Database report 3

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Database Statistics before testing

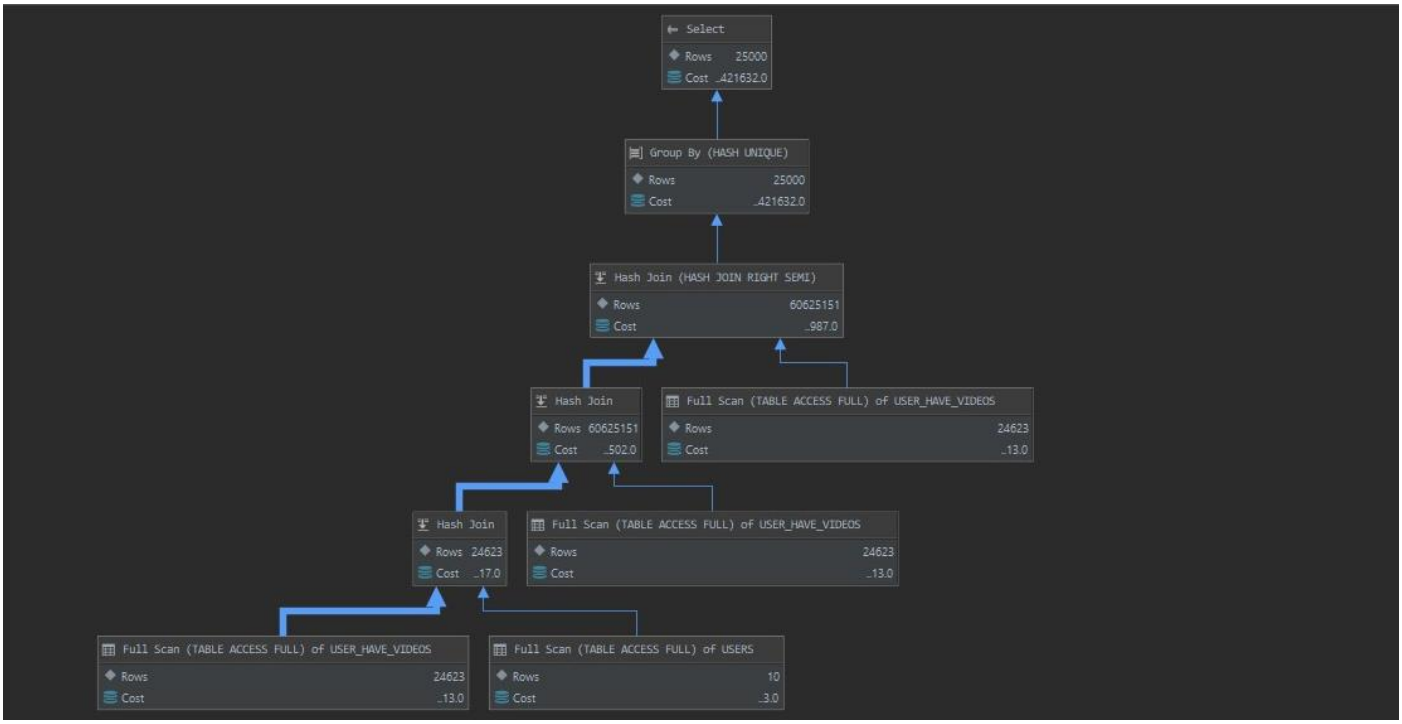
Table	Entry amounts
USERS	10
COMMENTS	53 384
VIDEOS	15 524
USER_HAVE_VIDEOS	14 959

Test plan

Following test plan has been created to further check the performance of the database. To simulate more complex traffic following queries were used:

QUERY 1 – finding all users that own at least three different videos

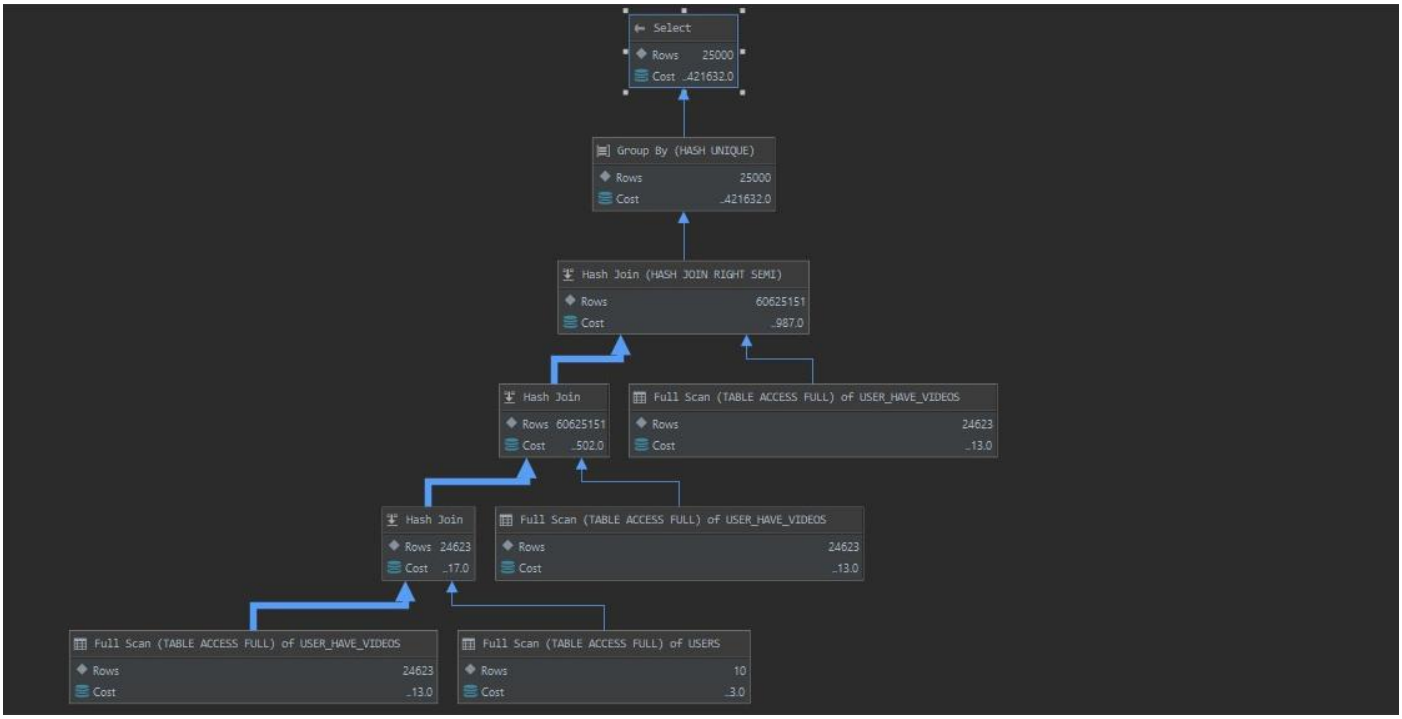
```
SELECT distinct u.*
FROM users u
LEFT JOIN user_have_videos uv1 ON uv1.user_id = u.user_id
LEFT JOIN videos v1 ON v1.video_id = uv1.video_id
LEFT JOIN user_have_videos uv2 ON uv2.user_id = u.user_id
LEFT JOIN videos v2 ON v2.video_id = uv2.video_id
LEFT JOIN user_have_videos uv3 on uv3.user_id = u.user_id
LEFT JOIN videos v3 ON v3.video_id = uv3.video_id
WHERE v1.video_id <> v2.video_id
AND v1.video_id <> v3.video_id
AND v2.video_id <> v1.video_id
AND v2.video_id <> v3.video_id
AND v3.video_id <> v1.video_id
AND v3.video_id <> v2.video_id;
```



Query 1 Explain Plan Diagram

QUERY 2 – find all users that commented on

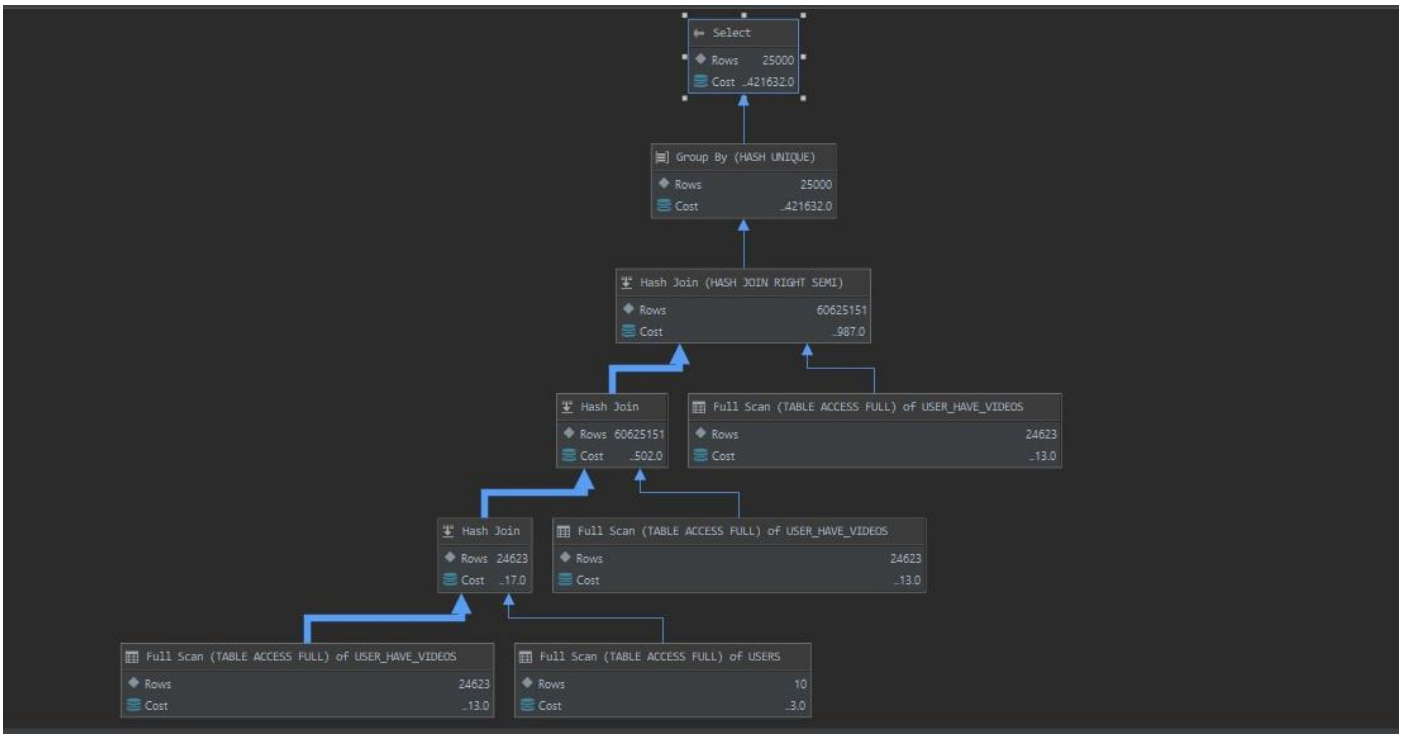
```
SELECT DISTINCT u.* FROM USERS u JOIN COMMENTS c on c.USER_ID = u.USER_ID WHERE
lower(c.COMMENT_CONTENT) LIKE :comment_content
```



