12576 Nisanth Saravanan
RIX2024-Batch 1_Code Quality & Design Principles Lab Assessment

Selected Project: Appointment Manager.
Coder: Nisanth Saravanan
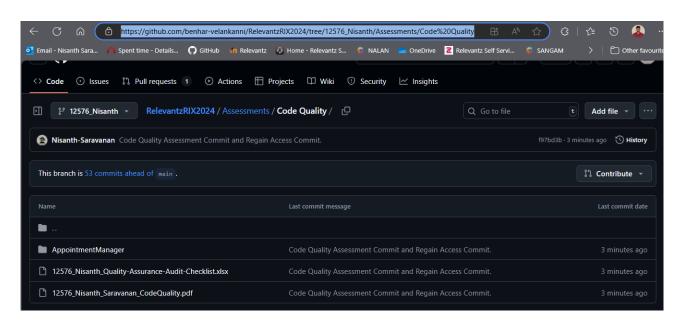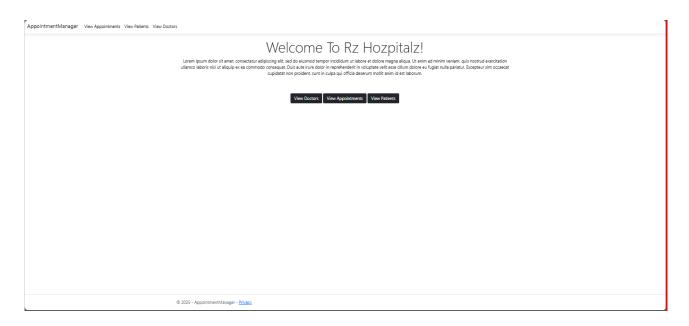Reviewer: Ranjithkumar Palanisamy

Project Description:
A MVC Project that let's us add doctor, patient and appointment, in Razor pages.

GitHub Link:

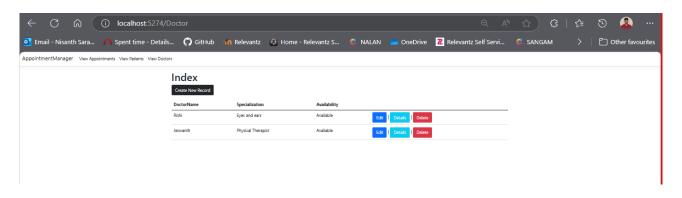[RelevantzRIX2024/Assessments/Code Quality at 12576_Nisanth · benhar-velankanni/RelevantzRIX2024](#)

Project Output Screens:

GET Method: Status: Working.

POST Method: Status: Working.

Create

Patient

Patient Name:

XYZ

Email:

admin@relevantz.com

Contact Number:

1234567890

Date of Birth: (YYYY-MM-DD Format)

27-07-2004

Gender:

Male

Create

Back to List

Create

Doctor

Doctor Name:

ABC

Specialization:

Something

Availability:

Available

Create

Back to List

Create

Appointment

Patient Name:

XYZ

Doctor Name:

ABC

Date of Appointment: (YYYY-MM-DD Format)

2025-08-30

Time of Appointment: (24 Hour Format)

15:04

Status of Appointment:

Completed

Create

Back to List

Reflection after POST:

Index

Create New Record

PatientName	PatientEmail	PatientPhone	PatientDob	PatientGender			
Nisanth	nisanth.saravanan@relevantz.com	1234567890	30/06/2004	Male	Edit	Details	Delete
Maddy	Sample@relevantz.com	1234567890	30/06/2004	Male	Edit	Details	Delete
Nithish Bangaru	Sample@relevantz.com	1234567890	27/07/2004	Male	Edit	Details	Delete
XYZ	admin@relevantz.com	1234567890	27/07/2004	Male	Edit	Details	Delete

Index

Create New Record

DoctorName	Specialization	Availability			
Rishi	Eyes and ears	Available	Edit	Details	Delete
Jeswanth	Physical Therapist	Available	Edit	Details	Delete
ABC	Something	Available	Edit	Details	Delete

Index

Create New Appointment

DateofAppoint	TimeofAppoint	StatusofAppoint	Doctor	Patient			
30/08/2025	03:04 PM	Cancelled	Jeswanth	Maddy	Edit	Details	Delete
30/08/2025	03:04 PM	Completed	ABC	XYZ	Edit	Details	Delete

SonarQube Setup:

Email - Nisanth Sara... | Spent time - Details... | GitHub | Relevantz | Home - Relevantz S... | NALAN | OneDrive | Relevantz Self Servi... | SANGAM | > | Other favourites

Keep your instance current and get the latest SonarQube Community Build, available now.

