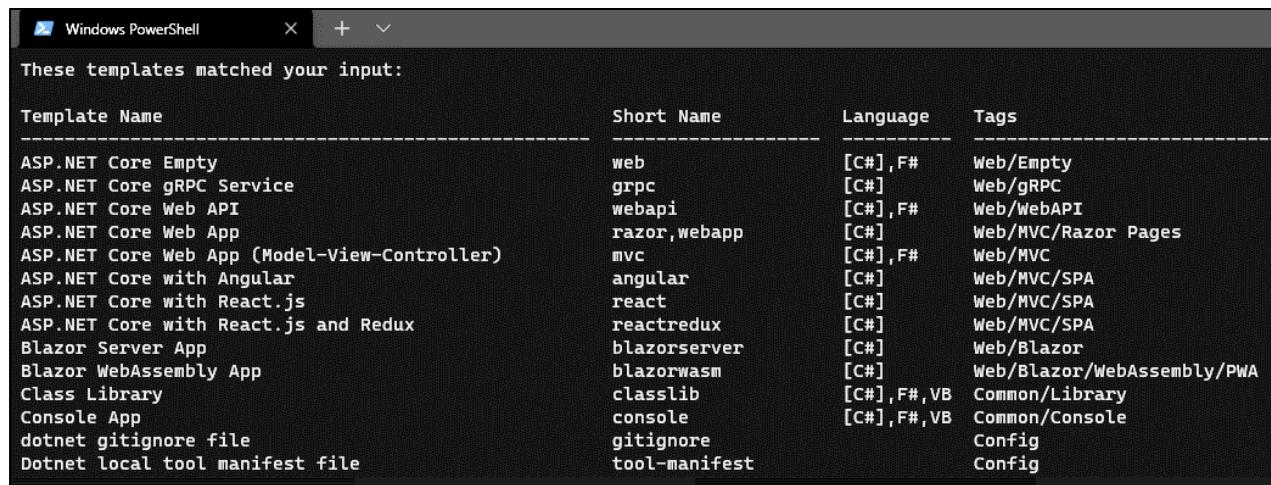


# Chapter 1: Introduction

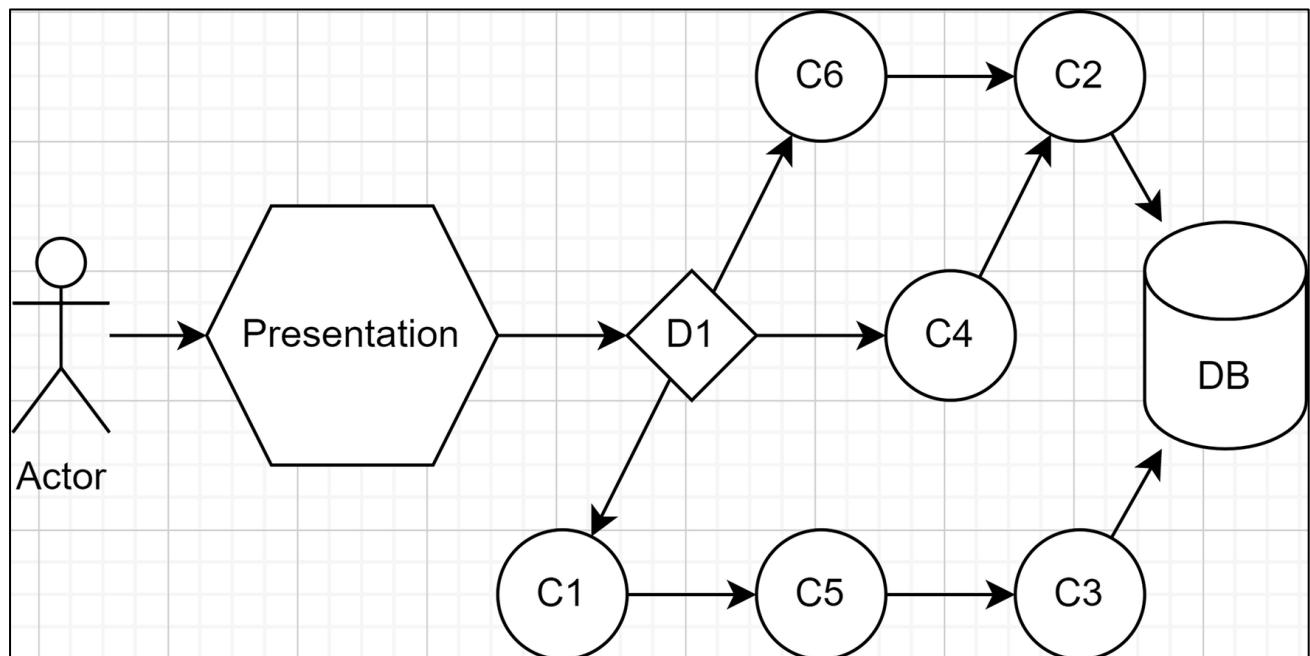
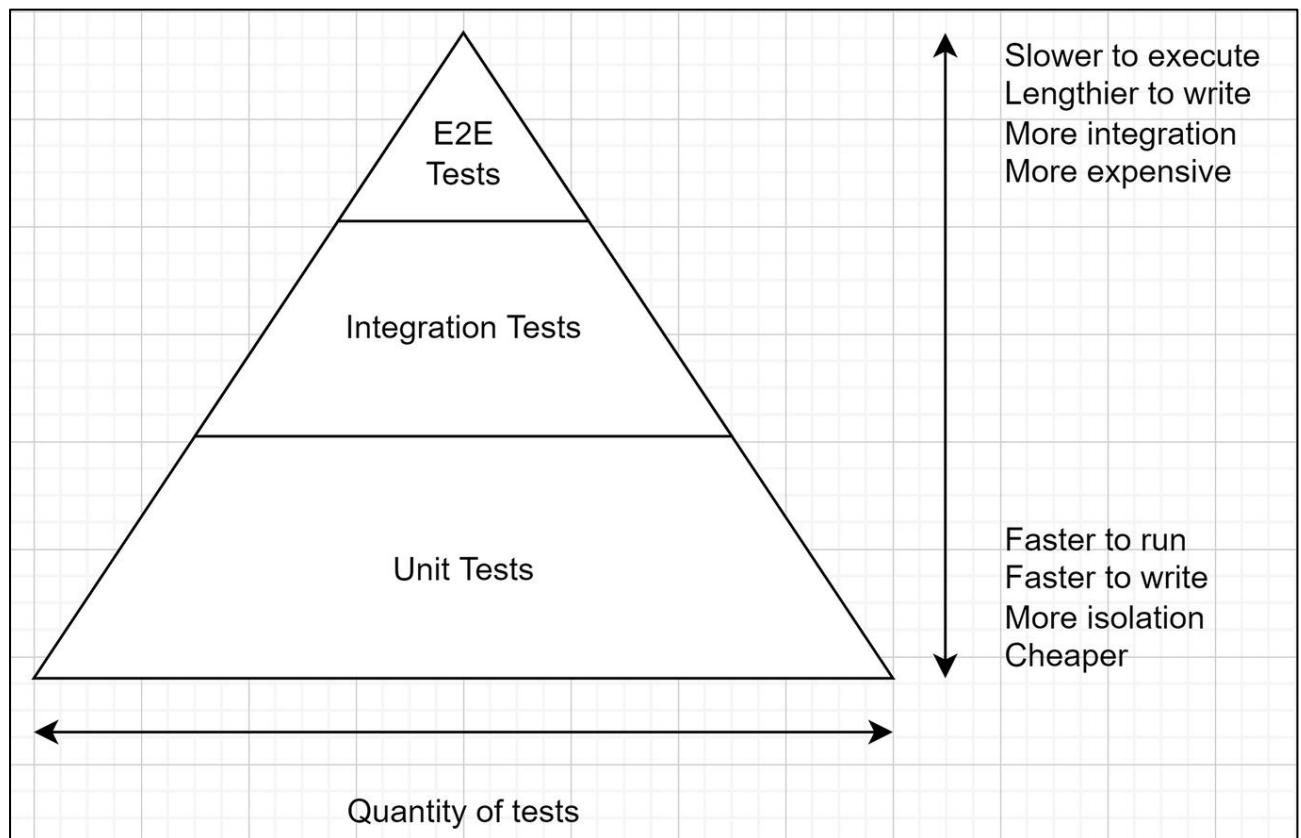


Windows PowerShell

These templates matched your input:

Template Name	Short Name	Language	Tags
ASP.NET Core Empty	web	[C#], F#	Web/Empty
ASP.NET Core gRPC Service	grpc	[C#]	Web/gRPC
ASP.NET Core Web API	webapi	[C#], F#	Web/WebAPI
ASP.NET Core Web App	razor, webapp	[C#]	Web/MVC/Razor Pages
ASP.NET Core Web App (Model-View-Controller)	mvc	[C#], F#	Web/MVC
ASP.NET Core with Angular	angular	[C#]	Web/MVC/SPA
ASP.NET Core with React.js	react	[C#]	Web/MVC/SPA
ASP.NET Core with React.js and Redux	reactredux	[C#]	Web/MVC/SPA
Blazor Server App	blazorserver	[C#]	Web/Blazor
Blazor WebAssembly App	blazorwasm	[C#]	Web/Blazor/WebAssembly/PWA
Class Library	classlib	[C#], F#, VB	Common/Library
Console App	console	[C#], F#, VB	Common/Console
dotnet gitignore file	gitignore		Config
Dotnet local tool manifest file	tool-manifest		Config

## Chapter 2: Automated Testing

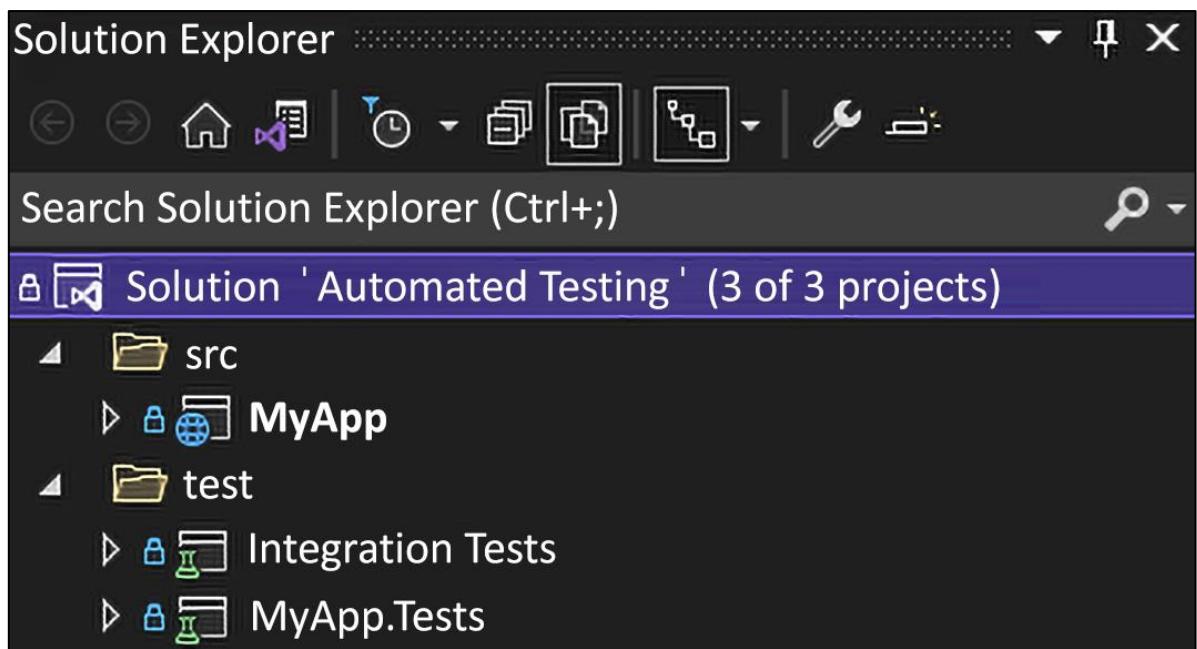


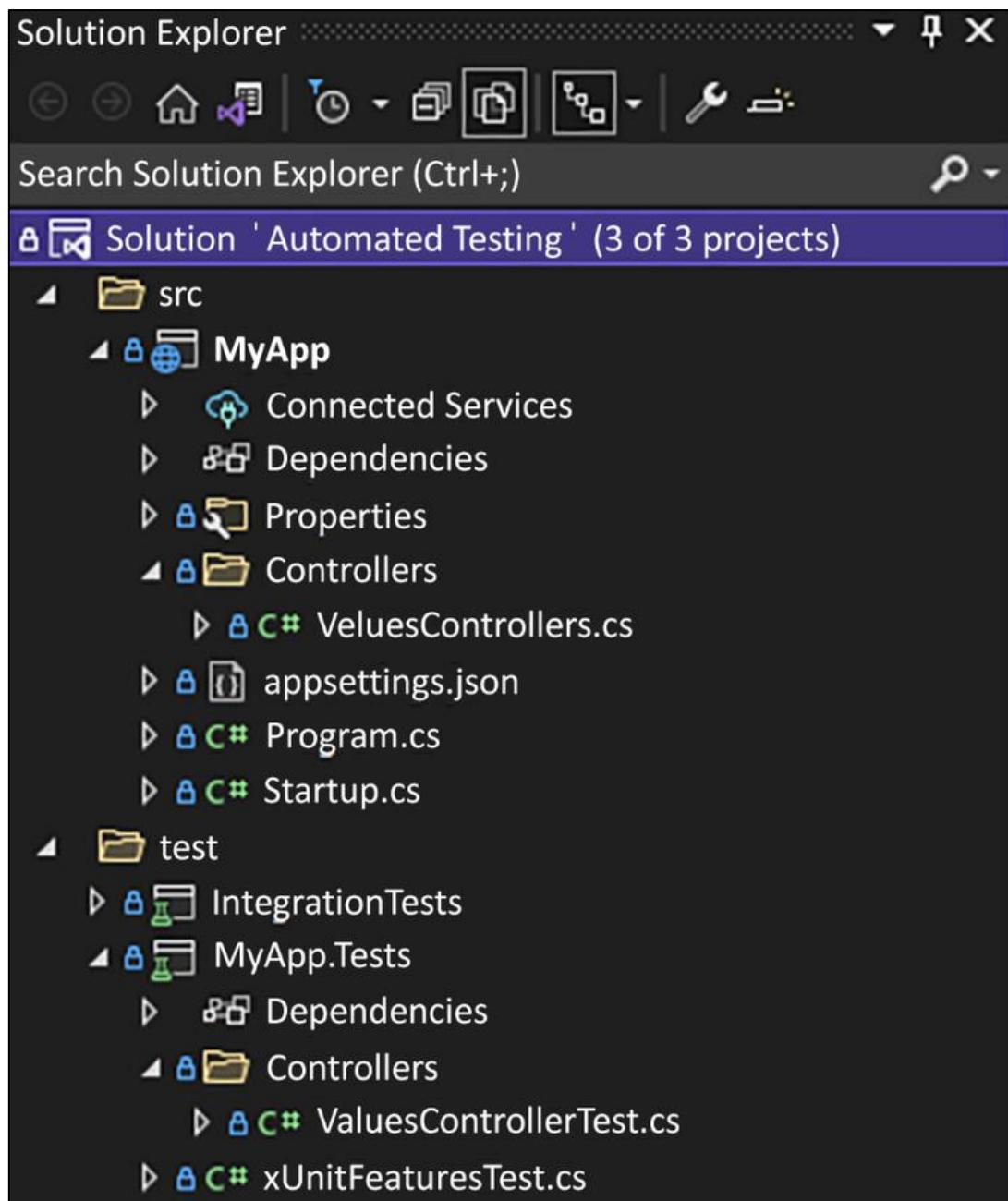
◀ ✓ MyApp.Tests (22)		13 ms
◀ ✓ MyApp (21)		11 ms
◀ ✓ xUnitFeaturesTest+AsyncFactT...	3 ms	
✓ Should_be_equal	3 ms	
▷ ✓ xUnitFeaturesTest+ClassDataTest	2 ms	
◀ ✓ xUnitFeaturesTest+FactTest (1)	2 ms	
✓ Should_be_equal	2 ms	
▷ ✓ xUnitFeaturesTest+InlineDataT...	2 ms	

◀ ✓ MyApp.Tests (21)	
◀ ✓ MyApp (20)	
▷ ✓ xUnitFeaturesTest+ClassDataTest (4)	
▷ ✓ xUnitFeaturesTest+FactTest (1)	
◀ ✓ xUnitFeaturesTest+InlineDataTest (3)	
◀ ✓ Should_be_equal (3)	
✓ Should_be_equal (value1: 1, Value2: 1)	
✓ Should_be_equal (value1: 2, Value2: 2)	
✓ Should_be_equal (value1: 5, Value2: 5)	

```
▲ ✓ MyApp.Tests (21)
  ▲ ✓ MyApp (20)
    ▷ ✓ xUnitFeaturesTest+ClassDataTest (4)
    ▷ ✓ xUnitFeaturesTest+FactTest (1)
    ▷ ✓ xUnitFeaturesTest+InlineDataTest (3)
    ▲ ✓ xUnitFeaturesTest+MemberDataTest (12)
      ▲ ✓ Should_be_equal (12)
        ✓ Should_be_equal(value1: 1, value2: 2, shouldBeEqual: False)
        ✓ Should_be_equal(value1: 10, value2: 10, shouldBeEqual: True)
        ✓ Should_be_equal(value1: 10, value2: 11, shouldBeEqual: False)
        ✓ Should_be_equal(value1: 11, value2: 11, shouldBeEqual: True)
        ✓ Should_be_equal(value1: 2, value2: 2, shouldBeEqual: True)
        ✓ Should_be_equal(value1: 2, value2: 3, shouldBeEqual: False)
        ✓ Should_be_equal(value1: 20, value2: 30, shouldBeEqual: False)
        ✓ Should_be_equal(value1: 3, value2: 2, shouldBeEqual: False)
        ✓ Should_be_equal(value1: 3, value2: 3, shouldBeEqual: True)
        ✓ Should_be_equal(value1: 40, value2: 50, shouldBeEqual: False)
        ✓ Should_be_equal(value1: 5, value2: 5, shouldBeEqual: True)
        ✓ Should_be_equal(value1: 50, value2: 50, shouldBeEqual: True)
```

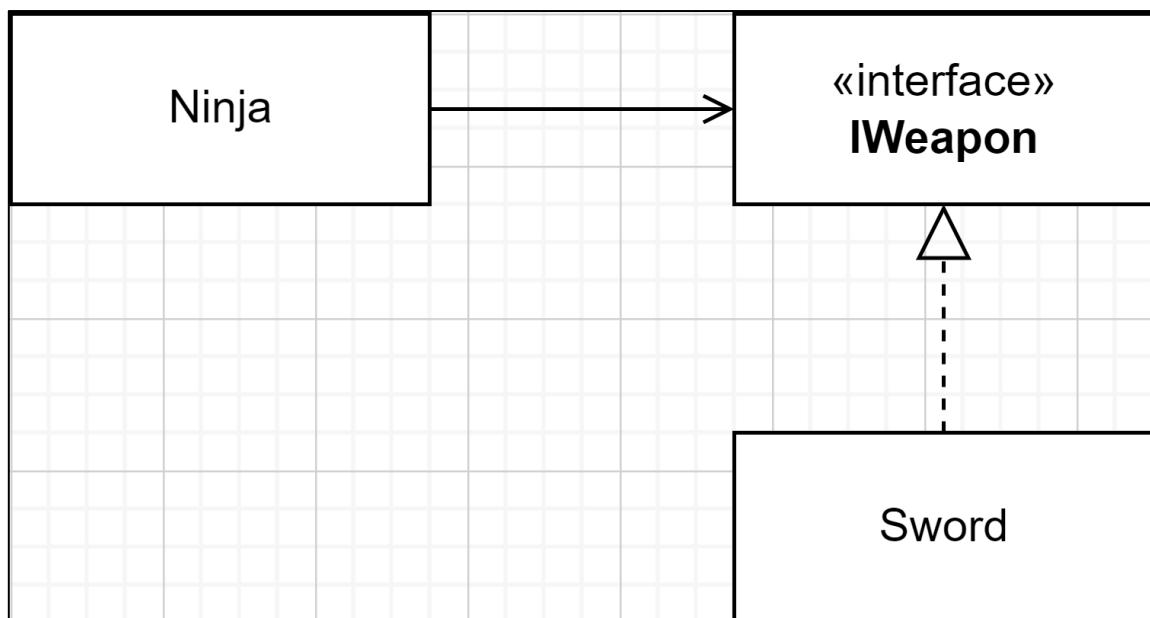
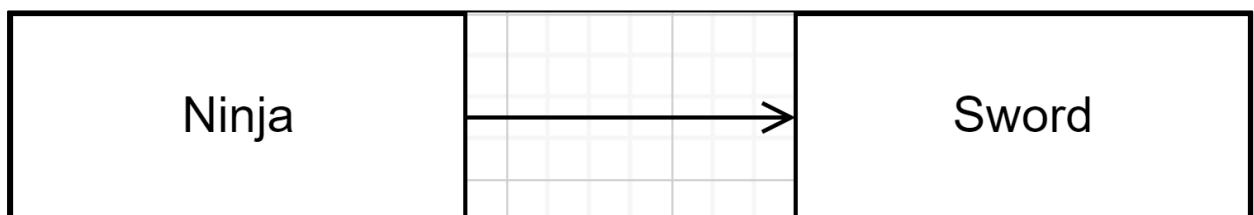
```
▲ ✓ MyApp.Tests (21)
  ▲ ✓ MyApp (20)
    ▲ ✓ xUnitFeatureslest+ClassDataTest (4)
      ▲ ✓ Should_be_equal (4)
        ✓ Should_be_equal(value1: 1, Value2: 2, shouldBeEqual: False)
        ✓ Should_be_equal(value1: 102, Value2: 104, shouldBeEqual: False)
        ✓ Should_be_equal(value1: 2, Value2: 2, shouldBeEqual: True)
        ✓ Should_be_equal(value1: 3, Value2: 3, shouldBeEqual: True)
```

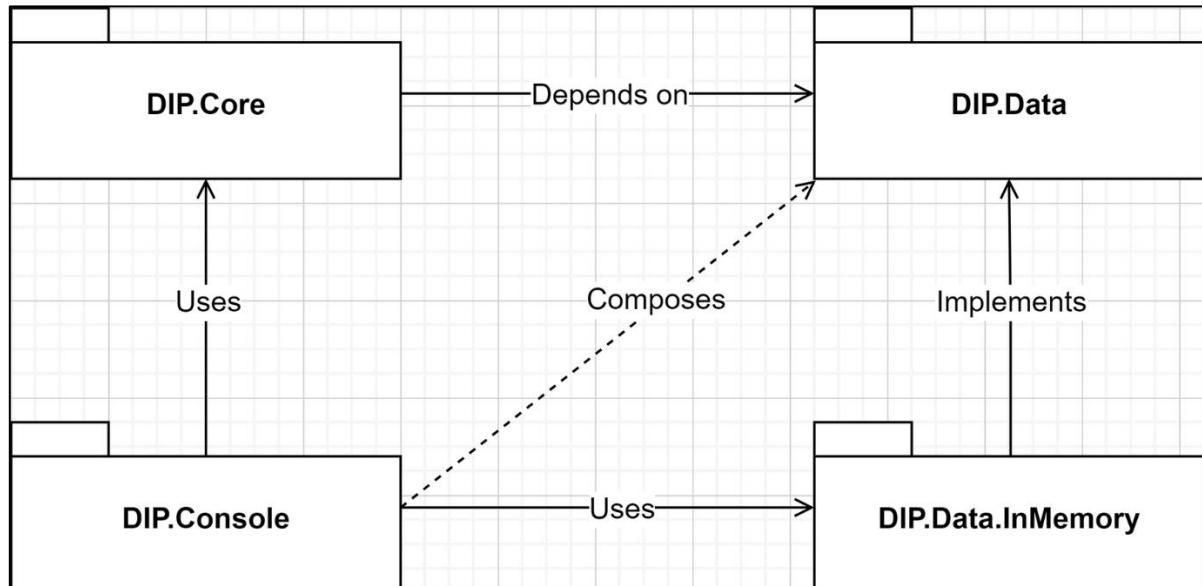
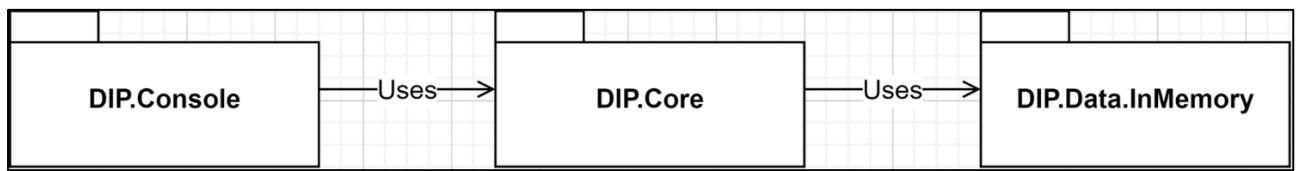
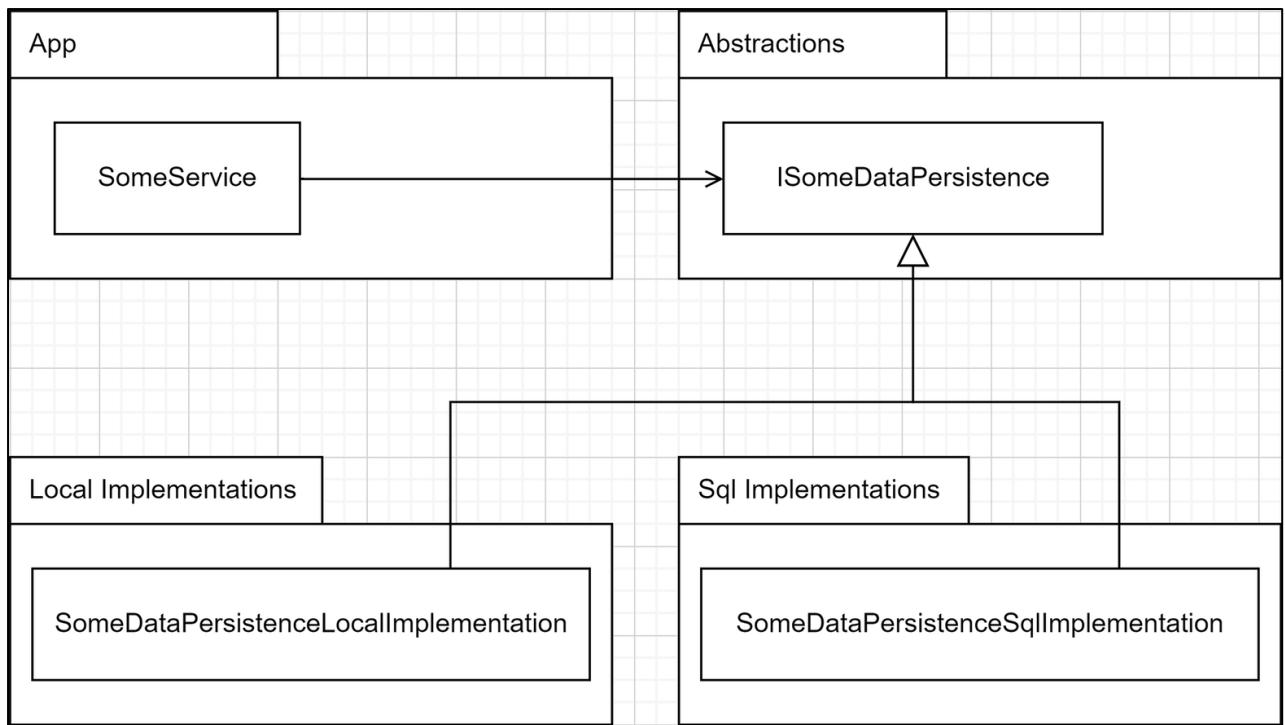




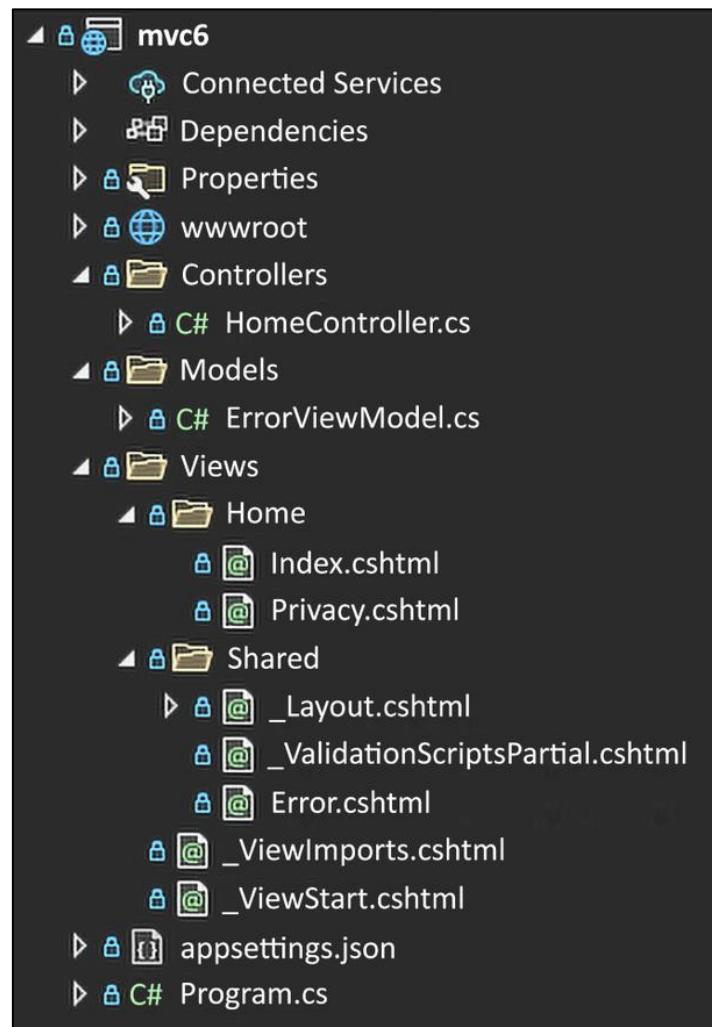
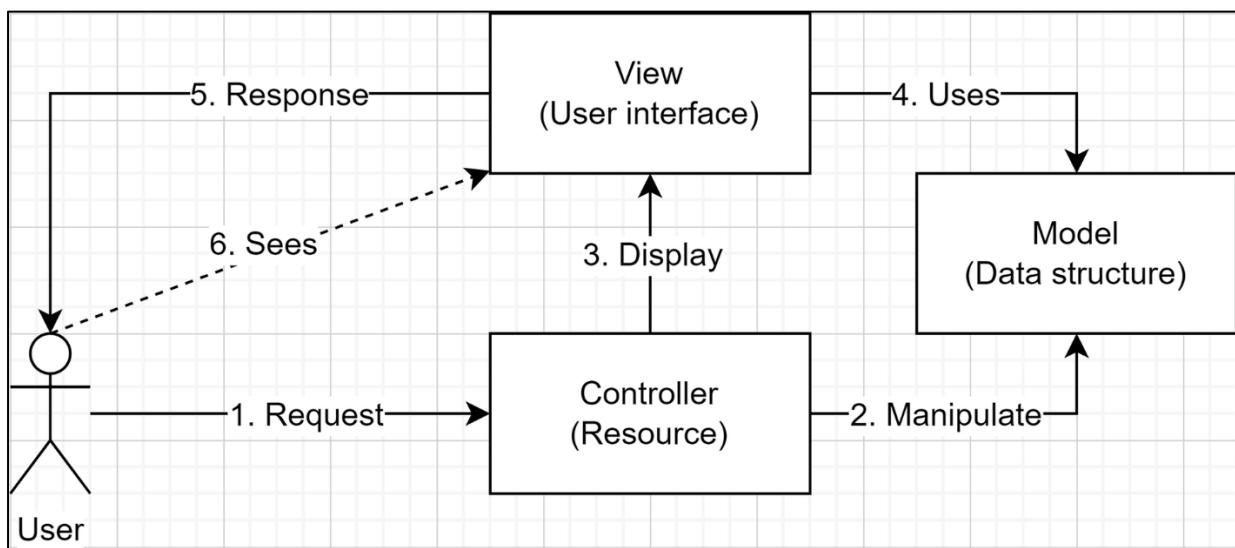
## Chapter 3: Architectural Principles

