

Clinic Appointment Booking System

Table and Columns:

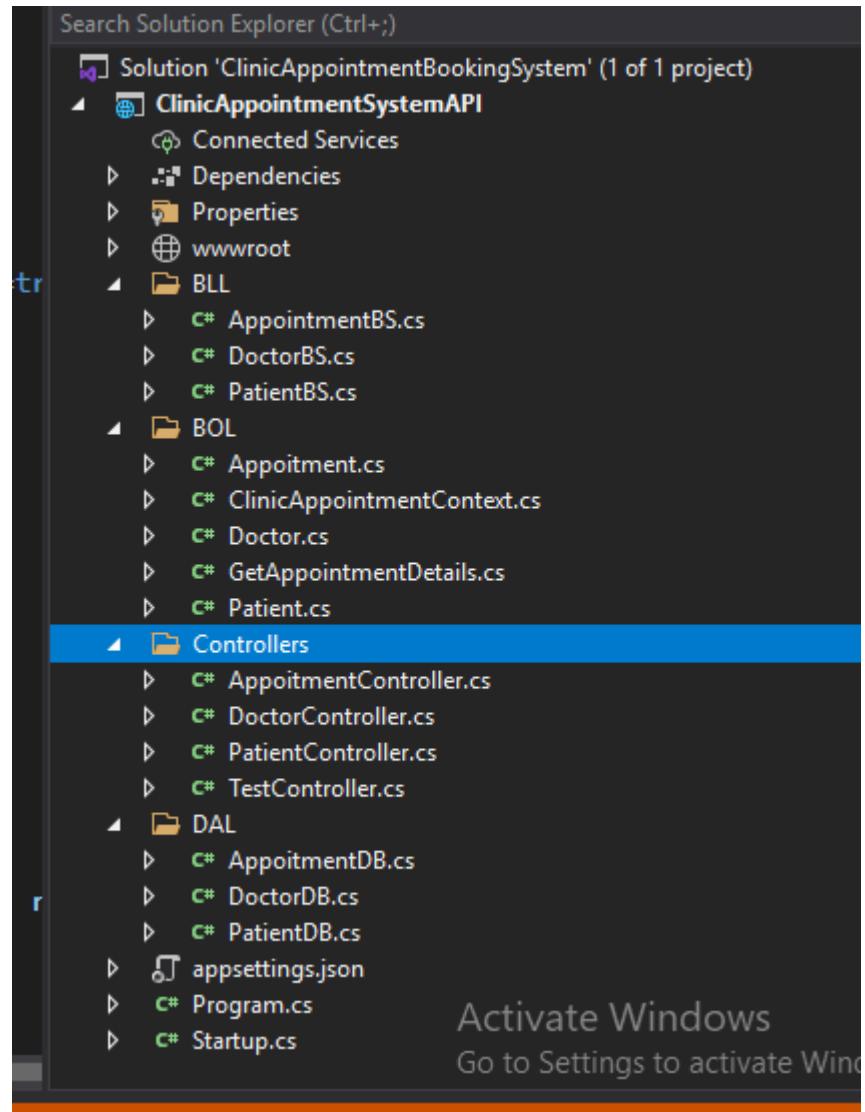
The screenshot shows a SQL query window with three SELECT statements. The first statement retrieves all columns from the [dbo].[Appointment] table. The second statement retrieves all columns from the [dbo].[Doctor] table. The third statement retrieves all columns from the [dbo].[Patient] table. Below the query results, there are three separate tables displayed as result sets.

AppointmentId	DoctorId	PatientId	AppointmentDate	StartTime	EndTime	Duration	Scheduled	IsActive	IsDeleted	CreatedBy	CreatedOn	UpdatedBy	UpdatedOn
1	1	1	2025-11-26	16:00:00.000	2025-11-26	17:29:18.770	1	0	0	Affaf	2025-11-26 15:44:38.620	NULL	NULL
2	2	2	2025-11-27	15:30:00.000	2025-11-27	17:31:05.503	1	0	0	Affaf	2025-11-26 17:36:38.303	NULL	NULL
3	3	3	2025-11-27	10:30:00.000	2025-11-27	11:16:27.300	1	0	0	Affaf	2025-11-26 11:16:27.300	NULL	NULL
4	4	4	2025-11-27	15:30:00.000	2025-11-27	17:31:05.503	1	0	0	Affaf	2025-11-26 17:36:38.303	NULL	NULL
5	5	5	2025-11-27	10:30:00.000	2025-11-27	11:16:27.300	1	0	0	Affaf	2025-11-26 11:16:27.300	NULL	NULL

