

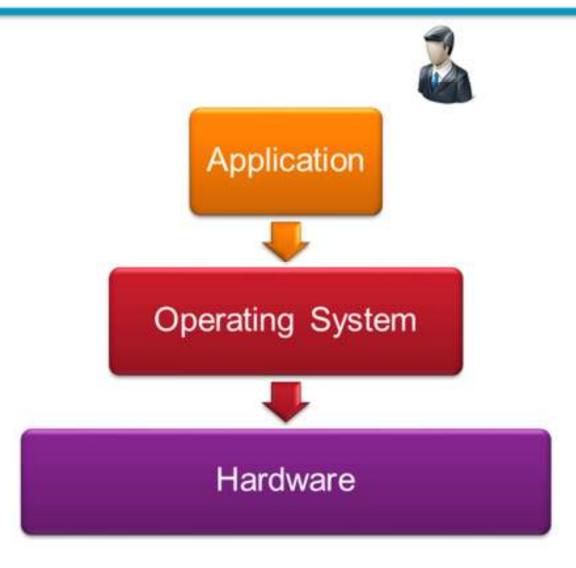


People matter, results count.

### Application : Definition

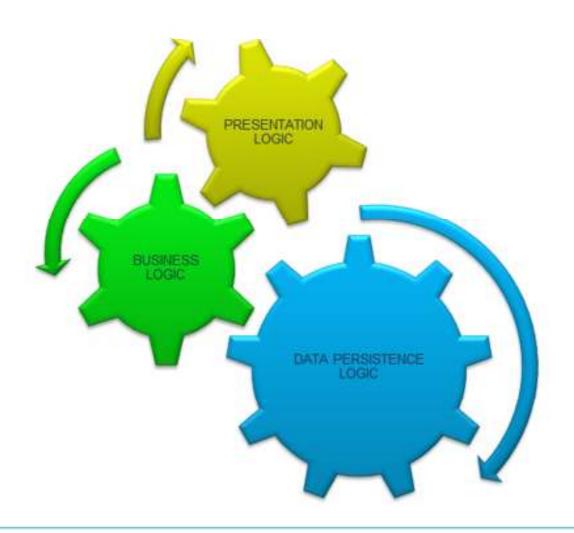
- An Application or Application Software is a program that is designed and built to satisfy a particular (business) requirement.
- An Application runs on a platform usually an operating system, which in turn runs on a hardware platform.