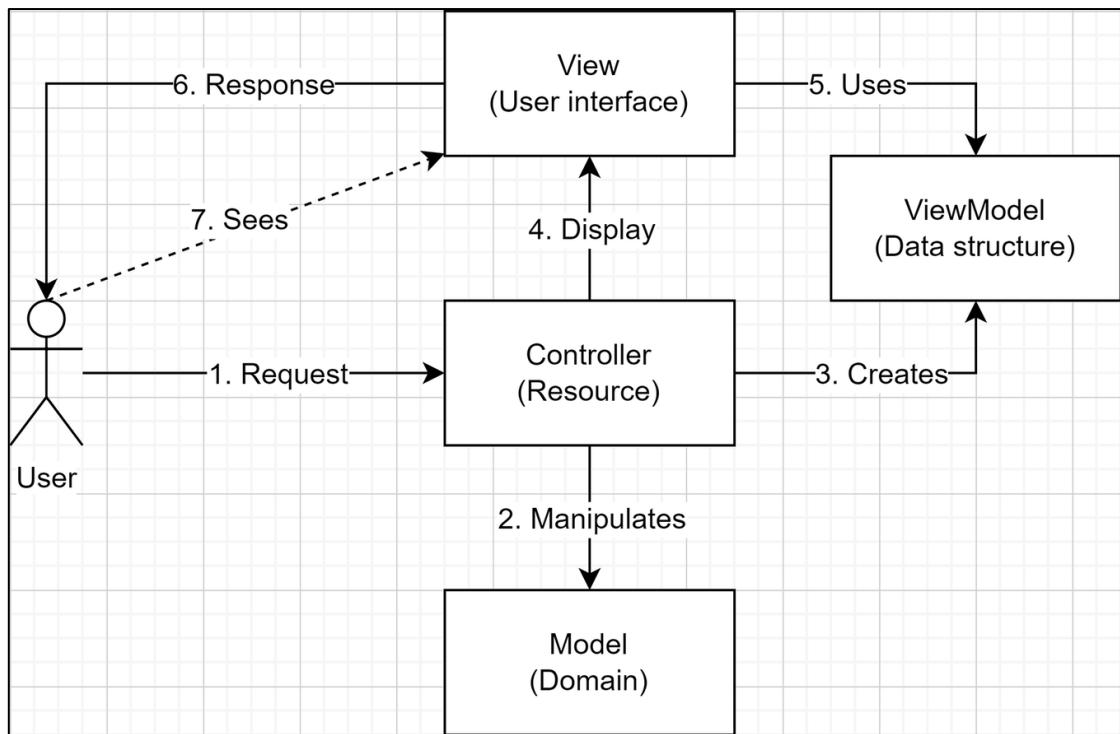
```
ES E:\Repos\Hands-On Design Patterns wit... - X
Choices:
1: Fetch and display book id 1
2: Fail to fetch a book
3: Book does not exist
4: Create an out of order book
5: Display a book somewhere else
6: Create a book
7: List all books
0: Exit
```





## Chapter 4: The MVC Pattern Using Razor





## Students list

Create a student

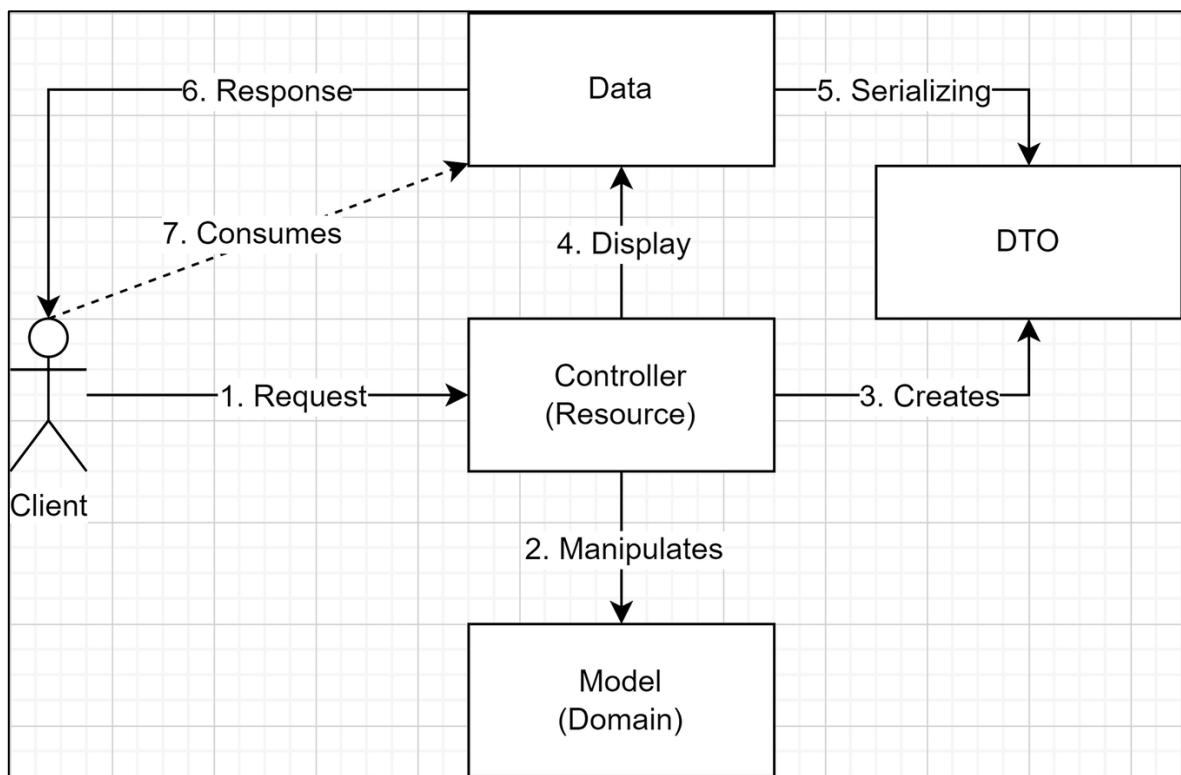
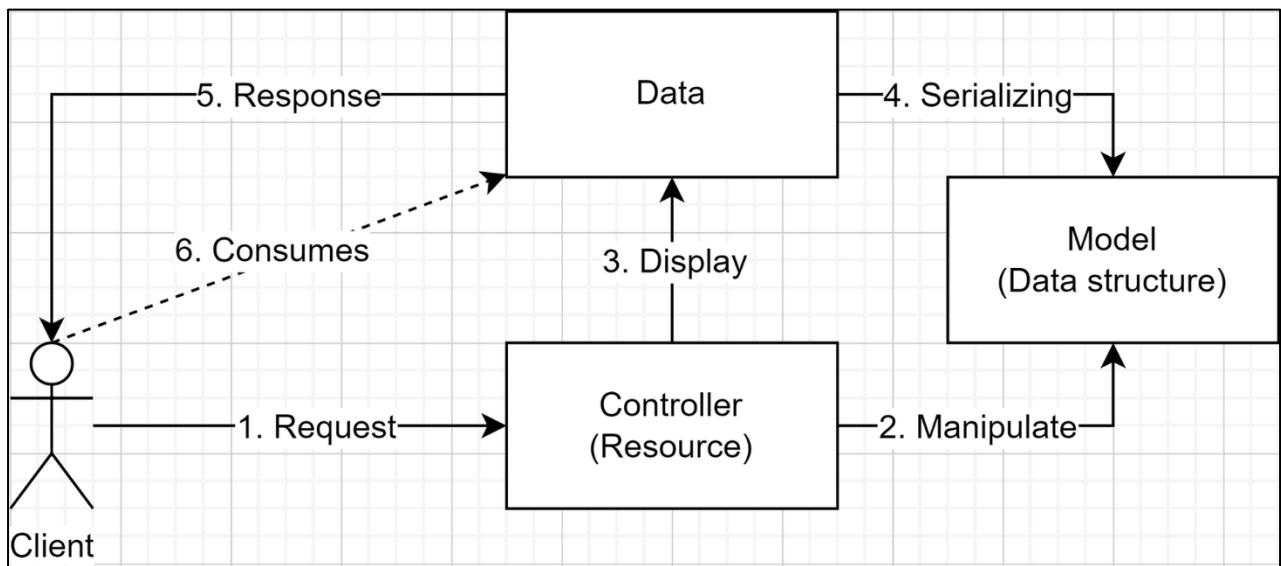
Edit Maddie Powers 2

Edit Harper Black 3

Edit Allen York 2

Edit Lillie Adkins 2

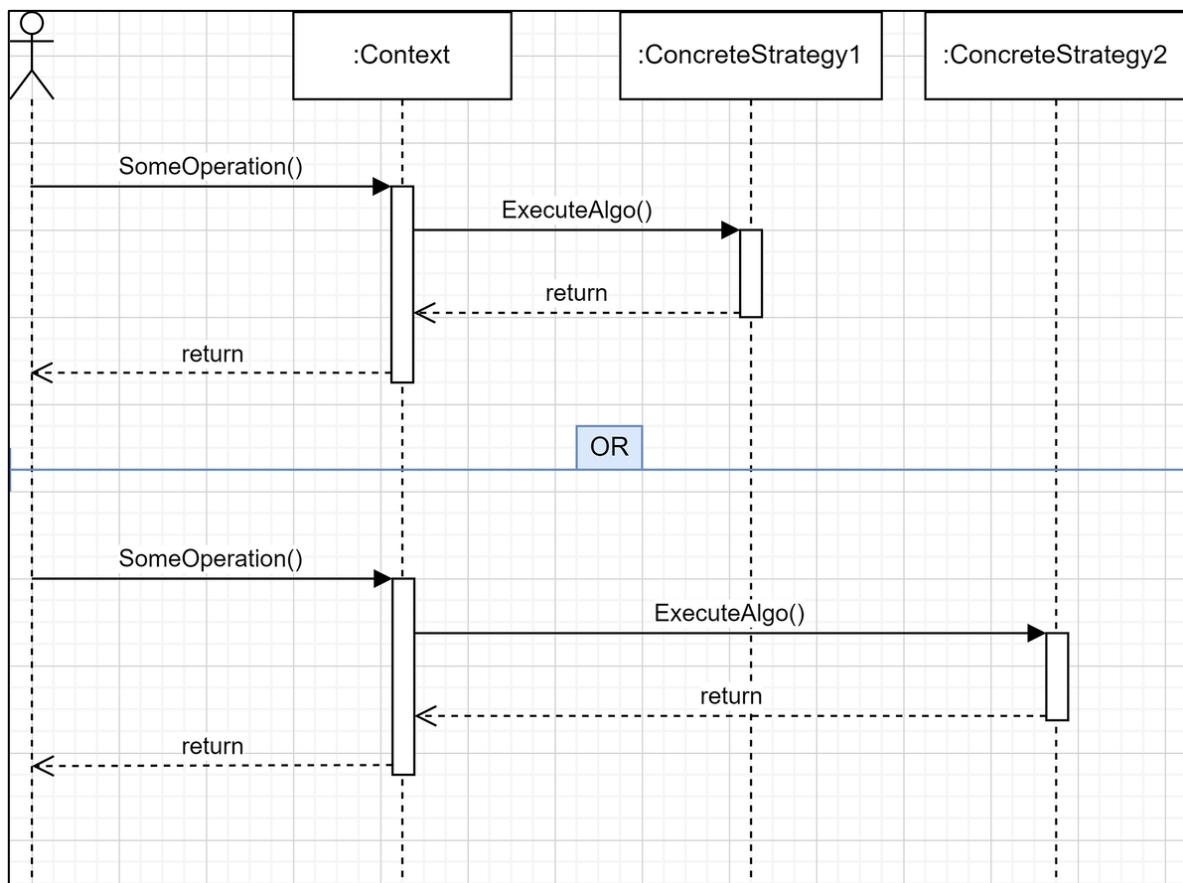
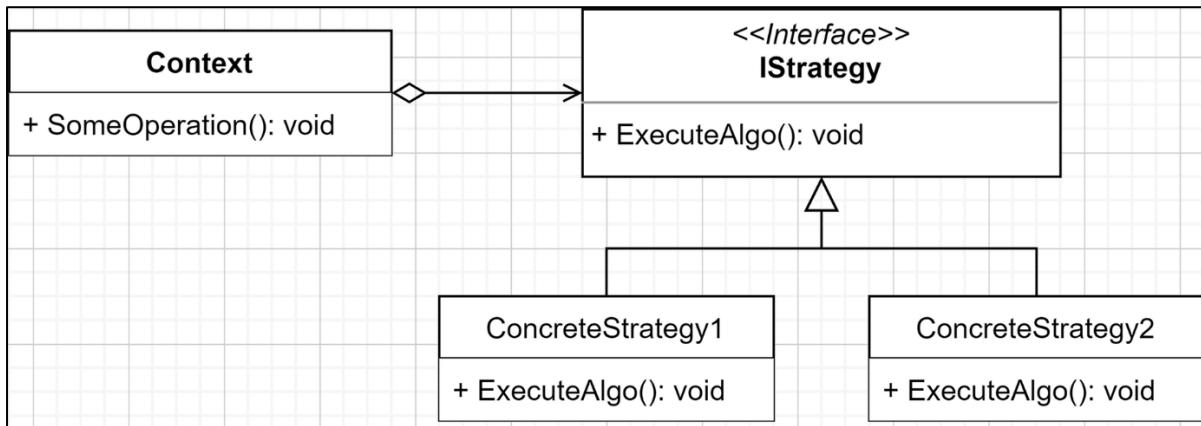
## Chapter 5: The MVC Pattern for Web APIs



```
2      // https://localhost:5001/swagger/v1/swagger.json
3
4  {
5      "openapi": "3.0.1",
6      "info": {
7          "title": "DTOs",
8          "version": "1.0"
9      },
10     "paths": {
11        "/Customers": {↙},
12        "/Customers/{id)": {↙}
13    },
14    "components": {
15        "schemas": {
16            "ContractDetailsDto": {↙},
17            "CustomerDetailsDto": {↙},
18            "CustomerSummaryDto": {↙},
19            "WorkState": {↙}
20        }
21    }
22}
```

The screenshot shows the Swagger UI interface for the 'DTOs' definition at <https://localhost:5001/swagger/v1/swagger.json>. The top navigation bar includes the Swagger logo, the URL, and dropdown menus for 'Select a definition' (set to 'V1 Docs') and 'OAS 3.0'. The main content area is titled 'DTOs 1.0 OAS3'. It displays two sections: 'Customers' and 'Schemas'. The 'Customers' section contains two GET requests: one for '/Customers' and one for '/Customers/{id}'. The 'Schemas' section lists four schema definitions: 'ContractDetailsDto', 'CustomerDetailsDto', 'CustomerSummaryDto', and 'WorkState', each with a corresponding expand arrow.

## Chapter 6: Understanding the Strategy, Abstract Factory, and Singleton Design Patterns



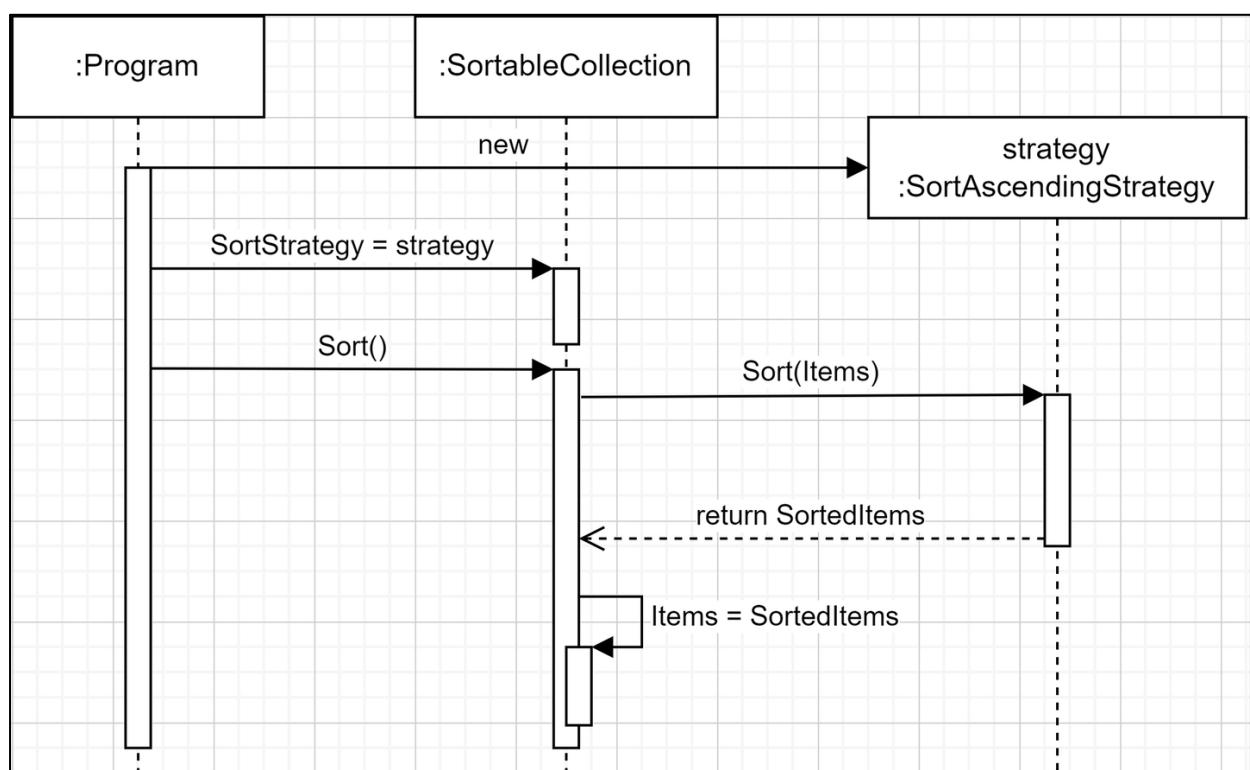


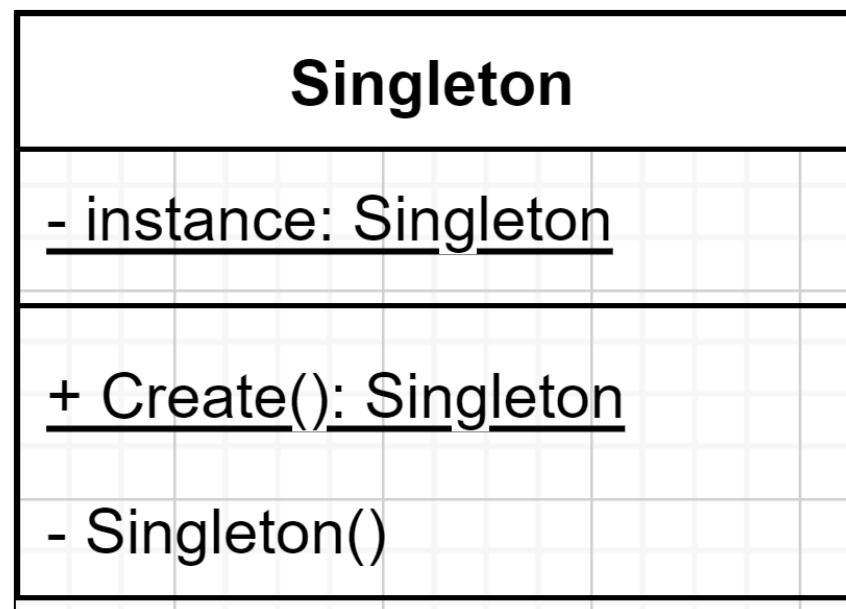
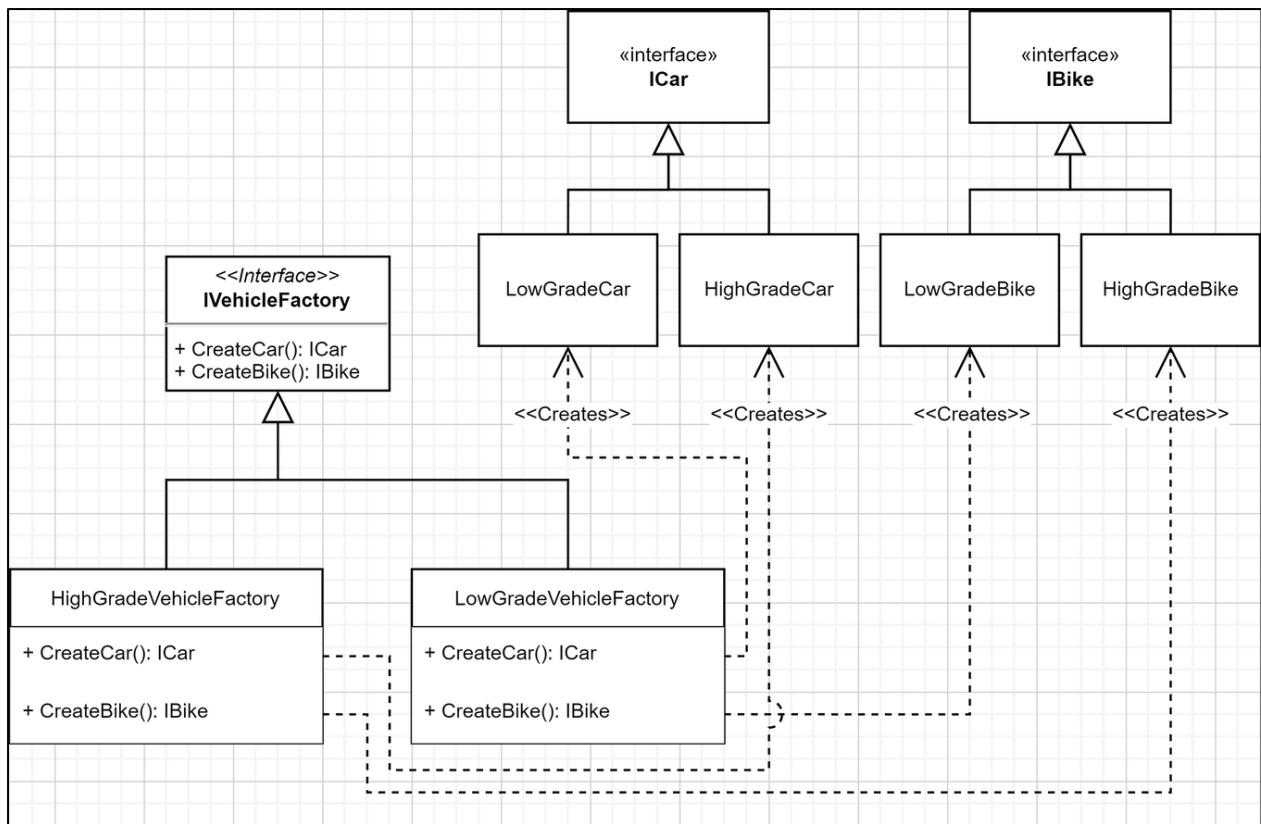
C:\WINDOWS\system32\cmd.exe

Options:

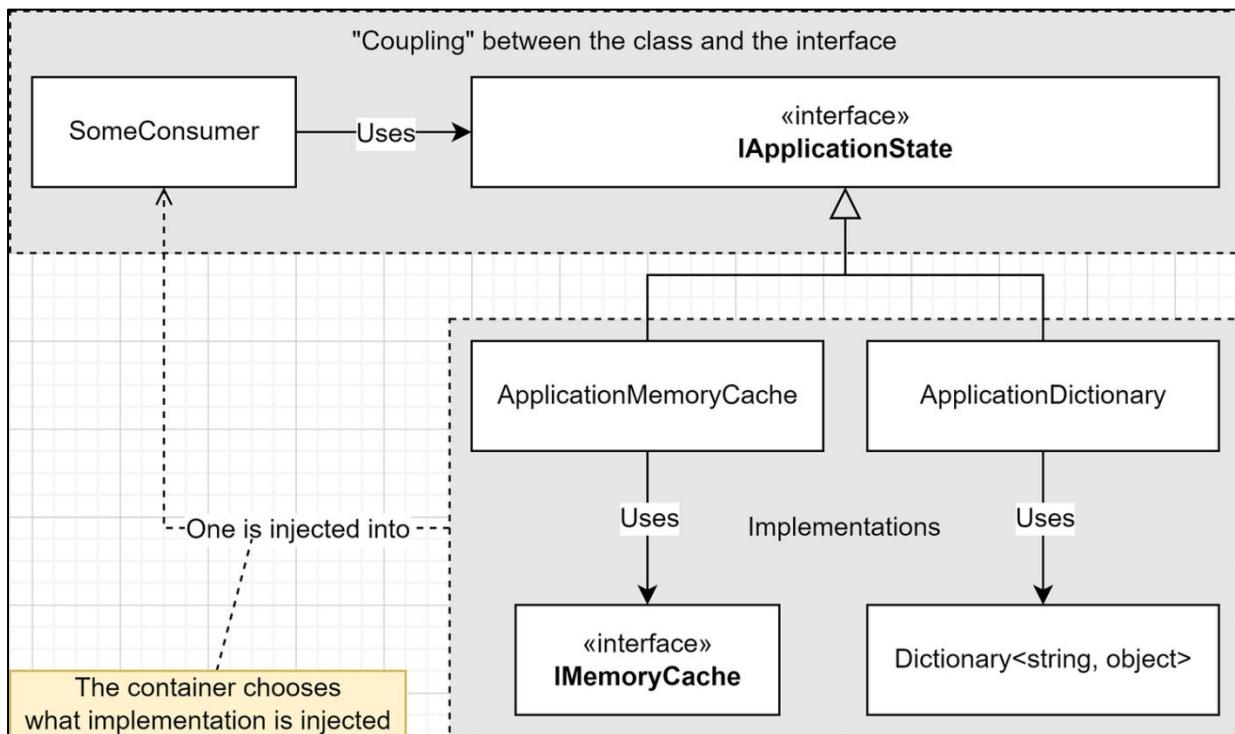
- 1: Display the items
- 2: Sort the collection
- 3: Select the sort ascending strategy
- 4: Select the sort descending strategy
- 0: Exit

Please make a selection:

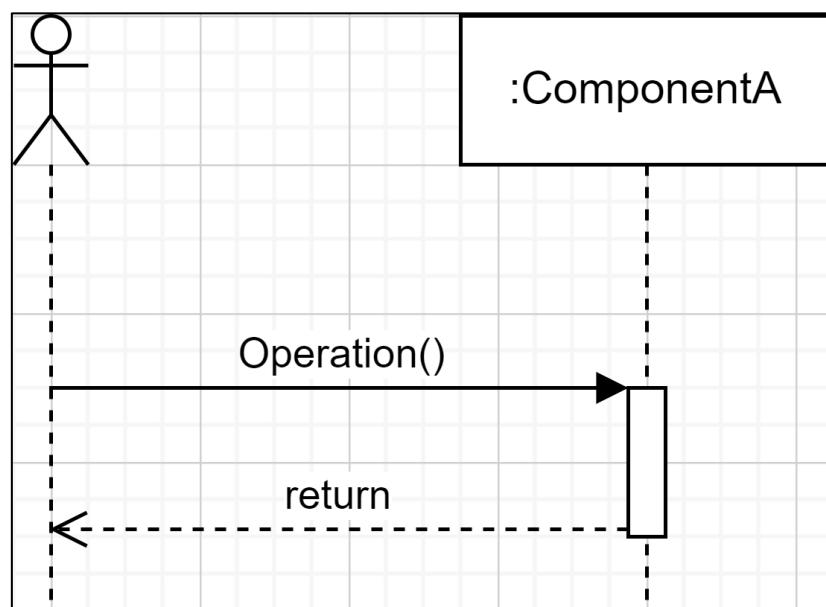
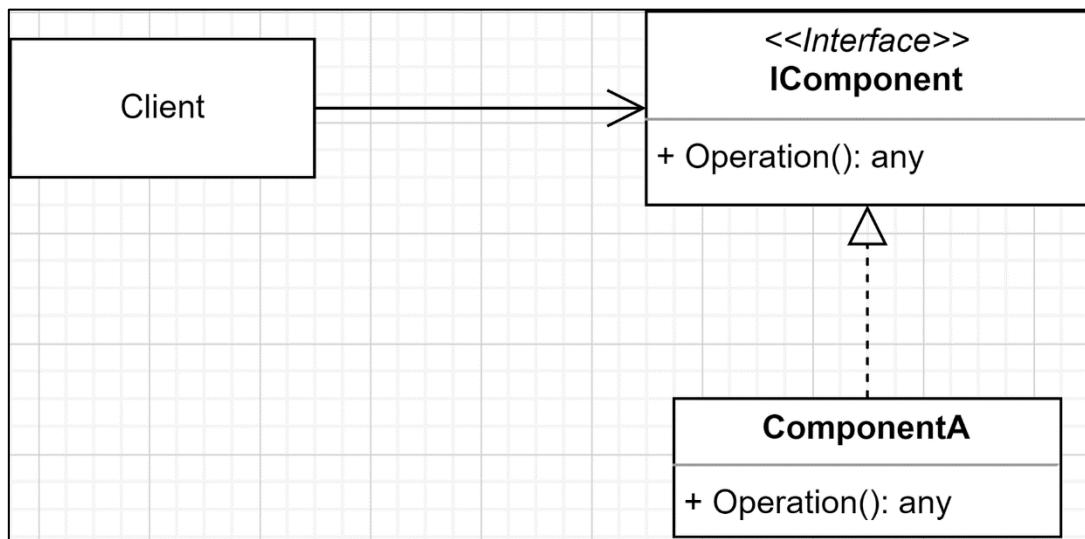


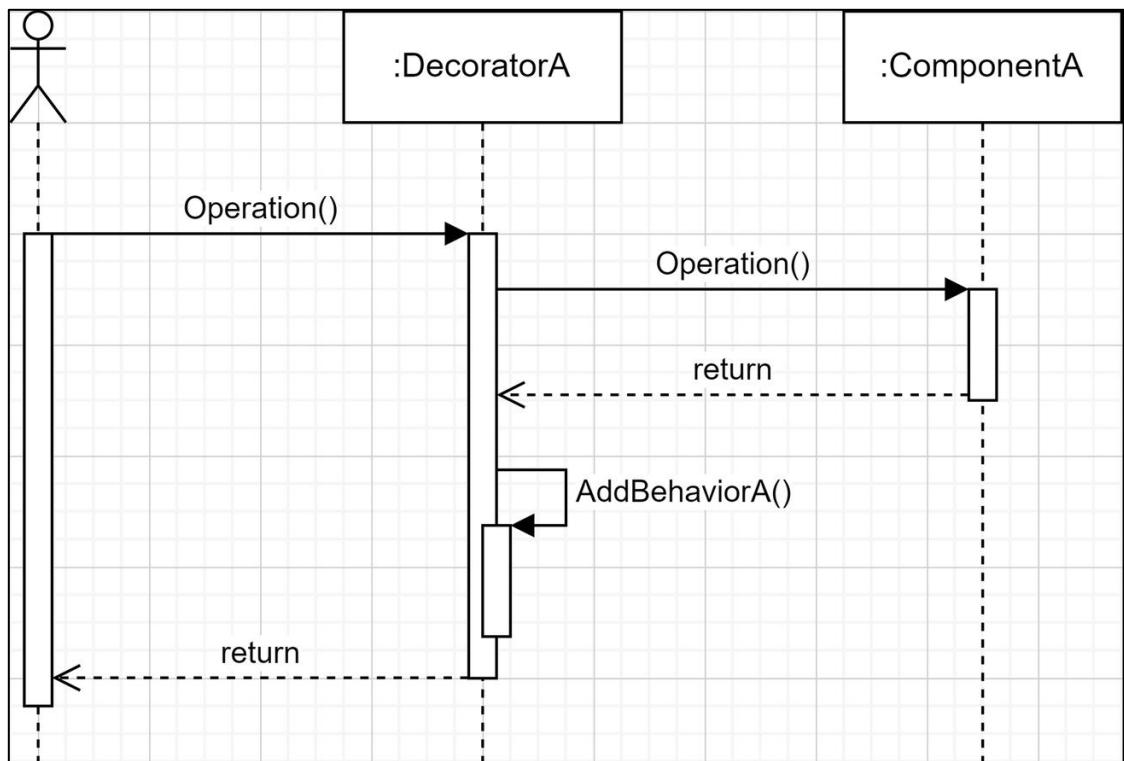
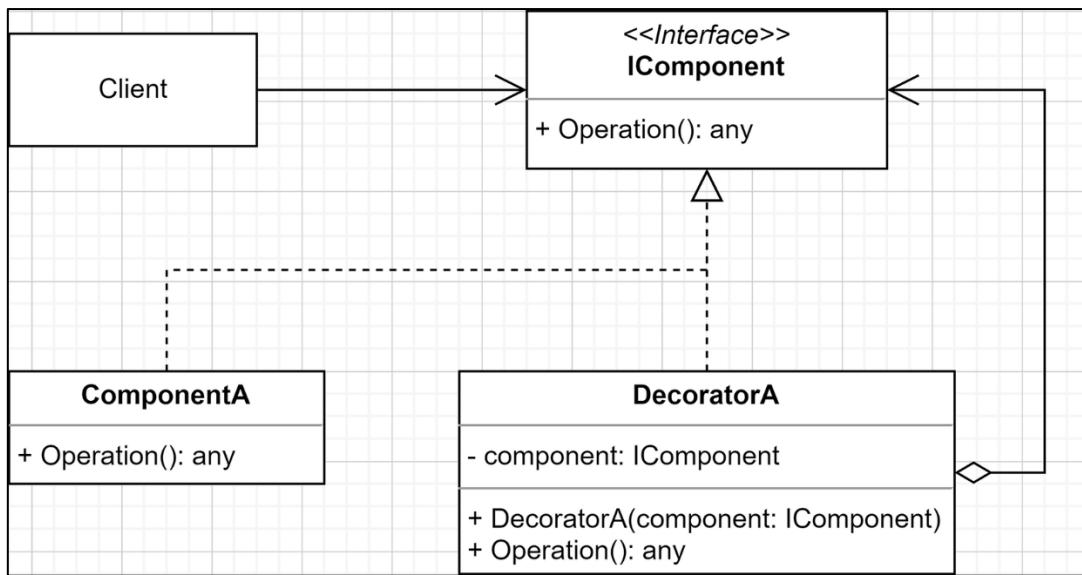


