N-LAYER ARCHITECTURE

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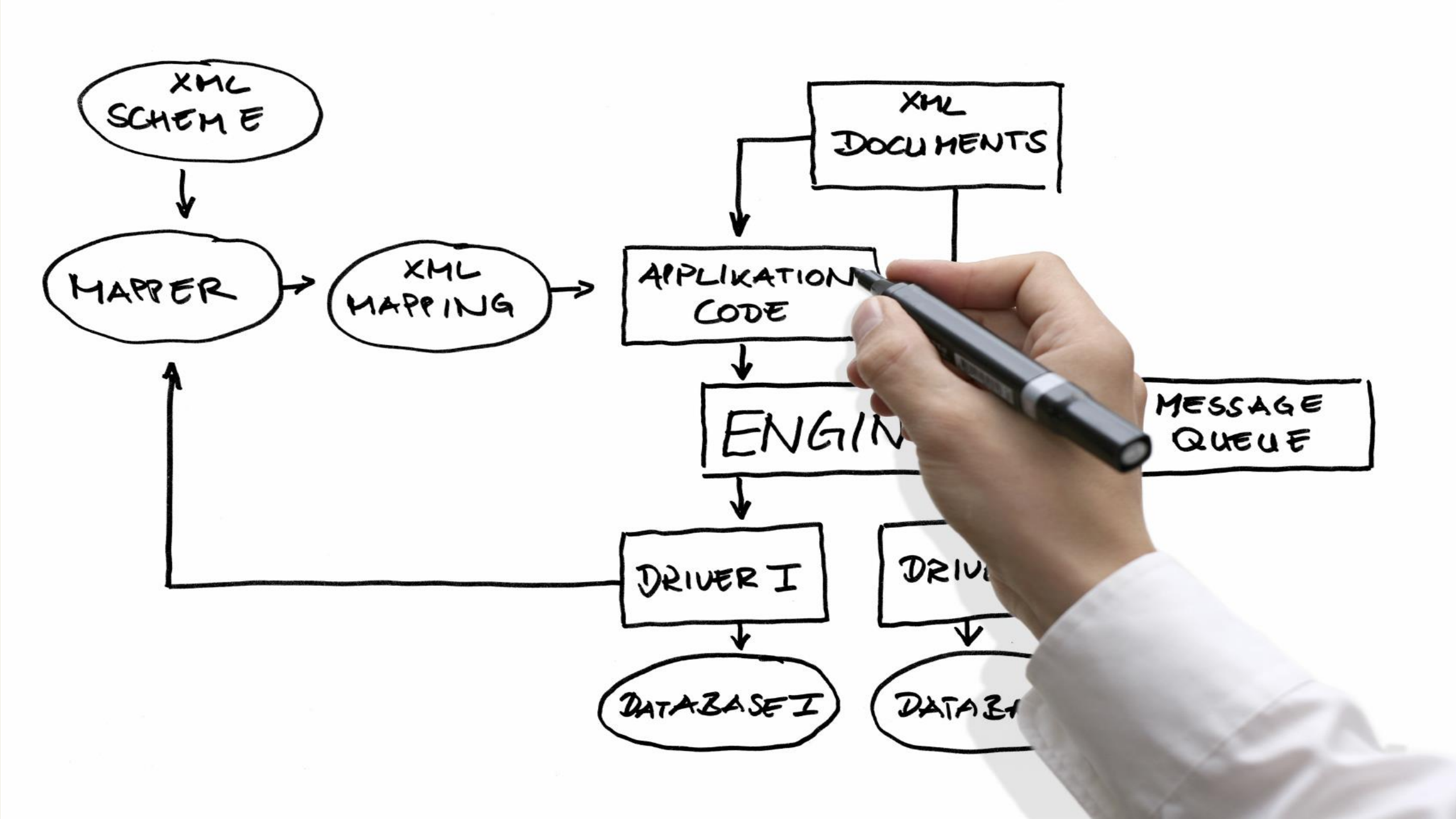
XML SCHEME
XML DOCUMENTS
MAPPER
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Definition:

N-layer application architecture provides a model by which developers can create flexible and reusable applications. By segregating an application into tiers, developers acquire the option of modifying or adding a specific layer, instead of reworking the entire application.

Common layers:

- Presentation layer
- Application layer
- Business layer
- Data access layer

Data access layer

- A data access layer (DAL) in computer software, is a layer of a computer program which provides simplified access to data stored in persistent storage of some kind, such as an entity-relational database.

Data access layers:

Persistence layer, logging, networking, and other services which are required to support a particular business layer

ORM (Object-Relational Mapping)

Business layer

- In software development, business logic or domain logic is the part of the program that encodes the real-world business rules that determine how data can be created, stored, and changed.

Business layers:

Business logic layer (BLL), domain layer

Business layer structure

Business logic

Business rules

Business logic comprises

Business logic:

- Prescribes how business objects interact with one another;
- Enforces the routes and the methods by which business objects are accessed and updated.

Business rule:

Model real-life business objects (such as accounts, loans, itineraries, and inventories).

Business logic vs Business rule:

Business logic is the portion of an enterprise system which determines how data is transformed or calculated, and how it is routed to people or software (workflow). Business rules are formal expressions of business policy.

Business logic vs Business rule:

Anything that is a process or procedure is business logic, and anything that is neither a process nor a procedure is a business rule.

Application layer

- Service layer is a conceptual layer within a network service provider architecture.

Application layers:

Service layer or GRASP Controller Layer

Presentation layer

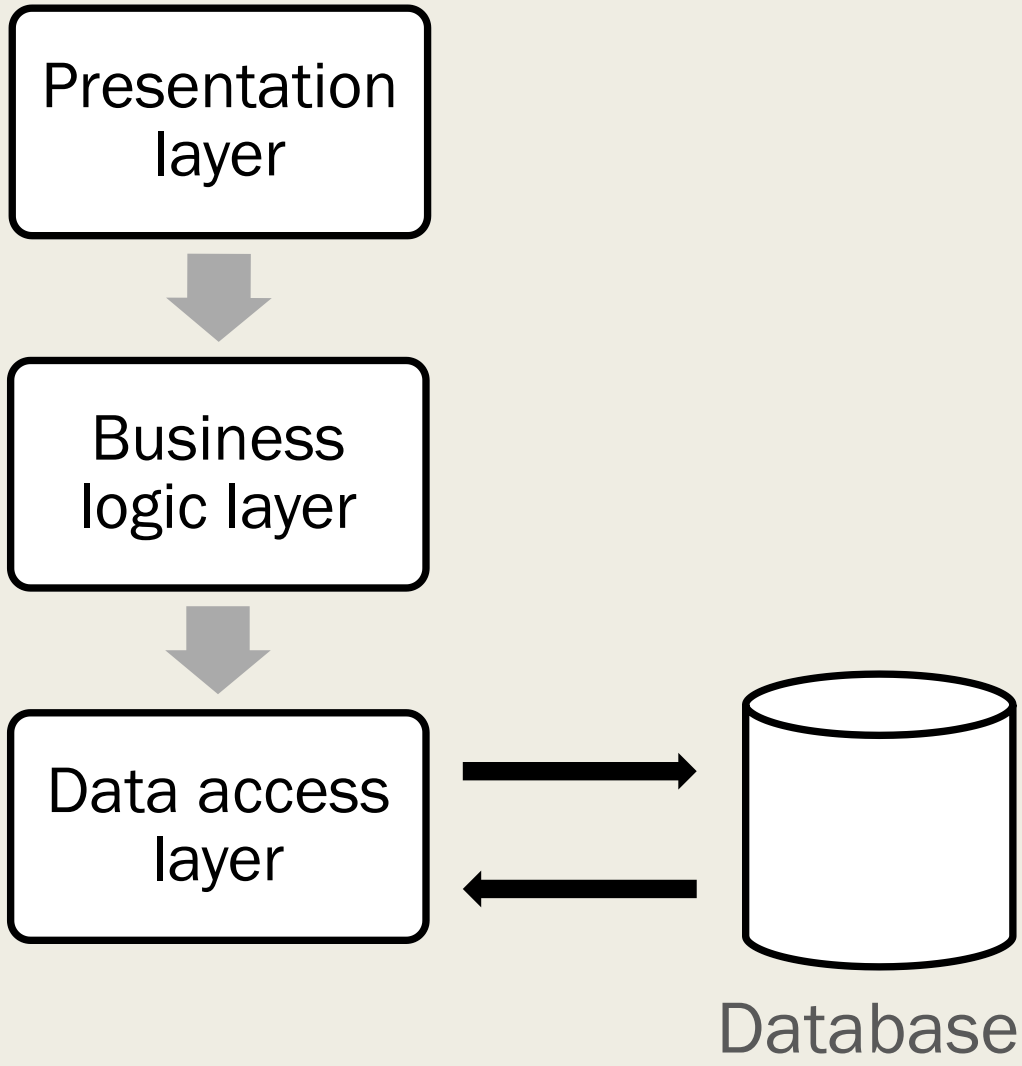
- The presentation tier displays information related to such services as browsing products, purchasing and shopping cart contents etc.

Presentation layers:

UI layer, view layer, presentation tier in multitier architecture

Most popular multilayer architecture

3-layer architecture



Benefits of using n-layer:

- Secure
- Easy to manage
- Scalable
- Flexible

More efficient development

N-tier architecture is very friendly for development, as different teams may work on each tier. This way, you can be sure the design and presentation professionals work on the presentation tier and the database experts work on the data tier.

Easy to add new features

If you want to introduce a new feature, you can add it to the appropriate tier without affecting the other tiers.

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Easy to reuse

Because the application is divided into independent tiers, you can easily reuse each tier for other software projects. For instance, if you want to use the same program, but for a different data set, you can just replicate the logic and presentation tiers and then create a new data tier.

QUESTIONS ?