Lecture 1

Type	Lecture

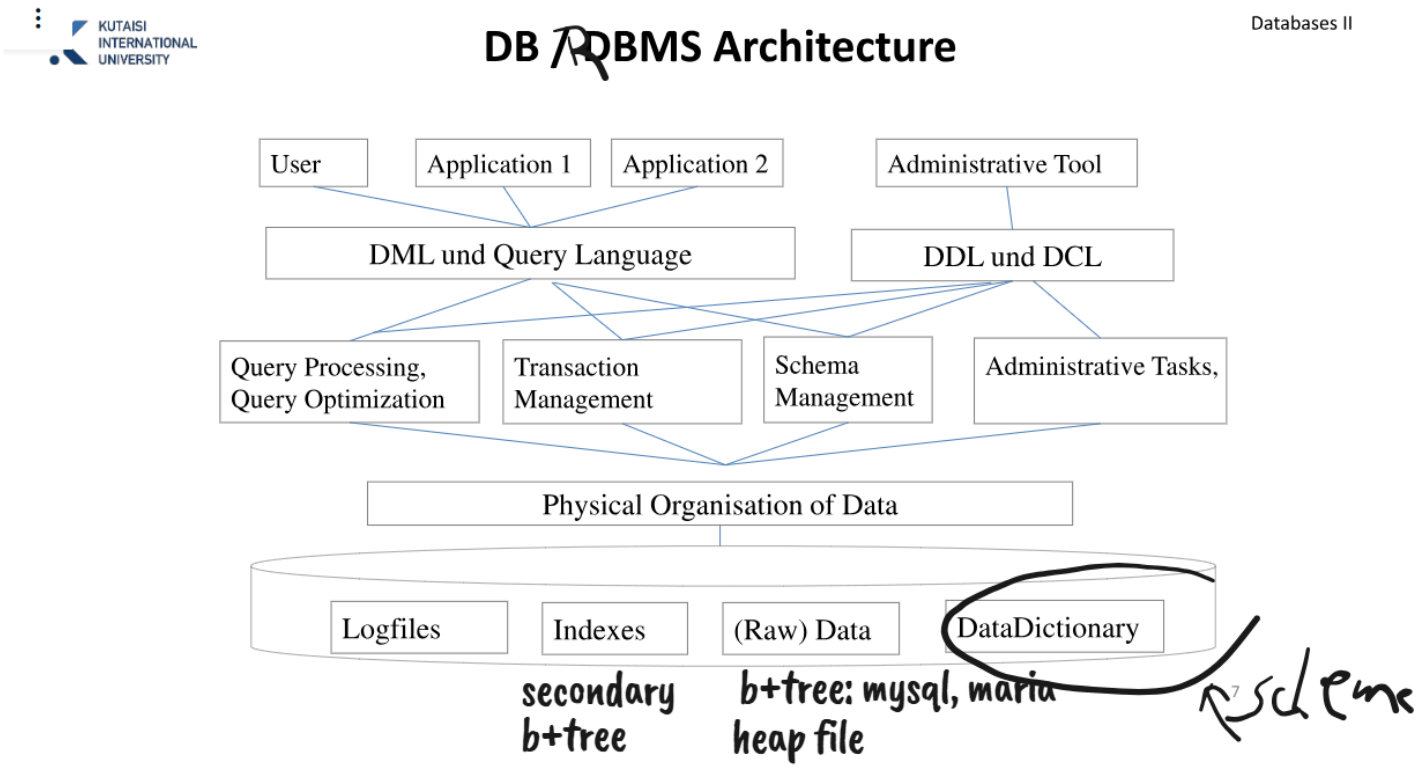
Recap

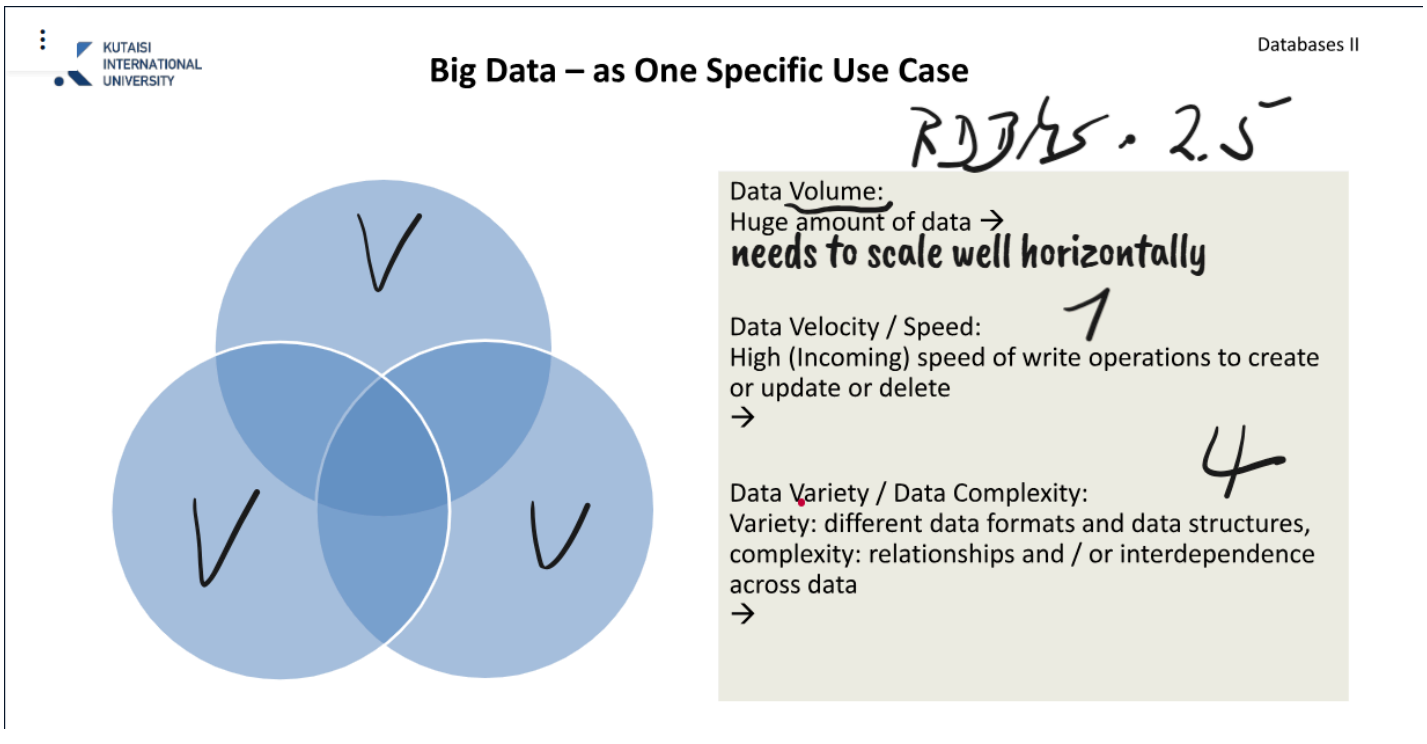
- Concepts of a relational database are relationship, entity, table, atomicity, isolation, attributes, etc.
- purpose of foreign keys is to support relations between data and support consistency of the data.
- normalization enforces the concept that one table stores attributes of one entity, prevents write access anomalies, helps repairing poor database designs

Secondary indexing

Secondary indexing provides an efficient way to search for records based on non-primary columns.

- a redundant data structure, stored separately from the data
- invisible to the application
- designed to speed up data selection

