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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.

Table of Contents

Introduction.....	3
Objectives.....	4
Required Tools & Concepts:.....	4
Steps of Replicate:	6
Conclusion.....	17
References	17

Table of Figures:

Figure 1: Going to add roles and features	6
Figure 2: Before Beginning.....	6
Figure 3:Role-based or feature-based installation	7
Figure 4: Server Selection	7
Figure 5: Clicking Add Features button to add a web server features	8
Figure 6: Going to add a web server(IIS) features	8
Figure 7:Web server has been added	9
Figure 8: Next without adding Features	9
Figure 9:Web Server Role(IIS)	10
Figure 10: Skipping the Role services without any services change or add.....	10
Figure 11: Restarting the destination server automatically if required.....	11
Figure 12: Feature installation progress	11
Figure 13:Going to Internet Information Service(IIS)	12
Figure 14: IIS Manager page	12
Figure 15: Going the sites list.....	13
Figure 16: Going to add website	13
Figure 17: Entering the site name, path and host name	14
Figure 18:We can see our site has been listed	14
Figure 19: It means we need to register our site in host file	15
Figure 20: Opening that hosts file using notepad.....	15
Figure 21: Copying the last line of this file.....	16
Figure 22: Finally our website has been loaded	16

Introduction

Internet Information Services (IIS) remains a notable web server role that comes with all Windows Server operating systems including Windows Server 2022. Websites and web applications can be hosted on a secure and extensible platform provided by ASP.NET. There are tools available for both the developers and the system administrators to manage web content in an organized and efficient manner. It was first introduced in 1995 with Windows NT 3.51 and over the subsequent years each version offered better performance, security, and scalability. Today organizations are deploying IIS as the most suited technology to host their static, dynamic websites as well as web applications due to its seamless interoperability with .NET and Active Directory and other Microsoft technologies.

The biggest advantage of IIS is that it comes already included in Windows and should be the best choice for organizations that operate in a Windows environment. In addition, IIS can also provide advanced features such as security enhancements, HTTP/2 support and non-DNS management through both GUI and PowerShell. Other web services like Apache or Nginx can be popular in Linux systems or where most of considerations are focused on performance and low usage of system resources as well as cross platform issues. Despite these alternatives, IIS remains an essential tool for managing websites and web services in Windows environments, making it an indispensable technology for many organizations.

Alternatives to IIS

- Apache HTTP Server: This is a cross-platform and an open source software that is known to be very versatile and has quite a large community of users.
- Nginx: A popular high speed and low memory server that is well tuned for serving static content and acting as a reverse proxy.
- Lite Speed: A commercial alternative optimized for speed and security.

IIS Pros and Cons Vs Alternatives

Pros:

- A tight integration with Windows based environments.
- A user friendly GUI for easier config and management.
- It supports enterprise level security protocols and applications.
- Support for the Microsoft .NET and other Microsoft specific technologies.

Cons:

- More resource consumption than its lightweight alternatives such as Nginx.
- Cross platforms support is limited to Windows alone.
- Extra licensing costs will be required for enterprise use.

Objectives

In this workshop, the focus is to learn the process of installing and configuring the Internet Information Services (IIS) role on Windows Server 2022 to host a static website. When the participants will understand the way in which they must enable the requirements features and role services that are required for website hosting. In addition to the steps, the workshop will deal with how to deploy a simple static website of HTML files on the server using the IIS settings. The last will be testing the functionality of the hosted website to make sure it can be accessed from network. This hands on activity will provide participants with the basic skills required to get and keep web servers up and running in a Windows environment.

Required Tools & Concepts:

Hardware/Software Requirements:

- Windows Server 2022: Must be an installed operating system either in a physical machine or virtualized environment such as Hyper-V, VMware or Virtual Box.

- Static HTML File: A basic HTML file for testing the website hosting feature.
- Administrative Access: Holds the right to install roles and change configurations of the server.
- Web Browser: To view the created website (Microsoft Edge, Chrome or Firefox).

Concepts:

- Windows Server Roles and Features: Knowing how roles such as IIS, and features contribute to enablement of the server's operations.
- IIS (Internet Information Services): Basic familiarity with IIS, its functions, and the capacity to allow hosting of a website.
- Networking Basics: Knowledge of IPs, ports for example, port 80 which stands for HTTP, and local and remote connection validation.
- File Management: The ability to upload, move, or edit files on the server for creation of the site.

Steps of Replicate:

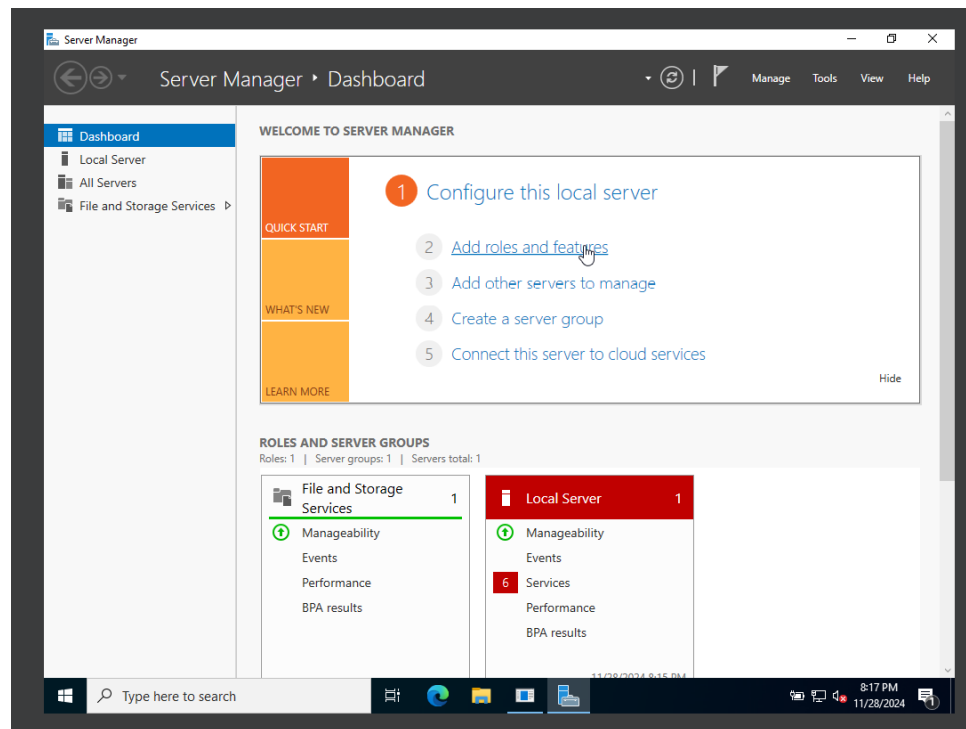


Figure 1: Going to add roles and features

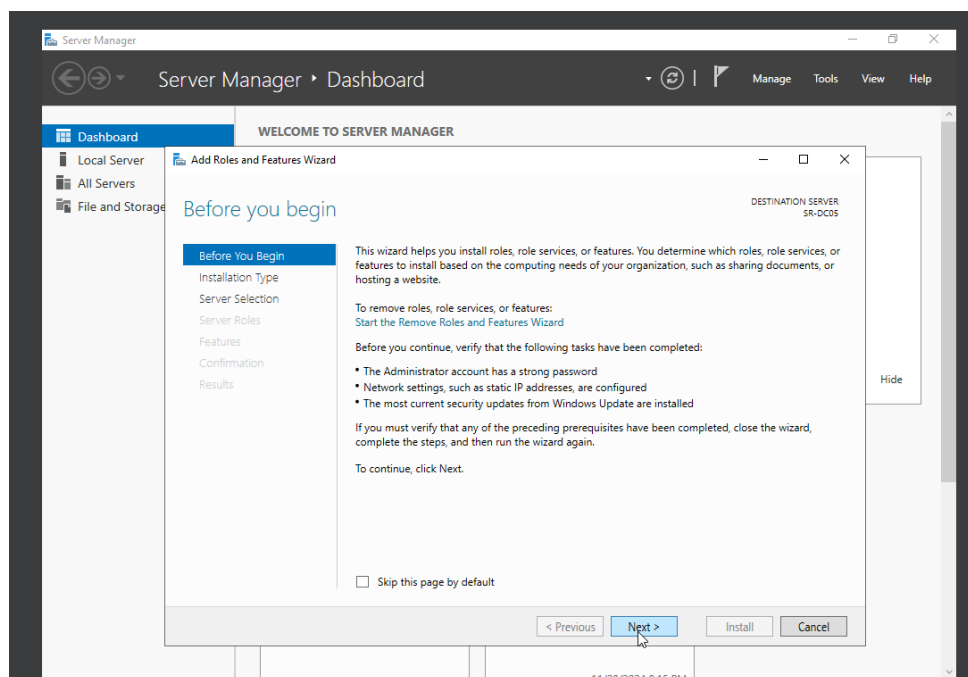


Figure 2: Before Beginning

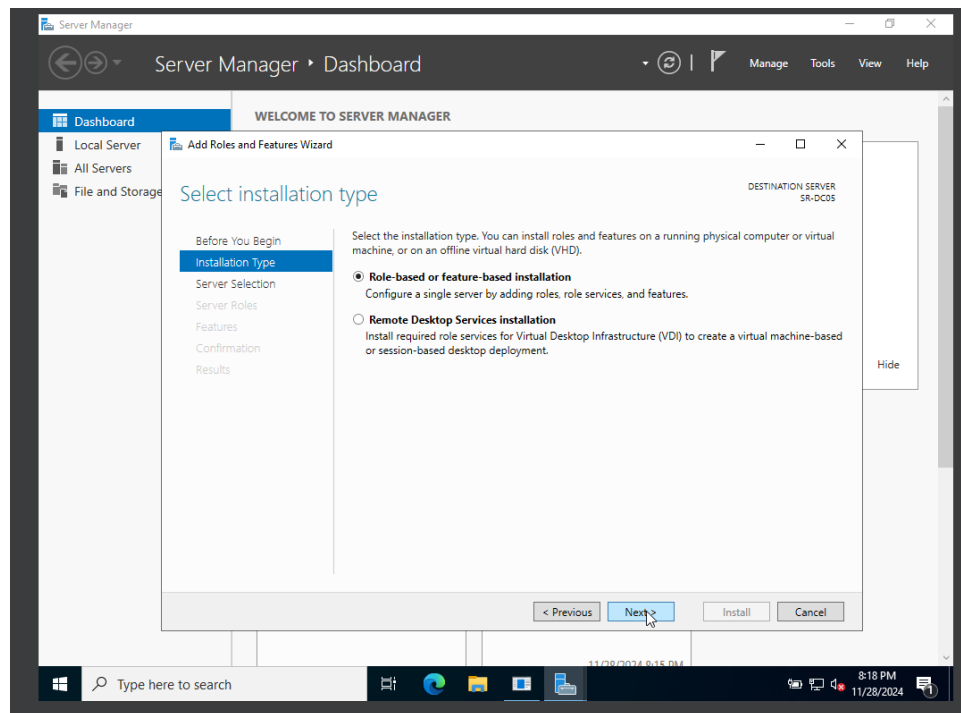


Figure 3: Role-based or feature-based installation

