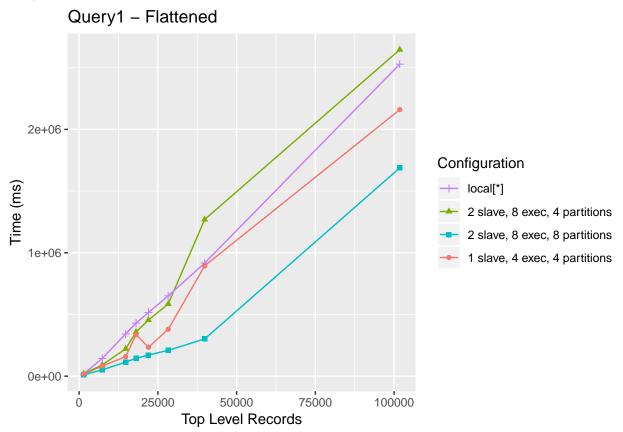
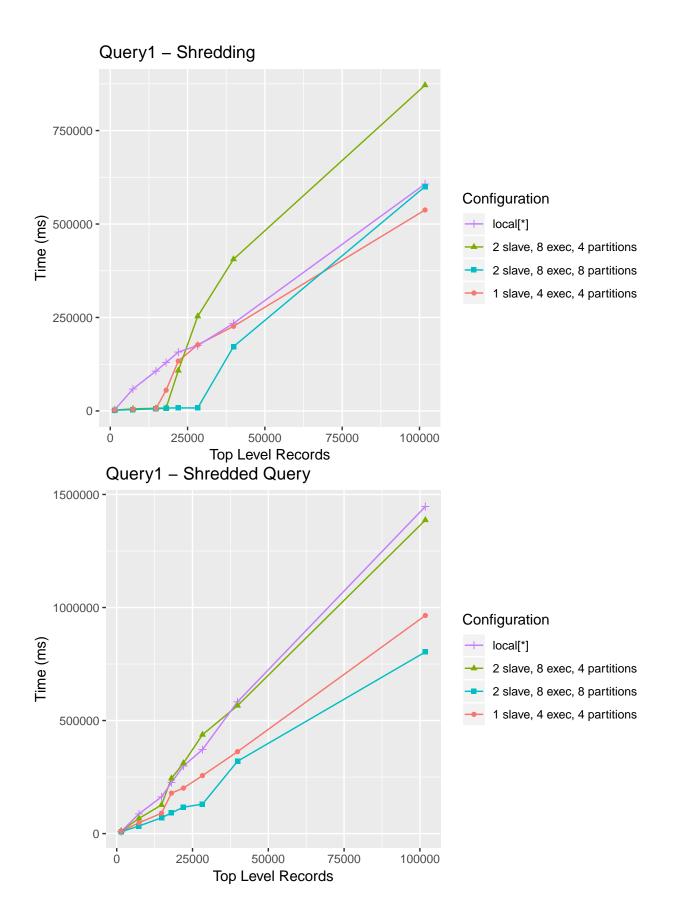
## cluster configurations

These tests were run on the Converge data (across 10640 samples) on the ODA cluster.

Query 1 Results





Local mode, Spark 2.1.1, Scala 2.11.8, 48 cores, 32G Driver, materializing shredded query stages

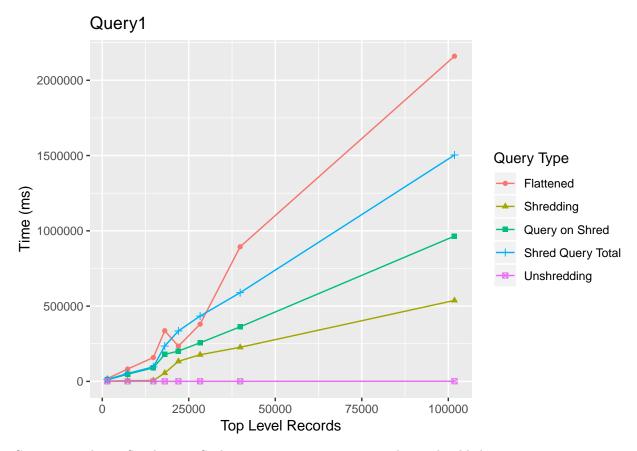
```
--master local[*] \
--executor-memory 24G \
--driver-memory 32G \
```

## Query1 2500000 -2000000 -**Query Type** Flattened 1500000 -Time (ms) Shredding Query on Shred 1000000 -**Shred Query Total** Unshredding 500000 -0 -25000 50000 75000 Ö 100000

Converge, 1 slave, Spark 2.1.1, Scala 2.11.8, 4 partitions, materializing shredded query stages

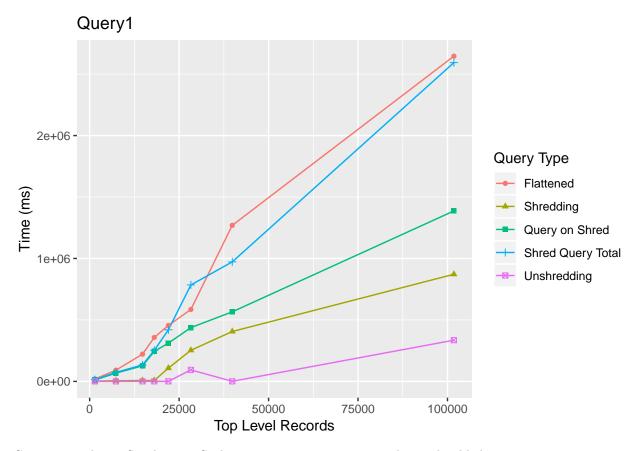
Top Level Records

```
--master spark://192.168.11.235:7077 \
--executor-cores 4 \
--num-executors 4 \
--executor-memory 24G \
--driver-memory 32G \
```



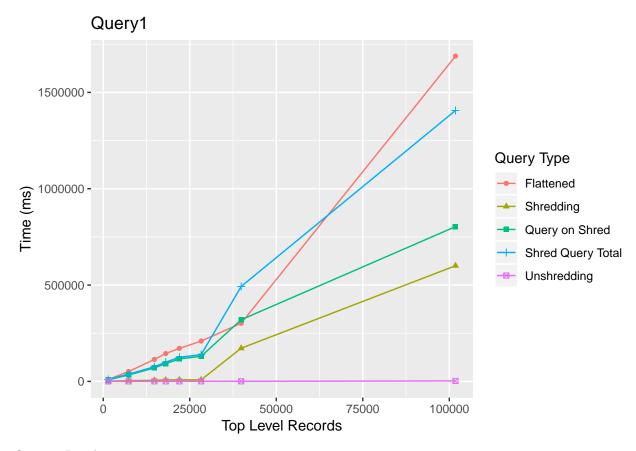
Converge, 2 slaves, Spark 2.1.1, Scala 2.11.8, 4 partitions, materializing shredded query stages

```
--master spark://192.168.11.235:7077 \
--executor-cores 4 \
--num-executors 8 \
--executor-memory 24G \
--driver-memory 32G \
```

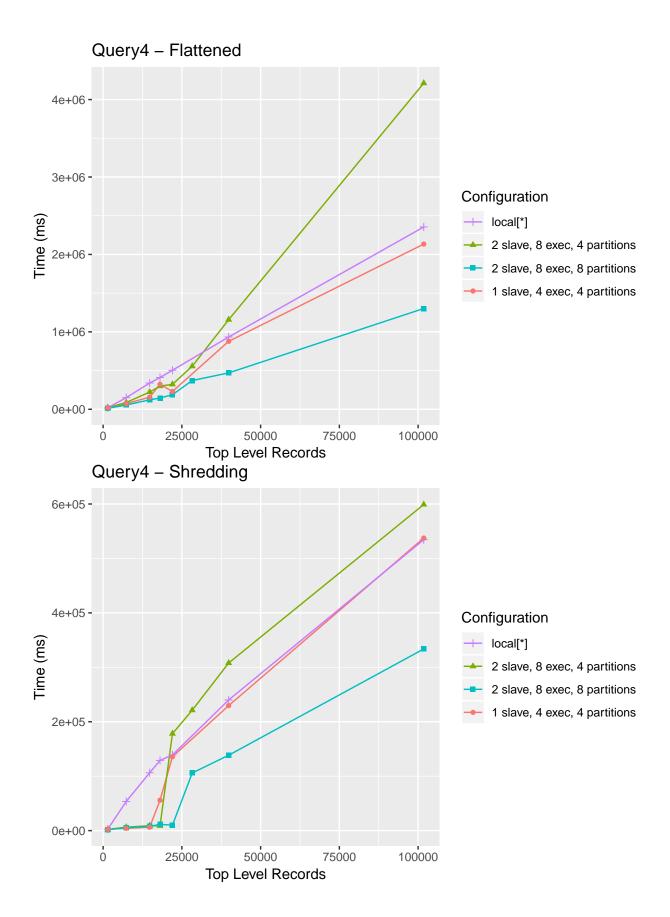


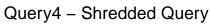
Converge, 2 slaves, Spark 2.1.1, Scala 2.11.8, 8 partitions, materializing shredded query stages

