# 분산시스템 과제 #5

박종현, 2025-05-01 공과대학 컴퓨터정보통신공학과

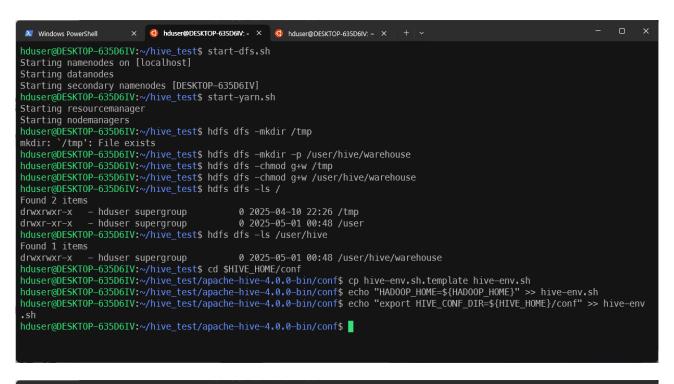
#### 과제 목표

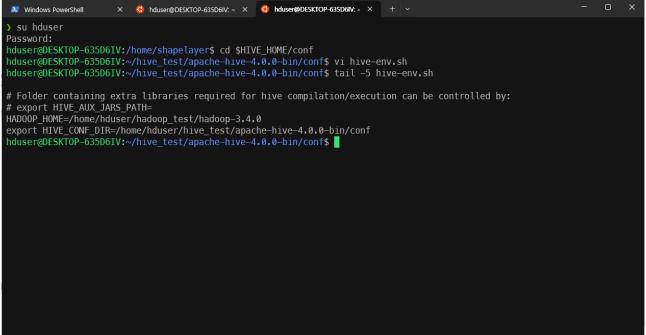
1. 3-2 자료 : 8, 12~16쪽 2. 3-3 자료 : 5, 6, 9,10, 11 쪽

3. 3-4 자료: 3~10쪽

# [Ch 3-2]

```
Windows PowerShell
                                   hduser@DESKTOP-635D6IV:~/hive_test$ start-dfs.sh
Starting namenodes on [localhost]
Starting datanodes
Starting secondary namenodes [DESKTOP-635D6IV] hduser@DESKTOP-635D6IV:~/hive_test$ start-yarn.sh
Starting resourcemanager
Starting nodemanagers
hduser@DESKTOP-635D6IV:~/hive_test$ hdfs dfs -mkdir /tmp
nduser@DESKTOP=053D6TV.~/hive_test$ hdfs dfs =mkdir -p /user/hive/warehouse
hduser@DESKTOP=635D6TV:~/hive_test$ hdfs dfs =chmod g+w /tmp
hduser@DESKTOP=635D6TV:~/hive_test$ hdfs dfs =chmod g+w /user/hive/warehouse
hduser@DESKTOP=635D6TV:~/hive_test$ hdfs dfs =chmod g+w /user/hive/warehouse
hduser@DESKTOP=635D6TV:~/hive_test$ hdfs dfs =ls /
Found 2 items
drwxrwxr-x - hduser supergroup
drwxr-xr-x - hduser supergroup
                                                            0 2025-04-10 22:26 /tmp
                                                            0 2025-05-01 00:48 /user
hduser@DESKTOP-635D6IV:~/hive_test$ hdfs dfs -ls /user/hive
Found 1 items
drwxrwxr-x - hduser supergroup
                                                            0 2025-05-01 00:48 /user/hive/warehouse
hduser@DESKTOP-635D6IV:~/hive_test$ cd $HIVE_HOME/conf
hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ cp hive-env.sh.template hive-env.sh hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$
```





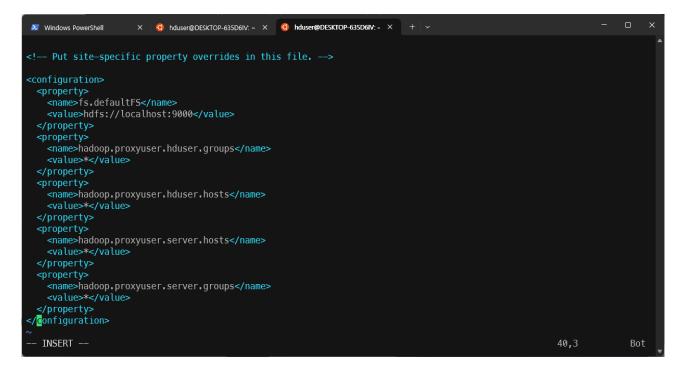
```
×  hduser@DESKTOP-635D6IV: - × 🐧 hduser@DESKTOP-635D6IV: ~ ×
 Windows PowerShell
Starting namenodes on [localhost]
Starting datanodes
Starting secondary namenodes [DESKTOP-635D6IV] hduser@DESKTOP-635D6IV:~/hive_test$ start-yarn.sh
Starting resourcemanager
Starting nodemanagers
hduser@DESKTOP-635D6IV:~/hive_test$ hdfs dfs -mkdir /tmp mkdir: `/tmp': File exists
hduser@DESKTOP-635D6IV:~/hive_test$ hdfs dfs -mkdir -p /user/hive/warehouse
hduser@DESKTOP-635D6IV:~/hive_test$ hdfs dfs -chmod g+w /tmp
hduser@DESKTOP-635D6IV:~/hive_test$ hdfs dfs -chmod g+w /user/hive/warehouse
hduser@DESKTOP-635D6IV:~/hive_test$ hdfs dfs -ls /
Found 2 items
                                                        0 2025-04-10 22:26 /tmp
drwxrwxr-x - hduser supergroup
                 hduser supergroup
                                                        0 2025-05-01 00:48 /user
drwxr-xr-x
hduser@DESKTOP-635D6IV:~/hive_test$ hdfs dfs -ls /user/hive
Found 1 items
                                                        0 2025-05-01 00:48 /user/hive/warehouse
drwxrwxr-x - hduser supergroup
hduser@DESKTOP-635D6IV:~/hive_test$ cd $HIVE_HOME/conf
hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ cp hive-env.sh.template hive-env.sh hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ echo "HAD00P_HOME=${HAD00P_HOME}" >> hive-env.sh hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ echo "export HIVE_CONF_DIR=${HIVE_HOME}/conf" >> hive-env
hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ echo 'HADOOP_HOME=${HADOOP_HOME}' >> hive-env.sh hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ echo 'export HIVE_CONF_DIR=${HIVE_HOME}/conf' >> hive-env
hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$
```

