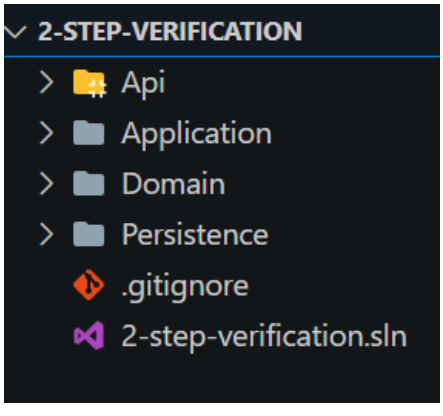
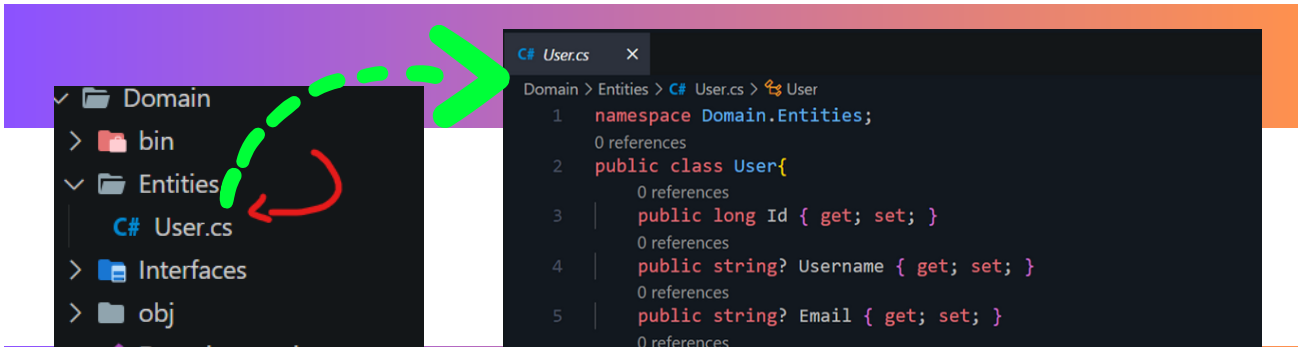
IMPLEMENTAR UN PROYECTO .NET SIGUIENDO UNA ARQUITECTURA DE CUATRO CAPAS QUE PERMITA LA INCORPORACIÓN DE UN PROCESO DE VERIFICACIÓN DE DOS PASOS.



1 SE PROCEDE A ESTABLECER LA ESTRUCTURA BASE DE UN PROYECTO, IMPLEMENTANDO LA ARQUITECTURA DE DISEÑO EN CUATRO CAPAS.

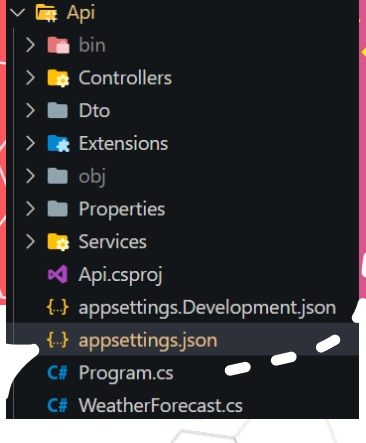


Domain.csproj

```
    public string? TwoFactorSecret { get; set; }
    0 references
    public DateTime CreatedDate { get; set; } = DateTime.Now;
}
```

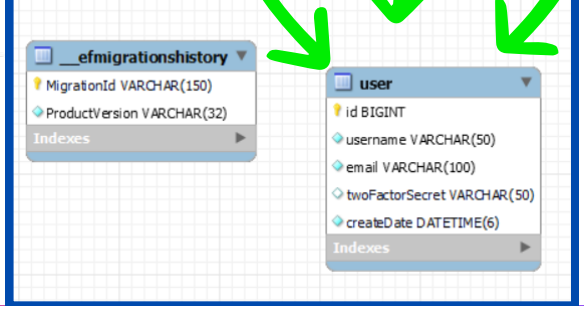
```
public class ApiContext: DbContext{
    0 references
    public ApiContext(DbContextOptions<ApiContext> opts): base(opts){}

    0 references
    public DbSet<User> Users { get; set; }

    0 references
    protected override void OnModelCreating(ModelBuilder modelBuilder){
        base.OnModelCreating(modelBuilder);

        modelBuilder.ApplyConfigurationsFromAssembly(Assembly.
        GetExecutingAssembly());
    }
}
```

2 SE DEFINE LA ENTIDAD BASE, SE CREAN LAS RESPECTIVAS CONFIGURACIONES Y AJUSTES ADICIONALES PARA CON ESTO LOGRAR DEFINIR LA CLASE DE CONTEXTO.

