HDP Upgrade to 3.1.1

AOD Solution Delivery

Exported on 06/05/2020

Table of Contents

Murugesan Kumar[1]Murugesan Kumar[2] DEV Upgrade experience shared -execution/upgrade steps document at high level

Steps collected from

Kiruba Venkatesh[3] after UAT NX and UAT PROD upgrade and he also worked with HWX to resolve errors/issues, followed this and added bit more details after LIM PROD upgrade (details specific to UAT/PROD) by Midhun Polisetty[4]

Reference link: https://docs.hortonworks.com/HDPDocuments/Ambari-2.7.0.0/bk_ambari-upgrade/bk_ambari-upgrade.pdf

1. Create back up folder and useradd to cluster nodes

```
for i in `cat all_hosts.txt`; do echo $i;ssh $i mkdir /opt/backup; done
for i in `cat all_hosts.txt`; do echo $i;ssh $i chmod 777 /opt/backup; done
for i in `cat all_hosts.txt`; do echo $i;ssh $i ls -ld /opt/backup; done
for i in `cat all_hosts.txt`; do echo $i;ssh $i useradd yarn-ats; done -- this is for local id
```

2. Postgres Backup steps executed by Sudhakar Pawar[5] and make all backups are fine

```
pg_dump -U hive -f hive.sql
pg_dump -U oozie -f oozie.sql
pg_dump -U ranger -f ranger.sql
pg_dump -U rangerkms -f rangerkms.sql
pg_dump -U ambari ambari > /opt/backup/ambari-before-upgrade.sql
```

run the base backup from the crontab schedule.
Alternative command:
/usr/pgsql-9.6/bin/pg_dump -d hive -f /var/lib/pgsql/9.6/pgdumpbkps/hive.sql

3. disable all the older repos before installing
Disable list

```
HOSTING_Hortonworks_HDP_2_6_5_0
HOSTING_Hortonworks_HDP_2_6_4_0
HOSTING_Hortonworks_GPL_2_6_5_0
HOSTING_Hortonworks_GPL_2_6_4_0
HOSTING_Hortonworks_Hadoop_Utils_1_1_0_21
HOSTING_Hortonworks_Ambari_2_6_2_2
HOSTING_Hortonworks_Ambari_2_6_1_5
```

Enable list

```
HOSTING_Hortonworks_HDP_Utils_1_1_0_22
HOSTING_Hortonworks_Ambari_2_7_3_0
HOSTING_Hortonworks_HDP_3_1_0
HOSTING_Hortonworks_HDP_GPL_3_1_0_0
```

4.Backup steps

---

1 https://wiki.aciworldwide.com/display/~kumarmur
2 https://wiki.aciworldwide.com/display/~kumarmur
3 https://wiki.aciworldwide.com/display/~venkateshk
4 https://wiki.aciworldwide.com/display/~polisettym
5 https://wiki.aciworldwide.com/display/~pawars

From ambari server:
cp /etc/ambari-server/conf/ambari.properties /opt/backup/

Disable service auto restart from Ambari UI
Stop smartsense and turn on maintenance mode
stop ambari-metrics and turn on maintenance mode

yum info ambari-agent -- check before and after upgrade
Before:Version: 2.6.2.2
After version: 2.7.3.0

ambari-server stop – on all nodes
pg_dump -U ambari ambari > ambari-before-upgrade.sql
yum clean all
yum upgrade ambari-server -- form Ambari server
yum upgrade ambari-agent – on all nodes
ambari-server upgrade - from ambrai server
ambari-server start
ambari-agent start; done -- on all nodes

[root@nxp22hdpmst004 ~]# ambari-server setup-ldap
Using python /usr/bin/python
Enter Ambari Admin login: admin
Enter Ambari Admin password:
Fetching LDAP configuration from DB.
Primary LDAP Host (nxprdopnldp01.aod.local): nxprdopnldp01.aod.local
Primary LDAP Port (636): 636
Secondary LDAP Host <Optional>:
Secondary LDAP Port <Optional>:
Use SSL [true/false] (true): true
Disable endpoint identification during SSL handshake [true/false] (False): false
Do you want to provide custom TrustStore for Ambari [y/n] (y)?y
TrustStore type [jks/jceks/pkcs12] (jks):jks
Path to TrustStore file (/etc/security/certs/truststore.jks): /etc/security/certs/truststore.jks
Password for TrustStore:
Re-enter password:
User object class (posixAccount): posixAccount
User ID attribute (uid): uid
Group object class (posixGroup): posixGroup
Group name attribute (cn): cn
Group member attribute (memberUid): memberUid
Distinguished name attribute (dn): dn
Search Base (dc=aod,dc=local): dc=aod,dc=local
Referral method [follow/ignore] (follow): follow
Bind anonymously [true/false] (false): false
Bind DN (uid=ldap,ou=Services,dc=aod,dc=local): uid=ldap,ou=Services,dc=aod,dc=local
Enter Bind DN Password:
Confirm Bind DN Password:
Handling behavior for username collisions [convert/skip] for LDAP sync (skip): skip
Force lower-case user names [true/false]:false
Results from LDAP are paginated when requested [true/false]:false
==========
Review Settings
==========
Primary LDAP Host (nxprdopnldp01.aod.local): nxprdopnldp01.aod.local

Primary LDAP Port (636): 636
Use SSL [true/false] (true): true
User object class (posixAccount): posixAccount
User ID attribute (uid): uid
Group object class (posixGroup): posixGroup
Group name attribute (cn): cn
Group member attribute (memberUid): memberUid
Distinguished name attribute (dn): dn
Search Base (dc=aod,dc=local): dc=aod,dc=local
Referral method [follow/ignore] (follow): follow
Bind anonymously [true/false] (false): false
Handling behavior for username collisions [convert/skip] for LDAP sync (skip): skip
Force lower-case user names [true/false]: false
Results from LDAP are paginated when requested [true/false]: false
ambari.ldap.connectivity.bind_dn: uid=ldap,ou=Services,dc=aod,dc=local
ambari.ldap.connectivity.bind_password: *****
ambari.ldap.advanced.disable_endpoint_identification: false
ssl.trustStore.type: jks
ssl.trustStore.path: /etc/security/certs/truststore.jks
ssl.trustStore.password: *****
Save settings [y/n] (y)? y
Saving LDAP properties...
Saving LDAP properties finished
Ambari Server 'setup-ldap' completed successfully.