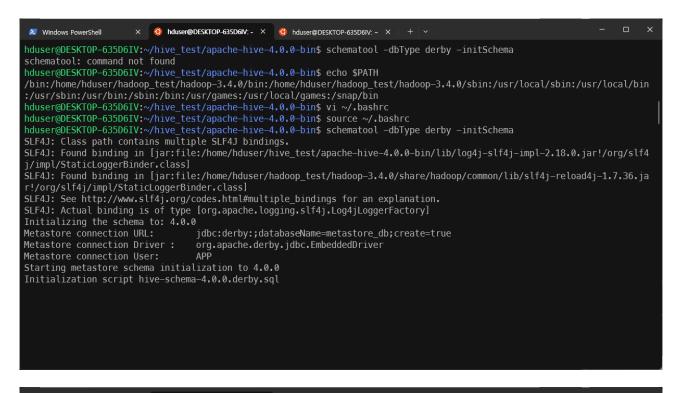
```
# with the work of the jum stared by hive shell script can be controlled via:
# export HAD00P_HEAPSIZE=1024
# Larger heap size may be required when running queries over large number of files or partitions.
# by default hive shell scripts use a heap size of 256 (MB). Larger heap size would also be
# appropriate for hive server.

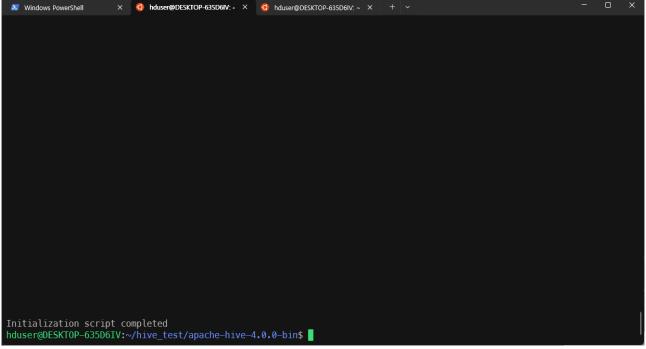
# Set HAD00P_HOME to point to a specific hadoop install directory
# HAD00P_HOME=${bin}/.../.hadoop
# Hive Configuration Directory can be controlled by:
# export HIVE_CONF_DIR=
# folder containing extra libraries required for hive compilation/execution can be controlled by:
# export HIVE_CONF_DIR=${HIVE_HOME}/conf

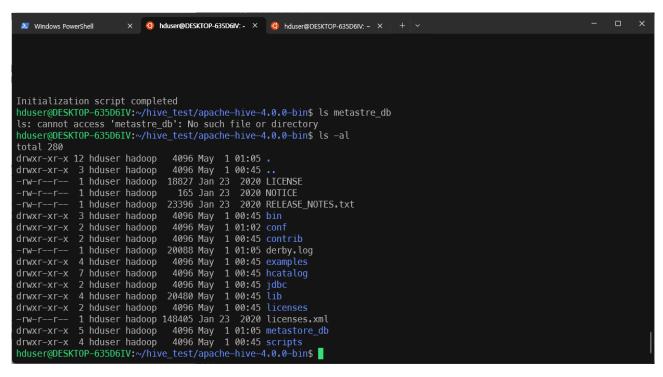
* S5,1 Bot
```

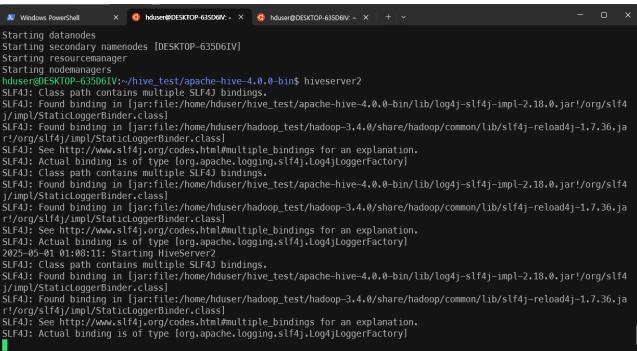
```
× 🧐 Q hduser@DESKTOP-635D6I × 🚱 hduser@DESKTOP-635D6IV: ~ ×
 Windows PowerShell
Found 2 items
                hduser supergrouphduser supergroup
                                                          0 2025-04-10 22:26 /tmp
drwxrwxr-x
                                                          0 2025-05-01 00:48 /user
drwxr-xr-x
hduser@DESKTOP-635D6IV:~/hive_test$ hdfs dfs -ls /user/hive
Found 1 items
drwxrwxr-x - hduser supergroup
                                                          0 2025-05-01 00:48 /user/hive/warehouse
hduser@DESKTOP-635D6IV:~/hive_test$ cd $HIVE_HOME/conf
hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ cp hive-env.sh.template hive-env.sh
hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ echo "HAD00P_HOME=${HAD00P_HOME}" >> hive-env.sh hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ echo "export HIVE_CONF_DIR=${HIVE_HOME}/conf" >> hive-env
hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ echo 'HADOOP_HOME=${HADOOP_HOME}' >> hive-env.sh hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ echo 'export HIVE_CONF_DIR=${HIVE_HOME}/conf' >> hive-env
.sh
hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ cd ...
hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin$ ls
LICENSE NOTICE RELEASE_NOTES.txt bin conf contrib examples hcatalog jdbc lib licenses licenses.xml scripts
hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin$ cd etc bash: cd: etc: No such file or directory hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin$ cd $HADOOP_HOME
hduser@DESKTOP-635D6IV:~/hadoop_test/hadoop-3.4.0$ cd etc
hduser@DESKTOP-635D6IV:~/hadoop_test/hadoop-3.4.0/etc$ ls
hduser@DESKTOP-635D6IV:~/hadoop_test/hadoop-3.4.0/etc$ cd hadoop/
hduser@DESKTOP-635D6IV:~/hadoop_test/hadoop-3.4.0/etc/hadoop$ cp /mnt/c/Users/ShapeLayer/Desktop/core-site.diff.xml ~/
hduser@DESKTOP-635D6IV:~/hadoop_test/hadoop-3.4.0/etc/hadoop$ cat ~/core-site.diff.xml >> ./core-site.xml hduser@DESKTOP-635D6IV:~/hadoop_test/hadoop-3.4.0/etc/hadoop$
```







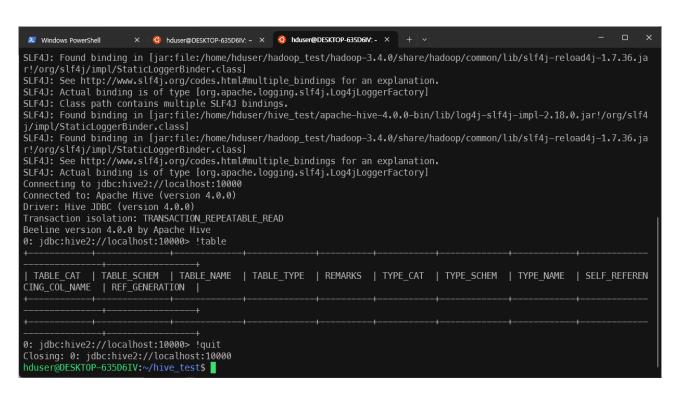




```
hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ ss -ltn | grep "10000\|10002"
                                               *:10000
*:10002
LISTEN 0
                   50
                   50
hduser@DESKTOP-635D6IV:~/hive_test/apache-hive-4.0.0-bin/conf$ cd ~/hive_test
hduser@DESKTOP-635D6IV:~/hive_test$ beeline -n hduser -u jdbc:hive2://localhost:10000
beeline: command not found
hduser@DESKTOP-635D6IV:~/hive_test$ echo $PATH
/bin:/home/hduser/hadoop_test/hadoop_3.4.0/bin:/home/hduser/hadoop_test/hadoop_3.4.0/sbin:/usr/local/sbin:/usr/local/bin
:/usr/sbin:/usr/bin:/bin:/usr/games:/usr/local/games:/snap/bin
hduser@DESKTOP-635D6IV:~/hive_test$ source ~/.bashrc
hduser@DESKTOP-635D6IV:~/hive_test$ beeline
SLF4J: Class path contains multiple SLF4J bindings.

SLF4J: Found binding in [jar:file:/home/hduser/hive_test/apache-hive-4.0.0-bin/lib/log4j-slf4j-impl-2.18.0.jar!/org/slf4
j/impl/StaticLoggerBinder.class]

SLF4J: Found binding in [jar:file:/home/hduser/hadoop_test/hadoop-3.4.0/share/hadoop/common/lib/slf4j-reload4j-1.7.36.ja
r!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: See http://www.slf4j.org/codes.htm/#multiple_bindings for an explanation. SLF4J: Actual binding is of type [org.apache.logging.slf4j.Log4jLoggerFactory] SLF4J: Class path contains multiple SLF4J bindings.
SLF4J: Found binding in [jar:file:/home/hduser/hive_test/apache-hive-4.0.0-bin/lib/log4j-slf4j-impl-2.18.0.jar!/org/slf4
j/impl/StaticLoggerBinder.class]
SLF4J: Found binding in [jar:file:/home/hduser/hadoop_test/hadoop-3.4.0/share/hadoop/common/lib/slf4j-reload4j-1.7.36.ja
r!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4J: Actual binding is of type [org.apache.logging.slf4j.Log4jLoggerFactory]
^Chduser@DESKTOP-635D6IV:~/hive_test$ beeline -n hduser -u jdbc:hive2://localhost:10000
SLF4J: Class path contains multiple SLF4J bindings.
SLF4J: Found binding in [jar:file:/home/hduser/hive_test/apache-hive-4.0.0-bin/lib/log4j-slf4j-impl-2.18.0.jar!/org/slf4
```

