

# Universidad Autónoma de Nuevo León Facultad de Ciencias Físico Matemáticas San Nicolás de los Garza



**DWBE** 

# Tarea #2: Web api inicial

Desarrollo web: Back-end

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**Grupo**: 037

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- 1xx: Mensaje informativo.
- 2xx: Exito
  - 200 OK
  - 201 Created
  - 202 Accepted
  - 204 No Content
- 3xx: Redirección
  - 300 Multiple Choice
  - 301 Moved Permanently
  - 302 Found
  - 304 Not Modified

- 4xx: Error del cliente
  - 400 Bad Request
  - 401 Unauthorized
  - 403 Forbidden
  - 404 Not Found
- 5xx: Error del servidor
  - 500 Internal Server Error
  - 501 Not Implemented
  - 502 Bad Gateway
  - 503 Service Unavailable

Antes que nada se me hace importante considerar y conocer los cosdigos de estado que nos pueden arrojar al hacer una petición, ya que así podremos entender que es lo que sucede en nuestro sistema y ayudarnos a arreglar problemas

Añadimos la conexión a la base de datos que previamente definimos en el default string modificando el archivo startup.cs

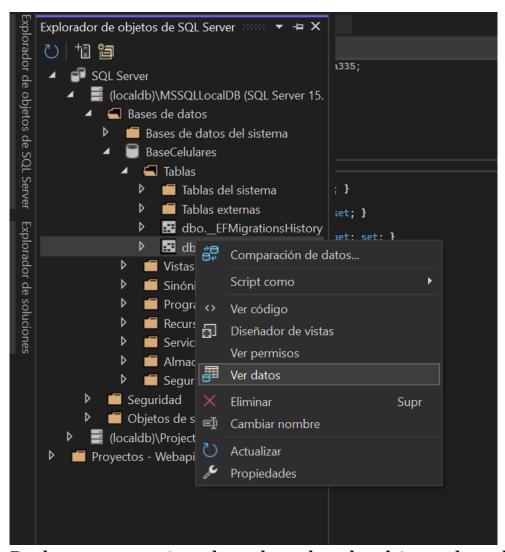
Añadimos la migración inicial

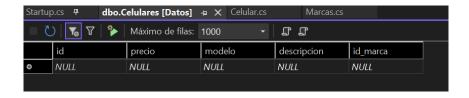


Se nos genera este archivo

```
20230307223826_Inicial.cs → X Marcas.cs
▼ 🗞 Up(MigrationBuilder migrationBuilder)
 1 using Microsoft.EntityFrameworkCore.Migrations;
         ⊡namespace WebapiCelulares.Migrations
                  protected override void Up(MigrationBuilder migrationBuilder)
                    migrationBuilder.CreateTable(
                       name: "Celulares",
columns: table => new
                          constraints: table =>
                           table.PrimaryKey("PK_Celulares", x => x.id);
                 O referencias
protected override void Down(MigrationBuilder migrationBuilder)
                    migrationBuilder.DropTable(
   name: "Celulares");
```

```
PM> Update-Database
Build started...
Build succeeded.
Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (193ms) [Parameters=[], CommandType='Text', CommandTimeout='60']
     CREATE DATABASE [BaseCelulares];
Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (52ms) [Parameters=[], CommandType='Text', CommandTimeout='60']
      IF SERVERPROPERTY('EngineEdition') <> 5
          ALTER DATABASE [BaseCelulares] SET READ_COMMITTED_SNAPSHOT ON;
Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (6ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (6ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
     CREATE TABLE [__EFMigrationsHistory] (
          [MigrationId] nvarchar(150) NOT NULL,
          [ProductVersion] nvarchar(32) NOT NULL,
          CONSTRAINT [PK__EFMigrationsHistory] PRIMARY KEY ([MigrationId])
Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (0ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (14ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
      SELECT OBJECT_ID(N'[__EFMigrationsHistory]');
Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (3ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
      SELECT [MigrationId], [ProductVersion]
      FROM [__EFMigrationsHistory]
     ORDER BY [MigrationId];
Microsoft.EntityFrameworkCore.Migrations[20402]
      Applying migration '20230307224524_Inicial'.
Applying migration '20230307224524_Inicial'.
Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (2ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
     CREATE TABLE [Celulares] (
          [id] int NOT NULL IDENTITY,
          [precio] int NOT NULL,
          [modelo] nvarchar(max) NULL,
          [descripcion] nvarchar(max) NULL,
          [id_marca] int NOT NULL,
          CONSTRAINT [PK_Celulares] PRIMARY KEY ([id])
Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (2ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
      INSERT INTO [_EFMigrationsHistory] ([MigrationId], [ProductVersion])
      VALUES (N'20230307224524_Inicial', N'8.0.0-preview.1.23111.4');
Done.
PM>
```



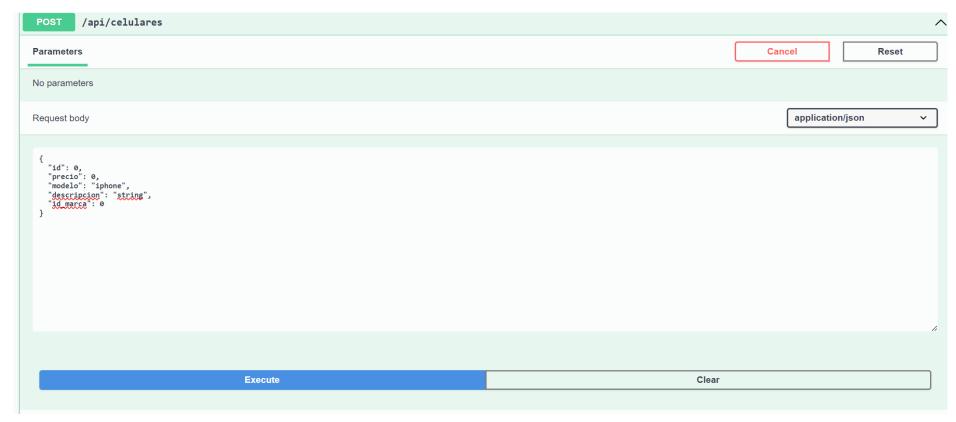


Podemos apreciar el explorador de objetosde sql server y si presionamos en ver datos aun

### no aparece nada pues no hemos hecho ningún insert

```
public class CelularesController : ControllerBase
12
               private readonly AplicationDbContext dbContext;
               public CelularesController(AplicationDbContext dbContext)
                   this.dbContext = dbContext;
               [HttpGet]
               public async Task<ActionResult<List<Celular>>> Get()
                  return await dbContext.Celulares.ToListAsync();
24
               [HttpPost]
               public async Task<ActionResult> Post(Celular celular)
                  dbContext.Add(celular);
29
                   await dbContext.SaveChangesAsync();
32
                  return Ok();
```

En el controlador de celulares se añaden los siguientes métodos, y al probarlos nos genera lo siguiente:

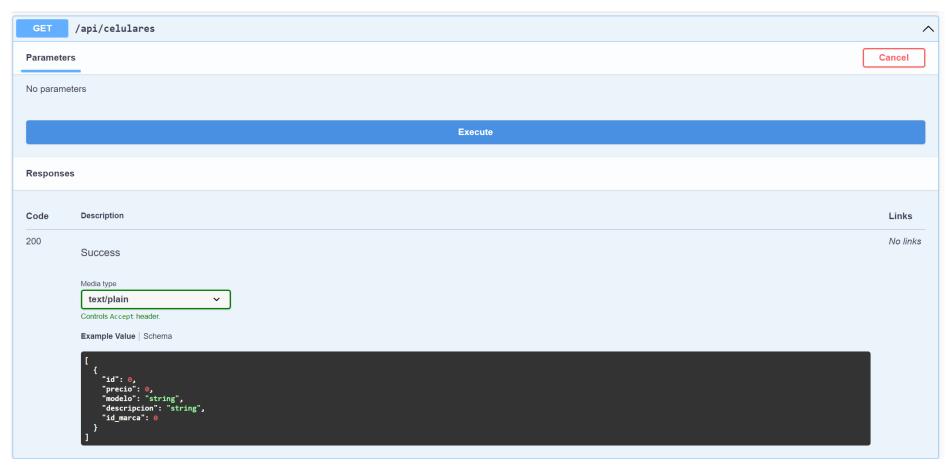


Hacemos un post y nos genera un response el cual es

```
Curl
-H Content-Type. appired
-d '{
   "id": 0,
   "precio": 0,
   "modelo": "iphone",
   "descripcion": "string",
   """
    "id_marca": 0
 Request URL
 https://localhost:7170/api/celulares
 Server response
 Code
               Details
 200
               Response headers
                  content-length: 0
                 date: Tue,07 Mar 2023 23:50:20 GMT server: Kestrel
 Responses
 Code
               Description
                                                                                                                                                                                                                                     Links
 200
                                                                                                                                                                                                                                     No links
               Success
```

```
fo: Microsoft.EntityFrameworkCore.Database.Command[20101]
     Executed DbCommand (2ms) [Parameters=[@p0='?' (Size = 4000), @p1='?' (DbType = Int32), @p2='?' (Size = 4000), @p3='?' (DbType = Int32)], CommandType='Text', CommandTimeou
      SET IMPLICIT_TRANSACTIONS OFF;
      SET NOCOUNT ON;
     INSERT INTO [Celulares] ([descripcion], [id_marca], [modelo], [precio])
     OUTPUT INSERTED.[id]
      VALUES (@p0, @p1, @p2, @p3);
 nfo: Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (0ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
     SELECT [c].[id], [c].[descripcion], [c].[id_marca], [c].[modelo], [c].[precio]
      FROM [Celulares] AS [c]
 nfo: Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (11ms) [Parameters=[@p0='?' (Size = 4000), @p1='?' (DbType = Int32), @p2='?' (Size = 4000), @p3='?' (DbType = Int32)], CommandType='Text', CommandTimeo
ut='30']
      SET IMPLICIT_TRANSACTIONS OFF;
     SET NOCOUNT ON;
     INSERT INTO [Celulares] ([descripcion], [id_marca], [modelo], [precio])
     OUTPUT INSERTED.[id]
     VALUES (@p0, @p1, @p2, @p3);
info: Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (0ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
     SELECT [c].[id], [c].[descripcion], [c].[id_marca], [c].[modelo], [c].[precio]
     FROM [Celulares] AS [c]
 nfo: Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (1ms) [Parameters=[@p0='?' (Size = 4000), @p1='?' (DbType = Int32), @p2='?' (Size = 4000), @p3='?' (DbType = Int32)], CommandType='Text', CommandTimeou
t='30']
      SET IMPLICIT_TRANSACTIONS OFF;
      SET NOCOUNT ON;
      INSERT INTO [Celulares] ([descripcion], [id_marca], [modelo], [precio])
     OUTPUT INSERTED.[id]
     VALUES (@p0, @p1, @p2, @p3);
 nfo: Microsoft.EntityFrameworkCore.Database.Command[20101]
      Executed DbCommand (1ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
     SELECT [c].[id], [c].[descripcion], [c].[id_marca], [c].[modelo], [c].[precio]
     FROM [Celulares] AS [c]
```

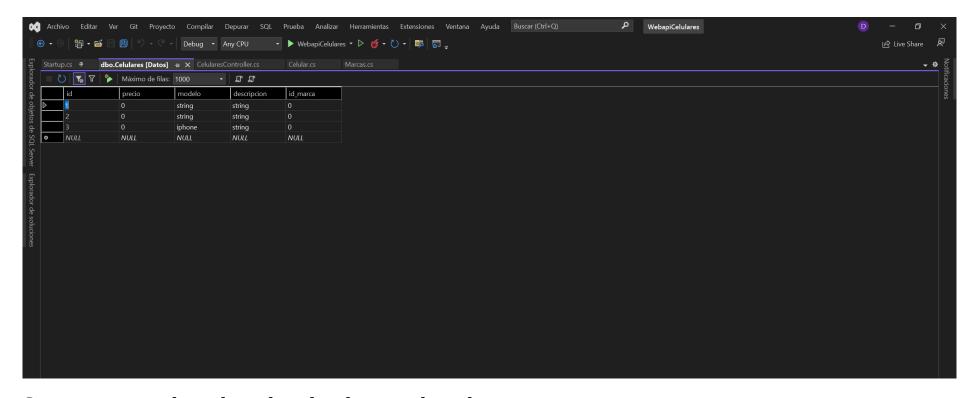
Hice varios inserts, y cuando generamos una petición get, como lo establecimos en el cotnrolador nos mostrara una lista de los celulares registrados



