

# Creating the Infrastructure Project

---



**Gill Cleeren**

CTO XPIRIT BELGIUM

@gillcleeren [www.snowball.be](http://www.snowball.be)



# Overview



Understanding the goal of the infrastructure projects

Adding Entity Framework Core

Implementing other infrastructure tasks

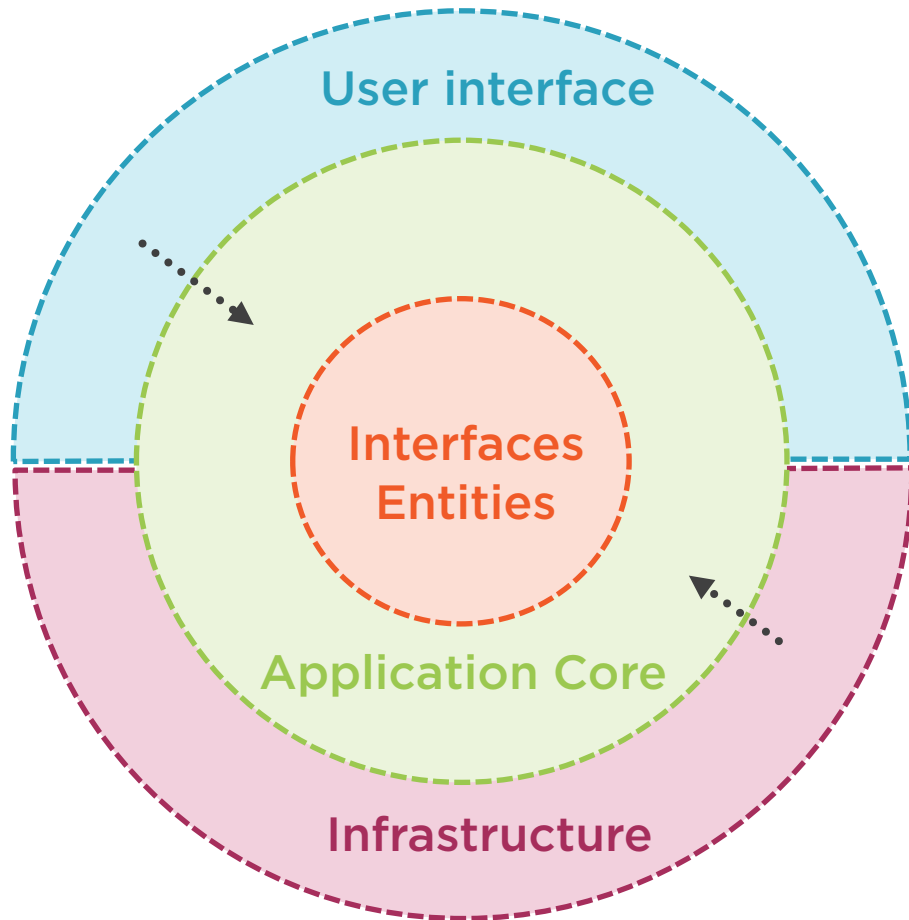


# Understanding the Goal of the Infrastructure Projects

---



# The Infrastructure Layer

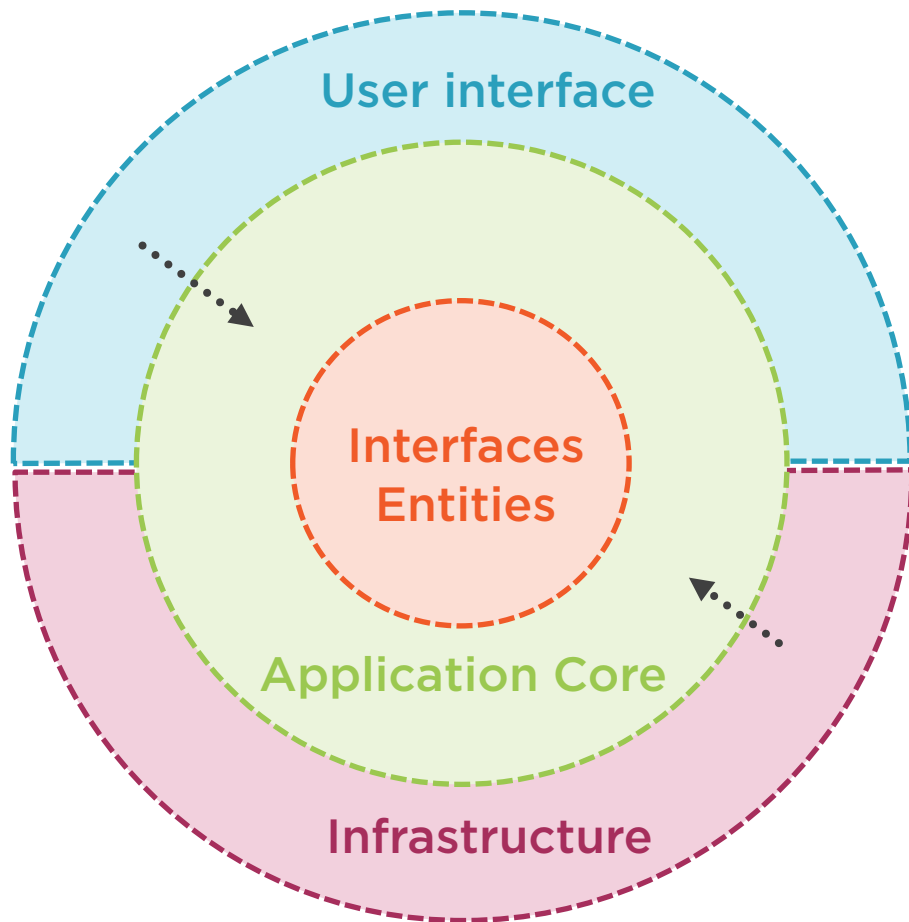


## All external or I/O components

- Database
  - EF Core
  - DbContext
- Files
- Service bus
- Service client
- Logging



# The Infrastructure Layer



**Configuration of technical frameworks**

**Implementations for contracts defined in the Core project**

**Reference to Core project**

- Through dependency inversion and dependency injection, services get implemented



# Adding Data Persistence with Entity Framework Core

---



# Adding EF Core



NuGet packages



DbContext



Migrations



Startup  
registration





# Repository implementations

Generic repository contract in  
Core project

Base repository implementation

Specific repositories if needed





# Base Repository

```
public class BaseRepository<T> : IAsyncRepository<T> where T : class
{
    protected readonly GloboTicketDbContext _dbContext;

    public BaseRepository(GloboTicketDbContext dbContext)
    {
        _dbContext = dbContext;
    }

    public virtual async Task<T> GetByIdAsync(Guid id)