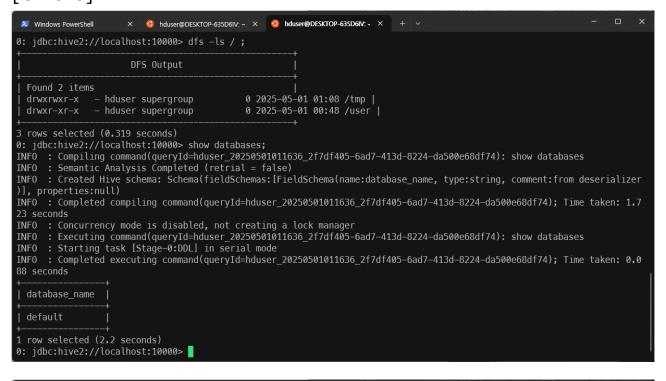


```
Windows PowerShell
                         r!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4J: Actual binding is of type [org.apache.logging.slf4j.Log4jLoggerFactory] SLF4J: Class path contains multiple SLF4J bindings.
SLF4J: Found binding in [jar:file:/home/hduser/hive_test/apache-hive-4.0.0-bin/lib/log4j-slf4j-impl-2.18.0.jar!/org/slf4
j/impl/StaticLoggerBinder.class]
SLF4J: Found binding in [jar:file:/home/hduser/hadoop_test/hadoop-3.4.0/share/hadoop/common/lib/slf4j-reload4j-1.7.36.ja
r!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation. SLF4J: Actual binding is of type [org.apache.logging.slf4j.Log4jLoggerFactory] Connecting to jdbc:hive2://localhost:10000
Connected to: Apache Hive (version 4.0.0)
Driver: Hive JDBC (version 4.0.0)
Transaction isolation: TRANSACTION_REPEATABLE_READ Beeline version 4.0.0 by Apache Hive
0: jdbc:hive2://localhost:10000> !sh ls
apache-hive-4.0.0-bin
apache-hive-4.0.0-bin.tar.gz
0: jdbc:hive2://localhost:10000> dfs -ls /;
                         DFS Output
  Found 2 items
                                                    0 2025-05-01 01:08 /tmp |
  drwxrwxr-x
                   hduser supergroup
                                                   0 2025-05-01 00:48 /user |
  drwxr-xr-x

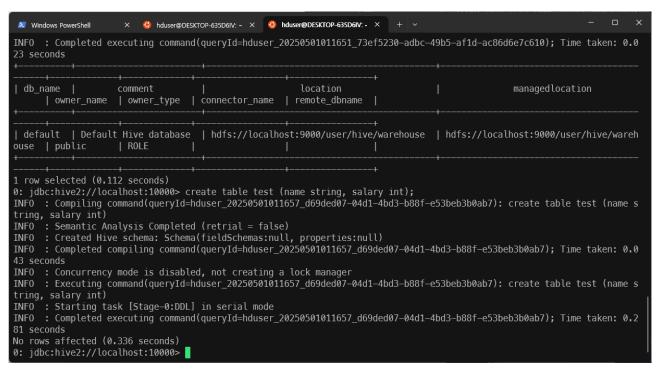
    hduser supergroup

3 rows selected (0.319 seconds)
0: jdbc:hive2://localhost:10000>
```

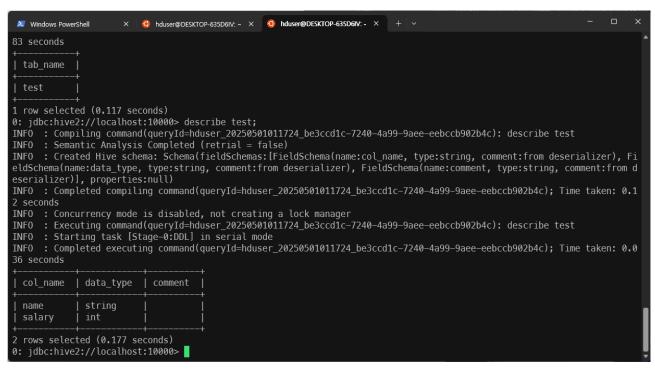
## [Ch 3-3]



```
hduser@DESKTOP-635D6IV: ~ × 6 hduser@DESKTOP-635D6IV: ~ ×
 Windows PowerShell
0: jdbc:hive2://localhost:10000> describe database default;
INFÓ : Compiling command(queryId=hduser_20250501011651_73ef5230-adbc-49b5-af1d-ac86d6e7c610): describe database default
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:[FieldSchema(name:db_name, type:string, comment:from deserializer), Fie
ldSchema(name:comment, type:string, comment:from deserializer), FieldSchema(name:location, type:string, comment:from deserializer), FieldSchema(name:managedlocation, type:string, comment:from deserializer), FieldSchema(name:owner_name, type
:string, comment:from deserializer), FieldSchema(name:owner_type, type:string, comment:from deserializer), FieldSchema(name:connector_name, type:string, comment:from deserializer), FieldSchema(name:remote_dbname, type:string, comment:from d
INFO : Completed compiling command(queryId=hduser_20250501011651_73ef5230-adbc-49b5-af1d-ac86d6e7c610); Time taken: 0.0
59 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501011651_73ef5230-adbc-49b5-af1d-ac86d6e7c610): describe database default
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501011651_73ef5230-adbc-49b5-af1d-ac86d6e7c610); Time taken: 0.0
23 seconds
I db name I
                        comment
                                                                   location
                                                                                                                    managedlocation
       owner name
                       | owner_type | connector_name
                                                               I remote dbname I
| default | Default Hive database | hdfs://localhost:9000/user/hive/warehouse | hdfs://localhost:9000/user/hive/wareh
ouse | public
 row selected (0.112 seconds)
0: jdbc:hive2://localhost:10000>
```



```
Windows PowerShell
                          6 hduser@DESKTOP-635D6IV: ~ X 6 hduser@DESKTOP-635D6IV: ~ X + V
43 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501011657_d69ded07-04d1-4bd3-b88f-e53beb3b0ab7): create table test (name s
tring, salary int)
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501011657_d69ded07-04d1-4bd3-b88f-e53beb3b0ab7); Time taken: 0.2
81 seconds
No rows affected (0.336 seconds)
0: jdbc:hive2://localhost:10000> show tables
.....; INFO : Compiling command(queryId=hduser_20250501011705_d4829ce1-fffb-4d12-be90-aee68218220d): show tables
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:[FieldSchema(name:tab_name, type:string, comment:from deserializer)], p
roperties:null)
INFO : Completed compiling command(queryId=hduser_20250501011705_d4829ce1-fffb-4d12-be90-aee68218220d); Time taken: 0.0
11 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501011705_d4829ce1-fffb-4d12-be90-aee68218220d): show tables
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501011705_d4829ce1-fffb-4d12-be90-aee68218220d); Time taken: 0.0
83 seconds
  tab_name
  test
1 row selected (0.117 seconds)
0: jdbc:hive2://localhost:10000>
```