Haciendo esta petición nos genera



Podemos notar que el id automáticamente se va incrementando



Si nos vamos al explorador de objetos de sql

```
[HttpPut("{id : int}")]
368
          0 referencias
          public async Task<ActionResult> Put(Celular celular, int id)
37
38
               if(celular.id != id)
39
40
                   return BadRequest("El id del alumno no coincide con el establecido en la url");
41
42
43
               dbContext.Update(celular);
44
               await dbContext.SaveChangesAsync();
               return Ok();
46
47
```

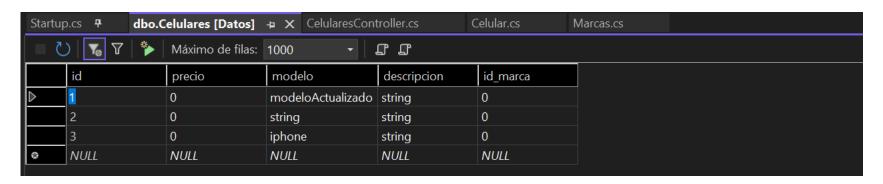
En el archivo CelularesController, se añade un método put para actualizar un registro con un id dado

PUT /api/celulares		^
Parameters		Cancel Reset
Name Description		
id integer(\$int32)  (query)		
Request body		application/json v
{     "id": 1,     "precio": 0,     "modelo": "string",     "descripcion": "string",     "id marca": 0 }		
	Execute	

Si hago una consulta dando un celular y un id



me genera la siguiente respuesta, y si nos checamos en la base de datos



Apreciamos que, efectivamente se actualizo el registro En dado caso que los id's no correspondan, nos manda el mensaje



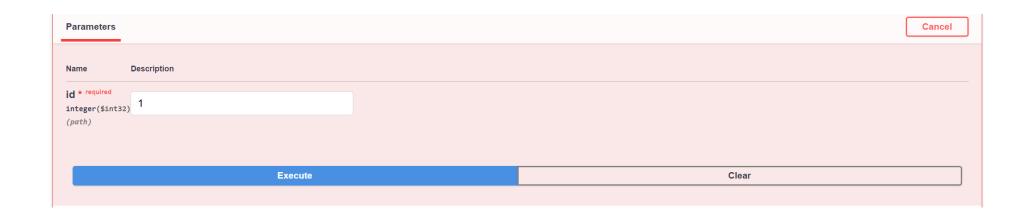
#### Añadimos la función de delete

```
[HttpDelete("{id}")]
0 referencias
public async Task<IActionResult> Delete(int id)
{
    var exist = await dbContext.Celulares.AnyAsync(x => x.id == id);
    if(!exist)
    {
        return NotFound();
    }
    dbContext.Remove(new Celular()
    {
        id = id
    });
    await dbContext.SaveChangesAsync();
    return Ok();
}
```

Por ejemplo, borremos el registro con el id 1 en nuestra bdd

```
[
    "id": 1,
    "precio": 0,
    "modelo": "modeloActualizado",
    "descripcion": "string",
    "id_marca": 0
},
    "modelo": "string",
    "modelo": "string",
    "id_marca": 0
},
    "id": 3,
    "precio": 0,
    "modelo": "iphone",
    "descripcion": "string",
    "id_marca": 0
},
    "id_marca": 0
}
```

