Deploy Web Project Using IIS

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Internet Information Services

Internet Information Services (IIS):

- It is a web server software developed by Microsoft

- Allows us to deploy and manage server configurations across a farm of web servers

- Used to host static websites and ASP.NET applications

- Has the most essential features like authentication, enabling HTTPS, and other security features as built-in

Web Server

- A web server processes the hosting of applications

- It allows database communications and receives requests from the client

- A web server is an internet server that responds to HTTP requests for delivering content and services

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Requirements of IIS 10.0

Windows 10	Windows Server 2016
• Processor/SoC: 1 GHz	• Processor: 1.4GHz 64 bit
• RAM: 1 GB for 32-bit or 2 GB for 64-bit OSes	• RAM: 2 GB for 64-bit OSes
• Hard disk space: 16 GB for 32-bit or 20 GB for 64-bit OSes	• Hard disk space: 32 GB
• Graphics card: DirectX 9 with the WDDM 1.0 driver	

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Configuring IIS in Windows 10 Operating System

Installation of IIS on Windows Server 2016

To install IIS on Windows Server 2016:

1. Using GUI mode installation

2. Need to log in to Windows Server 2016 account with administrative privileges

3. Then go to the Start menu and click on Server Manager

4. Before you beginning wizard, click on Next from the select installation type

5. Leave the option role-based or feature-based installation selected

6. Click on Next, and then select the server in which you want to install IIS 10.0

7. Leave Select a server from the server pool selected

8. Then select the role from the Select server roles

9. Check the option Web Server (IIS)

10. Click on the Add Features button to install them

11. Click on Next after selecting Web Server or IIS

12. Click on Next in the Select features window

13. Click Next on the Web Server Role or IIS wizard

14. Select role services window allows you to install additional services

15. At this stage, user can come back at any time, and add more, then click on Next

16. Enter into Confirm installation selections

17. Needed review the items you are going to install

18. And click on Install

19. After clicking on install, you'll find the restart checkbox

20. Ignore it for normal IIS 10.0 installation

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How IIS Server Works

Working of IIS Server

When the web server is running,

- Requests will be processed by default, through the HTTP port

- Its numeric value is 80

- The firewall is already enabled in the installation process

Simple Test for Practice

- Open your browser

- Type the server IP address http://127.0.0.1/ or http://localhost/ in the URL section

- Then, hit enter to run the application

- See the default IIS Welcome page

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Publish Website on IIS Locally

Hosting A Static Web Page

To host a static web page using IIS:

1. Create an HTML file and name it an index.html

2. Then open IIS manager

3. Select the option Default Web Site

4. Right-click on it, you will find more options

5. Now, go back to the IIS manager

6. Select the Default Web Site from the left-hand side of IIS Manager

7. Then click on Default Document

8. Find a list of filenames and extensions available

9. These files exist by default

10. Custom files can be added to get listed here

11. Then start server from the settings from IIS Manager

12. Now, go to the URL **http://localhost/**

13. Page is deployed in the local server using IIS

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Publish Website in IIS

Microsoft IIS

- Hosting one or more websites on the same IIS server is possible

- Website will be hosted using SSL (Secure Socket Layer) over HTTPS using the default port 80

- A website is needed to access via a network, that is, intranet or internet

- To run the website or application, we need a domain name, IP address, and port

- Create an application pool

IIS Application Pool

- Generally, by default, we will get application pools and default websites

- Application pool works on worker processes or a set of worker processes

- These pools are used to separate sets of IIS worker process which share the same configuration

Advantages of Application Pools

1. If you have an issue with one of the pools, it will not affect other pools

2. Application pools enable us to isolate your web app leading to better security, reliability, and availability

3. If you want every web application pool to execute, then you can create an application pool

4. Though you have different types of applications that support one framework and another, such applications can be managed through application pools

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Execution of IIS Application Pools

To Execute IIS Application Pools

1. Open IIS Manager on Windows Server 2016, click on Tools, and open IIS Manager.

2. If we expand the IIS Server, we will get the list of application pools and sites.

3. From the Application Pools section, you get the IIS 10.0 DefaultAppPool from the previous screenshot.

4. In Actions panel on the right-hand side of the screen, where you can add application pools.

5. From the Application Pool Tasks highlighted in the right-hand side, from those options you can start, stop and recycle the services of IIS 10.0.

6. Open Server Manager on Windows Server 2016.

7. Click on the Tools menu and open IIS Manager.

8. Expand the IIS Server then you will get the listed Application Pools, and thus we have created 2and3.5AppPool, Asp.net, and DefaultAppPool.

