

Clean Architecture with ASP.NET Core 10

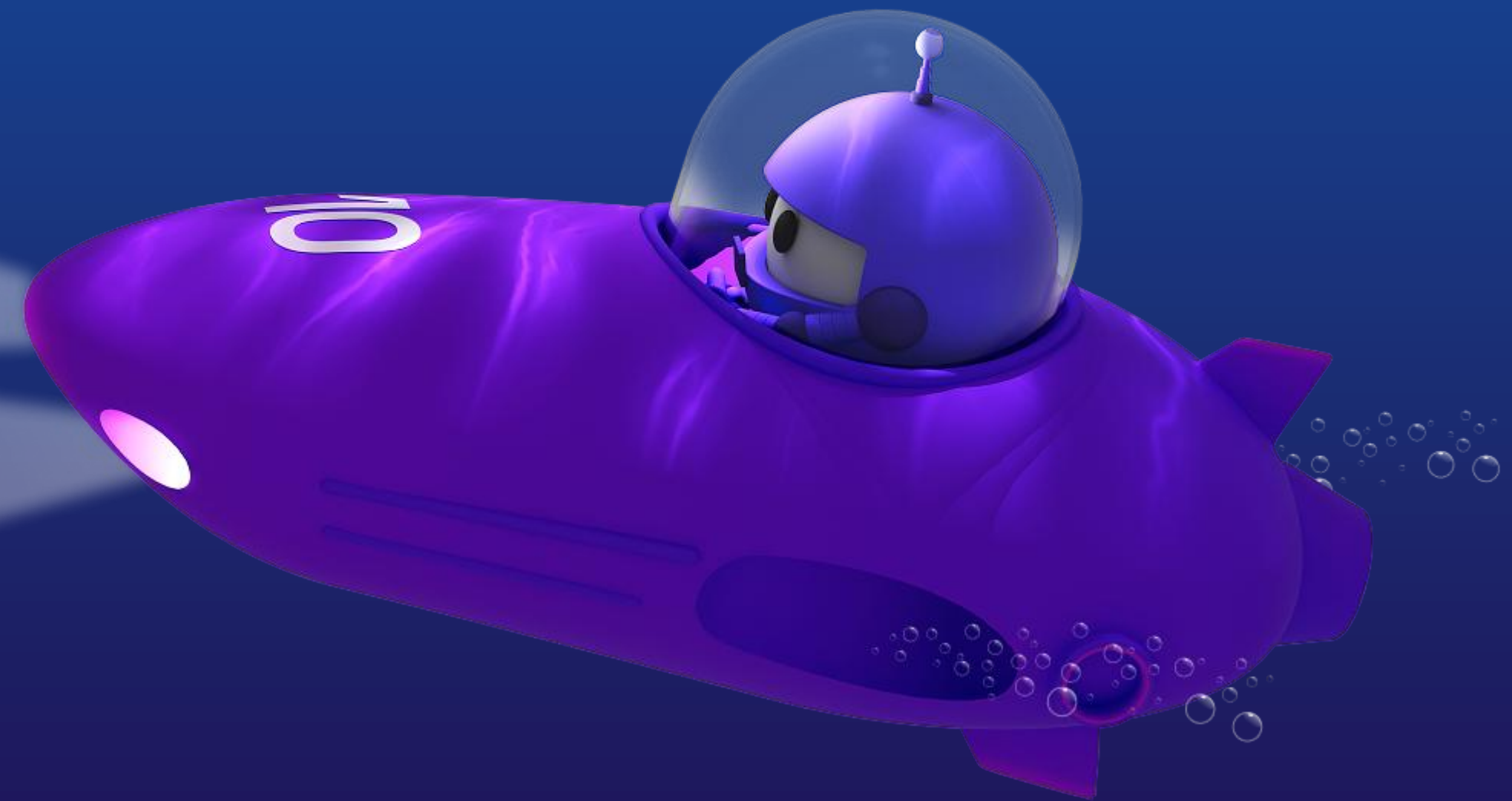
.NET

Ardalis

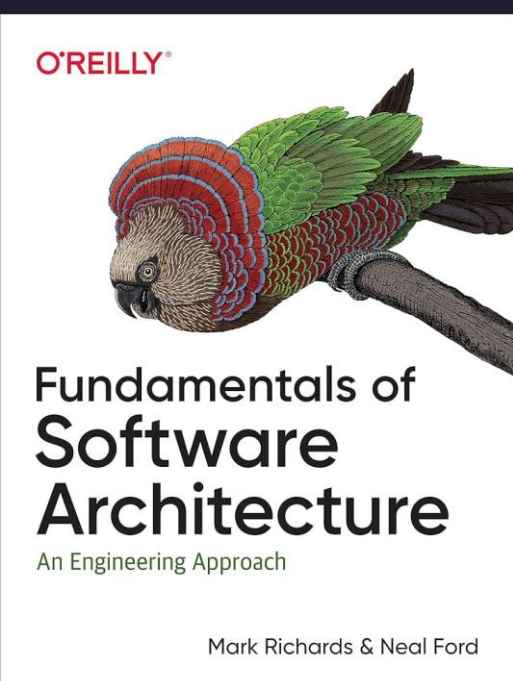
Principal Architect, NimblePros

[Ardalis.com](https://ardalis.com) | [NimblePros.com](https://nimblepros.com)

Card: dnx -y ardalis card



Everything in software
architecture is a
trade-off.



It
depends.TM

Context is King

Your application's architecture should suit your situation

What are you building?

What performance is required?

Who are the users?

What volume of data is expected?

How many users do you expect?

What is the team's skillset?

And many more...

Architecture Characteristics (ilities)

Overall
Cost

Performance

Fault
Tolerance

Reliability

Modularity

Scalability

Elasticity

Simplicity

Deployability

Testability



**What context led to
Clean Architecture?**



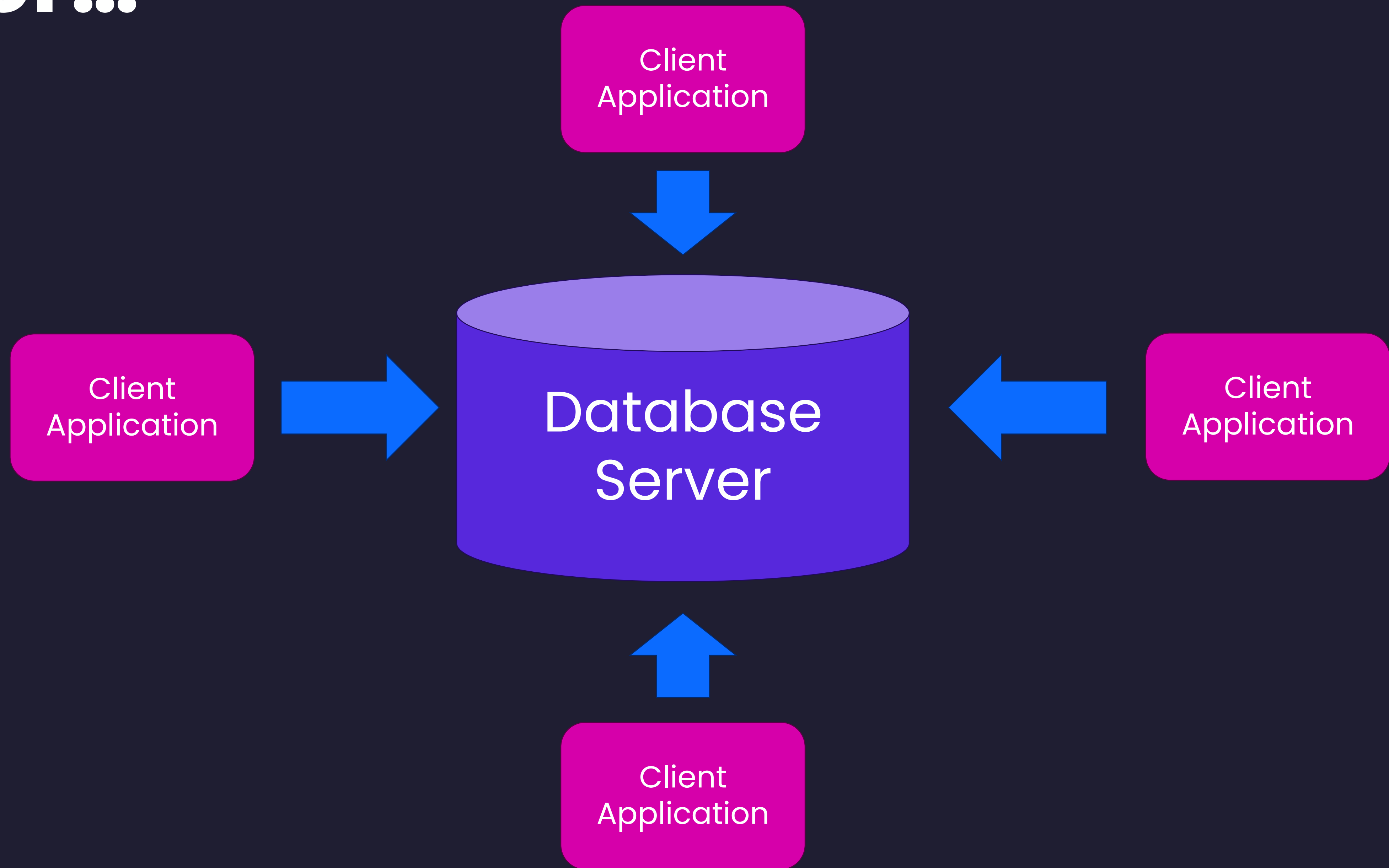
```
graph LR; A[Client Application] --> B[(Database Server)]
```

