DATABASE METHODOLOGY

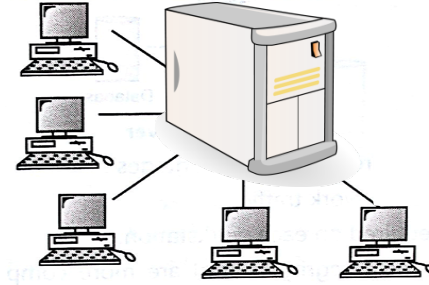# Database Fundamentals

Architectures

Databases - Architectures

- In this module you will learn about the basic multi-user database architectures
  - Older approaches
    - Traditional teleprocessing
    - File-server architecture
  - Two-tier client-server architecture
  - Three-tier client-server architecture
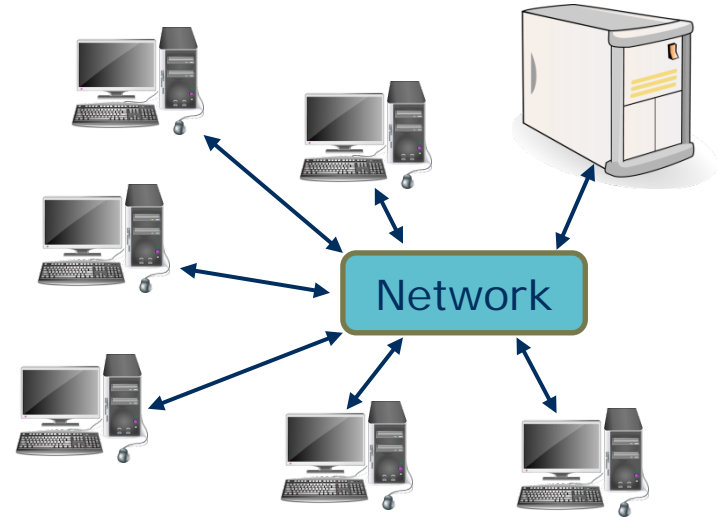
Architectures – Older Approaches

