NOTES:

1. I have done all this in Cloudera VM which has just 8 GB RAM and 4 CPU cores. I have just tried to save cost associated with use of EC2 instance on AWS.

Data Ingestion from the RDS to HDFS using Sqoop

1. Sqoop Import command

Listing tables first:

sqoop-list-tables --connect jdbc:mysql://upgradawsrds.cpclxrkdvwmz.us-east-1.rds.amazonaws.com:3306/indiaahs2012_13 --username upgraduser --password upgraduser

```
[cloudera@quickstart ~]$ sqoop-list-tables --connect jdbc:mysql://upgradawsrds.cpclxrkdvwmz.us-east-
1.rds.amazonaws.com:3306/indiaahs2012_13 --username upgraduser --password upgraduser
18/11/26 19:36:39 INFO sqoop.Sqoop: Running Sqoop version: 1.4.6-cdh5.13.0
18/11/26 19:36:39 WARN tool.BaseSqoopTool: Setting your password on the command-line is insecure. Consider using -P instead.
18/11/26 19:36:39 INFO manager.MySQLManager: Preparing to use a MySQL streaming resultset.
Key_indicator_districtwise
[cloudera@quickstart ~]$
```

I am importing data from MySQL RDS into project2 directory in HDFS:

sqoop import --connect jdbc:mysql://upgradawsrds.cpclxrkdvwmz.us-east-1.rds.amazonaws.com:3306/indiaahs2012_13 --username upgraduser --password upgraduser --table Key_indicator_districtwise --target-dir /user/cloudera/project2

```
[cloudera@quickstart ~]$ sqoop import --connect jdbc:mysql://upgradawsrds.cpclxrkdvwmz.us-east-
1.rds.amazonaws.com:3306/indiaahs2012_13 --username upgraduser --password upgraduser --table Key_indicator_districtwise --target-dir
/user/cloudera/project2
18/11/26 19:39:37 INFO sqoop.Sqoop: Running Sqoop version: 1.4.6-cdh5.13.0
18/11/26 19:39:37 WARN tool.BaseSqoopTool: Setting your password on the command-line is insecure. Consider using -P instead.
18/11/26 19:39:38 INFO manager.MySQLManager: Preparing to use a MySQL streaming resultset.
18/11/26 19:39:38 INFO tool.CodeGenTool: Beginning code generation
18/11/26 19:39:46 INFO manager.SqlManager: Executing SQL statement: SELECT t.* FROM `Key_indicator_districtwise` AS t LIMIT 1
18/11/26 19:39:48 INFO manager.SqlManager: Executing SQL statement: SELECT t.* FROM `Key_indicator_districtwise` AS t LIMIT 1
18/11/26 19:39:50 INFO orm.CompilationManager: HADOOP_MAPRED_HOME is /usr/lib/hadoop-mapreduce
Note: /tmp/sqoop-cloudera/compile/151fdb601a06f2014ef4be4932419ee6/Key_indicator_districtwise.java uses or overrides a deprecated
API.
Note: Recompile with -Xlint:deprecation for details.
18/11/26 19:39:56 INFO orm.CompilationManager: Writing jar file: /tmp/sqoop-
cloudera/compile/151fdb601a06f2014ef4be4932419ee6/Key_indicator_districtwise.jar
18/11/26 19:39:57 WARN manager.MySQLManager: It looks like you are importing from mysql.
18/11/26 19:39:57 WARN manager.MySQLManager: This transfer can be faster! Use the --direct
18/11/26 19:39:57 WARN manager.MySQLManager: option to exercise a MySQL-specific fast path.
18/11/26 19:39:57 INFO manager.MySQLManager: Setting zero DATETIME behavior to convertToNull (mysql)
18/11/26 19:39:57 INFO mapreduce.ImportJobBase: Beginning import of Key_indicator_districtwise
18/11/26 19:39:57 INFO Configuration.deprecation: mapred.job.tracker is deprecated. Instead, use mapreduce.jobtracker.address
18/11/26 19:39:58 INFO Configuration.deprecation: mapred.jar is deprecated. Instead, use mapreduce.job.jar
18/11/26 19:40:00 INFO Configuration.deprecation: mapred.map.tasks is deprecated. Instead, use mapreduce.job.maps
18/11/26 19:40:00 INFO client.RMProxy: Connecting to ResourceManager at /0.0.0.0:8032
18/11/26 19:40:06 INFO db.DBInputFormat: Using read commited transaction isolation
18/11/26 19:40:06 INFO db.DataDrivenDBInputFormat: BoundingValsQuery: SELECT MIN(`ID`), MAX(`ID`) FROM `Key_indicator_districtwise`
18/11/26 19:40:06 INFO db.IntegerSplitter: Split size: 70; Num splits: 4 from: 1 to: 284
18/11/26 19:40:07 INFO mapreduce.JobSubmitter: number of splits:4
18/11/26 19:40:07 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1543289208460_0001
18/11/26 19:40:08 INFO impl.YarnClientImpl: Submitted application application_1543289208460_0001
```

```
18/11/26 19:40:08 INFO mapreduce.Job: The url to track the job: http://quickstart.cloudera:8088/proxy/application_1543289208460_0001/
18/11/26 19:40:08 INFO mapreduce.Job: Running job: job_1543289208460_0001
18/11/26 19:40:20 INFO mapreduce.Job: Job job_1543289208460_0001 running in uber mode : false
18/11/26 19:40:20 INFO mapreduce.Job:  map 0% reduce 0%
18/11/26 19:40:40 INFO mapreduce.Job:  map 25% reduce 0%
18/11/26 19:40:41 INFO mapreduce.Job:  map 50% reduce 0%
18/11/26 19:40:43 INFO mapreduce.Job:  map 75% reduce 0%
18/11/26 19:40:44 INFO mapreduce.Job:  map 100% reduce 0%
18/11/26 19:40:45 INFO mapreduce.Job: Job job_1543289208460_0001 completed successfully
18/11/26 19:40:45 INFO mapreduce.Job: Counters: 31
        File System Counters
                FILE: Number of bytes read=0
                FILE: Number of bytes written=822704
                FILE: Number of read operations=0
                FILE: Number of large read operations=0
                FILE: Number of write operations=0
                HDFS: Number of bytes read=405
                HDFS: Number of bytes written=1027652
                HDFS: Number of read operations=16
                HDFS: Number of large read operations=0
                HDFS: Number of write operations=8
        Job Counters
                Killed map tasks=1
                Launched map tasks=4
                Other local map tasks=4
                Total time spent by all maps in occupied slots (ms)=76401
                Total time spent by all reduces in occupied slots (ms)=0
                Total time spent by all map tasks (ms)=76401
                Total vcore-milliseconds taken by all map tasks=76401
                Total megabyte-milliseconds taken by all map tasks=78234624
        Map-Reduce Framework
                Map input records=284
                Map output records=284
                Input split bytes=405
                Spilled Records=0
                Failed Shuffles=0
                Merged Map outputs=0
                GC time elapsed (ms)=378
                CPU time spent (ms)=15590
                Physical memory (bytes) snapshot=1141731328
                Virtual memory (bytes) snapshot=6332882944
                Total committed heap usage (bytes)=1119879168
        File Input Format Counters
                Bytes Read=0
        File Output Format Counters
                Bytes Written=1027652
18/11/26 19:40:45 INFO mapreduce.ImportJobBase: Transferred 1,003.5664 KB in 45.399 seconds (22.1055 KB/sec)
18/11/26 19:40:45 INFO mapreduce.ImportJobBase: Retrieved 284 records.
```

2. Command to see the list of imported data

hadoop fs -ls /user/cloudera/project2/

```
[cloudera@quickstart ~]$ hadoop fs -ls /user/cloudera/project2/
Found 5 items
-rw-r--r--   1 cloudera cloudera          0 2018-11-26 19:40 /user/cloudera/project2/_SUCCESS
-rw-r--r--   1 cloudera cloudera     244283 2018-11-26 19:40 /user/cloudera/project2/part-m-00000
-rw-r--r--   1 cloudera cloudera     249691 2018-11-26 19:40 /user/cloudera/project2/part-m-00001
-rw-r--r--   1 cloudera cloudera     257360 2018-11-26 19:40 /user/cloudera/project2/part-m-00002
-rw-r--r--   1 cloudera cloudera     276318 2018-11-26 19:40 /user/cloudera/project2/part-m-00003
[cloudera@quickstart ~]$
```

hadoop fs -cat /user/cloudera/project2/* (Output is - 284 rows and 645 columns so not displaying it here)

External table creation in Hive and loading the ingested data into it. Data ingestion verification.

1. **Command to create the external table**

First creating a separate database namely **etlproject2** and creating all objects under this database.

```
--- Create database etlproject2
create database etlproject2;

--- Use etlproject2 (move into etlproject2)
use etlproject2;

--- Create external table KEY_INDICATORS_INT using HDFS location as '/user/cloudera/etlproject2/'
CREATE EXTERNAL TABLE IF NOT EXISTS KEY_INDICATORS_EXT(
`ID` INT,
`STATE_NAME` VARCHAR(100),
`STATE_DISTRICT_NAME` VARCHAR(100),
`AA_SAMPLE_UNITS_TOTAL` DOUBLE,
`AA_SAMPLE_UNITS_RURAL` DOUBLE,
`AA_SAMPLE_UNITS_URBAN` DOUBLE,
`AA_HOUSEHOLDS_TOTAL` DOUBLE,
`AA_HOUSEHOLDS_RURAL` DOUBLE,
`AA_HOUSEHOLDS_URBAN` DOUBLE,
`AA_POPULATION_TOTAL` DOUBLE,
`AA_POPULATION_RURAL` DOUBLE,
`AA_POPULATION_URBAN` DOUBLE,
`AA_EVER_MARRIED_WOMEN_AGED_15_49_YEARS_TOTAL` DOUBLE,
`AA_EVER_MARRIED_WOMEN_AGED_15_49_YEARS_RURAL` DOUBLE,
`AA_EVER_MARRIED_WOMEN_AGED_15_49_YEARS_URBAN` DOUBLE,
`AA_CURRENTLY_MARRIED_WOMEN_AGED_15_49_YEARS_TOTAL` DOUBLE,
`AA_CURRENTLY_MARRIED_WOMEN_AGED_15_49_YEARS_RURAL` DOUBLE,
`AA_CURRENTLY_MARRIED_WOMEN_AGED_15_49_YEARS_URBAN` DOUBLE,
`AA_CHILDREN_12_23_MONTHS_TOTAL` DOUBLE,
`AA_CHILDREN_12_23_MONTHS_RURAL` DOUBLE,
`AA_CHILDREN_12_23_MONTHS_URBAN` DOUBLE,
`BB_AVERAGE_HOUSEHOLD_SIZE_SC_TOTAL` DOUBLE,
`BB_AVERAGE_HOUSEHOLD_SIZE_SC_RURAL` DOUBLE,
`BB_AVERAGE_HOUSEHOLD_SIZE_SC_URBAN` DOUBLE,
`BB_AVERAGE_HOUSEHOLD_SIZE_ST_TOTAL` DOUBLE,
`BB_AVERAGE_HOUSEHOLD_SIZE_ST_RURAL` DOUBLE,
`BB_AVERAGE_HOUSEHOLD_SIZE_ST_URBAN` DOUBLE,
`BB_AVERAGE_HOUSEHOLD_SIZE_ALL_TOTAL` DOUBLE,
`BB_AVERAGE_HOUSEHOLD_SIZE_ALL_RURAL` DOUBLE,
`BB_AVERAGE_HOUSEHOLD_SIZE_ALL_URBAN` DOUBLE,
`BB_POPULATION_BELOW_AGE_15_YEARS_TOTAL` DOUBLE,
`BB_POPULATION_BELOW_AGE_15_YEARS_RURAL` DOUBLE,
`BB_POPULATION_BELOW_AGE_15_YEARS_URBAN` DOUBLE,
`BB_DEPENDENCY_RATIO_TOTAL` DOUBLE,
`BB_DEPENDENCY_RATIO_RURAL` DOUBLE,
`BB_DEPENDENCY_RATIO_URBAN` DOUBLE,
`BB_CURRENTLY_MARRIED_ILLITERATE_WOMEN_AGED_15_49_YEARS_TOTAL` DOUBLE,
```

`BB_CURRENTLY_MARRIED_ILLITERATE_WOMEN_AGED_15_49_YEARS_RURAL` DOUBLE,
`BB_CURRENTLY_MARRIED_ILLITERATE_WOMEN_AGED_15_49_YEARS_URBAN` DOUBLE,
`CC_SEX_RATIO_AT_BIRTH_TOTAL` DOUBLE,
`CC_SEX_RATIO_AT_BIRTH_RURAL` DOUBLE,
`CC_SEX_RATIO_AT_BIRTH_URBAN` DOUBLE,
`CC_SEX_RATIO_0_4_YEARS_TOTAL` DOUBLE,
`CC_SEX_RATIO_0_4_YEARS_RURAL` DOUBLE,
`CC_SEX_RATIO_0_4_YEARS_URBAN` DOUBLE,
`CC_SEX_RATIO_ALL_AGES_TOTAL` DOUBLE,
`CC_SEX_RATIO_ALL_AGES_RURAL` DOUBLE,
`CC_SEX_RATIO_ALL_AGES_URBAN` DOUBLE,
`DD_PERSON_TOTAL` DOUBLE,
`DD_PERSON_RURAL` DOUBLE,
`DD_PERSON_URBAN` DOUBLE,
`DD_MALE_TOTAL` DOUBLE,
`DD_MALE_RURAL` DOUBLE,
`DD_MALE_URBAN` DOUBLE,
`DD_FEMALE_TOTAL` DOUBLE,
`DD_FEMALE_RURAL` DOUBLE,
`DD_FEMALE_URBAN` DOUBLE,
`EE_MARRIAGES_AMONG_FEMALES_BELOW_LEGAL_AGE_18_YEARS_TOTAL` DOUBLE,
`EE_MARRIAGES_AMONG_FEMALES_BELOW_LEGAL_AGE_18_YEARS_RURAL` DOUBLE,
`EE_MARRIAGES_AMONG_FEMALES_BELOW_LEGAL_AGE_18_YEARS_URBAN` DOUBLE,
`EE_MARRIAGES_AMONG_MALES_BELOW_LEGAL_AGE_21_YEARS_TOTAL` DOUBLE,
`EE_MARRIAGES_AMONG_MALES_BELOW_LEGAL_AGE_21_YEARS_RURAL` DOUBLE,
`EE_MARRIAGES_AMONG_MALES_BELOW_LEGAL_AGE_21_YEARS_URBAN` DOUBLE,
`EE_MARRIED_WOMEN_20_24_YEARS_MARRIED_BEFORE_18_YEARS_TOTAL` DOUBLE,
`EE_MARRIED_WOMEN_20_24_YEARS_MARRIED_BEFORE_18_YEARS_RURAL` DOUBLE,
`EE_MARRIED_WOMEN_20_24_YEARS_MARRIED_BEFORE_18_YEARS_URBAN` DOUBLE,
`EE_MARRIED_MEN_25_29_YEARS_MARRIED_BEFORE_21_YEARS_TOTAL` DOUBLE,
`EE_MARRIED_MEN_25_29_YEARS_MARRIED_BEFORE_21_YEARS_RURAL` DOUBLE,
`EE_MARRIED_MEN_25_29_YEARS_MARRIED_BEFORE_21_YEARS_URBAN` DOUBLE,
`EE_MEAN_AGE_AT_MARRIAGE_MALE_TOTAL` DOUBLE,
`EE_MEAN_AGE_AT_MARRIAGE_MALE_RURAL` DOUBLE,
`EE_MEAN_AGE_AT_MARRIAGE_MALE_URBAN` DOUBLE,
`EE_MEAN_AGE_AT_MARRIAGE_FEMALE_TOTAL` DOUBLE,
`EE_MEAN_AGE_AT_MARRIAGE_FEMALE_RURAL` DOUBLE,
`EE_MEAN_AGE_AT_MARRIAGE_FEMALE_URBAN` DOUBLE,
`FF_CHILDREN_ATTENDING_SCHOOL_AGE_6_17_YEARS_PERSON_TOTAL` DOUBLE,
`FF_CHILDREN_ATTENDING_SCHOOL_AGE_6_17_YEARS_PERSON_RURAL` DOUBLE,
`FF_CHILDREN_ATTENDING_SCHOOL_AGE_6_17_YEARS_PERSON_URBAN` DOUBLE,
`FF_CHILDREN_ATTENDING_SCHOOL_AGE_6_17_YEARS_MALE_TOTAL` DOUBLE,
`FF_CHILDREN_ATTENDING_SCHOOL_AGE_6_17_YEARS_MALE_RURAL` DOUBLE,
`FF_CHILDREN_ATTENDING_SCHOOL_AGE_6_17_YEARS_MALE_URBAN` DOUBLE,
`FF_CHILDREN_ATTENDING_SCHOOL_AGE_6_17_YEARS_FEMALE_TOTAL` DOUBLE,
`FF_CHILDREN_ATTENDING_SCHOOL_AGE_6_17_YEARS_FEMALE_RURAL` DOUBLE,
`FF_CHILDREN_ATTENDING_SCHOOL_AGE_6_17_YEARS_FEMALE_URBAN` DOUBLE,
`FF_CHILDREN_ATTENDED_BEFORE_DROP_OUT_AGE_6_17_YEARS_PERSON_TOTAL` DOUBLE,
`FF_CHILDREN_ATTENDED_BEFORE_DROP_OUT_AGE_6_17_YEARS_PERSON_RURAL` DOUBLE,
`FF_CHILDREN_ATTENDED_BEFORE_DROP_OUT_AGE_6_17_YEARS_PERSON_URBAN` DOUBLE,
`FF_CHILDREN_ATTENDED_BEFORE_DROP_OUT_AGE_6_17_YEARS_MALE_TOTAL` DOUBLE,
`FF_CHILDREN_ATTENDED_BEFORE_DROP_OUT_AGE_6_17_YEARS_MALE_RURAL` DOUBLE,
`FF_CHILDREN_ATTENDED_BEFORE_DROP_OUT_AGE_6_17_YEARS_MALE_URBAN` DOUBLE,

`FF_CHILDREN_ATTENDED_BEFORE_DROP_OUT_AGE_6_17_YEARS_FEMALE_TOTAL` DOUBLE,
`FF_CHILDREN_ATTENDED_BEFORE_DROP_OUT_AGE_6_17_YEARS_FEMALE_RURAL` DOUBLE,
`FF_CHILDREN_ATTENDED_BEFORE_DROP_OUT_AGE_6_17_YEARS_FEMALE_URBAN` DOUBLE,
`GG_CHILDREN_AGED_5_14_YEARS_ENGAGED_IN_WORK_PERSON_TOTAL` DOUBLE,
`GG_CHILDREN_AGED_5_14_YEARS_ENGAGED_IN_WORK_PERSON_RURAL` DOUBLE,
`GG_CHILDREN_AGED_5_14_YEARS_ENGAGED_IN_WORK_PERSON_URBAN` DOUBLE,
`GG_CHILDREN_AGED_5_14_YEARS_ENGAGED_IN_WORK_MALE_TOTAL` DOUBLE,
`GG_CHILDREN_AGED_5_14_YEARS_ENGAGED_IN_WORK_MALE_RURAL` DOUBLE,
`GG_CHILDREN_AGED_5_14_YEARS_ENGAGED_IN_WORK_MALE_URBAN` DOUBLE,
`GG_CHILDREN_AGED_5_14_YEARS_ENGAGED_IN_WORK_FEMALE_TOTAL` DOUBLE,
`GG_CHILDREN_AGED_5_14_YEARS_ENGAGED_IN_WORK_FEMALE_RURAL` DOUBLE,
`GG_CHILDREN_AGED_5_14_YEARS_ENGAGED_IN_WORK_FEMALE_URBAN` DOUBLE,
`GG_WORK_PARTICIPATION_RATE_15_YEARS_AND_ABOVE_PERSON_TOTAL` DOUBLE,
`GG_WORK_PARTICIPATION_RATE_15_YEARS_AND_ABOVE_PERSON_RURAL` DOUBLE,
`GG_WORK_PARTICIPATION_RATE_15_YEARS_AND_ABOVE_PERSON_URBAN` DOUBLE,
`GG_WORK_PARTICIPATION_RATE_15_YEARS_AND_ABOVE_MALE_TOTAL` DOUBLE,
`GG_WORK_PARTICIPATION_RATE_15_YEARS_AND_ABOVE_MALE_RURAL` DOUBLE,
`GG_WORK_PARTICIPATION_RATE_15_YEARS_AND_ABOVE_MALE_URBAN` DOUBLE,
`GG_WORK_PARTICIPATION_RATE_15_YEARS_AND_ABOVE_FEMALE_TOTAL` DOUBLE,
`GG_WORK_PARTICIPATION_RATE_15_YEARS_AND_ABOVE_FEMALE_RURAL` DOUBLE,
`GG_WORK_PARTICIPATION_RATE_15_YEARS_AND_ABOVE_FEMALE_URBAN` DOUBLE,
`HH_PREVALENCE_DISABILITY_PER_100000_POPULATION_PERSON_TOTAL` DOUBLE,
`HH_PREVALENCE_DISABILITY_PER_100000_POPULATION_PERSON_RURAL` DOUBLE,
`HH_PREVALENCE_DISABILITY_PER_100000_POPULATION_PERSON_URBAN` DOUBLE,
`HH_PREVALENCE_DISABILITY_PER_100000_POPULATION_MALE_TOTAL` DOUBLE,
`HH_PREVALENCE_DISABILITY_PER_100000_POPULATION_MALE_RURAL` DOUBLE,
`HH_PREVALENCE_DISABILITY_PER_100000_POPULATION_MALE_URBAN` DOUBLE,
`HH_PREVALENCE_DISABILITY_PER_100000_POPULATION_FEMALE_TOTAL` DOUBLE,
`HH_PREVALENCE_DISABILITY_PER_100000_POPULATION_FEMALE_RURAL` DOUBLE,
`HH_PREVALENCE_DISABILITY_PER_100000_POPULATION_FEMALE_URBAN` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_SEVERE_PERSON_TOTAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_SEVERE_PERSON_RURAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_SEVERE_PERSON_URBAN` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_SEVERE_MALE_TOTAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_SEVERE_MALE_RURAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_SEVERE_MALE_URBAN` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_SEVERE_FEMALE_TOTAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_SEVERE_FEMALE_RURAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_SEVERE_FEMALE_URBAN` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MAJOR_PERSON_TOTAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MAJOR_PERSON_RURAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MAJOR_PERSON_URBAN` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MAJOR_MALE_TOTAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MAJOR_MALE_RURAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MAJOR_MALE_URBAN` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MAJOR_FEMALE_TOTAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MAJOR_FEMALE_RURAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MAJOR_FEMALE_URBAN` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MINOR_PERSON_TOTAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MINOR_PERSON_RURAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MINOR_PERSON_URBAN` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MINOR_MALE_TOTAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MINOR_MALE_RURAL` DOUBLE,

`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MINOR_MALE_URBAN` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MINOR_FEMALE_TOTAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MINOR_FEMALE_RURAL` DOUBLE,
`II_INJURED_BY_TYPE_OF_TREATMENT_PER_100000_MINOR_FEMALE_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_DIARRHOEA_DYSENTERY_PERSON_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_DIARRHOEA_DYSENTERY_PERSON_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_DIARRHOEA_DYSENTERY_PERSON_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_DIARRHOEA_DYSENTERY_MALE_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_DIARRHOEA_DYSENTERY_MALE_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_DIARRHOEA_DYSENTERY_MALE_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_DIARRHOEA_DYSENTERY_FEMALE_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_DIARRHOEA_DYSENTERY_FEMALE_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_DIARRHOEA_DYSENTERY_FEMALE_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_RESPIRATORY_INFECTION_PERSON_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_RESPIRATORY_INFECTION_PERSON_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_RESPIRATORY_INFECTION_PERSON_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_RESPIRATORY_INFECTION_MALE_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_RESPIRATORY_INFECTION_MALE_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_RESPIRATORY_INFECTION_MALE_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_RESPIRATORY_INFECTION_FEMALE_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_RESPIRATORY_INFECTION_FEMALE_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_RESPIRATORY_INFECTION_FEMALE_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_FEVER_ALL_TYPES_PERSON_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_FEVER_ALL_TYPES_PERSON_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_FEVER_ALL_TYPES_PERSON_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_FEVER_ALL_TYPES_MALE_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_FEVER_ALL_TYPES_MALE_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_FEVER_ALL_TYPES_MALE_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_FEVER_ALL_TYPES_FEMALE_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_FEVER_ALL_TYPES_FEMALE_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_FEVER_ALL_TYPES_FEMALE_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_ANY_TYPE_OF_ACUTE_PERSON_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_ANY_TYPE_OF_ACUTE_PERSON_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_ANY_TYPE_OF_ACUTE_PERSON_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_ANY_TYPE_OF_ACUTE_MALE_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_ANY_TYPE_OF_ACUTE_MALE_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_ANY_TYPE_OF_ACUTE_MALE_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_ANY_TYPE_OF_ACUTE_FEMALE_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_ANY_TYPE_OF_ACUTE_FEMALE_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_PER_100000_ANY_TYPE_OF_ACUTE_FEMALE_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_PERSON_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_PERSON_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_PERSON_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_MALE_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_MALE_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_MALE_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_FEMALE_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_FEMALE_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_FEMALE_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_GOVERNMENT_PERSON_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_GOVERNMENT_PERSON_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_GOVERNMENT_PERSON_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_GOVERNMENT_MALE_TOTAL` DOUBLE,

`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_GOVERNMENT_MALE_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_GOVERNMENT_MALE_URBAN` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_GOVERNMENT_FEMALE_TOTAL` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_GOVERNMENT_FEMALE_RURAL` DOUBLE,
`JJ_ACUTE_ILLNESS_AND_TAKING_TREATMENT_GOVERNMENT_FEMALE_URBAN` DOUBLE,
`KK_SYMPTOMS_OF_CHRONIC_ILLNESS_PER_100000_PERSON_TOTAL` DOUBLE,
`KK_SYMPTOMS_OF_CHRONIC_ILLNESS_PER_100000_PERSON_RURAL` DOUBLE,
`KK_SYMPTOMS_OF_CHRONIC_ILLNESS_PER_100000_PERSON_URBAN` DOUBLE,
`KK_SYMPTOMS_OF_CHRONIC_ILLNESS_PER_100000_MALE_TOTAL` DOUBLE,
`KK_SYMPTOMS_OF_CHRONIC_ILLNESS_PER_100000_MALE_RURAL` DOUBLE,
`KK_SYMPTOMS_OF_CHRONIC_ILLNESS_PER_100000_MALE_URBAN` DOUBLE,
`KK_SYMPTOMS_OF_CHRONIC_ILLNESS_PER_100000_FEMALE_TOTAL` DOUBLE,
`KK_SYMPTOMS_OF_CHRONIC_ILLNESS_PER_100000_FEMALE_RURAL` DOUBLE,
`KK_SYMPTOMS_OF_CHRONIC_ILLNESS_PER_100000_FEMALE_URBAN` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_SOUGHT_MEDICAL_CARE_PERSON_TOTAL` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_SOUGHT_MEDICAL_CARE_PERSON_RURAL` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_SOUGHT_MEDICAL_CARE_PERSON_URBAN` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_SOUGHT_MEDICAL_CARE_MALE_TOTAL` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_SOUGHT_MEDICAL_CARE_MALE_RURAL` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_SOUGHT_MEDICAL_CARE_MALE_URBAN` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_SOUGHT_MEDICAL_CARE_FEMALE_TOTAL` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_SOUGHT_MEDICAL_CARE_FEMALE_RURAL` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_SOUGHT_MEDICAL_CARE_FEMALE_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_DIABETES_PERSON_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_DIABETES_PERSON_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_DIABETES_PERSON_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_DIABETES_MALE_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_DIABETES_MALE_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_DIABETES_MALE_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_DIABETES_FEMALE_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_DIABETES_FEMALE_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_DIABETES_FEMALE_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_HYPERTENSION_PERSON_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_HYPERTENSION_PERSON_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_HYPERTENSION_PERSON_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_HYPERTENSION_MALE_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_HYPERTENSION_MALE_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_HYPERTENSION_MALE_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_HYPERTENSION_FEMALE_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_HYPERTENSION_FEMALE_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_HYPERTENSION_FEMALE_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_TB_PERSON_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_TB_PERSON_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_TB_PERSON_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_TB_MALE_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_TB_MALE_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_TB_MALE_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILL_PER_100000_TB_FEMALE_TOTAL` DOUBLE,
`KK_DIAGNOSED_FOR_CHRONIC_ILLNESS_PER_100000_TB_FEMALE_RURAL` DOUBLE,
`KK_DIAGNOSED_FOR_CHRONIC_ILLNESS_PER_100000_TB_FEMALE_URBAN` DOUBLE,
`KK_DIAGNOSED_FOR_CHRONIC_ILLNESS_PER_100000_ASTHMA_PERSON_TOTAL` DOUBLE,
`KK_DIAGNOSED_FOR_CHRONIC_ILLNESS_PER_100000_ASTHMA_PERSON_RURAL` DOUBLE,
`KK_DIAGNOSED_FOR_CHRONIC_ILLNESS_PER_100000_ASTHMA_PERSON_URBAN` DOUBLE,

`KK_DIAGNOSED_FOR_CHRONIC_ILLNESS_PER_100000_ASTHMA_MALE_TOTAL` DOUBLE,
`KK_DIAGNOSED_FOR_CHRONIC_ILLNESS_PER_100000_ASTHMA_MALE_RURAL` DOUBLE,
`KK_DIAGNOSED_FOR_CHRONIC_ILLNESS_PER_100000_ASTHMA_MALE_URBAN` DOUBLE,
`KK_DIAGNOSED_FOR_CHRONIC_ILLNESS_PER_100000_ASTHMA_FEMALE_TOTAL` DOUBLE,
`KK_DIAGNOSED_FOR_CHRONIC_ILLNESS_PER_100000_ASTHMA_FEMALE_RURAL` DOUBLE,
`KK_DIAGNOSED_FOR_CHRONIC_ILLNESS_PER_100000_ASTHMA_FEMALE_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ARTHRITIS_PERSON_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ARTHRITIS_PERSON_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ARTHRITIS_PERSON_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ARTHRITIS_MALE_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ARTHRITIS_MALE_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ARTHRITIS_MALE_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ARTHRITIS_FEMALE_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ARTHRITIS_FEMALE_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ARTHRITIS_FEMALE_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ANY_KIND_PERSON_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ANY_KIND_PERSON_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ANY_KIND_OF_PERSON_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ANY_KIND_OF_MALE_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ANY_KIND_OF_MALE_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ANY_KIND_OF_MALE_URBAN` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ANY_KIND_OF_FEMALE_TOTAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ANY_KIND_OF_FEMALE_RURAL` DOUBLE,
`KK_DIAG_FOR_CHRONIC_ILLNESS_PER_100000_ANY_KIND_OF_FEMALE_URBAN` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_GETTING_REGULAR_TREATMENT_PERSON_TOTAL` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_GETTING_REGULAR_TREATMENT_PERSON_RURAL` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_GETTING_REGULAR_TREATMENT_PERSON_URBAN` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_GETTING_REGULAR_TREATMENT_MALE_TOTAL` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_GETTING_REGULAR_TREATMENT_MALE_RURAL` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_GETTING_REGULAR_TREATMENT_MALE_URBAN` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_GETTING_REGULAR_TREATMENT_FEMALE_TOTAL` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_GETTING_REGULAR_TREATMENT_FEMALE_RURAL` DOUBLE,
`KK_CHRONIC_ILLNESS_AND_GETTING_REGULAR_TREATMENT_FEMALE_URBAN` DOUBLE,
`KK_CHRONIC_ILL_AND_GETTING_REGULAR_TREATMENT_GOVT_PERSON_TOTAL` DOUBLE,
`KK_CHRONIC_ILL_AND_GETTING_REGULAR_TREATMENT_GOVT_PERSON_RURAL` DOUBLE,
`KK_CHRONIC_ILL_AND_GETTING_REGULAR_TREATMENT_GOVT_PERSON_URBAN` DOUBLE,
`KK_CHRONIC_ILL_AND_GETTING_REGULAR_TREATMENT_GOVT_MALE_TOTAL` DOUBLE,
`KK_CHRONIC_ILL_AND_GETTING_REGULAR_TREATMENT_GOVT_MALE_RURAL` DOUBLE,
`KK_CHRONIC_ILL_AND_GETTING_REGULAR_TREATMENT_GOVT_MALE_URBAN` DOUBLE,
`KK_CHRONIC_ILL_AND_GETTING_REGULAR_TREATMENT_GOVT_FEMALE_TOTAL` DOUBLE,
`KK_CHRONIC_ILL_AND_GETTING_REGULAR_TREATMENT_GOVT_FEMALE_RURAL` DOUBLE,
`KK_CHRONIC_ILL_AND_GETTING_REGULAR_TREATMENT_GOVT_FEMALE_URBAN` DOUBLE,
`LL_CRUDE_BIRTH_RATE_CBR_TOTAL` DOUBLE,
`LL_CRUDE_BIRTH_RATE_CBR_RURAL` DOUBLE,
`LL_CRUDE_BIRTH_RATE_CBR_URBAN` DOUBLE,
`LL_NATURAL_GROWTH_RATE_TOTAL` DOUBLE,
`LL_NATURAL_GROWTH_RATE_RURAL` DOUBLE,
`LL_NATURAL_GROWTH_RATE_URBAN` DOUBLE,
`LL_TOTAL_FERTILITY_RATE_TOTAL` DOUBLE,
`LL_TOTAL_FERTILITY_RATE_RURAL` DOUBLE,
`LL_TOTAL_FERTILITY_RATE_URBAN` DOUBLE,
`LL_WOMEN_20_24_REPORTING_BIRTH_OF_ORDER_2__ABOVE_TOTAL` DOUBLE,
`LL_WOMEN_20_24_REPORTING_BIRTH_OF_ORDER_2__ABOVE_RURAL` DOUBLE,

`LL_WOMEN_20_24_REPORTING_BIRTH_OF_ORDER_2__ABOVE_URBAN` DOUBLE,
`LL_WOMEN_REPORTING_BIRTH_OF_ORDER_3__ABOVE_TOTAL` DOUBLE,
`LL_WOMEN_REPORTING_BIRTH_OF_ORDER_3__ABOVE_RURAL` DOUBLE,
`LL_WOMEN_REPORTING_BIRTH_OF_ORDER_3__ABOVE_URBAN` DOUBLE,
`LL_WOMEN_WITH_TWO_CHILDREN_WANTING_NO_MORE_CHILDREN_TOTAL` DOUBLE,
`LL_WOMEN_WITH_TWO_CHILDREN_WANTING_NO_MORE_CHILDREN_RURAL` DOUBLE,
`LL_WOMEN_WITH_TWO_CHILDREN_WANTING_NO_MORE_CHILDREN_URBAN` DOUBLE,
`LL_WOMEN_15_19_YEARS_WHO_WERE_ALREADY_MOTHERS_OR_PREGNANT_TOTAL` DOUBLE,
`LL_WOMEN_15_19_YEARS_WHO_WERE_ALREADY_MOTHERS_OR_PREGNANT_RURAL` DOUBLE,
`LL_WOMEN_15_19_YEARS_WHO_WERE_ALREADY_MOTHERS_OR_PREGNANT_URBAN` DOUBLE,
`LL_MEDIAN_AGE_AT_FIRST_LIVE_BIRTH_OF_WOMEN_15_49_YEARS_TOTAL` DOUBLE,
`LL_MEDIAN_AGE_AT_FIRST_LIVE_BIRTH_OF_WOMEN_15_49_YEARS_RURAL` DOUBLE,
`LL_MEDIAN_AGE_AT_FIRST_LIVE_BIRTH_OF_WOMEN_15_49_YEARS_URBAN` DOUBLE,
`LL_MEDIAN_AGE_AT_FIRST_LIVE_BIRTH_OF_WOMEN_25_49_YEARS_TOTAL` DOUBLE,
`LL_MEDIAN_AGE_AT_FIRST_LIVE_BIRTH_OF_WOMEN_25_49_YEARS_RURAL` DOUBLE,
`LL_MEDIAN_AGE_AT_FIRST_LIVE_BIRTH_OF_WOMEN_25_49_YEARS_URBAN` DOUBLE,
`LL_LIVE_BIRTHS_TAKING_PLACE_AFTER_AN_INTERVAL_OF_36_MONTHS_TOTAL` DOUBLE,
`LL_LIVE_BIRTHS_TAKING_PLACE_AFTER_AN_INTERVAL_OF_36_MONTHS_RURAL` DOUBLE,
`LL_LIVE_BIRTHS_TAKING_PLACE_AFTER_AN_INTERVAL_OF_36_MONTHS_URBAN` DOUBLE,
`LL_MEAN_NUMBER_OF_CHILDREN_EVER_BORN_TO_WOMEN_15_49_YEARS_TOTAL` DOUBLE,
`LL_MEAN_NUMBER_OF_CHILDREN_EVER_BORN_TO_WOMEN_15_49_YEARS_RURAL` DOUBLE,
`LL_MEAN_NUMBER_OF_CHILDREN_EVER_BORN_TO_WOMEN_15_49_YEARS_URBAN` DOUBLE,
`LL_MEAN_NUMBER_OF_CHILDREN_SURVIVING_TO_WOMEN_15_49_YEARS_TOTAL` DOUBLE,
`LL_MEAN_NUMBER_OF_CHILDREN_SURVIVING_TO_WOMEN_15_49_YEARS_RURAL` DOUBLE,
`LL_MEAN_NUMBER_OF_CHILDREN_SURVIVING_TO_WOMEN_15_49_YEARS_URBAN` DOUBLE,
`LL_MEAN_NUMBER_OF_CHILDREN_EVER_BORN_TO_WOMEN_45_49_YEARS_TOTAL` DOUBLE,
`LL_MEAN_NUMBER_OF_CHILDREN_EVER_BORN_TO_WOMEN_45_49_YEARS_RURAL` DOUBLE,
`LL_MEAN_NUMBER_OF_CHILDREN_EVER_BORN_TO_WOMEN_45_49_YEARS_URBAN` DOUBLE,
`MM_PREGNANCY_TO_WOMEN_15_49_YEARS_RESULTING_IN_ABORTION_TOTAL` DOUBLE,
`MM_PREGNANCY_TO_WOMEN_15_49_YEARS_RESULTING_IN_ABORTION_RURAL` DOUBLE,
`MM_PREGNANCY_TO_WOMEN_15_49_YEARS_RESULTING_IN_ABORTION_URBAN` DOUBLE,
`MM_WOMEN_WHO_RECEIVED_ANY_ANC_BEFORE_ABORTION_TOTAL` DOUBLE,
`MM_WOMEN_WHO_RECEIVED_ANY_ANC_BEFORE_ABORTION_RURAL` DOUBLE,
`MM_WOMEN_WHO_RECEIVED_ANY_ANC_BEFORE_ABORTION_URBAN` DOUBLE,
`MM_WOMEN_WHO_WENT_FOR_ULTRASOUND_BEFORE_ABORTION_TOTAL` DOUBLE,
`MM_WOMEN_WHO_WENT_FOR_ULTRASOUND_BEFORE_ABORTION_RURAL` DOUBLE,
`MM_WOMEN_WHO_WENT_FOR_ULTRASOUND_BEFORE_ABORTION_URBAN` DOUBLE,
`MM_AVERAGE_MONTH_OF_PREGNANCY_AT_THE_TIME_OF_ABORTION_TOTAL` DOUBLE,
`MM_AVERAGE_MONTH_OF_PREGNANCY_AT_THE_TIME_OF_ABORTION_RURAL` DOUBLE,
`MM_AVERAGE_MONTH_OF_PREGNANCY_AT_THE_TIME_OF_ABORTION_URBAN` DOUBLE,
`MM_ABORTION_PERFORMED_BY_SKILLED_HEALTH_PERSONNEL_TOTAL` DOUBLE,
`MM_ABORTION_PERFORMED_BY_SKILLED_HEALTH_PERSONNEL_RURAL` DOUBLE,
`MM_ABORTION_PERFORMED_BY_SKILLED_HEALTH_PERSONNEL_URBAN` DOUBLE,
`MM_ABORTION_TAKING_PLACE_IN_INSTITUTION_TOTAL` DOUBLE,
`MM_ABORTION_TAKING_PLACE_IN_INSTITUTION_RURAL` DOUBLE,
`MM_ABORTION_TAKING_PLACE_IN_INSTITUTION_URBAN` DOUBLE,
`NN_CURRENT_USAGE_ANY_METHOD_TOTAL` DOUBLE,
`NN_CURRENT_USAGE_ANY_METHOD_RURAL` DOUBLE,
`NN_CURRENT_USAGE_ANY_METHOD_URBAN` DOUBLE,
`NN_CURRENT_USAGE_ANY_MODERN_METHOD_TOTAL` DOUBLE,
`NN_CURRENT_USAGE_ANY_MODERN_METHOD_RURAL` DOUBLE,
`NN_CURRENT_USAGE_ANY_MODERN_METHOD_URBAN` DOUBLE,
`NN_CURRENT_USAGE_FEMALE_STERILIZATION_TOTAL` DOUBLE,

`NN_CURRENT_USAGE_FEMALE_STERILIZATION_RURAL` DOUBLE,
`NN_CURRENT_USAGE_FEMALE_STERILIZATION_URBAN` DOUBLE,
`NN_CURRENT_USAGE_MALE_STERILIZATION_TOTAL` DOUBLE,
`NN_CURRENT_USAGE_MALE_STERILIZATION_RURAL` DOUBLE,
`NN_CURRENT_USAGE_MALE_STERILIZATION_URBAN` DOUBLE,
`NN_CURRENT_USAGE_COPPER_T_IUD_TOTAL` DOUBLE,
`NN_CURRENT_USAGE_COPPER_T_IUD_RURAL` DOUBLE,
`NN_CURRENT_USAGE_COPPER_T_IUD_URBAN` DOUBLE,
`NN_CURRENT_USAGE_PILLS_TOTAL` DOUBLE,
`NN_CURRENT_USAGE_PILLS_RURAL` DOUBLE,
`NN_CURRENT_USAGE_PILLS_URBAN` DOUBLE,
`NN_CURRENT_USAGE_CONDOM_NIRODH_TOTAL` DOUBLE,
`NN_CURRENT_USAGE_CONDOM_NIRODH_RURAL` DOUBLE,
`NN_CURRENT_USAGE_CONDOM_NIRODH_URBAN` DOUBLE,
`NN_CURRENT_USAGE_EMERGENCY_CONTRACEPTIVE_PILLS_TOTAL` DOUBLE,
`NN_CURRENT_USAGE_EMERGENCY_CONTRACEPTIVE_PILLS_RURAL` DOUBLE,
`NN_CURRENT_USAGE_EMERGENCY_CONTRACEPTIVE_PILLS_URBAN` DOUBLE,
`NN_CURRENT_USAGE_ANY_TRADITIONAL_METHOD_TOTAL` DOUBLE,
`NN_CURRENT_USAGE_ANY_TRADITIONAL_METHOD_RURAL` DOUBLE,
`NN_CURRENT_USAGE_ANY_TRADITIONAL_METHOD_URBAN` DOUBLE,
`NN_CURRENT_USAGE_PERIODIC_ABSTINENCE_TOTAL` DOUBLE,
`NN_CURRENT_USAGE_PERIODIC_ABSTINENCE_RURAL` DOUBLE,
`NN_CURRENT_USAGE_PERIODIC_ABSTINENCE_URBAN` DOUBLE,
`NN_CURRENT_USAGE_WITHDRAWAL_TOTAL` DOUBLE,
`NN_CURRENT_USAGE_WITHDRAWAL_RURAL` DOUBLE,
`NN_CURRENT_USAGE_WITHDRAWAL_URBAN` DOUBLE,
`NN_CURRENT_USAGE_LAM_TOTAL` DOUBLE,
`NN_CURRENT_USAGE_LAM_RURAL` DOUBLE,
`NN_CURRENT_USAGE_LAM_URBAN` DOUBLE,
`OO_UNMET_NEED_FOR_SPACING_TOTAL` DOUBLE,
`OO_UNMET_NEED_FOR_SPACING_RURAL` DOUBLE,
`OO_UNMET_NEED_FOR_SPACING_URBAN` DOUBLE,
`OO_UNMET_NEED_FOR_LIMITING_TOTAL` DOUBLE,
`OO_UNMET_NEED_FOR_LIMITING_RURAL` DOUBLE,
`OO_UNMET_NEED_FOR_LIMITING_URBAN` DOUBLE,
`OO_TOTAL_UNMET_NEED_TOTAL` DOUBLE,
`OO_TOTAL_UNMET_NEED_RURAL` DOUBLE,
`OO_TOTAL_UNMET_NEED_URBAN` DOUBLE,
`PP_MARRIED_PREGNANT_WOMEN_15_49_YEARS_REGISTERED_FOR_ANC_TOTAL` DOUBLE,
`PP_MARRIED_PREGNANT_WOMEN_15_49_YEARS_REGISTERED_FOR_ANC_RURAL` DOUBLE,
`PP_MARRIED_PREGNANT_WOMEN_15_49_YEARS_REGISTERED_FOR_ANC_URBAN` DOUBLE,
`PP_MOTHERS_WHO_RECEIVED_ANY_ANTENATAL_CHECK_UP_TOTAL` DOUBLE,
`PP_MOTHERS_WHO_RECEIVED_ANY_ANTENATAL_CHECK_UP_RURAL` DOUBLE,
`PP_MOTHERS_WHO_RECEIVED_ANY_ANTENATAL_CHECK_UP_URBAN` DOUBLE,
`PP_MOTHERS_WHO_HAD_ANTENATAL_CHECK_UP_IN_FIRST_TRIMESTER_TOTAL` DOUBLE,
`PP_MOTHERS_WHO_HAD_ANTENATAL_CHECK_UP_IN_FIRST_TRIMESTER_RURAL` DOUBLE,
`PP_MOTHERS_WHO_HAD_ANTENATAL_CHECK_UP_IN_FIRST_TRIMESTER_URBAN` DOUBLE,
`PP_MOTHERS_WHO_RECEIVED_3_OR_MORE_ANTENATAL_CARE_TOTAL` DOUBLE,
`PP_MOTHERS_WHO_RECEIVED_3_OR_MORE_ANTENATAL_CARE_RURAL` DOUBLE,
`PP_MOTHERS_WHO_RECEIVED_3_OR_MORE_ANTENATAL_CARE_URBAN` DOUBLE,
`PP_MOTHERS_WHO_RECEIVED_AT_LEAST_ONE_TT_INJECTION_TOTAL` DOUBLE,
`PP_MOTHERS_WHO_RECEIVED_AT_LEAST_ONE_TT_INJECTION_RURAL` DOUBLE,
`PP_MOTHERS_WHO_RECEIVED_AT_LEAST_ONE_TT_INJECTION_URBAN` DOUBLE,

`PP_MOTHERS_WHO_CONSUMED_IFA_FOR_100_DAYS_OR_MORE_TOTAL` DOUBLE,
`PP_MOTHERS_WHO_CONSUMED_IFA_FOR_100_DAYS_OR_MORE_RURAL` DOUBLE,
`PP_MOTHERS_WHO_CONSUMED_IFA_FOR_100_DAYS_OR_MORE_URBAN` DOUBLE,
`PP_MOTHERS_WHO_HAD_FULL_ANTENATAL_CHECK_UP_TOTAL` DOUBLE,
`PP_MOTHERS_WHO_HAD_FULL_ANTENATAL_CHECK_UP_RURAL` DOUBLE,
`PP_MOTHERS_WHO_HAD_FULL_ANTENATAL_CHECK_UP_URBAN` DOUBLE,
`PP_MOTHERS_WHO_RECEIVED_ANC_FROM_GOVT_SOURCE_TOTAL` DOUBLE,
`PP_MOTHERS_WHO_RECEIVED_ANC_FROM_GOVT_SOURCE_RURAL` DOUBLE,
`PP_MOTHERS_WHO_RECEIVED_ANC_FROM_GOVT_SOURCE_URBAN` DOUBLE,
`PP_MOTHERS_WHOSE_BLOOD_PRESSURE_BP_TAKEN_TOTAL` DOUBLE,
`PP_MOTHERS_WHOSE_BLOOD_PRESSURE_BP_TAKEN_RURAL` DOUBLE,
`PP_MOTHERS_WHOSE_BLOOD_PRESSURE_BP_TAKEN_URBAN` DOUBLE,
`PP_MOTHERS_WHOSE_BLOOD_TAKEN_FOR_HB_TOTAL` DOUBLE,
`PP_MOTHERS_WHOSE_BLOOD_TAKEN_FOR_HB_RURAL` DOUBLE,
`PP_MOTHERS_WHOSE_BLOOD_TAKEN_FOR_HB_URBAN` DOUBLE,
`PP_MOTHERS_WHO_UNDERWENT_ULTRASOUND_TOTAL` DOUBLE,
`PP_MOTHERS_WHO_UNDERWENT_ULTRASOUND_RURAL` DOUBLE,
`PP_MOTHERS_WHO_UNDERWENT_ULTRASOUND_URBAN` DOUBLE,
`QQ_INSTITUTIONAL_DELIVERY_TOTAL` DOUBLE,
`QQ_INSTITUTIONAL_DELIVERY_RURAL` DOUBLE,
`QQ_INSTITUTIONAL_DELIVERY_URBAN` DOUBLE,
`QQ_DELIVERY_AT_GOVERNMENT_INSTITUTION_TOTAL` DOUBLE,
`QQ_DELIVERY_AT_GOVERNMENT_INSTITUTION_RURAL` DOUBLE,
`QQ_DELIVERY_AT_GOVERNMENT_INSTITUTION_URBAN` DOUBLE,
`QQ_DELIVERY_AT_PRIVATE_INSTITUTION_TOTAL` DOUBLE,
`QQ_DELIVERY_AT_PRIVATE_INSTITUTION_RURAL` DOUBLE,
`QQ_DELIVERY_AT_PRIVATE_INSTITUTION_URBAN` DOUBLE,
`QQ_DELIVERY_AT_HOME_TOTAL` DOUBLE,
`QQ_DELIVERY_AT_HOME_RURAL` DOUBLE,
`QQ_DELIVERY_AT_HOME_URBAN` DOUBLE,
`QQ_DELIVERY_AT_HOME_CONDUCTED_BY_SKILLED_HEALTH_PERSONNEL_TOTAL` DOUBLE,
`QQ_DELIVERY_AT_HOME_CONDUCTED_BY_SKILLED_HEALTH_PERSONNEL_RURAL` DOUBLE,
`QQ_DELIVERY_AT_HOME_CONDUCTED_BY_SKILLED_HEALTH_PERSONNEL_URBAN` DOUBLE,
`QQ_SAFE_DELIVERY_TOTAL` DOUBLE,
`QQ_SAFE_DELIVERY_RURAL` DOUBLE,
`QQ_SAFE_DELIVERY_URBAN` DOUBLE,
`QQ_CAESAREAN_OUT_OF_TOTAL_DELIVERY_IN_GOVERNMENT_TOTAL` DOUBLE,
`QQ_CAESAREAN_OUT_OF_TOTAL_DELIVERY_IN_GOVERNMENT_RURAL` DOUBLE,
`QQ_CAESAREAN_OUT_OF_TOTAL_DELIVERY_IN_GOVERNMENT_URBAN` DOUBLE,
`QQ_CAESAREAN_OUT_OF_TOTAL_DELIVERY_IN_PRIVATE_TOTAL` DOUBLE,
`QQ_CAESAREAN_OUT_OF_TOTAL_DELIVERY_IN_PRIVATE_RURAL` DOUBLE,
`QQ_CAESAREAN_OUT_OF_TOTAL_DELIVERY_IN_PRIVATE_URBAN` DOUBLE,
`RR_LESS_THAN_24_HRS_STAY_IN_INSTITUTION_AFTER_DELIVERY_TOTAL` DOUBLE,
`RR_LESS_THAN_24_HRS_STAY_IN_INSTITUTION_AFTER_DELIVERY_RURAL` DOUBLE,
`RR_LESS_THAN_24_HRS_STAY_IN_INSTITUTION_AFTER_DELIVERY_URBAN` DOUBLE,
`RR_MOTHERS_WHO_RECEIVED_WITHIN_48_HRS_OF_DELIVERY_TOTAL` DOUBLE,
`RR_MOTHERS_WHO_RECEIVED_WITHIN_48_HRS_OF_DELIVERY_RURAL` DOUBLE,
`RR_MOTHERS_WHO_RECEIVED_WITHIN_48_HRS_OF_DELIVERY_URBAN` DOUBLE,
`RR_MOTHERS_WHO_RECEIVED_WITHIN_1_WEEK_OF_DELIVERY_TOTAL` DOUBLE,
`RR_MOTHERS_WHO_RECEIVED_WITHIN_1_WEEK_OF_DELIVERY_RURAL` DOUBLE,
`RR_MOTHERS_WHO_RECEIVED_WITHIN_1_WEEK_OF_DELIVERY_URBAN` DOUBLE,
`RR_MOTHERS_WHO_DID_NOT_RECEIVE_ANY_POST_NATAL_CHECK_UP_TOTAL` DOUBLE,
`RR_MOTHERS_WHO_DID_NOT_RECEIVE_ANY_POST_NATAL_CHECK_UP_RURAL` DOUBLE,

`RR_MOTHERS_WHO_DID_NOT_RECEIVE_ANY_POST_NATAL_CHECK_UP_URBAN` DOUBLE,
`RR_NEW_BORNS_WHO_WERE_CHECKED_UP_WITHIN_24_HRS_OF_BIRTH_TOTAL` DOUBLE,
`RR_NEW_BORNS_WHO_WERE_CHECKED_UP_WITHIN_24_HRS_OF_BIRTH_RURAL` DOUBLE,
`RR_NEW_BORNS_WHO_WERE_CHECKED_UP_WITHIN_24_HRS_OF_BIRTH_URBAN` DOUBLE,
`SS_AVAILED_FINANCIAL_ASSISTANCE_FOR_DELIVERY_UNDER_JSY_TOTAL` DOUBLE,
`SS_AVAILED_FINANCIAL_ASSISTANCE_FOR_DELIVERY_UNDER_JSY_RURAL` DOUBLE,
`SS_AVAILED_FINANCIAL_ASSISTANCE_FOR_DELIVERY_UNDER_JSY_URBAN` DOUBLE,
`SS_AVAILED_FINANCIAL_ASSIS_FOR_INST_DELIVERY_UNDER_JSY_TOTAL` DOUBLE,
`SS_AVAILED_FINANCIAL_ASSIS_FOR_INST_DELIVERY_UNDER_JSY_RURAL` DOUBLE,
`SS_AVAILED_FINANCIAL_ASSIS_FOR_INST_DELIVERY_UNDER_JSY_URBAN` DOUBLE,
`SS_AVAILED_FINANCIAL_ASSIS_FOR_GOVT_DELIVERY_UNDER_JSY_TOTAL` DOUBLE,
`SS_AVAILED_FINANCIAL_ASSIS_FOR_GOVT_DELIVERY_UNDER_JSY_RURAL` DOUBLE,
`SS_AVAILED_FINANCIAL_ASSIS_FOR_GOVT_DELIVERY_UNDER_JSY_URBAN` DOUBLE,
`TT_CHILDREN_AGED_12_23_MONTHS_HAVING_IMMUNIZATION_CARD_TOTAL` DOUBLE,
`TT_CHILDREN_AGED_12_23_MONTHS_HAVING_IMMUNIZATION_CARD_RURAL` DOUBLE,
`TT_CHILDREN_AGED_12_23_MONTHS_HAVING_IMMUNIZATION_CARD_URBAN` DOUBLE,
`TT_CHILDREN_AGED_12_23_MONTHS_WHO_HAVE_RECEIVED_BCG_TOTAL` DOUBLE,
`TT_CHILDREN_AGED_12_23_MONTHS_WHO_HAVE_RECEIVED_BCG_RURAL` DOUBLE,
`TT_CHILDREN_AGED_12_23_MONTHS_WHO_HAVE_RECEIVED_BCG_URBAN` DOUBLE,
`TT_CHILDREN_12_23_MONTHS_RECEIVED_3_DOSES_OF_POLIO_VACCINE_TOTAL` DOUBLE,
`TT_CHILDREN_12_23_MONTHS_RECEIVED_3_DOSES_OF_POLIO_VACCINE_RURAL` DOUBLE,
`TT_CHILDREN_12_23_MONTHS_RECEIVED_3_DOSES_OF_POLIO_VACCINE_URBAN` DOUBLE,
`TT_CHILDREN_12_23_MONTHS_RECEIVED_3_DOSES_OF_DPT_VACCINE_TOTAL` DOUBLE,
`TT_CHILDREN_12_23_MONTHS_RECEIVED_3_DOSES_OF_DPT_VACCINE_RURAL` DOUBLE,
`TT_CHILDREN_12_23_MONTHS_RECEIVED_3_DOSES_OF_DPT_VACCINE_URBAN` DOUBLE,
`TT_CHILDREN_AGED_12_23_MONTHS_RECEIVED_MEASLES_VACCINE_TOTAL` DOUBLE,
`TT_CHILDREN_AGED_12_23_MONTHS_RECEIVED_MEASLES_VACCINE_RURAL` DOUBLE,
`TT_CHILDREN_AGED_12_23_MONTHS_RECEIVED_MEASLES_VACCINE_URBAN` DOUBLE,
`TT_CHILDREN_AGED_12_23_MONTHS_FULLY_IMMUNIZED_TOTAL` DOUBLE,
`TT_CHILDREN_AGED_12_23_MONTHS_FULLY_IMMUNIZED_RURAL` DOUBLE,
`TT_CHILDREN_AGED_12_23_MONTHS_FULLY_IMMUNIZED_URBAN` DOUBLE,
`TT_CHILDREN_WHO_HAVE_RECEIVED_POLIO_DOSE_AT_BIRTH_TOTAL` DOUBLE,
`TT_CHILDREN_WHO_HAVE_RECEIVED_POLIO_DOSE_AT_BIRTH_RURAL` DOUBLE,
`TT_CHILDREN_WHO_HAVE_RECEIVED_POLIO_DOSE_AT_BIRTH_URBAN` DOUBLE,
`TT_CHILDREN_WHO_DID_NOT_RECEIVE_ANY_VACCINATION_TOTAL` DOUBLE,
`TT_CHILDREN_WHO_DID_NOT_RECEIVE_ANY_VACCINATION_RURAL` DOUBLE,
`TT_CHILDREN_WHO_DID_NOT_RECEIVE_ANY_VACCINATION_URBAN` DOUBLE,
`TT_CHILDREN_6_35_MON_AT_LEAST_1_VIT_A_DOSE_LAST_6_MONTHS_TOTAL` DOUBLE,
`TT_CHILDREN_6_35_MON_AT_LEAST_1_VIT_A_DOSE_LAST_6_MONTHS_RURAL` DOUBLE,
`TT_CHILDREN_6_35_MON_AT_LEAST_1_VIT_A_DOSE_LAST_6_MONTHS_URBAN` DOUBLE,
`TT_CHILDREN_6_35_MON_IFA_TABLETS_SYRUP_LAST_3_MONTHS_TOTAL` DOUBLE,
`TT_CHILDREN_6_35_MON_IFA_TABLETS_SYRUP_LAST_3_MONTHS_RURAL` DOUBLE,
`TT_CHILDREN_6_35_MON_IFA_TABLETS_SYRUP_LAST_3_MONTHS_URBAN` DOUBLE,
`TT_CHILDREN_WHOSE_BIRTH_WEIGHT_WAS_TAKEN_TOTAL` DOUBLE,
`TT_CHILDREN_WHOSE_BIRTH_WEIGHT_WAS_TAKEN_RURAL` DOUBLE,
`TT_CHILDREN_WHOSE_BIRTH_WEIGHT_WAS_TAKEN_URBAN` DOUBLE,
`TT_CHILDREN_WITH_BIRTH_WEIGHT_LESS_THAN_2_5_KG_TOTAL` DOUBLE,
`TT_CHILDREN_WITH_BIRTH_WEIGHT_LESS_THAN_2_5_KG_RURAL` DOUBLE,
`TT_CHILDREN_WITH_BIRTH_WEIGHT_LESS_THAN_2_5_KG_URBAN` DOUBLE,
`UU_CHILDREN_SUFFERING_FROM_DIARRHOEA_TOTAL` DOUBLE,
`UU_CHILDREN_SUFFERING_FROM_DIARRHOEA_RURAL` DOUBLE,
`UU_CHILDREN_SUFFERING_FROM_DIARRHOEA_URBAN` DOUBLE,
`UU_CHILDREN_DIARRHOEA_WHO_RECEIVED_HAF_ORS_ORT_TOTAL` DOUBLE,

`UU_CHILDREN_DIARRHOEA_WHO_RECEIVED_HAF_ORS_ORT_RURAL` DOUBLE,
`UU_CHILDREN_DIARRHOEA_WHO_RECEIVED_HAF_ORS_ORT_URBAN` DOUBLE,
`UU_CHILDREN_SUFFERING_FROM_ACUTE_RESPIRATORY_INFECTION_TOTAL` DOUBLE,
`UU_CHILDREN_SUFFERING_FROM_ACUTE_RESPIRATORY_INFECTION_RURAL` DOUBLE,
`UU_CHILDREN_SUFFERING_FROM_ACUTE_RESPIRATORY_INFECTION_URBAN` DOUBLE,
`UU_CHILDREN_ACUTE_RESPIRATORY_INFECTION_SOUGHT_TREATMENT_TOTAL` DOUBLE,
`UU_CHILDREN_ACUTE_RESPIRATORY_INFECTION_SOUGHT_TREATMENT_RURAL` DOUBLE,
`UU_CHILDREN_ACUTE_RESPIRATORY_INFECTION_SOUGHT_TREATMENT_URBAN` DOUBLE,
`UU_CHILDREN_SUFFERING_FROM_FEVER_TOTAL` DOUBLE,
`UU_CHILDREN_SUFFERING_FROM_FEVER_RURAL` DOUBLE,
`UU_CHILDREN_SUFFERING_FROM_FEVER_URBAN` DOUBLE,
`UU_CHILDREN_SUFFERING_FROM_FEVER_WHO_SOUGHT_TREATMENT_TOTAL` DOUBLE,
`UU_CHILDREN_SUFFERING_FROM_FEVER_WHO_SOUGHT_TREATMENT_RURAL` DOUBLE,
`UU_CHILDREN_SUFFERING_FROM_FEVER_WHO_SOUGHT_TREATMENT_URBAN` DOUBLE,
`VV_CHILDREN_BREASTFED_WITHIN_ONE_HOUR_OF_BIRTH_TOTAL` DOUBLE,
`VV_CHILDREN_BREASTFED_WITHIN_ONE_HOUR_OF_BIRTH_RURAL` DOUBLE,
`VV_CHILDREN_BREASTFED_WITHIN_ONE_HOUR_OF_BIRTH_URBAN` DOUBLE,
`VV_CHILDREN_6_35_MON_EXCL_BREASTFED_FOR_AT_LEAST_6_MON_TOTAL` DOUBLE,
`VV_CHILDREN_6_35_MON_EXCL_BREASTFED_FOR_AT_LEAST_6_MON_RURAL` DOUBLE,
`VV_CHILDREN_6_35_MON_EXCL_BREASTFED_FOR_AT_LEAST_6_MON_URBAN` DOUBLE,
`VV_OTHER_THAN_BREAST_MILK_DURING_FIRST_6_MONTHS_WATER_TOTAL` DOUBLE,
`VV_OTHER_THAN_BREAST_MILK_DURING_FIRST_6_MONTHS_WATER_RURAL` DOUBLE,
`VV_OTHER_THAN_BREAST_MILK_DURING_FIRST_6_MONTHS_WATER_URBAN` DOUBLE,
`VV_1ST_6_MONTHS_ANIMAL_FORMULA_MILK_TOTAL` DOUBLE,
`VV_1ST_6_MONTHS_ANIMAL_FORMULA_MILK_RURAL` DOUBLE,
`VV_1ST_6_MONTHS_ANIMAL_FORMULA_MILK_URBAN` DOUBLE,
`VV_1ST_6_MONTHS_SEMI_SOLID_MASHED_FOOD_TOTAL` DOUBLE,
`VV_1ST_6_MONTHS_SEMI_SOLID_MASHED_FOOD_RURAL` DOUBLE,
`VV_1ST_6_MONTHS_SEMI_SOLID_MASHED_FOOD_URBAN` DOUBLE,
`VV_1ST_6_MONTHS_SOLID_ADULT_FOOD_TOTAL` DOUBLE,
`VV_1ST_6_MONTHS_SOLID_ADULT_FOOD_RURAL` DOUBLE,
`VV_1ST_6_MONTHS_SOLID_ADULT_FOOD_URBAN` DOUBLE,
`VV_1ST_6_MONTHS_VEGETABLES_FRUITS_TOTAL` DOUBLE,
`VV_1ST_6_MONTHS_VEGETABLES_FRUITS_RURAL` DOUBLE,
`VV_1ST_6_MONTHS_VEGETABLES_FRUITS_URBAN` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_WATER_TOTAL` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_WATER_RURAL` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_WATER_URBAN` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_ANIMAL_FORMULA_MILK_TOTAL` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_ANIMAL_FORMULA_MILK_RURAL` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_ANIMAL_FORMULA_MILK_URBAN` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_SEMI_SOLID_MASHED_FOOD_TOTAL` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_SEMI_SOLID_MASHED_FOOD_RURAL` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_SEMI_SOLID_MASHED_FOOD_URBAN` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_SOLID_ADULT_FOOD_TOTAL` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_SOLID_ADULT_FOOD_RURAL` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_SOLID_ADULT_FOOD_URBAN` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_VEGETABLES_FRUITS_TOTAL` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_VEGETABLES_FRUITS_RURAL` DOUBLE,
`VV_AVG_MONTH_OTHER_THAN_BREAST_MILK_VEGETABLES_FRUITS_URBAN` DOUBLE,
`WW_BIRTH_REGISTERED_TOTAL` DOUBLE,
`WW_BIRTH_REGISTERED_RURAL` DOUBLE,
`WW_BIRTH_REGISTERED_URBAN` DOUBLE,

`WW_CHILDREN_REGISTERED_AND_RECEIVED_BIRTH_CERTIFICATE_TOTAL` DOUBLE,
`WW_CHILDREN_REGISTERED_AND_RECEIVED_BIRTH_CERTIFICATE_RURAL` DOUBLE,
`WW_CHILDREN_REGISTERED_AND_RECEIVED_BIRTH_CERTIFICATE_URBAN` DOUBLE,
`XX_WOMEN_WHO_ARE_AWARE_OF_HIV_AIDS_TOTAL` DOUBLE,
`XX_WOMEN_WHO_ARE_AWARE_OF_HIV_AIDS_RURAL` DOUBLE,
`XX_WOMEN_WHO_ARE_AWARE_OF_HIV_AIDS_URBAN` DOUBLE,
`XX_WOMEN_WHO_ARE_AWARE_OF_RTI_STI_TOTAL` DOUBLE,
`XX_WOMEN_WHO_ARE_AWARE_OF_RTI_STI_RURAL` DOUBLE,
`XX_WOMEN_WHO_ARE_AWARE_OF_RTI_STI_URBAN` DOUBLE,
`XX_WOMEN_WHO_ARE_AWARE_OF_HAF_ORS_ORT_ZINC_TOTAL` DOUBLE,
`XX_WOMEN_WHO_ARE_AWARE_OF_HAF_ORS_ORT_ZINC_RURAL` DOUBLE,
`XX_WOMEN_WHO_ARE_AWARE_OF_HAF_ORS_ORT_ZINC_URBAN` DOUBLE,
`XX_WOMEN_WHO_ARE_AWARE_OF_DANGER_SIGNS_OF_ARI_PNEUMONIA_TOTAL` DOUBLE,
`XX_WOMEN_WHO_ARE_AWARE_OF_DANGER_SIGNS_OF_ARI_PNEUMONIA_RURAL` DOUBLE,
`XX_WOMEN_WHO_ARE_AWARE_OF_DANGER_SIGNS_OF_ARI_PNEUMONIA_URBAN` DOUBLE,
`YY_CRUDE_DEATH_RATE_CDR_TOTAL_PERSON` DOUBLE,
`YY_CRUDE_DEATH_RATE_CDR_TOTAL_MALE` DOUBLE,
`YY_CRUDE_DEATH_RATE_CDR_TOTAL_FEMALE` DOUBLE,
`YY_CRUDE_DEATH_RATE_CDR_RURAL_PERSON` DOUBLE,
`YY_CRUDE_DEATH_RATE_CDR_RURAL_MALE` DOUBLE,
`YY_CRUDE_DEATH_RATE_CDR_RURAL_FEMALE` DOUBLE,
`YY_CRUDE_DEATH_RATE_CDR_URBAN_PERSON` DOUBLE,
`YY_CRUDE_DEATH_RATE_CDR_URBAN_MALE` DOUBLE,
`YY_CRUDE_DEATH_RATE_CDR_URBAN_FEMALE` DOUBLE,
`YY_INFANT_MORTALITY_RATE_IMR_TOTAL_PERSON` DOUBLE,
`YY_INFANT_MORTALITY_RATE_IMR_TOTAL_MALE` DOUBLE,
`YY_INFANT_MORTALITY_RATE_IMR_TOTAL_FEMALE` DOUBLE,
`YY_INFANT_MORTALITY_RATE_IMR_RURAL_PERSON` DOUBLE,
`YY_INFANT_MORTALITY_RATE_IMR_RURAL_MALE` DOUBLE,
`YY_INFANT_MORTALITY_RATE_IMR_RURAL_FEMALE` DOUBLE,
`YY_INFANT_MORTALITY_RATE_IMR_URBAN_PERSON` DOUBLE,
`YY_INFANT_MORTALITY_RATE_IMR_URBAN_MALE` DOUBLE,
`YY_INFANT_MORTALITY_RATE_IMR_URBAN_FEMALE` DOUBLE,
`YY_NEO_NATAL_MORTALITY_RATE_TOTAL` DOUBLE,
`YY_NEO_NATAL_MORTALITY_RATE_RURAL` DOUBLE,
`YY_NEO_NATAL_MORTALITY_RATE_URBAN` DOUBLE,
`YY_POST_NEO_NATAL_MORTALITY_RATE_TOTAL` DOUBLE,
`YY_POST_NEO_NATAL_MORTALITY_RATE_RURAL` DOUBLE,
`YY_POST_NEO_NATAL_MORTALITY_RATE_URBAN` DOUBLE,
`YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON` DOUBLE,
`YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_MALE` DOUBLE,
`YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_FEMALE` DOUBLE,
`YY_UNDER_FIVE_MORTALITY_RATE_U5MR_RURAL_PERSON` DOUBLE,
`YY_UNDER_FIVE_MORTALITY_RATE_U5MR_RURAL_MALE` DOUBLE,
`YY_UNDER_FIVE_MORTALITY_RATE_U5MR_RURAL_FEMALE` DOUBLE,
`YY_UNDER_FIVE_MORTALITY_RATE_U5MR_URBAN_PERSON` DOUBLE,
`YY_UNDER_FIVE_MORTALITY_RATE_U5MR_URBAN_MALE` DOUBLE,
`YY_UNDER_FIVE_MORTALITY_RATE_U5MR_URBAN_FEMALE` DOUBLE,
`ZZ_CRUDE_BIRTH_RATE_TOTAL_LOWER_LIMIT` DOUBLE,
`ZZ_CRUDE_BIRTH_RATE_TOTAL_UPPER_LIMIT` DOUBLE,
`ZZ_CRUDE_BIRTH_RATE_RURAL_LOWER_LIMIT` DOUBLE,
`ZZ_CRUDE_BIRTH_RATE_RURAL_UPPER_LIMIT` DOUBLE,
`ZZ_CRUDE_BIRTH_RATE_URBAN_LOWER_LIMIT` DOUBLE,

```
`ZZ_CRUDE_BIRTH_RATE_URBAN_UPPER_LIMIT` DOUBLE,
`ZZ_CRUDE_DEATH_RATE_TOTAL_LOWER_LIMIT` DOUBLE,
`ZZ_CRUDE_DEATH_RATE_TOTAL_UPPER_LIMIT` DOUBLE,
`ZZ_CRUDE_DEATH_RATE_RURAL_LOWER_LIMIT` DOUBLE,
`ZZ_CRUDE_DEATH_RATE_RURAL_UPPER_LIMIT` DOUBLE,
`ZZ_CRUDE_DEATH_RATE_URBAN_LOWER_LIMIT` DOUBLE,
`ZZ_CRUDE_DEATH_RATE_URBAN_UPPER_LIMIT` DOUBLE,
`ZZ_INFANT_MORTALITY_RATE_TOTAL_LOWER_LIMIT` DOUBLE,
`ZZ_INFANT_MORTALITY_RATE_TOTAL_UPPER_LIMIT` DOUBLE,
`ZZ_INFANT_MORTALITY_RATE_RURAL_LOWER_LIMIT` DOUBLE,
`ZZ_INFANT_MORTALITY_RATE_RURAL_UPPER_LIMIT` DOUBLE,
`ZZ_INFANT_MORTALITY_RATE_URBAN_LOWER_LIMIT` DOUBLE,
`ZZ_INFANT_MORTALITY_RATE_URBAN_UPPER_LIMIT` DOUBLE,
`ZZ_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_LOWER_LIMIT` DOUBLE,
`ZZ_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_UPPER_LIMIT` DOUBLE,
`ZZ_UNDER_FIVE_MORTALITY_RATE_U5MR_RURAL_LOWER_LIMIT` DOUBLE,
`ZZ_UNDER_FIVE_MORTALITY_RATE_U5MR_RURAL_UPPER_LIMIT` DOUBLE,
`ZZ_UNDER_FIVE_MORTALITY_RATE_U5MR_URBAN_LOWER_LIMIT` DOUBLE,
`ZZ_UNDER_FIVE_MORTALITY_RATE_U5MR_URBAN_UPPER_LIMIT` DOUBLE,
`ZZ_SEX_RATIO_AT_BIRTH_TOTAL_LOWER_LIMIT` DOUBLE,
`ZZ_SEX_RATIO_AT_BIRTH_TOTAL_UPPER_LIMIT` DOUBLE,
`ZZ_SEX_RATIO_AT_BIRTH_RURAL_LOWER_LIMIT` DOUBLE,
`ZZ_SEX_RATIO_AT_BIRTH_RURAL_UPPER_LIMIT` DOUBLE,
`ZZ_SEX_RATIO_AT_BIRTH_URBAN_LOWER_LIMIT` DOUBLE,
`ZZ_SEX_RATIO_AT_BIRTH_URBAN_UPPER_LIMIT` DOUBLE)
ROW FORMAT DELIMITED FIELDS TERMINATED BY ','
LINES TERMINATED BY '\n'
LOCATION '/user/cloudera/etlproject2/';
```

Above 3 statements can be put in a .sql file namely create_table.sql and can be run like this:

```
[cloudera@quickstart project2]$ hive -f create_table.sql

Logging initialized using configuration in file:/etc/hive/conf.dist/hive-log4j.properties
OK
Time taken: 0.555 seconds
OK
Time taken: 0.128 seconds
OK
Time taken: 0.8 seconds
WARN: The method class org.apache.commons.logging.impl.SLF4JLogFactory#release() was invoked.
WARN: Please see http://www.slf4j.org/codes.html#release for an explanation.
[cloudera@quickstart project2]$
```

2. **Command to load the ingested data into the external table**

load data inpath '/user/cloudera/project2/part*' overwrite into table key_indicators_ext;

```
[cloudera@quickstart project2]$ hive
Logging initialized using configuration in file:/etc/hive/conf.dist/hive-log4j.properties
WARNING: Hive CLI is deprecated and migration to Beeline is recommended.
hive> use etlproject2;
OK
Time taken: 0.432 seconds
hive> load data inpath '/user/cloudera/project2/part*' overwrite into table key_indicators_ext;
Loading data to table etlproject2.key_indicators_ext
```

```
Table etlproject2.key_indicators_ext stats: [numFiles=4, numRows=0, totalSize=1027652, rawDataSize=0]
OK
Time taken: 1.277 seconds
hive>
```

3. **Queries to verify that the ingestion is correctly accomplished**

(a) Query to count the total number of rows along with the screenshots of the data fetched by the query on MySQL Workbench and Hue

MySQL:
select count(*) from Key_indicator_districtwise;

```
[cloudera@quickstart ~]$ mysql -h upgradawsrds.cpclxrkdvwmz.us-east-1.rds.amazonaws.com -u upgraduser -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 25921
Server version: 5.6.39-log MySQL Community Server (GPL)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+----------------------+
| Database             |
+----------------------+
| information_schema   |
| cred_financials_data |
| indiaahs2012_13      |
| innodb               |
| mysql                |
| performance_schema   |
| sys                  |
| tmp                  |
+----------------------+
8 rows in set (0.29 sec)

mysql> use indiaahs2012_13;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> show tables;
+-----------------------------+
| Tables_in_indiaahs2012_13   |
+-----------------------------+
| Key_indicator_districtwise |
+-----------------------------+
1 row in set (0.29 sec)

mysql> select count(*) from Key_indicator_districtwise;
+----------+
| count(*) |
+----------+
|      284 |
+----------+
1 row in set (0.29 sec)
```
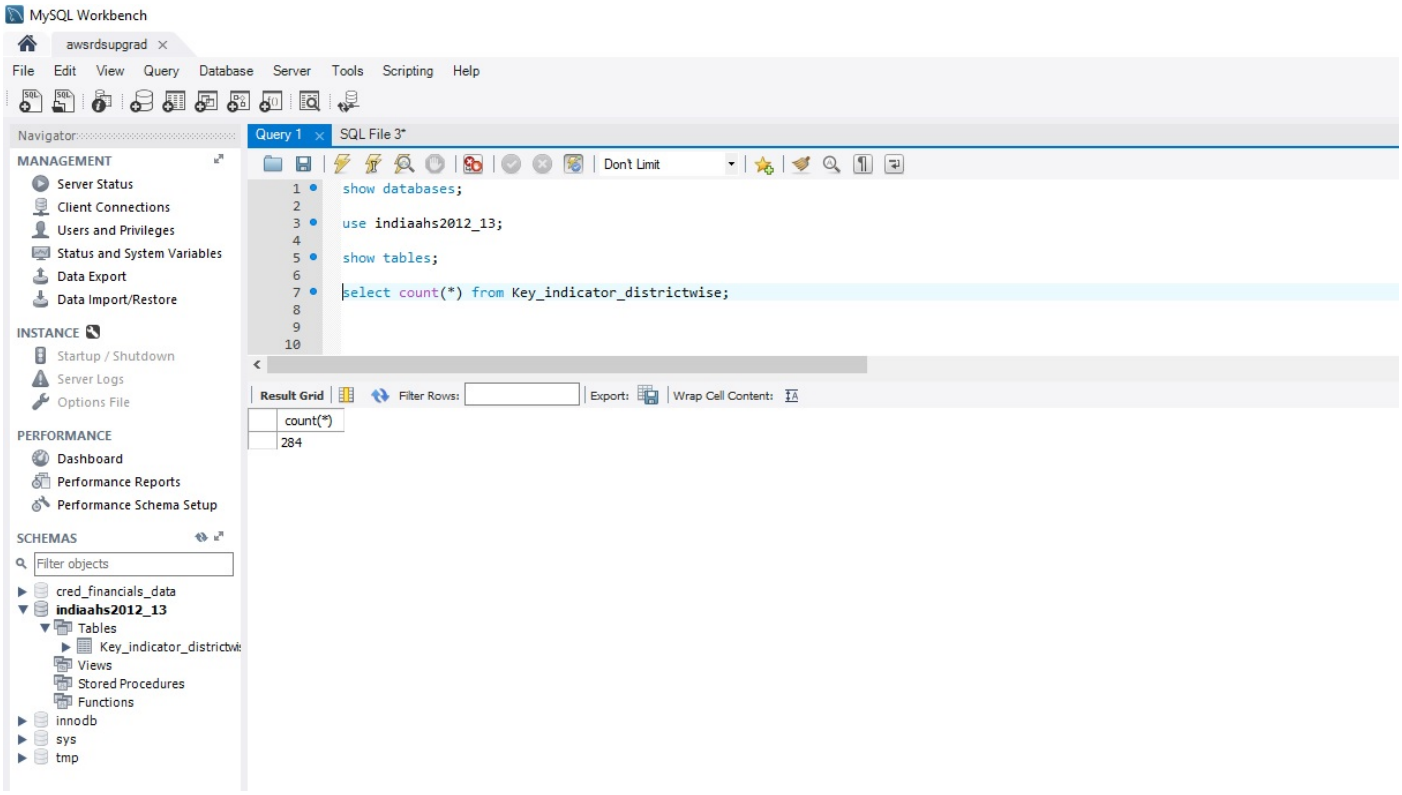
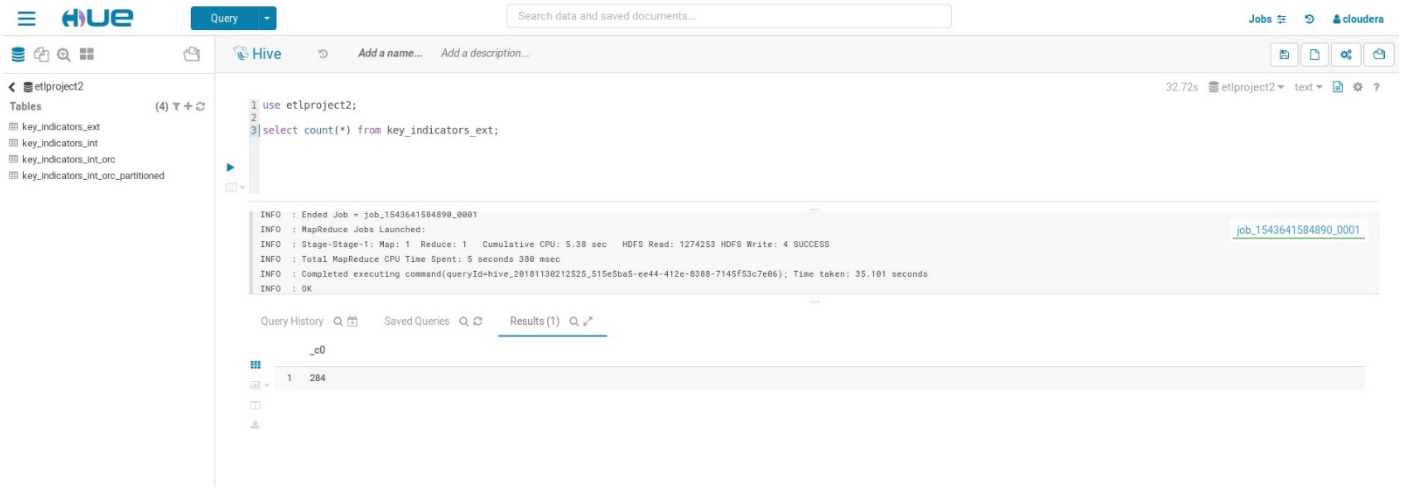



HUE:

select count(*) from key_indicators_ext;

hive> select count(*) from key_indicators_ext;
Query ID = cloudera_20181130211111_4e29de2a-2527-47ce-a531-8ac0d5f160db
Total jobs = 1
Launching Job 1 out of 1
Number of reduce tasks determined at compile time: 1
In order to change the average load for a reducer (in bytes):
set hive.exec.reducers.bytes.per.reducer=<number>
In order to limit the maximum number of reducers:
set hive.exec.reducers.max=<number>
In order to set a constant number of reducers:
set mapreduce.job.reduces=<number>
Starting Job = job_1543633035369_0036, Tracking URL = http://quickstart.cloudera:8088/proxy/application_1543633035369_0036/
Kill Command = /usr/lib/hadoop/bin/hadoop job -kill job_1543633035369_0036
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1
2018-11-30 21:11:45,545 Stage-1 map = 0%, reduce = 0%
2018-11-30 21:11:51,847 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 1.95 sec
2018-11-30 21:11:59,256 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 4.68 sec
MapReduce Total cumulative CPU time: 4 seconds 680 msec
Ended Job = job_1543633035369_0036
MapReduce Jobs Launched:
Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 4.68 sec HDFS Read: 1274345 HDFS Write: 4 SUCCESS
Total MapReduce CPU Time Spent: 4 seconds 680 msec
OK
284
Time taken: 23.11 seconds, Fetched: 1 row(s)
hive>

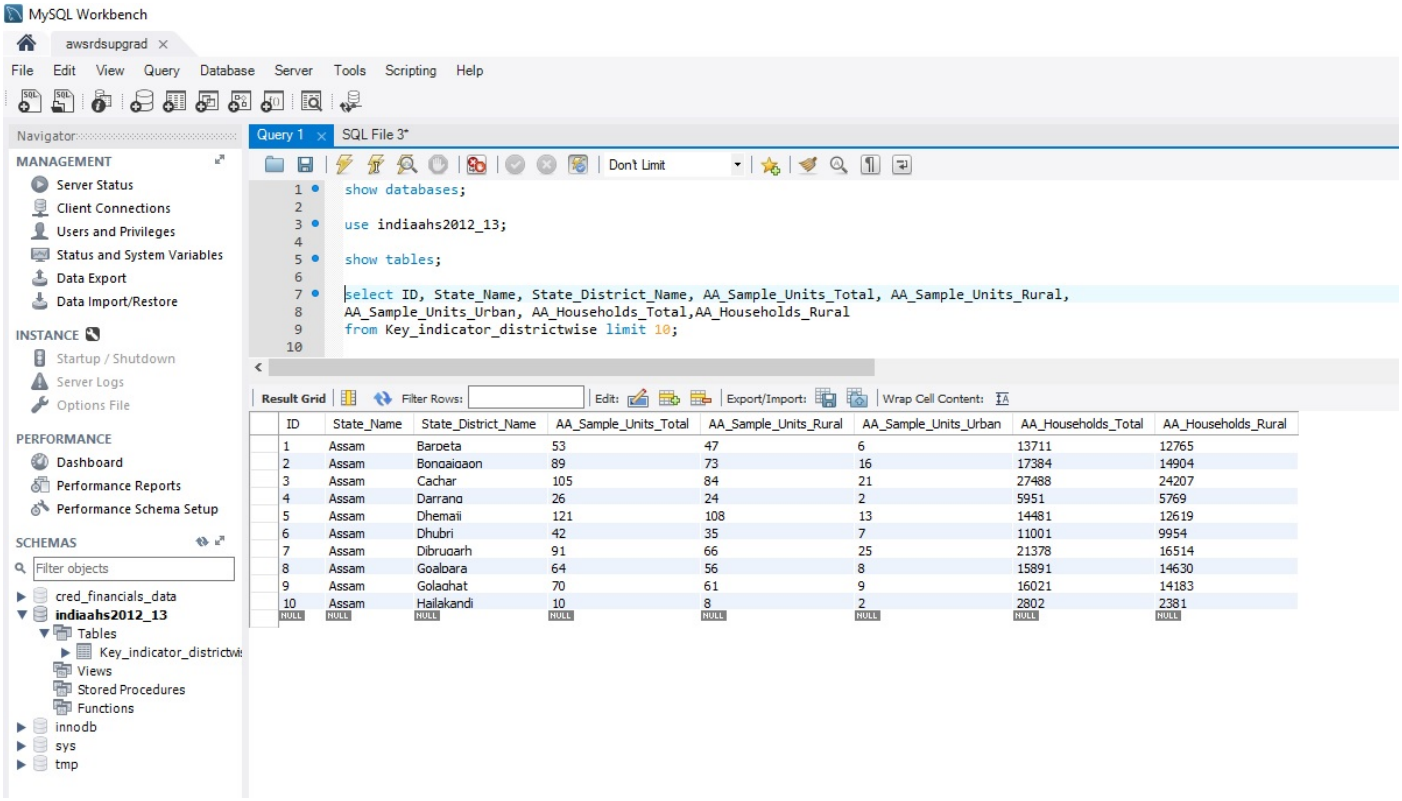


(b) Query to select the top 10 rows and first 8 columns along with the screenshots of the data fetched by the query on MySQL Workbench and Hue

MySQL:

```
select ID, State_Name, State_District_Name, AA_Sample_Units_Total, AA_Sample_Units_Rural,
AA_Sample_Units_Urban, AA_Households_Total,AA_Households_Rural
from Key_indicator_districtwise limit 10;
```

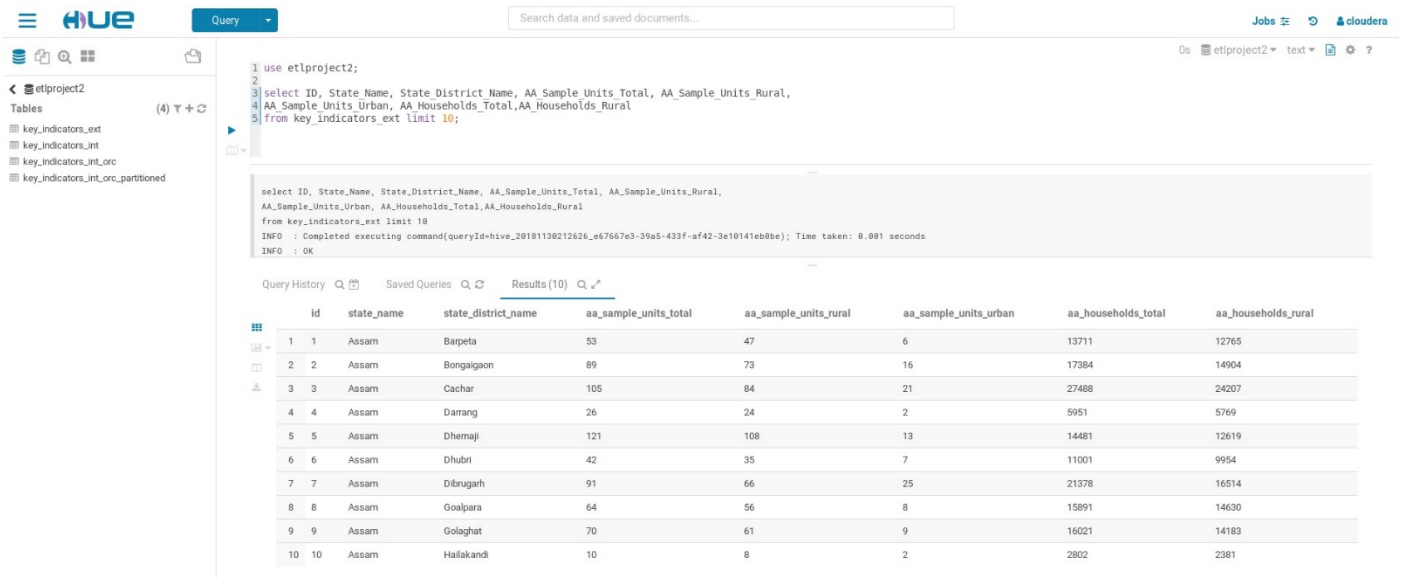
```
mysql> select ID, State_Name, State_District_Name, AA_Sample_Units_Total, AA_Sample_Units_Rural,
    -> AA_Sample_Units_Urban, AA_Households_Total,AA_Households_Rural
    -> from Key_indicator_districtwise limit 10;
+----+------------+--------------------+---------------------+---------------------+---------------------+---------------------+---------------------+
| ID | State_Name | State_District_Name | AA_Sample_Units_Total | AA_Sample_Units_Rural | AA_Sample_Units_Urban | AA_Households_Total | AA_Households_Rural |
+----+------------+--------------------+---------------------+---------------------+---------------------+---------------------+---------------------+
|  1 | Assam      | Barpeta            |                  53 |                  47 |                   6 |               13711 |               12765 |
|  2 | Assam      | Bongaigaon         |                  89 |                  73 |                  16 |               17384 |               14904 |
|  3 | Assam      | Cachar             |                 105 |                  84 |                  21 |               27488 |               24207 |
|  4 | Assam      | Darrang            |                  26 |                  24 |                   2 |                5951 |                5769 |
|  5 | Assam      | Dhemaji            |                 121 |                 108 |                  13 |               14481 |               12619 |
|  6 | Assam      | Dhubri             |                  42 |                  35 |                   7 |               11001 |                9954 |
|  7 | Assam      | Dibrugarh          |                  91 |                  66 |                  25 |               21378 |               16514 |
|  8 | Assam      | Goalpara           |                  64 |                  56 |                   8 |               15891 |               14630 |
|  9 | Assam      | Golaghat           |                  70 |                  61 |                   9 |               16021 |               14183 |
| 10 | Assam      | Hailakandi         |                  10 |                   8 |                   2 |                2802 |                2381 |
+----+------------+--------------------+---------------------+---------------------+---------------------+---------------------+---------------------+
10 rows in set (0.30 sec)
mysql>
```



HUE:

select ID, State_Name, State_District_Name, AA_Sample_Units_Total, AA_Sample_Units_Rural, AA_Sample_Units_Urban, AA_Households_Total,AA_Households_Rural from key_indicators_ext limit 10;

```
hive> select ID, State_Name, State_District_Name, AA_Sample_Units_Total, AA_Sample_Units_Rural,
    > AA_Sample_Units_Urban, AA_Households_Total,AA_Households_Rural
    > from key_indicators_ext limit 10;
OK
1       Assam   Barpeta         53.0    47.0    6.0     13711.0 12765.0
2       Assam   Bongaigaon      89.0    73.0    16.0    17384.0 14904.0
3       Assam   Cachar          105.0   84.0    21.0    27488.0 24207.0
4       Assam   Darrang         26.0    24.0    2.0     5951.0  5769.0
5       Assam   Dhemaji         121.0   108.0   13.0    14481.0 12619.0
6       Assam   Dhubri          42.0    35.0    7.0     11001.0 9954.0
7       Assam   Dibrugarh       91.0    66.0    25.0    21378.0 16514.0
8       Assam   Goalpara        64.0    56.0    8.0     15891.0 14630.0
9       Assam   Golaghat        70.0    61.0    9.0     16021.0 14183.0
10      Assam   Hailakandi      10.0    8.0     2.0     2802.0  381.0
Time taken: 0.172 seconds, Fetched: 10 row(s)
hive>
```



Subset schema creation in Hive to support the analyses

1. **Columns used in the subset schema**

   ID,
   STATE_NAME,
   STATE_DISTRICT_NAME,
   AA_HOUSEHOLDS_TOTAL,
   AA_POPULATION_TOTAL,
   CC_SEX_RATIO_ALL_AGES_TOTAL,
   LL_TOTAL_FERTILITY_RATE_TOTAL,
   YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON

2. **Storage format used**

   ORC with SNAPPY compression

3. **Create and insert command for the default format**

   CREATE TABLE IF NOT EXISTS KEY_INDICATORS_INT(
   ID INT,
   STATE_NAME VARCHAR(100),
   STATE_DISTRICT_NAME VARCHAR(100),
   AA_HOUSEHOLDS_TOTAL DOUBLE,
   AA_POPULATION_TOTAL DOUBLE,
   CC_SEX_RATIO_ALL_AGES_TOTAL DOUBLE,
   LL_TOTAL_FERTILITY_RATE_TOTAL DOUBLE,
   YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON DOUBLE)
   ROW FORMAT DELIMITED FIELDS TERMINATED BY ','
   LINES TERMINATED BY '\n';

   hive> use etlproject2;
   OK
   Time taken: 0.667 seconds
   hive> show tables;
   OK
   key_indicators_ext

```
Time taken: 0.47 seconds, Fetched: 1 row(s)
hive> CREATE TABLE IF NOT EXISTS KEY_INDICATORS_INT(
    > ID INT,
    > STATE_NAME VARCHAR(100),
    > STATE_DISTRICT_NAME VARCHAR(100),
    > AA_HOUSEHOLDS_TOTAL DOUBLE,
    > AA_POPULATION_TOTAL DOUBLE,
    > CC_SEX_RATIO_ALL_AGES_TOTAL DOUBLE,
    > LL_TOTAL_FERTILITY_RATE_TOTAL DOUBLE,
    > YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON DOUBLE)
    > ROW FORMAT DELIMITED FIELDS TERMINATED BY ','
    > LINES TERMINATED BY '\n';
OK
Time taken: 1.592 seconds
hive>
```

INSERT OVERWRITE TABLE KEY_INDICATORS_INT
SELECT
ID,
STATE_NAME,
STATE_DISTRICT_NAME,
AA_HOUSEHOLDS_TOTAL,
AA_POPULATION_TOTAL,
CC_SEX_RATIO_ALL_AGES_TOTAL,
LL_TOTAL_FERTILITY_RATE_TOTAL,
YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON
FROM KEY_INDICATORS_EXT;

```
hive> INSERT OVERWRITE TABLE KEY_INDICATORS_INT
    > SELECT
    > ID,
    > STATE_NAME,
    > STATE_DISTRICT_NAME,
    > AA_HOUSEHOLDS_TOTAL,
    > AA_POPULATION_TOTAL,
    > CC_SEX_RATIO_ALL_AGES_TOTAL,
    > LL_TOTAL_FERTILITY_RATE_TOTAL,
    > YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON
    > FROM KEY_INDICATORS_EXT;
Query ID = cloudera_20181128194545_c1bd1cd7-5159-4b2f-8689-9c35acc77933
Total jobs = 3
Launching Job 1 out of 3
Number of reduce tasks is set to 0 since there is no reduce operator
Starting Job = job_1543462035376_0001, Tracking URL = http://quickstart.cloudera:8088/proxy/application_1543462035376_0001/
Kill Command = /usr/lib/hadoop/bin/hadoop job  -kill job_1543462035376_0001
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 0
2018-11-28 19:45:26,358 Stage-1 map = 0%,  reduce = 0%
2018-11-28 19:45:33,798 Stage-1 map = 100%,  reduce = 0%, Cumulative CPU 2.22 sec
MapReduce Total cumulative CPU time: 2 seconds 220 msec
Ended Job = job_1543462035376_0001
Stage-4 is selected by condition resolver.
Stage-3 is filtered out by condition resolver.
Stage-5 is filtered out by condition resolver.
Moving data to: hdfs://quickstart.cloudera:8020/user/hive/warehouse/etlproject2.db/key_indicators_int/.hive-staging_hive_2018-11-28_19-45-13_184_3466385637697334553-1/-ext-10000
Loading data to table etlproject2.key_indicators_int
Table etlproject2.key_indicators_int stats: [numFiles=1, numRows=284, totalSize=15799, rawDataSize=15515]
MapReduce Jobs Launched:
Stage-Stage-1: Map: 1   Cumulative CPU: 2.22 sec   HDFS Read: 1181054 HDFS Write: 15889 SUCCESS
Total MapReduce CPU Time Spent: 2 seconds 220 msec
OK
Time taken: 22.288 seconds
```

4. Create and insert command for the formats such as ORC

Setting few parameters for ORC format with SNAPPY compression:

SET orc.compress=SNAPPY;
SET hive.exec.compress.output=true;
SET mapred.output.compression.codec=org.apache.hadoop.io.compress.SnappyCodec;
SET mapred.output.compression.type=BLOCK;

```
hive> SET orc.compress=SNAPPY;
hive> SET hive.exec.compress.output=true;
hive> SET mapred.output.compression.codec=org.apache.hadoop.io.compress.SnappyCodec;
hive> SET mapred.output.compression.type=BLOCK;
```

```
CREATE TABLE IF NOT EXISTS KEY_INDICATORS_INT_ORC(
ID INT,
STATE_NAME VARCHAR(100),
STATE_DISTRICT_NAME VARCHAR(100),
AA_HOUSEHOLDS_TOTAL DOUBLE,
AA_POPULATION_TOTAL DOUBLE,
CC_SEX_RATIO_ALL_AGES_TOTAL DOUBLE,
LL_TOTAL_FERTILITY_RATE_TOTAL DOUBLE,
YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON DOUBLE)
STORED AS ORC
TBLPROPERTIES("orc.compress"="SNAPPY");
```

```
hive> CREATE TABLE IF NOT EXISTS KEY_INDICATORS_INT_ORC(
   > ID INT,
   > STATE_NAME VARCHAR(100),
   > STATE_DISTRICT_NAME VARCHAR(100),
   > AA_HOUSEHOLDS_TOTAL DOUBLE,
   > AA_POPULATION_TOTAL DOUBLE,
   > CC_SEX_RATIO_ALL_AGES_TOTAL DOUBLE,
   > LL_TOTAL_FERTILITY_RATE_TOTAL DOUBLE,
   > YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON DOUBLE)
   > STORED AS ORC
   > TBLPROPERTIES("orc.compress"="SNAPPY");
OK
Time taken: 0.144 seconds
hive>
```

```
INSERT OVERWRITE TABLE KEY_INDICATORS_INT_ORC
SELECT
ID,
STATE_NAME,
STATE_DISTRICT_NAME,
AA_HOUSEHOLDS_TOTAL,
AA_POPULATION_TOTAL,
CC_SEX_RATIO_ALL_AGES_TOTAL,
LL_TOTAL_FERTILITY_RATE_TOTAL,
YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON
FROM KEY_INDICATORS_EXT;
```

```
hive> INSERT OVERWRITE TABLE KEY_INDICATORS_INT_ORC
   > SELECT
   > ID,
   > STATE_NAME,
```

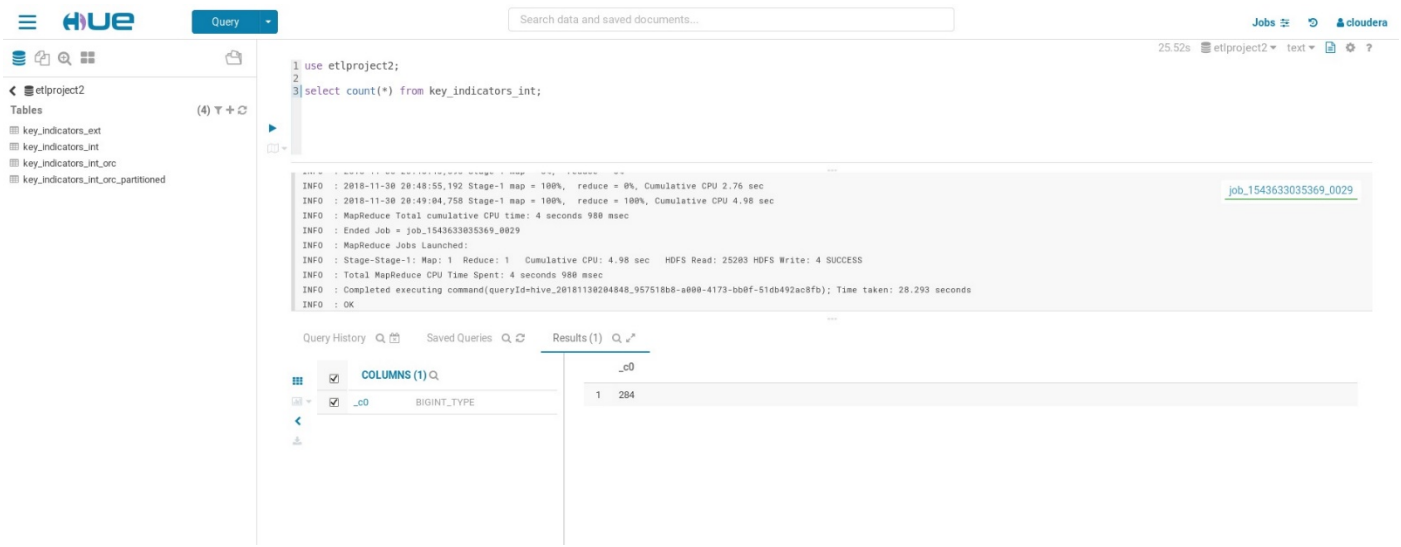
```
    > STATE_DISTRICT_NAME,
    > AA_HOUSEHOLDS_TOTAL,
    > AA_POPULATION_TOTAL,
    > CC_SEX_RATIO_ALL_AGES_TOTAL,
    > LL_TOTAL_FERTILITY_RATE_TOTAL,
    > YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON
    > FROM KEY_INDICATORS_EXT;
Query ID = cloudera_20181128200303_94a8f443-bf7f-4a00-ab7b-403d1c34c8b2
Total jobs = 1
Launching Job 1 out of 1
Number of reduce tasks is set to 0 since there is no reduce operator
Starting Job = job_1543462035376_0006, Tracking URL = http://quickstart.cloudera:8088/proxy/application_1543462035376_0006/
Kill Command = /usr/lib/hadoop/bin/hadoop job  -kill job_1543462035376_0006
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 0
2018-11-28 20:04:11,305 Stage-1 map = 0%,  reduce = 0%
2018-11-28 20:04:23,309 Stage-1 map = 100%,  reduce = 0%
MapReduce Total cumulative CPU time: 4 seconds 120 msec
Ended Job = job_1543462035376_0006
Stage-4 is selected by condition resolver.
Stage-3 is filtered out by condition resolver.
Stage-5 is filtered out by condition resolver.
Moving data to: hdfs://quickstart.cloudera:8020/user/hive/warehouse/etlproject2.db/key_indicators_int_orc/.hive-
staging_hive_2018-11-28_20-03-58_068_8785606343672482368-1/-ext-10000
Loading data to table etlproject2.key_indicators_int_orc
Table etlproject2.key_indicators_int_orc stats: [numFiles=1, numRows=284, totalSize=9392, rawDataSize=65036]
MapReduce Jobs Launched:
Stage-Stage-1: Map: 1   Cumulative CPU: 4.12 sec   HDFS Read: 1181438 HDFS Write: 9486 SUCCESS
Total MapReduce CPU Time Spent: 4 seconds 120 msec
OK
Time taken: 28.188 seconds
hive>
```

5. Screenshot of runtimes against each query given above for the default format as well as for the formats such as ORC

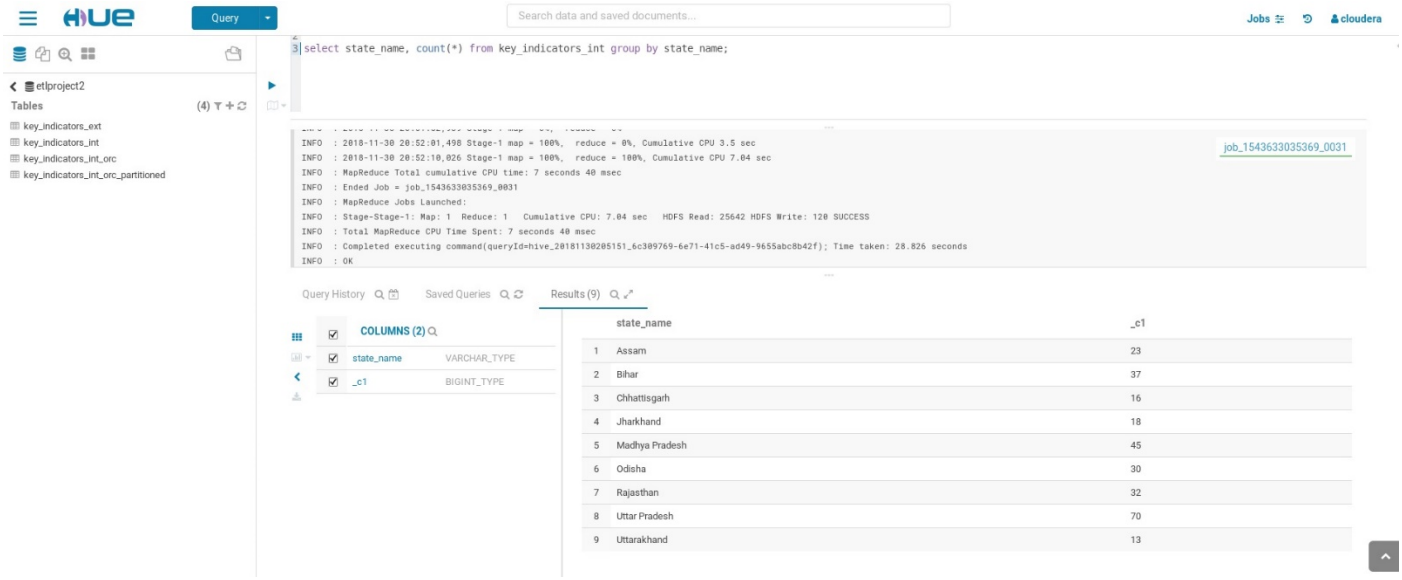
Note that I was not getting much difference in timings while running queries in HIVE CLI and HUE. It could be due to the fact that my cloudera VM is of just 8 GB RAM. I have used HUE to get better clarity in screenshots. For such small data, queries for both format types are taking almost same time in my cloudera VM, either I run in HIVE CLI or in HUE.

For default format:

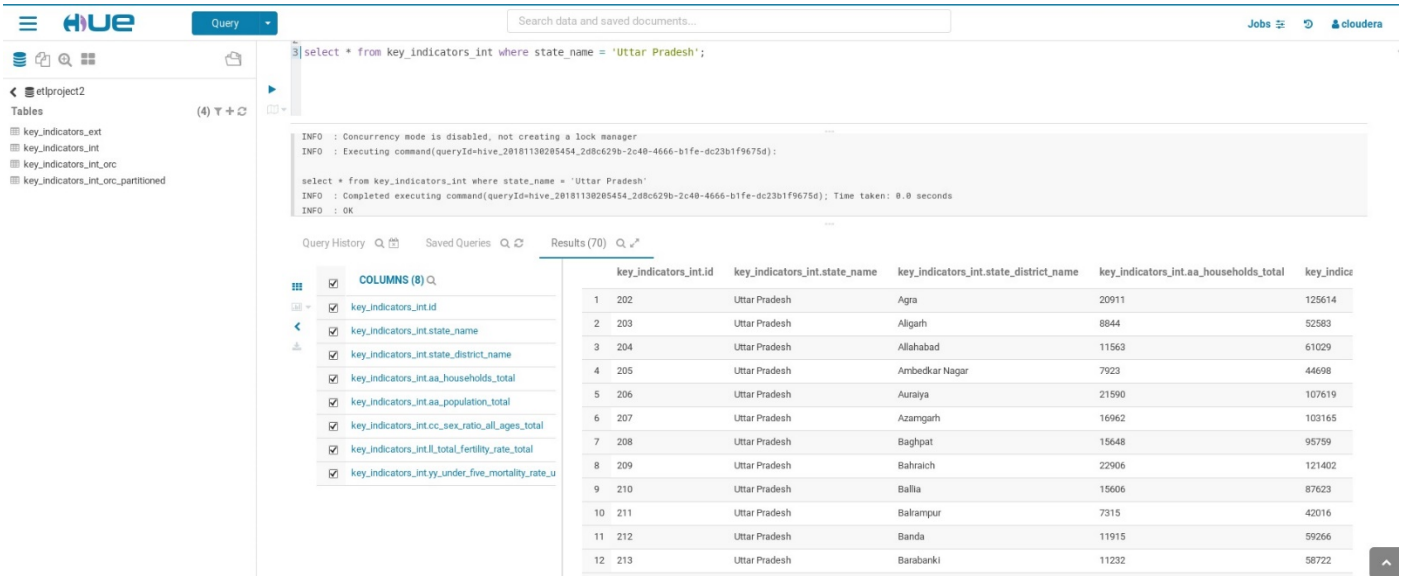
select count(*) from key_indicators_int;

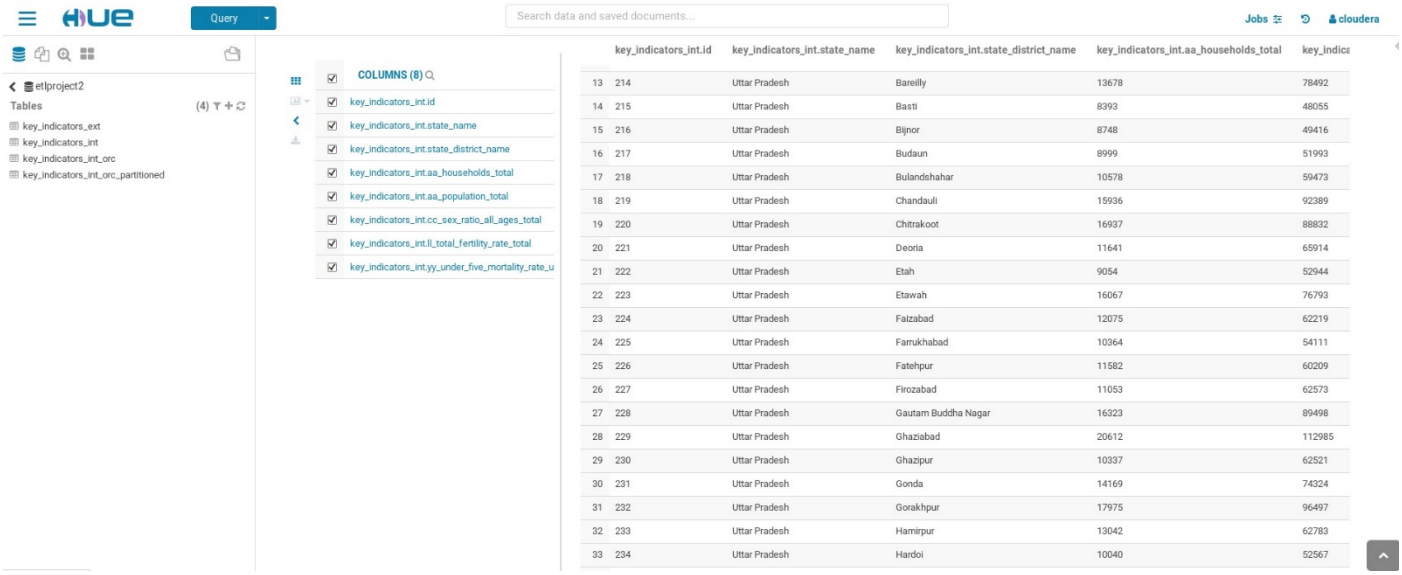


select state_name, count(*) from key_indicators_int group by state_name;

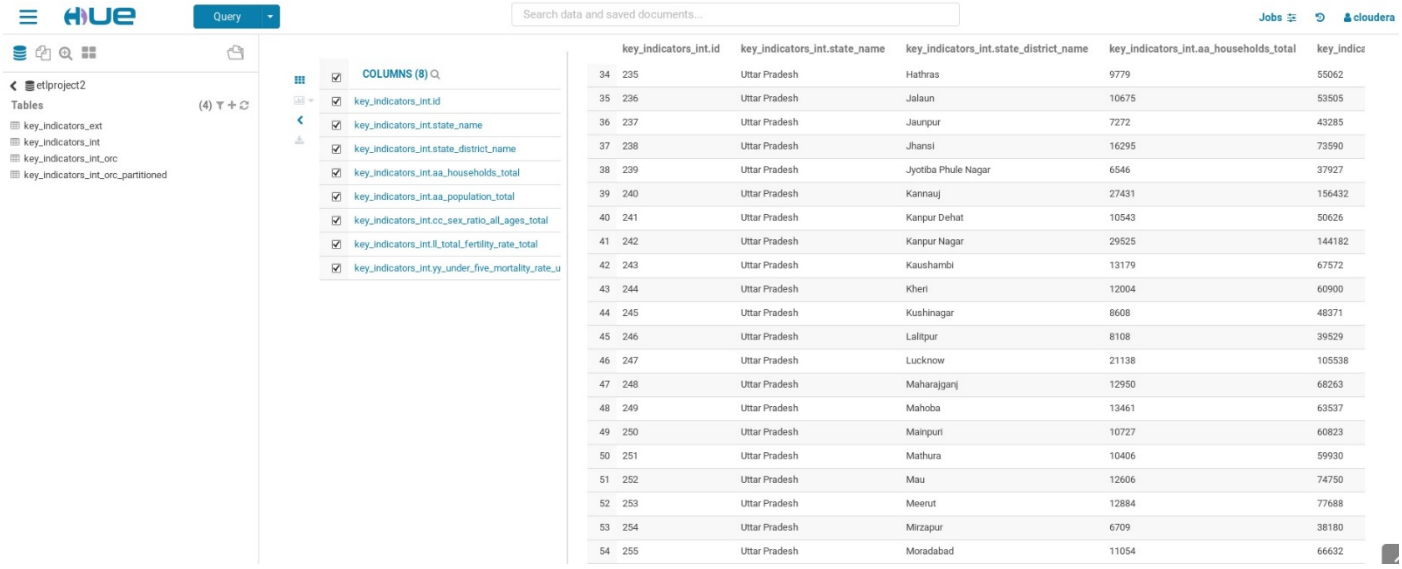


select * from key_indicators_int where state_name = 'Uttar Pradesh';

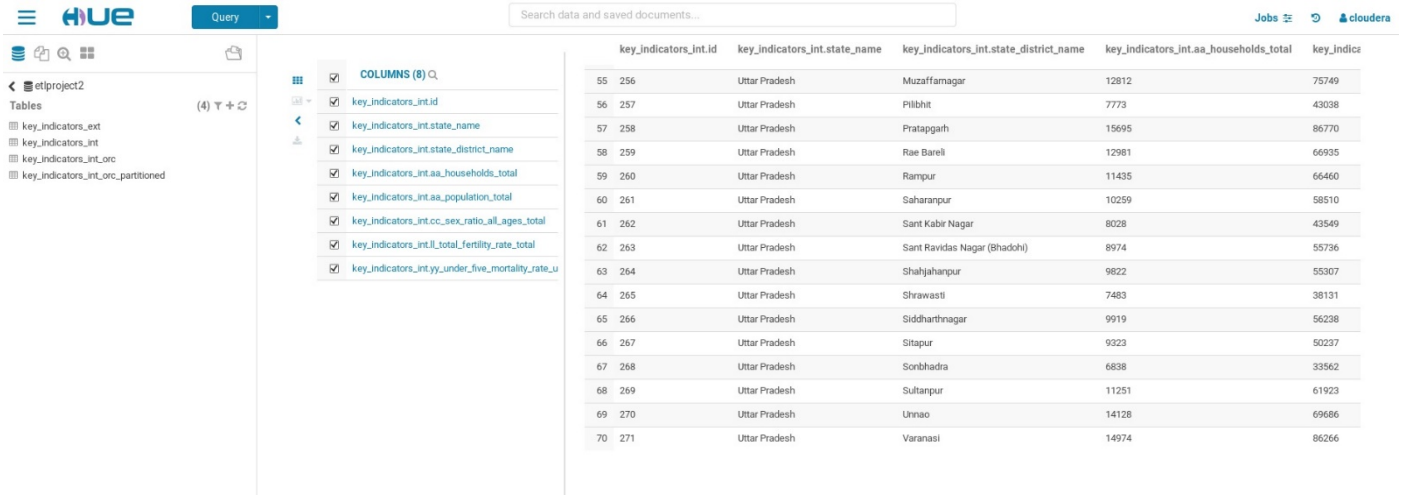




	key_indicators_int.id	key_indicators_int.state_name	key_indicators_int.state_district_name	key_indicators_int.aa_households_total	key_indica
13	214	Uttar Pradesh	Bareilly	13678	78492
14	215	Uttar Pradesh	Basti	8393	48055
15	216	Uttar Pradesh	Bijnor	8748	49416
16	217	Uttar Pradesh	Budaun	8999	51993
17	218	Uttar Pradesh	Bulandshahar	10578	59473
18	219	Uttar Pradesh	Chandauli	15936	92389
19	220	Uttar Pradesh	Chitrakoot	16937	88832
20	221	Uttar Pradesh	Deoria	11641	65914
21	222	Uttar Pradesh	Etah	9054	52944
22	223	Uttar Pradesh	Etawah	16067	76793
23	224	Uttar Pradesh	Faizabad	12075	62219
24	225	Uttar Pradesh	Farrukhabad	10364	54111
25	226	Uttar Pradesh	Fatehpur	11582	60209
26	227	Uttar Pradesh	Firozabad	11053	62573
27	228	Uttar Pradesh	Gautam Buddha Nagar	16323	89498
28	229	Uttar Pradesh	Ghaziabad	20612	112985
29	230	Uttar Pradesh	Ghazipur	10337	62521
30	231	Uttar Pradesh	Gonda	14169	74324
31	232	Uttar Pradesh	Gorakhpur	17975	96497
32	233	Uttar Pradesh	Hamirpur	13042	62783
33	234	Uttar Pradesh	Hardoi	10040	52567



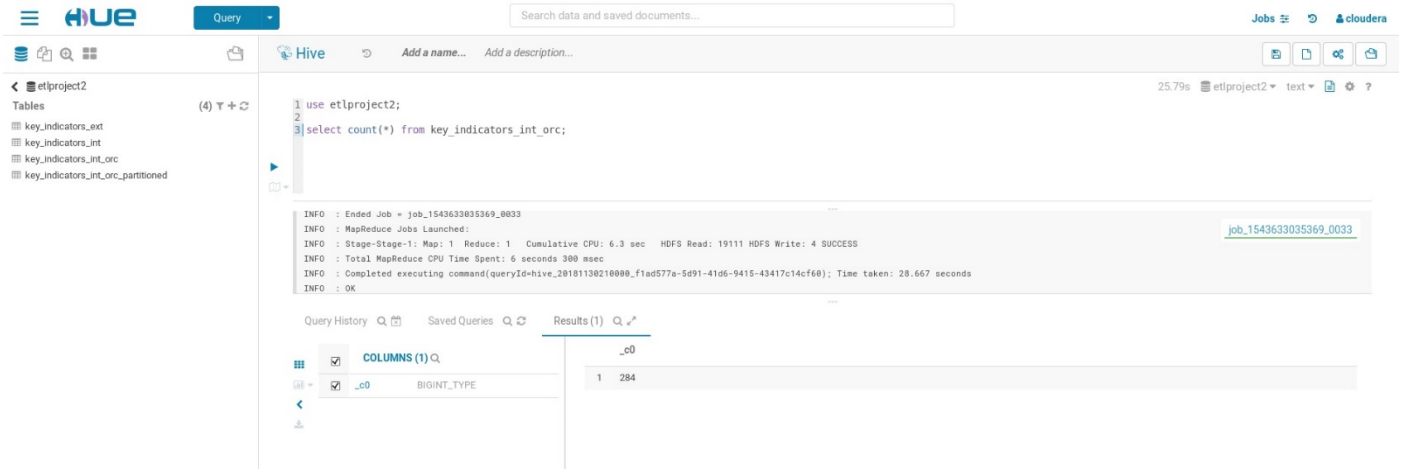
	key_indicators_int.id	key_indicators_int.state_name	key_indicators_int.state_district_name	key_indicators_int.aa_households_total	key_indica
34	235	Uttar Pradesh	Hathras	9779	55062
35	236	Uttar Pradesh	Jalaun	10675	53505
36	237	Uttar Pradesh	Jaunpur	7272	43285
37	238	Uttar Pradesh	Jhansi	16295	73590
38	239	Uttar Pradesh	Jyotiba Phule Nagar	6546	37927
39	240	Uttar Pradesh	Kannauj	27431	156432
40	241	Uttar Pradesh	Kanpur Dehat	10543	50626
41	242	Uttar Pradesh	Kanpur Nagar	29525	144182
42	243	Uttar Pradesh	Kaushambi	13179	67572
43	244	Uttar Pradesh	Kheri	12004	60900
44	245	Uttar Pradesh	Kushinagar	8608	48371
45	246	Uttar Pradesh	Lalitpur	8108	39529
46	247	Uttar Pradesh	Lucknow	21138	105538
47	248	Uttar Pradesh	Maharajganj	12950	68263
48	249	Uttar Pradesh	Mahoba	13461	63537
49	250	Uttar Pradesh	Mainpuri	10727	60823
50	251	Uttar Pradesh	Mathura	10406	59930
51	252	Uttar Pradesh	Mau	12606	74750
52	253	Uttar Pradesh	Meerut	12884	77688
53	254	Uttar Pradesh	Mirzapur	6709	38180
54	255	Uttar Pradesh	Moradabad	11054	66632



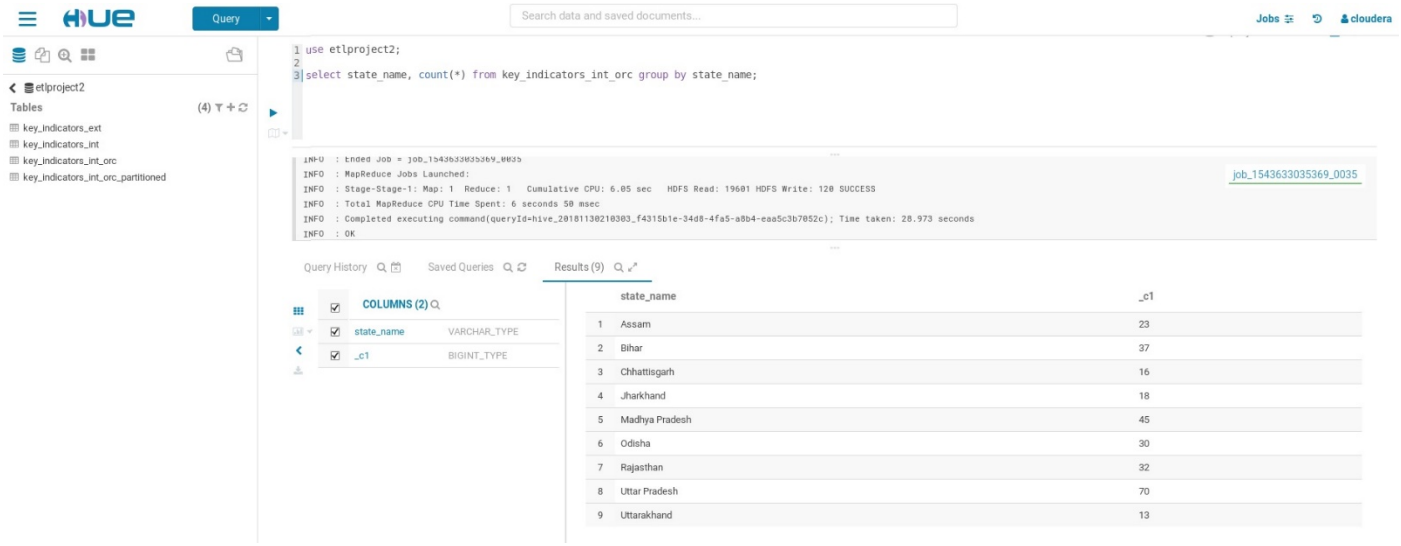
	key_indicators_int.id	key_indicators_int.state_name	key_indicators_int.state_district_name	key_indicators_int.aa_households_total	key_indica
55	256	Uttar Pradesh	Muzaffarnagar	12812	75749
56	257	Uttar Pradesh	Pilibhit	7773	43038
57	258	Uttar Pradesh	Pratapgarh	15695	86770
58	259	Uttar Pradesh	Rae Bareli	12981	66935
59	260	Uttar Pradesh	Rampur	11435	66460
60	261	Uttar Pradesh	Saharanpur	10259	58510
61	262	Uttar Pradesh	Sant Kabir Nagar	8028	43549
62	263	Uttar Pradesh	Sant Ravidas Nagar (Bhadohi)	8974	55736
63	264	Uttar Pradesh	Shahjahanpur	9822	55307
64	265	Uttar Pradesh	Shrawasti	7483	38131
65	266	Uttar Pradesh	Siddharthnagar	9919	56238
66	267	Uttar Pradesh	Sitapur	9323	50237
67	268	Uttar Pradesh	Sonbhadra	6838	33562
68	269	Uttar Pradesh	Sultanpur	11251	61923
69	270	Uttar Pradesh	Unnao	14128	69686
70	271	Uttar Pradesh	Varanasi	14974	86266

For formats such as ORC:

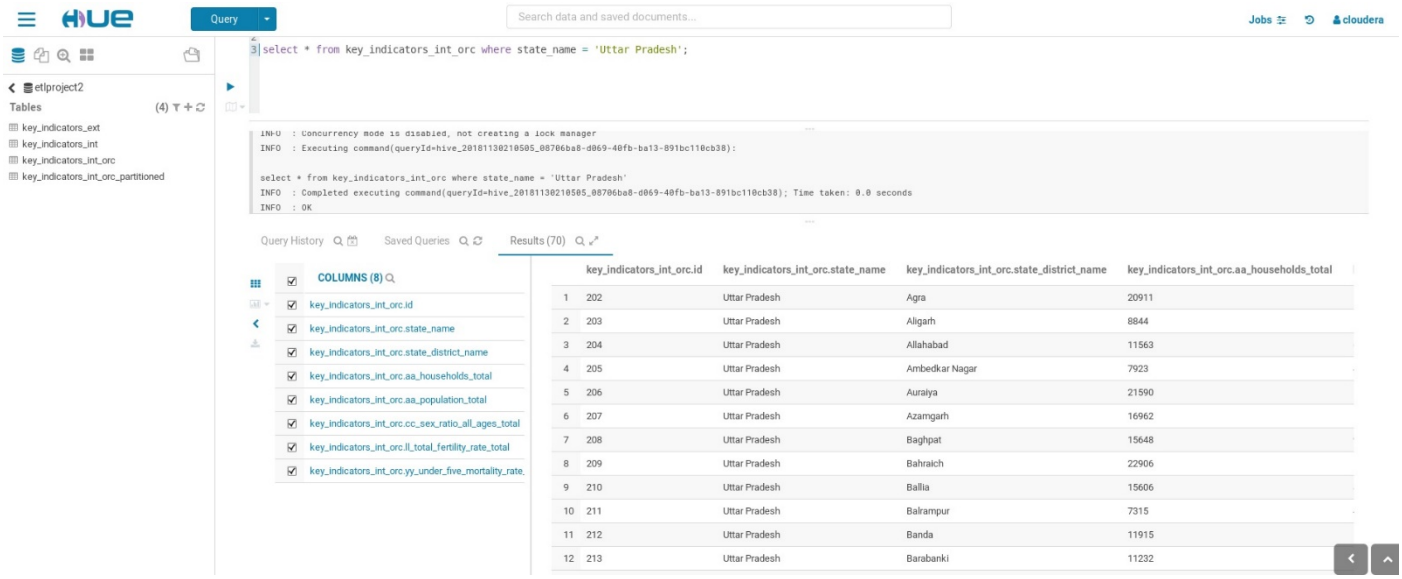
select count(*) from key_indicators_int_orc;

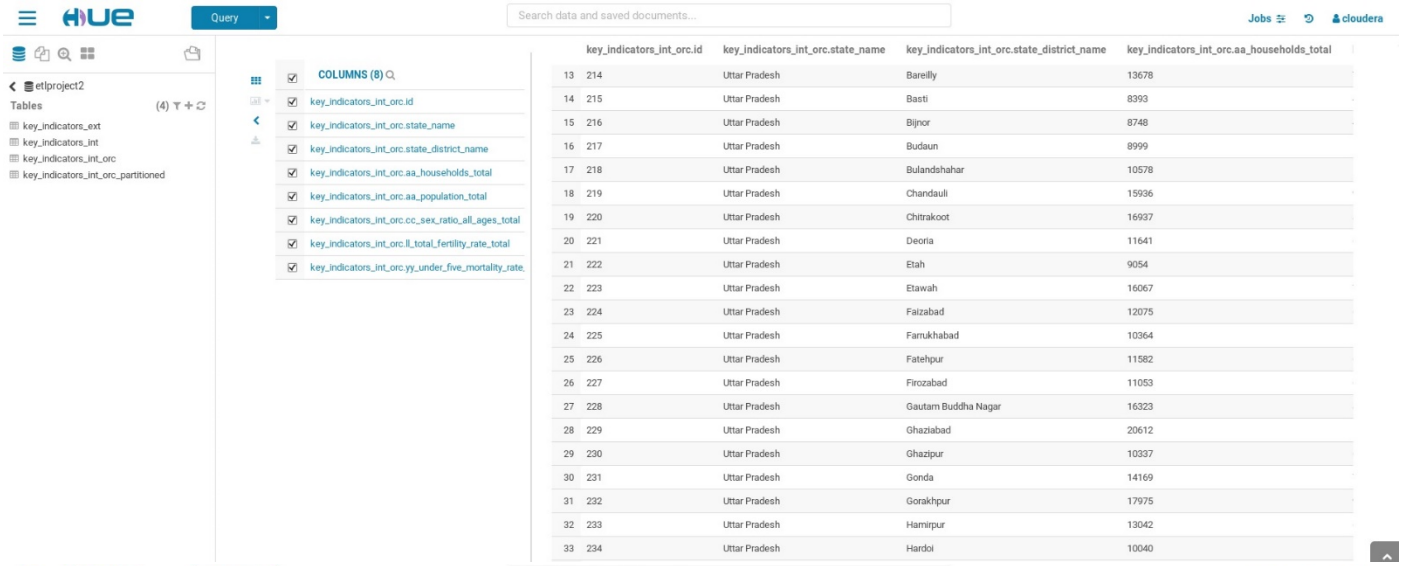


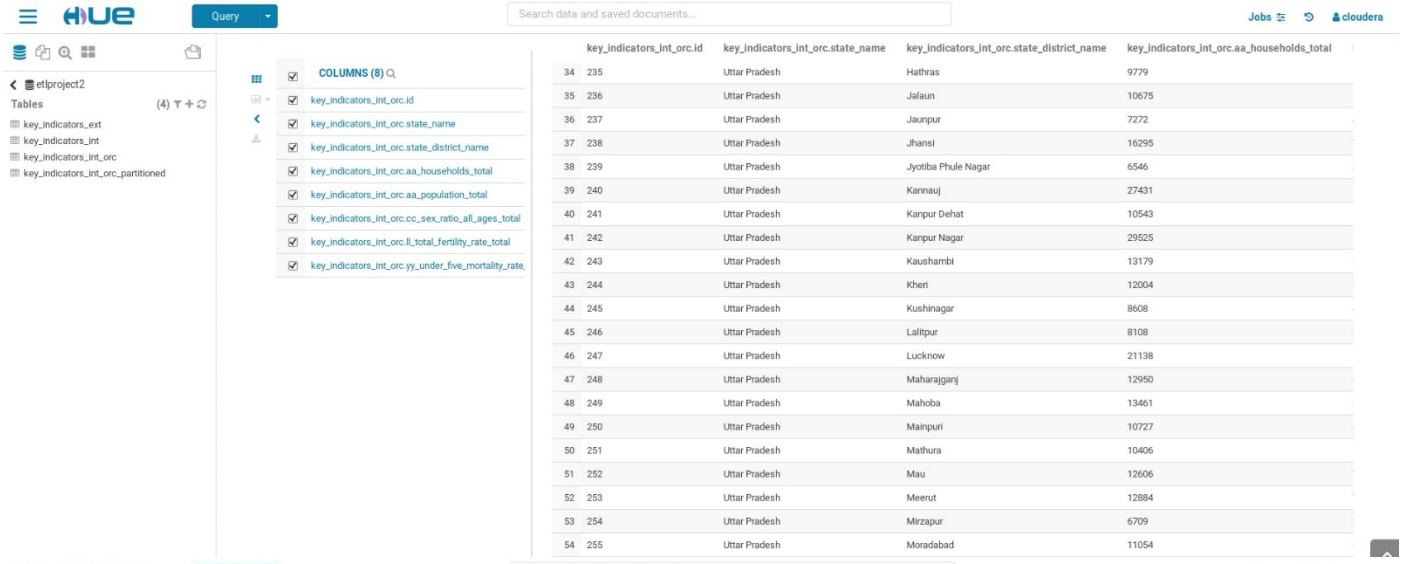
select state_name, count(*) from key_indicators_int_orc group by state_name;

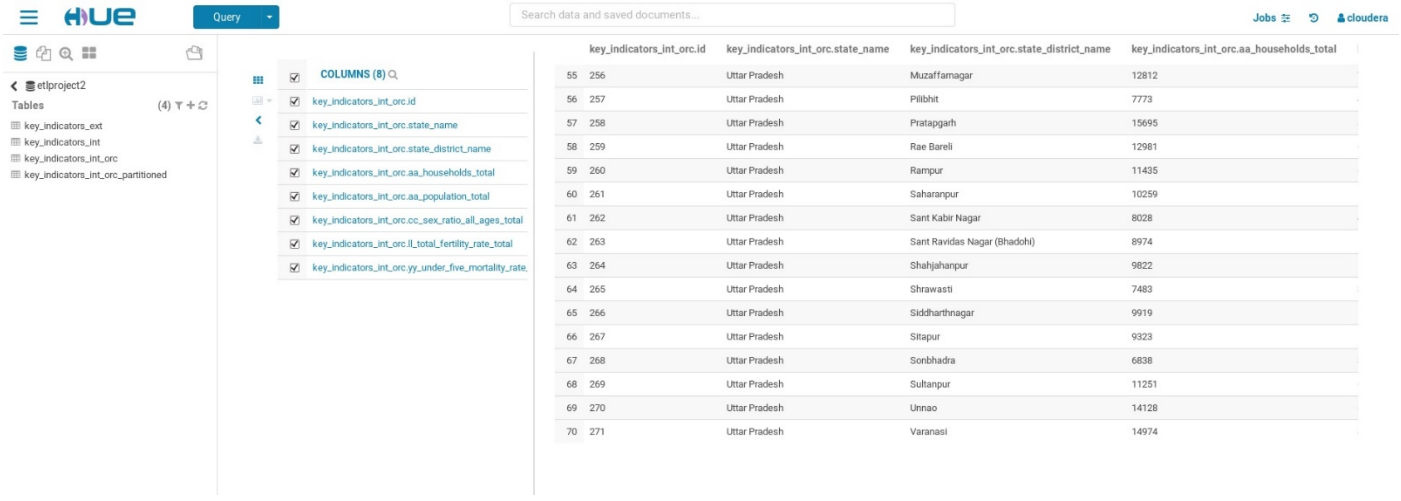


select * from key_indicators_int_orc where state_name = 'Uttar Pradesh';









6. Create and insert command for the partition table for analyses 1 & 2.

Setting few parameters needed for partitioned tables:

```
set hive.exec.dynamic.partition= true ;
set hive.exec.dynamic.partition.mode=nonstrict;
```

```
hive> set hive.exec.dynamic.partition= true ;
hive> set hive.exec.dynamic.partition.mode=nonstrict;
```

CREATE TABLE IF NOT EXISTS KEY_INDICATORS_INT_ORC_PARTITIONED(
ID INT,
STATE_DISTRICT_NAME VARCHAR(100),
AA_HOUSEHOLDS_TOTAL DOUBLE,
AA_POPULATION_TOTAL DOUBLE,
CC_SEX_RATIO_ALL_AGES_TOTAL DOUBLE,
LL_TOTAL_FERTILITY_RATE_TOTAL DOUBLE,
YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON DOUBLE)
PARTITIONED BY (STATE_NAME VARCHAR(100))
STORED AS ORC
TBLPROPERTIES("orc.compress"="SNAPPY");

```
hive> CREATE TABLE IF NOT EXISTS KEY_INDICATORS_INT_ORC_PARTITIONED(
   > ID INT,
   > STATE_DISTRICT_NAME VARCHAR(100),
   > AA_HOUSEHOLDS_TOTAL DOUBLE,
   > AA_POPULATION_TOTAL DOUBLE,
   > CC_SEX_RATIO_ALL_AGES_TOTAL DOUBLE,
   > LL_TOTAL_FERTILITY_RATE_TOTAL DOUBLE,
   > YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON DOUBLE)
   > PARTITIONED BY (STATE_NAME VARCHAR(100))
   > STORED AS ORC
   > TBLPROPERTIES("orc.compress"="SNAPPY");
OK
Time taken: 0.103 seconds
hive>
```

INSERT OVERWRITE TABLE KEY_INDICATORS_INT_ORC_PARTITIONED PARTITION(STATE_NAME)
SELECT
ID,
STATE_DISTRICT_NAME,
AA_HOUSEHOLDS_TOTAL,
AA_POPULATION_TOTAL,
CC_SEX_RATIO_ALL_AGES_TOTAL,
LL_TOTAL_FERTILITY_RATE_TOTAL,
YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON,
STATE_NAME
FROM KEY_INDICATORS_INT_ORC;

```
hive> INSERT OVERWRITE TABLE KEY_INDICATORS_INT_ORC_PARTITIONED PARTITION(STATE_NAME)
   > SELECT
   > ID,
   > STATE_DISTRICT_NAME,
   > AA_HOUSEHOLDS_TOTAL,
   > AA_POPULATION_TOTAL,
   > CC_SEX_RATIO_ALL_AGES_TOTAL,
   > LL_TOTAL_FERTILITY_RATE_TOTAL,
   > YY_UNDER_FIVE_MORTALITY_RATE_U5MR_TOTAL_PERSON,
   > STATE_NAME
   > FROM KEY_INDICATORS_INT_ORC;
Query ID = cloudera_20181128202121_b666e30f-21b5-49b5-8e12-05b59d9ca3de
Total jobs = 1
Launching Job 1 out of 1
Number of reduce tasks is set to 0 since there is no reduce operator
Starting Job = job_1543462035376_0011, Tracking URL = http://quickstart.cloudera:8088/proxy/application_1543462035376_0011/
Kill Command = /usr/lib/hadoop/bin/hadoop job  -kill job_1543462035376_0011
Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 0
2018-11-28 20:21:48,587 Stage-1 map = 0%,  reduce = 0%
2018-11-28 20:22:00,958 Stage-1 map = 100%,  reduce = 0%, Cumulative CPU 5.73 sec
```

```
MapReduce Total cumulative CPU time: 5 seconds 730 msec
Ended Job = job_1543462035376_0011
Stage-4 is selected by condition resolver.
Stage-3 is filtered out by condition resolver.
Stage-5 is filtered out by condition resolver.
Moving data to: hdfs://quickstart.cloudera:8020/user/hive/warehouse/etlproject2.db/key_indicators_int_orc_partitioned/.hive-staging_hive_2018-11-28_20-21-36_573_4824045812001266477-1/-ext-10000
Loading data to table etlproject2.key_indicators_int_orc_partitioned partition (state_name=null)
        Time taken for load dynamic partitions : 1420
        Loading partition {state_name=Chhattisgarh}
        Loading partition {state_name=Bihar}
        Loading partition {state_name=Uttar Pradesh}
        Loading partition {state_name=Odisha}
        Loading partition {state_name=Assam}
        Loading partition {state_name=Rajasthan}
        Loading partition {state_name=Jharkhand}
        Loading partition {state_name=Madhya Pradesh}
        Loading partition {state_name=Uttarakhand}
        Time taken for adding to write entity : 4
Partition etlproject2.key_indicators_int_orc_partitioned{state_name=Assam} stats: [numFiles=1, numRows=23, totalSize=1736, rawDataSize=3128]
Partition etlproject2.key_indicators_int_orc_partitioned{state_name=Bihar} stats: [numFiles=1, numRows=37, totalSize=2138, rawDataSize=5032]
Partition etlproject2.key_indicators_int_orc_partitioned{state_name=Chhattisgarh} stats: [numFiles=1, numRows=16, totalSize=1584, rawDataSize=2160]
Partition etlproject2.key_indicators_int_orc_partitioned{state_name=Jharkhand} stats: [numFiles=1, numRows=18, totalSize=1577, rawDataSize=2430]
Partition etlproject2.key_indicators_int_orc_partitioned{state_name=Madhya Pradesh} stats: [numFiles=1, numRows=45, totalSize=2423, rawDataSize=6030]
Partition etlproject2.key_indicators_int_orc_partitioned{state_name=Odisha} stats: [numFiles=1, numRows=30, totalSize=2009, rawDataSize=4080]
Partition etlproject2.key_indicators_int_orc_partitioned{state_name=Rajasthan} stats: [numFiles=1, numRows=32, totalSize=1934, rawDataSize=4320]
Partition etlproject2.key_indicators_int_orc_partitioned{state_name=Uttar Pradesh} stats: [numFiles=1, numRows=70, totalSize=3345, rawDataSize=9520]
Partition etlproject2.key_indicators_int_orc_partitioned{state_name=Uttarakhand} stats: [numFiles=1, numRows=13, totalSize=1541, rawDataSize=1794]
MapReduce Jobs Launched:
Stage-Stage-1: Map: 1   Cumulative CPU: 5.73 sec   HDFS Read: 24436 HDFS Write: 19137 SUCCESS
Total MapReduce CPU Time Spent: 5 seconds 730 msec
OK
Time taken: 28.563 seconds
hive>
```

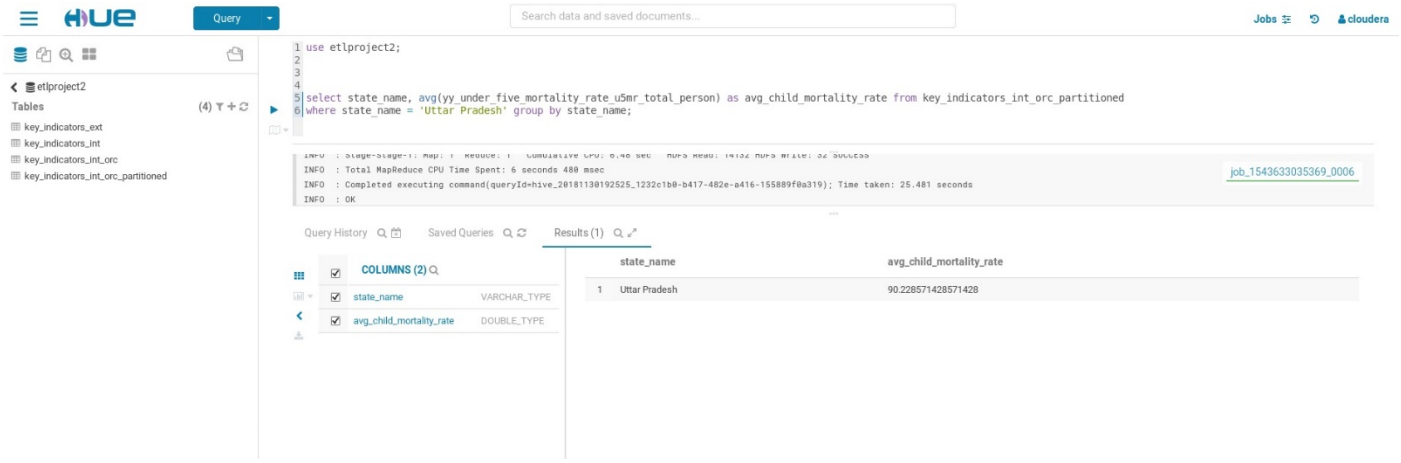
The result of each analysis along with the query and the corresponding chart generated in Hue. Keep optimizations in mind

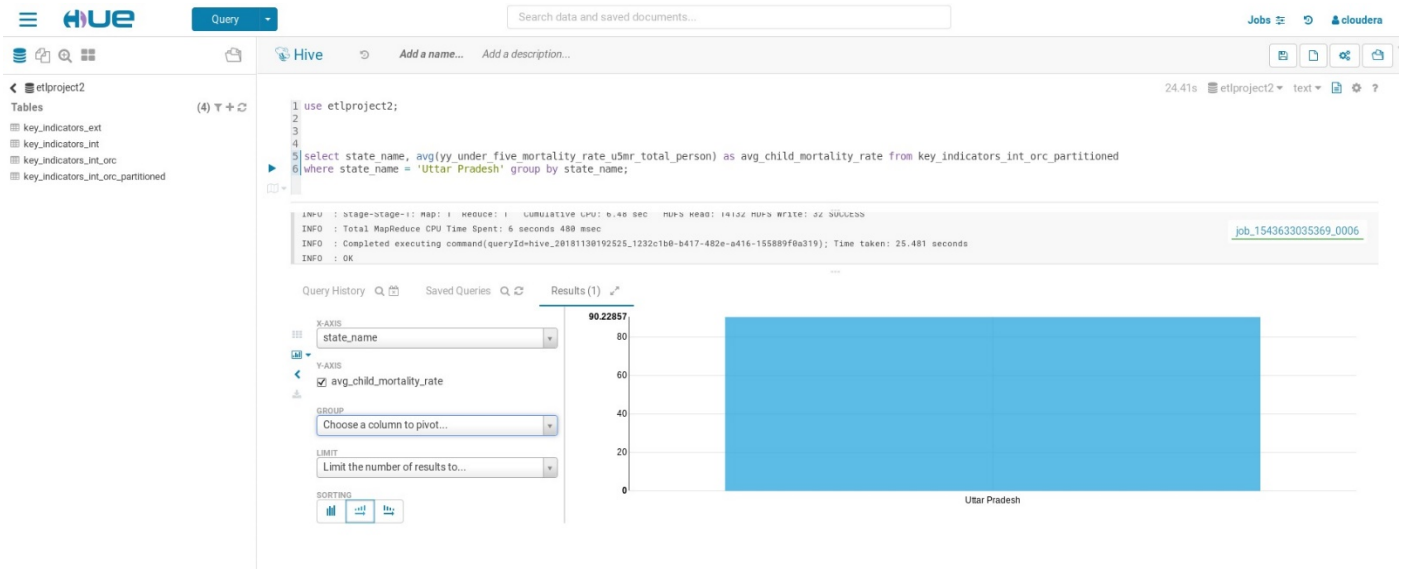
1. The child mortality rate of Uttar Pradesh

(a) Let's take average of child mortality rate (showing query first, then screenshot of result, followed by chart):

--- Select state_name, average of yy_under_five_mortality_rate_u5mr_total_person where state_name
--- is 'Uttar Pradesh' group by state_name

```
select state_name, avg(yy_under_five_mortality_rate_u5mr_total_person) as
avg_child_mortality_rate from key_indicators_int_orc_partitioned where state_name = 'Uttar
Pradesh' group by state_name;
```

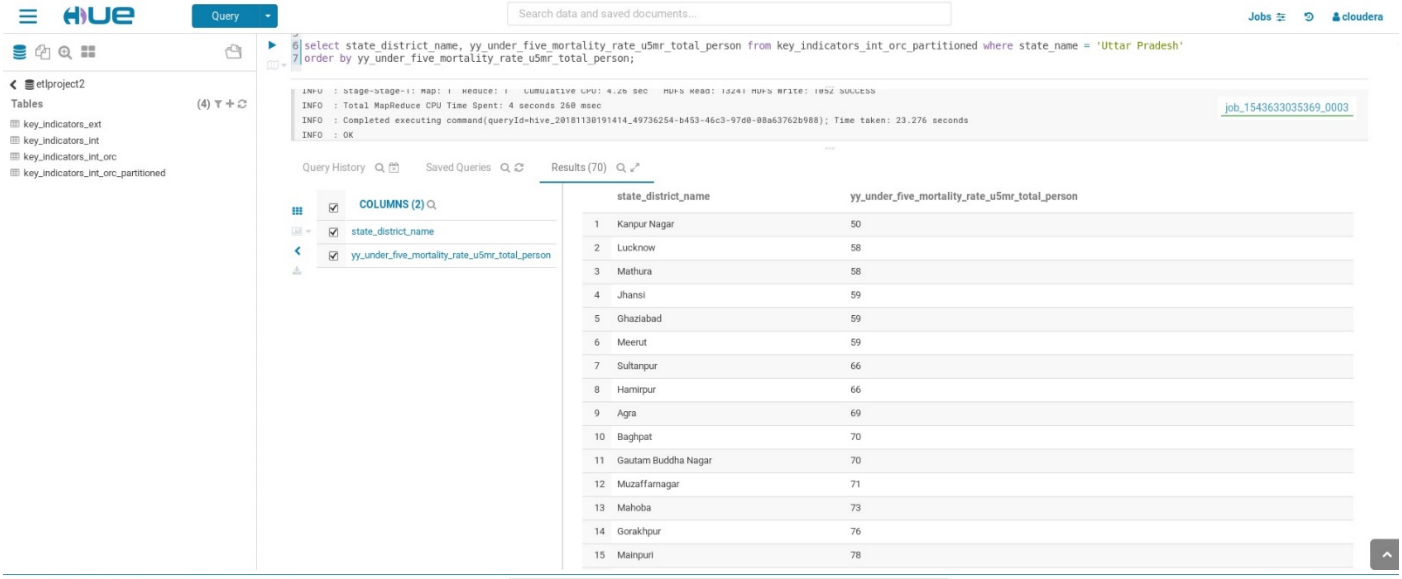




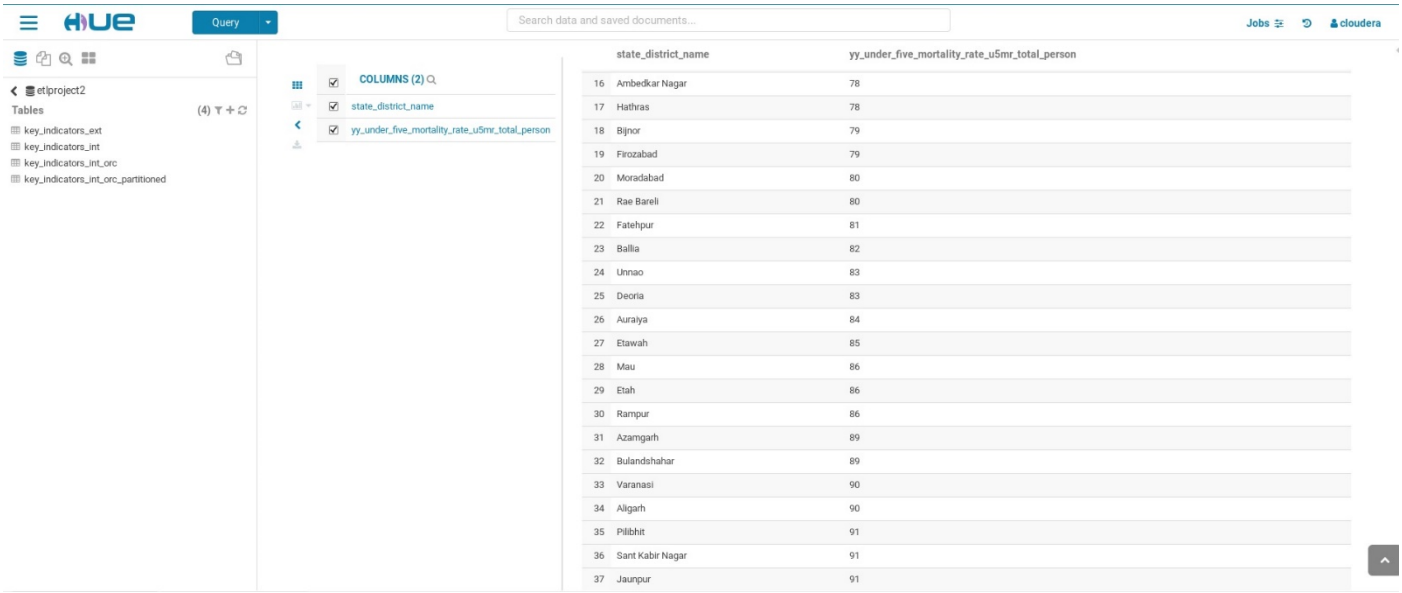
(b) Let's look for each district in increasing order of child mortality rate (showing query first, then screenshot of result, followed by chart):

--- Select state_district_name, yy_under_five_mortality_rate_u5mr_total_person where state_name is
--- 'Uttar Pradesh' in increasing order by yy_under_five_mortality_rate_u5mr_total_person

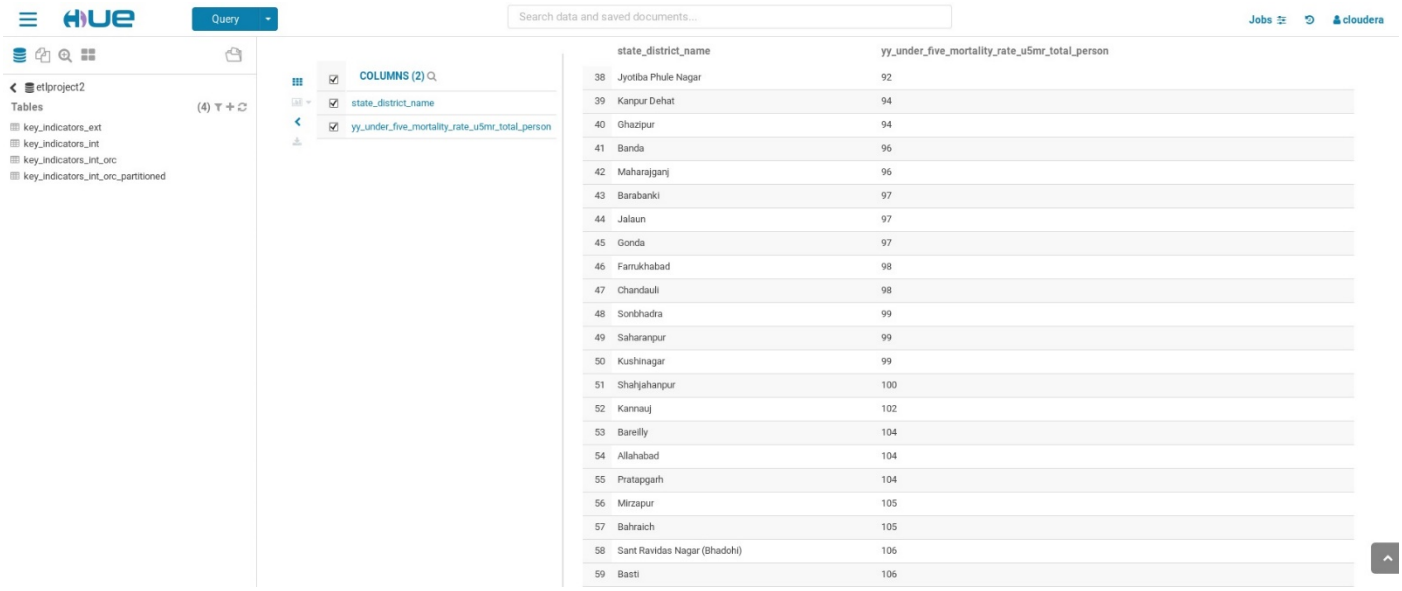
select state_district_name, yy_under_five_mortality_rate_u5mr_total_person from key_indicators_int_orc_partitioned where state_name = 'Uttar Pradesh' order by yy_under_five_mortality_rate_u5mr_total_person;



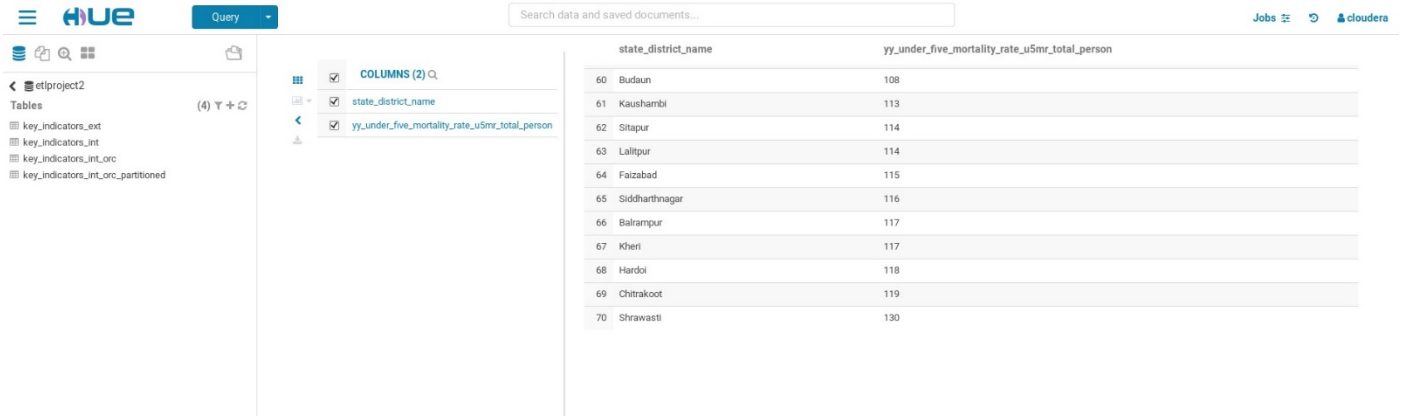
	state_district_name	yy_under_five_mortality_rate_u5mr_total_person
1	Kanpur Nagar	50
2	Lucknow	58
3	Mathura	58
4	Jhansi	59
5	Ghaziabad	59
6	Meerut	59
7	Sultanpur	66
8	Hamirpur	66
9	Agra	69
10	Baghpat	70
11	Gautam Buddha Nagar	70
12	Muzaffarnagar	71
13	Mahoba	73
14	Gorakhpur	76
15	Mainpuri	78

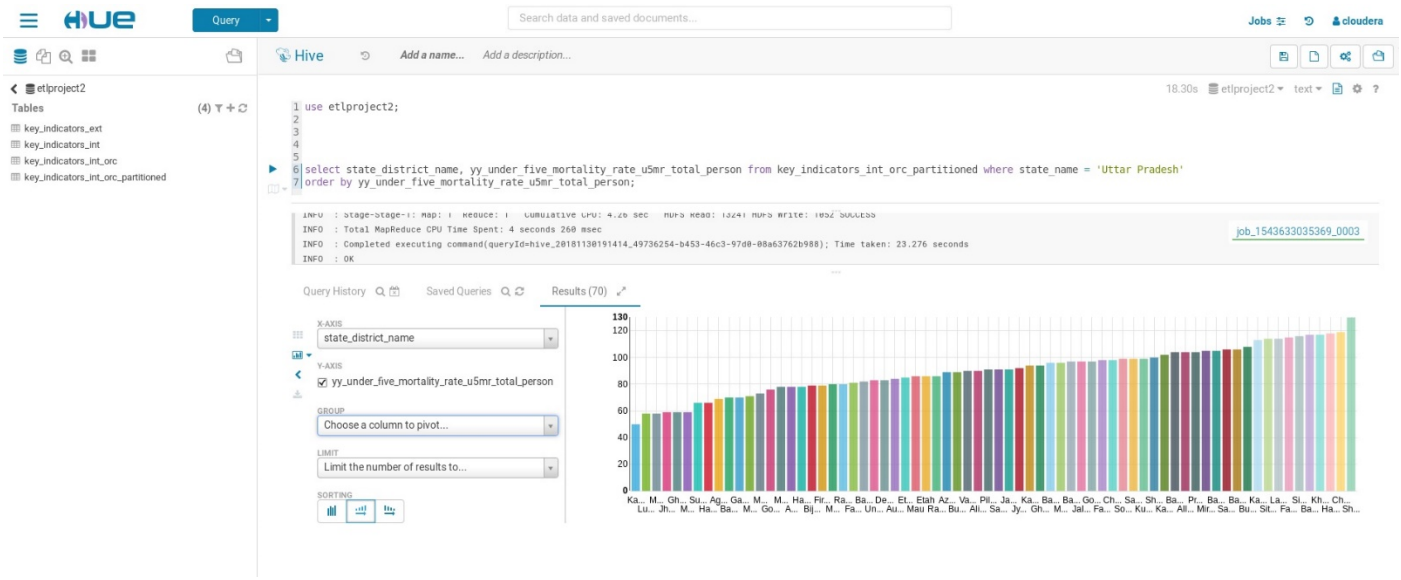


	state_district_name	yy_under_five_mortality_rate_u5mr_total_person
16	Ambedkar Nagar	78
17	Hathras	78
18	Bijnor	79
19	Firozabad	79
20	Moradabad	80
21	Rae Bareli	80
22	Fatehpur	81
23	Ballia	82
24	Unnao	83
25	Deoria	83
26	Auraiya	84
27	Etawah	85
28	Mau	86
29	Etah	86
30	Rampur	86
31	Azamgarh	89
32	Bulandshahar	89
33	Varanasi	90
34	Aligarh	90
35	Pilibhit	91
36	Sant Kabir Nagar	91
37	Jaunpur	91



	state_district_name	yy_under_five_mortality_rate_u5mr_total_person
38	Jyotiba Phule Nagar	92
39	Kanpur Dehat	94
40	Ghazipur	94
41	Banda	96
42	Maharajganj	96
43	Barabanki	97
44	Jalaun	97
45	Gonda	97
46	Farrukhabad	98
47	Chandauli	98
48	Sonbhadra	99
49	Saharanpur	99
50	Kushinagar	99
51	Shahjahanpur	100
52	Kannauj	102
53	Bareilly	104
54	Allahabad	104
55	Pratapgarh	104
56	Mirzapur	105
57	Bahraich	105
58	Sant Ravidas Nagar (Bhadohi)	106
59	Basti	106



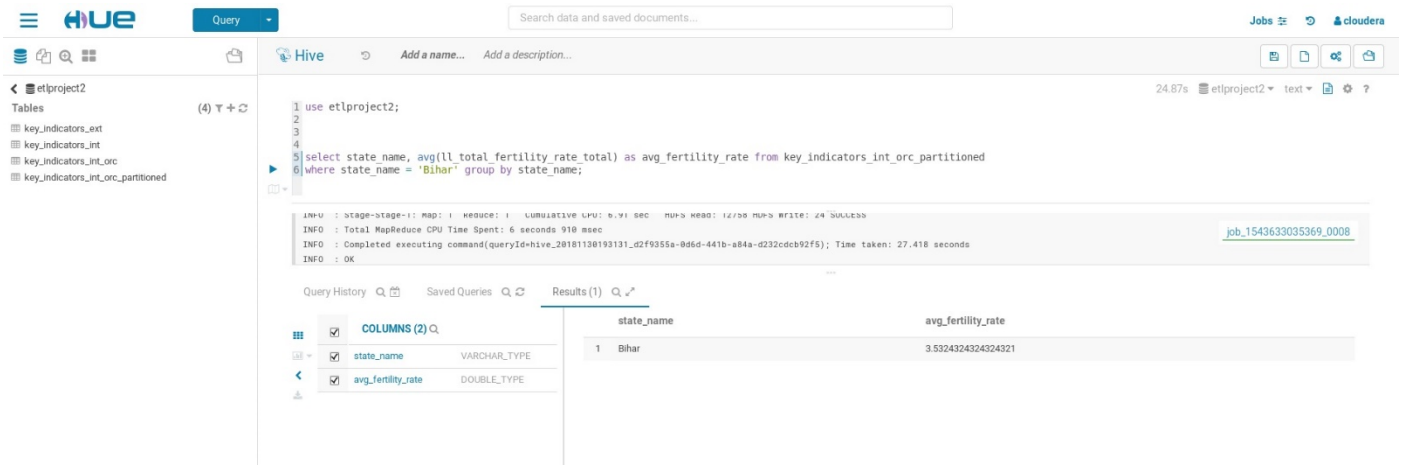


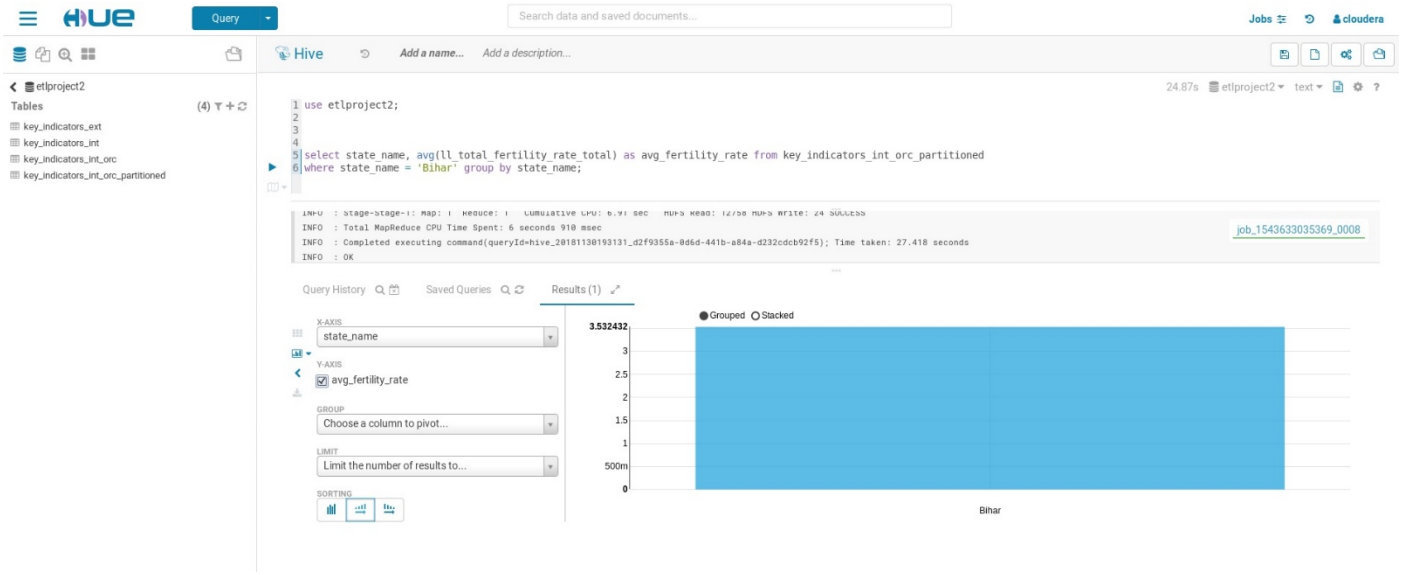
2. The fertility rate of Bihar

(a) Let's take average of fertility rate (showing query first, then screenshot of result, followed by chart):

--- Select state_name, average of ll_total_fertility_rate_total where state_name is 'Bihar' group by
--- state_name

select state_name, avg(ll_total_fertility_rate_total) as avg_fertility_rate from key_indicators_int_orc_partitioned where state_name = 'Bihar' group by state_name;

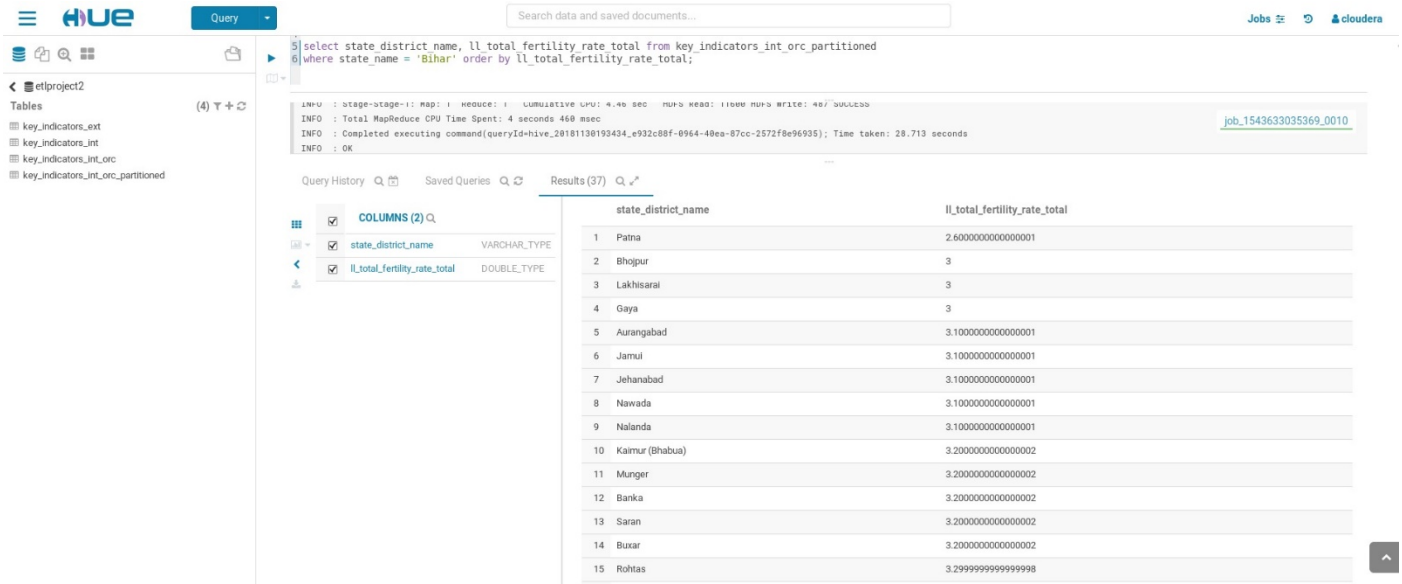


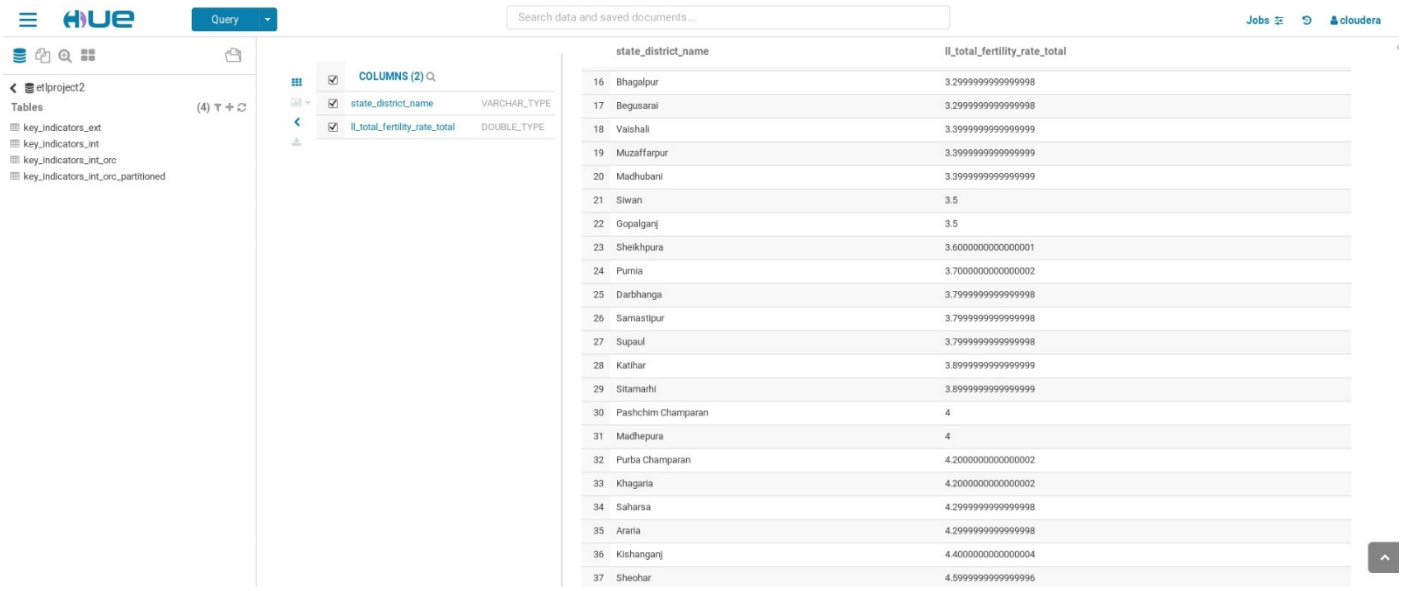


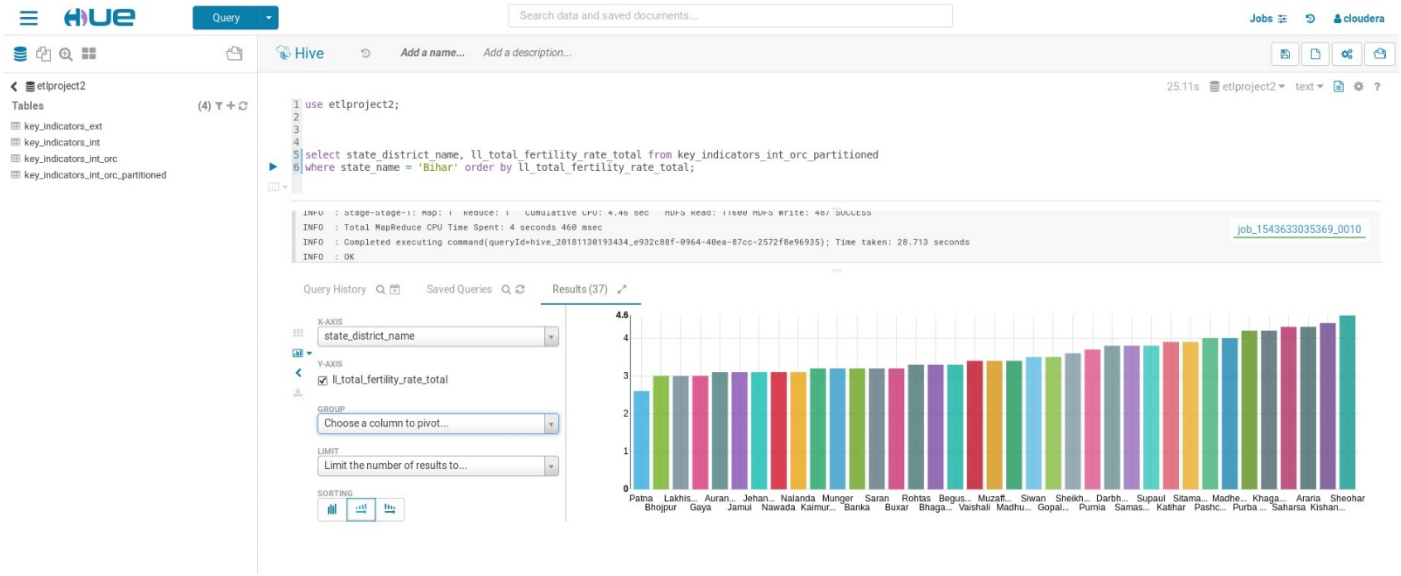
(b) Let's look for each district in increasing order of fertility rate (showing query first, then screenshot of result, followed by chart):

--- Select state_district_name, ll_total_fertility_rate_total where state_name is 'Bihar' in increasing
--- order by ll_total_fertility_rate_total

select state_district_name, ll_total_fertility_rate_total from key_indicators_int_orc_partitioned where state_name = 'Bihar' order by ll_total_fertility_rate_total;





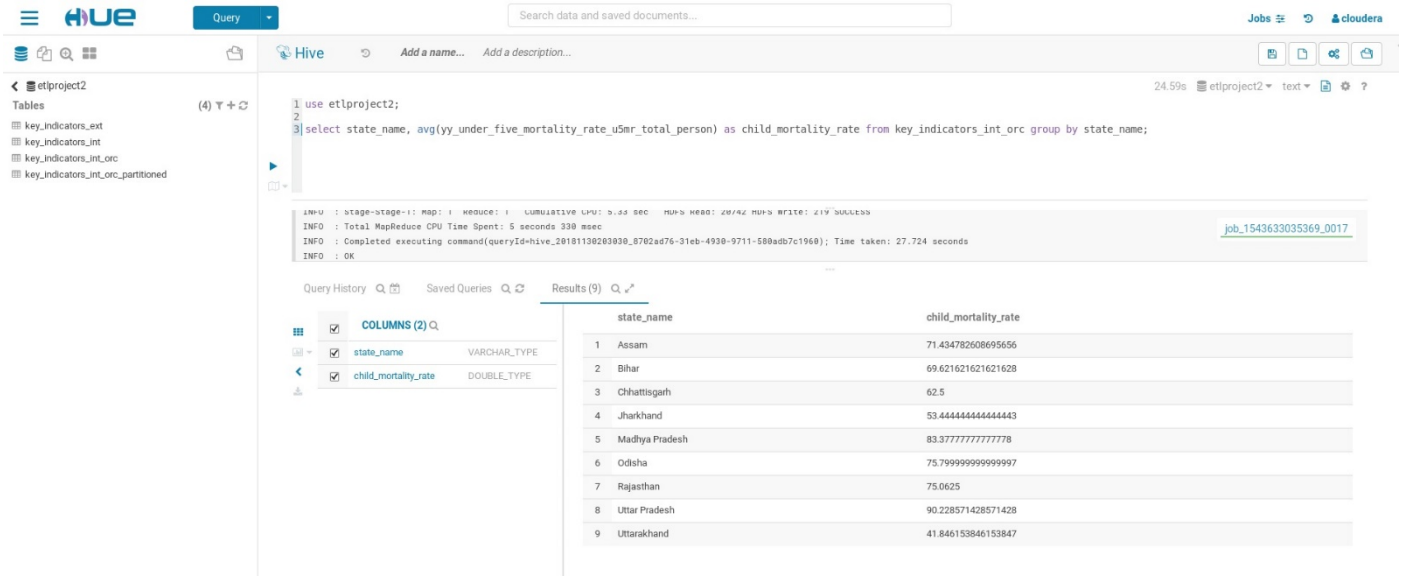


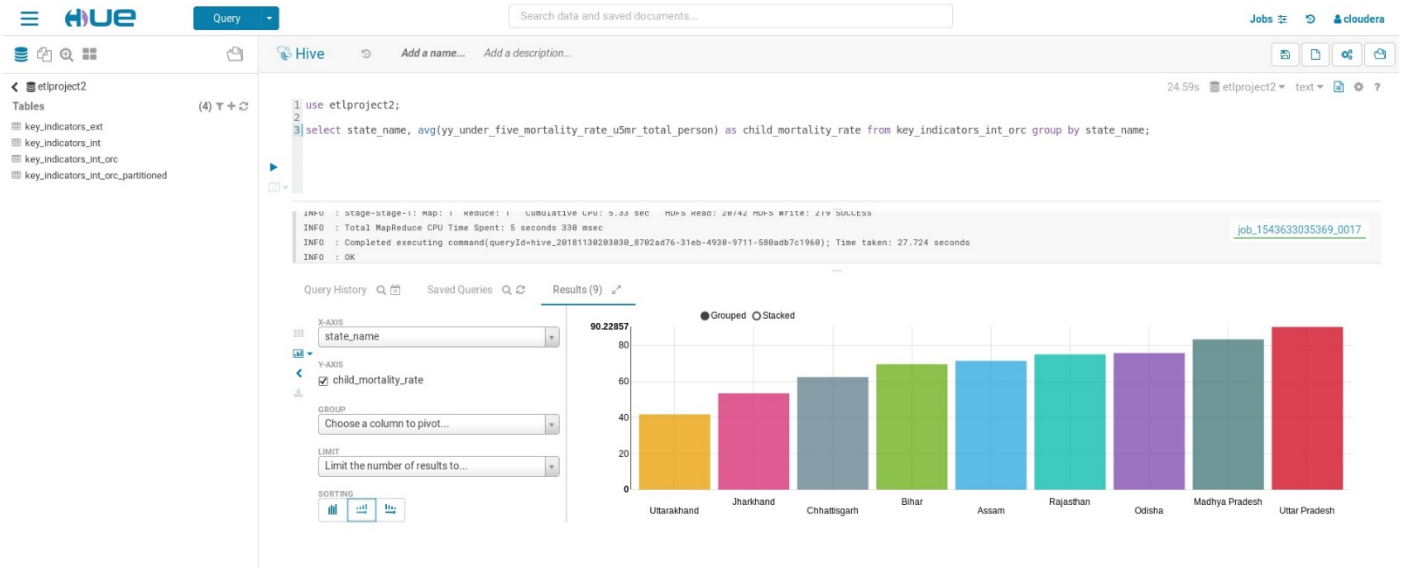
3. State wise child mortality rate and state wise fertility rate and does high fertility correlate with high child mortality?

(a) State wise child mortality rate (showing query first, then screenshot of result, followed by chat):

--- Select state_name, average of yy_under_five_mortality_rate_u5mr_total_person group by
--- state_name

select state_name, avg(yy_under_five_mortality_rate_u5mr_total_person) as child_mortality_rate from key_indicators_int_orc group by state_name;

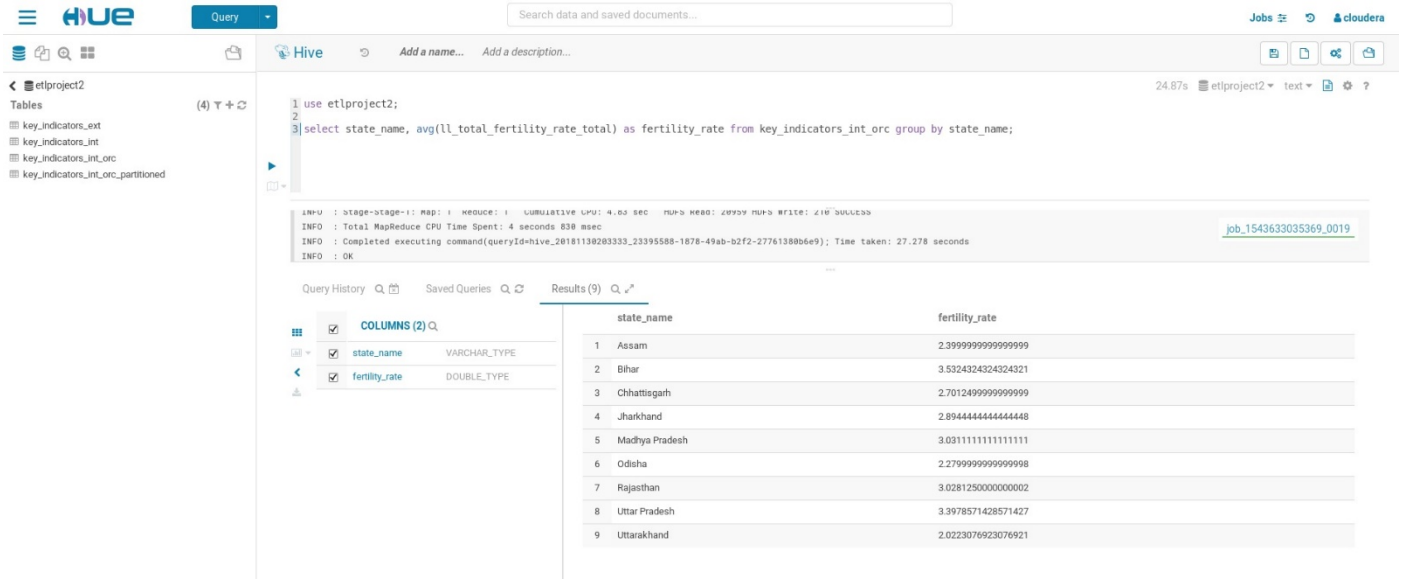


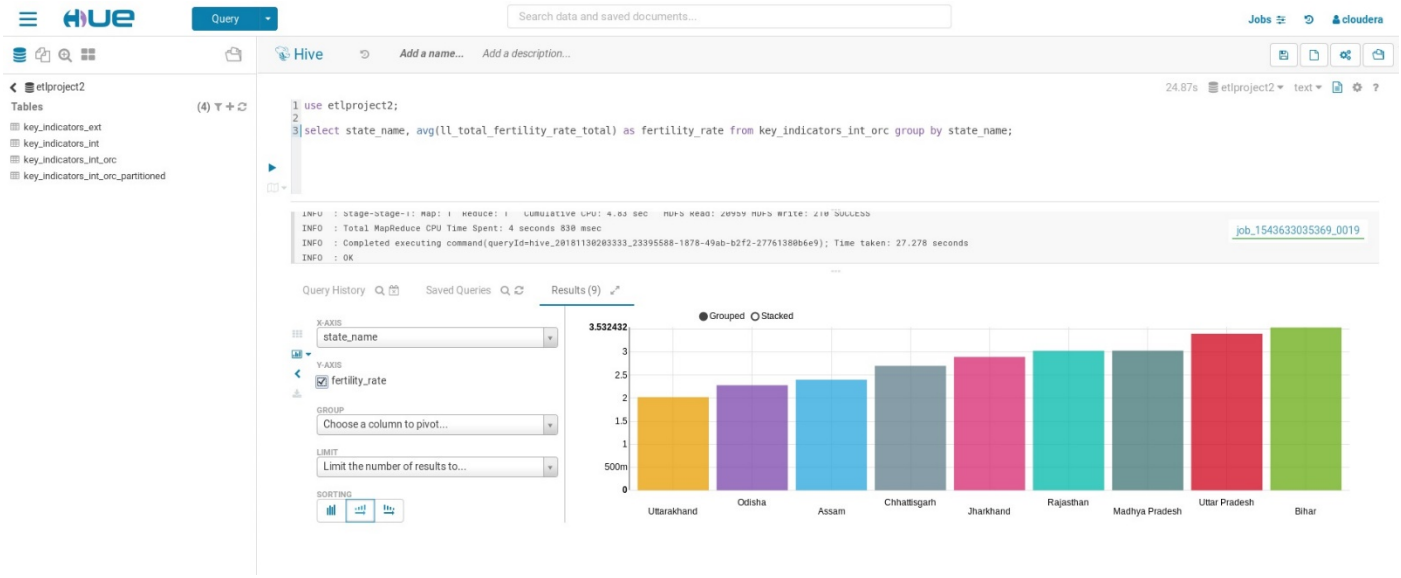


(b) State wise fertility rate (showing query first, then screenshot of result, followed by chat):

--- Select state_name, average of ll_total_fertility_rate_total group by state_name

select state_name, avg(ll_total_fertility_rate_total) as fertility_rate from key_indicators_int_orc group by state_name;



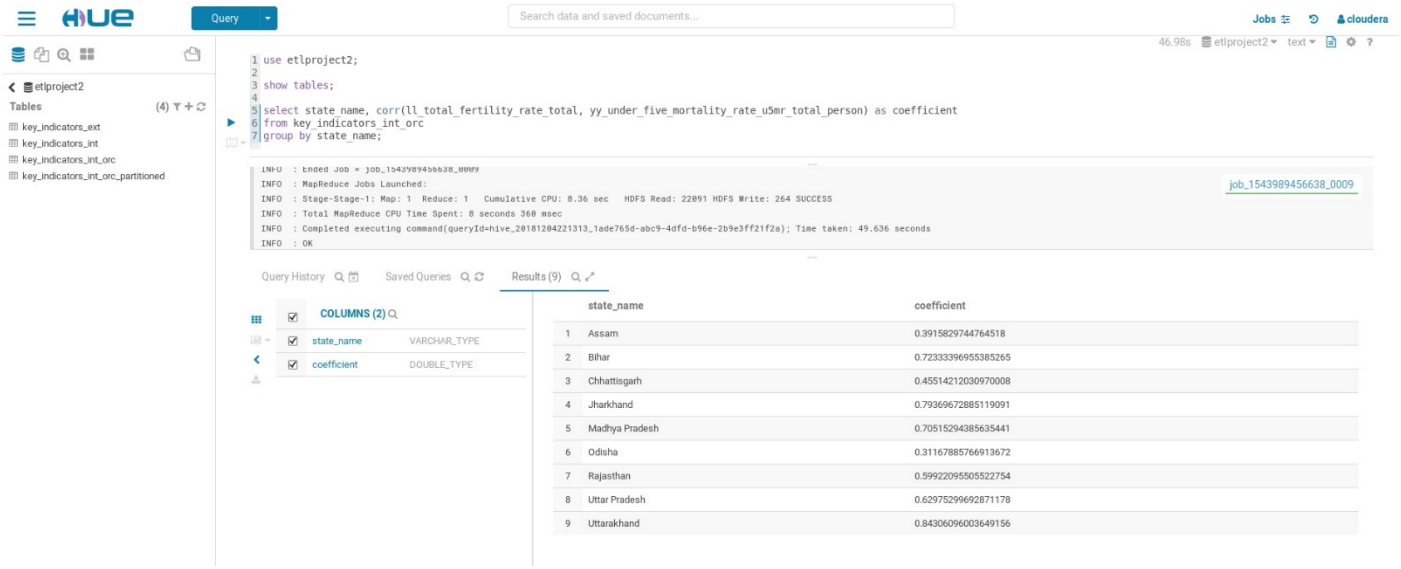


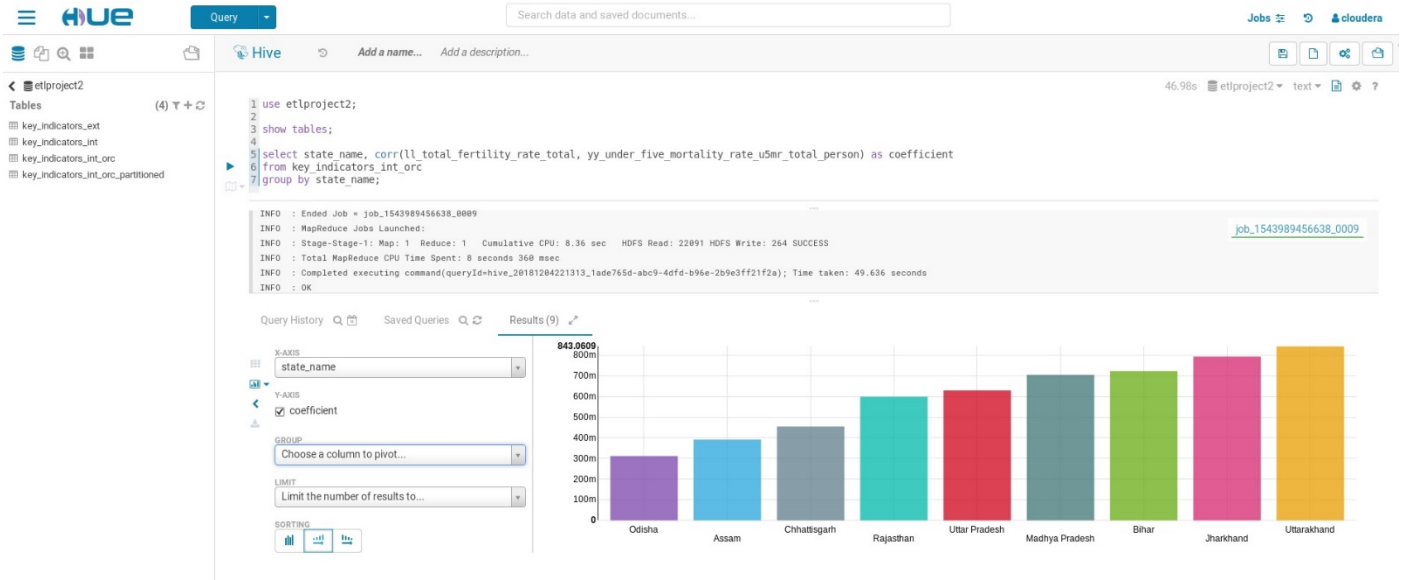
(c) Correlation between fertility rate and child mortality rate (showing query first, then screenshot of result, followed by chat):