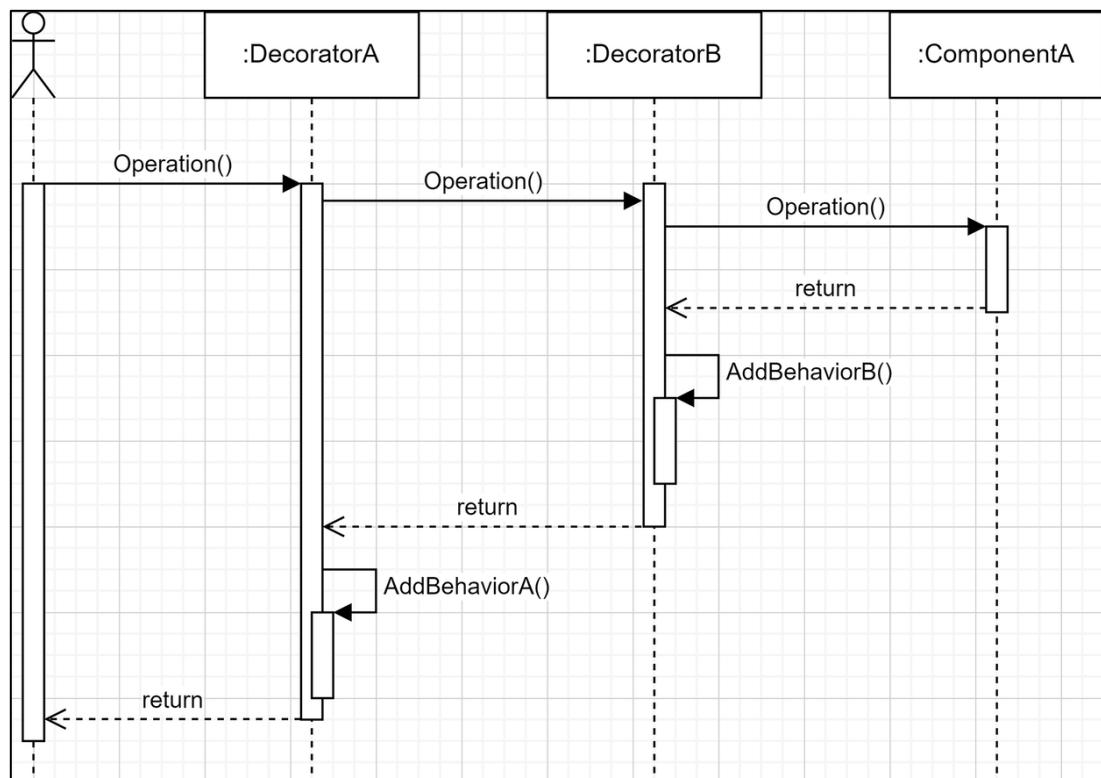
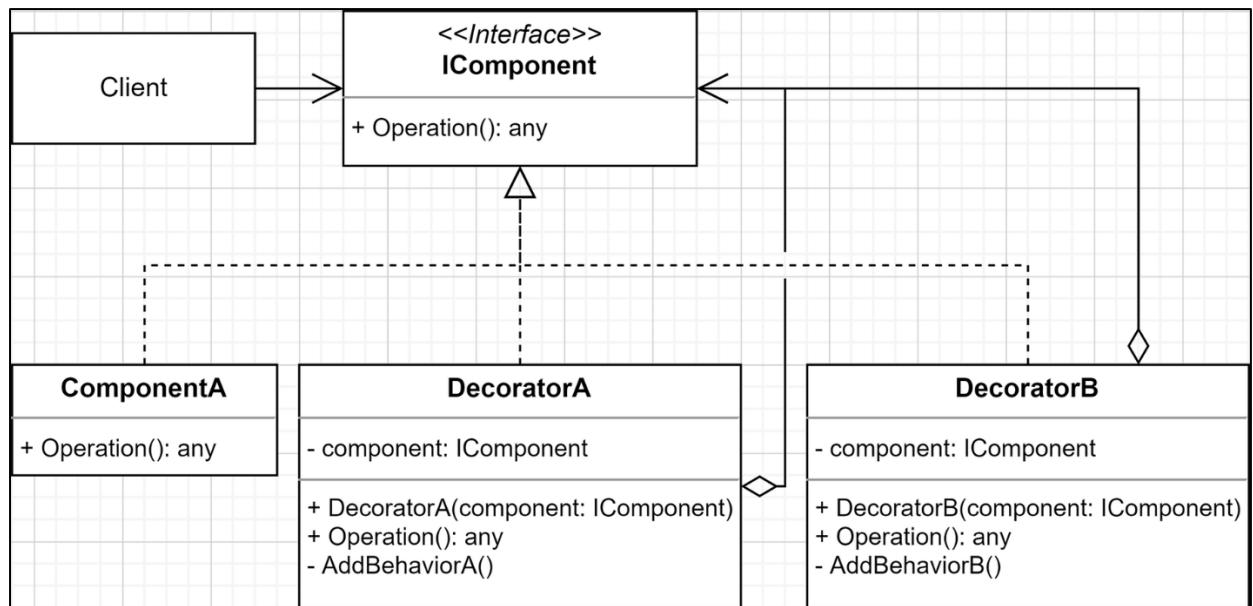
## Chapter 7: Deep Dive into Dependency Injection

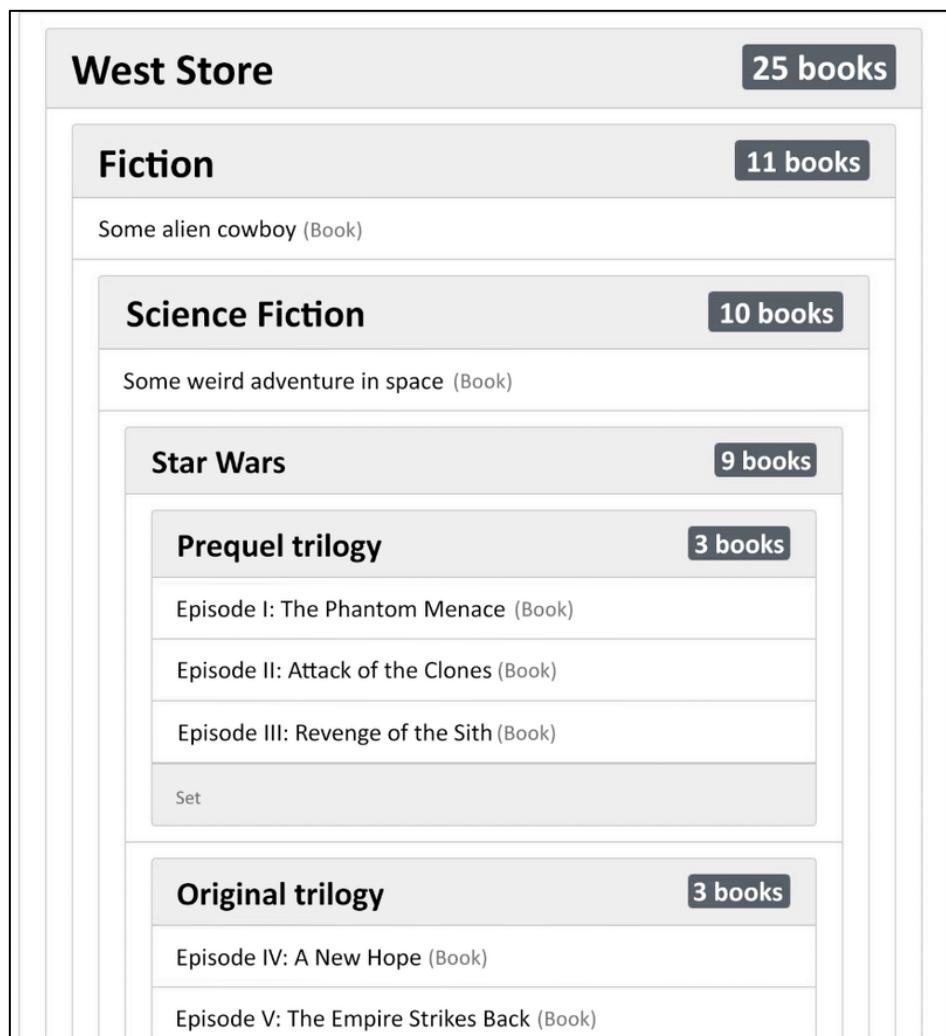
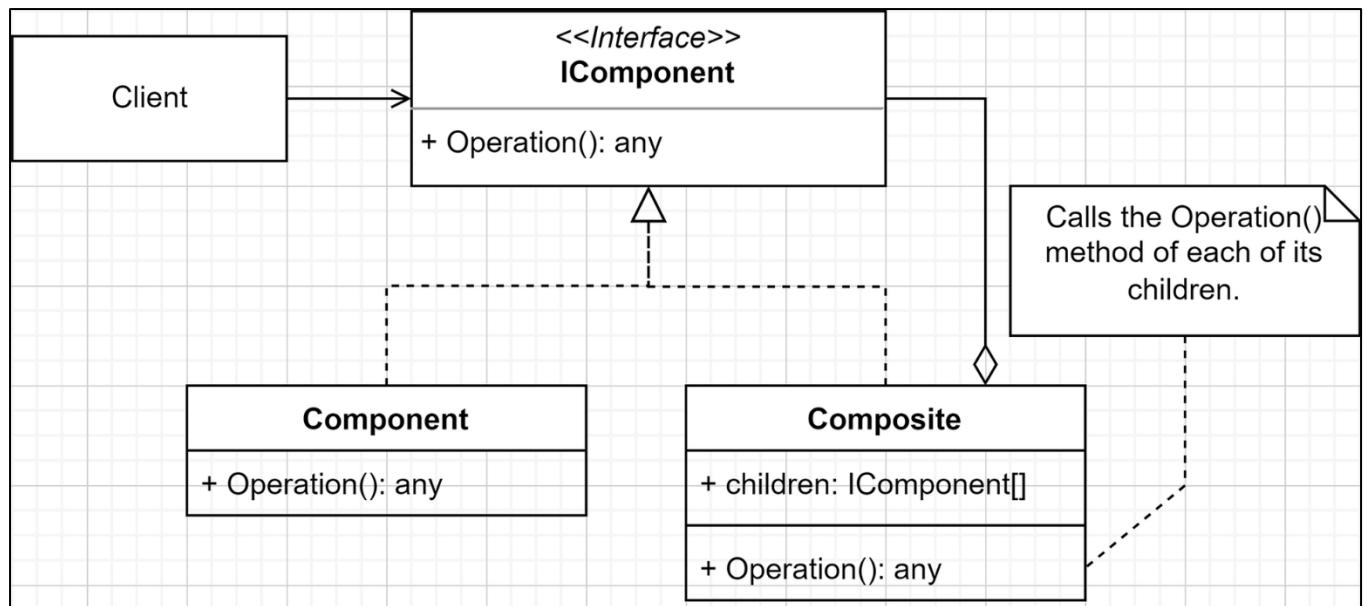


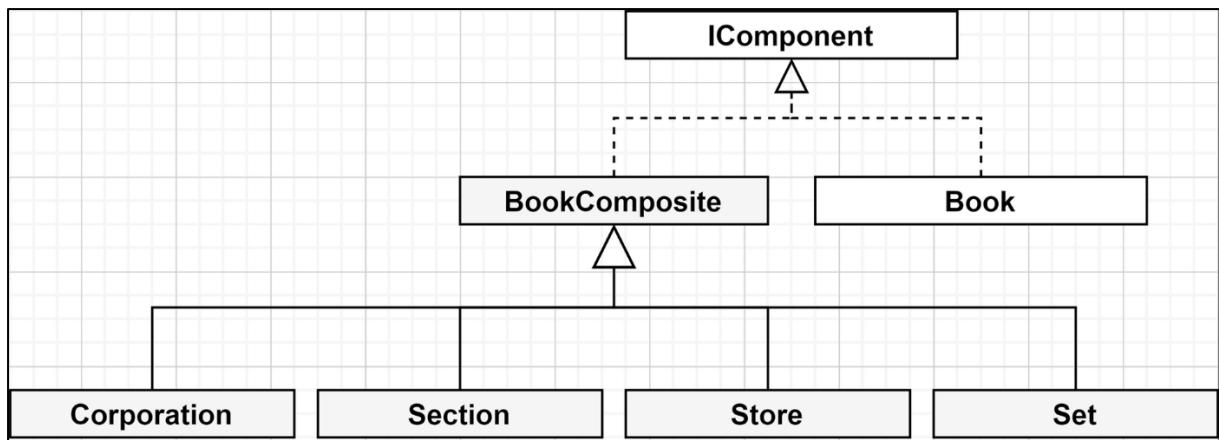
## Chapter 9: Structural Patterns

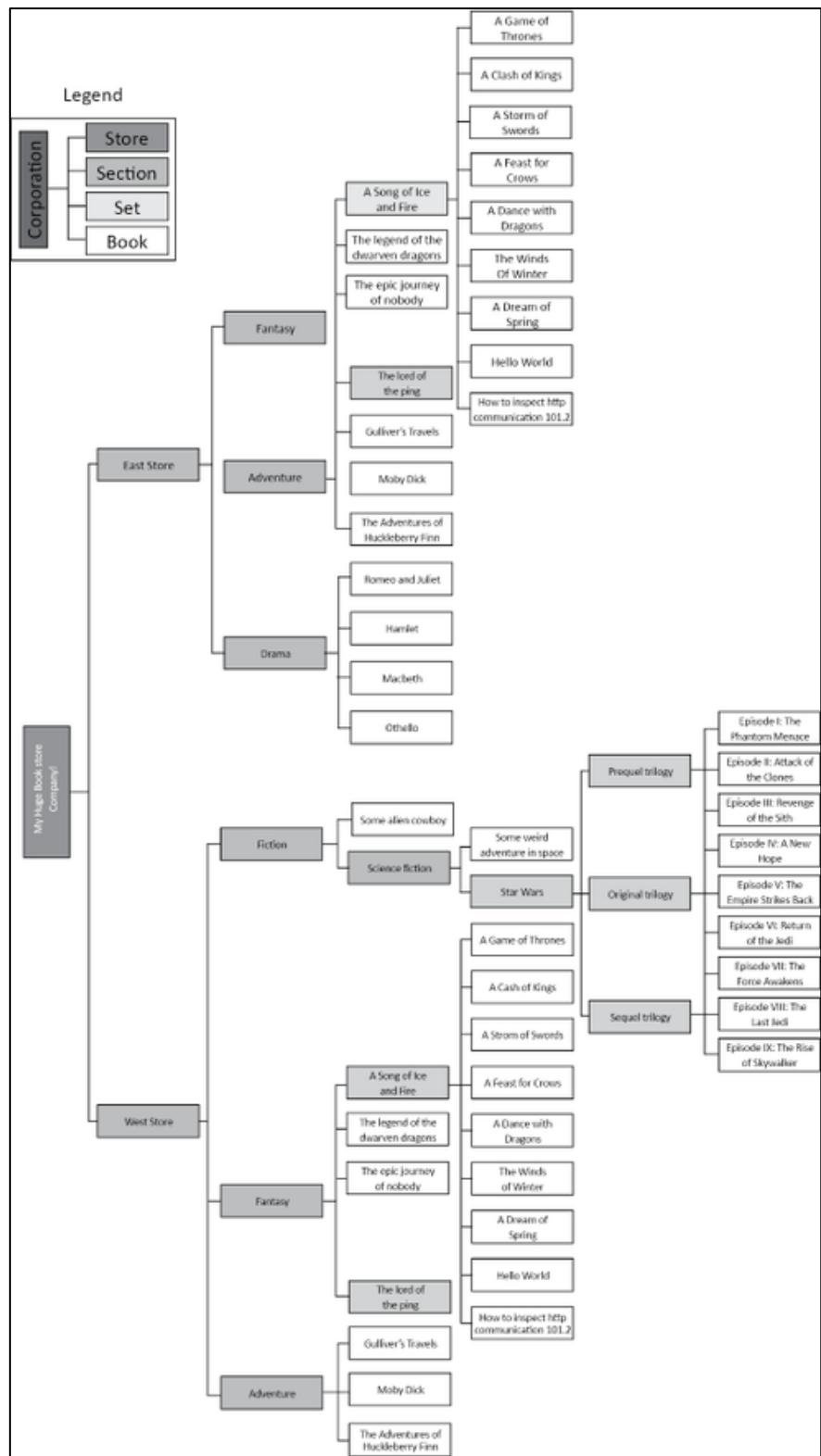


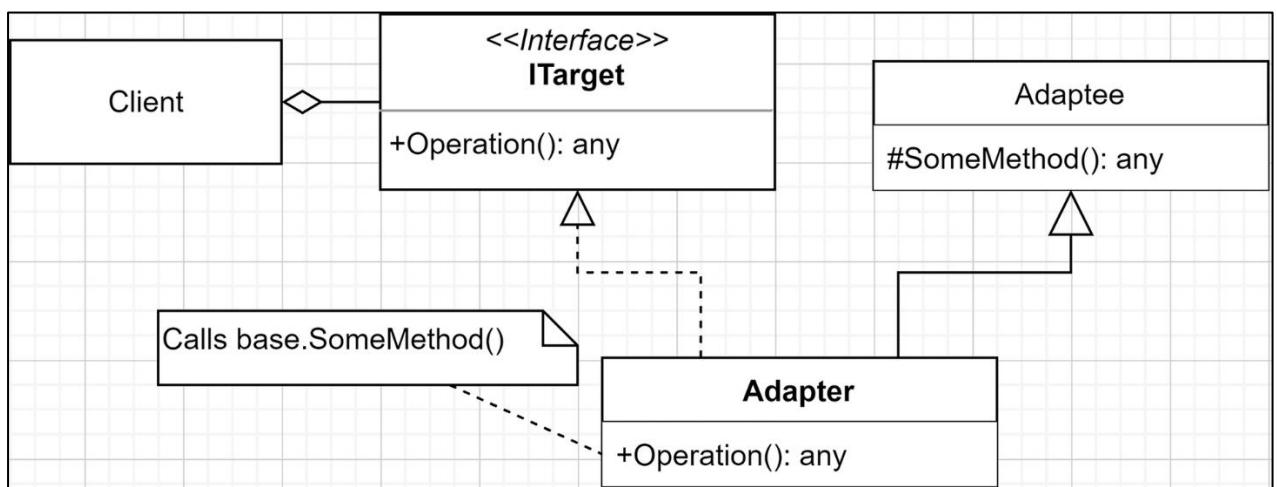
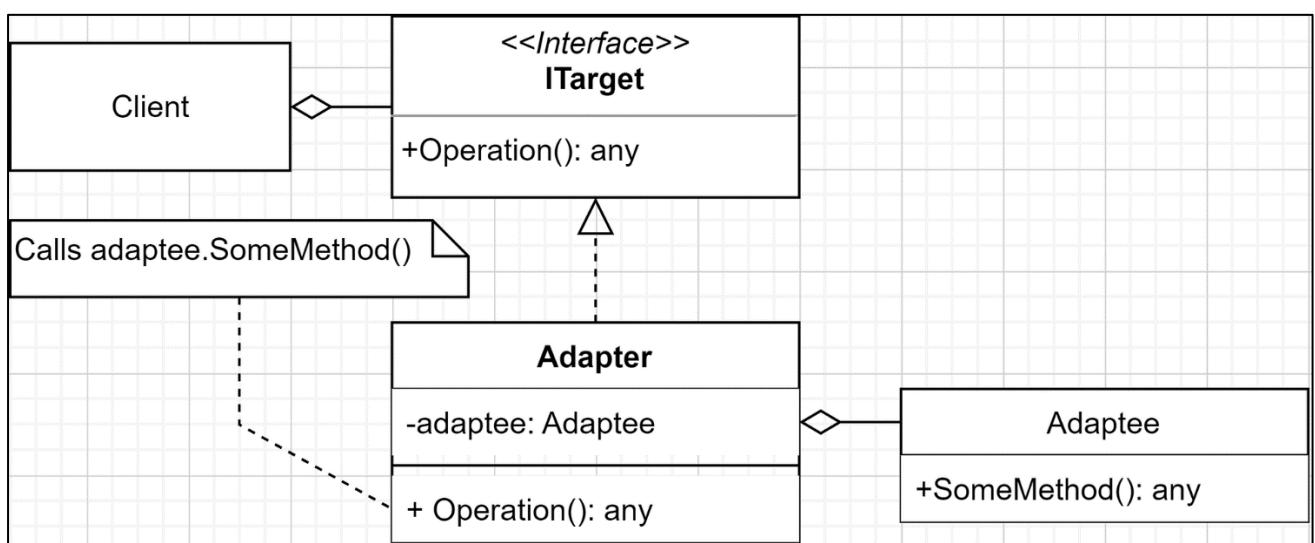
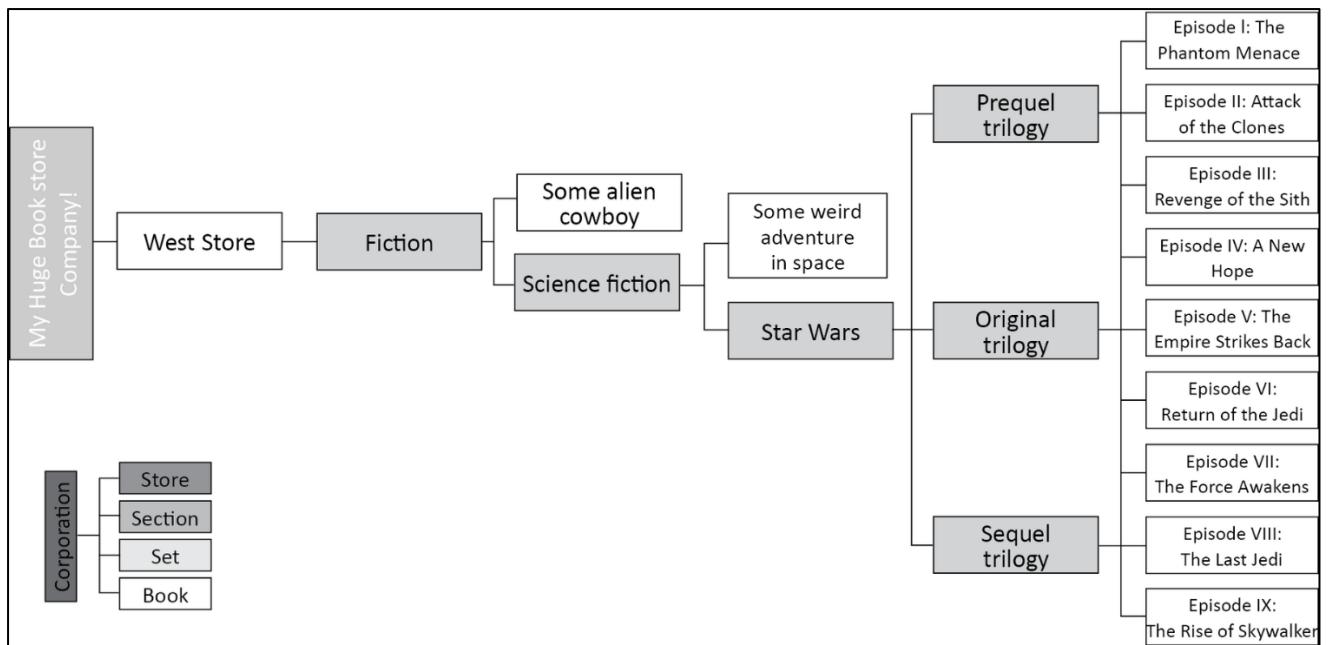


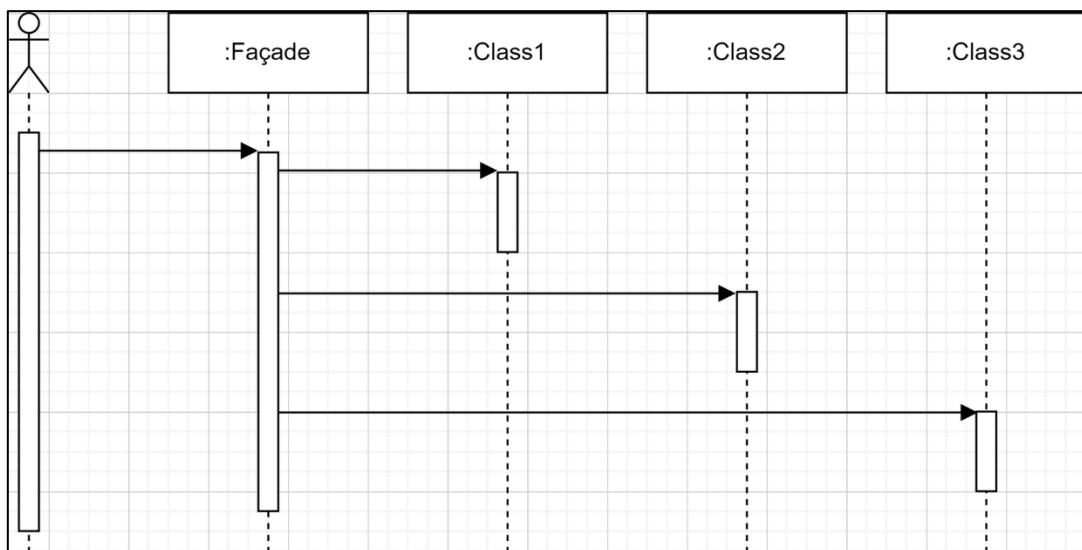
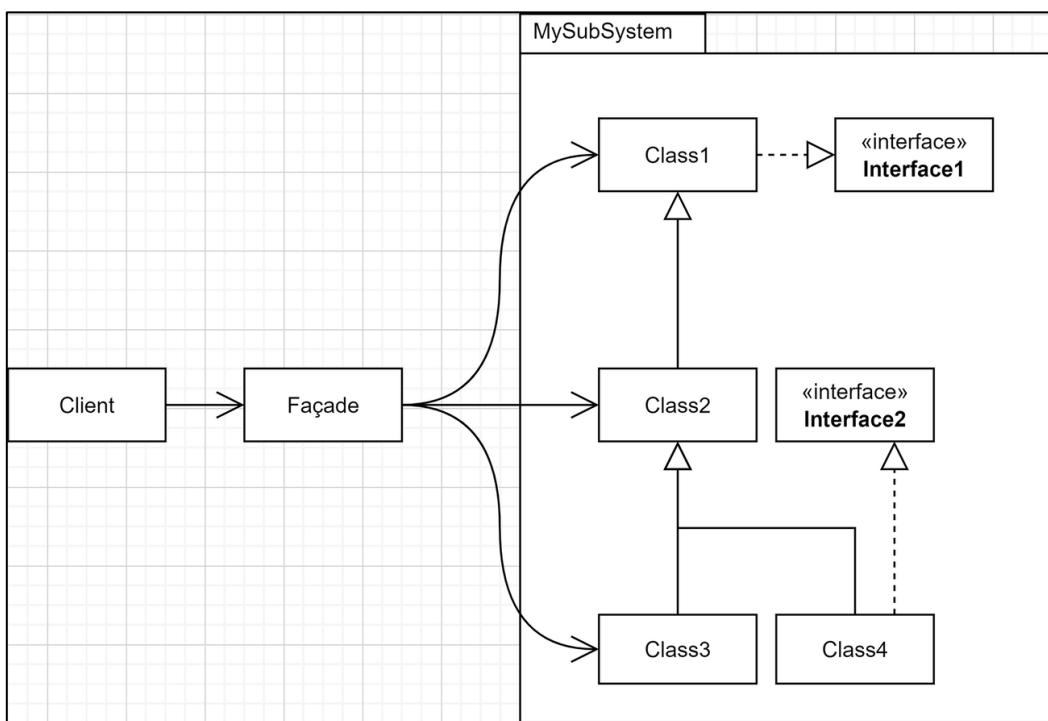
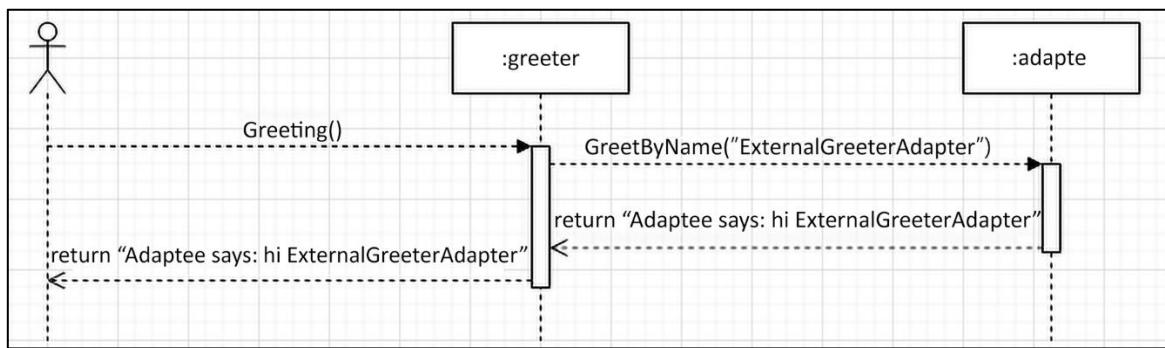


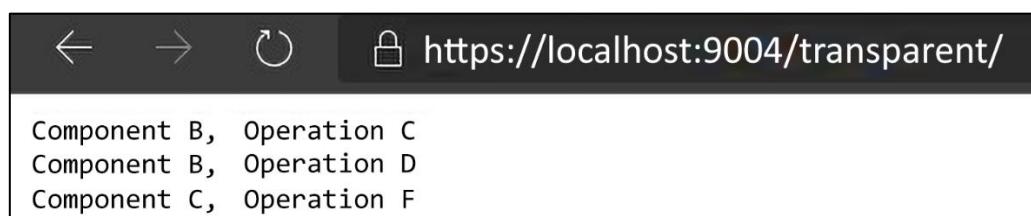
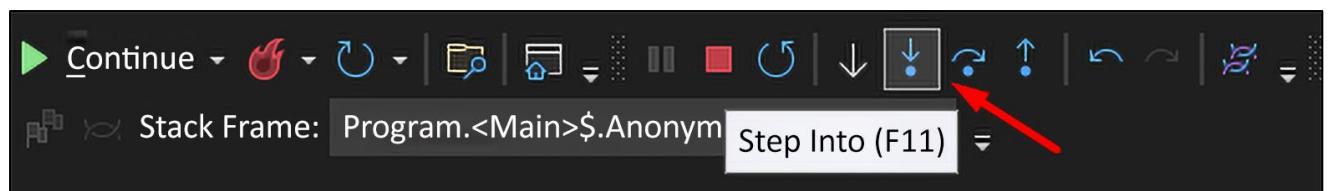
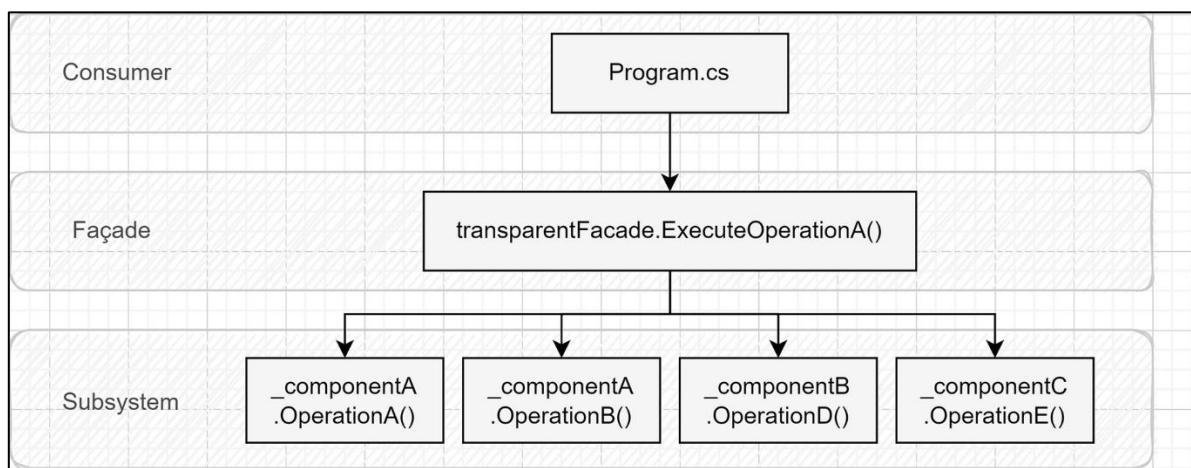
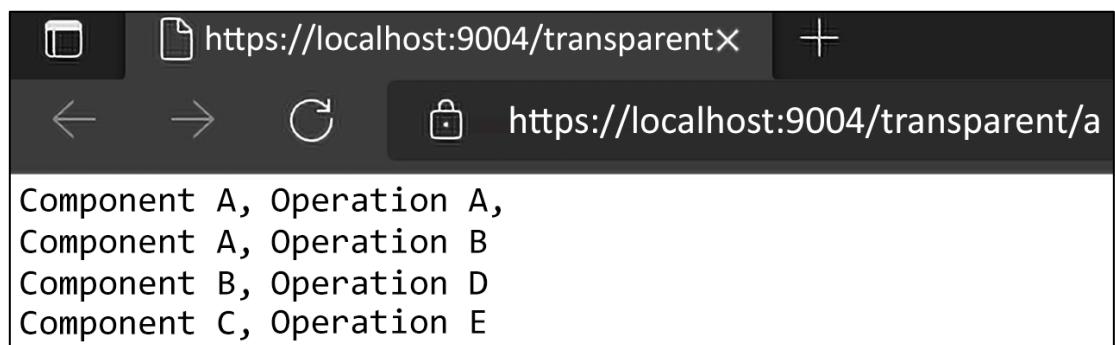




