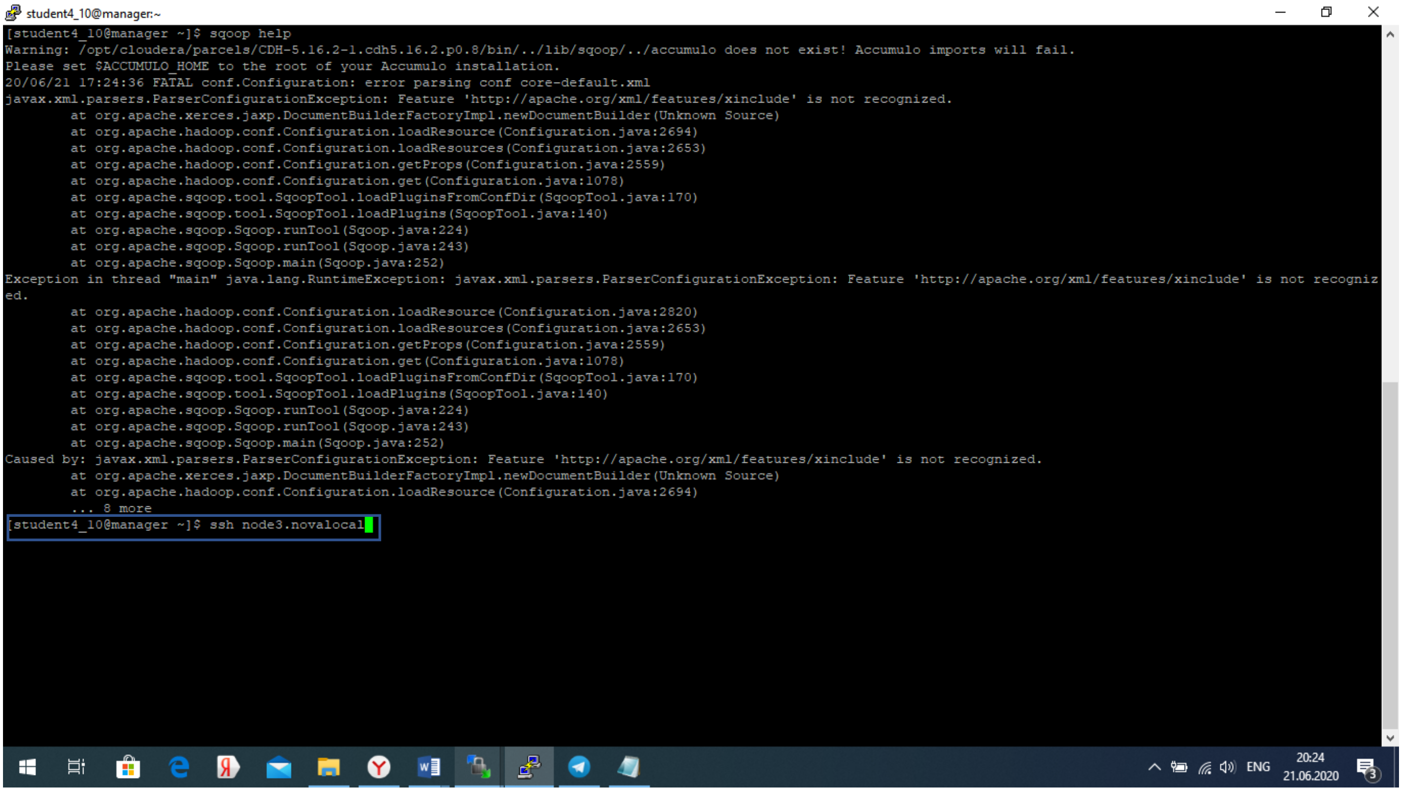
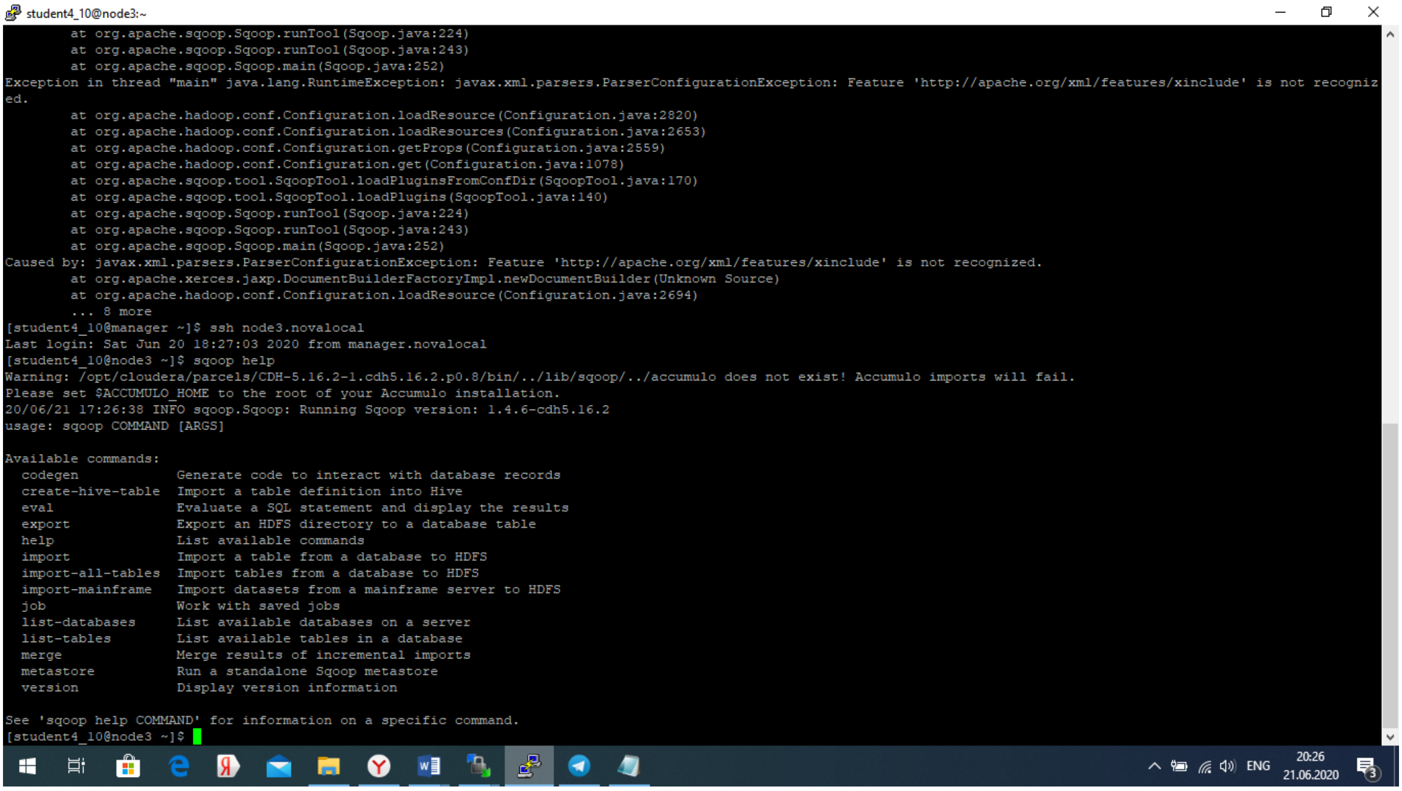
1. Для части по SQOOP
Провести импорт таблицы из вашего сервера БД в Hadoop с использованием SQOOP в любых двух вариантах из перечисленных ниже.
a. в Hive-таблицу (--hive-import)
b. в HDFS в формате avro (--as-avrodatafile)
c. в HDFS в формате sequencefile (--as-sequencefile)
Если у вас нет своего сервера то можно использовать тот Postgres, который я показал на лекции. Пароль expoter_pass

Посмотрим при помощи SQOOP содержимое в PosgreSQL.



```
[student4_10@manager ~]$ sqoop help
Warning: /opt/cloudera/parcels/CDH-5.16.2-1.cdh5.16.2.p0.8/bin/../lib/sqoop/../accumulo does not exist! Accumulo imports will fail.
Please set $ACCUMULO_HOME to the root of your Accumulo installation.
20/06/21 17:24:36 FATAL conf.Configuration: error parsing conf core-default.xml
javax.xml.parsers.ParserConfigurationException: Feature 'http://apache.org/xml/features/xinclude' is not recognized.
        at org.apache.xerces.jaxp.DocumentBuilderFactoryImpl.newDocumentBuilder(Unknown Source)
        at org.apache.hadoop.conf.Configuration.loadResource(Configuration.java:2694)
        at org.apache.hadoop.conf.Configuration.loadResources(Configuration.java:2653)
        at org.apache.hadoop.conf.Configuration.getProps(Configuration.java:2559)
        at org.apache.hadoop.conf.Configuration.get(Configuration.java:1078)
        at org.apache.sqoop.tool.SqoopTool.loadPluginsFromConfDir(SqoopTool.java:170)
        at org.apache.sqoop.tool.SqoopTool.loadPlugins(SqoopTool.java:140)
        at org.apache.sqoop.Sqoop.runTool(Sqoop.java:224)
        at org.apache.sqoop.Sqoop.runTool(Sqoop.java:243)
        at org.apache.sqoop.Sqoop.main(Sqoop.java:252)
Exception in thread "main" java.lang.RuntimeException: javax.xml.parsers.ParserConfigurationException: Feature 'http://apache.org/xml/features/xinclude' is not recogniz
ed.
        at org.apache.hadoop.conf.Configuration.loadResource(Configuration.java:2820)
        at org.apache.hadoop.conf.Configuration.loadResources(Configuration.java:2653)
        at org.apache.hadoop.conf.Configuration.getProps(Configuration.java:2559)
        at org.apache.hadoop.conf.Configuration.get(Configuration.java:1078)
        at org.apache.sqoop.tool.SqoopTool.loadPluginsFromConfDir(SqoopTool.java:170)
        at org.apache.sqoop.tool.SqoopTool.loadPlugins(SqoopTool.java:140)
        at org.apache.sqoop.Sqoop.runTool(Sqoop.java:224)
        at org.apache.sqoop.Sqoop.runTool(Sqoop.java:243)
        at org.apache.sqoop.Sqoop.main(Sqoop.java:252)
Caused by: javax.xml.parsers.ParserConfigurationException: Feature 'http://apache.org/xml/features/xinclude' is not recognized.
        at org.apache.xerces.jaxp.DocumentBuilderFactoryImpl.newDocumentBuilder(Unknown Source)
        at org.apache.hadoop.conf.Configuration.loadResource(Configuration.java:2694)
        ... 8 more
[student4_10@manager ~]$ ssh node3.novalocal
```

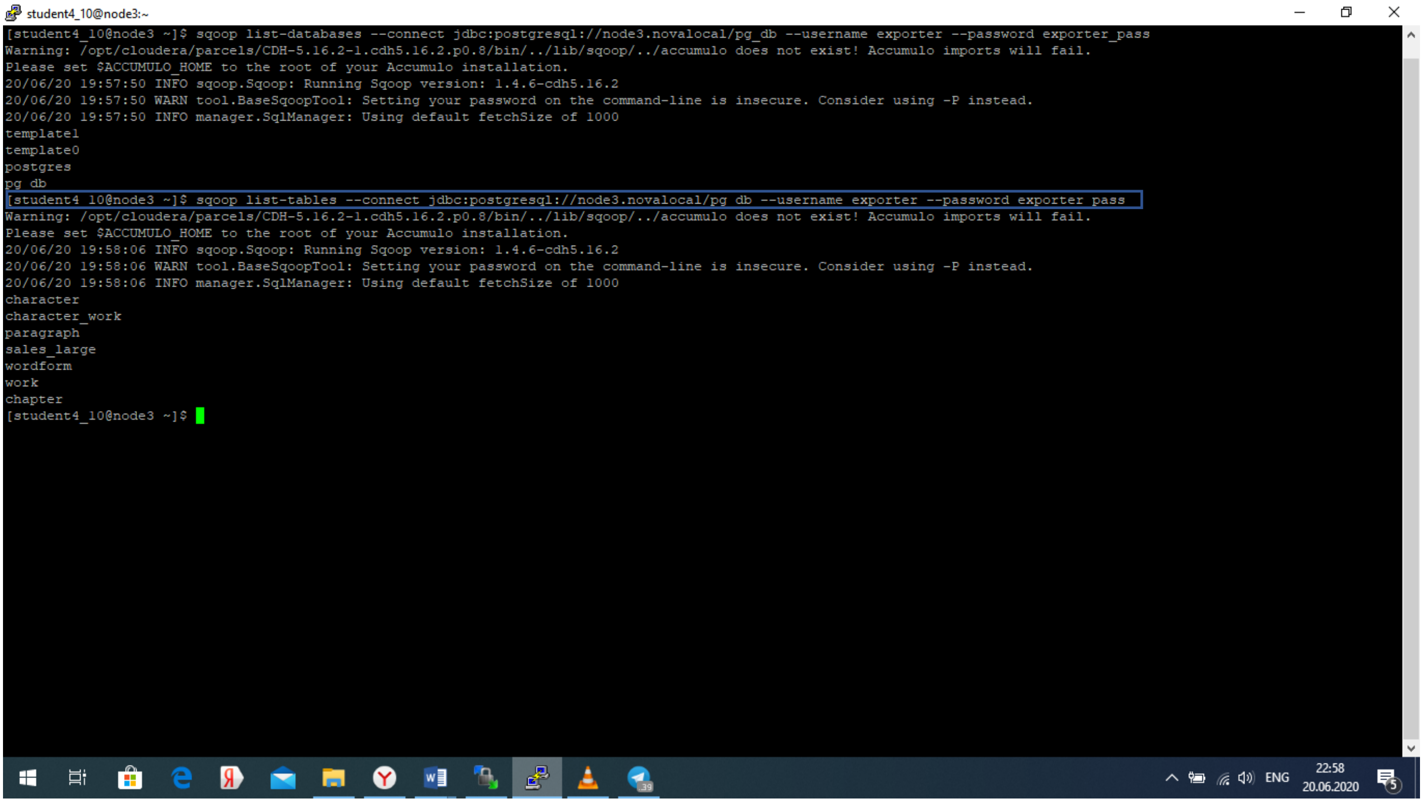
Sqoop Help не работает, через ssh перехожу на node3.novalocal



```
        at org.apache.sqoop.Sqoop.runTool(Sqoop.java:224)
        at org.apache.sqoop.Sqoop.runTool(Sqoop.java:243)
        at org.apache.sqoop.Sqoop.main(Sqoop.java:252)
Exception in thread "main" java.lang.RuntimeException: javax.xml.parsers.ParserConfigurationException: Feature 'http://apache.org/xml/features/xinclude' is not recogniz
ed.
        at org.apache.hadoop.conf.Configuration.loadResource(Configuration.java:2820)
        at org.apache.hadoop.conf.Configuration.loadResources(Configuration.java:2653)
        at org.apache.hadoop.conf.Configuration.getProps(Configuration.java:2559)
        at org.apache.hadoop.conf.Configuration.get(Configuration.java:1078)
        at org.apache.sqoop.tool.SqoopTool.loadPluginsFromConfDir(SqoopTool.java:170)
        at org.apache.sqoop.tool.SqoopTool.loadPlugins(SqoopTool.java:140)
        at org.apache.sqoop.Sqoop.runTool(Sqoop.java:224)
        at org.apache.sqoop.Sqoop.runTool(Sqoop.java:243)
        at org.apache.sqoop.Sqoop.main(Sqoop.java:252)
Caused by: javax.xml.parsers.ParserConfigurationException: Feature 'http://apache.org/xml/features/xinclude' is not recognized.
        at org.apache.xerces.jaxp.DocumentBuilderFactoryImpl.newDocumentBuilder(Unknown Source)
        at org.apache.hadoop.conf.Configuration.loadResource(Configuration.java:2694)
        ... 8 more
[student4_10@manager ~]$ ssh node3.novalocal
Last login: Sat Jun 20 18:27:03 2020 from manager.novalocal
[student4_10@node3 ~]$ sqoop help
Warning: /opt/cloudera/parcels/CDH-5.16.2-1.cdh5.16.2.p0.8/bin/../lib/sqoop/../accumulo does not exist! Accumulo imports will fail.
Please set $ACCUMULO_HOME to the root of your Accumulo installation.
20/06/21 17:26:38 INFO sqoop.Sqoop: Running Sqoop version: 1.4.6-cdh5.16.2
usage: sqoop COMMAND [ARGS]

Available commands:
  codegen            Generate code to interact with database records
  create-hive-table  Import a table definition into Hive
  eval               Evaluate a SQL statement and display the results
  export             Export an HDFS directory to a database table
  help               List available commands
  import             Import a table from a database to HDFS
  import-all-tables  Import tables from a database to HDFS
  import-mainframe   Import datasets from a mainframe server to HDFS
  job                Work with saved jobs
  list-databases     List available databases on a server
  list-tables        List available tables in a database
  merge              Merge results of incremental imports
  metastore          Run a standalone Sqoop metastore
  version            Display version information

See 'sqoop help COMMAND' for information on a specific command.
[student4_10@node3 ~]$ 
```

работает !

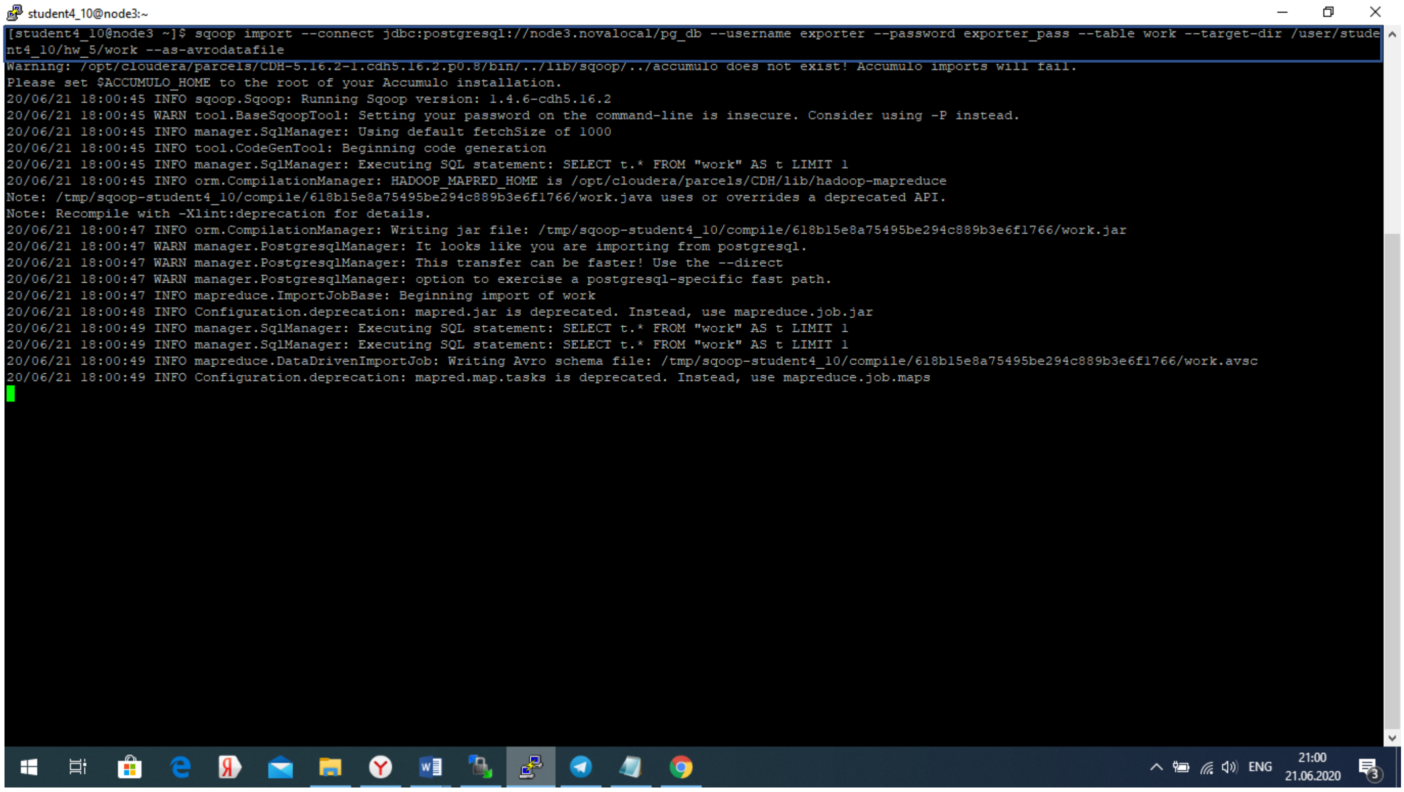
Проверим таблицы в базе pg_db



```
[student4_10@node3 ~]$ sqoop list-databases --connect jdbc:postgresql://node3.novalocal/pg_db --username exporter --password exporter_pass
Warning: /opt/cloudera/parcels/CDH-5.16.2-1.cdh5.16.2.p0.8/bin/../lib/sqoop/../accumulo does not exist! Accumulo imports will fail.
Please set $ACCUMULO_HOME to the root of your Accumulo installation.
20/06/20 19:57:50 INFO sqoop.Sqoop: Running Sqoop version: 1.4.6-cdh5.16.2
20/06/20 19:57:50 WARN tool.BaseSqoopTool: Setting your password on the command-line is insecure. Consider using -P instead.
20/06/20 19:57:50 INFO manager.SqlManager: Using default fetchSize of 1000
template1
template0
postgres
pg_db
[student4_10@node3 ~]$ sqoop list-tables --connect jdbc:postgresql://node3.novalocal/pg_db --username exporter --password exporter_pass
Warning: /opt/cloudera/parcels/CDH-5.16.2-1.cdh5.16.2.p0.8/bin/../lib/sqoop/../accumulo does not exist! Accumulo imports will fail.
Please set $ACCUMULO_HOME to the root of your Accumulo installation.
20/06/20 19:58:06 INFO sqoop.Sqoop: Running Sqoop version: 1.4.6-cdh5.16.2
20/06/20 19:58:06 WARN tool.BaseSqoopTool: Setting your password on the command-line is insecure. Consider using -P instead.
20/06/20 19:58:06 INFO manager.SqlManager: Using default fetchSize of 1000
character
character_work
paragraph
sales_large
wordform
work
chapter
[student4_10@node3 ~]$ 
```

