

# MsSQL JOIN Types

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**SELECT from two tables**

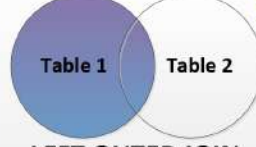
```
SELECT *
FROM Table1;

SELECT *
FROM Table2;
```



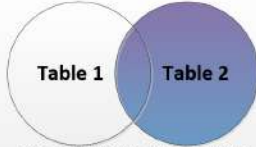
**INNER JOIN**

```
SELECT *
FROM Table1 t1
INNER JOIN Table2 t2
ON t1.fk = t2.id;
```



**LEFT OUTER JOIN**

```
SELECT *
FROM Table1 t1
LEFT OUTER JOIN Table2 t2
ON t1.fk = t2.id;
```



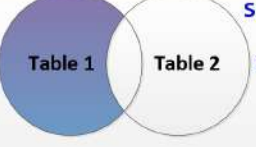
**RIGHT OUTER JOIN**

```
SELECT *
FROM Table1 t1
RIGHT OUTER JOIN Table2 t2
ON t1.fk = t2.id;
```



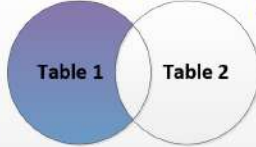
**SEMI JOIN – Similar to INNER JOIN, with less duplication.**

```
SELECT *
FROM Table1 t1
WHERE EXISTS (SELECT 1
FROM Table2 t2
WHERE t1.fk = t2.id
);
```



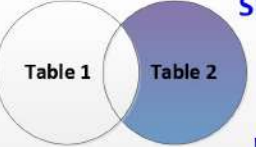
**ANTI SEMI JOIN**

```
SELECT *
FROM Table1 t1
WHERE NOT EXISTS (SELECT 1
FROM Table2 t2
WHERE t1.fk = t2.id
);
```



**LEFT OUTER JOIN with exclusion**

```
SELECT *
FROM Table1 t1
LEFT OUTER JOIN Table2 t2
ON t1.fk = t2.id
WHERE t2.id IS NULL;
```



**RIGHT OUTER JOIN with exclusion**

```
SELECT *
FROM Table1 t1
RIGHT OUTER JOIN Table2 t2
ON t1.fk = t2.id
WHERE t1.fk IS NULL;
```



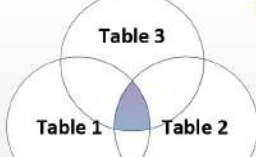
**FULL OUTER JOIN**

```
SELECT * FROM Table1 t1
LEFT OUTER JOIN Table2 t2
ON t1.fk = t2.id
UNION
SELECT * FROM Table1 t1
RIGHT OUTER JOIN Table2 t2
ON t1.fk = t2.id;
```



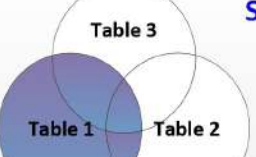
**FULL OUTER JOIN with exclusion**

```
SELECT * FROM Table1 t1
LEFT OUTER JOIN Table2 t2
ON t1.fk = t2.id
WHERE t2.id IS NOT NULL
UNION
SELECT * FROM Table1 t1
RIGHT OUTER JOIN Table2 t2
ON t1.fk = t2.id
WHERE t1.id IS NOT NULL;
```



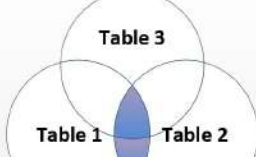
**Two INNER JOINS**

```
SELECT *
FROM Table1 t1
INNER JOIN Table2 t2
ON t1.fk = t2.id
INNER JOIN Table3 t3
ON t1.fk_table3 = t3.id;
```



**Two LEFT OUTER JOINS**

```
SELECT *
FROM Table1 t1
LEFT OUTER JOIN Table2 t2
ON t1.fk = t2.id
LEFT OUTER JOIN Table3 t3
ON t1.fk_table3 = t3.id;
```



**INNER JOIN and a LEFT OUTER JOIN**

```
SELECT *
FROM Table1 t1
INNER JOIN Table2 t2
ON t1.fk = t2.id
LEFT OUTER JOIN Table3 t3
ON t1.fk_table3 = t3.id;
```