Si ejecutamos





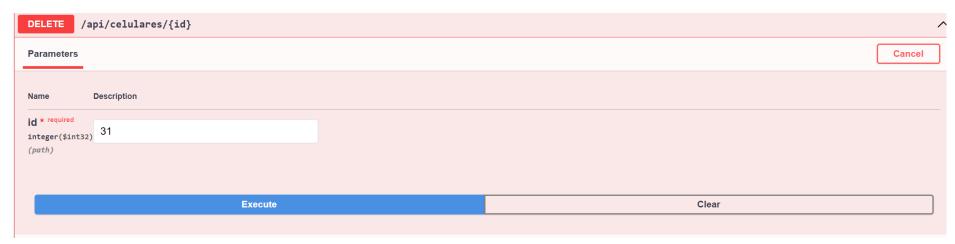
Nos genera una response 200

Y si volvemos a ejecutar el método get podemos apreciar que

```
Response body

[
        "id": 2,
        "precio": 0,
        "modelo": "string",
        "id_marca": 0
    },
        "id": 3,
        "precio": 0,
        "modelo": "iphone",
        "descripcion": "string",
        "id_marca": 0
    }
]
```

Efectivamente se borro el registro con el id 1



# Si hacemos una mala petición con un id que no existe

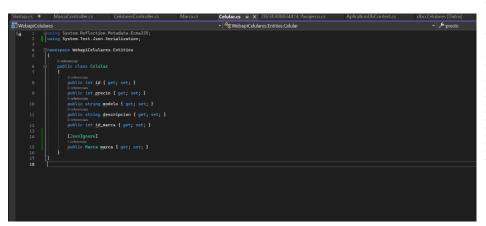
```
### Content-type: application/problem+json; charset=utf-8 date: Wed,08 Mar 2023 03:35:10 GNT server: Kestrel

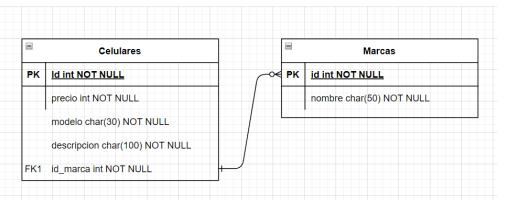
| Kesponse status is 404 | Response body |

| Type": "https://tools.ietf.org/html/rfc7231#section-6.5.4", "title": "Not Found", "status": 404, "traceId": "00-63557750f1b4ff3b3b554e9bf83f642f-d5a272503321eb1d-00" |
| Download | Down
```

Nos arroja un badrequest

# Añadimos la relación entre los atributos





# correspondientes

```
Startup.cs ₽
                                                                     CelularesController.cs
               AplicationDbContext.cs → X dbo.Celulares [Datos]
                                                                                              Celular.cs
                                                                                                             Marca.cs

➡ WebapiCelulares

                                                                              ▼ % WebapiCelulares.AplicationDbContext
             □using Microsoft.EntityFrameworkCore;
              using WebapiCelulares.Entities;
             ⊟namespace WebapiCelulares
  급
                   public class AplicationDbContext : DbContext
                       public AplicationDbContext(DbContextOptions options) : base(options)
                       public DbSet<Celular> Celulares { get; set; }
                       public DbSet<Marca> Marcas { get; set; }
       20
```

Añadimos nuestra entidad a nuestro dbContext

Each package is licensed to you by its owner. NuGet is not responsible for, nor does it grant any licenses to, third-party packages. Some packages may include dependencies which are governed by additional licenses. Follow the package source (feed) URL to determine any dependencies.

Package Manager Console Host Version 6.5.0.154

Type 'get-help NuGet' to see all available NuGet commands.

PM> Add-Higration Pasajeros
Build storted...

Build succeeded.

