7. To prioritize the **index.html** document we need to put it on 1st in the list. To do it we have a button **"Move Up"** on the right column.
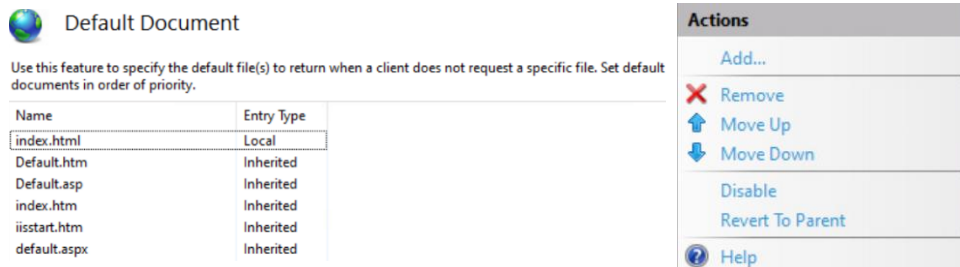
8. Then we go on the **physical path** of the site and create a **text document**.
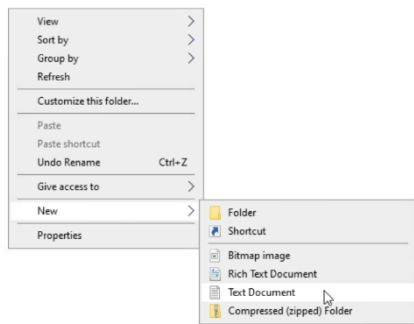
9. We write our HTML code on the notepad:

10. When we save the text file, we need to change it to a **html file**. To do it we right click and go to **properties**. Then we change the file name to **"index.html"** and save.
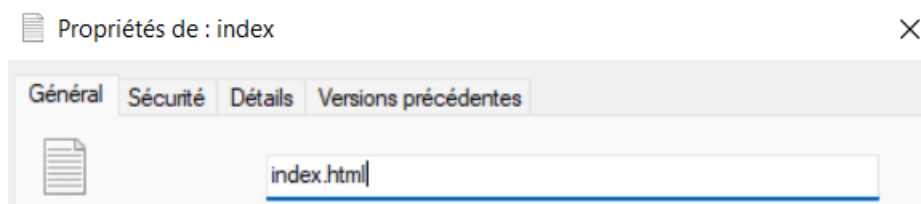
11. Then on the ISS we select the site → right click → **refresh**.
12. When we open the site, it finally looks like this:
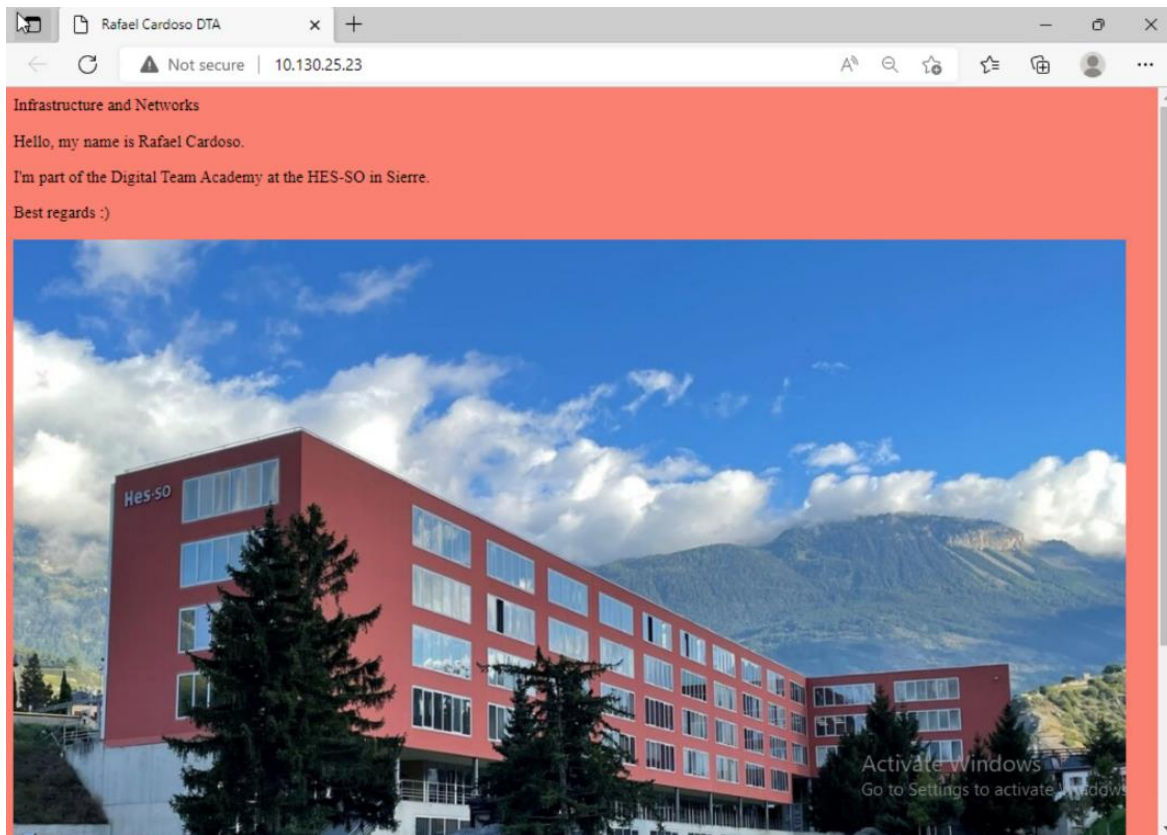
How to access the site from my workstation with putty:

1. On **putty**, select the following settings:
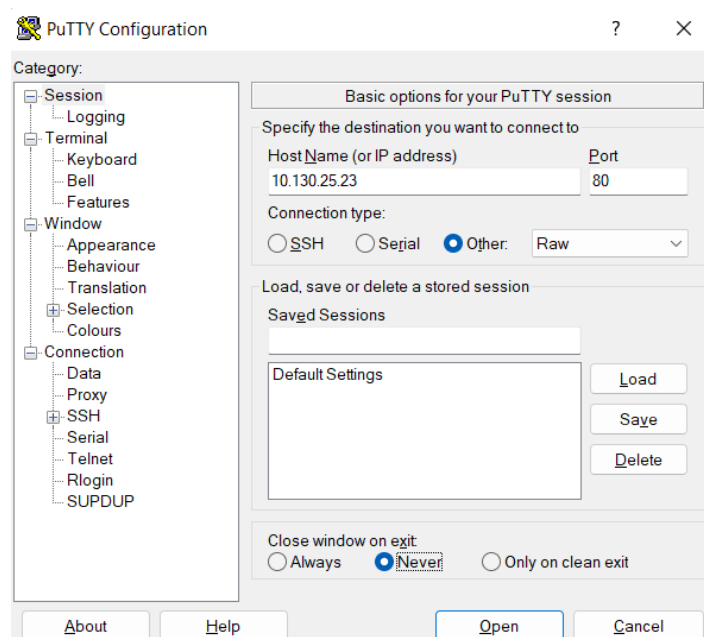
2. When the command prompt opens, do a **GET request**:
   o GET / HTTP/1.1
     Host: 10.130.25.23

We receive the following answer:

Access the site with my browser and capture the conversation with Wireshark:

1.3 Create a site on :8080

1. Do the same steps as to create a site on :80 but **change the port to 8080**.

2. The site looks like that:

Access the site from my workstation with putty:

1. On **putty**, select the following settings:

2. This time when we do a **GET request** it doesn't work. Putty marks an error:

PuTTY Fatal Error   ✕

❌ Network error: Connection timed out

OK

3. To solve this problem, we need to create **a rule** on the firewall that **allows the connection to 8080 ports**.
   To do it, we need to go on Control Panel → System and Security → Windows Defender Firewall → Advanced settings.

4. On **"Inbound rules"**, create a new port rule.

New Inbound Rule Wizard   ✕

Rule Type

Select the type of firewall rule to create.

Steps:
● Rule Type
● Protocol and Ports
● Action
● Profile
● Name

What type of rule would you like to create?

○ **Program**
  Rule that controls connections for a program.

◉ **Port**
  Rule that controls connections for a TCP or UDP port.

○ **Predefined:**
  AllJoyn Router
  Rule that controls connections for a Windows experience.

○ **Custom**
  Custom rule.

5. Choose the following settings:

Does this rule apply to TCP or UDP?

◉ **TCP**
○ **UDP**

Does this rule apply to all local ports or specific local ports?

