

US Road Traffic Accident Dashboard Start & User Guide
G13: Team Accident
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1. Installation & Setup

1.1. PostgreSQL (Database)

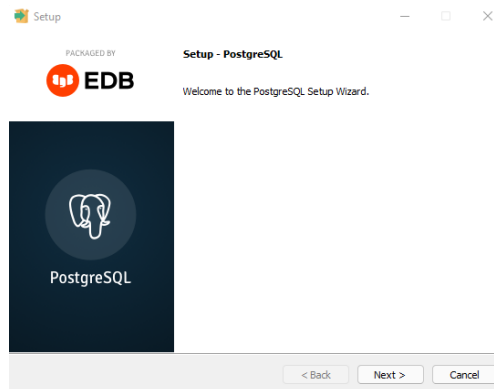
Step 1: Download PostgreSQL Installer

URL: <https://www.enterprisedb.com/downloads/postgres-postgresql-downloads>

PostgreSQL Version	Linux x86-64	Linux x86-32	Mac OS X	Windows x86-64	Windows x86-32
14.2	postgresql.org	postgresql.org			Not supported

- Select the installer for your operating system

Step 2: Install PostgreSQL



- Follow through with the installation process
- Need not install the Stack Builder component, as we will be using pgAdmin

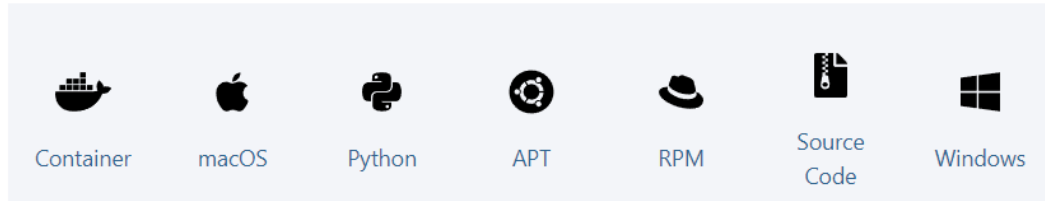
1.2. pgAdmin (Database Administration)

Step 1: Download pgAdmin Installer

URL: <https://www.pgadmin.org/download/>

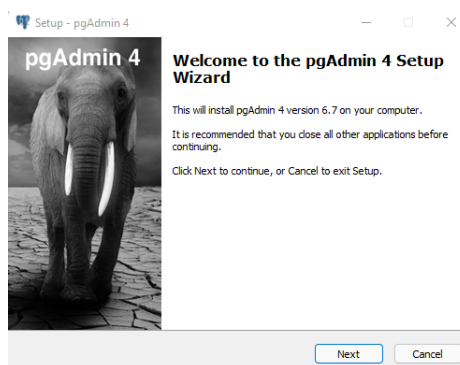
pgAdmin 4

pgAdmin 4 is a complete rewrite of pgAdmin, built using Python and Javascript/jQuery. A desktop runtime written in NW.js allows it to run standalone for individual users, or the web application code may be deployed directly on a web server for use by one or more users through their web browser. The software has the look and feels of a desktop application whatever the runtime environment is, and vastly improves on pgAdmin III with updated user interface elements, multi-user/web deployment options, dashboards, and a more modern design.



- Select the installer for your operating system

Step 2: Install PostgreSQL



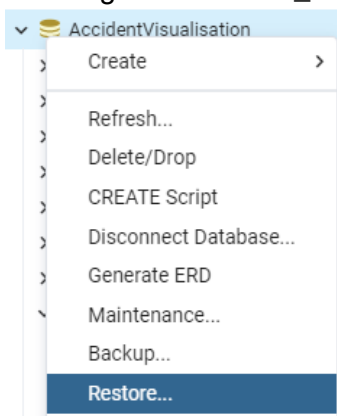
- Follow through with the installation process
- Set up the default postgres user's password, take note of the password set

Step 3: Open pgAdmin and enter your master password

Step 4: Create a new database named "AccidentVisualisation"



Step 5: Restore the database by inserting the file "2008_database" attached.



Step 6: In the folder, navigate to “appsetting.json” in the WebAPI folder.

```
C:\Users\josiahtang\Documents\GitHub\Accident_Visualisation\WebAPI\appsettings.json
```

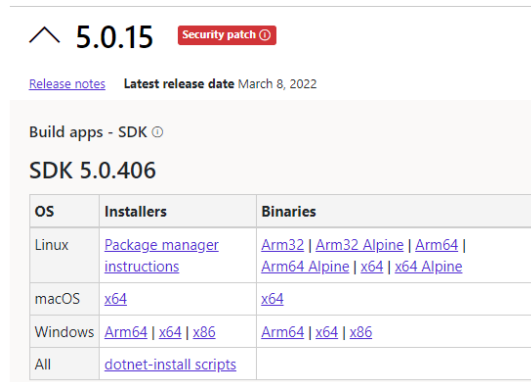
Step 7: Ensure the Database and Password reflects your PostgreSQL configuration.

```
{
  "ConnectionStrings": {
    "DefaultConnection":
    "Host=localhost;Port=5432;Database=AccdientVisualisation;Username=postgres;Password=password"
  },
  "Logging": {
    "LogLevel": {
      "Default": "Information",
      "Microsoft": "Warning",
      "Microsoft.Hosting.Lifetime": "Information"
    }
  },
  "AllowedHosts": "*"
}
```

