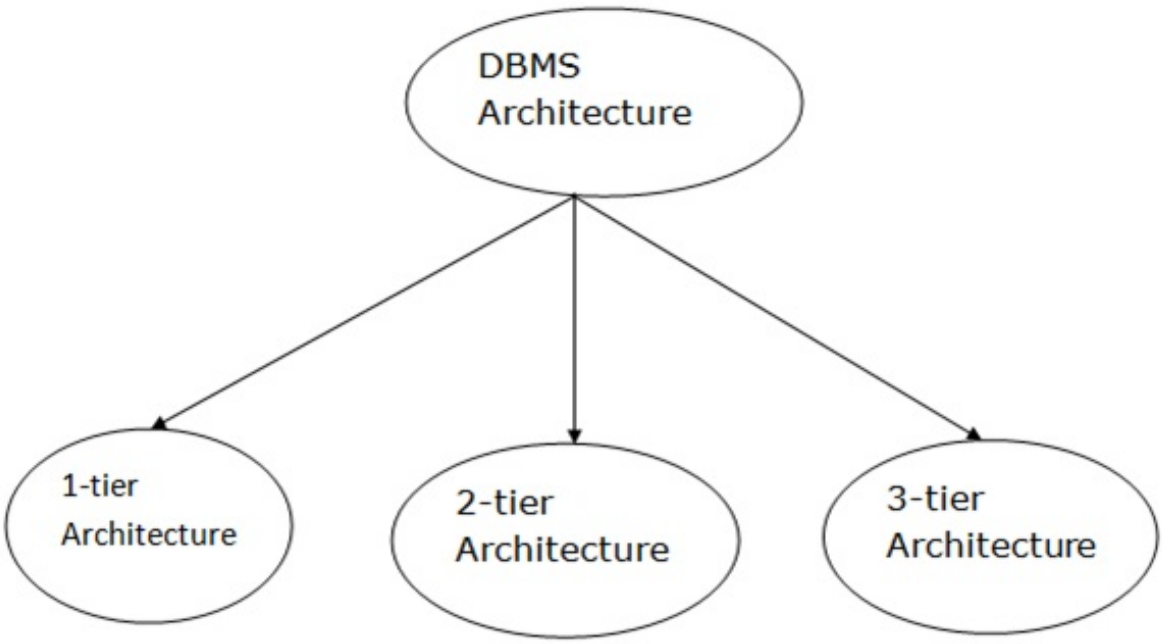
DBMS Architecture

The DBMS design depends upon its architecture. Database architecture depends upon how users are connected to the database to get their request done.

Types of DBMS Architecture



Database architecture can be seen as single tier or multi-tier. But logically, database architecture is of two types like: **two tier architecture** and **three tier architecture**.

1-Tier Architecture

- In the 1-Tier architecture, database is directly available to the user. It means user can directly sits on the DBMS and uses it.
- The 1-Tier architecture is used for development of local application, where programmers directly communicate with the database for quick response.

2-Tier Architecture

- The 2-Tier architecture is same as basic client-server. In the two tier architecture, applications on the client end can directly communicate with the database at the server side. For this interaction, API's like: **ODBC**, **JDBC** are used.
- The user interfaces and application programs are run on client side.
- The server side is responsible to provide the functionalities like: query processing and transaction management.
- To communicate with the DBMS, client side application establishes a connection with the server side.