○ **All local ports**
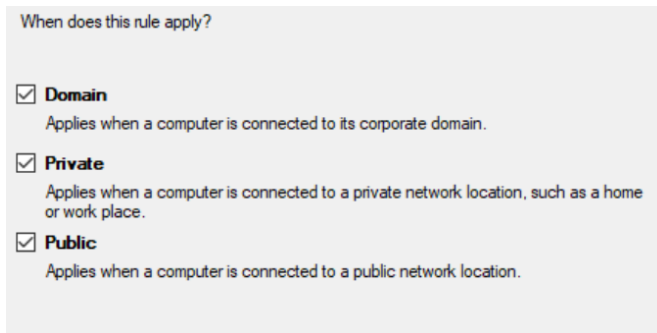◉ **Specific local ports:**   8080
                                Example: 80, 443, 5000-5010

< Back   Next >   Cancel

6. Select **"allow the connection".**
7. Apply the rule to all the 3 options.


```
When does this rule apply?

☑ Domain
   Applies when a computer is connected to its corporate domain.

☑ Private
   Applies when a computer is connected to a private network location, such as a home
   or work place.

☑ Public
   Applies when a computer is connected to a public network location.
```

8. Give a **name to the rule** and click on **finish**.
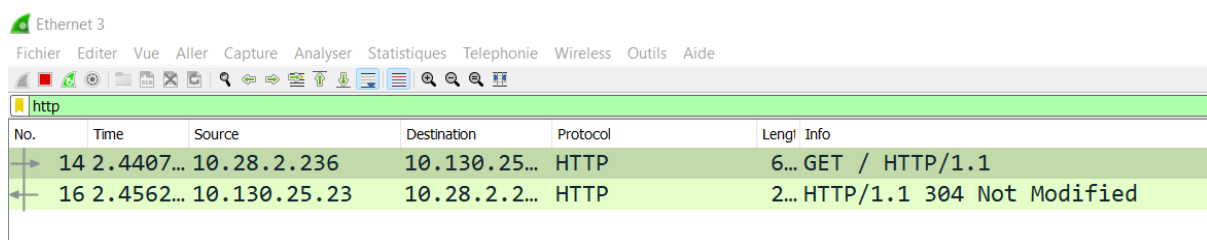9. Now, when we connect with Putty it works:


```
10.130.25.23 - PuTTY

GET / HTTP/1.1
Host:10.130.25.23

HTTP/1.1 200 OK
Content-Type: text/html
Last-Modified: Sat, 15 Oct 2022 11:27:35 GMT
Accept-Ranges: bytes
ETag: "57faae1f89e0d81:0"
Server: Microsoft-IIS/10.0
X-Powered-By: ASP.NET
Date: Sat, 15 Oct 2022 15:26:50 GMT
Content-Length: 476

<html>
 <head>
    <title>Rafael Cardoso DTA</title>
   <head>Infrastructure and Networks </head>
   <body style="background-color:DeepSkyBlue;">
       <p>Hello, my name is Rafael Cardoso.</p>
       <p>I'm part of the Digital Team Academy at the HES-SO in Sierre.</p>
       <p>Best regards :)</p>

       <img src="https://www.lenouvelliste.ch/media/image/109/nf_normal_4_3/hes-s
o-sierre.jpg?f4a4e6e600244e90c8e9dbc1629bdd06" alt="Photo HES">
   <body>
</html>
```
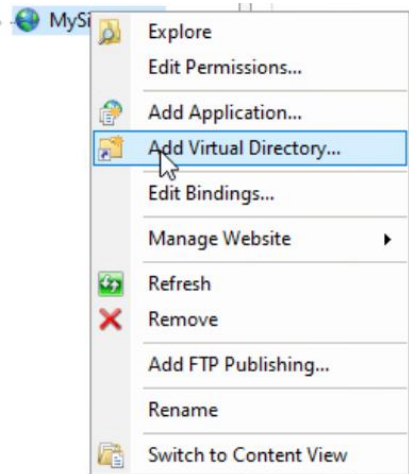
Access the site with my browser and capture the conversation with Wireshark:


```
Ethernet 3
Fichier  Editer  Vue  Aller  Capture  Analyser  Statistiques  Telephonie  Wireless  Outils  Aide

http
```

