3 tier architecture

## What is 3-tier architecture?

* 3-tier architecture divides application into 3 tier and deploys them into different physical machines:  
  - Presentation tier: User interface to display information and collect data from users. Can be run on a web browser or desktop/mobile app  
  - Application tier: Process information, apply business logic and rules; access or modify data in the data layer  
  - Data tier: stores and manages data using SQL Server, MySQL, MongoDB...

### Tiers and layers

| Layer | Tier |
| --- | --- |
| logical separation of code | physical separation of code |
| in different projects (.dll code) in the same machine | deployed on different machines |
| communicates by passing object between layers | send data over the network |
| improve **readability** and **reusability** | advantage of layers + **scalability** |

* A tier can contains multiple layers:
  + Presentation tier: HTML/CSS/JS, Flutter code...
  + Application tier (Web server):
    - API layer: contains controllers to handle HTTP requests
    - Business logic layer: Contains business logic
    - Data access layer: providing simplified access to data in database
  + Data tier: MSSQL Server