

1. Performance Test Plan

So far in this project, we have installed HBase and MySQL database. Now to identify the performance of both the database we are going to set the test plan. The testing strategy is based on workloads A and D. We have taken two workloads named Workload A and Workload B with operation counts starting from 3000, 6000, 9000 and 12000. We are going to run this workload on both the databases and check the output file to know the status and performance of both databases.

1.1 Test Plan for Workload A

1. Check average latency of read operation in HBase and MySQL for 3000, 6000, 9000, 12000 operation count.
2. Check average latency of update operation in HBase and MySQL for 3000, 6000, 9000, 12000 operation count.
3. Check overall run count in HBase and MySQL for 3000,6000,9000,12000 operation count.
4. Check overall throughput count in HBase and MySQL for 3000,6000,9000,12000 operation count.

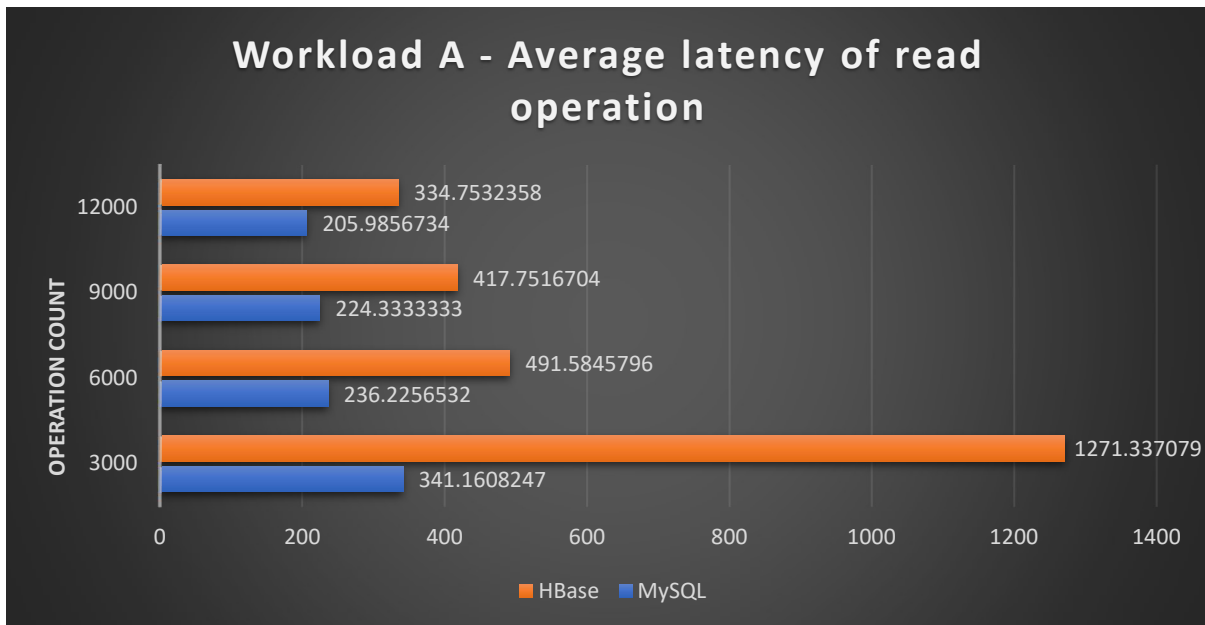
1.2 Test Plan for Workload D

1. Check average latency of read operation in HBase and MySQL for 3000, 6000, 9000, 12000 operation count.
2. Check average latency of insert operation in HBase and MySQL for 3000, 6000, 9000, 12000 operation count.
3. Check overall run count in HBase and MySQL for 3000,6000,9000,12000 operation count.
4. Check overall throughput count in HBase and MySQL for 3000,6000,9000,12000 operation count.

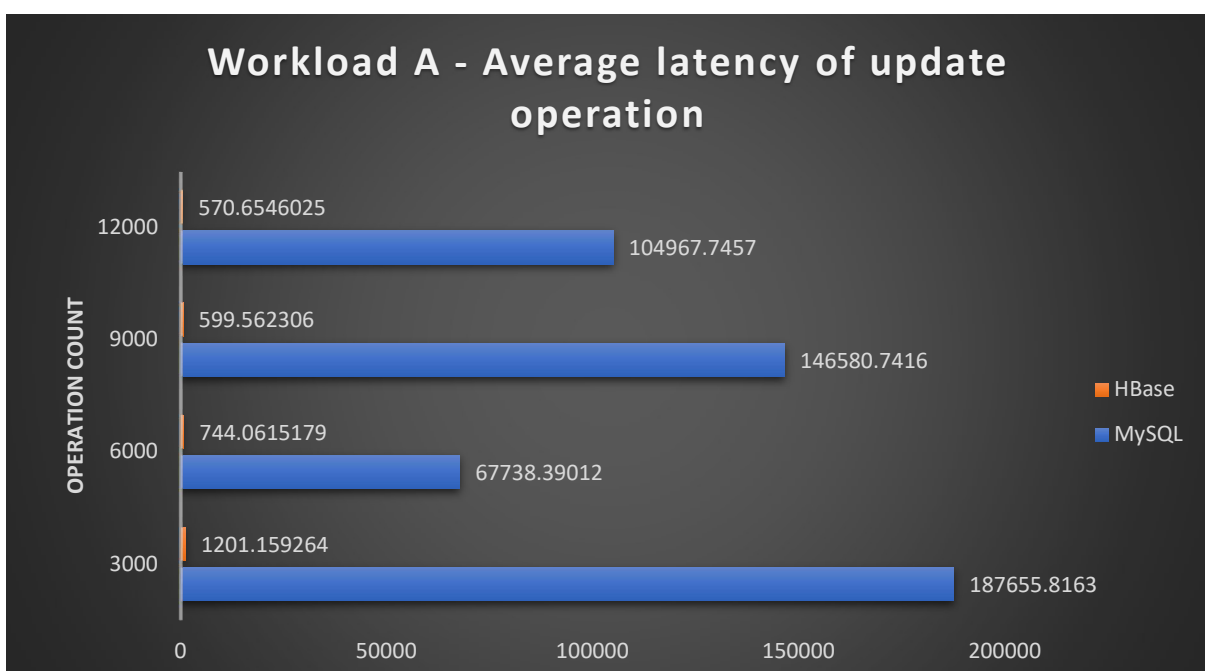
2. Evaluation & Results:

2.1 Evaluation and results of the test plans for workload A:

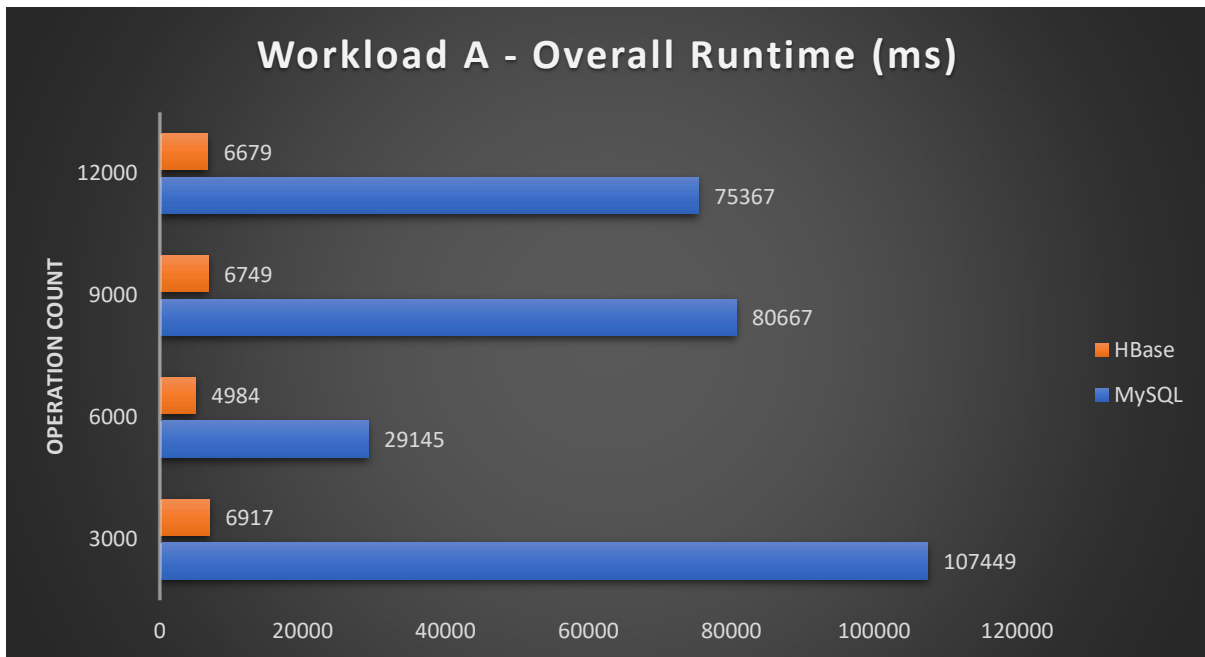
Test Plan 1: The below graph shows that the average latency of read operations is more for HBase database then MySQL which shows that the read operation is better in MySQL then HBase. As the operation counts were increased the difference between average latency of read operation reduced. (MySQL > HBase) as (Average latency for read operation count should be less)



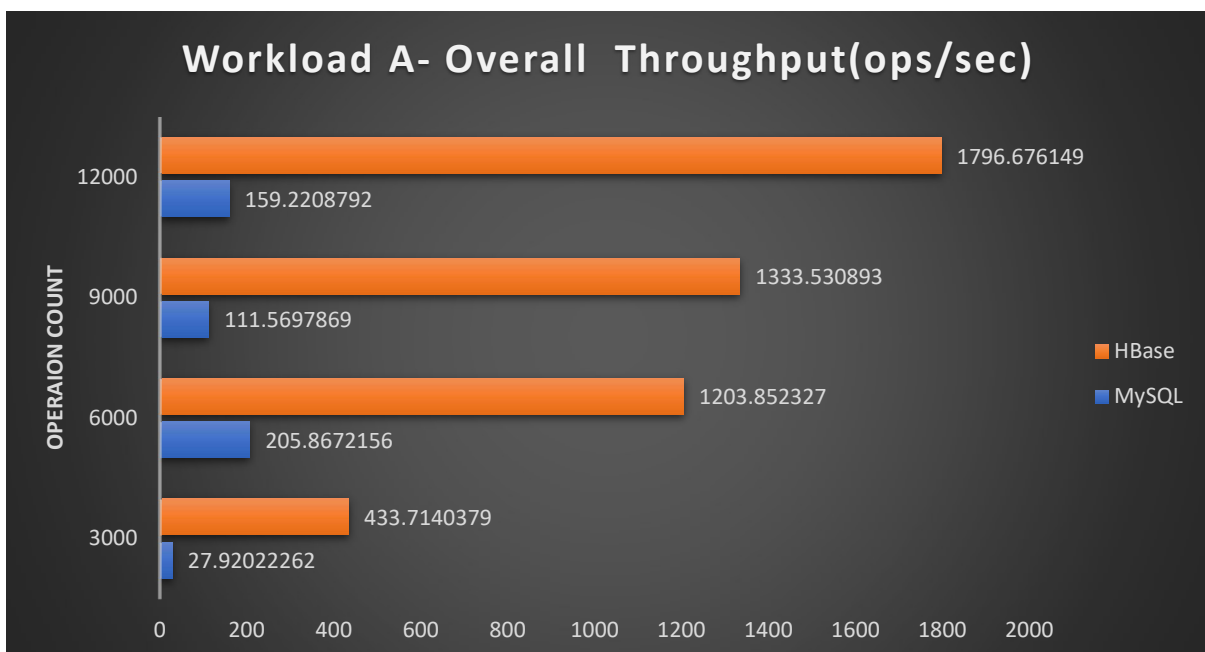
Test Plan 2: The below graph shows that the average latency of update operations is more for MySQL database then HBase which shows that the update operation is better in HBase then MySQL. (HBase > MySQL) as (Average latency for update operation should be less)



Test Plan 3: The below graph shows that the overall runtime (ms) is more for MySQL database then HBase which shows that the runtime is better in HBase then MySQL. Results are same even if the operation counts are increased. (HBase > MySQL)

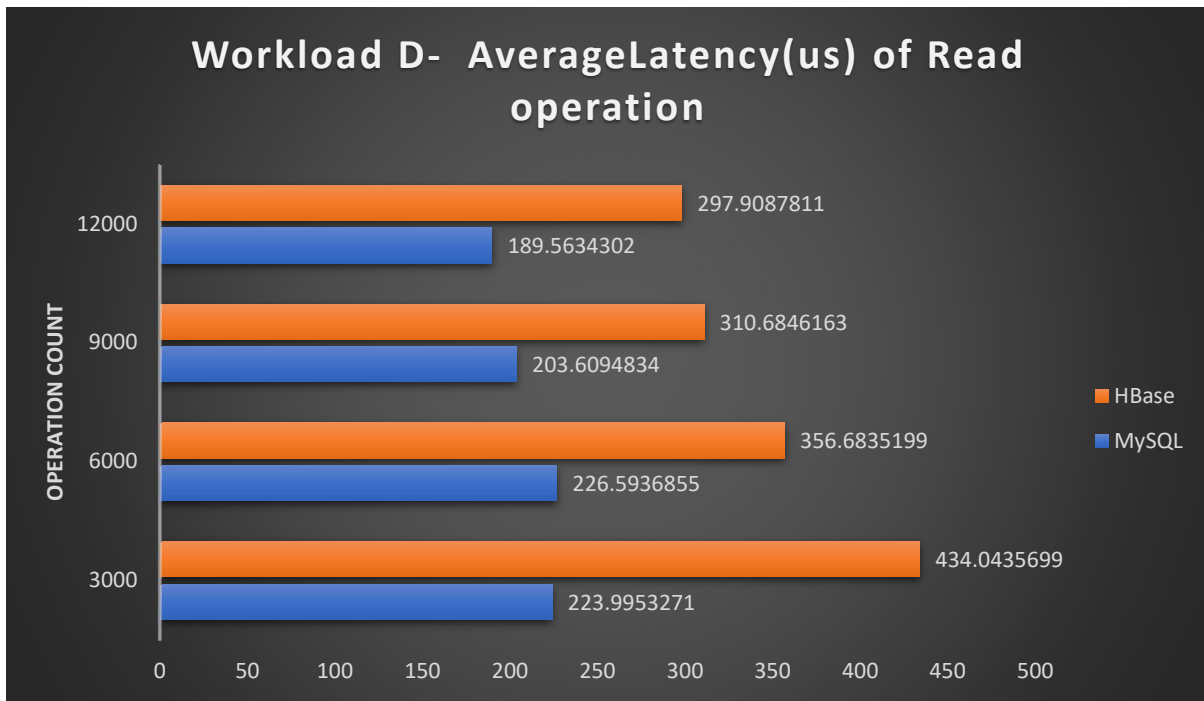


Test Plan 4: The below graph shows that the overall throughput(ops/sec) is more for HBase database then MySQL database which shows that the throughput is better in HBase then MySQL. Results are same even if the operation counts are increased. (HBase > MySQL) as (Throughput count should be more)

