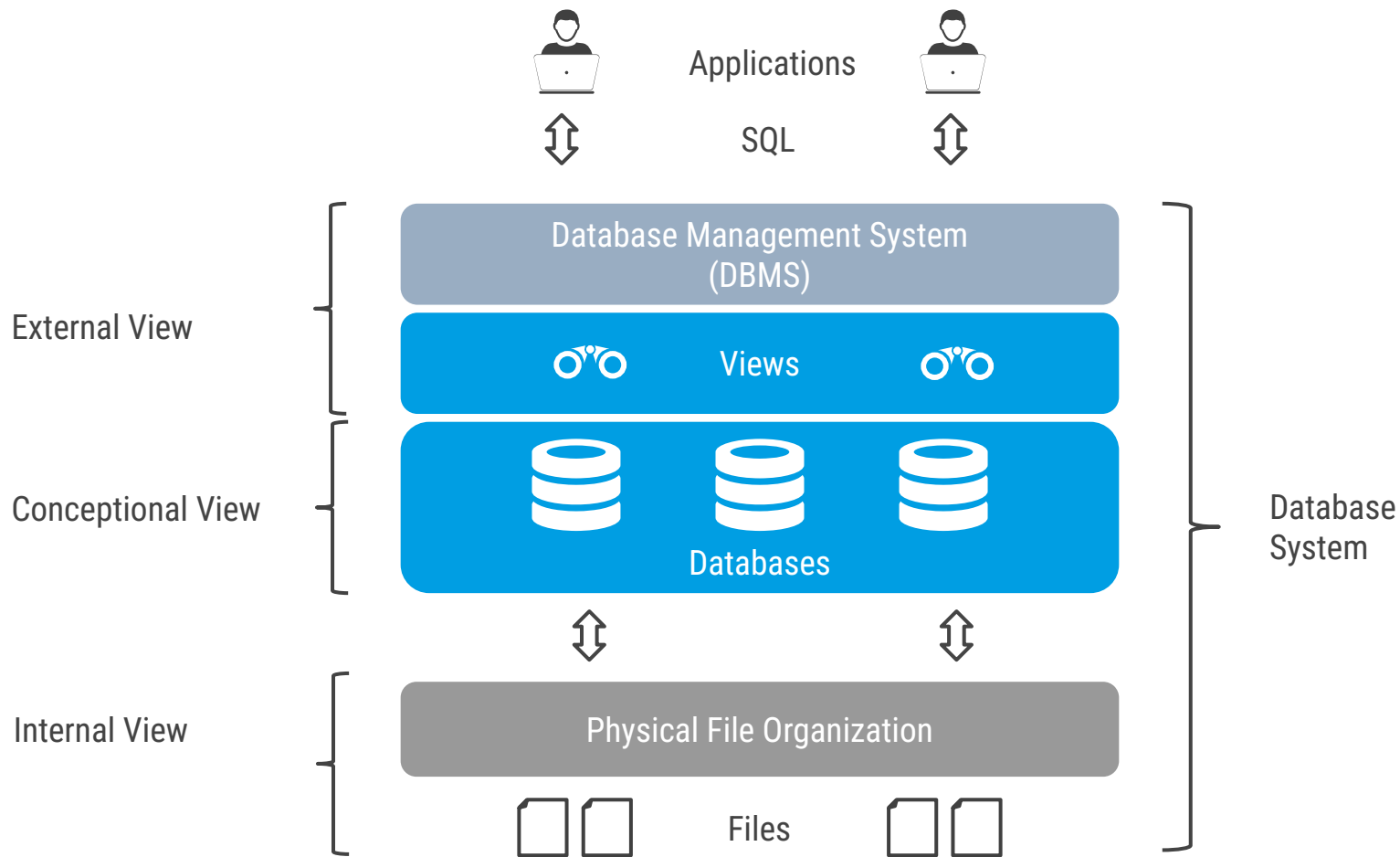


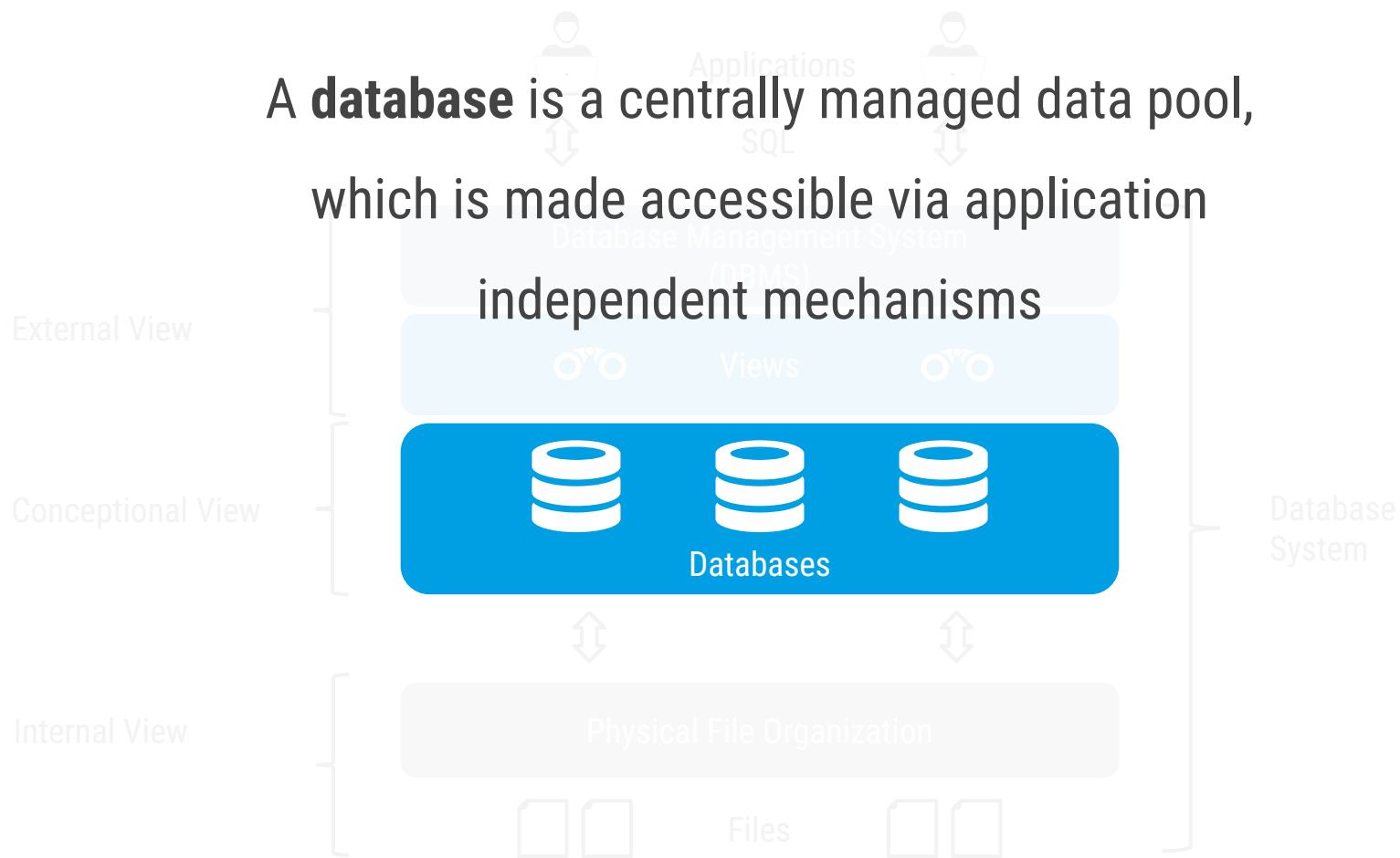


