



Physical Storage of Database Objects

Relational Databases Basics

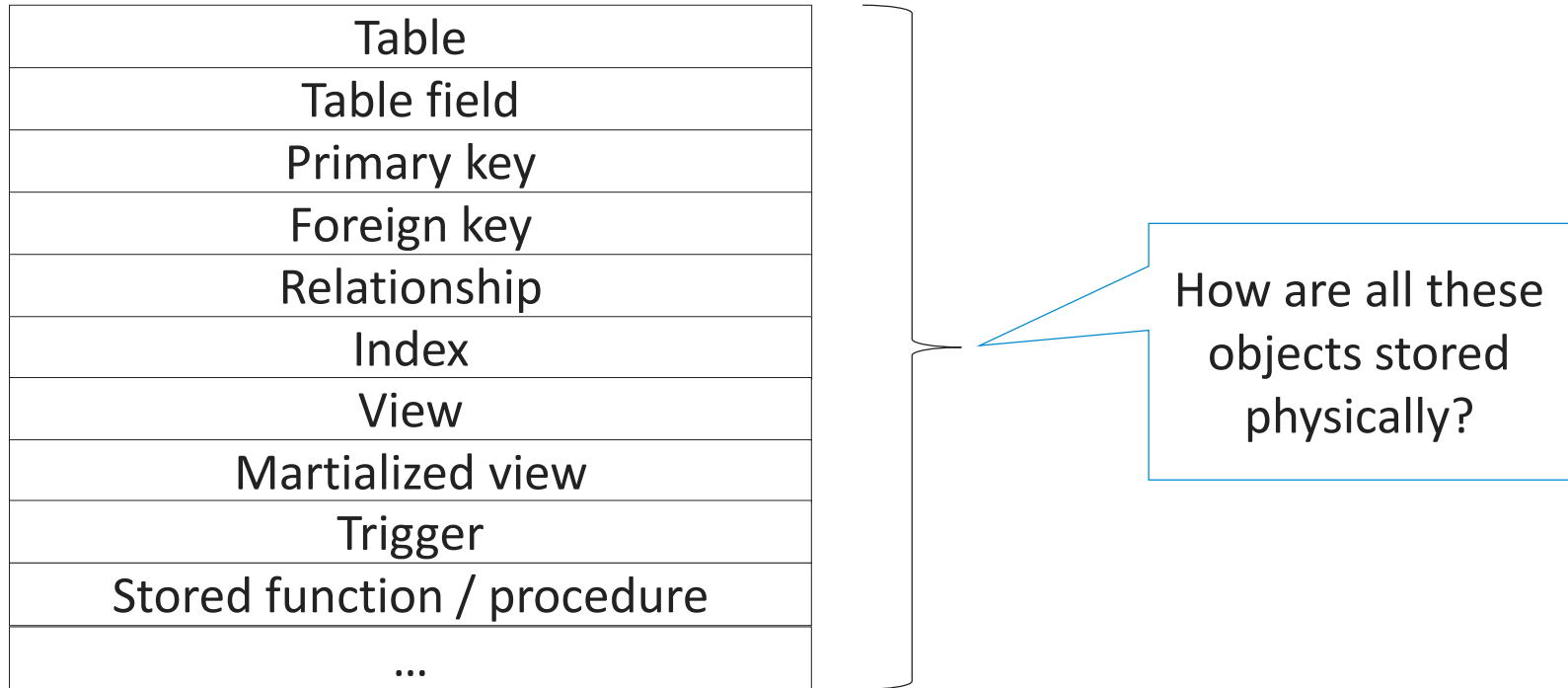


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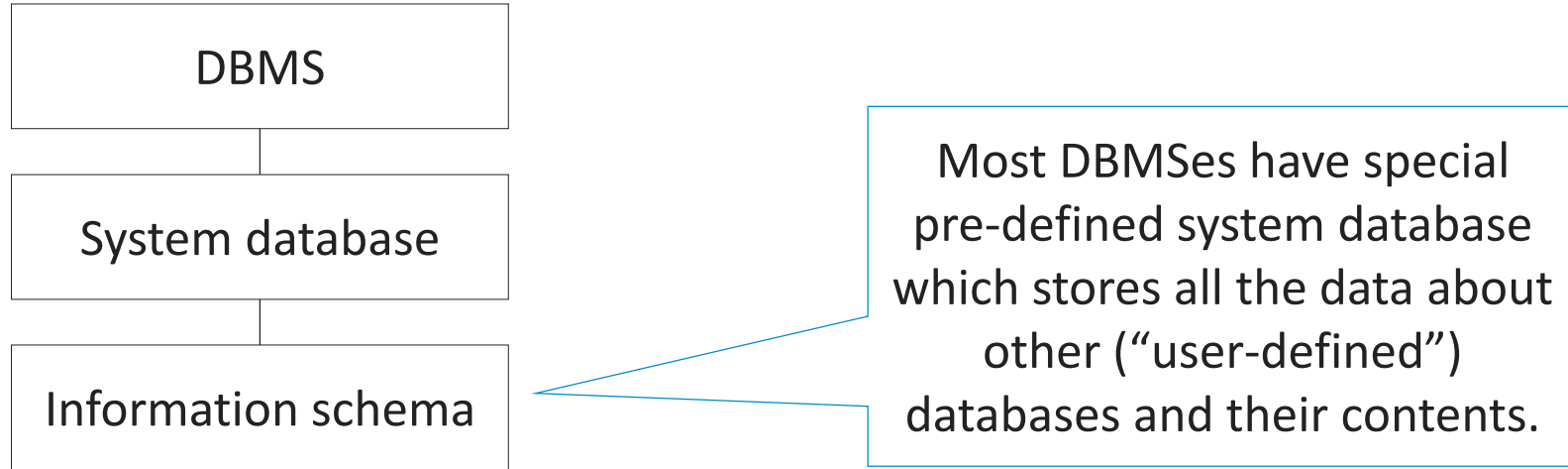
There are lot of database objects...

Table
Table field
Primary key
Foreign key
Relationship
Index
View
Martialized view
Trigger
Stored function / procedure
...



How are all these