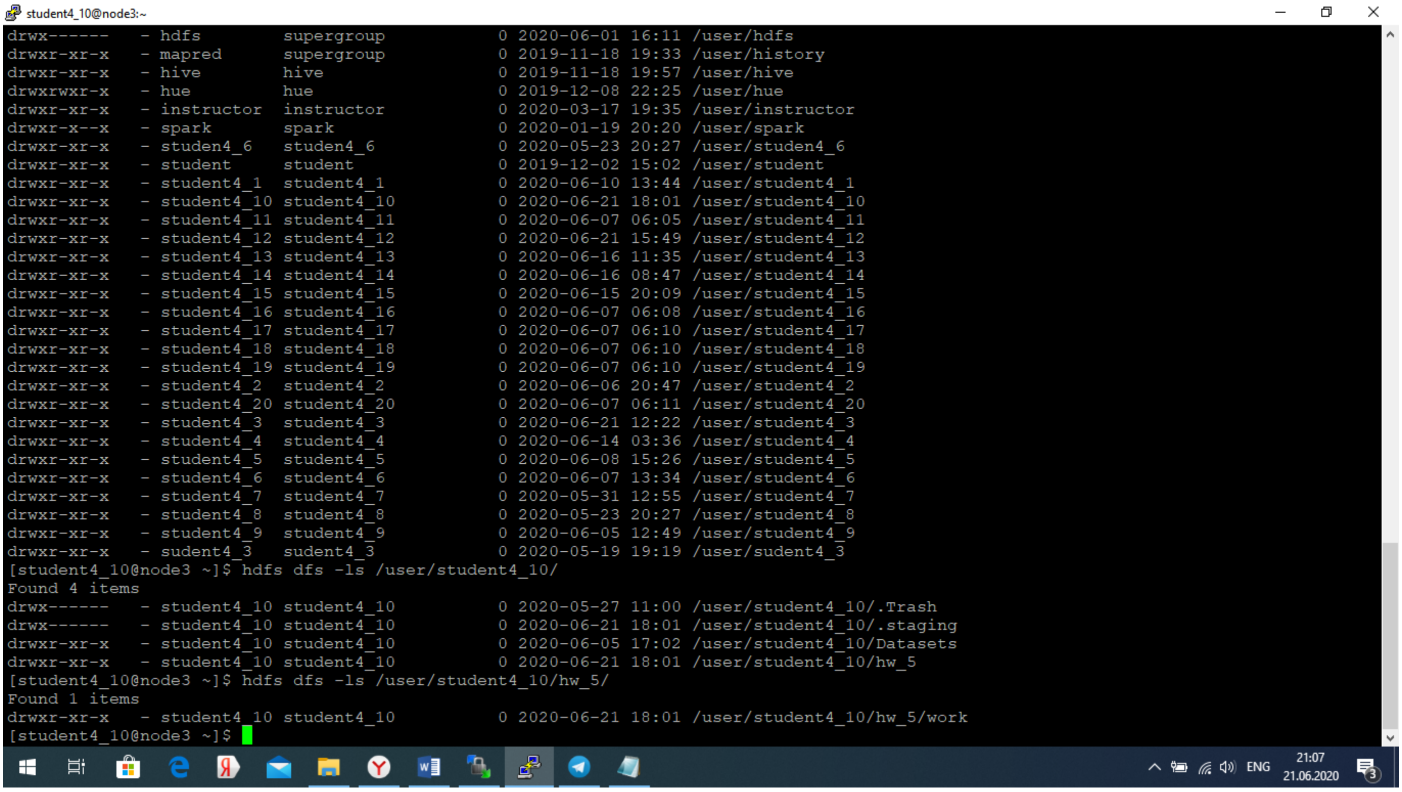
sqoop list-tables --connect jdbc:postgresql://node3.novalocal/pg_db --username exporter --password exporter_pass

Скопируем Таблицу Work в локальную папку



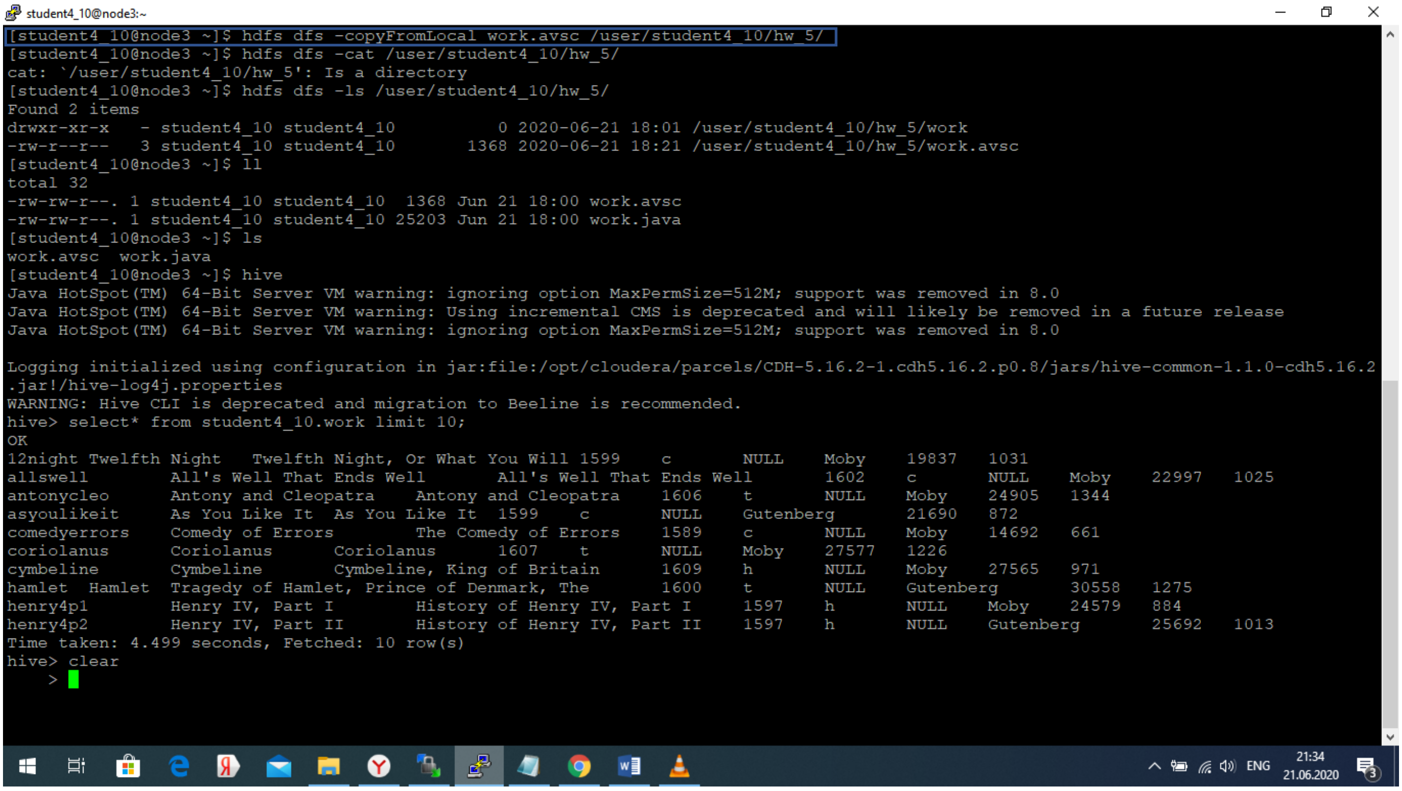
```
[student4_10@node3 ~]$ sqoop import --connect jdbc:postgresql://node3.novalocal/pg_db --username exporter --password exporter_pass --table work --target-dir /user/stude
nt4_10/hw_5/work --as-avrodatafile
Warning: /opt/cloudera/parcels/CDH-5.16.2-1.cdh5.16.2.p0.8/bin/../lib/sqoop/../accumulo does not exist! Accumulo imports will fail.
Please set $ACCUMULO_HOME to the root of your Accumulo installation.
20/06/21 18:00:45 INFO sqoop.Sqoop: Running Sqoop version: 1.4.6-cdh5.16.2
20/06/21 18:00:45 WARN tool.BaseSqoopTool: Setting your password on the command-line is insecure. Consider using -P instead.
20/06/21 18:00:45 INFO manager.SqlManager: Using default fetchSize of 1000
20/06/21 18:00:45 INFO tool.CodeGenTool: Beginning code generation
20/06/21 18:00:45 INFO manager.SqlManager: Executing SQL statement: SELECT t.* FROM "work" AS t LIMIT 1
20/06/21 18:00:45 INFO orm.CompilationManager: HADOOP_MAPRED_HOME is /opt/cloudera/parcels/CDH/lib/hadoop-mapreduce
Note: /tmp/sqoop-student4_10/compile/618b15e8a75495be294c889b3e6f1766/work.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.
20/06/21 18:00:47 INFO orm.CompilationManager: Writing jar file: /tmp/sqoop-student4_10/compile/618b15e8a75495be294c889b3e6f1766/work.jar
20/06/21 18:00:47 WARN manager.PostgresqlManager: It looks like you are importing from postgresql.
20/06/21 18:00:47 WARN manager.PostgresqlManager: This transfer can be faster! Use the --direct
20/06/21 18:00:47 WARN manager.PostgresqlManager: option to exercise a postgresql-specific fast path.
20/06/21 18:00:47 INFO mapreduce.ImportJobBase: Beginning import of work
20/06/21 18:00:48 INFO Configuration.deprecation: mapred.jar is deprecated. Instead, use mapreduce.job.jar
20/06/21 18:00:49 INFO manager.SqlManager: Executing SQL statement: SELECT t.* FROM "work" AS t LIMIT 1
20/06/21 18:00:49 INFO manager.SqlManager: Executing SQL statement: SELECT t.* FROM "work" AS t LIMIT 1
20/06/21 18:00:49 INFO mapreduce.DataDrivenImportJob: Writing Avro schema file: /tmp/sqoop-student4_10/compile/618b15e8a75495be294c889b3e6f1766/work.avsc
20/06/21 18:00:49 INFO Configuration.deprecation: mapred.map.tasks is deprecated. Instead, use mapreduce.job.maps
```

Проверим папку /user/student4_10



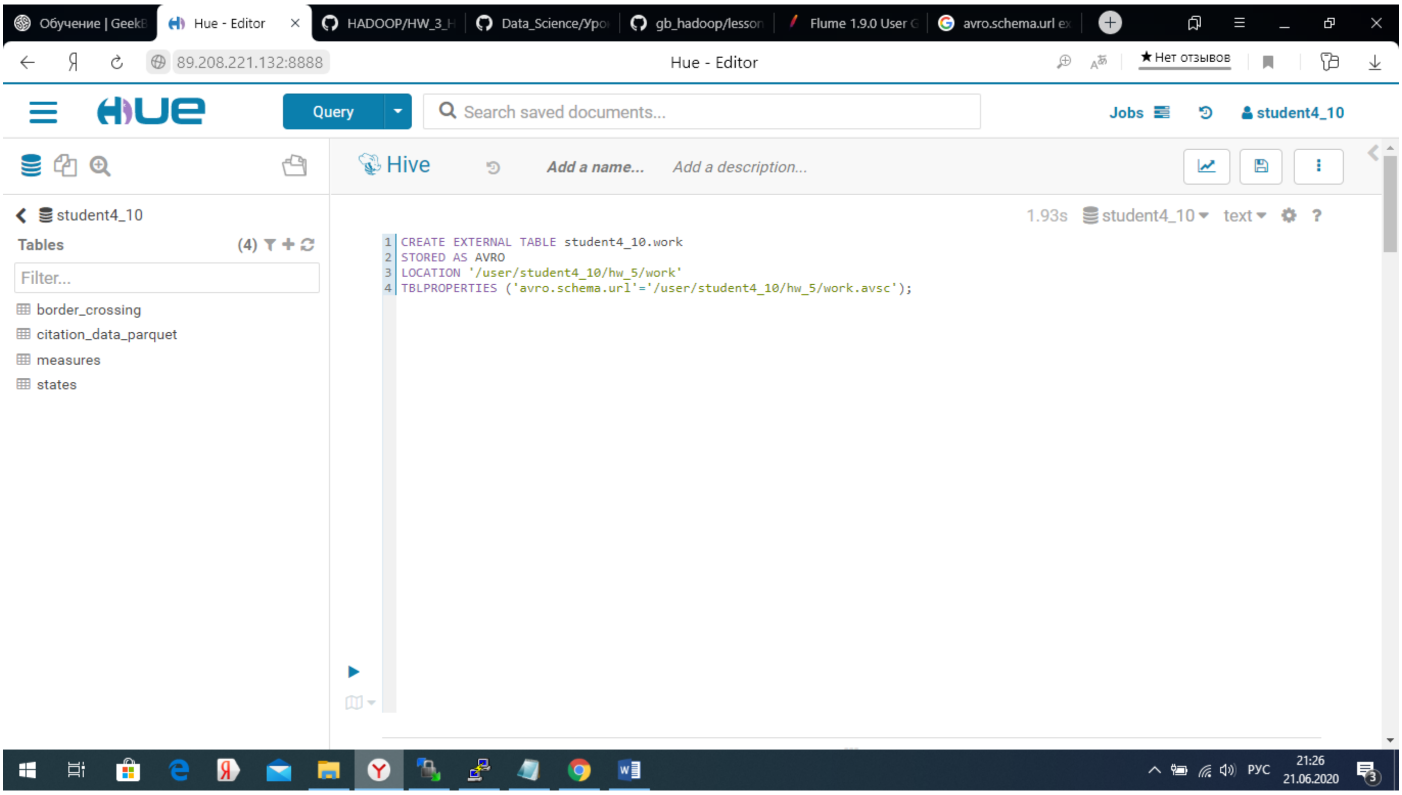
```
drwx------   - hdfs        supergroup          0 2020-06-01 16:11 /user/hdfs
drwxr-xr-x   - mapred      supergroup          0 2019-11-18 19:33 /user/history
drwxr-xr-x   - hive        hive                0 2019-11-18 19:57 /user/hive
drwxrwxr-x   - hue         hue                 0 2019-12-08 22:25 /user/hue
drwxr-xr-x   - instructor  instructor          0 2020-03-17 19:35 /user/instructor
drwxr-x--x   - spark       spark               0 2020-01-19 20:20 /user/spark
drwxr-xr-x   - studen4_6   studen4_6           0 2020-05-23 20:27 /user/studen4_6
drwxr-xr-x   - student     student             0 2019-12-02 15:02 /user/student
drwxr-xr-x   - student4_1  student4_1          0 2020-06-10 13:44 /user/student4_1
drwxr-xr-x   - student4_10 student4_10         0 2020-06-21 18:01 /user/student4_10
drwxr-xr-x   - student4_11 student4_11         0 2020-06-07 06:05 /user/student4_11
drwxr-xr-x   - student4_12 student4_12         0 2020-06-21 15:49 /user/student4_12
drwxr-xr-x   - student4_13 student4_13         0 2020-06-16 11:35 /user/student4_13
drwxr-xr-x   - student4_14 student4_14         0 2020-06-16 08:47 /user/student4_14
drwxr-xr-x   - student4_15 student4_15         0 2020-06-15 20:09 /user/student4_15
drwxr-xr-x   - student4_16 student4_16         0 2020-06-07 06:08 /user/student4_16
drwxr-xr-x   - student4_17 student4_17         0 2020-06-07 06:10 /user/student4_17
drwxr-xr-x   - student4_18 student4_18         0 2020-06-07 06:10 /user/student4_18
drwxr-xr-x   - student4_19 student4_19         0 2020-06-07 06:10 /user/student4_19
drwxr-xr-x   - student4_2  student4_2          0 2020-06-06 20:47 /user/student4_2
drwxr-xr-x   - student4_20 student4_20         0 2020-06-07 06:11 /user/student4_20
drwxr-xr-x   - student4_3  student4_3          0 2020-06-21 12:22 /user/student4_3
drwxr-xr-x   - student4_4  student4_4          0 2020-06-14 03:36 /user/student4_4
drwxr-xr-x   - student4_5  student4_5          0 2020-06-08 15:26 /user/student4_5
drwxr-xr-x   - student4_6  student4_6          0 2020-06-07 13:34 /user/student4_6
drwxr-xr-x   - student4_7  student4_7          0 2020-05-31 12:55 /user/student4_7
drwxr-xr-x   - student4_8  student4_8          0 2020-05-23 20:27 /user/student4_8
drwxr-xr-x   - student4_9  student4_9          0 2020-06-05 12:49 /user/student4_9
drwxr-xr-x   - sudent4_3   sudent4_3           0 2020-05-19 19:19 /user/sudent4_3
[student4_10@node3 ~]$ hdfs dfs -ls /user/student4_10/
Found 4 items
drwx------   - student4_10 student4_10         0 2020-05-27 11:00 /user/student4_10/.Trash
drwx------   - student4_10 student4_10         0 2020-06-21 18:01 /user/student4_10/.staging
drwxr-xr-x   - student4_10 student4_10         0 2020-06-05 17:02 /user/student4_10/Datasets
drwxr-xr-x   - student4_10 student4_10         0 2020-06-21 18:01 /user/student4_10/hw_5
[student4_10@node3 ~]$ hdfs dfs -ls /user/student4_10/hw_5/
Found 1 items
drwxr-xr-x   - student4_10 student4_10         0 2020-06-21 18:01 /user/student4_10/hw_5/work
[student4_10@node3 ~]$
```

Скопируем схему структуры таблицы с локальной директории через команду COPYFROMLOCAL

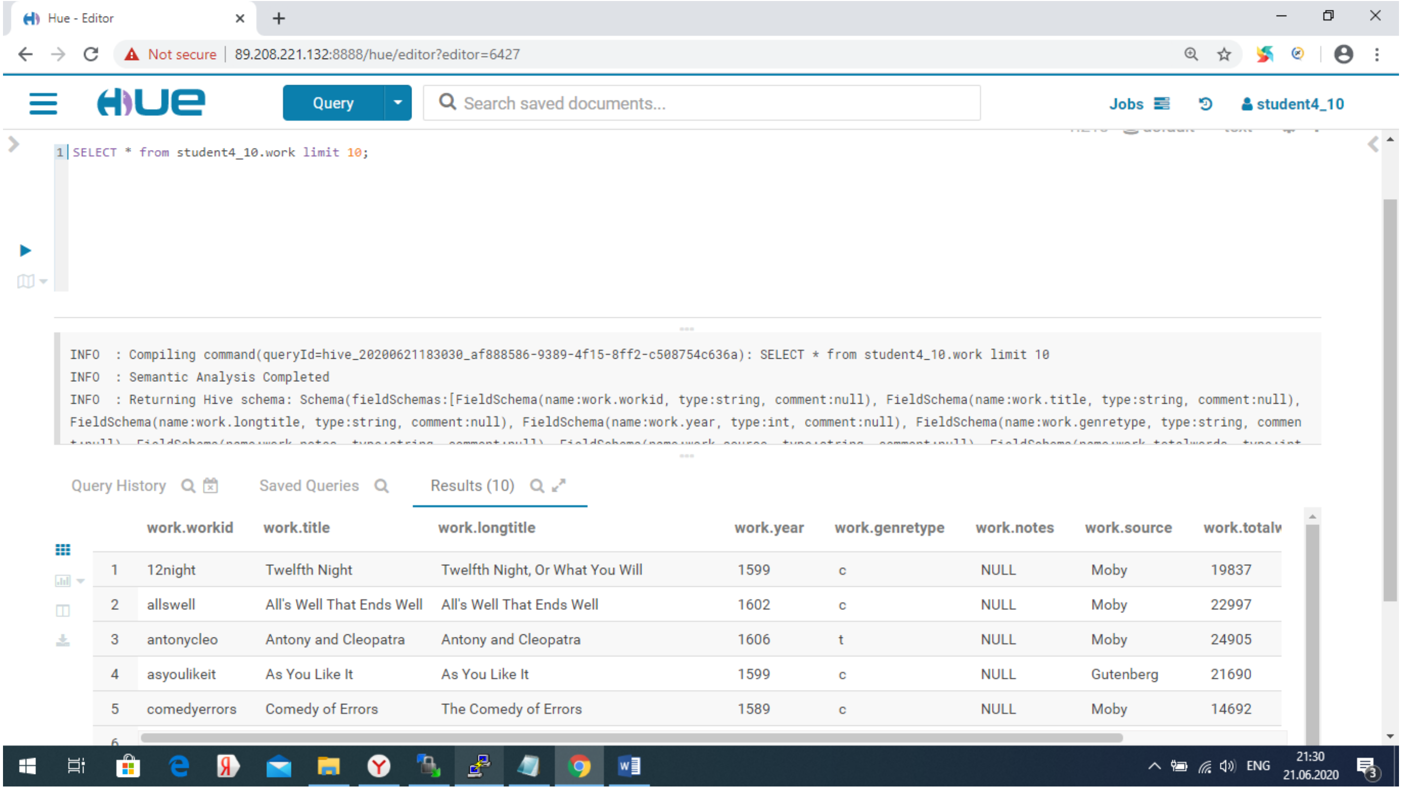


```
[student4_10@node3 ~]$ hdfs dfs -copyFromLocal work.avsc /user/student4_10/hw_5/
[student4_10@node3 ~]$ hdfs dfs -cat /user/student4_10/hw_5/
cat: `/user/student4_10/hw_5': Is a directory
[student4_10@node3 ~]$ hdfs dfs -ls /user/student4_10/hw_5/
Found 2 items
drwxr-xr-x   - student4_10 student4_10          0 2020-06-21 18:01 /user/student4_10/hw_5/work
-rw-r--r--   3 student4_10 student4_10       1368 2020-06-21 18:21 /user/student4_10/hw_5/work.avsc
[student4_10@node3 ~]$ ll
total 32
-rw-rw-r--. 1 student4_10 student4_10  1368 Jun 21 18:00 work.avsc
-rw-rw-r--. 1 student4_10 student4_10 25203 Jun 21 18:00 work.java
[student4_10@node3 ~]$ ls
work.avsc  work.java
[student4_10@node3 ~]$ hive
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option MaxPermSize=512M; support was removed in 8.0
Java HotSpot(TM) 64-Bit Server VM warning: Using incremental CMS is deprecated and will likely be removed in a future release
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option MaxPermSize=512M; support was removed in 8.0

Logging initialized using configuration in jar:file:/opt/cloudera/parcels/CDH-5.16.2-1.cdh5.16.2.p0.8/jars/hive-common-1.1.0-cdh5.16.2
.jar!/hive-log4j.properties
WARNING: Hive CLI is deprecated and migration to Beeline is recommended.
hive> select* from student4_10.work limit 10;
OK
12night Twelfth Night   Twelfth Night, Or What You Will 1599    c       NULL    Moby    19837   1031
allswell        All's Well That Ends Well       All's Well That Ends Well       1602    c       NULL    Moby    22997   1025
antonycleo      Antony and Cleopatra    Antony and Cleopatra    1606    t       NULL    Moby    24905   1344
asyoulikeit     As You Like It  As You Like It  1599    c       NULL    Gutenberg       21690   872
comedyerrors    Comedy of Errors        The Comedy of Errors    1589    c       NULL    Moby    14692   661
coriolanus      Coriolanus      Coriolanus      1607    t       NULL    Moby    27577   1226
cymbeline       Cymbeline       Cymbeline, King of Britain      1609    h       NULL    Moby    27565   971
hamlet  Hamlet  Tragedy of Hamlet, Prince of Denmark, The       1600    t       NULL    Gutenberg       30558   1275
henry4p1        Henry IV, Part I        History of Henry IV, Part I     1597    h       NULL    Moby    24579   884
henry4p2        Henry IV, Part II       History of Henry IV, Part II    1597    h       NULL    Gutenberg       25692   1013
Time taken: 4.499 seconds, Fetched: 10 row(s)
hive> clear
    >
```

