

Deployment Plan for Backend and Frontend on Microsoft Server with IIS and MSSQL

1. Preparation

1.1. Environment Setup

- **Operating System:** Ensure you have Windows Server installed.
- **IIS Installation:**
 - Install Internet Information Services (IIS) if it's not already installed.
 - Enable required IIS features:
 - ASP.NET (ensure the version matches your application).
 - Application Initialization.
 - .NET Extensibility.
- **.NET SDK:** Install the appropriate version of the .NET SDK matching your backend application.

1.2. Database Setup

- Install and configure **SQL Server**.
- Create the database for your application.
- Run any necessary migrations or seed data scripts using your application's database context.

2. Backend Deployment

2.1. Build the ASP.NET Core Application

- Copy the publish files in **./publish**

2.2. Transfer Files to the Server

- Copy the contents of the **./publish** directory to the server using a file transfer method such as:
 - Remote Desktop Protocol (RDP).
 - File Sharing.
 - FTP.

2.3. Configure IIS for Backend

1. Create a New Site:

- Open **IIS Manager**.
- Right-click on **Sites** and select **Add Website**.

- Enter a site name, select the physical path to the published folder, and set the binding (HTTP/HTTPS).

2. Set Application Pool:

- Go to **Application Pools**.
- Create a new application pool (ensure it uses No Managed Code for ASP.NET Core).

3. Set Up URL Rewrite (if necessary):

- Install the **URL Rewrite** module if you haven't done so.
- Add a rewrite rule to forward requests to the Kestrel server.

2.4. Start the Application

- Ensure the application is running by checking in **IIS Manager**.

3. Frontend Deployment

3.1. Copy the Frontend Application Files

3.2. Transfer Frontend Files to the Server

- Copy the files to the server, typically to a different directory than the backend.

3.3. Configure IIS for Frontend

1. Create a New Site (if separate from the backend):

- Open IIS Manager.
- Right-click on Sites and select Add Website.
- Set the physical path to the location of the frontend build files.

2. Set Application Pool:

- Configure the application pool to serve static files if necessary.

3. Setup URL Rewrite (for client-side routing):

- Use the URL Rewrite module to redirect all incoming requests to your index.html.

4. Testing and Validation

4.1. Access the Application

- Navigate to the backend API at `http://localhost:<backend_port>/api/`.
- Navigate to the frontend application at `http://localhost:<frontend_port>/`.

4.2. Test Functionality

- Test the key functionalities, such as registering staff, retrieving staff details, and ensuring the API performance metrics work.