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I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.

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1. Introduction

Windows PowerShell

Windows PowerShell is a tool from Microsoft that helps manage and automate tasks on computers. It's both a command-line program and a scripting language, making it easy to handle things like files, processes, and network settings. You can use it to write scripts for repetitive tasks or to manage multiple systems at once, both locally and remotely (Microsoft, 2024).

IP Address

An IP address is like the digital address of a device on a network. It helps devices find and talk to each other, like sending and receiving data. There are two types: IPv4, which looks like 192.168.1.1, and IPv6, which is longer and designed for more devices. Some IP addresses are used only inside private networks, while others are public and can be accessed over the internet (Rooney, 2010).

Web server (IIS) feature

The Web Server (IIS) role in Windows Server 2012 provides a robust, modular, secure, and flexible platform for reliably hosting websites, services, and applications. IIS 8 enables users to share information across the Internet, intranets, and extranets. As a unified web platform, IIS 8 combines features such as IIS itself, ASP.NET, FTP services, PHP, and Windows Communication Foundation (WCF).

Here are some key advantages of using IIS 8:

- Enhanced web security through a minimized server footprint and automatic isolation of applications.
- Seamless deployment and operation of ASP.NET, classic ASP, and PHP web applications on the same server.
- Application isolation with unique worker process identities and default sandbox configurations, reducing security vulnerabilities.
- The ability to customize IIS by adding, removing, or replacing components with tailored modules.
- Improved website performance through dynamic caching and advanced compression mechanisms.

Practical Applications of IIS

System administrators can leverage the Web Server (IIS) role to manage multiple websites, web applications, and FTP sites. Some notable features include:

- Using IIS Manager for feature configuration and website administration.
- Allowing website owners to upload and download files via File Transfer Protocol (FTP).
- Ensuring website isolation to prevent interference between websites hosted on the same server.
- Configuring web applications developed with various technologies, including classic ASP, ASP.NET, and PHP.
- Automating administrative tasks with Windows PowerShell for efficient web server management.
- Organizing multiple web servers into a server farm for centralized management through IIS.
- Maximizing performance on NUMA-enabled hardware to fully utilize its capabilities.

2. Objective

The objective of this workshop is to install roles and features in windows server 2022 that helps to host a static website.

3. Required Tools and Concepts

i. **System requirements-:**

First off all your system must fulfil the sufficient storage and processing power to run VMware or virtual Box smoothly at least 8 GB of ram and 50 GB if storage is recommended with multi core processor.

ii. **Virtualization Software-:**

Then you need to install virtualization tool that allows to create virtual machine on the system.

iii. **Windows Server 2022 ISO File-:**

A copy of windows server 2002 ISO file which is available in the Microsoft official website.

iv. **Website to host-:**

Download a template using www.free-css.com and extract it. Create a folder in C drive and copy all the extracted files in that folder.

4. Steps of Replicate

Step 1: Opening a Server Manager

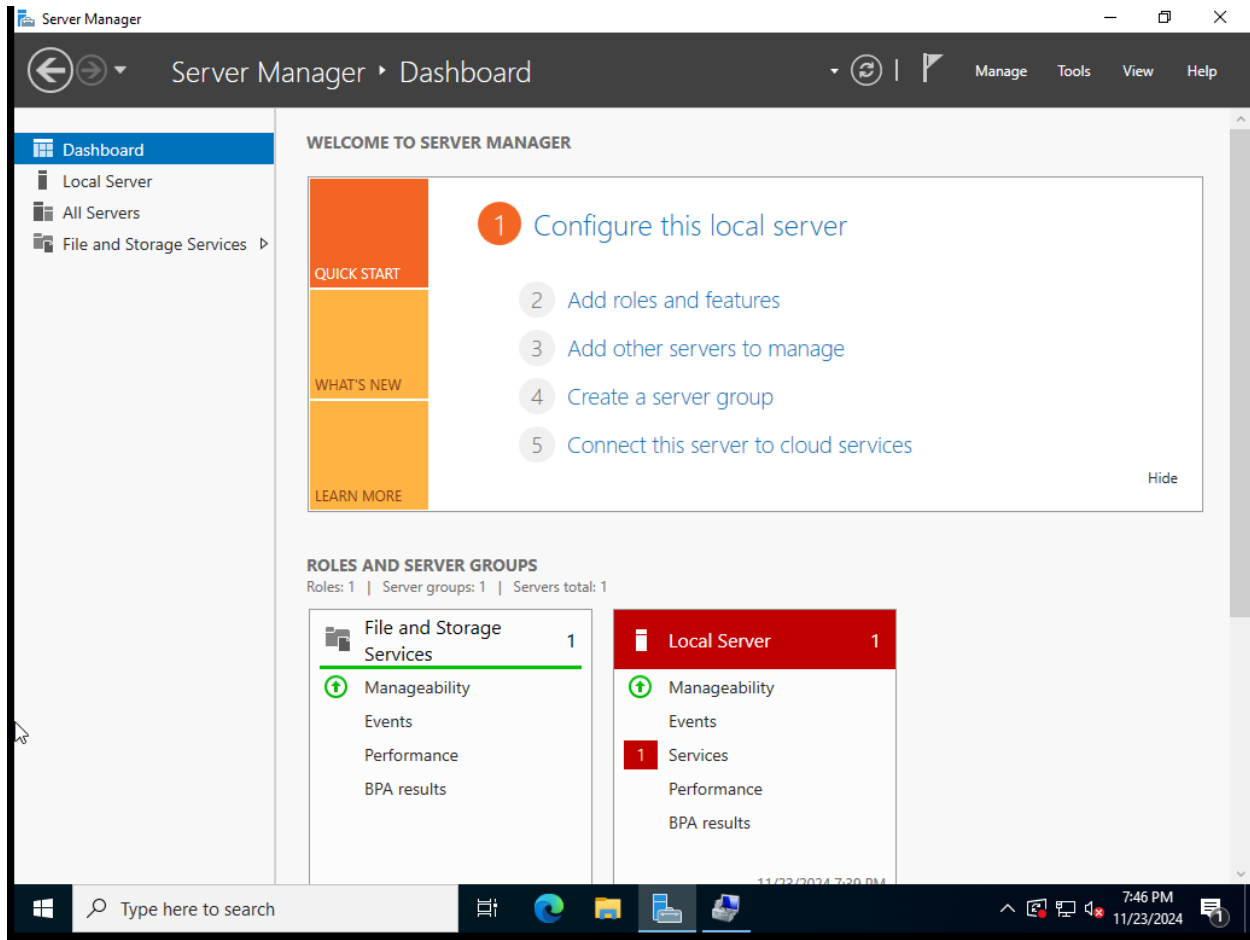


Figure 1: Opening a Server Manager

Step 2: Click on “Add roles and features”