DoctorId	Name	Specialization	Qualification	Gender	IsActive	IsDeleted	CreatedBy	CreatedOn	UpdatedBy	UpdatedOn
1	Dr. Abdulla Karim	Cardiology	MBBS, MD	Male	1	0	Affaf	2025-11-25 22:54:47.570	NULL	NULL
2	Dr. Sara Khan	Dermatology	MBBS, DDVL	Female	1	0	Affaf	2025-11-25 22:54:47.570	NULL	NULL
3	Dr. Sajad Khan	Orthopedics	MBBS, MS ...	Male	1	0	Affaf	2025-11-25 22:54:47.570	NULL	NULL

PatientId	Name	Phone	FileNo	Gender	IsActive	IsDeleted	CreatedBy	CreatedOn	UpdatedBy	UpdatedOn
1	Fayyaz Ur Rahman Shaikh	9421025542	PFNNo-2025-0001	Male	1	0	Affaf	2025-11-26 11:00:37.997	Affaf	2025-11-26 15:52:13.723
2	Sana kulsam	9421025542	PFNNo-2025-0002	Female	1	0	Affaf	2025-11-26 11:16:27.300	NULL	NULL
3	Derick	9130600050	PFNNo-2025-0003	Male	1	0	Affaf	2025-11-26 15:53:08.377	NULL	NULL

- I have added **audit columns** in all the tables aligned with industry standards: **IsActive, IsDeleted, CreatedOn, CreatedBy, UpdatedOn, UpdatedBy**. This is a practice I commonly follow to ensure proper tracking and maintainability of data.
- For **FileNo** I implemented a backend logic that generates a unique number based on a prefix and the year ensuring each file number is sequential and non-duplicate values **GenerateNextFileNo method**.
- I would also like to clarify the **DELETE API requirement**. Initially, I considered implementing a hard delete but as per industry best practices we avoid hard deletion to preserve data history. **Therefore, I implemented the Cancel Appointment functionality using a Status field to maintain the appointment record while ensuring proper traceability**.
- Additionally I had planned to enhance UI consistency by using a **SharedLayoutPage** to reduce repetitive code and improve the frontend design. However due to time limitations I couldn't include these improvements.



I have structured my project using separate layers according to current practices:

- **DAL (Data Access Layer)** – handles all database operations.
- **BOL (Business Object Layer)** – defines the data models or entities.
- **BLL (Business Logic Layer)** – contains the business logic.

List of all doctor.

The screenshot shows a web browser window with the URL `localhost:44366/doctor.html`. The page has a blue header bar with the text "Clinic Appointment System" on the left and "Doctors Patients Appointments" on the right. Below the header is a table titled "All Doctors Details". The table has columns for ID, Name, Specialization, Qualification, Gender, and "View Available Time". There are three rows of data:

ID	Name	Specialization	Qualification	Gender	View Available Time
1	Dr. Abdulla Karim	Cardiology	MBBS, MD	Male	View Available Slots
2	Dr. Sara Khan	Dermatology	MBBS, DDVL	Female	View Available Slots
3	Dr. Sajjad Khan	Orthopedics	MBBS, MS Ortho	Male	View Available Slots

At the bottom right of the page, there is a watermark-like message: "Activate Windows Go to Settings to activate Windows".

Doctor Available Time Slots by Date:

The screenshot shows a web browser window with the URL `localhost:44366/available_slots.html?doctorId=1&doctorName=Dr.%20Abdulla%20Karim`. The page title is "Available Slots for Dr. Abdulla Karim". It has a "Select Date" input field set to "11-26-2025" and a "Check Slots" button. Below this is a table titled "Available Slots" showing time slots from 10:00 am to 03:30 pm, each labeled "Available". At the bottom right, there is a watermark-like message: "Activate Windows Go to Settings to activate Windows.".