[root@nxp22hdpmst004 ~]# ambari-server setup --jdbc-db=postgres --jdbc-driver=/usr/share/java/postgresql-jdbc.jar
Using python /usr/bin/python
Setup ambari-server
Copying /usr/share/java/postgresql-jdbc.jar to /var/lib/ambari-server/resources/postgresql-jdbc.jar
If you are updating existing jdbc driver jar for postgres with postgresql-jdbc.jar. Please remove the old driver jar, from all hosts. Restarting services that need the driver, will automatically copy the new jar to the hosts.
JDBC driver was successfully initialized.
Ambari Server 'setup' completed successfully.
[root@nxp22hdpmst004 ~]#

5. on Active name node
su - srvhdfs
kinit -kt /etc/security/keytabs/hdfs.headless.keytab srvhdfs-xxxxx@AOD.LOCAL[6]
klist
hdfs fsck / -files -blocks -locations > /opt/backup/dfs-old-fsck-1.log
hdfs dfsadmin -report > /opt/backup/dfs-old-report-1.log
hdfs dfs -ls -R / > /opt/backup/dfs-old-lsr-1.log
hdfs dfsadmin -safemode enter
hdfs dfsadmin -saveNamespace
hdfs dfsadmin -safemode leave
cp -rp /grid/data1/hadoop/hdfs/namenode/current /opt/backup/

su - srvhdfs
kinit

6 mailto:srvhdfs-xxxxx@AOD.LOCAL

hdfs dfsadmin -allowSnapshot /apps/hive/warehouse
hdfs dfs -createSnapshot /apps/hive/warehouse

Check beeline - before Upgrade
beeline> !connect jdbc:hive2://lmp22appedgv001.ise.pos.net:8443/;ssl=true;transportMode=http;httpPath=gateway/prodlmhdp/hive(see page 3)
Connecting to jdbc:hive2://lmp22appedgv001.ise.pos.net:8443/;ssl=true;transportMode=http;httpPath=gateway/prodlmhdp/hive(see page 3)
Enter username for jdbc:hive2://lmp22appedgv001.ise.pos.net:8443/;ssl=true;transportMode=http;httpPath=gateway/prodlmhdp/hive(see page 3): mpolisetty
Enter password for jdbc:hive2://lmp22appedgv001.ise.pos.net:8443/;ssl=true;transportMode=http;httpPath=gateway/prodlmhdp/hive(see page 3): **********
Connected to: Apache Hive (version 1.2.1000.2.6.5.0-292)
Driver: Hive JDBC (version 1.2.1000.2.6.5.0-292)
Transaction isolation: TRANSACTION_REPEATABLE_READ

Download the jar @ http://repo.hortonworks.com/content/repositories/releases/org/apache/hive/hive-pre-upgrade/3.1.0.3.0.0.0-1634/hive-pre-upgrade-3.1.0.3.0.0.0-1634.jar
move to /tmp
su - srvhive
kinit -kt /etc/security/keytabs/hive.service.keytab hive/lmp22hdpmst003.ise.pos.net[7]@AOD.LOCAL

run the command:
/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.161-2.b14.el7_4.x86_64/bin/java -Djavax.security.auth.useSubjectCredsOnly=false -cp /usr/hdp/current/hive-server2-hive2/lib/derby-10.10.2.0.jar:/usr/hdp/current/hive-server2-hive2/lib/*:/usr/hdp/current/hadoop/*:/usr/hdp/current/hadoop/lib/*:/usr/hdp/current/hadoop-mapreduce-client/*:/usr/hdp/current/hadoop-mapreduce-client/lib/*:/usr/hdp/2.6.5.0-292/hadoop-hdfs/*:/usr/hdp/2.6.5.0-292/hadoop-hdfs/lib/*:/usr/hdp/current/hadoop/etc/hadoop/*:/tmp/hive-pre-upgrade-3.1.0.3.0.0.0-1634.jar:/usr/hdp/current/hive-client/conf/conf.server:/usr/hdp/current/hive-metastore/lib/hive-metastore.jar:/usr/hdp/current/hive-metastore/lib/libthrift-0.9.3.jar:/usr/hdp/current/hadoop-client/hadoop-common.jar:/usr/hdp/current/hive-client/lib/hive-common.jar:/usr/hdp/current/hive-client/lib/commons-cli-1.2.jar:/usr/hdp/current/hadoop-client/lib/*[8] org.apache.hadoop.hive.upgrade.acid.PreUpgradeTool -execute &> /var/log/hive/pre_upgrade-3.log
The above command was successful and "No compaction was necessary"

5.1 Run service checks on Ambari and resolve if any errors

6. Register the HDP version, use 3.1.0.0-78 and register using redhat satellite repo. Make sure the repo name in Ambari matches the repo ID of the satellite server.
proceed with the install of HDP bits.

Upgrade ambari-metrics:
for i in `cat all_hosts.txt`; do echo $i;ssh $i yum -y upgrade ambari-metrics-monitor ambari-metrics-hadoop-sink; done
on mst003:
yum -y upgrade ambari-metrics-collector
yum -y upgrade ambari-metrics-grafana

---

7 http://lmp22hdpmst003.ise.pos.net

8 http://jar/usr/hdp/current/hive-server2-hive2/lib/*:/usr/hdp/current/hadoop/*:/usr/hdp/current/hadoop/lib/*:/usr/hdp/current/hadoop-mapreduce-client/*:/usr/hdp/current/hadoop-mapreduce-client/lib/*:/usr/hdp/2.6.5.0-292/hadoop-hdfs/*:/usr/hdp/2.6.5.0-292/hadoop-hdfs/lib/*:/usr/hdp/current/hadoop/etc/hadoop/*:/tmp/hive-pre-upgrade-3.1.0.3.0.0.0-1634.jar:/usr/hdp/current/hive-client/conf/conf.server:/usr/hdp/current/hive-metastore/lib/hive-metastore.jar:/usr/hdp/current/hive-metastore/lib/libthrift-0.9.3.jar:/usr/hdp/current/hadoop-client/hadoop-common.jar:/usr/hdp/current/hive-client/lib/hive-common.jar:/usr/hdp/current/hive-client/lib/commons-cli-1.2.jar:/usr/hdp/current/hadoop-client/lib/*

smartsense upgrade:
yum clean all
yum info smartsense-hst
for i in `cat all_hosts.txt`; do echo $i;ssh $i yum -y upgrade smartsense-hst; done
for i in `cat all_hosts.txt`; do echo $i;ssh $i rpm -qa | grep smartsense-hst; done