Создадим Таблицу с путями для схемы work.avsc и файла таблицы work



```
CREATE EXTERNAL TABLE student4_10.work
STORED AS AVRO
LOCATION '/user/student4_10/hw_5/work'
TBLPROPERTIES ('avro.schema.url'='/user/student4_10/hw_5/work.avsc');
```



```
SELECT * from student4_10.work limit 10;
```

```
INFO  : Compiling command(queryId=hive_20200621183030_af888586-9389-4f15-8ff2-c508754c636a): SELECT * from student4_10.work limit 10
INFO  : Semantic Analysis Completed
INFO  : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:work.workid, type:string, comment:null), FieldSchema(name:work.title, type:string, comment:null),
FieldSchema(name:work.longtitle, type:string, comment:null), FieldSchema(name:work.year, type:int, comment:null), FieldSchema(name:work.genretype, type:string, commen
```

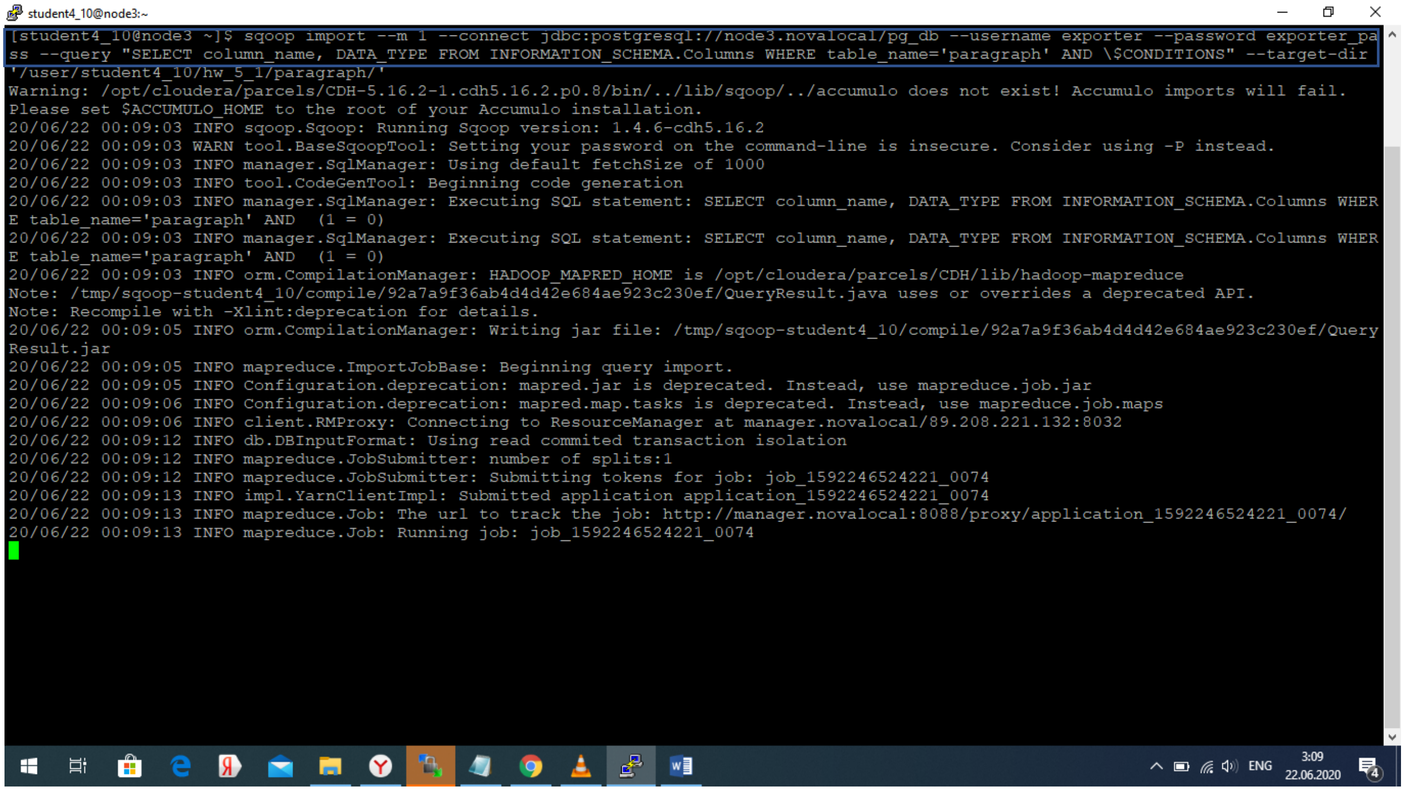
	work.workid	work.title	work.longtitle	work.year	work.genretype	work.notes	work.source	work.totalw
1	12night	Twelfth Night	Twelfth Night, Or What You Will	1599	c	NULL	Moby	19837
2	allswell	All's Well That Ends Well	All's Well That Ends Well	1602	c	NULL	Moby	22997
3	antonycleo	Antony and Cleopatra	Antony and Cleopatra	1606	t	NULL	Moby	24905
4	asyoulikeit	As You Like It	As You Like It	1599	c	NULL	Gutenberg	21690
5	comedyerrors	Comedy of Errors	The Comedy of Errors	1589	c	NULL	Moby	14692

Копируем Paragraph Таблицу в формате Parquet, но сначало создадтм таблицу так как в Parquet нельзя импортировать таким же способ как avro таблицу , без готовой структуры таблицы в базе данных, так как как не импортируется файл со схемой таблицы

Поэтому через Sqoop проверим схему команды

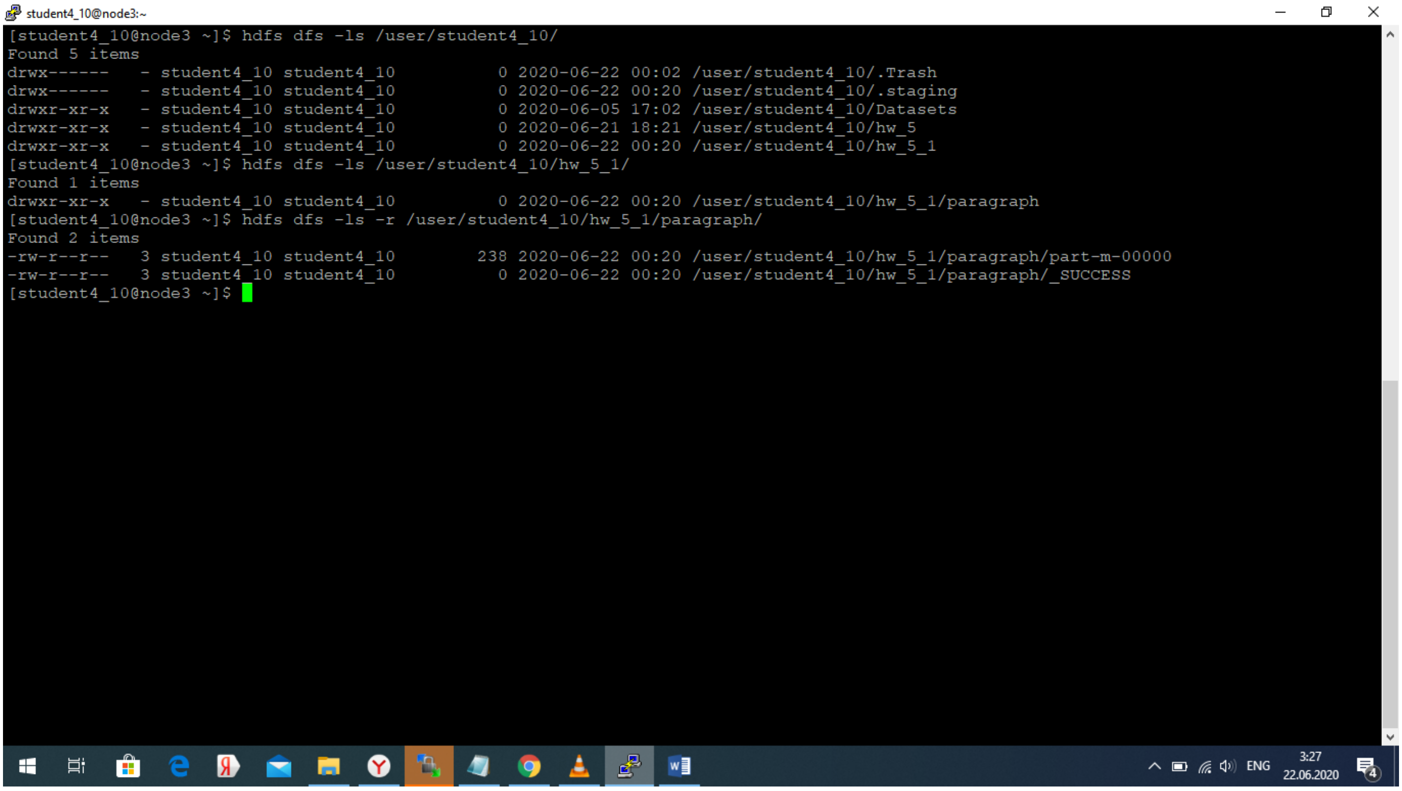
```
sqoop import --m 1 --connect jdbc:postgresql://node3.novalocal/pg_db --username exporter --password exporter_pass --query "SELECT column_name, DATA_TYPE FROM INFORMATION_SCHEMA.Columns WHERE table_name='paragraph' AND \$CONDITIONS" --target-dir '/user/student4_10/hw_5_1/work/'
```

```
sqoop import --m 1 --connect jdbc:postgresql://node3.novalocal/pg_db --username exporter --password exporter_pass --query "SELECT column_name, DATA_TYPE FROM INFORMATION_SCHEMA.Columns WHERE table_name='paragraph' AND \$CONDITIONS" --target-dir '/user/student4_10/hw_5_1/paragraph/'
```

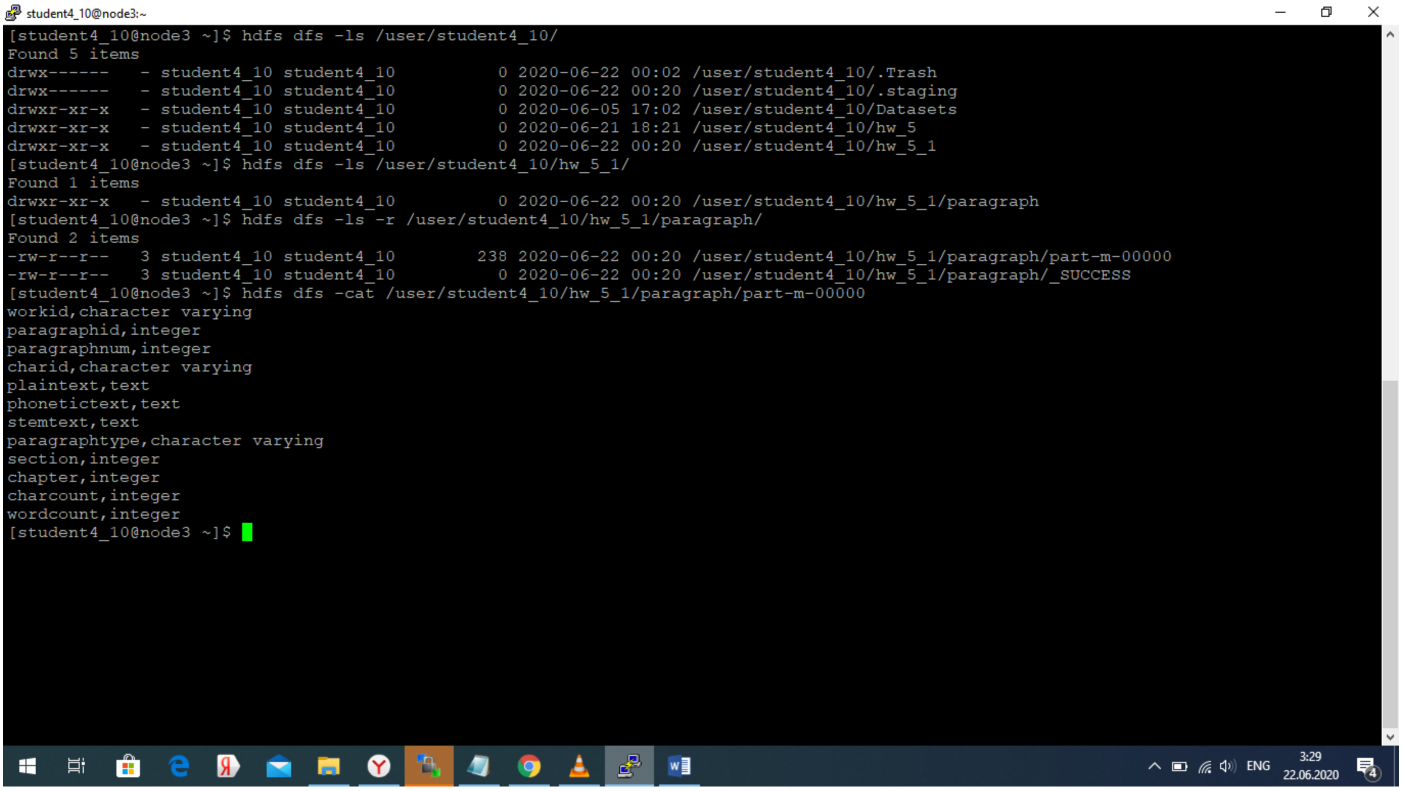


```
[student4_10@node3 ~]$ sqoop import --m 1 --connect jdbc:postgresql://node3.novalocal/pg_db --username exporter --password exporter_pa
ss --query "SELECT column_name, DATA_TYPE FROM INFORMATION_SCHEMA.Columns WHERE table_name='paragraph' AND \$CONDITIONS" --target-dir
'/user/student4_10/hw_5_1/paragraph/'
Warning: /opt/cloudera/parcels/CDH-5.16.2-1.cdh5.16.2.p0.8/bin/../lib/sqoop/../accumulo does not exist! Accumulo imports will fail.
Please set $ACCUMULO_HOME to the root of your Accumulo installation.
20/06/22 00:09:03 INFO sqoop.Sqoop: Running Sqoop version: 1.4.6-cdh5.16.2
20/06/22 00:09:03 WARN tool.BaseSqoopTool: Setting your password on the command-line is insecure. Consider using -P instead.
20/06/22 00:09:03 INFO manager.SqlManager: Using default fetchSize of 1000
20/06/22 00:09:03 INFO tool.CodeGenTool: Beginning code generation
20/06/22 00:09:03 INFO manager.SqlManager: Executing SQL statement: SELECT column_name, DATA_TYPE FROM INFORMATION_SCHEMA.Columns WHER
E table_name='paragraph' AND  (1 = 0)
20/06/22 00:09:03 INFO manager.SqlManager: Executing SQL statement: SELECT column_name, DATA_TYPE FROM INFORMATION_SCHEMA.Columns WHER
E table_name='paragraph' AND  (1 = 0)
20/06/22 00:09:03 INFO orm.CompilationManager: HADOOP_MAPRED_HOME is /opt/cloudera/parcels/CDH/lib/hadoop-mapreduce
Note: /tmp/sqoop-student4_10/compile/92a7a9f36ab4d4d42e684ae923c230ef/QueryResult.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.
20/06/22 00:09:05 INFO orm.CompilationManager: Writing jar file: /tmp/sqoop-student4_10/compile/92a7a9f36ab4d4d42e684ae923c230ef/Query
Result.jar
20/06/22 00:09:05 INFO mapreduce.ImportJobBase: Beginning query import.
20/06/22 00:09:05 INFO Configuration.deprecation: mapred.jar is deprecated. Instead, use mapreduce.job.jar
20/06/22 00:09:06 INFO Configuration.deprecation: mapred.map.tasks is deprecated. Instead, use mapreduce.job.maps
20/06/22 00:09:06 INFO client.RMProxy: Connecting to ResourceManager at manager.novalocal/89.208.221.132:8032
20/06/22 00:09:12 INFO db.DBInputFormat: Using read commited transaction isolation
20/06/22 00:09:12 INFO mapreduce.JobSubmitter: number of splits:1
20/06/22 00:09:12 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1592246524221_0074
20/06/22 00:09:13 INFO impl.YarnClientImpl: Submitted application application_1592246524221_0074
20/06/22 00:09:13 INFO mapreduce.Job: The url to track the job: http://manager.novalocal:8088/proxy/application_1592246524221_0074/
20/06/22 00:09:13 INFO mapreduce.Job: Running job: job_1592246524221_0074
```

Check what you got imported from pg_database (table paragraph)

