

# 100 SQL Commands

SELECT - retrieves data from a database

- INSERT - inserts new data into a database
- UPDATE - updates existing data in a database
- DELETE - deletes data from a database
- CREATE DATABASE - creates a new database
- CREATE TABLE - creates a new table in a database
- ALTER TABLE - modifies an existing table structure
- DROP TABLE - deletes a table from a database
- TRUNCATE TABLE - removes all records from a table
- CREATE INDEX - creates an index on a table
- DROP INDEX - deletes an index from a table
- JOIN - combines rows from two or more tables based on a related column
- INNER JOIN - returns rows when there is a match in both tables
- LEFT JOIN - returns all rows from the left table, and the matched rows from the right table
- RIGHT JOIN - returns all rows from the right table, and the matched rows from the left table

FULL JOIN - returns rows when there is a match in one of the table

- UNION - combines the results of two or more SELECT statements
- UNION ALL - combines the results of two or more SELECT statements, including duplicate
- GROUP BY - groups rows that have the same values into summary rows
- HAVING - filters records based on a specified condition
- ORDER BY - sorts the result set in ascending or descending order
- COUNT - returns the number of rows that satisfy the condition
- SUM - calculates the sum of a set of values
- AVG - calculates the average of a set of values
- MIN - returns the smallest value in a set of values
- MAX - returns the largest value in a set of values

- DISTINCT - selects unique values from a column
- WHERE - filters records based on specified conditions
- AND - combines multiple conditions in a WHERE clause
- OR - specifies multiple alternative conditions in a WHERE clause
- NOT - negates a condition in a WHERE clause
- BETWEEN - selects values within a specified range
- IN - specifies multiple values for a column
- LIKE - selects rows that match a specified pattern
- IS NULL - checks for NULL values in a column
- IS NOT NULL - checks for non-NULL values in a column
- EXISTS - tests for the existence of any record in a subquery
- CASE - performs conditional logic in SQL statements
- WHEN - specifies conditions in a CASE statement
- THEN - specifies the result if a condition is true in a CASE statement
- ELSE - specifies the result if no condition is true in a CASE statement
- END - ends the CASE statement

PRIMARY KEY - uniquely identifies each record in a table

- FOREIGN KEY - establishes a relationship between table
- CONSTRAINT - enforces rules for data in a table
- DEFAULT - specifies a default value for a column
- NOT NULL - ensures that a column cannot contain NULL values
- UNIQUE - ensures that all values in a column are unique
- CHECK - enforces a condition on the values in a column
- CASCADE - automatically performs a specified action on related records
- SET NULL - sets the value of foreign key columns to NULL when a referenced record is deleted
- SET DEFAULT - sets the value of foreign key columns to their default value when a referenced record is deleted
- NO ACTION - specifies that no action should be taken on related records when a referenced record is deleted

RESTRICT - restricts the deletion of a referenced record if there are related records

- CASE WHEN - conditional expression in SELECT statements
- WITH - defines a common table expression (CTE)
- INTO - specifies a target table for the result set of a SELECT statement
- TOP - limits the number of rows returned by a query
- LIMIT - limits the number of rows returned by a query (used in some SQL dialects)
- OFFSET - specifies the number of rows to skip before starting to return row
- FETCH - retrieves rows from a result set one at a time
- ROW\_NUMBER() - assigns a unique sequential integer to each row in a result set
- RANK() - assigns a unique rank to each row in a result set, with gaps in the ranking sequence possible
- DENSE RANK() - assigns a unique rank to each row in a result set, with no gaps in the ranking sequence
- LEAD() - retrieves the value from the next row in a result set
- LAG() - retrieves the value from the previous row in a result set
- PARTITION BY - divides the result set into partitions to which the window function is applied separately
- ORDER BY - specifies the order of rows within each partition for window functions
- ROWS - specifies the window frame for window functions
- RANGE - specifies the window frame based on values rather than rows for window functions
- CURRENT\_TIMESTAMP - returns the current date and time
- CURRENT\_DATE - returns the current date
- CURRENT\_TIME - returns the current time
- DATEADD - adds a specified time interval to a date
- DATEDIFF - calculates the difference between two dates

DATEPART - extracts a specific part of a date

- GETDATE - returns the current date and time (similar to CURRENT\_TIMESTAMP)
- GROUPING SETS - specifies multiple groupings for aggregation
- CUBE - generates all possible combinations of grouping sets for aggregation
- ROLLUP - generates subtotal values for a hierarchy of values

- INTERSECT - returns the intersection of two result sets
- EXCEPT - returns the difference between two result sets
- MERGE - performs insert, update, or delete operations on a target table based on the results of a join with a source table
- CROSS APPLY - performs a correlated subquery against each row of the outer table
- OUTER APPLY - similar to CROSS APPLY, but also returns rows from the outer table that have no matching rows in the inner table
- PIVOT - rotates a table-valued expression by turning the unique values from one column into multiple columns in the output

UNPIVOT - rotates a table-valued expression by turning multiple columns into unique rows in the output

- COALESCE - returns the first non-NULL expression in a list
- NULLIF - returns NULL if the two specified expressions are equal, otherwise returns the first expression
- IIF - returns one of two values based on a Boolean expression
- CONCAT - concatenates two or more strings
- SUBSTRING - extracts a substring from a string
- CHARINDEX - finds the position of a substring within a string
- REPLACE - replaces all occurrences of a specified substring within a string with another substring
- LEN - returns the length of a string
- UPPER - converts a string to uppercase
- LOWER - converts a string to lowercase
- TRIM - removes leading and trailing spaces from a string
- ROUND - rounds a numeric value to a specified number of decimal places