

.NET Core 9.0 Training Program

From Fundamentals to Real-World Implementation

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Clean Architecture

Domain Model (Core)

Business rules and entities reside here. It operates independently.

1

Domain Services

Business logic lives here, focusing on domain rules.

2

Application Services

Orchestrates use cases, such as user login and credential checks.

3

User Interface (UI)

Web, mobile, or API layers interact with users, depending on app services.

4

Infrastructure

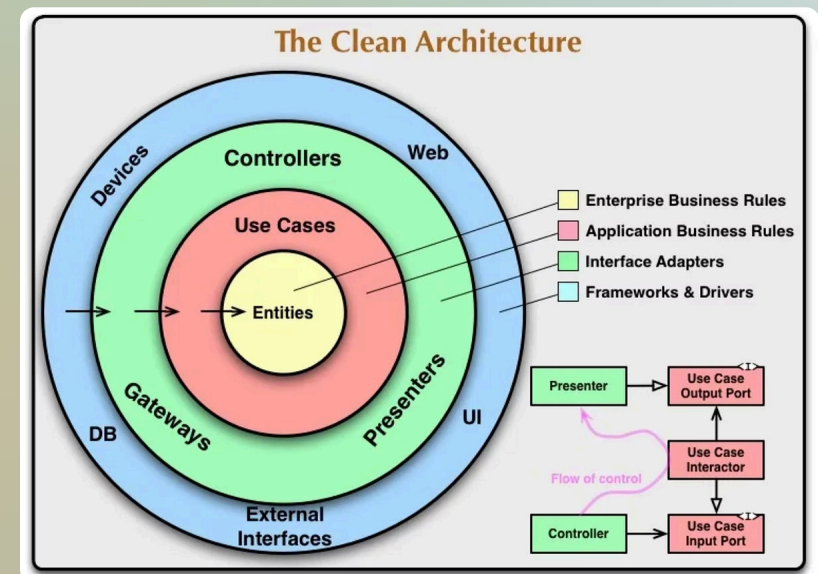
Contains technical details such as EF Core and SQL, connected through interfaces.

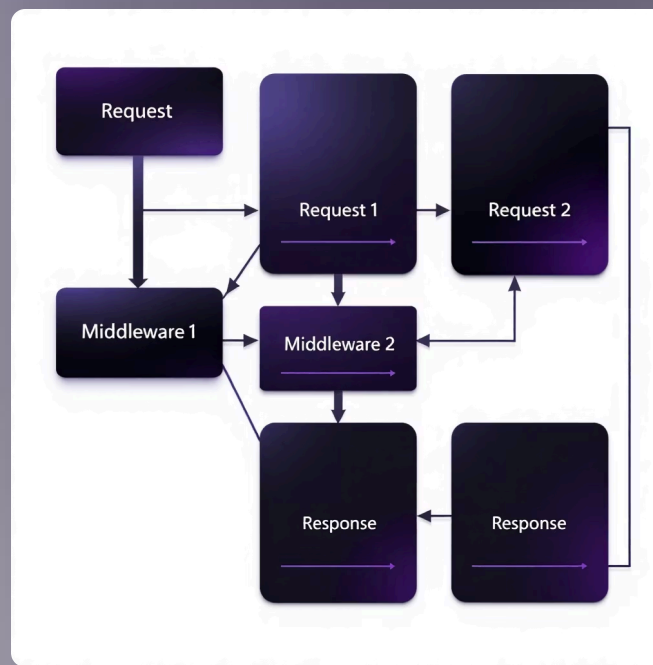
5

Tests

Automated tests ensure business logic functions as designed.

6





ASP.NET Core 9.0 Essentials

Dependency Injection

Service registration → constructor injection

Configuration

appsettings.json, IConfiguration,
IHostEnvironment

Middleware Pipeline

Request → Middleware → Response flow

Routing

Attribute vs conventional routing



EF Core 9.0 (Code First)



Project Structure

Web App + Persistence Layer



EF Core Essentials

Entity, DbContext, Migration flowchart



CRUD Implementation

Entity → Interface → Service → Controller



Automapper

DTO ↔ Entity mapping

CQRS & MediatR

CQRS Concept

Query (Read) vs Command (Write)

Separates data models for reads and writes

MediatR in Action

Controller → MediatR → Handler → Service

Decouples request senders from handlers

Event Sourcing

Store events as source of truth

Rebuild state from event history

ASP.NET Core API

Swagger UI

Interactive documentation

Test endpoints directly

Logging with Serilog

Structured logging

Multiple output targets

API Versioning

Support multiple API versions

V1/V2 Controller structure

Encoding/Decoding

Base64 process

Secure API payloads



JWT



Authentication & Authorization with JWT

How JWT Works

Login → Token Issued → Protected API call

Identity & Token Management

ASP.NET Identity + JWT Bearer pipeline

Implementing JWT

AddAuthentication(), AddJwtBearer()



Summary & Feedback



ASP.NET Core 9.0

DI, Middleware, Configuration, Routing



EF Core 9.0

Code First, CRUD, Automapper, Repository



CQRS & API

MediatR, Swagger, Logging, Versioning



Authentication

JWT, Identity, Token Management

Thank You!