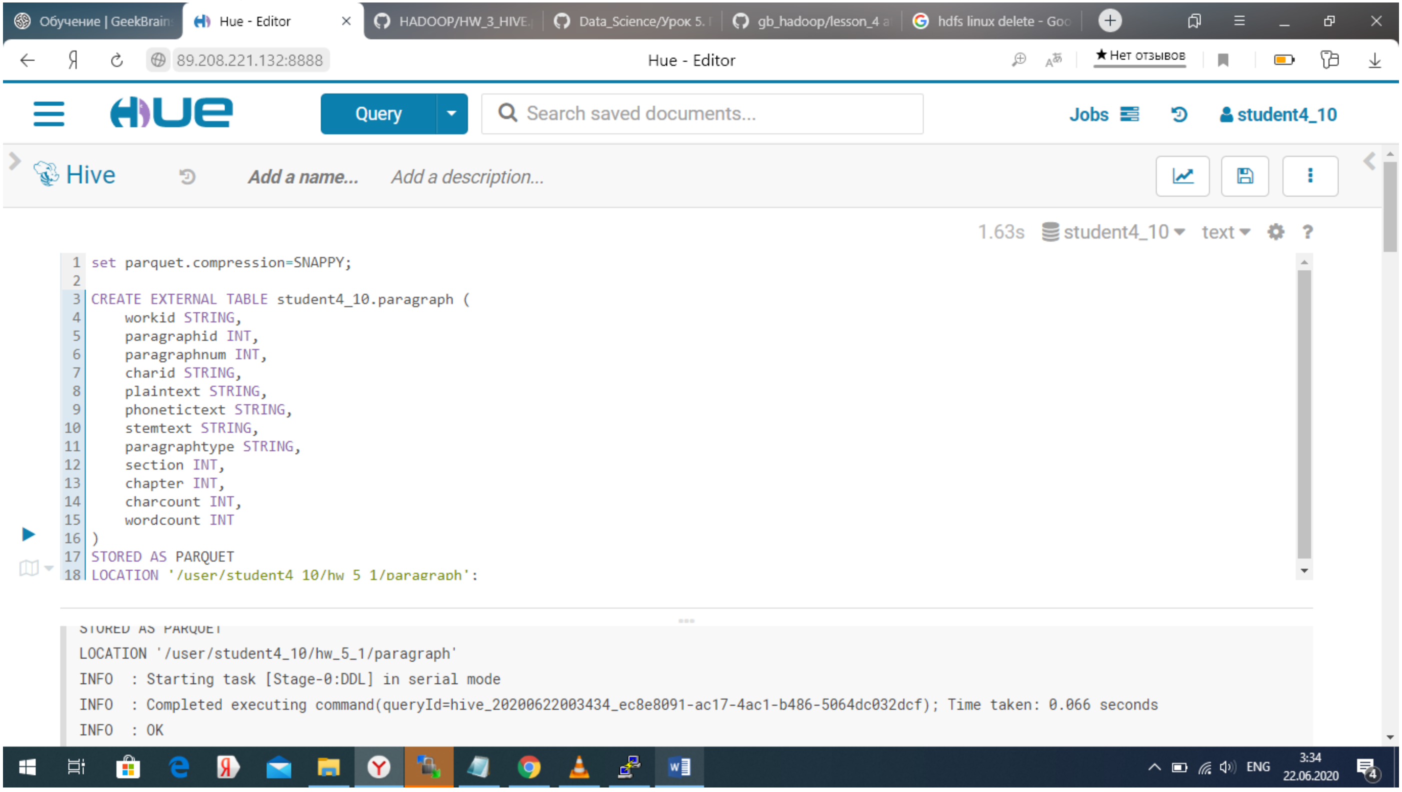


```
[student4_10@node3 ~]$ hdfs dfs -ls /user/student4_10/
Found 5 items
drwx------   - student4_10 student4_10          0 2020-06-22 00:02 /user/student4_10/.Trash
drwx------   - student4_10 student4_10          0 2020-06-22 00:20 /user/student4_10/.staging
drwxr-xr-x   - student4_10 student4_10          0 2020-06-05 17:02 /user/student4_10/Datasets
drwxr-xr-x   - student4_10 student4_10          0 2020-06-21 18:21 /user/student4_10/hw_5
drwxr-xr-x   - student4_10 student4_10          0 2020-06-22 00:20 /user/student4_10/hw_5_1
[student4_10@node3 ~]$ hdfs dfs -ls /user/student4_10/hw_5_1/
Found 1 items
drwxr-xr-x   - student4_10 student4_10          0 2020-06-22 00:20 /user/student4_10/hw_5_1/paragraph
[student4_10@node3 ~]$ hdfs dfs -ls -r /user/student4_10/hw_5_1/paragraph/
Found 2 items
-rw-r--r--   3 student4_10 student4_10        238 2020-06-22 00:20 /user/student4_10/hw_5_1/paragraph/part-m-00000
-rw-r--r--   3 student4_10 student4_10          0 2020-06-22 00:20 /user/student4_10/hw_5_1/paragraph/_SUCCESS
[student4_10@node3 ~]$
```



```
[student4_10@node3 ~]$ hdfs dfs -ls /user/student4_10/
Found 5 items
drwx------   - student4_10 student4_10          0 2020-06-22 00:02 /user/student4_10/.Trash
drwx------   - student4_10 student4_10          0 2020-06-22 00:20 /user/student4_10/.staging
drwxr-xr-x   - student4_10 student4_10          0 2020-06-05 17:02 /user/student4_10/Datasets
drwxr-xr-x   - student4_10 student4_10          0 2020-06-21 18:21 /user/student4_10/hw_5
drwxr-xr-x   - student4_10 student4_10          0 2020-06-22 00:20 /user/student4_10/hw_5_1
[student4_10@node3 ~]$ hdfs dfs -ls /user/student4_10/hw_5_1/
Found 1 items
drwxr-xr-x   - student4_10 student4_10          0 2020-06-22 00:20 /user/student4_10/hw_5_1/paragraph
[student4_10@node3 ~]$ hdfs dfs -ls -r /user/student4_10/hw_5_1/paragraph/
Found 2 items
-rw-r--r--   3 student4_10 student4_10        238 2020-06-22 00:20 /user/student4_10/hw_5_1/paragraph/part-m-00000
-rw-r--r--   3 student4_10 student4_10          0 2020-06-22 00:20 /user/student4_10/hw_5_1/paragraph/_SUCCESS
[student4_10@node3 ~]$ hdfs dfs -cat /user/student4_10/hw_5_1/paragraph/part-m-00000
workid,character varying
paragraphid,integer
paragraphnum,integer
charid,character varying
plaintext,text
phonetictext,text
stemtext,text
paragraphtype,character varying
section,integer
chapter,integer
charcount,integer
wordcount,integer
[student4_10@node3 ~]$
```

Create Table in Parquet

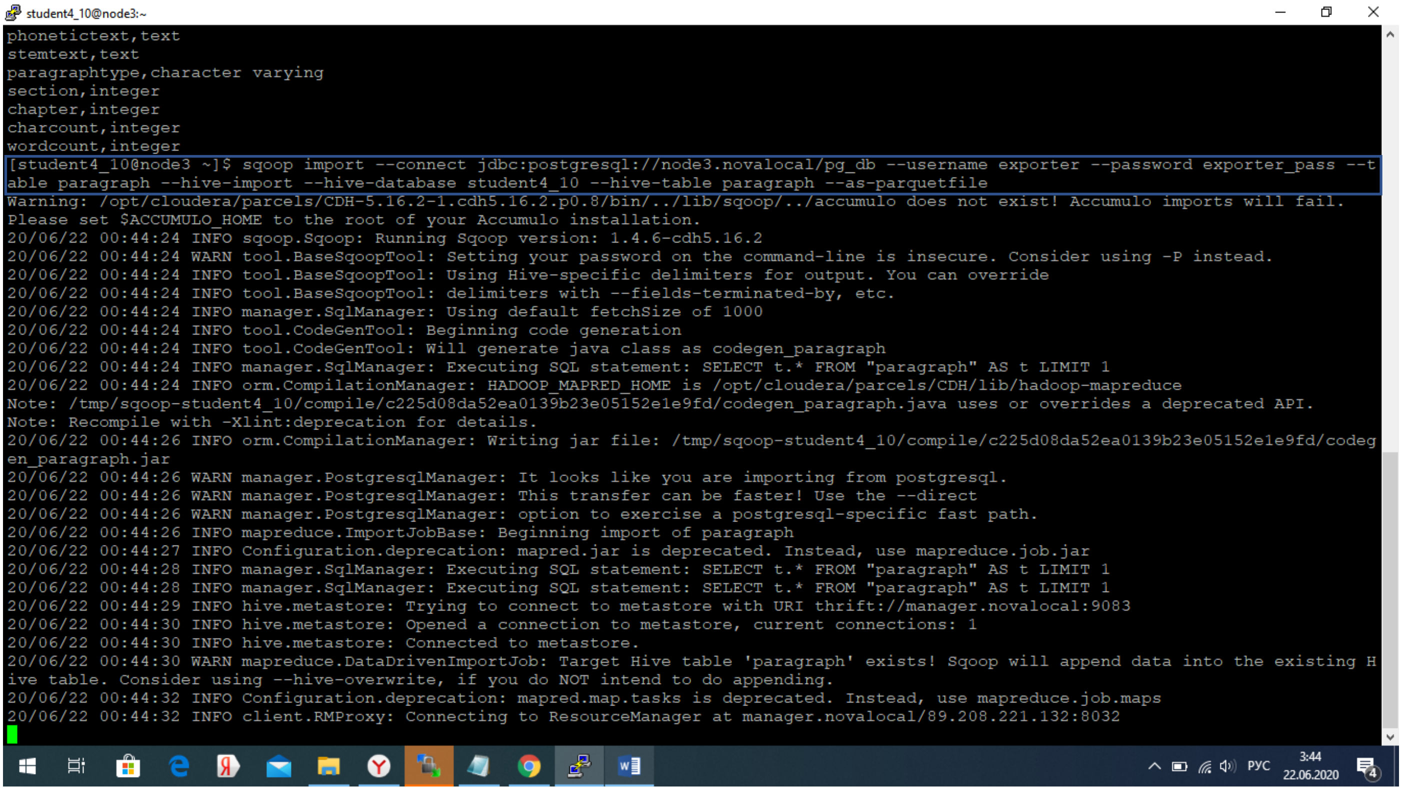


```
set parquet.compression=SNAPPY;

CREATE EXTERNAL TABLE student4_10.paragraph (
    workid STRING,
    paragraphid INT,
    paragraphnum INT,
    charid STRING,
    plaintext STRING,
    phonetictext STRING,
    stemtext STRING,
    paragraphtype STRING,
    section INT,
    chapter INT,
    charcount INT,
    wordcount INT
)
STORED AS PARQUET
LOCATION '/user/student4_10/hw_5_1/paragraph';
```

```
STORED AS PARQUET
LOCATION '/user/student4_10/hw_5_1/paragraph'
INFO  : Starting task [Stage-0:DDL] in serial mode
INFO  : Completed executing command(queryId=hive_20200622003434_ec8e8091-ac17-4ac1-b486-5064dc032dcf); Time taken: 0.066 seconds
INFO  : OK
```

Импортируем данные в таблицу

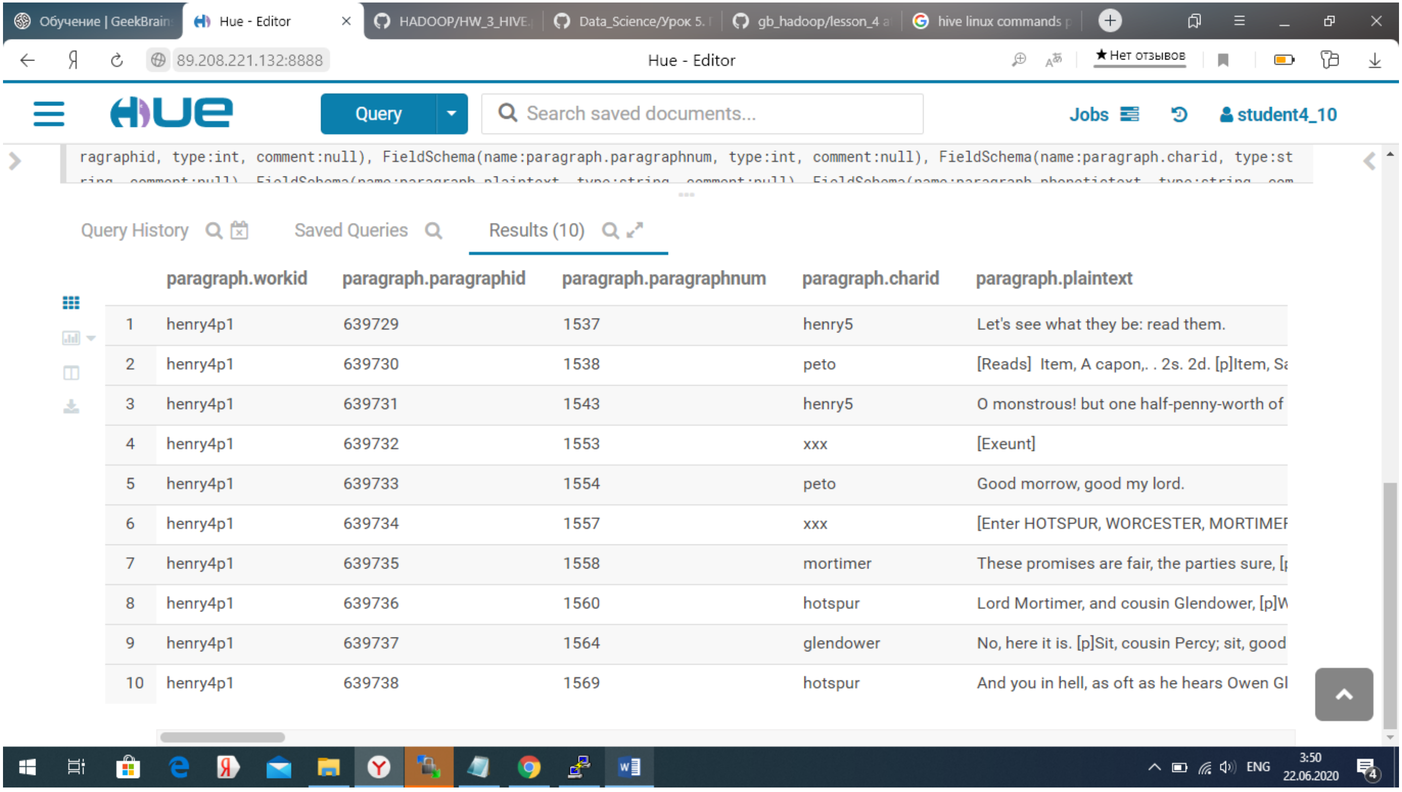
sqoop import --connect jdbc:postgresql://node3.novalocal/pg_db --username exporter --password exporter_pass --table paragraph --hive-import --hive-database student4_10 --hive-table paragraph --as-parquetfile



```
phonetictext,text
stemtext,text
paragraphtype,character varying
section,integer
chapter,integer
charcount,integer
wordcount,integer
[student4_10@node3 ~]$ sqoop import --connect jdbc:postgresql://node3.novalocal/pg_db --username exporter --password exporter_pass --t
able paragraph --hive-import --hive-database student4_10 --hive-table paragraph --as-parquetfile
Warning: /opt/cloudera/parcels/CDH-5.16.2-1.cdh5.16.2.p0.8/bin/../lib/sqoop/../accumulo does not exist! Accumulo imports will fail.
Please set $ACCUMULO_HOME to the root of your Accumulo installation.
20/06/22 00:44:24 INFO sqoop.Sqoop: Running Sqoop version: 1.4.6-cdh5.16.2
20/06/22 00:44:24 WARN tool.BaseSqoopTool: Setting your password on the command-line is insecure. Consider using -P instead.
20/06/22 00:44:24 INFO tool.BaseSqoopTool: Using Hive-specific delimiters for output. You can override
20/06/22 00:44:24 INFO tool.BaseSqoopTool: delimiters with --fields-terminated-by, etc.
20/06/22 00:44:24 INFO manager.SqlManager: Using default fetchSize of 1000
20/06/22 00:44:24 INFO tool.CodeGenTool: Beginning code generation
20/06/22 00:44:24 INFO tool.CodeGenTool: Will generate java class as codegen_paragraph
20/06/22 00:44:24 INFO manager.SqlManager: Executing SQL statement: SELECT t.* FROM "paragraph" AS t LIMIT 1
20/06/22 00:44:24 INFO orm.CompilationManager: HADOOP_MAPRED_HOME is /opt/cloudera/parcels/CDH/lib/hadoop-mapreduce
Note: /tmp/sqoop-student4_10/compile/c225d08da52ea0139b23e05152e1e9fd/codegen_paragraph.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.
20/06/22 00:44:26 INFO orm.CompilationManager: Writing jar file: /tmp/sqoop-student4_10/compile/c225d08da52ea0139b23e05152e1e9fd/codeg
en_paragraph.jar
20/06/22 00:44:26 WARN manager.PostgresqlManager: It looks like you are importing from postgresql.
20/06/22 00:44:26 WARN manager.PostgresqlManager: This transfer can be faster! Use the --direct
20/06/22 00:44:26 WARN manager.PostgresqlManager: option to exercise a postgresql-specific fast path.
20/06/22 00:44:26 INFO mapreduce.ImportJobBase: Beginning import of paragraph
20/06/22 00:44:27 INFO Configuration.deprecation: mapred.jar is deprecated. Instead, use mapreduce.job.jar
20/06/22 00:44:28 INFO manager.SqlManager: Executing SQL statement: SELECT t.* FROM "paragraph" AS t LIMIT 1
20/06/22 00:44:28 INFO manager.SqlManager: Executing SQL statement: SELECT t.* FROM "paragraph" AS t LIMIT 1
20/06/22 00:44:29 INFO hive.metastore: Trying to connect to metastore with URI thrift://manager.novalocal:9083
20/06/22 00:44:30 INFO hive.metastore: Opened a connection to metastore, current connections: 1
20/06/22 00:44:30 INFO hive.metastore: Connected to metastore.
20/06/22 00:44:30 WARN mapreduce.DataDrivenImportJob: Target Hive table 'paragraph' exists! Sqoop will append data into the existing H
ive table. Consider using --hive-overwrite, if you do NOT intend to do appending.
20/06/22 00:44:32 INFO Configuration.deprecation: mapred.map.tasks is deprecated. Instead, use mapreduce.job.maps
20/06/22 00:44:32 INFO client.RMProxy: Connecting to ResourceManager at manager.novalocal/89.208.221.132:8032
```

Делаем

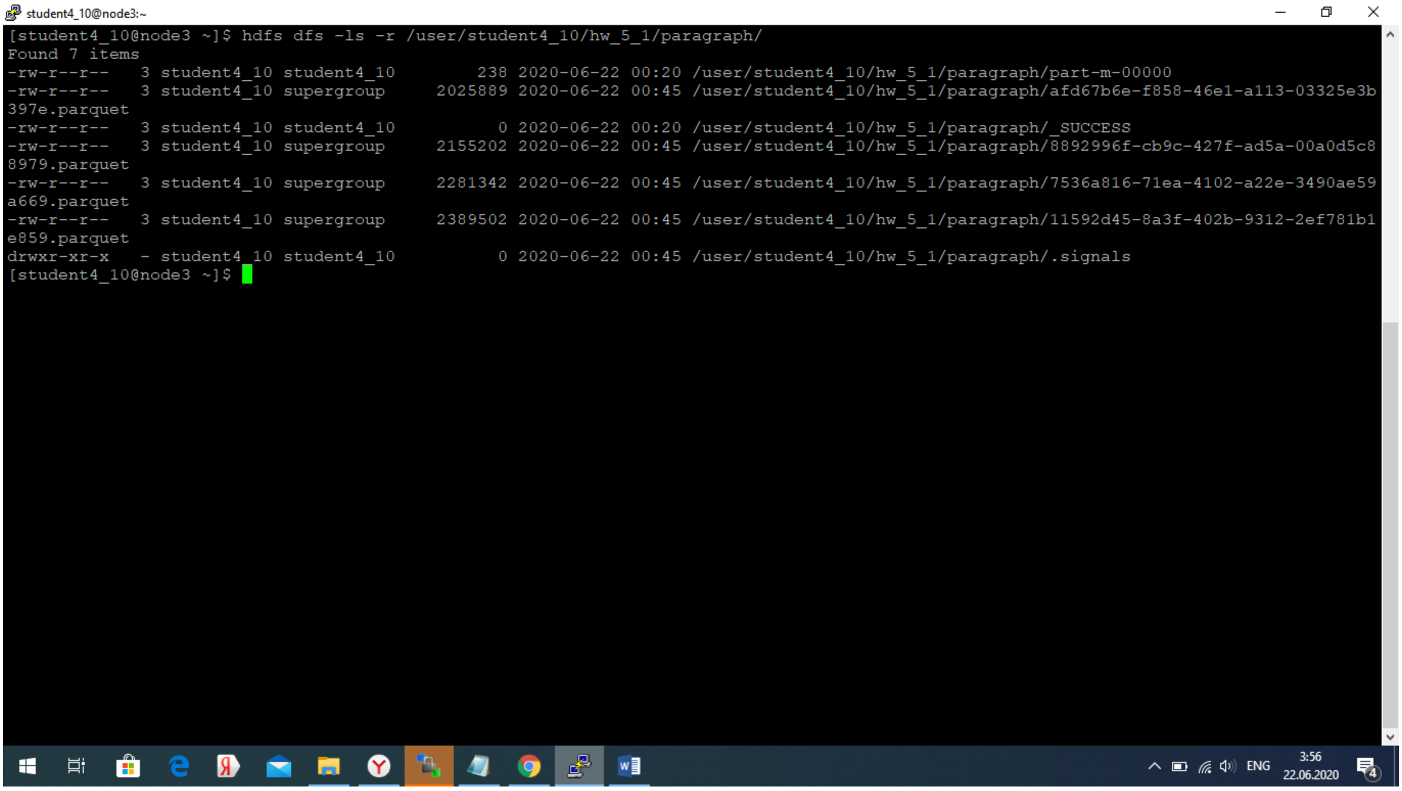
select * from student4_10.paragraph limit 10;



```
ragraphid, type:int, comment:null), FieldSchema(name:paragraph.paragraphnum, type:int, comment:null), FieldSchema(name:paragraph.charid, type:st
```

	paragraph.workid	paragraph.paragraphid	paragraph.paragraphnum	paragraph.charid	paragraph.plaintext
1	henry4p1	639729	1537	henry5	Let's see what they be: read them.
2	henry4p1	639730	1538	peto	[Reads] Item, A capon,. . 2s. 2d. [p]Item, Sa
3	henry4p1	639731	1543	henry5	O monstrous! but one half-penny-worth of
4	henry4p1	639732	1553	xxx	[Exeunt]
5	henry4p1	639733	1554	peto	Good morrow, good my lord.
6	henry4p1	639734	1557	xxx	[Enter HOTSPUR, WORCESTER, MORTIMEF
7	henry4p1	639735	1558	mortimer	These promises are fair, the parties sure, [I
8	henry4p1	639736	1560	hotspur	Lord Mortimer, and cousin Glendower, [p]W
9	henry4p1	639737	1564	glendower	No, here it is. [p]Sit, cousin Percy; sit, good
10	henry4p1	639738	1569	hotspur	And you in hell, as oft as he hears Owen Gl

Проверим папку paragraph



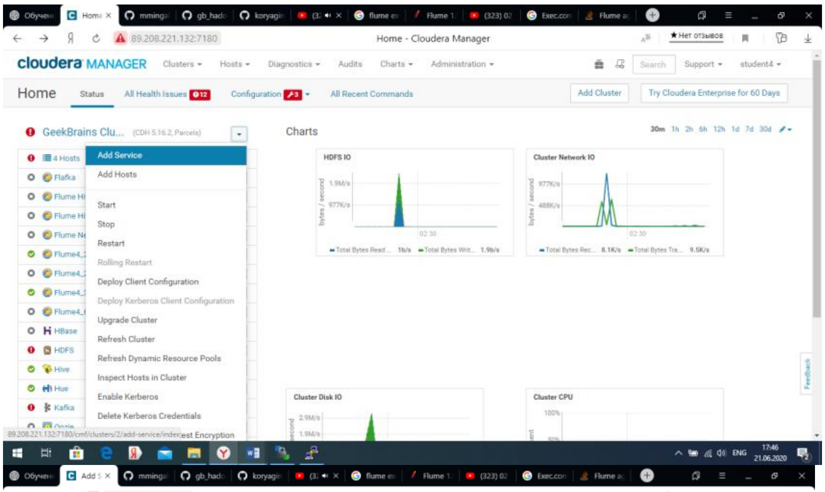
```
[student4_10@node3 ~]$ hdfs dfs -ls -r /user/student4_10/hw_5_1/paragraph/
Found 7 items
-rw-r--r--   3 student4_10 student4_10        238 2020-06-22 00:20 /user/student4_10/hw_5_1/paragraph/part-m-00000
-rw-r--r--   3 student4_10 supergroup     2025889 2020-06-22 00:45 /user/student4_10/hw_5_1/paragraph/afd67b6e-f858-46e1-a113-03325e3b
397e.parquet
-rw-r--r--   3 student4_10 student4_10          0 2020-06-22 00:20 /user/student4_10/hw_5_1/paragraph/_SUCCESS
-rw-r--r--   3 student4_10 supergroup     2155202 2020-06-22 00:45 /user/student4_10/hw_5_1/paragraph/8892996f-cb9c-427f-ad5a-00a0d5c8
8979.parquet
-rw-r--r--   3 student4_10 supergroup     2281342 2020-06-22 00:45 /user/student4_10/hw_5_1/paragraph/7536a816-71ea-4102-a22e-3490ae59
a669.parquet
-rw-r--r--   3 student4_10 supergroup     2389502 2020-06-22 00:45 /user/student4_10/hw_5_1/paragraph/11592d45-8a3f-402b-9312-2ef781b1
e859.parquet
drwxr-xr-x   - student4_10 student4_10          0 2020-06-22 00:45 /user/student4_10/hw_5_1/paragraph/.signals
[student4_10@node3 ~]$
```

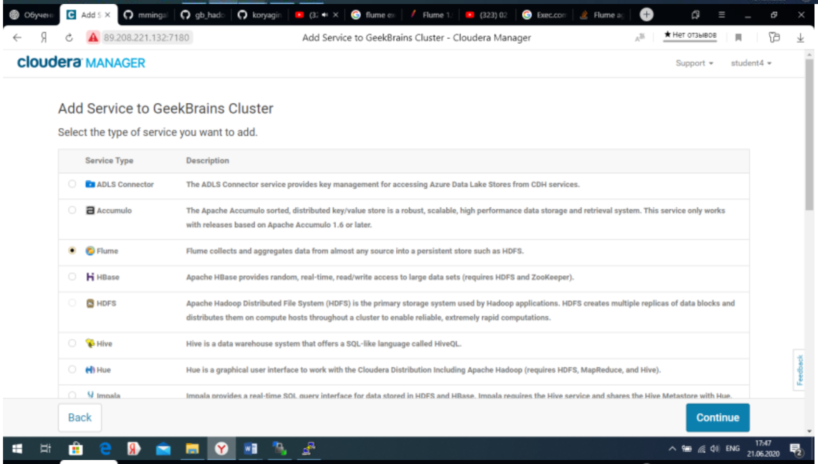
Точно таким способом можно выполнить работу и с Avro файлом

1.**Создать Flume-агент с именем, соответствующим имени своего пользователя (например Flume4_20)**
2**. Создать любой Flume поток используя Flume сервис соответствующего номера.**
- **Тип источника источник – exec**
- **Тип канала – memory**
- **Тип слива – hdfs**

3. **Убедиться что данные поступают в слив.**
4. **Создать поверх данных в hdfs таблицу через которую можно просмотреть полученные данные.**
5. **[Продвинутый вариант] Сделать то-же самое используя несколько сливов в разные места, например в HDFS и в HIve одновременно**
6. **[Продвинутый** вариант] Повторить стандартный пример с выборкой сообщений из Twitter.

1.**Создать Flume-агент с именем, соответствующим имени своего пользователя (например Flume4_20)**



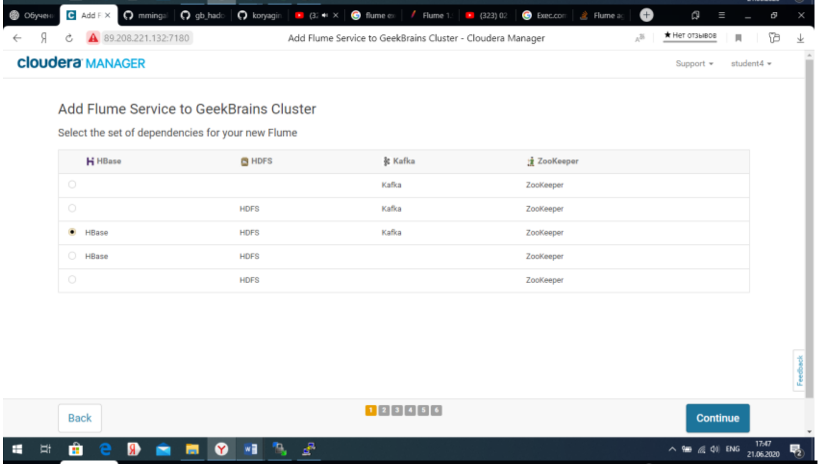


Add Service to GeekBrains Cluster

Select the type of service you want to add.

	Service Type	Description
○	ADLS Connector	The ADLS Connector service provides key management for accessing Azure Data Lake Stores from CDH services.
○	Accumulo	The Apache Accumulo sorted, distributed key/value store is a robust, scalable, high performance data storage and retrieval system. This service only works with releases based on Apache Accumulo 1.6 or later.
●	Flume	Flume collects and aggregates data from almost any source into a persistent store such as HDFS.
○	HBase	Apache HBase provides random, real-time, read/write access to large data sets (requires HDFS and ZooKeeper).
○	HDFS	Apache Hadoop Distributed File System (HDFS) is the primary storage system used by Hadoop applications. HDFS creates multiple replicas of data blocks and distributes them on compute hosts throughout a cluster to enable reliable, extremely rapid computations.
○	Hive	Hive is a data warehouse system that offers a SQL-like language called HiveQL.
○	Hue	Hue is a graphical user interface to work with the Cloudera Distribution Including Apache Hadoop (requires HDFS, MapReduce, and Hive).
○	Impala	Impala provides a real-time SQL query interface for data stored in HDFS and HBase. Impala requires the Hive service and shares the Hive Metastore with Hue.

Add Service to GeekBrains Cluster - Cloudera Manager
Back
Continue
17:47
21.06.2020

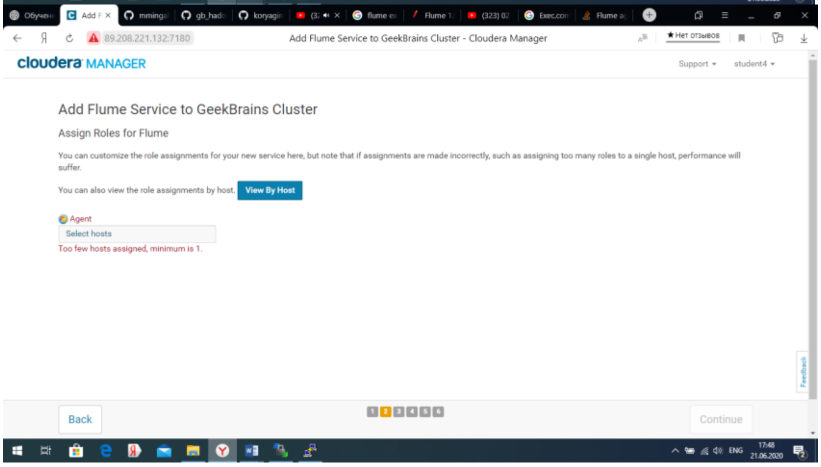


Add Flume Service to GeekBrains Cluster

Select the set of dependencies for your new Flume

	HBase	HDFS	Kafka	ZooKeeper
○			Kafka	ZooKeeper
○		HDFS	Kafka	ZooKeeper
●	HBase	HDFS	Kafka	ZooKeeper
○	HBase	HDFS		ZooKeeper
○		HDFS		ZooKeeper

Add Flume Service to GeekBrains Cluster - Cloudera Manager
1 2 3 4 5 6
Back
Continue
17:47
21.06.2020



Add Flume Service to GeekBrains Cluster

Assign Roles for Flume

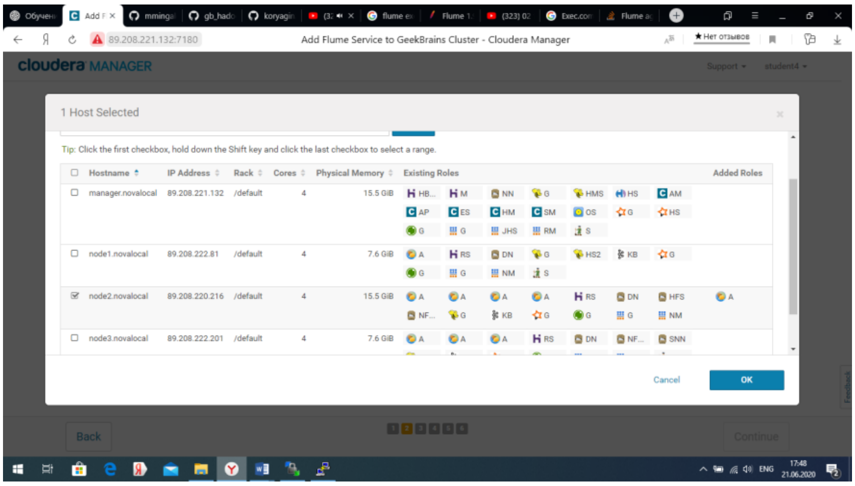
You can customize the role assignments for your new service here, but note that if assignments are made incorrectly, such as assigning too many roles to a single host, performance will suffer.

You can also view the role assignments by host. View By Host

Agent

Select hosts

Too few hosts assigned, minimum is 1.

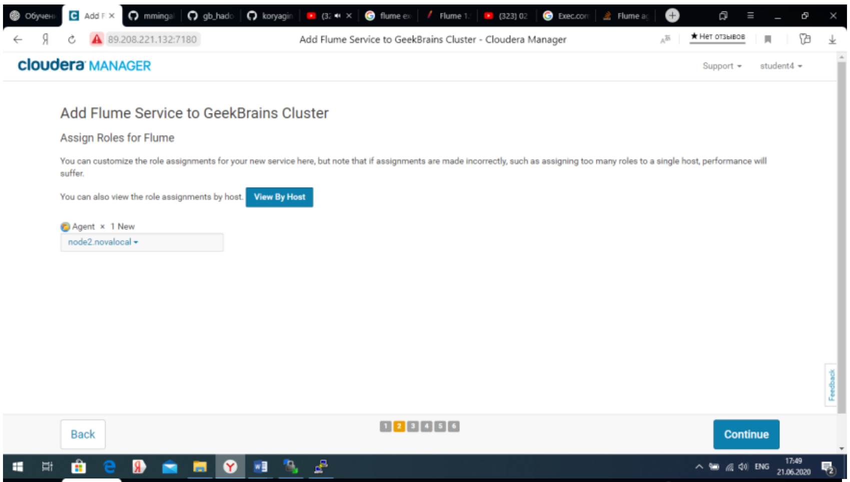


Add Flume Service to GeekBrains Cluster - Cloudera Manager

1 Host Selected

Tip: Click the first checkbox, hold down the Shift key and click the last checkbox to select a range.

☐	Hostname	IP Address	Rack	Cores	Physical Memory	Existing Roles	Added Roles
☐	manager.novalocal	89.208.221.132	/default	4	15.5 GiB	HB... M NN G HMS HS AM AP ES HM SM OS G HS G G JHS RM S	
☐	node1.novalocal	89.208.222.81	/default	4	7.6 GiB	A RS DN G HS2 KB G G G NM S	
☑	node2.novalocal	89.208.220.216	/default	4	15.5 GiB	A A A A RS DN HFS NF... G KB G G G NM	A
☐	node3.novalocal	89.208.222.201	/default	4	7.6 GiB	A A A RS DN NF... SNN	



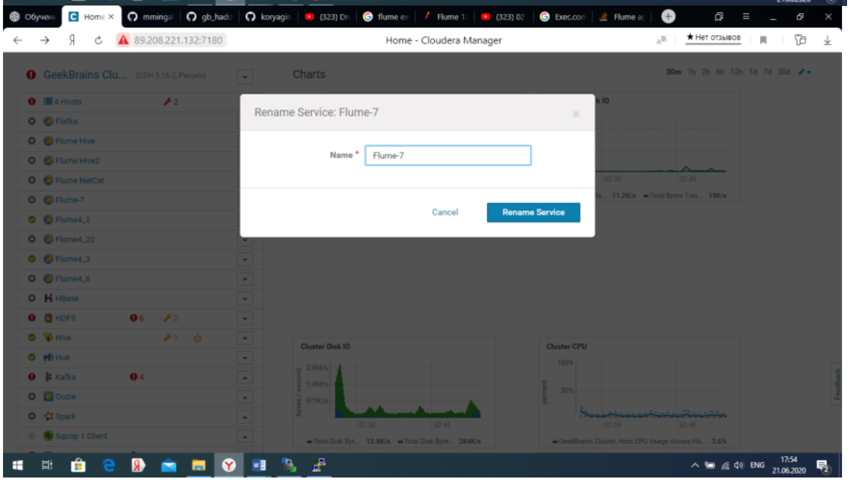
Add Flume Service to GeekBrains Cluster

Assign Roles for Flume

You can customize the role assignments for your new service here, but note that if assignments are made incorrectly, such as assigning too many roles to a single host, performance will suffer.

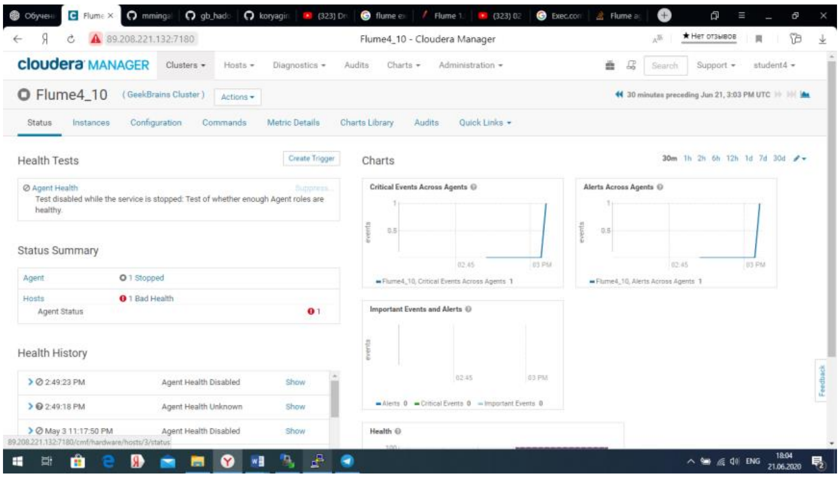
You can also view the role assignments by host. View By Host

Agent × 1 New
node2.novalocal



Rename Service: Flume-7

Name * Flume-7



Flume4_10 - Cloudera Manager

Flume4_10 (GeekBrains Cluster)

Health Tests

Agent Health
Test disabled while the service is stopped: Test of whether enough Agent roles are healthy.

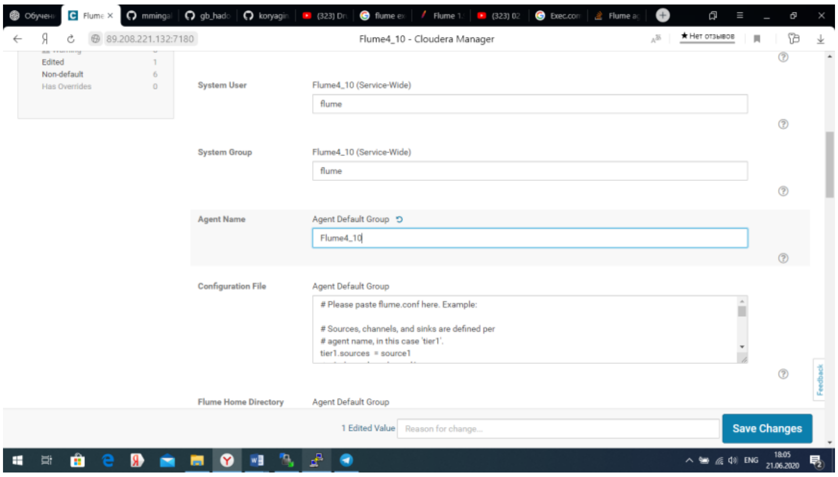
Status Summary

Agent: 1 Stopped
Hosts: 1 Bad Health
Agent Status: 1

Health History

2:49:23 PM Agent Health Disabled Show
2:49:18 PM Agent Health Unknown Show
May 3 11:17:50 PM Agent Health Disabled Show

BAD HEALTH!



Flume4_10 - Cloudera Manager

Edited	1	
Non-default	6	
Has Overrides	0	

System User — Flume4_10 (Service-Wide): flume

System Group — Flume4_10 (Service-Wide): flume

Agent Name — Agent Default Group: Flume4_10

Configuration File — Agent Default Group:

```
# Please paste flume.conf here. Example:

# Sources, channels, and sinks are defined per
# agent name, in this case 'tier1'.
tier1.sources  = source1
```

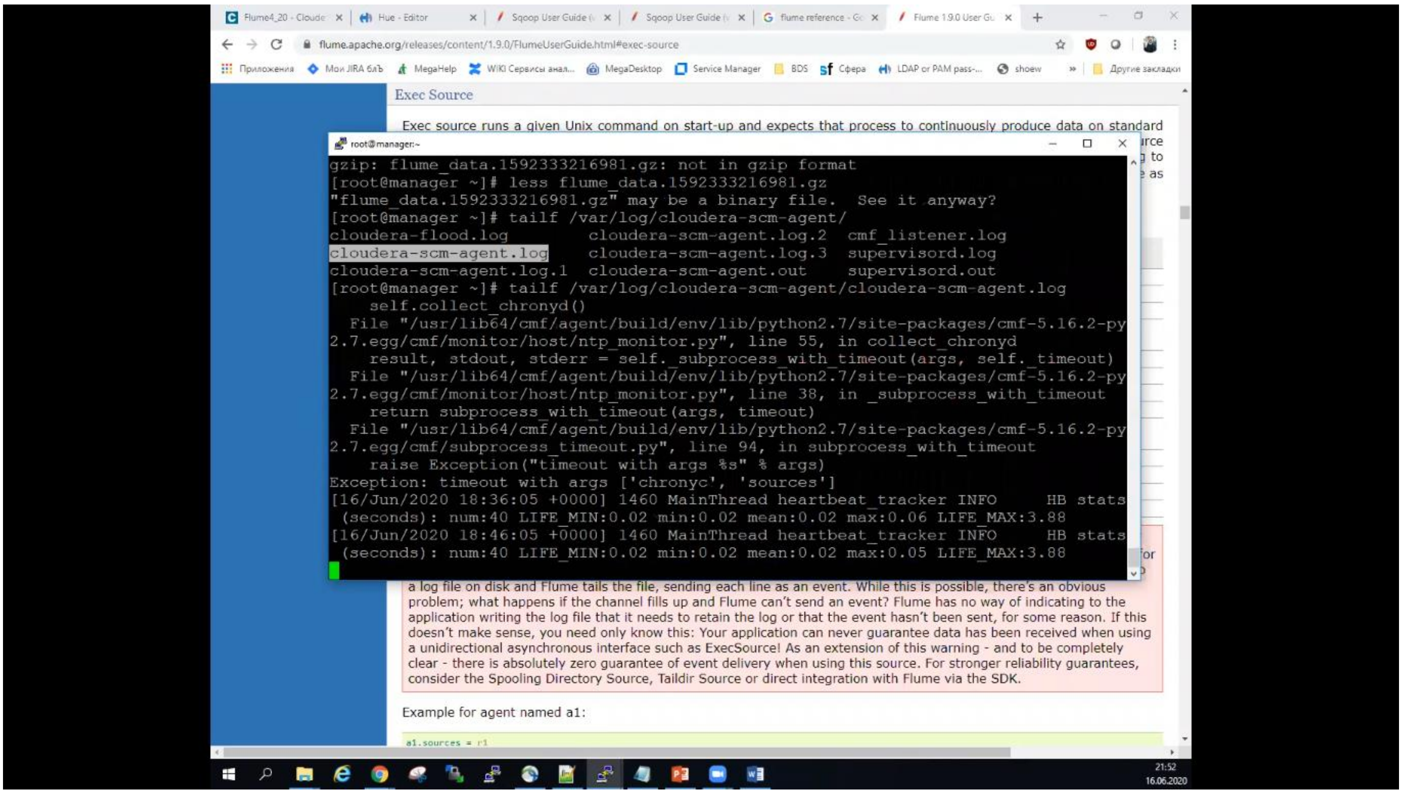
Flume Home Directory — Agent Default Group

1 Edited Value

2. Создать любой Flume поток используя Flume сервис соответствующего номера.
- **Тип источника источник – exec**
- **Тип канала – memory**
- **Тип слива – hdfs**

tailif /var/log/cloudera-scm-agent/cloudera-scm-agent.log

работает с этим лог файлом



flume.apache.org/releases/content/1.9.0/FlumeUserGuide.html#exec-source

Exec Source

Exec source runs a given Unix command on start-up and expects that process to continuously produce data on standard

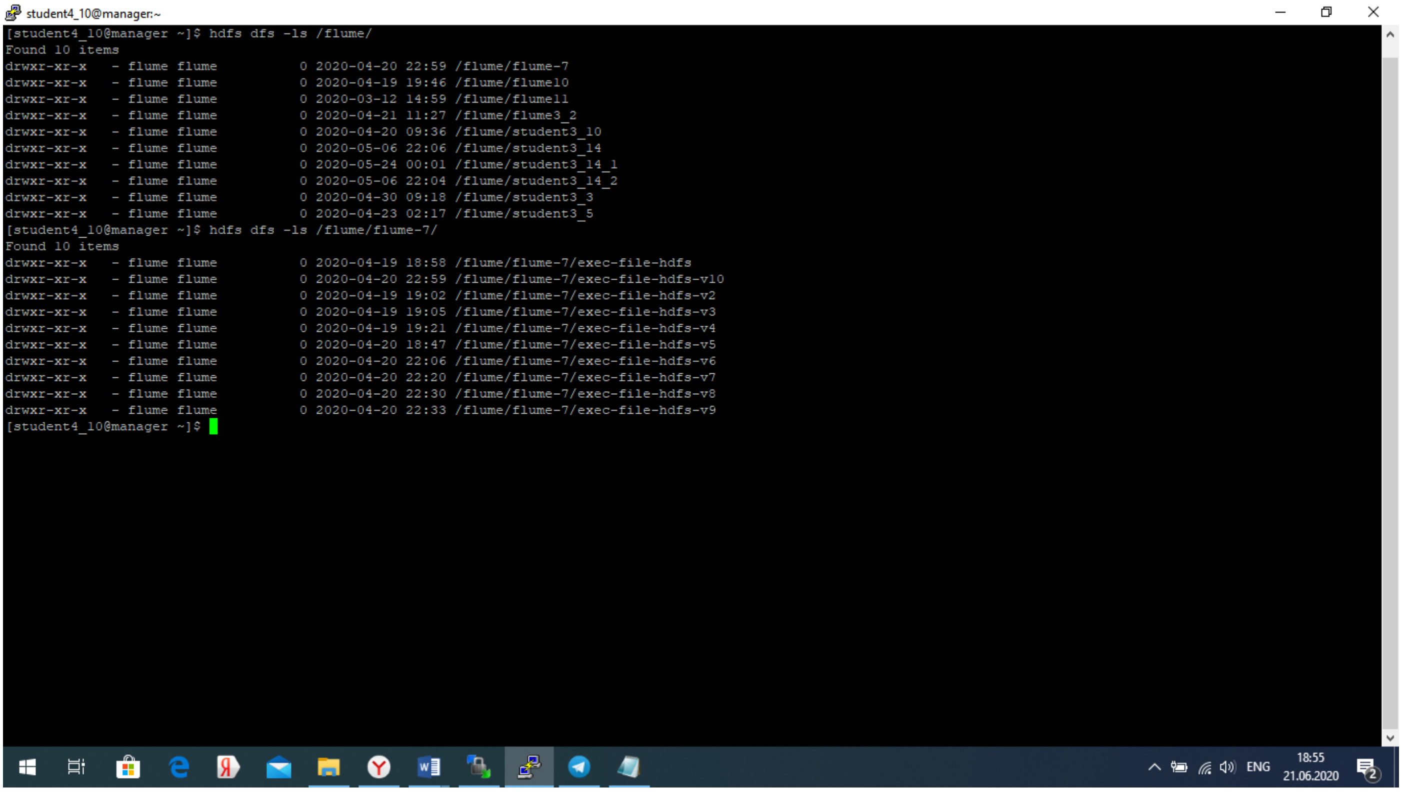
```
gzip: flume_data.1592333216981.gz: not in gzip format
[root@manager ~]# less flume_data.1592333216981.gz
"flume_data.1592333216981.gz" may be a binary file.  See it anyway?
[root@manager ~]# tailf /var/log/cloudera-scm-agent/
cloudera-flood.log         cloudera-scm-agent.log.2  cmf_listener.log
cloudera-scm-agent.log     cloudera-scm-agent.log.3  supervisord.log
cloudera-scm-agent.log.1   cloudera-scm-agent.out    supervisord.out
[root@manager ~]# tailf /var/log/cloudera-scm-agent/cloudera-scm-agent.log
    self.collect_chronyd()
  File "/usr/lib64/cmf/agent/build/env/lib/python2.7/site-packages/cmf-5.16.2-py
2.7.egg/cmf/monitor/host/ntp_monitor.py", line 55, in collect_chronyd
    result, stdout, stderr = self._subprocess_with_timeout(args, self._timeout)
  File "/usr/lib64/cmf/agent/build/env/lib/python2.7/site-packages/cmf-5.16.2-py
2.7.egg/cmf/monitor/host/ntp_monitor.py", line 38, in _subprocess_with_timeout
    return subprocess_with_timeout(args, timeout)
  File "/usr/lib64/cmf/agent/build/env/lib/python2.7/site-packages/cmf-5.16.2-py
2.7.egg/cmf/subprocess_timeout.py", line 94, in subprocess_with_timeout
    raise Exception("timeout with args %s" % args)
Exception: timeout with args ['chronyc', 'sources']
[16/Jun/2020 18:36:05 +0000] 1460 MainThread heartbeat_tracker INFO     HB stats
 (seconds): num:40 LIFE_MIN:0.02 min:0.02 mean:0.02 max:0.06 LIFE_MAX:3.88
[16/Jun/2020 18:46:05 +0000] 1460 MainThread heartbeat_tracker INFO     HB stats
 (seconds): num:40 LIFE_MIN:0.02 min:0.02 mean:0.02 max:0.05 LIFE_MAX:3.88
```

a log file on disk and Flume tails the file, sending each line as an event. While this is possible, there's an obvious problem; what happens if the channel fills up and Flume can't send an event? Flume has no way of indicating to the application writing the log file that it needs to retain the log or that the event hasn't been sent, for some reason. If this doesn't make sense, you need only know this: Your application can never guarantee data has been received when using a unidirectional asynchronous interface such as ExecSource! As an extension of this warning - and to be completely clear - there is absolutely zero guarantee of event delivery when using this source. For stronger reliability guarantees, consider the Spooling Directory Source, Taildir Source or direct integration with Flume via the SDK.

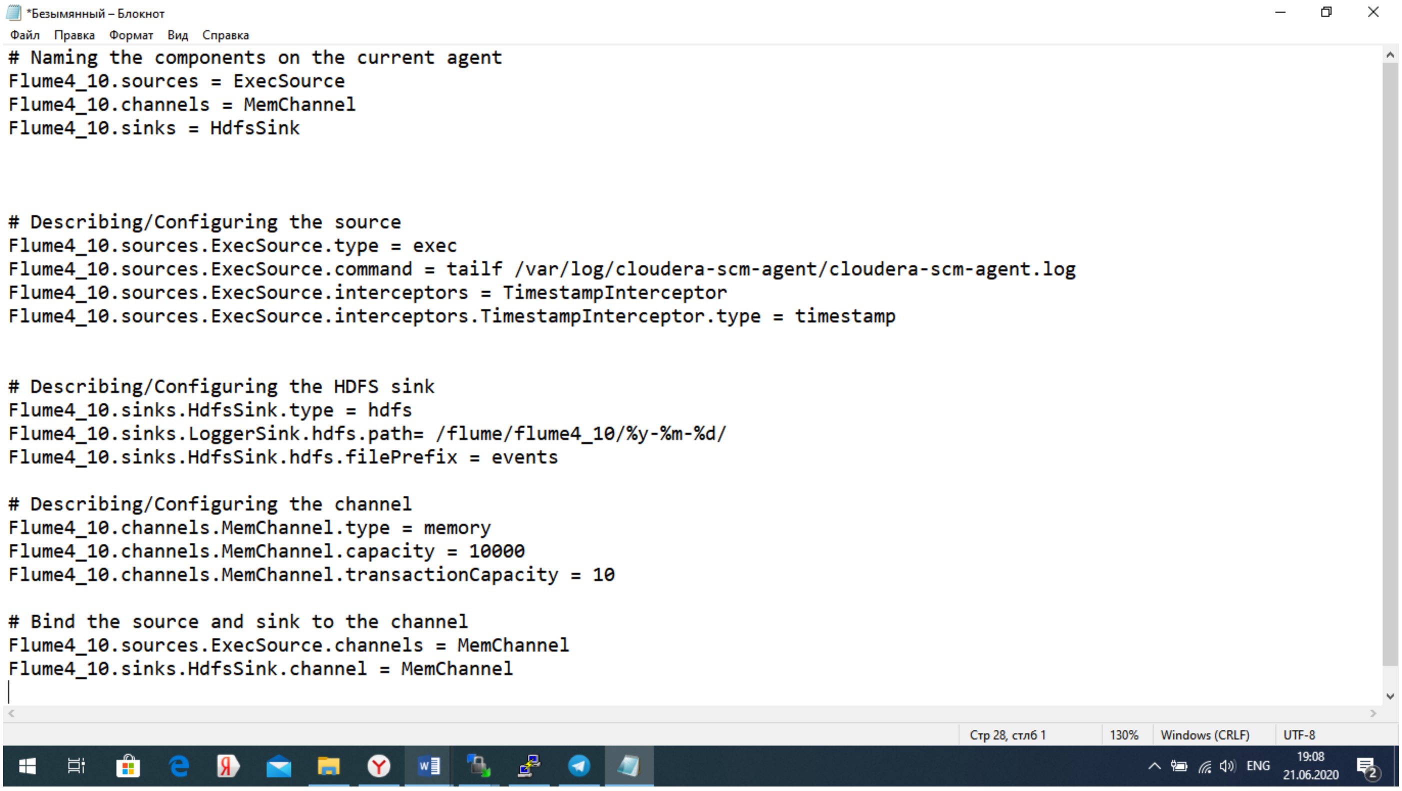
Example for agent named a1:

```
a1.sources = r1
```

Писать буду в Flume папку !

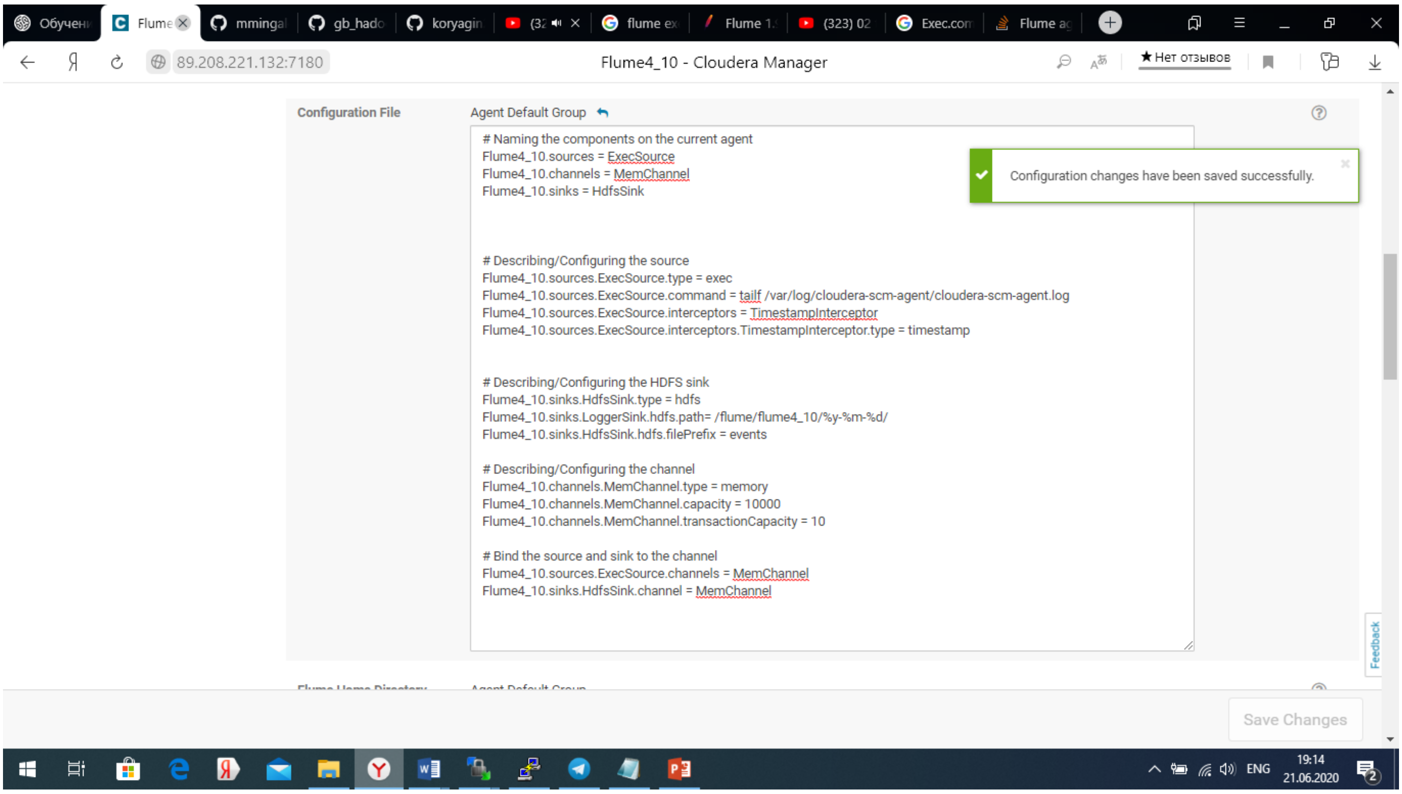


```
[student4_10@manager ~]$ hdfs dfs -ls /flume/
Found 10 items
drwxr-xr-x   - flume flume          0 2020-04-20 22:59 /flume/flume-7
drwxr-xr-x   - flume flume          0 2020-04-19 19:46 /flume/flume10
drwxr-xr-x   - flume flume          0 2020-03-12 14:59 /flume/flume11
drwxr-xr-x   - flume flume          0 2020-04-21 11:27 /flume/flume3_2
drwxr-xr-x   - flume flume          0 2020-04-20 09:36 /flume/student3_10
drwxr-xr-x   - flume flume          0 2020-05-06 22:06 /flume/student3_14
drwxr-xr-x   - flume flume          0 2020-05-24 00:01 /flume/student3_14_1
drwxr-xr-x   - flume flume          0 2020-05-06 22:04 /flume/student3_14_2
drwxr-xr-x   - flume flume          0 2020-04-30 09:18 /flume/student3_3
drwxr-xr-x   - flume flume          0 2020-04-23 02:17 /flume/student3_5
[student4_10@manager ~]$ hdfs dfs -ls /flume/flume-7/
Found 10 items
drwxr-xr-x   - flume flume          0 2020-04-19 18:58 /flume/flume-7/exec-file-hdfs
drwxr-xr-x   - flume flume          0 2020-04-20 22:59 /flume/flume-7/exec-file-hdfs-v10
drwxr-xr-x   - flume flume          0 2020-04-19 19:02 /flume/flume-7/exec-file-hdfs-v2
drwxr-xr-x   - flume flume          0 2020-04-19 19:05 /flume/flume-7/exec-file-hdfs-v3
drwxr-xr-x   - flume flume          0 2020-04-19 19:21 /flume/flume-7/exec-file-hdfs-v4
drwxr-xr-x   - flume flume          0 2020-04-20 18:47 /flume/flume-7/exec-file-hdfs-v5
drwxr-xr-x   - flume flume          0 2020-04-20 22:06 /flume/flume-7/exec-file-hdfs-v6
drwxr-xr-x   - flume flume          0 2020-04-20 22:20 /flume/flume-7/exec-file-hdfs-v7
drwxr-xr-x   - flume flume          0 2020-04-20 22:30 /flume/flume-7/exec-file-hdfs-v8
drwxr-xr-x   - flume flume          0 2020-04-20 22:33 /flume/flume-7/exec-file-hdfs-v9
[student4_10@manager ~]$ 
```



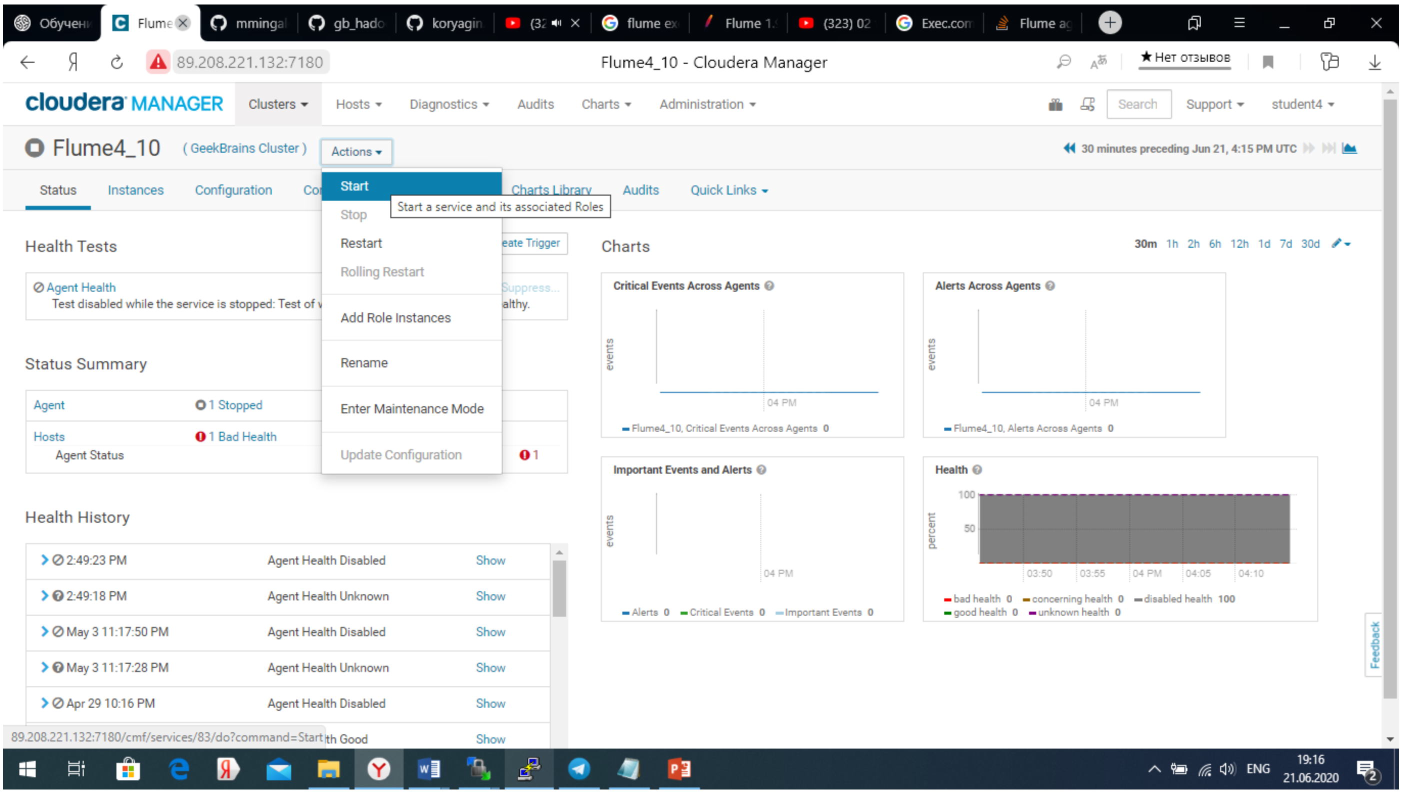
```
# Naming the components on the current agent
Flume4_10.sources = ExecSource
Flume4_10.channels = MemChannel
Flume4_10.sinks = HdfsSink



# Describing/Configuring the source
Flume4_10.sources.ExecSource.type = exec
Flume4_10.sources.ExecSource.command = tailf /var/log/cloudera-scm-agent/cloudera-scm-agent.log
Flume4_10.sources.ExecSource.interceptors = TimestampInterceptor
Flume4_10.sources.ExecSource.interceptors.TimestampInterceptor.type = timestamp


# Describing/Configuring the HDFS sink
Flume4_10.sinks.HdfsSink.type = hdfs
Flume4_10.sinks.LoggerSink.hdfs.path= /flume/flume4_10/%y-%m-%d/
Flume4_10.sinks.HdfsSink.hdfs.filePrefix = events

# Describing/Configuring the channel
Flume4_10.channels.MemChannel.type = memory
Flume4_10.channels.MemChannel.capacity = 10000
Flume4_10.channels.MemChannel.transactionCapacity = 10

# Bind the source and sink to the channel
Flume4_10.sources.ExecSource.channels = MemChannel
Flume4_10.sinks.HdfsSink.channel = MemChannel
```

Код для configuration file



Configuration changes have been saved successfully.

```
# Naming the components on the current agent
Flume4_10.sources = ExecSource
Flume4_10.channels = MemChannel
Flume4_10.sinks = HdfsSink


# Describing/Configuring the source
Flume4_10.sources.ExecSource.type = exec
Flume4_10.sources.ExecSource.command = tailf /var/log/cloudera-scm-agent/cloudera-scm-agent.log
Flume4_10.sources.ExecSource.interceptors = TimestampInterceptor
Flume4_10.sources.ExecSource.interceptors.TimestampInterceptor.type = timestamp


# Describing/Configuring the HDFS sink
Flume4_10.sinks.HdfsSink.type = hdfs
Flume4_10.sinks.LoggerSink.hdfs.path= /flume/flume4_10/%y-%m-%d/
Flume4_10.sinks.HdfsSink.hdfs.filePrefix = events

# Describing/Configuring the channel
Flume4_10.channels.MemChannel.type = memory
Flume4_10.channels.MemChannel.capacity = 10000
Flume4_10.channels.MemChannel.transactionCapacity = 10

# Bind the source and sink to the channel
Flume4_10.sources.ExecSource.channels = MemChannel
Flume4_10.sinks.HdfsSink.channel = MemChannel
```



Start a service and its associated Roles

Health Tests

Agent Health
Test disabled while the service is stopped: Test of v... althy.

