

Database Storage Structures

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Objectives

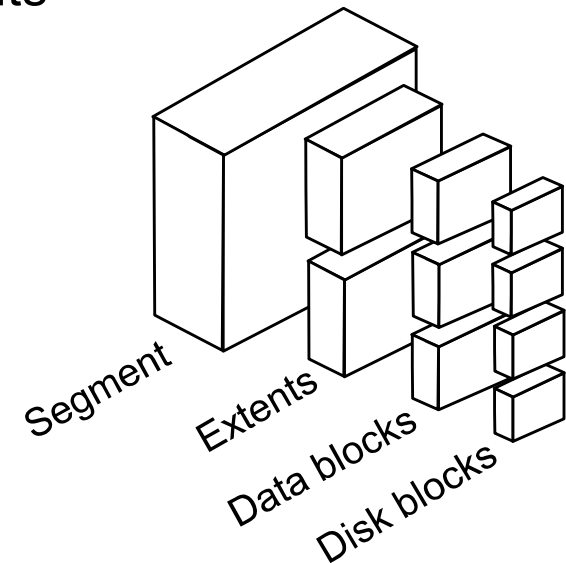
In this lecture, you will learn how to perform the following:

- Describe the database storage structures
- Specify the database standard block size

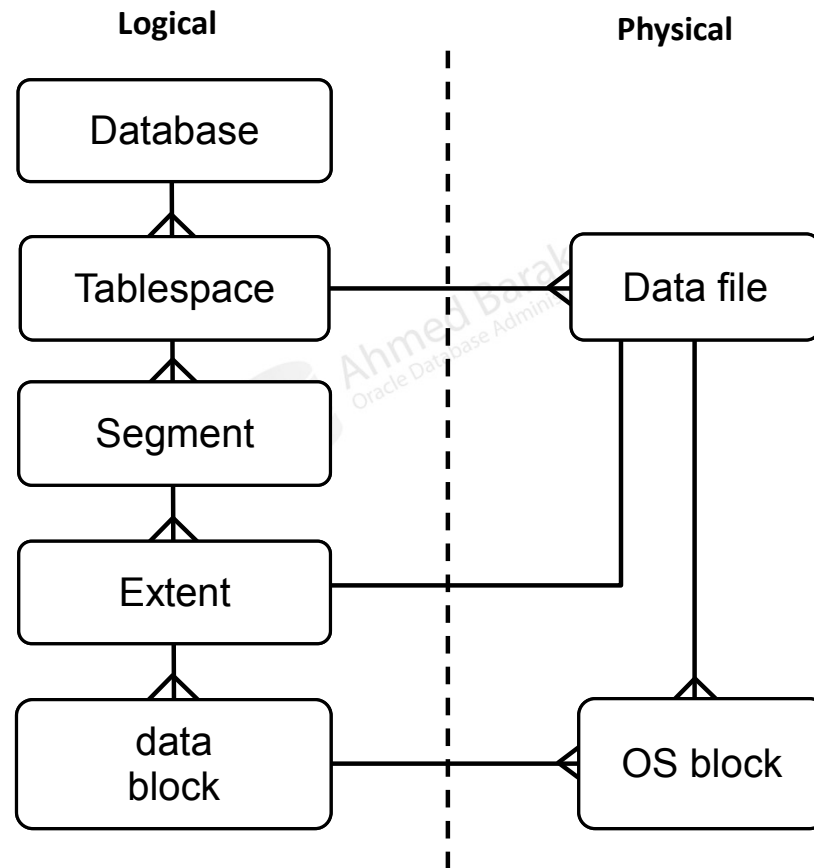