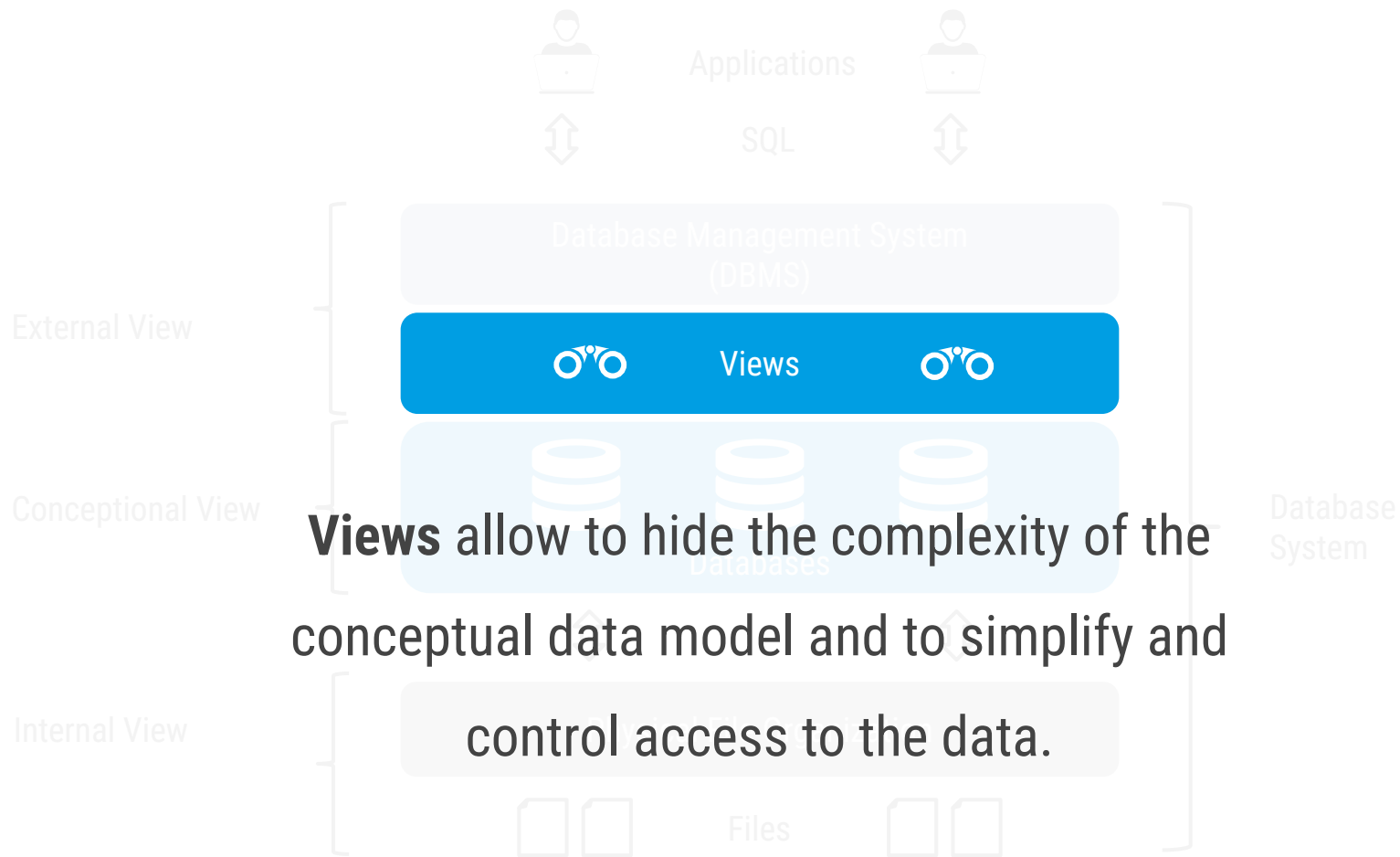
# **INFORMATION MANAGEMENT**

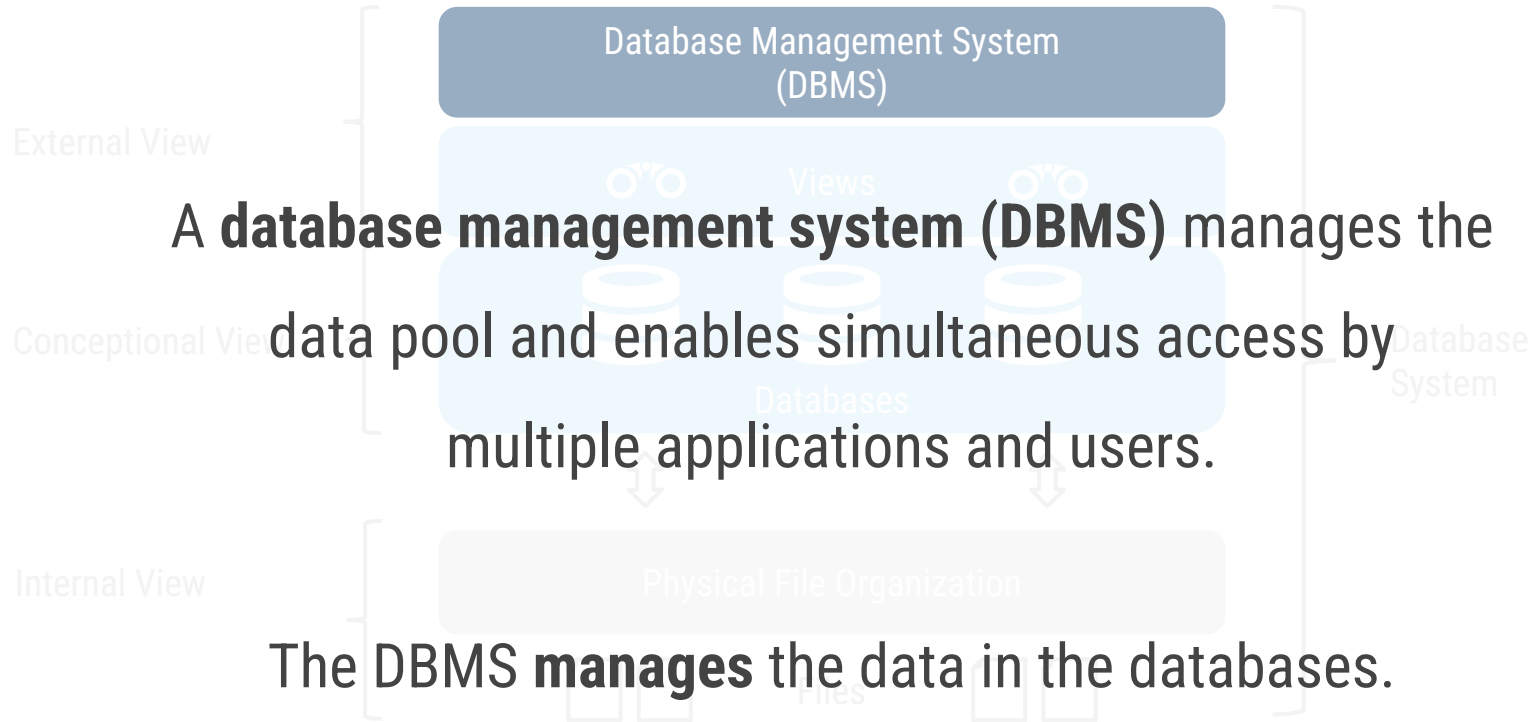
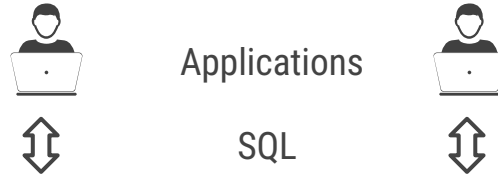
WHAT IS A DATABASE?



A **database** is a centrally managed data pool,  
which is made accessible via application  
independent mechanisms