(a) Let's look at state wise correlation between fertility rate and child mortality rate:

---- select state_name and compute correlation between ll_total_fertility_rate_total and
---- yy_under_five_mortality_rate_u5mr_total_person using corr() function and group by state_name

```
select state_name, corr(ll_total_fertility_rate_total,
yy_under_five_mortality_rate_u5mr_total_person) as coefficient
from key_indicators_int_orc
group by state_name;
```





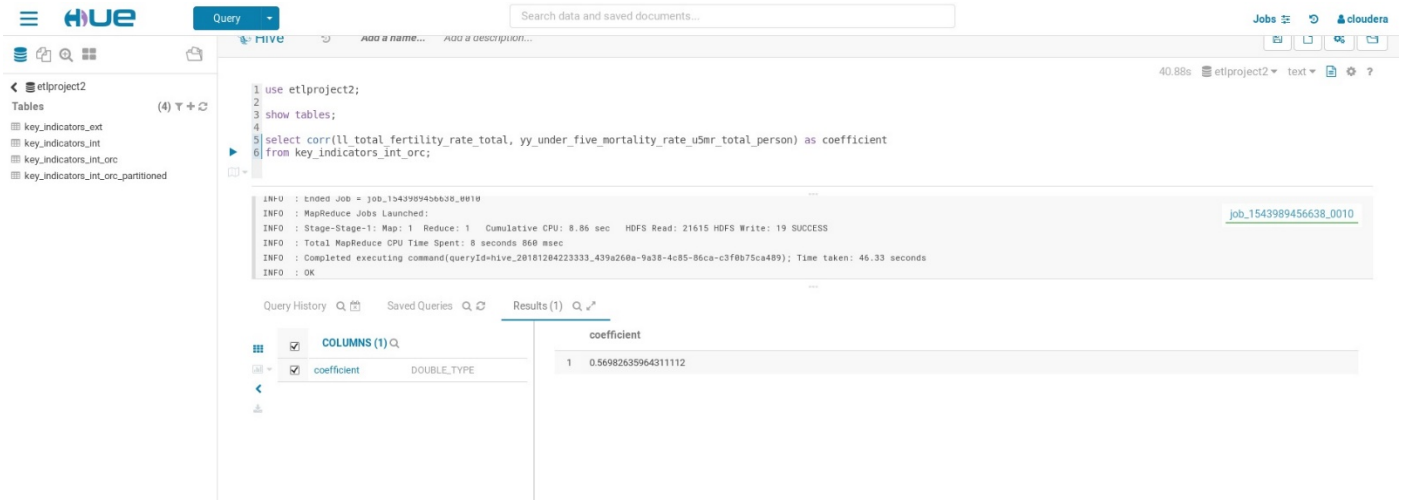
Result: Correlation coefficient is different for different state and in all cases, it indicates that there is a correlation between fertility rate and child mortality rate.

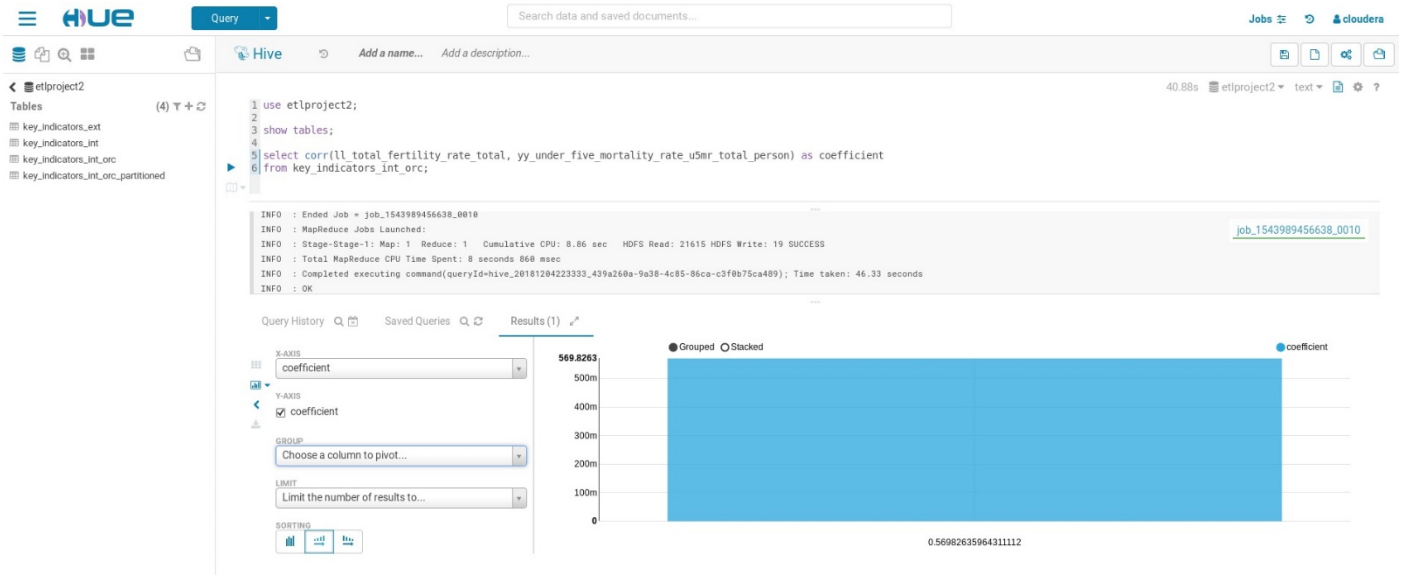
Greater than 0.5 indicates STRONG (POSITIVE) i.e. at high values
Between 0.3 and 0.5 indicates MODERATE (POSITIVE)

(b) Let's look at correlation between fertility rate and child mortality rate across all states:

---- select compute correlation between ll_total_fertility_rate_total and
---- yy_under_five_mortality_rate_u5mr_total_person using corr() function

```
select corr(ll_total_fertility_rate_total, yy_under_five_mortality_rate_u5mr_total_person) as coefficient
from key_indicators_int_orc;
```





Result: As correlation coefficient is 0.5698 which is greater than 0.5, it indicates that there is a correlation between fertility rate and child mortality rate at high values.

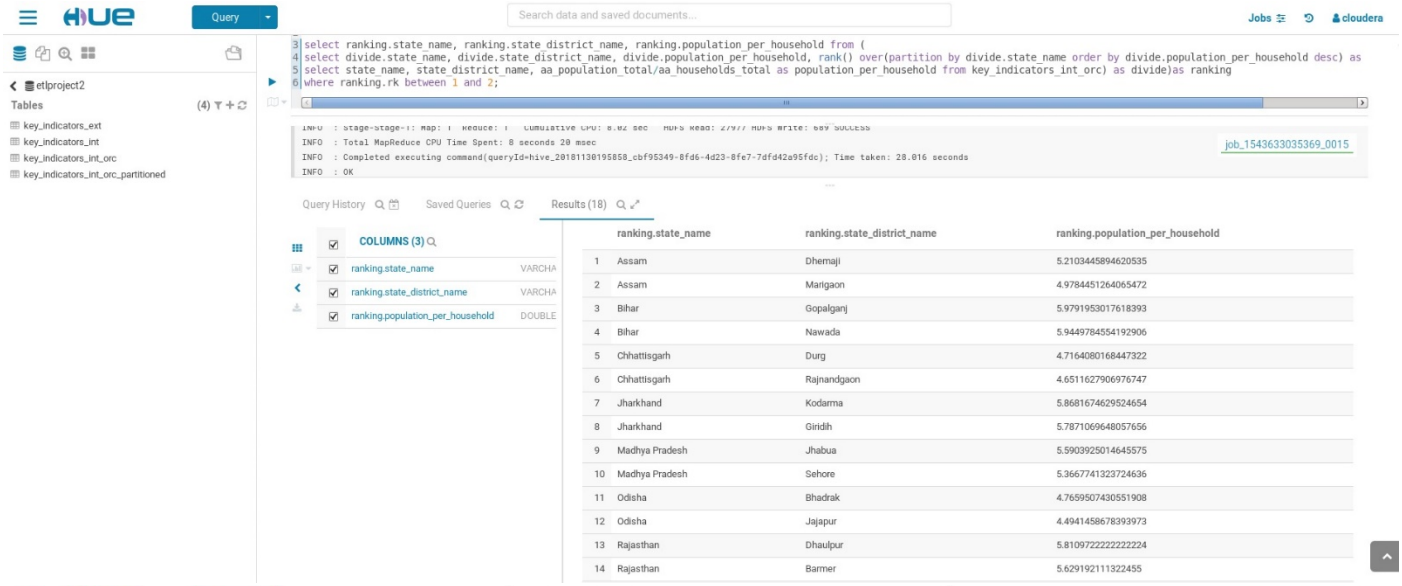
Greater than 0.5 indicates STRONG (POSITIVE) i.e. at high values

4. Find top 2 districts per state with the highest population per household

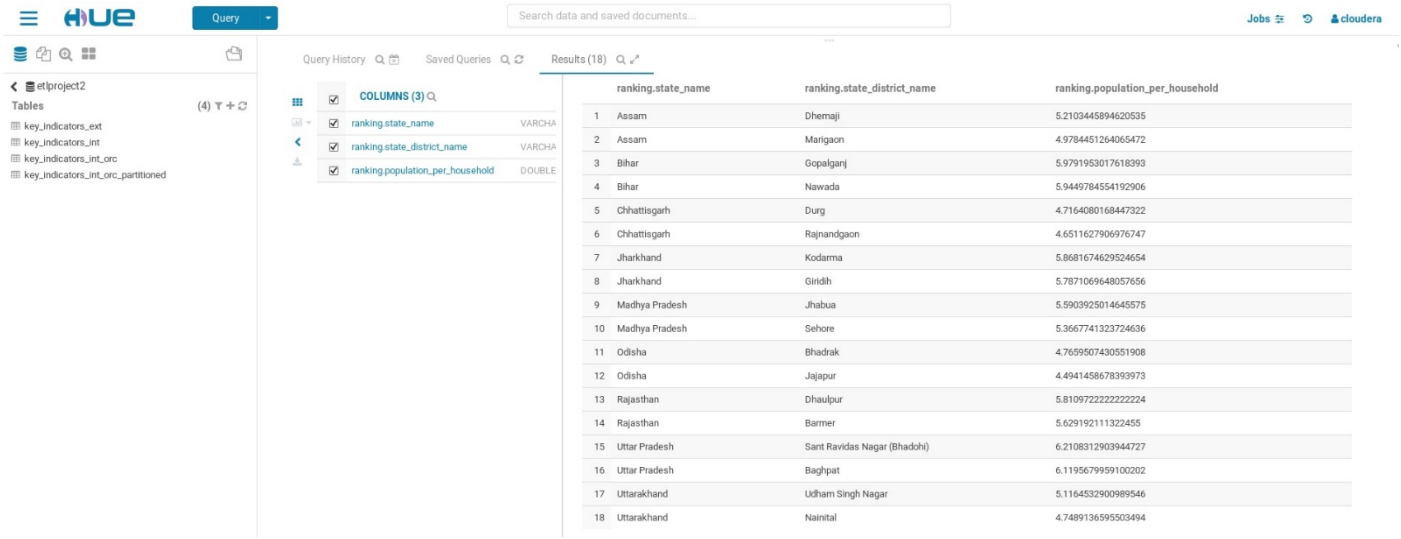
Showing query first, then screenshot of result, followed by chart:

--- Select state_name, state_district_name, aa_population_total divided by aa_households_total as
--- population_per_household in the innermost query. In immediate outer query, select state_name,
--- state_district_name, population_per_household and compute rank over partition by state_name order by
--- population_per_household in decreasing order. In outermost query, select state_name,
--- state_district_name, population_per_household where ranking is 1 and 2.

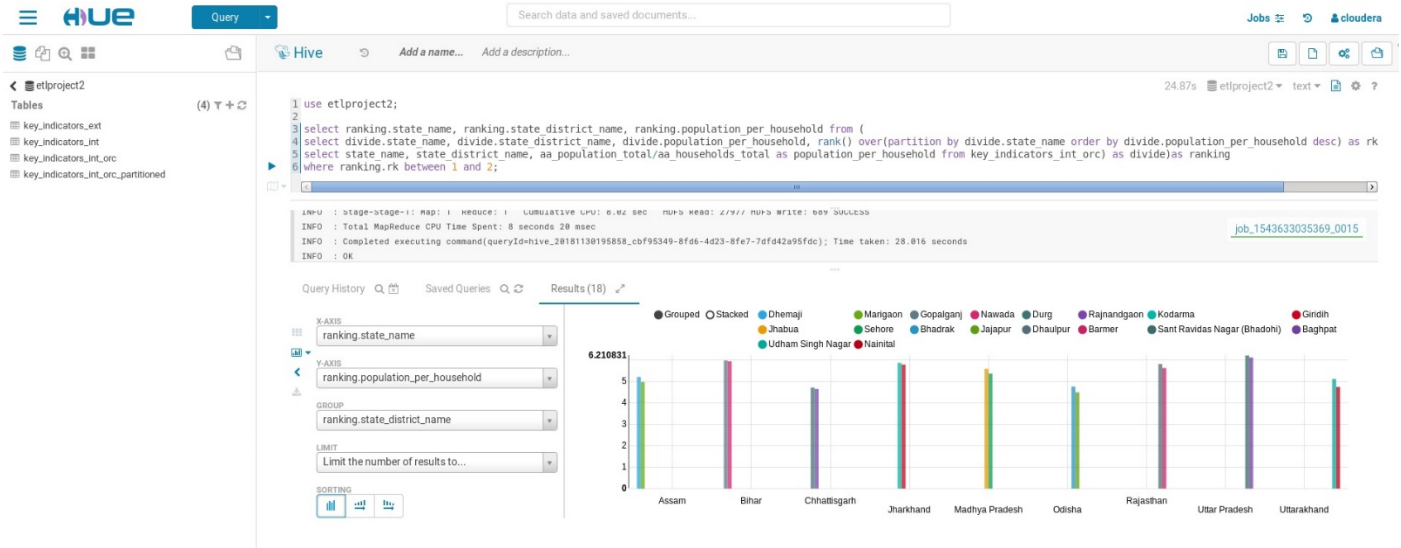
```
select ranking.state_name, ranking.state_district_name, ranking.population_per_household from (
select divide.state_name, divide.state_district_name, divide.population_per_household, rank()
over(partition by divide.state_name order by divide.population_per_household desc) as rk from (
select state_name, state_district_name, aa_population_total/aa_households_total as
population_per_household from key_indicators_int_orc) as divide)as ranking
where ranking.rk between 1 and 2;
```



	ranking.state_name	ranking.state_district_name	ranking.population_per_household
1	Assam	Dhemaji	5.2103445894620535
2	Assam	Marigaon	4.9784451264065472
3	Bihar	Gopalganj	5.9791953017618393
4	Bihar	Nawada	5.9449784554192906
5	Chhattisgarh	Durg	4.7164080168447322
6	Chhattisgarh	Rajnandgaon	4.6511627906976747
7	Jharkhand	Kodarma	5.8681674629524654
8	Jharkhand	Giridih	5.7871069648057656
9	Madhya Pradesh	Jhabua	5.5903925014645575
10	Madhya Pradesh	Sehore	5.3667741323724636
11	Odisha	Bhadrak	4.7659507430551908
12	Odisha	Jajapur	4.4941458678393973
13	Rajasthan	Dhaulpur	5.8109722222222224
14	Rajasthan	Barmer	5.629192111322455



	ranking.state_name	ranking.state_district_name	ranking.population_per_household
1	Assam	Dhemaji	5.2103445894620535
2	Assam	Marigaon	4.9784451264065472
3	Bihar	Gopalganj	5.9791953017618393
4	Bihar	Nawada	5.9449784554192906
5	Chhattisgarh	Durg	4.7164080168447322
6	Chhattisgarh	Rajnandgaon	4.6511627906976747
7	Jharkhand	Kodarma	5.8681674629524654
8	Jharkhand	Giridih	5.7871069648057656
9	Madhya Pradesh	Jhabua	5.5903925014645575
10	Madhya Pradesh	Sehore	5.3667741323724636
11	Odisha	Bhadrak	4.7659507430551908
12	Odisha	Jajapur	4.4941458678393973
13	Rajasthan	Dhaulpur	5.8109722222222224
14	Rajasthan	Barmer	5.629192111322455
15	Uttar Pradesh	Sant Ravidas Nagar (Bhadohi)	6.2108312903944727
16	Uttar Pradesh	Baghpat	6.1195679959100202
17	Uttarakhand	Udham Singh Nagar	5.1164532900989546
18	Uttarakhand	Nainital	4.7489136595503494

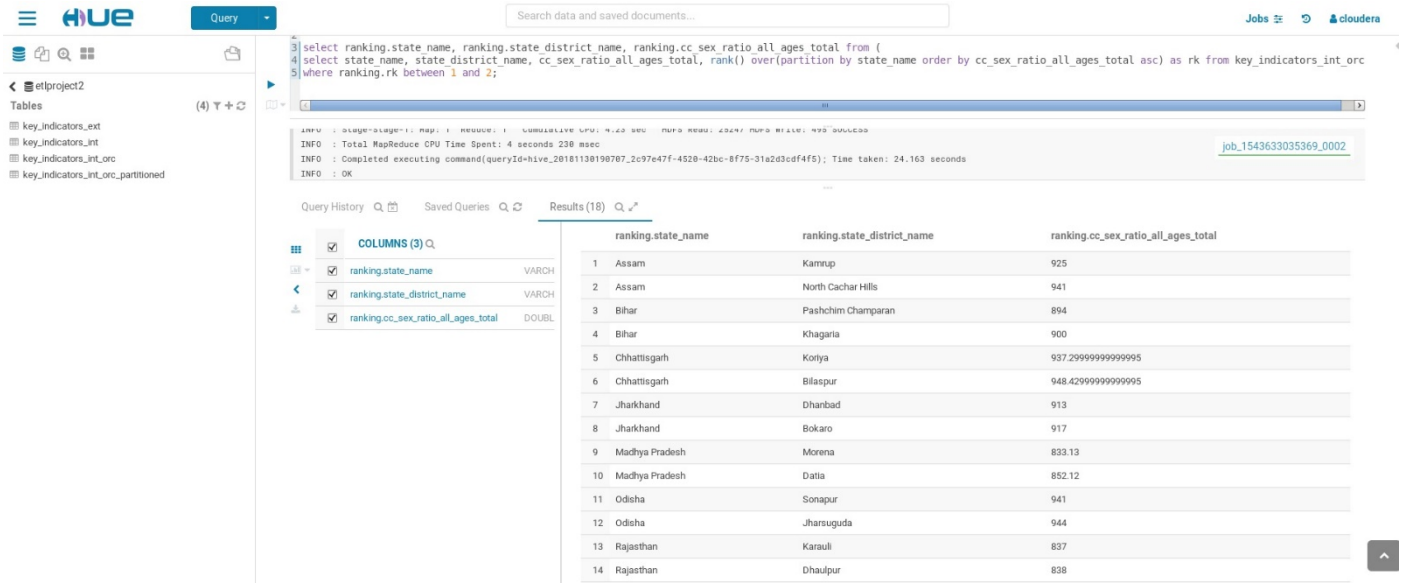


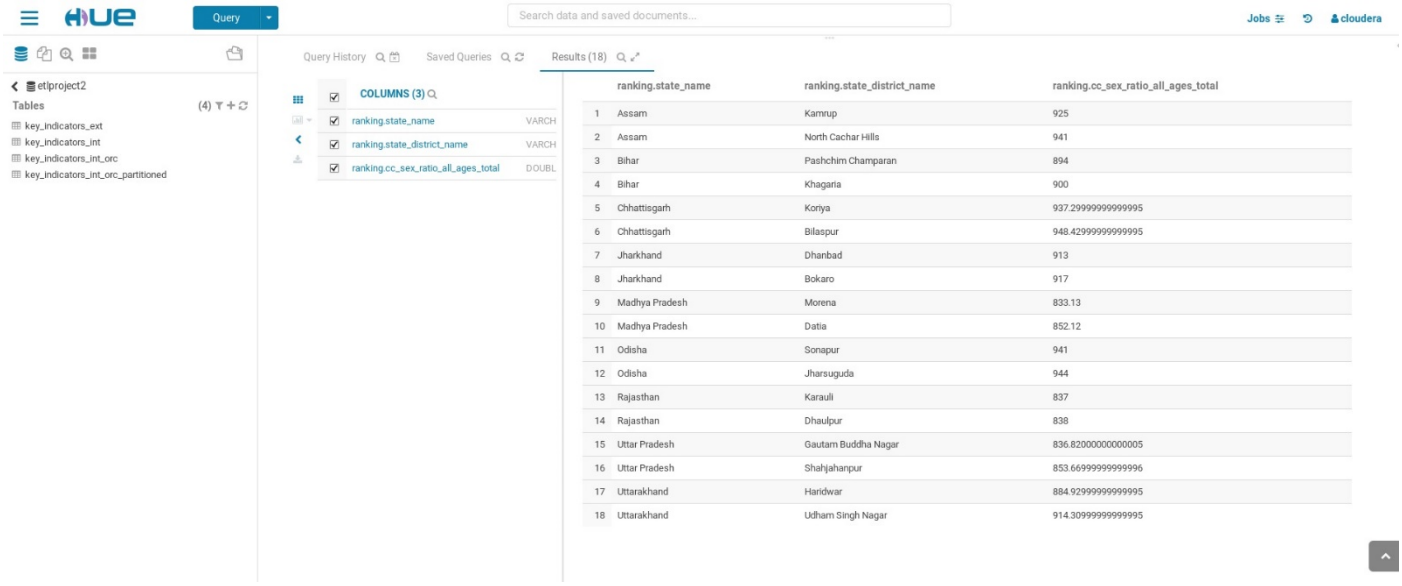
5. Find top 2 districts per state with the lowest sex ratios

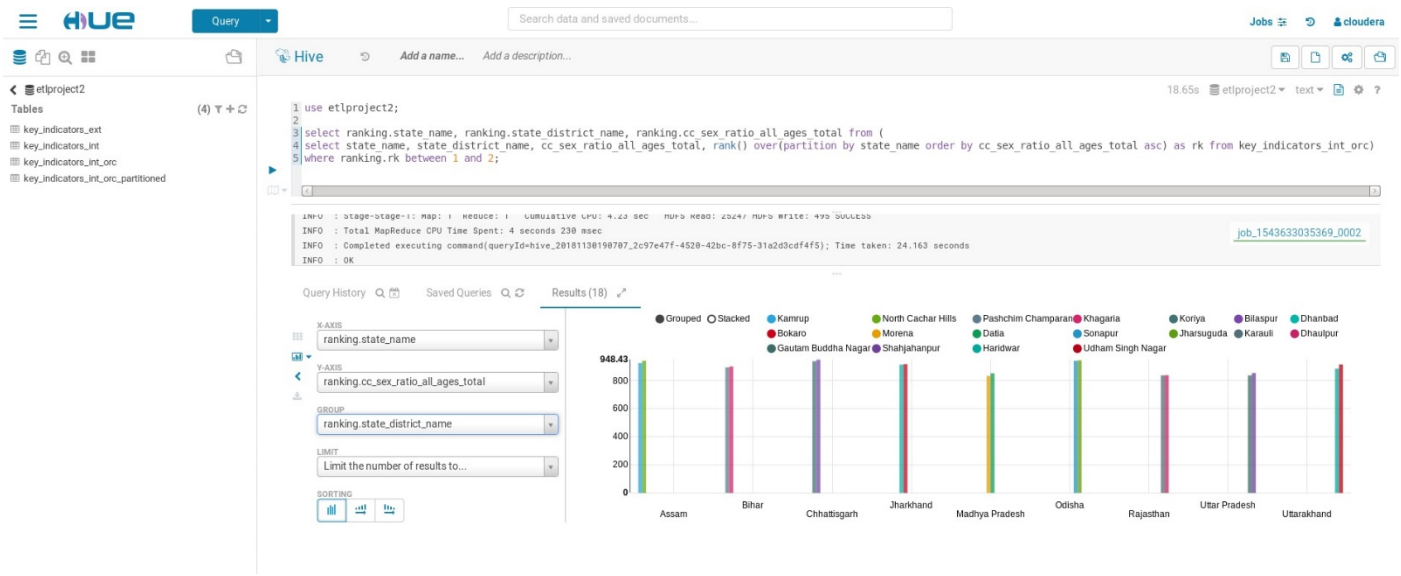
Showing query first, then screenshot of result, followed by chart:

--- Select state_name, state_district_name, cc_sex_ratio_all_ages_total and compute rank over partition by
--- state_name order by cc_sex_ratio_all_ages_total in increasing order, in the innermost query. In
--- outermost query, select state_name, state_district_name, cc_sex_ratio_all_ages_total where ranking is 1
--- and 2.

```
select ranking.state_name, ranking.state_district_name, ranking.cc_sex_ratio_all_ages_total from (
select state_name, state_district_name, cc_sex_ratio_all_ages_total, rank() over(partition by state_name order by cc_sex_ratio_all_ages_total asc) as rk from key_indicators_int_orc as ranking
where ranking.rk between 1 and 2;
```







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