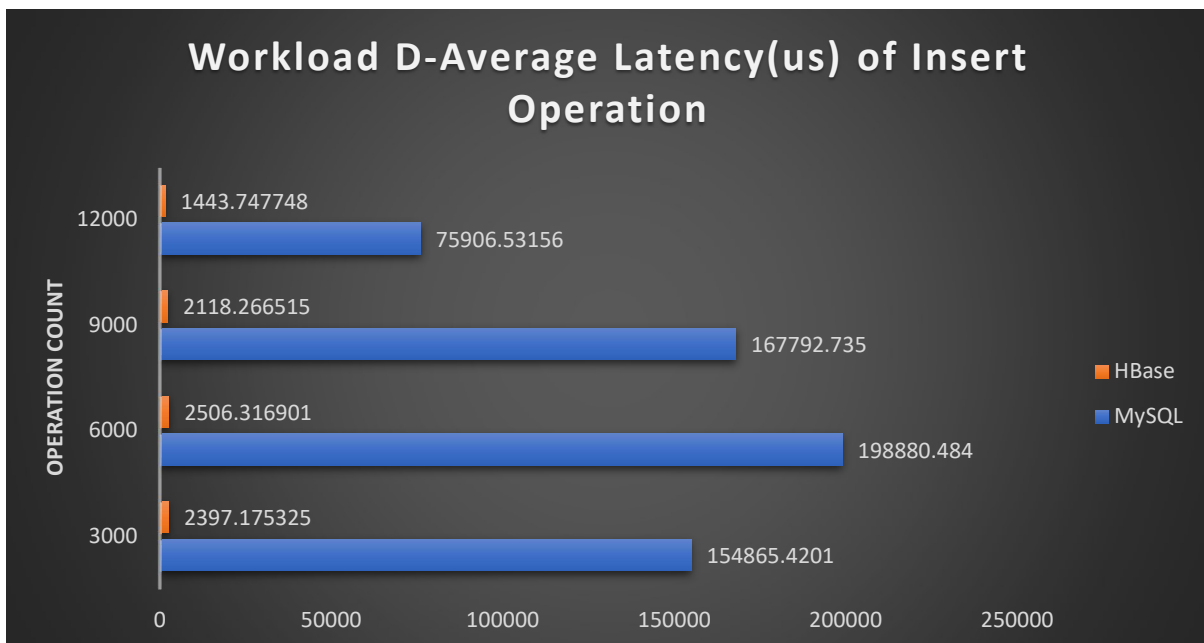


2.2 Evaluation and results of the test plans for workload D:

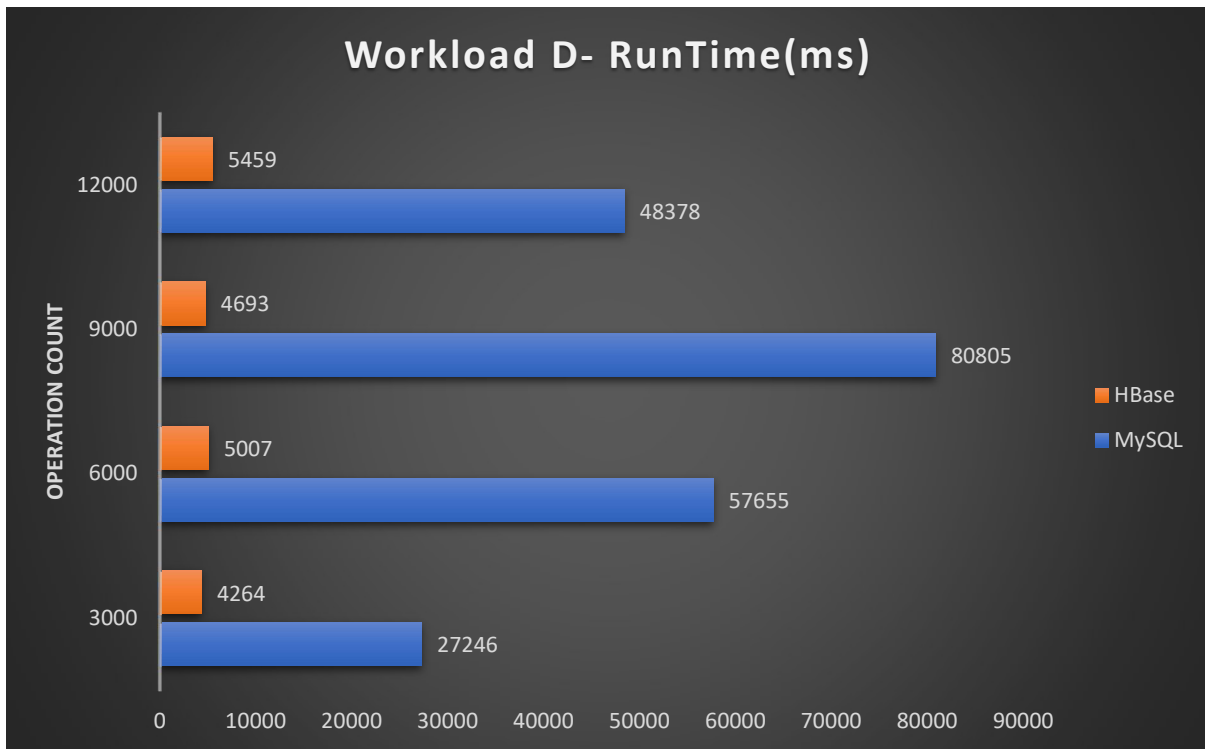
Test Plan 1: The below graph shows that the average latency of read operations is more for HBase database then MySQL which shows that the read operation is better in MySQL then HBase. As the operation counts were increased the difference between average latency of read operation reduced. (MySQL > HBase) as (Average latency for read operation count should be less)



Test Plan 2: The below graph shows that the average latency of insert operations is more for MySQL database then HBase which shows that the insert operation is better in HBase then MySQL. (HBase > MySQL) as (Average latency for insert operation should be less)



Test Plan 3: The below graph shows that the overall runtime (ms) is more for MySQL database then HBase which shows that the runtime is better in HBase then MySQL. Results are same even if the operation counts are increased. (HBase > MySQL) as (Run time count should be less)



Test Plan 4: The below graph shows that the overall throughput(ops/sec) is more for HBase database then MySQL database which shows that the throughput is better in HBase then MySQL. Results are same even if the operation counts are increased. (HBase > MySQL) as (Throughput count should be more)