SonarQube community | Projects | Issues | Rules | Quality Profiles | Quality Gates | Administration | More

Embedded database should be used for evaluation purposes only. It doesn't support scaling, upgrading to a new SonarQube Server version, or migration to another database engine. Learn more

2 of 2

Set up project for Clean as You Code

The new code definition sets which part of your code will be considered new code. This helps you focus attention on the most recent changes to your project, enabling you to follow the Clean as You Code methodology. Learn more: Defining New Code

Choose the baseline for new code for this project

◉ Use the global setting

Previous version

Any code that has changed since the previous version is considered new code.
Recommended for projects following regular versions or releases.

○ Define a specific setting for this project

○ Previous version

Any code that has changed since the previous version is considered new code.
Recommended for projects following regular versions or releases.

○ Number of days

Any code that has changed in the last x days is considered new code. If no action is taken on a new issue after x days, this issue will become part of the overall code.
Recommended for projects following continuous delivery.

○ Reference branch

Choose a branch as the baseline for the new code.
Recommended for projects using feature branches.

Back | Create project

Email - Nisanth Sara... | Spent time - Details... | GitHub | Relevantz | Home - Relevantz S... | NALAN | OneDrive | Relevantz Self Servi... | SANGAM | > | Other favourites

Keep your instance current and get the latest SonarQube Community Build, available now.

SonarQube community | Projects | Issues | Rules | Quality Profiles | Quality Gates | Administration | More

Embedded database should be used for evaluation purposes only. It doesn't support scaling, upgrading to a new SonarQube Server version, or migration to another database engine. Learn more

Your project has been created.

AppointmentManager - Sonar - Project | main

Overview | Issues | Security Hotspots | Measures | Code | Activity | Project Settings | Project Information

Analysis Method

Use this page to manage and set-up the way your analyses are performed.

How do you want to analyze your repository?

With Jenkins | With GitHub Actions | With Bitbucket Pipelines

With GitLab CI | With Azure Pipelines | Other CI
SonarQube Community Build integrates with your workflow no matter which CI tool you're using.

Locally
Use this for testing or advanced use-case. Other modes are recommended to help you set up your CI environment.

Analysis Method > Locally

Analyze your project

We initialized your project on SonarQube Community Build, now it's up to you to launch analyses!

1 Provide a token

Generate a project token | Use existing token

Token name ?

Analyze "AppointmentManager - Sonar - Project"

Expires in

30 days | Generate

ℹ Please note that this token will only allow you to analyze the current project. If you want to use the same token to analyze multiple projects, you need to generate a global token in your user account. See the documentation for more information.

The token is used to identify you when an analysis is performed. If it has been compromised, you can revoke it at any point in time in your user account.
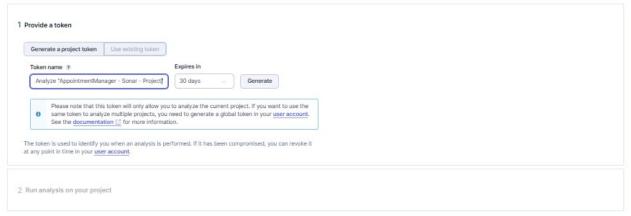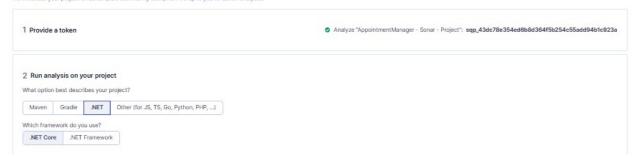
2 Run analysis on your project

Analyze your project

We initialized your project on SonarQube Community Build, now it's up to you to launch analyses!