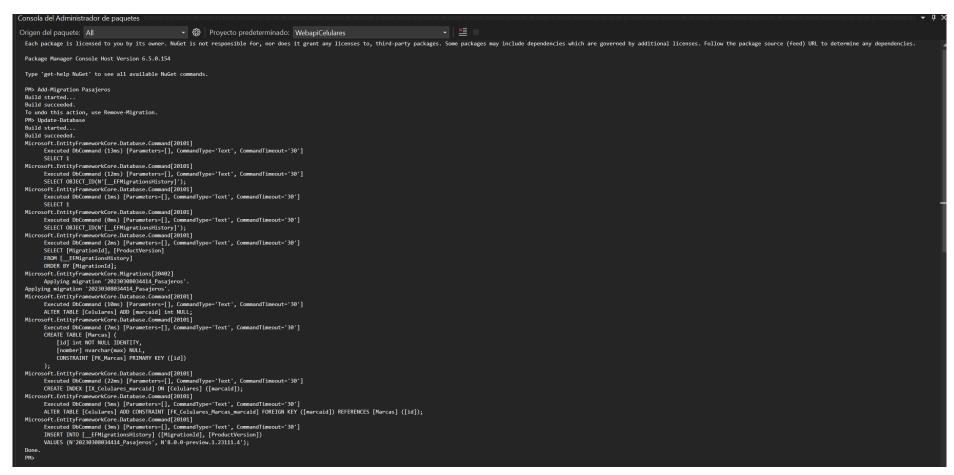
Añadimos la migración

```
Startup.cs 4 202303080344..._Pasajeros.cs 🕫 🗙 AplicationDbContext.cs
■ WebapiCelulares

▼ WebapiCelulares.Migrations.Pasajeros

                                                                                                                                                                                                                                                                               ▼ 😪 Up(MigrationBuilder migration
                       namespace WebapiCelulares.Migrations
                                         migrationBuilder.AddColumn<int>(
                                              name: "marcaid",
table: "Celulares",
type: "int",
nullable: true);
                                         migrationBuilder.CreateTable(
                                               name: "Marcas",
columns: table => new
                                                      id = table.Column<int>(type: "int", nullable: false)
    .Annotation("SqlServer:Identity", "1, 1"),
nomber = table.Column<string>(type: "nvarchar(max)", nullable: true)
                                                constraints: table =>
                                        migrationBuilder.CreateIndex(
name: "IX_Celulares_marcaid",
table: "Celulares",
column: "marcaid");
                                        migrationBuilder.AddForeignKey(
  name: "FK_Celulares_Marcas_marcaid",
  table: "Celulares",
                                               column: "marcaid",
principalTable: "Marcas",
principalColumn: "id");
                                  Oreferencias
protected override void Down(MigrationBuilder migrationBuilder)
                                        migrationBuilder.DropForeignKey(
    name: "FK_Celulares_Marcas_marcaid",
    table: "Celulares");
                                        migrationBuilder.DropTable(
    name: "Marcas");
                                         migrationBuilder.DropIndex(
  name: "IX_Celulares_marcaid",
  table: "Celulares");
                                         migrationBuilder.DropColumn(
                                               name: "marcaid",
table: "Celulares");
```

Nos genera este archivo



Actualizamos nuestra base de datos

Así queda el respectivo controlador de marca

```
Startup.cs 7 MarcaController.cs 2 20230308034414_Pasajeros.cs
₩ebapiCelulares
                                                                                                    ▼ Put(Marca marca, int id)

    □using Microsoft.AspNetCore.Mvc;
    using Microsoft.EntityFrameworkCore;
    using WebapiCelulares.Entities;

            ■namespace WebapiCelulares.Controllers
                  [ApiController]
[Route("api/marca")]
 Θî
                     private readonly AplicationDbContext _context;
                      [HttpGet("{id})"]
                         return await _context.Marcas.FirstOrDefaultAsync(x => x.id == id);
      27
28
29
30
31
32
                         return await _context.Marcas.ToListAsync();
                      public async Task<ActionResult> Post(Marca marca)
                          var existeMarca = await _context.Marcas.AnyAsync(x => x.id == marca.id);
                         return BadRequest("No existe la marca");
                         await _context.SaveChangesAsync();
                         return Ok();
                      [HttpPut("{id}")]
                         var exist = await _context.Marcas.AnyAsync(x =>x.id == id);
                              return BadRequest("La marca no existe");
                          _context.Update(marca);
await _context.SaveChangesAsync();
```



