

Using Set Operators in T-SQL Queries



Tamara Pattinson

Consultant | Software Engineer | Instructor

@PattinsonTamara www.tamarapattinson.com



JOINS

```
SELECT t1.Field_1
```

```
FROM Table_1 t1
```

JOIN

```
Table_2 t2 ON t1.Field_1 = t2.Field_1
```

SET OPERATORS

```
SELECT Field_1 FROM Table_1
```

```
[Union All, Union, Intersect, Except]
```

```
SELECT Field_1 FROM Table_2
```

```
ORDER BY Field [optional]
```

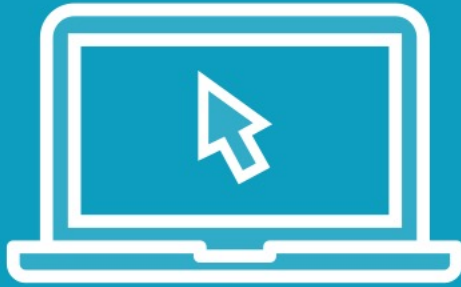
JOINS vs SET OPERATORS

- ◀ Merge data with each field in a separate column based on the type of JOIN

- ◀ Returns a combined result set from multiple queries
- ◀ Combine the fields into a single column
- ◀ Does not use JOINS to merge the results



Demo



Comparing JOINS and Nested Selects to Set operators

Write queries using:

- Union All
- Union
- Intersect
- Except

Alter queries using joins to use set operators

Use-case scenarios



Union All

Result set 1

Field 1
Alfreds Futterkiste
Ana Trujillo Emparedados
Antonio Moreno Taquería

Result set 2

Field 1
Nancy Davolio
Andrew Fuller
Janet Leverling

UNION ALL

Field 1
Alfreds Futterkiste
Ana Trujillo Emparedados
Antonio Moreno Taquería
Nancy Davolio
Andrew Fuller
Janet Leverling



Union

Result set 1

Field 1
Blue
Yellow
Green

Result set 2

Field 1
Purple
Orange
Green

UNION

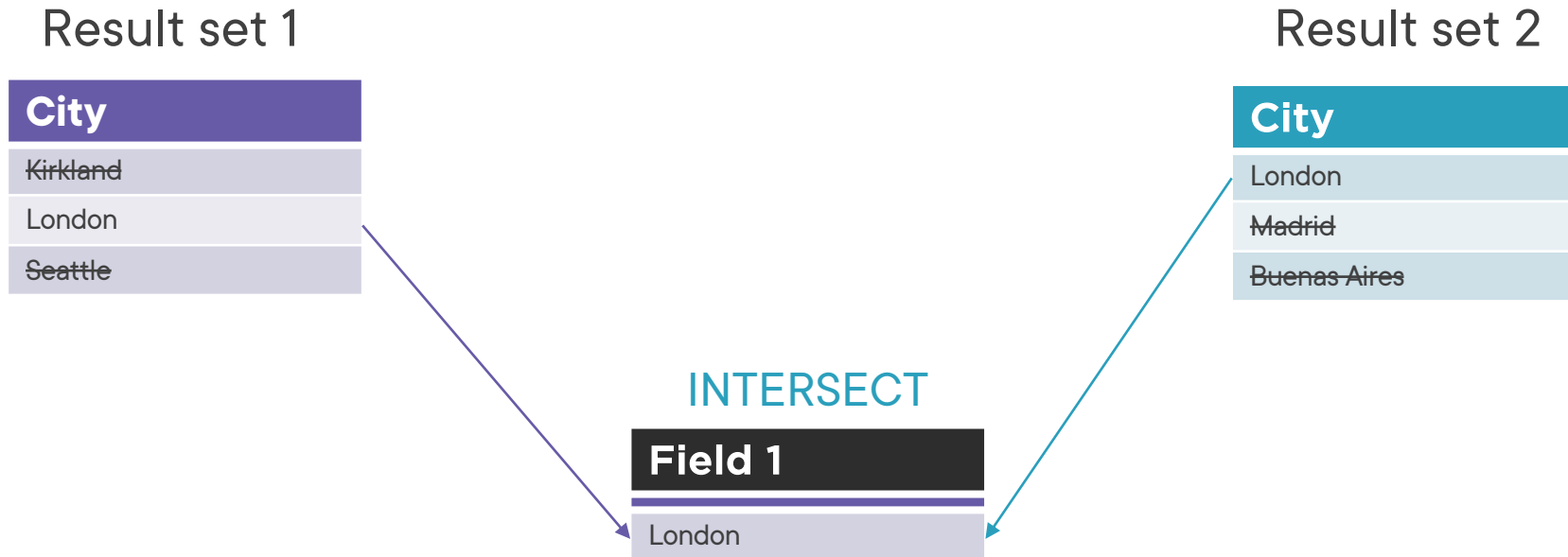
Field 1
Blue
Yellow
Green
Purple
Orange



Intersect and Except



Intersect Set Operator



Except Operator

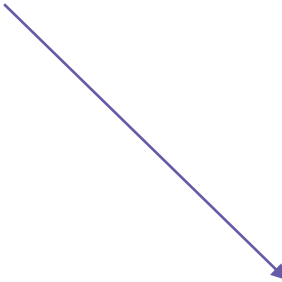
Result set 1

Field 1
Blue
Yellow
Green

Result set 2

Field 1
Purple
Orange
Green

EXCEPT



Field 1
Blue
Yellow



Union & Union All



Union returns all results with duplicates

Union returns distinct values

- Add a hard-coded field to differentiate

Rules

- Queries must have the same number of fields
- The fields being combined must have the same data types
- Cast and Convert can be used with the exception of explicitly not allowed conversion types

ORDER BY

- Placed below the last query and must reference the first query field or you can use a coordinate



Intersect / Except Summary



Intersect set operator

- Returns common values from multiple queries
- Returns distinct value
- Uses first query to evaluate the results returned

Except set operator

- Returns values not in sequential queries
- Uses first query to evaluate

Exercise Files

M8 - Except
M8 - Intersect
M8 - Union All
M8 - Union



Up Next:

Simplifying with Intermediary Tables
and Common Table Expressions