On Ambari-server(mst004),
hst upgrade-ambari-service
ambari-server restart

[root@nxu22hdpmst003 ~]# ambari-server setup-security
Using python /usr/bin/python
Security setup options...
===
Choose one of the following options:
[1] Enable HTTPS for Ambari server.
[2] Encrypt passwords stored in ambari.properties file.
[3] Setup Ambari kerberos JAAS configuration.
[4] Setup truststore.
[5] Import certificate to truststore.
===
Enter choice, (1-5): 2
Please provide master key for locking the credential store:xxxxxx

Re-enter master key:xxxxxxx
Do you want to persist master key. If you choose not to persist, you need to provide the Master Key while starting the ambari server as an env variable named AMBARI_SECURITY_MASTER_KEY or the start will prompt for the master key. Persist [y/n] (y)? y
Adjusting ambari-server permissions and ownership...
Ambari Server 'setup-security' completed successfully.
[root@nxu22hdpmst003 ~]#

ambari-server restart

Ex for lim prod:
[root@lmp22hdpmst004 ~]# curl -H "X-Requested-By:ambari" -u admin -X POST -d '{ "Credential" : { "principal" : "hadoopadmin/admin@AOD.LOCAL", "key" : "xxxxxxx", "type" : "persisted" } }' http://lmp22hdpmst004.ise.pos.net:8080/api/v1/clusters/PRODLIMHDP/credentials/kdc.admin.credential
Enter host password for user 'admin':
curl -H "X-Requested-By:ambari" -u admin -X GET http://lmp22hdpmst004.ise.pos.net:8080/api/v1/clusters/PRODLIMHDP/credentials/kdc.admin.credential
Enter host password for user 'admin':
{
"href" : "http://lmp22hdpmst004.ise.pos.net:8080/api/v1/clusters/PRODLIMHDP/credentials/kdc.admin.credential",
"Credential" : {
"alias" : "kdc.admin.credential",
"cluster_name" : "PRODLIMHDP",
"type" : "persisted"
}

6.1 Upgrade ambari-infra-solr-client on ONE host where infra-solr-instance is running..
yum upgrade ambari-infra-solr-client -y (run on server where infra solr client)

export CONFIG_INI_LOCATION=ambari_solr_migration.ini

and run below command
[root@nxu22hdpmst003 ~]# /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationConfigGenerator.py --ini-file $CONFIG_INI_LOCATION --host nxu22hdpmst003.ise.pos.net[9] --port 8080 --cluster UATNXHDP --username admin --password xxxxxxx --backup-base-path=/opt/infra-solr-backup --java-home /usr/lib/jvm/java-1.8.0-openjdk-1.8.0.161-2.b14.el7_4.x86_64 --ranger-hdfs-base-path=/ranger/audit

Start generating config file: ambari_solr_migration.ini ...
Get Ambari cluster details ...
Set JAVA_HOME: /usr/lib/jvm/java-1.8.0-openjdk-1.8.0.161-2.b14.el7_4.x86_64
Service detected: ZOOKEEPER
Zookeeper connection string: nxu22hdpmst001.ise.pos.net[10]:2181,nxu22hdpmst002.ise.pos.net[11]:2181,nxu22hdpmst003.ise.pos.net[12]:2181
Service detected: AMBARI_INFRA_SOLR
Infra Solr znode: /infra-solr
Service detected: RANGER
Ranger Solr collection: ranger_audits
Ranger backup path: /opt/infra-solr-backup/ranger
Kerberos: enabled
Config file generation has finished successfully
[root@nxu22hdpmst003 ~]#

Backup of Ambari infra solr
[root@nxu22hdpmst003 ~]# **/usr/lib/ambari-infra-solr-client/ambariSolrMigration.sh --ini-file $CONFIG_INI_LOCATION --mode backup | tee backup_output.txt**
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file ambari_solr_migration.ini --action check-shards
Dumping collections data to /usr/lib/ambari-infra-solr-client/migrate/data/check_collections.json ... DONE
Checking available shards for 'ranger_audits' collection...

Number of shards: 6
OK: Found active leader replica for shard6
OK: Found active leader replica for shard4
OK: Found active leader replica for shard5
OK: Found active leader replica for shard2
OK: Found active leader replica for shard3
OK: Found active leader replica for shard1
Index size per shard for ranger_audits:
- shard6: 1.96 GB
- shard4: 2.06 GB
- shard5: 1.66 GB
- shard2: 1.91 GB
- shard3: 1.84 GB
- shard1: 1.9 GB
Index size per host for ranger_audits (consider this for backup):

9 http://nxu22hdpmst003.ise.pos.net
10 http://nxu22hdpmst001.ise.pos.net
11 http://nxu22hdpmst002.ise.pos.net
12 http://nxu22hdpmst003.ise.pos.net

- nxu22hdpmst001.ise.pos.net[13]: 7.37 GB
- nxu22hdpmst003.ise.pos.net[14]: 3.96 GB

Command elapsed time: 00:00:05

Migration helper command FINISHED
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file ambari_solr_migration.ini --action upgrade-solr-clients
Sending upgrade request: [Upgrade Solr Clients] DONE
Upgrade command request id: 2236
Start monitoring Ambari request with id 2236 .....
Request (id: 2236) COMPLETED
Upgrade Solr Clients... DONE

Command elapsed time: 00:00:19

Migration helper command FINISHED
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file ambari_solr_migration.ini --action check-docs
Dumping collections data to /usr/lib/ambari-infra-solr-client/migrate/data/check_docs_collections.json ... DONE
Get the number of documents per collections ...
Collection: 'ranger_audits' - Number of docs: 88858325

Command elapsed time: 00:00:01

Migration helper command FINISHED
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file ambari_solr_migration.ini --action backup
Transferring data from /infra-solr/configs/ranger_audits to /infra-solr/configs/old_ranger_audits ... DONE
Dumping collections data to /usr/lib/ambari-infra-solr-client/migrate/data/backup_collections.json ... DONE
Sending backup collection request ('ranger_audits') to Ambari to process (backup destination: '/opt/infra-solr-backup/ranger')...DONE
Backup command request id: 2237
Start monitoring Ambari request with id 2237 .....
Request (id: 2237) COMPLETED
Backup collection 'ranger_audits'... DONE

