

⇒ Application interface se user ko query bhejega (jese mujhe apni post pe comments dekhne hain), phir query processor me wo query execute hogi, ab jo data h wo disk storage me pda hoga to storage manager use wahan se le ke aiga.

Database Users: Users are differentiated by the way they expect to interact with the system.

- Application Programmers: interact with systems through DML calls, write applications programs.
- Sophisticated Users: form requests in a database query language.
- Specialized Users: write specialized database applications that do not fit into the traditional data processing framework.
- Naive users: invoke one of the permanent applications that have been written previously.

### Query Processor

- DDL Interpreter: which interprets DDL statements & records the definitions in the data dictionary.
- DML Compiler: translates DML statements to evaluation plans. Also perform query optimization (pick the lowest cost evaluation plan from among the alternatives).



- Query Evaluation Engine executes low level instructions generated by DB compiler.

Storage Manager : Provide interface b/w low level data in database & application program.

Components :

- Authorization & integrity manager : define role and responsibility for users, and provide integrity checks.
- Transaction manager : ensure DB consistency on concurrent access.
- File Manager : manage allocation of disk space and data structure used for storing data.
- Buffer Manager : decide what data to cache.

Disk Storage :

- Data Files : which stores database itself.
- Data Dictionary : stores metadata about the structure of the database.
- Indices : provide fast access to data items.