1 Provide a token

✔ Analyze "AppointmentManager - Sonar - Project": **sqp_43dc78e354ed6b8d364f5b254c55add94b1c923a**

2 Run analysis on your project

What option best describes your project?

| Maven | Gradle | .NET | Other (for JS, TS, Go, Python, PHP, ...) |

Which framework do you use?

| .NET Core | .NET Framework |

```
+ Developer PowerShell ▾  ⬚ ⬚ ⚙

***************************************************************
** Visual Studio 2022 Developer PowerShell v17.14.7
** Copyright (c) 2025 Microsoft Corporation
***************************************************************
PS D:\Intern Files\Intern Assessment\L1 Assessment\Code Quality\AppointManager_Code_Review_Repo\AppointmentManager\AppointmentManager> dotnet tool in
stall --global dotnet-sonarscanner
Tool 'dotnet-sonarscanner' is already installed.
PS D:\Intern Files\Intern Assessment\L1 Assessment\Code Quality\AppointManager_Code_Review_Repo\AppointmentManager\AppointmentManager>
```
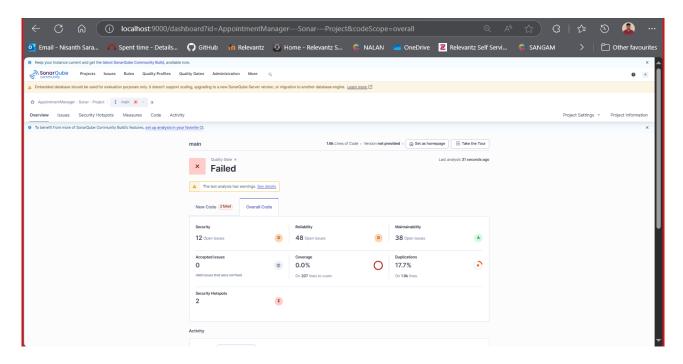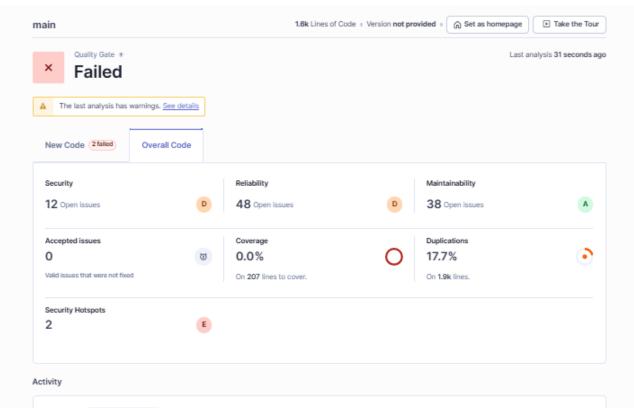
```
PS D:\Intern Files\Intern Assessment\L1 Assessment\Code Quality\AppointManager_Code_Review_Repo\AppointmentManager\AppointmentManager> dotnet sonarsc
anner begin /k:"AppointmentManager---Sonar---Project" /d:sonar.host.url="http://localhost:9000"  /d:sonar.token="sqp_43dc78e354ed6b8d364f5b254c55add9
4b1c923a"
SonarScanner for MSBuild 10.3
Using the .NET Core version of the Scanner for MSBuild
Pre-processing started.
Preparing working directories...
17:20:14.732  Updating build integration targets...
17:20:14.938  Using SonarQube v25.1.0.102122.
17:20:15.054  Fetching analysis configuration settings...
17:20:16.258  Provisioning analyzer assemblies for cs...
17:20:16.259  Installing required Roslyn analyzers...
17:20:16.26   Processing plugin: csharp version 10.4.0.108396
17:20:16.651  Provisioning analyzer assemblies for vbnet...
17:20:16.651  Installing required Roslyn analyzers...
17:20:16.652  Processing plugin: vbnet version 10.4.0.108396
17:20:16.683  Incremental PR analysis: Base branch parameter was not provided.
17:20:16.684  Cache data is empty. A full analysis will be performed.
17:20:16.736  Pre-processing succeeded.
PS D:\Intern Files\Intern Assessment\L1 Assessment\Code Quality\AppointManager_Code_Review_Repo\AppointmentManager\AppointmentManager>
```

```
PS D:\Intern Files\Intern Assessment\L1 Assessment\Code Quality\AppointManager_Code_Review_Repo\AppointmentManager\AppointmentManager> dotnet build
Restore complete (0.5s)
  AppointmentManager succeeded with 31 warning(s) (11.7s) → bin\Debug\net8.0\AppointmentManager.dll
    D:\Intern Files\Intern Assessment\L1 Assessment\Code Quality\AppointManager_Code_Review_Repo\AppointmentManager\AppointmentManager\Views\Appointm