Command elapsed time: 00:00:56

Migration helper command FINISHED
Total Runtime: 00:01:23
[root@nxu22hdpmst003 ~]#

Delete command

[root@nxu22hdpmst003 ~]# **/usr/lib/ambari-infra-solr-client/ambariSolrMigration.sh --ini-file $CONFIG_INI_LOCATION --mode delete | tee delete_output.txt**
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file ambari_solr_migration.ini --action upgrade-solr-clients
Sending upgrade request: [Upgrade Solr Clients] DONE

13 http://nxu22hdpmst001.ise.pos.net
14 http://nxu22hdpmst003.ise.pos.net

```
Upgrade command request id: 2238
Start monitoring Ambari request with id 2238 ......
Request (id: 2238) COMPLETED
Upgrade Solr Clients... DONE
------------------------------
Command elapsed time: 00:00:19
------------------------------
Migration helper command FINISHED
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file
ambari_solr_migration.ini --action check-docs
Dumping collections data to /usr/lib/ambari-infra-solr-client/migrate/data/check_docs_collections.json ... DONE
Get the number of documents per collections ...
Collection: 'ranger_audits' - Number of docs: 88866613
------------------------------
Command elapsed time: 00:00:01
------------------------------
Migration helper command FINISHED
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file
ambari_solr_migration.ini --action delete-collections
Dumping collections data to /usr/lib/ambari-infra-solr-client/migrate/data/delete_collections.json ... DONE
Deleting collection ranger_audits request sent. DONE
Start monitoring Solr request with id 74094 ........
Solr response message: found [74094] in completed tasks
Async Solr request (id: 74094) COMPLETED
Transferring data from /usr/lib/ambari-infra-solr-client/migrate/managed-schema to /infra-solr/configs/
ranger_audits/managed-schema ... DONE
------------------------------
Command elapsed time: 00:00:28
------------------------------
Migration helper command FINISHED
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file
ambari_solr_migration.ini --action upgrade-solr-instances
Sending upgrade request: [Upgrade Solr Instances] DONE
Upgrade command request id: 2239
Start monitoring Ambari request with id 2239 ..........
Request (id: 2239) COMPLETED
Upgrade Solr Instances... DONE
------------------------------
Command elapsed time: 00:00:39
------------------------------
Migration helper command FINISHED
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file
ambari_solr_migration.ini --action restart-solr
Sending 'RESTART' request: [Restart INFRA_SOLR] DONE
Restart command request id: 2240
Start monitoring Ambari request with id 2240 ......
Request (id: 2240) COMPLETED
Restart INFRA_SOLR... DONE
------------------------------
Command elapsed time: 00:00:19
------------------------------
Migration helper command FINISHED
Waiting 15 seconds before next step ...
```

```
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file
ambari_solr_migration.ini --action restart-ranger
Sending 'RESTART' request: [Restart RANGER_ADMIN] DONE
Restart command request id: 2241
Start monitoring Ambari request with id 2241 .....
Request (id: 2241) COMPLETED
Restart RANGER_ADMIN... DONE
------------------------------
Command elapsed time: 00:00:34
------------------------------
Migration helper command FINISHED
Waiting 15 seconds before next step ...
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file
ambari_solr_migration.ini --action upgrade-logsearch-portal
LOGSEARCH service has not found in the config or filtered out.
------------------------------
Command elapsed time: 00:00:00
------------------------------
Migration helper command FINISHED
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file
ambari_solr_migration.ini --action upgrade-logfeeders
LOGSEARCH service has not found in the config or filtered out.
------------------------------
Command elapsed time: 00:00:00
------------------------------
Migration helper command FINISHED
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file
ambari_solr_migration.ini --action restart-logsearch
LOGSEARCH service has not found in the config or filtered out.
------------------------------
Command elapsed time: 00:00:00
------------------------------
Migration helper command FINISHED
Waiting 15 seconds before next step ...
Execute command: /usr/bin/python /usr/lib/ambari-infra-solr-client/migrationHelper.py --ini-file
ambari_solr_migration.ini --action restart-atlas
ATLAS service has not found in the config or filtered out.
------------------------------
Command elapsed time: 00:00:00
------------------------------
Migration helper command FINISHED
Waiting 15 seconds before next step ...
Total Runtime: 00:03:22
[root@nxu22hdpmst003 ~]#
```

6.3 Upgrade HDP to Registered version
Browse to Cluster Admin > Stack and Versions> Click the Versions tab.
The registered and installed target HDP version displays an Upgrade button > click Upgrade on the target version
Select the Express Upgrade method. (Only supported method for upgrading from HDP
2.6 to 3.0)

During upgrade: (From Ranger admin host)
export JAVA_HOME=/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.161-2.b14.el7_4.x86_64

export RANGER_ADMIN_HOME=/usr/hdp/3.1.0.0-78/ranger-admin
su - srvranger
kinit -kt /etc/security/keytabs/rangeradmin.service.keytab rangeradmin/lmp22hdpmst004.ise.pos.net[15]@AOD.LOCAL
export JAVA_HOME=/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.161-2.b14.el7_4.x86_64
export RANGER_ADMIN_HOME=/usr/hdp/3.1.0.0-78/ranger-admin
/usr/bin/python /usr/hdp/3.1.0.0-78/ranger-admin/db_setup.py -javapatch
output :
'Ranger 1.2.0.3.1.0.0-78', current_timestamp, 'lmp22hdpmst004.ise.pos.net[16]','Y') ;"
2019-03-12 16:49:14,013 [I] JAVA_PATCHES status entry to x_db_version_h table completed

To update the ranger admin password in two places as per the document below.
https://docs.hortonworks.com/HDPDocuments/HDP2/HDP-2.6.5/bk_security/content/updating_ranger_admin_passwords.html

6.4 Post Upgrade tasks:
Please follow below steps after successful upgrade
Please update passwords for Ranger Usersync, Tagsync and Keyadmin under Ranger Service Config Tab from Ambari. Otherwise Ranger Admin restart will fail after upgrade.
*Also make sure /etc/ranger/admin/conf/ranger-admin-keystore.jks set for Advanced ranger-admin-site,Advanced ranger-ugsync-site (UAT/PROD specific)
Regenerating missing keytabs failed due to yarn-ats account not being there(if required)
keyadmin (Ranger UI keyadmin) password - change to same as Ranger

