

Data Warehouse Design

Dimensional Modelling Design is key to a successful data warehouse. Many data warehouse projects fail due to poor design. To gain the knowledge necessary to create a flexible data warehouse with optimal performance for your business, this practical course introduces delegates to the key terminology and techniques used in Dimensional Modelling.

On completion, delegates will be able to:

Design a data warehouse as a series of interlocking star schema data marts according to dimensional modelling design principles. Resolve many types of user requirements including tracking history, aggregate tables, and recursive relationships.

Who should attend?

This course is aimed at an audience of IT professionals who will be involved in the design, build or maintenance of a data mart or data warehouse, and need to understand the techniques involved in its design.

Prerequisites

A basic understanding of relational database concepts such as joins, tables, primary keys, foreign keys, attributes and lookup tables.

Practical work

Practical sessions will reinforce many of the topics covered and are used extensively throughout this course. These allow delegates to apply the principles learnt to design a data mart on paper, using a realistic case study from a retail sales environment.

Course Duration

3 days

Related and follow-on courses

- Dimensional Modelling Integrated with BusinessObject

Course contents

- Introduction to Data
- The Data Warehouse project life cycle
- Principles of Dimensional Modelling
- Designing the Time Dimension
- Designing the Product Dimension
- Designing the Fact Table
- Meeting Requirements to Track History
- Aggregate Tables to improve performance
- Additional Fact Tables such as Snapshots
- Reporting Recursive Relationships
- Enterprise Data Warehousing considerations
- End of Course Challenge

Acuma Education

All Acuma courses are delivered by trainers who are highly experienced consultant practitioners. This rich project experience coupled with professional training skills helps delegates to focus on how the course contents can be put into practice in their workplace.

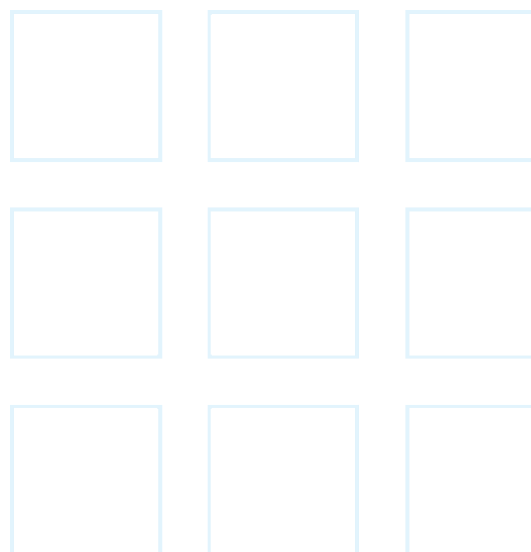
Acuma delivers courses from dedicated training facilities in Manchester, Birmingham and London, but also deliver training offsite using suites of laptops, with the option to customise courses to use your own business data and tailored to your exact training needs. The most appropriate training format depends upon your training objectives, number of learners, timescales, budgets and delivery logistics. Whatever your needs, Acuma will find the approach most suited to them.

Acuma Education's seal of quality is demonstrated through consistent achievement of the prestigious "Gold Standard" from the IITT (Institute of IT Trainers).



Course key learning points

- **Why data warehousing?**
What are the main benefits of a Data Warehouse?
- **Why a dimensional modelling design?**
What are the differences between Relational and Dimensional Database Designs?
What are they each optimised for?
- **Approach to data warehousing**
When building a data warehouse, what is the best approach to ensure the greatest returns with the least risk?
- **Approach to building each data mart**
What is the best approach in building each Data Mart, to ensure you take into account complexities in the data?
- **Four types of star schema**
What are the four types of star schema, and what are the benefits of each?
What criteria should you use to compare designs?
- **Time dimension tips**
What are the benefits of having a separate time dimension?
Why use artificial keys?
- **Product dimension tips**
What are the characteristics of a dimension?
- **Fact table tips**
How should Fact tables be designed?
What grain should you choose?
What types of measure should you avoid?
- **What approaches are there to the problems of tracking history on the data warehouse?**
How would you meet requirements to ignore history, partition history, or to enable recasting of history?
How do you adapt the approach for large or rapidly changing dimensions?
- **Aggregate tables**
What are aggregate tables used for?
- **Recursive relationships**
How can you meet requirements to report against a recursive hierarchy?
What if you have a variable depth hierarchy?
- **Multiple fact tables**
How can you record events that did NOT happen?
What are the benefits of snapshot tables?
How might Core and Custom tables improve the design?



Acuma is an Information Management (IM) Specialist. Acuma is part of the Saksoft group and provides solutions, which are unique, flexible and cost-effective service blending local high value consultancy and global high quality project delivery. Acuma delivers business improvements by drawing together strategy, technology and methods of Information Management into a single philosophy called the Information Value Model (IVM).