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# Data Management for Big Data

*SQL*

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SQL (Structured Query Language) is the de facto standard for interacting with relational databases. It allows one to:

- define and modify the database logical schema (DDL, Data Definition Language)
- populate the database, modify and retrieve information (DML, Data Manipulation Language)
- perform administrative tasks, for instance, manage security and access rights
- customize concurrency control strategies



- IBM Sequel language developed as a part of System R project in the early 70s
- ANSI and ISO standard:
  - first formalization, SQL-86
  - latest standard, SQL:2019
- Commercial systems offer most, if not all, SQL-92 features, plus varying proprietary features
- Actually, SQL implementations offered by different DBMS vendors are slightly different from one another:  
<https://www.postgresql.org/docs/current/sql.html>
- In the remaining part of the lecture, we are going to refer to PostgreSQL



A. Silberschatz, H.F. Korth, S. Sudarshan *Database system concepts*, 7th Edition, 2020.