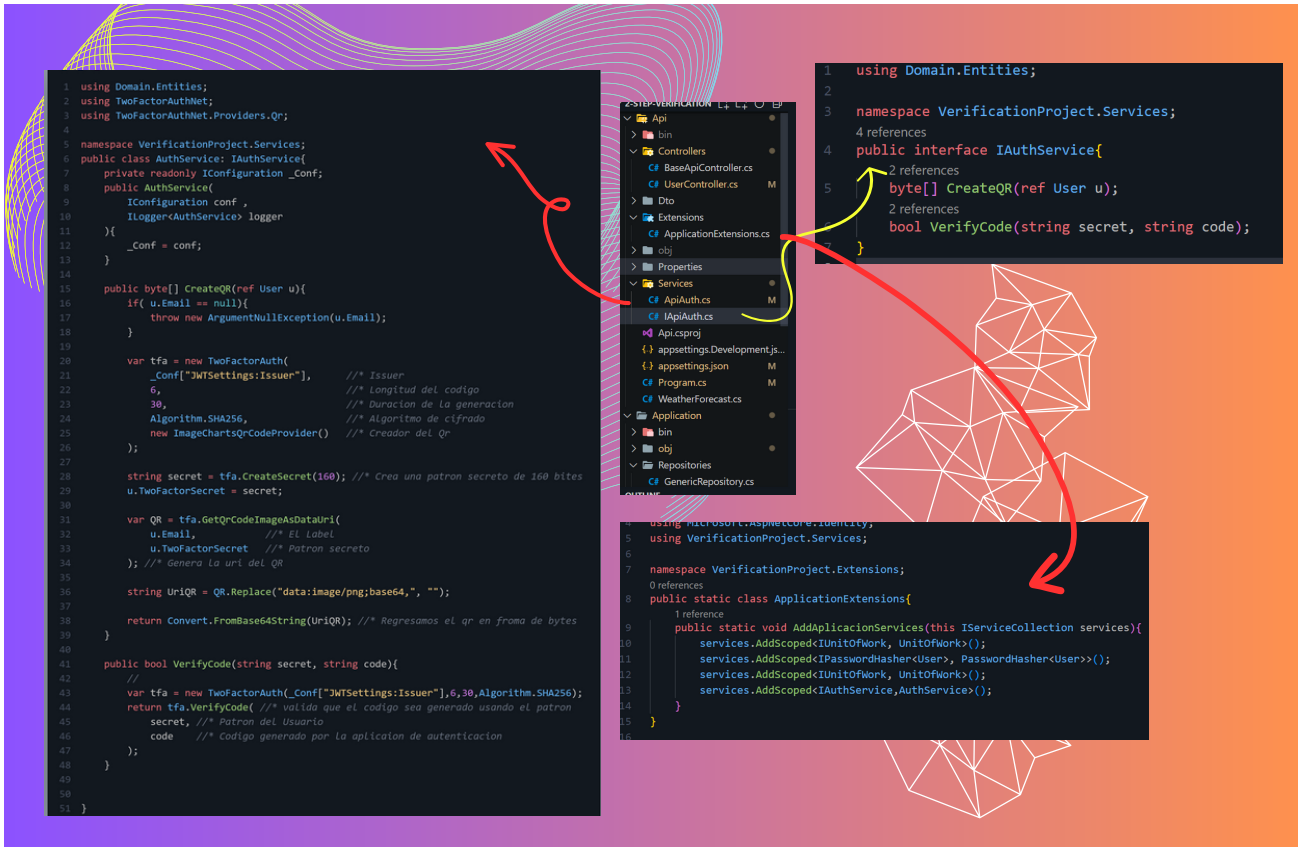



```
// Add services to the container.

builder.Services.AddControllers();
// Learn more about configuring Swagger/OpenAPI at https://aka.ms/aspnetcore/swashbuckle
builder.Services.AddEndpointsApiExplorer();
builder.Services.AddSwaggerGen();
builder.Services.AddAplicacionServices();

builder.Services.AddDbContext<ApiContext>(opts =>{
    string connection = builder.Configuration.GetConnectionString("ConnectionLinux")!;
    opts.UseMySql(connection, ServerVersion.AutoDetect(connection) );
});


var app = builder.Build();

// Configure the HTTP request pipeline.
if (app.Environment.IsDevelopment())
{
    app.UseSwagger();
    app.UseSwaggerUI();
}

app.UseHttpsRedirection();
app.UseAuthorization();

app.MapControllers();

app.Run();
```

