



Database overview

Module 1

Agenda

- Database
- DBMS
- Data model
- RDBMS
- Client-server
- DB server installation

What is database?

- A database is an organized collection of data.
- A database is a collection of information that is organized so that it can easily be accessed, managed, and updated.



What is DBMS?

- Database management system (DBMS) is a special software application that interacts with the user, other applications, and the database itself to capture and analyze data.
- E.g.: MySQL, PostgreSQL, Microsoft SQL Server, Oracle etc.



DBMS purpose

- ✓ To store data properly
- ✓ To provide simultaneous access to the data for many users
- ✓ To delimit the access to the data for different users
- ✓ To prevent data from loss

Data models

- Hierarchical
- Network
- **Relational**
- Object

RDBMS

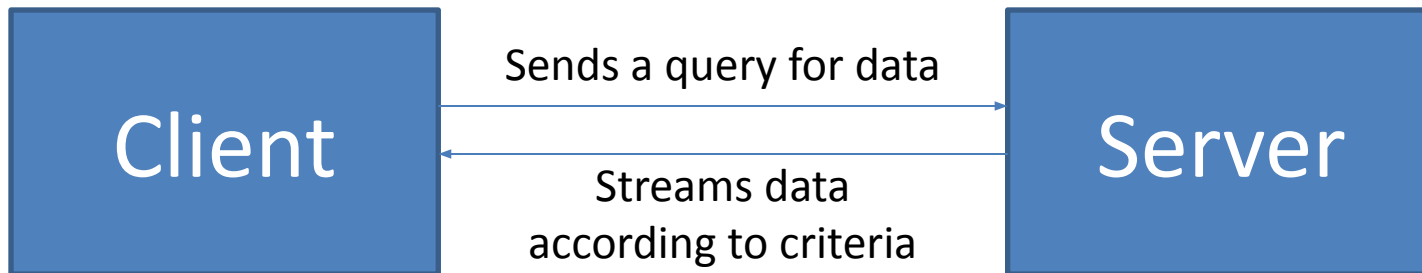
- Implement a relational data model
- Are used in most commercial projects
- Have been used for almost 40 years

Desktop RDBMS

- Store data on local PC or network file storage
- Data processing is performed on the local PC
- Are used for small applications, mostly single-user, without strong security requirements
- Example: Microsoft Access

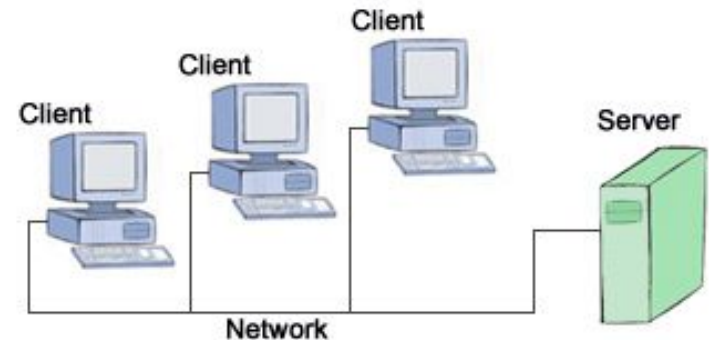
Client-server RDBMS

Consist of two components: **client** and **server**



Client address:
Class56
Class61

Server address:
ssu-sql12\tc



RDBMS installation

- Install RDBMS Server
 - *Microsoft SQL Server 2014 Express*
- Install client application for querying data
 - *Microsoft SQL Server Management studio*

Demonstration

Links

<http://www.microsoft.com/en-us/server-cloud/products/sql-server-editions/sql-server-express.aspx>

<https://msdn.microsoft.com/en-us/library/bb545450.aspx>

Thank you!

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