ent\Delete.cshtml(36,39): warning CS8602: Dereference of a possibly null reference.
    D:\Intern Files\Intern Assessment\L1 Assessment\Code Quality\AppointManager_Code_Review_Repo\AppointmentManager\AppointmentManager\Views\Appointm
ent\Delete.cshtml(42,39): warning CS8602: Dereference of a possibly null reference.
    D:\Intern Files\Intern Assessment\L1 Assessment\Code Quality\AppointManager_Code_Review_Repo\AppointmentManager\AppointmentManager\Views\Appointm
ent\Details.cshtml(35,39): warning CS8602: Dereference of a possibly null reference.
```

```
PS D:\Intern Files\Intern Assessment\L1 Assessment\Code Quality\AppointManager_Code_Review_Repo\AppointmentManager\AppointmentManager> dotnet sonarsc
anner end /d:sonar.token="sqp_43dc78e354ed6b8d364f5b254c55add94b1c923a"
SonarScanner for MSBuild 10.3
Using the .NET Core version of the Scanner for MSBuild
Post-processing started.
17:21:15.491  Starting with Scanner for .NET v8 the way the `sonar.projectBaseDir` property is automatically detected has changed and this has an imp
act on the files that are analyzed and other properties that are resolved relative to it like `sonar.exclusions` and `sonar.test.exclusions`. If you
would like to customize the behavior, please set the `sonar.projectBaseDir` property to point to a directory that contains all the source code you wa
nt to analyze. The path may be relative (to the directory from which the analysis was started) or absolute.
Calling the SonarScanner CLI...
INFO: Scanner configuration file: C:\Users\nisanth.saravanan\.dotnet\tools\.store\dotnet-sonarscanner\10.3.0\dotnet-sonarscanner\10.3.0\tools\netcore
app3.1\any\sonar-scanner-5.0.2.4997\bin\..\conf\sonar-scanner.properties
INFO: Project root configuration file: D:\Intern Files\Intern Assessment\L1 Assessment\Code Quality\AppointManager_Code_Review_Repo\AppointmentManage
r\AppointmentManager\.sonarqube\out\sonar-project.properties
INFO: SonarScanner 5.0.2.4997
INFO: Java 17.0.13 Eclipse Adoptium (64-bit)
INFO: Windows 10 10.0 amd64
```

```
INFO: -----------------------------------------------------------------
INFO: EXECUTION SUCCESS
INFO: -----------------------------------------------------------------
INFO: Total time: 20.344s
INFO: Final Memory: 15M/60M
INFO: -----------------------------------------------------------------
The SonarScanner CLI has finished
17:21:36.954  Post-processing succeeded.
PS D:\Intern Files\Intern Assessment\L1 Assessment\Code Quality\AppointManager_Code_Review_Repo\AppointmentManager\AppointmentManager>
```
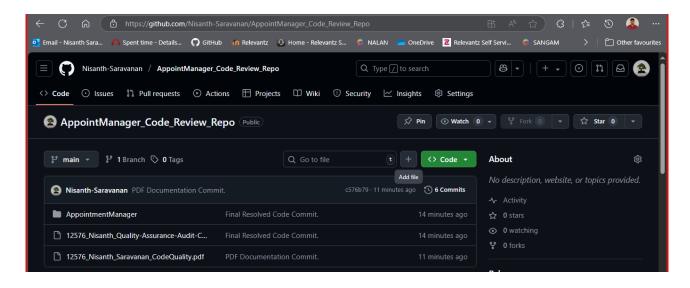
Initial SonarQube Analysis:

main   1.6k Lines of Code · Version not provided ·   🏠 Set as homepage   ▶ Take the Tour

Quality Gate ⓘ   Last analysis 31 seconds ago
✕   Failed

⚠   The last analysis has warnings. See details

New Code [2 failed]   Overall Code

Security		Reliability		Maintainability	
12 Open issues	D	48 Open issues	D	38 Open issues	A
Accepted issues		Coverage		Duplications	
0	ⓩ	0.0%	O	17.7%	
Valid issues that were not fixed		On 207 lines to cover.		On 1.9k lines.	
Security Hotspots					
2	E				

Activity

Peer-Review Comments:

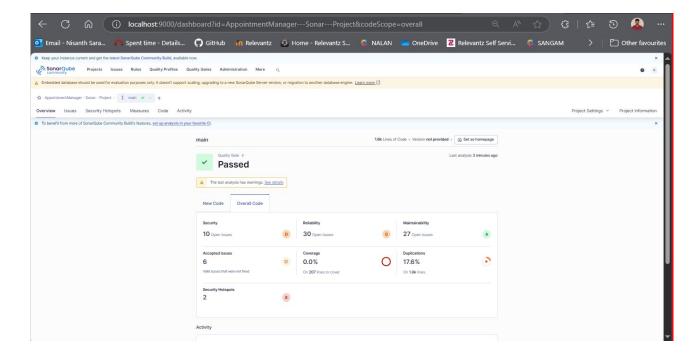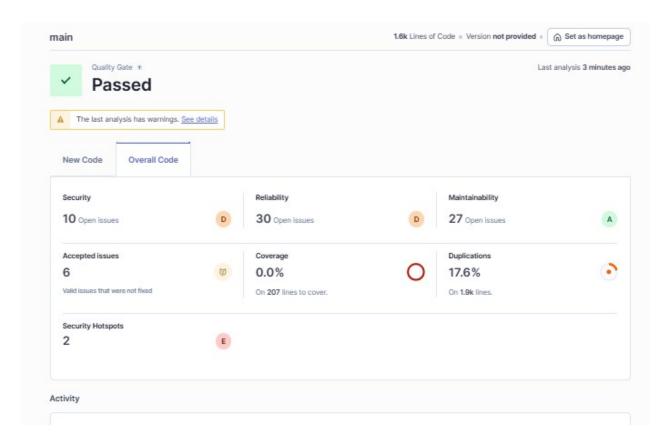| Ref No.	Source[Code Fie] Position (Code Line)	SCORE [1-5]	MEETS STANDARDS	OPPORTUNITIES FOR IMPROVEMENT	MINOR CONCERNS	MAJOR CONCERNS	NOTES	RECOMMENDATIONS	STATUS MARK RESOLVED
				QUALITY ASSURANCE AUDIT CHECKLIST TEMPLATE					
1	AppDbContext.cs - line : 9	3	No	Yes	Yes	No	Class name must be pascal	change appdbcontext to Pascal case	RESOLVED
2	Patient.cs - line : 6 , 10 , 12 , 18	4	No	Yes	Yes	No	variable must be non-nullable	add "?" to data type ⇒ string?	RESOLVED
3	Appointment.cs - line :18 , 20	4	No	Yes	Yes	No	variable must be non-nullable	add "?" to data type ⇒ string?	RESOLVED
4	Patient.cs - line : 6	3	No	Yes	Yes	No	Class name must be pascal	To pascal	RESOLVED
5	Appointment.cs - line : 6	3	No	Yes	Yes	No	Class name must be pascal	To pascal	RESOLVED
6	Doctor.cs - line:6	4	No	Yes	Yes	No	Class name must be pascal	To pascal	RESOLVED
7	Doctor.cs - line: 10 ,12 , 14	4	No	Yes	Yes	No	variable must be non-nullable	add "?" to data type ⇒ string?	RESOLVED
8	Views/Home/index.cshtml	5	No	Yes	Yes	No	check the paragraph tag once	Add some simple and understandable sentence	NOT RESOLVED The paragraph is a design placeholder .
9	General	4	No	Yes	Yes	No	Add some why comments	Add some why commands	RESOLVED
10	General	3	No	Yes	Yes	No	Remove unwanted commands	Delete those commands	RESOLVED
11	General	5	Yes	Yes	-	-	Proper Naming	Namings for Class	
12	General	5	Yes	Yes	-	-	Proper Naming	Namings for Objects	
13	General	5	Yes	Yes	-	-	Proper Naming	Namings for Variables	
14	General	5	Yes	Yes	-	-	Proper Naming	Namings for Namespace	
15	General	5	Yes	Yes	-	-	Proper Naming	Namings for label in cshtml	
16	General	5	Yes	Yes	-	-	Proper Naming	Namings for Placeholder in cshtml	
17	General	5	Yes	Yes	-	-	Proper Naming	Proper method namings	
18	General	5	Yes	Yes	-	-	Proper Naming	Proper File Namings	
19	General	5	Yes	Yes	-	-	Implemented asynchronous	Implemented Asynchronous	
20	General	5	Yes	Yes	-	-	Remove unused imports	check every import have used	RESOLVED
21									

12576_Nisanth_Quality-Assurance-Audit-Checklist.xlsx

GitHub Link:

Nisanth-Saravanan/AppointManager_Code_Review_Repo

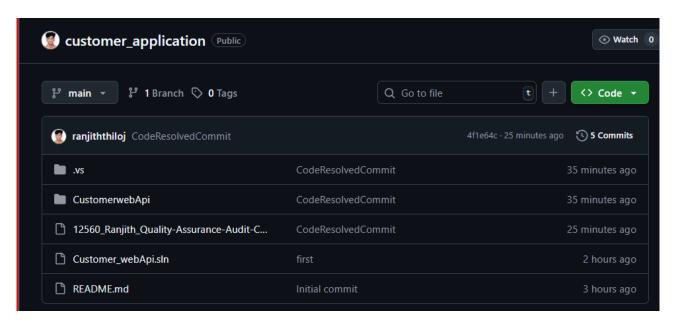## Post Refactoring SonarQube Analysis:

Reviewer Side Work:

QUALITY ASSURANCE AUDIT CHECKLIST TEMPLATE

Ref No.	Source[Code Fie] Position (Code Line)	SCORE [1-5]	MEETS STANDARDS	OPPORTUNITIES FOR IMPROVEMENT	MINOR CONCERNS	MAJOR CONCERNS	NOTES	RECOMMENDATIONS
1	CustomerbApi\Model\Customer.cs	4	NO	YES	YES	NO	Lack of [Key] Data Annotations	Add a [Key] Annoted Field.
2	CustomerbApi\Model\Customer.cs	4	NO	YES	YES	NO	Lack of [Required] Annoted Value in the model.	Add a [Required] Annoted Field.
3	CustomerbApi\Controllers\CustomerDbController.cs	4	NO	YES	YES	NO	Casing Issue for "Myapp.Controllers"	Rename with proper casing (PascalCasing).
4	CustomerbApi\Controllers\CustomerDbController.cs	5	NO	YES	YES	NO	Lack of Comments to denote why the method is defined.	Add minimal Comments.
5	CustomerbApi	1	NO	YES	NO	YES	Improper Namespace naming: "MyApp" / "Myapp"	Rename the namespaces with respect to the project: "CustomerWebAPI"
6	CustomerbApi\Controllers\CustomerDbController.cs: Line 65	3	NO	YES	NO	YES	The Delete Method lacks an "await" operator.	Add and "await" operator.
7	CustomerbApi\Controllers\CustomerDbController.cs: Line 20	4	NO	YES	YES	NO	Vague naming convention: "GetDatas"	Rename to "GetCustomers"
8	CustomerbApi\Controllers\CustomerDbController.cs: Line 26	4	NO	YES	YES	NO	Vague naming convention: "Get"	Rename to "InsertCustomer"
9	CustomerbApi\Controllers\CustomerDbController.cs: Line 37	4	NO	YES	YES	NO	Vague naming convention: "InsertDatas"	Rename to "GetCustomerById"
10	CustomerbApi\Data\ApplicationDBContext.cs	5	YES	NO	NO	NO		
11	CustomerbApi\Program.cs	5	YES	NO	NO	NO		
12	CustomerbApi\Controllers\CustomerDbController.cs	5	YES	NO	NO	NO	Properly Declared HttpGet Annotations.	
13	CustomerbApi\Controllers\CustomerDbController.cs	5	YES	NO	NO	NO	Properly Declared HttpPost Annotations.	
14	CustomerbApi\Controllers\CustomerDbController.cs	5	YES	NO	NO	NO	Properly Declared HttpDelete Annotations.	
15	CustomerbApi\Controllers\CustomerDbController.cs	5	YES	NO	NO	NO	Properly Declared HttpPut Annotations.	
16	CustomerbApi\Controllers\CustomerDbController.cs: Line 13	5	YES	NO	NO	NO	Properly Declared private variable.	
17	CustomerbApi\Controllers\CustomerDbController.cs: Line 32	5	YES	NO	NO	NO	Aptly Declared "await" agent.	
18	CustomerbApi\Controllers\CustomerDbController.cs: Line 60	5	YES	NO	NO	NO	Aptly Declared "await" agent.	
	CustomerbApi\Program.cs: Line: 12	5	YES	NO	NO	NO	Apt Usage of "ServerVersion.AutoDetect".	
20	CustomerbApi\Program.cs: Line: 22	5	YES	NO	NO	NO	Apt Declaration of middleware for SwaggerUI.	
21	CustomerbApi\appsettings.json	5	YES	NO	NO	NO	Apt Usage of "DefaultConnection" and ConnectionStrings.	Could make use of a .env file as well for such hard codes.
22	CustomerbApi\Migrations\20250801081143_first.cs	3	NO	YES	NO	NO	Partial Class Name is Declared as "first".	While declaring migrations name, use proper casing.
23								