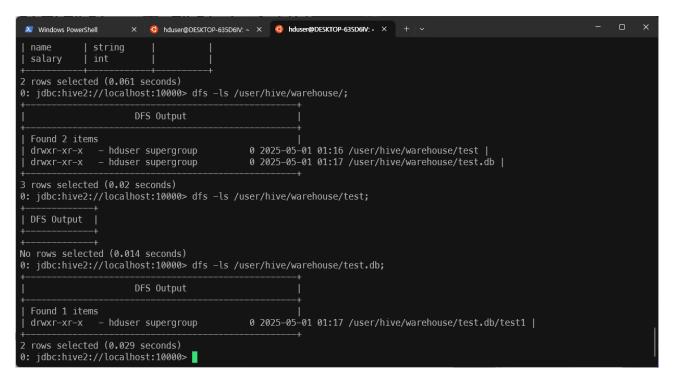


```
Windows PowerShell
                                                     eserializer)], properties:null)
INFO : Completed compiling command(queryId=hduser_20250501011724_be3ccd1c-7240-4a99-9aee-eebccb902b4c); Time taken: 0.1
2 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501011724_be3ccd1c-7240-4a99-9aee-eebccb902b4c): describe test
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501011724_be3ccd1c-7240-4a99-9aee-eebccb902b4c); Time taken: 0.0
   col_name
                              | data_type | comment
    name
                                   string
    salarv
2 rows selected (0.177 seconds)
0: jdbc:hive2://localhost:10000> create database test;
INFO: Compiling \ command (queryId=hduser\_20250501011732\_a928b75e-21cd-445d-94ae-bd69d2f013db): \ create \ database \ test \ database \
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501011732_a928b75e-21cd-445d-94ae-bd69d2f013db); Time taken: 0.0
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501011732_a928b75e-21cd-445d-94ae-bd69d2f013db): create database test
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501011732_a928b75e-21cd-445d-94ae-bd69d2f013db); Time taken: 0.0
32 seconds
No rows affected (0.045 seconds)
0: jdbc:hive2://localhost:10000>
```

```
X G hduser@DESKTOP-635D6IV: ~ X G hduser@DESKTOP-635D6IV: ~ X + V
 Windows PowerShell
| salary
               I int
2 rows selected (0.177 seconds)
0: jdbc:hive2://localhost:10000> create database test;
INFO : Compiling command(queryId=hduser_20250501011732_a928b75e-21cd-445d-94ae-bd69d2f013db): create database test INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501011732_a928b75e-21cd-445d-94ae-bd69d2f013db); Time taken: 0.0
03 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501011732_a928b75e-21cd-445d-94ae-bd69d2f013db): create database test
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501011732_a928b75e-21cd-445d-94ae-bd69d2f013db); Time taken: 0.0
32 seconds
No rows affected (0.045 seconds)
0: jdbc:hive2://localhost:10000> use test;
INFO : Compiling command(queryId=hduser_20250501011743_3a1fa594-f193-4bda-8976-93572ec3e67a): use test
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501011743_3a1fa594-f193-4bda-8976-93572ec3e67a); Time taken: 0.0
05 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501011743_3a1fa594-f193-4bda-8976-93572ec3e67a): use test
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501011743_3a1fa594-f193-4bda-8976-93572ec3e67a); Time taken: 0.0
09 seconds
No rows affected (0.03 seconds)
0: jdbc:hive2://localhost:10000>
```

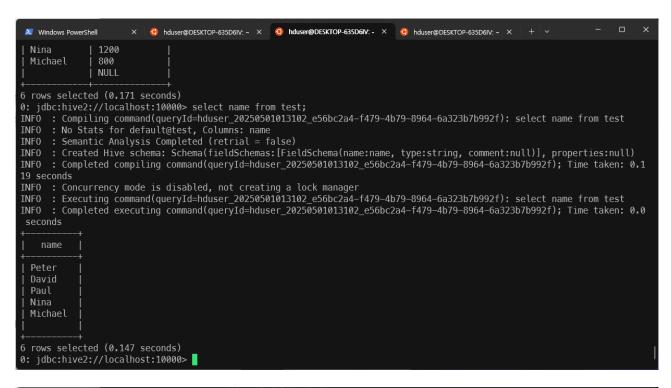
```
Windows PowerShell
                                 No rows affected (0.045 seconds)
0: jdbc:hive2://localhost:10000> use test;
INFO : Completed Compiling command(queryId=hduser_20250501011743_3a1fa594-f193-4bda-8976-93572ec3e67a): use test
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501011743_3a1fa594-f193-4bda-8976-93572ec3e67a); Time taken: 0.0
05 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501011743_3a1fa594-f193-4bda-8976-93572ec3e67a): use test
INFO : Starting task [Stage=0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501011743_3a1fa594-f193-4bda-8976-93572ec3e67a); Time taken: 0.0
09 seconds
No rows affected (0.03 seconds)
0: jdbc:hive2://localhost:10000> create table test1 (name string, salary int);
INFO : Compiling command(queryId=hduser_20250501011751_a3889cbf-78f1-4860-97e6-9acd7057bffc): create table test1 (name
string, salary int)
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501011751_a3889cbf-78f1-4860-97e6-9acd7057bffc); Time taken: 0.0
06 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501011751_a3889cbf-78f1-4860-97e6-9acd7057bffc): create table test1 (name
string, salary int)
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501011751_a3889cbf-78f1-4860-97e6-9acd7057bffc); Time taken: 0.0
89 seconds
No rows affected (0.107 seconds)
0: jdbc:hive2://localhost:10000>
```

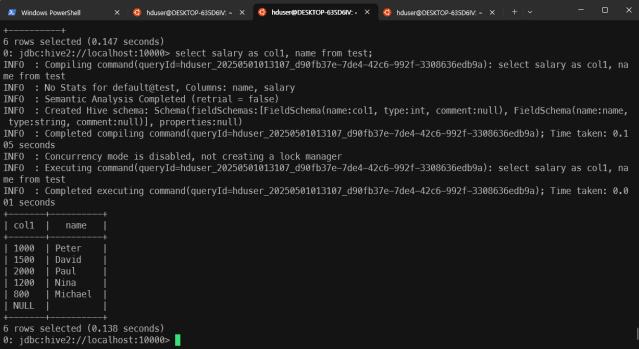
```
X 🚱 hduser@DESKTOP-635D6IV: ~ X 🧐 hduser@DESKTOP-635D6IV: ~ X
 Windows PowerShell
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501011751_a3889cbf-78f1-4860-97e6-9acd7057bffc): create table test1 (name
string, salary int)
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501011751_a3889cbf-78f1-4860-97e6-9acd7057bffc); Time taken: 0.0
89 seconds
No rows affected (0.107 seconds)
0: jdbc:hive2://localhost:10000> describe test1;
INFO : Compiling command(queryId=hduser_20250501011757_0f12523e-588e-44dd-a4a0-c880440e5fd3): describe test1
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:[FieldSchema(name:col_name, type:string, comment:from deserializer), FieldSchema(name:data_type, type:string, comment:from deserializer), FieldSchema(name:comment, type:string, comment:from deserializer)
eserializer)], properties:null)
INFO : Completed compiling command(queryId=hduser_20250501011757_0f12523e-588e-44dd-a4a0-c880440e5fd3); Time taken: 0.0
2 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501011757_0f12523e-588e-44dd-a4a0-c880440e5fd3): describe test1
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501011757_0f12523e-588e-44dd-a4a0-c880440e5fd3); Time taken: 0.0
21 seconds
  col_name
                 | data_type | comment |
   name
   salary
2 rows selected (0.061 seconds)
0: jdbc:hive2://localhost:10000>
```

