

xSet Operators in T-SQL

JOINS

```
SELECT t1.Field_1
```

```
FROM Table_1 t1
```

```
JOIN
```

SET OPERATORS

```
SELECT Field_1 FROM Table_1
```

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

```
SELECT Field_1 FROM Table_2
```

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

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

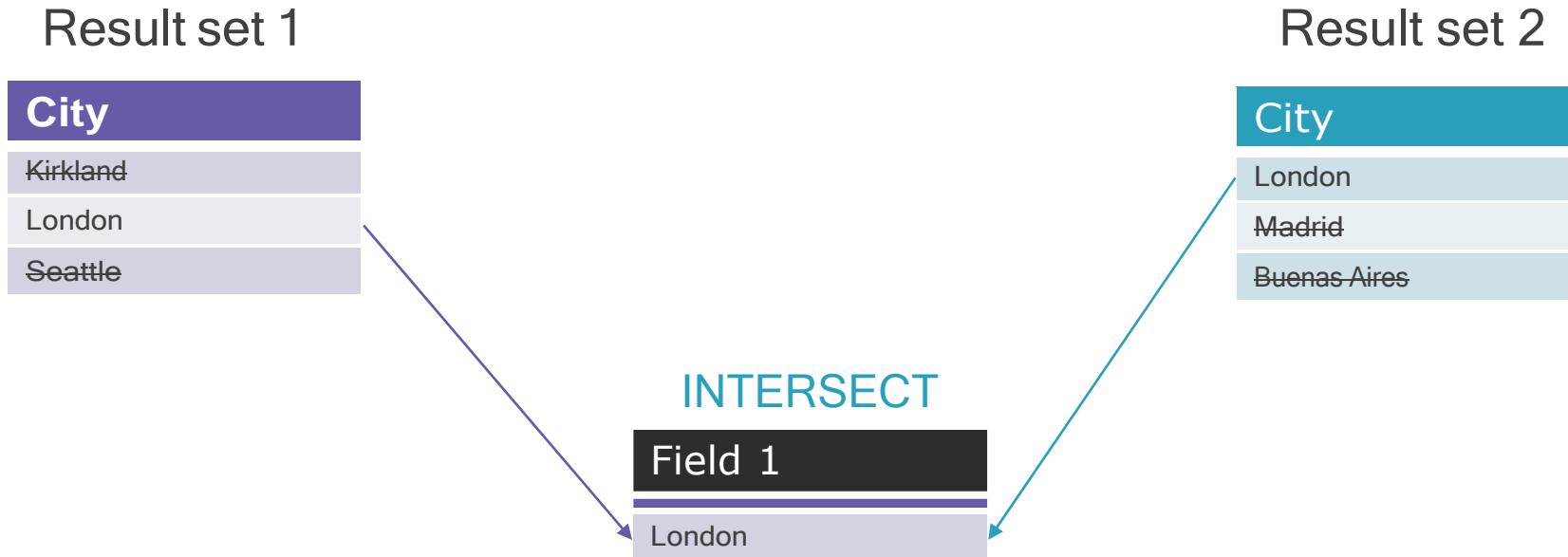
Field 1
Purple
Orange
Green

UNION

Blue
Yellow
Green
Purple
Orange

Intersect and Except

Intersect Set Operator



Except Operator

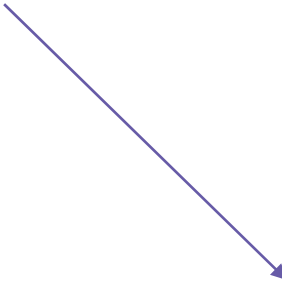
Result set 1

Field 1
Blue
Yellow
Green

Result set 2

Field 1
Purple
Orange
Green

EXCEPT



Field 1
Blue
Yellow

Union & Union All



Union All 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