

University of Science, VNU-HCM
Faculty of Information Technology

Software Architecture

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Department of Software Engineering



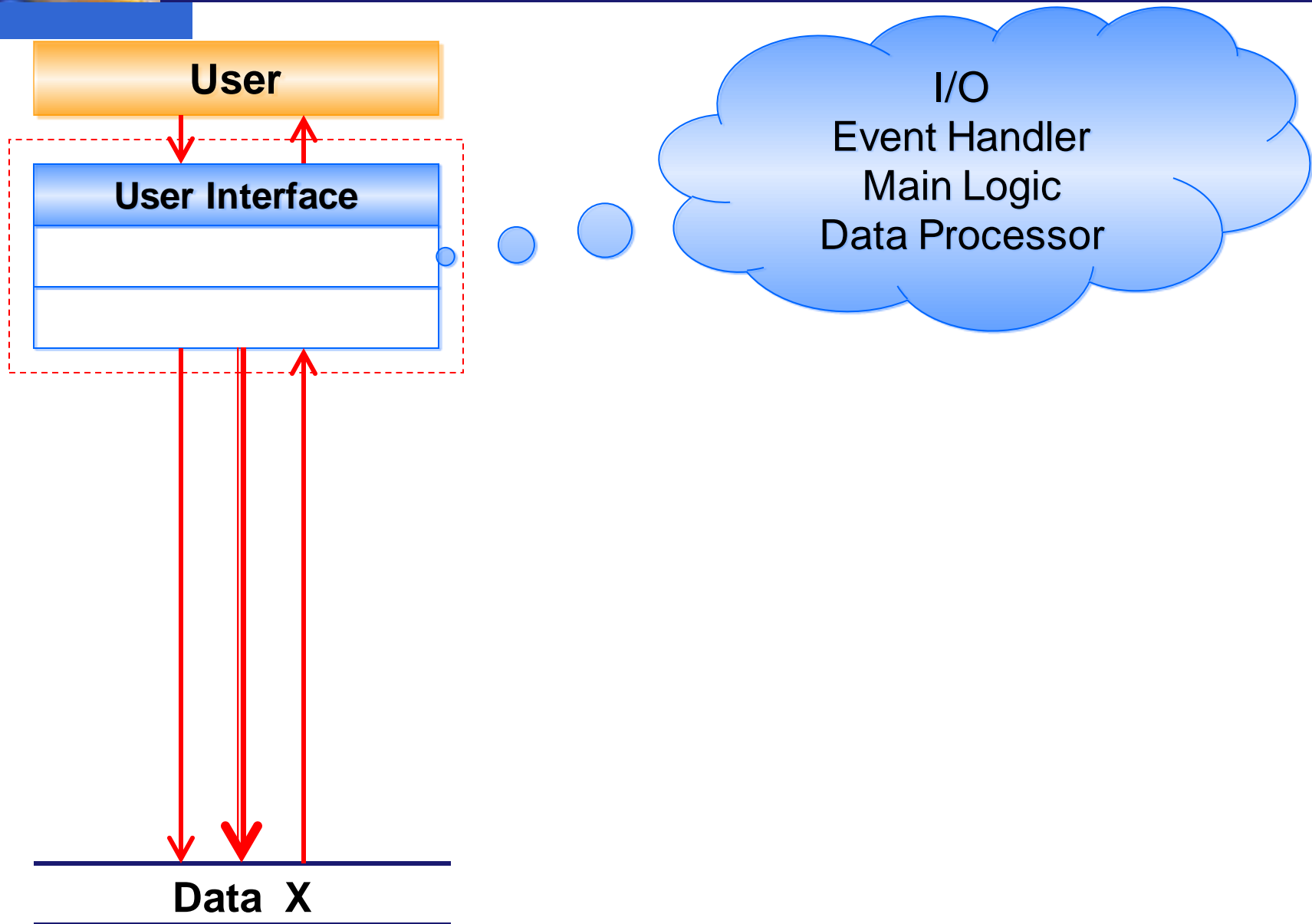
Software Analysis and Design



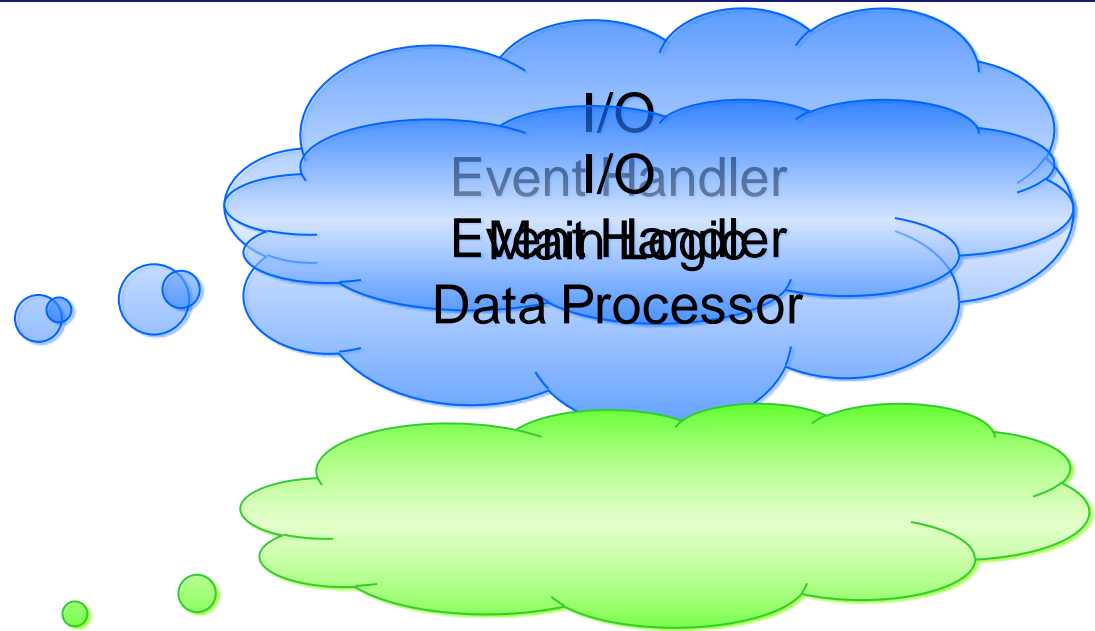
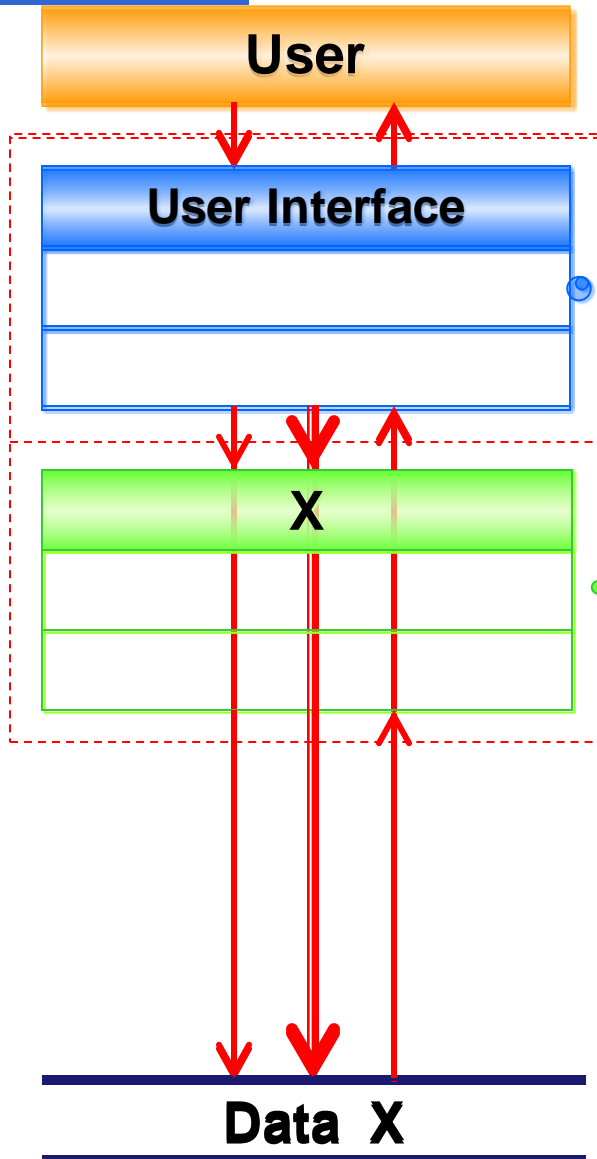
Nội dung