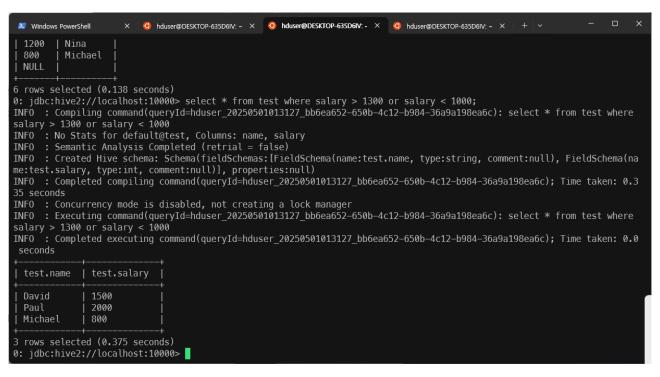


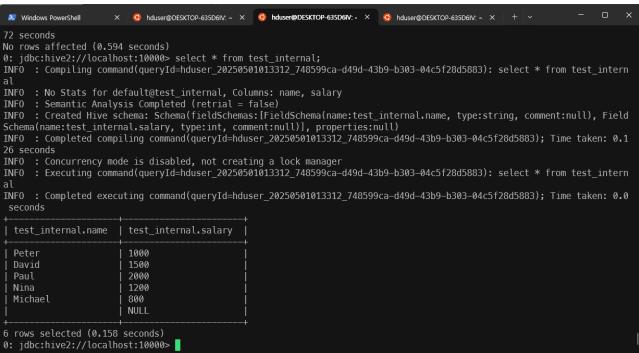
```
Windows PowerShell
                                   6 hduser@DESKTOP-635D6IV: ~ X 6 hduser@DESKTOP-635D6IV: ~ X + ×
INFO : Created Hive schema: Schema(fieldSchemas:[FieldSchema(name:test.name, type:string, comment:null), FieldSchema(name:test.name, type:string, comment:null)
me:test.salary, type:int, comment:null)], properties:null)
INFO : Completed compiling command(queryId=hduser_20250501012515_54a0cef6-91ec-4d2e-9150-fc716355e9c3); Time taken: 1.7
37 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501012515_54a0cef6-91ec-4d2e-9150-fc716355e9c3): select * from test
INFO : Completed executing command(queryId=hduser_20250501012515_54a0cef6-91ec-4d2e-9150-fc716355e9c3); Time taken: 0.0
 seconds
                       | test.salary
   Peter,1000
   David, 1500
                         NULL
   Paul, 2000
                         NULL
   Nina, 1200
   Michael,800
                         NULL
6 rows selected (1.867 seconds)
0: jdbc:hive2://localhost:10000> dfs -ls /user/hive/warehouse/test;
                                DFS Output
  Found 1 items
                     1 hduser supergroup
                                                                55 2025-05-01 01:23 /user/hive/warehouse/test/test.dat |
2 rows selected (0.019 seconds)
0: jdbc:hive2://localhost:10000>
```

```
Windows PowerShell
                             6 hduser@DESKTOP-635D6IV: ~ X 6 hduser@DESKTOP-635D6IV: ~ X 6 hduser@DESKTOP-635D6IV: ~ X
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501013015_21950d91-ceb0-4e3d-8ef7-2b3547a60832); Time taken: 0.0
49 seconds
No rows affected (0.142 seconds)
0: jdbc:hive2://localhost:10000> select * from test;
INFO : No Stats for default@test, Columns: name, salary
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:[FieldSchema(name:test.name, type:string, comment:null), FieldSchema(na
me:test.salary, type:int, comment:null)], properties:null)
INFO : Completed compiling command(queryId=hduser_20250501013022_5cd85540-2df3-43dc-a98e-fb30964f6f99); Time taken: 0.1
29 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501013022_5cd85540-2df3-43dc-a98e-fb30964f6f99): select * from test
INFO : Completed executing command(queryId=hduser_20250501013022_5cd85540-2df3-43dc-a98e-fb30964f6f99); Time taken: 0.0
 seconds
                  1000
  Peter
                  1500
  David
                  2000
  Paul
                  1200
  Michael
                  800
                  NULL
6 rows selected (0.195 seconds)
0: jdbc:hive2://localhost:10000>
```









```
Windows PowerShell
37 seconds
No rows affected (0.07 seconds)
0: jdbc:hive2://localhost:10000> load data local inpath '/home/hduser/hive test/data/test1.dat'
Error: Error while compiling statement: FAILED: SemanticException Line 1:23 Invalid path ''/home/hduser/hive_test/data/t
est1.dat'': No files matching path file:/home/hduser/hive_test/data/test1.dat (state=42000,code=40000)
0: jdbc:hive2://localhost:10000> load data local inpath '/home/hduser/hive_test/data/test1.dat'
home/hduser/hive_test/data/test1.dat
overwrite into table test_external
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501013524_b1e39326-0a6e-4da0-8223-108c154cda57); Time taken: 0.0
11 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501013524_b1e39326-0a6e-4da0-8223-108c154cda57): load data local inpath '/
home/hduser/hive_test/data/test1.dat'
overwrite into table test external
INFO : Starting task [Stage-0:MOVE] in serial mode
INFO : Loading data to table default.test_external from file:/home/hduser/hive_test/data/test1.dat
INFO : Starting task [Stage-1:STATS] in serial mode
INFO : Executing stats task
INFO : Table default.test_external stats: [numFiles=1, numRows=0, totalSize=64, rawDataSize=0, numFilesErasureCoded=0] INFO : Completed executing command(queryId=hduser_20250501013524_b1e39326-0a6e-4da0-8223-108c154cda57); Time taken: 0.5
No rows affected (0.592 seconds)
0: jdbc:hive2://localhost:10000>
 Windows PowerShell
                           6 hduser@DESKTOP-635D6IV: ~ X 6 hduser@DESKTOP-635D6IV: ~ X 6 hduser@DESKTOP-635D6IV: ~ X
88 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501013541_037b3b76-90db-4a3b-9684-393aaeae3ac8): select * from test_extern
INFO : Completed executing command(queryId=hduser_20250501013541_037b3b76-90db-4a3b-9684-393aaeae3ac8); Time taken: 0.0
                         | test_external.salary
  test_external.name
  peter
                           1000
                           1500
  david
                           2000
  paul
                           1200
  michael
                           800
  eros
                           1300
6 rows selected (0.119 seconds)
0: jdbc:hive2://localhost:10000> dfs -ls /user/hive/warehouse;
                        DFS Output
  Found 3 items
  drwxr-xr-x
                   hduser supergroup
                                                  0 2025-05-01 01:23 /user/hive/warehouse/test |
                                                  0 2025-05-01 01:17 /user/hive/warehouse/test.db |
  drwxr-xr-x
                   hduser supergroup
                                                  0 2025-05-01 01:33 /user/hive/warehouse/test_internal |
                  hduser supergroup
  drwxr-xr-x
```

4 rows selected (0.026 seconds)
0: jdbc:hive2://localhost:10000>

```
🚱 hduser@DESKTOP-635D6IV: ~ X 🧐 hduser@DESKTOP-635D6IV: ~ X 🧐 hduser@DESKTOP-635D6IV: ~ X | + v
 Windows PowerShell
                                 1000
                                 1500
  david
                                 2000
  paul
                                 1200
                                 1300
6 rows selected (0.119 seconds)
0: jdbc:hive2://localhost:10000> dfs -ls /user/hive/warehouse;
                              DFS Output
  Found 3 items
                                                            0 2025-05-01 01:23 /user/hive/warehouse/test |
0 2025-05-01 01:17 /user/hive/warehouse/test.db |
0 2025-05-01 01:33 /user/hive/warehouse/test_internal |
                   hduser supergrouphduser supergrouphduser supergroup
  drwxr-xr-x
  drwxr-xr-x
  drwxr-xr-x
4 rows selected (0.026 seconds)
0: jdbc:hive2://localhost:10000> dfs -ls /output;
                              DFS Output
  Found 1 items
  -rw-r--r 1 hduser supergroup
                                                           64 2025-05-01 01:35 /output/test1.dat |
2 rows selected (0.016 seconds)
0: jdbc:hive2://localhost:10000>
```

### [Ch 3-4]

0: jdbc:hive2://localhost:10000>

```
Windows PowerShell
                          X 🧐 hduser@DESKTOP-635D6IV: ~ X 🧐 hduser@DESKTOP-635D6IV: ~ X 🤚 + ~
2 rows selected (0.011 seconds)
0: jdbc:hive2://localhost:10000> create table cte_test as with
  ..... r1 as (select name from test where name = 'peter'),
 . . . . . . . . . . . . . . . . r2 as (select name from test where salary < 1300)
      : Compiling command(queryId=hduser_20250501013840_d3728a26-e71e-4f5c-80f4-a4901c8cb95c): create table cte_test as
r1 as (select name from test where name = 'peter'),
r2 as (select name from test where salary < 1300)
select * from r1 union all select * from r2
INFO : No Stats for default@test, Columns: name
INFO : No Stats for default@test, Columns: salary
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:[FieldSchema(name:name, type:string, comment:null)], properties:null)
INFO : Completed compiling command(queryId=hduser_20250501013840_d3728a26-e71e-4f5c-80f4-a4901c8cb95c); Time taken: 0.6
89 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing \ command (queryId=hduser\_20250501013840\_d3728a26-e71e-4f5c-80f4-a4901c8cb95c): \ create \ table \ cte\_test \ as
r1 as (select name from test where name = 'peter'),
r2 as (select name from test where salary < 1300)
select * from r1 union all select * from r2
WARN : Hive—on—MR is deprecated in Hive 2 and may not be available in the future versions. Consider using a different e xecution engine (i.e. tez) or using Hive 1.X releases.
INFO : Query ID = hduser_20250501013840_d3728a26-e71e-4f5c-80f4-a4901c8cb95c
INFO : Total jobs = 3
INFO : Launching Job 1 out of 3
                          X | G | hduser@DESKTOP-635D6IV: ~ X | G | hduser@DESKTOP-635D6IV: ~ X | G | hduser@DESKTOP-635D6IV: ~ X |
 Windows PowerShell
      : 2025-05-01 01:38:52,594 Stage-1 map = 0%, reduce = 0%
: 2025-05-01 01:38:59,842 Stage-1 map = 100%, reduce = 0%, Cumulative CPU 4.67 sec
: 2025-05-01 01:39:07,072 Stage-1 map = 100%, reduce = 100%, Cumulative CPU 10.01 sec
: MapReduce Total cumulative CPU time: 10 seconds 10 msec
INFO : Stage—3 is filtered out by condition resolver.
INFO : Stage-5 is filtered out by condition resolver.
INFO : Starting task [Stage-4:MOVE] in serial mode
INFO : Moving data to directory hdfs://localhost:9000/user/hive/warehouse/.hive-staging_hive_2025-05-01_01-38-40_632_86
80496810237114106-3/-ext-10002 from hdfs://localhost:9000/user/hive/warehouse/.hive-staging_hive_2025-05-01_01-38-40_632
 _8680496810237114106-3/-ext-10004
INFO : Starting task [Stage-0:MOVE] in serial mode
INFO : Moving data to directory hdfs://localhost:9000/user/hive/warehouse/cte_test from hdfs://localhost:9000/user/hive
/warehouse/.hive-staging_hive_2025-05-01_01-38-40_632_8680496810237114106-3/-ext-10002
INFO : Starting task [Stage=9:DDL] in serial mode
INFO : Starting task [Stage=2:STATS] in serial mode
      : Executing stats task
INFO : Table default.cte_test stats: [numFiles=1, numRows=3, totalSize=19, rawDataSize=16, numFilesErasureCoded=0]
      : MapReduce Jobs Launched:
INFO : Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 10.01 sec HDFS Read: 20391 HDFS Write: 256 HDFS EC Read: 0
SUCCESS
INFO : Total MapReduce CPU Time Spent: 10 seconds 10 msec
INFO : Completed executing command(queryId=hduser_20250501013840_d3728a26-e71e-4f5c-80f4-a4901c8cb95c); Time taken: 28.
082 seconds
6 rows affected (28.783 seconds)
```

```
X G hduser@DESKTOP-635D6IV: ~ X G hduser@DESKTOP-635D6IV: ~ X + ×
 Windows PowerShell
INFO : Table default.cte test stats: [numFiles=1, numRows=3, totalSize=19, rawDataSize=16, numFilesErasureCoded=0]
INFO : MapReduce Jobs Launched:
     : Stage-Stage-1: Map: 1 Reduce: 1 Cumulative CPU: 10.01 sec HDFS Read: 20391 HDFS Write: 256 HDFS EC Read: 0
INF0
INFO : Total MapReduce CPU Time Spent: 10 seconds 10 msec
INFO : Completed executing command(queryId=hduser_20250501013840_d3728a26-e71e-4f5c-80f4-a4901c8cb95c); Time taken: 28.
082 seconds
6 rows affected (28.783 seconds)
0: jdbc:hive2://localhost:10000> select * from cte_test;
INFO : Compiling command(queryId=hduser_20250501014113_9f89bf2e-539c-4abd-9d22-d7458349ca2e): select * from cte_test INFO : Semantic Analysis Completed (retrial = false)
      : Created Hive schema: Schema(fieldSchemas:[FieldSchema(name:cte_test.name, type:string, comment:null)], propertie
INFO : Completed compiling command(queryId=hduser_20250501014113_9f89bf2e-539c-4abd-9d22-d7458349ca2e); Time taken: 0.1
26 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014113_9f89bf2e-539c-4abd-9d22-d7458349ca2e): select * from cte_test
INFO : Completed executing command(queryId=hduser_20250501014113_9f89bf2e-539c-4abd-9d22-d7458349ca2e); Time taken: 0.0
 seconds
 cte test.name
  Peter
  Nina
  Michael
3 rows selected (0.149 seconds)
0: jdbc:hive2://localhost:10000>
```

```
Windows PowerShell
                         X 🚱 hduser@DESKTOP-635D6IV: ~ X 🧕 hduser@DESKTOP-635D6IV: ~ X
3 rows selected (0.149 seconds)
0: jdbc:hive2://localhost:10000> create table cte_test_dist as with
..... > r1 as (select name from test where name = 'peter'),
.... > r2 as (select name from test where salary < 1300)
                               . . .> from (select * from r1 union all select * from r2) union_set;
INFO : Compiling command(queryId=hduser_20250501014118_7d076ab3-3bdb-4842-b016-f63c58347815): create table cte_test_dis
t as with
r2 as (select name from test where salary < 1300)
select distinct *
from (select * from r1 union all select * from r2) union_set
INFO : No Stats for default@test, Columns: name
INFO : No Stats for default@test, Columns: salary
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:[FieldSchema(name:union_set.name, type:string, comment:null)], properti
INFO : Completed compiling command(queryId=hduser_20250501014118_7d076ab3-3bdb-4842-b016-f63c58347815); Time taken: 0.8
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014118_7d076ab3-3bdb-4842-b016-f63c58347815): create table cte_test_dis
t as with
r1 as (select name from test where name = 'peter'),
r2 as (select name from test where salary < 1300)
select distinct *
from (select * from r1 union all select * from r2) union set
WARN : Hive-on-MR is deprecated in Hive 2 and may not be available in the future versions. Consider using a different e xecution engine (i.e. tez) or using Hive 1.X releases.
```

