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Designing Queries for MySQL

Atomic queries *Molecular queries* *Query formatting* *Relational algebra*
JOIN *WHERE* *GROUP BY* *Many-many queries* *Common query problems*
Simplifying query logic *Optimising queries* *Using EXPLAIN* *Query Profiler*
Optimising caches *Optimising updates* *Optimising output* *SQL injection*

The word 'query' usually refers to a statement that returns information from a database. but it can also refer to statements that modify database structure or data, so we can speak of DDL queries, INSERT queries, UPDATE queries, DELETE queries and so on.

In this chapter the main focus is on SELECT queries. If you've not yet read the *relational basics chapter*, and the Data Manipulation Language Commands section in the *syntax chapter*, especially the subsection on SELECT, now is the time!

The art of query building is the art of using Structured Query Language to formulate correct, efficient database questions and commands. In SELECT queries, you can use JOIN, WHERE and HAVING clauses to scope the result to specific rows and columns, GROUP BY to combine result rows into analytic summaries, and UNION to combine the results of multiple queries. INSERT, DELETE and UPDATE commands may reference JOINs. INSERT … SELECT (*Chapter 6*, INSERT) inserts a query result into another table. DELETEs and UPDATEs may be scoped by WHERE clauses.

Query design

Central to queries and to their design are software patterns we call *Atomic Queries* and *Molecular Queries*.

To read the rest of this and other chapters, *buy a copy of the book*