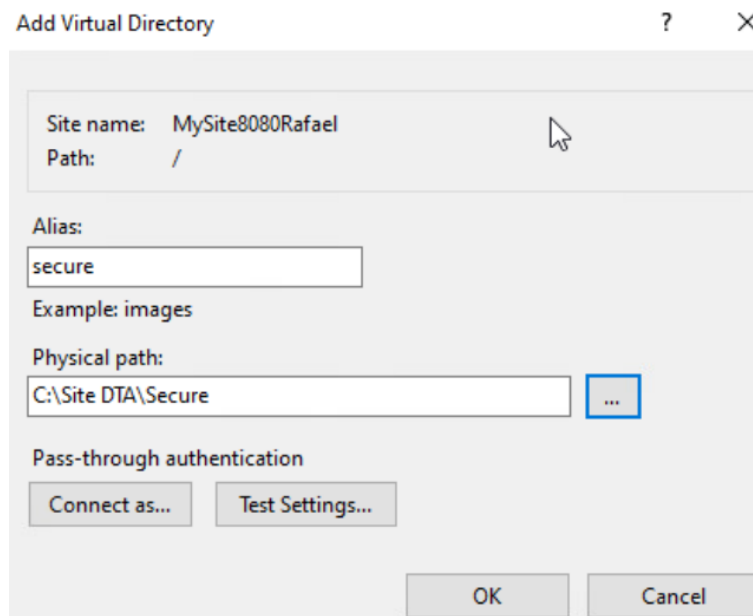| No.	Time	Source	Destination	Protocol	Lengt	Info
14	2.4407…	10.28.2.236	10.130.25…	HTTP	6…	GET / HTTP/1.1
16	2.4562…	10.130.25.23	10.28.2.2…	HTTP	2…	HTTP/1.1 304 Not Modified

2.0 Authenticated access on a folder

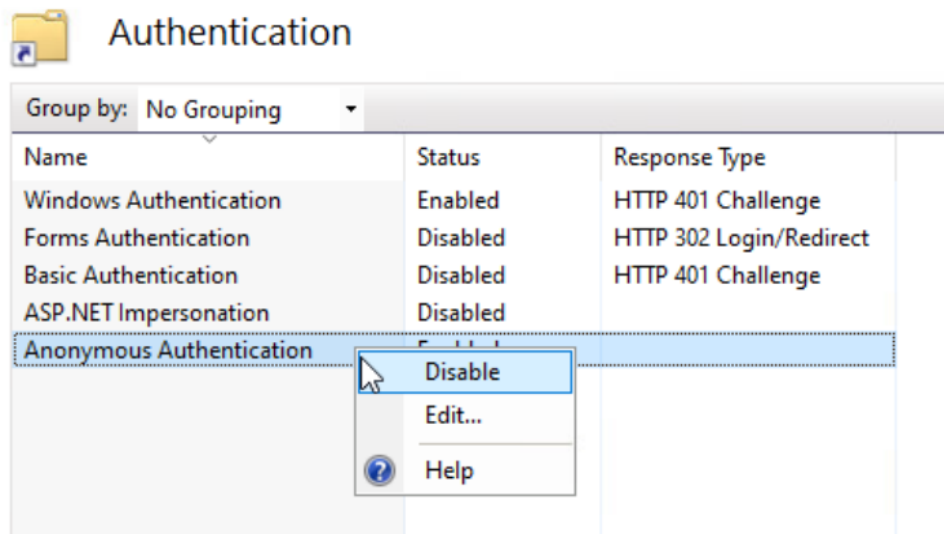1. Right click on the site → **"Add virtual directory".**

2. Choose a **folder name** and the **physical path**:

3. To add an authentication, we need to choose **"Authentication"** on the **IIS**.
4. Then we need to enable a type of authentication. Here, I choose the **"Windows Authentication"**. To enable it, we do a right click → **enable**.
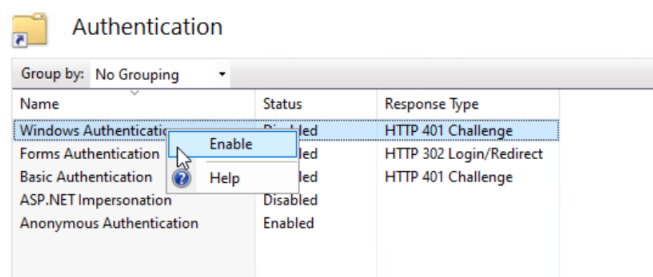
5. We also need to **disable** the **"anonymous authentication"**.

6. Now, when we try to connect on our website it looks like this: