

UNION, INTERSECT and EXCEPT



UNION Keyword

- The UNION keyword allows you to combine multiple datasets
- Datasets must have the same number of columns and similar datatypes
- The first data set defines the column names used in the result set
- If used, an ORDER BY clause must be placed on the last dataset

```
SELECT FirstName, LastName, 'Employee' AS PersonType  
FROM Employee
```

```
UNION
```

```
SELECT FirstName, LastName, 'Customer'  
FROM Customer  
ORDER BY LastName
```

| Results | | | |
|---------|-----------|------------|------------|
| | FirstName | LastName | PersonType |
| 1 | Andrew | Adams | Employee |
| 2 | Roberto | Almeida | Customer |
| 3 | Julia | Barnett | Customer |
| 4 | Camille | Bernard | Customer |
| 5 | Michelle | Brooks | Customer |
| 6 | Robert | Brown | Customer |
| 7 | Laura | Callahan | Employee |
| 8 | Kathy | Chase | Customer |
| 9 | Richard | Cunningham | Customer |



UNION vs UNION ALL

- A UNION clause will suppress duplicate rows in the result set
- UNION ALL will leave the duplicate rows in the result set
- UNION ALL queries execute faster because they do not check for duplicate values

```
SELECT Name, Composer
FROM Track
WHERE Composer = 'Steve harris'
AND AlbumId = 99
```

UNION

```
SELECT Name, Composer
FROM Track
WHERE Composer = 'Steve harris'
AND AlbumId = 96
ORDER BY Name
```

| | Name | Composer |
|---|---------------------------|--------------|
| 1 | Afraid To Shoot Strangers | Steve Harris |
| 2 | Childhood's End | Steve Harris |
| 3 | Fear Of The Dark | Steve Harris |
| 4 | From Here To Eternity | Steve Harris |
| 5 | Heaven Can Wait | Steve Harris |
| 6 | The Clairvoyant | Steve Harris |
| 7 | The Fugitive | Steve Harris |

```
SELECT Name, Composer
FROM Track
WHERE Composer = 'Steve harris'
AND AlbumId = 99
```

UNION ALL

```
SELECT Name, Composer
FROM Track
WHERE Composer = 'Steve harris'
AND AlbumId = 96
ORDER BY Name
```

| | Name | Composer |
|----|---------------------------|--------------|
| 1 | Afraid To Shoot Strangers | Steve Harris |
| 2 | Afraid To Shoot Strangers | Steve Harris |
| 3 | Childhood's End | Steve Harris |
| 4 | Fear Of The Dark | Steve Harris |
| 5 | Fear Of The Dark | Steve Harris |
| 6 | From Here To Eternity | Steve Harris |
| 7 | From Here To Eternity | Steve Harris |
| 8 | Heaven Can Wait | Steve Harris |
| 9 | The Clairvoyant | Steve Harris |
| 10 | The Fugitive | Steve Harris |



INTERSECT Keyword

- The INTERSECT keyword returns distinct rows that are found in both datasets
- The rows returned would be duplicates in a result set with the UNION ALL keywords
- Only two datasets can be compared

```
SELECT Name, Composer  
FROM Track  
WHERE Composer = 'Steve harris'  
AND AlbumId = 99
```

INTERSECT

```
SELECT Name, Composer  
FROM Track  
WHERE Composer = 'Steve harris'  
AND AlbumId = 96  
ORDER BY Name
```

| Results | | | Messages | | |
|---------|---------------------------|--------------|----------|--|--|
| | Name | Composer | | | |
| 1 | Afraid To Shoot Strangers | Steve Harris | | | |
| 2 | Fear Of The Dark | Steve Harris | | | |
| 3 | From Here To Eternity | Steve Harris | | | |



EXCEPT Keyword

- The EXCEPT keyword returns rows from the first dataset that are not found in the second dataset
- Only two datasets can be compared

```
SELECT Name, Composer
FROM Track
WHERE Composer = 'Steve harris'
      AND AlbumId = 99
ORDER BY Name
```

| | Name | Composer |
|---|---------------------------|--------------|
| 1 | Afraid To Shoot Strangers | Steve Harris |
| 2 | Childhood's End | Steve Harris |
| 3 | Fear Of The Dark | Steve Harris |
| 4 | From Here To Eternity | Steve Harris |
| 5 | The Fugitive | Steve Harris |

```
SELECT Name, Composer
FROM Track
WHERE Composer = 'Steve harris'
      AND AlbumId = 96
ORDER BY Name
```

| | Name | Composer |
|---|---------------------------|--------------|
| 1 | Afraid To Shoot Strangers | Steve Harris |
| 2 | Fear Of The Dark | Steve Harris |
| 3 | From Here To Eternity | Steve Harris |
| 4 | Heaven Can Wait | Steve Harris |
| 5 | The Clairvoyant | Steve Harris |

```
SELECT Name, Composer
FROM Track
WHERE Composer = 'Steve harris'
      AND AlbumId = 99
```

EXCEPT

```
SELECT Name, Composer
FROM Track
WHERE Composer = 'Steve harris'
      AND AlbumId = 96
ORDER BY Name
```

| | Name | Composer |
|---|-----------------|--------------|
| 1 | Childhood's End | Steve Harris |
| 2 | The Fugitive | Steve Harris |