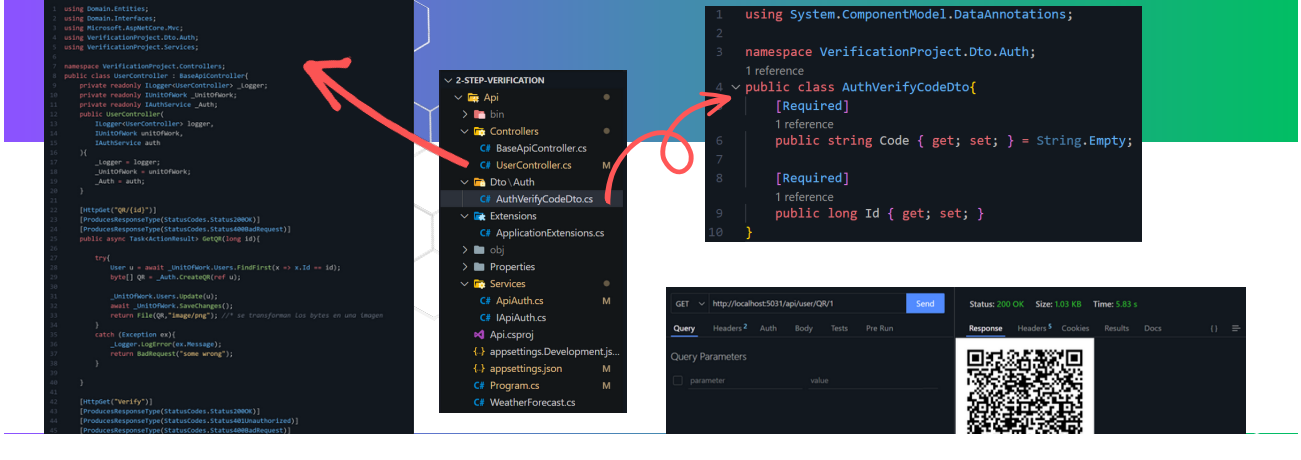
```
{
  "Logging": {
    "LogLevel": {
      "Default": "Information",
      "Microsoft.AspNetCore": "Warning"
    }
  },
  "AllowedHosts": "*",
  "ConnectionStrings": {
    "ConnectionWindows":"server=localhost;user=root;password=123456;database=twoStepsAuthenticationDb"
  }
```