# Components





# Example: - TAX CALCULATOR APPLICATION











# Life Cycle of an Application



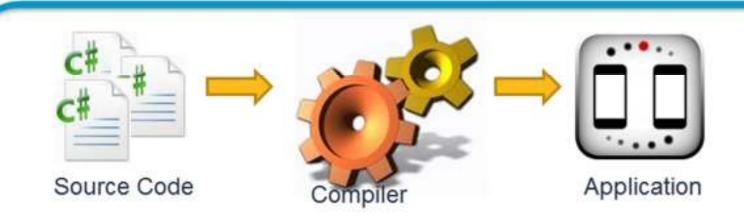


### **Application Types**

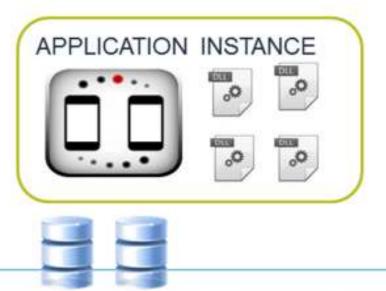
- ✓ Compiled
- ✓Interpreted



# Compilation

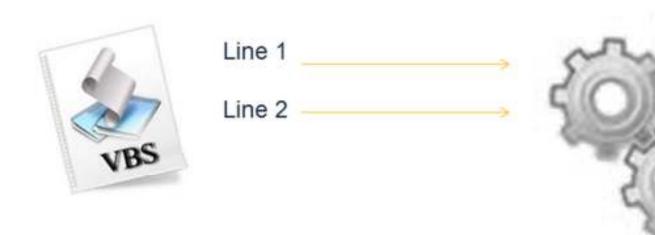








# Interpreted



Do Line 1 Do Line 2

# API – Application Programming Interface

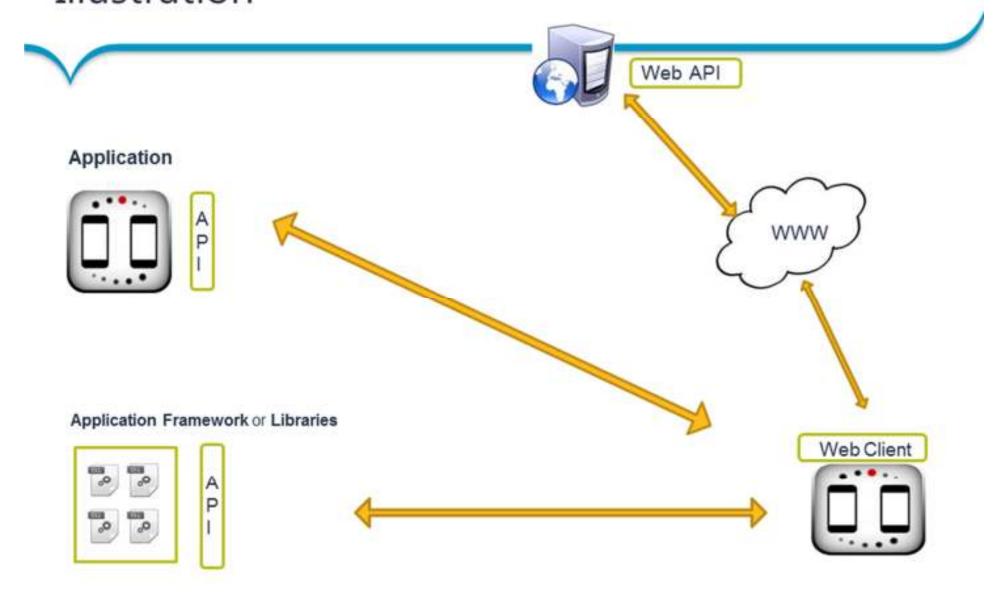
 An API is a set of specification sending and receiving data between applications in binary terms instead of User interfaces.







### Illustration





## Application to Application API Example

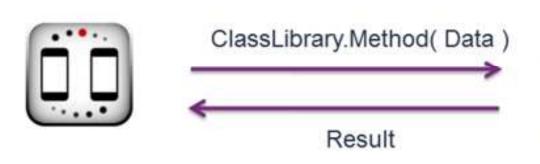


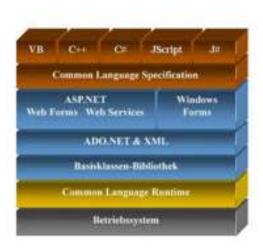
#### Scenarios:

- Automation
- Feature Extension



#### Application to Application Framework or Libraries : Example







### Application security

- Application security encompasses measures taken throughout the code's life-cycle
  to prevent gaps in the security policy of an application or the
  underlying system (vulnerabilities) through flaws in
  the design, development, deployment, upgrade, or maintenance of the
  application.
- Implementation Methodology
  - Identify threats & fix it.
  - Securing the network, host and application.
  - Incorporating security into your software development process.



#### Attacks and counter measures

- Attack: An action taken to harm an asset.
- Countermeasure: A safeguard that addresses a threat and mitigates risk.



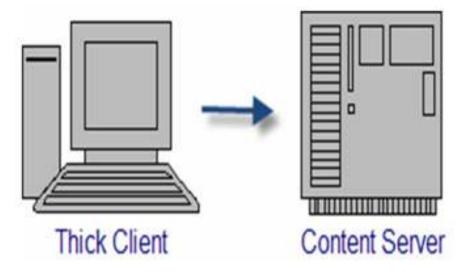
# Application Architecture Types

- Thick Client Application
- Eg: MS Word
- Thin Client Application
- Eg: Gmail
- Rich Internet Application
- Eg: Youtube

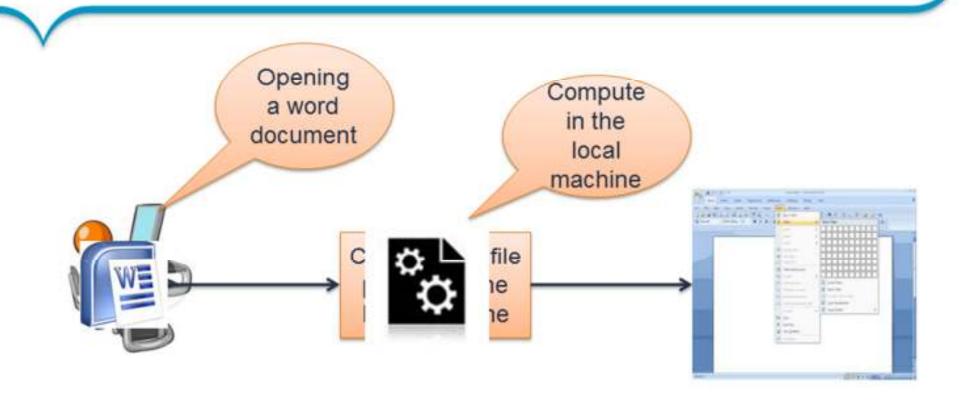


### Thick client application

- Thick clients, also called heavy clients, are full-featured computers that are connected to a network.
- Thick clients are functional whether they are connected to a network or not.
- The server may provide the thick client with programs and files that are not stored on the local machine's hard drive.









### Thin client application

- A client machine that relies on the server to perform the data processing.
- •Thin client usually refers to software, it is increasingly used for computers, such as network computers and Net PCs, that are designed to serve as the clients for client/server architectures.
- •A thin client is a network computer without a hard disk drive, whereas a fat client includes a disk drive.