- ❖ Introduction
- ❖ Multi-layer Architecture
- ❖ Multi-tier Architecture

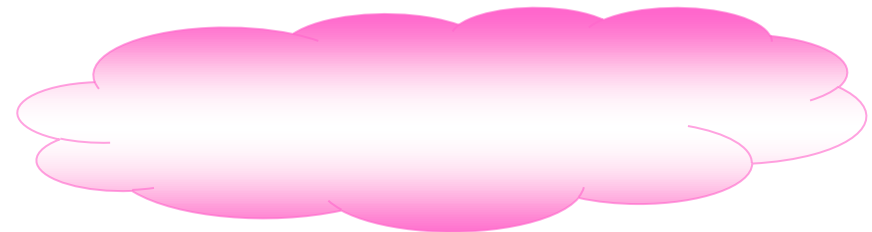
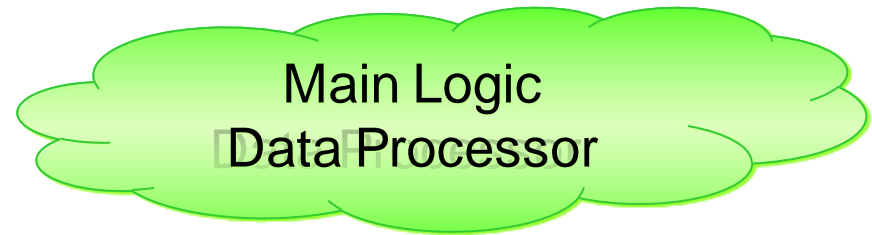
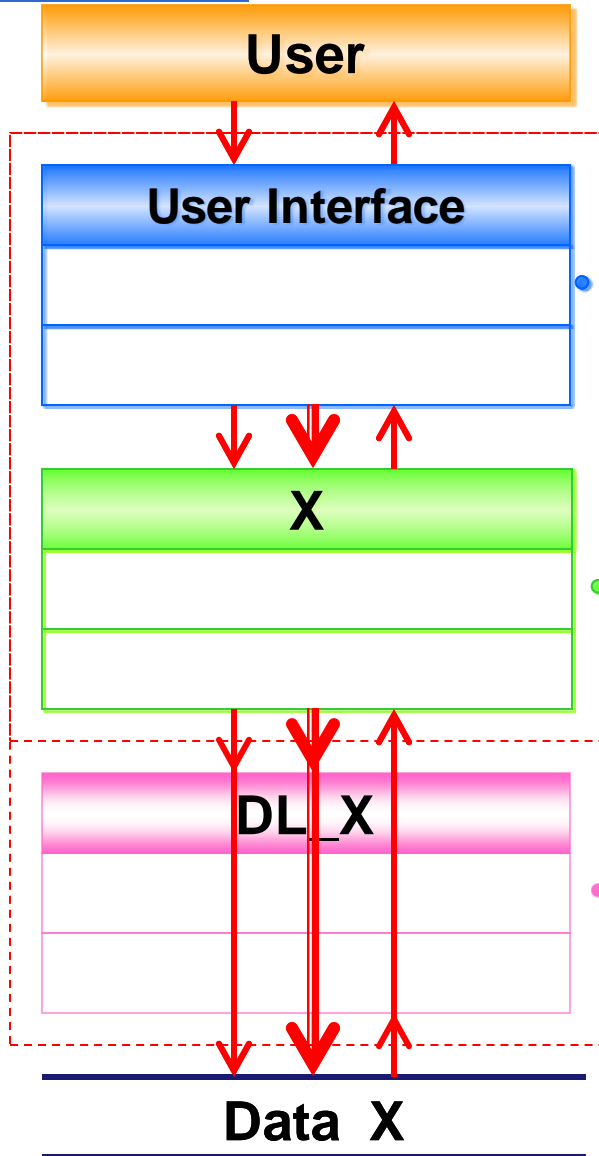
1-layer



2-layer



3-layer

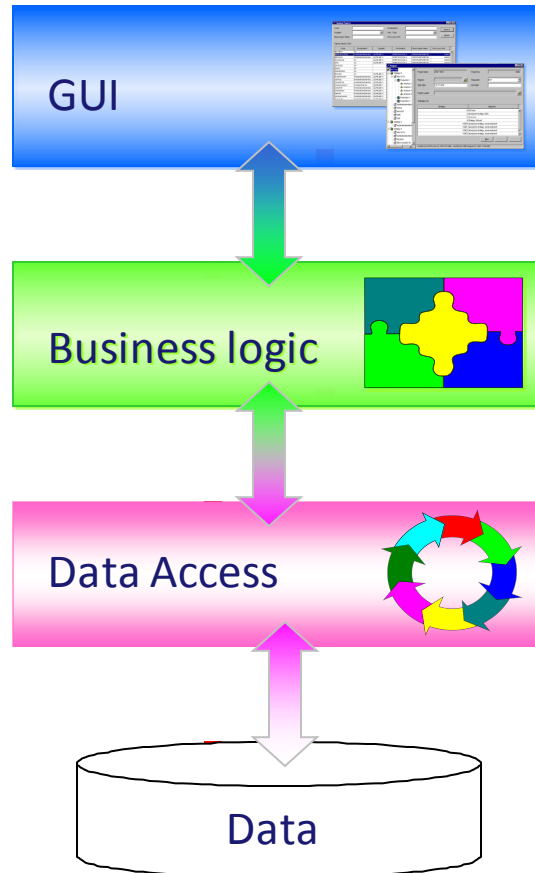




Layers?

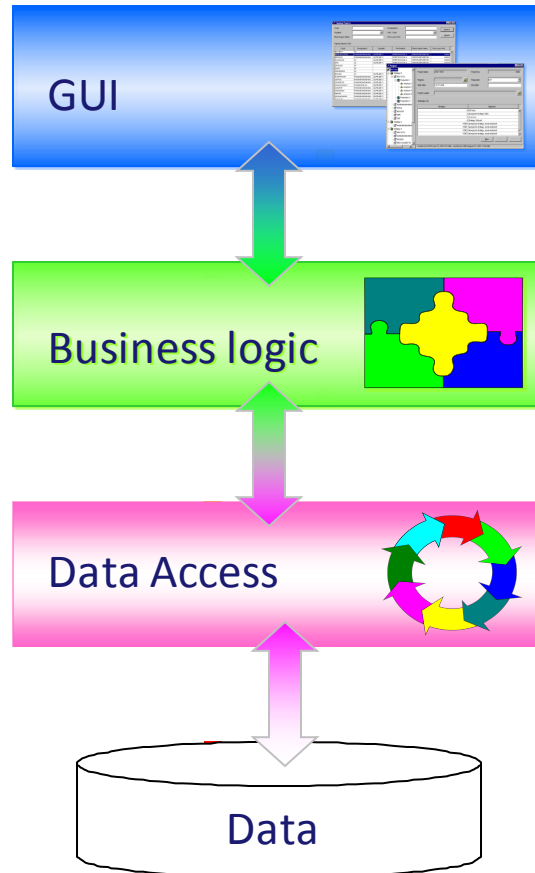
- ❖ GUI (Presentation) Layer
- ❖ Business Logic Layer
- ❖ Data Access Layer

Communication between layers



- Raw data, data rows...

