



Database Management System-DBMS

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Today's Topic

- ▶ Transaction Management
- ▶ Storage Management
- ▶ Database Administrator
- ▶ Database Users
- ▶ Database System Structure

Transaction Management

- ▶ A **transaction** is a group of operations that performs a single logical function in a database application.
- ▶ The main task of the **Transaction-management** component is to ensure that the database remains in a consistent (correct) state despite **system failures** due to some unusual circumstances like power failures and operating system crashes and **transaction failures**.
- ▶ **Concurrency-control manager** is responsible to handle the interaction among the concurrent transactions, to ensure the consistency of the database.
- ▶ Two terms are used with Transactions i.e. Commit and Rollback.

Storage Management

- ▶ The task of the storage manager is to provide the interface between the low-level data stored in the database and the application programs and queries submitted to the system.
- ▶ The storage manager handles the request for the following tasks:
 - ▶ Interaction with the file manager
 - ▶ Efficient storing, retrieving, and updating of data

Database Administrator

- ▶ The Database Administrator is the whole and sole of the database who manages all the activities of the database system; The DBA directs or performs all activities related to maintaining a successful database environment.
- ▶ Database administrator's duties include:
 - ▶ Designing, implementing and maintaining the database system
 - ▶ Establishing policies and procedures
 - ▶ Granting user authority to access the database
 - ▶ Security
 - ▶ Acting as liaison (Cooperation/communication agent) with users
 - ▶ Monitoring performance and responding to changes in requirements

Database Users

Application programmers:

interact with system with the help of
DML calls.

Specialized users:

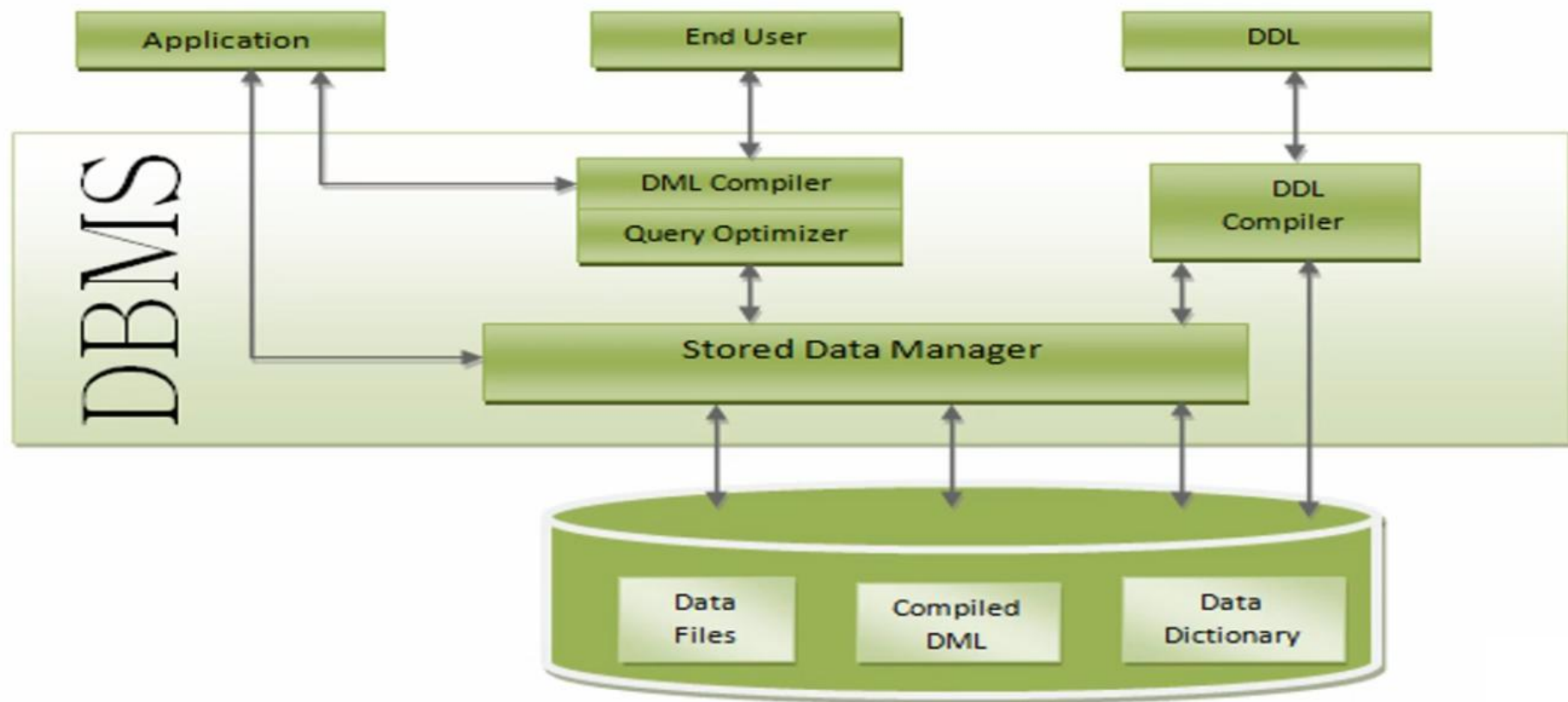
Develop specialized database applications that
do not fit into the traditional data processing
framework

Sophisticated users:

form requests in a database query
language.

Naive users: invoke one of the permanent
application programs that have been written
previously.

Database System Structure



Thank you