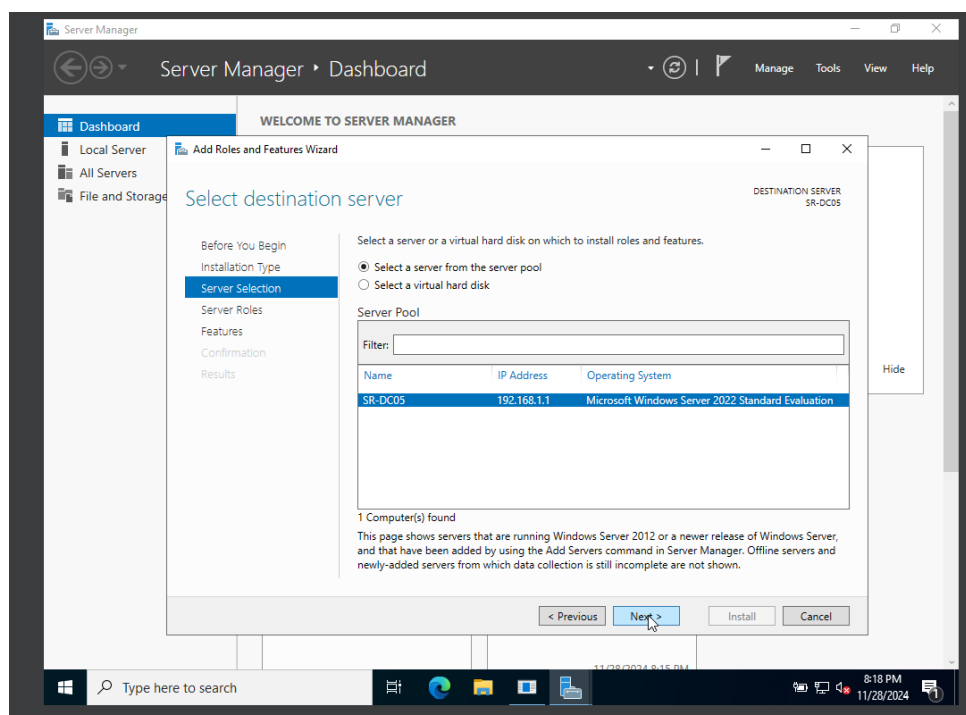


Figure 4: Server Selection

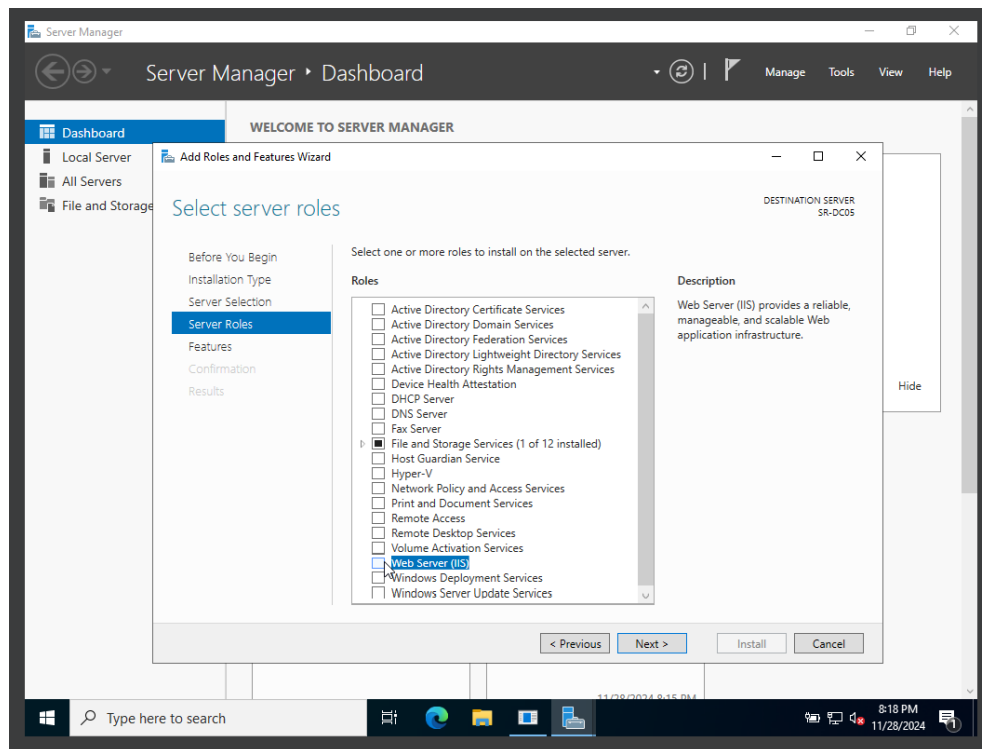


Figure 6: Going to add a web server(IIS) features

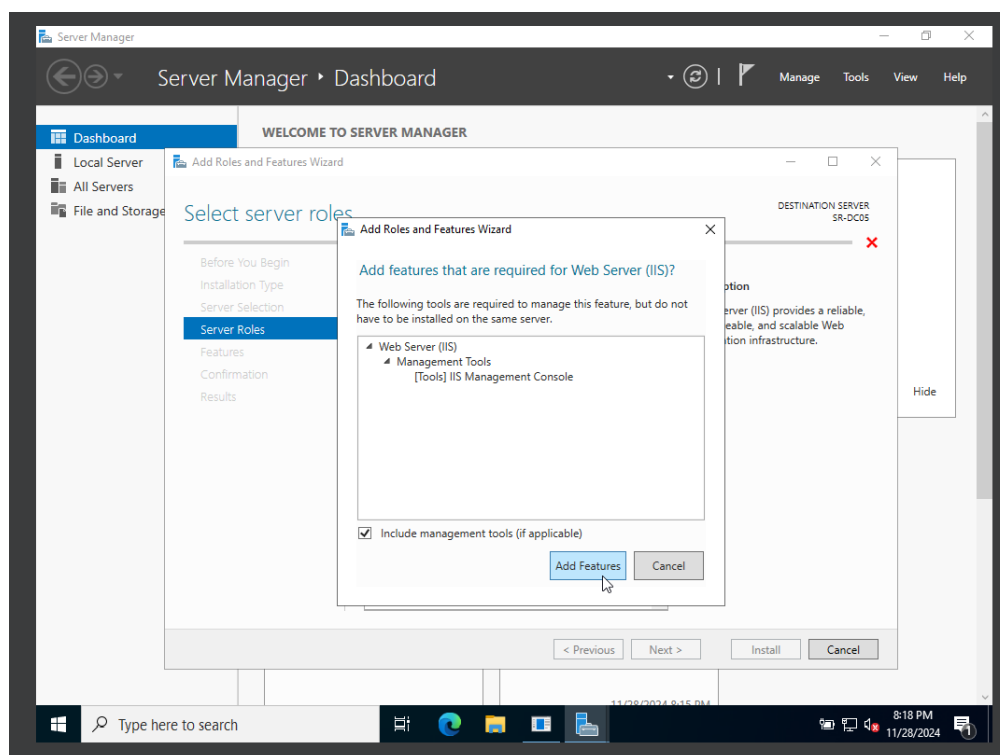


Figure 5: Clicking Add Features button to add a web server features