- **Teleprocessing**
  - One central computer
  - Several "dumb" terminals connected directly to the central computer
  - All processing is carried out in the central computer, which quickly becomes a bottleneck
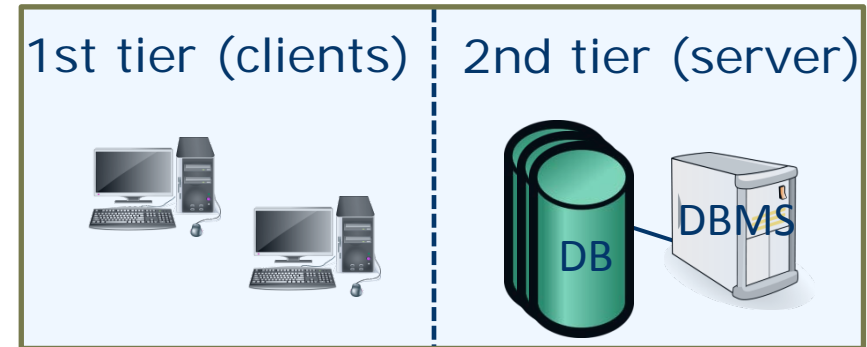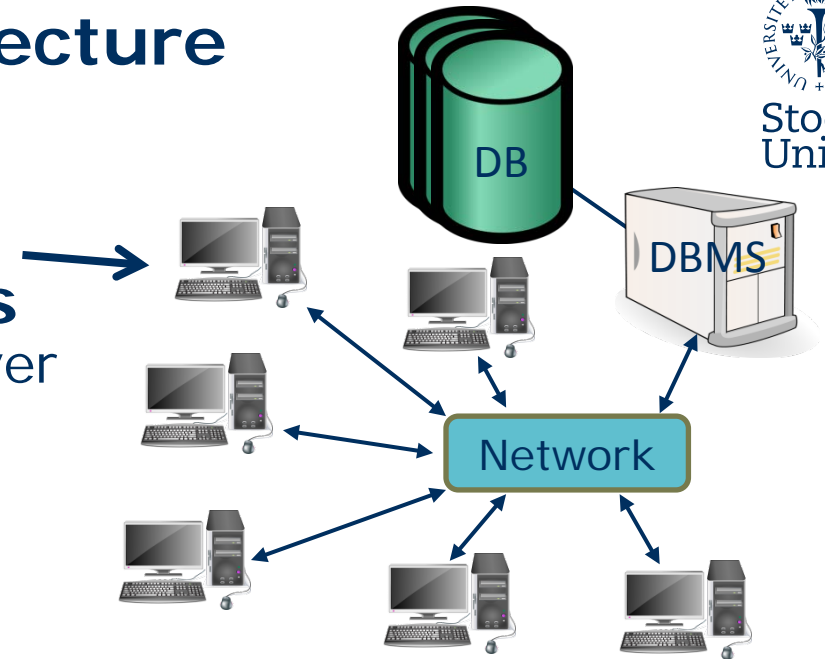
- **File-Server Architecture**
  - One central file-server
  - Several workstations connected to the file-server through a network
  - Processing carried out in the work-stations, *having one DBMS each*
  - Heavy network traffic, bottleneck
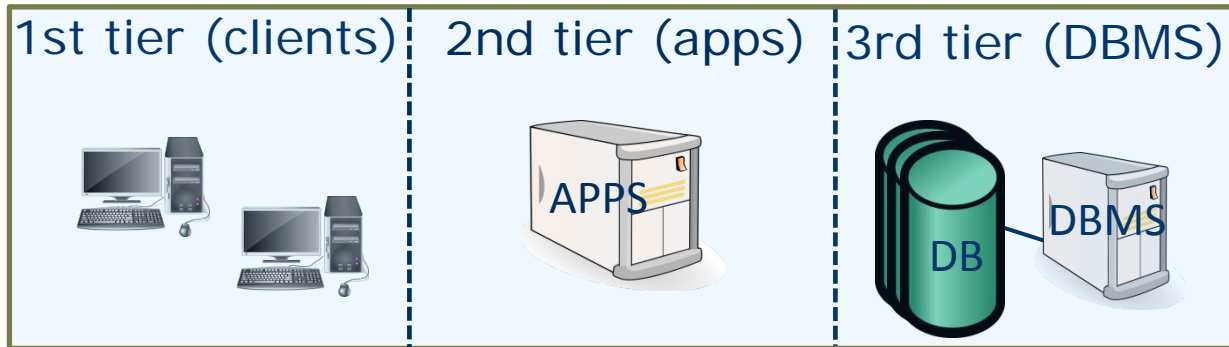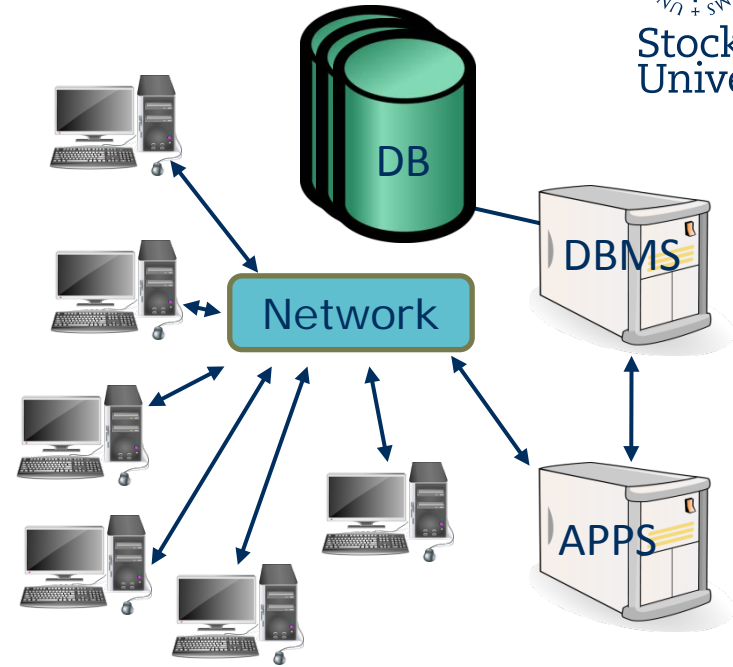 - Multiple DBMS access to files complicated to handle

Two-Tier Client-Server Architecture

- **Database server**
  - DBMS and databases
- Several **client workstations**
  - Connected to the database server through a network

- *Server* responsibility:
  - Database management
  - Database access
  - Database authorization

- *Client* responsibility
  - Manage the user interface
  - Process application logic
  - Requests to the server
  - Server responses to the user

1st tier (clients)	2nd tier (server)

Three-Tier Client-Server Architecture

- **Database server**
  - Database management
  - Database access
  - Database authorization

- **Application server**
  - Business logic processing
  - Data processing
  - Interaction with the DB server/clients

- Several **client workstations**
  - User interface
  - Interaction with the app server

1st tier (clients)	2nd tier (apps)	3rd tier (DBMS)

Databases - Architecture

- Now you know about basic multi-user database architectures. You know about:
    - Teleprocessing
    - File-server architecture
    - Two-tier client-server architecture
    - Three-tier client-server architecture

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