Communication between layers



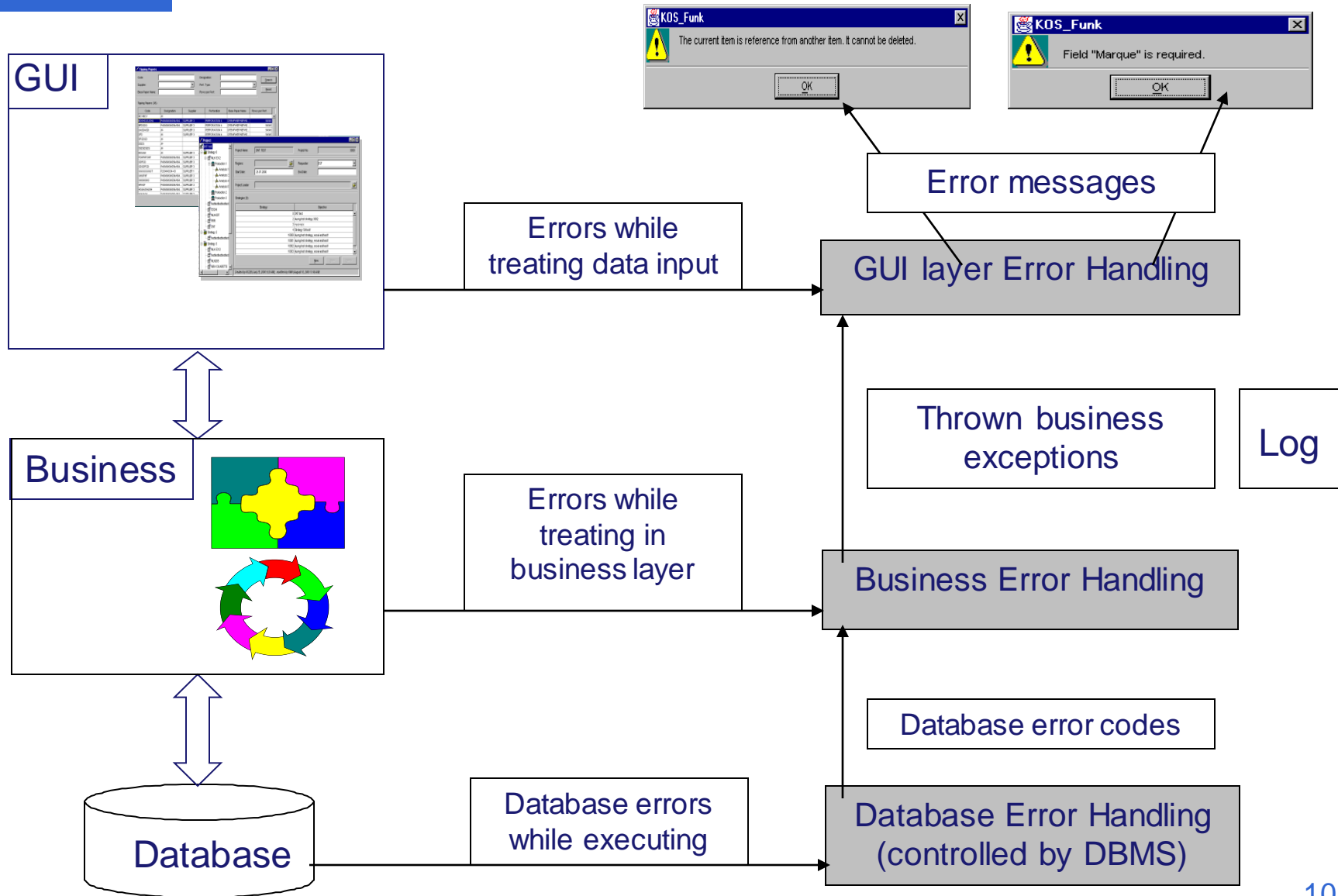
- Data Transfer Object (DTO)
- Raw data, data rows



