

## Configuring Drill JDBC driver with Splunk DB Connect

This post explains on how to setup Apache Drill JDBC driver with Splunk DB Connect.

### Environment :

Centos 6.6

Splunk 6.6.2

Splunk db connect 3.1.0

Drill 1.10

MapR 5.2.0

1) Download the splunk enterprise version for Linux. You have to register account for downloading trial version.

[https://www.splunk.com/en\\_us/download/splunk-enterprise.htm](https://www.splunk.com/en_us/download/splunk-enterprise.htm)

The RPM downloaded in my case is “splunk-6.6.2-4b804538c686-linux-2.6-x86\_64.rpm”

2) Copy the downloaded rpm to server and install it.

```
# Assuming rpm is copied to /tmp directory in server. Installing to /opt/splunk directory.  
rpm -i --prefix=/opt/splunk /tmp/splunk-6.6.2-4b804538c686-linux-2.6-x86_64.rpm
```

3) Download splunk db connect app ‘splunk-db-connect\_310.tgz’ (3.1.0 version) from below URL

<https://splunkbase.splunk.com/app/2686/#/overview>.

4) Untar the splunk-db-connect\_310.tgz and copy it to /opt/splunk/splunk/etc/apps

```
tar -xvzf /tmp/splunk-db-connect_310.tgz -C /opt/splunk/splunk/etc/apps
```

5) Start splunk service using below command for first time by accepting license.

```
/opt/splunk/splunk/bin/splunk start --accept-license
```

6) Download MapR Drill JDBC driver from following link – . The DrillJDBC41.zip contains driver jar ‘DrillJDBC41.jar’ and other dependent jars.

[http://package.mapr.com/tools/MapR-JDBC/MapR\\_Drill/MapRDrill\\_jdbc\\_v1.5.3.1006/](http://package.mapr.com/tools/MapR-JDBC/MapR_Drill/MapRDrill_jdbc_v1.5.3.1006/)

7) Copy driver jar that contains Driver class (‘DrillJDBC41.jar’ ) to /opt/splunk/splunk/etc/apps/splunk\_app\_db\_connect/drivers. Create a directory ‘DrillJDBC41-libs’ inside ‘drivers’ and copy dependent jars to this directory.

```
[root@arjun-lab-73 drivers]# ls -ltrh /opt/splunk/splunk/etc/apps/splunk_app_db_connect/drivers

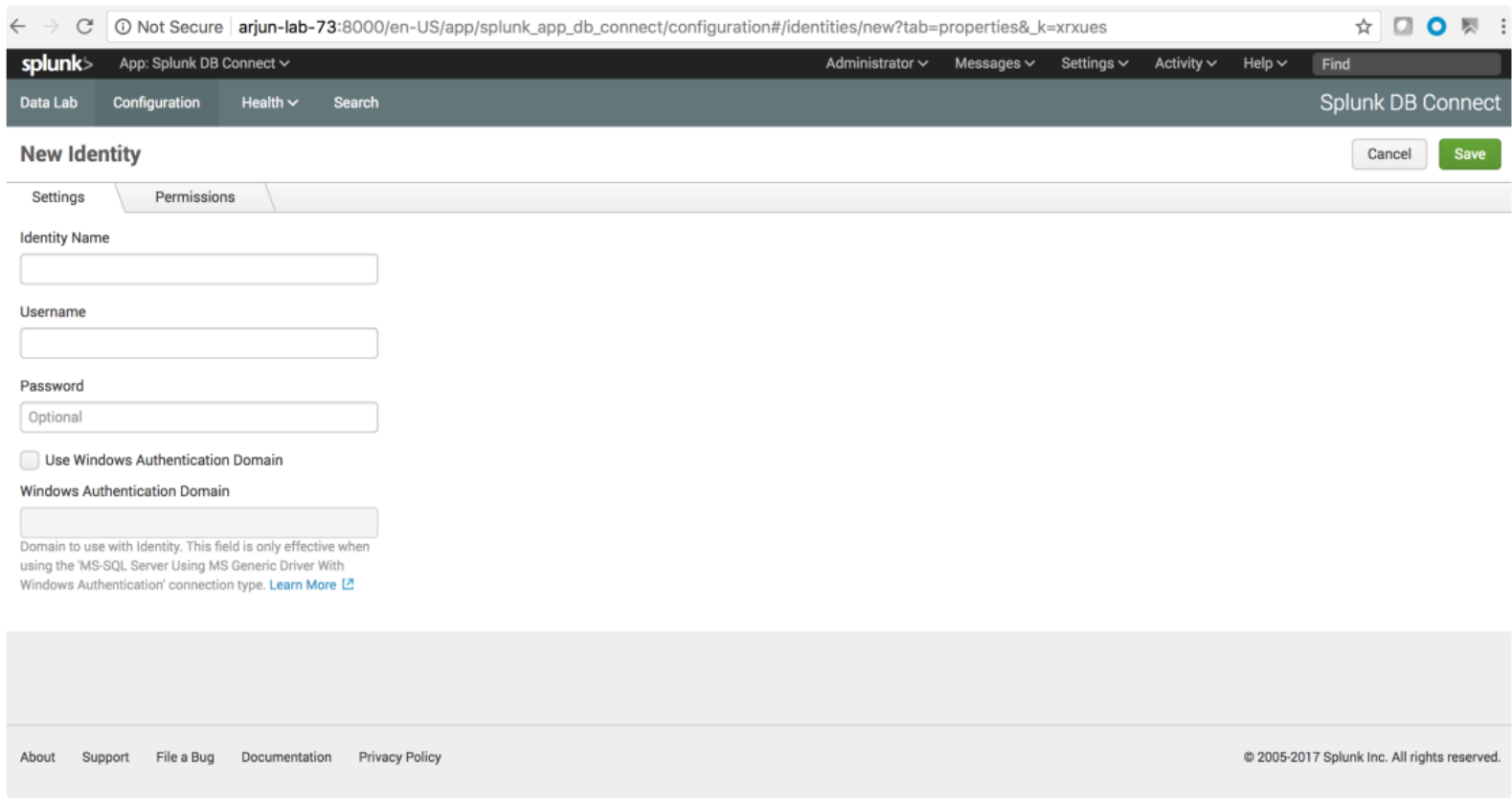
-rw-r--r--. 1 root root 582K Aug 9 01:37 DrillJDBC41.jar
drwxrwxrwx. 2 root root 4.0K Aug 9 01:37 DrillJDBC41-libs
[root@arjun-lab-73 drivers]#
```