Status Summary

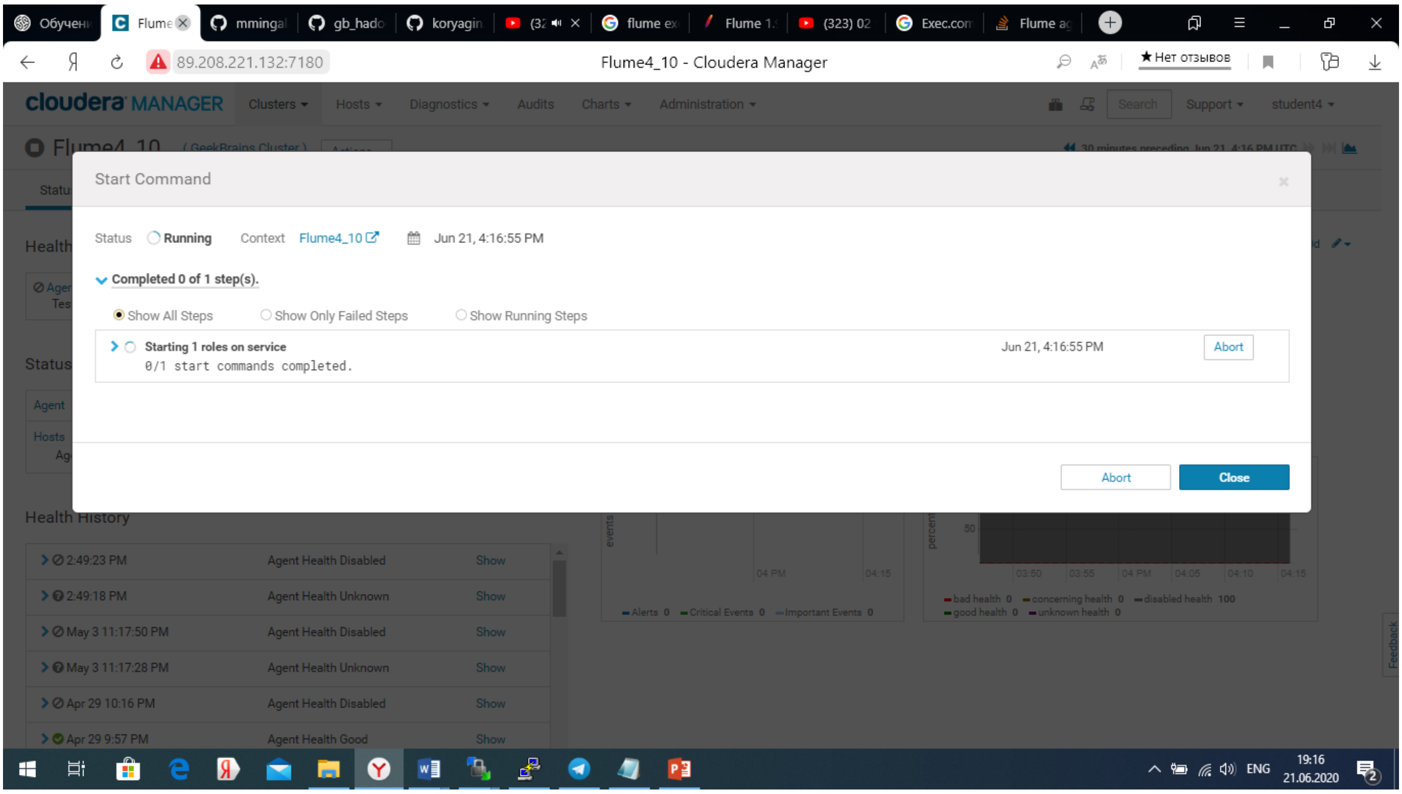
Agent	1 Stopped	
Hosts	1 Bad Health	
Agent Status		1

Health History

2:49:23 PM	Agent Health Disabled	Show
2:49:18 PM	Agent Health Unknown	Show
May 3 11:17:50 PM	Agent Health Disabled	Show
May 3 11:17:28 PM	Agent Health Unknown	Show
Apr 29 10:16 PM	Agent Health Disabled	Show
...th Good		Show

89.208.221.132:7180/cmf/services/83/do?command=Start

BAD HEALTH !!!!



Start Command

Status ○ Running Context Flume4_10 Jun 21, 4:16:55 PM

Completed 0 of 1 step(s).

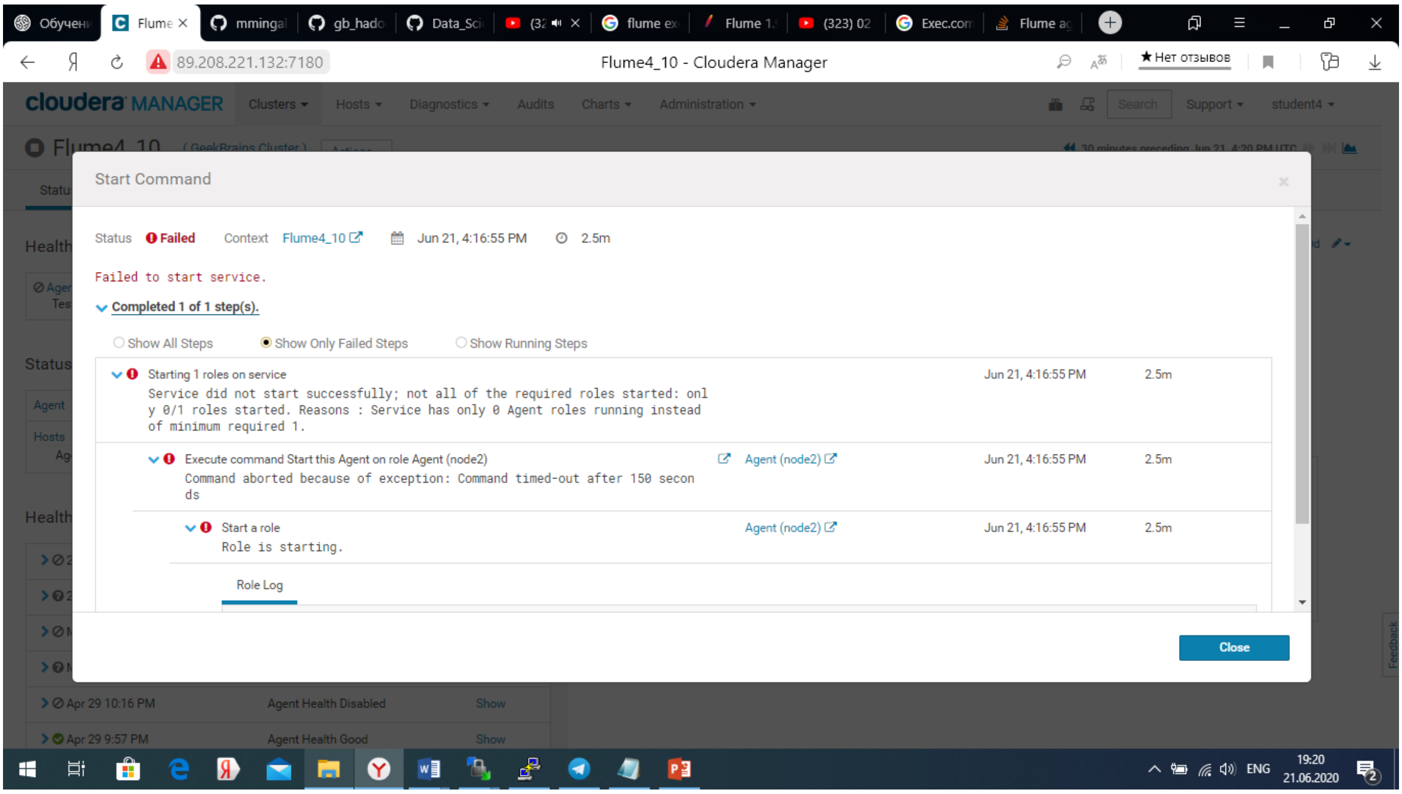
● Show All Steps ○ Show Only Failed Steps ○ Show Running Steps

Starting 1 roles on service Jun 21, 4:16:55 PM Abort

```
0/1 start commands completed.
```

Abort Close

2:49:23 PM	Agent Health Disabled	Show
2:49:18 PM	Agent Health Unknown	Show
May 3 11:17:50 PM	Agent Health Disabled	Show
May 3 11:17:28 PM	Agent Health Unknown	Show
Apr 29 10:16 PM	Agent Health Disabled	Show
Apr 29 9:57 PM	Agent Health Good	Show



Start Command

Status Failed Context Flume4_10 Jun 21, 4:16:55 PM 2.5m

```
Failed to start service.
```

Completed 1 of 1 step(s).

○ Show All Steps ● Show Only Failed Steps ○ Show Running Steps

Starting 1 roles on service Jun 21, 4:16:55 PM 2.5m

```
Service did not start successfully; not all of the required roles started: onl
y 0/1 roles started. Reasons : Service has only 0 Agent roles running instead
of minimum required 1.
```

Execute command Start this Agent on role Agent (node2) Agent (node2) Jun 21, 4:16:55 PM 2.5m

```
Command aborted because of exception: Command timed-out after 150 secon
ds
```

Start a role Agent (node2) Jun 21, 4:16:55 PM 2.5m

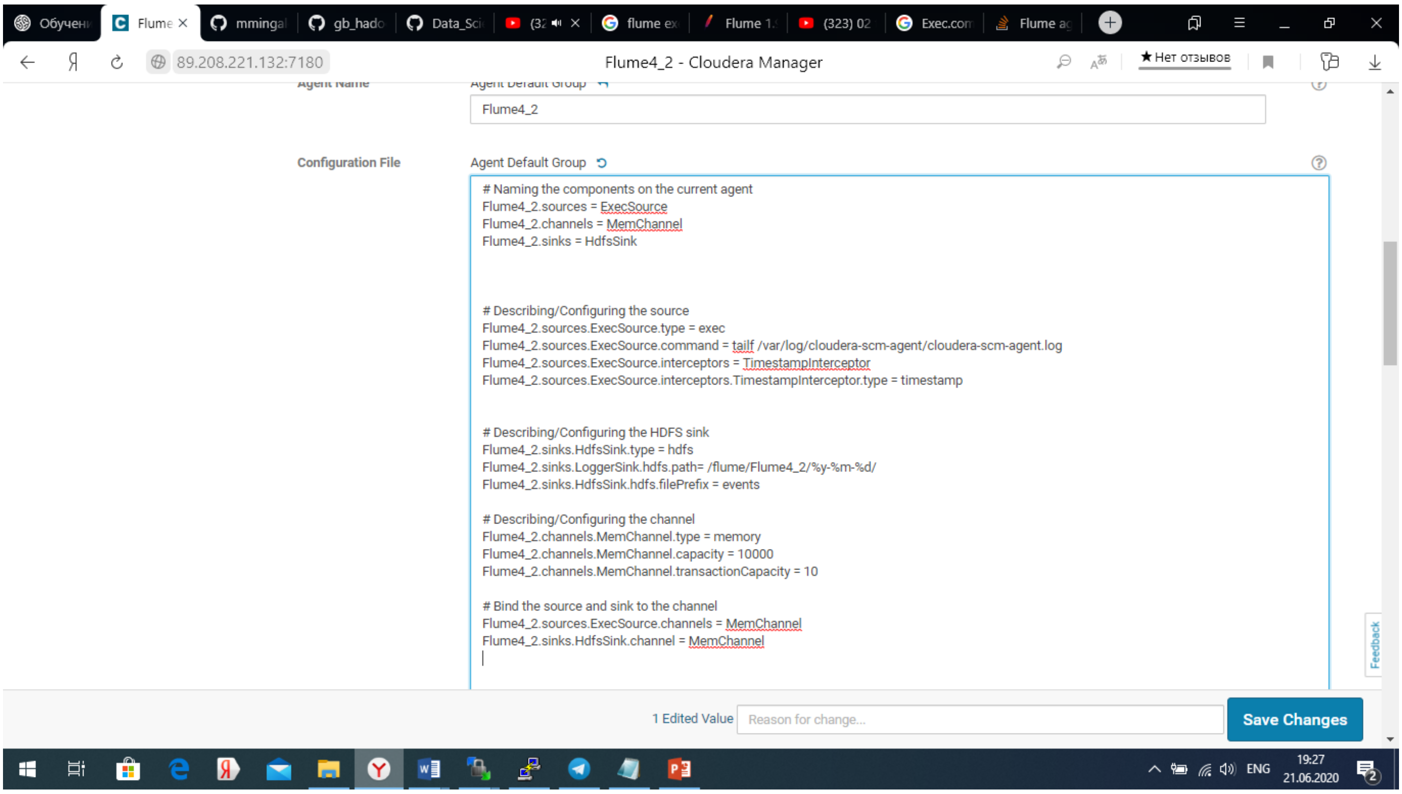
```
Role is starting.
```

Role Log

Close

Apr 29 10:16 PM	Agent Health Disabled	Show
Apr 29 9:57 PM	Agent Health Good	Show

Я принял решение запустить с Flume 4_2 так как у него GOOD HEALTH



Flume4_2 - Cloudera Manager

Agent Name — Agent Default Group

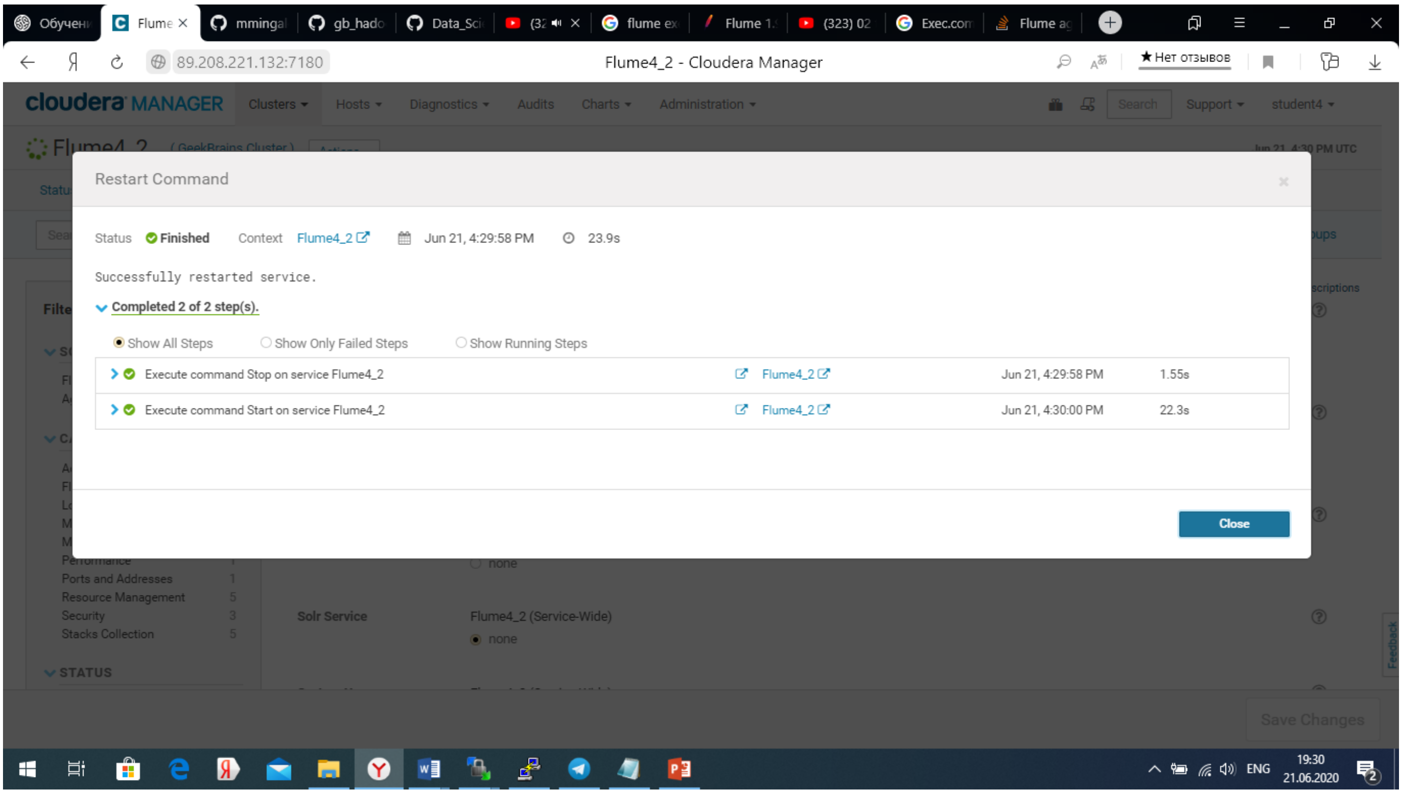
Flume4_2

Configuration File — Agent Default Group

```
# Naming the components on the current agent
Flume4_2.sources = ExecSource
Flume4_2.channels = MemChannel
Flume4_2.sinks = HdfsSink



# Describing/Configuring the source
Flume4_2.sources.ExecSource.type = exec
Flume4_2.sources.ExecSource.command = tailf /var/log/cloudera-scm-agent/cloudera-scm-agent.log
Flume4_2.sources.ExecSource.interceptors = TimestampInterceptor
Flume4_2.sources.ExecSource.interceptors.TimestampInterceptor.type = timestamp


# Describing/Configuring the HDFS sink
Flume4_2.sinks.HdfsSink.type = hdfs
Flume4_2.sinks.LoggerSink.hdfs.path= /flume/Flume4_2/%y-%m-%d/
Flume4_2.sinks.HdfsSink.hdfs.filePrefix = events

# Describing/Configuring the channel
Flume4_2.channels.MemChannel.type = memory
Flume4_2.channels.MemChannel.capacity = 10000
Flume4_2.channels.MemChannel.transactionCapacity = 10

# Bind the source and sink to the channel
Flume4_2.sources.ExecSource.channels = MemChannel
Flume4_2.sinks.HdfsSink.channel = MemChannel
```

1 Edited Value — Reason for change...

Save changes and restart



Flume4_2 - Cloudera Manager

Restart Command

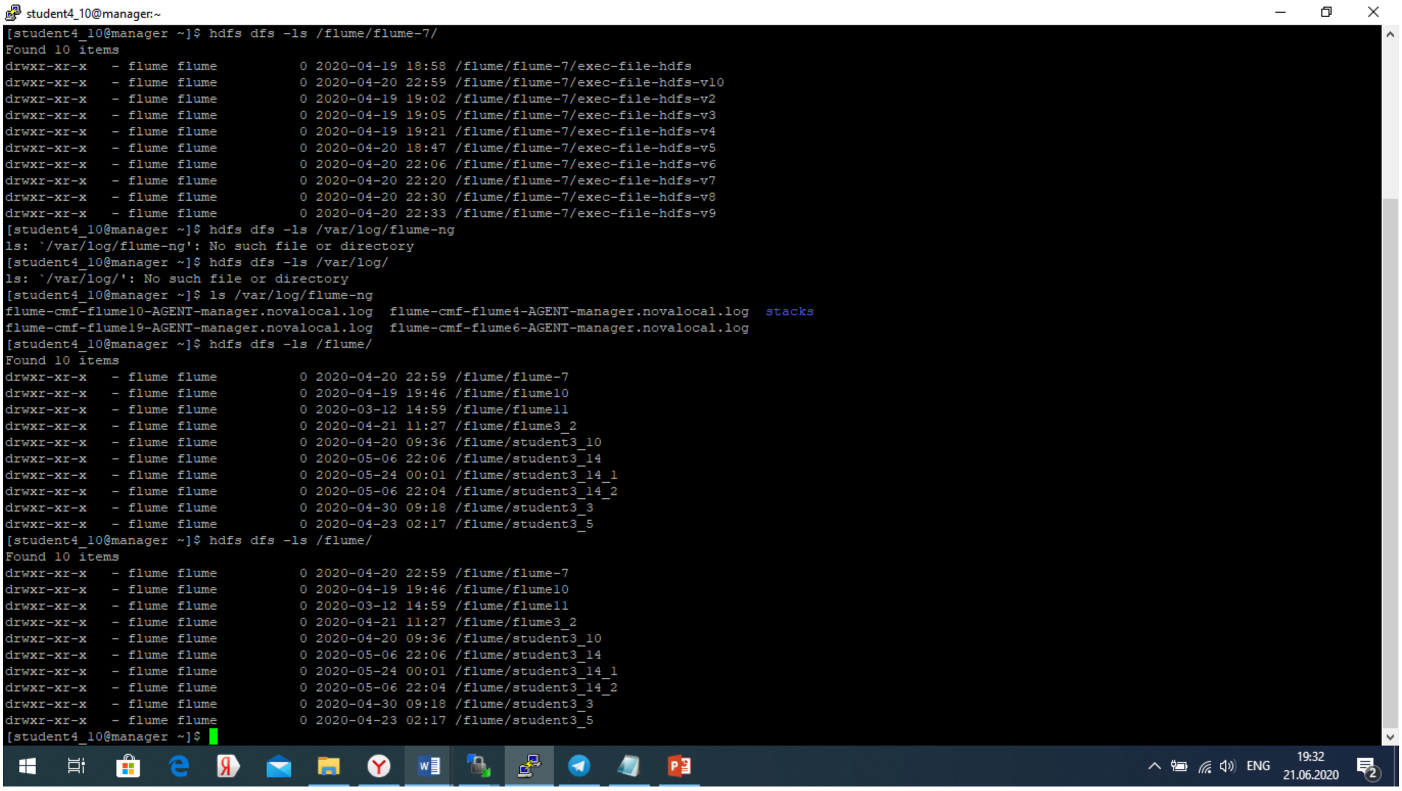
Status ✓ Finished   Context Flume4_2   Jun 21, 4:29:58 PM   23.9s

```
Successfully restarted service.
```

Completed 2 of 2 step(s).

