



# **Maturity Assessment Tool**

**A Capstone Project Prepared By .NET Batch Team: B**



# Acknowledgement

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# Abstract

The issue of calculating the ability of an organization to analyze its employees has been a long dilemma. To compare the abilities with the competing organizations, to find out the most scoring employee/organization, to find out the most consistent employee/organization or to track and analyze the abilities of all the organizations comes hand in hand with huge calculational troubles.

This ability of the organization to master its project is termed Maturity, and the calculation of this ability can be termed Maturity Assessment.

This project focuses on creating a Maturity-Assessment-Tool Website.

Through a Maturity Assessment Tool, we can get the maturity score of a particular project member by answering the questions given in a survey/s under the given project and post evaluation of the survey questions, the Maturity of the Project Member can be easily assessed.



# Project Scope

## Problem Statement

To design a perfectly functional Maturity Assessment Tool website that performs the required actions in Angular which is connected to the Database and has an ASP.NET Web API that connects the Angular Front-end to the Back-end Database on SQL.

## Required Hardware and Software

A Functional Windows PC or Laptop

8 GB RAM

512GB SSD or 1TB HDD

200 GB Space which would all cumulate to cost around ₹50,000.

Microsoft SQL Server

Visual Studio 2019

Visual Studio Code

A Web Browser (used Chrome Version 100.0.4896.88 (Official Build) (64-bit))

Postman (testing API)



# What is Angular

Angular is a development platform, built on TypeScript. As a platform, Angular includes:

- 1) A component-based framework for building scalable web applications
- 2) A collection of well-integrated libraries that cover a wide variety of features, including routing, forms management, client-server communication, and more
- 3) A suite of developer tools to help you develop, build, test, and update your code

With Angular, we will be taking advantage of a platform that can scale from single-developer projects to enterprise-level applications. Angular is designed to make updating as straightforward as possible, so that we can take advantage of the latest developments with a minimum of effort.

We will be using Angular Version 13.3 for this project.

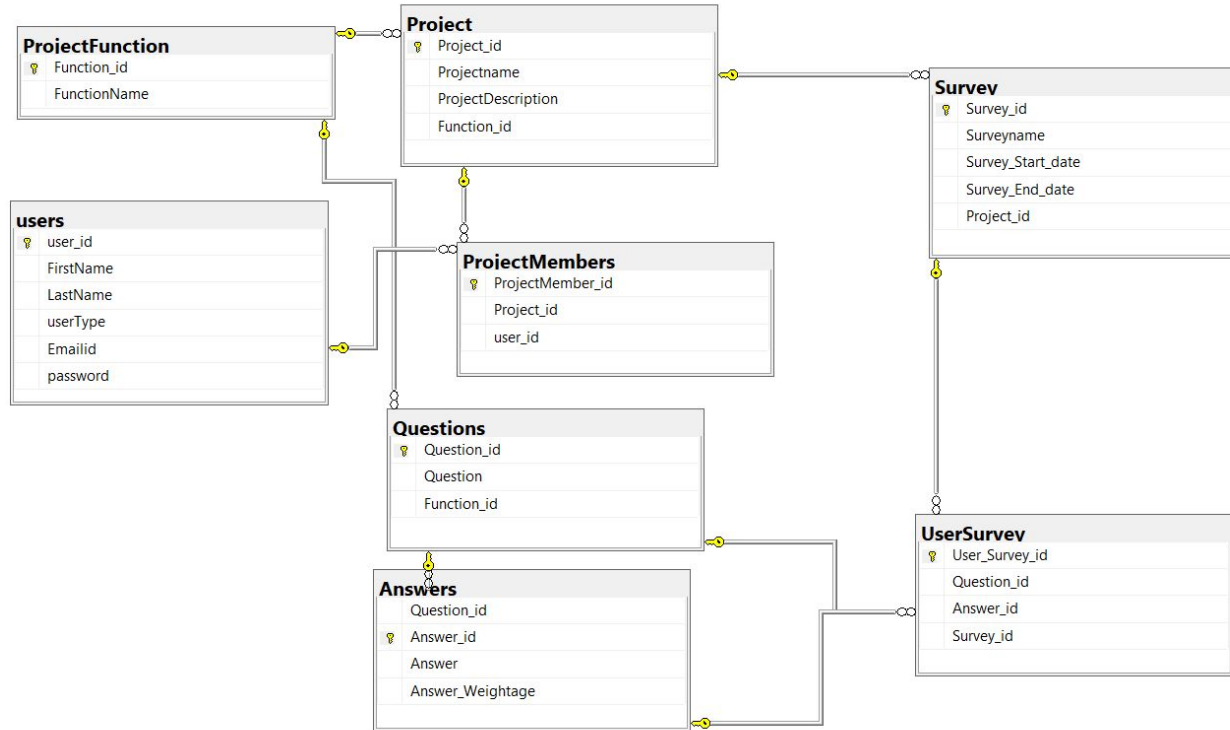


# What is Web-API

In computer programming, an Application Programming Interface (API) is a set of subroutine definitions, protocols, and tools for building software and applications. To put it in simple terms, API is some kind of interface which has a set of functions that allow programmers to access specific features or data of an application, operating system or other services. Web API as the name suggests, is an API over the web which can be accessed using HTTP protocol. It is a concept and not a technology. We can build Web API using different technologies such as Java, .NET etc.

We will be using Web-API controller with Entity Framework for this project.

# Database Design





# Conclusion

A fully functional maturity Assessment Tool website that performs the required actions in Angular which is connected to the Database and has an ASP.NET Web API that connects the Angular Front-end to the Back-end Database on SQL. Wherein a user will get to log in or create a new profile if they don't happen to have one already. If the user is an admin, they get to create a project and create surveys under it by adding the questions to the surveys. Then the admin gets to all the project members that are assigned to the project. If the user is a project member, they would get to see all the projects that are assigned to them and they get to access the surveys and answer the provided questions. Upon answering the questions and getting the results, the Maturity Assessment Tool will present the scores on the screen hence fulfilling the requirements.





# References

The following papers were referred to during the analysis and execution phase of project

1. Introduction to ASP.NET by Kathleen Kalata.
2. HTML CSS JS Languages by Designo Acatlan
3. Angular in action J Wilken - 2018 - books.google.com
4. Angular Development with TypeScript, Second Edition by Yakov Fain and Anton Moiseev

Weblinks:

- <https://www.tutorialspoint.com/csharp/index.htm>  
Introduction to C-Sharp and learning new concepts and frameworks.
- <https://dotnettutorials.net>  
Learning all about dot net and the subsequent frameworks.
- [https://www.tutorialspoint.com/angular8/angular8\\_architecture.htm](https://www.tutorialspoint.com/angular8/angular8_architecture.htm)  
Introduction to Angular and learning new concepts

Other General Websites that were referred were GitHub Wikipedia and Youtube