"Where and on difference"

```sql
SELECT *
FROM facebook
JOIN linkedin
ON facebook.name = linkedin.name
```

explicit

```sql
SELECT *
FROM facebook
JOIN linkedin
WHERE facebook.name = linkedin.name
```

explicit

```sql
SELECT *
FROM facebook, linkedin
WHERE facebook.name = linkedin.name
```

implicit

good to follow

on → joining

where → filtering

readability

info

accuracy

facebook	
name	city
Matt	SF
Lisa	NY
Dave	LA

linkedin	
name	city
Alex	NY
Matt	SF
Steve	LA

Accuracy

Filtering in the ON clause may produce unexpected results when using a LEFT, RIGHT, or OUTER JOIN. These two queries will not produce the same output:

```
SELECT *
FROM facebook
LEFT JOIN linkedin
ON facebook.name = linkedin.name
WHERE facebook.city = 'SF'
```

facebook.name	facebook.city	linkedin.name	linkedin.city
Matt	SF	Matt	SF

```
SELECT *
FROM facebook
LEFT JOIN linkedin
ON facebook.name = linkedin.name AND facebook.city = 'SF'
```

facebook.name	facebook.city	linkedin.name	linkedin.city
Matt	SF	Matt	SF
Lisa	NY		
Jeff	NY		
Dave	LA		

Summary

Keep the context separate between **joining** the tables and **filtering** the joined table. It is the most readable, least likely to be inaccurate, and should not be less performant.

- JOIN data in ON
- Filter data in WHERE
- Write explicit JOINs to make your Query more readable
- Filter data in the WHERE clause instead of the JOIN to ensure it is correct and readable
- Different SQL languages may have different query plans based on filtering in the ON clause vs the WHERE clause, so test the performance on your database