Query 2 Explain Plan Diagram

QUERY 3 – find all videos that are owned or commented by the user

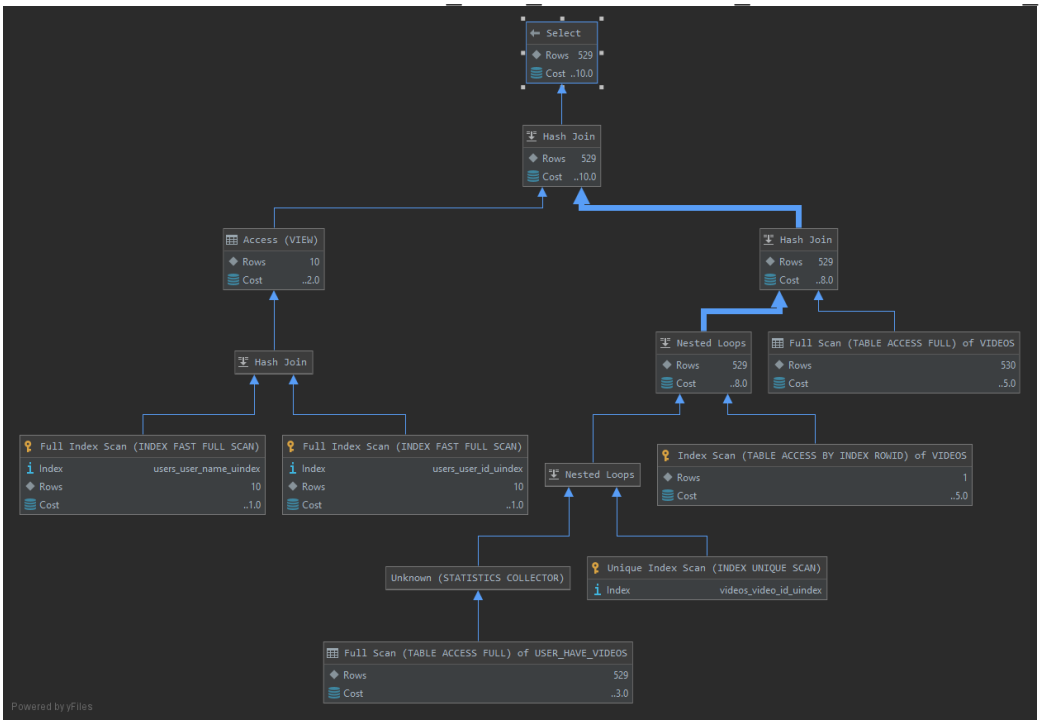
```
SELECT *
FROM videos v
LEFT JOIN user_have_videos uv ON uv.video_id = v.video_id
LEFT JOIN users u1 on u1.user_id = uv.user_id
LEFT JOIN comments c on c.video_id = v.video_id
LEFT JOIN users u2 on u2.user_id = c.user_id
WHERE u1.USER_ID LIKE :username
   OR u2.USER_ID LIKE :username;
```



Query 3 Explain Plan Diagram

QUERY 4

```
SELECT USER_HAVE_VIDEOS.VIDEO_ID, USER_HAVE_VIDEOS.USER_ID, USERS.USER_NAME,
VIDEOS.VIDEO_NAME FROM USER_HAVE_VIDEOS INNER JOIN USERS ON USER_HAVE_VIDEOS.USER_ID =
USERS.USER_ID INNER JOIN VIDEOS ON USER_HAVE_VIDEOS.VIDEO_ID = VIDEOS.VIDEO_ID
```



Query 5 Explain Plan Diagram

Test execution and results

Time of query execution (Averaged):

Query	Execution time
1	12 s 598 ms
2	8 s 652 ms
3	10 s 432 ms
4	9 s 485 ms

Summary

Test performed on the database are clearly that the database, using proper queries, is well balanced and organized properly.