**EDI Project – ETL and Batch processing**

**Submitted by TY-56**

***Data Ingestion from the RDS to HDFS using Sqoop:***

**1. Sqoop Import command**

sqoop import --connect jdbc:mysql://upgradawsrds.cpclxrkdvwmz.us-east-1.rds.mysqlwb.com:3306/indiaahs2012\_13 --username upgraduser --password upgraduser --table Key\_indicator\_districtwise --target-dir /user/admin/INDIA\_AHS\_DATA/Key\_indicator\_districtwise;

**2. Command to see the list of imported data**

[root@ip-10-0-0-187 ~]# hadoop fs -ls /user/admin/INDIA\_AHS\_DATA/Key\_indicator\_districtwise;

Found 5 items

-rw-r--r-- 3 root admin 0 2020-12-01 10:10 /user/admin/INDIA\_AHS\_DATA/Key\_indicator\_districtwise/\_SUCCESS

-rw-r--r-- 3 root admin 244283 2020-12-01 10:09 /user/admin/INDIA\_AHS\_DATA/Key\_indicator\_districtwise/part-m-00000

-rw-r--r-- 3 root admin 249691 2020-12-01 10:09 /user/admin/INDIA\_AHS\_DATA/Key\_indicator\_districtwise/part-m-00001

-rw-r--r-- 3 root admin 257360 2020-12-01 10:09 /user/admin/INDIA\_AHS\_DATA/Key\_indicator\_districtwise/part-m-00002

-rw-r--r-- 3 root admin 276318 2020-12-01 10:10 /user/admin/INDIA\_AHS\_DATA/Key\_indicator\_districtwise/part-m-00003

[root@ip-10-0-0-187 ~]# hadoop fs -cat /user/admin/INDIA\_AHS\_DATA/Key\_indicator\_districtwise/part-m-\* | wc -l;

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[root@ip-10-0-0-187 ~]#

[root@ip-10-0-0-187 ~]# hadoop fs -cat /user/admin/INDIA\_AHS\_DATA/Key\_indicator\_districtwise/part-m-\* > INDIA\_AHS\_DATA.csv;

[root@ip-10-0-0-187 ~]# ls

anaconda-ks.cfg Consolidated\_Stocks.java jdk-8u161-linux-x64.tar.gz mysql-community-release-el7-5.noarch.rpm Stocks.java

awscli-bundle employeelist.java jdk-8u161-linux-x64.tar.gz.1 original-ks.cfg

awscli-bundle.zip Evening\_Shift.java Key\_indicator\_districtwise.java Pig

Categories.java IAHS\_Output.csv Manufacturers.java QueryResult.java

cloudera-manager-installer.bin INDIA\_AHS\_DATA.csv Morning\_Shift.java SPARK2\_ON\_YARN-2.3.0.cloudera2.jar

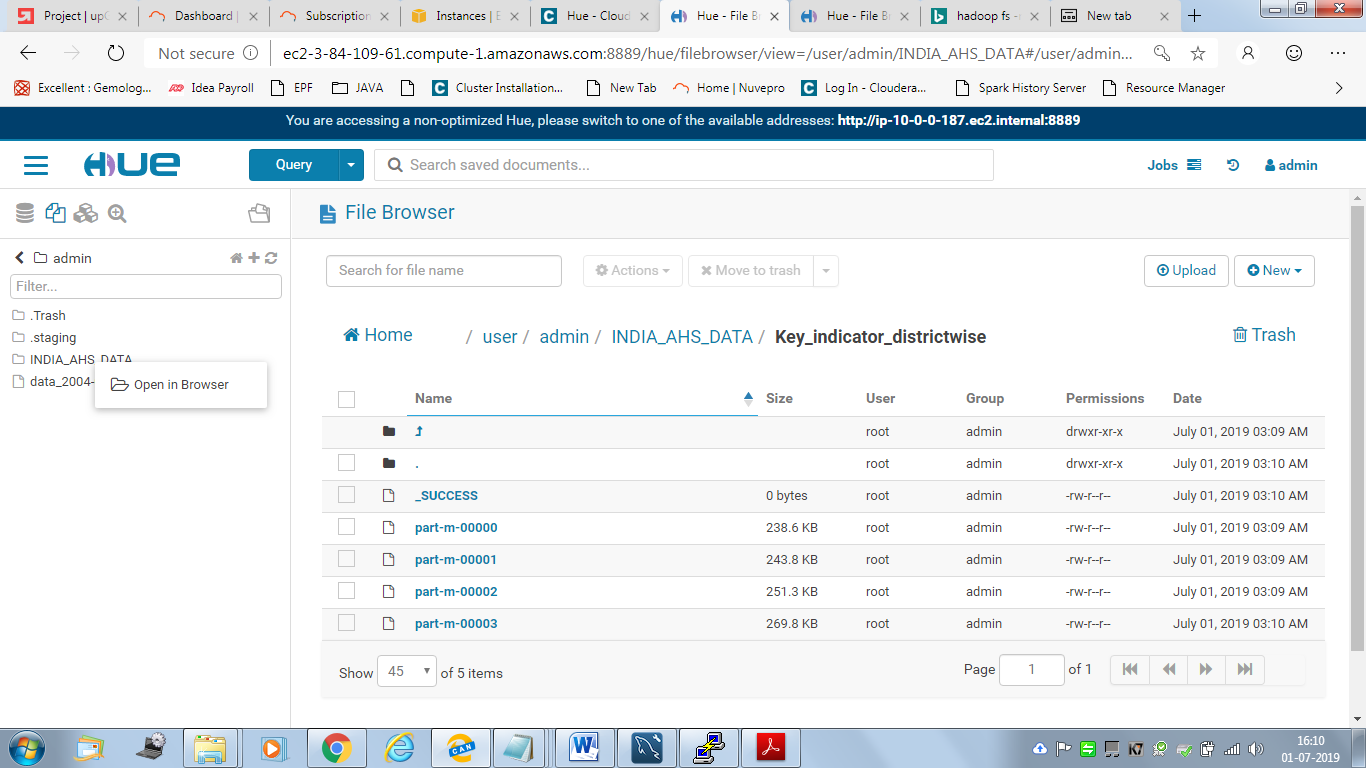
[root@ip-10-0-0-187 ~]# vi INDIA\_AHS\_DATA.csv

1,Assam,Barpeta,53.0,47.0,6.0,13711.0,12765.0,946.0,64606.0,60293.0,4313.0,12541.0,11692.0,849.0,11876.0,11075.0,801.0,2371.0,2261.0,110.0,4.8,4.8,4.9,4.7,4.7,4.5,4.7,4.7,4.6,32.1,33.3,22.2,65.4,68.2,45.3,31.7,34.1,12.4,926.0,906.0,1205.0,936.0,915.0,1218.0,947.0,946.0,952.0,78.6,77.0,90.7,85.1,83.7,95.4,71.6,69.8,85.7,6.4,6.8,4.0,8.8,9.8,2.8,21.5,21.1,25.8,16.2,16.0,18.3,27.1,26.6,30.2,21.7,21.5,23.1,89.6,89.7,88.9,86.5,86.5,85.9,93.1,93.1,92.6,10.0,10.0,10.6,13.2,13.2,13.9,6.5,6.5,6.6,2.2,2.1,3.2,3.8,3.7,5.3,0.5,0.4,0.7,44.6,44.4,45.5,78.5,78.4,78.6,8.4,8.1,10.6,1333.0,1345.0,1232.0,1667.0,1688.0,1502.0,977.0,981.0,946.0,107.0,105.0,121.0,160.0,162.0,141.0,50.0,44.0,100.0,168.0,176.0,97.0,264.0,284.0,94.0,66.0,61.0,100.0,566.0,555.0,652.0,767.0,758.0,845.0,351.0,340.0,448.0,752.0,764.0,652.0,762.0,792.0,516.0,741.0,734.0,797.0,290.0,299.0,217.0,255.0,252.0,282.0,327.0,349.0,149.0,2721.0,2731.0,2634.0,2711.0,2693.0,2864.0,2731.0,2772.0,2390.0,4064.0,4103.0,3746.0,3975.0,4002.0,3756.0,4158.0,4210.0,3735.0,95.8,95.6,98.1,97.0,96.8,98.8,94.6,94.4,97.3,33.8,34.7,25.7,33.8,34.8,25.3,33.8,34.6,26.0,11421.0,11192.0,13291.0,10800.0,10571.0,12676.0,12080.0,11852.0,13944.0,98.2,98.0,99.8,98.6,98.4,100.0,97.9,97.7,99.6,847.0,753.0,1619.0,1018.0,878.0,2160.0,666.0,619.0,1046.0,2449.0,2210.0,4398.0,2109.0,1942.0,3474.0,2810.0,2496.0,5378.0,234.0,236.0,217.0,326.0,337.0,235.0,136.0,128.0,199.0,929.0,930.0,918.0,1120.0,1130.0,1033.0,726.0,717.0,797.0,1072.0,1076.0,1039.0,832.0,825.0,892.0,1328.0,1344.0,1195.0,11282.0,11024.0,13388.0,10637.0,10399.0,12582.0,11967.0,11688.0,14243.0,66.4,65.3,74.0,66.7,65.5,74.6,66.1,65.0,73.4,35.4,35.9,32.2,35.8,36.3,32.2,35.1,35.5,32.1,20.4,21.1,14.6,13.8,14.4,8.4,2.4,null,null,41.4,42.0,32.8,33.7,35.2,15.3,82.1,80.6,92.6,42.9,43.7,30.0,22.7,22.4,25.1,22.4,22.1,24.4,53.3,53.1,56.8,2.7,2.7,2.2,2.4,2.5,2.1,4.1,4.3,3.4,5.0,5.1,4.7,46.1,45.8,50.0,22.5,22.3,25.0,2.9,2.9,3.0,68.6,67.2,87.5,65.6,64.0,87.5,74.1,75.5,63.1,39.0,40.1,30.1,8.0,7.9,8.6,0.2,0.3,0.0,1.1,1.2,0.7,28.2,29.4,18.8,1.3,1.2,1.9,0.1,0.1,0.1,35.1,35.4,33.0,10.7,10.8,10.3,20.2,20.2,20.3,4.0,4.2,2.4,7.2,7.5,5.5,5.2,4.7,9.7,12.5,12.1,15.3,70.7,69.2,94.7,94.0,93.7,98.1,35.7,34.7,47.8,55.6,53.6,78.3,94.0,93.7,98.1,18.9,17.9,30.6,14.0,12.9,27.4,89.6,91.0,74.0,84.7,83.9,94.3,44.7,42.5,70.1,29.8,28.0,51.6,52.3,49.6,84.7,45.0,44.0,56.7,7.3,5.5,28.0,47.4,50.2,14.6,19.8,19.6,26.1,57.6,55.1,87.3,10.6,9.9,16.9,64.0,62.2,68.2,30.3,32.0,18.8,50.1,47.7,79.0,56.2,53.9,82.2,43.3,45.6,16.6,50.2,47.8,78.2,41.8,41.0,50.3,77.8,80.5,59.4,89.2,89.7,84.3,94.2,93.9,97.3,93.5,93.4,94.5,76.5,76.6,75.5,78.5,78.4,80.0,76.3,76.7,71.8,62.1,61.9,63.6,67.7,67.2,74.5,4.3,4.2,5.5,57.0,57.0,56.4,36.1,35.4,44.5,55.3,52.9,84.8,22.5,22.7,21.0,9.8,9.7,11.3,84.2,84.0,85.7,12.9,12.1,22.6,86.7,86.9,85.7,19.9,19.8,21.0,86.5,85.9,92.3,78.9,79.0,77.8,36.1,35.9,38.6,41.6,41.6,41.8,33.5,33.2,37.3,12.2,12.1,13.9,2.4,1.8,8.9,1.9,1.4,8.2,5.1,5.1,5.0,5.7,5.7,5.4,7.0,7.1,6.8,9.3,9.3,8.8,9.8,9.8,9.2,79.3,78.3,91.8,61.6,60.2,79.1,64.8,63.5,83.2,30.3,30.3,31.2,98.9,98.8,99.4,87.7,88.7,74.2,6.6,8.1,5.1,6.7,8.1,5.3,6.1,8.7,3.4,43.0,51.0,34.0,44.0,51.0,38.0,null,null,null,31.0,32.0,null,11.0,12.0,null,58.0,68.0,48.0,62.0,70.0,53.0,null,null,null,19.0,21.9,19.6,22.7,12.2,16.9,5.9,7.4,5.9,7.5,4.1,8.2,34.0,51.0,36.0,54.0,null,null,51.0,66.0,54.0,70.0,null,null,871.0,985.0,851.0,965.0,908.0,1611.0

2,Assam,Bongaigaon,89.0,73.0,16.0,17384.0,14904.0,2480.0,84012.0,73899.0,10113.0,16781.0,14591.0,2190.0,15533.0,13566.0,1967.0,2451.0,2259.0,192.0,4.7,4.8,4.1,4.7,4.8,3.9,4.8,5.0,4.1,32.0,33.7,20.9,62.5,67.1,38.4,32.8,37.2,6.2,950.0,967.0,772.0,964.0,981.0,788.0,955.0,955.0,954.0,79.3,76.6,95.3,85.4,83.2,98.0,72.9,69.5,92.5,7.8,8.4,3.6,9.9,10.9,2.4,42.8,44.0,23.5,23.2,23.6,17.0,26.9,26.4,30.7,21.7,21.4,23.8,90.7,90.0,96.3,88.1,87.2,95.8,93.5,93.2,96.9,9.2,9.9,3.7,11.9,12.7,4.2,6.3,6.6,3.1,2.3,2.5,0.6,3.8,4.1,1.1,0.7,0.8,0.0,46.4,46.5,45.7,81.2,82.0,76.9,9.5,8.7,13.6,1232.0,1292.0,850.0,1405.0,1463.0,1038.0,1048.0,1111.0,652.0,54.0,54.0,51.0,73.0,75.0,60.0,33.0,31.0,42.0,34.0,34.0,31.0,53.0,55.0,40.0,13.0,12.0,21.0,62.0,61.0,72.0,94.0,87.0,140.0,28.0,33.0,0.0,359.0,377.0,246.0,345.0,365.0,220.0,373.0,389.0,273.0,634.0,655.0,502.0,618.0,633.0,519.0,652.0,678.0,483.0,2906.0,3163.0,1290.0,2802.0,3081.0,1038.0,3017.0,3250.0,1556.0,4402.0,4750.0,2212.0,4170.0,4534.0,1876.0,4646.0,4978.0,2565.0,95.8,96.0,93.5,96.1,96.3,93.6,95.5,95.6,93.4,47.3,47.8,40.6,50.1,50.1,51.1,44.5,45.5,32.5,7497.0,7318.0,8621.0,7196.0,6916.0,8962.0,7815.0,7744.0,8262.0,96.3,95.9,98.5,96.8,96.3,98.9,95.8,95.4,98.0,452.0,311.0,1341.0,541.0,376.0,1577.0,358.0,241.0,1093.0,2336.0,2003.0,4433.0,2594.0,2340.0,4192.0,2063.0,1645.0,4688.0,126.0,124.0,143.0,155.0,148.0,200.0,96.0,98.0,84.0,466.0,469.0,450.0,581.0,601.0,459.0,344.0,329.0,441.0,929.0,986.0,573.0,701.0,746.0,419.0,1171.0,1240.0,736.0,9370.0,8932.0,12122.0,9272.0,8862.0,11856.0,9474.0,9006.0,12403.0,63.9,61.8,73.6,64.3,62.4,73.1,63.4,61.0,74.2,30.6,33.7,17.3,31.2,35.0,15.0,29.9,32.3,19.6,19.2,20.5,11.3,13.1,14.2,6.3,2.1,null,null,45.2,46.3,29.2,29.7,31.3,11.8,81.2,78.8,92.6,47.2,47.7,37.5,22.3,21.9,25.0,21.9,21.5,24.4,49.3,48.3,62.5,2.6,2.7,1.8,2.4,2.5,1.8,3.9,4.3,2.5,3.1,2.9,5.6,30.0,27.6,44.4,8.6,6.2,22.2,2.5,2.4,2.9,74.1,73.5,77.8,68.3,67.6,72.2,70.5,70.5,70.5,35.7,36.5,30.6,4.6,4.0,7.7,0.0,0.1,0.0,1.5,1.6,0.6,28.3,30.0,17.6,1.2,0.6,4.7,0.0,0.0,0.0,34.8,34.0,39.9,22.2,21.9,23.8,9.2,8.3,14.2,3.3,3.6,1.9,6.6,7.1,3.3,5.2,5.3,4.4,11.8,12.5,7.8,76.1,75.2,87.5,92.6,92.1,98.6,43.7,41.6,66.9,59.5,57.4,83.4,92.5,92.0,97.9,21.1,20.4,29.0,16.3,15.4,26.9,92.9,95.3,67.7,80.0,78.9,92.1,41.2,38.0,77.6,23.6,20.4,59.7,54.8,52.0,86.6,49.1,48.6,54.8,5.5,3.2,31.7,45.1,47.9,12.8,34.8,34.4,54.1,65.0,62.7,90.7,7.9,6.1,25.2,60.9,58.1,64.1,24.4,25.0,20.3,51.3,48.5,82.4,55.3,52.6,85.2,44.4,47.0,14.8,49.1,46.4,78.5,51.7,52.3,45.5,85.6,90.6,51.8,93.3,94.8,78.6,95.8,95.6,97.9,94.3,94.2,95.8,67.8,67.5,71.4,66.6,67.6,56.8,79.4,79.0,84.4,52.4,52.8,47.9,73.7,71.9,91.7,3.4,3.5,2.1,55.0,54.4,61.5,30.3,29.4,39.1,55.7,52.9,86.4,21.6,21.6,21.2,3.1,3.2,1.8,74.9,76.0,50.0,7.1,7.4,2.7,90.7,90.4,100.0,12.6,12.8,10.8,85.1,84.1,100.0,72.8,74.2,58.1,29.1,28.4,36.5,50.1,50.9,41.5,39.7,40.2,33.2,15.5,15.6,14.6,2.2,2.1,3.7,1.6,1.5,3.0,5.1,5.0,5.4,5.5,5.5,5.9,6.9,6.9,7.0,8.4,8.4,8.3,8.9,8.9,8.8,88.8,88.3,94.4,77.1,76.3,86.0,63.7,59.8,91.1,49.5,46.0,74.5,99.6,99.5,100.0,89.9,89.2,95.2,6.1,7.8,4.4,6.3,8.0,4.5,5.0,6.3,3.7,48.0,47.0,48.0,50.0,50.0,51.0,null,null,null,27.0,28.0,null,21.0,22.0,null,61.0,60.0,62.0,65.0,65.0,66.0,null,null,null,18.2,20.3,19.4,21.6,9.2,13.5,5.6,6.6,5.7,6.9,3.9,6.2,40.0,55.0,42.0,59.0,null,null,54.0,68.0,58.0,73.0,null,null,897.0,1005.0,911.0,1026.0,621.0,956.0

@ @

"INDIA\_AHS\_DATA.csv" 284L, 1027652C



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

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

CREATE EXTERNAL TABLE IF NOT EXISTS INDIA\_AHS\_TABLE\_EXTERNAL(

ID INT,

State\_Name String,

State\_District\_Name String,

AA\_Sample\_Units\_Total INT,

AA\_Sample\_Units\_Rural INT,

AA\_Sample\_Units\_Urban INT,

AA\_Households\_Total INT,

AA\_Households\_Rural INT,

AA\_Households\_Urban INT,

AA\_Population\_Total INT,

AA\_Population\_Rural INT,

AA\_Population\_Urban INT,

AA\_Ever\_Married\_Women\_Aged\_15\_49\_Years\_Total INT,

AA\_Ever\_Married\_Women\_Aged\_15\_49\_Years\_Rural INT,

AA\_Ever\_Married\_Women\_Aged\_15\_49\_Years\_Urban INT,

AA\_Currently\_Married\_Women\_Aged\_15\_49\_Years\_Total INT,

AA\_Currently\_Married\_Women\_Aged\_15\_49\_Years\_Rural INT,

AA\_Currently\_Married\_Women\_Aged\_15\_49\_Years\_Urban INT,

AA\_Children\_12\_23\_Months\_Total INT,

AA\_Children\_12\_23\_Months\_Rural INT,

AA\_Children\_12\_23\_Months\_Urban INT,

BB\_Average\_Household\_Size\_Sc\_Total FLOAT,

BB\_Average\_Household\_Size\_Sc\_Rural FLOAT,

BB\_Average\_Household\_Size\_Sc\_Urban FLOAT,

BB\_Average\_Household\_Size\_St\_Total FLOAT,

BB\_Average\_Household\_Size\_St\_Rural FLOAT,

BB\_Average\_Household\_Size\_St\_Urban FLOAT,

BB\_Average\_Household\_Size\_All\_Total FLOAT,

BB\_Average\_Household\_Size\_All\_Rural FLOAT,

BB\_Average\_Household\_Size\_All\_Urban FLOAT,

BB\_Population\_Below\_Age\_15\_Years\_Total FLOAT,

BB\_Population\_Below\_Age\_15\_Years\_Rural FLOAT,

BB\_Population\_Below\_Age\_15\_Years\_Urban FLOAT,

BB\_Dependency\_Ratio\_Total FLOAT,

BB\_Dependency\_Ratio\_Rural FLOAT,

BB\_Dependency\_Ratio\_Urban FLOAT,

BB\_Currently\_Married\_Illiterate\_Women\_Aged\_15\_49\_Years\_Total FLOAT,

BB\_Currently\_Married\_Illiterate\_Women\_Aged\_15\_49\_Years\_Rural FLOAT,

BB\_Currently\_Married\_Illiterate\_Women\_Aged\_15\_49\_Years\_Urban FLOAT,

CC\_Sex\_Ratio\_At\_Birth\_Total FLOAT,

CC\_Sex\_Ratio\_At\_Birth\_Rural FLOAT,

CC\_Sex\_Ratio\_At\_Birth\_Urban FLOAT,

CC\_Sex\_Ratio\_0\_4\_Years\_Total FLOAT,

CC\_Sex\_Ratio\_0\_4\_Years\_Rural FLOAT,

CC\_Sex\_Ratio\_0\_4\_Years\_Urban FLOAT,

CC\_Sex\_Ratio\_All\_Ages\_Total FLOAT,

CC\_Sex\_Ratio\_All\_Ages\_Rural FLOAT,

CC\_Sex\_Ratio\_All\_Ages\_Urban FLOAT,

DD\_Person\_Total FLOAT,

DD\_Person\_Rural FLOAT,

DD\_Person\_Urban FLOAT,

DD\_Male\_Total FLOAT,

DD\_Male\_Rural FLOAT,

DD\_Male\_Urban FLOAT,

DD\_Female\_Total FLOAT,

DD\_Female\_Rural FLOAT,

DD\_Female\_Urban FLOAT,

EE\_Marriages\_Among\_Females\_Below\_Legal\_Age\_18\_Years\_Total FLOAT,

EE\_Marriages\_Among\_Females\_Below\_Legal\_Age\_18\_Years\_Rural FLOAT,

EE\_Marriages\_Among\_Females\_Below\_Legal\_Age\_18\_Years\_Urban FLOAT,

EE\_Marriages\_Among\_Males\_Below\_Legal\_Age\_21\_Years\_Total FLOAT,

EE\_Marriages\_Among\_Males\_Below\_Legal\_Age\_21\_Years\_Rural FLOAT,

EE\_Marriages\_Among\_Males\_Below\_Legal\_Age\_21\_Years\_Urban FLOAT,

EE\_Married\_Women\_20\_24\_Years\_Married\_Before\_18\_Years\_Total FLOAT,

EE\_Married\_Women\_20\_24\_Years\_Married\_Before\_18\_Years\_Rural FLOAT,

EE\_Married\_Women\_20\_24\_Years\_Married\_Before\_18\_Years\_Urban FLOAT,

EE\_Married\_Men\_25\_29\_Years\_Married\_Before\_21\_Years\_Total FLOAT,

EE\_Married\_Men\_25\_29\_Years\_Married\_Before\_21\_Years\_Rural FLOAT,

EE\_Married\_Men\_25\_29\_Years\_Married\_Before\_21\_Years\_Urban FLOAT,

EE\_Mean\_Age\_At\_Marriage\_Male\_Total FLOAT,

EE\_Mean\_Age\_At\_Marriage\_Male\_Rural FLOAT,

EE\_Mean\_Age\_At\_Marriage\_Male\_Urban FLOAT,

EE\_Mean\_Age\_At\_Marriage\_Female\_Total FLOAT,

EE\_Mean\_Age\_At\_Marriage\_Female\_Rural FLOAT,

EE\_Mean\_Age\_At\_Marriage\_Female\_Urban FLOAT,

FF\_Children\_Attending\_School\_Age\_6\_17\_Years\_Person\_Total FLOAT,

FF\_Children\_Attending\_School\_Age\_6\_17\_Years\_Person\_Rural FLOAT,

FF\_Children\_Attending\_School\_Age\_6\_17\_Years\_Person\_Urban FLOAT,

FF\_Children\_Attending\_School\_Age\_6\_17\_Years\_Male\_Total FLOAT,

FF\_Children\_Attending\_School\_Age\_6\_17\_Years\_Male\_Rural FLOAT,

FF\_Children\_Attending\_School\_Age\_6\_17\_Years\_Male\_Urban FLOAT,

FF\_Children\_Attending\_School\_Age\_6\_17\_Years\_Female\_Total FLOAT,

FF\_Children\_Attending\_School\_Age\_6\_17\_Years\_Female\_Rural FLOAT,

FF\_Children\_Attending\_School\_Age\_6\_17\_Years\_Female\_Urban FLOAT,

FF\_Children\_Attended\_Before\_Drop\_Out\_Age\_6\_17\_Years\_Person\_Total FLOAT,

FF\_Children\_Attended\_Before\_Drop\_Out\_Age\_6\_17\_Years\_Person\_Rural FLOAT,

FF\_Children\_Attended\_Before\_Drop\_Out\_Age\_6\_17\_Years\_Person\_Urban FLOAT,

FF\_Children\_Attended\_Before\_Drop\_Out\_Age\_6\_17\_Years\_Male\_Total FLOAT,

FF\_Children\_Attended\_Before\_Drop\_Out\_Age\_6\_17\_Years\_Male\_Rural FLOAT,

FF\_Children\_Attended\_Before\_Drop\_Out\_Age\_6\_17\_Years\_Male\_Urban FLOAT,

FF\_Children\_Attended\_Before\_Drop\_Out\_Age\_6\_17\_Years\_Female\_Total FLOAT,

FF\_Children\_Attended\_Before\_Drop\_Out\_Age\_6\_17\_Years\_Female\_Rural FLOAT,

FF\_Children\_Attended\_Before\_Drop\_Out\_Age\_6\_17\_Years\_Female\_Urban FLOAT,

GG\_Children\_Aged\_5\_14\_Years\_Engaged\_In\_Work\_Person\_Total FLOAT,

GG\_Children\_Aged\_5\_14\_Years\_Engaged\_In\_Work\_Person\_Rural FLOAT,

GG\_Children\_Aged\_5\_14\_Years\_Engaged\_In\_Work\_Person\_Urban FLOAT,

GG\_Children\_Aged\_5\_14\_Years\_Engaged\_In\_Work\_Male\_Total FLOAT,

GG\_Children\_Aged\_5\_14\_Years\_Engaged\_In\_Work\_Male\_Rural FLOAT,

GG\_Children\_Aged\_5\_14\_Years\_Engaged\_In\_Work\_Male\_Urban FLOAT,

GG\_Children\_Aged\_5\_14\_Years\_Engaged\_In\_Work\_Female\_Total FLOAT,

GG\_Children\_Aged\_5\_14\_Years\_Engaged\_In\_Work\_Female\_Rural FLOAT,

GG\_Children\_Aged\_5\_14\_Years\_Engaged\_In\_Work\_Female\_Urban FLOAT,

GG\_Work\_Participation\_Rate\_15\_Years\_And\_Above\_Person\_Total FLOAT,

GG\_Work\_Participation\_Rate\_15\_Years\_And\_Above\_Person\_Rural FLOAT,

GG\_Work\_Participation\_Rate\_15\_Years\_And\_Above\_Person\_Urban FLOAT,

GG\_Work\_Participation\_Rate\_15\_Years\_And\_Above\_Male\_Total FLOAT,

GG\_Work\_Participation\_Rate\_15\_Years\_And\_Above\_Male\_Rural FLOAT,

GG\_Work\_Participation\_Rate\_15\_Years\_And\_Above\_Male\_Urban FLOAT,

GG\_Work\_Participation\_Rate\_15\_Years\_And\_Above\_Female\_Total FLOAT,

GG\_Work\_Participation\_Rate\_15\_Years\_And\_Above\_Female\_Rural FLOAT,

GG\_Work\_Participation\_Rate\_15\_Years\_And\_Above\_Female\_Urban FLOAT,

HH\_Prevalence\_Disability\_Per\_100000\_Population\_Person\_Total FLOAT,

HH\_Prevalence\_Disability\_Per\_100000\_Population\_Person\_Rural FLOAT,

HH\_Prevalence\_Disability\_Per\_100000\_Population\_Person\_Urban FLOAT,

HH\_Prevalence\_Disability\_Per\_100000\_Population\_Male\_Total FLOAT,

HH\_Prevalence\_Disability\_Per\_100000\_Population\_Male\_Rural FLOAT,

HH\_Prevalence\_Disability\_Per\_100000\_Population\_Male\_Urban FLOAT,

HH\_Prevalence\_Disability\_Per\_100000\_Population\_Female\_Total FLOAT,

HH\_Prevalence\_Disability\_Per\_100000\_Population\_Female\_Rural FLOAT,

HH\_Prevalence\_Disability\_Per\_100000\_Population\_Female\_Urban FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Severe\_Person\_Total FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Severe\_Person\_Rural FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Severe\_Person\_Urban FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Severe\_Male\_Total FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Severe\_Male\_Rural FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Severe\_Male\_Urban FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Severe\_Female\_Total FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Severe\_Female\_Rural FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Severe\_Female\_Urban FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Major\_Person\_Total FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Major\_Person\_Rural FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Major\_Person\_Urban FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Major\_Male\_Total FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Major\_Male\_Rural FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Major\_Male\_Urban FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Major\_Female\_Total FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Major\_Female\_Rural FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Major\_Female\_Urban FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Minor\_Person\_Total FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Minor\_Person\_Rural FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Minor\_Person\_Urban FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Minor\_Male\_Total FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Minor\_Male\_Rural FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Minor\_Male\_Urban FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Minor\_Female\_Total FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Minor\_Female\_Rural FLOAT,

II\_Injured\_By\_Type\_Of\_Treatment\_Per\_100000\_Minor\_Female\_Urban FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Diarrhoea\_Dysentery\_Person\_Total FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Diarrhoea\_Dysentery\_Person\_Rural FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Diarrhoea\_Dysentery\_Person\_Urban FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Diarrhoea\_Dysentery\_Male\_Total FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Diarrhoea\_Dysentery\_Male\_Rural FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Diarrhoea\_Dysentery\_Male\_Urban FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Diarrhoea\_Dysentery\_Female\_Total FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Diarrhoea\_Dysentery\_Female\_Rural FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Diarrhoea\_Dysentery\_Female\_Urban FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Respiratory\_Infection\_Person\_Total FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Respiratory\_Infection\_Person\_Rural FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Respiratory\_Infection\_Person\_Urban FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Respiratory\_Infection\_Male\_Total FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Respiratory\_Infection\_Male\_Rural FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Respiratory\_Infection\_Male\_Urban FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Respiratory\_Infection\_Female\_Total FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Respiratory\_Infection\_Female\_Rural FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Respiratory\_Infection\_Female\_Urban FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Fever\_All\_Types\_Person\_Total FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Fever\_All\_Types\_Person\_Rural FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Fever\_All\_Types\_Person\_Urban FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Fever\_All\_Types\_Male\_Total FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Fever\_All\_Types\_Male\_Rural FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Fever\_All\_Types\_Male\_Urban FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Fever\_All\_Types\_Female\_Total FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Fever\_All\_Types\_Female\_Rural FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Fever\_All\_Types\_Female\_Urban FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Any\_Type\_Of\_Acute\_Person\_Total FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Any\_Type\_Of\_Acute\_Person\_Rural FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Any\_Type\_Of\_Acute\_Person\_Urban FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Any\_Type\_Of\_Acute\_Male\_Total FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Any\_Type\_Of\_Acute\_Male\_Rural FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Any\_Type\_Of\_Acute\_Male\_Urban FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Any\_Type\_Of\_Acute\_Female\_Total FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Any\_Type\_Of\_Acute\_Female\_Rural FLOAT,

JJ\_Acute\_Illness\_Per\_100000\_Any\_Type\_Of\_Acute\_Female\_Urban FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Person\_Total FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Person\_Rural FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Person\_Urban FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Male\_Total FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Male\_Rural FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Male\_Urban FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Female\_Total FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Female\_Rural FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Female\_Urban FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Government\_Person\_Total FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Government\_Person\_Rural FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Government\_Person\_Urban FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Government\_Male\_Total FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Government\_Male\_Rural FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Government\_Male\_Urban FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Government\_Female\_Total FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Government\_Female\_Rural FLOAT,

JJ\_Acute\_Illness\_And\_Taking\_Treatment\_Government\_Female\_Urban FLOAT,

KK\_Symptoms\_Of\_Chronic\_Illness\_Per\_100000\_Person\_Total FLOAT,

KK\_Symptoms\_Of\_Chronic\_Illness\_Per\_100000\_Person\_Rural FLOAT,

KK\_Symptoms\_Of\_Chronic\_Illness\_Per\_100000\_Person\_Urban FLOAT,

KK\_Symptoms\_Of\_Chronic\_Illness\_Per\_100000\_Male\_Total FLOAT,

KK\_Symptoms\_Of\_Chronic\_Illness\_Per\_100000\_Male\_Rural FLOAT,

KK\_Symptoms\_Of\_Chronic\_Illness\_Per\_100000\_Male\_Urban FLOAT,

KK\_Symptoms\_Of\_Chronic\_Illness\_Per\_100000\_Female\_Total FLOAT,

KK\_Symptoms\_Of\_Chronic\_Illness\_Per\_100000\_Female\_Rural FLOAT,

KK\_Symptoms\_Of\_Chronic\_Illness\_Per\_100000\_Female\_Urban FLOAT,

KK\_Chronic\_Illness\_And\_Sought\_Medical\_Care\_Person\_Total FLOAT,

KK\_Chronic\_Illness\_And\_Sought\_Medical\_Care\_Person\_Rural FLOAT,

KK\_Chronic\_Illness\_And\_Sought\_Medical\_Care\_Person\_Urban FLOAT,

KK\_Chronic\_Illness\_And\_Sought\_Medical\_Care\_Male\_Total FLOAT,

KK\_Chronic\_Illness\_And\_Sought\_Medical\_Care\_Male\_Rural FLOAT,

KK\_Chronic\_Illness\_And\_Sought\_Medical\_Care\_Male\_Urban FLOAT,

KK\_Chronic\_Illness\_And\_Sought\_Medical\_Care\_Female\_Total FLOAT,

KK\_Chronic\_Illness\_And\_Sought\_Medical\_Care\_Female\_Rural FLOAT,

KK\_Chronic\_Illness\_And\_Sought\_Medical\_Care\_Female\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Diabetes\_Person\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Diabetes\_Person\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Diabetes\_Person\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Diabetes\_Male\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Diabetes\_Male\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Diabetes\_Male\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Diabetes\_Female\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Diabetes\_Female\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Diabetes\_Female\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Hypertension\_Person\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Hypertension\_Person\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Hypertension\_Person\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Hypertension\_Male\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Hypertension\_Male\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Hypertension\_Male\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Hypertension\_Female\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Hypertension\_Female\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Hypertension\_Female\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Tb\_Person\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Tb\_Person\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Tb\_Person\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Tb\_Male\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Tb\_Male\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Tb\_Male\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Ill\_Per\_100000\_Tb\_Female\_Total FLOAT,

KK\_Diagnosed\_For\_Chronic\_Illness\_Per\_100000\_Tb\_Female\_Rural FLOAT,

KK\_Diagnosed\_For\_Chronic\_Illness\_Per\_100000\_Tb\_Female\_Urban FLOAT,

KK\_Diagnosed\_For\_Chronic\_Illness\_Per\_100000\_Asthma\_Person\_Total FLOAT,

KK\_Diagnosed\_For\_Chronic\_Illness\_Per\_100000\_Asthma\_Person\_Rural FLOAT,

KK\_Diagnosed\_For\_Chronic\_Illness\_Per\_100000\_Asthma\_Person\_Urban FLOAT,

KK\_Diagnosed\_For\_Chronic\_Illness\_Per\_100000\_Asthma\_Male\_Total FLOAT,

KK\_Diagnosed\_For\_Chronic\_Illness\_Per\_100000\_Asthma\_Male\_Rural FLOAT,

KK\_Diagnosed\_For\_Chronic\_Illness\_Per\_100000\_Asthma\_Male\_Urban FLOAT,

KK\_Diagnosed\_For\_Chronic\_Illness\_Per\_100000\_Asthma\_Female\_Total FLOAT,

KK\_Diagnosed\_For\_Chronic\_Illness\_Per\_100000\_Asthma\_Female\_Rural FLOAT,

KK\_Diagnosed\_For\_Chronic\_Illness\_Per\_100000\_Asthma\_Female\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Arthritis\_Person\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Arthritis\_Person\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Arthritis\_Person\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Arthritis\_Male\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Arthritis\_Male\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Arthritis\_Male\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Arthritis\_Female\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Arthritis\_Female\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Arthritis\_Female\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Any\_Kind\_Person\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Any\_Kind\_Person\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Any\_Kind\_Of\_Person\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Any\_Kind\_Of\_Male\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Any\_Kind\_Of\_Male\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Any\_Kind\_Of\_Male\_Urban FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Any\_Kind\_Of\_Female\_Total FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Any\_Kind\_Of\_Female\_Rural FLOAT,

KK\_Diag\_For\_Chronic\_Illness\_Per\_100000\_Any\_Kind\_Of\_Female\_Urban FLOAT,

KK\_Chronic\_Illness\_And\_Getting\_Regular\_Treatment\_Person\_Total FLOAT,

KK\_Chronic\_Illness\_And\_Getting\_Regular\_Treatment\_Person\_Rural FLOAT,

KK\_Chronic\_Illness\_And\_Getting\_Regular\_Treatment\_Person\_Urban FLOAT,

KK\_Chronic\_Illness\_And\_Getting\_Regular\_Treatment\_Male\_Total FLOAT,

KK\_Chronic\_Illness\_And\_Getting\_Regular\_Treatment\_Male\_Rural FLOAT,

KK\_Chronic\_Illness\_And\_Getting\_Regular\_Treatment\_Male\_Urban FLOAT,

KK\_Chronic\_Illness\_And\_Getting\_Regular\_Treatment\_Female\_Total FLOAT,

KK\_Chronic\_Illness\_And\_Getting\_Regular\_Treatment\_Female\_Rural FLOAT,

KK\_Chronic\_Illness\_And\_Getting\_Regular\_Treatment\_Female\_Urban FLOAT,

KK\_Chronic\_Ill\_And\_Getting\_Regular\_Treatment\_Govt\_Person\_Total FLOAT,

KK\_Chronic\_Ill\_And\_Getting\_Regular\_Treatment\_Govt\_Person\_Rural FLOAT,

KK\_Chronic\_Ill\_And\_Getting\_Regular\_Treatment\_Govt\_Person\_Urban FLOAT,

KK\_Chronic\_Ill\_And\_Getting\_Regular\_Treatment\_Govt\_Male\_Total FLOAT,

KK\_Chronic\_Ill\_And\_Getting\_Regular\_Treatment\_Govt\_Male\_Rural FLOAT,

KK\_Chronic\_Ill\_And\_Getting\_Regular\_Treatment\_Govt\_Male\_Urban FLOAT,

KK\_Chronic\_Ill\_And\_Getting\_Regular\_Treatment\_Govt\_Female\_Total FLOAT,

KK\_Chronic\_Ill\_And\_Getting\_Regular\_Treatment\_Govt\_Female\_Rural FLOAT,

KK\_Chronic\_Ill\_And\_Getting\_Regular\_Treatment\_Govt\_Female\_Urban FLOAT,

LL\_Crude\_Birth\_Rate\_Cbr\_Total FLOAT,

LL\_Crude\_Birth\_Rate\_Cbr\_Rural FLOAT,

LL\_Crude\_Birth\_Rate\_Cbr\_Urban FLOAT,

LL\_Natural\_Growth\_Rate\_Total FLOAT,

LL\_Natural\_Growth\_Rate\_Rural FLOAT,

LL\_Natural\_Growth\_Rate\_Urban FLOAT,

LL\_Total\_Fertility\_Rate\_Total FLOAT,

LL\_Total\_Fertility\_Rate\_Rural FLOAT,

LL\_Total\_Fertility\_Rate\_Urban FLOAT,

LL\_Women\_20\_24\_Reporting\_Birth\_Of\_Order\_2\_\_Above\_Total FLOAT,

LL\_Women\_20\_24\_Reporting\_Birth\_Of\_Order\_2\_\_Above\_Rural FLOAT,

LL\_Women\_20\_24\_Reporting\_Birth\_Of\_Order\_2\_\_Above\_Urban FLOAT,

LL\_Women\_Reporting\_Birth\_Of\_Order\_3\_\_Above\_Total FLOAT,

LL\_Women\_Reporting\_Birth\_Of\_Order\_3\_\_Above\_Rural FLOAT,

LL\_Women\_Reporting\_Birth\_Of\_Order\_3\_\_Above\_Urban FLOAT,

LL\_Women\_With\_Two\_Children\_Wanting\_No\_More\_Children\_Total FLOAT,

LL\_Women\_With\_Two\_Children\_Wanting\_No\_More\_Children\_Rural FLOAT,

LL\_Women\_With\_Two\_Children\_Wanting\_No\_More\_Children\_Urban FLOAT,

LL\_Women\_15\_19\_Years\_Who\_Were\_Already\_Mothers\_Or\_Pregnant\_Total FLOAT,

LL\_Women\_15\_19\_Years\_Who\_Were\_Already\_Mothers\_Or\_Pregnant\_Rural FLOAT,

LL\_Women\_15\_19\_Years\_Who\_Were\_Already\_Mothers\_Or\_Pregnant\_Urban FLOAT,

LL\_Median\_Age\_At\_First\_Live\_Birth\_Of\_Women\_15\_49\_Years\_Total FLOAT,

LL\_Median\_Age\_At\_First\_Live\_Birth\_Of\_Women\_15\_49\_Years\_Rural FLOAT,

LL\_Median\_Age\_At\_First\_Live\_Birth\_Of\_Women\_15\_49\_Years\_Urban FLOAT,

LL\_Median\_Age\_At\_First\_Live\_Birth\_Of\_Women\_25\_49\_Years\_Total FLOAT,

LL\_Median\_Age\_At\_First\_Live\_Birth\_Of\_Women\_25\_49\_Years\_Rural FLOAT,

LL\_Median\_Age\_At\_First\_Live\_Birth\_Of\_Women\_25\_49\_Years\_Urban FLOAT,

LL\_Live\_Births\_Taking\_Place\_After\_An\_Interval\_Of\_36\_Months\_Total FLOAT,

LL\_Live\_Births\_Taking\_Place\_After\_An\_Interval\_Of\_36\_Months\_Rural FLOAT,

LL\_Live\_Births\_Taking\_Place\_After\_An\_Interval\_Of\_36\_Months\_Urban FLOAT,

LL\_Mean\_Number\_Of\_Children\_Ever\_Born\_To\_Women\_15\_49\_Years\_Total FLOAT,

LL\_Mean\_Number\_Of\_Children\_Ever\_Born\_To\_Women\_15\_49\_Years\_Rural FLOAT,

LL\_Mean\_Number\_Of\_Children\_Ever\_Born\_To\_Women\_15\_49\_Years\_Urban FLOAT,

LL\_Mean\_Number\_Of\_Children\_Surviving\_To\_Women\_15\_49\_Years\_Total FLOAT,

LL\_Mean\_Number\_Of\_Children\_Surviving\_To\_Women\_15\_49\_Years\_Rural FLOAT,

LL\_Mean\_Number\_Of\_Children\_Surviving\_To\_Women\_15\_49\_Years\_Urban FLOAT,

LL\_Mean\_Number\_Of\_Children\_Ever\_Born\_To\_Women\_45\_49\_Years\_Total FLOAT,

LL\_Mean\_Number\_Of\_Children\_Ever\_Born\_To\_Women\_45\_49\_Years\_Rural FLOAT,

LL\_Mean\_Number\_Of\_Children\_Ever\_Born\_To\_Women\_45\_49\_Years\_Urban FLOAT,

MM\_Pregnancy\_To\_Women\_15\_49\_Years\_Resulting\_In\_Abortion\_Total FLOAT,

MM\_Pregnancy\_To\_Women\_15\_49\_Years\_Resulting\_In\_Abortion\_Rural FLOAT,

MM\_Pregnancy\_To\_Women\_15\_49\_Years\_Resulting\_In\_Abortion\_Urban FLOAT,

MM\_Women\_Who\_Received\_Any\_Anc\_Before\_Abortion\_Total FLOAT,

MM\_Women\_Who\_Received\_Any\_Anc\_Before\_Abortion\_Rural FLOAT,

MM\_Women\_Who\_Received\_Any\_Anc\_Before\_Abortion\_Urban FLOAT,

MM\_Women\_Who\_Went\_For\_Ultrasound\_Before\_Abortion\_Total FLOAT,

MM\_Women\_Who\_Went\_For\_Ultrasound\_Before\_Abortion\_Rural FLOAT,

MM\_Women\_Who\_Went\_For\_Ultrasound\_Before\_Abortion\_Urban FLOAT,

MM\_Average\_Month\_Of\_Pregnancy\_At\_The\_Time\_Of\_Abortion\_Total FLOAT,

MM\_Average\_Month\_Of\_Pregnancy\_At\_The\_Time\_Of\_Abortion\_Rural FLOAT,

MM\_Average\_Month\_Of\_Pregnancy\_At\_The\_Time\_Of\_Abortion\_Urban FLOAT,

MM\_Abortion\_Performed\_By\_Skilled\_Health\_Personnel\_Total FLOAT,

MM\_Abortion\_Performed\_By\_Skilled\_Health\_Personnel\_Rural FLOAT,

MM\_Abortion\_Performed\_By\_Skilled\_Health\_Personnel\_Urban FLOAT,

MM\_Abortion\_Taking\_Place\_In\_Institution\_Total FLOAT,

MM\_Abortion\_Taking\_Place\_In\_Institution\_Rural FLOAT,

MM\_Abortion\_Taking\_Place\_In\_Institution\_Urban FLOAT,

NN\_Current\_Usage\_Any\_Method\_Total FLOAT,

NN\_Current\_Usage\_Any\_Method\_Rural FLOAT,

NN\_Current\_Usage\_Any\_Method\_Urban FLOAT,

NN\_Current\_Usage\_Any\_Modern\_Method\_Total FLOAT,

NN\_Current\_Usage\_Any\_Modern\_Method\_Rural FLOAT,

NN\_Current\_Usage\_Any\_Modern\_Method\_Urban FLOAT,

NN\_Current\_Usage\_Female\_Sterilization\_Total FLOAT,

NN\_Current\_Usage\_Female\_Sterilization\_Rural FLOAT,

NN\_Current\_Usage\_Female\_Sterilization\_Urban FLOAT,

NN\_Current\_Usage\_Male\_Sterilization\_Total FLOAT,

NN\_Current\_Usage\_Male\_Sterilization\_Rural FLOAT,

NN\_Current\_Usage\_Male\_Sterilization\_Urban FLOAT,

NN\_Current\_Usage\_Copper\_T\_Iud\_Total FLOAT,

NN\_Current\_Usage\_Copper\_T\_Iud\_Rural FLOAT,

NN\_Current\_Usage\_Copper\_T\_Iud\_Urban FLOAT,

NN\_Current\_Usage\_Pills\_Total FLOAT,

NN\_Current\_Usage\_Pills\_Rural FLOAT,

NN\_Current\_Usage\_Pills\_Urban FLOAT,

NN\_Current\_Usage\_Condom\_Nirodh\_Total FLOAT,

NN\_Current\_Usage\_Condom\_Nirodh\_Rural FLOAT,

NN\_Current\_Usage\_Condom\_Nirodh\_Urban FLOAT,

NN\_Current\_Usage\_Emergency\_Contraceptive\_Pills\_Total FLOAT,

NN\_Current\_Usage\_Emergency\_Contraceptive\_Pills\_Rural FLOAT,

NN\_Current\_Usage\_Emergency\_Contraceptive\_Pills\_Urban FLOAT,

NN\_Current\_Usage\_Any\_Traditional\_Method\_Total FLOAT,

NN\_Current\_Usage\_Any\_Traditional\_Method\_Rural FLOAT,

NN\_Current\_Usage\_Any\_Traditional\_Method\_Urban FLOAT,

NN\_Current\_Usage\_Periodic\_Abstinence\_Total FLOAT,

NN\_Current\_Usage\_Periodic\_Abstinence\_Rural FLOAT,

NN\_Current\_Usage\_Periodic\_Abstinence\_Urban FLOAT,

NN\_Current\_Usage\_Withdrawal\_Total FLOAT,

NN\_Current\_Usage\_Withdrawal\_Rural FLOAT,

NN\_Current\_Usage\_Withdrawal\_Urban FLOAT,

NN\_Current\_Usage\_Lam\_Total FLOAT,

NN\_Current\_Usage\_Lam\_Rural FLOAT,

NN\_Current\_Usage\_Lam\_Urban FLOAT,

OO\_Unmet\_Need\_For\_Spacing\_Total FLOAT,

OO\_Unmet\_Need\_For\_Spacing\_Rural FLOAT,

OO\_Unmet\_Need\_For\_Spacing\_Urban FLOAT,

OO\_Unmet\_Need\_For\_Limiting\_Total FLOAT,

OO\_Unmet\_Need\_For\_Limiting\_Rural FLOAT,

OO\_Unmet\_Need\_For\_Limiting\_Urban FLOAT,

OO\_Total\_Unmet\_Need\_Total FLOAT,

OO\_Total\_Unmet\_Need\_Rural FLOAT,

OO\_Total\_Unmet\_Need\_Urban FLOAT,

PP\_Married\_Pregnant\_Women\_15\_49\_Years\_Registered\_For\_Anc\_Total FLOAT,

PP\_Married\_Pregnant\_Women\_15\_49\_Years\_Registered\_For\_Anc\_Rural FLOAT,

PP\_Married\_Pregnant\_Women\_15\_49\_Years\_Registered\_For\_Anc\_Urban FLOAT,

PP\_Mothers\_Who\_Received\_Any\_Antenatal\_Check\_Up\_Total FLOAT,

PP\_Mothers\_Who\_Received\_Any\_Antenatal\_Check\_Up\_Rural FLOAT,

PP\_Mothers\_Who\_Received\_Any\_Antenatal\_Check\_Up\_Urban FLOAT,

PP\_Mothers\_Who\_Had\_Antenatal\_Check\_Up\_In\_First\_Trimester\_Total FLOAT,

PP\_Mothers\_Who\_Had\_Antenatal\_Check\_Up\_In\_First\_Trimester\_Rural FLOAT,

PP\_Mothers\_Who\_Had\_Antenatal\_Check\_Up\_In\_First\_Trimester\_Urban FLOAT,

PP\_Mothers\_Who\_Received\_3\_Or\_More\_Antenatal\_Care\_Total FLOAT,

PP\_Mothers\_Who\_Received\_3\_Or\_More\_Antenatal\_Care\_Rural FLOAT,

PP\_Mothers\_Who\_Received\_3\_Or\_More\_Antenatal\_Care\_Urban FLOAT,

PP\_Mothers\_Who\_Received\_At\_Least\_One\_Tt\_Injection\_Total FLOAT,

PP\_Mothers\_Who\_Received\_At\_Least\_One\_Tt\_Injection\_Rural FLOAT,

PP\_Mothers\_Who\_Received\_At\_Least\_One\_Tt\_Injection\_Urban FLOAT,

PP\_Mothers\_Who\_Consumed\_Ifa\_For\_100\_Days\_Or\_More\_Total FLOAT,

PP\_Mothers\_Who\_Consumed\_Ifa\_For\_100\_Days\_Or\_More\_Rural FLOAT,

PP\_Mothers\_Who\_Consumed\_Ifa\_For\_100\_Days\_Or\_More\_Urban FLOAT,

PP\_Mothers\_Who\_Had\_Full\_Antenatal\_Check\_Up\_Total FLOAT,

PP\_Mothers\_Who\_Had\_Full\_Antenatal\_Check\_Up\_Rural FLOAT,

PP\_Mothers\_Who\_Had\_Full\_Antenatal\_Check\_Up\_Urban FLOAT,

PP\_Mothers\_Who\_Received\_Anc\_From\_Govt\_Source\_Total FLOAT,

PP\_Mothers\_Who\_Received\_Anc\_From\_Govt\_Source\_Rural FLOAT,

PP\_Mothers\_Who\_Received\_Anc\_From\_Govt\_Source\_Urban FLOAT,

PP\_Mothers\_Whose\_Blood\_Pressure\_Bp\_Taken\_Total FLOAT,

PP\_Mothers\_Whose\_Blood\_Pressure\_Bp\_Taken\_Rural FLOAT,

PP\_Mothers\_Whose\_Blood\_Pressure\_Bp\_Taken\_Urban FLOAT,

PP\_Mothers\_Whose\_Blood\_Taken\_For\_Hb\_Total FLOAT,

PP\_Mothers\_Whose\_Blood\_Taken\_For\_Hb\_Rural FLOAT,

PP\_Mothers\_Whose\_Blood\_Taken\_For\_Hb\_Urban FLOAT,

PP\_Mothers\_Who\_Underwent\_Ultrasound\_Total FLOAT,

PP\_Mothers\_Who\_Underwent\_Ultrasound\_Rural FLOAT,

PP\_Mothers\_Who\_Underwent\_Ultrasound\_Urban FLOAT,

QQ\_Institutional\_Delivery\_Total FLOAT,

QQ\_Institutional\_Delivery\_Rural FLOAT,

QQ\_Institutional\_Delivery\_Urban FLOAT,

QQ\_Delivery\_At\_Government\_Institution\_Total FLOAT,

QQ\_Delivery\_At\_Government\_Institution\_Rural FLOAT,

QQ\_Delivery\_At\_Government\_Institution\_Urban FLOAT,

QQ\_Delivery\_At\_Private\_Institution\_Total FLOAT,

QQ\_Delivery\_At\_Private\_Institution\_Rural FLOAT,

QQ\_Delivery\_At\_Private\_Institution\_Urban FLOAT,

QQ\_Delivery\_At\_Home\_Total FLOAT,

QQ\_Delivery\_At\_Home\_Rural FLOAT,

QQ\_Delivery\_At\_Home\_Urban FLOAT,

QQ\_Delivery\_At\_Home\_Conducted\_By\_Skilled\_Health\_Personnel\_Total FLOAT,

QQ\_Delivery\_At\_Home\_Conducted\_By\_Skilled\_Health\_Personnel\_Rural FLOAT,

QQ\_Delivery\_At\_Home\_Conducted\_By\_Skilled\_Health\_Personnel\_Urban FLOAT,

QQ\_Safe\_Delivery\_Total FLOAT,

QQ\_Safe\_Delivery\_Rural FLOAT,

QQ\_Safe\_Delivery\_Urban FLOAT,

QQ\_Caesarean\_Out\_Of\_Total\_Delivery\_In\_Government\_Total FLOAT,

QQ\_Caesarean\_Out\_Of\_Total\_Delivery\_In\_Government\_Rural FLOAT,

QQ\_Caesarean\_Out\_Of\_Total\_Delivery\_In\_Government\_Urban FLOAT,

QQ\_Caesarean\_Out\_Of\_Total\_Delivery\_In\_Private\_Total FLOAT,

QQ\_Caesarean\_Out\_Of\_Total\_Delivery\_In\_Private\_Rural FLOAT,

QQ\_Caesarean\_Out\_Of\_Total\_Delivery\_In\_Private\_Urban FLOAT,

RR\_Less\_Than\_24\_Hrs\_Stay\_In\_Institution\_After\_Delivery\_Total FLOAT,

RR\_Less\_Than\_24\_Hrs\_Stay\_In\_Institution\_After\_Delivery\_Rural FLOAT,

RR\_Less\_Than\_24\_Hrs\_Stay\_In\_Institution\_After\_Delivery\_Urban FLOAT,

RR\_Mothers\_Who\_Received\_Within\_48\_Hrs\_Of\_Delivery\_Total FLOAT,

RR\_Mothers\_Who\_Received\_Within\_48\_Hrs\_Of\_Delivery\_Rural FLOAT,

RR\_Mothers\_Who\_Received\_Within\_48\_Hrs\_Of\_Delivery\_Urban FLOAT,

RR\_Mothers\_Who\_Received\_Within\_1\_Week\_Of\_Delivery\_Total FLOAT,

RR\_Mothers\_Who\_Received\_Within\_1\_Week\_Of\_Delivery\_Rural FLOAT,

RR\_Mothers\_Who\_Received\_Within\_1\_Week\_Of\_Delivery\_Urban FLOAT,

RR\_Mothers\_Who\_Did\_Not\_Receive\_Any\_Post\_Natal\_Check\_Up\_Total FLOAT,

RR\_Mothers\_Who\_Did\_Not\_Receive\_Any\_Post\_Natal\_Check\_Up\_Rural FLOAT,

RR\_Mothers\_Who\_Did\_Not\_Receive\_Any\_Post\_Natal\_Check\_Up\_Urban FLOAT,

RR\_New\_Borns\_Who\_Were\_Checked\_Up\_Within\_24\_Hrs\_Of\_Birth\_Total FLOAT,

RR\_New\_Borns\_Who\_Were\_Checked\_Up\_Within\_24\_Hrs\_Of\_Birth\_Rural FLOAT,

RR\_New\_Borns\_Who\_Were\_Checked\_Up\_Within\_24\_Hrs\_Of\_Birth\_Urban FLOAT,

SS\_Availed\_Financial\_Assistance\_For\_Delivery\_Under\_Jsy\_Total FLOAT,

SS\_Availed\_Financial\_Assistance\_For\_Delivery\_Under\_Jsy\_Rural FLOAT,

SS\_Availed\_Financial\_Assistance\_For\_Delivery\_Under\_Jsy\_Urban FLOAT,

SS\_Availed\_Financial\_Assis\_For\_Inst\_Delivery\_Under\_Jsy\_Total FLOAT,

SS\_Availed\_Financial\_Assis\_For\_Inst\_Delivery\_Under\_Jsy\_Rural FLOAT,

SS\_Availed\_Financial\_Assis\_For\_Inst\_Delivery\_Under\_Jsy\_Urban FLOAT,

SS\_Availed\_Financial\_Assis\_For\_Govt\_Delivery\_Under\_Jsy\_Total FLOAT,

SS\_Availed\_Financial\_Assis\_For\_Govt\_Delivery\_Under\_Jsy\_Rural FLOAT,

SS\_Availed\_Financial\_Assis\_For\_Govt\_Delivery\_Under\_Jsy\_Urban FLOAT,

TT\_Children\_Aged\_12\_23\_Months\_Having\_Immunization\_Card\_Total FLOAT,

TT\_Children\_Aged\_12\_23\_Months\_Having\_Immunization\_Card\_Rural FLOAT,

TT\_Children\_Aged\_12\_23\_Months\_Having\_Immunization\_Card\_Urban FLOAT,

TT\_Children\_Aged\_12\_23\_Months\_Who\_Have\_Received\_Bcg\_Total FLOAT,

TT\_Children\_Aged\_12\_23\_Months\_Who\_Have\_Received\_Bcg\_Rural FLOAT,

TT\_Children\_Aged\_12\_23\_Months\_Who\_Have\_Received\_Bcg\_Urban FLOAT,

TT\_Children\_12\_23\_Months\_Received\_3\_Doses\_Of\_Polio\_Vaccine\_Total FLOAT,

TT\_Children\_12\_23\_Months\_Received\_3\_Doses\_Of\_Polio\_Vaccine\_Rural FLOAT,

TT\_Children\_12\_23\_Months\_Received\_3\_Doses\_Of\_Polio\_Vaccine\_Urban FLOAT,

TT\_Children\_12\_23\_Months\_Received\_3\_Doses\_Of\_Dpt\_Vaccine\_Total FLOAT,

TT\_Children\_12\_23\_Months\_Received\_3\_Doses\_Of\_Dpt\_Vaccine\_Rural FLOAT,

TT\_Children\_12\_23\_Months\_Received\_3\_Doses\_Of\_Dpt\_Vaccine\_Urban FLOAT,

TT\_Children\_Aged\_12\_23\_Months\_Received\_Measles\_Vaccine\_Total FLOAT,

TT\_Children\_Aged\_12\_23\_Months\_Received\_Measles\_Vaccine\_Rural FLOAT,

TT\_Children\_Aged\_12\_23\_Months\_Received\_Measles\_Vaccine\_Urban FLOAT,

TT\_Children\_Aged\_12\_23\_Months\_Fully\_Immunized\_Total FLOAT,

TT\_Children\_Aged\_12\_23\_Months\_Fully\_Immunized\_Rural FLOAT,

TT\_Children\_Aged\_12\_23\_Months\_Fully\_Immunized\_Urban FLOAT,

TT\_Children\_Who\_Have\_Received\_Polio\_Dose\_At\_Birth\_Total FLOAT,

TT\_Children\_Who\_Have\_Received\_Polio\_Dose\_At\_Birth\_Rural FLOAT,

TT\_Children\_Who\_Have\_Received\_Polio\_Dose\_At\_Birth\_Urban FLOAT,

TT\_Children\_Who\_Did\_Not\_Receive\_Any\_Vaccination\_Total FLOAT,

TT\_Children\_Who\_Did\_Not\_Receive\_Any\_Vaccination\_Rural FLOAT,

TT\_Children\_Who\_Did\_Not\_Receive\_Any\_Vaccination\_Urban FLOAT,

TT\_Children\_6\_35\_Mon\_At\_Least\_1\_Vit\_A\_Dose\_Last\_6\_Months\_Total FLOAT,

TT\_Children\_6\_35\_Mon\_At\_Least\_1\_Vit\_A\_Dose\_Last\_6\_Months\_Rural FLOAT,

TT\_Children\_6\_35\_Mon\_At\_Least\_1\_Vit\_A\_Dose\_Last\_6\_Months\_Urban FLOAT,

TT\_Children\_6\_35\_Mon\_Ifa\_Tablets\_Syrup\_Last\_3\_Months\_Total FLOAT,

TT\_Children\_6\_35\_Mon\_Ifa\_Tablets\_Syrup\_Last\_3\_Months\_Rural FLOAT,

TT\_Children\_6\_35\_Mon\_Ifa\_Tablets\_Syrup\_Last\_3\_Months\_Urban FLOAT,

TT\_Children\_Whose\_Birth\_Weight\_Was\_Taken\_Total FLOAT,

TT\_Children\_Whose\_Birth\_Weight\_Was\_Taken\_Rural FLOAT,

TT\_Children\_Whose\_Birth\_Weight\_Was\_Taken\_Urban FLOAT,

TT\_Children\_With\_Birth\_Weight\_Less\_Than\_2\_5\_Kg\_Total FLOAT,

TT\_Children\_With\_Birth\_Weight\_Less\_Than\_2\_5\_Kg\_Rural FLOAT,

TT\_Children\_With\_Birth\_Weight\_Less\_Than\_2\_5\_Kg\_Urban FLOAT,

UU\_Children\_Suffering\_From\_Diarrhoea\_Total FLOAT,

UU\_Children\_Suffering\_From\_Diarrhoea\_Rural FLOAT,

UU\_Children\_Suffering\_From\_Diarrhoea\_Urban FLOAT,

UU\_Children\_Diarrhoea\_Who\_Received\_Haf\_Ors\_Ort\_Total FLOAT,

UU\_Children\_Diarrhoea\_Who\_Received\_Haf\_Ors\_Ort\_Rural FLOAT,

UU\_Children\_Diarrhoea\_Who\_Received\_Haf\_Ors\_Ort\_Urban FLOAT,

UU\_Children\_Suffering\_From\_Acute\_Respiratory\_Infection\_Total FLOAT,

UU\_Children\_Suffering\_From\_Acute\_Respiratory\_Infection\_Rural FLOAT,

UU\_Children\_Suffering\_From\_Acute\_Respiratory\_Infection\_Urban FLOAT,

UU\_Children\_Acute\_Respiratory\_Infection\_Sought\_Treatment\_Total FLOAT,

UU\_Children\_Acute\_Respiratory\_Infection\_Sought\_Treatment\_Rural FLOAT,

UU\_Children\_Acute\_Respiratory\_Infection\_Sought\_Treatment\_Urban FLOAT,

UU\_Children\_Suffering\_From\_Fever\_Total FLOAT,

UU\_Children\_Suffering\_From\_Fever\_Rural FLOAT,

UU\_Children\_Suffering\_From\_Fever\_Urban FLOAT,

UU\_Children\_Suffering\_From\_Fever\_Who\_Sought\_Treatment\_Total FLOAT,

UU\_Children\_Suffering\_From\_Fever\_Who\_Sought\_Treatment\_Rural FLOAT,

UU\_Children\_Suffering\_From\_Fever\_Who\_Sought\_Treatment\_Urban FLOAT,

VV\_Children\_Breastfed\_Within\_One\_Hour\_Of\_Birth\_Total FLOAT,

VV\_Children\_Breastfed\_Within\_One\_Hour\_Of\_Birth\_Rural FLOAT,

VV\_Children\_Breastfed\_Within\_One\_Hour\_Of\_Birth\_Urban FLOAT,

VV\_Children\_6\_35\_Mon\_Excl\_Breastfed\_For\_At\_Least\_6\_Mon\_Total FLOAT,

VV\_Children\_6\_35\_Mon\_Excl\_Breastfed\_For\_At\_Least\_6\_Mon\_Rural FLOAT,

VV\_Children\_6\_35\_Mon\_Excl\_Breastfed\_For\_At\_Least\_6\_Mon\_Urban FLOAT,

VV\_Other\_Than\_Breast\_Milk\_During\_First\_6\_Months\_Water\_Total FLOAT,

VV\_Other\_Than\_Breast\_Milk\_During\_First\_6\_Months\_Water\_Rural FLOAT,

VV\_Other\_Than\_Breast\_Milk\_During\_First\_6\_Months\_Water\_Urban FLOAT,

VV\_1st\_6\_Months\_Animal\_Formula\_Milk\_Total FLOAT,

VV\_1st\_6\_Months\_Animal\_Formula\_Milk\_Rural FLOAT,

VV\_1st\_6\_Months\_Animal\_Formula\_Milk\_Urban FLOAT,

VV\_1st\_6\_Months\_Semi\_Solid\_Mashed\_Food\_Total FLOAT,

VV\_1st\_6\_Months\_Semi\_Solid\_Mashed\_Food\_Rural FLOAT,

VV\_1st\_6\_Months\_Semi\_Solid\_Mashed\_Food\_Urban FLOAT,

VV\_1st\_6\_Months\_Solid\_Adult\_Food\_Total FLOAT,

VV\_1st\_6\_Months\_Solid\_Adult\_Food\_Rural FLOAT,

VV\_1st\_6\_Months\_Solid\_Adult\_Food\_Urban FLOAT,

VV\_1st\_6\_Months\_Vegetables\_Fruits\_Total FLOAT,

VV\_1st\_6\_Months\_Vegetables\_Fruits\_Rural FLOAT,

VV\_1st\_6\_Months\_Vegetables\_Fruits\_Urban FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Water\_Total FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Water\_Rural FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Water\_Urban FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Animal\_Formula\_Milk\_Total FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Animal\_Formula\_Milk\_Rural FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Animal\_Formula\_Milk\_Urban FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Semi\_Solid\_Mashed\_Food\_Total FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Semi\_Solid\_Mashed\_Food\_Rural FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Semi\_Solid\_Mashed\_Food\_Urban FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Solid\_Adult\_Food\_Total FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Solid\_Adult\_Food\_Rural FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Solid\_Adult\_Food\_Urban FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Vegetables\_Fruits\_Total FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Vegetables\_Fruits\_Rural FLOAT,

VV\_Avg\_Month\_Other\_Than\_Breast\_Milk\_Vegetables\_Fruits\_Urban FLOAT,

WW\_Birth\_Registered\_Total FLOAT,

WW\_Birth\_Registered\_Rural FLOAT,

WW\_Birth\_Registered\_Urban FLOAT,

WW\_Children\_Registered\_And\_Received\_Birth\_Certificate\_Total FLOAT,

WW\_Children\_Registered\_And\_Received\_Birth\_Certificate\_Rural FLOAT,

WW\_Children\_Registered\_And\_Received\_Birth\_Certificate\_Urban FLOAT,

XX\_Women\_Who\_Are\_Aware\_Of\_Hiv\_Aids\_Total FLOAT,

XX\_Women\_Who\_Are\_Aware\_Of\_Hiv\_Aids\_Rural FLOAT,

XX\_Women\_Who\_Are\_Aware\_Of\_Hiv\_Aids\_Urban FLOAT,

XX\_Women\_Who\_Are\_Aware\_Of\_Rti\_Sti\_Total FLOAT,

XX\_Women\_Who\_Are\_Aware\_Of\_Rti\_Sti\_Rural FLOAT,

XX\_Women\_Who\_Are\_Aware\_Of\_Rti\_Sti\_Urban FLOAT,

XX\_Women\_Who\_Are\_Aware\_Of\_Haf\_Ors\_Ort\_Zinc\_Total FLOAT,

XX\_Women\_Who\_Are\_Aware\_Of\_Haf\_Ors\_Ort\_Zinc\_Rural FLOAT,

XX\_Women\_Who\_Are\_Aware\_Of\_Haf\_Ors\_Ort\_Zinc\_Urban FLOAT,

XX\_Women\_Who\_Are\_Aware\_Of\_Danger\_Signs\_Of\_Ari\_Pneumonia\_Total FLOAT,

XX\_Women\_Who\_Are\_Aware\_Of\_Danger\_Signs\_Of\_Ari\_Pneumonia\_Rural FLOAT,

XX\_Women\_Who\_Are\_Aware\_Of\_Danger\_Signs\_Of\_Ari\_Pneumonia\_Urban FLOAT,

YY\_Crude\_Death\_Rate\_Cdr\_Total\_Person FLOAT,

YY\_Crude\_Death\_Rate\_Cdr\_Total\_Male FLOAT,

YY\_Crude\_Death\_Rate\_Cdr\_Total\_Female FLOAT,

YY\_Crude\_Death\_Rate\_Cdr\_Rural\_Person FLOAT,

YY\_Crude\_Death\_Rate\_Cdr\_Rural\_Male FLOAT,

YY\_Crude\_Death\_Rate\_Cdr\_Rural\_Female FLOAT,

YY\_Crude\_Death\_Rate\_Cdr\_Urban\_Person FLOAT,

YY\_Crude\_Death\_Rate\_Cdr\_Urban\_Male FLOAT,

YY\_Crude\_Death\_Rate\_Cdr\_Urban\_Female FLOAT,

YY\_Infant\_Mortality\_Rate\_Imr\_Total\_Person FLOAT,

YY\_Infant\_Mortality\_Rate\_Imr\_Total\_Male FLOAT,

YY\_Infant\_Mortality\_Rate\_Imr\_Total\_Female FLOAT,

YY\_Infant\_Mortality\_Rate\_Imr\_Rural\_Person FLOAT,

YY\_Infant\_Mortality\_Rate\_Imr\_Rural\_Male FLOAT,

YY\_Infant\_Mortality\_Rate\_Imr\_Rural\_Female FLOAT,

YY\_Infant\_Mortality\_Rate\_Imr\_Urban\_Person FLOAT,

YY\_Infant\_Mortality\_Rate\_Imr\_Urban\_Male FLOAT,

YY\_Infant\_Mortality\_Rate\_Imr\_Urban\_Female FLOAT,

YY\_Neo\_Natal\_Mortality\_Rate\_Total FLOAT,

YY\_Neo\_Natal\_Mortality\_Rate\_Rural FLOAT,

YY\_Neo\_Natal\_Mortality\_Rate\_Urban FLOAT,

YY\_Post\_Neo\_Natal\_Mortality\_Rate\_Total FLOAT,

YY\_Post\_Neo\_Natal\_Mortality\_Rate\_Rural FLOAT,

YY\_Post\_Neo\_Natal\_Mortality\_Rate\_Urban FLOAT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person INT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Male INT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Female INT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Rural\_Person INT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Rural\_Male INT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Rural\_Female INT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Urban\_Person INT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Urban\_Male INT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Urban\_Female INT,

ZZ\_Crude\_Birth\_Rate\_Total\_Lower\_Limit FLOAT,

ZZ\_Crude\_Birth\_Rate\_Total\_Upper\_Limit FLOAT,

ZZ\_Crude\_Birth\_Rate\_Rural\_Lower\_Limit FLOAT,

ZZ\_Crude\_Birth\_Rate\_Rural\_Upper\_Limit FLOAT,

ZZ\_Crude\_Birth\_Rate\_Urban\_Lower\_Limit FLOAT,

ZZ\_Crude\_Birth\_Rate\_Urban\_Upper\_Limit FLOAT,

ZZ\_Crude\_Death\_Rate\_Total\_Lower\_Limit FLOAT,

ZZ\_Crude\_Death\_Rate\_Total\_Upper\_Limit FLOAT,

ZZ\_Crude\_Death\_Rate\_Rural\_Lower\_Limit FLOAT,

ZZ\_Crude\_Death\_Rate\_Rural\_Upper\_Limit FLOAT,

ZZ\_Crude\_Death\_Rate\_Urban\_Lower\_Limit FLOAT,

ZZ\_Crude\_Death\_Rate\_Urban\_Upper\_Limit FLOAT,

ZZ\_Infant\_Mortality\_Rate\_Total\_Lower\_Limit FLOAT,

ZZ\_Infant\_Mortality\_Rate\_Total\_Upper\_Limit FLOAT,

ZZ\_Infant\_Mortality\_Rate\_Rural\_Lower\_Limit FLOAT,

ZZ\_Infant\_Mortality\_Rate\_Rural\_Upper\_Limit FLOAT,

ZZ\_Infant\_Mortality\_Rate\_Urban\_Lower\_Limit FLOAT,

ZZ\_Infant\_Mortality\_Rate\_Urban\_Upper\_Limit FLOAT,

ZZ\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Lower\_Limit INT,

ZZ\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Upper\_Limit INT,

ZZ\_Under\_Five\_Mortality\_Rate\_U5MR\_Rural\_Lower\_Limit INT,

ZZ\_Under\_Five\_Mortality\_Rate\_U5MR\_Rural\_Upper\_Limit INT,

ZZ\_Under\_Five\_Mortality\_Rate\_U5MR\_Urban\_Lower\_Limit INT,

ZZ\_Under\_Five\_Mortality\_Rate\_U5MR\_Urban\_Upper\_Limit INT,

ZZ\_Sex\_Ratio\_At\_Birth\_Total\_Lower\_Limit INT,

ZZ\_Sex\_Ratio\_At\_Birth\_Total\_Upper\_Limit INT,

ZZ\_Sex\_Ratio\_At\_Birth\_Rural\_Lower\_Limit INT,

ZZ\_Sex\_Ratio\_At\_Birth\_Rural\_Upper\_Limit INT,

ZZ\_Sex\_Ratio\_At\_Birth\_Urban\_Lower\_Limit INT,

ZZ\_Sex\_Ratio\_At\_Birth\_Urban\_Upper\_Limit INT)

COMMENT 'command to create external table '

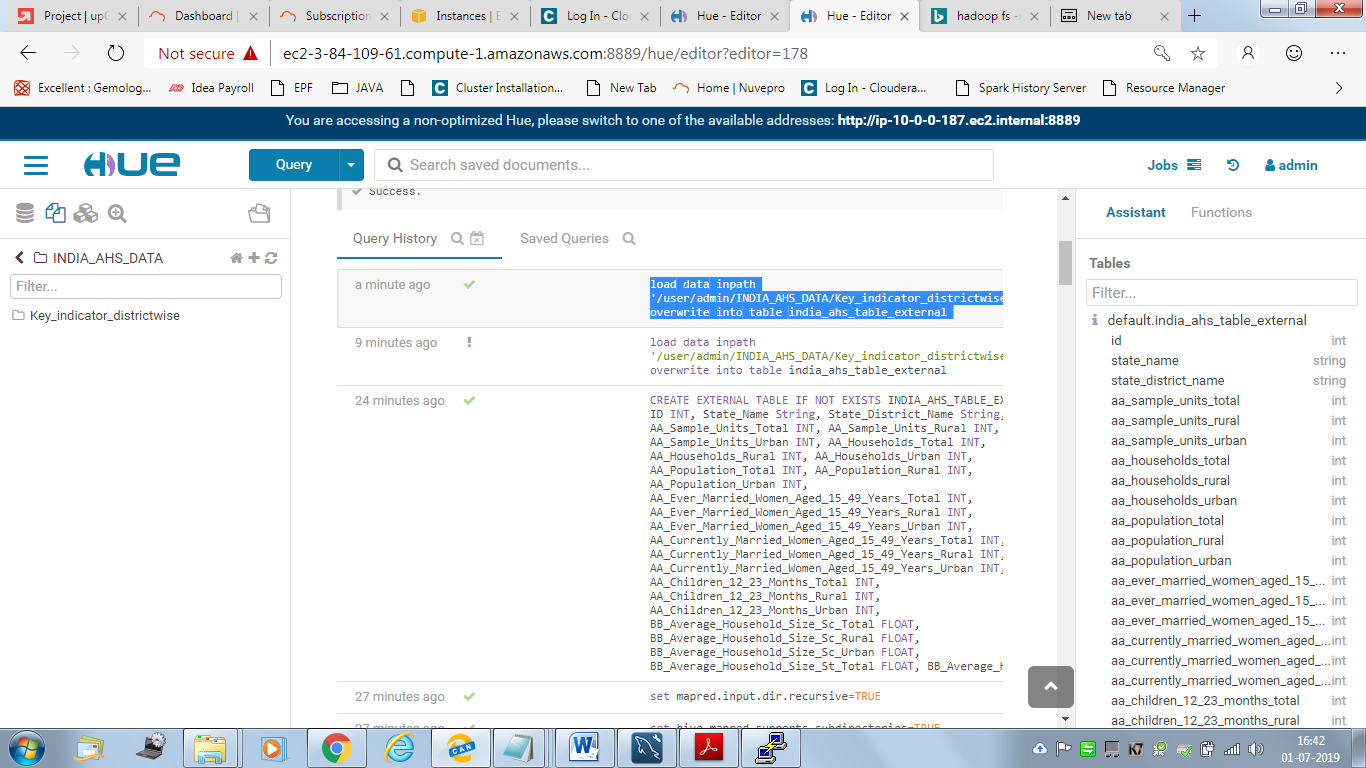
ROW FORMAT DELIMITED FIELDS TERMINATED BY ','

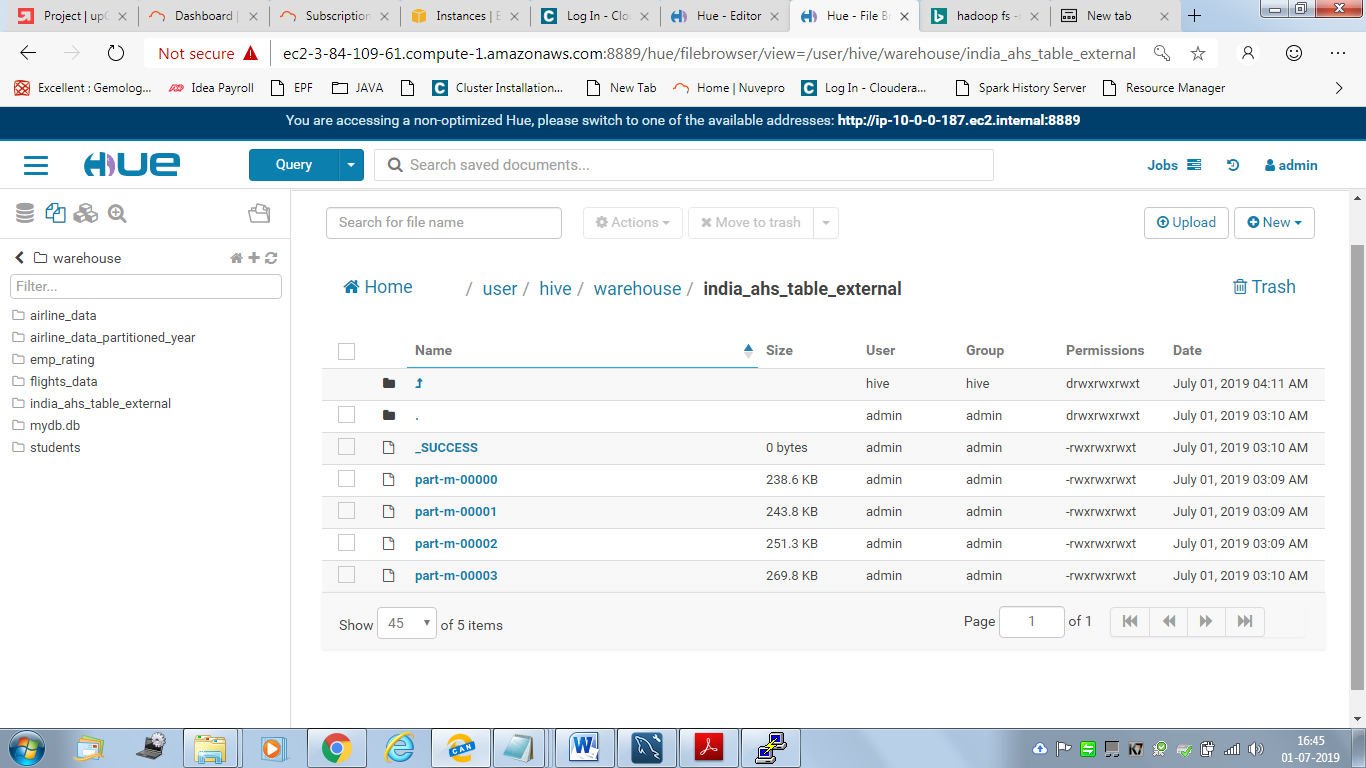
STORED AS TEXTFILE;

**NOTE : External location kept default and hence table created in /Lazeez/hive/warehouse/india\_ahs\_table\_external**

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

load data inpath '/user/admin/INDIA\_AHS\_DATA/Key\_indicator\_districtwise' overwrite into table india\_ahs\_table\_external;





**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

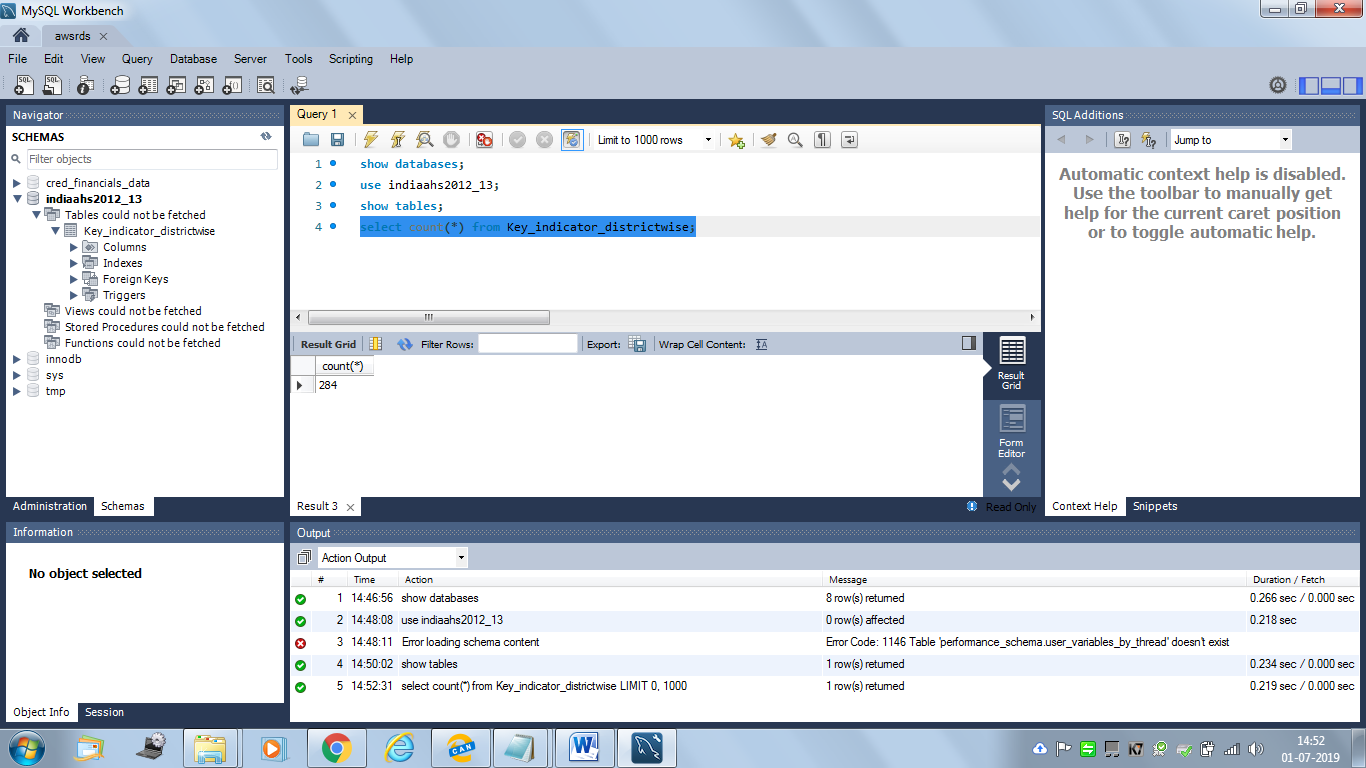
**MySQL Workbench:**

**Query:**

select count(\*) from Key\_indicator\_districtwise;

**Output : 284**

<Screenshot>

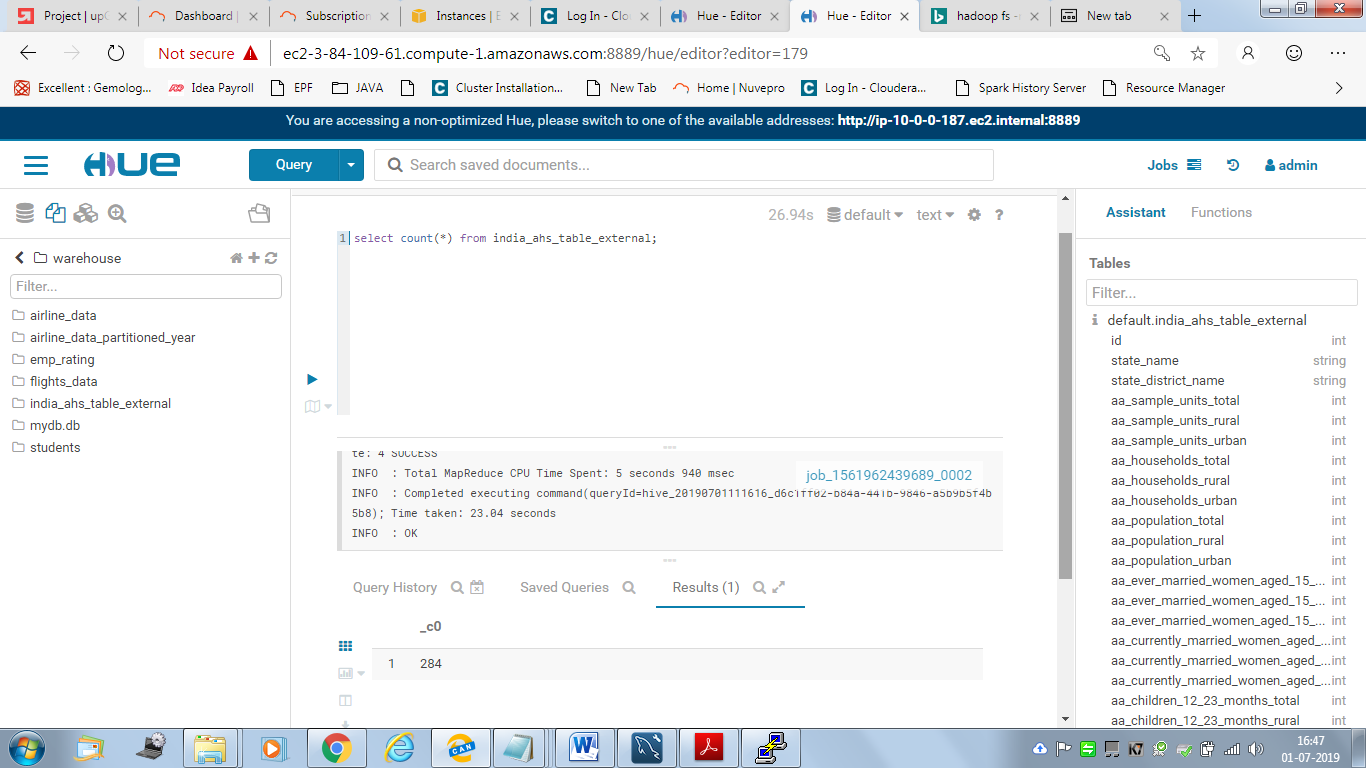


**Hue:**

select count(\*) from india\_ahs\_table\_external;

**Output: 284**

<Screenshot>



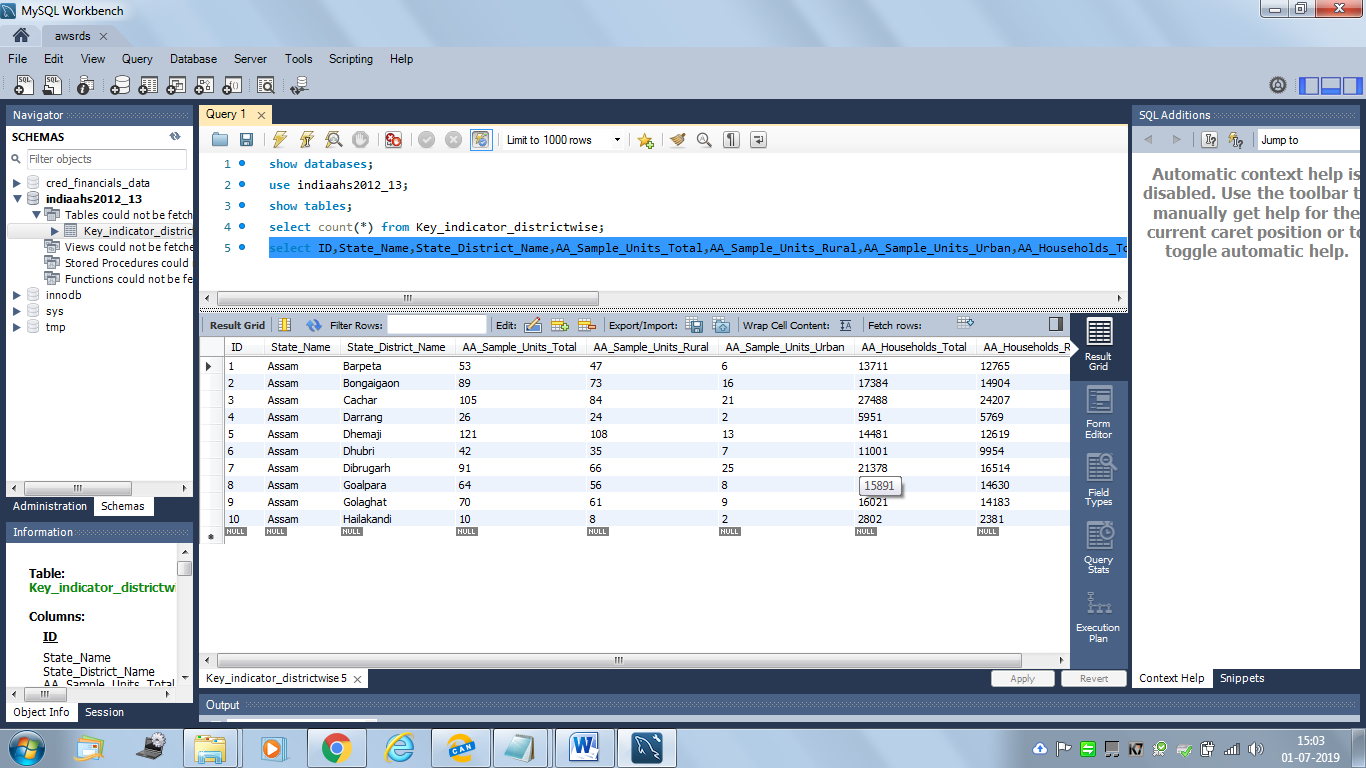
b. Query to select the top 10 rows and first 8 columns along with the screenshots of the data fetched by the query on MySQL Workbench and Hue

**MySQL Workbench:**

**Query:**

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;

<Screenshot>

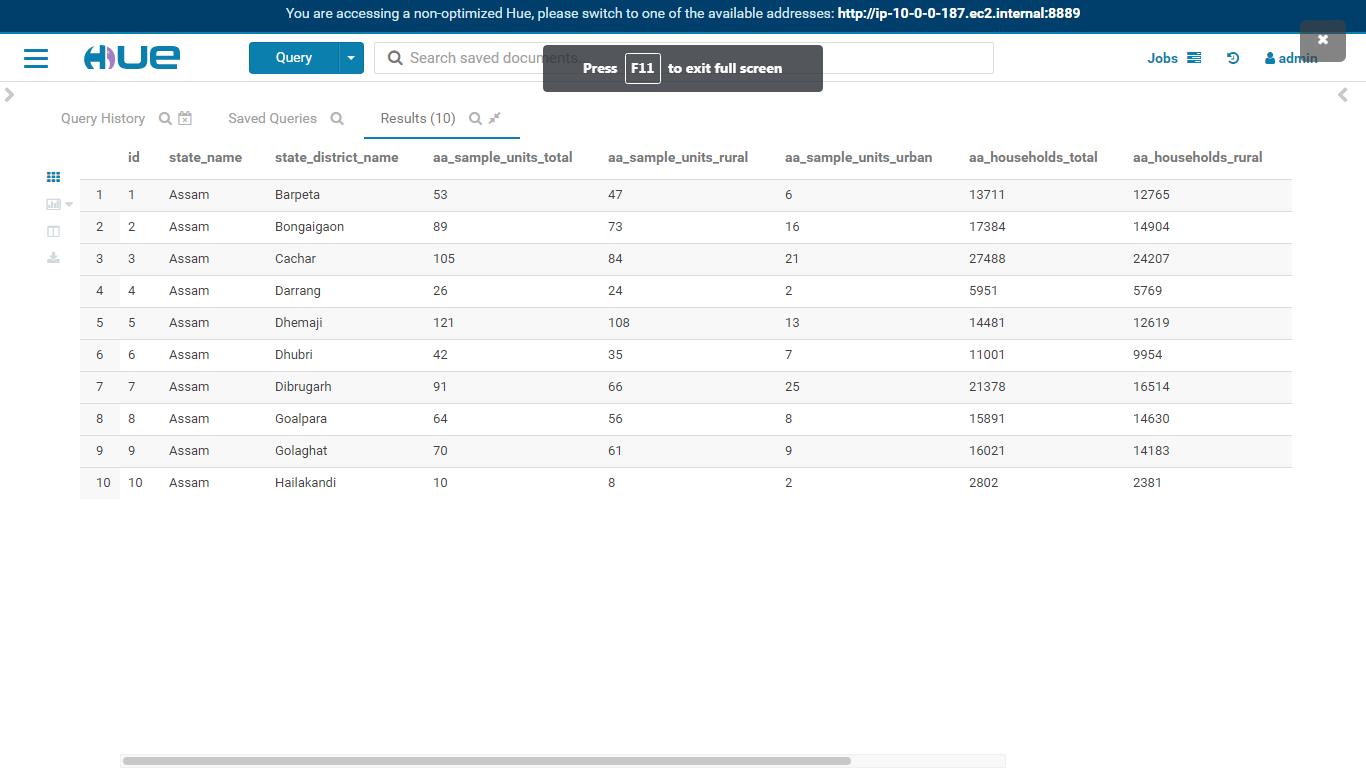


**Hue:**

**Query:**

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 india\_ahs\_table\_external limit 10;

<Screenshot>



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **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** |

**MySQL Workbench and HUE query result verified , both outputs are same.Ingestion is correctly accomplished**

***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**

DEFAULT (Text) and ORC storage format

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

<Create command>

CREATE TABLE IF NOT EXISTS india\_ahs\_table\_subset\_default(

ID INT,

State\_Name STRING,

State\_District\_Name STRING,

AA\_Households\_Total INT,

AA\_Population\_Total INT,

CC\_Sex\_Ratio\_All\_Ages\_Total FLOAT,

LL\_Total\_Fertility\_Rate\_Total FLOAT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person INT)

COMMENT 'Subset schema with Default text format with Snappy Compression'

ROW FORMAT DELIMITED FIELDS TERMINATED BY ','

STORED AS TEXTFILE

tblproperties ("textfile.compress"="SNAPPY");

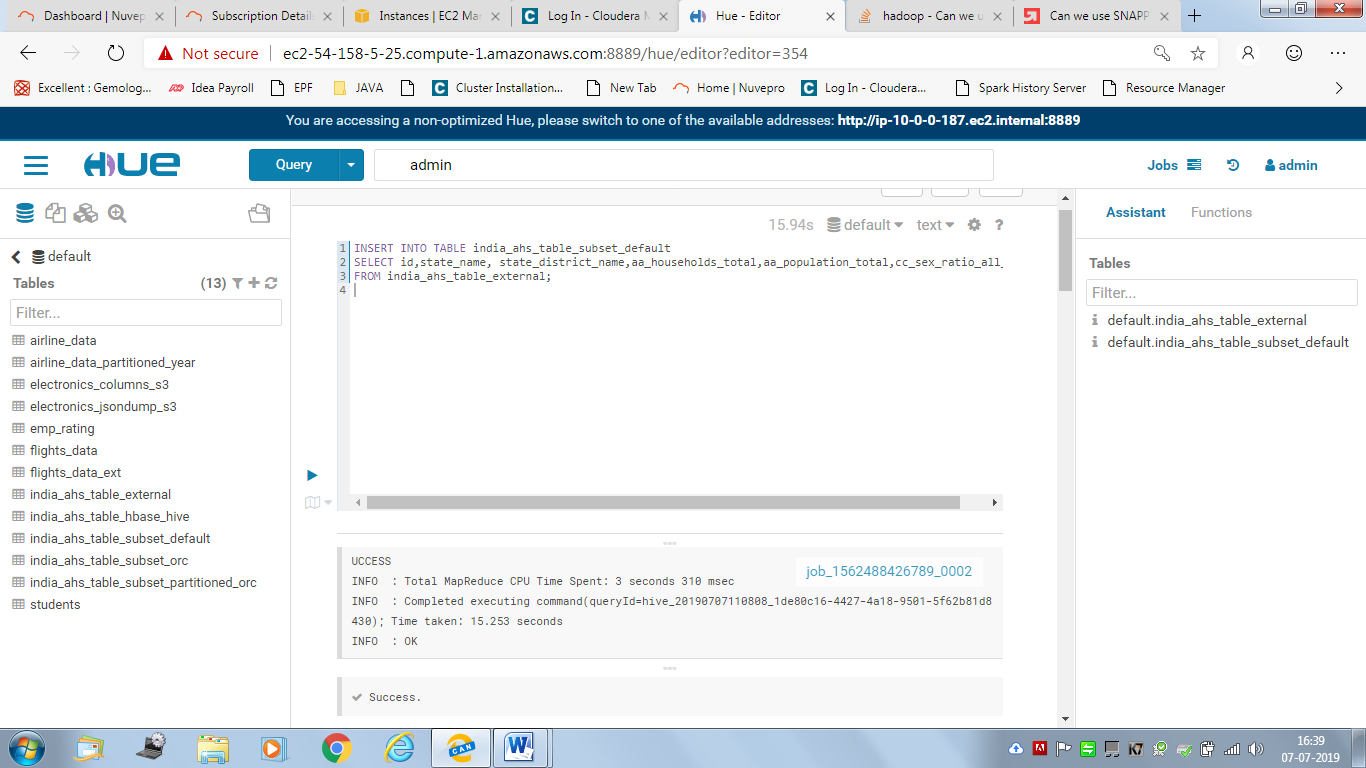
<Insert command>

INSERT INTO TABLE india\_ahs\_table\_subset\_default

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 india\_ahs\_table\_external;



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

<Create command>

CREATE TABLE IF NOT EXISTS india\_ahs\_table\_subset\_orc (

ID INT,

State\_Name STRING,

State\_District\_Name STRING,

AA\_Households\_Total INT,

AA\_Population\_Total INT,

CC\_Sex\_Ratio\_All\_Ages\_Total FLOAT,

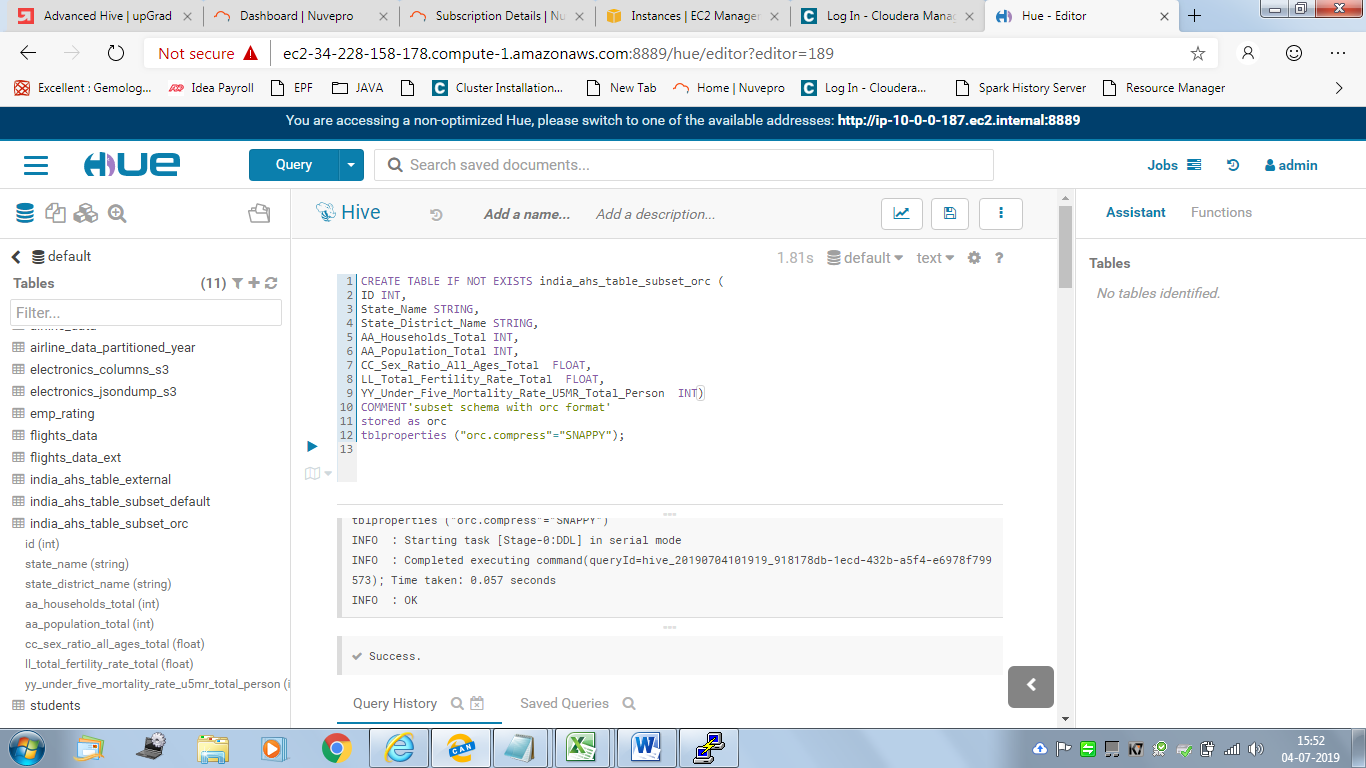
LL\_Total\_Fertility\_Rate\_Total FLOAT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person INT)

COMMENT'subset schema with orc format with Snappy Compression'

stored as orc

tblproperties ("orc.compress"="SNAPPY");



<Insert command>

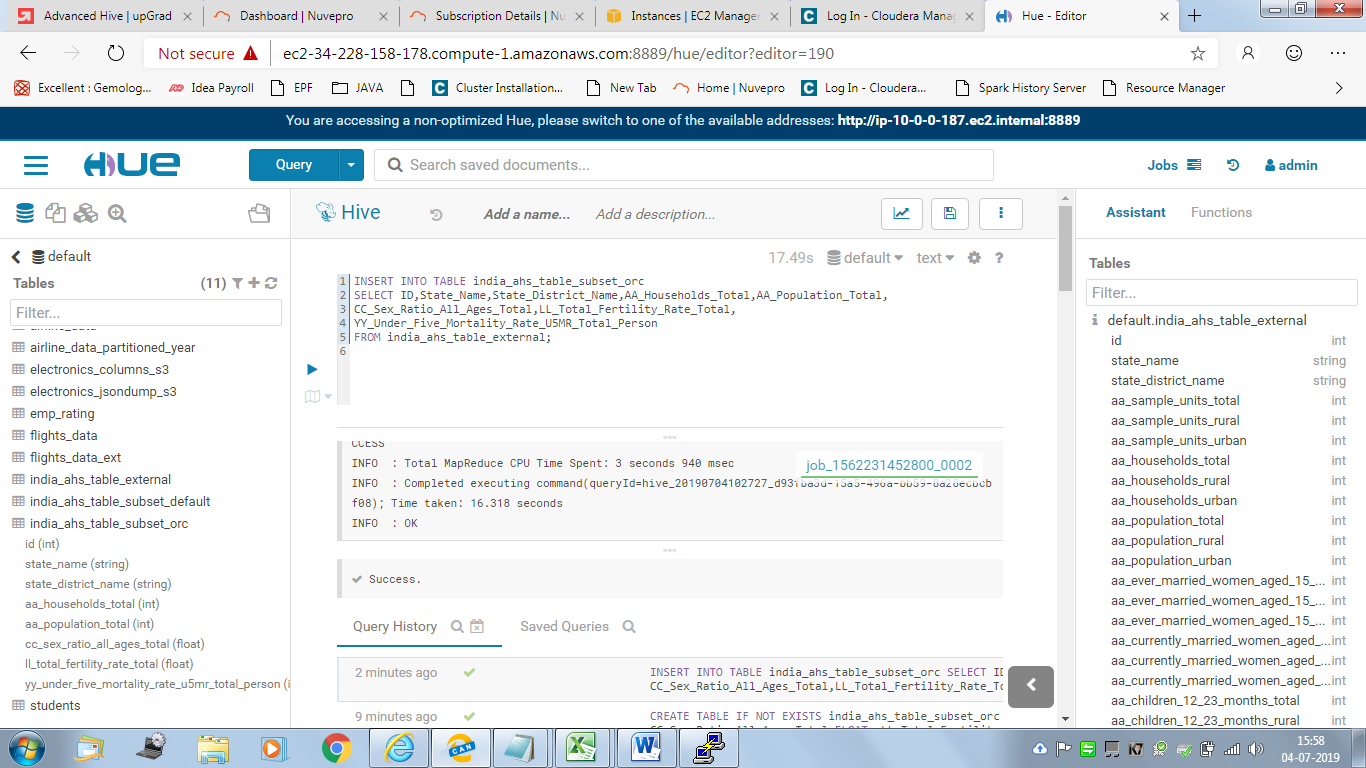
INSERT INTO TABLE india\_ahs\_table\_subset\_orc

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 india\_ahs\_table\_external;



**5. Create and insert command for the Hive-HBase integrated table**

<Create command>

CREATE TABLE IF NOT EXISTS india\_ahs\_table\_hbase\_hive(

ID INT,

State\_Name STRING,

State\_District\_Name STRING,

AA\_Households\_Total INT,

AA\_Population\_Total INT,

CC\_Sex\_Ratio\_All\_Ages\_Total FLOAT,

LL\_Total\_Fertility\_Rate\_Total FLOAT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person INT)

STORED BY 'org.apache.hadoop.hive.hbase.HBaseStorageHandler'

WITH SERDEPROPERTIES ("hbase.columns.mapping" = ":key,cf1:State\_Name,cf1:

State\_District\_Name,cf1:AA\_Households\_Total,cf1:AA\_Population\_Total,

cf1:CC\_Sex\_Ratio\_All\_Ages\_Total,cf1:LL\_Total\_Fertility\_Rate\_Total,

cf1:YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person")

TBLPROPERTIES ("hbase.table.name" = "india\_ahs\_table\_hive");

<Insert command>

INSERT overwrite TABLE india\_ahs\_table\_hbase\_hive

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 india\_ahs\_table\_subset\_default;

**6. Screenshot of runtimes against each query given above for the default format, formats such as ORC format as well as Hive-Hbase integration**

**For default format:**

<Screenshot of run time for query 1>

Select count(\*) from india\_ahs\_table\_subset\_default;

Time taken: 23.073 seconds

INFO : Compiling command(queryId=hive\_20201224111616\_0feebe16-2ac6-478e-b8dc-2c9bbd503bae):

Select count(\*) from india\_ahs\_table\_subset\_default

INFO : Semantic Analysis Completed

INFO : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:\_c0, type:bigint, comment:null)], properties:null)

INFO : Completed compiling command(queryId=hive\_20201224111616\_0feebe16-2ac6-478e-b8dc-2c9bbd503bae); Time taken: 0.048 seconds

INFO : Executing command(queryId=hive\_20201224111616\_0feebe16-2ac6-478e-b8dc-2c9bbd503bae):

Select count(\*) from india\_ahs\_table\_subset\_default

INFO : Query ID = hive\_20201224111616\_0feebe16-2ac6-478e-b8dc-2c9bbd503bae

INFO : Total jobs = 1

INFO : Launching Job 1 out of 1

INFO : Starting task [Stage-1:MAPRED] in serial mode

INFO : Number of reduce tasks determined at compile time: 1

INFO : In order to change the average load for a reducer (in bytes):

INFO : set hive.exec.reducers.bytes.per.reducer=<number>

INFO : In order to limit the maximum number of reducers:

INFO : set hive.exec.reducers.max=<number>

INFO : In order to set a constant number of reducers:

INFO : set mapreduce.job.reduces=<number>

INFO : number of splits:1

INFO : Submitting tokens for job: job\_1562488426789\_0003

INFO : The url to track the job: http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562488426789\_0003/

INFO : Starting Job = job\_1562488426789\_0003, Tracking URL = http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562488426789\_0003/

INFO : Kill Command = /opt/cloudera/parcels/CDH-5.15.1-1.cdh5.15.1.p0.4/lib/hadoop/bin/hadoop job -kill job\_1562488426789\_0003

INFO : Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1

INFO : 2020-12-24 11:16:13,782 Stage-1 map = 0%, reduce = 0%

INFO : 2020-12-24 11:16:20,071 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 2.1 sec

INFO : 2020-12-24 11:16:27,372 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 4.82 sec

INFO : MapReduce Total cumulative CPU time: 4 seconds 820 msec

INFO : Ended Job = job\_1562488426789\_0003

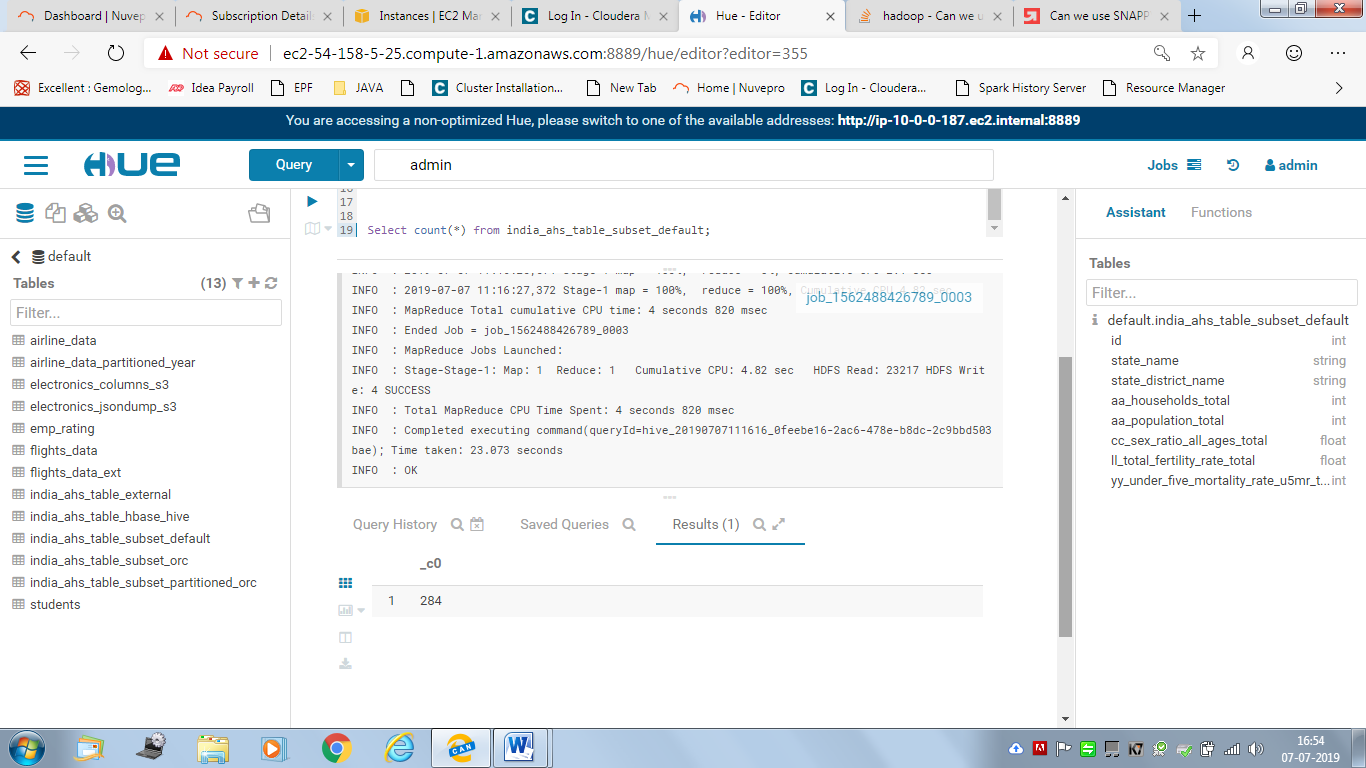
INFO : MapReduce Jobs Launched:

INFO : Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 4.82 sec HDFS Read: 23217 HDFS Write: 4 SUCCESS

INFO : Total MapReduce CPU Time Spent: 4 seconds 820 msec

INFO : Completed executing command(queryId=hive\_20201224111616\_0feebe16-2ac6-478e-b8dc-2c9bbd503bae); Time taken: 23.073 seconds

INFO : OK



<Screenshot of run time for query 2>

select State\_Name, count(\*) from india\_ahs\_table\_subset\_default group by State\_Name;

Time taken: 22.23 seconds

job\_1562231452800\_0018

INFO : Compiling command(queryId=hive\_20201227111717\_999ec95e-b511-48cd-9325-880f853f8143): select State\_Name, count(\*) from india\_ahs\_table\_subset\_default group by State\_Name

INFO : Semantic Analysis Completed

INFO : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:state\_name, type:string, comment:null), FieldSchema(name:\_c1, type:bigint, comment:null)], properties:null)

INFO : Completed compiling command(queryId=hive\_20201227111717\_999ec95e-b511-48cd-9325-880f853f8143); Time taken: 0.037 seconds

INFO : Executing command(queryId=hive\_20201227111717\_999ec95e-b511-48cd-9325-880f853f8143): select State\_Name, count(\*) from india\_ahs\_table\_subset\_default group by State\_Name

INFO : Query ID = hive\_20201227111717\_999ec95e-b511-48cd-9325-880f853f8143

INFO : Total jobs = 1

INFO : Launching Job 1 out of 1

INFO : Starting task [Stage-1:MAPRED] in serial mode

INFO : Number of reduce tasks not specified. Estimated from input data size: 1

INFO : In order to change the average load for a reducer (in bytes):

INFO : set hive.exec.reducers.bytes.per.reducer=<number>

INFO : In order to limit the maximum number of reducers:

INFO : set hive.exec.reducers.max=<number>

INFO : In order to set a constant number of reducers:

INFO : set mapreduce.job.reduces=<number>

INFO : number of splits:1

INFO : Submitting tokens for job: job\_1562231452800\_0018

INFO : The url to track the job: http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562231452800\_0018/

INFO : Starting Job = job\_1562231452800\_0018, Tracking URL = http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562231452800\_0018/

INFO : Kill Command = /opt/cloudera/parcels/CDH-5.15.1-1.cdh5.15.1.p0.4/lib/hadoop/bin/hadoop job -kill job\_1562231452800\_0018

INFO : Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1

INFO : 2020-12-24 11:17:27,915 Stage-1 map = 0%, reduce = 0%

INFO : 2020-12-24 11:17:35,288 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 2.27 sec

INFO : 2020-12-24 11:17:40,522 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 5.44 sec

INFO : MapReduce Total cumulative CPU time: 5 seconds 440 msec

INFO : Ended Job = job\_1562231452800\_0018

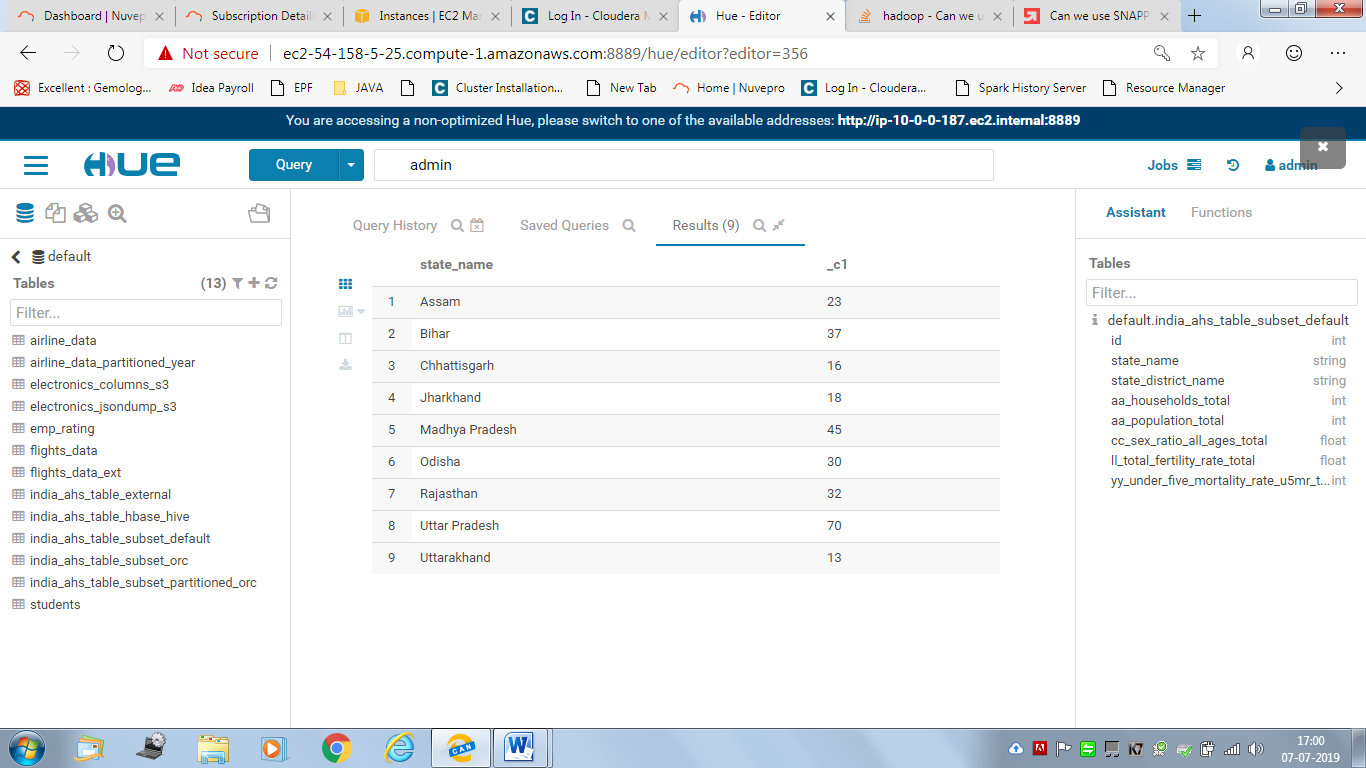
INFO : MapReduce Jobs Launched:

INFO : Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 5.44 sec HDFS Read: 23613 HDFS Write: 120 SUCCESS

INFO : Total MapReduce CPU Time Spent: 5 seconds 440 msec

INFO : Completed executing command(queryId=hive\_020201224111717\_999ec95e-b511-48cd-9325-880f853f8143); Time taken: 22.231 seconds

INFO : OK



<Screenshot of run time for query 3>

select \* from india\_ahs\_table\_subset\_default where State\_Name = 'Uttar Pradesh';

Time taken: 16.549 seconds

INFO : Compiling command(queryId=hive\_20201224113333\_3171c845-008c-4b7d-a0db-e61bdab5a9be): select \* from india\_ahs\_table\_subset\_default where State\_Name = 'Uttar Pradesh'

INFO : Semantic Analysis Completed

INFO : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:india\_ahs\_table\_subset\_default.id, type:int, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_default.state\_name, type:string, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_default.state\_district\_name, type:string, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_default.aa\_households\_total, type:int, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_default.aa\_population\_total, type:int, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_default.cc\_sex\_ratio\_all\_ages\_total, type:float, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_default.ll\_total\_fertility\_rate\_total, type:float, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_default.yy\_under\_five\_mortality\_rate\_u5mr\_total\_person, type:int, comment:null)], properties:null)

INFO : Completed compiling command(queryId=hive\_20201224113333\_3171c845-008c-4b7d-a0db-e61bdab5a9be); Time taken: 0.04 seconds

INFO : Executing command(queryId=hive\_20201224113333\_3171c845-008c-4b7d-a0db-e61bdab5a9be): select \* from india\_ahs\_table\_subset\_default where State\_Name = 'Uttar Pradesh'

INFO : Query ID = hive\_20201224113333\_3171c845-008c-4b7d-a0db-e61bdab5a9be

INFO : Total jobs = 1

INFO : Launching Job 1 out of 1

INFO : Starting task [Stage-1:MAPRED] in serial mode

INFO : Number of reduce tasks is set to 0 since there's no reduce operator

INFO : number of splits:1

INFO : Submitting tokens for job: job\_1562488426789\_0005

INFO : The url to track the job: http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562488426789\_0005/

INFO : Starting Job = job\_1562488426789\_0005, Tracking URL = http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562488426789\_0005/

INFO : Kill Command = /opt/cloudera/parcels/CDH-5.15.1-1.cdh5.15.1.p0.4/lib/hadoop/bin/hadoop job -kill job\_1562488426789\_0005

INFO : Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 0

INFO : 2020-12-24 11:33:29,479 Stage-1 map = 0%, reduce = 0%

INFO : 2020-12-24 11:33:35,760 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 3.79 sec

INFO : MapReduce Total cumulative CPU time: 3 seconds 790 msec

INFO : Ended Job = job\_1562488426789\_0005

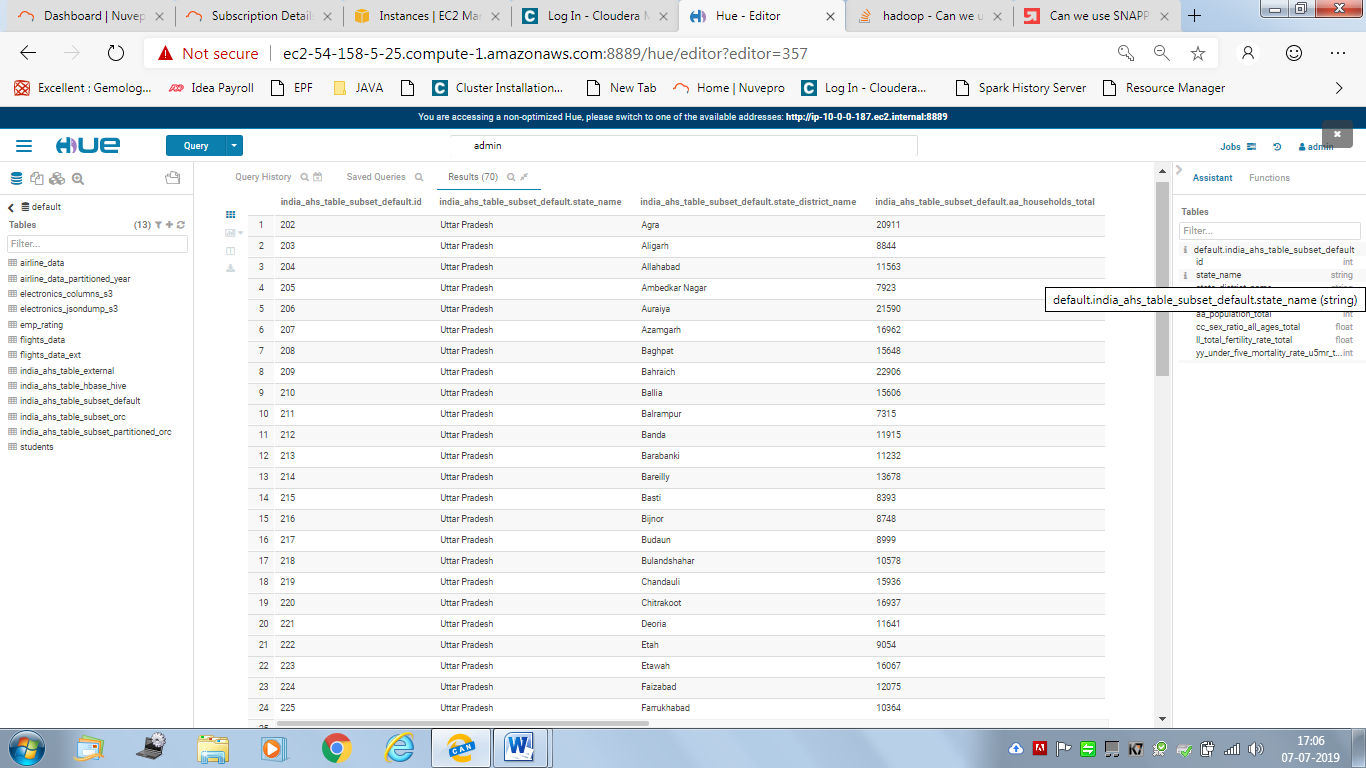
INFO : MapReduce Jobs Launched:

INFO : Stage-Stage-1: Map: 1 Cumulative CPU: 3.79 sec HDFS Read: 20069 HDFS Write: 3843 SUCCESS

INFO : Total MapReduce CPU Time Spent: 3 seconds 790 msec

INFO : Completed executing command(queryId=hive\_20201224113333\_3171c845-008c-4b7d-a0db-e61bdab5a9be); Time taken: 16.549 seconds

INFO : OK



**For ORC Format:**

<Screenshot of run time for query 1>

Select count(\*) from india\_ahs\_table\_subset\_orc;

Runtimes:21.048 secs

turning Hive schema: Schema(fieldSchemas:[FieldSchema(name:\_c0, type:bigint, comment:null)], properties:null)

INFO : Completed compiling command(queryId=hive\_20210110110606\_c2ce6081-09b3-49f9-b746-12ef0c94de3b); Time taken: 0.042 seconds

INFO : Executing command(queryId=hive\_20210110110606\_c2ce6081-09b3-49f9-b746-12ef0c94de3b): Select count(\*) from india\_ahs\_table\_subset\_orc

INFO : Query ID = hive\_20210110110606\_c2ce6081-09b3-49f9-b746-12ef0c94de3b

INFO : Total jobs = 1

INFO : Launching Job 1 out of 1

INFO : Starting task [Stage-1:MAPRED] in serial mode

INFO : Number of reduce tasks determined at compile time: 1

INFO : In order to change the average load for a reducer (in bytes):

INFO : set hive.exec.reducers.bytes.per.reducer=<number>

INFO : In order to limit the maximum number of reducers:

INFO : set hive.exec.reducers.max=<number>

INFO : In order to set a constant number of reducers:

INFO : set mapreduce.job.reduces=<number>

INFO : number of splits:1

INFO : Submitting tokens for job: job\_1562231452800\_0012

INFO : The url to track the job: http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562231452800\_0012/

INFO : Starting Job = job\_1562231452800\_0012, Tracking URL = http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562231452800\_0012/

INFO : Kill Command = /opt/cloudera/parcels/CDH-5.15.1-1.cdh5.15.1.p0.4/lib/hadoop/bin/hadoop job -kill job\_1562231452800\_0012

INFO : Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1

INFO : 2021-01-10 11:06:16,923 Stage-1 map = 0%, reduce = 0%

INFO : 2021-01-10 11:06:23,173 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 2.94 sec

INFO : 2021-01-10 11:06:28,374 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 5.9 sec

INFO : MapReduce Total cumulative CPU time: 5 seconds 900 msec

INFO : Ended Job = job\_1562231452800\_0012

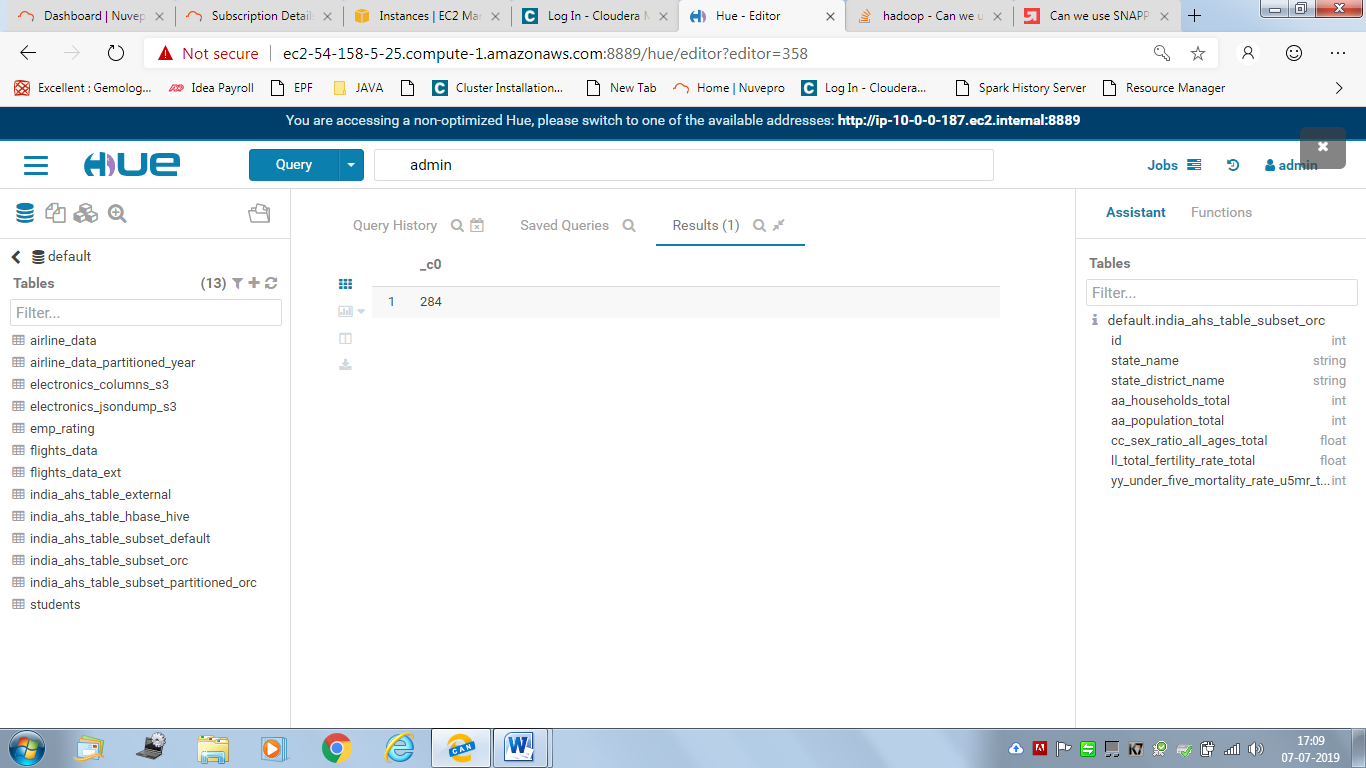
INFO : MapReduce Jobs Launched:

INFO : Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 5.9 sec HDFS Read: 23118 HDFS Write: 4 SUCCESS

INFO : Total MapReduce CPU Time Spent: 5 seconds 900 msec

INFO : Completed executing command(queryId=hive\_20210110110606\_c2ce6081-09b3-49f9-b746-12ef0c94de3b); Time taken: 21.048 seconds

INFO : OK



<Screenshot of run time for query 2>

select State\_Name, count(\*) from india\_ahs\_table\_subset\_orc group by State\_Name;

Runtimes:19.61 secs

job\_1562231452800\_0020

INFO : Compiling command(queryId=hive\_20210110111919\_c4ae8962-7100-41de-b74b-d0369deea513): select State\_Name, count(\*) from india\_ahs\_table\_subset\_orc group by State\_Name

INFO : Semantic Analysis Completed

INFO : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:state\_name, type:string, comment:null), FieldSchema(name:\_c1, type:bigint, comment:null)], properties:null)

INFO : Completed compiling command(queryId=hive\_20210110111919\_c4ae8962-7100-41de-b74b-d0369deea513); Time taken: 0.041 seconds

INFO : Executing command(queryId=hive\_20210110111919\_c4ae8962-7100-41de-b74b-d0369deea513): select State\_Name, count(\*) from india\_ahs\_table\_subset\_orc group by State\_Name

INFO : Query ID = hive\_20210110111919\_c4ae8962-7100-41de-b74b-d0369deea513

INFO : Total jobs = 1

INFO : Launching Job 1 out of 1

INFO : Starting task [Stage-1:MAPRED] in serial mode

INFO : Number of reduce tasks not specified. Estimated from input data size: 1

INFO : In order to change the average load for a reducer (in bytes):

INFO : set hive.exec.reducers.bytes.per.reducer=<number>

INFO : In order to limit the maximum number of reducers:

INFO : set hive.exec.reducers.max=<number>

INFO : In order to set a constant number of reducers:

INFO : set mapreduce.job.reduces=<number>

INFO : number of splits:1

INFO : Submitting tokens for job: job\_1562231452800\_0020

INFO : The url to track the job: http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562231452800\_0020/

INFO : Starting Job = job\_1562231452800\_0020, Tracking URL = http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562231452800\_0020/

INFO : Kill Command = /opt/cloudera/parcels/CDH-5.15.1-1.cdh5.15.1.p0.4/lib/hadoop/bin/hadoop job -kill job\_1562231452800\_0020

INFO : Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1

INFO : 2021-01-10 11:19:44,663 Stage-1 map = 0%, reduce = 0%

INFO : 2021-01-10 11:19:50,920 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 2.86 sec

INFO : 2021-01-10 11:19:57,166 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 5.89 sec

INFO : MapReduce Total cumulative CPU time: 5 seconds 890 msec

INFO : Ended Job = job\_1562231452800\_0020

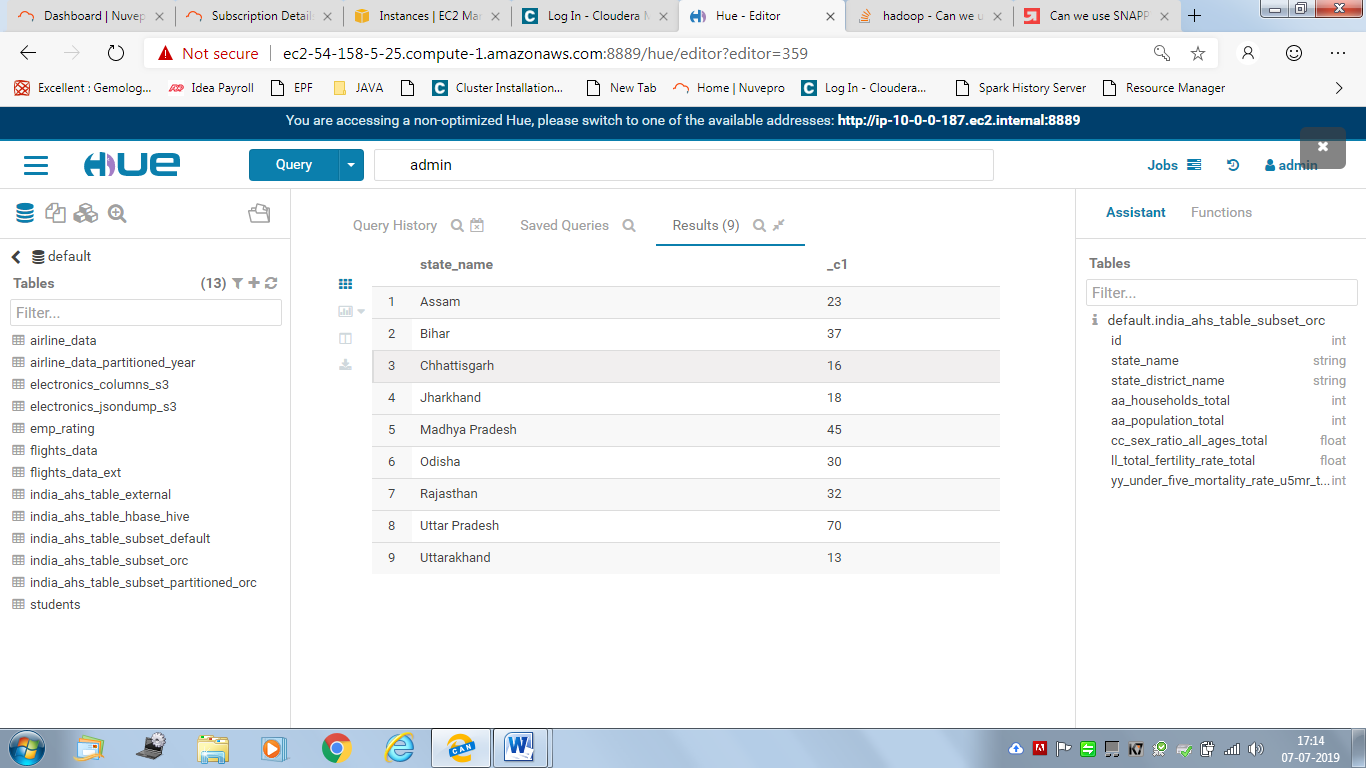
INFO : MapReduce Jobs Launched:

INFO : Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 5.89 sec HDFS Read: 24034 HDFS Write: 120 SUCCESS

INFO : Total MapReduce CPU Time Spent: 5 seconds 890 msec

INFO : Completed executing command(queryId=hive\_20210110111919\_c4ae8962-7100-41de-b74b-d0369deea513); Time taken: 19.614 seconds

INFO : OK



<Screenshot of run time for query 3>

select \* from india\_ahs\_table\_subset\_orc where State\_Name='Uttar Pradesh';

Time taken: 15.099 seconds

INFO : Compiling command(queryId=hive\_20210110114848\_8ff228cb-4aeb-438d-ac7e-c5ef1f21ca36): select \* from india\_ahs\_table\_subset\_orc where State\_Name='Uttar Pradesh'

INFO : Semantic Analysis Completed

INFO : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:india\_ahs\_table\_subset\_orc.id, type:int, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_orc.state\_name, type:string, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_orc.state\_district\_name, type:string, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_orc.aa\_households\_total, type:int, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_orc.aa\_population\_total, type:int, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_orc.cc\_sex\_ratio\_all\_ages\_total, type:float, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_orc.ll\_total\_fertility\_rate\_total, type:float, comment:null), FieldSchema(name:india\_ahs\_table\_subset\_orc.yy\_under\_five\_mortality\_rate\_u5mr\_total\_person, type:int, comment:null)], properties:null)

INFO : Completed compiling command(queryId=hive\_20210110114848\_8ff228cb-4aeb-438d-ac7e-c5ef1f21ca36); Time taken: 0.045 seconds

INFO : Executing command(queryId=hive\_20210110114848\_8ff228cb-4aeb-438d-ac7e-c5ef1f21ca36): select \* from india\_ahs\_table\_subset\_orc where State\_Name='Uttar Pradesh'

INFO : Query ID = hive\_20210110114848\_8ff228cb-4aeb-438d-ac7e-c5ef1f21ca36

INFO : Total jobs = 1

INFO : Launching Job 1 out of 1

INFO : Starting task [Stage-1:MAPRED] in serial mode

INFO : Number of reduce tasks is set to 0 since there's no reduce operator

INFO : number of splits:1

INFO : Submitting tokens for job: job\_1562488426789\_0009

INFO : The url to track the job: http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562488426789\_0009/

INFO : Starting Job = job\_1562488426789\_0009, Tracking URL = http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562488426789\_0009/

INFO : Kill Command = /opt/cloudera/parcels/CDH-5.15.1-1.cdh5.15.1.p0.4/lib/hadoop/bin/hadoop job -kill job\_1562488426789\_0009

INFO : Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 0

INFO : 2021-01-10 11:48:29,677 Stage-1 map = 0%, reduce = 0%

INFO : 2021-01-10 11:48:36,031 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 3.64 sec

INFO : MapReduce Total cumulative CPU time: 3 seconds 640 msec

INFO : Ended Job = job\_1562488426789\_0009

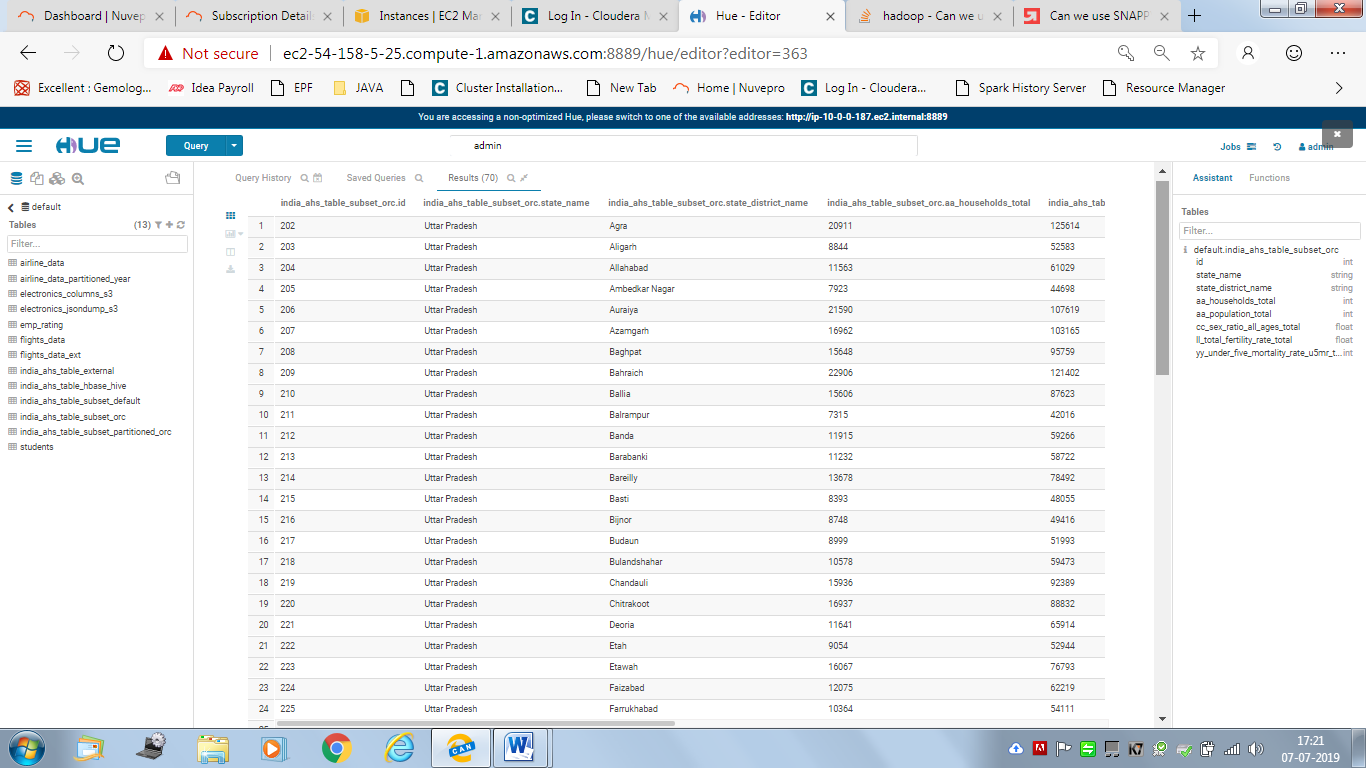
INFO : MapReduce Jobs Launched:

INFO : Stage-Stage-1: Map: 1 Cumulative CPU: 3.64 sec HDFS Read: 21401 HDFS Write: 3843 SUCCESS

INFO : Total MapReduce CPU Time Spent: 3 seconds 640 msec

INFO : Completed executing command(queryId=hive\_20210110114848\_8ff228cb-4aeb-438d-ac7e-c5ef1f21ca36); Time taken: 15.099 seconds

INFO : OK



**For Hive-Hbase Integrated Table:**

<Screenshot of run time for query 1>

Select count(\*) from india\_ahs\_table\_hbase\_hive;

**Time taken: 26.952 seconds**

**Output : 284**

job\_1562418810792\_0002

INFO : Compiling command(queryId=hive\_20210110161616\_947258a0-574b-4cfc-a8b4-8acea4fd4fdc): Select count(\*) from india\_ahs\_table\_hbase\_hive

INFO : Semantic Analysis Completed

INFO : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:\_c0, type:bigint, comment:null)], properties:null)

INFO : Completed compiling command(queryId=hive\_20210110161616\_947258a0-574b-4cfc-a8b4-8acea4fd4fdc); Time taken: 0.128 seconds

INFO : Executing command(queryId=hive\_20210110161616\_947258a0-574b-4cfc-a8b4-8acea4fd4fdc): Select count(\*) from india\_ahs\_table\_hbase\_hive

INFO : Query ID = hive\_20210110161616\_947258a0-574b-4cfc-a8b4-8acea4fd4fdc

INFO : Total jobs = 1

INFO : Launching Job 1 out of 1

INFO : Starting task [Stage-1:MAPRED] in serial mode

INFO : Number of reduce tasks determined at compile time: 1

INFO : In order to change the average load for a reducer (in bytes):

INFO : set hive.exec.reducers.bytes.per.reducer=<number>

INFO : In order to limit the maximum number of reducers:

INFO : set hive.exec.reducers.max=<number>

INFO : In order to set a constant number of reducers:

INFO : set mapreduce.job.reduces=<number>

INFO : number of splits:1

INFO : Submitting tokens for job: job\_1562418810792\_0002

INFO : The url to track the job: http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562418810792\_0002/

INFO : Starting Job = job\_1562418810792\_0002, Tracking URL = http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562418810792\_0002/

INFO : Kill Command = /opt/cloudera/parcels/CDH-5.15.1-1.cdh5.15.1.p0.4/lib/hadoop/bin/hadoop job -kill job\_1562418810792\_0002

INFO : Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1

INFO : 2021-01-10 16:16:28,519 Stage-1 map = 0%, reduce = 0%

INFO : 2021-01-10 16:16:36,040 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 3.88 sec

INFO : 2021-01-10 16:16:42,311 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 7.03 sec

INFO : MapReduce Total cumulative CPU time: 7 seconds 30 msec

INFO : Ended Job = job\_1562418810792\_0002

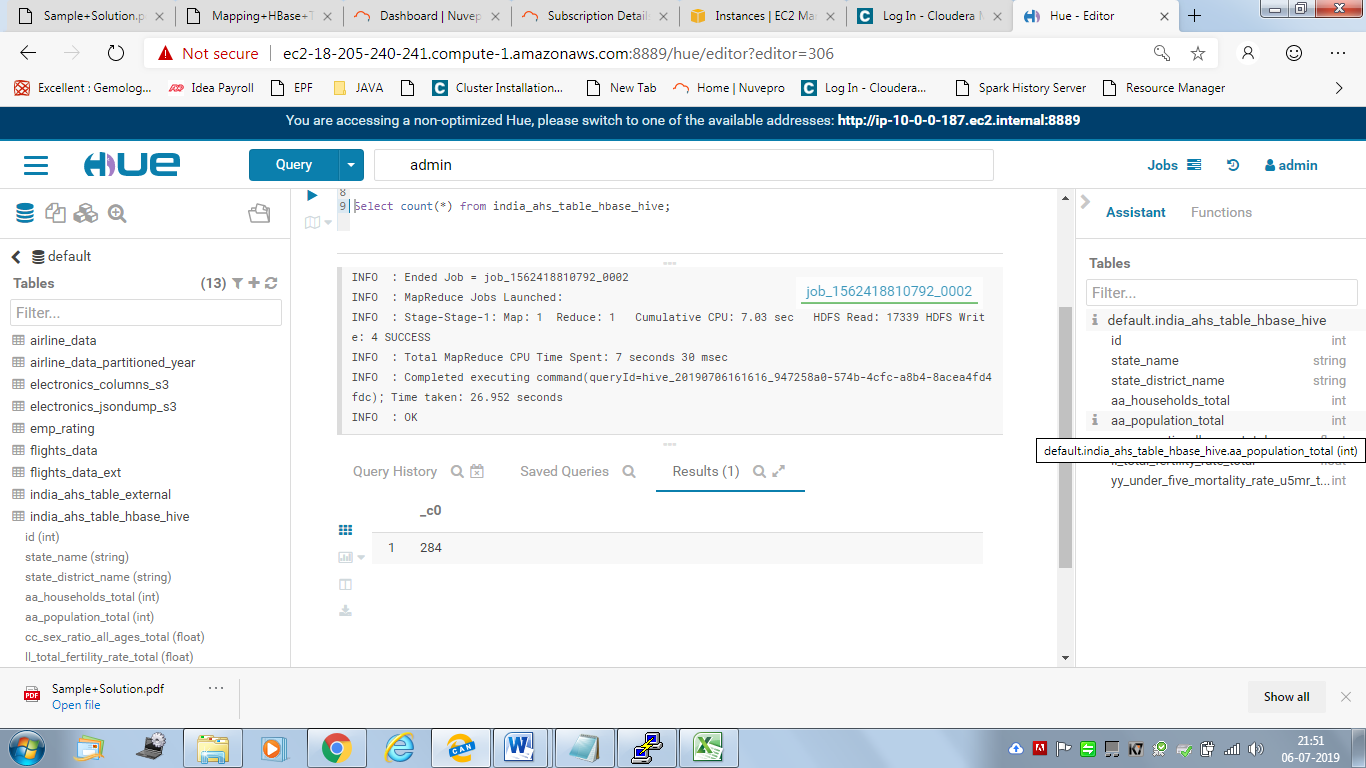
INFO : MapReduce Jobs Launched:

INFO : Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 7.03 sec HDFS Read: 17339 HDFS Write: 4 SUCCESS

INFO : Total MapReduce CPU Time Spent: 7 seconds 30 msec

INFO : Completed executing command(queryId=hive\_20210110161616\_947258a0-574b-4cfc-a8b4-8acea4fd4fdc); Time taken: 26.952 seconds

INFO : OK



<Screenshot of run time for query 2>

select State\_Name, count(\*) from india\_ahs\_table\_hbase\_hive group by State\_Name;

**Time taken: 25.888 seconds**

Output:

|  |  |
| --- | --- |
| state\_name | \_c1 |
| Assam | 23 |
| Bihar | 37 |
| Chhattisgarh | 16 |
| Jharkhand | 18 |
| Madhya Pradesh | 45 |
| Odisha | 30 |
| Rajasthan | 32 |
| Uttar Pradesh | 70 |
| Uttarakhand | 13 |

job\_1562418810792\_0003

INFO : Compiling command(queryId=hive\_20210110162323\_8b5b1c78-b336-47ab-ba53-57c816496cbe): select State\_Name, count(\*) from india\_ahs\_table\_hbase\_hive group by State\_Name

INFO : Semantic Analysis Completed

INFO : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:state\_name, type:string, comment:null), FieldSchema(name:\_c1, type:bigint, comment:null)], properties:null)

INFO : Completed compiling command(queryId=hive\_20210110162323\_8b5b1c78-b336-47ab-ba53-57c816496cbe); Time taken: 0.122 seconds

INFO : Executing command(queryId=hive\_20210110162323\_8b5b1c78-b336-47ab-ba53-57c816496cbe): select State\_Name, count(\*) from india\_ahs\_table\_hbase\_hive group by State\_Name

INFO : Query ID = hive\_20210110162323\_8b5b1c78-b336-47ab-ba53-57c816496cbe

INFO : Total jobs = 1

INFO : Launching Job 1 out of 1

INFO : Starting task [Stage-1:MAPRED] in serial mode

INFO : Number of reduce tasks not specified. Estimated from input data size: 1

INFO : In order to change the average load for a reducer (in bytes):

INFO : set hive.exec.reducers.bytes.per.reducer=<number>

INFO : In order to limit the maximum number of reducers:

INFO : set hive.exec.reducers.max=<number>

INFO : In order to set a constant number of reducers:

INFO : set mapreduce.job.reduces=<number>

INFO : number of splits:1

INFO : Submitting tokens for job: job\_1562418810792\_0003

INFO : The url to track the job: http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562418810792\_0003/

INFO : Starting Job = job\_1562418810792\_0003, Tracking URL = http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562418810792\_0003/

INFO : Kill Command = /opt/cloudera/parcels/CDH-5.15.1-1.cdh5.15.1.p0.4/lib/hadoop/bin/hadoop job -kill job\_1562418810792\_0003

INFO : Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1

INFO : 2021-01-10 16:23:57,311 Stage-1 map = 0%, reduce = 0%

INFO : 2021-01-10 16:24:03,543 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 3.73 sec

INFO : 2021-01-10 16:24:10,833 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 6.65 sec

INFO : MapReduce Total cumulative CPU time: 6 seconds 650 msec

INFO : Ended Job = job\_1562418810792\_0003

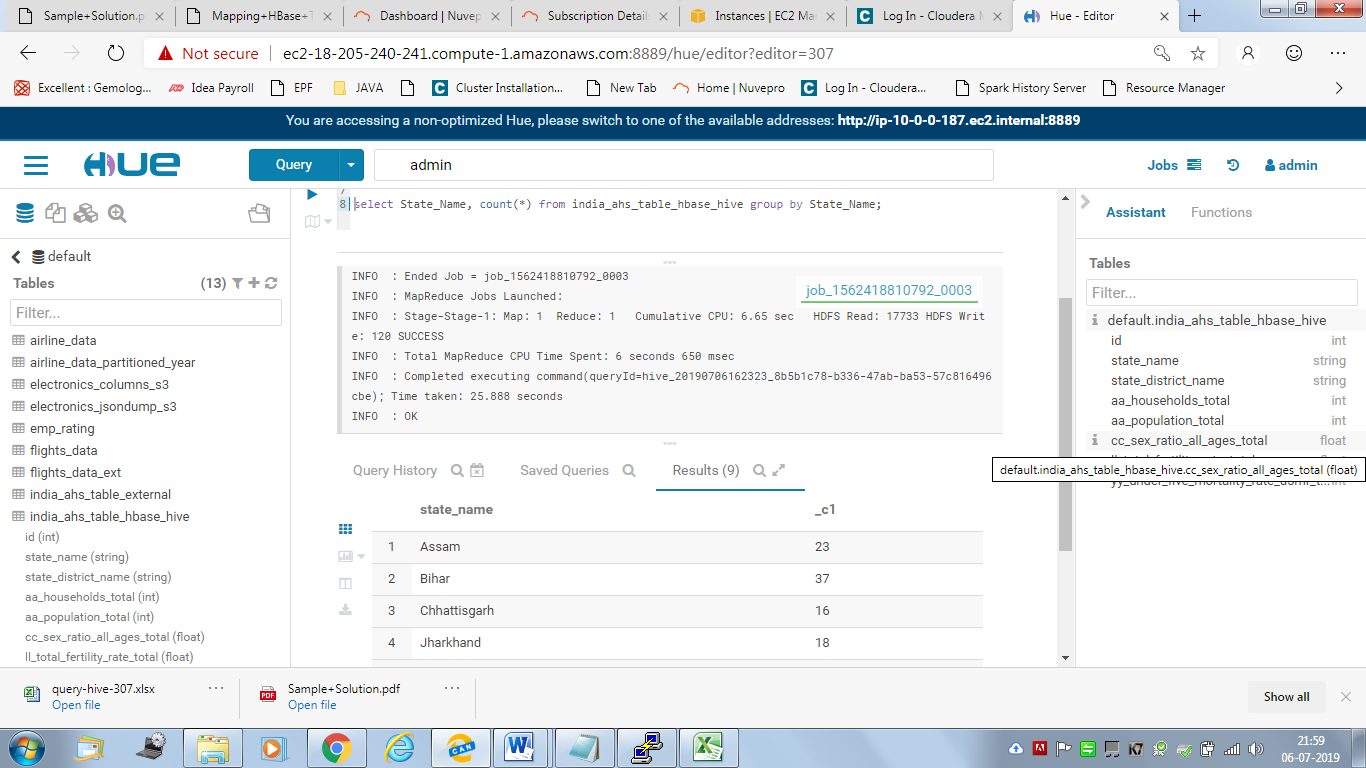
INFO : MapReduce Jobs Launched:

INFO : Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 6.65 sec HDFS Read: 17733 HDFS Write: 120 SUCCESS

INFO : Total MapReduce CPU Time Spent: 6 seconds 650 msec

INFO : Completed executing command(queryId=hive\_20210110162323\_8b5b1c78-b336-47ab-ba53-57c816496cbe); Time taken: 25.888 seconds

INFO : OK



<Screenshot of run time for query 3>

select \* from india\_ahs\_table\_hbase\_hive where State\_Name = 'Uttar Pradesh';

Time taken: 17.845 seconds

Output: Export to EXCEL

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| india\_ahs\_table\_hbase\_hive.id | india\_ahs\_table\_hbase\_hive.state\_name | india\_ahs\_table\_hbase\_hive.state\_district\_name | india\_ahs\_table\_hbase\_hive.aa\_households\_total | india\_ahs\_table\_hbase\_hive.aa\_population\_total | india\_ahs\_table\_hbase\_hive.cc\_sex\_ratio\_all\_ages\_total | india\_ahs\_table\_hbase\_hive.ll\_total\_fertility\_rate\_total | india\_ahs\_table\_hbase\_hive.yy\_under\_five\_mortality\_rate\_u5mr\_total\_person |
| 202 | Uttar Pradesh | Agra | 20911 | 125614 | 873.4699707 | 3.019999981 | 69 |
| 203 | Uttar Pradesh | Aligarh | 8844 | 52583 | 910.7600098 | 3.529999971 | 90 |
| 204 | Uttar Pradesh | Allahabad | 11563 | 61029 | 1016.340027 | 3.160000086 | 104 |
| 205 | Uttar Pradesh | Ambedkar Nagar | 7923 | 44698 | 1114.47998 | 3.029999971 | 78 |
| 206 | Uttar Pradesh | Auraiya | 21590 | 107619 | 875.6799927 | 3.470000029 | 84 |
| 207 | Uttar Pradesh | Azamgarh | 16962 | 103165 | 1104.910034 | 3.150000095 | 89 |
| 208 | Uttar Pradesh | Baghpat | 15648 | 95759 | 859.289978 | 3.029999971 | 70 |
| 209 | Uttar Pradesh | Bahraich | 22906 | 121402 | 896.3699951 | 4.869999886 | 105 |
| 210 | Uttar Pradesh | Ballia | 15606 | 87623 | 992.8200073 | 2.970000029 | 82 |
| 211 | Uttar Pradesh | Balrampur | 7315 | 42016 | 1040.089966 | 4.940000057 | 117 |
| 212 | Uttar Pradesh | Banda | 11915 | 59266 | 925.0499878 | 4.130000114 | 96 |
| 213 | Uttar Pradesh | Barabanki | 11232 | 58722 | 895.1799927 | 3.849999905 | 97 |
| 214 | Uttar Pradesh | Bareilly | 13678 | 78492 | 887.1300049 | 3.640000105 | 104 |
| 215 | Uttar Pradesh | Basti | 8393 | 48055 | 1067.670044 | 3.470000029 | 106 |
| 216 | Uttar Pradesh | Bijnor | 8748 | 49416 | 963.3400269 | 3.230000019 | 79 |
| 217 | Uttar Pradesh | Budaun | 8999 | 51993 | 915.8800049 | 4.480000019 | 108 |
| 218 | Uttar Pradesh | Bulandshahar | 10578 | 59473 | 912 | 3.440000057 | 89 |
| 219 | Uttar Pradesh | Chandauli | 15936 | 92389 | 993.7600098 | 3.289999962 | 98 |
| 220 | Uttar Pradesh | Chitrakoot | 16937 | 88832 | 910.6900024 | 3.599999905 | 119 |
| 221 | Uttar Pradesh | Deoria | 11641 | 65914 | 1171.599976 | 3.119999886 | 83 |
| 222 | Uttar Pradesh | Etah | 9054 | 52944 | 884.4500122 | 4.159999847 | 86 |
| 223 | Uttar Pradesh | Etawah | 16067 | 76793 | 857.8800049 | 3.059999943 | 85 |
| 224 | Uttar Pradesh | Faizabad | 12075 | 62219 | 1016.340027 | 3.019999981 | 115 |
| 225 | Uttar Pradesh | Farrukhabad | 10364 | 54111 | 869.0800171 | 3.680000067 | 98 |
| 226 | Uttar Pradesh | Fatehpur | 11582 | 60209 | 919.6400146 | 3.460000038 | 81 |
| 227 | Uttar Pradesh | Firozabad | 11053 | 62573 | 899.6099854 | 3.569999933 | 79 |
| 228 | Uttar Pradesh | Gautam Buddha Nagar | 16323 | 89498 | 836.8200073 | 2.640000105 | 70 |
| 229 | Uttar Pradesh | Ghaziabad | 20612 | 112985 | 862.8499756 | 2.539999962 | 59 |
| 230 | Uttar Pradesh | Ghazipur | 10337 | 62521 | 1064.959961 | 2.970000029 | 94 |
| 231 | Uttar Pradesh | Gonda | 14169 | 74324 | 906.0700073 | 4.010000229 | 97 |
| 232 | Uttar Pradesh | Gorakhpur | 17975 | 96497 | 1073.800049 | 2.720000029 | 76 |
| 233 | Uttar Pradesh | Hamirpur | 13042 | 62783 | 862.2199707 | 3.569999933 | 66 |
| 234 | Uttar Pradesh | Hardoi | 10040 | 52567 | 877.6099854 | 4.230000019 | 118 |
| 235 | Uttar Pradesh | Hathras | 9779 | 55062 | 868.8300171 | 3.200000048 | 78 |
| 236 | Uttar Pradesh | Jalaun | 10675 | 53505 | 880.5700073 | 3.099999905 | 97 |
| 237 | Uttar Pradesh | Jaunpur | 7272 | 43285 | 1037.060059 | 2.869999886 | 91 |
| 238 | Uttar Pradesh | Jhansi | 16295 | 73590 | 875.1199951 | 2.299999952 | 59 |
| 239 | Uttar Pradesh | Jyotiba Phule Nagar | 6546 | 37927 | 930.2299805 | 3.50999999 | 92 |
| 240 | Uttar Pradesh | Kannauj | 27431 | 156432 | 893.9199829 | 3.279999971 | 102 |
| 241 | Uttar Pradesh | Kanpur Dehat | 10543 | 50626 | 873.4699707 | 2.839999914 | 94 |
| 242 | Uttar Pradesh | Kanpur Nagar | 29525 | 144182 | 875.0900269 | 2.109999895 | 50 |
| 243 | Uttar Pradesh | Kaushambi | 13179 | 67572 | 1032.400024 | 3.890000105 | 113 |
| 244 | Uttar Pradesh | Kheri | 12004 | 60900 | 888.4299927 | 3.880000114 | 117 |
| 245 | Uttar Pradesh | Kushinagar | 8608 | 48371 | 1136.579956 | 3.329999924 | 99 |
| 246 | Uttar Pradesh | Lalitpur | 8108 | 39529 | 889.0499878 | 3.400000095 | 114 |
| 247 | Uttar Pradesh | Lucknow | 21138 | 105538 | 898.3499756 | 2.230000019 | 58 |
| 248 | Uttar Pradesh | Maharajganj | 12950 | 68263 | 1133.130005 | 3.230000019 | 96 |
| 249 | Uttar Pradesh | Mahoba | 13461 | 63537 | 887.2700195 | 3.549999952 | 73 |
| 250 | Uttar Pradesh | Mainpuri | 10727 | 60823 | 885.2000122 | 3.369999886 | 78 |
| 251 | Uttar Pradesh | Mathura | 10406 | 59930 | 876.4199829 | 2.980000019 | 58 |
| 252 | Uttar Pradesh | Mau | 12606 | 74750 | 1038.26001 | 2.859999895 | 86 |
| 253 | Uttar Pradesh | Meerut | 12884 | 77688 | 900.5499878 | 3.069999933 | 59 |
| 254 | Uttar Pradesh | Mirzapur | 6709 | 38180 | 962.7000122 | 2.569999933 | 105 |
| 255 | Uttar Pradesh | Moradabad | 11054 | 66632 | 902.2800293 | 3.609999895 | 80 |
| 256 | Uttar Pradesh | Muzaffarnagar | 12812 | 75749 | 888.1400146 | 3.220000029 | 71 |
| 257 | Uttar Pradesh | Pilibhit | 7773 | 43038 | 880.4899902 | 3.559999943 | 91 |
| 258 | Uttar Pradesh | Pratapgarh | 15695 | 86770 | 1142.930054 | 2.900000095 | 104 |
| 259 | Uttar Pradesh | Rae Bareli | 12981 | 66935 | 946.6400146 | 3.289999962 | 80 |
| 260 | Uttar Pradesh | Rampur | 11435 | 66460 | 904.7399902 | 3.480000019 | 86 |
| 261 | Uttar Pradesh | Saharanpur | 10259 | 58510 | 919.0200195 | 3.309999943 | 99 |
| 262 | Uttar Pradesh | Sant Kabir Nagar | 8028 | 43549 | 1174.949951 | 3.839999914 | 91 |
| 263 | Uttar Pradesh | Sant Ravidas Nagar (Bhadohi) | 8974 | 55736 | 998.6099854 | 2.880000114 | 106 |
| 264 | Uttar Pradesh | Shahjahanpur | 9822 | 55307 | 853.6699829 | 4.170000076 | 100 |
| 265 | Uttar Pradesh | Shrawasti | 7483 | 38131 | 983.6300049 | 5.519999981 | 130 |
| 266 | Uttar Pradesh | Siddharthnagar | 9919 | 56238 | 1178.109985 | 4.820000172 | 116 |
| 267 | Uttar Pradesh | Sitapur | 9323 | 50237 | 882.4899902 | 4.420000076 | 114 |
| 268 | Uttar Pradesh | Sonbhadra | 6838 | 33562 | 952.0599976 | 3.779999971 | 99 |
| 269 | Uttar Pradesh | Sultanpur | 11251 | 61923 | 984.0999756 | 3.029999971 | 66 |
| 270 | Uttar Pradesh | Unnao | 14128 | 69686 | 887.8499756 | 3.079999924 | 83 |
| 271 | Uttar Pradesh | Varanasi | 14974 | 86266 | 921.5300293 | 2.319999933 | 90 |

job\_1562418810792\_0004

INFO : Compiling command(queryId=hive\_20210110163131\_4bae1e61-4d31-4bc2-b749-04dbefd89c32): select \* from india\_ahs\_table\_hbase\_hive where State\_Name = 'Uttar Pradesh'

INFO : Semantic Analysis Completed

INFO : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:india\_ahs\_table\_hbase\_hive.id, type:int, comment:null), FieldSchema(name:india\_ahs\_table\_hbase\_hive.state\_name, type:string, comment:null), FieldSchema(name:india\_ahs\_table\_hbase\_hive.state\_district\_name, type:string, comment:null), FieldSchema(name:india\_ahs\_table\_hbase\_hive.aa\_households\_total, type:int, comment:null), FieldSchema(name:india\_ahs\_table\_hbase\_hive.aa\_population\_total, type:int, comment:null), FieldSchema(name:india\_ahs\_table\_hbase\_hive.cc\_sex\_ratio\_all\_ages\_total, type:float, comment:null), FieldSchema(name:india\_ahs\_table\_hbase\_hive.ll\_total\_fertility\_rate\_total, type:float, comment:null), FieldSchema(name:india\_ahs\_table\_hbase\_hive.yy\_under\_five\_mortality\_rate\_u5mr\_total\_person, type:int, comment:null)], properties:null)

INFO : Completed compiling command(queryId=hive\_20210110163131\_4bae1e61-4d31-4bc2-b749-04dbefd89c32); Time taken: 0.145 seconds

INFO : Executing command(queryId=hive\_20210110163131\_4bae1e61-4d31-4bc2-b749-04dbefd89c32): select \* from india\_ahs\_table\_hbase\_hive where State\_Name = 'Uttar Pradesh'

INFO : Query ID = hive\_20210110163131\_4bae1e61-4d31-4bc2-b749-04dbefd89c32

INFO : Total jobs = 1

INFO : Launching Job 1 out of 1

INFO : Starting task [Stage-1:MAPRED] in serial mode

INFO : Number of reduce tasks is set to 0 since there's no reduce operator

INFO : number of splits:1

INFO : Submitting tokens for job: job\_1562418810792\_0004

INFO : The url to track the job: http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562418810792\_0004/

INFO : Starting Job = job\_1562418810792\_0004, Tracking URL = http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562418810792\_0004/

INFO : Kill Command = /opt/cloudera/parcels/CDH-5.15.1-1.cdh5.15.1.p0.4/lib/hadoop/bin/hadoop job -kill job\_1562418810792\_0004

INFO : Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 0

INFO : 2021-01-10 16:31:20,185 Stage-1 map = 0%, reduce = 0%

INFO : 2021-01-10 16:31:26,568 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 5.34 sec

INFO : MapReduce Total cumulative CPU time: 5 seconds 340 msec

INFO : Ended Job = job\_1562418810792\_0004

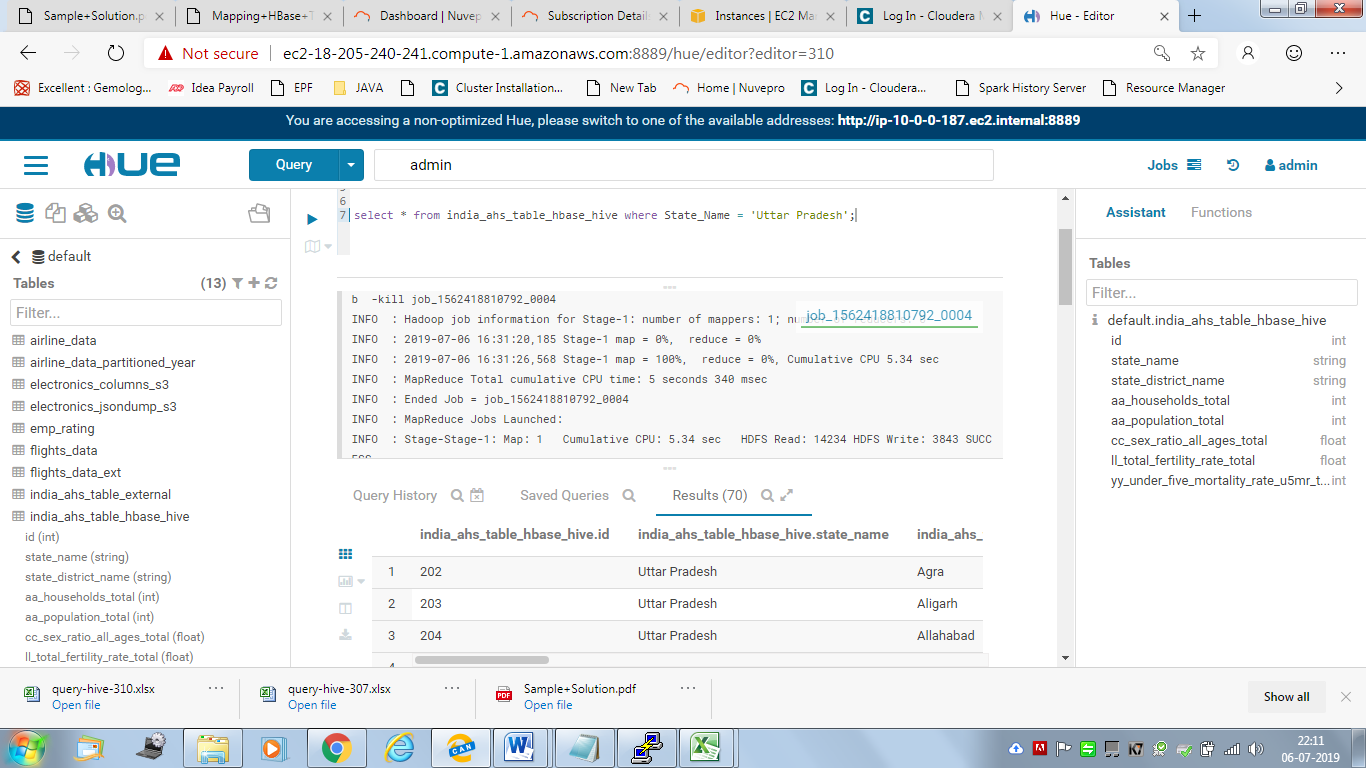
INFO : MapReduce Jobs Launched:

INFO : Stage-Stage-1: Map: 1 Cumulative CPU: 5.34 sec HDFS Read: 14234 HDFS Write: 3843 SUCCESS

INFO : Total MapReduce CPU Time Spent: 5 seconds 340 msec

INFO : Completed executing command(queryId=hive\_20210110163131\_4bae1e61-4d31-4bc2-b749-04dbefd89c32); Time taken: 17.845 seconds

INFO : OK



**Benchmarking:**

|  |  |  |  |
| --- | --- | --- | --- |
| Query | Default Format | ORC Format | HBASE-HIVE Table |
|  | Time Taken (Secs) | Time Taken (Secs) | Time Taken (Secs) |
| Query 1 | 23.073 | 21.048 | 26.952 |
| Query 2 | 22.23 | 19.61 | 25.888 |
| Query 3 | 16.549 | 15.099 | 17.845 |

**Query time in ORC table is less. ORC with SNAPPY Compression selected for further analysis**

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

Set Hive.exec.Dynamic partition =;

Set Hive.exec.dynamic.partition.mode=nonstrict;

<Create command>

CREATE TABLE IF NOT EXISTS india\_ahs\_table\_subset\_partitioned\_orc (

ID INT,

State\_District\_Name STRING,

AA\_Households\_Total INT,

AA\_Population\_Total INT,

CC\_Sex\_Ratio\_All\_Ages\_Total FLOAT,

LL\_Total\_Fertility\_Rate\_Total FLOAT,

YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person INT)

COMMENT 'subset schema with orc format with partitioned on State Name'

PARTITIONED BY (State\_Name STRING)

stored as orc

tblproperties ("orc.compress"="SNAPPY");

<Insert command>

INSERT INTO TABLE india\_ahs\_table\_subset\_partitioned\_orc 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 india\_ahs\_table\_subset\_default;

***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**

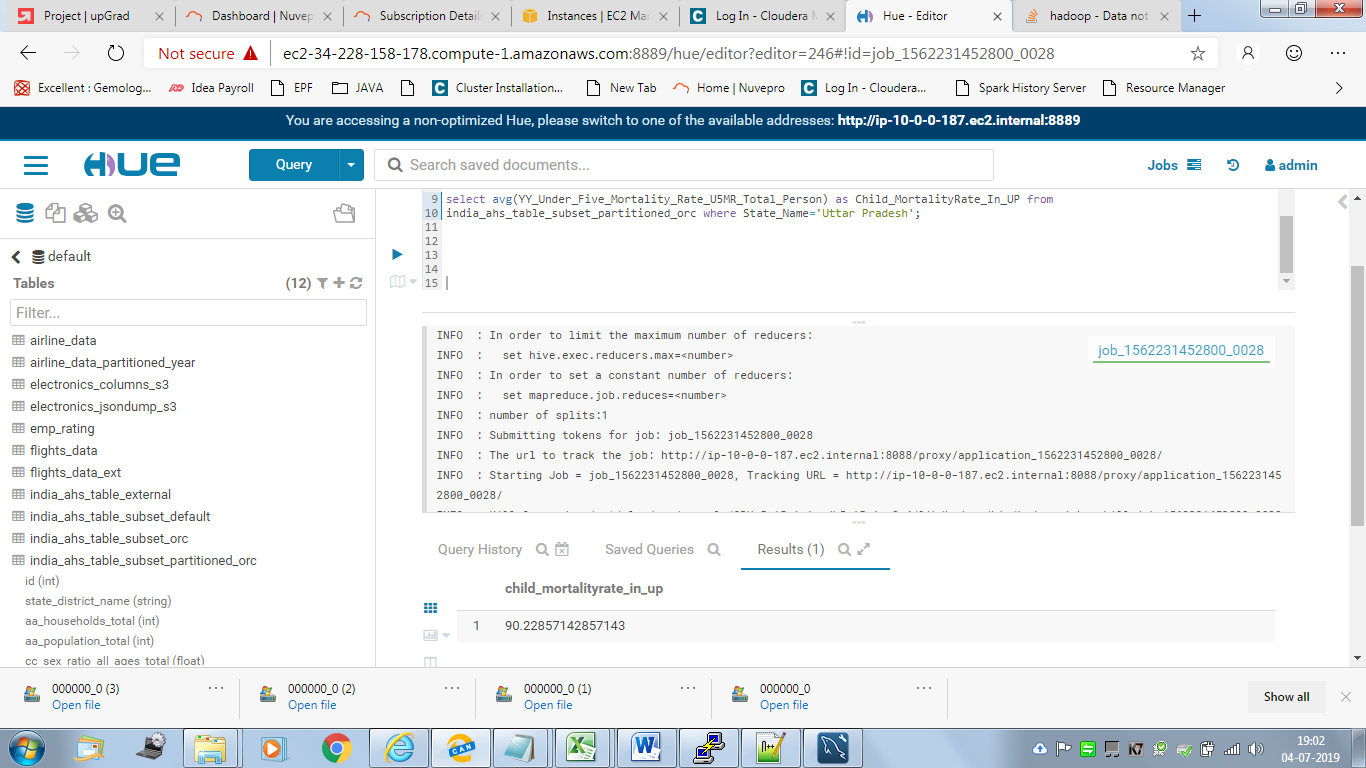
**<Query on the table with the chosen format such as orc>**

select avg(YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person) as Child\_MortalityRate\_In\_UP from india\_ahs\_table\_subset\_partitioned\_orc where State\_Name='Uttar Pradesh';

**Output:**

**90.22857142857143**

<Screenshot of the result>



INFO : Compiling command(queryId=hive\_20210110132828\_cb42f9b8-0719-4ce7-8918-7de9e408f259): select avg(YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person) as Child\_MortalityRate\_In\_UP from india\_ahs\_table\_subset\_partitioned\_orc where State\_Name='Uttar Pradesh'

INFO : Semantic Analysis Completed

INFO : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:child\_mortalityrate\_in\_up, type:double, comment:null)], properties:null)

INFO : Completed compiling command(queryId=hive\_20210110132828\_cb42f9b8-0719-4ce7-8918-7de9e408f259); Time taken: 0.304 seconds

INFO : Executing command(queryId=hive\_20210110132828\_cb42f9b8-0719-4ce7-8918-7de9e408f259): select avg(YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person) as Child\_MortalityRate\_In\_UP from india\_ahs\_table\_subset\_partitioned\_orc where State\_Name='Uttar Pradesh'

INFO : Query ID = hive\_20210110132828\_cb42f9b8-0719-4ce7-8918-7de9e408f259

INFO : Total jobs = 1

INFO : Launching Job 1 out of 1

INFO : Starting task [Stage-1:MAPRED] in serial mode

INFO : Number of reduce tasks determined at compile time: 1

INFO : In order to change the average load for a reducer (in bytes):

INFO : set hive.exec.reducers.bytes.per.reducer=<number>

INFO : In order to limit the maximum number of reducers:

INFO : set hive.exec.reducers.max=<number>

INFO : In order to set a constant number of reducers:

INFO : set mapreduce.job.reduces=<number>

INFO : number of splits:1

INFO : Submitting tokens for job: job\_1562231452800\_0028

INFO : The url to track the job: http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562231452800\_0028/

INFO : Starting Job = job\_1562231452800\_0028, Tracking URL = http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562231452800\_0028/

INFO : Kill Command = /opt/cloudera/parcels/CDH-5.15.1-1.cdh5.15.1.p0.4/lib/hadoop/bin/hadoop job -kill job\_1562231452800\_0028

INFO : Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1

INFO : 2021-01-10 13:28:17,418 Stage-1 map = 0%, reduce = 0%

INFO : 2021-01-10 13:28:23,740 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 3.24 sec

INFO : 2021-01-10 13:28:32,096 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 7.34 sec

INFO : MapReduce Total cumulative CPU time: 7 seconds 340 msec

INFO : Ended Job = job\_1562231452800\_0028

INFO : MapReduce Jobs Launched:

INFO : Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 7.34 sec HDFS Read: 21719 HDFS Write: 18 SUCCESS

INFO : Total MapReduce CPU Time Spent: 7 seconds 340 msec

INFO : Completed executing command(queryId=hive\_20210110132828\_cb42f9b8-0719-4ce7-8918-7de9e408f259); Time taken: 22.836 seconds

INFO : OK

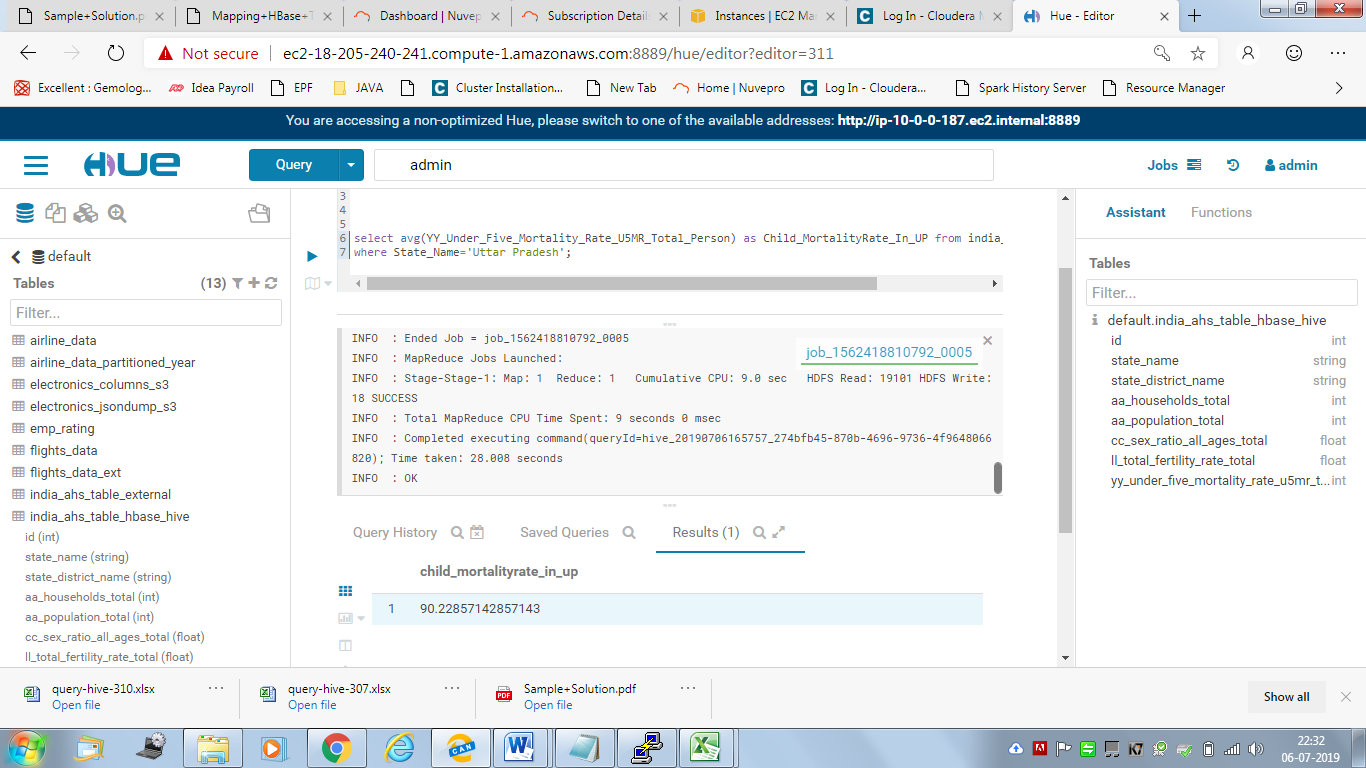
**<Query on the Hive-Hbase integrated table>**

select avg(YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person) as Child\_MortalityRate\_In\_UP from india\_ahs\_table\_hbase\_hive where State\_Name='Uttar Pradesh';

**Output:**

**90.22857142857143**

<Screenshot of the result>



**job\_1562418810792\_0005**

**INFO : Compiling command(queryId=hive\_20210110165757\_274bfb45-870b-4696-9736-4f9648066820): select avg(YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person) as Child\_MortalityRate\_In\_UP from india\_ahs\_table\_hbase\_hive**

**where State\_Name='Uttar Pradesh'**

**INFO : Semantic Analysis Completed**

**INFO : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:child\_mortalityrate\_in\_up, type:double, comment:null)], properties:null)**

**INFO : Completed compiling command(queryId=hive\_20210110165757\_274bfb45-870b-4696-9736-4f9648066820); Time taken: 0.115 seconds**

**INFO : Executing command(queryId=hive\_20210110165757\_274bfb45-870b-4696-9736-4f9648066820): select avg(YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person) as Child\_MortalityRate\_In\_UP from india\_ahs\_table\_hbase\_hive**

**where State\_Name='Uttar Pradesh'**

**INFO : Query ID = hive\_20210110165757\_274bfb45-870b-4696-9736-4f9648066820**

**INFO : Total jobs = 1**

**INFO : Launching Job 1 out of 1**

**INFO : Starting task [Stage-1:MAPRED] in serial mode**

**INFO : Number of reduce tasks determined at compile time: 1**

**INFO : In order to change the average load for a reducer (in bytes):**

**INFO : set hive.exec.reducers.bytes.per.reducer=<number>**

**INFO : In order to limit the maximum number of reducers:**

**INFO : set hive.exec.reducers.max=<number>**

**INFO : In order to set a constant number of reducers:**

**INFO : set mapreduce.job.reduces=<number>**

**INFO : number of splits:1**

**INFO : Submitting tokens for job: job\_1562418810792\_0005**

**INFO : The url to track the job: http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562418810792\_0005/**

**INFO : Starting Job = job\_1562418810792\_0005, Tracking URL = http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562418810792\_0005/**

**INFO : Kill Command = /opt/cloudera/parcels/CDH-5.15.1-1.cdh5.15.1.p0.4/lib/hadoop/bin/hadoop job -kill job\_1562418810792\_0005**

**INFO : Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1**

**INFO : 2021-01-10 16:57:20,109 Stage-1 map = 0%, reduce = 0%**

**INFO : 2021-01-10 16:57:27,453 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 5.25 sec**

**INFO : 2021-01-10 16:57:34,823 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 9.0 sec**

**INFO : MapReduce Total cumulative CPU time: 9 seconds 0 msec**

**INFO : Ended Job = job\_1562418810792\_0005**

**INFO : MapReduce Jobs Launched:**

**INFO : Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 9.0 sec HDFS Read: 19101 HDFS Write: 18 SUCCESS**

**INFO : Total MapReduce CPU Time Spent: 9 seconds 0 msec**

**INFO : Completed executing command(queryId=hive\_20210110165757\_274bfb45-870b-4696-9736-4f9648066820); Time taken: 28.008 seconds**

**INFO : OK**

**2. The fertility rate of Bihar**

**<Query on the table with the chosen format such as orc>**

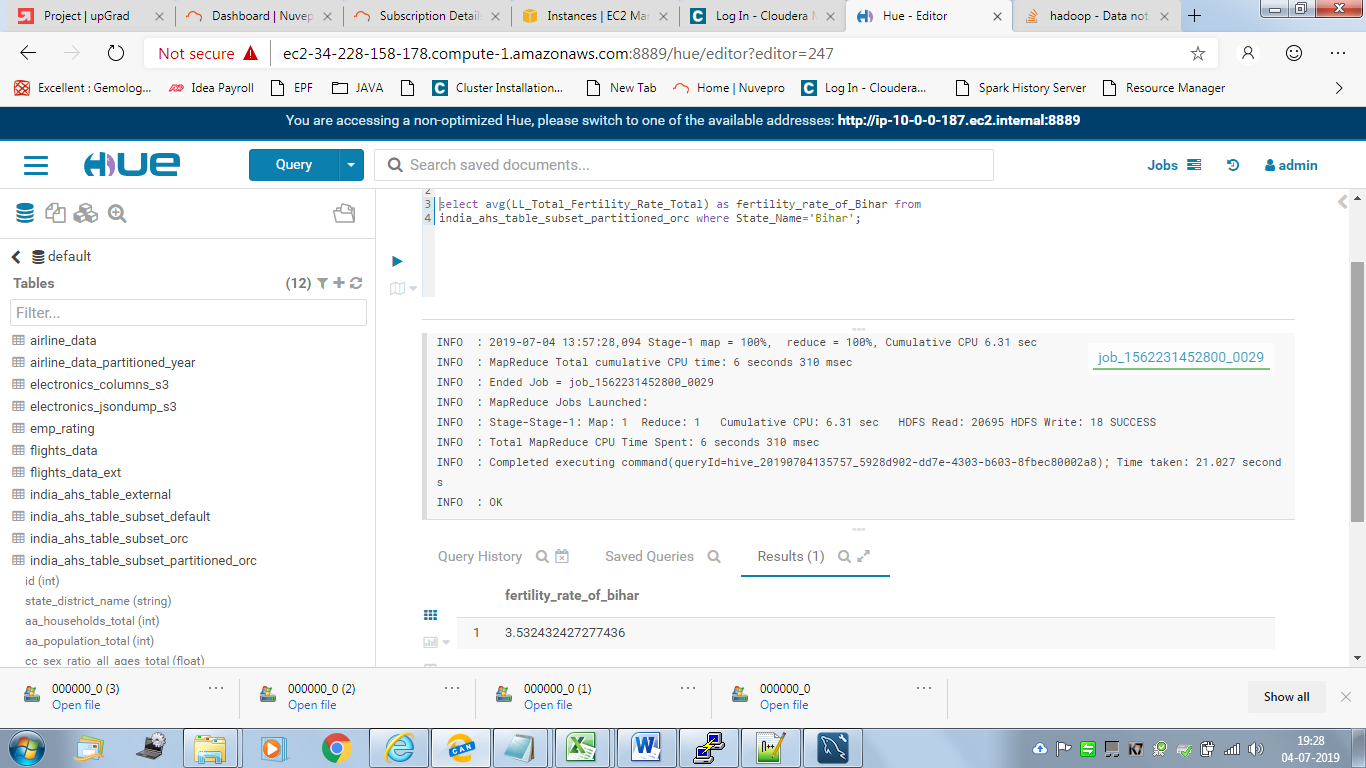
select avg(LL\_Total\_Fertility\_Rate\_Total) as fertility\_rate\_of\_Bihar from

india\_ahs\_table\_subset\_partitioned\_orc where State\_Name='Bihar';

Output:

3.532432427277436

<Screenshot of the result>



**<Query on the Hive-Hbase integrated table>**

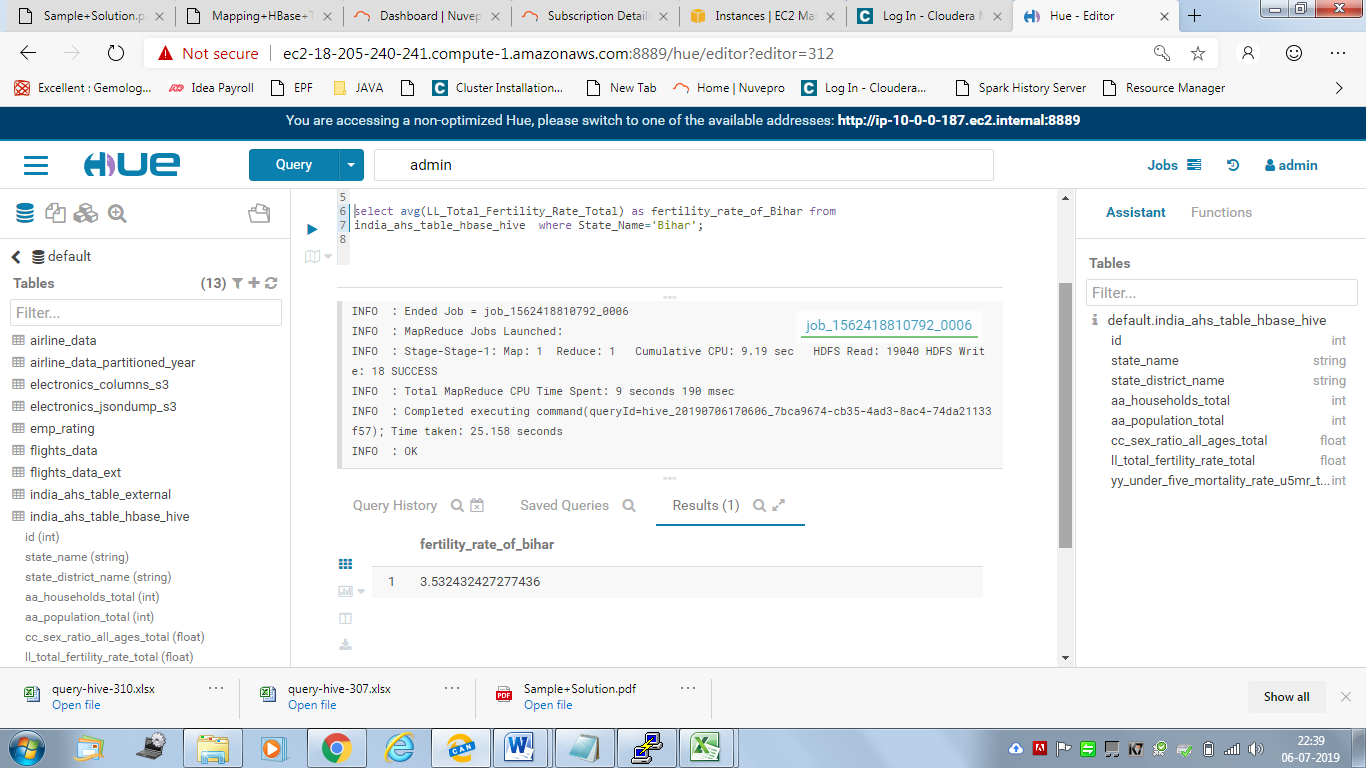
select avg(LL\_Total\_Fertility\_Rate\_Total) as fertility\_rate\_of\_Bihar from

india\_ahs\_table\_hbase\_hive where State\_Name='Bihar';

Output :

3.532432427277436

<Screenshot of the result>



job\_1562418810792\_0006

INFO : Compiling command(queryId=hive\_20210110170606\_7bca9674-cb35-4ad3-8ac4-74da21133f57): select avg(LL\_Total\_Fertility\_Rate\_Total) as fertility\_rate\_of\_Bihar from

india\_ahs\_table\_hbase\_hive where State\_Name='Bihar'

INFO : Semantic Analysis Completed

INFO : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:fertility\_rate\_of\_bihar, type:double, comment:null)], properties:null)

INFO : Completed compiling command(queryId=hive\_20210110170606\_7bca9674-cb35-4ad3-8ac4-74da21133f57); Time taken: 0.096 seconds

INFO : Executing command(queryId=hive\_20210110170606\_7bca9674-cb35-4ad3-8ac4-74da21133f57): select avg(LL\_Total\_Fertility\_Rate\_Total) as fertility\_rate\_of\_Bihar from

india\_ahs\_table\_hbase\_hive where State\_Name='Bihar'

INFO : Query ID = hive\_20210110170606\_7bca9674-cb35-4ad3-8ac4-74da21133f57

INFO : Total jobs = 1

INFO : Launching Job 1 out of 1

INFO : Starting task [Stage-1:MAPRED] in serial mode

INFO : Number of reduce tasks determined at compile time: 1

INFO : In order to change the average load for a reducer (in bytes):

INFO : set hive.exec.reducers.bytes.per.reducer=<number>

INFO : In order to limit the maximum number of reducers:

INFO : set hive.exec.reducers.max=<number>

INFO : In order to set a constant number of reducers:

INFO : set mapreduce.job.reduces=<number>

INFO : number of splits:1

INFO : Submitting tokens for job: job\_1562418810792\_0006

INFO : The url to track the job: http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562418810792\_0006/

INFO : Starting Job = job\_1562418810792\_0006, Tracking URL = http://ip-10-0-0-187.ec2.internal:8088/proxy/application\_1562418810792\_0006/

INFO : Kill Command = /opt/cloudera/parcels/CDH-5.15.1-1.cdh5.15.1.p0.4/lib/hadoop/bin/hadoop job -kill job\_1562418810792\_0006

INFO : Hadoop job information for Stage-1: number of mappers: 1; number of reducers: 1

INFO : 2021-01-10 17:07:02,951 Stage-1 map = 0%, reduce = 0%

INFO : 2021-01-10 17:07:09,325 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 5.28 sec

INFO : 2021-01-10 17:07:16,686 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 9.19 sec

INFO : MapReduce Total cumulative CPU time: 9 seconds 190 msec

INFO : Ended Job = job\_1562418810792\_0006

INFO : MapReduce Jobs Launched:

INFO : Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 9.19 sec HDFS Read: 19040 HDFS Write: 18 SUCCESS

INFO : Total MapReduce CPU Time Spent: 9 seconds 190 msec

INFO : Completed executing command(queryId=hive\_20210110170606\_7bca9674-cb35-4ad3-8ac4-74da21133f57); Time taken: 25.158 seconds

INFO : OK

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

**<Query on the table with the chosen format such as orc>**

State wise child mortality rate and state wise fertility rate

Select State\_Name,avg(YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person)

as StateWise\_ChildMortality\_Rate,

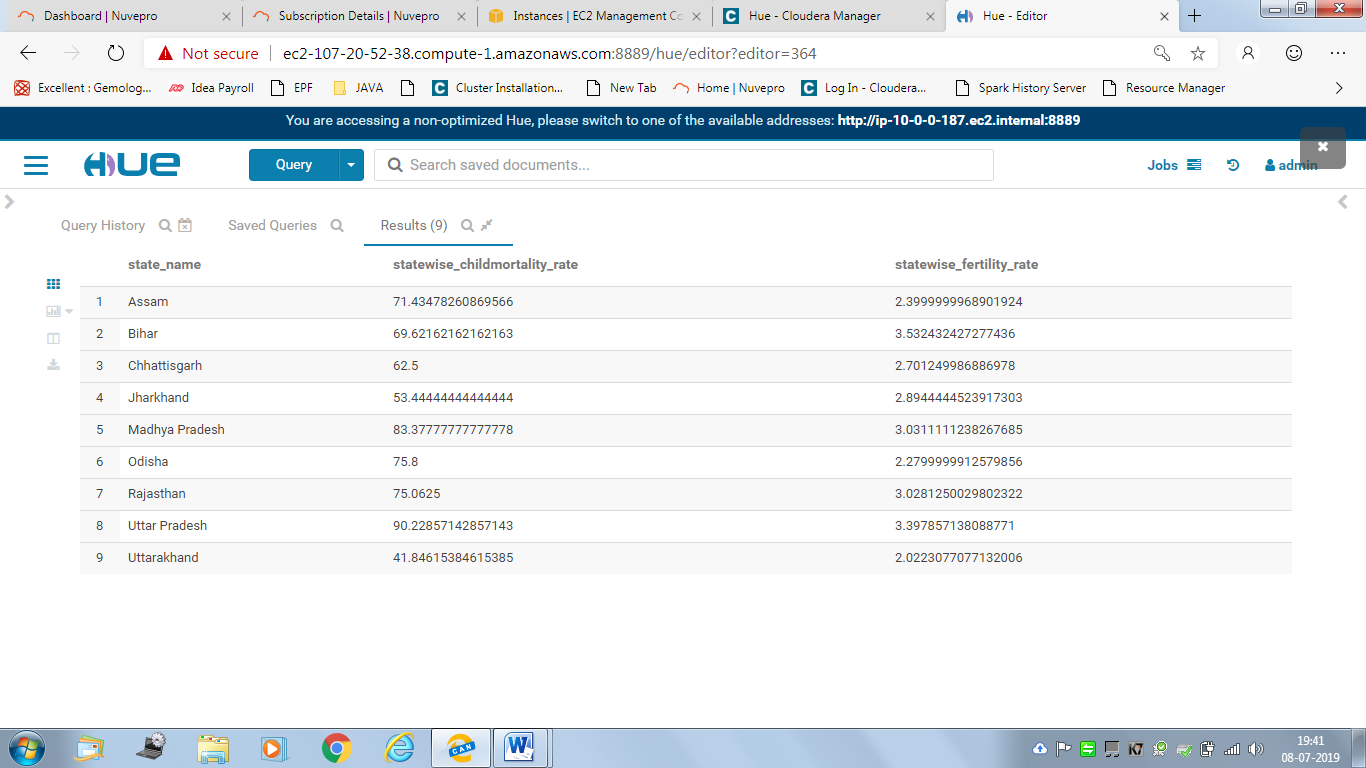
avg(LL\_Total\_Fertility\_Rate\_Total)

as StateWise\_Fertility\_Rate

from india\_ahs\_table\_subset\_orc

GROUP BY State\_Name;

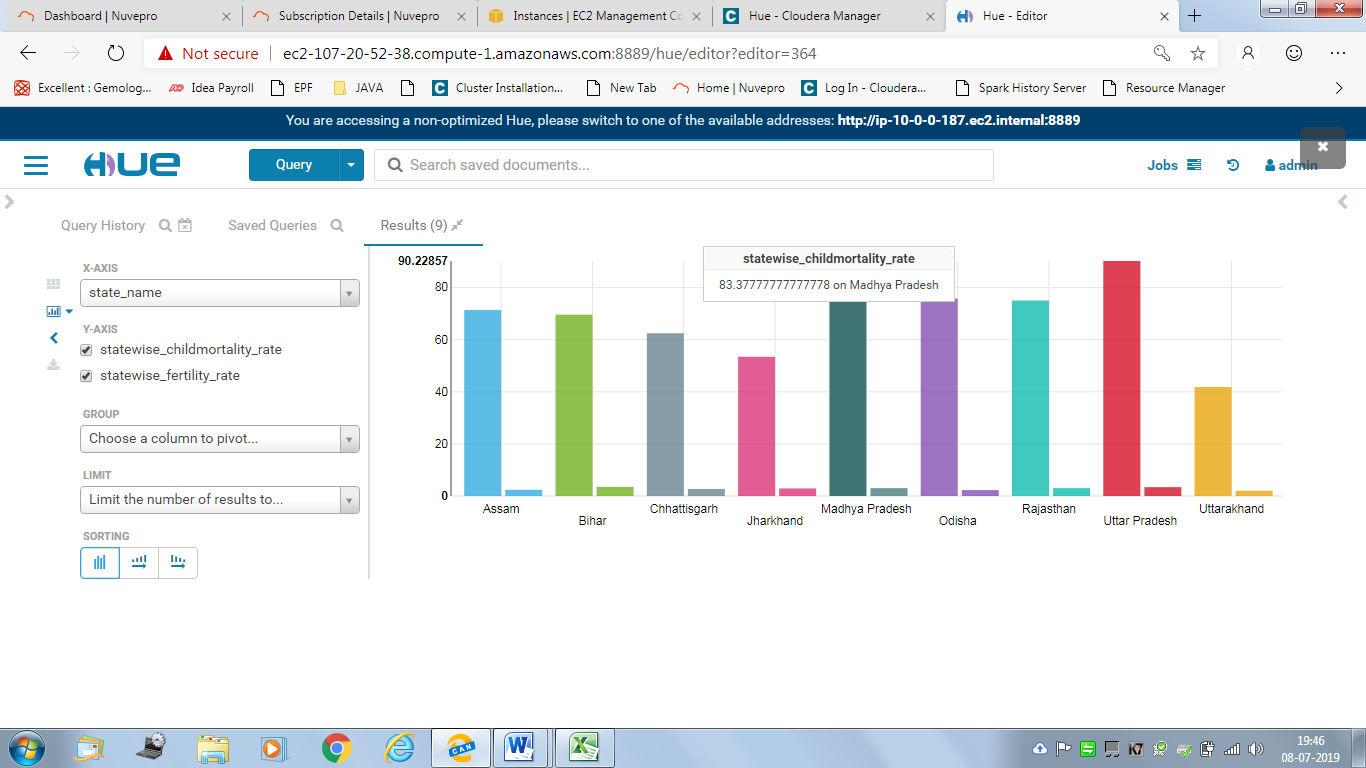
<Screenshot of the result>

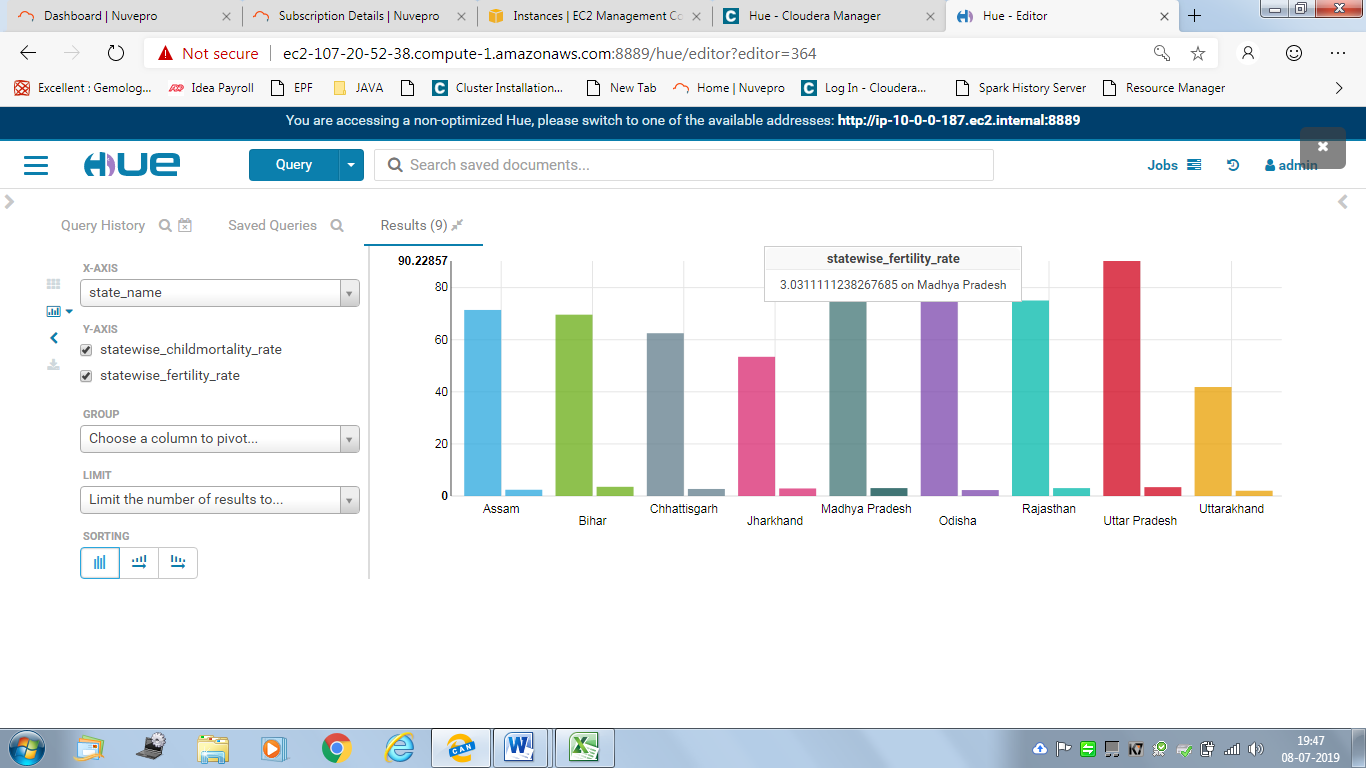


Exported to EXCEL:

|  |  |  |
| --- | --- | --- |
| state\_name | statewise\_childmortality\_rate | statewise\_fertility\_rate |
| Assam | 71.43478261 | 2.399999997 |
| Bihar | 69.62162162 | 3.532432427 |
| Chhattisgarh | 62.5 | 2.701249987 |
| Jharkhand | 53.44444444 | 2.894444452 |
| Madhya Pradesh | 83.37777778 | 3.031111124 |
| Odisha | 75.8 | 2.279999991 |
| Rajasthan | 75.0625 | 3.028125003 |
| Uttar Pradesh | 90.22857143 | 3.397857138 |
| Uttarakhand | 41.84615385 | 2.022307708 |

Chart:





**Correlation Coefficient between Fertility Rate and Child Mortality Rate:**

**Query:**

select corr(a.StateWise\_ChildMortality\_Rate,a.StateWise\_Fertility\_Rate)

as Correlation\_Coefficient\_between\_FertilityRate\_and\_ChildMortalityRate from

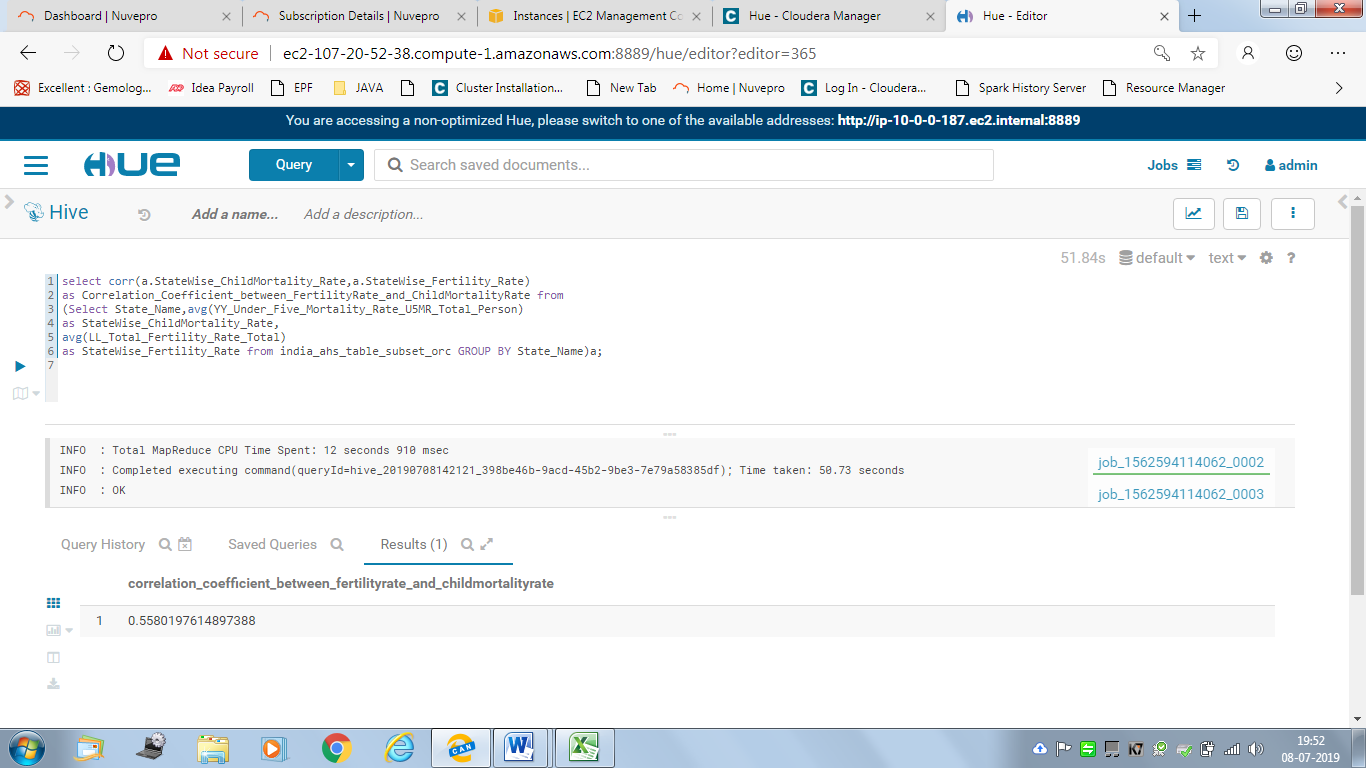
(Select State\_Name,avg(YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person)

as StateWise\_ChildMortality\_Rate,

avg(LL\_Total\_Fertility\_Rate\_Total)

as StateWise\_Fertility\_Rate from india\_ahs\_table\_subset\_orc GROUP BY State\_Name)a;

**Screenshot:**



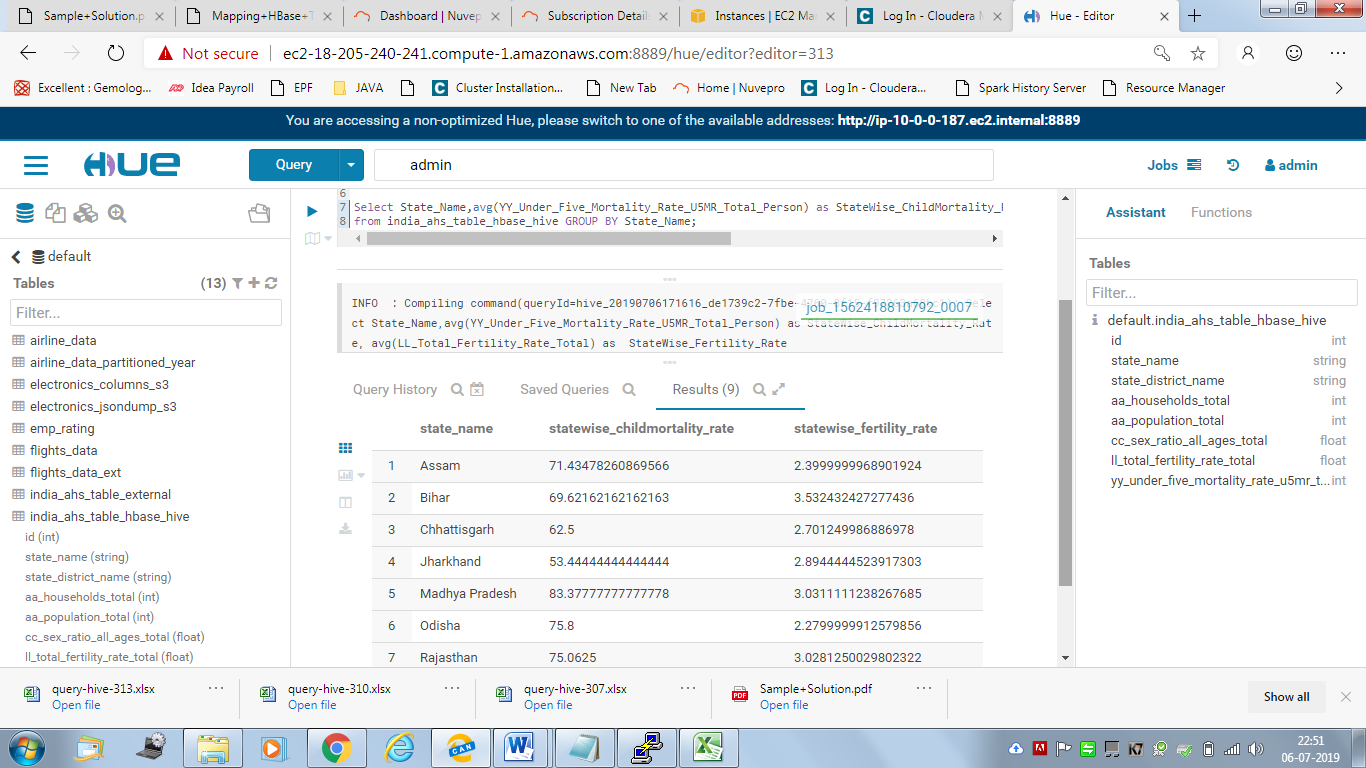
Output: 0.5580197614897388

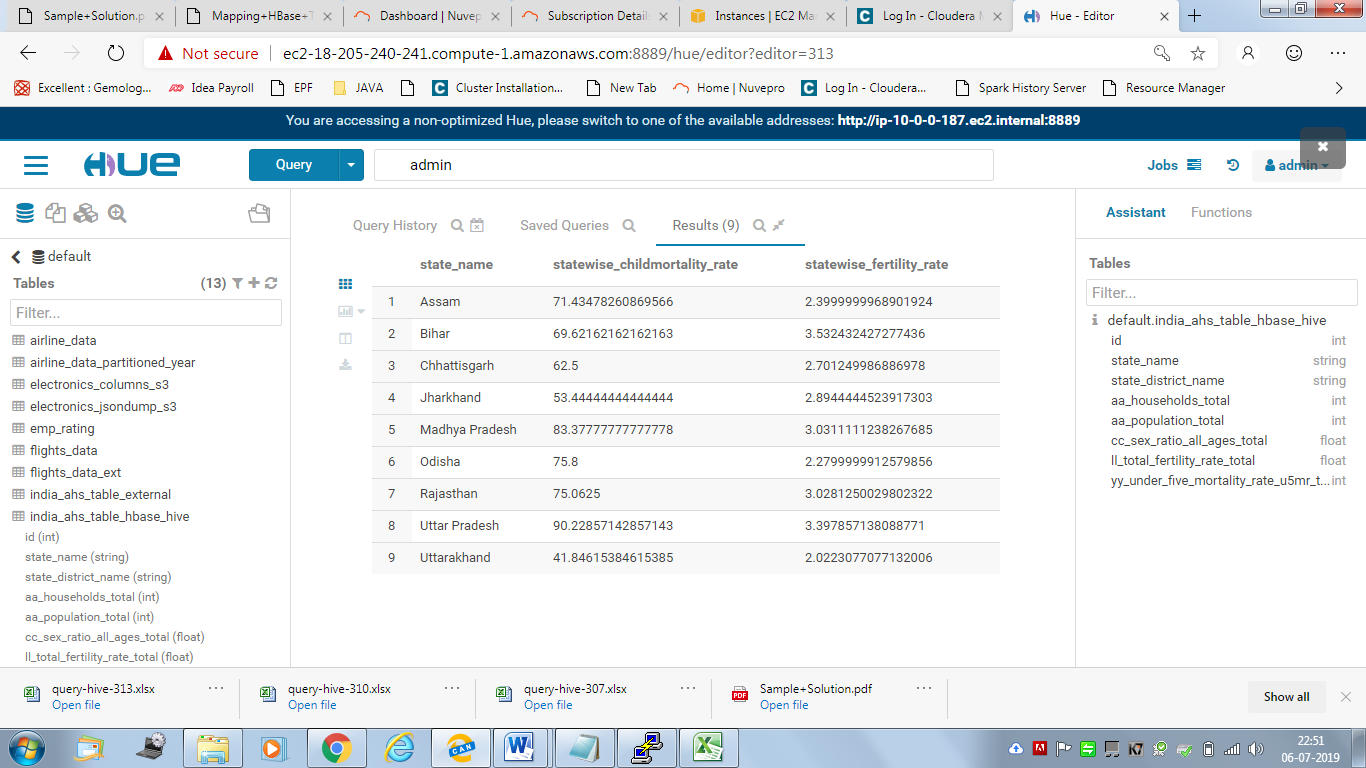
**It is greater than 0.5 indicates STRONG (POSITIVE) i.e. at high values.**

**<Query on the Hive-Hbase integrated table>**

Select State\_Name,avg(YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person) as StateWise\_ChildMortality\_Rate, avg(LL\_Total\_Fertility\_Rate\_Total) as StateWise\_Fertility\_Rate from india\_ahs\_table\_hbase\_hive GROUP BY State\_Name;

<Screenshot of the result>





Output : Export to EXCEL

|  |  |  |
| --- | --- | --- |
| state\_name | statewise\_childmortality\_rate | statewise\_fertility\_rate |
| Assam | 71.43478261 | 2.399999997 |
| Bihar | 69.62162162 | 3.532432427 |
| Chhattisgarh | 62.5 | 2.701249987 |
| Jharkhand | 53.44444444 | 2.894444452 |
| Madhya Pradesh | 83.37777778 | 3.031111124 |
| Odisha | 75.8 | 2.279999991 |
| Rajasthan | 75.0625 | 3.028125003 |
| Uttar Pradesh | 90.22857143 | 3.397857138 |
| Uttarakhand | 41.84615385 | 2.022307708 |

<Chart>



**Correlation Coefficient between Fertility Rate and Child Mortality Rate:**

select corr(a.StateWise\_ChildMortality\_Rate,a.StateWise\_Fertility\_Rate) as

Correlation\_Coefficient\_between\_FertilityRate\_and\_ChildMortalityRate from

(Select State\_Name,avg(YY\_Under\_Five\_Mortality\_Rate\_U5MR\_Total\_Person) as StateWise\_ChildMortality\_Rate,

avg(LL\_Total\_Fertility\_Rate\_Total) as StateWise\_Fertility\_Rate from india\_ahs\_table\_hbase\_hive GROUP BY State\_Name)a;

<Screenshot of the result>



Output:

0.5580197614897388

**It is 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**

**<Query on the table with the chosen format such as orc>**

select state\_name, state\_district\_name,Population\_Per\_Household

as PopulationPerHousehold

from

(select state\_name , state\_district\_name, aa\_population\_total/aa\_households\_total

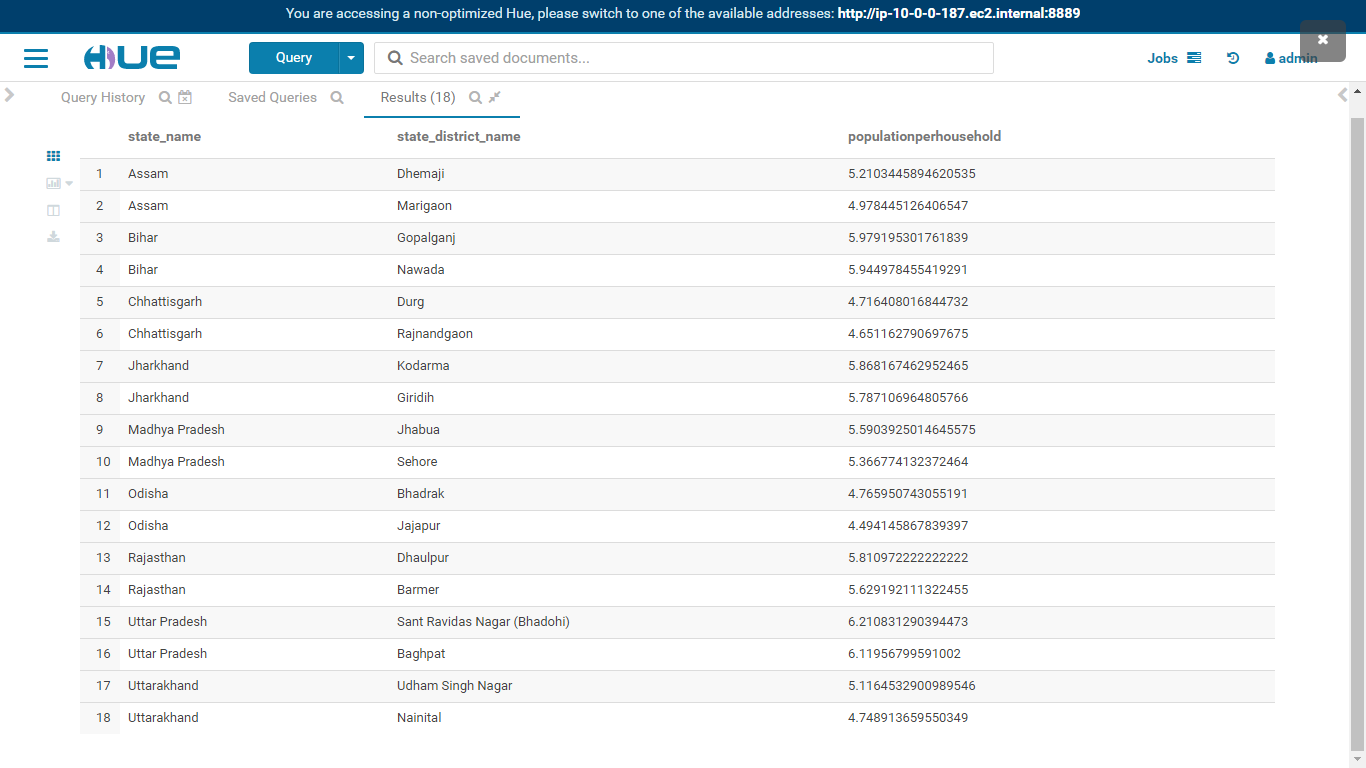
as Population\_Per\_Household,

row\_number() over (partition by state\_name order by aa\_population\_total/aa\_households\_total DESC)

as state\_rank from india\_ahs\_table\_subset\_orc )ranked

where state\_rank<=2;

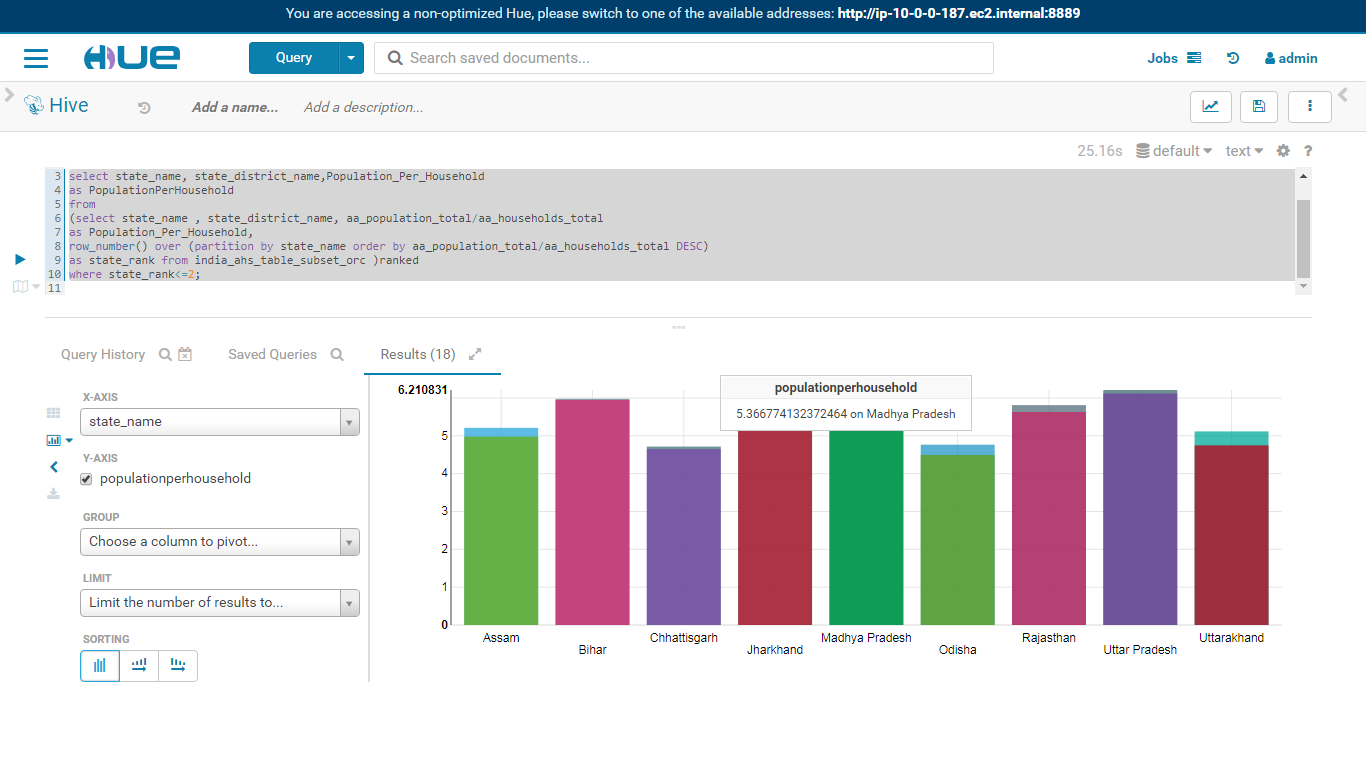
<Screenshot of the result>

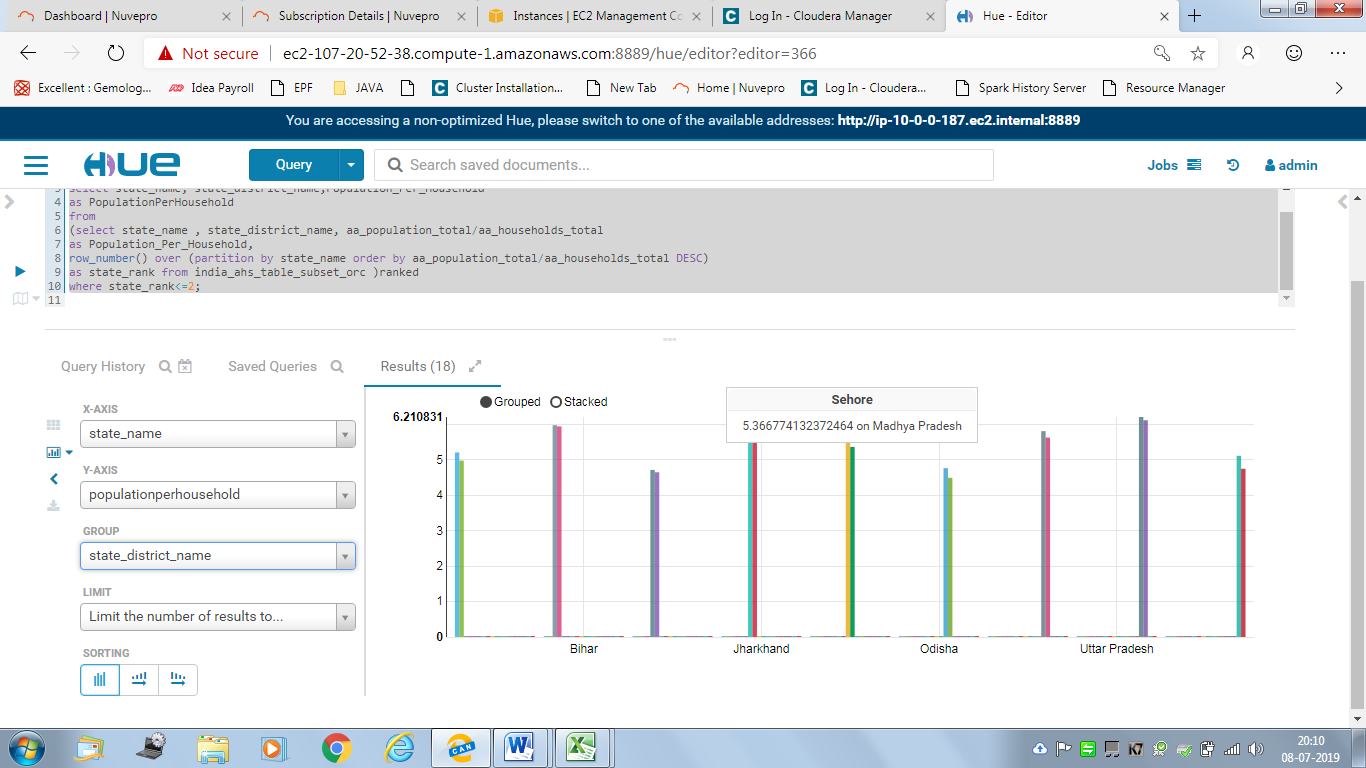


Export to EXCEL:

|  |  |  |
| --- | --- | --- |
| state\_name | state\_district\_name | populationperhousehold |
| Assam | Dhemaji | 5.210344589 |
| Assam | Marigaon | 4.978445126 |
| Bihar | Gopalganj | 5.979195302 |
| Bihar | Nawada | 5.944978455 |
| Chhattisgarh | Durg | 4.716408017 |
| Chhattisgarh | Rajnandgaon | 4.651162791 |
| Jharkhand | Kodarma | 5.868167463 |
| Jharkhand | Giridih | 5.787106965 |
| Madhya Pradesh | Jhabua | 5.590392501 |
| Madhya Pradesh | Sehore | 5.366774132 |
| Odisha | Bhadrak | 4.765950743 |
| Odisha | Jajapur | 4.494145868 |
| Rajasthan | Dhaulpur | 5.810972222 |
| Rajasthan | Barmer | 5.629192111 |
| Uttar Pradesh | Sant Ravidas Nagar (Bhadohi) | 6.21083129 |
| Uttar Pradesh | Baghpat | 6.119567996 |
| Uttarakhand | Udham Singh Nagar | 5.11645329 |
| Uttarakhand | Nainital | 4.74891366 |

**Chart:**





**<Query on the Hive-Hbase integrated table>**

select state\_name, state\_district\_name,Population\_Per\_Household as PopulationPerHousehold

from

(select state\_name , state\_district\_name, aa\_population\_total/aa\_households\_total

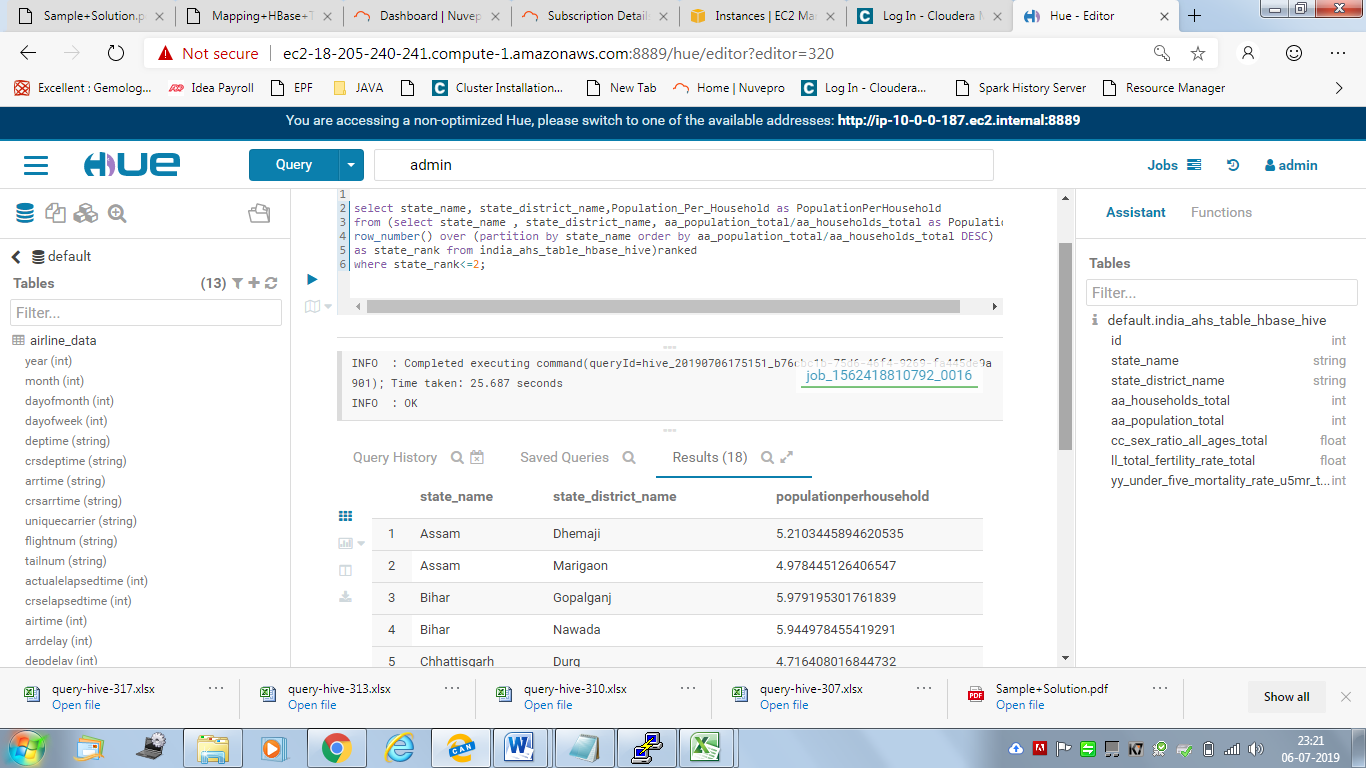
as Population\_Per\_Household,

row\_number() over (partition by state\_name order by aa\_population\_total/aa\_households\_total DESC)

as state\_rank from india\_ahs\_table\_hbase\_hive)ranked

where state\_rank<=2;

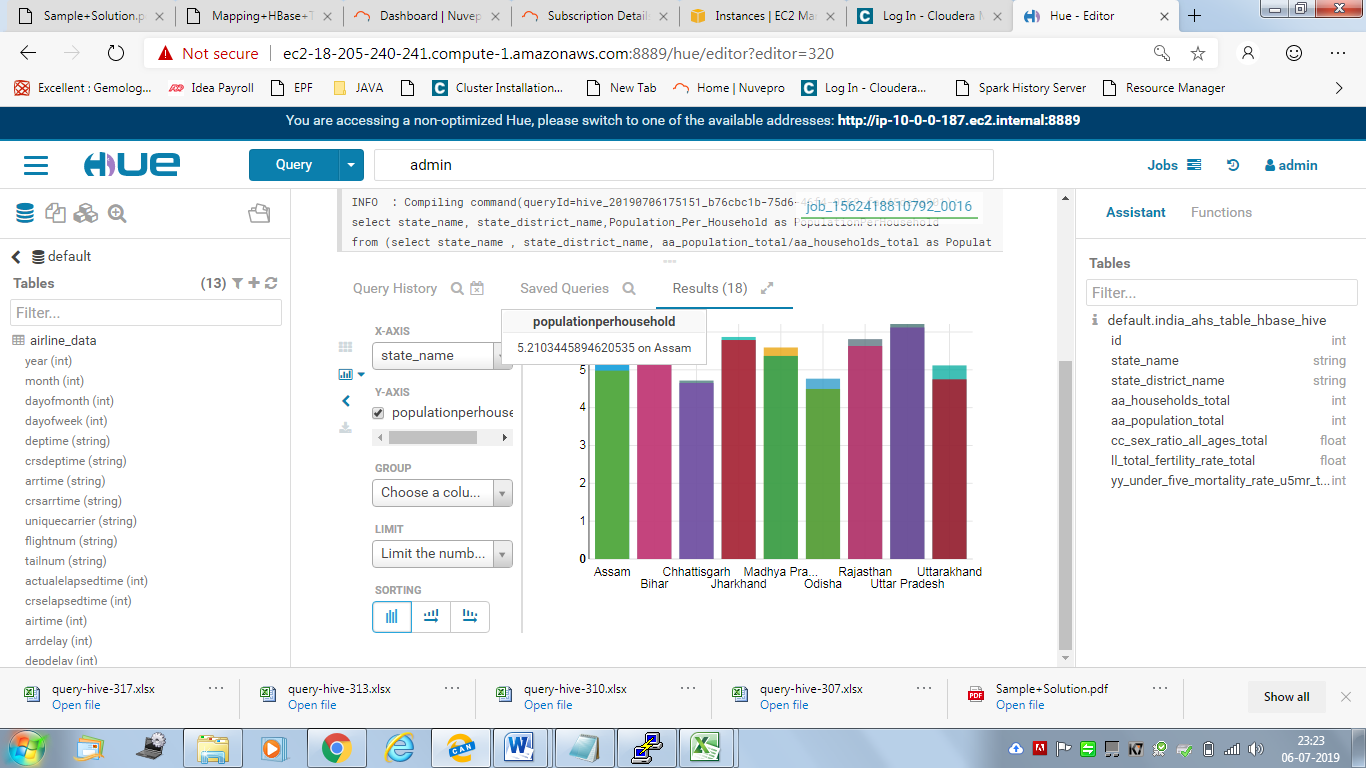
<Screenshot of the result>

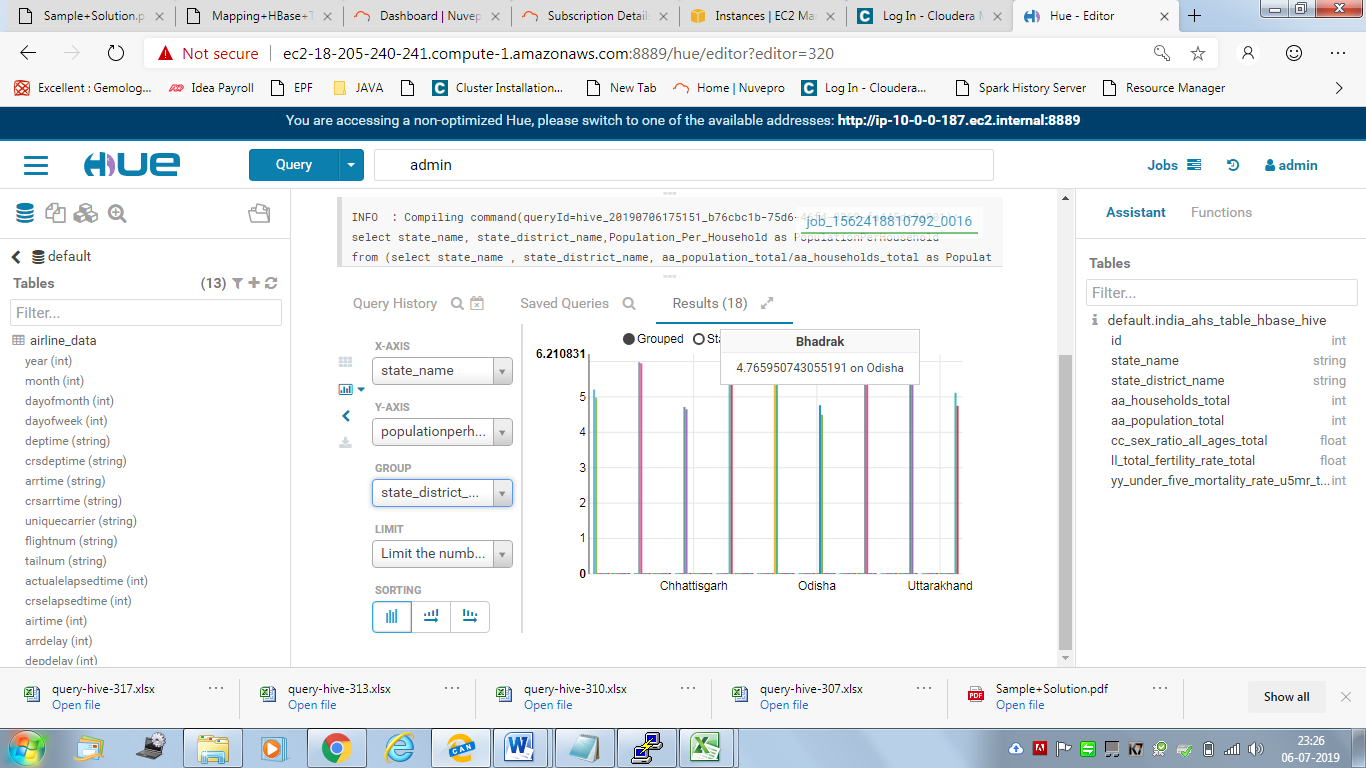


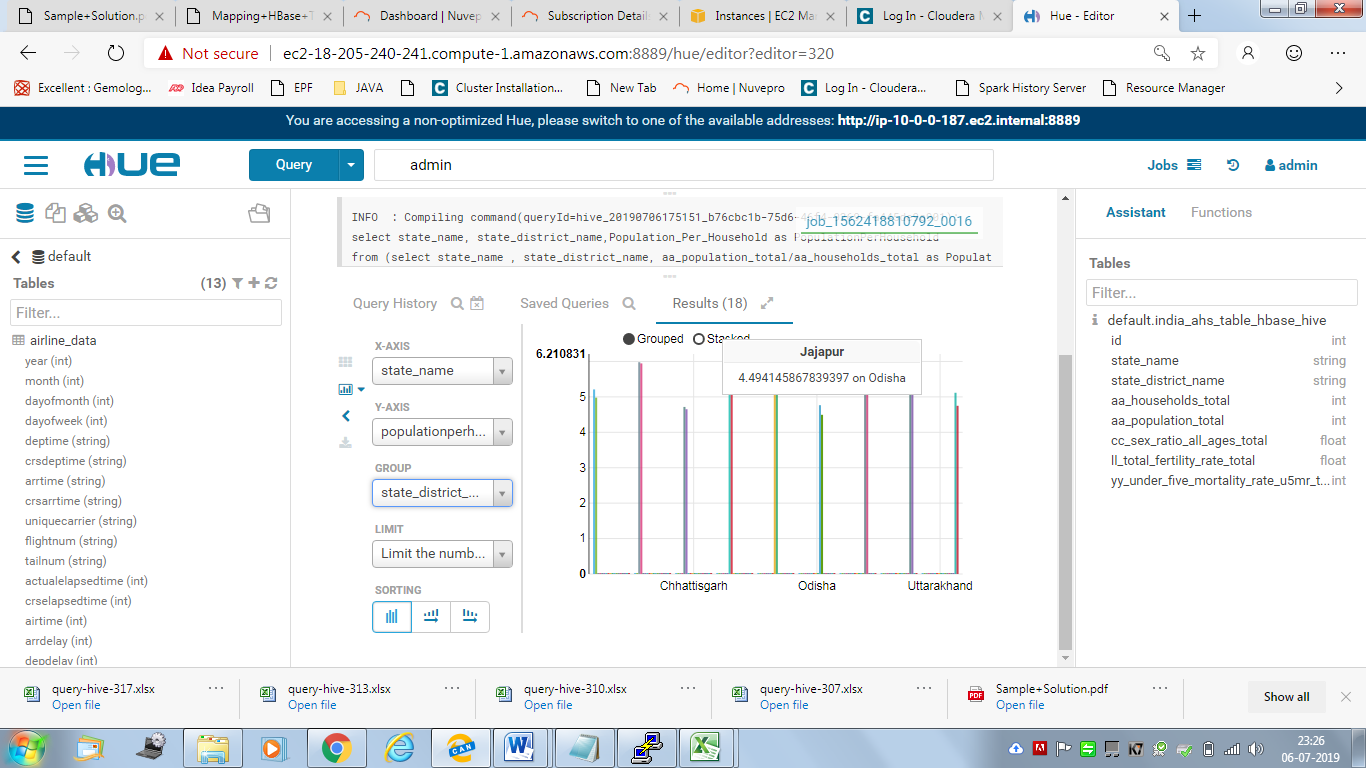
**Output: Export to EXCEL**

|  |  |  |
| --- | --- | --- |
| state\_name | state\_district\_name | populationperhousehold |
| Assam | Dhemaji | 5.210344589 |
| Assam | Marigaon | 4.978445126 |
| Bihar | Gopalganj | 5.979195302 |
| Bihar | Nawada | 5.944978455 |
| Chhattisgarh | Durg | 4.716408017 |
| Chhattisgarh | Rajnandgaon | 4.651162791 |
| Jharkhand | Kodarma | 5.868167463 |
| Jharkhand | Giridih | 5.787106965 |
| Madhya Pradesh | Jhabua | 5.590392501 |
| Madhya Pradesh | Sehore | 5.366774132 |
| Odisha | Bhadrak | 4.765950743 |
| Odisha | Jajapur | 4.494145868 |
| Rajasthan | Dhaulpur | 5.810972222 |
| Rajasthan | Barmer | 5.629192111 |
| Uttar Pradesh | Sant Ravidas Nagar (Bhadohi) | 6.21083129 |
| Uttar Pradesh | Baghpat | 6.119567996 |
| Uttarakhand | Udham Singh Nagar | 5.11645329 |
| Uttarakhand | Nainital | 4.74891366 |

<Chart>







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

**<Query on the table with the chosen format such as orc>**

select state\_name, state\_district\_name, Sex\_Ratio

from

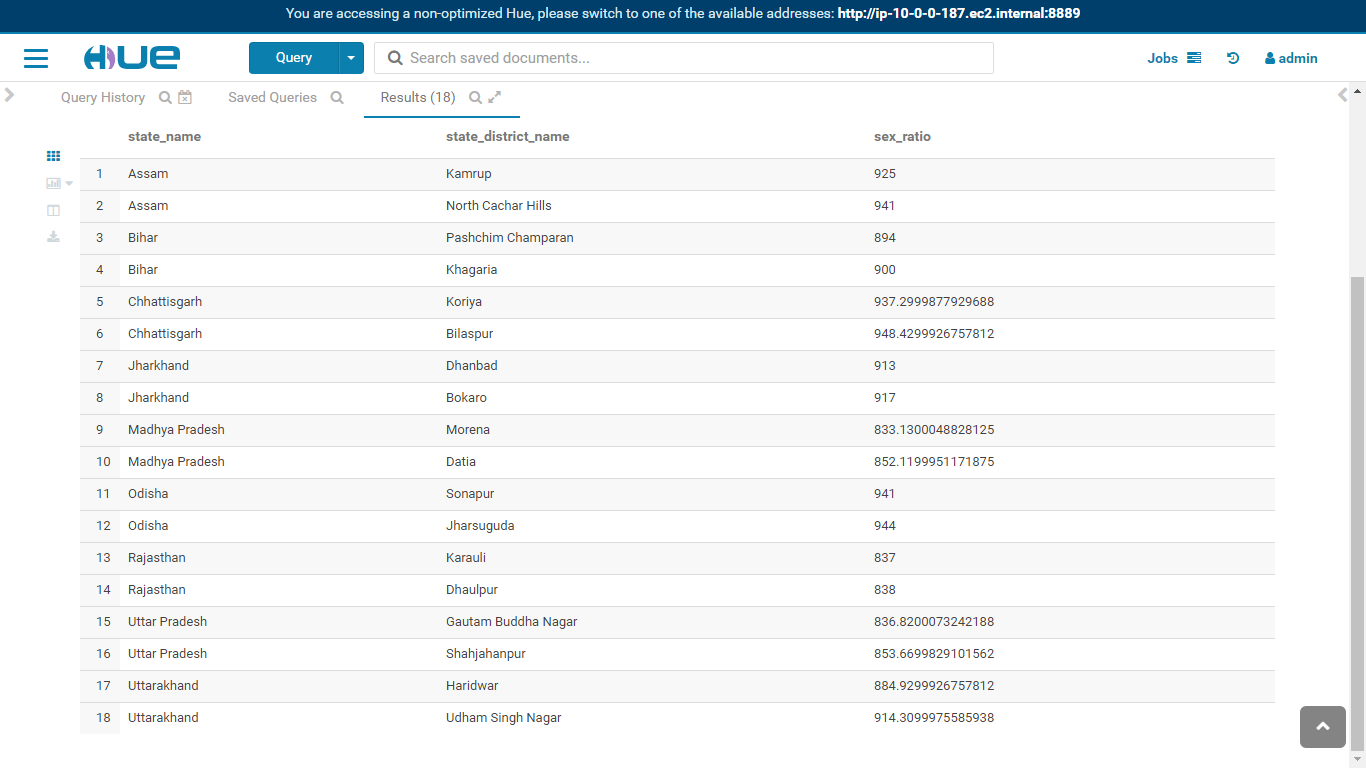
(select state\_name , state\_district\_name,cc\_sex\_ratio\_all\_ages\_total as Sex\_Ratio,

row\_number() over (partition by state\_name order by cc\_sex\_ratio\_all\_ages\_total ASC)

as state\_rank from india\_ahs\_table\_subset\_orc)ranked

where state\_rank<=2;

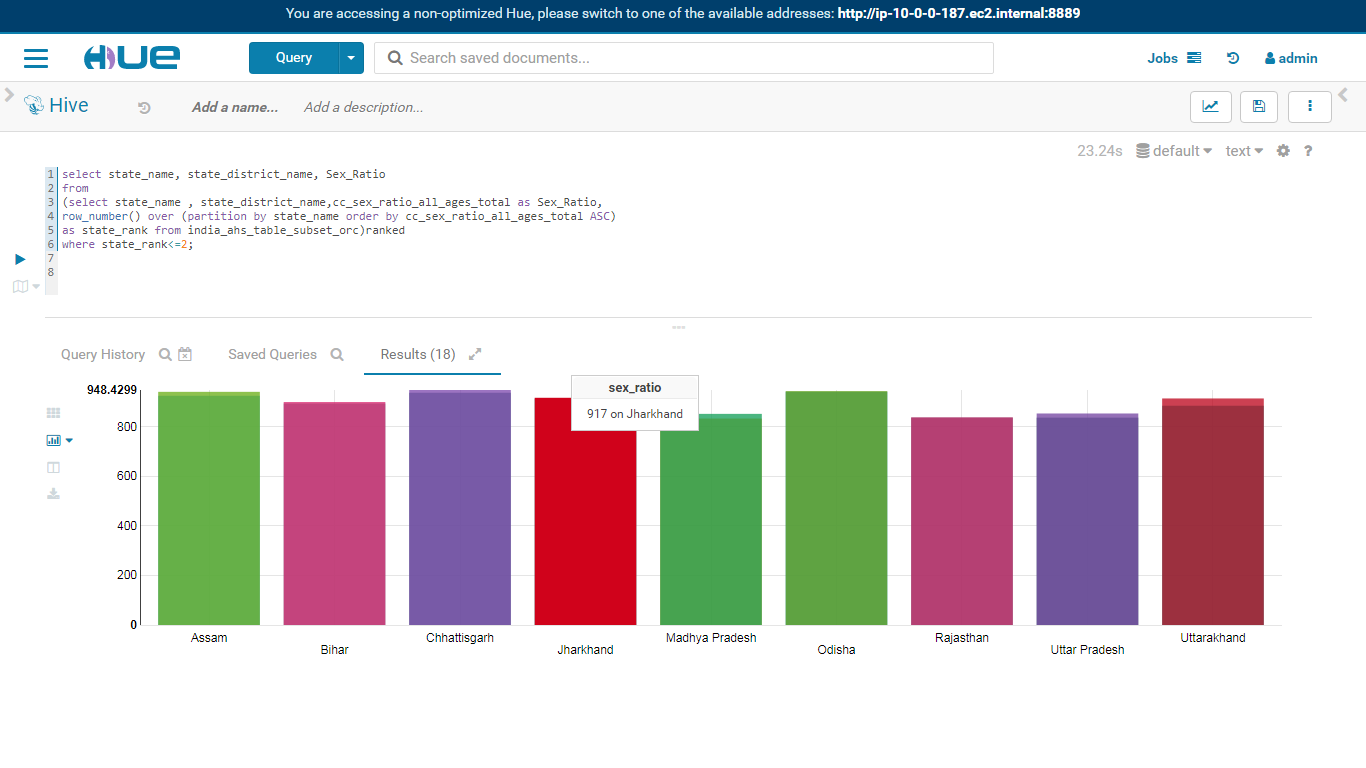
**<Screenshot of the result>**

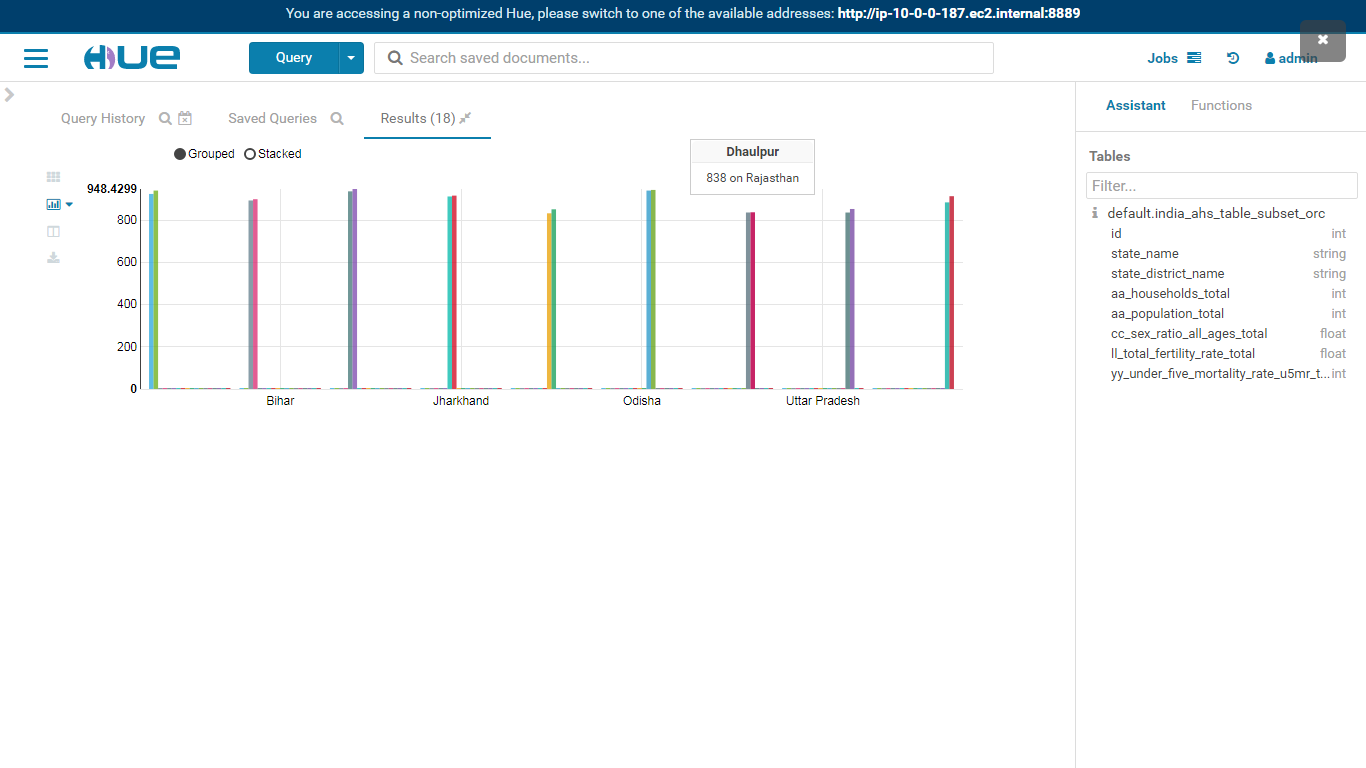


**Export to EXCEL**

|  |  |  |
| --- | --- | --- |
| state\_name | state\_district\_name | sex\_ratio |
| Assam | Kamrup | 925 |
| Assam | North Cachar Hills | 941 |
| Bihar | Pashchim Champaran | 894 |
| Bihar | Khagaria | 900 |
| Chhattisgarh | Koriya | 937.2999878 |
| Chhattisgarh | Bilaspur | 948.4299927 |
| Jharkhand | Dhanbad | 913 |
| Jharkhand | Bokaro | 917 |
| Madhya Pradesh | Morena | 833.1300049 |
| Madhya Pradesh | Datia | 852.1199951 |
| Odisha | Sonapur | 941 |
| Odisha | Jharsuguda | 944 |
| Rajasthan | Karauli | 837 |
| Rajasthan | Dhaulpur | 838 |
| Uttar Pradesh | Gautam Buddha Nagar | 836.8200073 |
| Uttar Pradesh | Shahjahanpur | 853.6699829 |
| Uttarakhand | Haridwar | 884.9299927 |
| Uttarakhand | Udham Singh Nagar | 914.3099976 |

<Chart>



**<Query on the Hive-Hbase integrated table>**

select state\_name, state\_district\_name,Sex\_Ratio

from

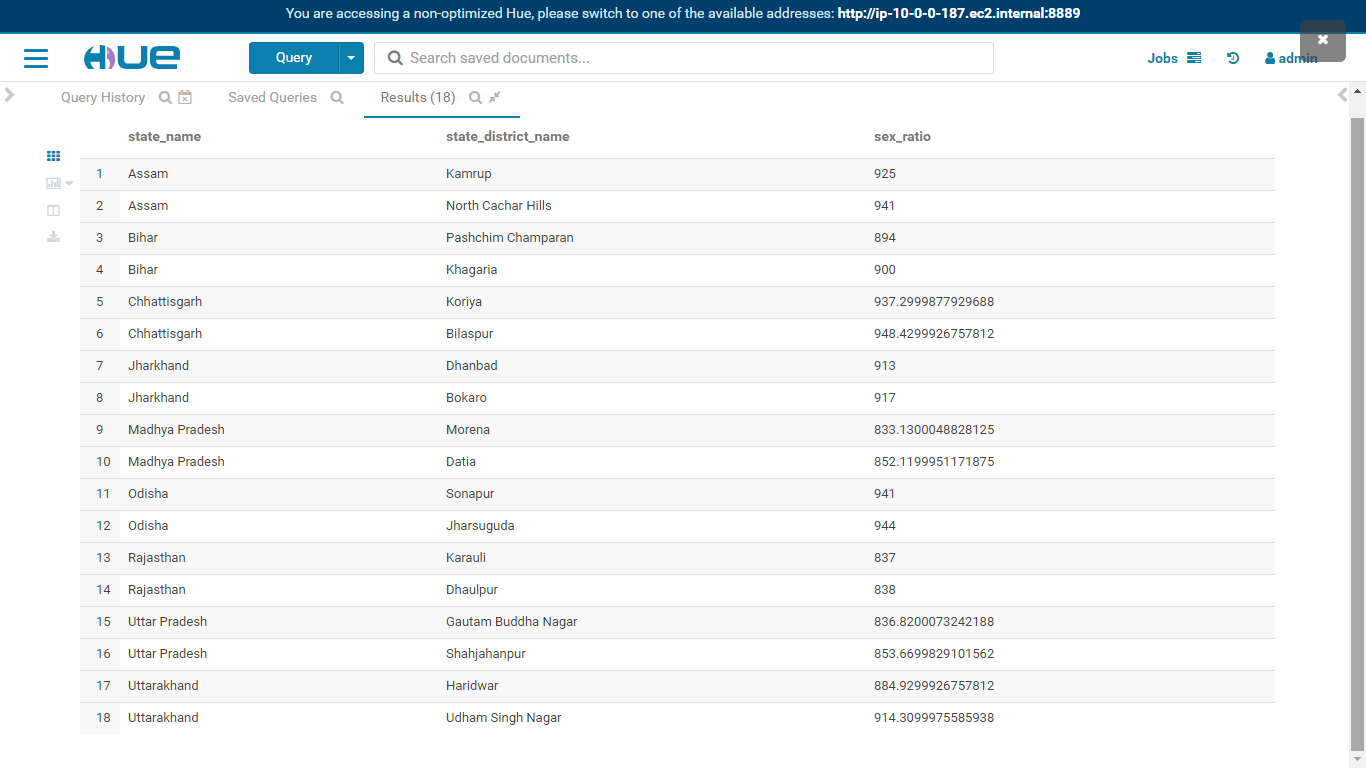
(select state\_name , state\_district\_name,cc\_sex\_ratio\_all\_ages\_total as Sex\_Ratio,

row\_number() over (partition by state\_name order by cc\_sex\_ratio\_all\_ages\_total ASC)

as state\_rank from india\_ahs\_table\_hbase\_hive )ranked

where state\_rank<=2;

<Screenshot of the result>



**EXPORT to EXCEL**

|  |  |  |
| --- | --- | --- |
| state\_name | state\_district\_name | sex\_ratio |
| Assam | Kamrup | 925 |
| Assam | North Cachar Hills | 941 |
| Bihar | Pashchim Champaran | 894 |
| Bihar | Khagaria | 900 |
| Chhattisgarh | Koriya | 937.2999878 |
| Chhattisgarh | Bilaspur | 948.4299927 |
| Jharkhand | Dhanbad | 913 |
| Jharkhand | Bokaro | 917 |
| Madhya Pradesh | Morena | 833.1300049 |
| Madhya Pradesh | Datia | 852.1199951 |
| Odisha | Sonapur | 941 |
| Odisha | Jharsuguda | 944 |
| Rajasthan | Karauli | 837 |
| Rajasthan | Dhaulpur | 838 |
| Uttar Pradesh | Gautam Buddha Nagar | 836.8200073 |
| Uttar Pradesh | Shahjahanpur | 853.6699829 |
| Uttarakhand | Haridwar | 884.9299927 |
| Uttarakhand | Udham Singh Nagar | 914.3099976 |

Chart:

