

Data Modeling

Data Warehouse

Data Warehouse Definition

Data Warehousing Concepts

Dimensional Data Model

Star Schema

Snowflake Schema

Fact Table Granularity

Fact And Fact Table Types

Slowly Changing Dimension

Type 1 Slowly Changing Dimension

Type 2 Slowly Changing Dimension

Type 3 Slowly Changing Dimension

Conceptual Data Model

Logical Data Model

Physical Data Model

Conceptual, Logical, and Physical Data Model

Data Integrity

What Is OLAP

MOLAP, ROLAP, and HOLAP

Bill Inmon vs. Ralph Kimball

Factless Fact Table

Junk Dimension

Conformed Dimension

Data Warehouse Design

Data Warehousing Trends

Business Intelligence

Business Intelligence Software

Business Intelligence Conferences

Master Data Management

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Glossary

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Apache Spark Workshop

World's best BigData minds at HadoopSphere Virtual Conclave



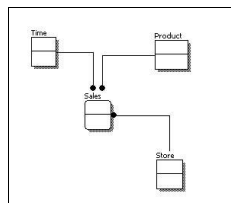
Data Warehousing > Concepts > Data Modeling - Conceptual, Logical, And Physical Data Models

The three levels of data modeling, [conceptual data model](#), [logical data model](#), and [physical data model](#), were discussed in prior sections. Here we compare these three types of data models. The table below compares the different features:

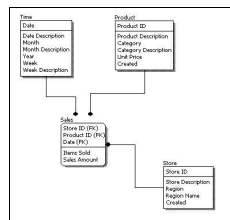
Feature	Conceptual	Logical	Physical
Entity Names	✓	✓	
Entity Relationships	✓	✓	
Attributes		✓	
Primary Keys		✓	✓
Foreign Keys		✓	✓
Table Names			✓
Column Names			✓
Column Data Types			✓

Below we show the conceptual, logical, and physical versions of a single data model.

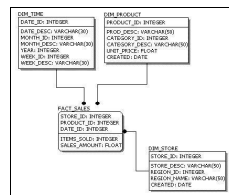
Conceptual Model Design



Logical Model Design



Physical Model Design



We can see that the complexity increases from conceptual to logical to physical. This is why we always first start with the conceptual data model (so we understand at high level what are the different entities in our data and how they relate to one another), then move on to the logical data model (so we understand the details of our data without worrying about how they will actually implemented), and finally the physical data model (so we know exactly how to implement our data model in the database of choice). In a data warehousing project, sometimes the conceptual data model and the logical data model are considered as a single deliverable.

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