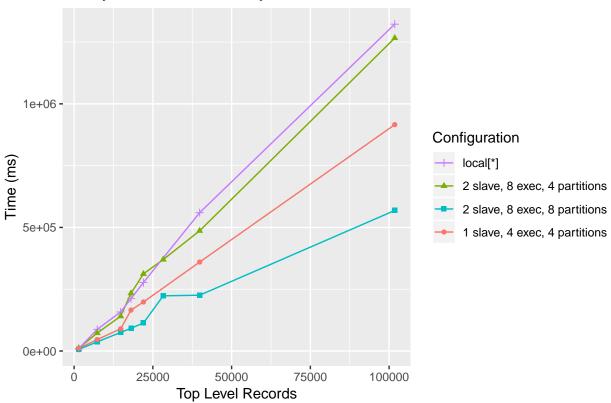
```
--master spark://192.168.11.235:7077 \
--executor-cores 4 \
--num-executors 8 \
--executor-memory 24G \
--driver-memory 32G \
```



Query 4 Results

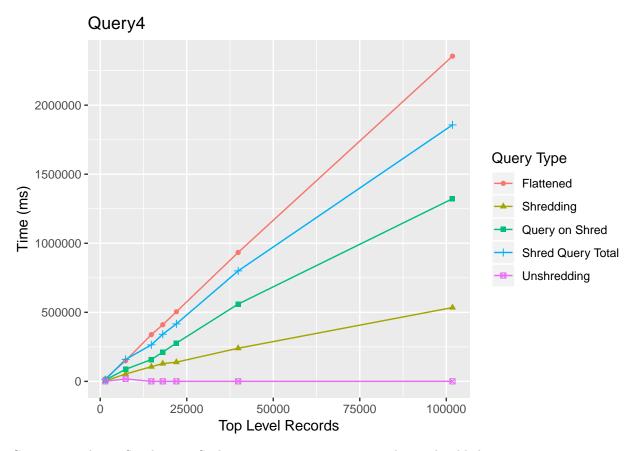






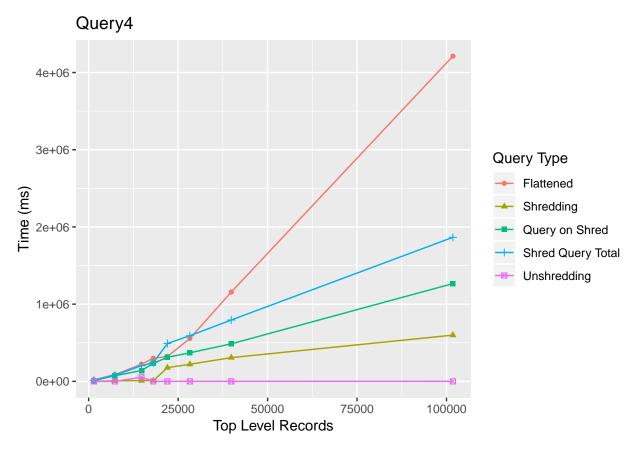
Local mode, Spark 2.1.1, Scala 2.11.8, 48 cores, 32G Driver, materializing shredded query stages

```
--master local[*] \
--executor-memory 24G \
--driver-memory 32G \
```



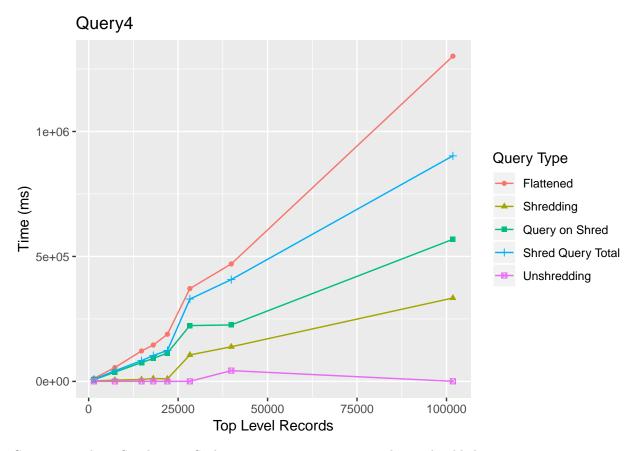
Converge, 2 slaves, Spark 2.1.1, Scala 2.11.8, 4 partitions, materializing shredded query stages

```
--master spark://192.168.11.235:7077 \
--executor-cores 4 \
--num-executors 8 \
--executor-memory 24G \
--driver-memory 32G \
```



Converge, 2 slaves, Spark 2.1.1, Scala 2.11.8, 8 partitions, materializing shredded query stages

```
--master spark://192.168.11.235:7077 \
--executor-cores 4 \
--num-executors 8 \
--executor-memory 24G \
--driver-memory 32G \
```



Converge, 1 slave, Spark 2.1.1, Scala 2.11.8, 4 partitions, materializing shredded query stages

```
--master spark://192.168.11.235:7077 \
--executor-cores 4 \
--num-executors 4 \
--executor-memory 24G \
--driver-memory 32G \
```