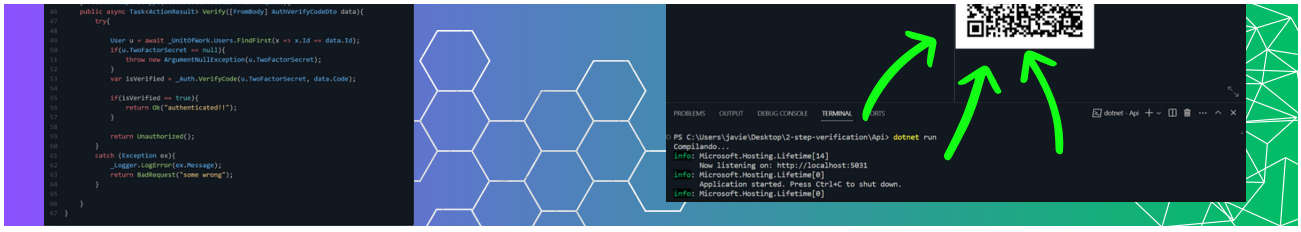


```
}
```

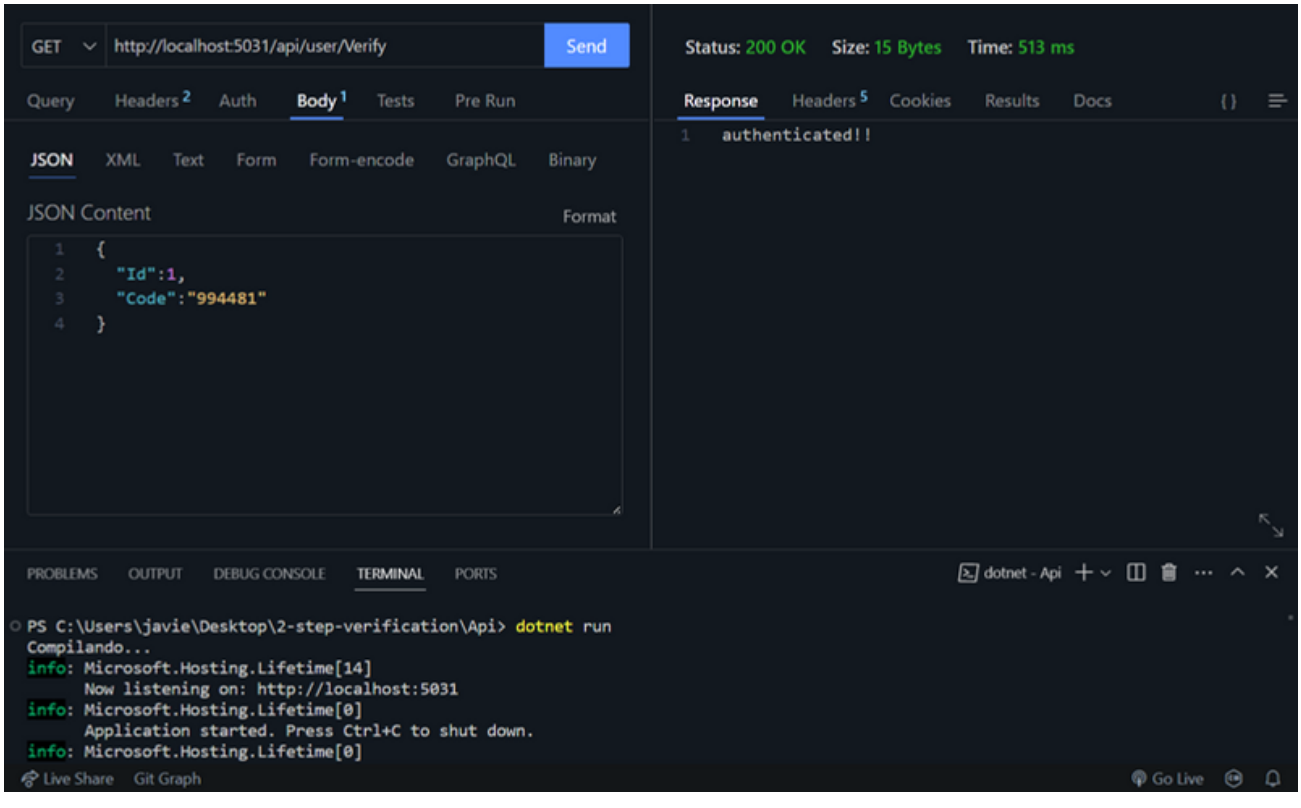


4 CREACION DEL SERVICIO DE AUTENTICACION EN DOS FACTORES, SE AÑADE AL SCOPE.





5 SE IMPLEMENTA SU FUNCIONAMIENTO EN EL CONTROLADOR, CREANDO UN DTO PARA LA OBTENCIÓN DEL CODIGO.



5 AL UTILIZAR LA APLICACIÓN GOOGLE AUTHENTICATOR Y REGISTRAR EL CÓDIGO QR, SE GENERARÁN CÓDIGOS DE 6 DÍGITOS CADA 30 SEGUNDOS, SEGÚN LA CONFIGURACIÓN PREVIAMENTE ESPECIFICADA.