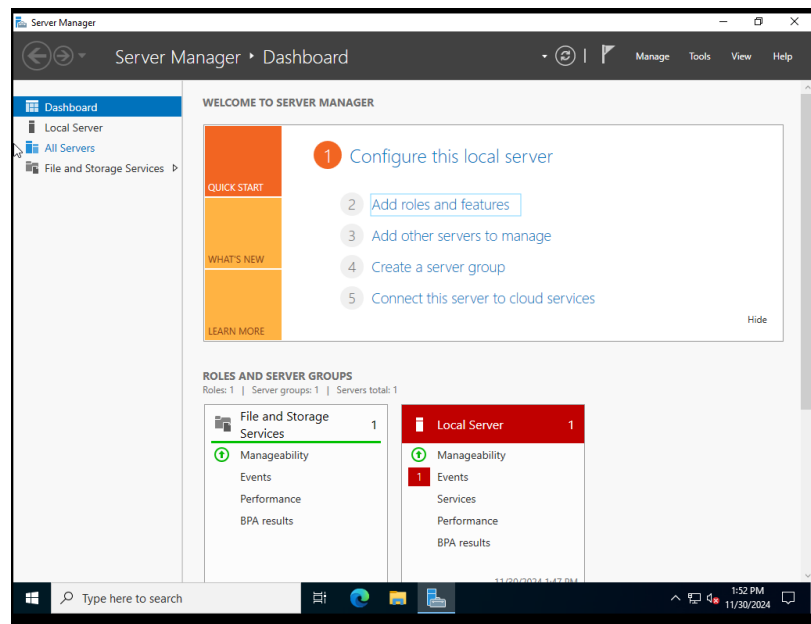


Figure 2: add roles and features

Step 3: Click next

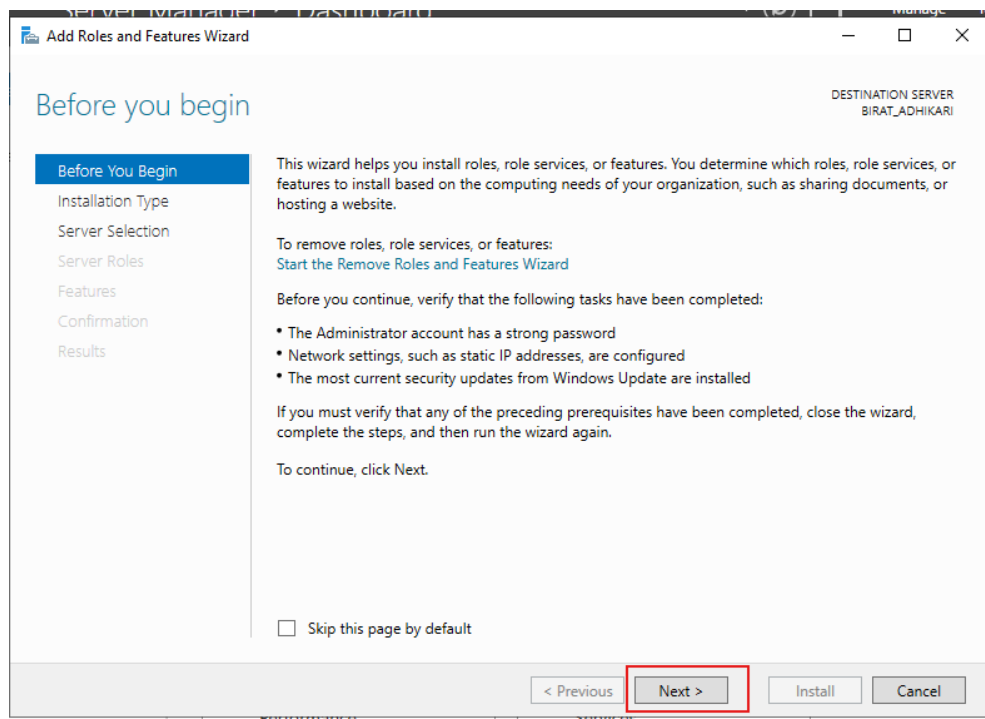


Figure 3: Window after clicking in add roles and features

Step 4: Check “Role-based or feature-based installation”