objects stored
physically?

List of all objects



Tables and table fields: stored in files

Table structure

Table settings	Field 1 settings	Field 2 settings	Field 3 settings	Field N settings
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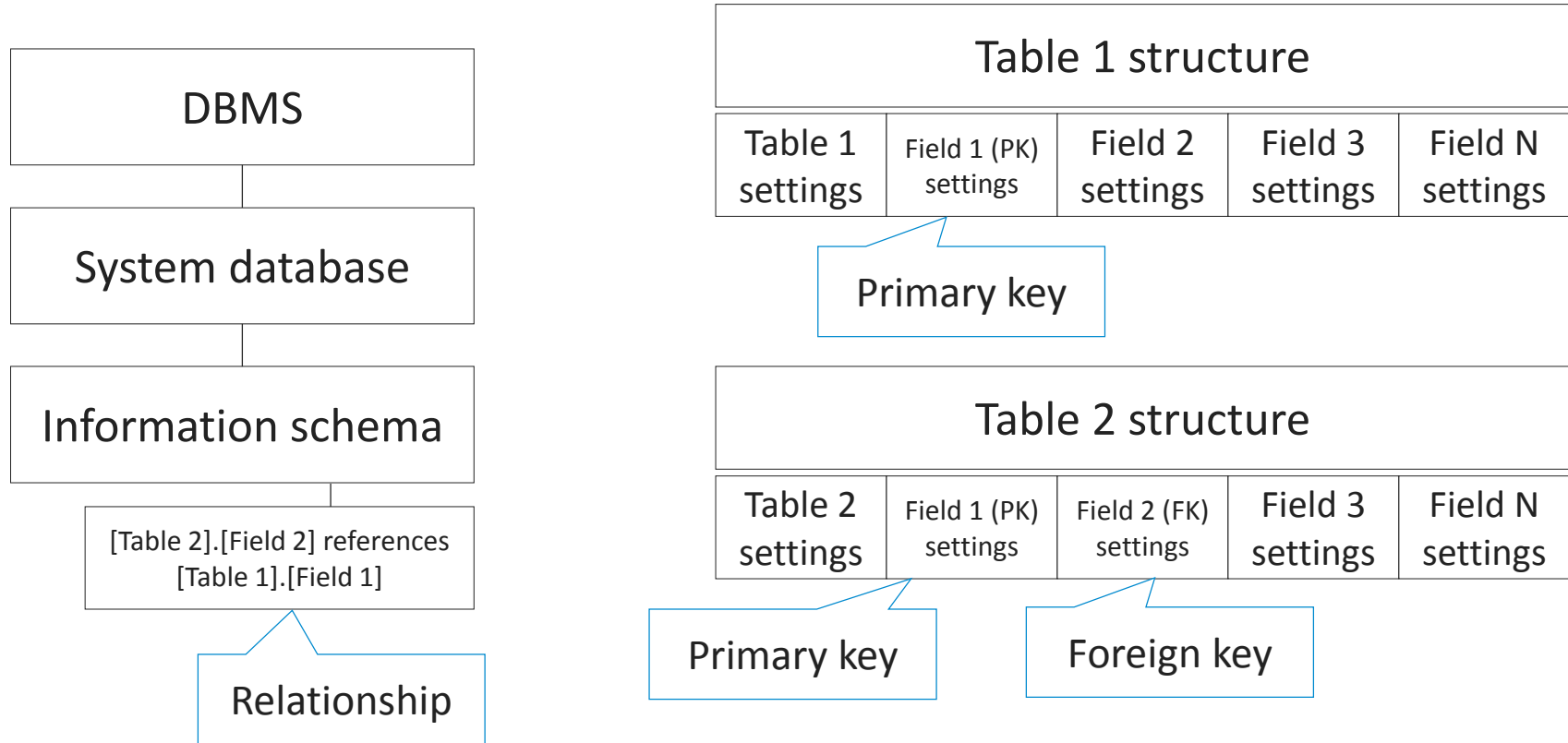
Table structure may be stored inside single file (for all tables) or in separate files (per table)