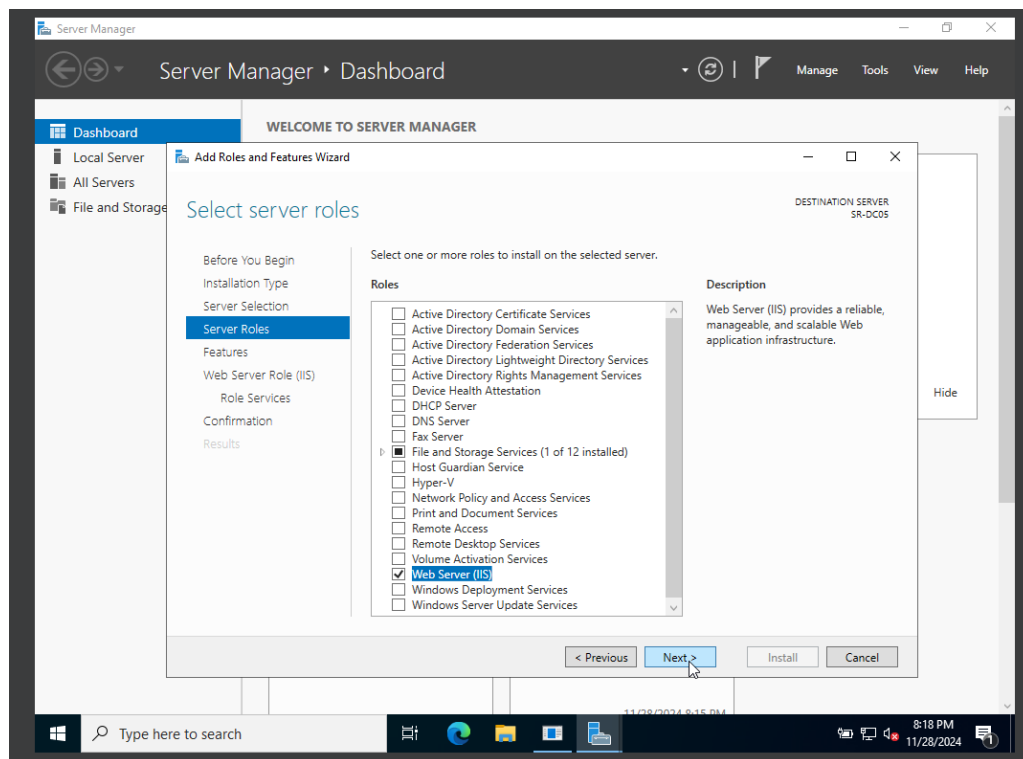


Figure 7: Web server has been added

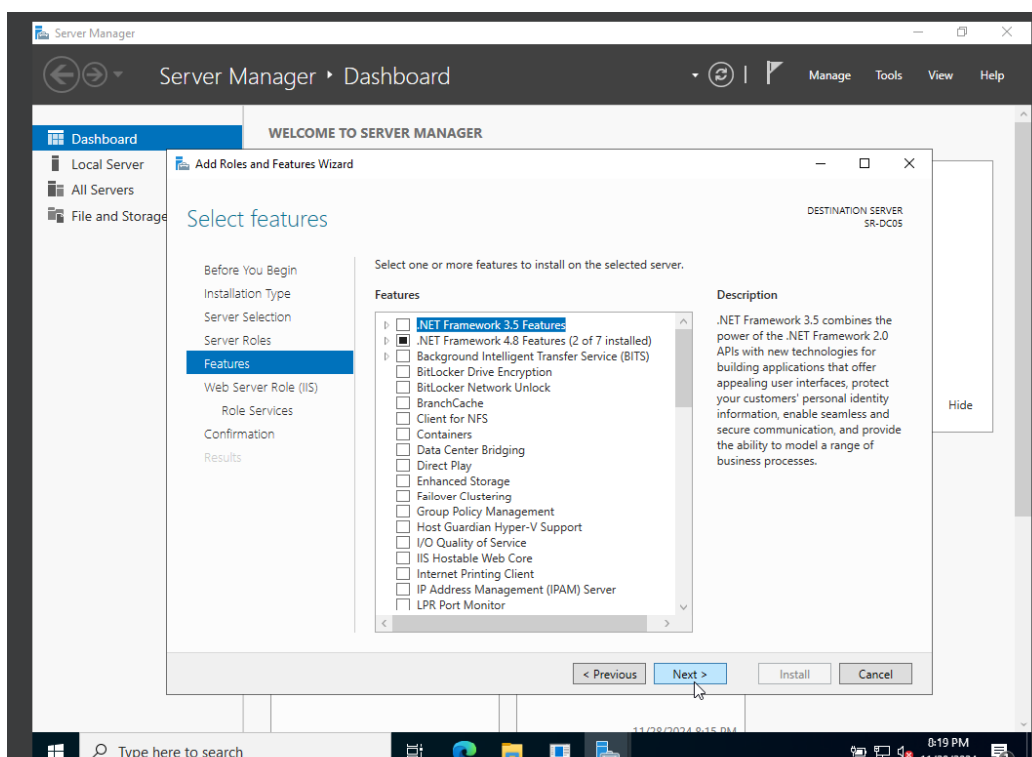


Figure 8: Next without adding Features

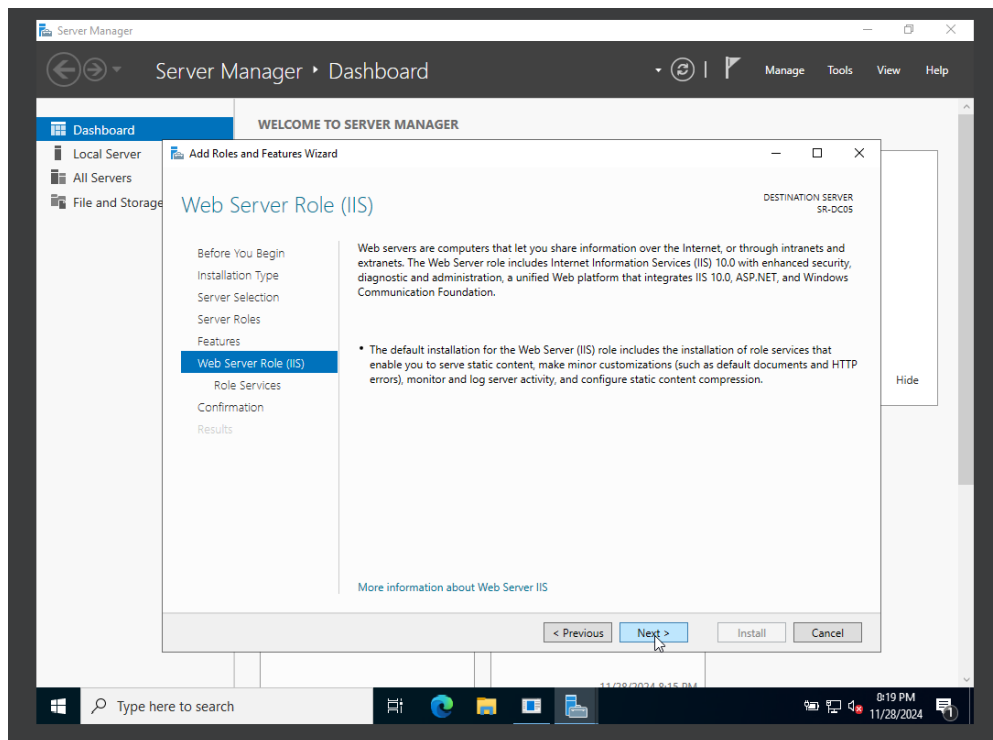


Figure 9: Web Server Role(IIS)

