

Data-Warehouse-Technologien

Exercise sheet 3

Assignment 1: Sketch and explain the reference architecture for data-warehouse systems. Which components build the data warehouse? Explain the tasks of each component and the cooperation between them. Explain the phases of data-warehousing.

Assignment 2: Classify the following three data sources.

- product catalog of a supplier (flat file)
- website of the tax agency
- customer database of the sales department

Assignment 3: What data quality requirements on data sources exist? Assign one requirement to each of the following examples

1. scientific paper vs. blog
2. XML vs binary
3. Email vs input mask
4. Integer vs Float
5. per county vs per state
6. free text vs selection
7. utf-8 vs ASCII
8. normalized vs denormalized table

Assignment 4: Explain *monitors* and the different *monitoring strategies*. Which strategy is suitable for integrating the following sources:

- product catalogs of suppliers in XML-form
- sales from cash counter stored in a relational database
- customer data from an external non-cooperative database

Assignment 5: What are *data marts* and what are their benefits compared to the data cube? Distinguish between dependent and independent data marts. When should you use which type?

Assignment 6: Explain the following analysis tools:

- OLAP
- Standard Reporting
- Adhoc-Reporting
- Data Mining

Categorize these tools based on their flexibility and complexity.