    {
        return await _dbContext.Set<T>().FindAsync(id);
    }
}
```



# Specific Repositories

```
public class CategoryRepository : BaseRepository<Category>, ICategoryRepository
{
    public CategoryRepository(GloboTicketDbContext dbContext) : base(dbContext)
    { }

    public async Task<List<Category>> GetCategoriesWithEvents ()
    {
        //TODO: include implementation here
    }
}
```



# Demo



**Adding the Persistence project**  
**Bringing in support for EF Core**



# Demo



Adding the base repository  
implementation

Adding specific repositories

Registering services in the  
ServiceCollection





“Oh, I forgot to mention this in the previous meeting...”

We’ll need to send a mail when an event has been created. Can this be added?”



# Implementing Other Infrastructure Tasks

---



# Sending a Mail Through SendGrid

Infrastructure code to send a mail

NuGet package in Infrastructure

Interface in Core project

Implementation in Infrastructure



# Demo



Creating the Infrastructure project

Writing the mail service using SendGrid API

Using the code from the Application Core code

Registering the mail service in the ServiceCollection





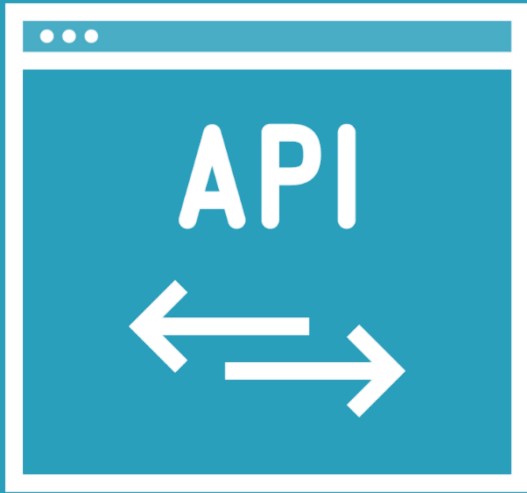
# Summary



**Infrastructure contains all configuration for external services**

**Split up in 2 projects, based on their target**





Up next:  
Creating the API  
using ASP.NET Core

