Multitier Architectures

Multi-Tier Architectures

- In software engineering, **multi-tier architecture** (often referred to as ***n*-tier architecture**) is a client–server architecture in which presentation, application processing, and data management functions are logically separated.
- For example, an application that uses middleware to service data requests between a user and a database employs multi-tier architecture. The most widespread use of multi-tier architecture is the **three-tier architecture**

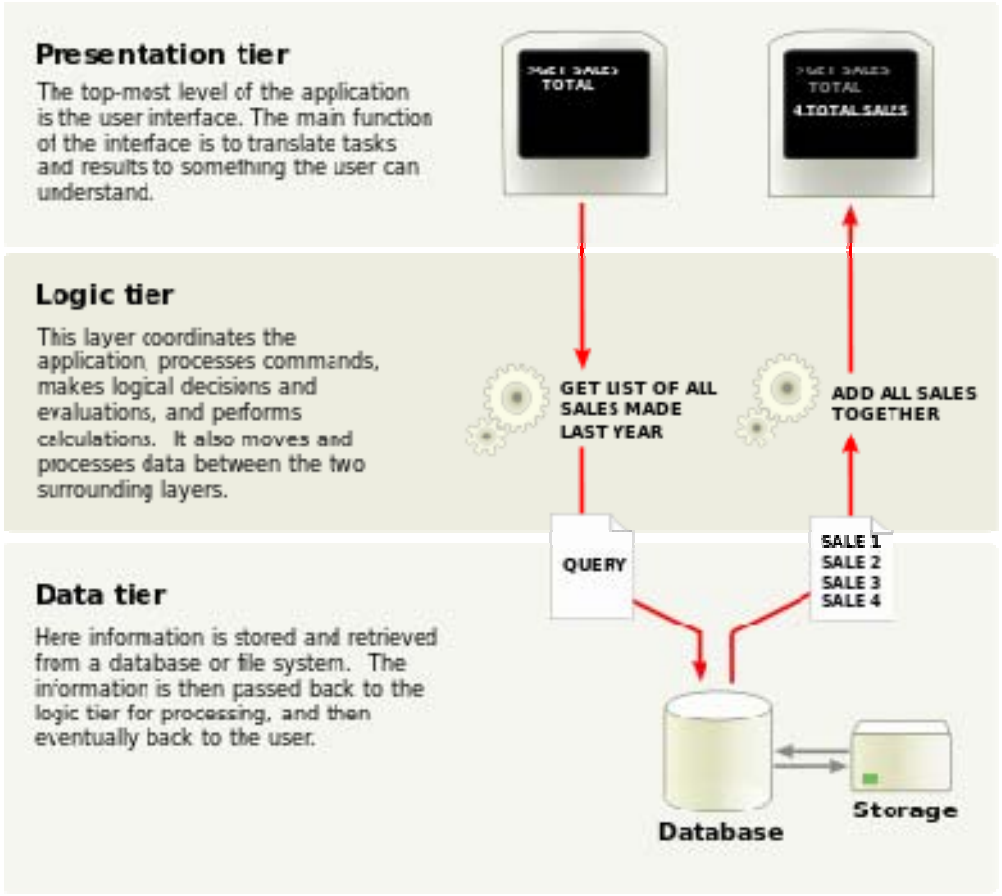
2-Tier Architectures - Client/Server

- The **client–server model** of computing is a distributed application structure that partitions tasks or workloads between the providers of a resource or service, called servers, and service requesters, called clients. Often clients and servers communicate over a computer network on separate hardware, but both client and server may reside in the same system.
- Popular Client/Server implementations platforms
  - CORBA
  - COM/DCOM
  - SOAP
  - REST Services

3-Tiered Architecture

- Three-tier architecture is a client–server architecture in which the user interface, functional process logic ("business rules"), computer data storage and data access are developed and maintained as independent modules, most often on separate platforms

Classic 3 Tiered Architecture



4-Tiered Architectures

- With the advent of richer and more custom UIs the 3-Tiered Architecture has evolved into a 4-Tier Architecture with the presentation tier being split into 2 parts
  - Server Side Presentation Tier
    - Generating the presentation tier code (This would be the View with the Mode-View-Controller pattern)
  - Client Side Presentation Tier
    - JavaScript, CSS – that the client uses to render the display

So Lets Consider the Web

- Which of the n-Tier Architectures works best for a website?
- Which of the n-Tier Architectures works best for a B2B exchanges?

Which of the n-Tier Architectures works best for a website?

- What kind of traffic flow to you get
  - Short-busty?
  - Long communications?
  - Lots of idle time?
  - More input than output?
  - More Output that input?

Which of the n-Tier Architectures works best for a B2B Exchanges?

- What kind of traffic flow to you get
  - Short-busty?
  - Long communications?
  - Lots of idle time?
  - More input than output?
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