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Instructions To Run The Project Locally

Step 1: Install Required Software

Before downloading the project, make sure you have the following software installed:

1. **Git**: A distributed version control system for tracking changes in source code.
   - Download Git
2. **.NET SDK**: Includes everything needed to build and run .NET projects.
   - Download .NET SDK
3. **Microsoft SQL Server**: A relational database management system required for your project.
   - Download SQL Server (Express or Developer edition will work).
4. **SQL Server Management Studio (SSMS)**: A tool to manage and connect to SQL Server databases.
   - Download SSMS
5. **Visual Studio Code** or **Visual Studio**: A code editor or IDE to work on the project.
   - Download Visual Studio Code
   - Download Visual Studio

Step 2: Clone the GitLab Repository

1. **Open Git Bash or Command Prompt** on your machine.
2. **Navigate to the directory** where you want to clone the repository. You can use the following command to change directories:
   cd path/to/your/folder
3. **Clone the Repository** from GitLab using the provided HTTPS URL:
   git clone --branch Phase5
   https://code.umd.edu/achuth/ENPM680Fall2024Project-achuth.git
4. **Navigate to the project directory** after cloning:
   cd ENPM680Fall2024Project-achuth

Step 3: Set Up the SQL Server Database

1. **Install Microsoft SQL Server** if you don't have it installed. You can download it here.
2. **Install SQL Server Management Studio (SSMS)** for managing the database. You can download it here.
3. **Restore the Database Backup:**
   - Obtain the .bak file (backup file) from the project's repository. Its named as "SchoolManagementDb.bak". Copy it to a place where SSMS can access it

without any issues. (Like C:\Program Files\Microsoft SQL Server\MSSQL16.SQLEXPRESS\MSSQL\Backup)
- Open **SQL Server Management Studio (SSMS)**.
- Connect to your local SQL Server instance.
- Right-click on **Databases** in the Object Explorer and select **Restore Database**.
- In the **Source** section, select **Device, click on ...** and then locate and select the SchoolManagementDb.bak file.
- In the **Destination** section, make sure the database name is set to SchoolManagementDb.
- Click **OK** to restore the database.

Step 3: Update the appsettings.json Connection String

1. **Open the Project in Visual Studio Code**:
   - If you don't have VS Code installed, download it from here.
   - In VS Code, open the project folder (the one cloned in Step 1).

2. **Modify the appsettings.json File:**
   - Navigate to the appsettings.json file located in the project's root directory.
   - Update the **connection string** to point to your local SQL Server instance.
     - Example connection string:
     - If you have windows authentication for the SQL database:

```
{
  "ConnectionStrings": {
    "DefaultConnection":
"Server=YOUR_SERVER_NAME;Database=SchoolManagementDb;Trusted_C
onnection=false;MultipleActiveResultSets=true;Encrypt=false;Integrated
Security=True;"
  }
}
```

- Replace YOUR_SERVER_NAME with your local SQL Server instance name. If you're using the default instance, you can use (local) or localhost.

- If you have SQL Server authentication for database, with SQL Server name 'DESKTOP-BHPP4CG\\SQLEXPRESS' (for example) :

```
{
  "ConnectionStrings": {
    "SchoolManagementDbConnection": "Server=DESKTOP-
BHPP4CG\\SQLEXPRESS,
1433;Database=SchoolManagementDb;Trusted_Connection=false;Multiple
ActiveResultSets=true;Encrypt=false;User id=your_user_id;
Password=your_password;"
```

}

- Replace your_user_id and your_password with your SQL Server authentication username and password.

3. **Save the Changes.**

Step 4: Install .NET 8.0 SDK

1. **Install the .NET 8.0 SDK** (if not already installed):
   - You can download the .NET SDK from here.
2. **Verify installation**:
   - Run the following command in a terminal or command prompt:
     dotnet --version
   - Ensure it shows .NET 8.x.x.

Step 5: Restore Dependencies

1. Open a terminal in **Visual Studio Code** (or any other terminal tool).
2. Run the following command to restore the NuGet packages:
   dotnet restore

(I had to install xUnit package separately, and was triggering errors related to it, in that case run :

dotnet add package xunit
dotnet add package xunit.runner.visualstudio)

Step 6: Build and Run the Project

Once the connection string is set up, and the database is ready, you can build and run the project.

1. **Build the Project**:
   dotnet build
2. **Run the Project**:
   dotnet run

By default the application is configured to run on https. Even if you click on the http link in the terminal, it will redirect to https version.

Step 7: Running Unit Tests

If you want to run the unit tests, follow these steps:

1. Navigate to the test project folder inside the solution:
   cd ENPM680Fall2024Project-achuth/Edusync.Tests
2. Run the unit tests using the following command:
   dotnet test
   This will execute all the unit tests that are part of the project.