Segments, Extents, and Blocks

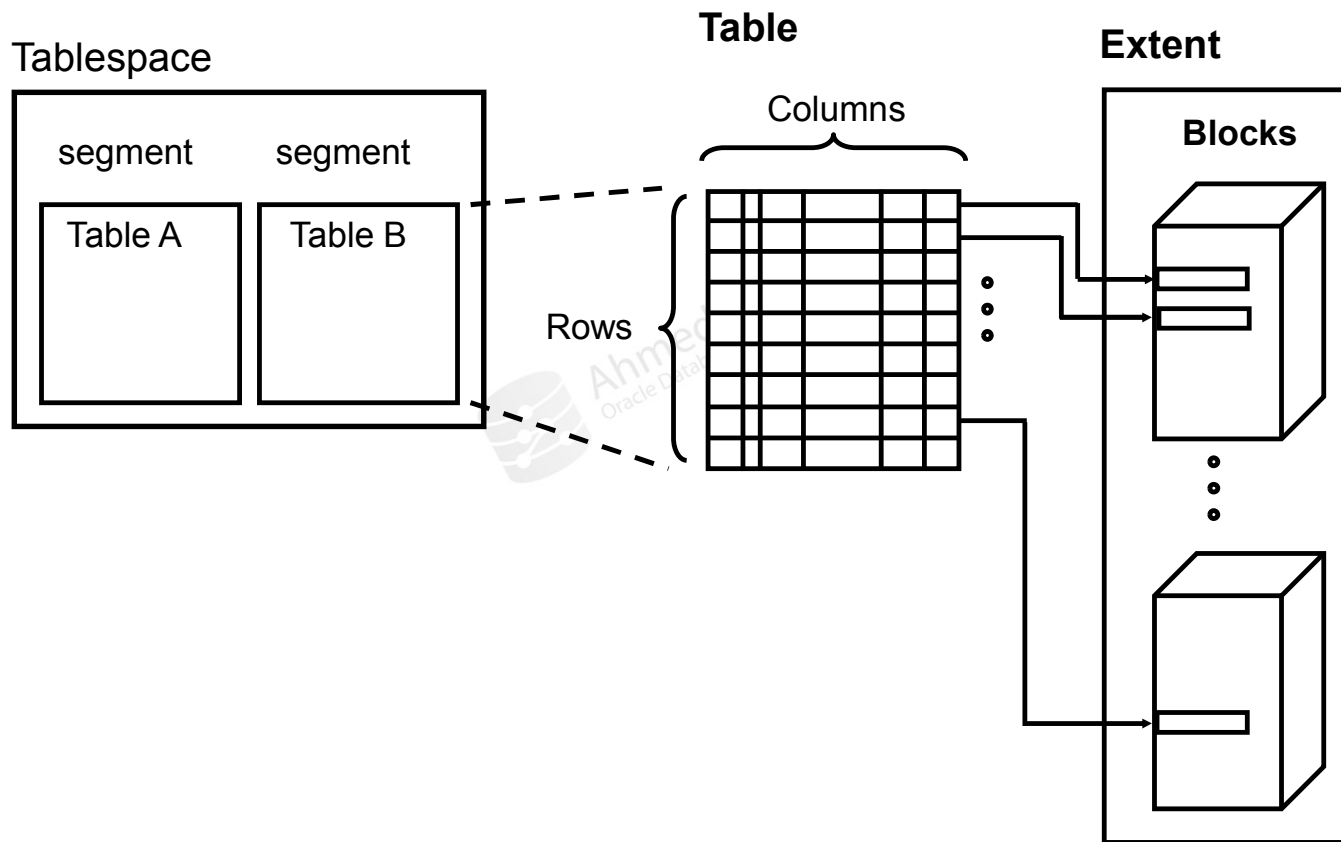
- Segments exist within a tablespace
- Segments are made up of a collection of extents
- Extents are a collection of logically contiguous data blocks
 - An extent does not span data files
- Data blocks are mapped to disk blocks