Multi-layer Architecture

- ❖ Decoupling
- ❖ Re-usability
- ❖ Responsibility - Delegation

Exception Handling



1-tier, 3-layer

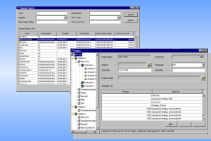
Physical view

Application + Data

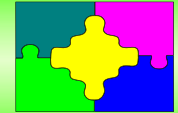


Logical view

GUI



Business logic



Data Access

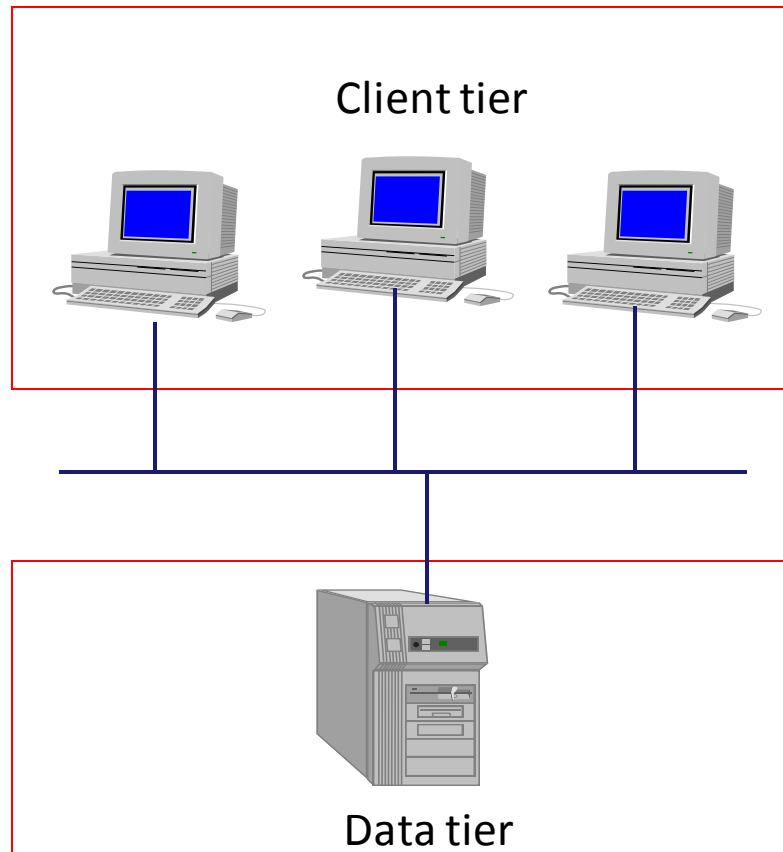


Data

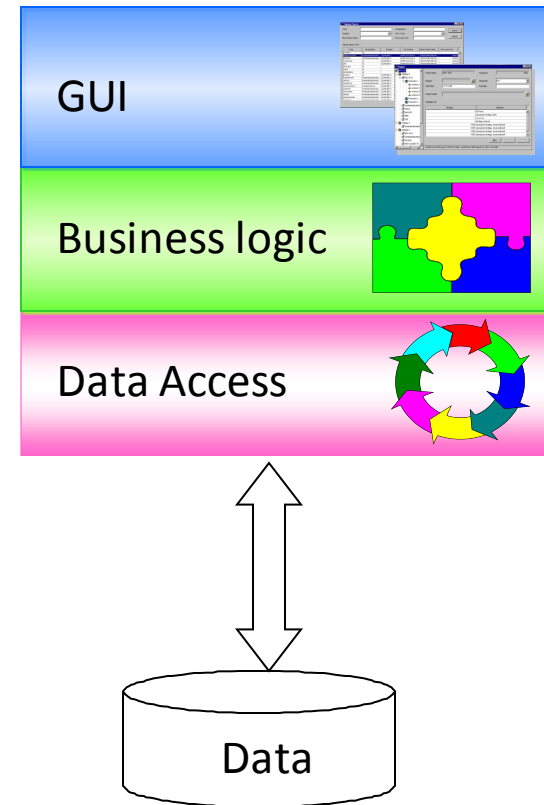


2-tier, 3-layer

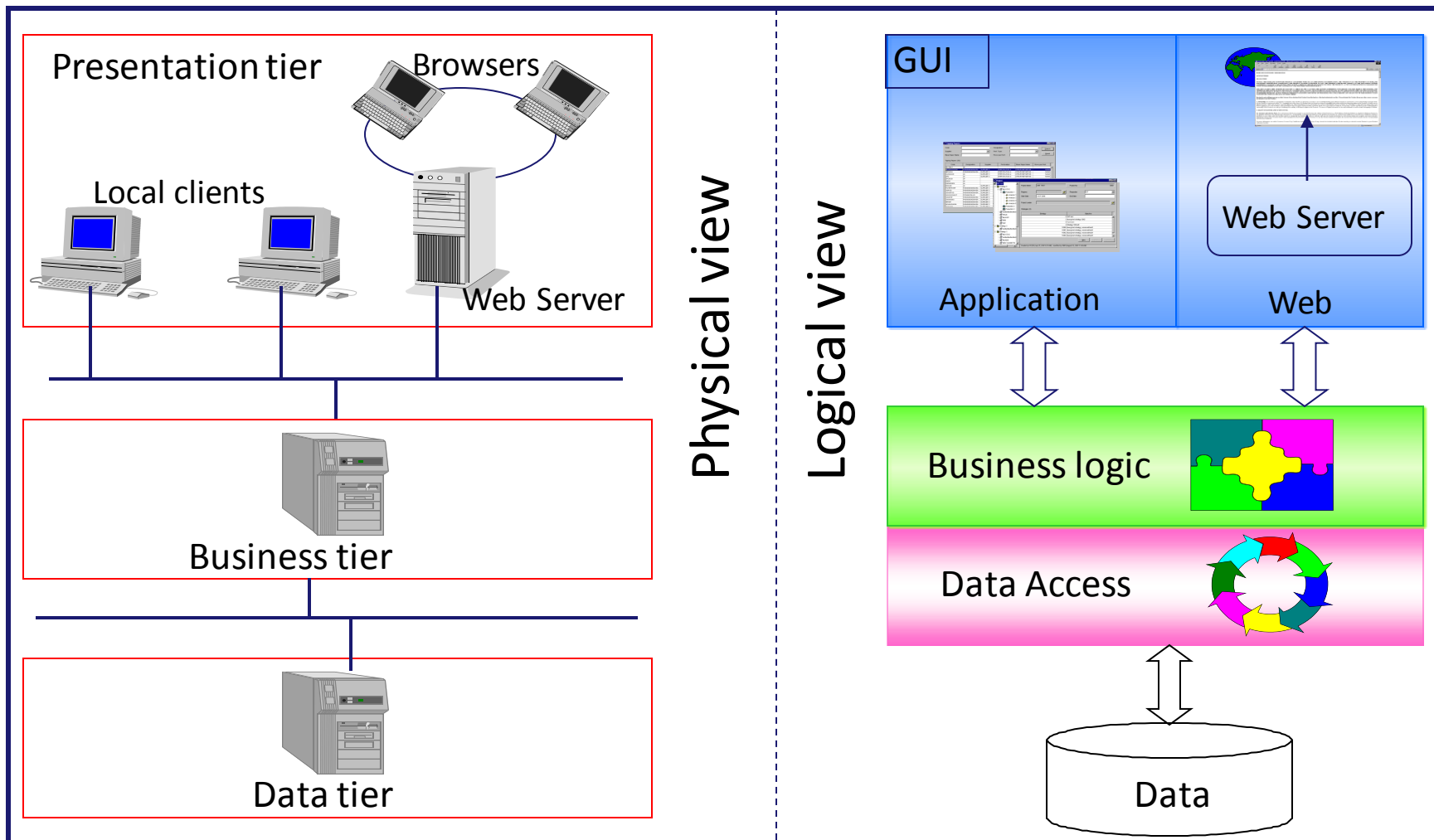
Physical view



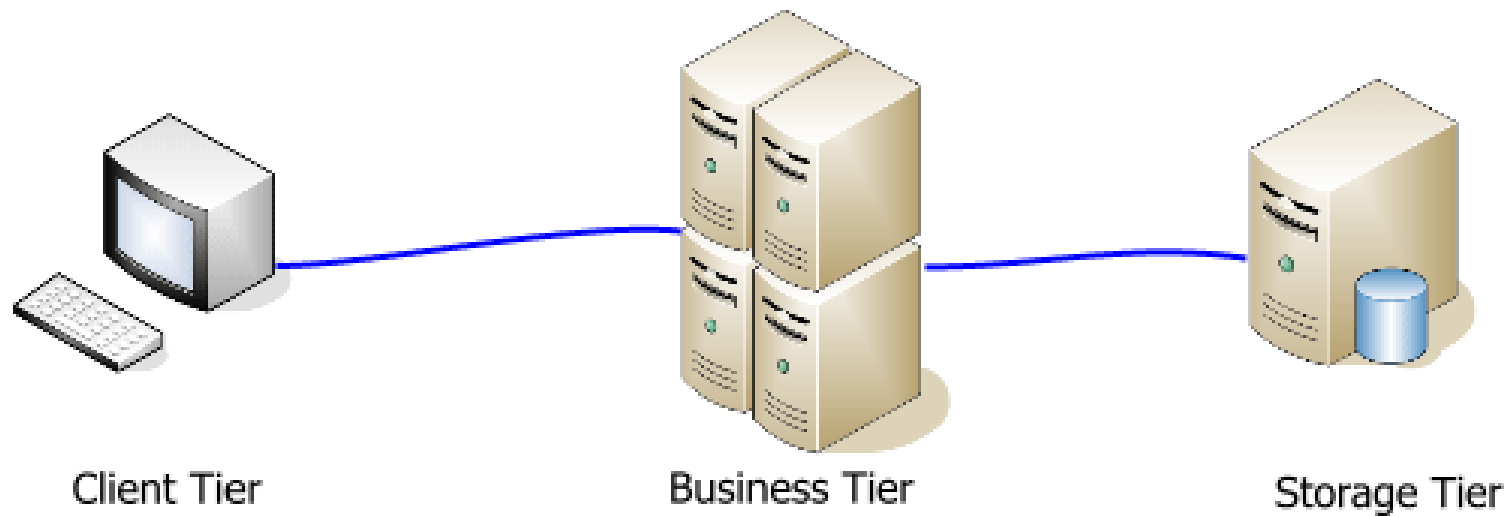
Logical view



3-tier, 3-layer



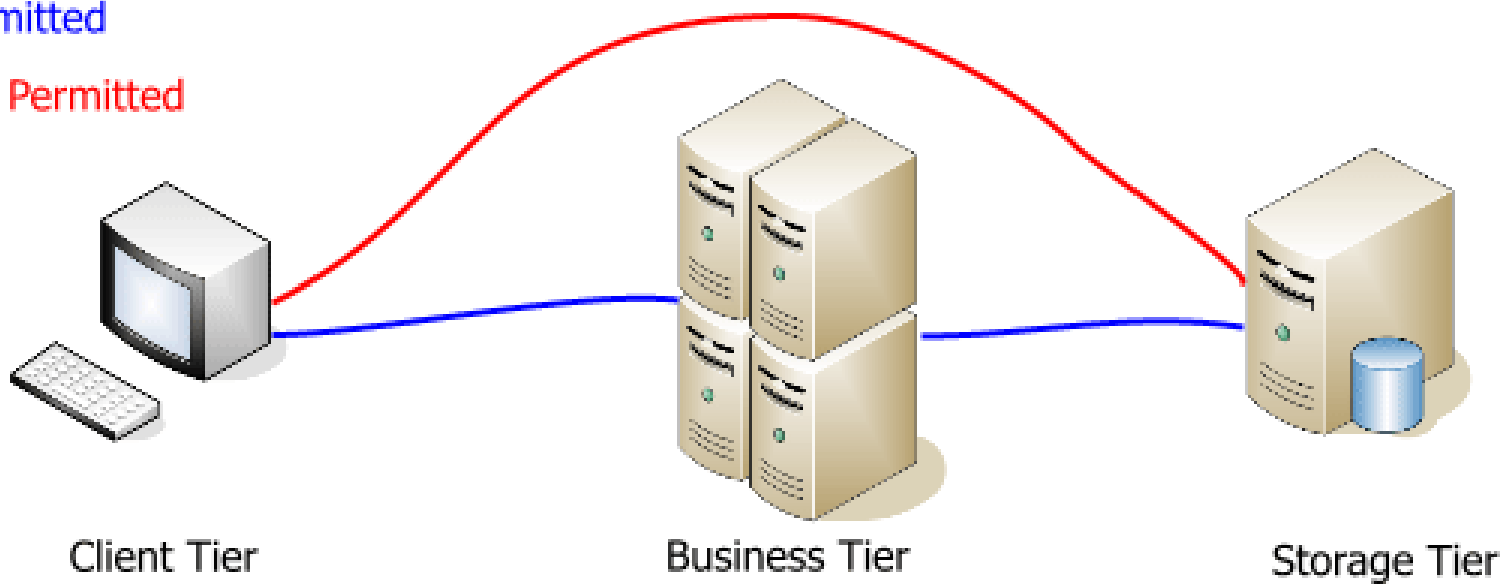
Physical tiers



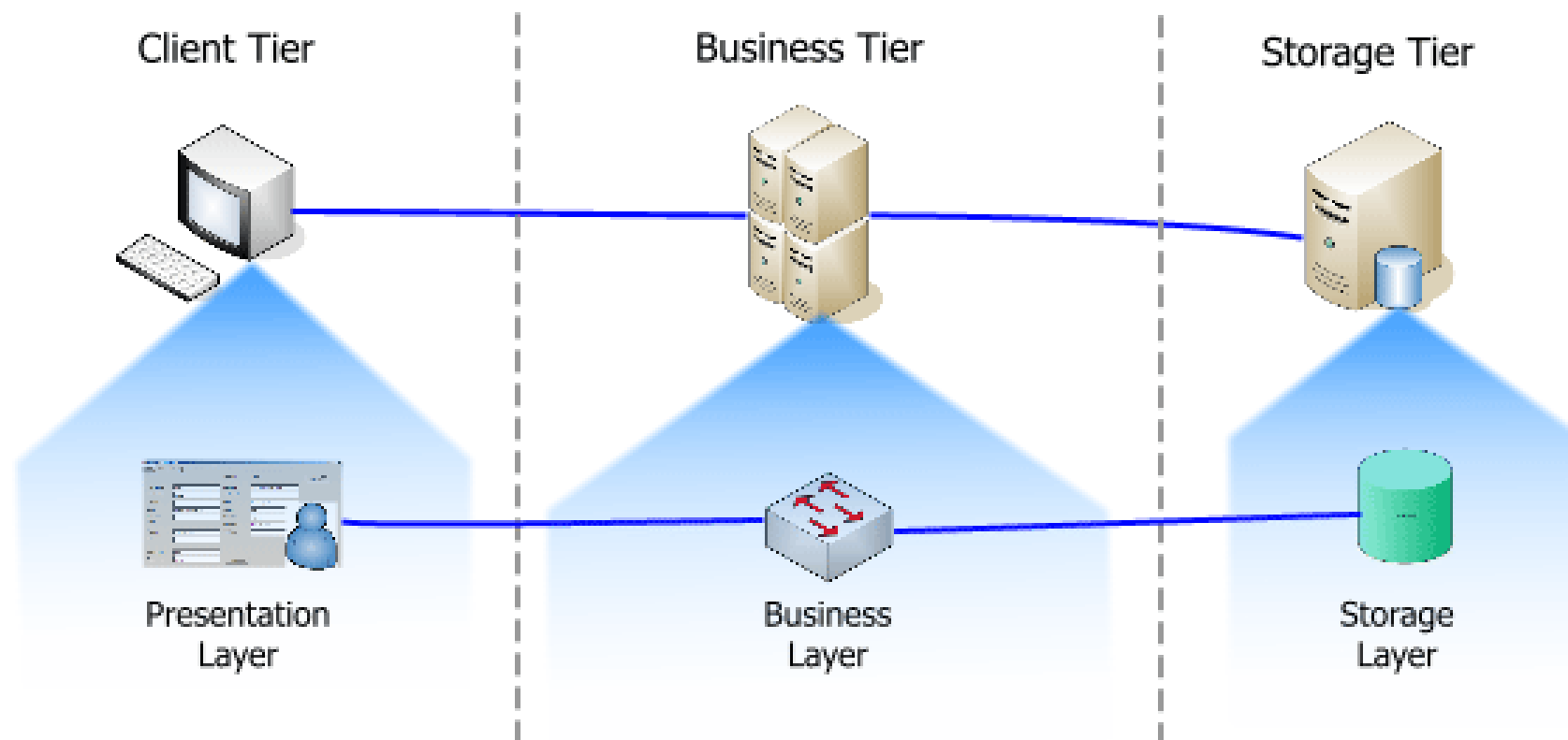
Physical tiers

Permitted

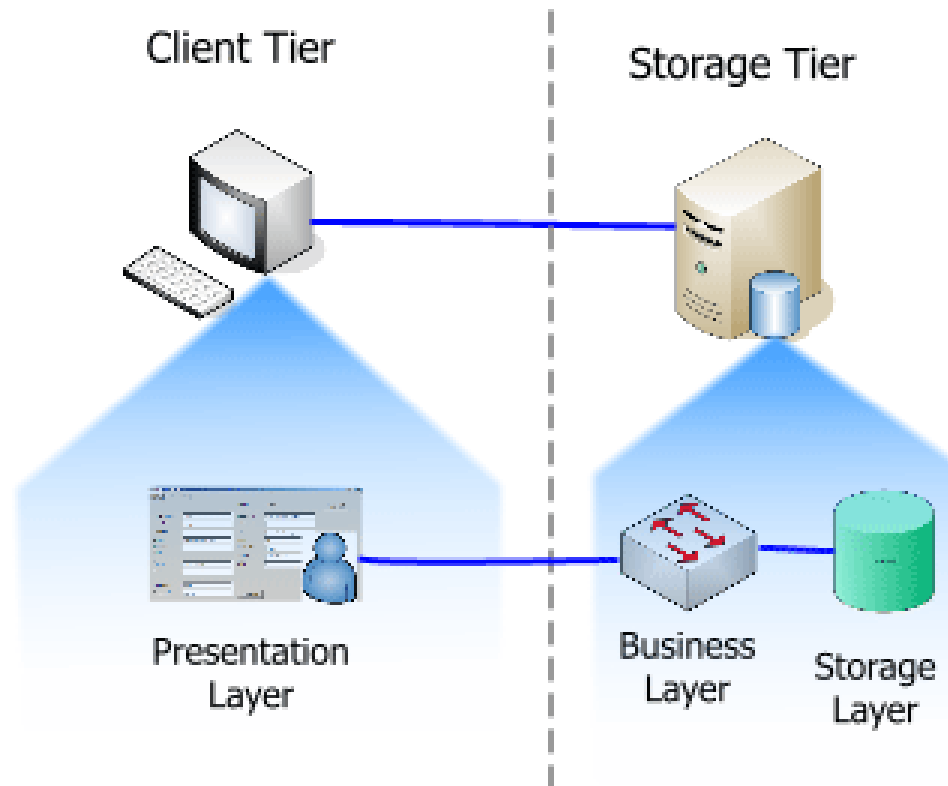
Not Permitted



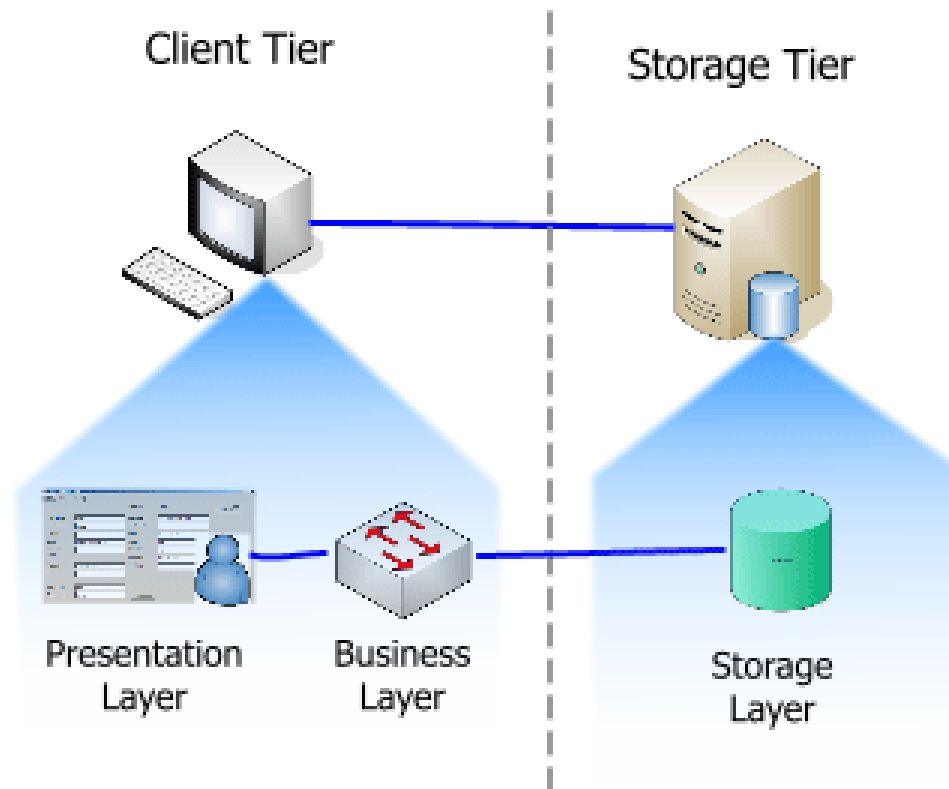
"Tiers of layers"