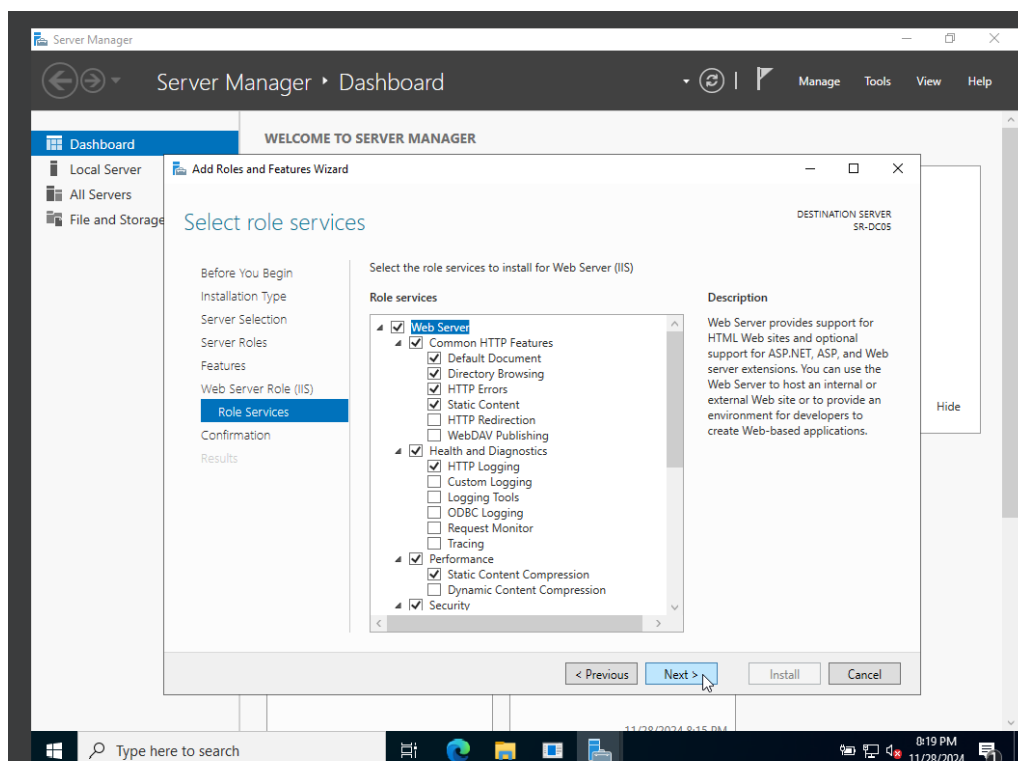


Figure 10: Skipping the Role services without any services change or add

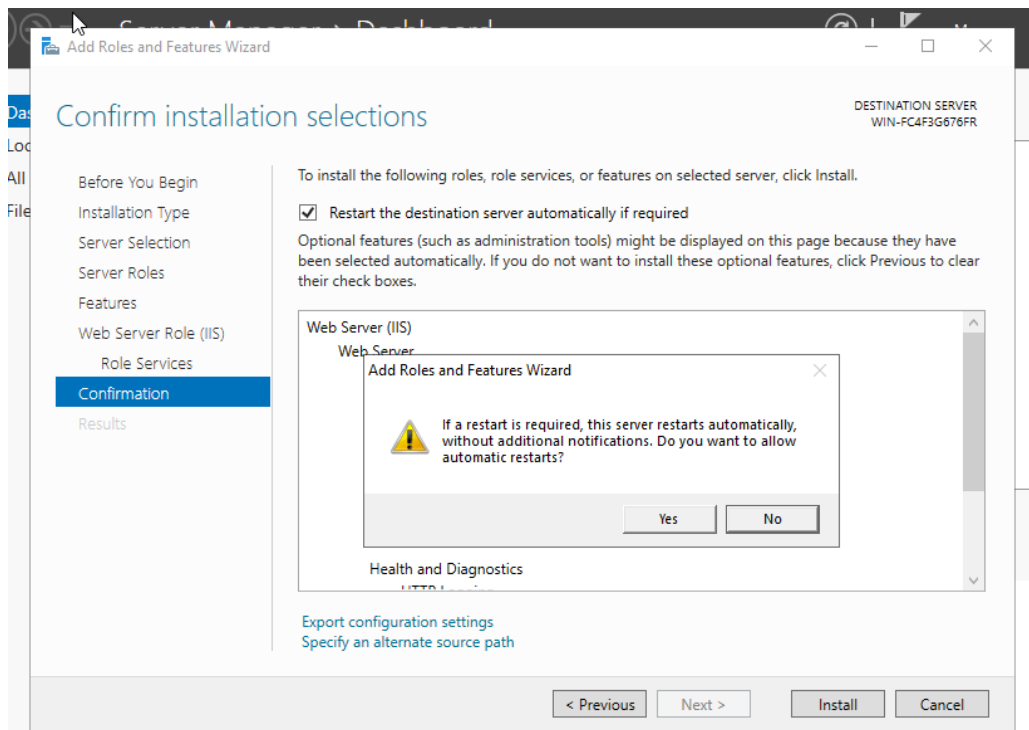


Figure 11: Restarting the destination server automatically if required

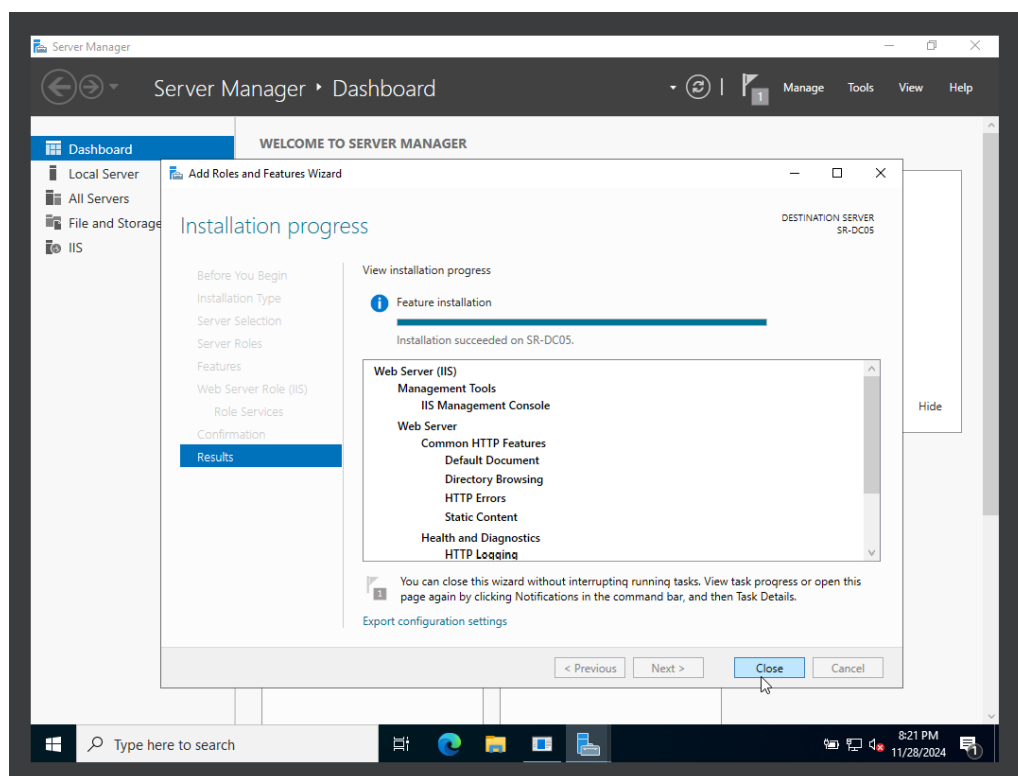


Figure 12: Feature installation progress

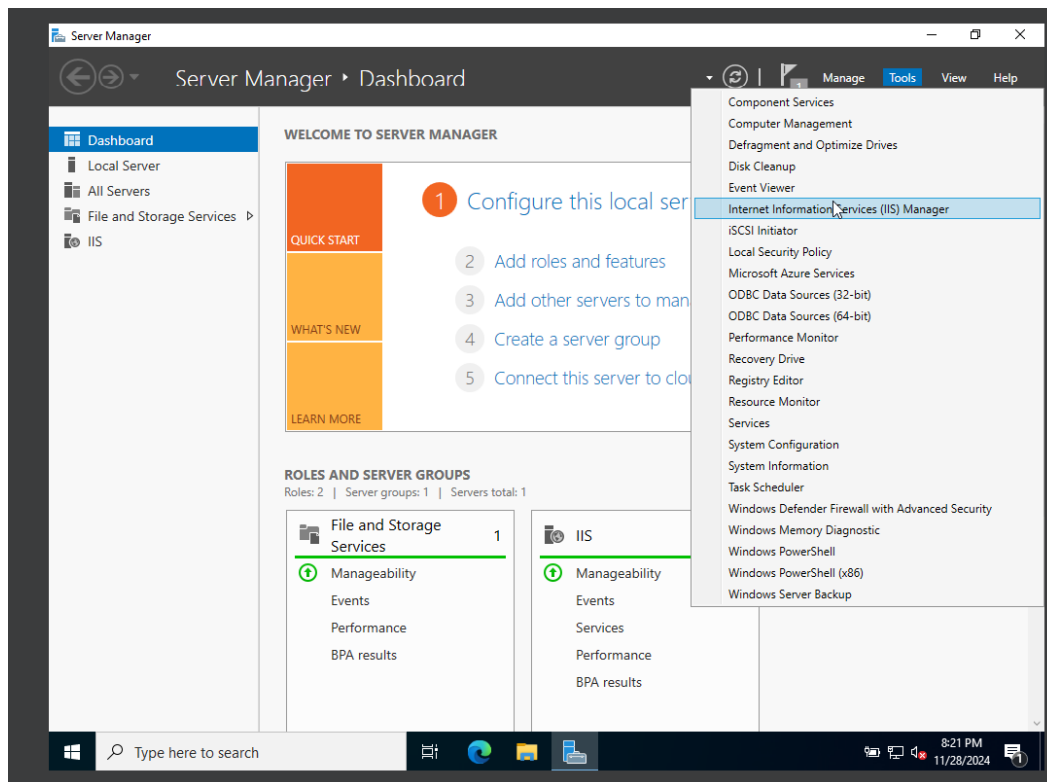


Figure 13: Going to Internet Information Service(IIS)