8) Define connection type details in below configuration file.  
/opt/splunk/splunk/etc/apps/splunk\_app\_db\_connect/local/db\_connection\_types.conf.

```
[root@arjun-lab-73 local]# cat db_connection_types.conf
[default]

[drill]
displayName = drill
serviceClass = com.splunk.dbx2.DefaultDBX2JDBC
jdbcDriverClass = com.mapr.drill.jdbc41.Driver
jdbcUrlFormat = jdbc:drill:drillbit=<host>:<port>
useConnectionPool = false
```

9) Connect to Splunk UI and create identities and Drill connection with connection URL specific to environment.



Create Identity with user name and password for Drill user

**New Connection**

Settings Permissions

Connection Name

Identity: mapr

Connection Type: drill

Timezone: America/Los\_Angeles : -07:00

**JDBC URL Settings**

Host: arjun-lab-72

Port: 31010

Default Database: dfs.root

☐ Enable SSL

**JDBC URL Preview**

jdbc:drill:drillbit=arjun-lab-72:31010

☐ Edit JDBC URL

Create Database connection with identity,host and port details

10) Validate the connection with sample queries in SQL explorer.

**Explore Data**

Choose Table

Connection: Drill-72

Catalog: DRILL

Schema: INFORMATION\_SCHEMA

Table:

**SQL Editor**

```
1 select * from sys.options
```

**SPL Editor**

```
1 | dbxquery query="select * from sys.options"
2   connection="Drill-72"
```

|    | bool_val | float_val | kind    | name  | num_val | status  | string_val | type   |
|----|----------|-----------|---------|---|---------|---------|------------|--------|
| 1  | 0        |           | BOOLEAN | drill.exec.functions.cast_empty_string_to_null    |         | DEFAULT |            | SYSTEM |
| 2  |          |           | STRING  | drill.exec.storage.file.partition.column.label    |         | DEFAULT | dir        | SYSTEM |
| 3  |          |           | STRING  | drill.exec.storage.implicit.filename.column.label |         | DEFAULT | filename   | SYSTEM |
| 4  |          |           | STRING  | drill.exec.storage.implicit.filepath.column.label |         | DEFAULT | filepath   | SYSTEM |
| 5  |          |           | STRING  | drill.exec.storage.implicit.fqn.column.label      |         | DEFAULT | fqn        | SYSTEM |
| 6  |          |           | STRING  | drill.exec.storage.implicit.suffix.column.label   |         | DEFAULT | suffix     | SYSTEM |
| 7  |          |           | LONG    | exec.bulk_load_table_list.bulk_size               | 1000    | DEFAULT |            | SYSTEM |
| 8  | 0        |           | BOOLEAN | exec.enable_bulk_load_table_list                  |         | DEFAULT |            | SYSTEM |
| 9  | 0        |           | BOOLEAN | exec.enable_union_type                            |         | DEFAULT |            | SYSTEM |
| 10 | 1        |           | BOOLEAN | exec.errors.verbose                               |         | CHANGED |            | SYSTEM |

Test connection using SQL explorer

11) If environment is MapR secure cluster , We would require to set below property as JVM option in DB connect settings.

-Djava.security.auth.login.config=/path/to/mapr.login.conf

← → ↻ arjun-lab-73:8000/en-US/app/splunk\_app\_db\_connect/configuration#/settings/general?\_k=dhv9ih ☆ 🖨 🔍 ⌵

**splunk**> App: Splunk DB Connect ▾ Administrator ▾ Messages ▾ Settings ▾ Activity ▾ Help ▾ Find

Data Lab Configuration Health ▾ Search Splunk DB Connect

Databases **Settings**

General Drivers Logging Usage Collection

Configure settings related to the Java environment and Task Server. [Learn More](#) 🔗

Reset Save

JRE Installation Path(JAVA\_HOME)

/opt/jdk1.8.0\_141

Only Java SE 8 is supported. [Learn More](#) 🔗

JVM Options

`-Ddw.server.applicationConnectors[0].port=9999 -Djava.security.auth.login.config=/opt/splunk/splunk/etc/apps/splunk_app_db_connect/mapr.login.conf`

Java Virtual Machine parameters. [Learn More](#) 🔗

Task Server Port

9999

DB Connect task server port. [Learn More](#) 🔗

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Close and accept

Another observation is that – With above settings in MapR secure cluster , We would be able to list databases/Tables from left side panel in SQL explorer. But it failed with below exception while querying from SQL editor window.

java.sql.SQLException: [MapR][DrillJDBCDriver](500150) Error setting/closing connection:

The corresponding job log shows below exception.

```
08-10-2017 11:38:04.664 ERROR ChunkedExternProcessor – stderr: Caused by:
com.mapr.support.exceptions.ErrorException: javax.security.sasl.SaslException: Authentication failed unexpectedly.
[Caused by java.util.concurrent.ExecutionException: javax.security.sasl.SaslException: Failed to login. [Caused by
javax.security.auth.login.LoginException: No LoginModules configured for hadoop_simple]]
```

Below step helped to resolve the issue.

1) Edit /opt/splunk/splunk/etc/apps/splunk\_app\_db\_connect/linux\_x86\_64/bin/command.sh to include ‘-Djava.security.auth.login.config’ property. Below is change.

```
[root@arjun-lab-73 bin]# cat /opt/splunk/splunk/etc/apps/splunk_app_db_connect/linux_x86_64/bin/command.sh
SCRIPT=$(readlink -f "$0")
JAVA_PATH_FILE=$(dirname "$SCRIPT")/customized.java.path

if [ -f $JAVA_PATH_FILE ]; then
  JAVA_CMD=`cat $JAVA_PATH_FILE`
elif [ ! -z "$JAVA_HOME" ];then
  JAVA_CMD="$JAVA_HOME/bin/java"
else
  JAVA_CMD="java"
fi

export DRILL_OPTS="-
Djava.security.auth.login.config=/opt/splunk/splunk/etc/apps/splunk_app_db_connect/mapr.login.conf"
exec $JAVA_CMD $DRILL_OPTS $@

#exec $JAVA_CMD $@
[root@arjun-lab-73 bin]
```