7. Change user from srvyarn-ats to srvsrvyarn-ats

[root@nxu22hdpmst003 scripts]# pwd (Ambari-server)
/var/lib/ambari-server/resources/scripts
[root@nxu22hdpmst003 scripts]# ./configs.py -a get -l localhost -t 8080 -n PRODLIMHDP -u admin -p 'xxxx' -c yarn-env |grep -i yarn_ats_user
"yarn_ats_user": "srvyarn-ats",
(or)
/var/lib/ambari-server/resources/scripts/configs.py --port=8080 --protocol=http --action=set --host=localhost --cluster=PRODLIMHDP --config-type=yarn-env --user=admin --password='xxx --key=yarn_ats_user --value=srvyarn-ats

[root@nxu22hdpmst003 scripts]# ./configs.py -a set -l localhost -t 8080 -n PRODLIMHDP -u admin -p 'xxxx' -c yarn-env -k yarn_ats_user -v srvyarn-ats
2019-02-22 07:20:31,181 INFO ### Performing "set":
2019-02-22 07:20:31,181 INFO ### new property - "yarn_ats_user":"srvyarn-ats"
2019-02-22 07:20:31,205 INFO ### on (Site:yarn-env, Tag:version1550722946337)
2019-02-22 07:20:31,210 INFO ### PUTting json into: doSet_version1550838031210403.json
2019-02-22 07:20:31,779 INFO ### NEW Site:yarn-env, Tag:version1550838031210403

7.1 After that we have changed the yarn-ats user reference in the kerberos descriptor in configs
--> In Ambari -> Kerberos -> General, change yarn_ats_user_keytab to include the new user (srvyarn-ats)name instead of yarn-ats.
--> In Ambari -> Kerberos -> Advanced -> YARN, change hbase.master.kerberos.principal, hbase.master.keytab.file,

15 http://lmp22hdpmst004.ise.pos.net
16 http://lmp22hdpmst004.ise.pos.net

hbase.regionserver.kerberos.principal and hbase.regionserver.keytab.file properties to include the new user name (srvyarn-ats) instead of yarn-ats.
- Regenerate keytabs

checks after changing the user :/usr/hdp/3.1.0.0-78/hadoop/conf/embedded-yarn-ats-hbase/yarn_hbase_master_jaas.conf
check if any service under ps -ef | grep ^yarn-ats (it should be none) all yarn-ats services should be run under srvyarn-ats (ps -ef | grep ^srvyarn-ats)
(to resolve yarn timeline server start error: removed old-- hdfs dfs -rm -r -skipTrash /atsv2/hbase/data and kill process ps -ef | ^yarn-ats manually then restart services ..

7.2 Post upgrade Tasks:
Ambari Infra-Migrate & Restore
cd /root
export CONFIG_INI_LOCATION=ambari_solr_migration.ini
nohup /usr/lib/ambari-infra-solr-client/ambariSolrMigration.sh --ini-file $CONFIG_INI_LOCATION --mode migrate-restore --keep-backup > migrate_restore_output.txt 2>&1 &
tail -f migrate_restore_output.txt
nohup /usr/lib/ambari-infra-solr-client/ambariSolrMigration.sh --ini-file $CONFIG_INI_LOCATION --mode transport > transport_output.txt 2>&1 &
tail -f transport_output.txt
(Open ticket with HWX)

Migrate Ambari Metrics Data
log to Metrics collector host
su - srvams
/usr/sbin/ambari-metrics-collector --config /etc/ambari-metrics-collector/conf/ upgrade_start /etc/ambari-metrics-collector/conf/metrics_whitelist

changes to hive warehouse directory in HDP 3.1 --check and verify (warehouse dir:/warehouse/tablespace/managed/hive[17] and external: /warehouse/tablespace/external/hive)
configured Hive LLAP HA from Ambari. --Ticket with HWX

8. Hive DARE:
su - srvhdfs
kinit (ex:srvhdfs-prodlimhdp@AOD.LOCAL)
hdfs dfs -mv /warehouse/tablespace /warehouse/tablespace-old
hdfs dfs -mkdir /warehouse/tablespace
hdfs crypto -createZone -keyName hiveencryption -path /warehouse/tablespace
hdfs crypto -listZones

Ranger policies:

created a ranger policy to allow srvhive to access the hive warhouse directory --compare the Ranger (HDFS and YARN) in NX

HDFS Encryption

hadoop distcp -skipcrccheck -update -prbugpx /warehouse/tablespace-old /warehouse/tablespace (run as srvhdfs, added srvhdfs to yarn policy to allow its access to default queue.)
hdfs dfs -ls /warehouse/tablespace
hdfs dfs -mkdir /warehouse/tablespace/tmp

17 http://dir/warehouse/tablespace/managed/hive

hdfs dfs -chown srvhive:srvhdfs /warehouse/tablespace/tmp
hdfs dfs -chmod 777 /warehouse/tablespace/tmp
hdfs dfs -ls -d /warehouse/tablespace/tmp

Login to Ambari -> Hive configs -> change the "hive.exec.scratchdir" to "/warehouse/tablespace/tmp" -> save and restart all services require restart.

start demo LDAP of KNOX
changed the knox topology for LLAP HA.- HWX ticket (pending)

check and verify:
CREATE TABLE students (name VARCHAR(64), age INT, gpa DECIMAL(3,2));
INSERT INTO TABLE students VALUES ('fred flintstone', 35, 1.28), ('barney rubble', 32, 2.32);

9. check all UI's and access to components

HWX Support Tickets (for all environments):