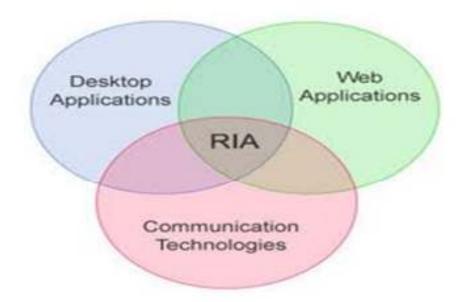






### Rich Internet application

- Web application that has many of the characteristics of desktop application software, typically delivered either by way of a site-specific browser, via a browser plug-in, or virtual machines.
- Adobe Flash, JavaFX, and Microsoft Silverlight are currently the three most common platforms

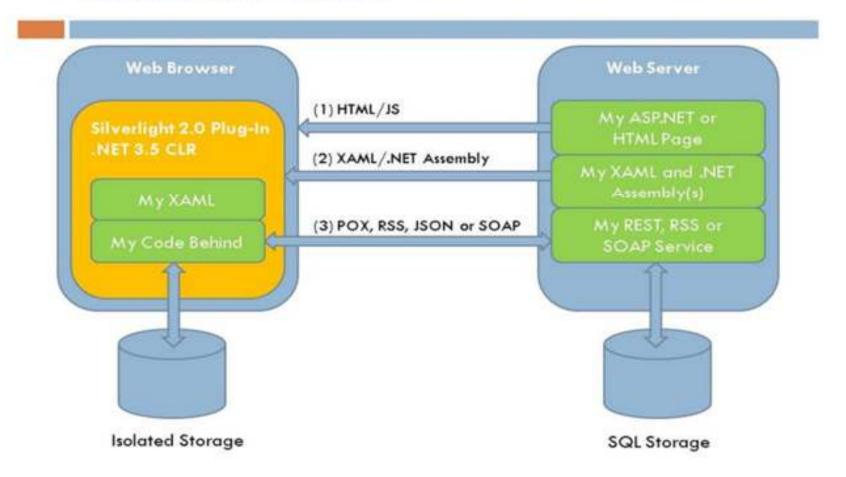








#### RIA Architecture





#### What is tier?

•Physical separation of the presentation, business, services, and data functionality of your design across separate computers and systems.

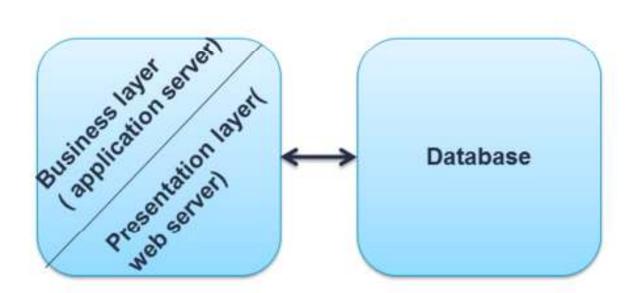
#### Types of tier:

2 tier



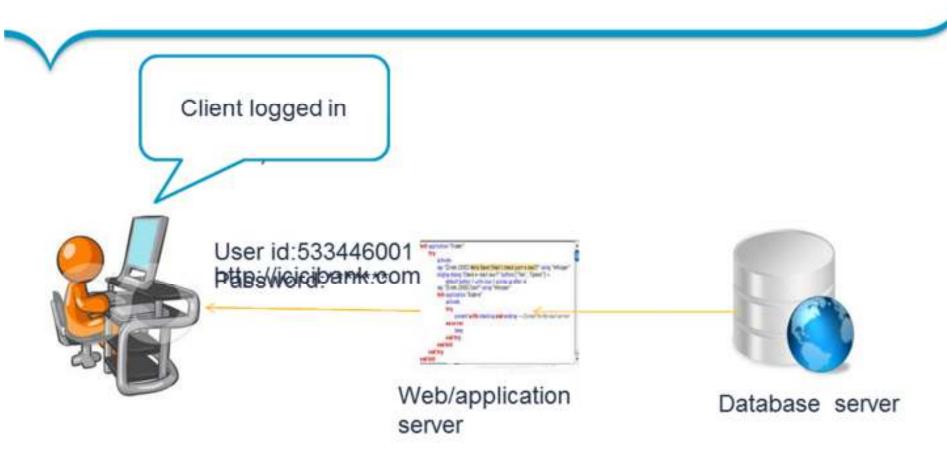
### 2 Tier Application

- Business logic and presentation >> Separate server
- Database >> Separate server





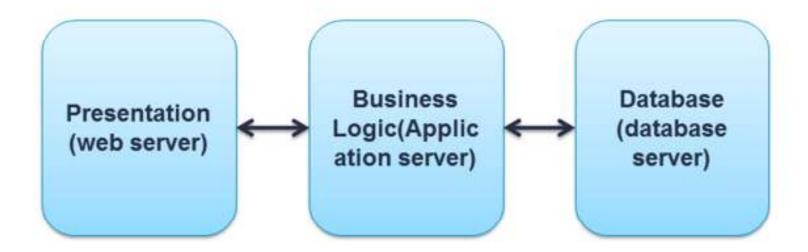
#### Two tier Application





### Three tier Application

- Business logic >> Separate server
- presentation >> Separate server
- Database >> Separate server





# Three tier Application