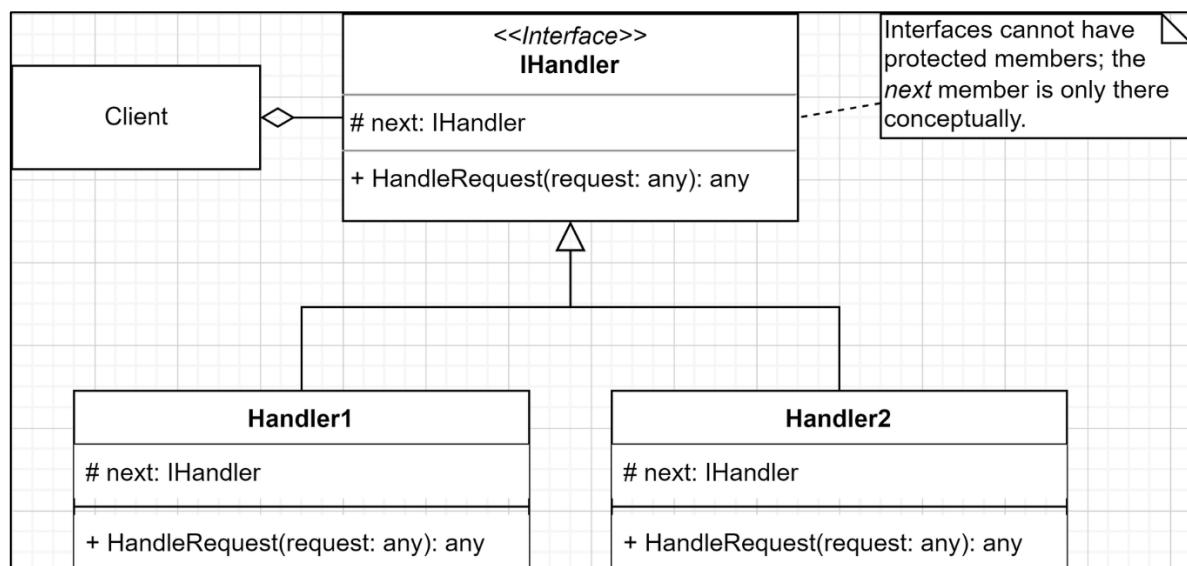
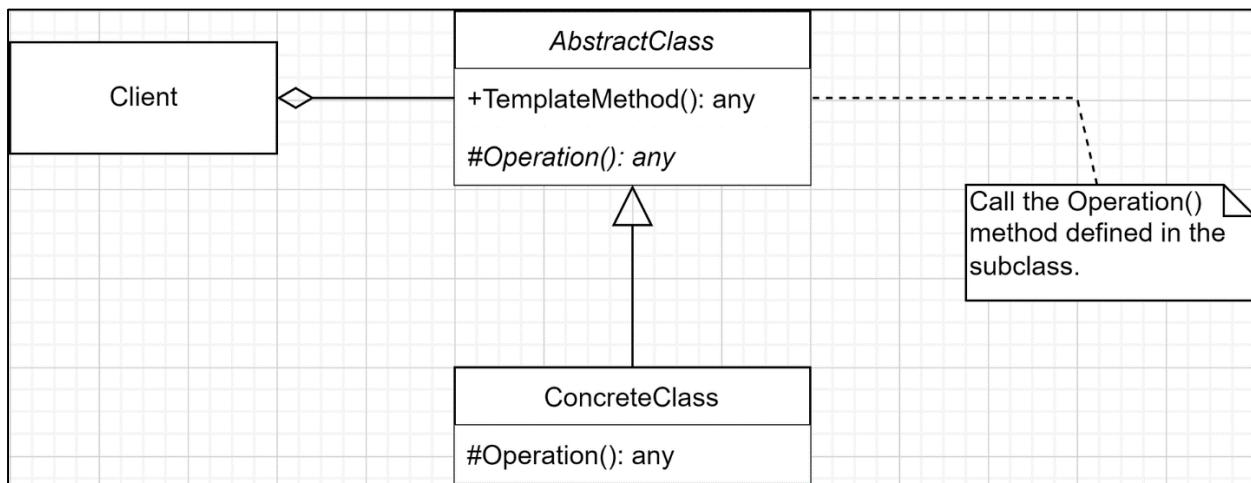








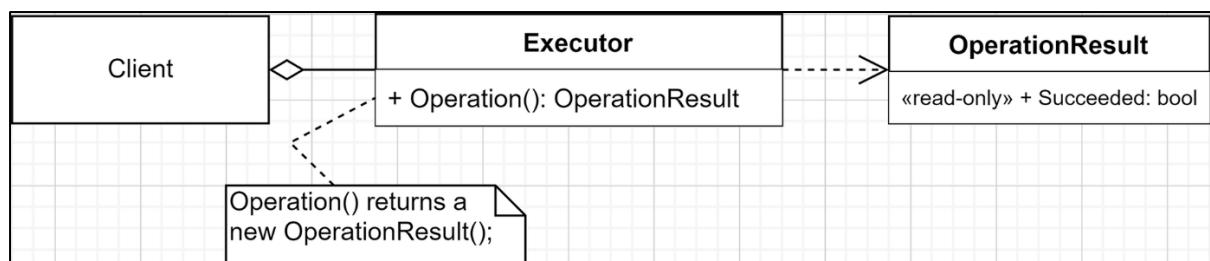
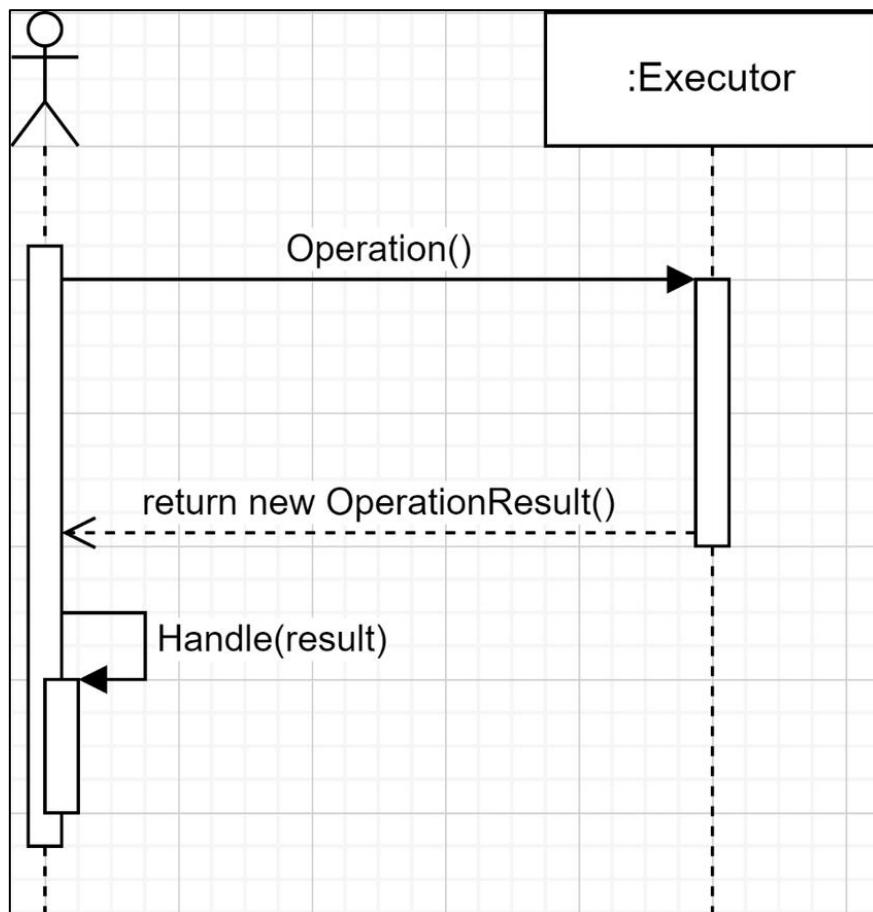
## Chapter 10: Behavioral Patterns



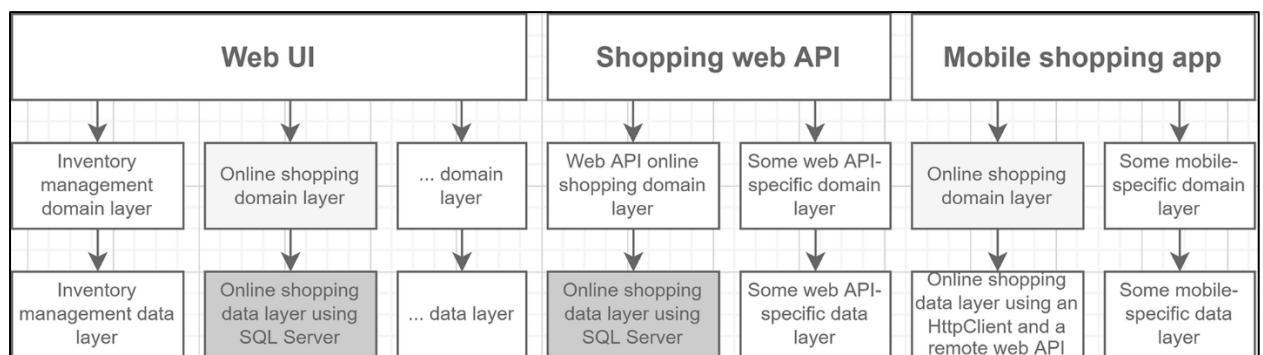
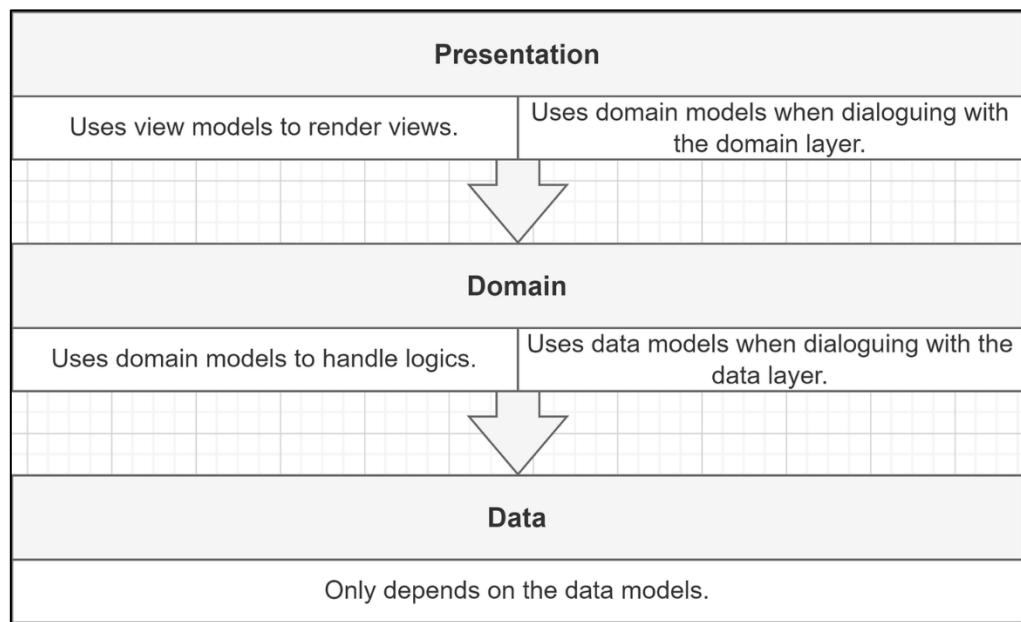
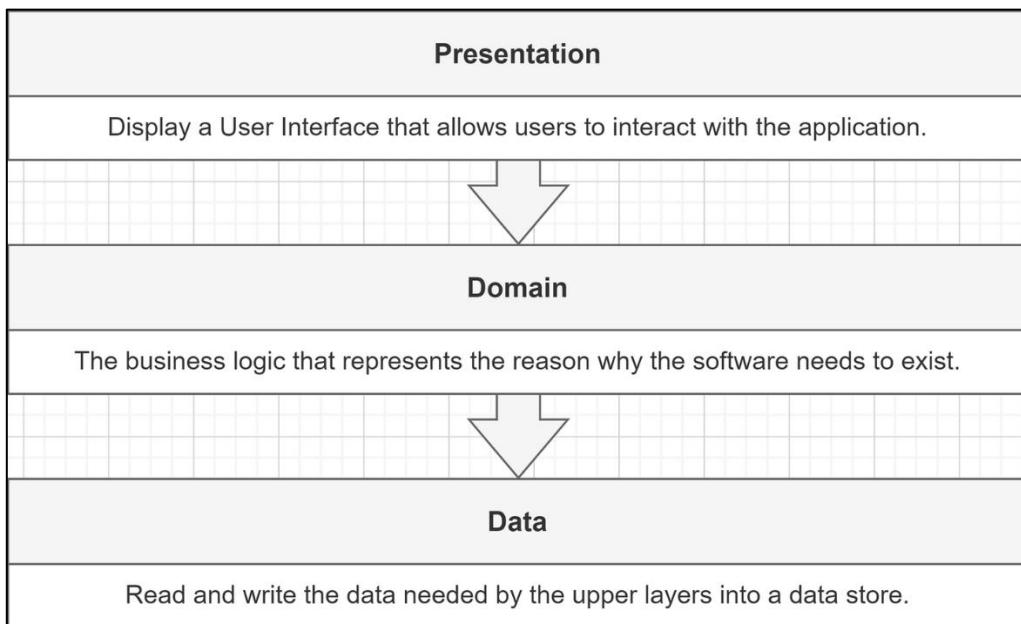
```
4 [ 
5     "/handle/AlarmTriggered",
6     "/handle/AlarmPaused",
7     "/handle/AlarmStopped",
8     "/handle/SomeUnhandledMessageName"
9 ]
```

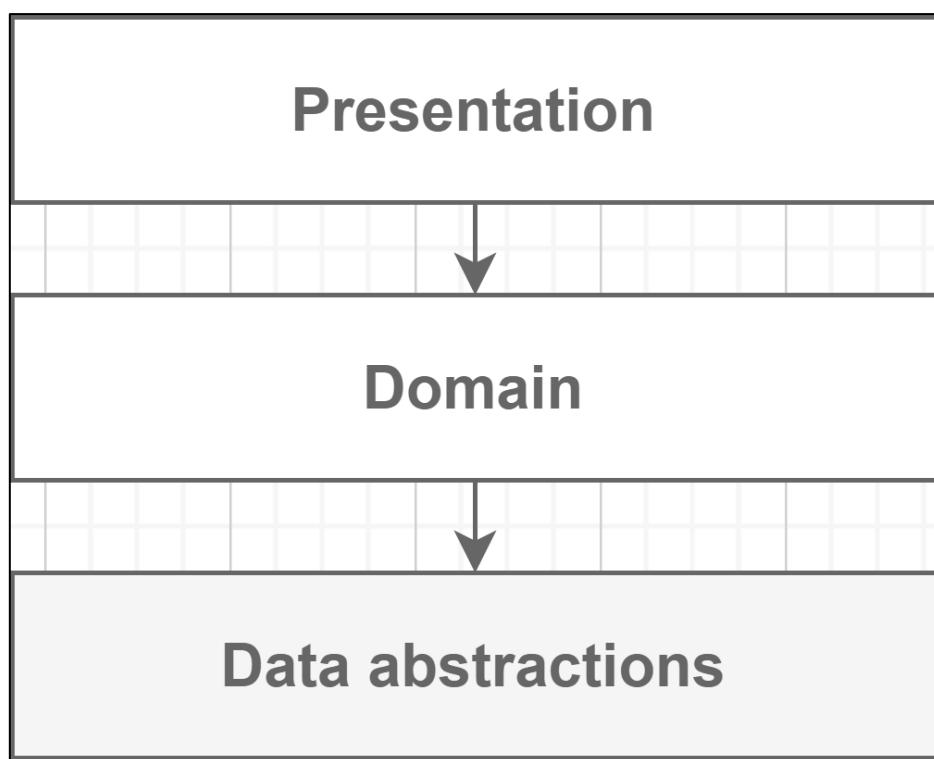
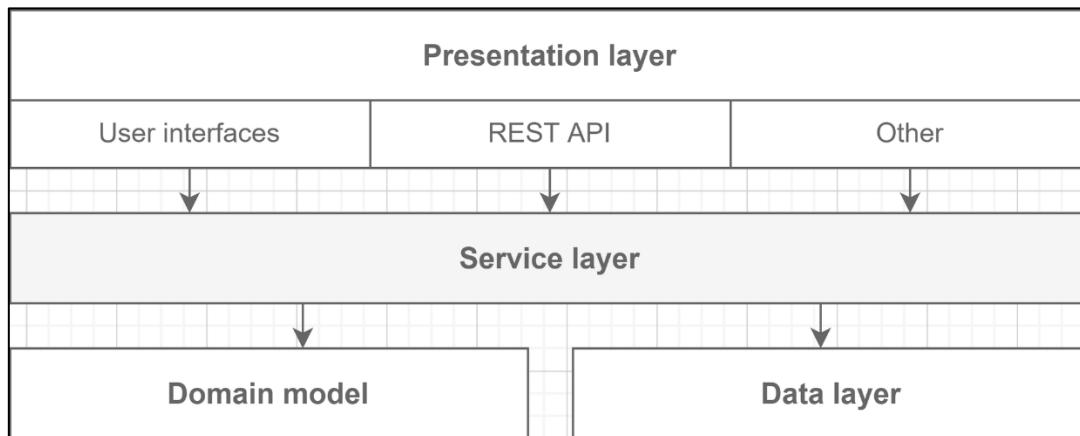
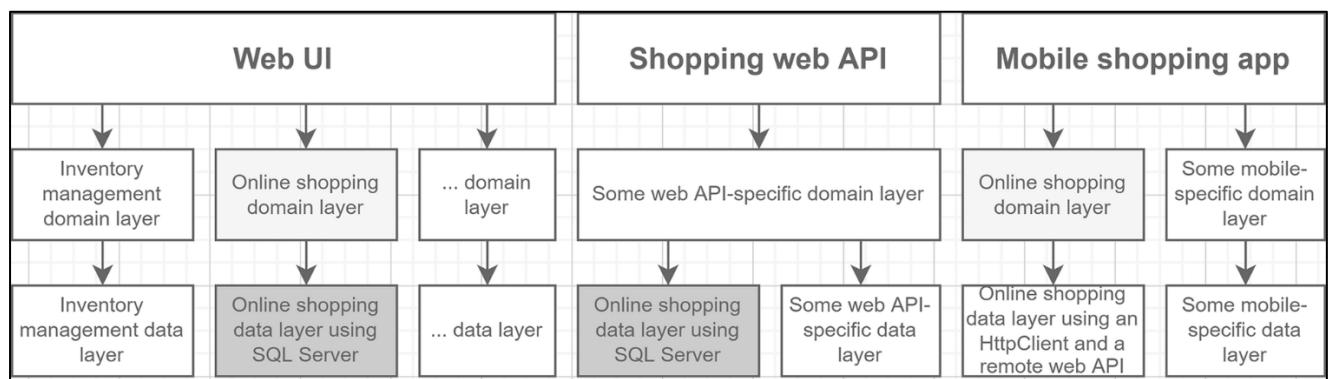


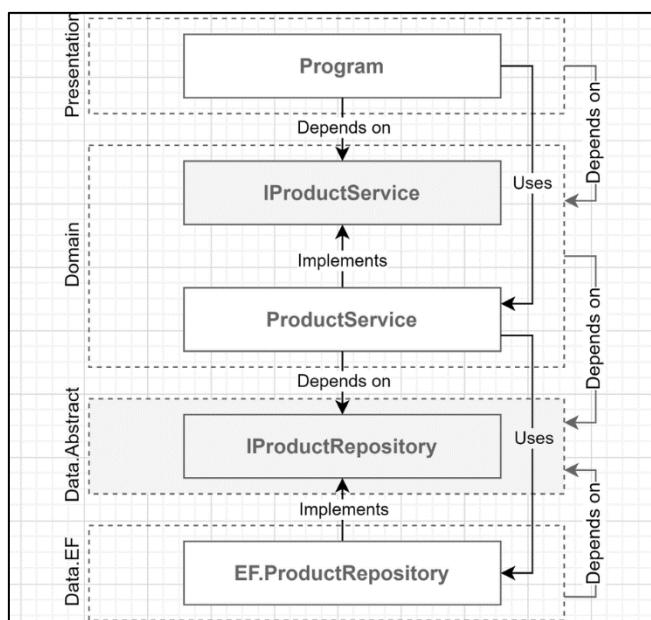
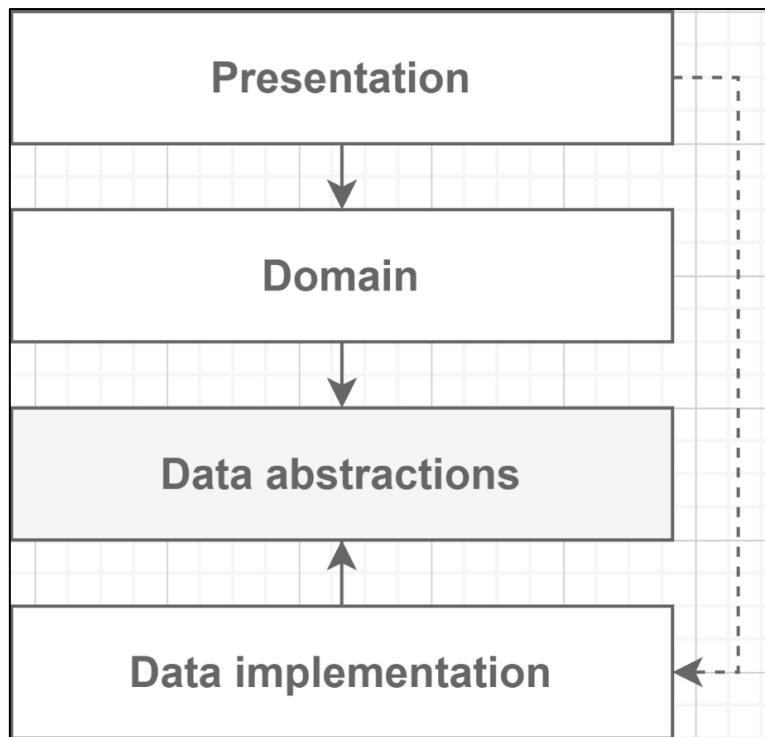
## Chapter 11: Understanding the Operation Result Design Pattern

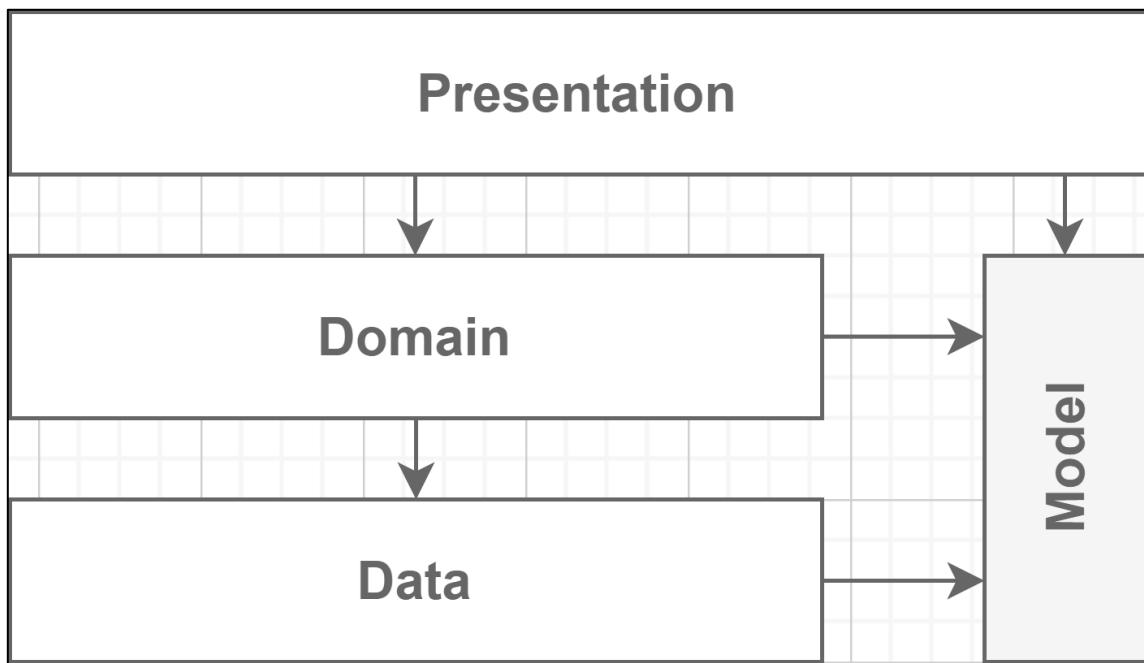
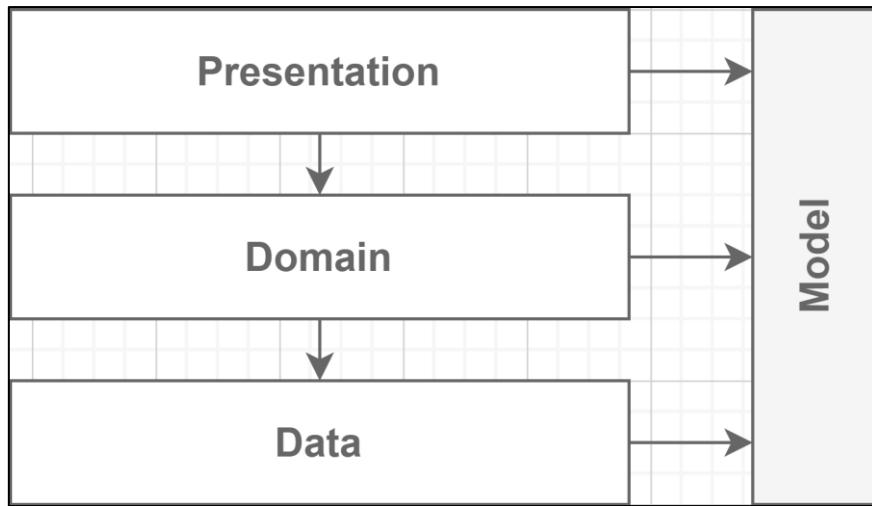


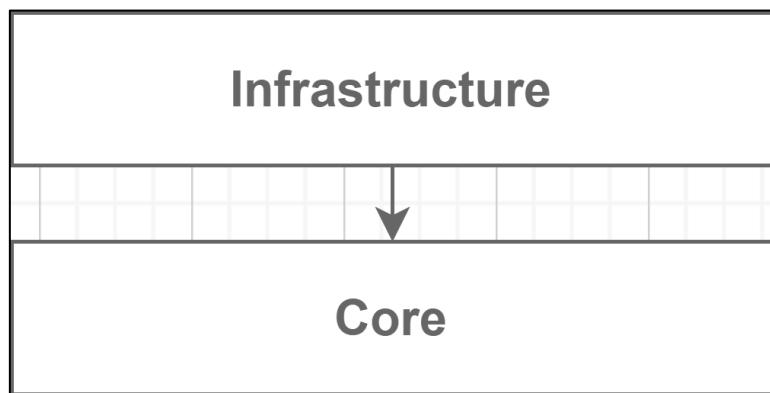
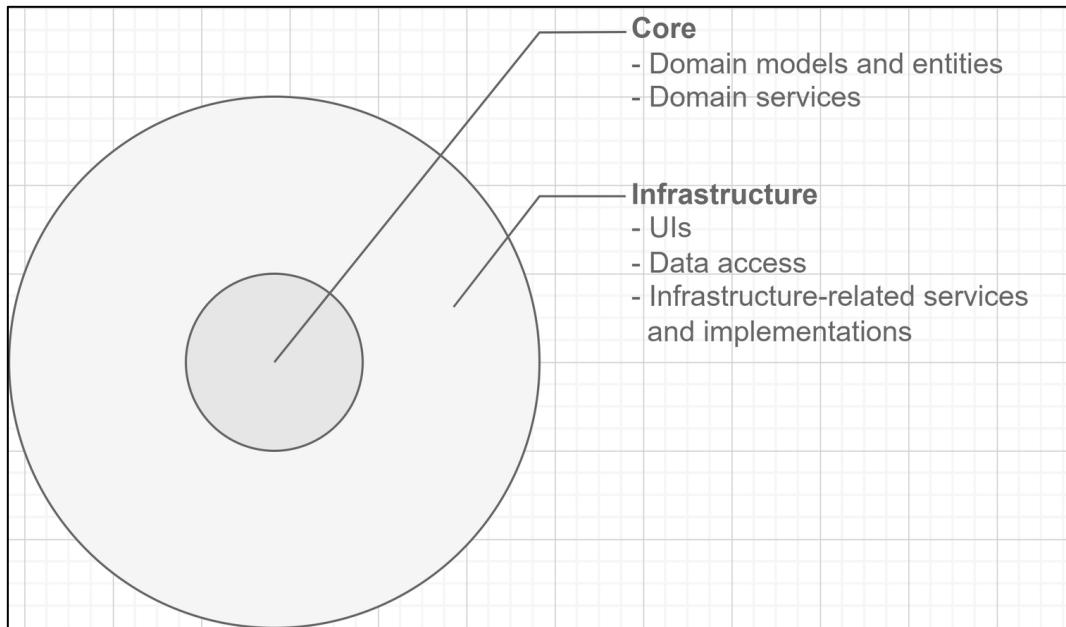
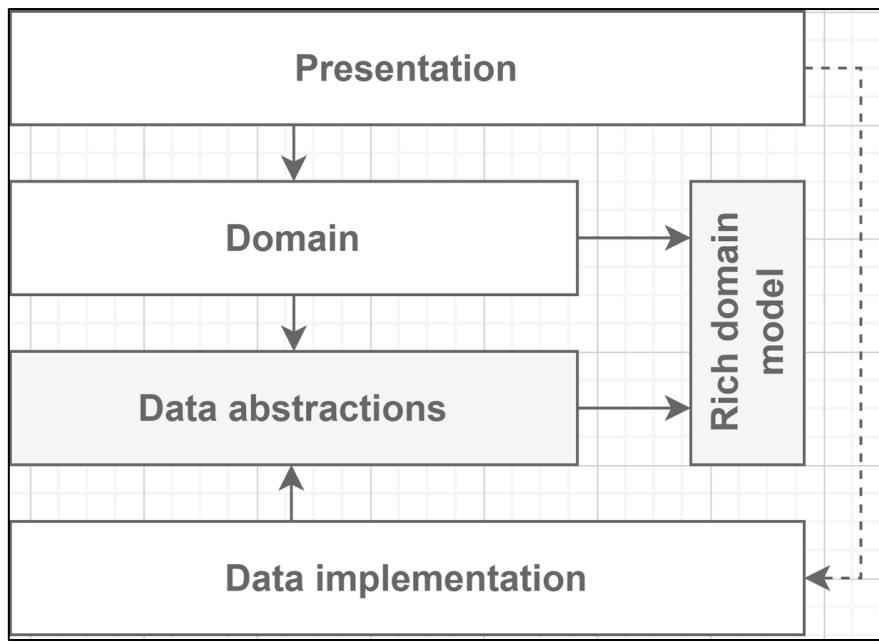
# Chapter 12: Understanding Layering