2. NET 5 Web API

Step 1: Download .NET 5 Installer

URL: <https://dotnet.microsoft.com/en-us/download/dotnet/5.0>



5.0.15 Security patch

[Release notes](#) Latest release date March 8, 2022

Build apps - SDK

SDK 5.0.406

OS	Installers	Binaries
Linux	Package manager instructions	Arm32 Arm32 Alpine Arm64 Arm64 Alpine x64 x64 Alpine
macOS	x64	x64
Windows	Arm64 x64 x86	Arm64 x64 x86
All	dotnet-install scripts	

- Select the .NET 5 SDK installer for your operating system

Step 2: Install .NET 5 SDK, follow through with the installation process

Step 3: Open a commandline terminal, cd into the project’s “WebAPI” directory

Step 4: Install Entity Framework on the “WebAPI” directory for object relational mapping

- dotnet add package Npgsql.EntityFrameworkCore.PostgreSQL --version 5.0.2

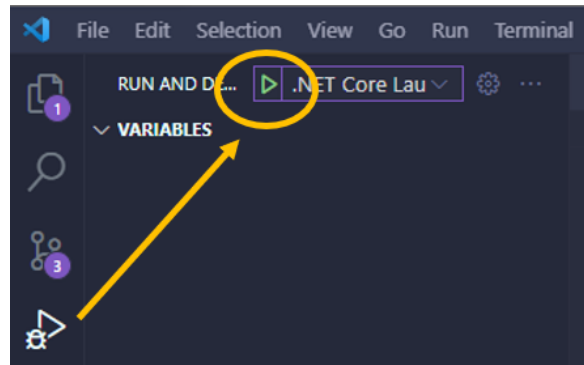
Step 5: Install dotnet-ef tool:

- dotnet tool install --global dotnet-ef

Step 6: Install Entity Framework design on the “WebAPI” directory

- dotnet tool install --global dotnet-ef

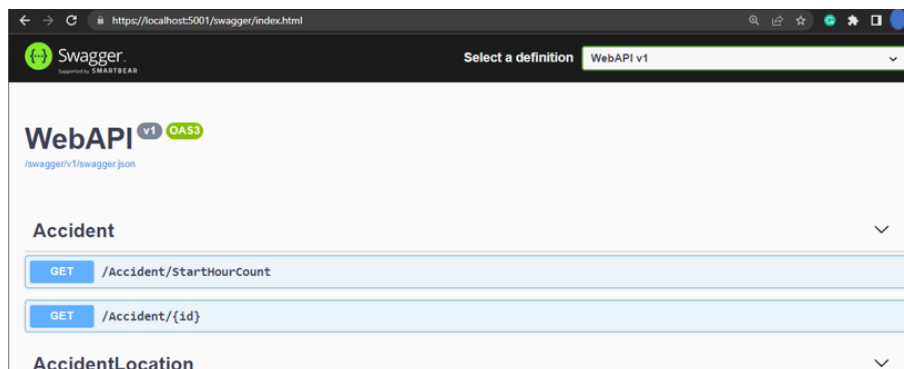
Step 7: Host the .NET 5 WebAPI service on the “WebAPI” directory



- On Visual Studio Code, click on the run button; Or
- **Alternatively**; execute “dotnet build” and “dotnet run” on the project’s “WebAPI” directory

Step 8: Access WebAPI on Swagger UI

URL: <https://localhost:5001/swagger>



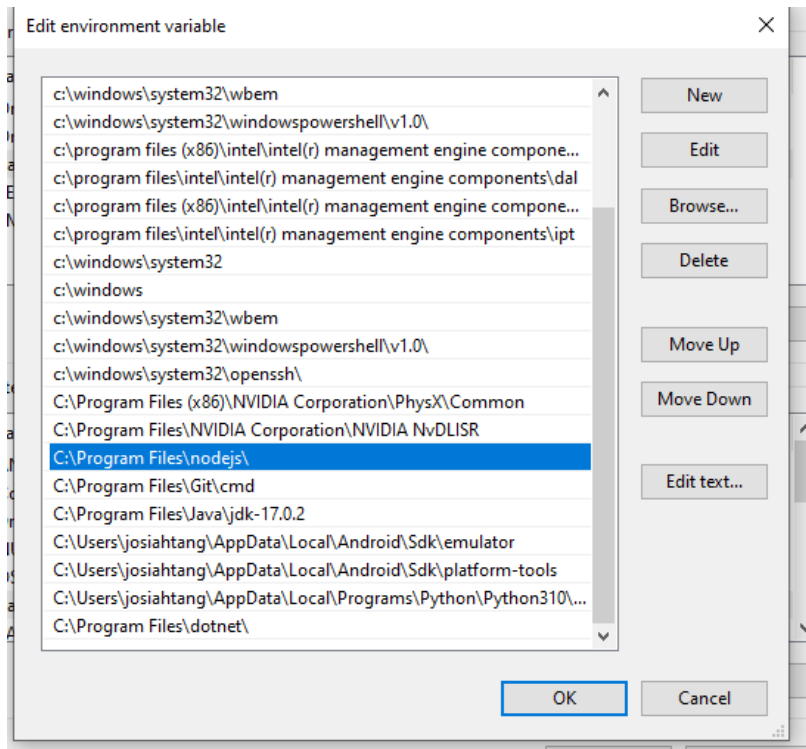
- Access the list of WebAPI implemented through the Swagger UI

