

The Complete Reference

Includes Unique
SQL Join Syntax
Summary

SQL

Third Edition

- ▶ Comprehensive coverage of SQL capabilities, ANSI standards, usage, and programming
- ▶ Includes history, market trends, and feature comparisons of the leading brands of SQL DBMSs
- ▶ Updated information on XML; business intelligence; and in-memory, stream, and embedded databases

James R. Groff
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Multitable Queries (Joins)

SQL Join Syntax Summary (see Chapter 7)

Type	Standard SQL Syntax	Description
Inner Joins¹		
Simple equi-join	SELECT NAME, CITY FROM SALESREPS JOIN OFFICES ON REP_OFFICE = OFFICE;	Forms pairs of rows by matching the contents of related columns based on an exact match between pairs of columns.
Explicit equi-join	SELECT NAME, CITY FROM SALESREPS INNER JOIN OFFICES ON REP_OFFICE = OFFICE;	Syntax variation using INNER JOIN keywords instead of simply JOIN.
Parent/child query	SELECT CITY, NAME, TITLE FROM OFFICES JOIN SALESREPS ON MGR = EMPL_NUM;	An equi-join that matches the primary key in one table with the corresponding foreign key in the other.
Row selection criteria	SELECT CITY, NAME, TITLE FROM OFFICES JOIN SALESREPS ON MGR = EMPL_NUM WHERE TARGET > 600000.00;	Unwanted rows are filtered out from the query results by adding a WHERE predicate.
Multiple matching columns	SELECT ORDER_NUM, AMOUNT, DESCRIPTION FROM ORDERS JOIN PRODUCTS ON MFR = MFR_ID AND PRODUCT = PRODUCT_ID;	Multicolumn primary and foreign keys require multiple column matching in the join predicate.
Three-table join	SELECT ORDER_NUM, AMOUNT, COMPANY, NAME FROM ORDERS JOIN CUSTOMERS ON CUST = CUST_NUM JOIN SALESREPS ON REP = EMPL_NUM WHERE AMOUNT > 25000.00;	More than two tables are joined together by adding additional JOIN clauses.
Non-equi-join	SELECT NAME, QUOTA, TARGET FROM SALESREPS JOIN OFFICES ON QUOTA > TARGET;	The comparison operator in the join predicate is other than equal (=).
Natural join	SELECT ORDER_NUM, AMOUNT, DESCRIPTION FROM ORDERS NATURAL JOIN PRODUCTS;	An equi-join that matches rows based on all the columns that share the same name between the joined tables.
Join with USING clause	SELECT ORDER_NUM, AMOUNT, DESCRIPTION FROM ORDERS JOIN PRODUCTS USING (MFR, PRODUCT);	An equi-join based on the explicitly identified column names that share the same name in the joined tables.
Self-join	SELECT EMPS.NAME, MGRS.NAME FROM SALESREPS EMPS JOIN SALESREPS MGRS ON EMPS.MANAGER = MGRS.EMPL_NUM;	An equi-join of a table to itself with each row matched with other rows in the same table.
Outer Joins²		
Full outer join	SELECT * FROM GIRLS FULL OUTER JOIN BOYS ON GIRLS.CITY = BOYS.CITY;	Adds a NULL-extended row to the query results for each unmatched row of each joined table.
Natural full outer join	SELECT * FROM GIRLS NATURAL FULL OUTER JOIN BOYS;	A full outer join that matches rows based on all the columns that share the same name between the joined tables.
Full outer join with USING clause	SELECT * FROM GIRLS FULL OUTER JOIN BOYS USING (CITY);	A full outer join based on the explicitly identified column names that share the same name in the joined tables.
Full outer join with keyword OUTER implied	SELECT * FROM GIRLS FULL JOIN BOYS USING (CITY);	Many SQL implementations allow the keyword OUTER to be left out because it is implied by the keyword FULL.
Left outer join	SELECT * FROM GIRLS LEFT OUTER JOIN BOYS ON GIRLS.CITY = BOYS.CITY;	Adds a NULL-extended row to the query results for each unmatched row of the first (left) table.
Left outer join with USING clause	SELECT * FROM GIRLS LEFT OUTER JOIN BOYS USING (CITY);	A left outer join based on the explicitly identified column names that share the same name in the joined tables.
Right outer join	SELECT * FROM GIRLS RIGHT OUTER JOIN BOYS ON GIRLS.CITY = BOYS.CITY;	Adds a NULL-extended row to the query results for each unmatched row of the second (right) table.
Right outer join with USING clause	SELECT * FROM GIRLS RIGHT OUTER JOIN BOYS USING (CITY);	A right outer join based on the explicitly identified column names that share the same name in the joined tables.
Other Joins		
Cross join	SELECT * FROM GIRLS CROSS JOIN BOYS;	Explicitly requests the Cartesian product, which is the product consisting of all possible pairs of rows from the two tables.
Union "join"	SELECT * FROM GIRLS UNION ALL SELECT * FROM BOYS;	Technically not a join; the SELECTs process independently and the result sets are then concatenated by the UNION operator.

¹ Inner joins have the potential to lose information if the tables being joined contain unmatched rows.

² Outer joins do not lose information because they "add back" the unmatched rows.

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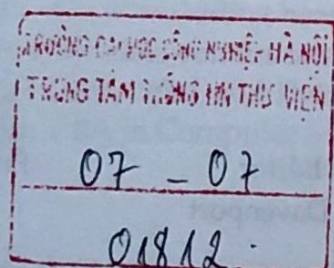
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