# The client is represented by a box on the left. It submits a request and receives a response from the application, a box drawn on the right. Within the application box, three boxes represent the controller, the model, and the data access layer. The request comes into the application's controller, and read/write operations occur between the controller and the data access layer. The model is serialized and returned to the client in the response.

# Command to create a Web API

dotnet new webapi -n [directory/ project name]

# In-Build files

Catalog.csproj (.csproj) [project file] = It is used to declare how to **build the project**

Program.cs = The **entry point** of application

Controllers = Class that **handles the route** that a services expose.

Appsetting.json = To declare **application configuration**

Error: Your connection is not private

Reason: If you try to run the code it won’t run as expected. As it need the signed trust certificate with dotnet.

# Command to achieve a trust certificate

dotnet dev-certs https - -trust

It removes the trust warning from the browser.

# Swagger

It is used to describe all the operation/ action/ routes of an API and to interact with them easily.

# API Foundation

Entity | Model | Domain

# Controllers

Receive the request and map to the particular path.

# Action Methods

Inspect the Request, carried certain business logic and generate a response for client.

# Difference Between API controller and MVC Controller

* MVC Controller = Returns View

**The default MVC Routing**

{controller}/{action}/{id}

* API Controller = Returns Data

**The Default Web API Route Template**

api/{controller}/{id} [*Route Does not have action*]

*api literal makes it distinct from MVC*

# Unit Testing

[Fact] //Arrange | //Act | //Assert (Basic structure)

* **Arrange** – setup the testing objects and prepare the prerequisites for your test.
* **Act** – perform the actual work of the test.
* **Assert** – verify the result. [Expected, Actual]

[Fact Skip = “{Msg}”] to skip a test case

[Theory]

[Inline(i, j, k …)] i.e, i, j k = 1, 2, 3…

[Inline(i, j, k …)] i.e, i, j k = 1, 2, 3…

To pass multiple parameters to the single test case for verification of the unit test case.

**Only Interfaces or abstract classes can be mocked**