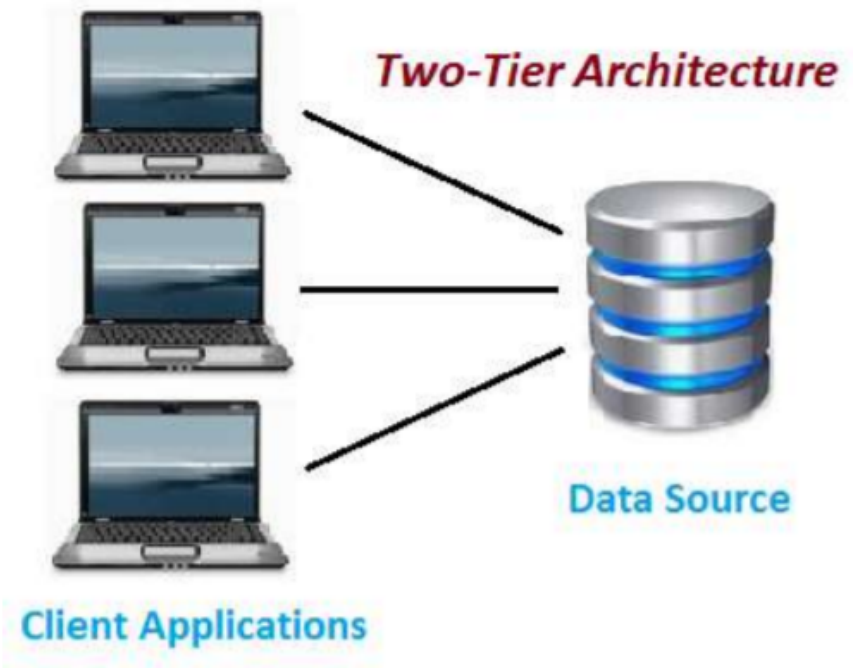
Database Architecture

Two Tier Architecture

DBMS architecture 2 layer architecture Client-Server The client that runs the application and the server that handles the database back-end Multiple users able to access the DB simultaneously. Server is processing data while the client for business logic and presentation.



Two parts:
1) Client Application (Client Tier)
2) Database (Data Tier)

On client application side the code is written for saving the data in the SQL server database

Advantages:

- Easy to maintain and modification is bit easy
- Communication is faster

Disadvantages:

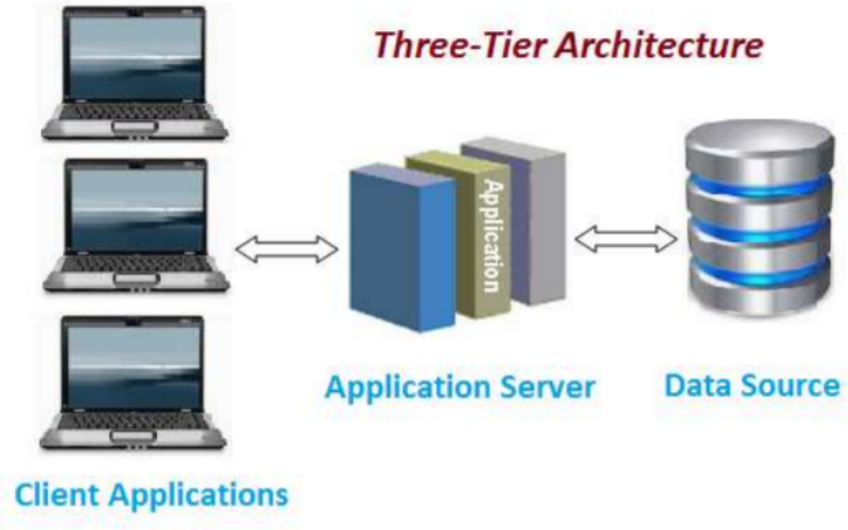
Performance will be degrade upon increasing the users
Cost-ineffective

Three Tier Architecture

- These Applications run on the Traditional Client/Server Model But from an Application server.
- Client only Displays the GUI and data, but has no part in producing results
- Database Server Serves to few Connections

Three layers:

1) Client layer
2) Business layer
3) Data layer



Client Layer
Contains the UI part of our application.
This layer is used for the design purpose where data is presented to the user or input is taken from the user

Business layer
All business logic written like validation of data, calculations, data insertion etc.
This acts as an interface between Client layer and Data Access Layer.
Make communication faster between client and data layer.

Data layer
Actual database comes in the picture.
Contains methods to connect with the database and to perform insert, update, delete, get data from the database based on our input data.

Advantages

- Performance :Because the Presentation tier can cache requests, network utilization is minimized, and the load is reduced on the Application and Data tiers.
- Scalability: Each tier can scale horizontally
- Better Reuse
- High degree of flexibility in deployment platform and configuration
- Improve Data Integrity
- Improved Security – Client is not direct access to the database.
- Easy to maintain and modification is bit easy, won't affect other modules