












Checkpoint Introduction to Databases

- RDBMS

A relational database management system (RDBMS) is a collection of programs and capabilities that enable IT teams and others to create, update, administer and otherwise interact with a relational database. RDBMSes store data in the form of tables, with most commercial relational database management systems using Structured Query Language (SQL) to access the database. However, since SQL was invented after the initial development of the relational model, it is not necessary for RDBMS use.

The RDBMS is the most popular database system among organizations across the world. It provides a dependable method of storing and retrieving large amounts of data while offering a combination of system performance and ease of implementation.

Microsoft SQL Server	MySQL	PostgreSQL
		
Microsoft	Oracle 	PostgreSQL Global Development Group 
1989	1995	1989 
commercial 	Open Source 	Open Source 
C++	C and C++	C
Linux Windows	FreeBSD Linux OS X Solaris Windows	FreeBSD, HP-UX Linux, NetBSD OpenBSD, OS X Solaris Unix, Windows

tables can be distributed across several files (horizontal partitioning); sharding through federation	horizontal partitioning, sharding with MySQL Cluster or MySQL Fabric	partitioning by range, list and (since PostgreSQL 11) by hash
depending on the SQL-Server Edition	Multi-source replication Source-replica replication	Source-replica replication 
fine grained access rights according to SQL-standard	Users with fine-grained authorization concept 	fine grained access rights according to SQL-standard
Microsoft® SQL Server is a database management and analysis system for e-commerce, line-of-business, and data warehousing solutions.	The MySQL software delivers a very fast, multi-threaded, multi-user, and robust SQL (Structured Query Language) database server. MySQL Server is intended for mission-critical, heavy-load production systems as well as for embedding into mass-deployed software.	PostgreSQL is an advanced object-relational database management system that supports an extended subset of the SQL standard, including transactions, foreign keys, subqueries, triggers, user-defined types and functions.