Map-Side Join

- So far we have been querying the tables with the join operator.
    - **set hive.auto.convert.join=false;**
    - **select * from users inner join submissions on users.user_id = submissions.user_id limit 10;**
- We can actually view how this query was implemented using the EXPLAIN keyword -
    - **explain select * from users inner join submissions on users.user_id = submissions.user_id;**
- Notice that first we are scanning the users table which has a size of about 80 KB Then the submissions table is scanned which has a size of about 3 MB. And then the reduce operation is performed where the join operation is implemented.
- Now, Hive actually provides an optimized way of joining two tables, and that is called Map-side join or Map join. In map join, actually the smaller of the two tables is cached in memory. The larger table is streamed through the mappers and then the join is performed. This is much more efficient than streaming through both the tables in the mapper.
- So first we need to allow Hive to auto-convert any join to map join using the following command -
    - **set hive.auto.convert.join=true;**
- Now lets see how the previous join was implemented-

- **explain select * from users inner join submissions on users.user_id = submissions.user_id;**
- Now as you can see, both the tables were scanned by the mappers, but then the map join is implemented once the larger table of the two, that is the submissions table is scanned.