

# **100+ SQL COMMANDS**

**FROM A-Z**



**WALTER SHIELDS  
DATA  
ACADEMY**

# Essential SQL Commands

## A

**ALTER TABLE:** Modify an existing table's structure

**AND:** Combines multiple conditions in a WHERE clause

**ANY/ALL:** Compare a value to a set of values

**AS:** Rename a column or table with an alias

**AVG():** Calculates the average (mean) of a set of values

## B

**BETWEEN:** Select values within a given range

## C

**CASCADE:** Automatically performs a specified action on related records

**CASE:** Perform conditional logic in SQL queries

**CASE WHEN:** Conditional expression in SELECT statements

**CHARINDEX():** Finds the position of a substring within a string



# Essential SQL Commands

02

C

**CHECK:** Enforces a condition on the values in a column

**COALESCE():** Returns the first non-NULL expression in a list

**CONCAT:** Concatenates two or more strings

**CONSTRAINT:** Enforces rules for data in a table

**COUNT():** Return the number of rows that match a specified condition

**CREATE DATABASE:** Creates a new database

**CREATE TABLE:** Creates a new table in the database

**CREATE INDEX:** Creates an index on a table for faster data retrieval

**CROSS JOIN:** Combines every row from one table with every row from another table

**CROSS APPLY:** Performs a correlated subquery against each row of the outer table

**CUBE:** Generates all possible combinations of grouping sets for aggregation

**CURRENT\_DATE:** Returns the current date

**CURRENT\_TIME:** Returns the current time

**CURRENT\_TIMESTAMP:** Returns the current date and time



# Essential SQL Commands

03

D

**DATEADD()**: Adds a specified time interval to a date

**DATEDIFF()**: Calculates the difference between two dates

**DATEPART()**: Extracts a specific part of a date

**DEFAULT**: Specifies a default value for a column

**DELETE**: Deletes data from a database

**DENSE\_RANK()**: Assigns a dense rank to each row in the result set

**DISTINCT**: Returns unique values in the result set

**DROP TABLE**: Deletes an existing table and its data from the database

**DROP INDEX**: Deletes an index from a table

E

**ELSE**: Specifies the result if no condition is true in a CASE statement

**END**: Ends the CASE statement

**EXCEPT**: Returns the difference between two result sets



# Essential SQL Commands

## E

**EXISTS:** Checks if a subquery returns any results; returns true if it does

**EXPLAIN:** Provide information on how a SQL statement will be executed

## F

**FETCH:** Limits the number of rows returned by a query

**FIRST\_VALUE():** Return the first value in an ordered set of values

**FOREIGN KEY:** Establishes a relationship between tables

**FROM:** Specify the table(s) to retrieve data from

**FULL JOIN:** Combines rows including all matching and non-matching rows

## G

**GETDATE:** Returns the current date and time (similar to CURRENT\_TIMESTAMP)

**GROUP BY:** Groups rows with the same values in specified columns for aggregation

**GROUPING SETS:** Specifies multiple groupings for aggregation



# Essential SQL Commands

05

H

**HAVING:** Filter group rows based on specified conditions

I

**IIF:** Returns one of two values based on a Boolean expression

**IN:** Specify multiple values in a WHERE clause

**INNER SELECT:** Perform a subquery within a SELECT statement

**INNER JOIN:** Combines rows based on a common column

**INSERT:** Inserts new data into a database

**INTERSECT:** Returns the intersection of two result sets

**INTO:** Specifies a target table for the result set of a SELECT statement

**IS NULL:** Filters results where the value is empty or undefined

**IS NOT NULL:** Filters results where the value is not empty or undefined

J

**JOIN:** Combines rows from two or more tables based on a related column



# Essential SQL Commands

06

## L

**LAG()**: Retrieves data from a previous row in the result set

**LAST\_VALUE()**: Return the last value in an ordered set of values

**LEAD()**: Access data from a subsequent row in the result set

**LEFT JOIN**: Returns all rows from the left table and matching rows from the right table

**LEN()**: Returns the length of a string

**LIKE**: Searches for a specified pattern in a column

**LIMIT**: Limit the number of rows returned by a query

**LOWER()**: Converts a string to lowercase

## M

**MAX()**: Returns the largest value from a set of values

**MERGE**: Performs insert, update, or delete operations on a target table

**MIN()**: Returns the smallest value from a set of values



# Essential SQL Commands

07

N

**NO ACTION:** Specifies that no action should be taken on related records

**NOT:** Negates a condition in a WHERE clause

**NOT NULL:** Ensures that a column cannot contain NULL values

**NTILE():** Divide the result set into a specified number of groups

**NULLIF():** Returns NULL if expressions are equal, otherwise returns the first expression

O

**OFFSET:** Skips a specified number of rows before starting to return rows

**OR:** Specifies multiple alternative conditions in a WHERE clause

**ORDER BY:** Specify the order of rows within the partition for window functions

**OUTER APPLY:** Similar to CROSS APPLY, returns rows with no match in the inner table

**OVER():** Specify a window of rows for aggregate functions



# Essential SQL Commands

08

## P

**PARTITION BY:** Divides the result set into partitions

**PERCENTILE\_CONT():** Calculate a percentile value using linear interpolation

**PERCENTILE\_DISC():** Calculate a specific percentile value

**PIVOT:** Rotates a table-valued expression into multiple columns

**PRIMARY KEY:** Uniquely identifies each record in a table

## R

**RANGE:** Specifies the window frame based on values

**RANK():** Assign a rank to each row in the result set

**REPLACE():** Replaces occurrences of a substring within a string

**RESTRICT:** Restricts the deletion of a referenced record

**RIGHT JOIN:** Returns all rows from the right table and matching rows from the left

**ROLLUP:** Generates subtotal values for a hierarchy



# Essential SQL Commands

## R

**ROUND()**: Rounds a numeric value to specified decimal places

**ROWS**: Specifies the window frame for functions

**ROW\_NUMBER()**: Assign a unique sequential integer to each row

## S

**SELECT**: Retrieve data from a database

**SET DEFAULT**: Sets the default value when a record is deleted

**SET NULL**: Sets the value to NULL when a record is deleted

**SUBSTRING()**: Extracts a substring from a string

**SUM()**: Calculates the sum of values in a column

## T

**THEN**: Specifies the result if a condition is true

**TOP**: Limits the number of rows returned



# Essential SQL Commands

10

T

**TRANSACTION:** Begin, commit, or rollback a transaction

**TRIM():** Removes leading and trailing spaces

**TRUNCATE TABLE:** Removes all records from a table

U

**UNION:** Combines the results of multiple SELECT queries

**UNPIVOT:** Rotates multiple columns into unique rows

**UPDATE:** Updates existing data in a database

**UPPER():** Converts a string to uppercase

W

**WHEN:** Specifies conditions in a CASE statement

**WHERE:** Filter rows based on a condition

**WITH:** Defines a common table expression (CTE)