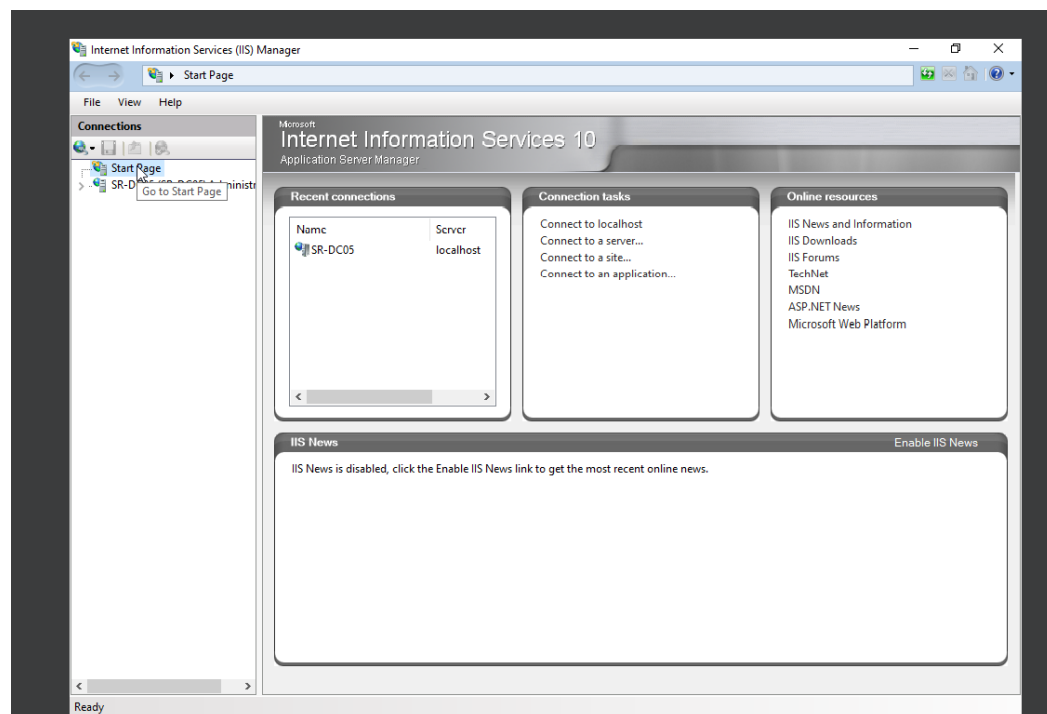


Figure 14: IIS Manager page

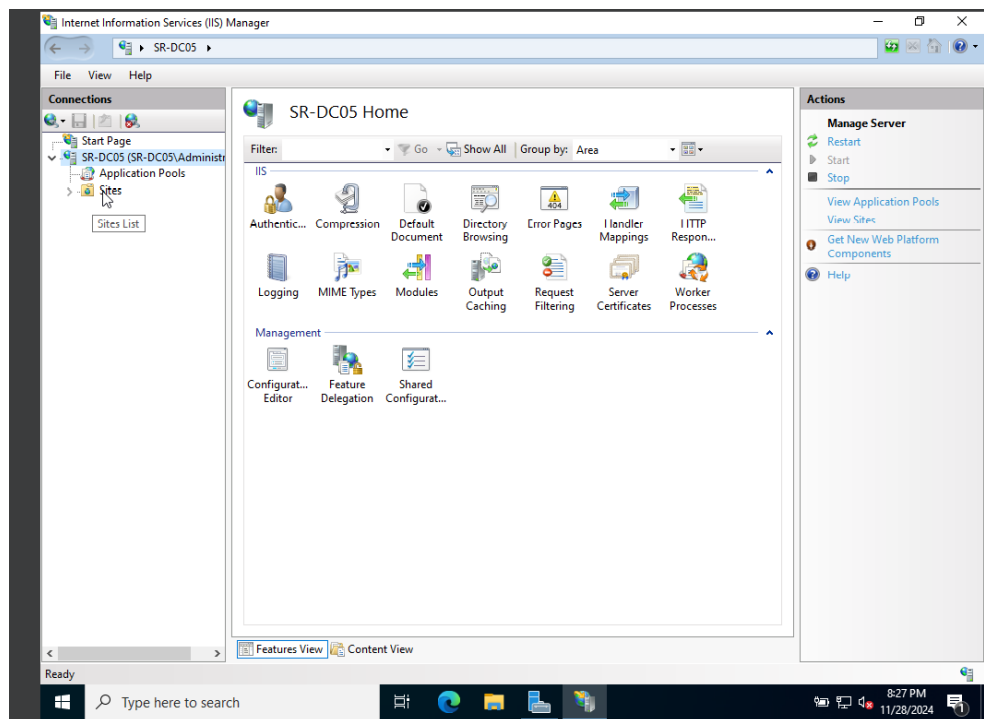


Figure 15: Going the sites list

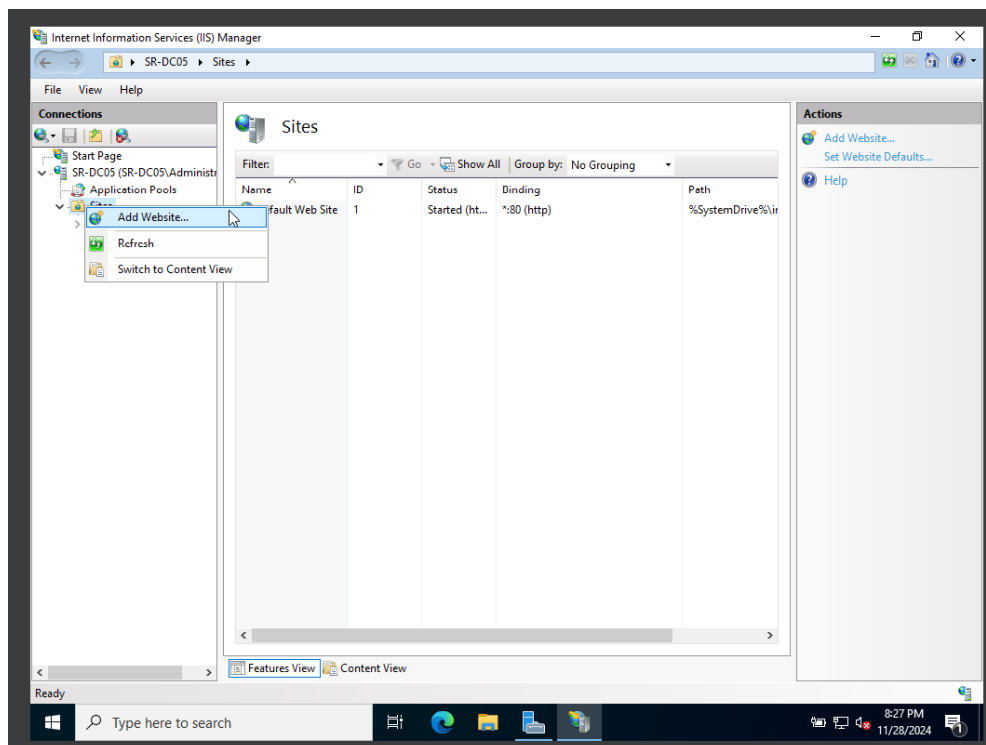


Figure 16: Going to add website

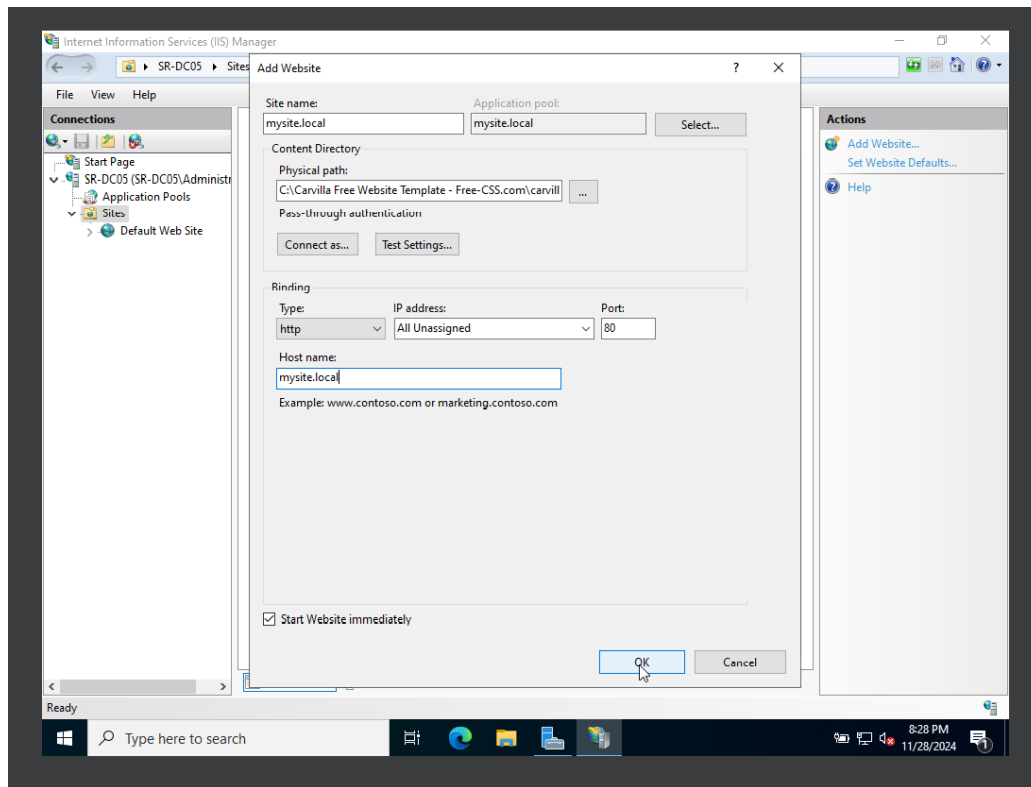


Figure 17: Entering the site name, path and host name

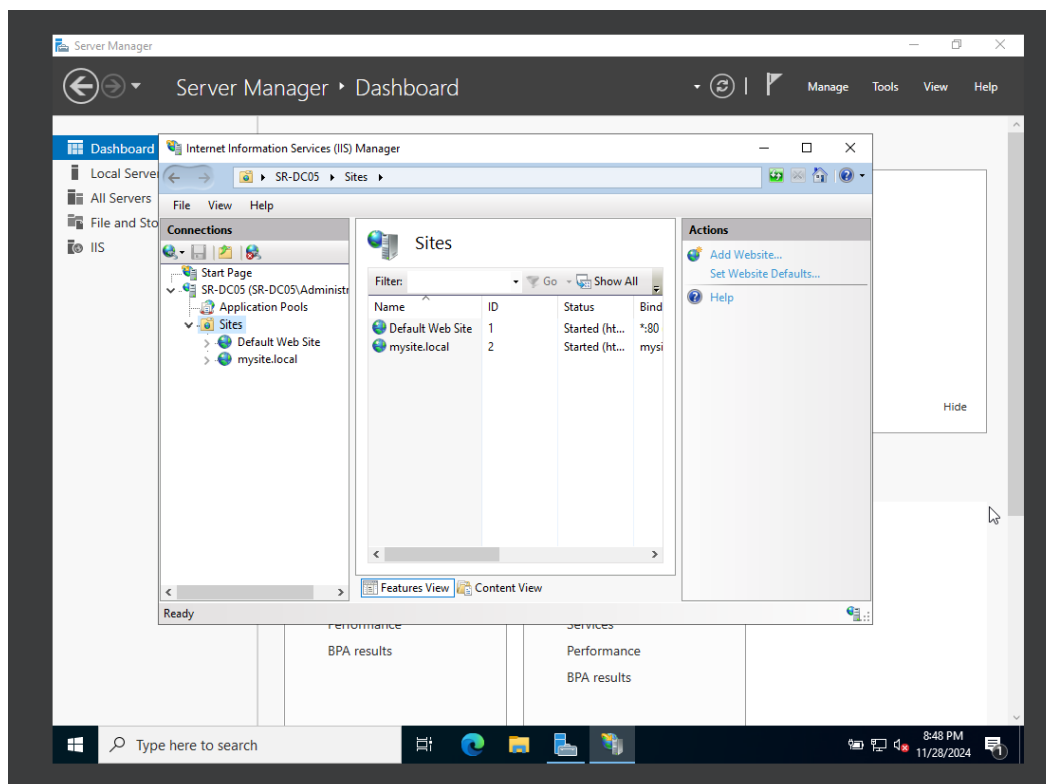


Figure 18: We can see our site has been listed

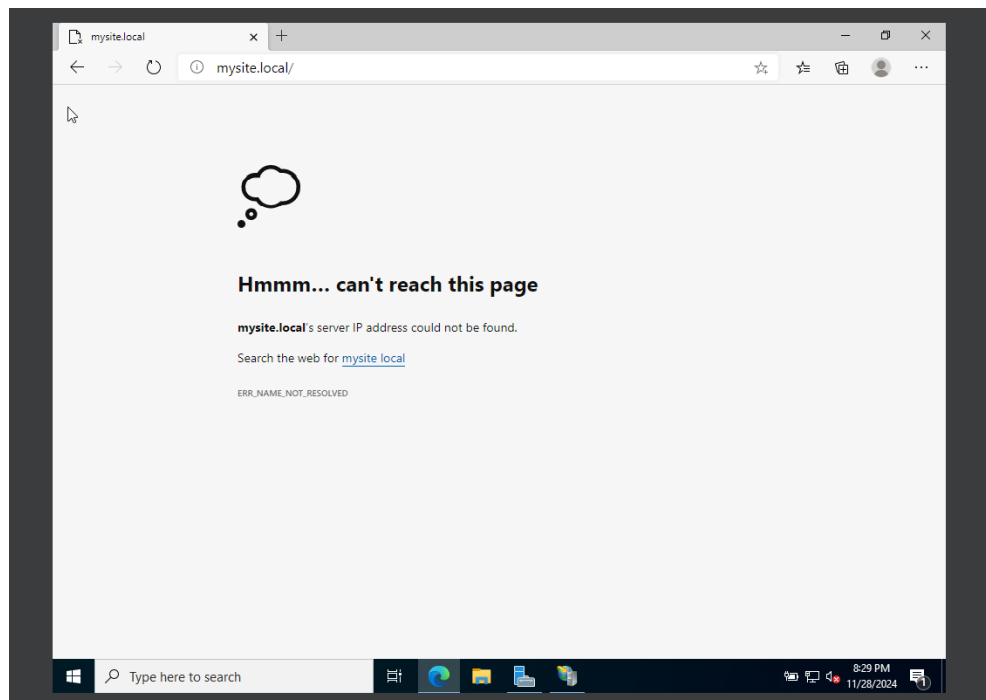


Figure 19: It means we need to register our site in host file

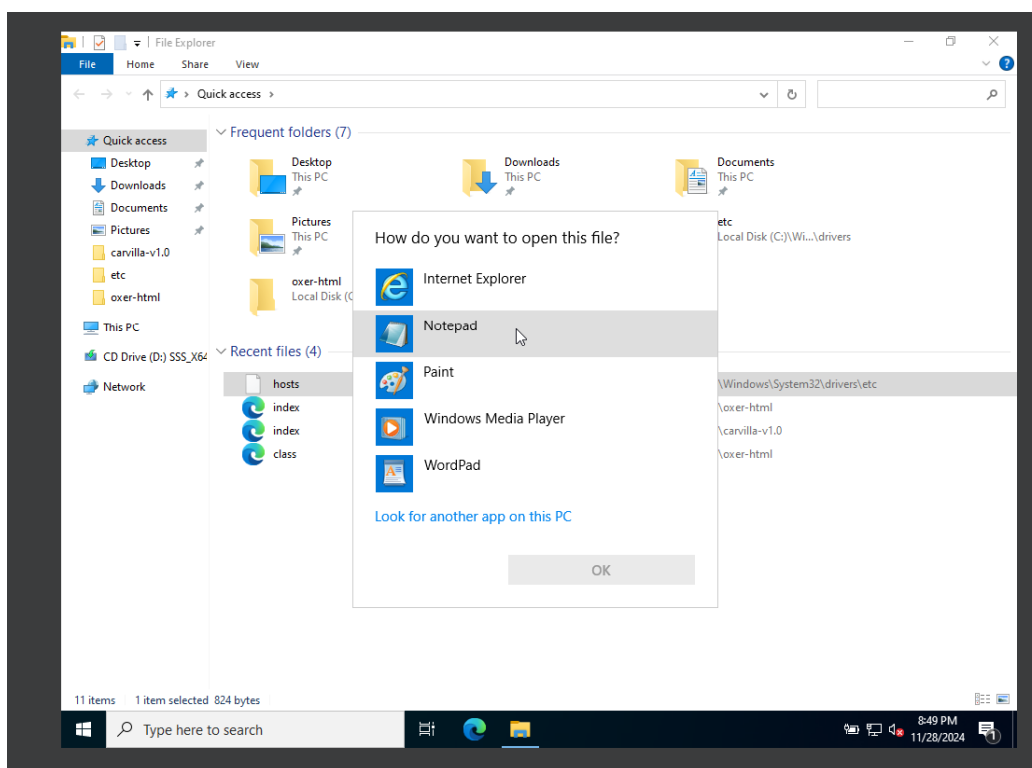
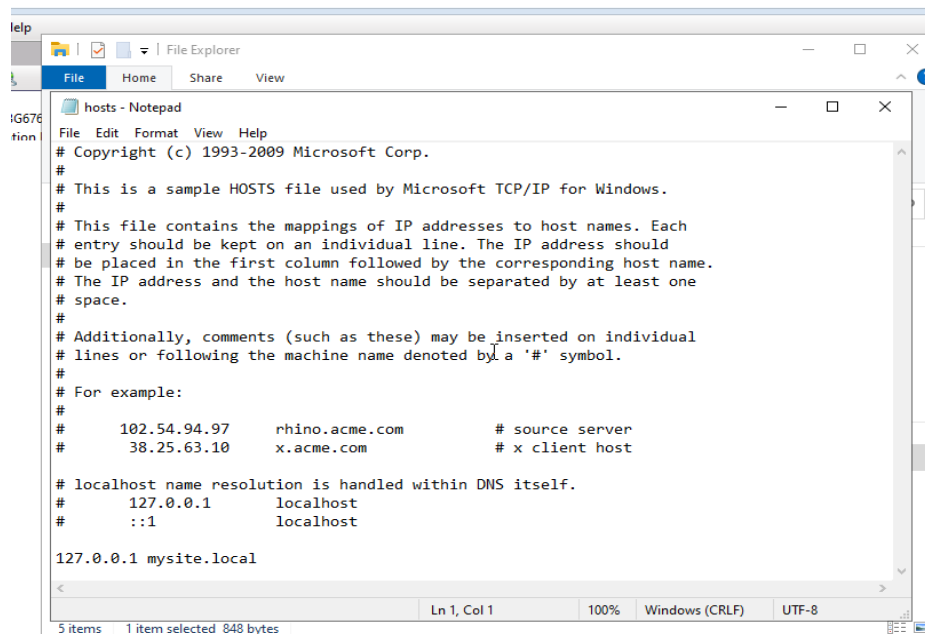


Figure 20: Opening that hosts file using notepad



```
# Copyright (c) 1993-2009 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#       102.54.94.97       rhino.acme.com       # source server
#       38.25.63.10       x.acme.com           # x client host
#
# localhost name resolution is handled within DNS itself.
#       127.0.0.1         localhost
#       ::1               localhost
#
127.0.0.1 mysite.local
```

Figure 21: Copying the last line of this file

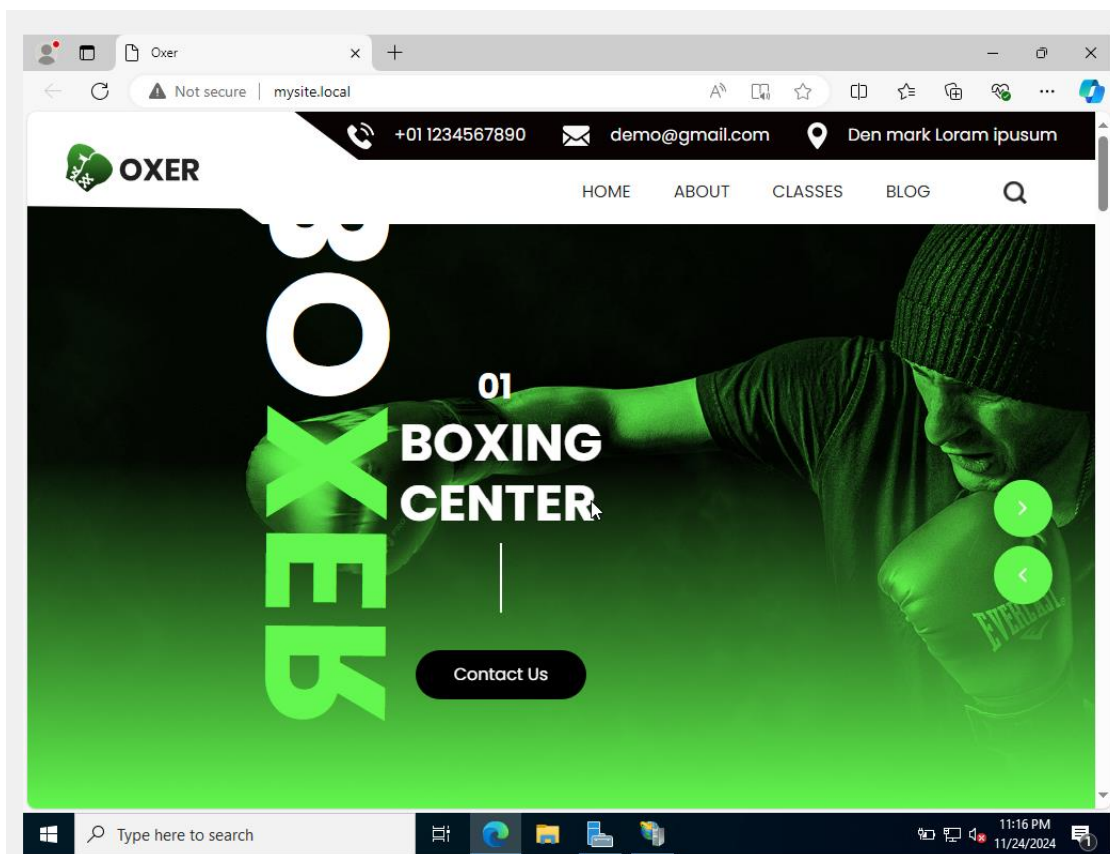


Figure 22: Finally our website has been loaded

Conclusion

This workshop described how to install and setup Internet Information Services (IIS) on a Windows Server 2022 for the purposes of hosting a static website. We created a web server that can serve static pages by configuring the necessary roles and features, arranging and publishing website content to the IIS. The performed web site testing proved the efficiency of the derived configuration as well as the effective operation of the IIS in the Windows Server environment. The practical work including working in the IIS Manager interface and demonstrating the best approaches of the clients for files structuring and server settings were very useful for the theoretical material studied.

Such activity underpinned the role of the specified IIS as a strong and corporate level web hosting solution in Windows environments. Participants did not only acquire knowledge of the operations required for implementing static websites, but also placed such knowledge within the context of server roles and web hosting technologies. Such knowledge in practice is extremely beneficial for professionals in the field of information technology who would hope to handle practical world systems. This is a practical workshop in which theoretical knowledge was integrated with practices assisting in preparing the audience for more complex tasks related to servers and websites management.

References

Microsoft. (2024). *IIS documentation*. Retrieved from Microsoft Learn:
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WinServer. (2023, September 25). *What is IIS? Overview, advantages, and precautions*. Retrieved from Winserver:
https://www.winserver.net/blog/about_iis/#index_id2