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architectural specification that includes the way of contacting services through APIs and a schematic view of the information in the database.

1. System Overview:

- The system consists of three main components: **Client**, **Disease**, and **Vaccination**.
- The Client component stores information about clients, such as their personal details and contact information.
- The Disease component tracks the diseases associated with each client, including start and end dates.
- The Vaccination component records the vaccination details for each client, including the manufacturer and vaccination date.

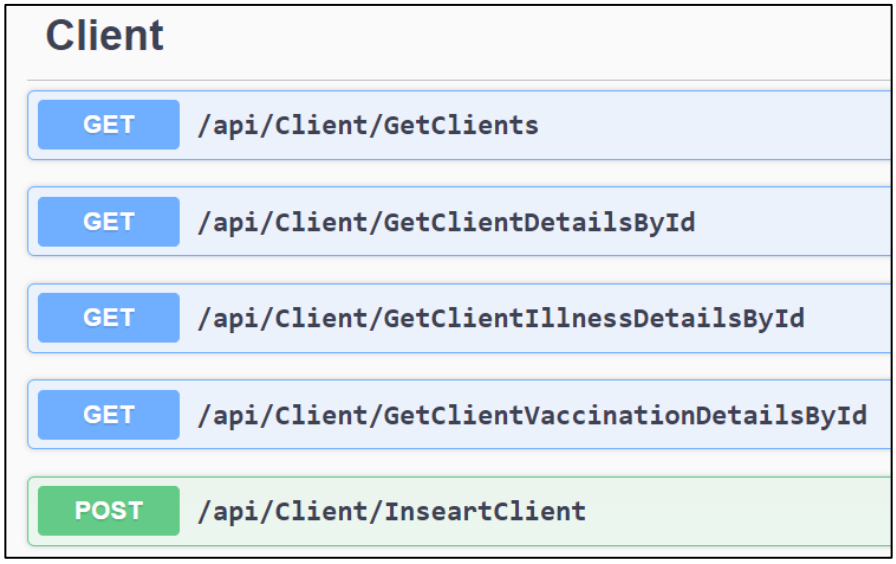
2. APIs and Services:

- Client API: Provides endpoints for managing client information.
- Disease API: Offers endpoints for managing disease records.
- Vaccination API: Provides endpoints for managing vaccination records.

The implementations of the methods were actually writte in the respective services.

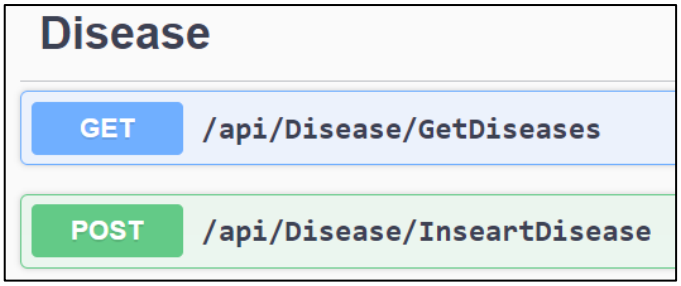
3. API Endpoints:

- **Client** API Endpoints:
  - `/clients/GetClients or/InsertClient`: GET (Retrieve all clients), POST (Create a new client)
  - `/clients/...ByID`: GET (Retrieve specific details for a client by insert id),



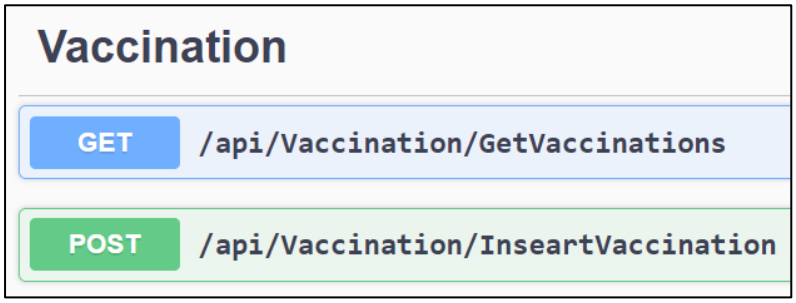
- **Disease** API Endpoints:

- `/diseases/GetDiseases or/InsertDisease`: GET (Retrieve all diseases), POST (Create a new disease)



- **Vaccination** API Endpoints:

- `/vaccinations/GetVaccinations or /InsertVaccination`: GET (Retrieve all vaccinations), POST (Create a new vaccination)

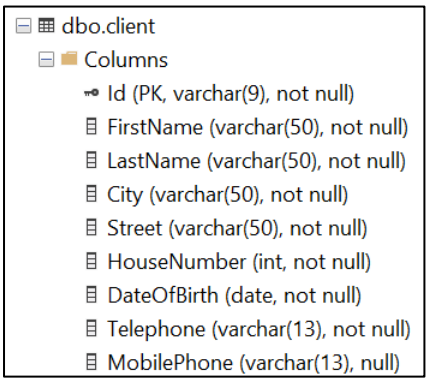


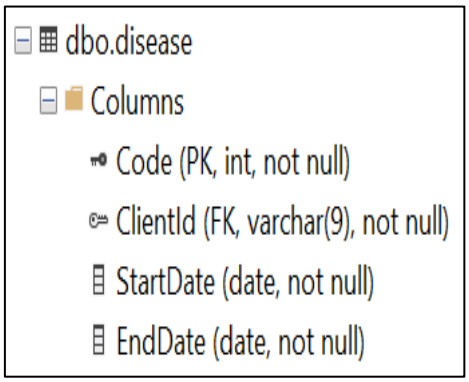
4. Database Schema:

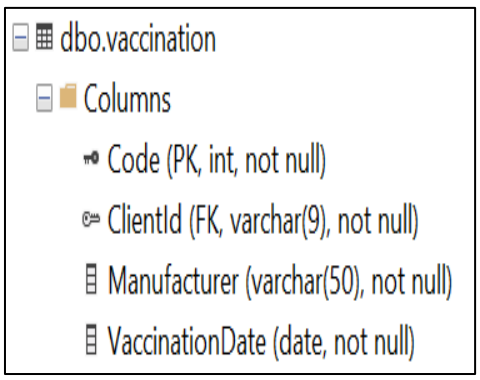
- The `client` table stores client information, with the `Id` column as the primary key.

- The `disease` table stores disease records, with the `Code` column as the primary key and the `ClientId` column as a foreign key referencing the `Id` column of the `client` table.

- The `vaccination` table stores vaccination records, with the `Code` column as the primary key and the `ClientId` column as a foreign key referencing the `Id` column of the `client` table.







5. Data Flow:

- Clients are created or retrieved through the Client API, which interacts with the `client` table in the database.
- Diseases are created or retrieved through the Disease API, which interacts with the `disease` table in the database.
- Vaccinations are created or retrieved through the Vaccination API, which interacts with the `vaccination` table in the database.

This architectural specification provides an overview of the system's components, their interactions, and the API endpoints for managing client, disease, and vaccination data. It also outlines the database schema and the flow of data between the APIs and the underlying database tables.

Additions related to bonus questions:

- A field `ClientImage NVARCHAR(MAX)` was added to the client table that will contain a string in BASE64 format that represents an image and PUT API to upload a photo to the client according to id.

- These APIs are used to retrieve the summary data: how many patients are active each day in the last month and the number of clients who are not vaccinated at all.