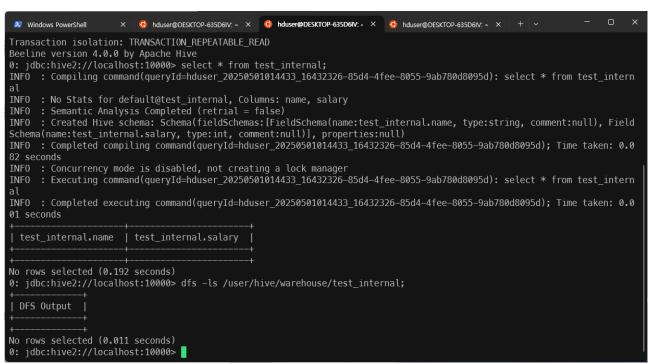
```
Windows PowerShell
                       X 4 hduser@DESKTOP-635D6IV: ~ X 4 hduser@DESKTOP-635D6IV: ~ X 4 hduser@DESKTOP-635D6IV: ~ X + V
INFO : Total MapReduce CPU Time Spent: 16 seconds 750 msec
INFO : Completed executing command(queryId=hduser_20250501014118_7d076ab3-3bdb-4842-b016-<u>f63c58347815</u>); Time taken: 54.
78 seconds
3 rows affected (55.623 seconds)
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000> select * from cte_test_dist;
INFO : Compiling command(queryId=hduser_20250501014228_b0f8bade-68f4-4f9a-a187-147169865293): select * from cte_test_di
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:[FieldSchema(name:cte_test_dist.name, type:string, comment:null)], prop
erties:null)
INFO : Completed compiling command(queryId=hduser_20250501014228_b0f8bade-68f4-4f9a-a187-147169865293); Time taken: 0.1
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser 20250501014228 b0f8bade-68f4-4f9a-a187-147169865293): select * from cte test di
INFO : Completed executing command(queryId=hduser 20250501014228 b0f8bade-68f4-4f9a-a187-147169865293); Time taken: 0.0
 seconds
 cte test dist.name
  Michael
  Nina
  Peter
3 rows selected (0.13 seconds)
0: jdbc:hive2://localhost:10000>
```

```
Windows PowerShell
                              6 hduser@DESKTOP-635D6IV: ~ X 6 hduser@DESKTOP-635D6IV: ~ X 6 hduser@DESKTOP-635D6IV: ~ X
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000> create table empty_ctas_test as select * from test where 1=2; INFO : Compiling command(queryId=hduser_20250501014239_57b0204d-2aeb-40ab-905f-fd435e218db7): create table empty_ctas_t
est as select * from test where 1=2
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:[FieldSchema(name:test.name, type:string, comment:null), FieldSchema(na
me:test.salary, type:int, comment:null)], properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014239_57b0204d-2aeb-40ab-905f-fd435e218db7); Time taken: 1.0
51 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014239_57b0204d-2aeb-40ab-905f-fd435e218db7): create table empty ctas t
est as select * from test where 1=2
WARN: Hive-on-MR is deprecated in Hive 2 and may not be available in the future versions. Consider using a different execution engine (i.e. tez) or using Hive 1.X releases.

INFO: Query ID = hduser_20250501014239_57b0204d-2aeb-40ab-905f-fd435e218db7

INFO: Total jobs = 3
       : Launching Job 1 out of 3
: Starting task [Stage-1:MAPRED] in serial mode
INF0
INF0
INF0
        : Number of reduce tasks determined at compile time: 1
        : In order to change the average load for a reducer (in bytes):
INF0
            set hive.exec.reducers.bytes.per.reducer=<number>
INF0
          In order to limit the maximum number of reducers:
INF0
INF0
            set hive.exec.reducers.max=<number>
INF0
          In order to set a constant number of reducers:
INF0
            set mapreduce.job.reduces=<number>
        : number of splits:1
INF0
          Submitting tokens for job: job_1746029259565_0005
INF0
```

```
Windows PowerShell
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
0. jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000> dfs -ls /user/hive/warehouse/test_internal;
                         DFS Output
  Found 1 items
  -rw-r--r--
                1 hduser supergroup
                                                  55 2025-05-01 01:33 /user/hive/warehouse/test_internal/test.dat |
2 rows selected (0.013 seconds)
0: jdbc:hive2://localhost:10000> truncate table test_internal;
INFO : Compiling command(queryId=hduser_20250501014409_7d5cf673-0022-41d7-8e50-94b24147605a): truncate table test_inter
nal
      : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014409_7d5cf673-0022-41d7-8e50-94b24147605a); Time taken: 0.0
08 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014409_7d5cf673-0022-41d7-8e50-94b24147605a): truncate table test_inter
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014409_7d5cf673-0022-41d7-8e50-94b24147605a); Time taken: 0.1
79 seconds
No rows affected (0.195 seconds)
0: jdbc:hive2://localhost:10000>
```



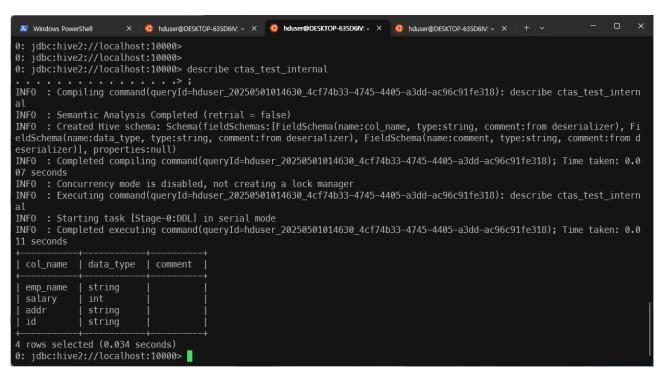
```
hduser@DESKTOP-635D6IV: ~ X
                                                         6 hduser@DESKTOP-635D6IV: ~ × 6 hduser@DESKTOP-635D6IV: ~ ×
 Windows PowerShell
 test internal.name | test internal.salary
No rows selected (0.192 seconds)
0: jdbc:hive2://localhost:10000> dfs -ls /user/hive/warehouse/test_internal;
 DFS Output
No rows selected (0.011 seconds)
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
   jdbc:hive2://localhost:10000> alter table ctas_test rename to ctas_test_internal;
INFO : Compiling command(queryId=hduser_20250501014548_180eef89-23cc-412a-b07a-97429a676e70): alter table ctas_test ren
ame to ctas test internal
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014548_180eef89-23cc-412a-b07a-97429a676e70); Time taken: 0.0
14 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014548_180eef89-23cc-412a-b07a-97429a676e70): alter table ctas_test ren
ame to ctas_test_internal
INFO : Starting task [Stage=0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014548_180eef89-23cc-412a-b07a-97429a676e70); Time taken: 0.1
18 seconds
No rows affected (0.142 seconds)
0: jdbc:hive2://localhost:10000>
```

```
Windows PowerShell
                               X 🚱 hduser@DESKTOP-635D6IV: ~ X 🧔 hduser@DESKTOP-635D6IV: ~ X 🧐 hduser@DESKTOP-635D6IV: ~ X
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014548_180eef89-23cc-412a-b07a-97429a676e70); Time taken: 0.0
14 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014548_180eef89-23cc-412a-b07a-97429a676e70): alter table ctas_test ren
ame to ctas_test_internal
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014548_180eef89-23cc-412a-b07a-97429a676e70); Time taken: 0.1
18 seconds
No rows affected (0.142 seconds)
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000> alter table ctas_test_internal set tblproperties ('comment'='ctas generated'); INFO : Compiling command(queryId=hduser_20250501014555_0f16331a-120d-439a-b88d-11a9e583ca9c): alter table ctas_test_int
ernal set tblproperties ('comment'='ctas generated')
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014555_0f16331a-120d-439a-b88d-11a9e583ca9c); Time taken: 0.0
11 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014555_0f16331a-120d-439a-b88d-11a9e583ca9c): alter table ctas_test_int
ernal set tblproperties ('comment'='ctas generated')
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014555_0f16331a-120d-439a-b88d-11a9e583ca9c); Time taken: 0.0
33 seconds
No rows affected (0.054 seconds)
0: jdbc:hive2://localhost:10000>
```

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X G hduser@DESKTOP-635D6IV: ~ X G hduser@DESKTOP-635D6IV: ~ X G hduser@DESKTOP-635D6IV: ~ X + v
 Windows PowerShell
 INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014555_0f16331a-120d-439a-b88d-11a9e583ca9c); Time taken: 0.0
11 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014555_0f16331a-120d-439a-b88d-11a9e583ca9c): alter table ctas_test_int
ernal set tblproperties ('comment'='ctas generated')
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014555_0f16331a-120d-439a-b88d-11a9e583ca9c); Time taken: 0.0
33 seconds
No rows affected (0.054 seconds)
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
    jdbc:hive2://localhost:10000> alter table ctas_test_internal add columns (addr string, id int);
INFO : Compiling command(queryId=hduser_20250501014601_88142cb4-d6ee-4749-855c-26cde1792b1b): alter table ctas_test_int
ernal add columns (addr string, id int)
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014601_88142cb4-d6ee-4749-855c-26cde1792b1b); Time taken: 0.0
1 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014601_88142cb4-d6ee-4749-855c-26cde1792b1b): alter table ctas_test_int
ernal add columns (addr string, id int)
INFO : Starting task [Stage=0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014601_88142cb4-d6ee-4749-855c-26cde1792b1b); Time taken: 0.0
88 seconds
No rows affected (0.11 seconds)
0: jdbc:hive2://localhost:10000>
```

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Windows PowerShell
                             X 🚱 hduser@DESKTOP-635D6IV: ~ X 🧔 hduser@DESKTOP-635D6IV: ~ X 🧐 hduser@DESKTOP-635D6IV: ~ X
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014601_88142cb4-d6ee-4749-855c-26cde1792b1b); Time taken: 0.0
 1 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
        : Executing command(queryId=hduser_20250501014601_88142cb4-d6ee-4749-855c-26cde1792b1b): alter table ctas_test_int
ernal add columns (addr string, id int)
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014601_88142cb4-d6ee-4749-855c-26cde1792b1b); Time taken: 0.0
88 seconds
No rows affected (0.11 seconds)
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000> alter table ctas_test_internal change name emp_name string;
INFO : Compiling command(queryId=hduser_20250501014609_14dab6ee-145c-4309-9a34-ee43888db162): alter table ctas_test_int
ernal change name emp_name string
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014609_14dab6ee-145c-4309-9a34-ee43888db162); Time taken: 0.0
16 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014609_14dab6ee-145c-4309-9a34-ee43888db162): alter table ctas_test_int
ernal change name emp_name string
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014609_14dab6ee-145c-4309-9a34-ee43888db162); Time taken: 0.0
64 seconds
No rows affected (0.089 seconds)
0: jdbc:hive2://localhost:10000>
```