Issue with infra solr historic audit data migration/re-indexing.—HWX ticket

LLAP HA not working – HWX ticket

check Knox topology update for hive LLAP HA

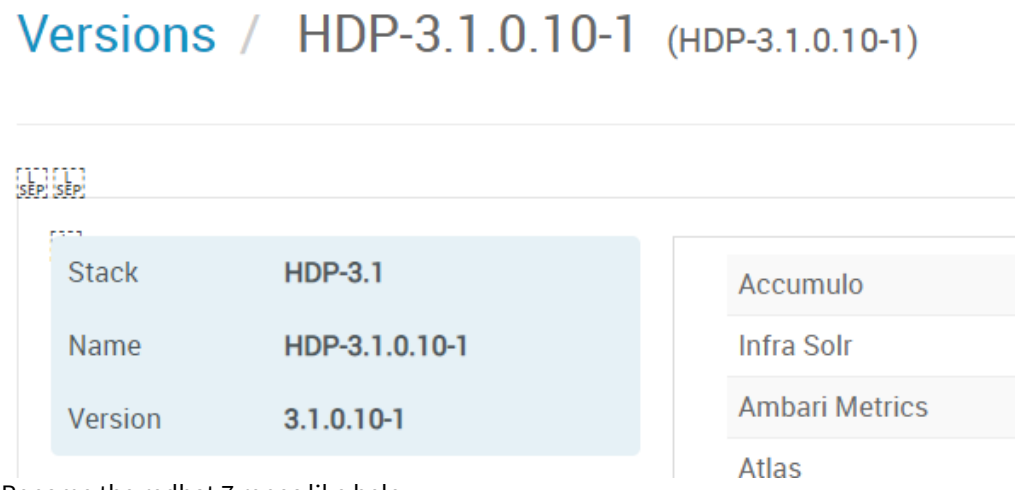
timeline service error in RM UI (Flow activity tab) – HWX ticket

queue creation in Prod clusters and assigning the BIG queue for LLAP.

Applying the patch which Murugesan is working on in DEV/PERF cluster.

1 HDP Patch upgrade from 3.1.0.0-78 to 3.1.0.10-1

1. The patch released from this repo file from HWX link[18].
2. Down load the repo to the satellite server and update the same in all the nodes of the cluster redhat.repo file.
3. Install this patch version in Ambari like below:



4. Rename the redhat 7 repos like below:
   ACI_CorpIT_HortonWorks-HDP_HDP-UTILS-1_1_0_22
   ACI_CorpIT_HortonWorks-HDP_HDP-3_1_0_10-1
5. Select the "Use RedHat Satellite/Spacewalk" checkbox to download from our installed Satellite repository server.
6. Post registration, start install in all the nodes.
   Note: Make sure that the nodes are installed the correct version of packages to each services(3.1.0.10-1). If not repo issues to be fixed at the particular node(s).
7. After the successful installation, do the service check of each Hadoop services manually(as part of pre-requisite).
8. Take the metastore back of Hive, Ranger DB and Ambari DB dumps from Postgres.
9. Start the upgrade Rolling or Express upgrade as per the convenient cluster downtime.
10. In PD environment, we face MapReduce and Spark service check failures. Checked with HWX that the Ambari upgrade script couldnt able to execute on those services which can be ignored. We ignored and proceeded.
11. Post upgrade we cross checked the service checks in each HDFS services along with the sanity checks.
12. But this upgrade unable to replace the old jars in the /usr/hdp/current directory of all the nodes. Checked with HWX that this is a package issue which we do manually the softlink as a workaround.
    Eg:
    lrwxrwxrwx 1 root root 26 Jan 30 02:48 spark2-historyserver -> /usr/hdp/3.1.0.0-78/spark2
    Changed through manually,
    unlink spark2-historyserver;ln -s /usr/hdp/3.1.0.10-1/spark2

18 http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.10-1/hdp.repo

2 Apply DEV jar for Vetex Issues reported as BUG:

Problem Reported:

When we run the following UPDATE query, our LLAP containers are getting killed one by one (6 container nodes in PERF) and finally threw:

UPDATE redi.bi_trans_master_core SET subclientname = 'ReSubmits' WHERE clientdateyyyymmdd='20190509' AND clientid = '000094' AND subclientid = '010002' ;

ERROR : Dag received [DAG_TERMINATE, SERVICE_PLUGIN_ERROR] in RUNNING state.

ERROR : Error reported by TaskScheduler [[2:LLAP]][SERVICE_UNAVAILABLE] No LLAP Daemons are running

ERROR : Vertex killed, vertexName=Reducer 2, vertexId=vertex_1555911303054_0268_2648_01, diagnostics=[Vertex received Kill while in RUNNING state., Vertex did not succeed due to DAG_TERMINATED, failedTasks:0 killedTasks:1, Vertex vertex_1555911303054_0268_2648_01 [Reducer 2] killed/failed due to:DAG_TERMINATED]

Solution:

HWX provided the temporary DEV jar[19] to fix this issue. Already we applied in the PERF environment and LLAP daemon works fine as expected.

Case Reference #00213668[20]

Steps to apply the JAR only in the LLAP node:

1. Stop all Hive services
2. Take the backup of existing jars from below path

   /usr/hdp/3.1.0.22-3/hive/lib/hive-common-3.1.0.3.1.0.22-3.jar

   /usr/hdp/3.1.0.22-3/hive/lib/ hive-exec-3.1.0.3.1.0.22-3.jar

   /usr/hdp/3.1.0.22-3/hive/lib/ orc-core-1.5.1.3.1.0.22-3.jar

3. Replace it with new dev jars attached in case to /usr/hdp/3.1.0.22-3/hive/lib/
4. Make sure the permissions of newly replaced jar files are correct & below symbolic links are pointing to correct jar.

   /usr/hdp/3.1.0.22-3/hive/lib/hive-exec.jar

   /usr/hdp/3.1.0.22-3/hive/lib/hive-common.jar

   hive-common.jar -> /usr/hdp/3.1.0.22-3/hive/lib/hive-common-3.1.0.3.1.0.10-1.jar

   hive-exec.jar -> /usr/hdp/3.1.0.22-3/hive/lib/hive-exec-3.1.0.3.1.0.10-1.jar

5. Start Hive Services & test the failing query.

HDP 3.1.0.103-1 patch upgrade guide:

Download the repo in Satellite server as per the repo links shared

19 https://wiki.aciworldwide.com/download/attachments/269041639/BUG-107745_Dev_Jars.zip?api=v2&modificationDate=1561447263150&version=1

20 https://support.hortonworks.com/s/case/5002R000013NFoYQAW/detail

centos7_vdf: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.103-1/HDP-3.1.0.103-1.xml

centos7_rpm_tar: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.103-1/HDP-3.1.0.103-1-centos7-rpm.tar.gz

centos7_hdp_gpl: http://private-repo-1.hortonworks.com/HDP-GPL/centos7/3.x/updates/3.1.0.103-1/hdp.gpl.repo

centos7: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.103-1/hdp.repo

centos7_tars_tar: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.103-1/HDP-3.1.0.103-1-centos7-tars-tarball.tar.gz

centos7_gpl_tar: http://private-repo-1.hortonworks.com/HDP-GPL/centos7/3.x/updates/3.1.0.103-1/HDP-GPL-3.1.0.103-1-centos7-gpl.tar.gz

Post downloaded, register as New version in Ambari and start rolling/Express upgrade.