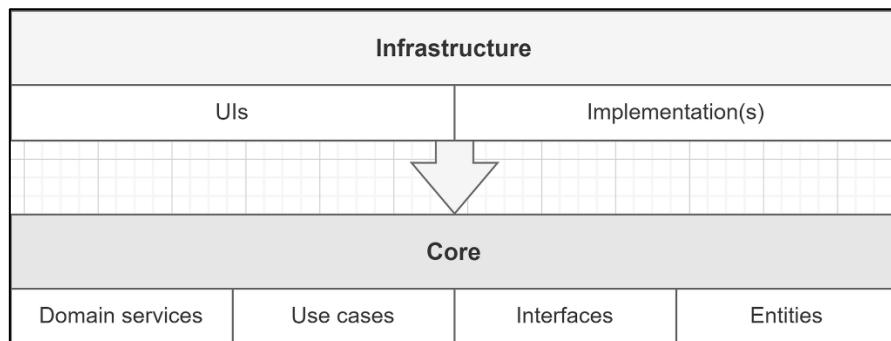
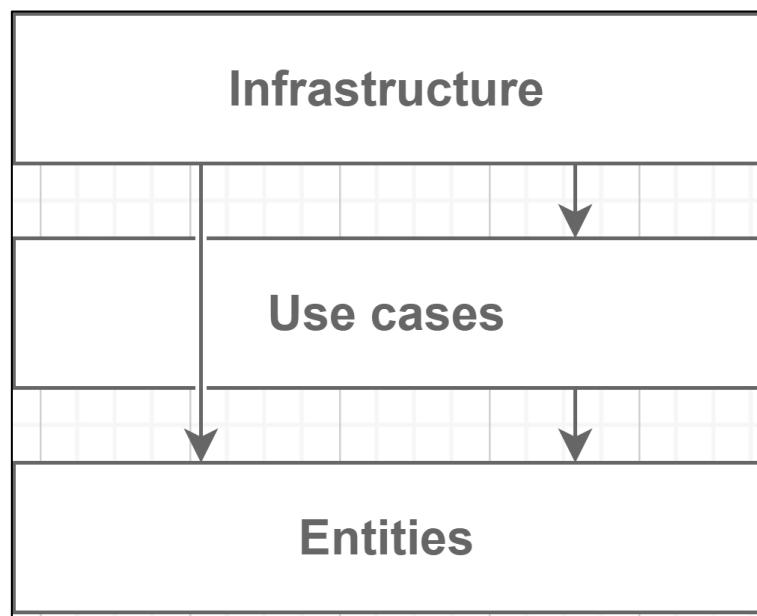
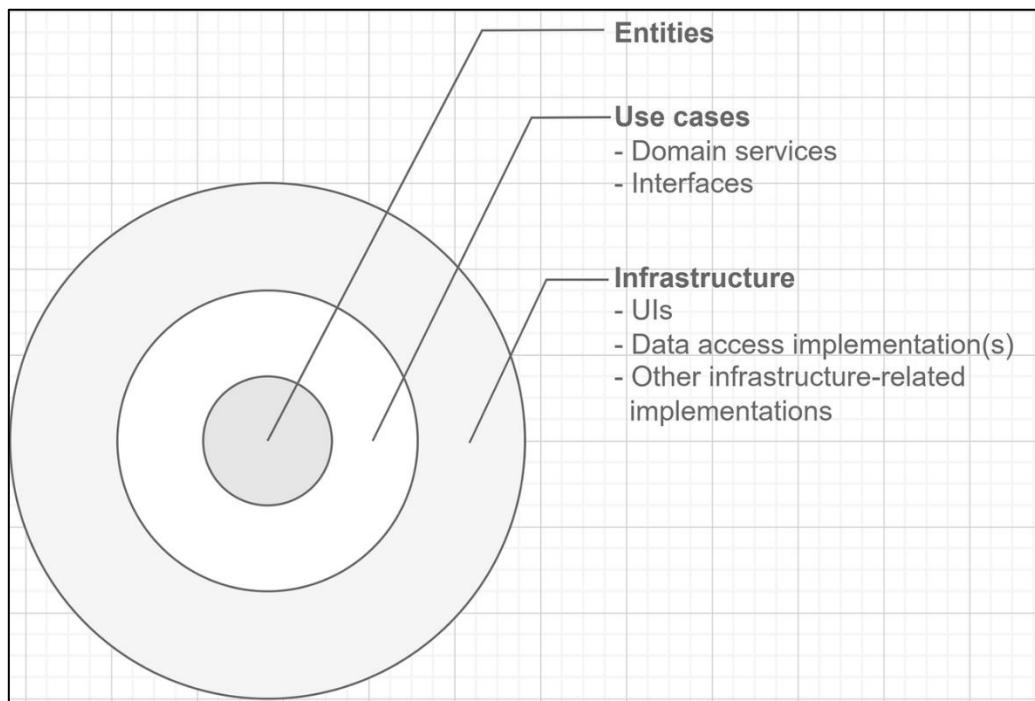


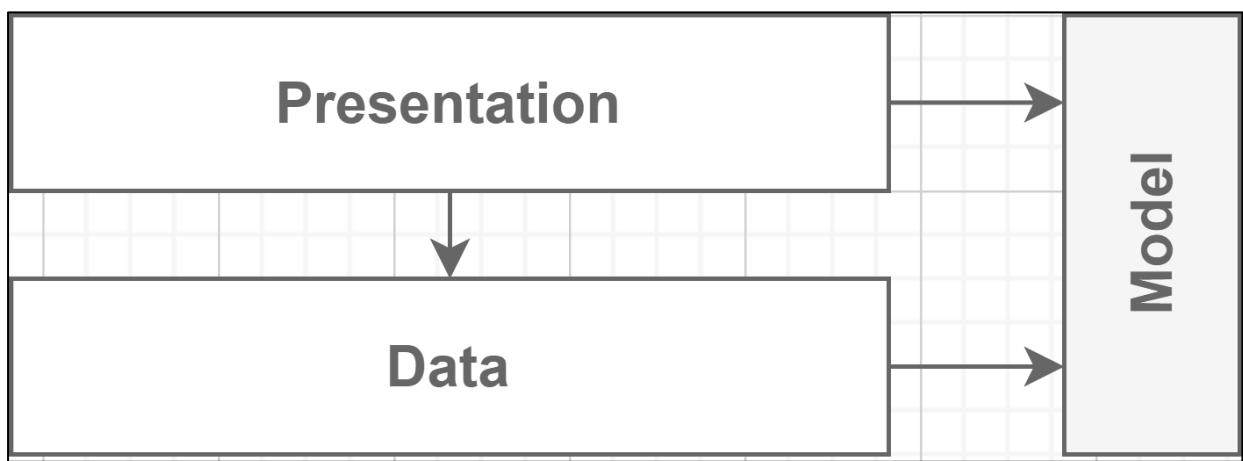
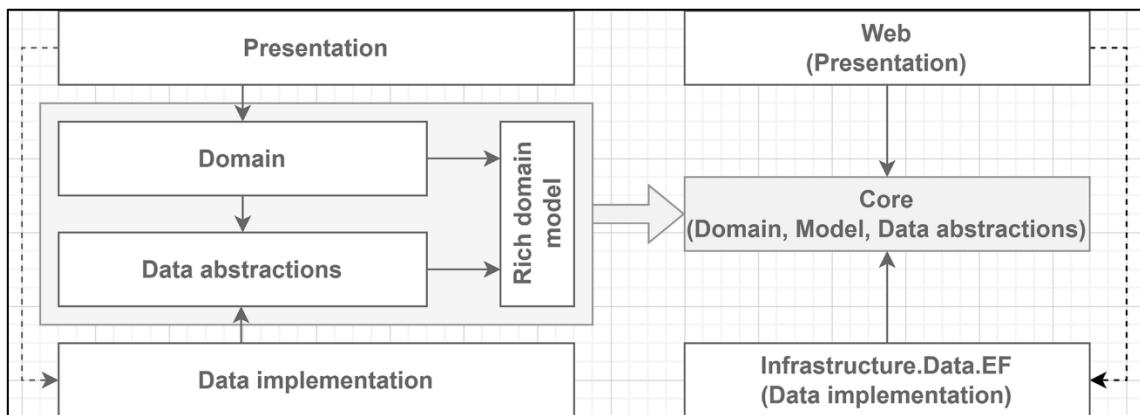




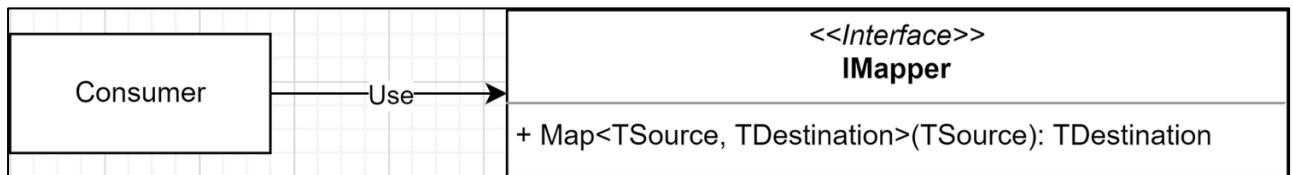
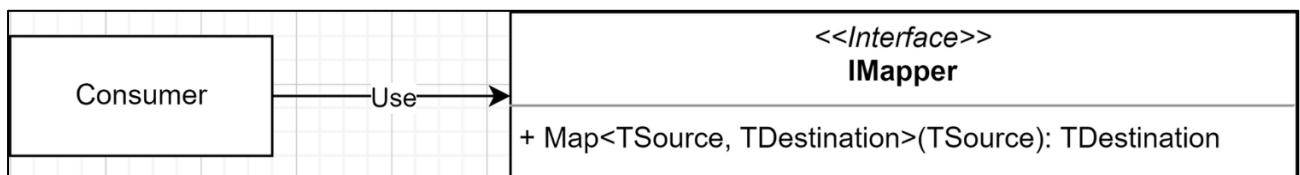
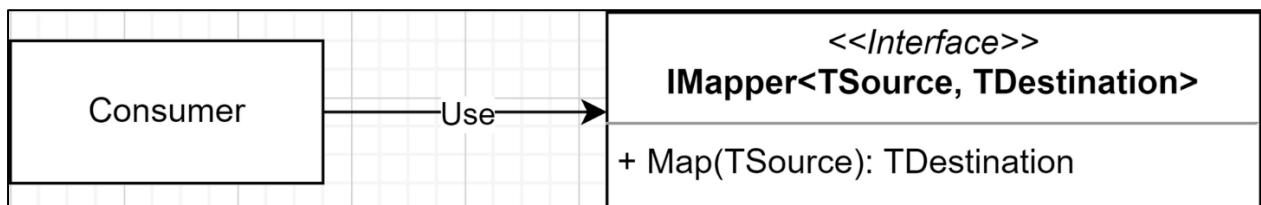
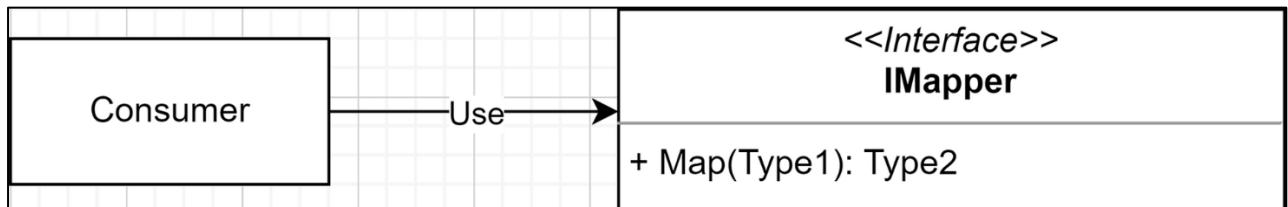




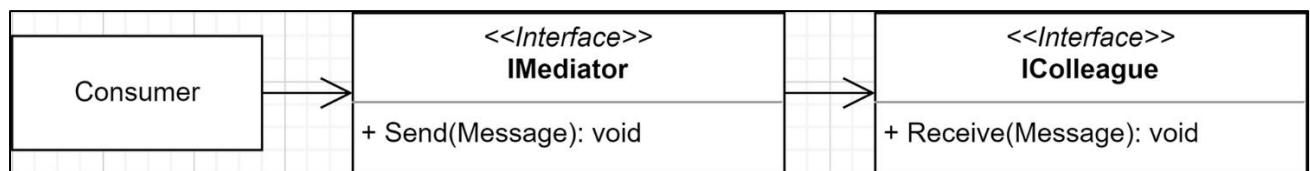
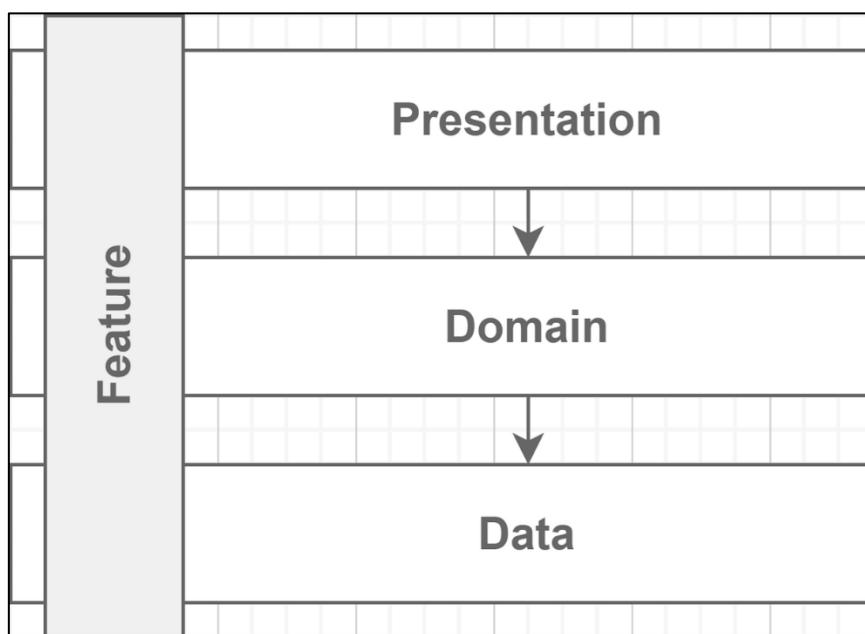
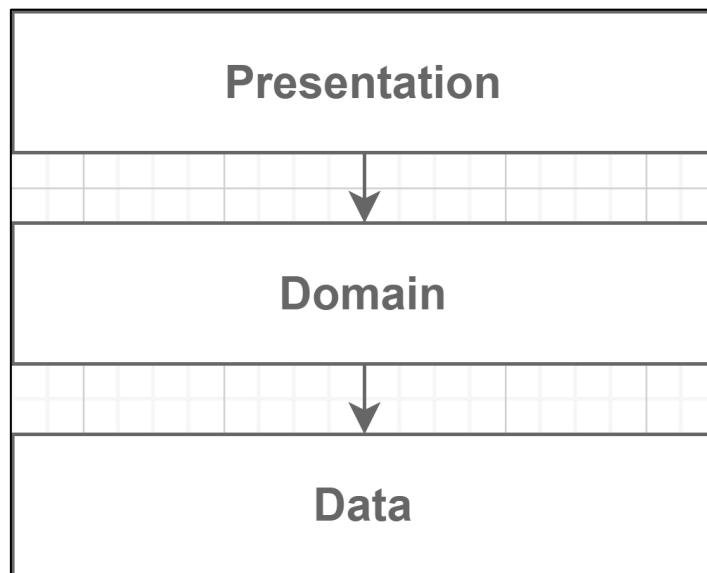


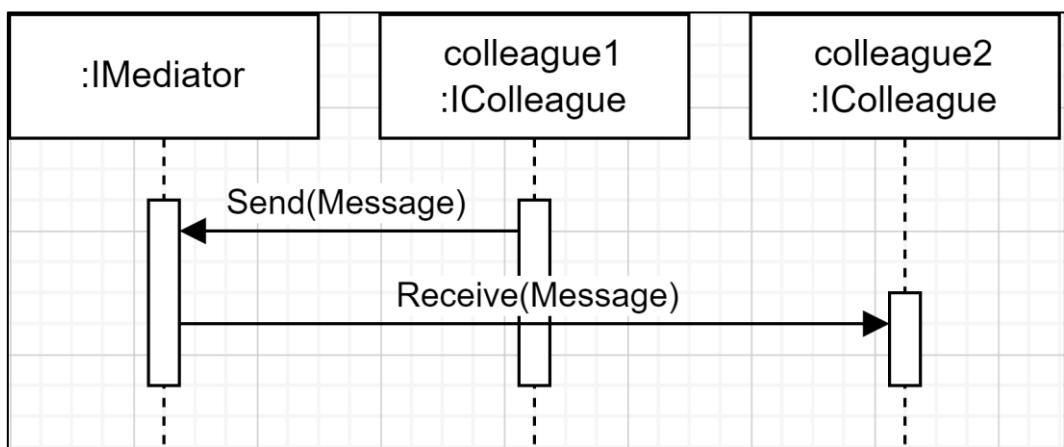
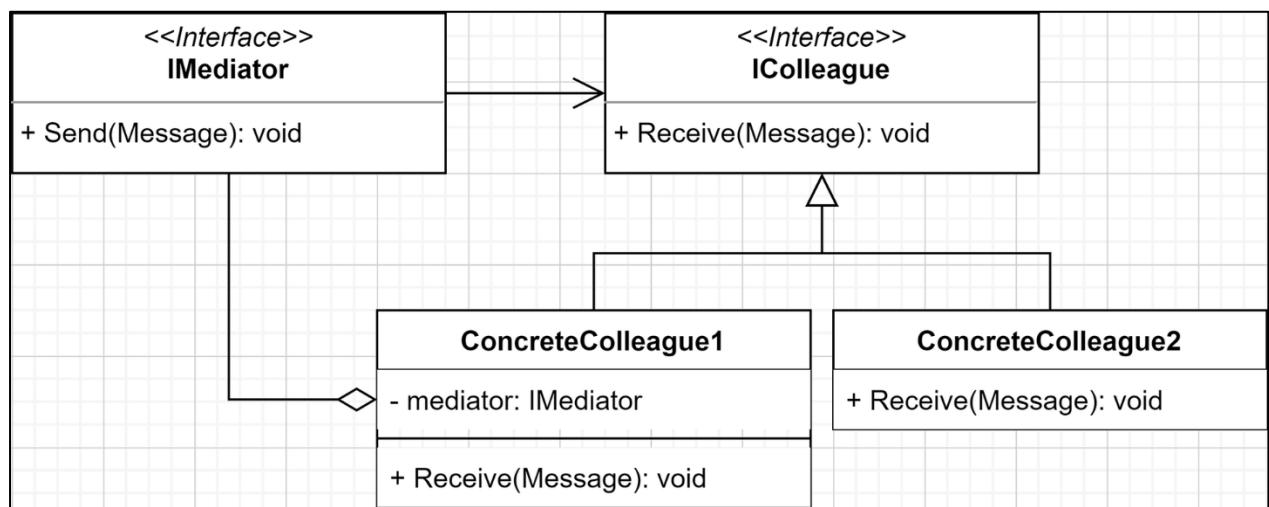
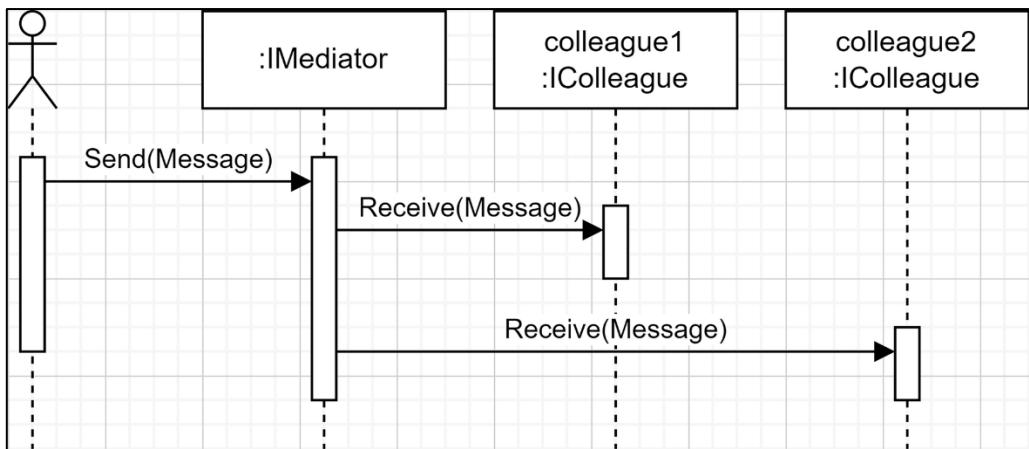


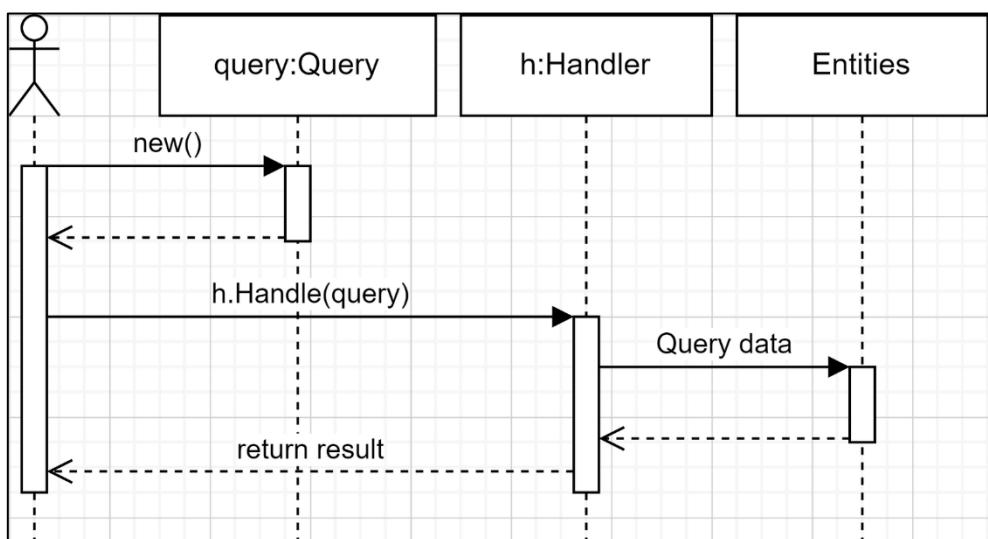
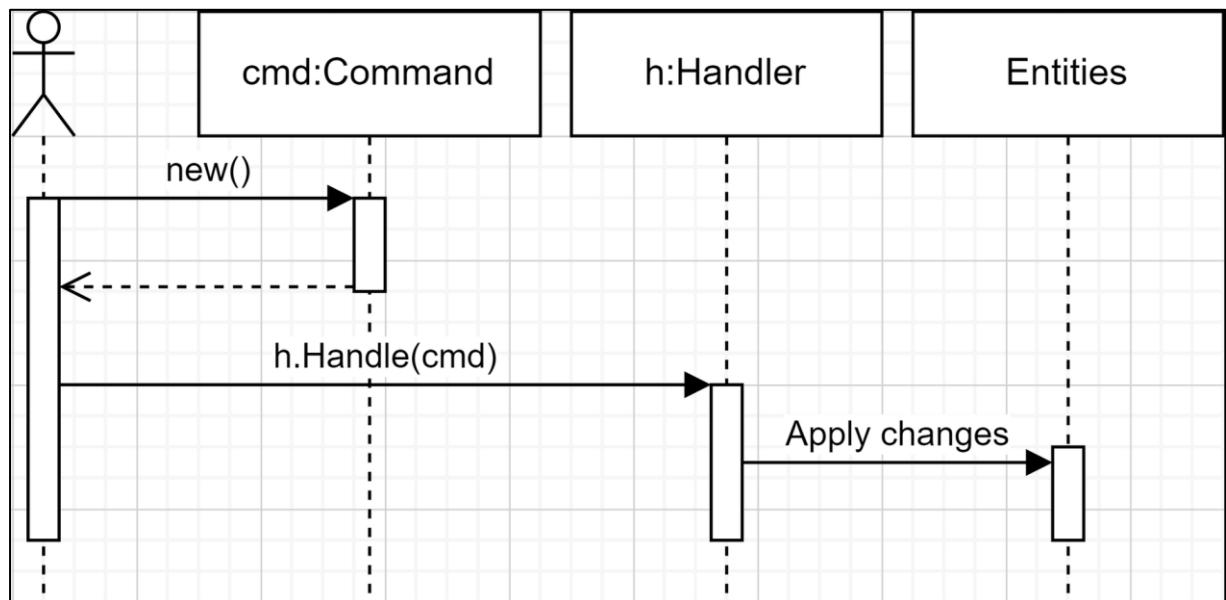
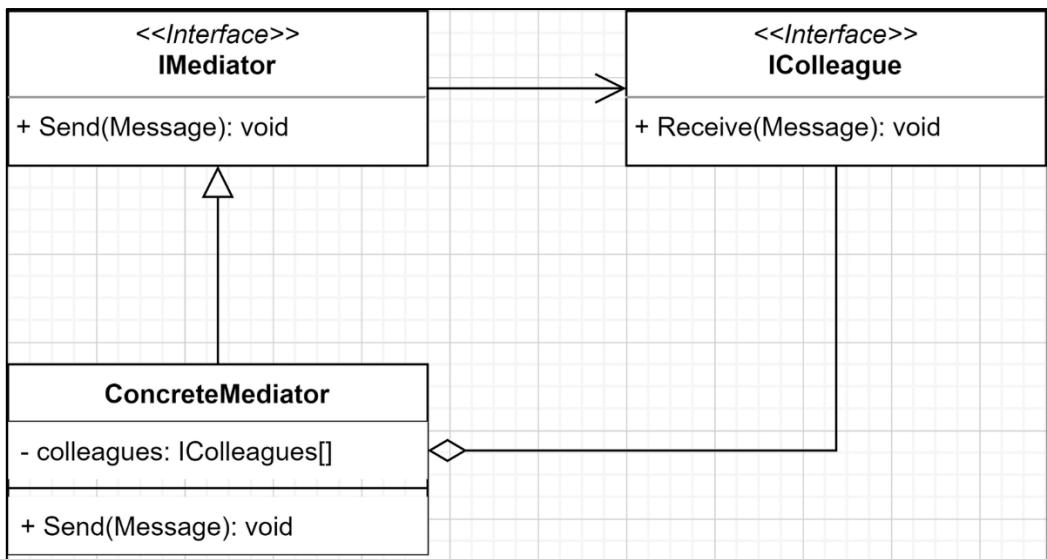
## Chapter 13: Getting Started with Object Mappers

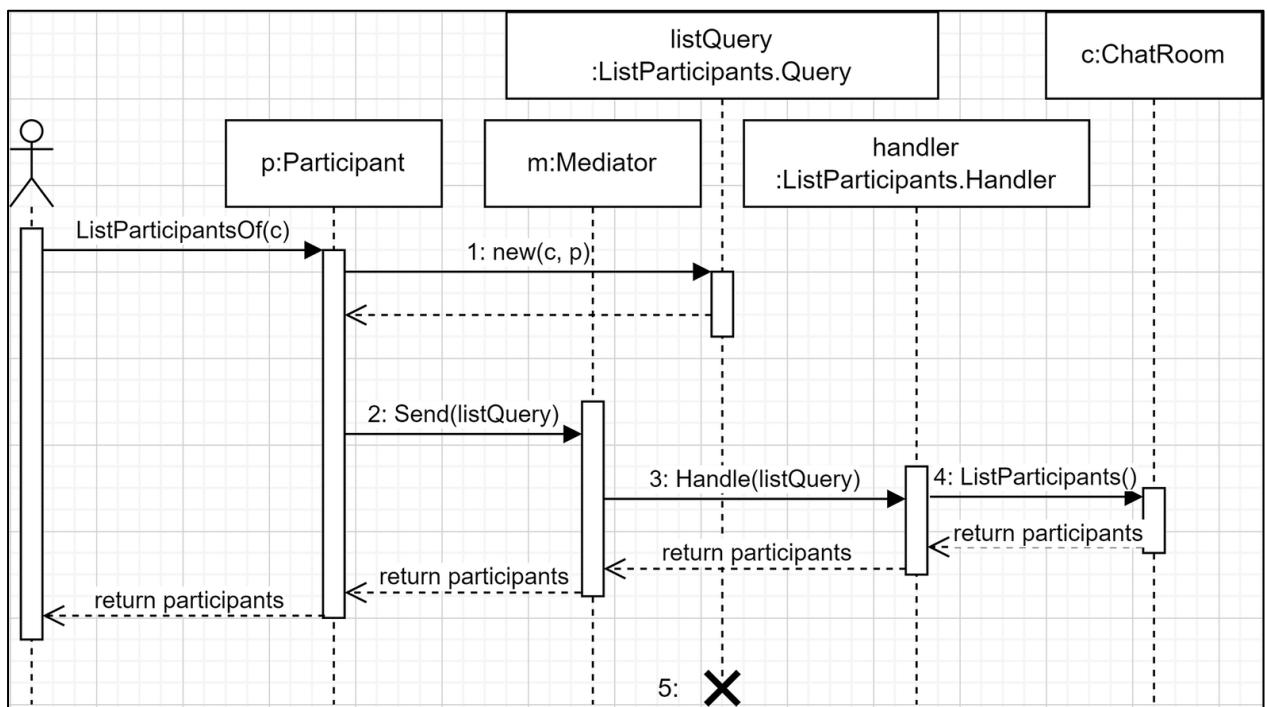
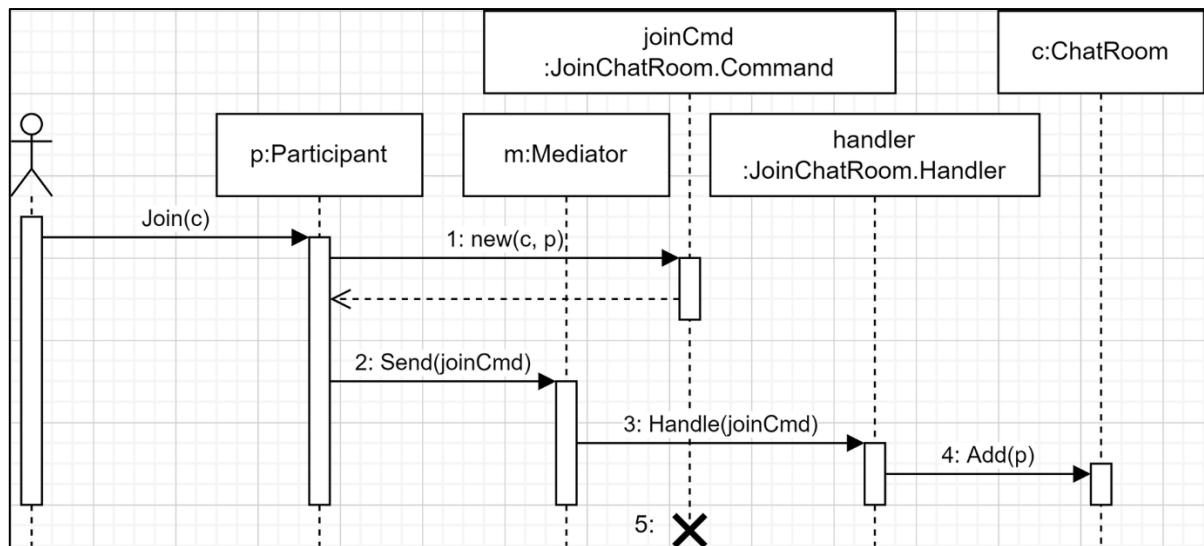


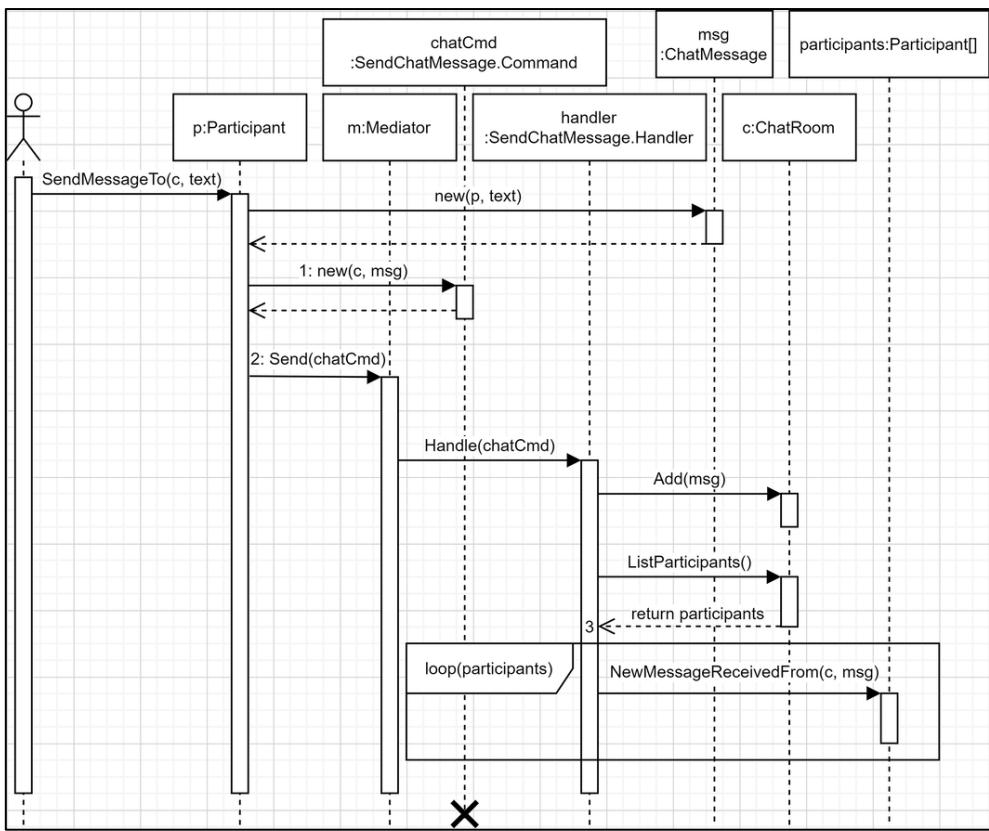
## Chapter 14: Mediator and CQRS Design Patterns