Table data

Table data may be stored inside single file (for all tables) or in separate files (per table), or (in rare cases) each column may be stored in a separate file.

Table record 1				Table record 2				...
Field 1 data	Field 2 data	Field 3 data	Field N data	Field 1 data	Field 2 data	Field 3 data	Field N data	

Primary key, foreign key, relationship: stored in table description



Index: it is either a data copy, or a table organisation approach

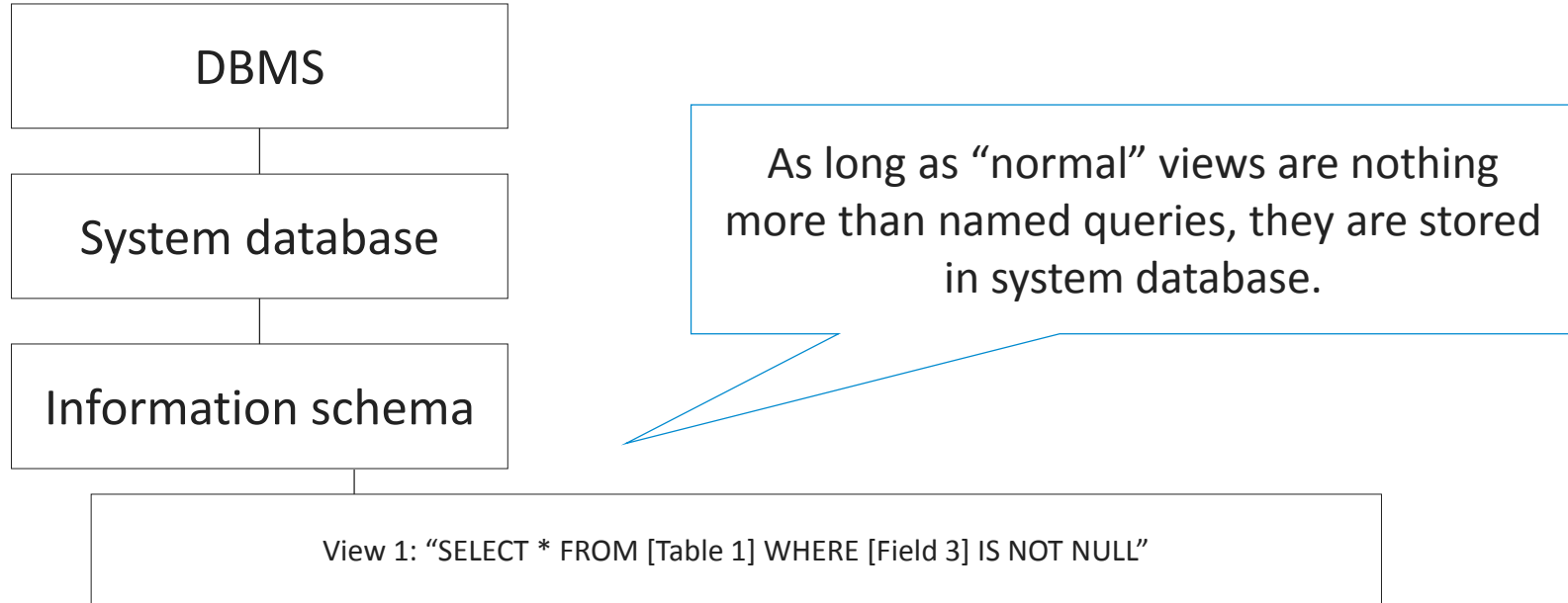
Assuming that “Filed 1” is the clustered index for this table, table data is physically ordered by values of this field.