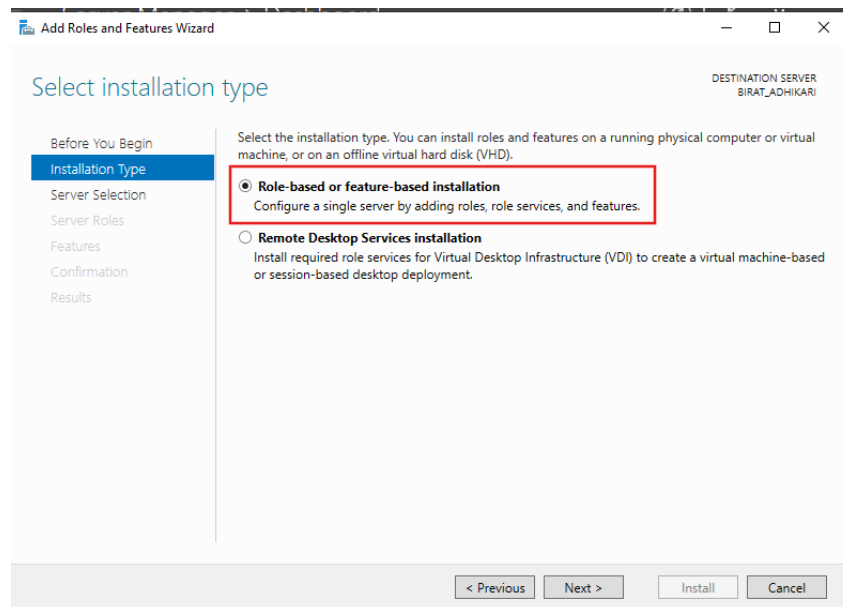


Figure 4: role-based or feature based installation

Step 5: Hit enter without changing anything

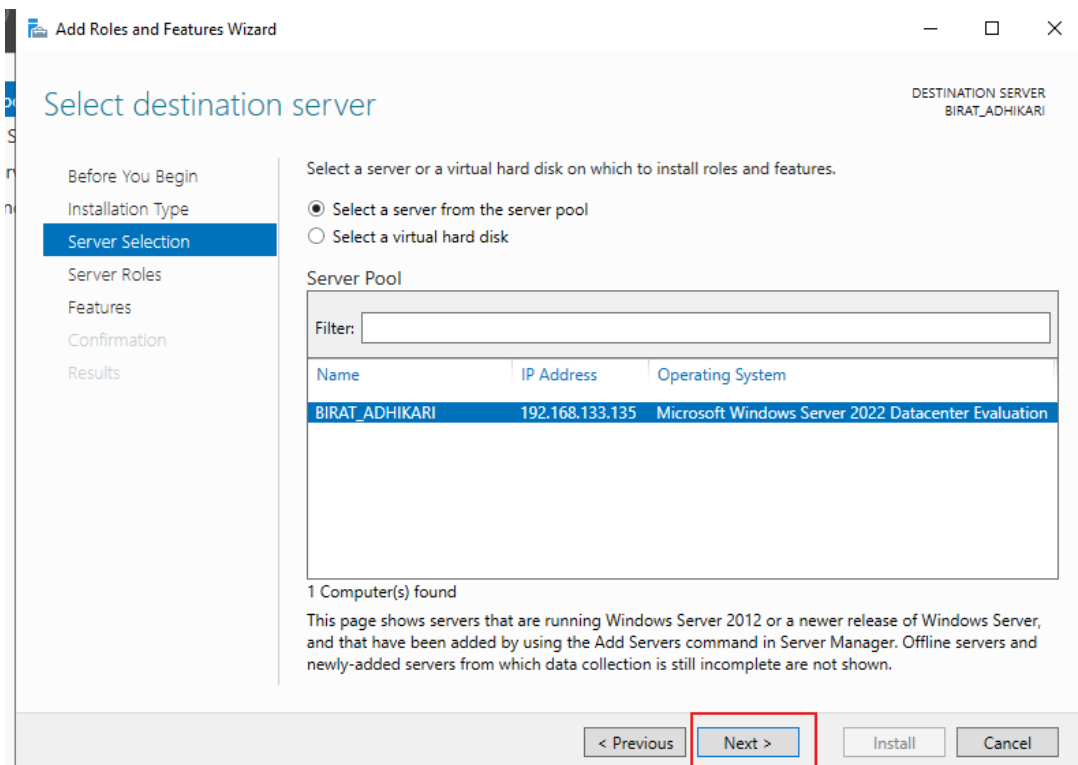


Figure 5: server selection

Step 6: Tick on “Web Server (IIS)” feature.

To host a website, we need to add a new role in server that we call it Web Server. This lets us to host web application over server.

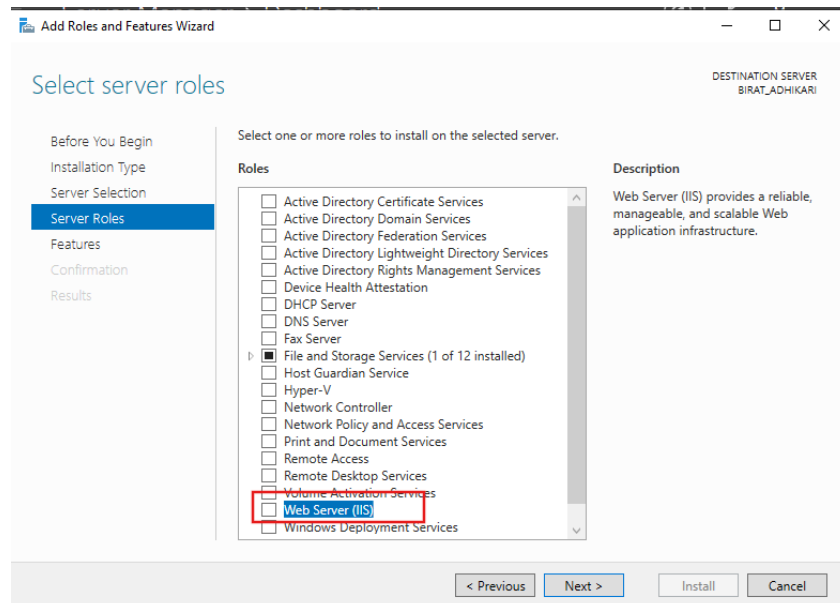


Figure 6:check web server (IIS)

