

Dependency Injection in ASP.NET Core

REGISTERING YOUR FIRST SERVICE



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ASP.NET Core 2.2

Released: December 2018



ASP.NET Core 1.0

Released: June 2016



Overview



Improving an application with dependency injection

- Identify design problems
- Refactor to depend on abstractions
- Support dependency injection
- Register our first service



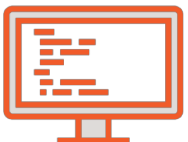
Before We Begin



Follow along: Start with the 'Before' solution from the exercise files



The solution relies on the .NET Core 2.2 SDK.



I'm using Visual Studio 2017 (15.9.x)



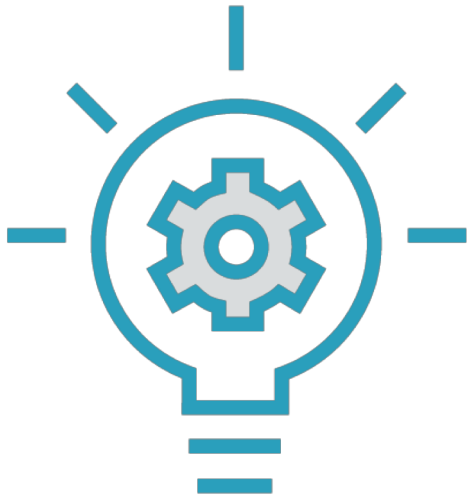
Why Use Dependency Injection?



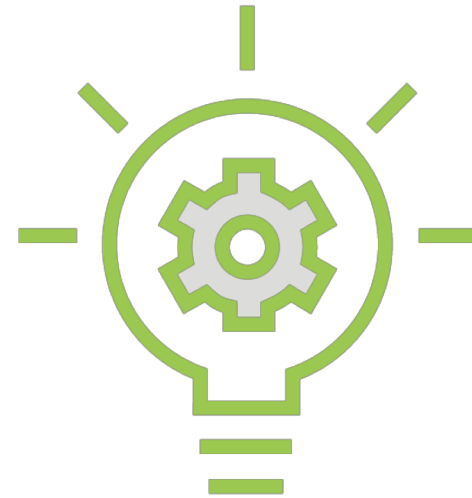
Dependency Injection



Related Concepts



Inversion of Control



Dependency Inversion Principle

ASP.NET Core

ASP.NET Core MVC

Logging

Configuration

Hosting

Dependency Injection



Demo



Problems in the 'before' application



Coding to Interfaces



Plan of Attack







Cleanup code

Invert control

Apply dependency injection



“High-level modules should not depend on low-level modules. Both should depend on abstractions.”

“Abstractions should not depend upon details. Details should depend upon abstractions.”

Agile Principles, Patterns, and Practices in C#
Robert C. Martin and Micah Martin



Demo



Refactoring existing code

- Extracting an interface



Inverting Control with Constructor Injection



With constructor injection we define the list of required dependencies as parameters of the constructor for a class.



Demo



Refactoring existing code

- Implementing constructor injection



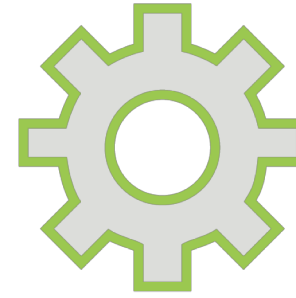
Registering Your First Service



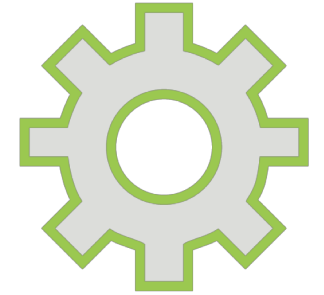
Registering Services



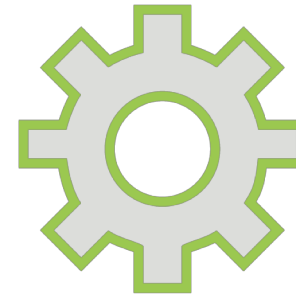
ServiceA



ServiceB



ServiceC



Demo



Registering your first service

- ConfigureServices method
- Using the IServiceCollection



Benefits of Dependency Injection



Benefits

Promotes loose coupling of components

Promotes logical abstraction of components

Supports unit testing

Cleaner, more readable code



Review



Refactoring to support loose coupling

Using constructor injection

Registering services with the container

Benefits of dependency injection