3. React Dashboard

Step 1: Download Node.js

URL: <https://nodejs.org/en/download/>

Step 2: Path “node.js” in the environment variables



Step 2: In the “Accident Visualisation” Folder, change directory to the frontend folder.

```
PS C:\Users\josiahtang\Documents\GitHub\Accident_Visualisation> cd frontend
```

Step 3: Run “npm install” to install all the dependencies/system libraries.

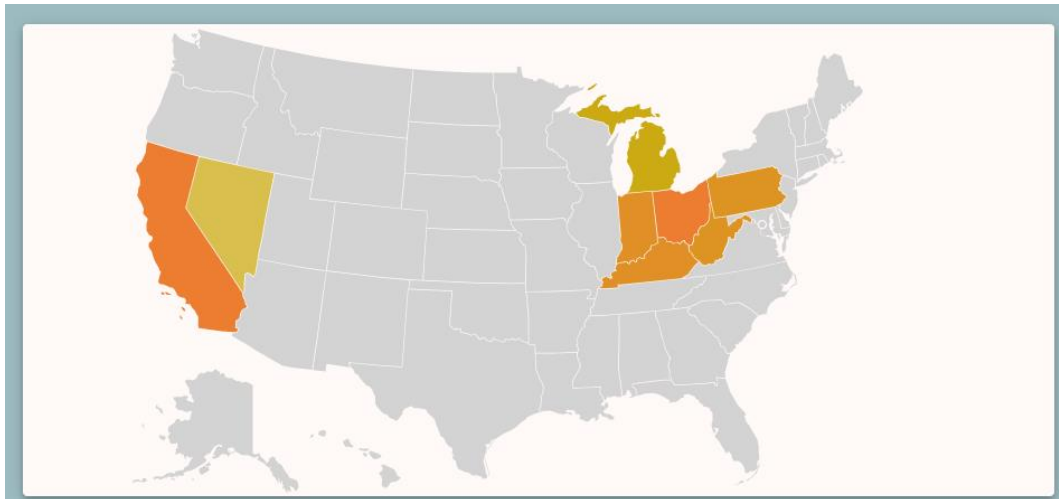
```
PS C:\Users\josiahtang\Documents\GitHub\Accident_Visualisation\frontend> npm install
```

Step 4: Run “npm start” to launch the application locally. Shortly, the web browser will popup.

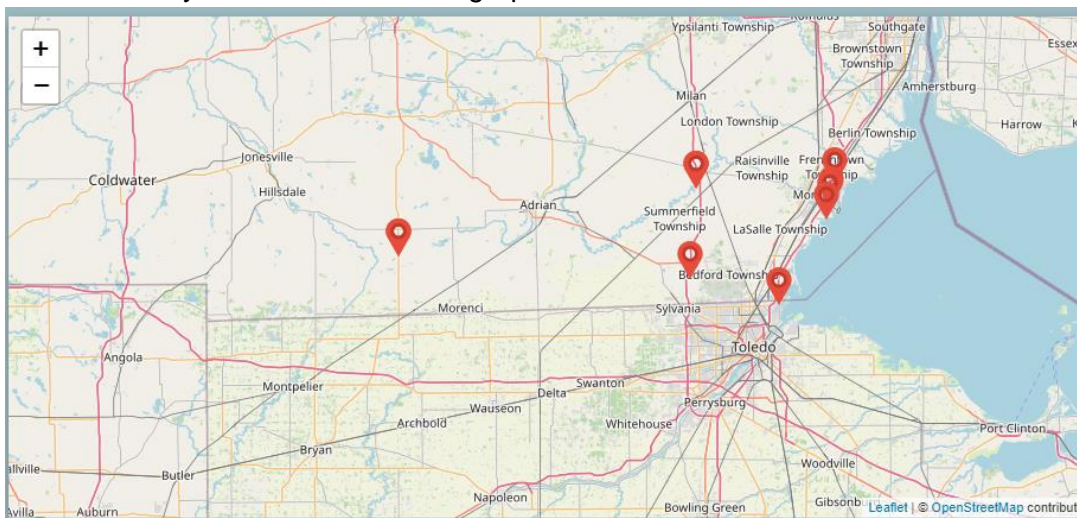
```
PS C:\Users\josiahtang\Documents\GitHub\Accident_Visualisation\frontend> npm start
```

How to use

1. Click on any **colored** state on the map to be directed to the next page.



2. Click on any Markers to view the graphs for that accident



3. Click “Provide feedback” to provide feedback on the accident. This will only be available if a marker is selected.



4. Click the “Home” button to be redirected to the home page.