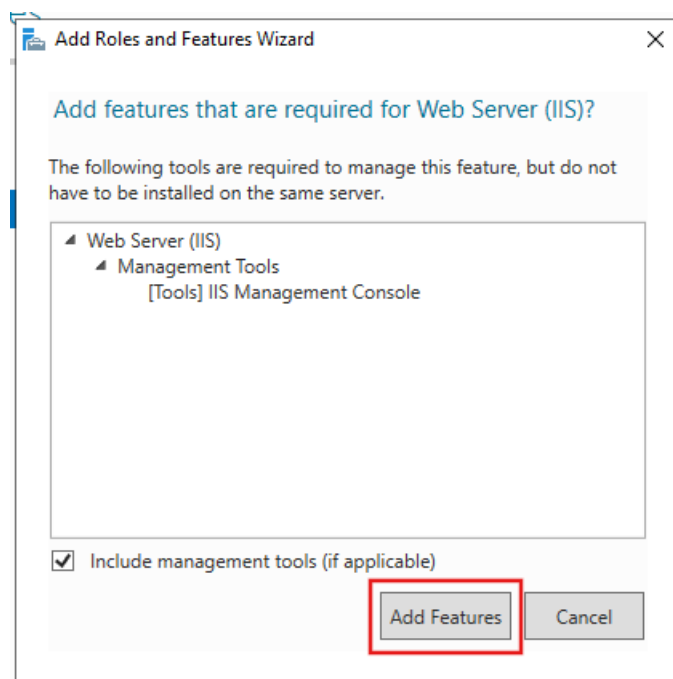


Figure 7:add features

Step 8: Again click next leaving all default values.

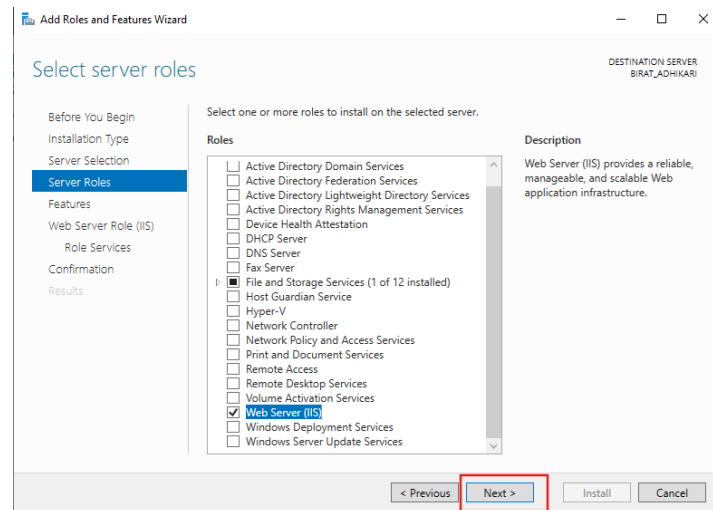


Figure 8:hit enter with default value

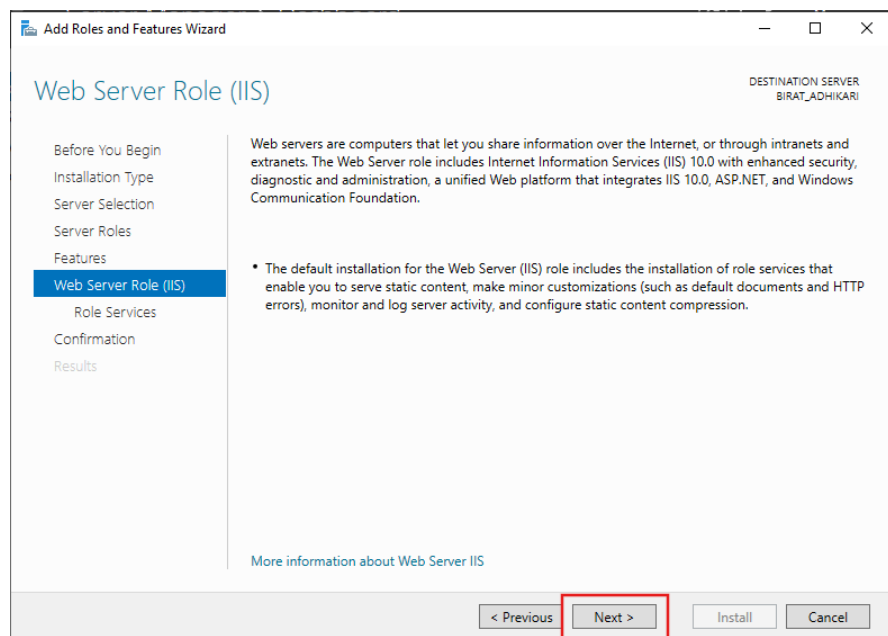
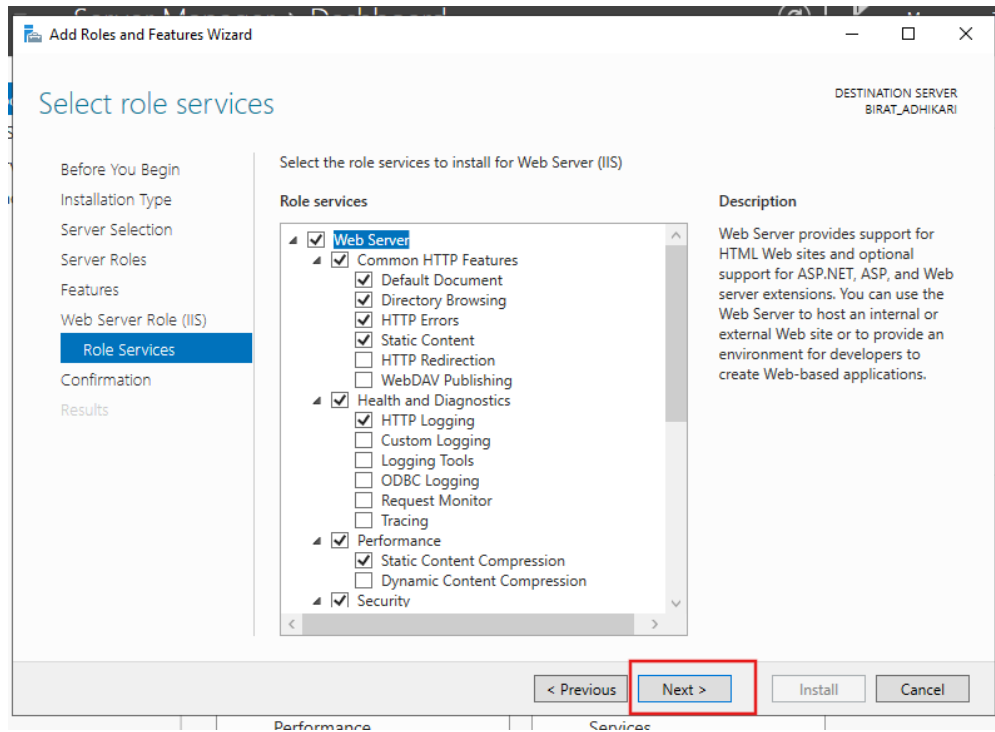


Figure 9: click next with default value



Step 9: Tick on “Restart the destination server automatically if required” and press Yes button.

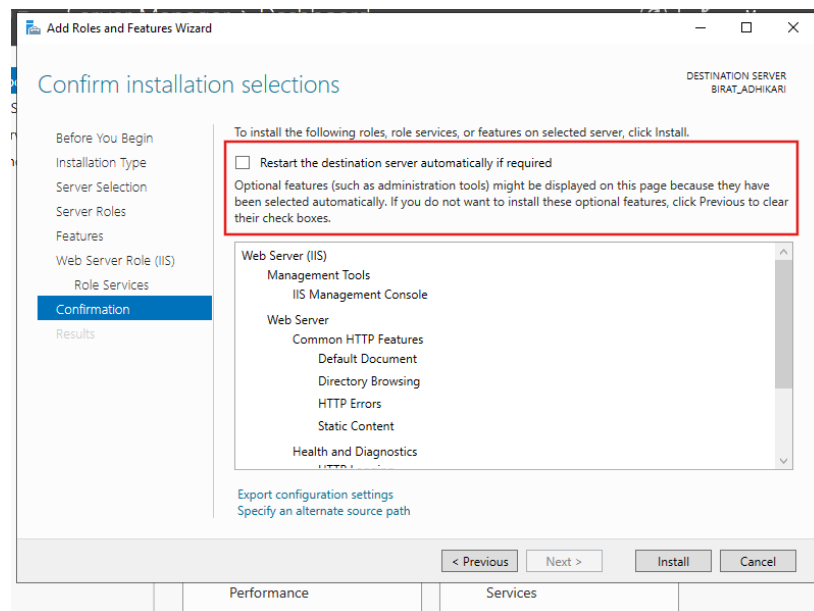


Figure 10: tick restart the destination server automatically

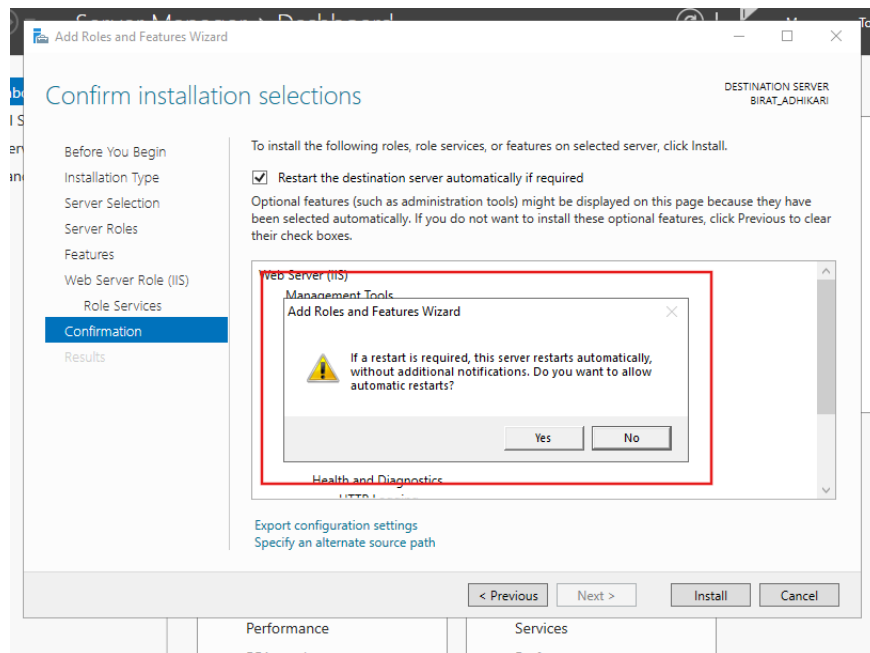


Figure 11:allow automatic restart

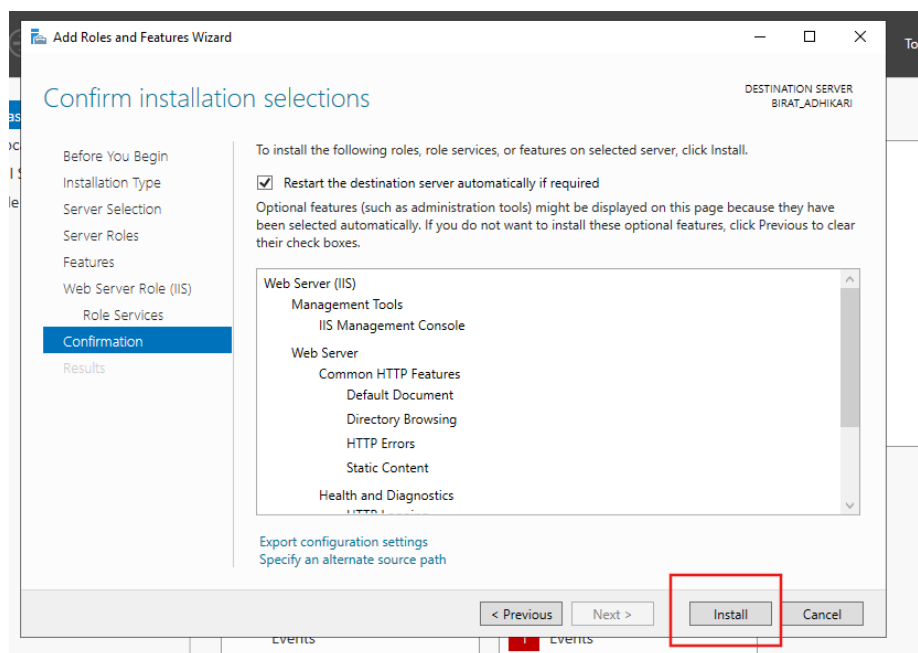


Figure 12:install required features by clicking install button

Step 10: Now it will take some time to get installed required features.