Client
Application

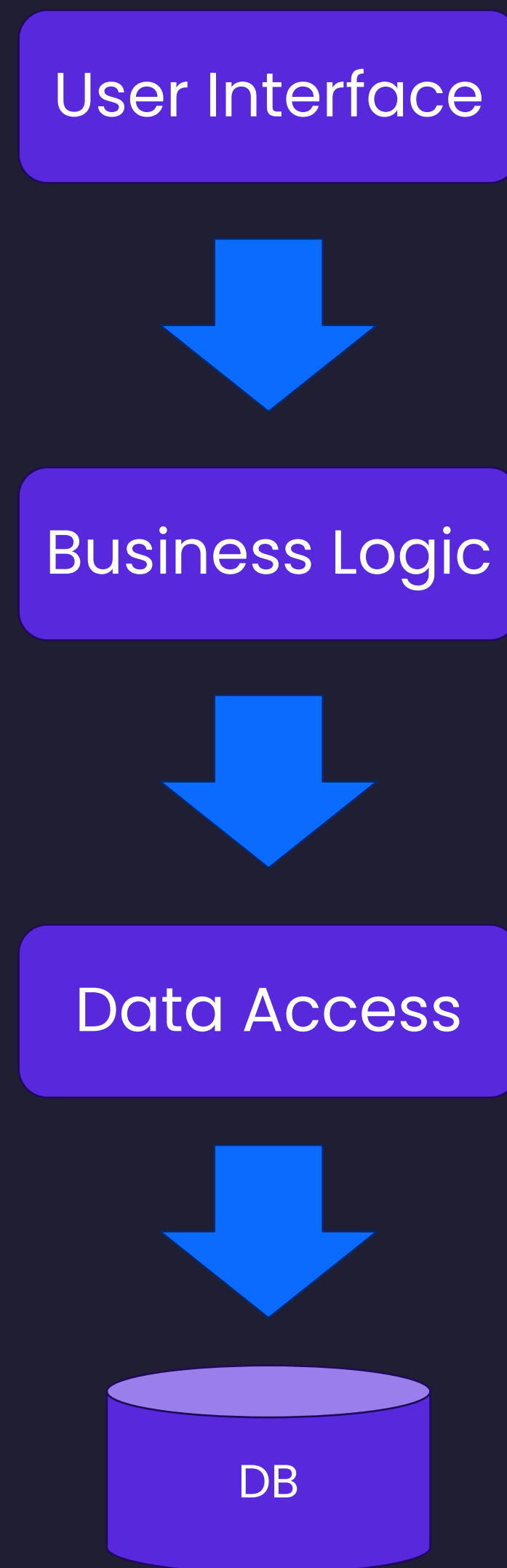
Database
Server

Client – Server
Architecture

Later...

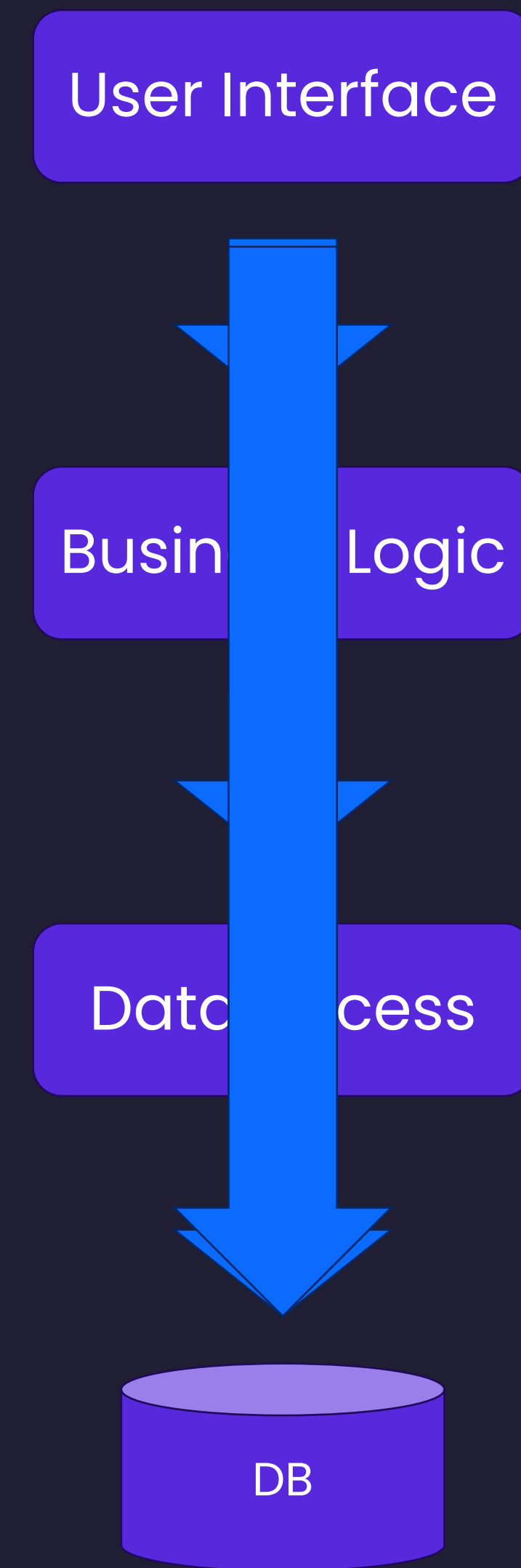


Layered Architecture



One problem...

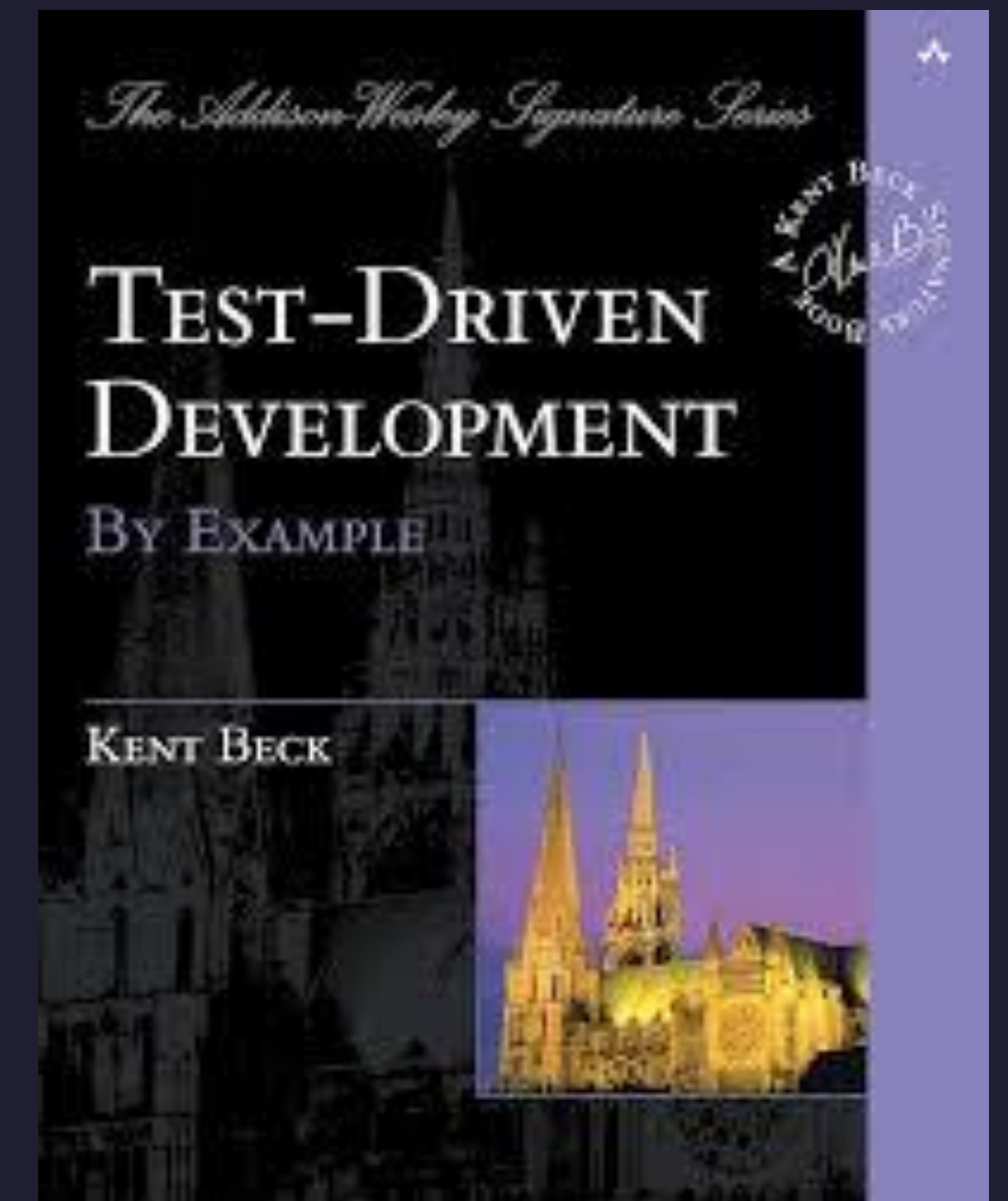
All layers depend on the database



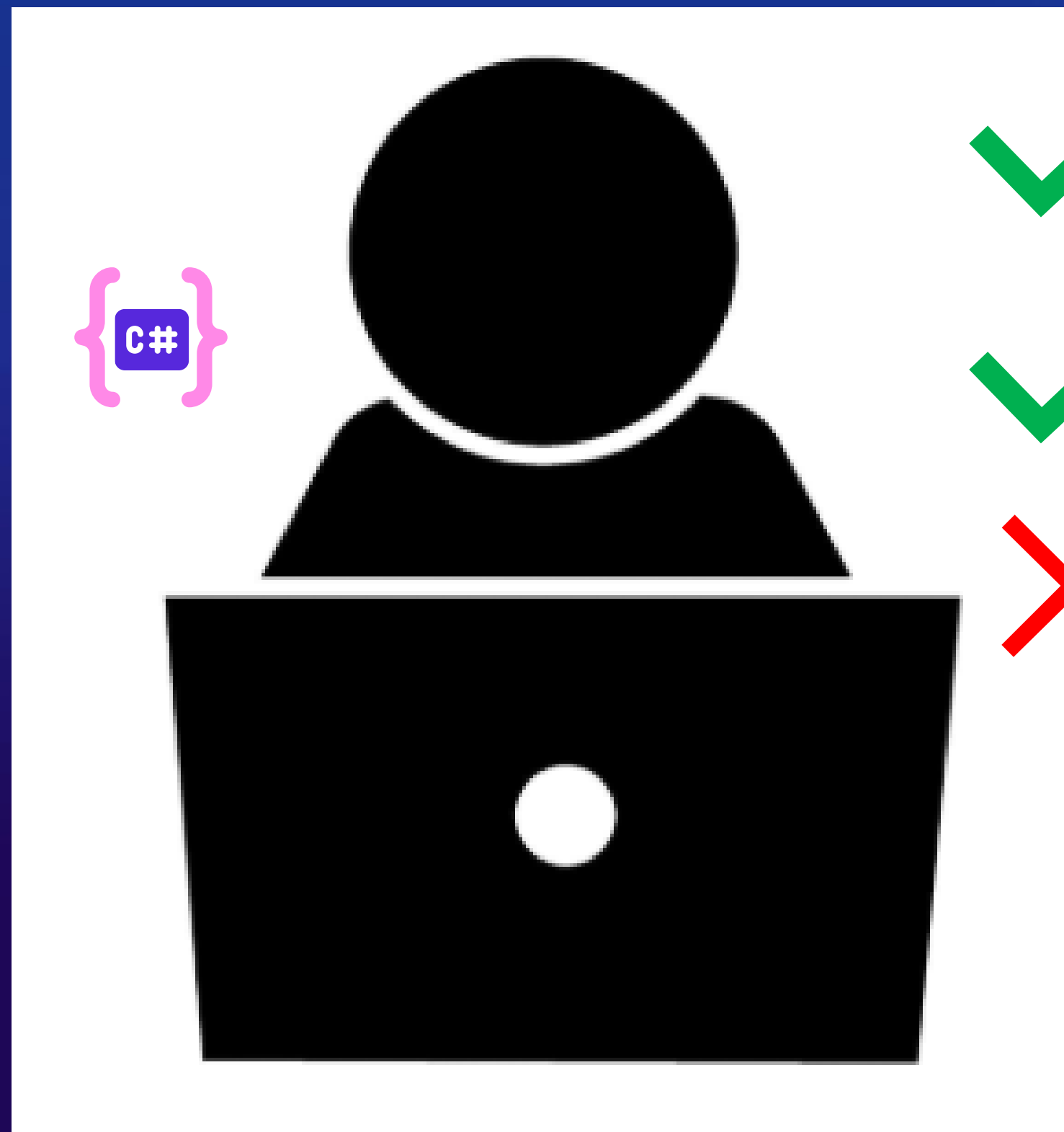
“Write tests until fear is transformed into boredom.”

Kent Beck

Test Driven Development By Example, 2002



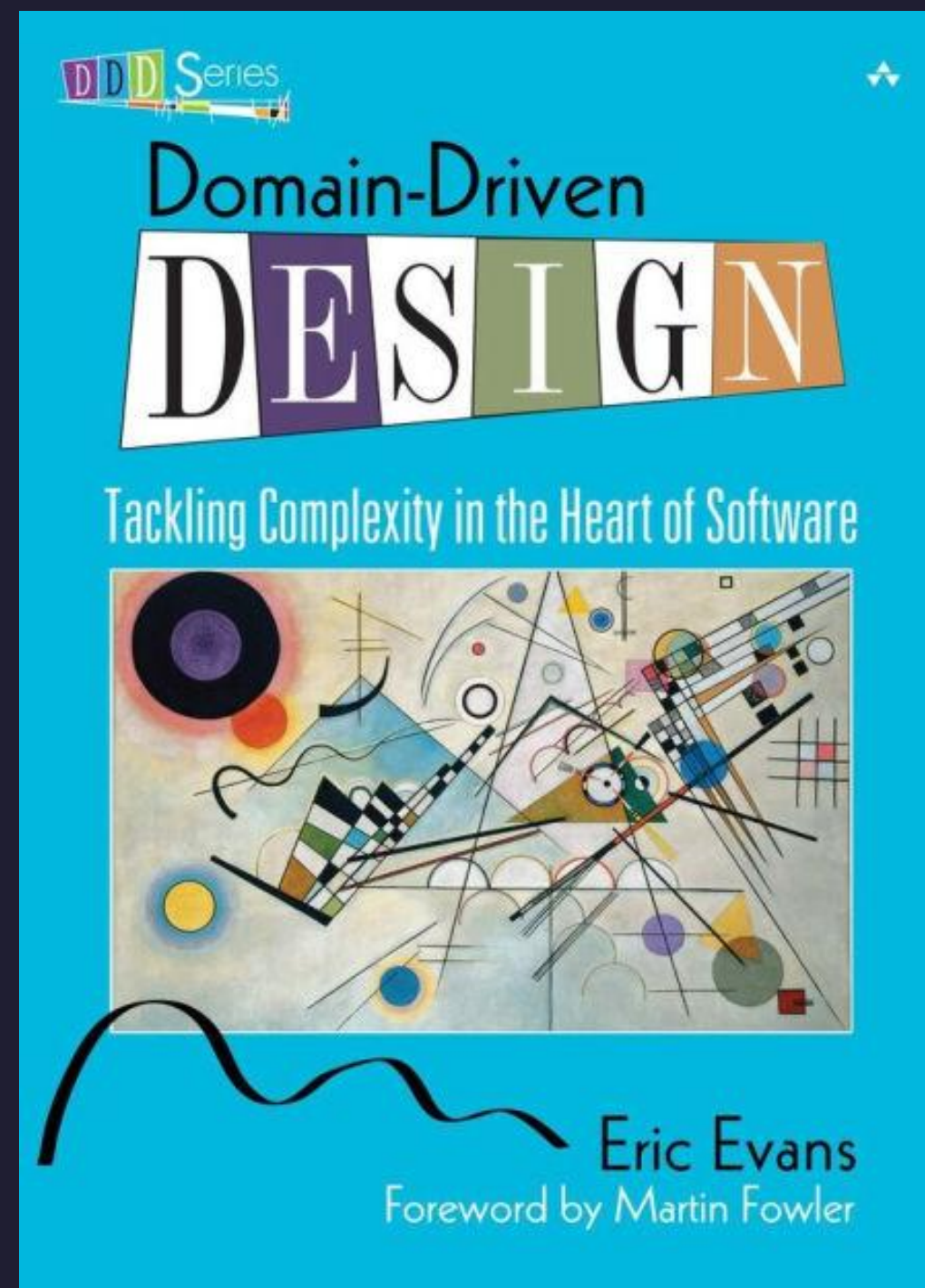
How can I test this
without hitting the
CENSORED database???



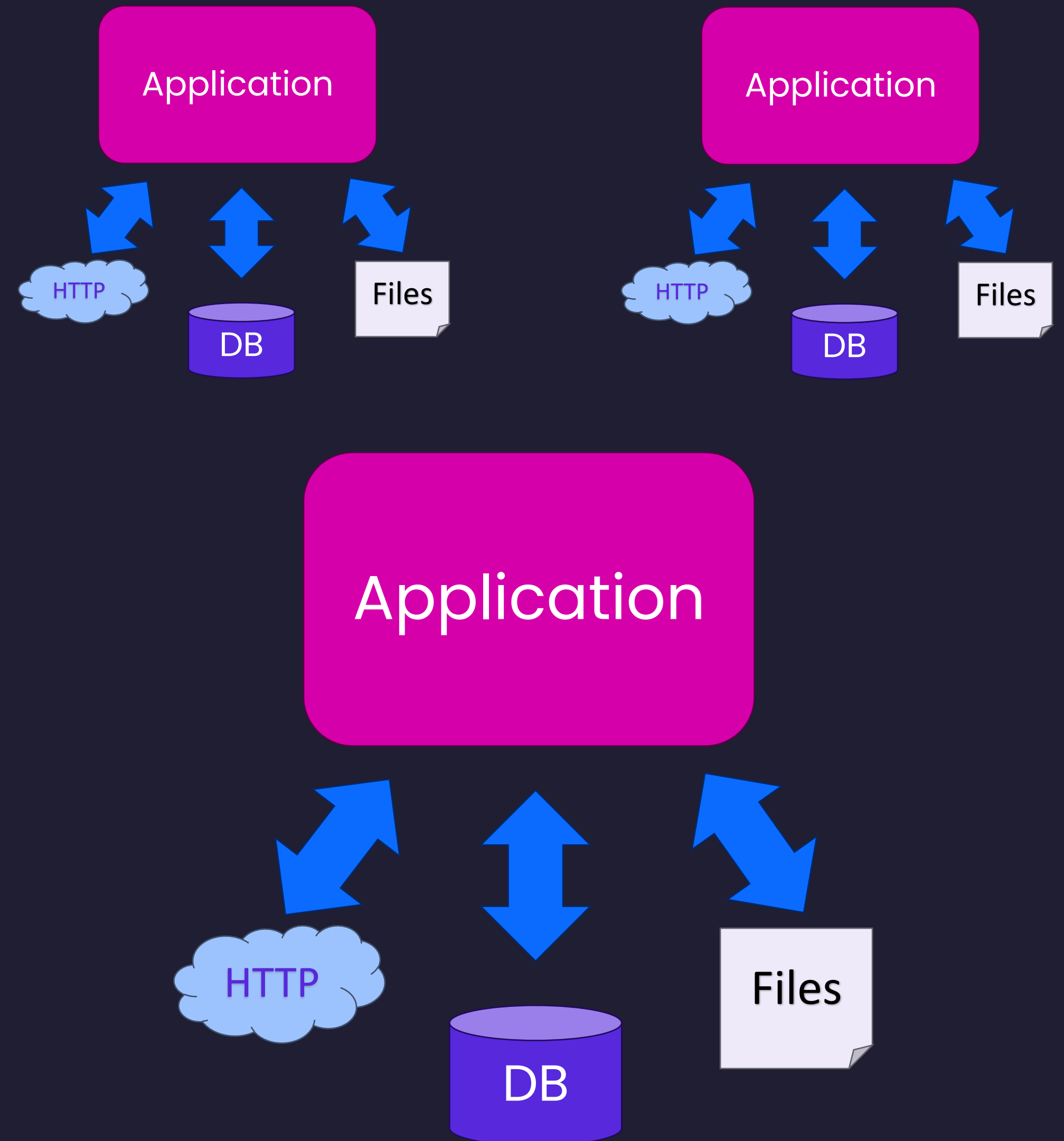
OLD MAN YELLS AT DATABASES

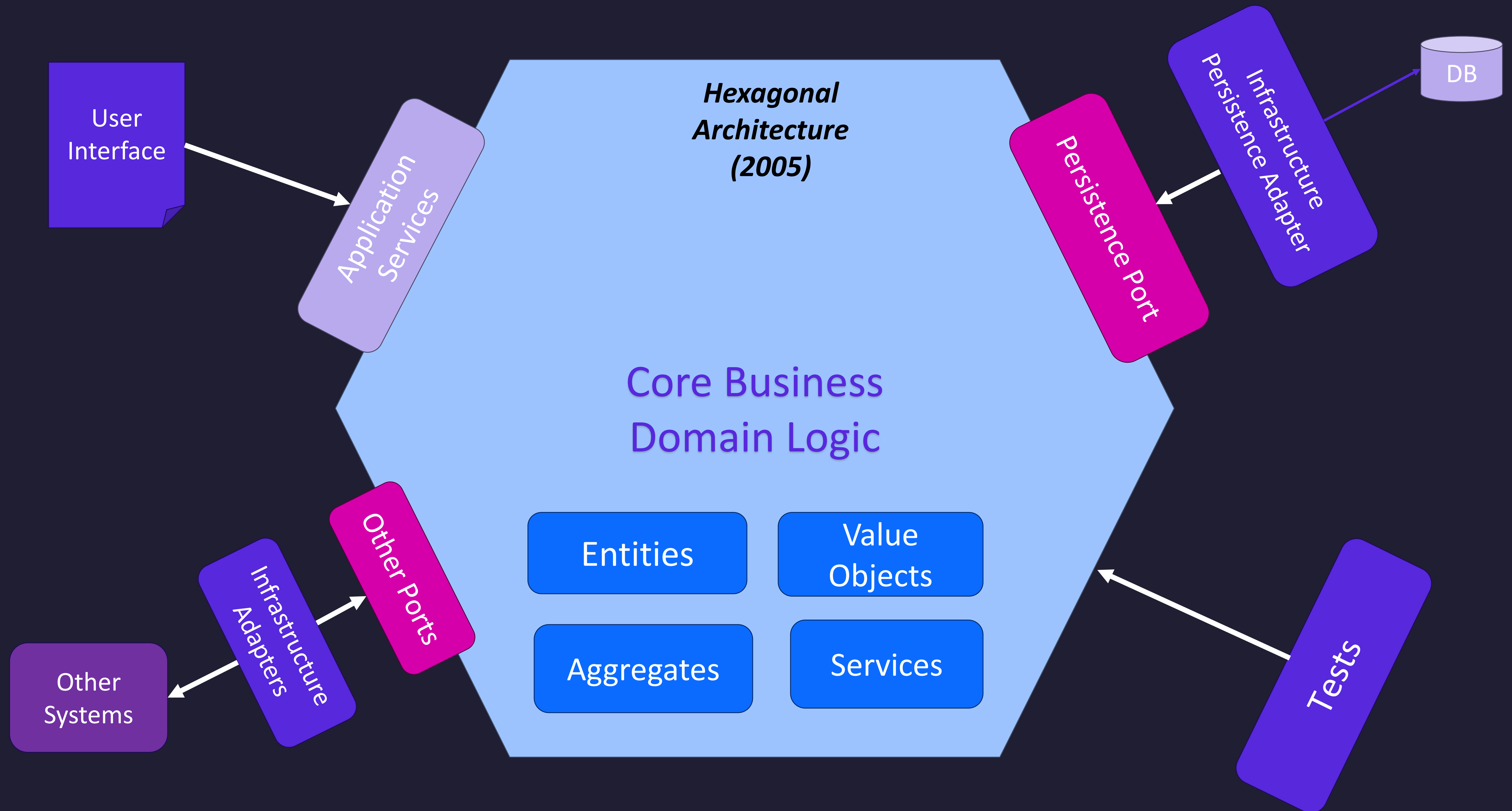


A Domain-Centric Approach

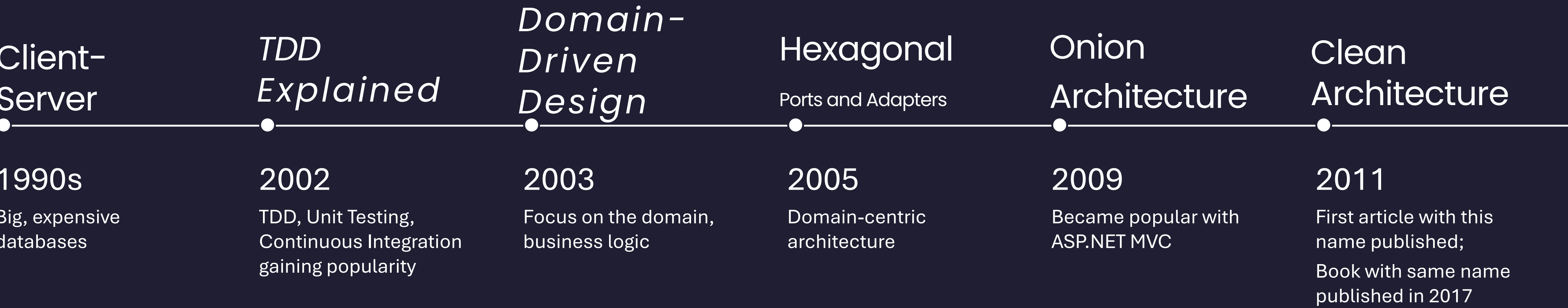


2003





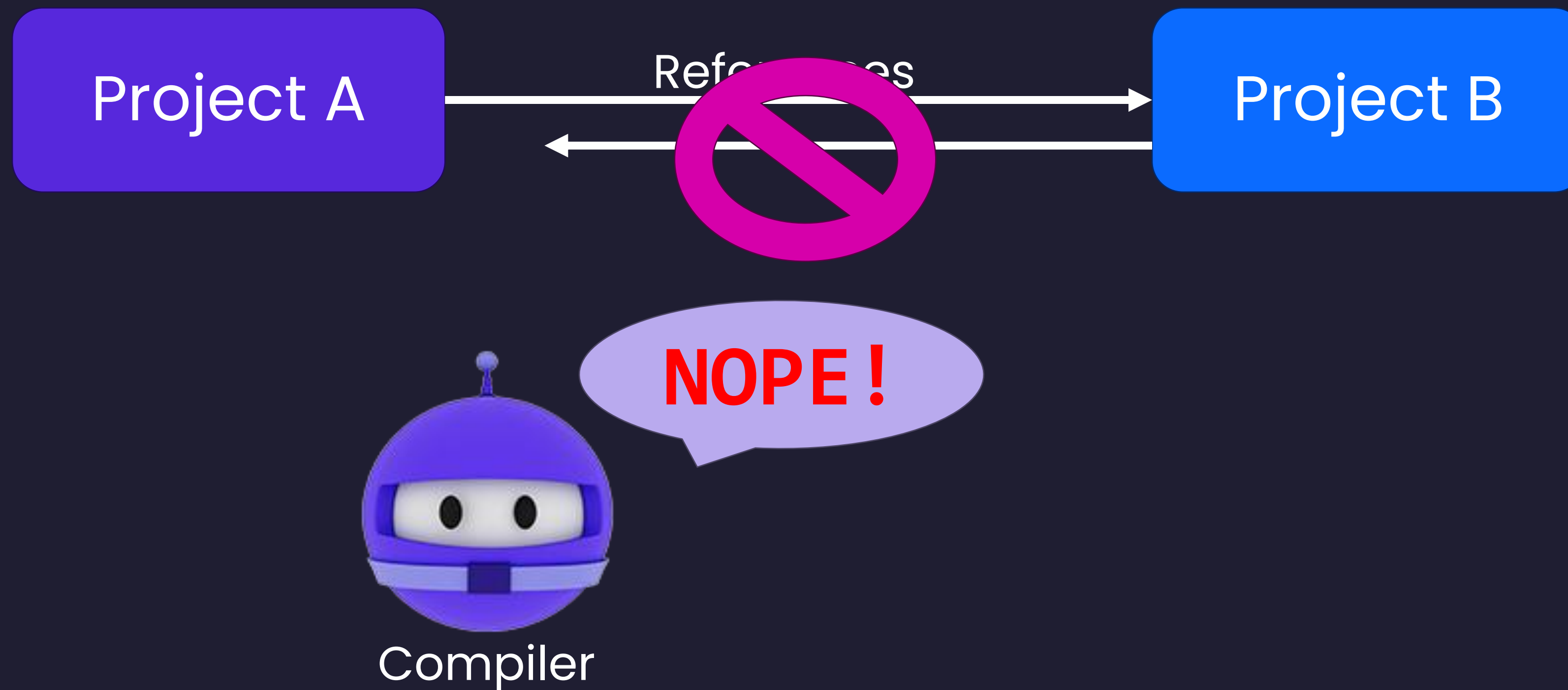
Leading to Clean Architecture



The Dependency Rule

Dependencies flow toward the
core/domain, **not** infrastructure

No Circular References Allowed in .NET Projects





ASP.NET
Core

Use Cases

Infrastructure

Core /
Domain



Files

DB

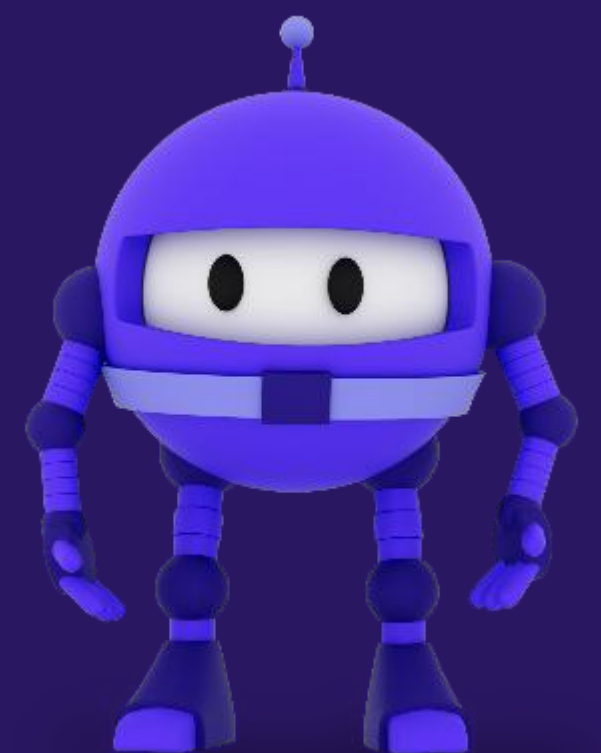
HTTP

PROCESS
BOUNDARY

PROCESS
BOUNDARY

01 Demo: Create and Explore a Clean Architecture ASP.NET Core and Aspire App

```
dotnet new install Ardalis.CleanArchitecture.Template  
dotnet new clean-arch -?  
dotnet new clean-arch -o NimblePros.DotNetConf
```



02 Demo: Create a Single Project Clean Architecture ASP.NET Core App

with compile-time rule enforcement

```
dotnet new install Ardalis.MinimalClean.Template
```

```
dotnet new min-clean -?
```

```
dotnet new min-clean -o NimblePros.DotNetConf
```



Thank you!

Live Session Feedback



Clean Architecture with ASP.NET Core 10

Session Links and Resources

ardalis.com/dotnetconf25-clean-arch