In between upgrade, we would face the issues to bring up the LLAP services alone.

So pause the upgrade and edit the following file in LLAP node.

there is the node lables causing the issue. Need to remove the following lines from the templates.py file /usr/hdp/current/hive-server2-hive/scripts/llap/yarn/templates.py

generally in LLAP node it must be removed.

```
"placement_policy": {
"constraints": [
{
"type": "ANTI_AFFINITY",
"scope": "NODE",
"target_tags": [
"llap"
]
}
]
},
```

Once done, start the LLAP services from the Hive summary page. Once LLAP is UP then resume the upgrade process.

Post upgrade, remove the following workaround provided for the ArrayIndexOutofBound exception.

custom spark2-defaults:

spark.sql.hive.hiveserver2.jdbc.url

remove the

?hive.vectorized.execution.filesink.arrow.native.enabled=false

HDP 3.1.0.126-1 patch upgrade guide:

Download the repo in Satellite server as per the repo links shared

Patch 1:

centos7_vdf: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.126-1/HDP-3.1.0.126-1.xml

centos7_rpm_tar: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.126-1/HDP-3.1.0.126-1-centos7-rpm.tar.gz

centos7_hdp_gpl: http://private-repo-1.hortonworks.com/HDP-GPL/centos7/3.x/updates/3.1.0.126-1/hdp.gpl.repo

centos7: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.126-1/hdp.repo

centos7_tars_tar: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.126-1/HDP-3.1.0.126-1-centos7-tars-tarball.tar.gz

centos7_gpl_tar: http://private-repo-1.hortonworks.com/HDP-GPL/centos7/3.x/updates/3.1.0.126-1/HDP-GPL-3.1.0.126-1-centos7-gpl.tar.gz

Post downloaded, register as New version in Ambari and start rolling/Express upgrade.

In between upgrade, we would face the issues to bring up the LLAP services alone.

So pause the upgrade and edit the following file in LLAP node.

there is the node lables causing the issue. Need to remove the following lines from the templates.py file /usr/hdp/current/hive-server2-hive/scripts/llap/yarn/templates.py

generally in LLAP node it must be removed.

```
"placement_policy": {
"constraints": [
{
"type": "ANTI_AFFINITY",
"scope": "NODE",
"target_tags": [
"llap"
]
}
]
},
```

Once done, start the LLAP services from the Hive summary page. Once LLAP is UP then resume the upgrade process.

for i in `cat hosts.all`; do echo $i;ssh $i "hdp-select set all 3.1.0.126-1"; done

Patch 2:

Post this patch,

We reported as the Ingestion job failure and fixed through the DEV jar which I attached here.

This is the Warehouse connector dev jar which needs to change in the Spark-submit code for all the jobs.

Patch3:

In addition to that, LLAP containers unstable(Case # 00234501) reported with them when we run the IBI concurrent users test load. For this too, we received the DEV jar patch from HWX.

This is the hive-llap-server jar[21], which needs to copy in all the nodes and reconfigure the symbolic link.

21 https://wiki.aciworldwide.com/download/attachments/269041639/hive-llap-server-3.1.0.126-EAR11089-SNAPSHOT.jar?api=v2&modificationDate=1566206585010&version=1

unlink hive-llap-server.jar

ln -s hive-llap-server-3.1.0.126-EAR11089-SNAPSHOT.jar hive-llap-server.jar

Give the permission for this jar as '644' to bring up the LLAP daemon (otherwise we get class not found exception to start the same)

HDP 3.1.0.158-1 patch upgrade guide:

Download the repo in Satellite server as per the repo links shared:

centos7_vdf: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.158-1/HDP-3.1.0.158-1.xml
centos7_rpm_tar: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.158-1/HDP-3.1.0.158-1-centos7-rpm.tar.gz
centos7_hdp_gpl: http://private-repo-1.hortonworks.com/HDP-GPL/centos7/3.x/updates/3.1.0.158-1/hdp.gpl.repo
centos7: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.158-1/hdp.repo
centos7_tars_tar: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.158-1/HDP-3.1.0.158-1-centos7-tars-tarball.tar.gz
centos7_gpl_tar: http://private-repo-1.hortonworks.com/HDP-GPL/centos7/3.x/updates/3.1.0.158-1/HDP-GPL-3.1.0.158-1-centos7-gpl.tar.gz

Make sure that the templates.py file to be modified to bring up the LLAP services.

In between upgrade, we would face the issues to bring up the LLAP services alone.

So pause the upgrade and edit the following file in LLAP node.

there is the node lables causing the issue. Need to remove the following lines from the templates.py file
/usr/hdp/current/hive-server2-hive/scripts/llap/yarn/templates.py

generally in LLAP node it must be removed.

```
"placement_policy": {
"constraints": [
{
"type": "ANTI_AFFINITY",
"scope": "NODE",
"target_tags": [
"llap"
]
}
]
},
```

Once done, start the LLAP services from the Hive summary page. Once LLAP is UP then resume the upgrade process.

Post upgrade do the following parameters include in the spark-submit as per the Engineering team's recommendations:

spark.datasource.hive.warehouse.disable.pruning.and.pushdowns=false

spark.datasource.hive.warehouse.use.spark23x.specific.reader=true

HDP 3.1.0.175-5 patch upgrade guide:

Download the repo in Satellite server as per the repo links shared:

centos7_vdf: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.175-5/HDP-3.1.0.175-5.xml
centos7: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.175-5/hdp.repo
centos7_hdp_gpl: http://private-repo-1.hortonworks.com/HDP-GPL/centos7/3.x/updates/3.1.0.175-5/hdp.gpl.repo
centos7_rpm_tar: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.175-5/HDP-3.1.0.175-5-centos7-rpm.tar.gz
centos7_tars_tar: http://private-repo-1.hortonworks.com/HDP/centos7/3.x/updates/3.1.0.175-5/HDP-3.1.0.175-5-centos7-tars-tarball.tar.gz
centos7_gpl_tar: http://private-repo-1.hortonworks.com/HDP-GPL/centos7/3.x/updates/3.1.0.175-5/HDP-GPL-3.1.0.175-5-centos7-gpl.tar.gz

Before upgrade there is a special work-around instruction provided for this hotfix upgrade:

IMPORTANT: Please make sure that you have a HiveServer2 instance on the same host as the HiveServer2 Interactive.
If you don't have it, please add it through Ambari BEFORE applying the hotfix release. After the upgrade, you can go ahead and delete that HS2 instance if you wish.

