



SQL Table Joins: Usage for Full Stack Developers

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June 28, 2019

For data in multiple tables to be useful, the contents are sometimes combined. This is called a "JOIN". This document describes different types of joins and usage patterns for each type. For detailed information, please see web link below.

Example Tables:

STATES		MOTTOS	
STATE	NAME	STATE	MOTTO
NY	New York	NY	Get outta here
NJ	New Jersey	NJ	Hide the body
PA	Pennsylvania	VA	Lovers

Important Considerations:
The query optimizer translates a join query into a set of smaller queries using temporary tables. If the source tables are very large, please use sub-queries to reduce the size of the tables being joined. Also review the execution plan to identify table scans. If present, create an index on the source tables.

FULL join

SELECT * FROM STATES S
FULL JOIN MOTTOS M
ON S.STATE = M.STATE

RESULT

STATE	NAME	STATE	MOTTO
NY	New York	NY	Get outta here
NJ	New Jersey	NJ	Hide the body
(null)	(null)	VA	Lovers
PA	Pennsylvania	(null)	(null)

Observe that state values that are present in the mottos table but not in the states table are included in the output with nulls filling in the missing data. The same is true for state values that are present in the states table but not in the mottos table.

LEFT join

SELECT * FROM STATES S
LEFT JOIN MOTTOS M
ON S.STATE = M.STATE

RESULT

STATE	NAME	STATE	MOTTO
NY	New York	NY	Get outta here
NJ	New Jersey	NJ	Hide the body
PA	Pennsylvania	(null)	(null)

Observe that state values that are present in the states table (left) but not in the mottos table are included in the output with nulls for the values from the mottos table. State values that are present in the mottos table but not in the states table are excluded.

RIGHT join

SELECT * FROM STATES S
RIGHT JOIN MOTTOS M
ON S.STATE = M.STATE

RESULT

STATE	NAME	STATE	MOTTO
NY	New York	NY	Get outta here
NJ	New Jersey	NJ	Hide the body
(null)	(null)	VA	Lovers

Observe that state values that are present in the mottos table (right) but not in the states table are included in the output with nulls for the values from the states table. State values that are present in the states table but not in the mottos table are excluded.

INNER join

SELECT * FROM STATES S
INNER JOIN MOTTOS M
ON S.STATE = M.STATE

RESULT

STATE	NAME	STATE	MOTTO
NY	New York	NY	Get outta here
NJ	New Jersey	NJ	Hide the body

Observe that state values that are present in the mottos table but not in the states table are excluded. State values that are present in the states table but not in the mottos table are also excluded.