● Show All Steps ○ Show Only Failed Steps ○ Show Running Steps

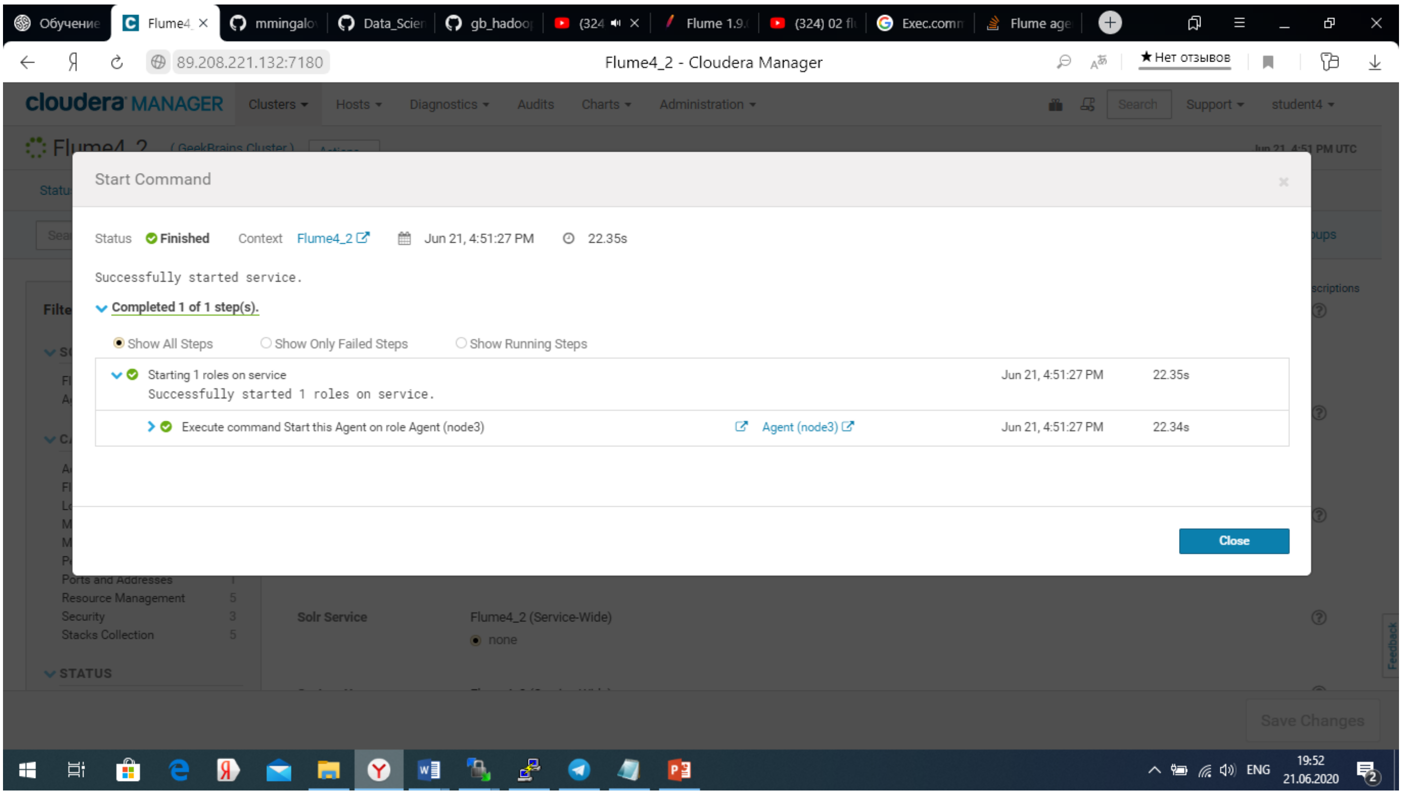
✓ Execute command Stop on service Flume4_2	Flume4_2	Jun 21, 4:29:58 PM	1.55s
✓ Execute command Start on service Flume4_2	Flume4_2	Jun 21, 4:30:00 PM	22.3s



```
[student4_10@manager ~]$ hdfs dfs -ls /flume/flume-7/
Found 10 items
drwxr-xr-x   - flume flume          0 2020-04-19 18:58 /flume/flume-7/exec-file-hdfs
drwxr-xr-x   - flume flume          0 2020-04-20 22:59 /flume/flume-7/exec-file-hdfs-v10
drwxr-xr-x   - flume flume          0 2020-04-19 19:02 /flume/flume-7/exec-file-hdfs-v2
drwxr-xr-x   - flume flume          0 2020-04-19 19:05 /flume/flume-7/exec-file-hdfs-v3
drwxr-xr-x   - flume flume          0 2020-04-19 19:21 /flume/flume-7/exec-file-hdfs-v4
drwxr-xr-x   - flume flume          0 2020-04-20 18:47 /flume/flume-7/exec-file-hdfs-v5
drwxr-xr-x   - flume flume          0 2020-04-20 22:06 /flume/flume-7/exec-file-hdfs-v6
drwxr-xr-x   - flume flume          0 2020-04-20 22:20 /flume/flume-7/exec-file-hdfs-v7
drwxr-xr-x   - flume flume          0 2020-04-20 22:30 /flume/flume-7/exec-file-hdfs-v8
drwxr-xr-x   - flume flume          0 2020-04-20 22:33 /flume/flume-7/exec-file-hdfs-v9
[student4_10@manager ~]$ hdfs dfs -ls /var/log/flume-ng
ls: `/var/log/flume-ng': No such file or directory
[student4_10@manager ~]$ hdfs dfs -ls /var/log/
ls: `/var/log/': No such file or directory
[student4_10@manager ~]$ ls /var/log/flume-ng
flume-cmf-flume10-AGENT-manager.novalocal.log  flume-cmf-flume4-AGENT-manager.novalocal.log  stacks
flume-cmf-flume19-AGENT-manager.novalocal.log  flume-cmf-flume6-AGENT-manager.novalocal.log
[student4_10@manager ~]$ hdfs dfs -ls /flume/
Found 10 items
drwxr-xr-x   - flume flume          0 2020-04-20 22:59 /flume/flume-7
drwxr-xr-x   - flume flume          0 2020-04-19 19:46 /flume/flume10
drwxr-xr-x   - flume flume          0 2020-03-12 14:59 /flume/flume11
drwxr-xr-x   - flume flume          0 2020-04-21 11:27 /flume/flume3_2
drwxr-xr-x   - flume flume          0 2020-04-20 09:36 /flume/student3_10
drwxr-xr-x   - flume flume          0 2020-05-06 22:06 /flume/student3_14
drwxr-xr-x   - flume flume          0 2020-05-24 00:01 /flume/student3_14_1
drwxr-xr-x   - flume flume          0 2020-05-06 22:04 /flume/student3_14_2
drwxr-xr-x   - flume flume          0 2020-04-30 09:18 /flume/student3_3
drwxr-xr-x   - flume flume          0 2020-04-23 02:17 /flume/student3_5
[student4_10@manager ~]$ hdfs dfs -ls /flume/
Found 10 items
drwxr-xr-x   - flume flume          0 2020-04-20 22:59 /flume/flume-7
drwxr-xr-x   - flume flume          0 2020-04-19 19:46 /flume/flume10
drwxr-xr-x   - flume flume          0 2020-03-12 14:59 /flume/flume11
drwxr-xr-x   - flume flume          0 2020-04-21 11:27 /flume/flume3_2
drwxr-xr-x   - flume flume          0 2020-04-20 09:36 /flume/student3_10
drwxr-xr-x   - flume flume          0 2020-05-06 22:06 /flume/student3_14
drwxr-xr-x   - flume flume          0 2020-05-24 00:01 /flume/student3_14_1
drwxr-xr-x   - flume flume          0 2020-05-06 22:04 /flume/student3_14_2
drwxr-xr-x   - flume flume          0 2020-04-30 09:18 /flume/student3_3
drwxr-xr-x   - flume flume          0 2020-04-23 02:17 /flume/student3_5
[student4_10@manager ~]$ 
```

нету ничего

Попробую flume-7 в configuration file



Start Command

Status ✓ Finished Context Flume4_2 Jun 21, 4:51:27 PM 22.35s

```
Successfully started service.
```

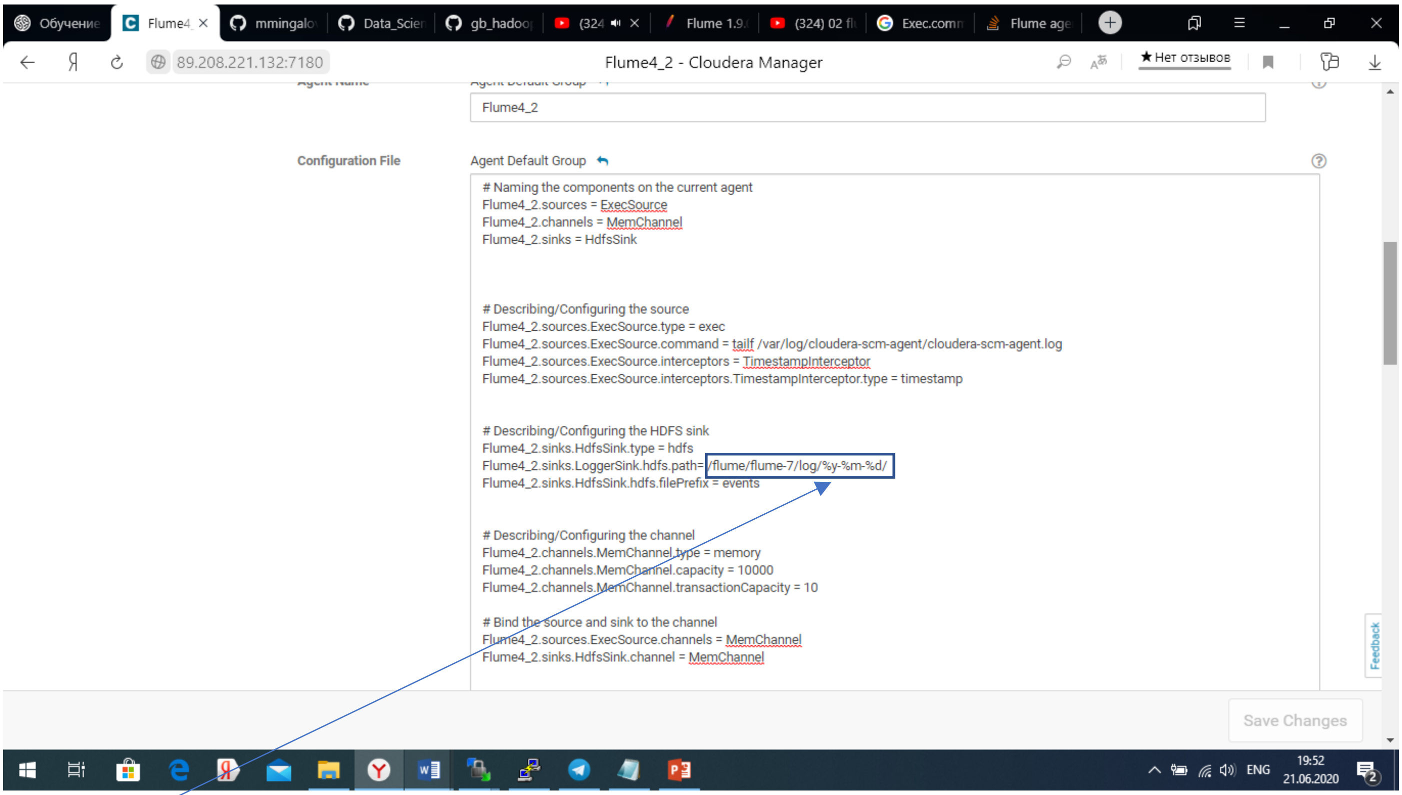
Completed 1 of 1 step(s).

● Show All Steps ○ Show Only Failed Steps ○ Show Running Steps

✓ Starting 1 roles on service Jun 21, 4:51:27 PM 22.35s
```
Successfully started 1 roles on service.
```
✓ Execute command Start this Agent on role Agent (node3) Agent (node3) Jun 21, 4:51:27 PM 22.34s

Close

Solr Service Flume4_2 (Service-Wide)
● none



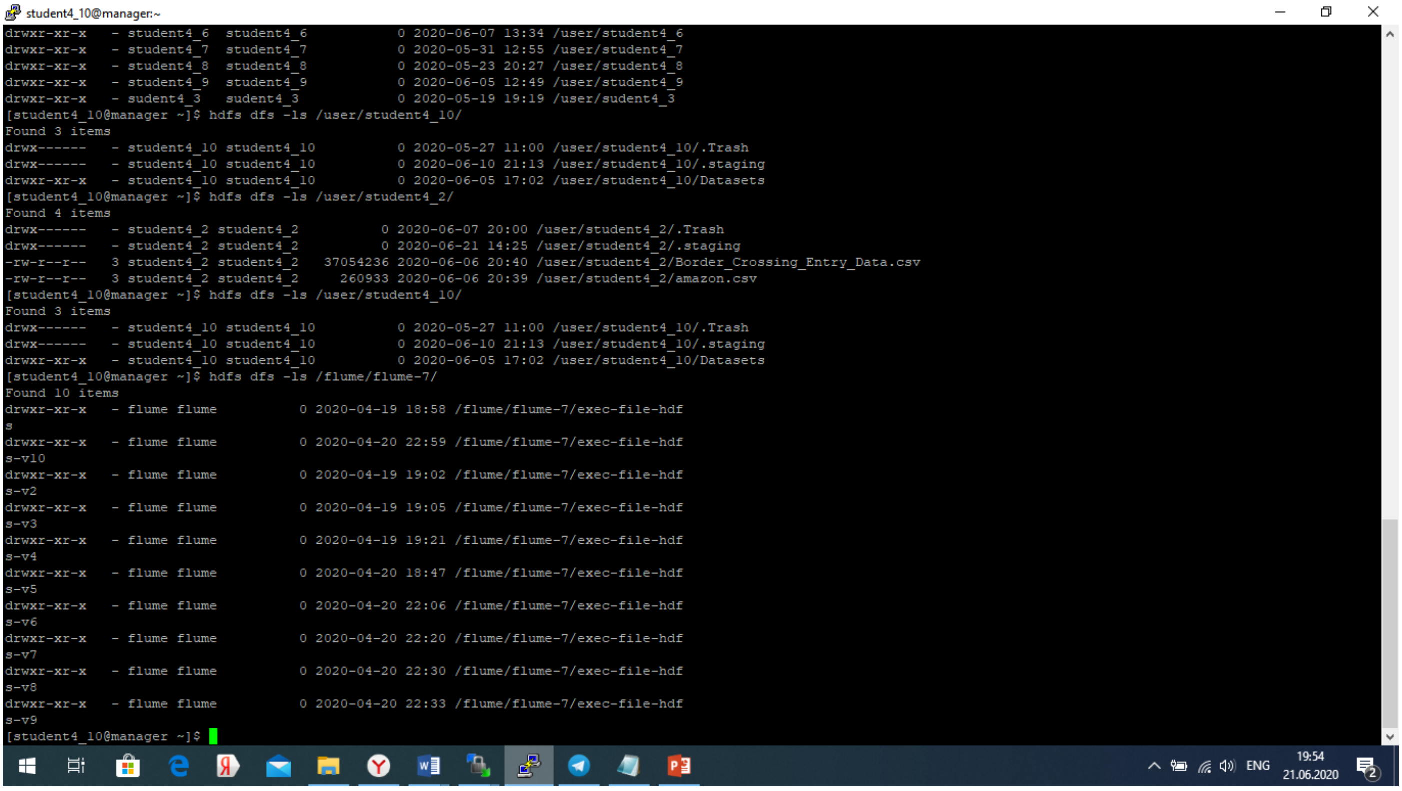
Flume4_2

Configuration File

Agent Default Group

```
# Naming the components on the current agent
Flume4_2.sources = ExecSource
Flume4_2.channels = MemChannel
Flume4_2.sinks = HdfsSink


# Describing/Configuring the source
Flume4_2.sources.ExecSource.type = exec
Flume4_2.sources.ExecSource.command = tailf /var/log/cloudera-scm-agent/cloudera-scm-agent.log
Flume4_2.sources.ExecSource.interceptors = TimestampInterceptor
Flume4_2.sources.ExecSource.interceptors.TimestampInterceptor.type = timestamp


# Describing/Configuring the HDFS sink
Flume4_2.sinks.HdfsSink.type = hdfs
Flume4_2.sinks.LoggerSink.hdfs.path= /flume/flume-7/log/%y-%m-%d/
Flume4_2.sinks.HdfsSink.hdfs.filePrefix = events


# Describing/Configuring the channel
Flume4_2.channels.MemChannel.type = memory
Flume4_2.channels.MemChannel.capacity = 10000
Flume4_2.channels.MemChannel.transactionCapacity = 10

# Bind the source and sink to the channel
Flume4_2.sources.ExecSource.channels = MemChannel
Flume4_2.sinks.HdfsSink.channel = MemChannel
```

Flume-7



```
drwxr-xr-x   - student4_6  student4_6           0 2020-06-07 13:34 /user/student4_6
drwxr-xr-x   - student4_7  student4_7           0 2020-05-31 12:55 /user/student4_7
drwxr-xr-x   - student4_8  student4_8           0 2020-05-23 20:27 /user/student4_8
drwxr-xr-x   - student4_9  student4_9           0 2020-06-05 12:49 /user/student4_9
drwxr-xr-x   - sudent4_3   sudent4_3            0 2020-05-19 19:19 /user/sudent4_3
[student4_10@manager ~]$ hdfs dfs -ls /user/student4_10/
Found 3 items
drwx------   - student4_10 student4_10          0 2020-05-27 11:00 /user/student4_10/.Trash
drwx------   - student4_10 student4_10          0 2020-06-10 21:13 /user/student4_10/.staging
drwxr-xr-x   - student4_10 student4_10          0 2020-06-05 17:02 /user/student4_10/Datasets
[student4_10@manager ~]$ hdfs dfs -ls /user/student4_2/
Found 4 items
drwx------   - student4_2 student4_2          0 2020-06-07 20:00 /user/student4_2/.Trash
drwx------   - student4_2 student4_2          0 2020-06-21 14:25 /user/student4_2/.staging
-rw-r--r--   3 student4_2 student4_2   37054236 2020-06-06 20:40 /user/student4_2/Border_Crossing_Entry_Data.csv
-rw-r--r--   3 student4_2 student4_2     260933 2020-06-06 20:39 /user/student4_2/amazon.csv
[student4_10@manager ~]$ hdfs dfs -ls /user/student4_10/
Found 3 items
drwx------   - student4_10 student4_10          0 2020-05-27 11:00 /user/student4_10/.Trash
drwx------   - student4_10 student4_10          0 2020-06-10 21:13 /user/student4_10/.staging
drwxr-xr-x   - student4_10 student4_10          0 2020-06-05 17:02 /user/student4_10/Datasets
[student4_10@manager ~]$ hdfs dfs -ls /flume/flume-7/
Found 10 items
drwxr-xr-x   - flume flume          0 2020-04-19 18:58 /flume/flume-7/exec-file-hdf
s
drwxr-xr-x   - flume flume          0 2020-04-20 22:59 /flume/flume-7/exec-file-hdf
s-v10
drwxr-xr-x   - flume flume          0 2020-04-19 19:02 /flume/flume-7/exec-file-hdf
s-v2
drwxr-xr-x   - flume flume          0 2020-04-19 19:05 /flume/flume-7/exec-file-hdf
s-v3
drwxr-xr-x   - flume flume          0 2020-04-19 19:21 /flume/flume-7/exec-file-hdf
s-v4
drwxr-xr-x   - flume flume          0 2020-04-20 18:47 /flume/flume-7/exec-file-hdf
s-v5
drwxr-xr-x   - flume flume          0 2020-04-20 22:06 /flume/flume-7/exec-file-hdf
s-v6
drwxr-xr-x   - flume flume          0 2020-04-20 22:20 /flume/flume-7/exec-file-hdf
s-v7
drwxr-xr-x   - flume flume          0 2020-04-20 22:30 /flume/flume-7/exec-file-hdf
s-v8
drwxr-xr-x   - flume flume          0 2020-04-20 22:33 /flume/flume-7/exec-file-hdf
s-v9
[student4_10@manager ~]$
```

Не работает