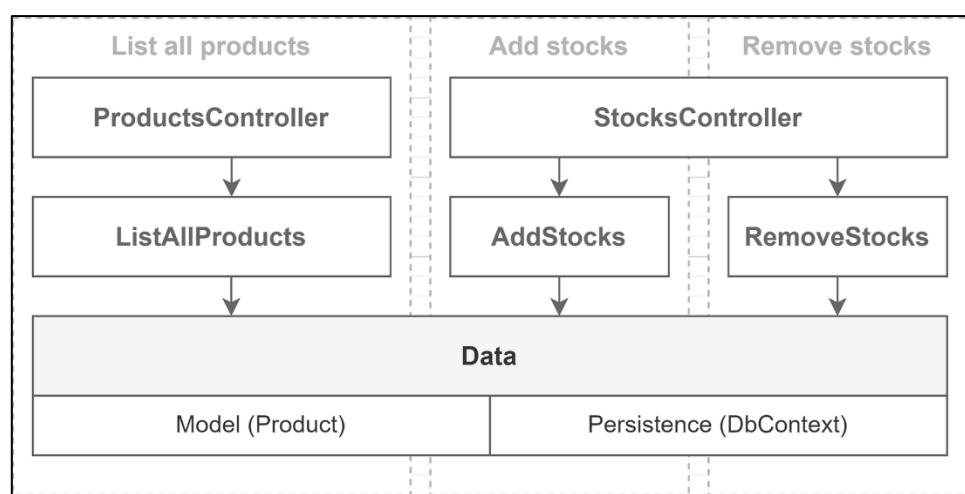
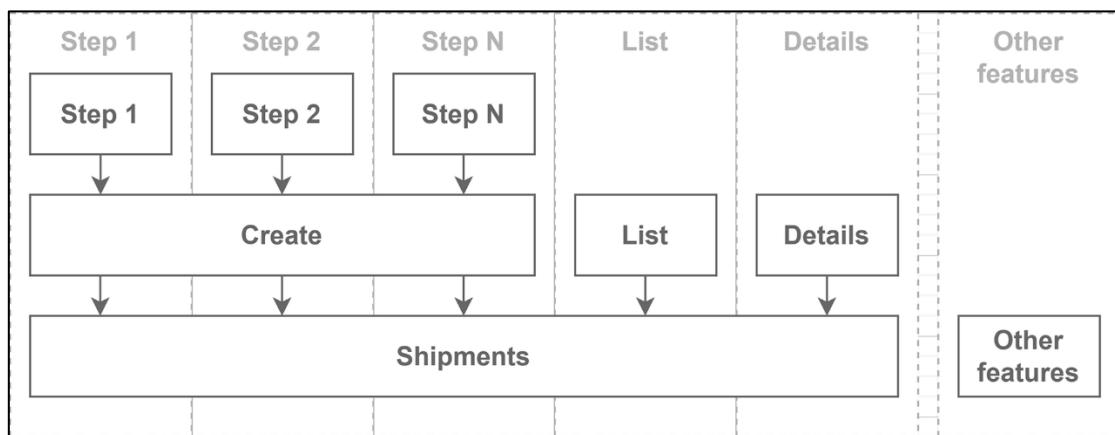
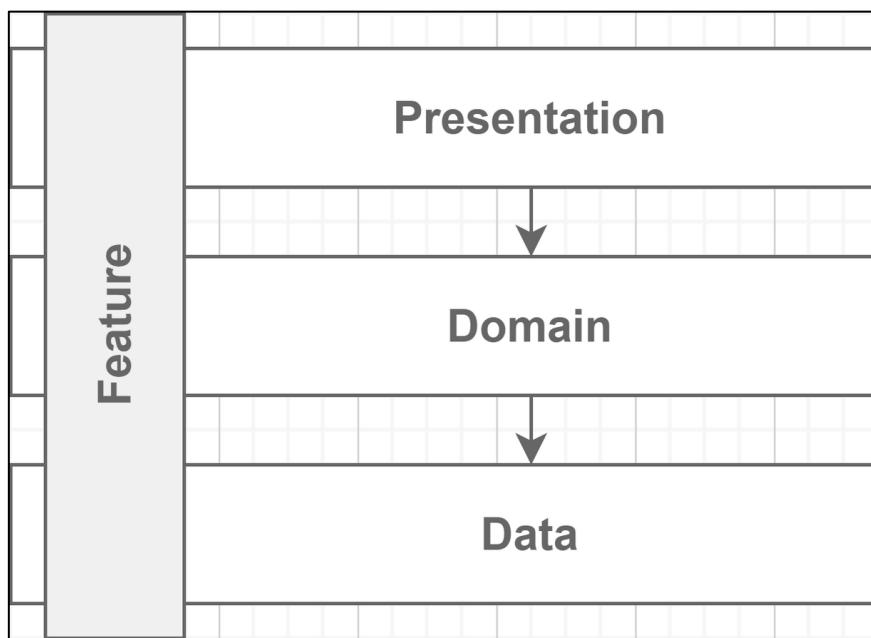






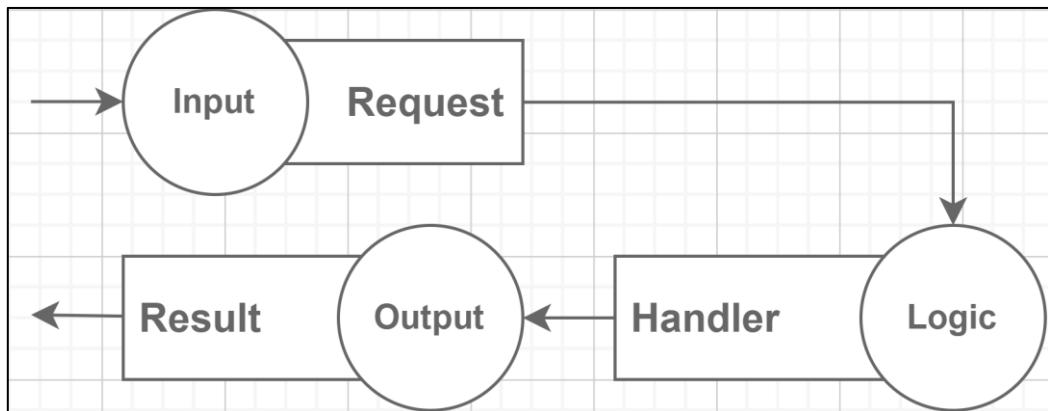


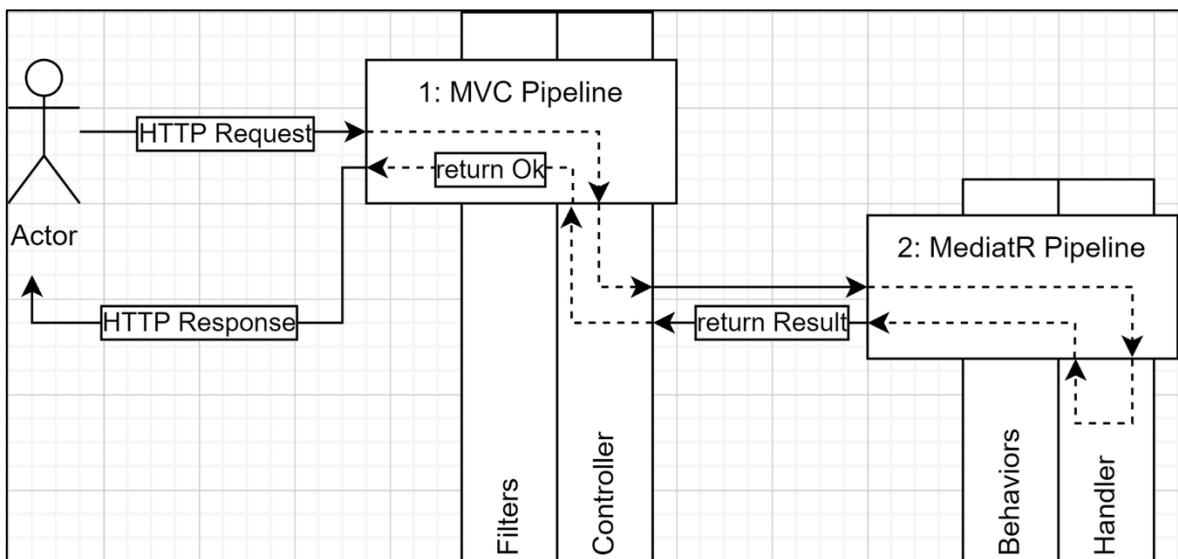
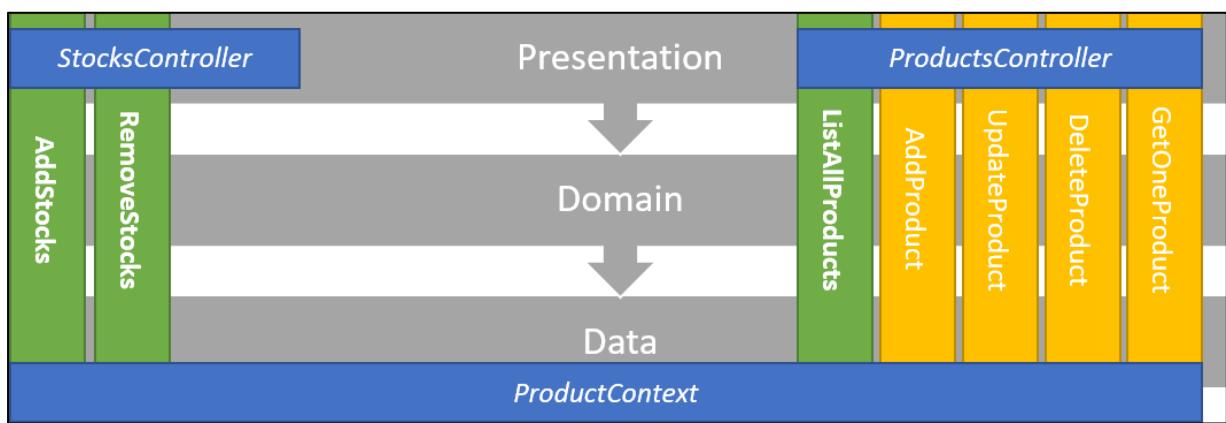
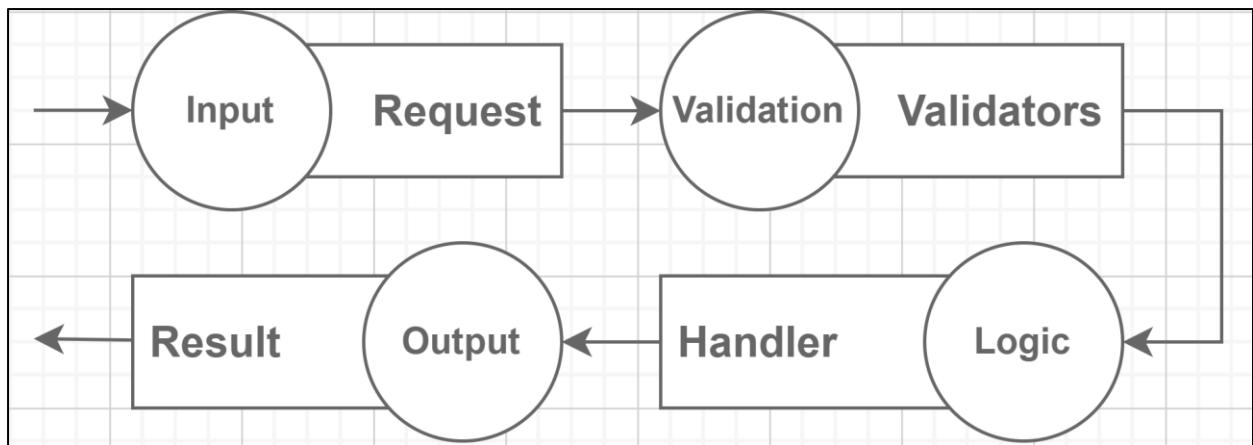
## Chapter 15: Getting Started with Vertical Slice Architecture

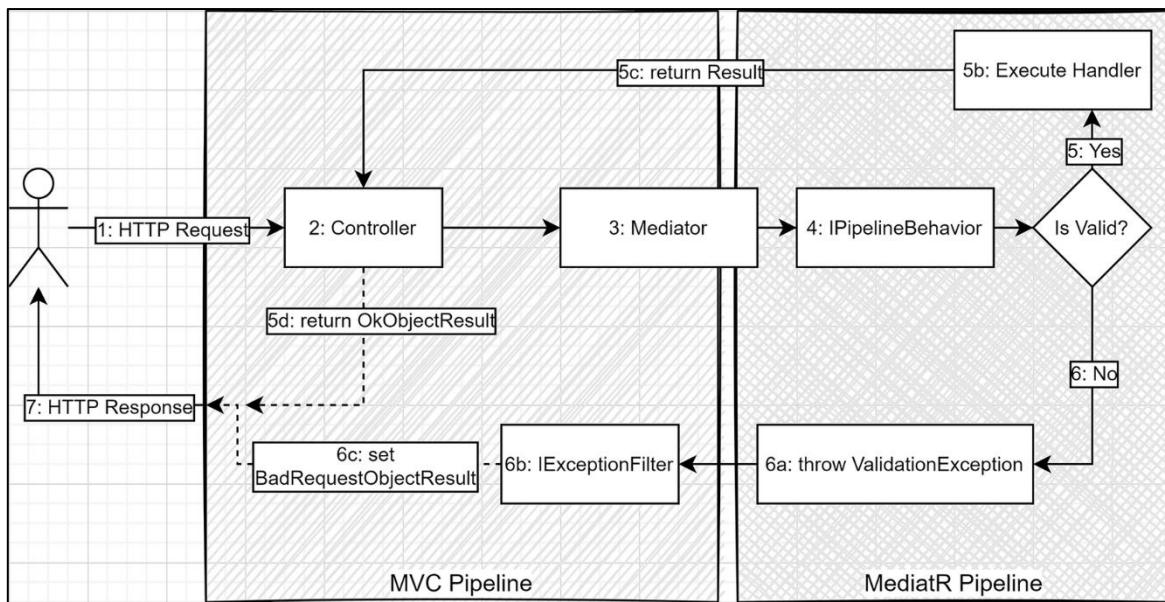


Solution 'Vertical Slice Architecture' (2 of 2 projects)

- src
  - VerticalApp
    - Connected Services
    - Dependencies
    - Properties
    - Data
      - ProductContext.cs
      - ProductSeeder.cs
    - Features
      - Products
        - ListAllProducts.cs
        - ProductsController.cs
      - Stocks
        - AddStocks.cs
        - NotEnoughStockException.cs
        - RemoveStocks.cs
        - StocksController.cs
        - ProductNotFoundException.cs
    - Models
      - Product.cs
      - appsettings.json
      - FluentValidationExceptionFilter.cs
      - Program.cs
      - ThrowFluentValidationExceptionBehavior.cs







```

1  FluentValidation.ValidationException: Validation Failed:
2    -- Amount: 'Amount' must be greater than '0'.
3    at verticalApp.ThrowFluentValidationExceptionBehavior`2.
4      Core\C14\Vertical Slice Architecture\src\VerticalApp\
5    at MediatR.Internal.RequestHandlerWrapperImp`2.<>c__.
6    at MediatR.Pipeline.RequestExceptionProcessorBehavior`2.
7    at MediatR.Pipeline.RequestExceptionProcessorBehavior`2.
8    at MediatR.Pipeline.RequestExceptionActionProcessor

```

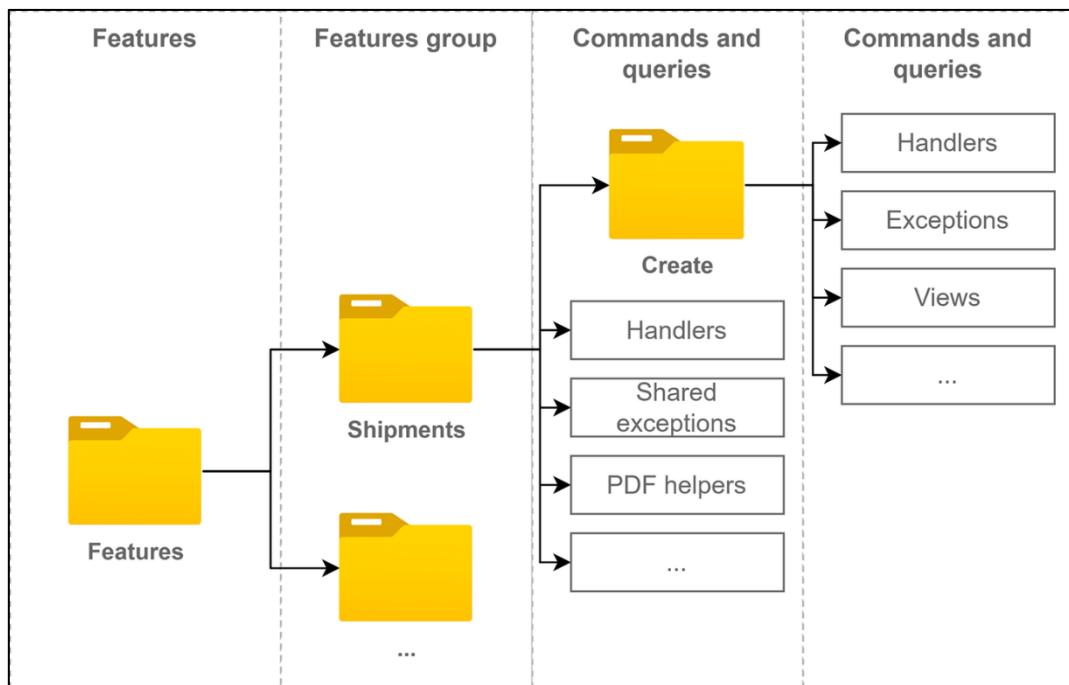
400 Bad Request 178 ms 608 B | Save Response ▾

Pretty Raw Preview Visualize JSON ↴

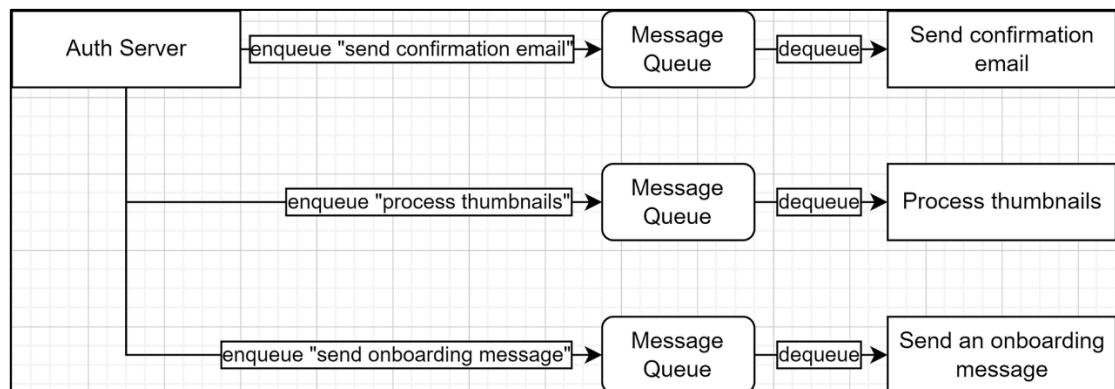
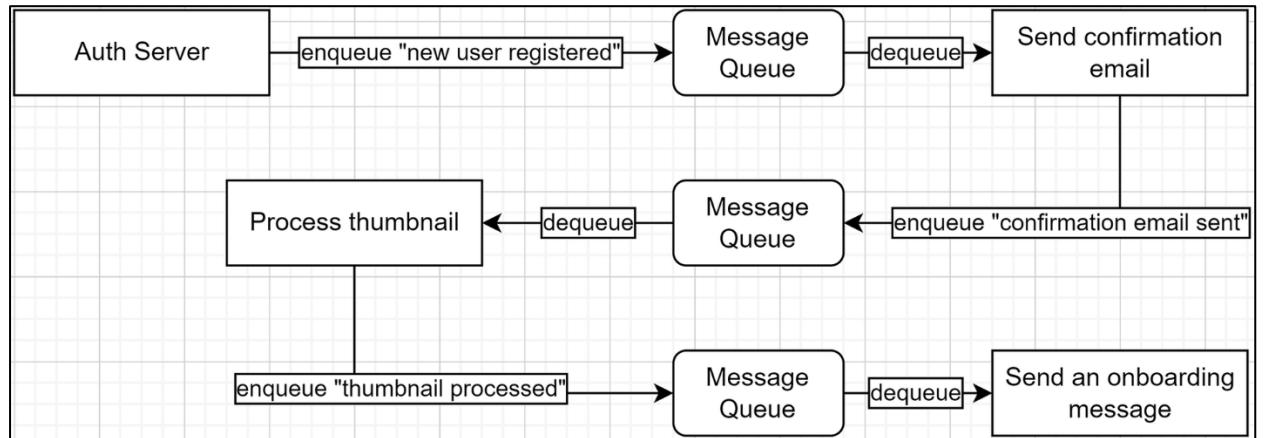
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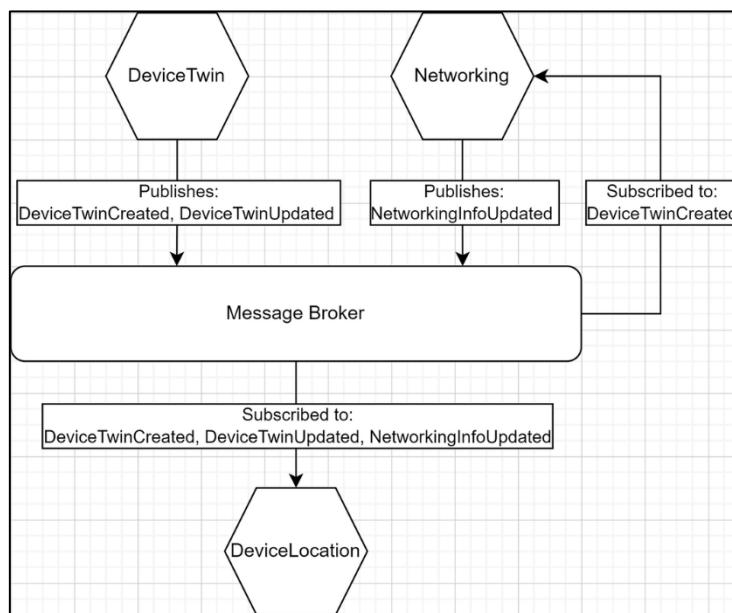
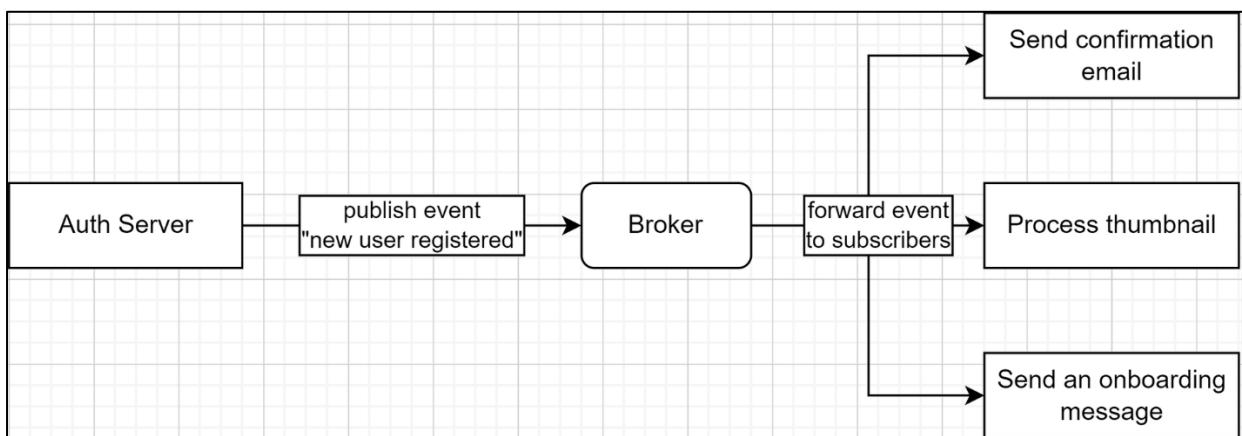
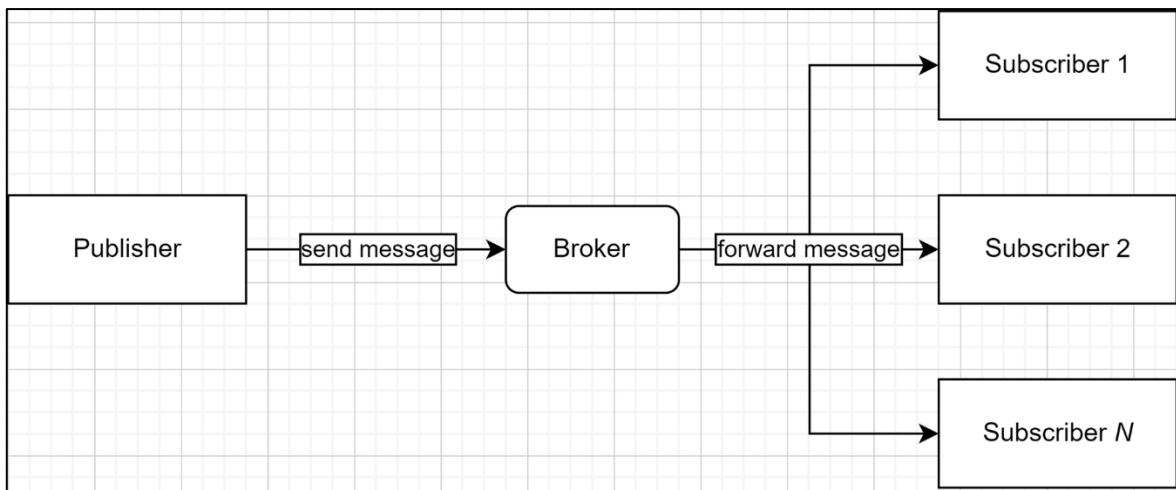
1  [
2      "message": "Validation failed: \r\n-- Amount: 'Amount' must be greater than '0'.",
3      "errors": [
4          {
5              "propertyName": "Amount",
6              "errorMessage": "'Amount' must be greater than '0'.",
7              "attemptedValue": 0,
8              "customState": null,
9              "severity": 0,
10             "errorCode": "GreaterThanValidator",
11             "formattedMessageArguments": [],
12             "formattedMessagePlaceholderValues": {
13                 "ComparisonValue": 0,
14                 "ComparisonProperty": "",
15                 "PropertyName": "Amount",
16                 "PropertyValue": 0
17             },
18             "resourceName": "GreaterThanValidator"
19         }
20     ]
21 ]

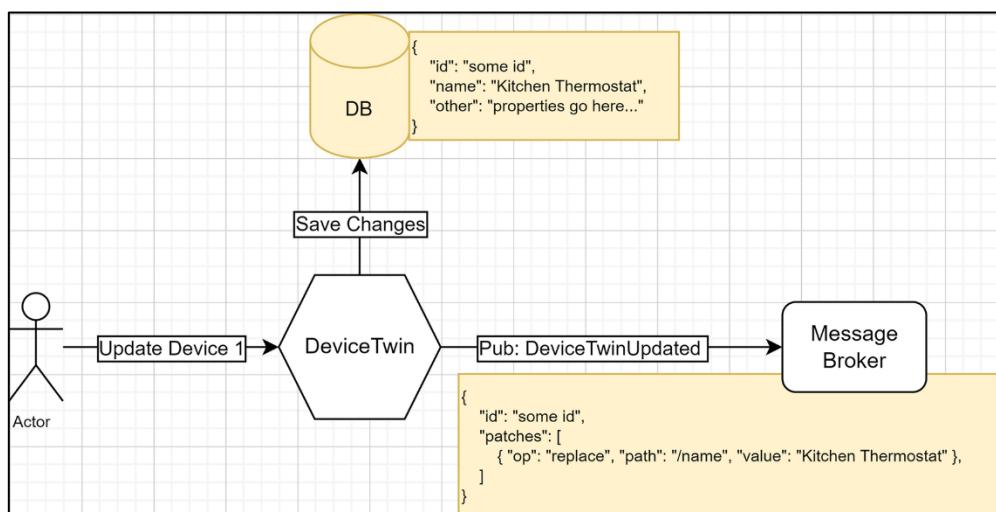
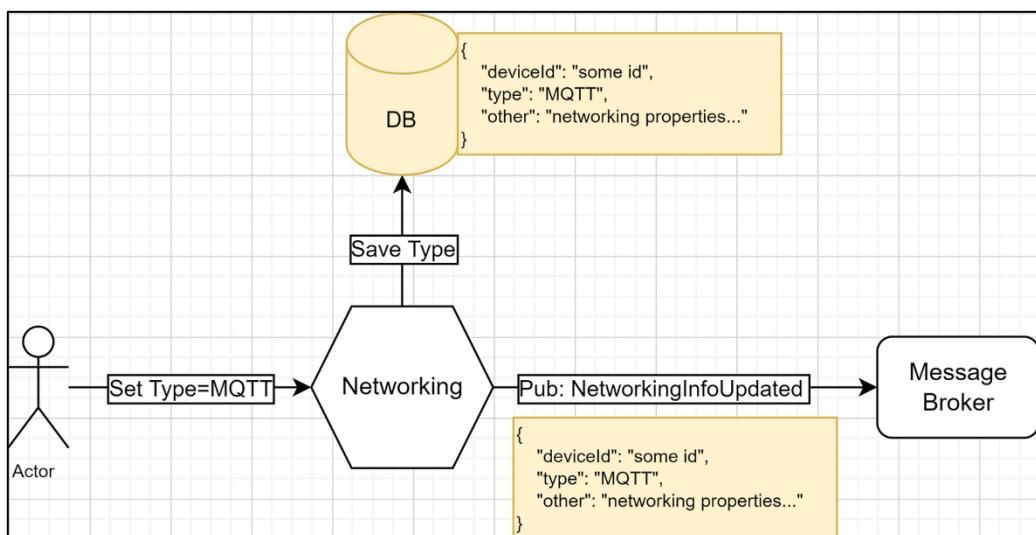
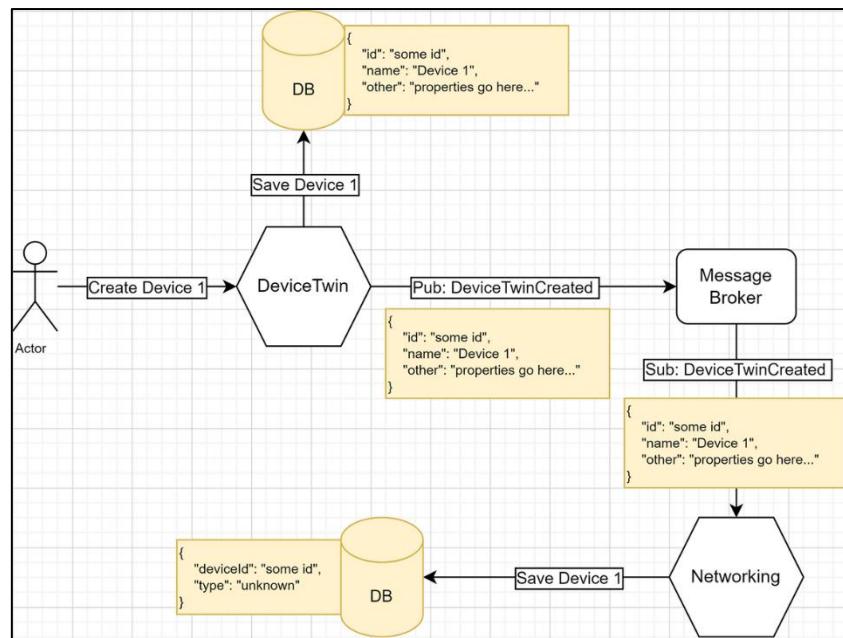
```

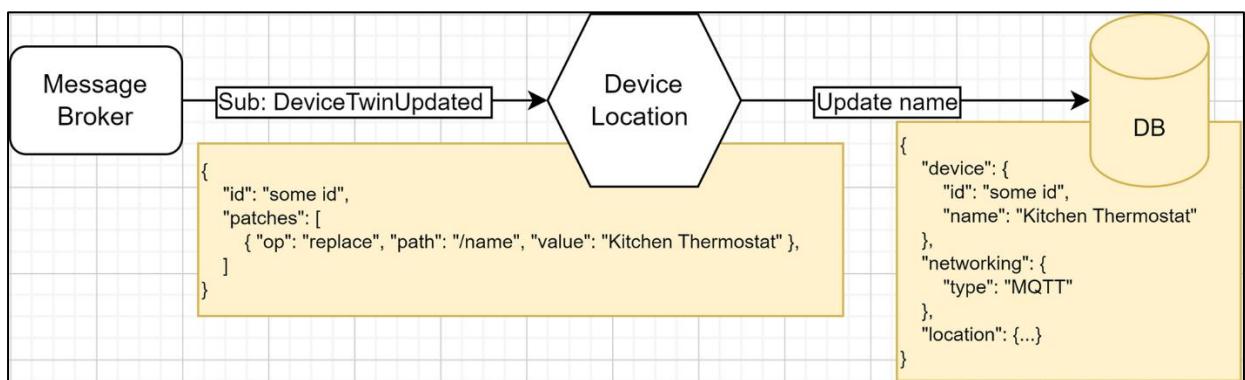
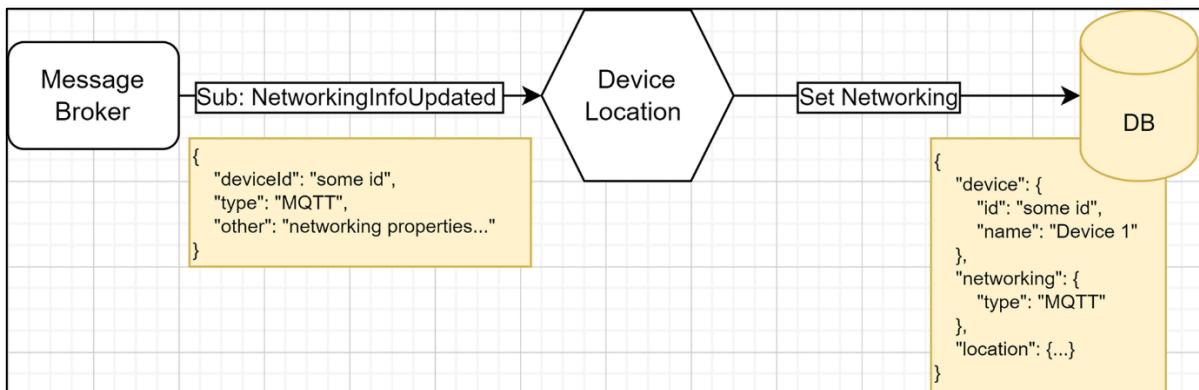
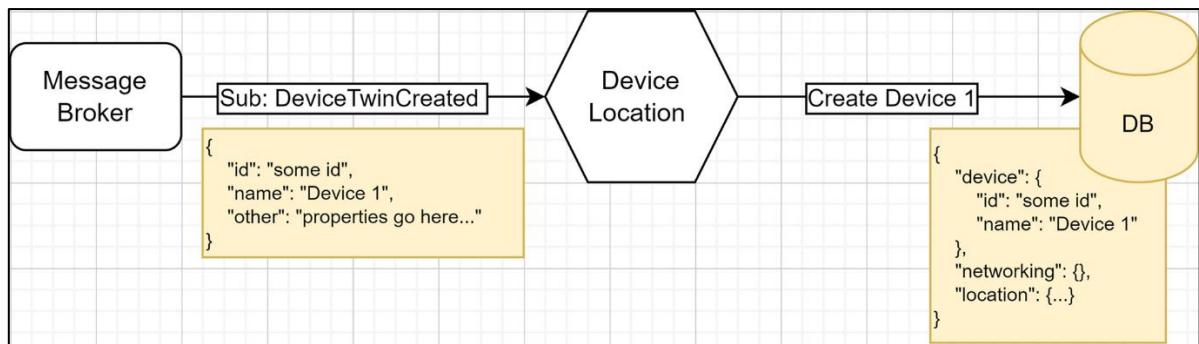


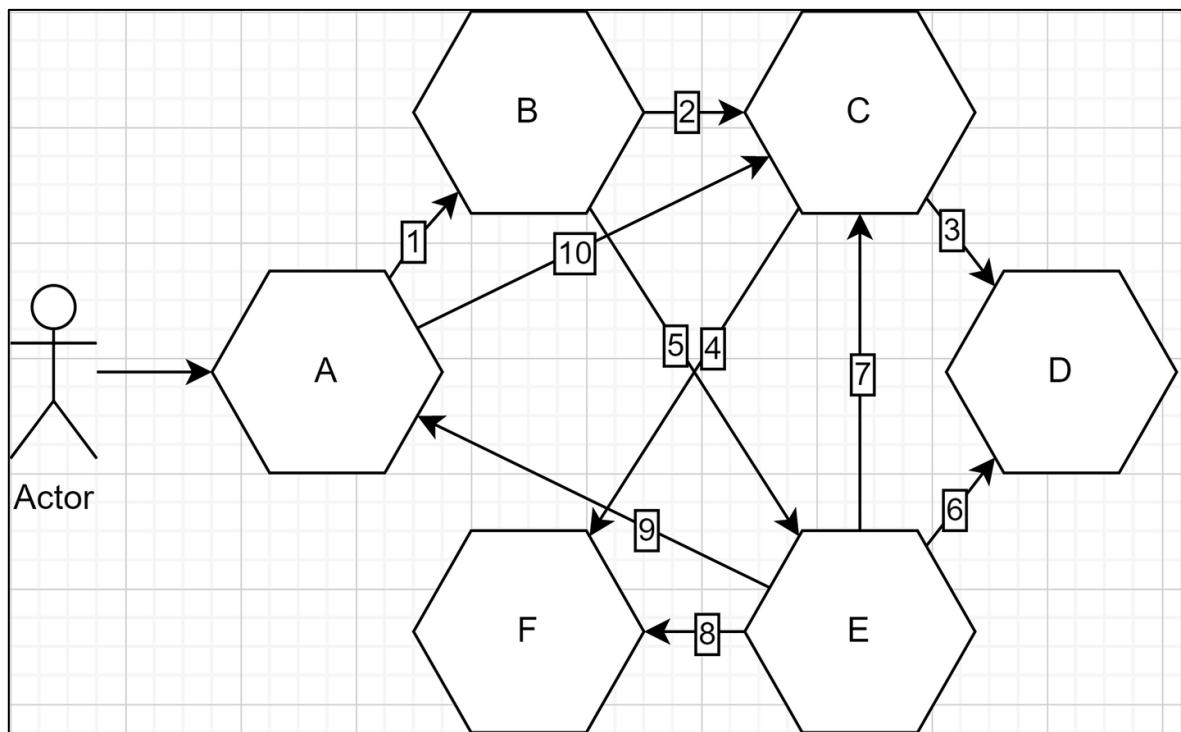
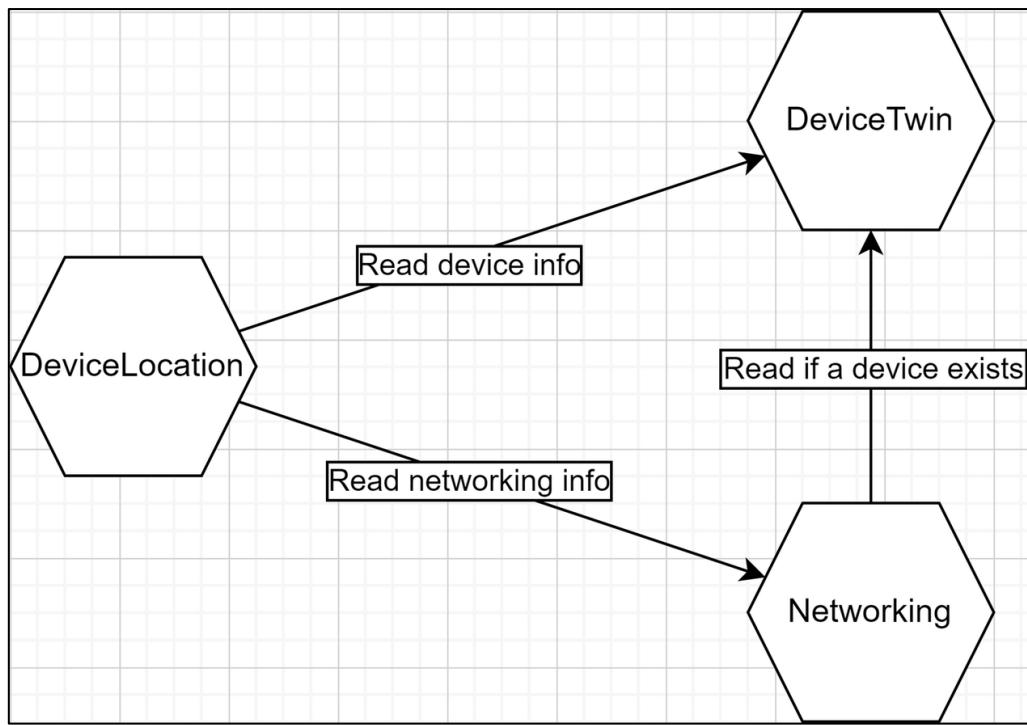
## Chapter 16: Introduction to Microservices Architecture

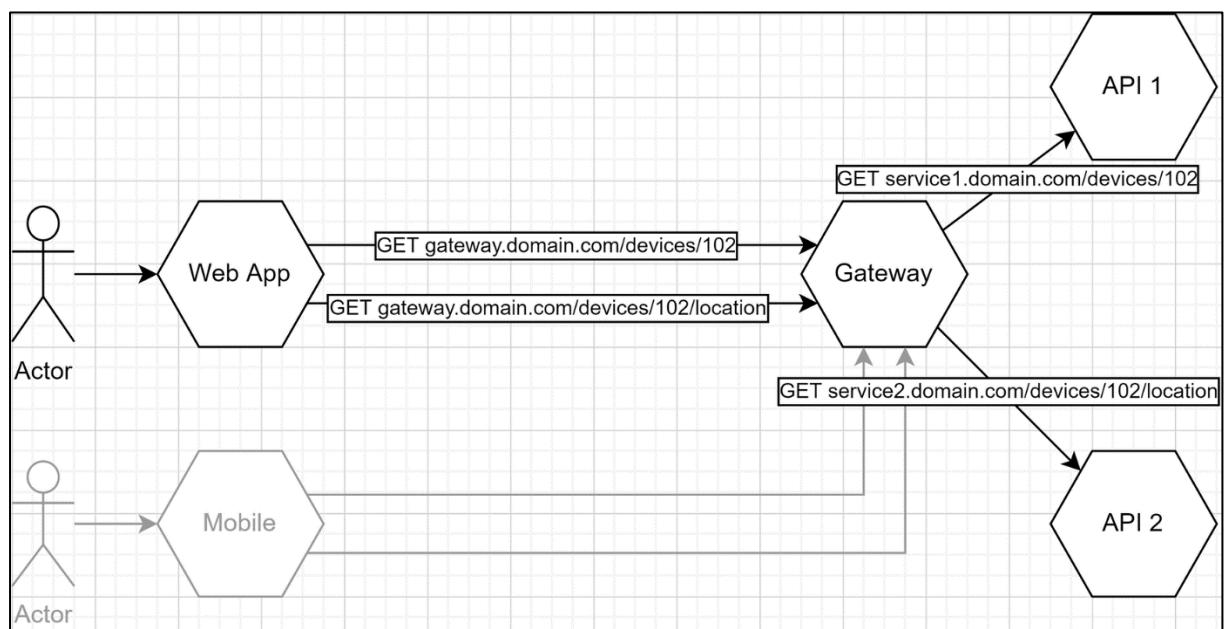
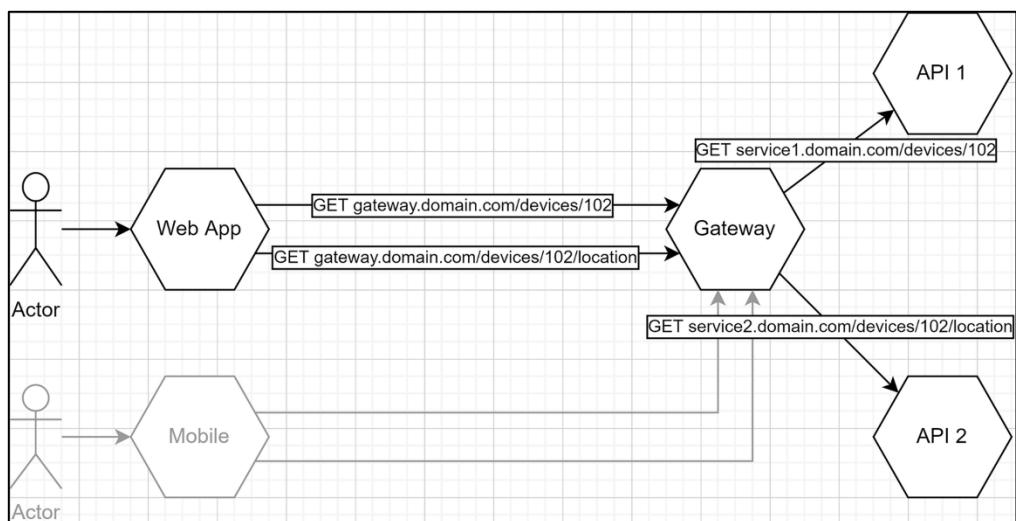
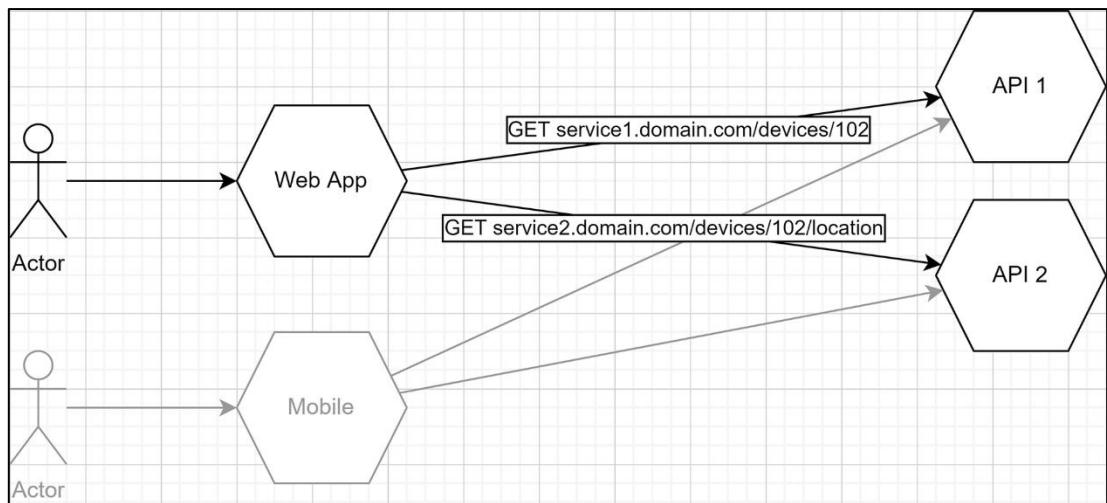


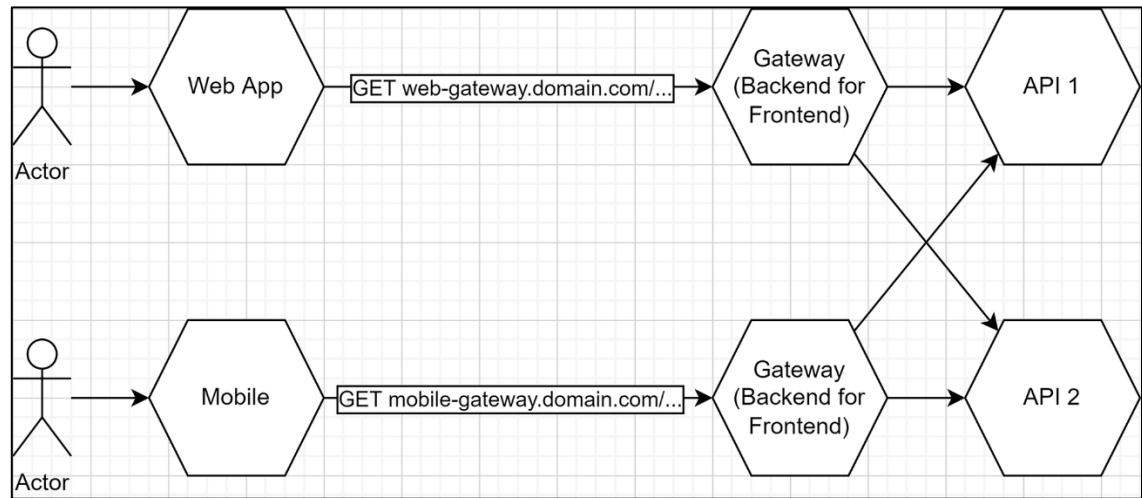
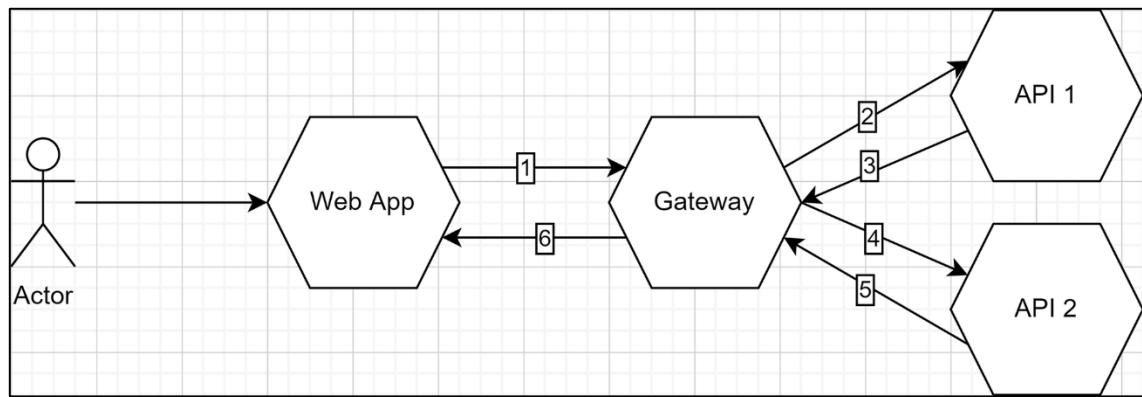
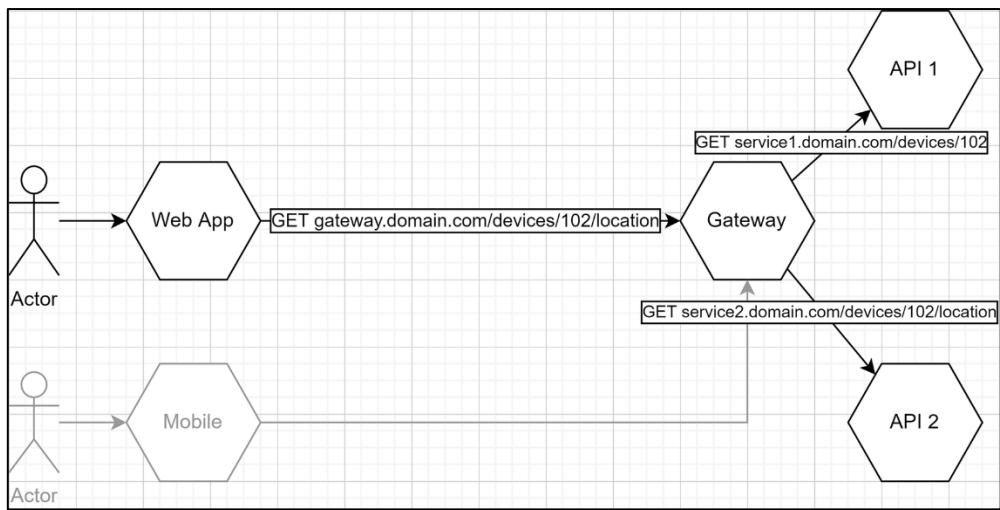


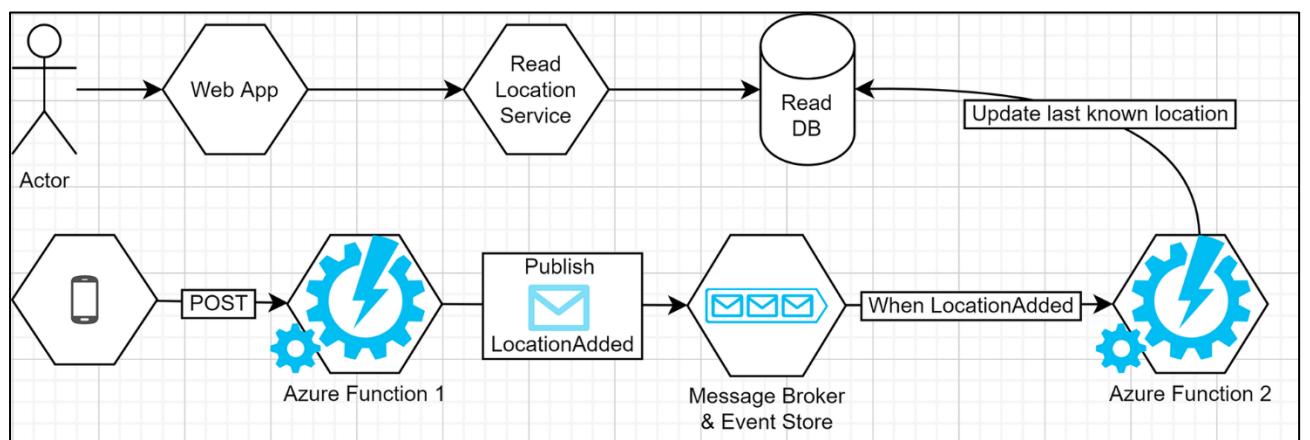
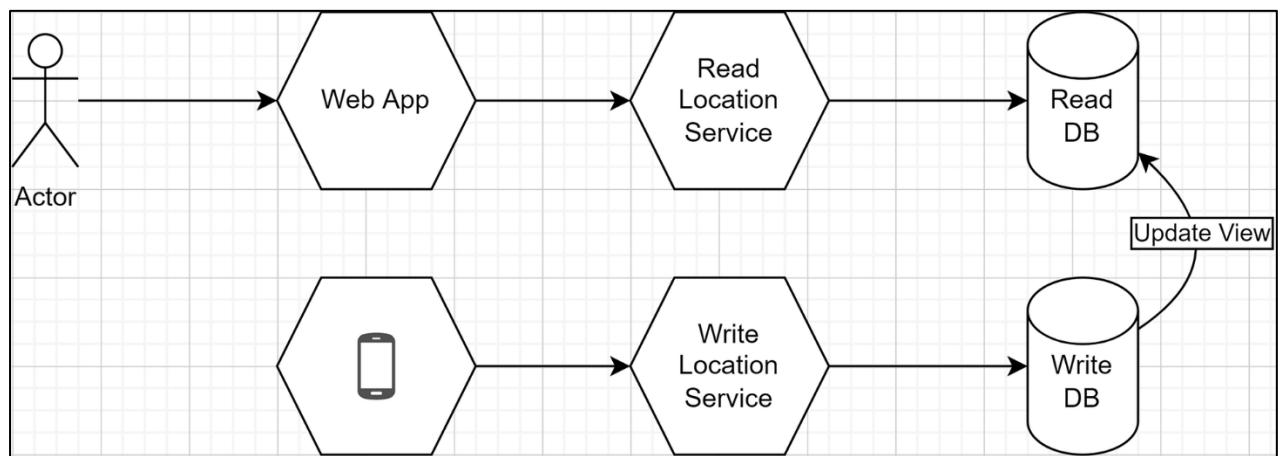
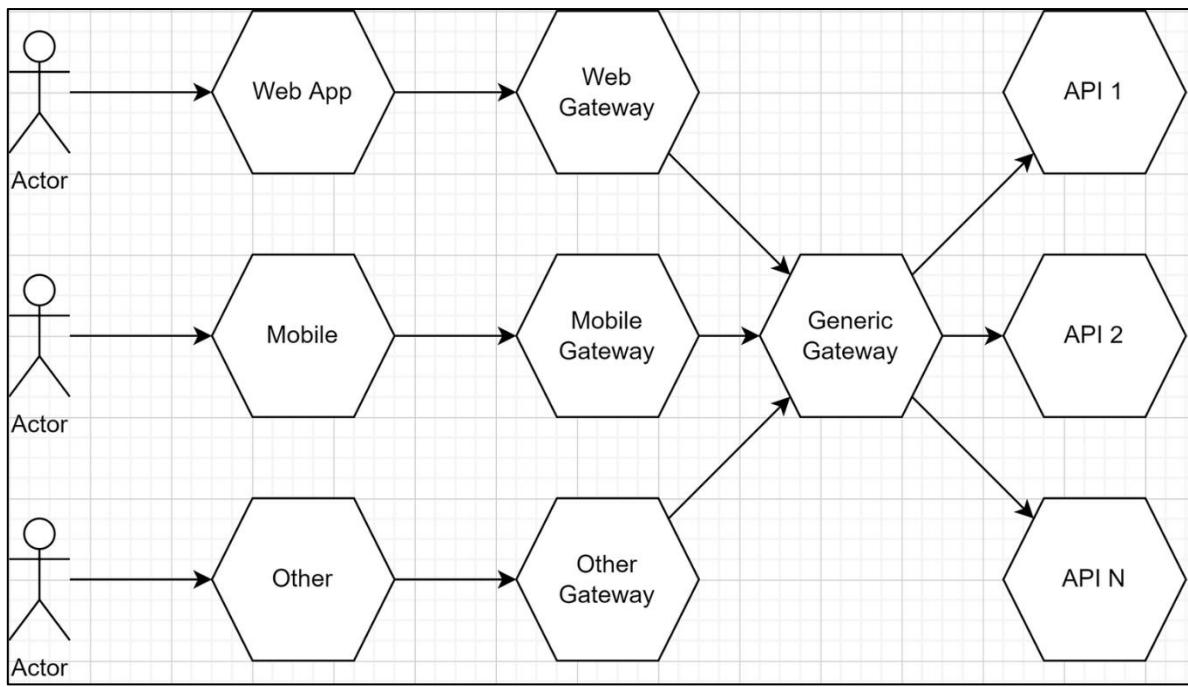


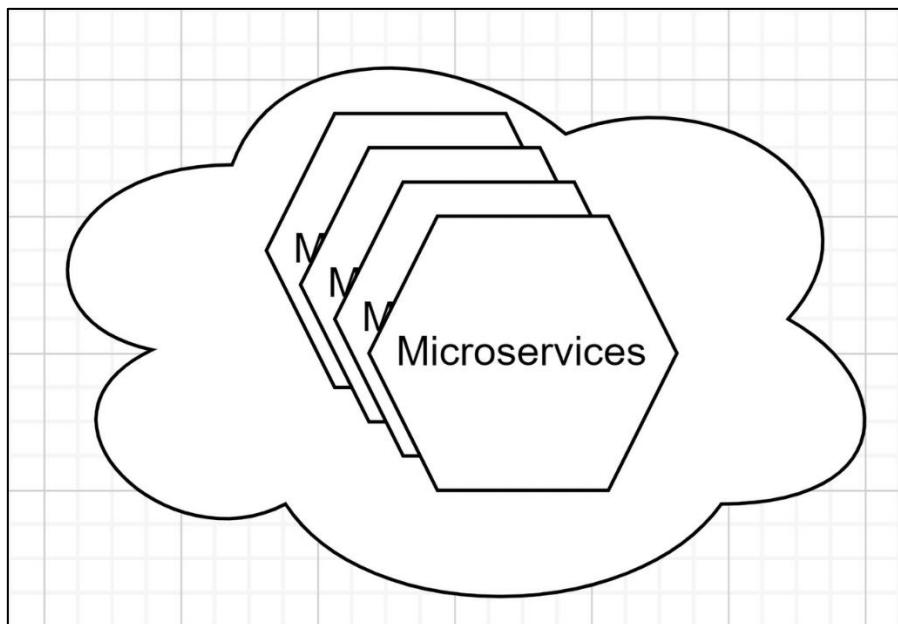
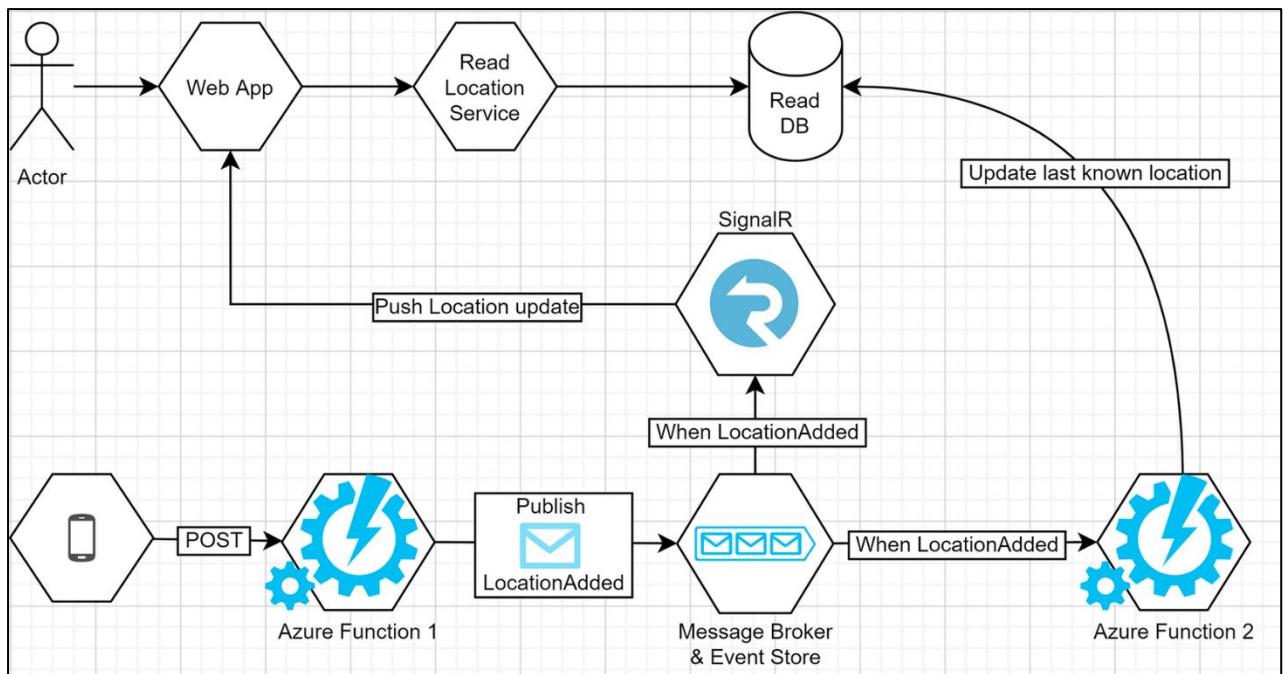


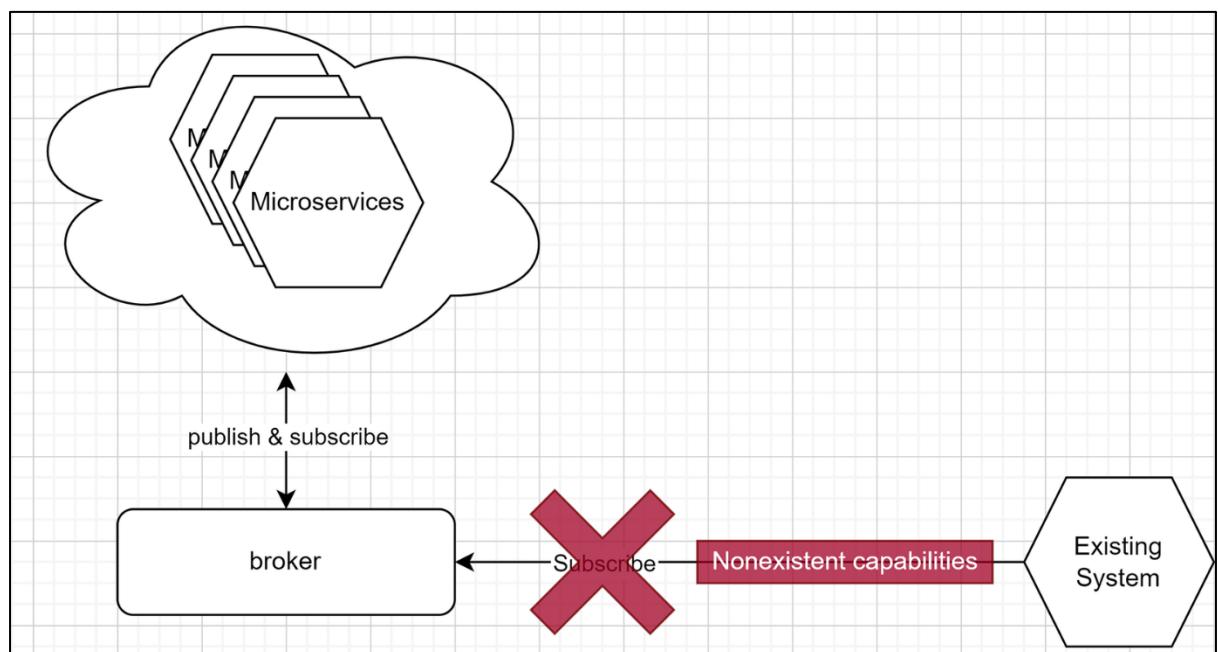
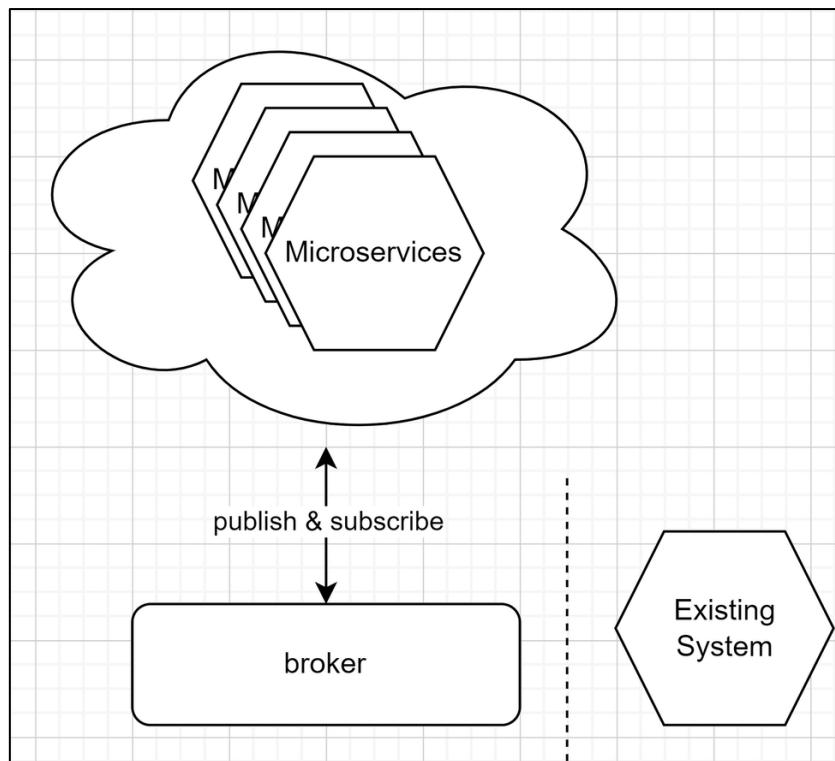


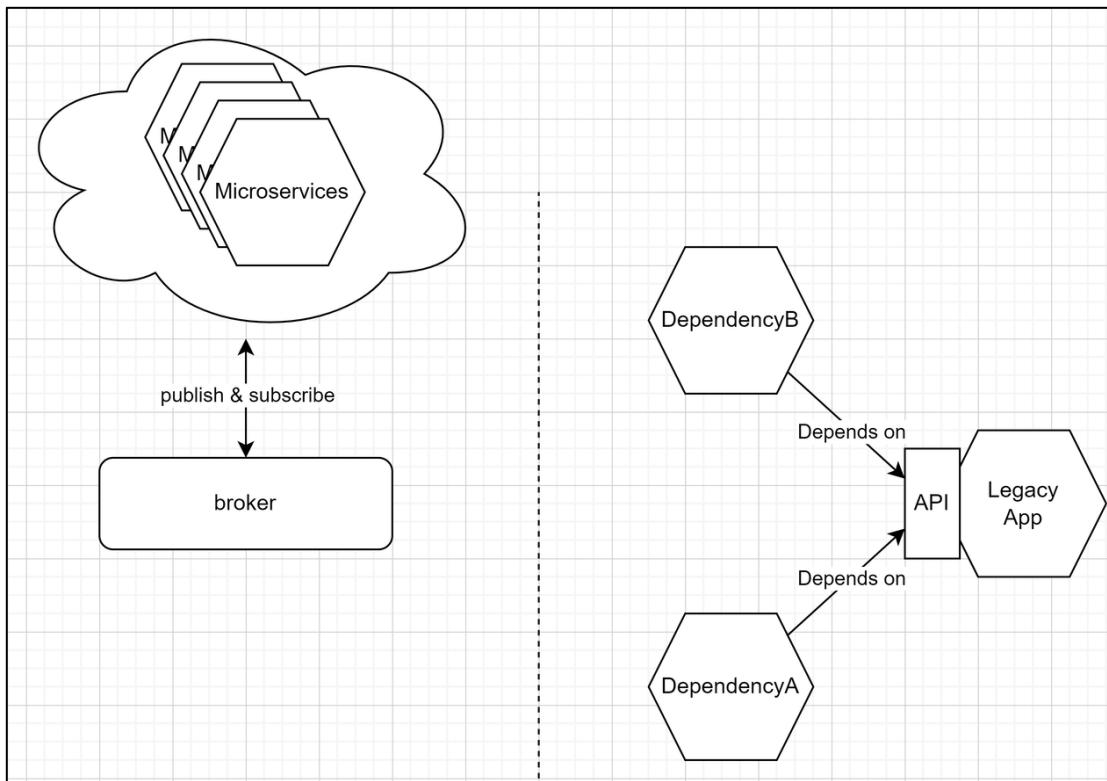
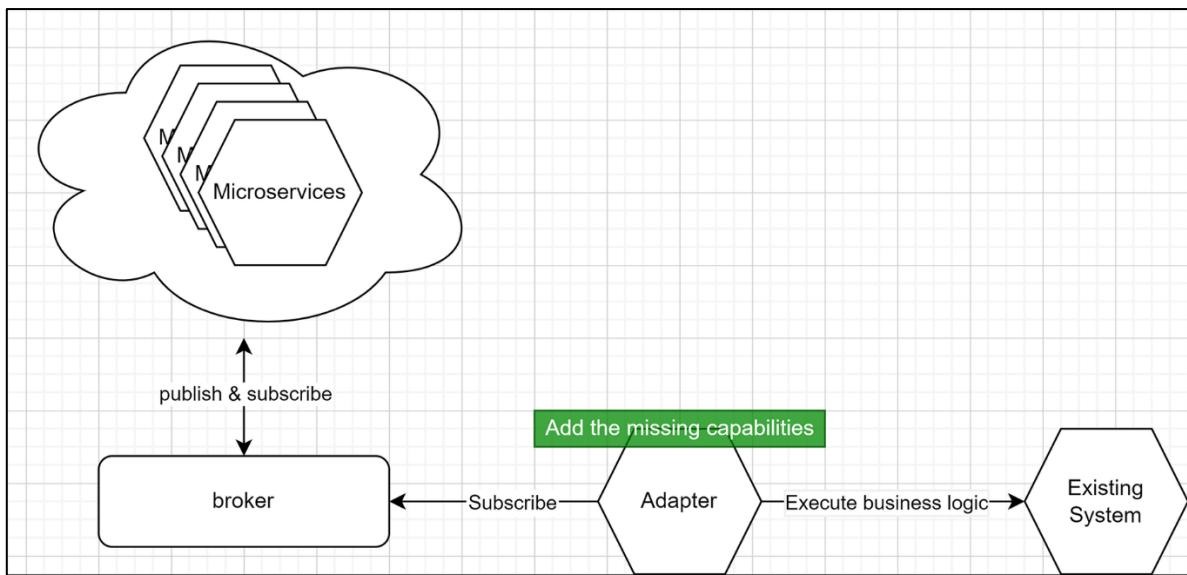


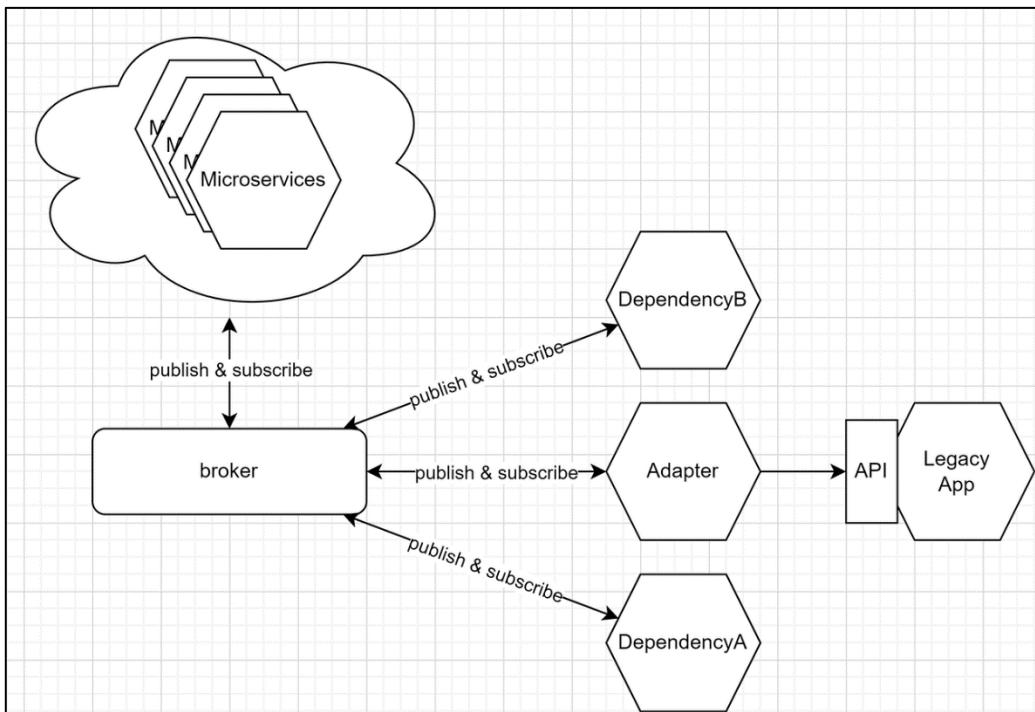
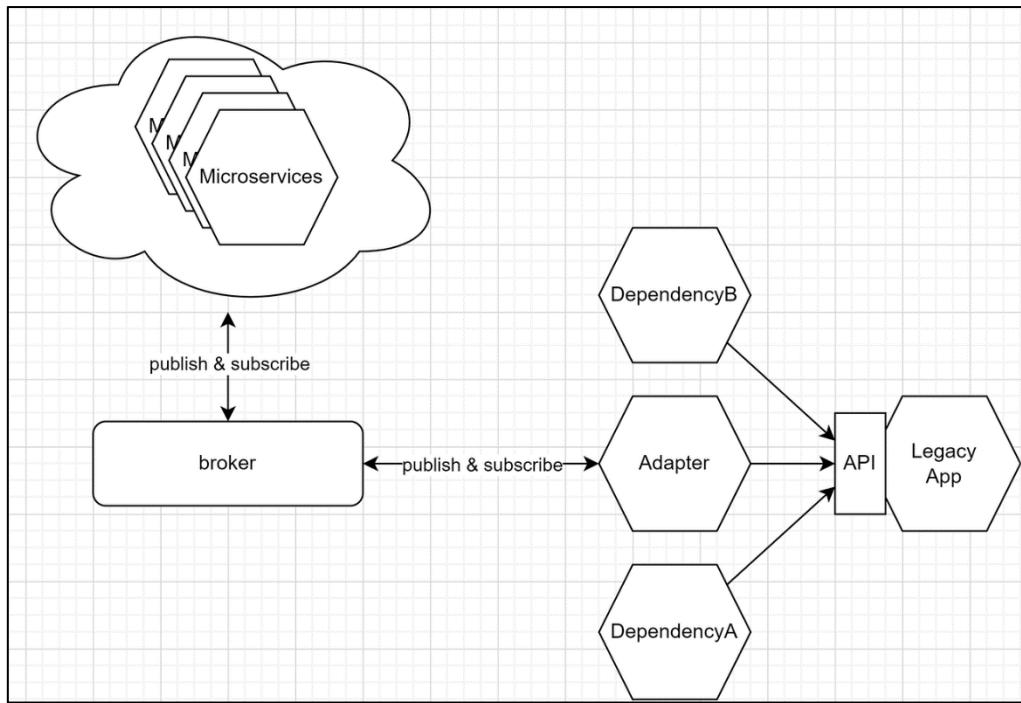


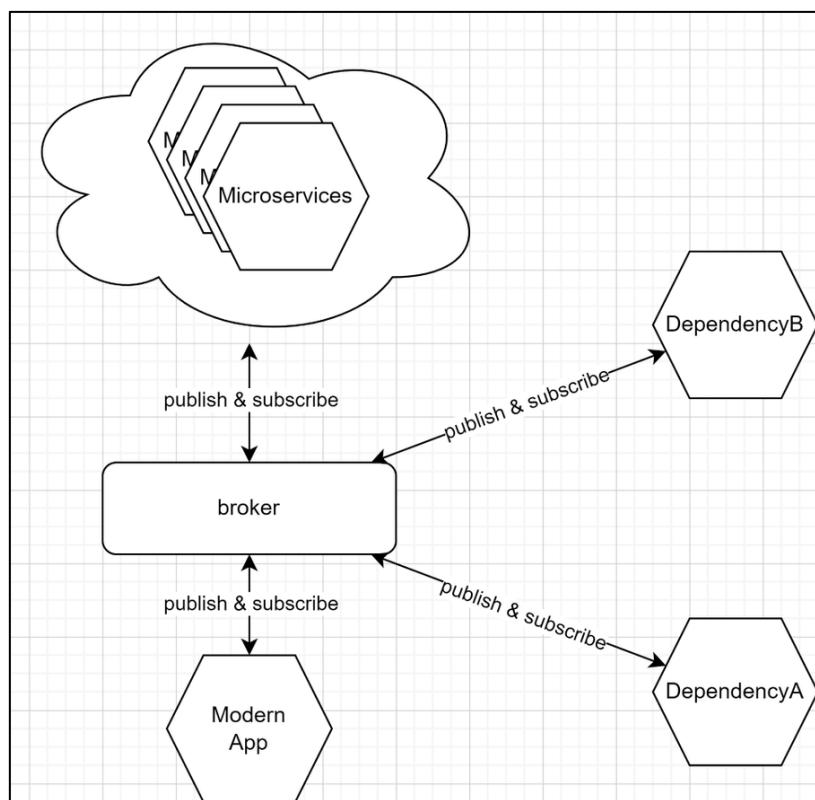
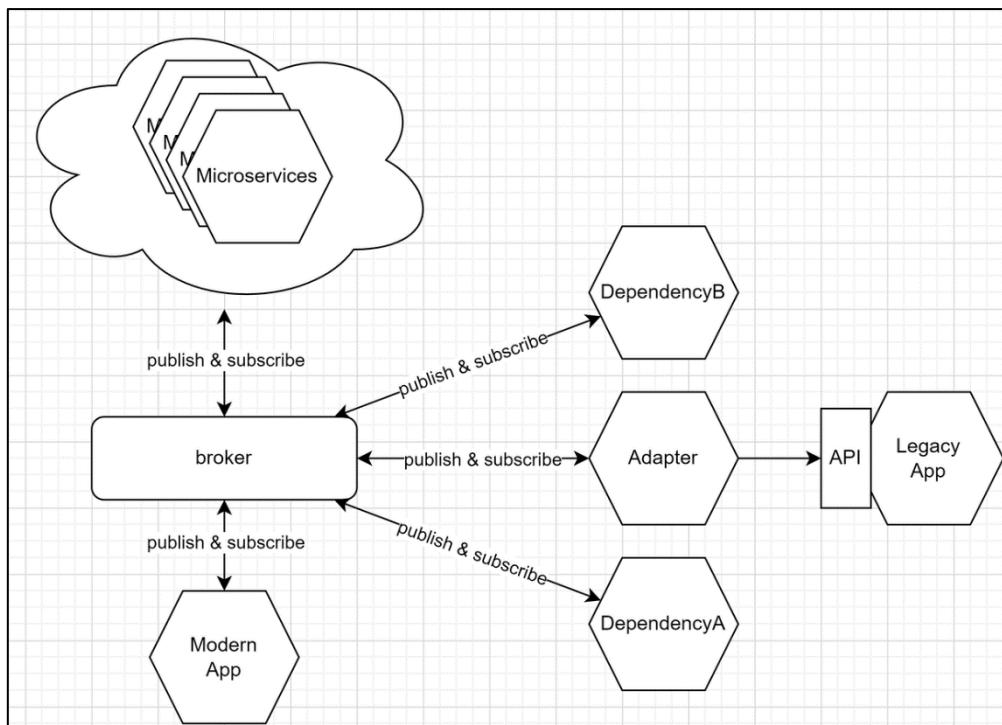


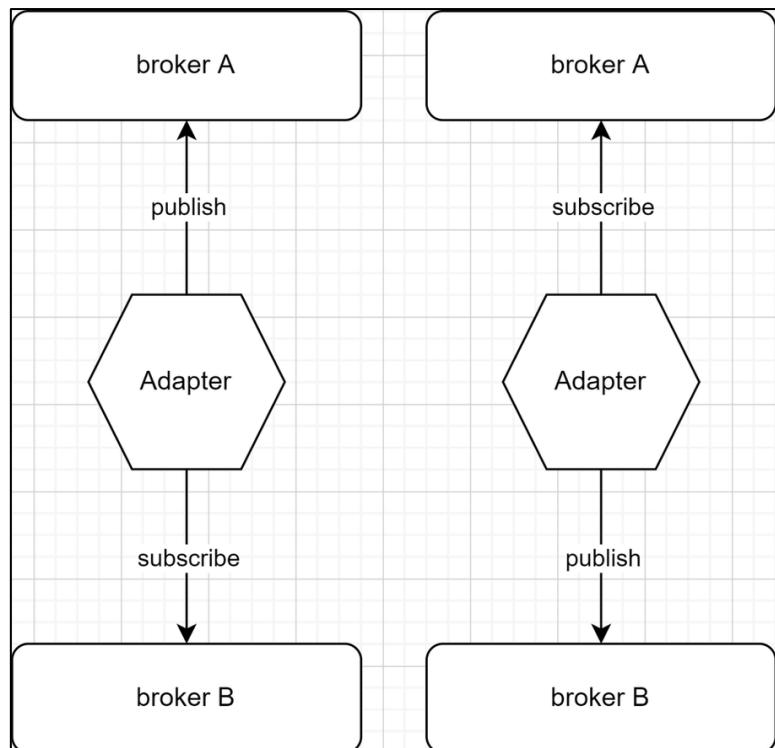


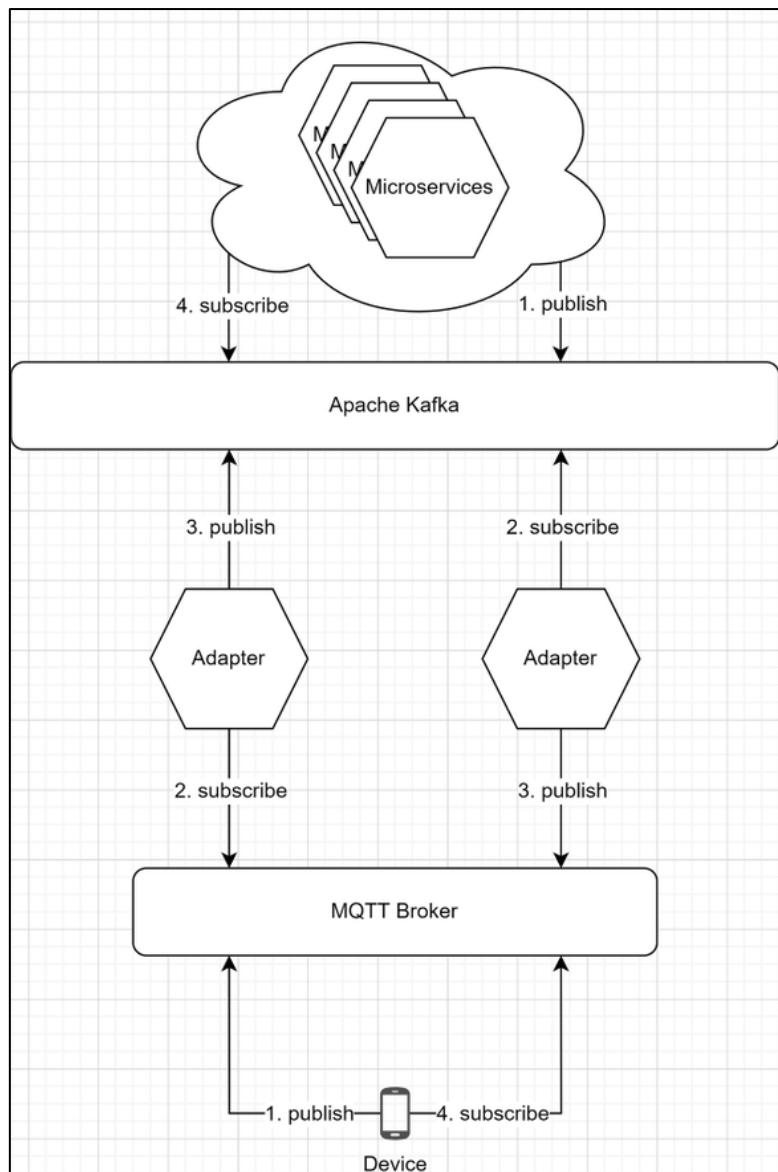




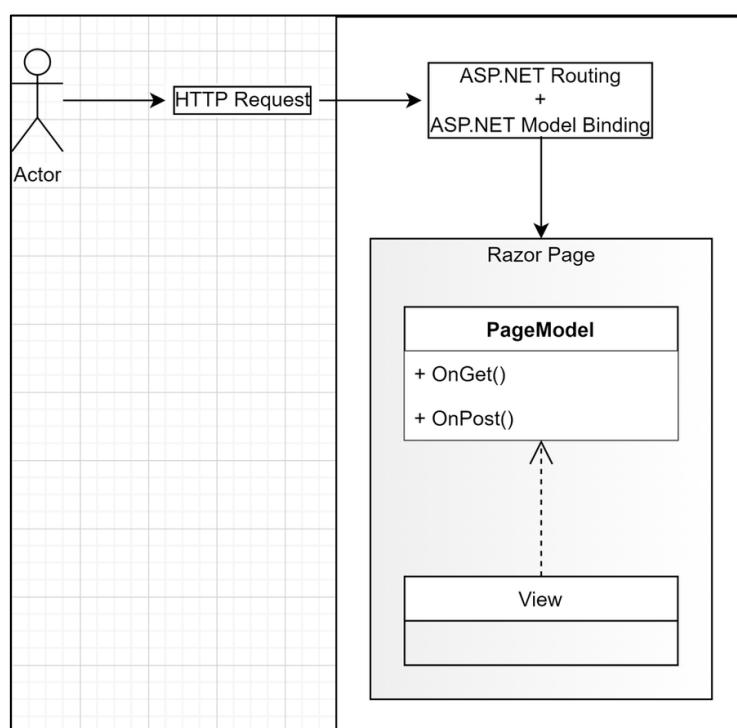
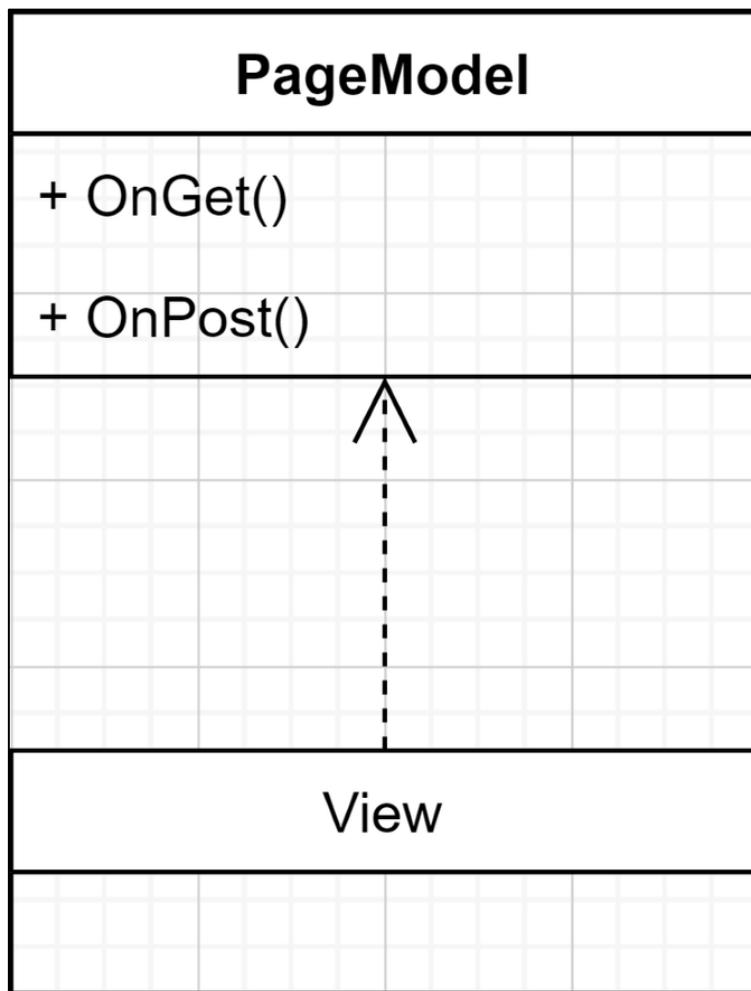


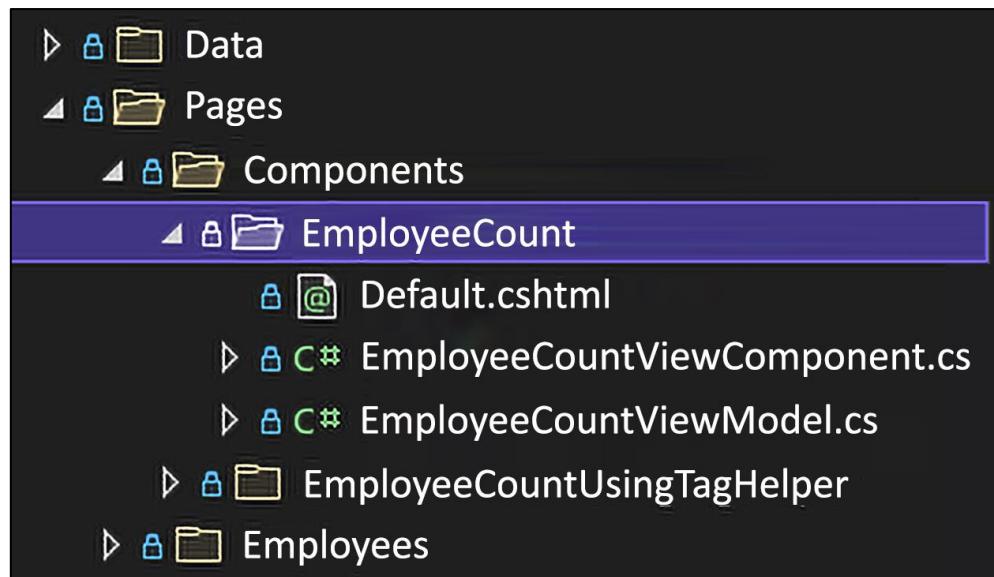






## Chapter 17: ASP.NET Core User Interfaces

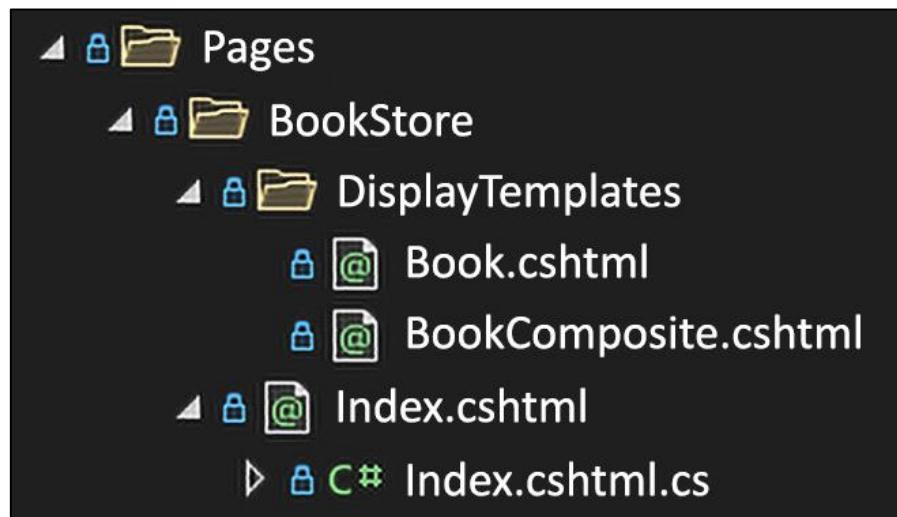


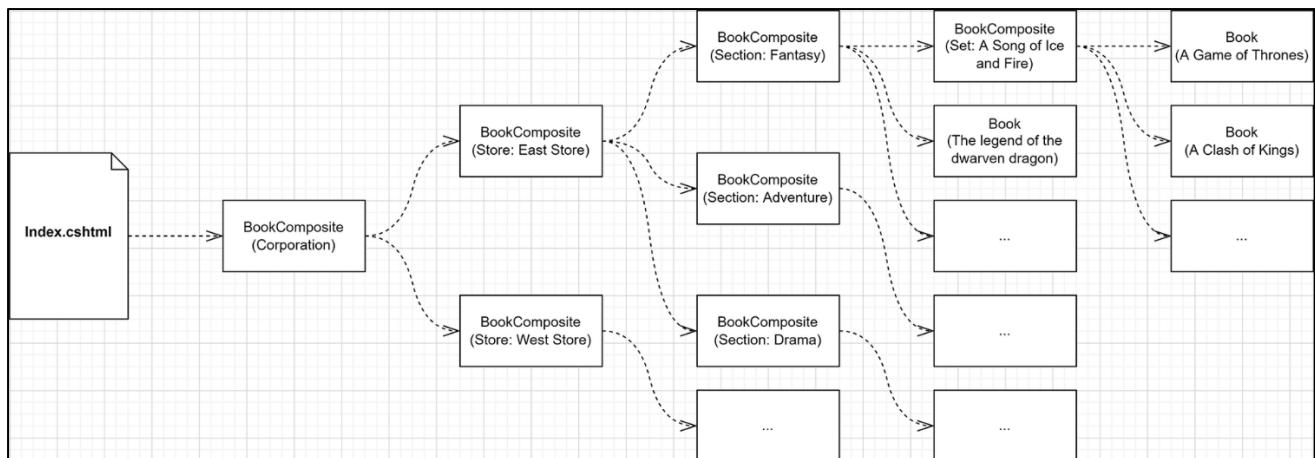


# Employee Count

3 Employees

[Employees list](#)





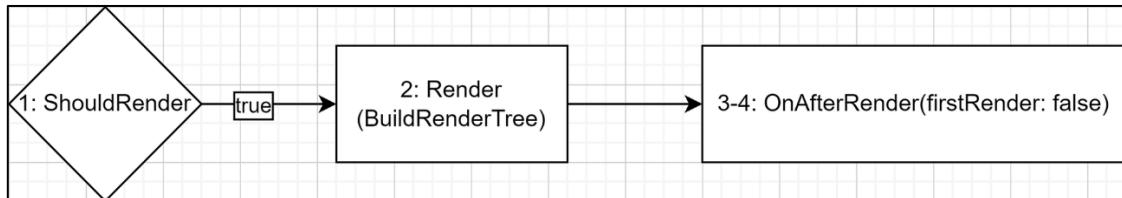
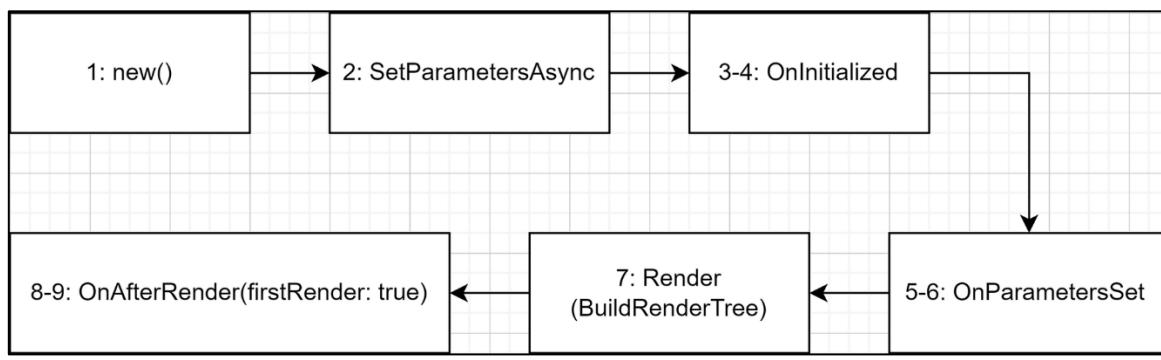
## Chapter 18: A Brief Look into Blazor

# Hello World from C#

## Hello World from Razor

## Hello World from Code-Behind

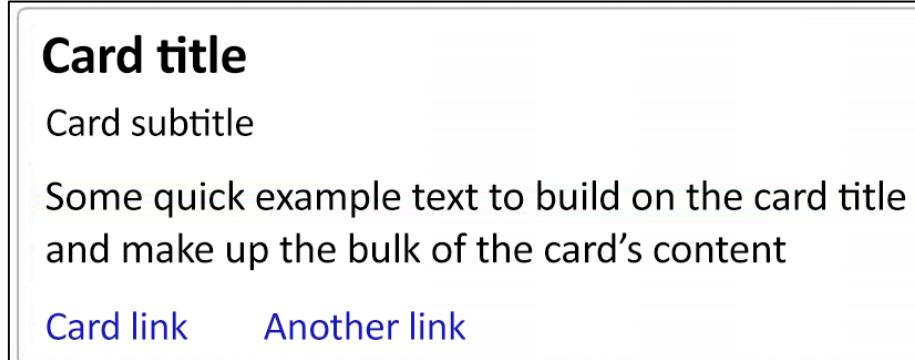
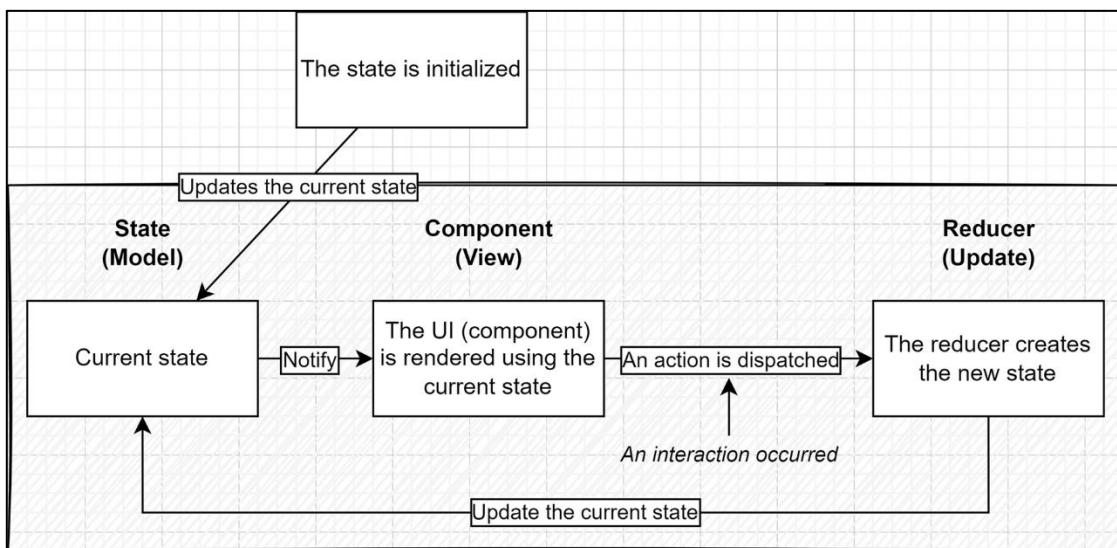
Welcome to your new app.



... Console What's New Issues

top Filter Default levels ▾

- Some messages have been moved to the Issues panel.
- Debugging hotkey: Shift+Alt+D (When application has focus)
- ▶ **blazor** Loaded 8.74 MB resources
  - This application was built with linking (tree shaking) disabled. Published
  - LifeCycleObserver.SetParametersAsync
  - LifeCycleObserver.OnInitialized
  - LifeCycleObserver.OnInitializedAsync
  - LifeCycleObserver.OnParametersSet
  - LifeCycleObserver.OnParametersSetAsync
  - LifeCycleObserver.BuildRenderTree
  - LifeCycleObserver.OnAfterRender|FirstRender: True
  - LifeCycleObserver.OnAfterRenderAsync|FirstRender: True



## Appendix B