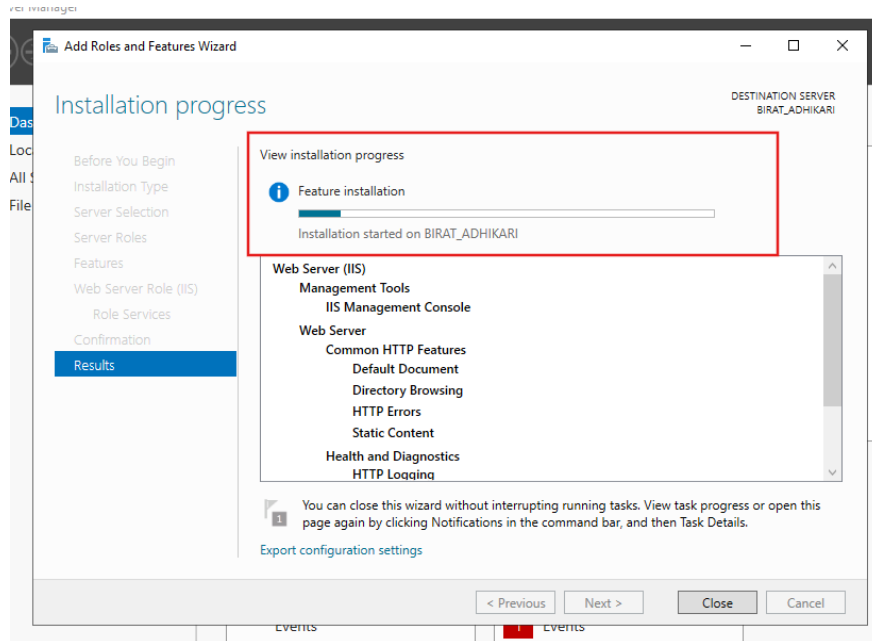


Figure 13: installation process of required features

Step 11: The IIS manager will be now open. We can see our server name on the left pane of the manager.

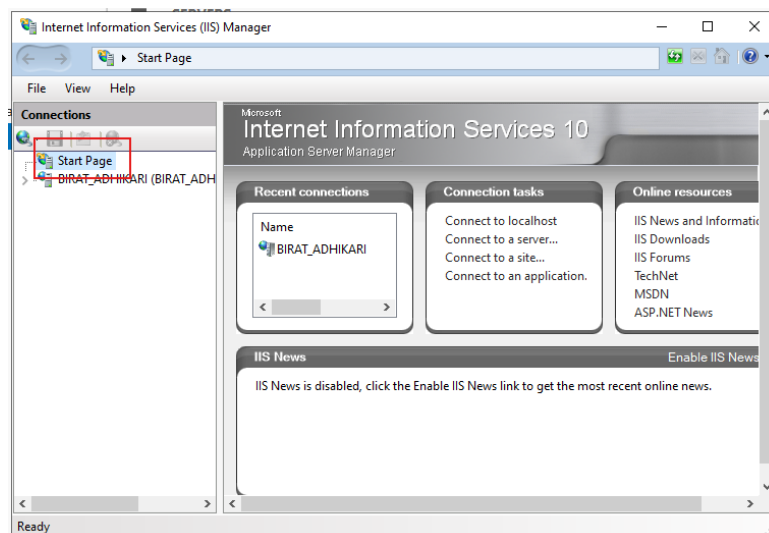


Figure 14: IIS Manager console

Step 12: Click on dropdown button. Now you may see “Sites” option. Again click on drop down button near Sites menu right click it and add website.

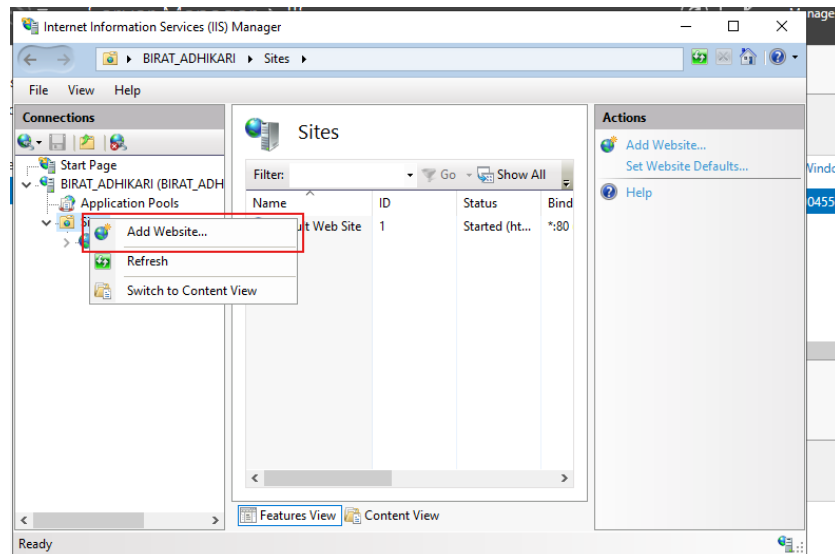


Figure 15:adding websites

Step 13: Now we need to enter site credentials.

Give name “biratadh.local” on Site name,

On Physical path select the folder where our website file is located

On Host name we need to type “biratadh.local”

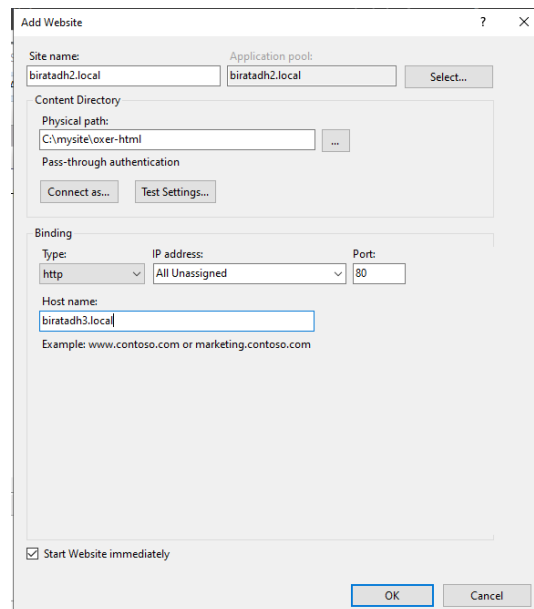


Figure 16: enter required data

Step 14: Now we can see our site has been listed. We can browse our site by typing “biratadh2.local” on address bar of web browser in windows server.

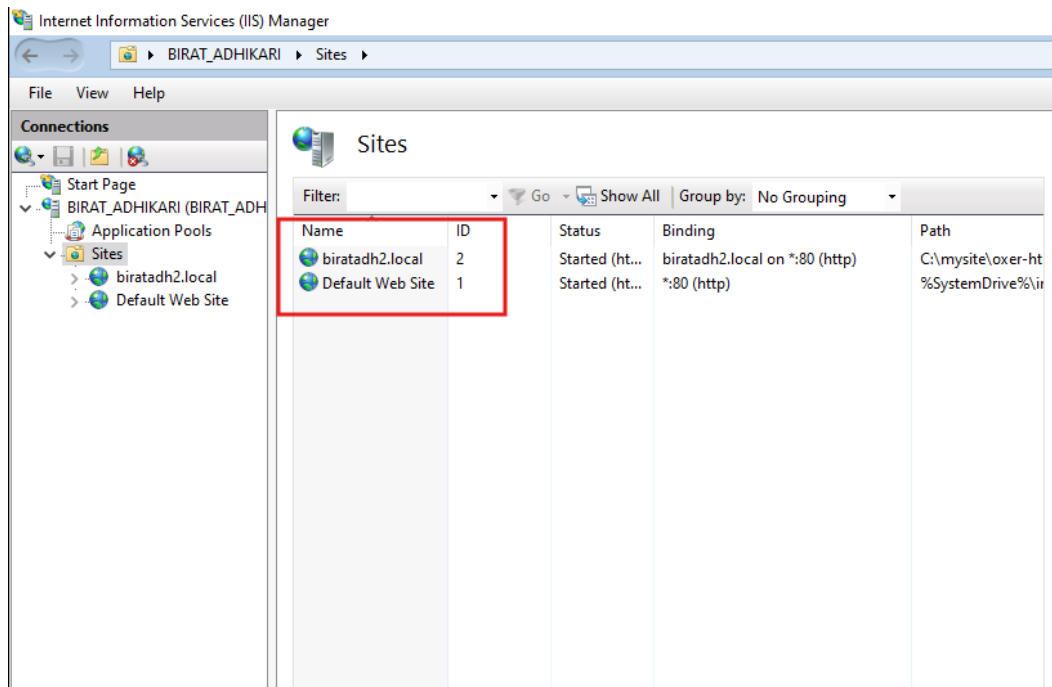


Figure 17: website added

Step 15: If you faced this issue then we don't have to worry. It means we need to register our site in host file too.

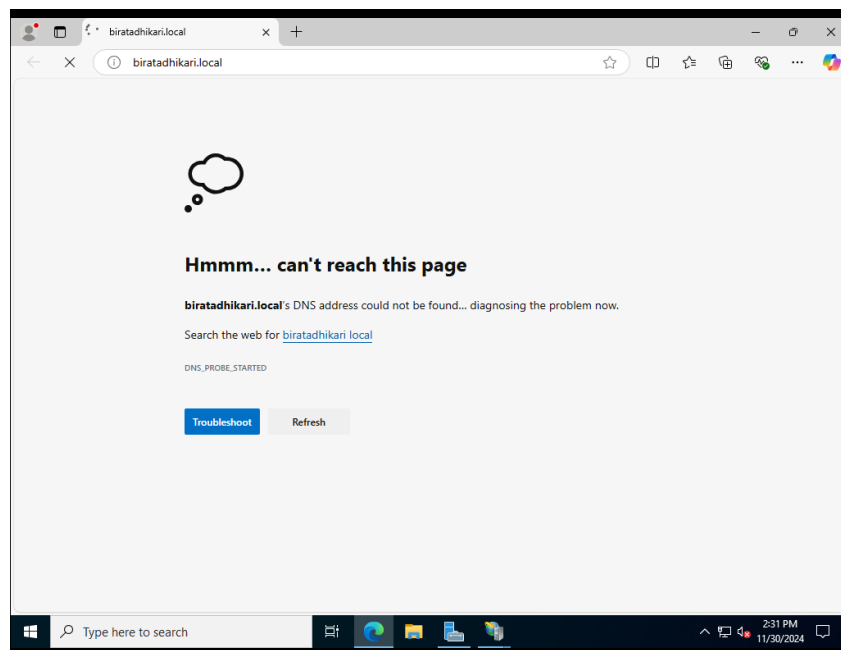


Figure 18: web site failed to register in host file

Step 16: To register our site in host file, we need to open the hosts file in notepad which is located at the following path: C/Windows/System32/drivers/etc/hosts.

Now open that hosts file using notepad.

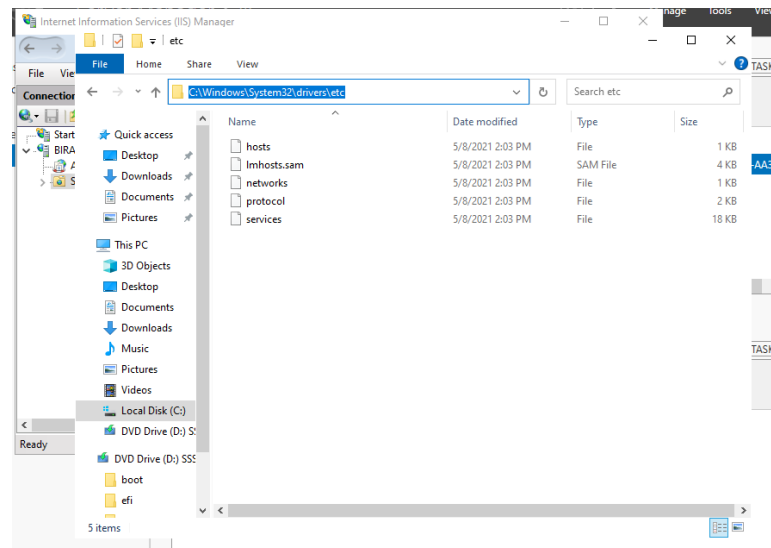


Figure 19: go to required directory

Step 17: Add the following line at the end of the file:

127.0.0.1 biratadh2.local

And save it.

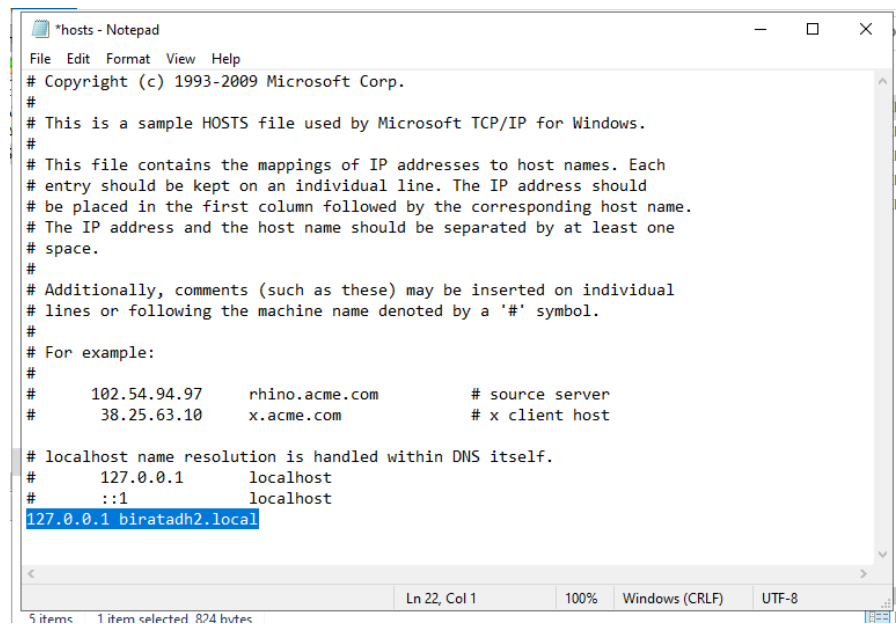


Figure 20:update the file

Step 18: Now reload the webpage. Boom our website has been loaded.

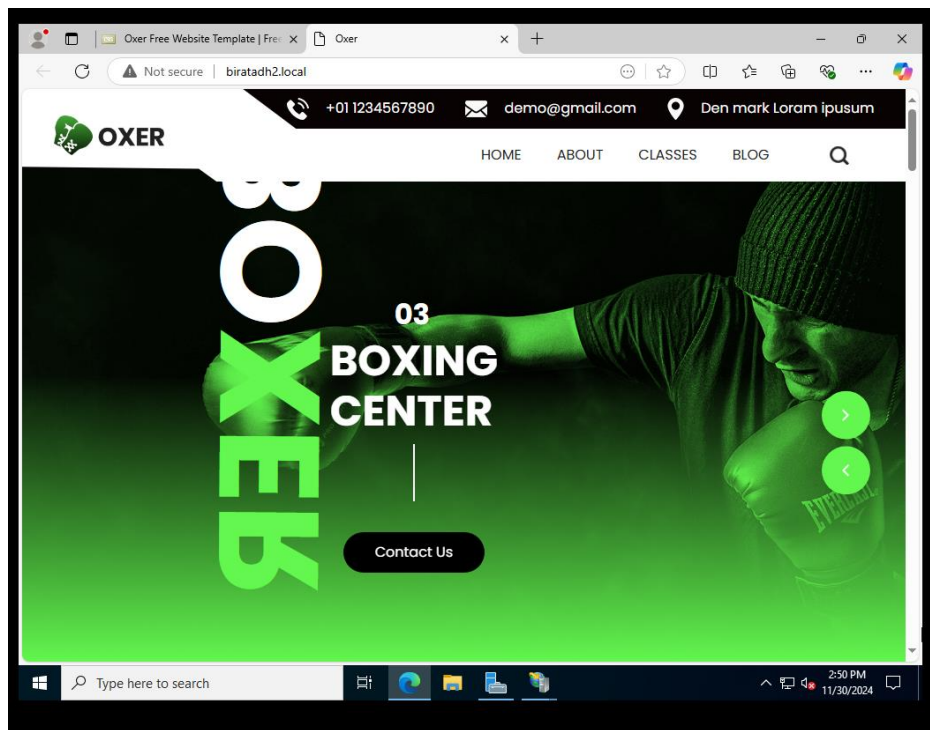


Figure 21: hosted website

5. References

Microsoft, 2024. *Installing PowerShell on Windows*. [online] Available at: <https://learn.microsoft.com/en-us/powershell/scripting/install/installing-powershell-on-windows?view=powershell-7.4> [Accessed 23 November 2024].

Rooney, T., 2010. *Introduction to IP address management* (Vol. 17). John Wiley & Sons.