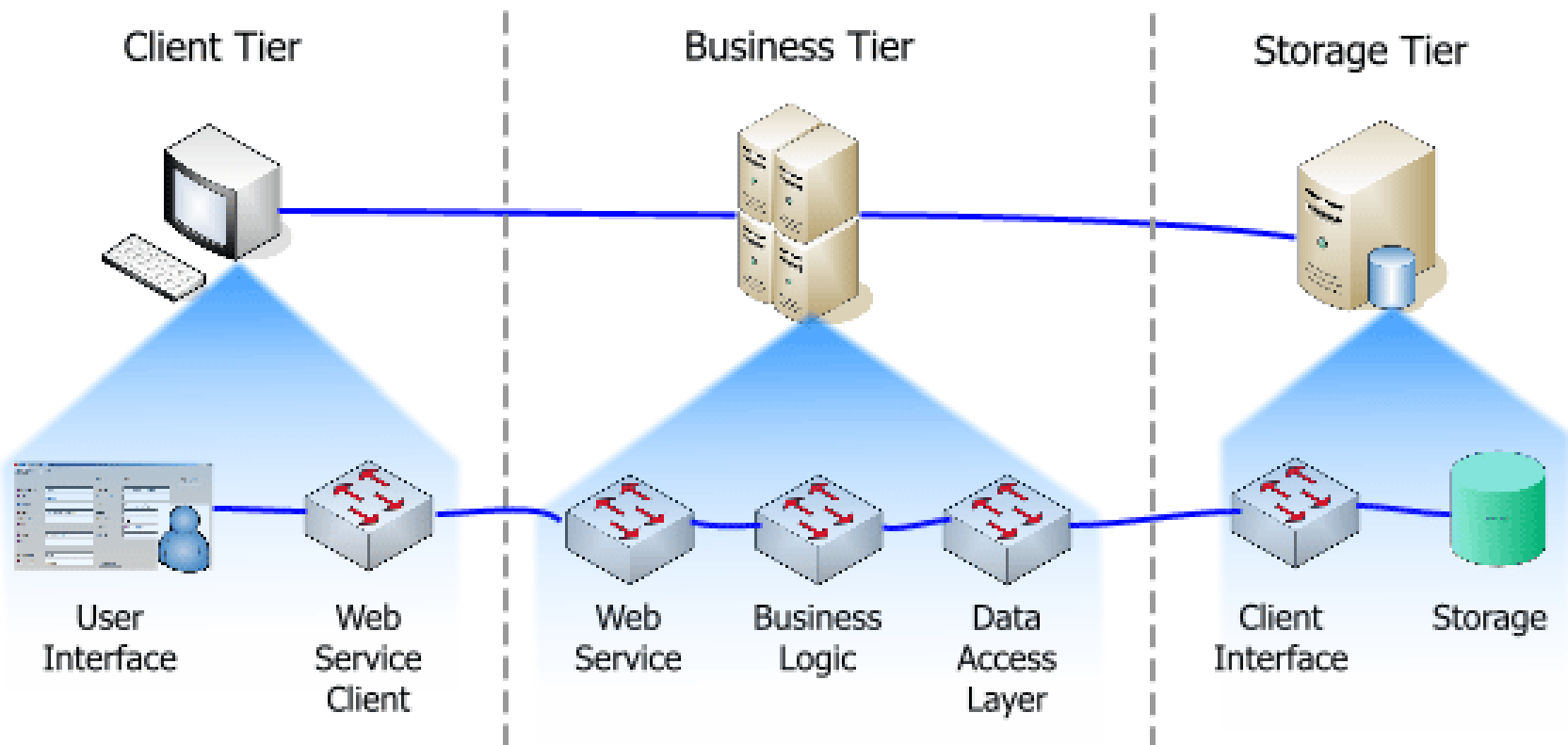
Business Layer at Storage Tier



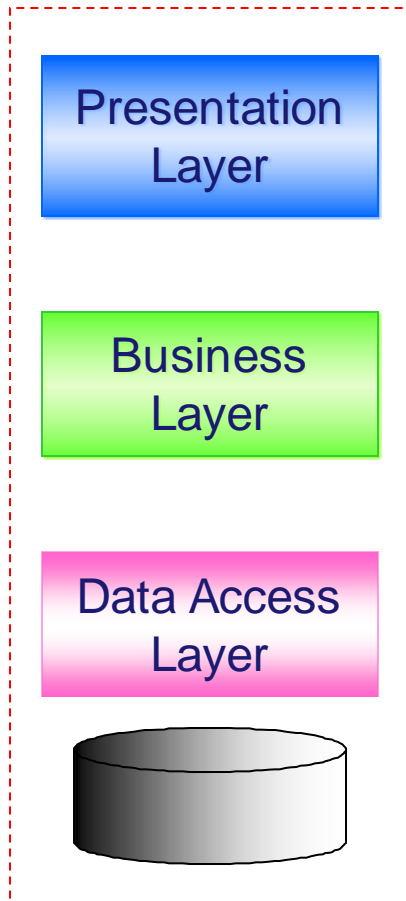
Business Layer at Client Tier



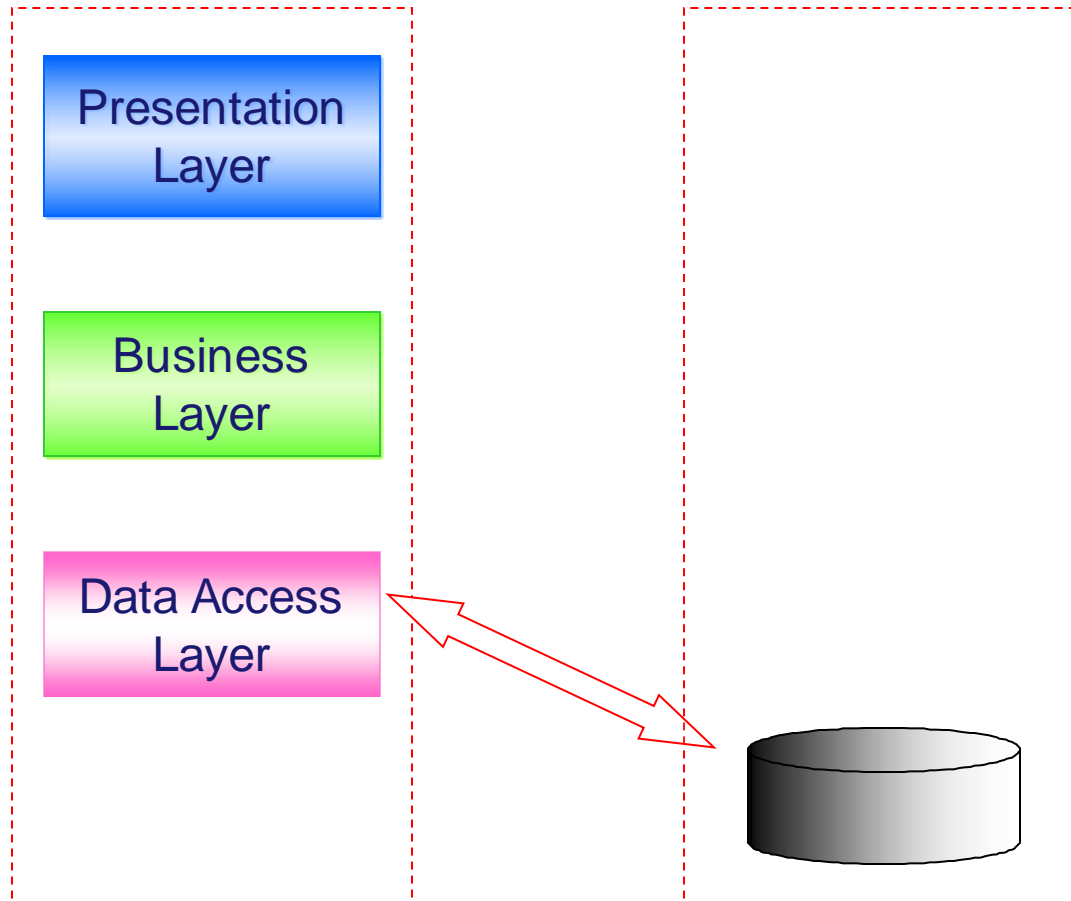
Example



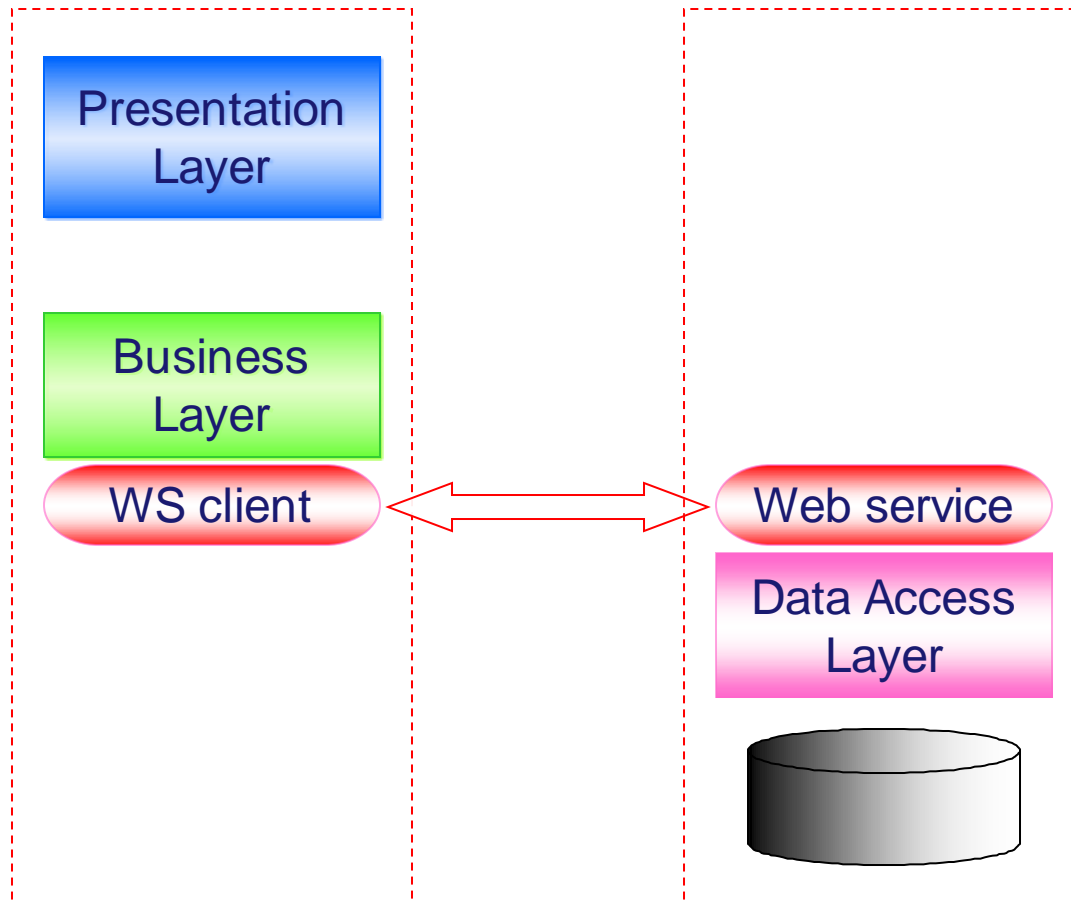
Example



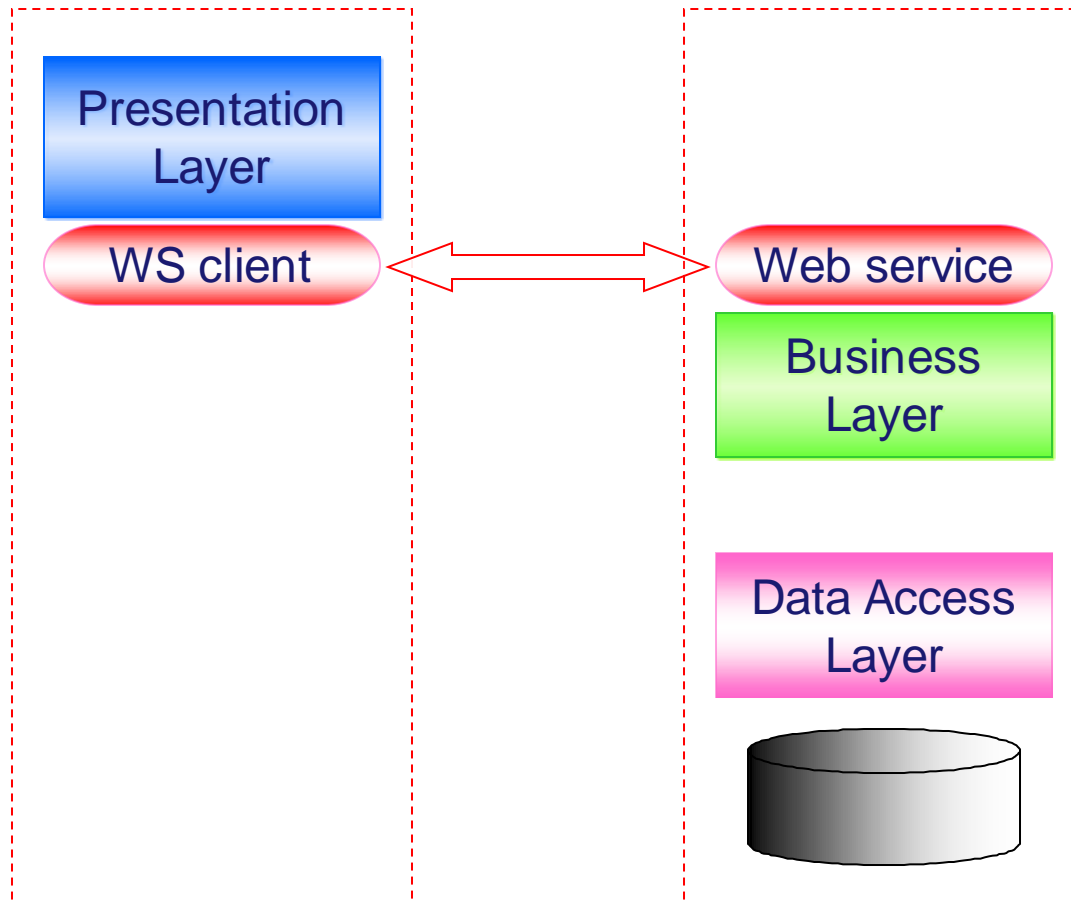
Example



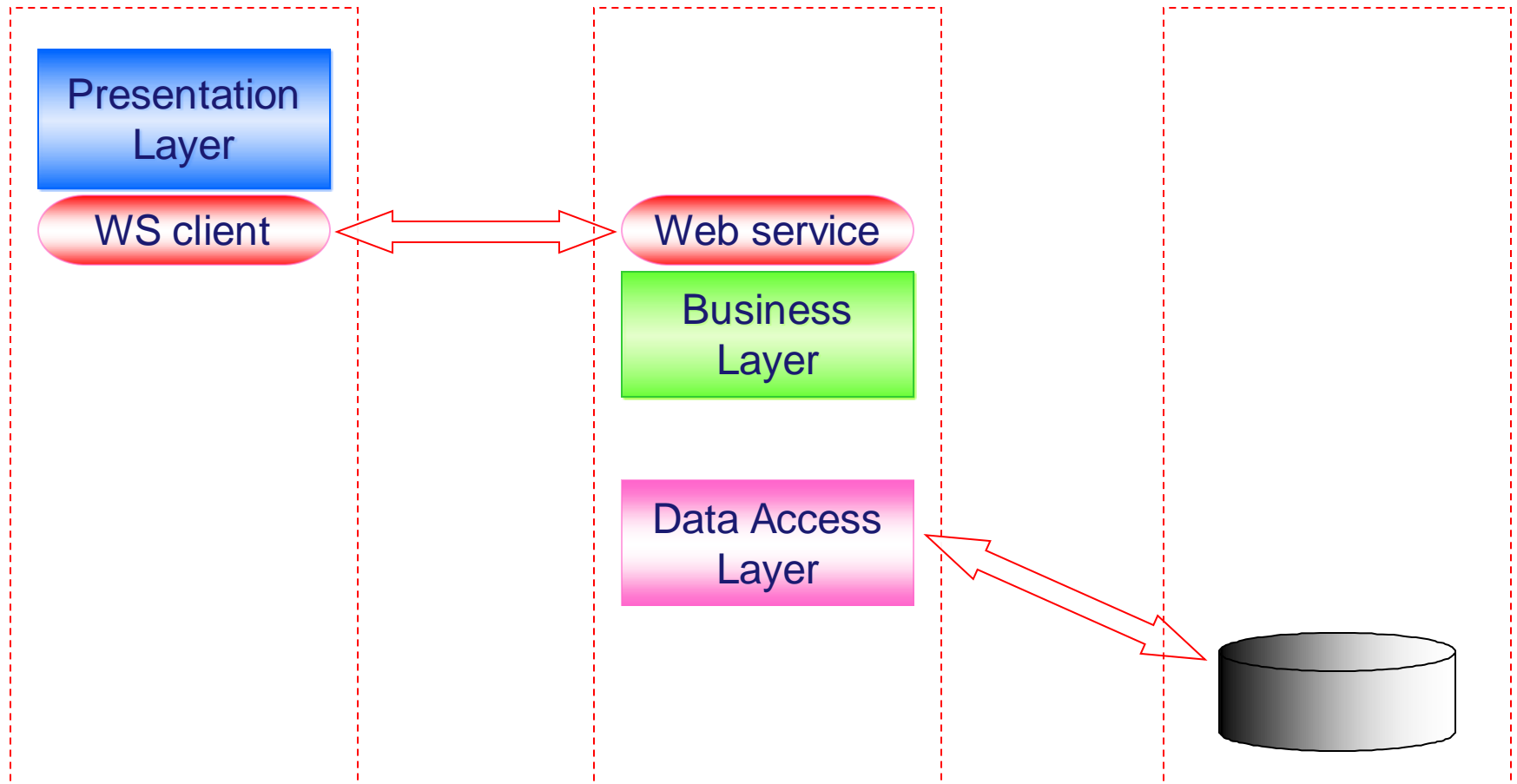
Example



Example



Example



Example