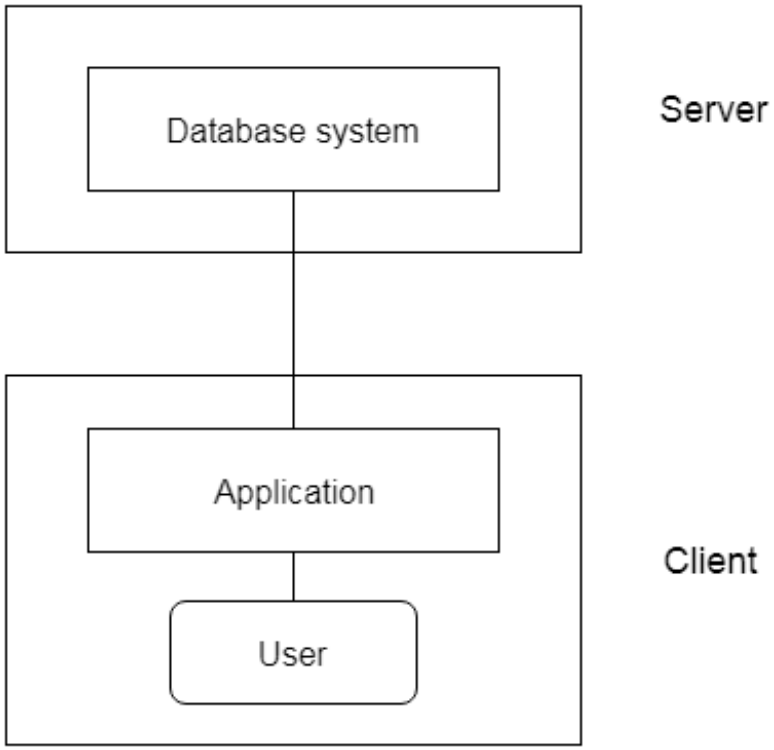


Fig: 2-tier Architecture

3-Tier Architecture

- The 3-Tier architecture contains another layer between the client and server. In this architecture, client can't directly communicate with the server.
- The application on the client-end interacts with an application server which further communicates with the database system.
- End user has no idea about the existence of the database beyond the application server. The database also has no idea about any other user beyond the application.
- The 3-Tier architecture is used in case of large web application.

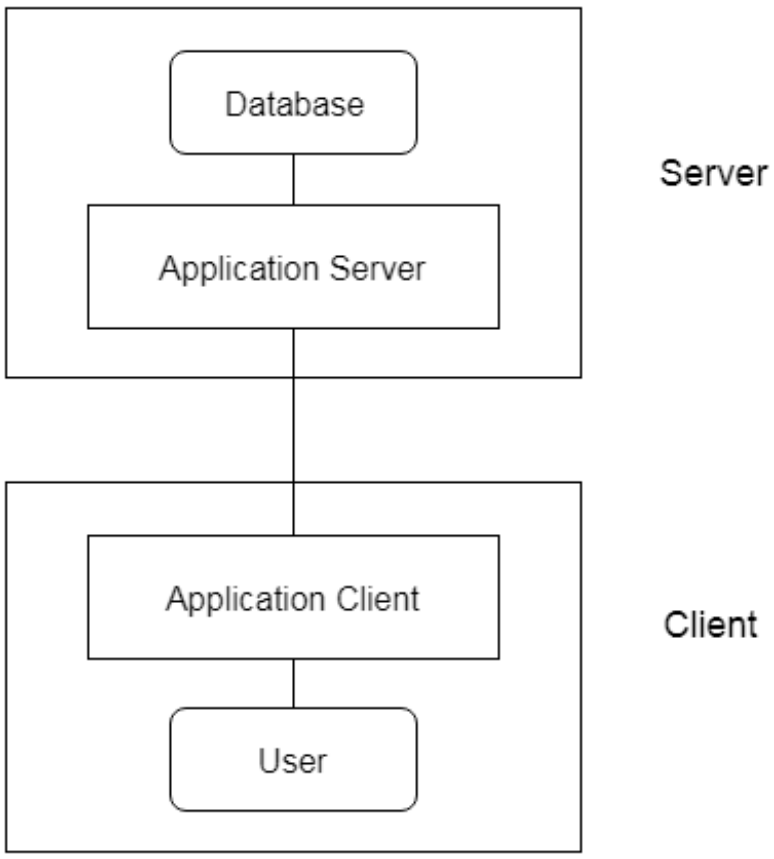


Fig: 3-tier Architecture