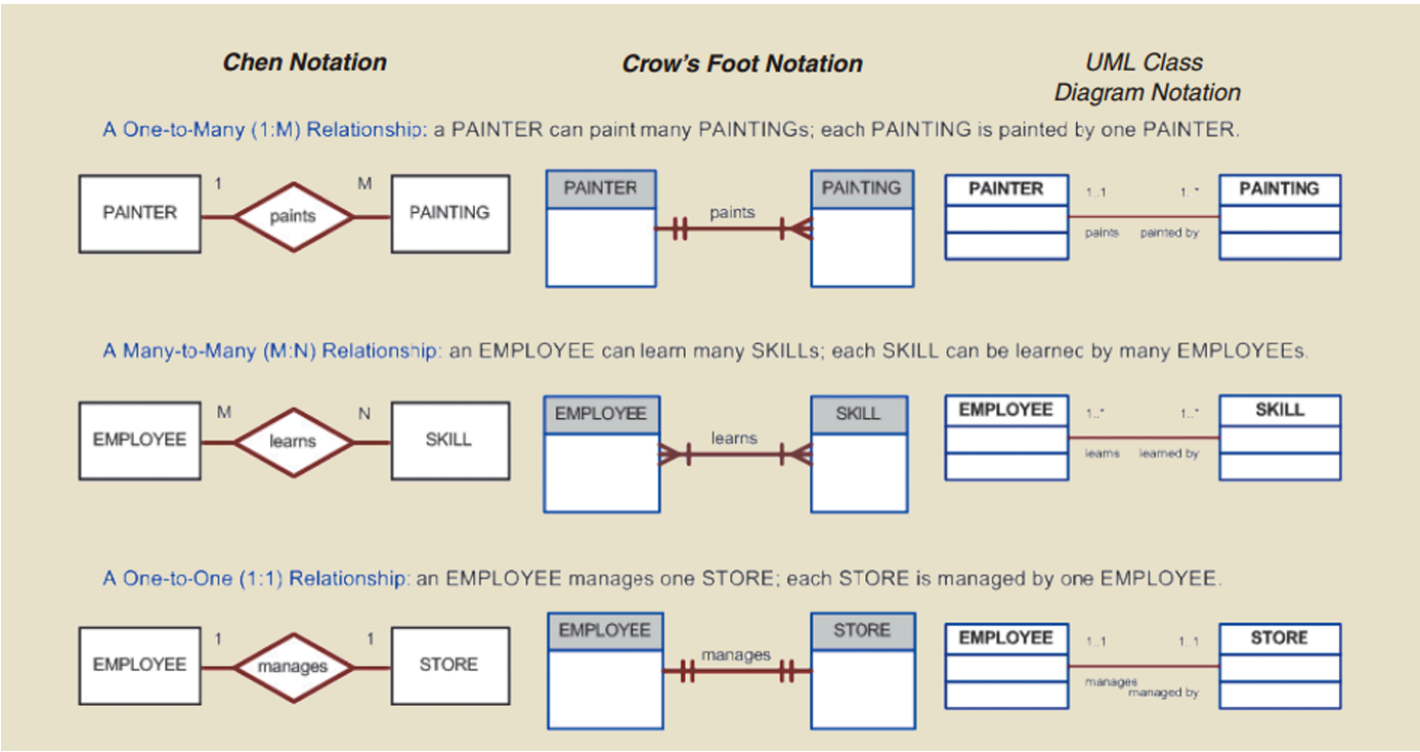


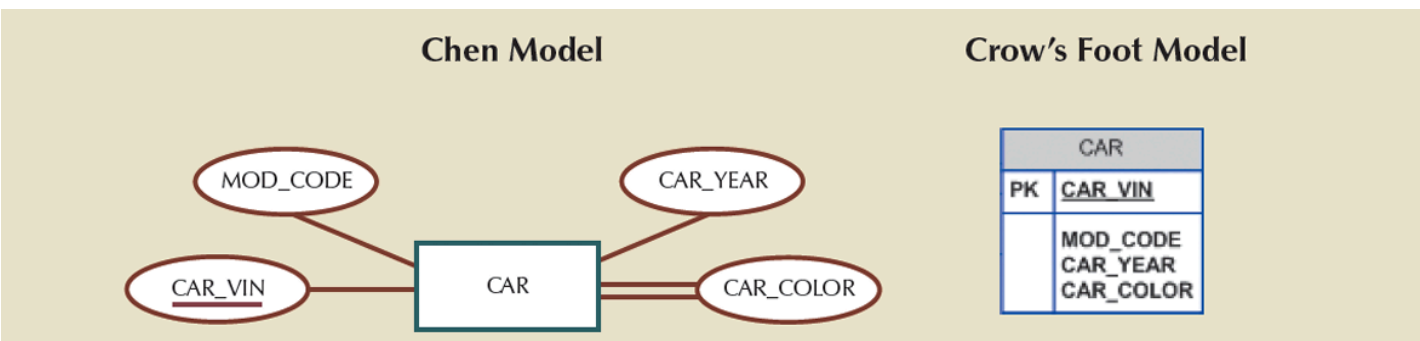


Scaling out, horizontally = adding more databases, add servers

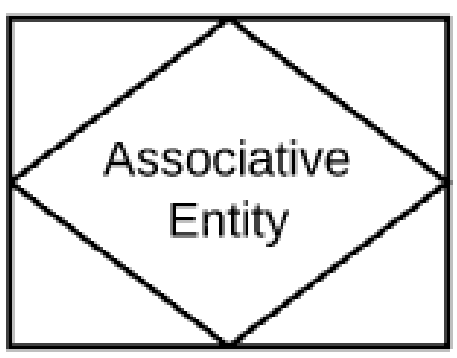
Scaling up, vertically = making current database faster, add power to server

Crow’s foot notation





double line = total participation



An associative (or junction) table maps two or more tables together by referencing the primary keys (PK) of each data table. In effect, it contains a number of foreign keys (FK), each in a many-to-one relationship from the junction table to the individual data tables. The PK of the associative table is typically composed of the FK columns themselves.

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pk on the 1 side goes as the FK on N side.