

# Database Restructuring Helper

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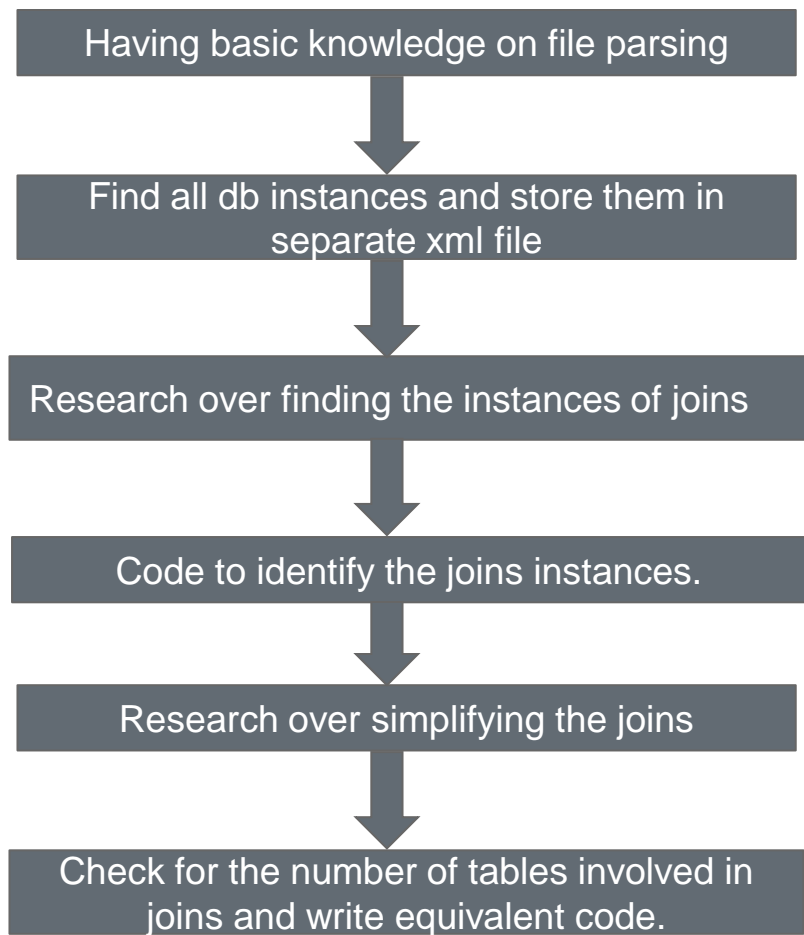
# Problem Statement

- Using a codebase and a DB - Walk through the codebase to find instances of DB access.
- Find instances of joins
- Verify if the joins are reflected in the DB too via constraints.
- Simplify Joins - If there is a join involving 3 or more tables, provide equivalent code that is easier to understand.

# References

- <https://www.w3schools.com/java/>
- How to merge xml files.
- Different ways in which a join can be used.
- <https://dev.mysql.com/doc/refman/5.7/en/rewriting-subqueries.html>

# Workflow



# Progress of the Project

- Found the db instances in the directory and store them in a xml file.
- Identified the different scenarios which can be considered as a join query.
- Wrote the code to find the instances of joins for the above mentioned scenarios.

# Instances of Joins

Instances of Joins that we have considered:

- A select statement having Join word.

```
<select id="getAllAssetsAvail" resultMap="AssetAvail" resu
  select * from assets A
  left join asset_market M on M.asset_id = A.asset_id
</select>
```

- Without using join word - A select statement having more than one table. Table name as alias case is also handled.

```
<select>
SELECT DISTINCT t1.* FROM t1, t2
WHERE t1.id=t2.id;
</select>
```

```
<select>
SELECT ProductName FROM Product WHERE Id IN
(SELECT ProductId FROM OrderItem
WHERE Quantity > 100)
</select>
```

# Result Image

List of Join queries :

1)

```
select *  
from assets A , asset_market M  
on M.asset_id = A.asset_id
```

---

2)

```
select *  
from assets A  
left join asset_market M  
on M.asset_id = A.asset_id  
where symbol = #{assetID}
```

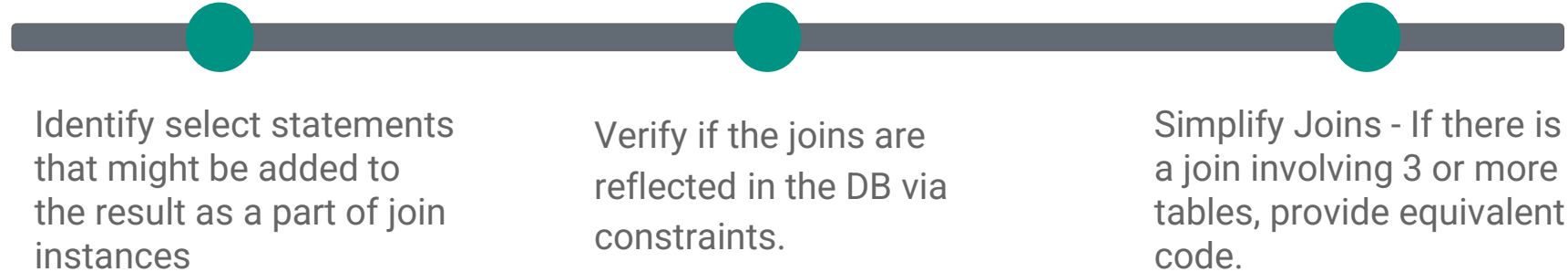
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3)

```
select *  
from trades  
INNER JOIN orders  
ON (trades.buy_orderId=orders.orderId AND orders.s  
ide='buy' ) or (trades.sell_orderId=orders.orderId AND ord  
ers.side='sell' )  
where orders.userId=#{userId}  
  
AND orders.orderId=#{data.orderId}
```

# Going Forward

Planning and milestones for next semester





**THANK YOU!**