Time Slot	Status
10:00 am	Available
10:30 am	Available
11:00 am	Available
11:30 am	Available
12:00 pm	Available
12:30 pm	Available
01:00 pm	Available
01:30 pm	Available
02:00 pm	Available
02:30 pm	Available
03:00 pm	Available
03:30 pm	Available

All Patients and Search Patient by FileNo :

The screenshot shows a web-based clinic appointment system. At the top, there's a header bar with the title "Clinic Appointment System" and links for "Doctors", "Patients", and "Appointments". Below the header is a search bar titled "Search Patient by File No" containing the text "PFNo-2025-0001". A "Search" button is next to it. To the right of the search bar is a red button with a plus sign and the text "Add Patient". The main content area has a blue header "Patient Details" which displays the following information:
File No: PFNo-2025-0001
Name: Fayyaz Ur Rahman Shaikh
Gender: Male
Phone: 9421025542
A yellow "Update Patient" button is at the bottom of this section. Below this, there's a green header "All Patients" with a "Refresh" button. A table lists three patients:

File No	Name	Gender	Phone	Action
PFNo-2025-0001	Fayyaz Ur Rahman Shaikh	Male	9421025542	<button>Update</button>
PFNo-2025-0002	Sana kulsum	Female	9421025542	<button>Update</button>
PFNo-2025-0003	Derick	Male	9130600500	<button>Update</button>

A message "Private Windows Go to Settings to activate Windows" is visible on the right side of the table. The browser's address bar shows "localhost:44366/Patient.html". The taskbar at the bottom includes icons for various applications like File Explorer, Edge, and Task View.

Add Patient Form:

The screenshot shows the "Add New Patient" form. At the top, there's a header bar with the title "Clinic Appointment System" and links for "Doctors", "Patients", and "Appointments". The main form area has a title "Add New Patient". It contains four input fields: "Full Name *", "Phone", "Gender *", and a dropdown menu labeled "Select". Below these fields is a green success message box containing the text "Patient added successfully!". At the bottom of the form are two buttons: a blue "Save Patient" button and a grey "Back" button.

Update Patient Form:

The screenshot shows a web-based application for updating patient information. At the top, a blue header bar displays the text "Clinic Appointment System" on the left and "Doctors Patients Appointments" on the right. Below the header, the main title "Update Patient" is centered. The form contains several input fields: "File No *" with the value "PFNo-2025-0004", "Full Name *" with the value "Erick James Parker", "Phone" with the value "8999523725", and "Gender *" with the value "Male". A green success message box at the bottom left states "Patient updated successfully!". At the bottom center is a blue "Update Patient" button. To its left is a "Back" button, and to its right is a link to "Activate Windows" with the sub-instruction "Go to Settings to activate".

Clinic Appointment System

Doctors Patients Appointments

Update Patient

File No *

PFNo-2025-0004

Full Name *

Erick James Parker

Phone

8999523725

Gender *

Male

Patient updated successfully!

Update Patient

Back

Activate Windows
Go to Settings to activate

All Appointments:

Clinic Appointment System

Doctors Patients Appointments

+ Book Appointment

Enter Appointment ID

Search Reset

Sr.No	Patient	Doctor	Date & Time	Duration (min)	Status	Action
1	Sana kulsum	Dr. Sajjad Khan	27/11/2025, 15:30:00	60	Scheduled	<button>Cancel Appointment</button>
2	Sana kulsum	Dr. Sajjad Khan	27/11/2025, 10:30:00	30	Scheduled	<button>Cancel Appointment</button>
3	Sana kulsum	Dr. Sara Khan	26/11/2025, 16:00:00	60	Scheduled	<button>Cancel Appointment</button>
4	Fayyaz Ur Rahman Shaikh	Dr. Abdulla Karim	26/11/2025, 15:00:00	30	Cancelled	<button>Already Cancelled</button>
5	Derick	Dr. Sajjad Khan	26/11/2025, 10:30:00	30	Scheduled	<button>Cancel Appointment</button>

Appointment by Appointment ID:

Clinic Appointment System

Doctors Patients Appointments

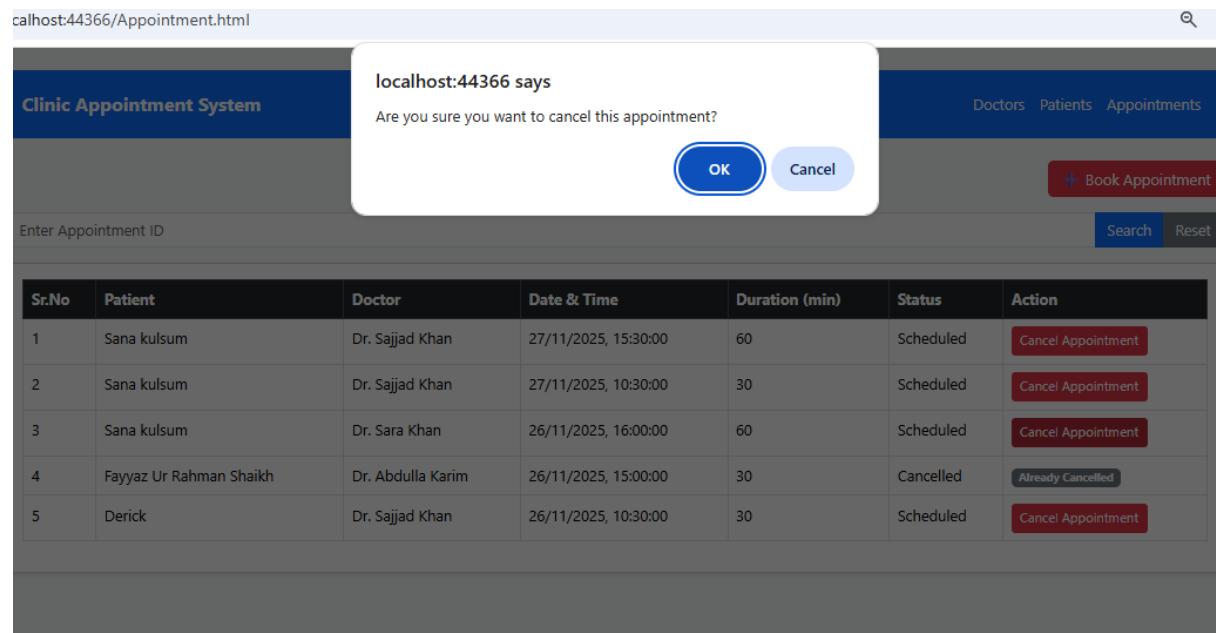
+ Book Appointment

2

Search Reset

Sr.No	Patient	Doctor	Date & Time	Duration (min)	Status	Action
1	Sana kulsum	Dr. Sara Khan	26/11/2025, 16:00:00	60	Scheduled	<button>Cancel Appointment</button>

Appointment Cancel Confirmation Validation:



Appointment Cancelled:

Removed Cancelled button if already Cancelled

2	Sana kulsum	Dr. Sajjad Khan	27/11/2025, 15:30:00	60	Scheduled	<button>Cancel Appointment</button>
3	Sana kulsum	Dr. Sara Khan	26/11/2025, 16:00:00	60	Scheduled	<button>Cancel Appointment</button>
4	Fayyaz Ur Rahman Shaikh	Dr. Abdulla Karim	26/11/2025, 15:00:00	30	Cancelled	<button>Already Cancelled</button>
5	Derick	Dr. Sajjad Khan	26/11/2025, 10:30:00	30	Scheduled	<button>Cancel Appointment</button>

Appointment Booked:

For Patient Erick James Parker & Doctor : Dr. Sara Khan on 28/11/2025, 12:30:00

The screenshot shows the 'Book Appointment' page of the Clinic Appointment System. The page has fields for 'Patient *' (a dropdown menu), 'Doctor *' (another dropdown menu), 'Appointment Date & Time *' (a date input field with a calendar icon), 'Duration (minutes)' (a text input field containing '30'), and a success message 'Appointment Booked successfully' in a green box. At the bottom is a blue 'Book Appointment' button.

Appointment Booking Validation:

For Patient Derick & Doctor is Dr. Sara Khan on 28/11/2025, 12:30:00

"Doctor Already has an Appointment in this time slot"

The screenshot shows the 'Book Appointment' page with the same fields as the previous screenshot. The 'Patient *' field contains 'Derick', 'Doctor *' contains 'Dr. Sara Khan', and 'Appointment Date & Time *' contains '11-28-2025 12:30'. A red error message 'Doctor Already has an Appointment in this time slot' is displayed in a red box. The 'Book Appointment' button is at the bottom.

Basic Validations when Adding Patient:

Phone no entered: 1233

“Please enter a valid 10-digit phone number.”

Add New Patient

Full Name *	Roman
Phone	1233
Gender *	Female
Please enter a valid 10-digit phone number.	
Save Patient	
Back	
Activate Windows Go to Settings to activate Windows.	