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X G hduser@DESKTOP-635D6IV: ~ X G hduser@DESKTOP-635D6IV: ~ X G hduser@DESKTOP-635D6IV: ~ X + V
 Windows PowerShell
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014609_14dab6ee-145c-4309-9a34-ee43888db162); Time taken: 0.0
16 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014609_14dab6ee-145c-4309-9a34-ee43888db162): alter table ctas_test_int
ernal change name emp_name string
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014609_14dab6ee-145c-4309-9a34-ee43888db162); Time taken: 0.0
64 seconds
No rows affected (0.089 seconds)
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000> alter table ctas_test_internal change id id string;
INFO: Compiling command(queryId=hduser_20250501\overline{0}1461\overline{0}_09c03b54-6de8-46d0-b3ca-41ff7fae628f): alter table ctas_test_int
ernal change id id string
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014616_09c03b54-6de8-46d0-b3ca-41ff7fae628f); Time taken: 0.0
09 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014616_09c03b54-6de8-46d0-b3ca-41ff7fae628f): alter table ctas_test_int
ernal change id id string
INFO : Starting task [Stage=0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014616_09c03b54-6de8-46d0-b3ca-41ff7fae628f); Time taken: 0.0
No rows affected (0.05 seconds)
0: jdbc:hive2://localhost:10000>
```



```
Windows PowerShell
                                   at java.lang.reflect.Method.invoke(Method.java:498) ~[?:1.8.0 442]
                                   at org.apache.hadoop.hive.metastore.RetryingHMSHandler.invokeInternal(RetryingHMSHandler.java:91) ~[hive-exec-4.
0.0.jar:4.0.0]
                                  at org. apache. hadoop. hive. metastore. Abstract HMSH and ler Proxy. invoke (Abstract HMSH and ler Proxy. java: 82) \\ \sim [hive-exection of the content of 
4.0.0.jar:4.0.0]
                                   at com.sun.proxy.$Proxy36.alter_table_req(Unknown Source) ~[?:?]
                                   at org.apache.hadoop.hive.metastore.HiveMetaStoreClient.alter_table(HiveMetaStoreClient.java:582) ~[hive-exec-4.
0.0.jar:4.0.0]
                                   at\ org. apache. hadoop. hive.ql. metadata. Session Hive MetaStore Client. alter\_table (Session Hive MetaStore Client. java: 504) and the first organization of the first organization organization of the first organization of the first organization or
 ) ~[hive-exec-4.0.0.jar:4.0.0]
                                   at sun.reflect.GeneratedMethodAccessor114.invoke(Unknown Source) ~[?:?]
                                   at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43) ~[?:1.8.0_442]
                                   at java.lang.reflect.Method.invoke(Method.java:498) ~[?:1.8.0_442]
                                   at org.apache.hadoop.hive.metastore.RetryingMetaStoreClient.invoke(RetryingMetaStoreClient.java:213) ~[hive-exec
    -4.0.0.jar:4.0.0]
                                  at com.sun.proxy.$Proxy37.alter_table(Unknown Source) ~[?:?]
at org.apache.hadoop.hive.ql.metadata.Hive.alterTable(Hive.java:926) ~[hive-exec-4.0.0.jar:4.0.0]
                                   ... 27 more
ERROR : FAILED: Execution Error, return code 40013 from org.apache.hadoop.hive.ql.ddl.DDLTask. Unable to alter table. Th
e following columns have types incompatible with the existing columns in their respective positions:
INFO : Completed \ executing \ command (queryId=hduser\_20250501014655\_dc47adc8-e13b-4aaa-8d0b-419221bbc4c5); \ Time \ taken: 0.00 \ taken: 0
46 seconds
Error: Error while compiling statement: FAILED: Execution Error, return code 40013 from org.apache.hadoop.hive.ql.ddl.DD LTask. Unable to alter table. The following columns have types incompatible with the existing columns in their respectiv
id (state=08S01,code=40013)
0: jdbc:hive2://localhost:10000>
```

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6 hduser@DESKTOP-635D6IV: ~ × 6 hduser@DESKTOP-635D6IV: ~ × 6 hduser@DESKTOP-635D6IV: ~ ×
 Windows PowerShell
INFO : Completed executing command(queryId=hduser_20250501014655_dc47adc8-e13b-4aaa-8d0b-419221bbc4c5); Time taken: 0.0
46 seconds
Error: Error while compiling statement: FAILED: Execution Error, return code 40013 from org.apache.hadoop.hive.ql.ddl.DD LTask. Unable to alter table. The following columns have types incompatible with the existing columns in their respectiv
e positions :
id (state=08S01,code=40013)
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000> alter table ctas_test_internal change id emp_id string after
INFO : Compiling command(queryId=hduser_20250501014708_abaf4aa4-7a73-4ecd-9d68-a424ac385778): alter table ctas_test_int
ernal change id emp_id string after
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014708_abaf4aa4-7a73-4ecd-9d68-a424ac385778); Time taken: 0.0
1 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014708_abaf4aa4-7a73-4ecd-9d68-a424ac385778): alter table ctas_test_int
ernal change id emp_id string after
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014708_abaf4aa4-7a73-4ecd-9d68-a424ac385778); Time taken: 0.0
35 seconds
No rows affected (0.053 seconds)
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
```

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G hduser@DESKTOP-635D6IV: ~ × Ø hduser@DESKTOP-635D6IV: ~ × ♥ hduser@DESKTOP-635D6IV: ~ × + ∨
 Windows PowerShell
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014708_abaf4aa4-7a73-4ecd-9d68-a424ac385778); Time taken: 0.0
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014708_abaf4aa4-7a73-4ecd-9d68-a424ac385778): alter table ctas_test_int
ernal change id emp_id string after
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014708_abaf4aa4-7a73-4ecd-9d68-a424ac385778); Time taken: 0.0
35 seconds
No rows affected (0.053 seconds)
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000>
0: jdbc:hive2://localhost:10000> alter table ctas_test_internal replace columns (name string, salary int); INFO : Compiling command(queryId=hduser_20250501014740_cd6ac13c-d910-4524-9abb-a2edfb17fb23): alter table ctas_test_int
ernal replace columns (name string, salary int)
INFO : Semantic Analysis Completed (retrial = false)
INFO : Created Hive schema: Schema(fieldSchemas:null, properties:null)
INFO : Completed compiling command(queryId=hduser_20250501014740_cd6ac13c-d910-4524-9abb-a2edfb17fb23); Time taken: 0.0
22 seconds
INFO : Concurrency mode is disabled, not creating a lock manager
INFO : Executing command(queryId=hduser_20250501014740_cd6ac13c-d910-4524-9abb-a2edfb17fb23): alter table ctas_test_int
ernal replace columns (name string, salary int)
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hduser_20250501014740_cd6ac13c-d910-4524-9abb-a2edfb17fb23); Time taken: 0.0
59 seconds
No rows affected (0.095 seconds)
0: jdbc:hive2://localhost:10000>
```