In DEV,

We have single LLAP daemon with HS2 in the same node (masternode1). Due that this workaround didn't require and completed the upgrade activity.

In PERF,

For llap0 runs on the masternode3 where one of the HS2 resides.

But llap1 runs on the masternode4 which we don't have the HS2 (runs on masternode2). So I installed the HS2 as one more service in the masternode4 and started the upgrade activity. Once the successful up gradation I uninstalled the same from masternode4.

Make sure that the templates.py file to be modified to bring up the LLAP services.

In between upgrade, we would face the issues to bring up the LLAP services alone.

So pause the upgrade and edit the following file in LLAP node.

there is the node lables causing the issue. Need to remove the following lines from the templates.py file **/usr/hdp/current/hive-server2-hive/scripts/llap/yarn/templates.py**

generally in LLAP node it must be removed.

```
"placement_policy": {
"constraints": [
{
"type": "ANTI_AFFINITY",
"scope": "NODE",
"target_tags": [
"llap"
]
}
]
},
```

Once done, start the LLAP services from the Hive summary page. Once LLAP is UP then resume the upgrade process.

3 Apply DEV jar for Vectorization Issues reported as BUG:

3.1 Problem Reported:

When we run the following query, in Map1 we dont get Vectorized llap:

```
explain select
date_format(T2.`clientdate`, 'YYYY-MM-01') AS clientdt,
COUNT(DISTINCT T2.`ruleid`) as rulecnt,
SUM((CASE WHEN ((T2.`ruleid` LIKE '%9\\%%') OR (T2.`ruleid`
LIKE '%B\\%%')) THEN 1 ELSE 0 END)) as rulesum,
MAX((CASE WHEN ((T2.`ruleid` LIKE '%9\\%%') OR (T2.`ruleid`
LIKE '%B\\%%')) THEN T2.`ruleid` ELSE 'XXXXX' END)) as rulemax
from
redi90.bi_trans_rule_hits_monthly_84 T2
WHERE
(T2.`clientid` = '000031') AND
(T2.`clientdateyyyymmdd` between 20191001 AND 20191015) and
(T2.`clientdateyyyymm` = 201910)
GROUP BY
date_format(T2.`clientdate`, 'YYYY-MM-01')
;
```

3.2 Solution:

Cloudera provided the [22]DEV jar[23] [24]to fix this issue. Already we applied in the PERF environment and able to see vectorized LLAP in the same select query which gives performance improvement:

3.3 Case Reference # **653597**

```
+----------------------------------------------------+
|                    Explain                         |
```

22 https://wiki.aciworldwide.com/download/attachments/269041639/BUG-107745_Dev_Jars.zip?api=v2&modificationDate=1561447263150&version=1

23 https://wiki.aciworldwide.com/download/attachments/269041639/hive-exec-3.1.0.3.1.0.175-5.jar?api=v2&modificationDate=1583317283043&version=1

24 https://wiki.aciworldwide.com/download/attachments/269041639/hive-exec-3.1.0.3.1.0.175-5.jar?api=v2&modificationDate=1583317283043&version=1

```
+----------------------------------------------------+
| Plan optimized by CBO.                             |
|                                                    |
| Vertex dependency in root stage                    |
| Reducer 2 <- Map 1 (SIMPLE_EDGE)                   |
|                                                    |
| Stage-0                                            |
|  Fetch Operator                                    |
|   limit:-1                                         |
|   Stage-1                                          |
|    Reducer 2 llap                                  |
|    File Output Operator [FS_8]                     |
|     Group By Operator [GBY_6] (rows=186072 width=384) |
|      Output:["_col0","_col1","_col2","_col3"],aggregations:["count(DISTINCT
KEY._col1:0._col0)","sum(VALUE._col1)","max(VALUE._col2)"],keys:KEY._col0 |
|     <-Map 1 [SIMPLE_EDGE] vectorized, llap         |
|      SHUFFLE [RS_12]                               |
|       PartitionCols:_col0                          |
|       Group By Operator [GBY_11] (rows=372144 width=477) |
|        Output:["_col0","_col1","_col2","_col3","_col4"],aggregations:["count(DISTINCT
_col1)","sum(_col2)","max(_col3)"],keys:_col0, _col1 |
|        Select Operator [SEL_10] (rows=744288 width=133) |
|         Output:["_col0","_col1","_col2","_col3"] |
|         TableScan [TS_0] (rows=744288 width=133) |
|          redi_ibi@bi_trans_rule_hits_kp,t2, ACID table,Tbl:COMPLETE,Col:COMPLETE,Output:
["clientdate","ruleid"] |
|                                                    |
+----------------------------------------------------+
23 rows selected (0.585 seconds)
0: jdbc:hive2://cov3lhdpmst01.am.tsacorp.com(see page 3):>
```

3.3.1 Steps to apply the JAR in all the nodes of the cluster(we have hive library in all the nodes):

1. Stop all Hive services
2. Take the backup of existing jars from below path

   /usr/hdp/current/hive-server2/lib/hive-exec-3.1.0.3.1.0.175-5.jar

3. Replace it with new dev jars attached in case to /usr/hdp/current/hive-server2/lib/

4. Make sure the permissions of newly replaced jar files are correct & below symbolic links are pointing to correct jar.

/usr/hdp/current/hive-server2/lib/

hive-exec.jar -> /usr/hdp/3.1.0.22-3/hive/lib/hive-exec-3.1.0.3.1.0.10-1.jar

ls -al /usr/hdp/current/hive-server2/lib/hive-exec*.jar

Check the check sum of the patch file(md5sum):
55e740de4167e3a8a7d71a515da5f11e → /usr/hdp/current/hive-server2/lib/hive-exec-3.1.0.3.1.0.175-5.jar

5. Start Hive Services & test the query.