Table record 1				Table record 2				...
Field 1 data	Field 2 data	Field 3 data	Field N data	Field 1 data	Field 2 data	Field 3 data	Field N data	

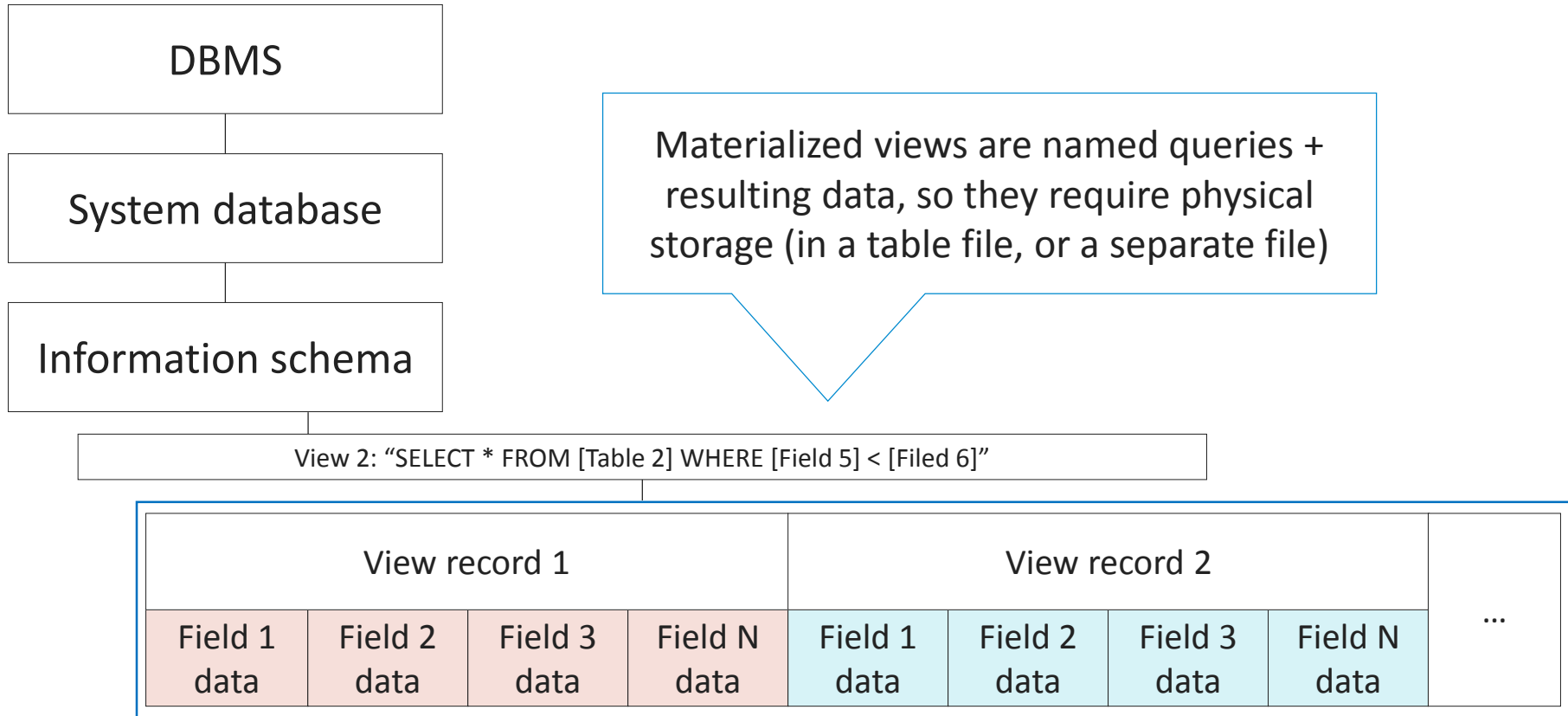
Most other index types require data copy that stored in a separate storage (usually, separate file).

Field 2 data	Field 2 data
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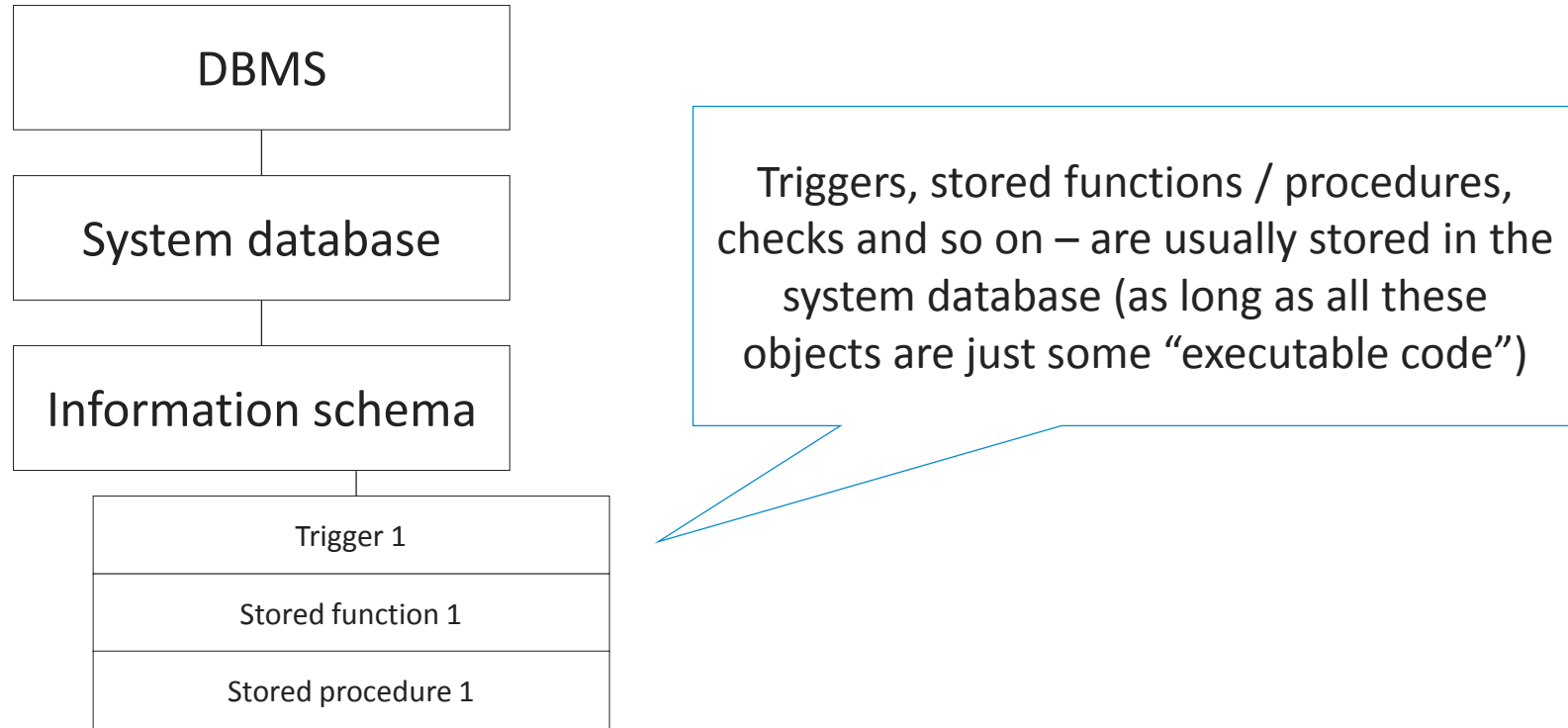
View: its just a “named query”



Materialized view: its a “named query” + resulting data



Trigger, stored function / procedure: stored in the system database



But!

Please, **ALWAYS** refer to your database documentation, as there may be surprises... 😊



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