9. Add more application pools Actions panel and we can set one of them as the default.

10. Select the 2and3.5AppPool, then you will see the Actions pane with a list of available properties, in which you can make some changes if needed.

11. Now from the Actions panel, you can find Edit Application Pool options.

12. With the help of Application Pool Tasks, we can start, stop, and recycle.

13. Go to the basic properties of the application pool, click on Basic Settings from Edit Application Pool and you'll see a popup.

14. In Basic Settings, you will have quick settings to change limited number of things.

15. Can also change the .NET framework version to framework v4.0 or framework v3.5.

16. Can also change the Managed pipeline mode to Integrated or Classic and we can check or uncheck the auto-start option.

17. Then we need to come Advanced Settings which has more options to customise the pool.

18. Lastly, after clicking on Advanced Settings, a screen will open.

19. Rapid-Fail Protection will be generally used for failover.

20. Setup the failover server and its configuration.

21. To refresh the application pool overlap you can use Recycling, we will set a default recycling value.

22. We will add more specific settings through the Recycling settings and you will click on Recycling.

23. Recycling will be based on conditions with virtual memory usage, specific time, regular time intervals

and fixed number of requests.

24. It will generate a log file to help you understand what was executed at that time.

25. Then you can set fixed intervals based on time and number of requests or specific time depends on memory utilisation, virtual and private memory.

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Hosting .NET Web Page

The steps for hosting .NET web pages:

1. Upload the web page to the default **www.root** directory.

2. It needs a v4.0 app to be installed on IIS 10.0 server and our v4.0 .NET page should be ready.

3. It may need to install some IIS components which are not already installed.

4. Open IIS manager on Windows Server 2016, click on **Manage** menu, then click on **Add Roles and features.**

5. Click **Next**, you get **Select server** roles wizard, then follow exact route highlighted in the figure.

6. First expand the **Application Development** then you have to select **.NET Extensibility 3.5**, **.NET Extensibility 4.6**, **ASP**, **ASP.NET 3.5**, **ASP.NET 4.6**, **ISAPI Extensions**, and **ISAPI Filters.**

7. Then click on **Next** to finish.

8. Now you can upload .NET framework web pages we have created for demo purposes.

9. From IIS Manager, click on **Default Web Site**, then you will find the screen.

10. You need to click on **Basic Settings**, available in **Actions** pane.

11. After that we need to check the version of application pool which is associated with default website.

12. Then we need to select the **DefaultAppPool.**

13. After clicking on the **Select** button, you will find a screen shown in the next figure.

14. Need to select **DefaultAppPool** from the drop-down and click on **OK** button to finish the pool section.

15. Then, need to right-click on **Default Web Site**, click on **Explore**, at the top-right corner.

16. It will be called by the context menu **Default Web Site** in the left-hand panel.

17. After that, you will get **www.root** directory and where you need to upload .NET web files.

18. Lastly, we have built ASP.NET v4.0 file.

19. Then you need to paste **www.root.**

20. After uploading the .NET app files, we will test the application.

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Hosting Different Versions of .NET Web Page

The steps for hosting different versions of .NET web pages

1. To host different versions of .NET web sites we need to open IIS Manager.

2. Then we need to click on **Default Web Site**.

3. Thus, in the **Actions** pane; click on **Basic Settings**, and click on **Select** button.

4. Application window will get popup, then click on **Application Pool**.

5. From the drop-down menu, select **2and3.5AppPool** under pools, and click **OK** to finish the step.

6. From the site properties, you will find v2.0 application pool associated with **Default Web Site**.

7. Then right-click on **Default Web Site**, click **Explore** then we find **www.root** directory.

8. Then we have to upload the v3.5 .NET web files.

9. We have uploaded v3.5 files to **www.root** directory.

10. We need to test the v4.0 application.

11. Open Internet Explorer or any browser then enter the URL **http://localhost/** and press enter.

12. You will get the following web page.

13. Now, let us visit v3.5 app, then go to **2and3.5AppPool** and upload the web app files to **www.root** folder.

14. Then open Internet Explorer or any browser, click on **http://localhost/**.

15. You will get the following web page.

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Recap:

• Internet Information Services or IIS is a web server software developed by Microsoft

• A web server is an internet server that responds to HTTP requests for delivering content and services

• We can host one or more websites on the same IIS server

• We need a domain name, IP address, and port to run the website or application

• Application pool works on worker processes or a set of worker processes

• You have to upload the web page to the default www.root directory

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