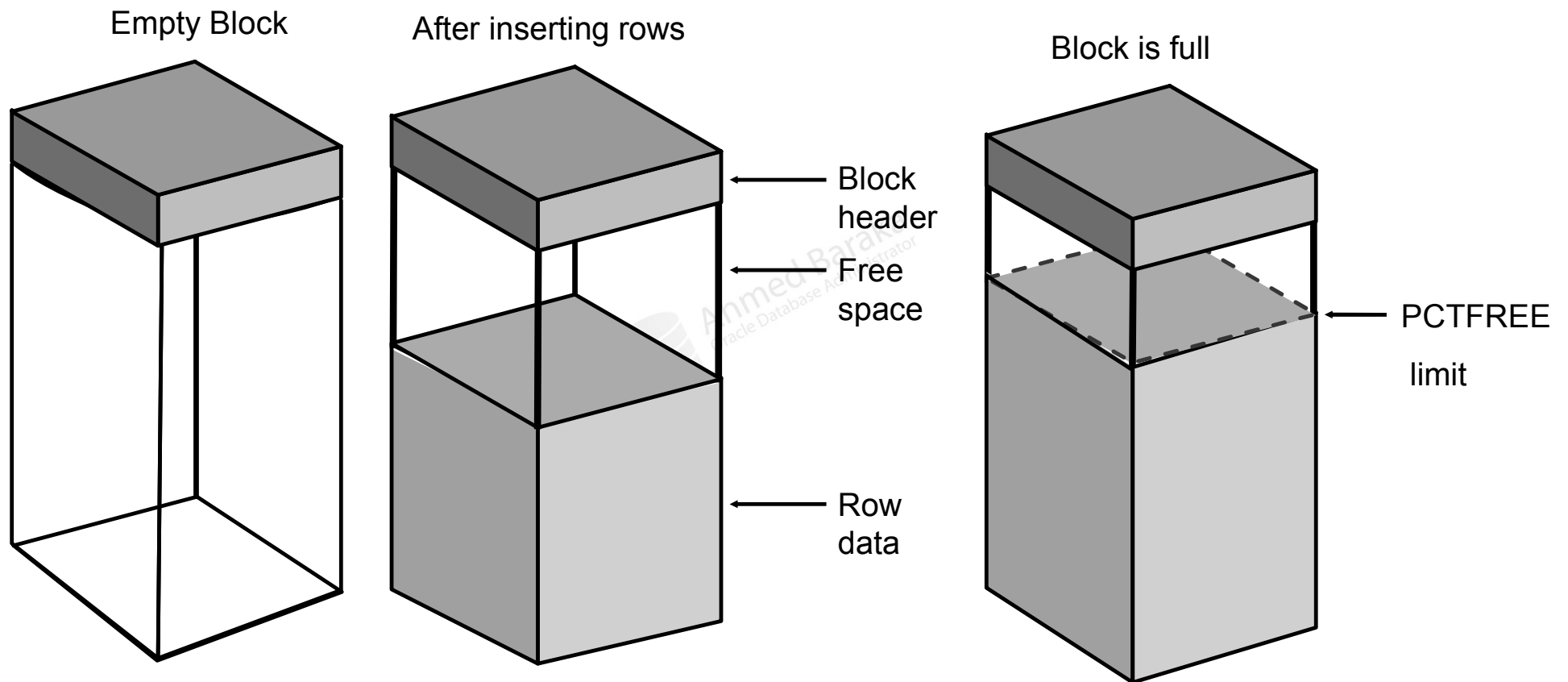
Logical and Physical Database Structures



How Table Rows are Stored in databases?



Data Block Areas



About Database Standard Block Size

- Is set by the parameter **DB_BLOCK_SIZE**
- Cannot be changed after creating the database
- Acceptable values: 2K, 4K, 8K, 16K, 32K
 - must be a multiple of the physical block size at the device level.
 - 32K is supported only in 64 architecture platforms
- Typically, it is set to either 4K, 8K
- You can create a tablespace with a block size that differs from the standard size.
 - In this case, a nonstandard block size buffer cache must be configured

Exploring the Storage Structure

Dictionary/V\$ Views	Description
DBA_TABLESPACES V\$TABLESPACE	Information about database tablespaces
DBA_DATAFILES V\$DATAFILE	Information about database datafiles
DBA_SEGMENTS	Information about database segments
DBA_EXTENTS	Information about database extents
V\$BH	Information about segment data blocks

Summary

In this lecture, you should have learnt how to perform the following:

- Describe the database storage structures
- Specify the database standard block size