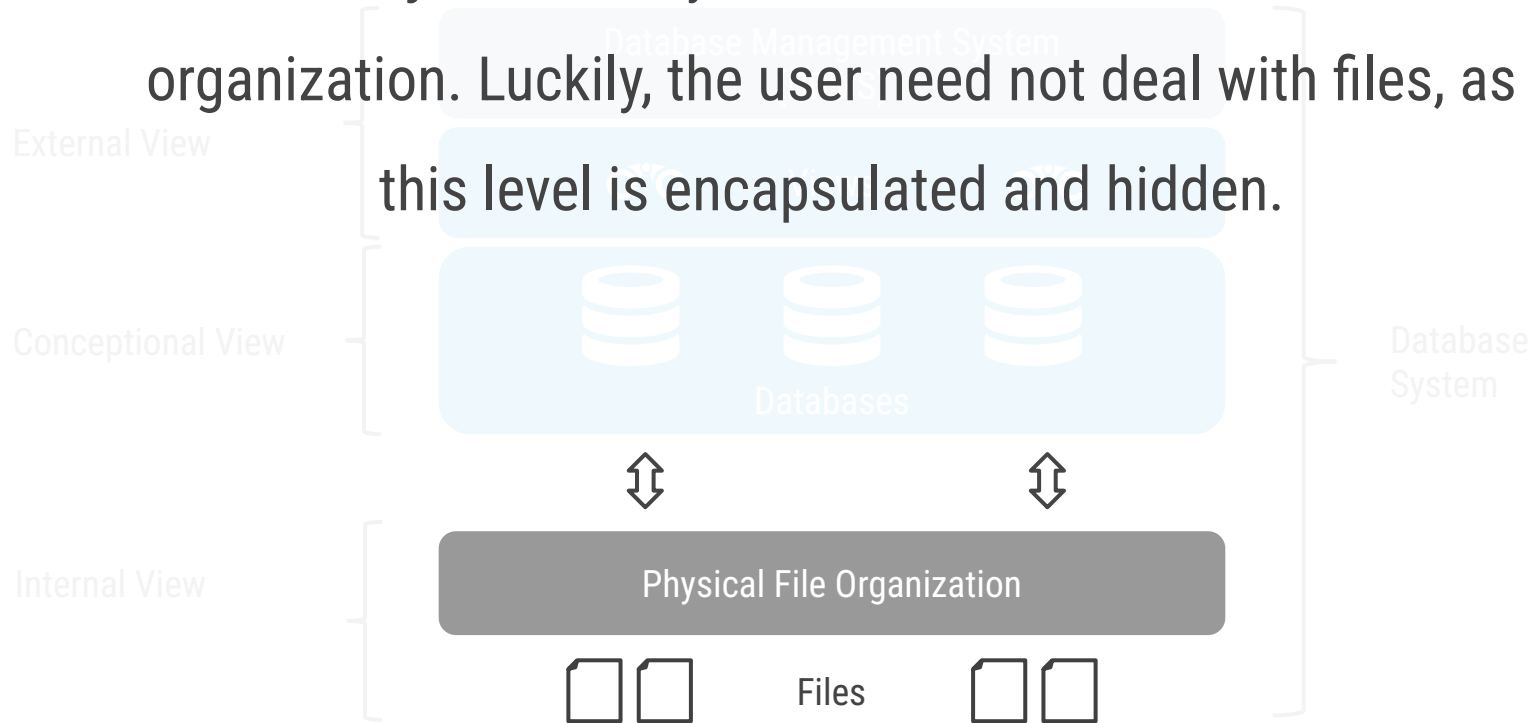


Databases eventually store their data on the computer's

**files system.** Every database has its internal file

organization. Luckily, the user need not deal with files, as

this level is encapsulated and hidden.



## A database system has many goals:

|                         |   |   |                                  |
|-------------------------|---|---|----------------------------------|
| <b>QUERY DATA</b>       | Select, Aggregate, Calculate, Filter                                  | ➔ | <b>SQL</b>                       |
| <b>MANAGE DATA</b>      | <u>C</u> reate, <u>R</u> ead, <u>U</u> ppdate, <u>D</u> eleate (CRUD) | ➔ | <b>SQL</b>                       |
| <b>DATA INTEGRITY</b>   | Consistency, Non-Redundancy, Completeness                             | ➔ | <b>Relational Model</b>          |
| <b>ENCAPSULATION</b>    | Hide Complexity, Simplify Access                                      | ➔ | <b>Views</b>                     |
| <b>MULTI USER / APP</b> | Read and write the same data simultaneously                           | ➔ | <b>Transactions Server-Based</b> |
| <b>PROTECT DATA</b>     | Let only authorized clients access data                               | ➔ | <b>User, Rights, and Roles</b>   |

# There are different types of databases:

