

Splunk Tableau **UnityJDBC** Connector

(an alternative to ODBC and WDC Connector)

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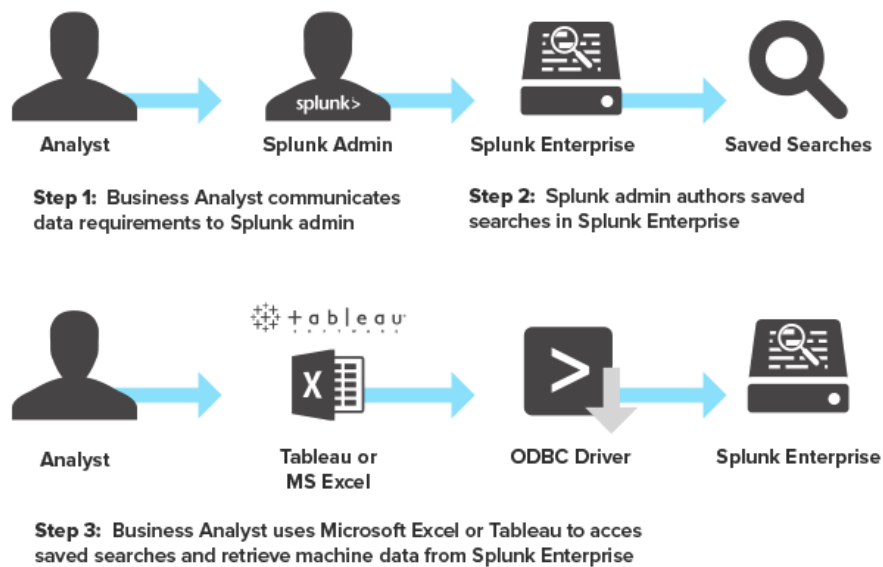
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Background

Tableau is a data analytics platform commonly used throughout the industry. Your data could live anywhere and with Tableau, you can securely consume your data via browser, desktop and mobile, or embed into any application.

Until now, Tableau users who own Splunk could only consume data via an ODBC interface to Splunk:



However, the required Splunk ODBC Driver has not been updated since Splunk v6.5 and further support has been deprecated. The last known working combination between Tableau and Splunk via ODBC Connectivity is:

- Splunk (v7.0.1)
- [ODBC App \(v2.1.1\)](#)
- [Tableau \(v2018.1.3\)](#)

In the future, Splunk may offer an alternative way to allow connectivity to Splunk from Tableau in lieu of ODBC, perhaps via Data Fabric Connectivity or DB Connect. Regardless, customers who have upgraded to Splunk v7.1 are now immediately impacted.

What is JDBC and JDBC Driver?

JDBC (**J**ava **D**atabase **C**onnectivity) is a standard way to connect to a database. If the database driver you want to connect with, implements the JDBC standard, you can connect Tableau to your data using the JDBC driver for your database.

A **JDBC driver** is a software component enabling a Java application to interact with a database. **JDBC drivers** are analogous to ODBC **drivers**, ADO.NET data providers, and OLE DB providers. To connect with individual databases, **JDBC** (the Java Database Connectivity API) requires **drivers** for each database, such as MySQL, PostgreSQL, and even Splunk.

What is UnityJDBC?

UnityJDBC is a unique solution providing a JDBC “bridge” between Splunk and Tableau.

Why use UnityJDBC Connector?

UnityJDBC has shown to be an efficient alternative to the ODBC driver and Tableau WDC connector solution.

- UnityJDBC allows users to employ both Splunk saved searches AND ad-hoc (dynamic) searching. (ODBC only employs saved searches)
- It relates Splunk saved searches and indexes as “tables” allowing users to easily craft SQL statements to retrieve datasets.

Building the UnityJDBC Bridge between Splunk and Tableau

Most of the configuration steps stated here should be performed on the machine where Tableau Desktop is installed.

Configure Tableau Machine

Install Tableau Desktop (optional)

Note: You may skip this if you have Tableau Desktop installed.

1. Download Tableau [Desktop](#)
2. Click [here](#) to view Tableau Desktop installation steps.

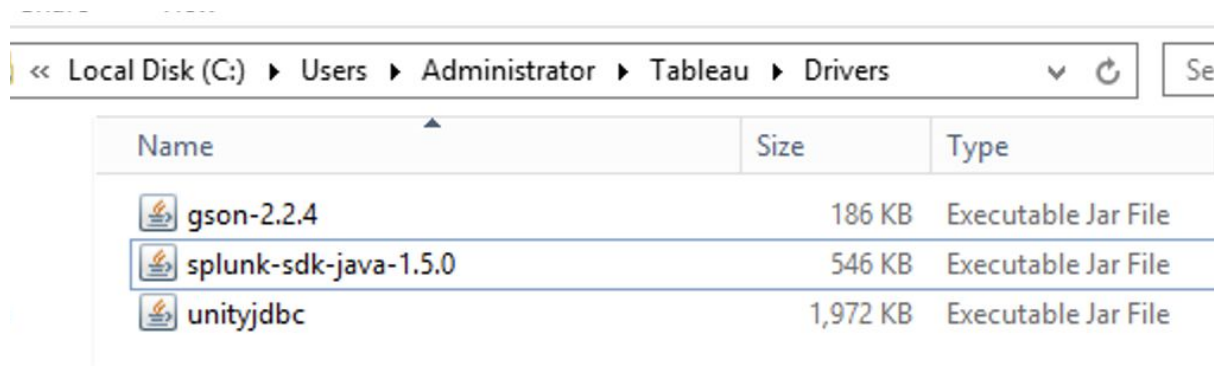
Prerequisite




1. Ensure Tableau is [installed](#).
2. Verify that the Tableau Machine can access Splunk instance at port **8089**.

3. Install a **64 bit JRE** (you may need to [point your JAVA_HOME to JRE](#)).
4. Download UnityJDBC and Setup the [drivers](#).

Download and Install UnityJDBC

1. Download Link: <http://www.unityjdbc.com/download.php?type=splunk>
2. Download JRE: <https://www.java.com/en/>
3. Install UnityJDBC
4. Configure Tableau Drivers
 - a. Create Directory “C:\Users\Administrator\Tableau\Drivers\
 - i. In this example, username is **Administrator**, it could be the username you used to login into Windows Machine.
(*Note: This is required for the following step where a copy of UnityJDBC **jar files** will be placed into Tableau Driver directory)
 - b. Open **Installation Directory of UnityJDBC**
 - i. i.e. Default directory is “C:\Program Files (x86)\UnityJDBC”
 - c. Copy “**unityjdbc.jar**” from directory “C:\Program Files (x86)\UnityJDBC” to “C:\Users\Administrator\Tableau\Drivers”
 - d. Copy “**splunk-sdk-java-1.5.0.jar**” and “**gson-2.2.4.jar**” from directory “C:\Program Files (x86)\UnityJDBC\drivers\Splunk**” to “C:\Users\Administrator\Tableau\Drivers”**



Name	Size	Type
 gson-2.2.4	186 KB	Executable Jar File
 splunk-sdk-java-1.5.0	546 KB	Executable Jar File
 unityjdbc	1,972 KB	Executable Jar File

Use UnityJDBC on Tableau Desktop

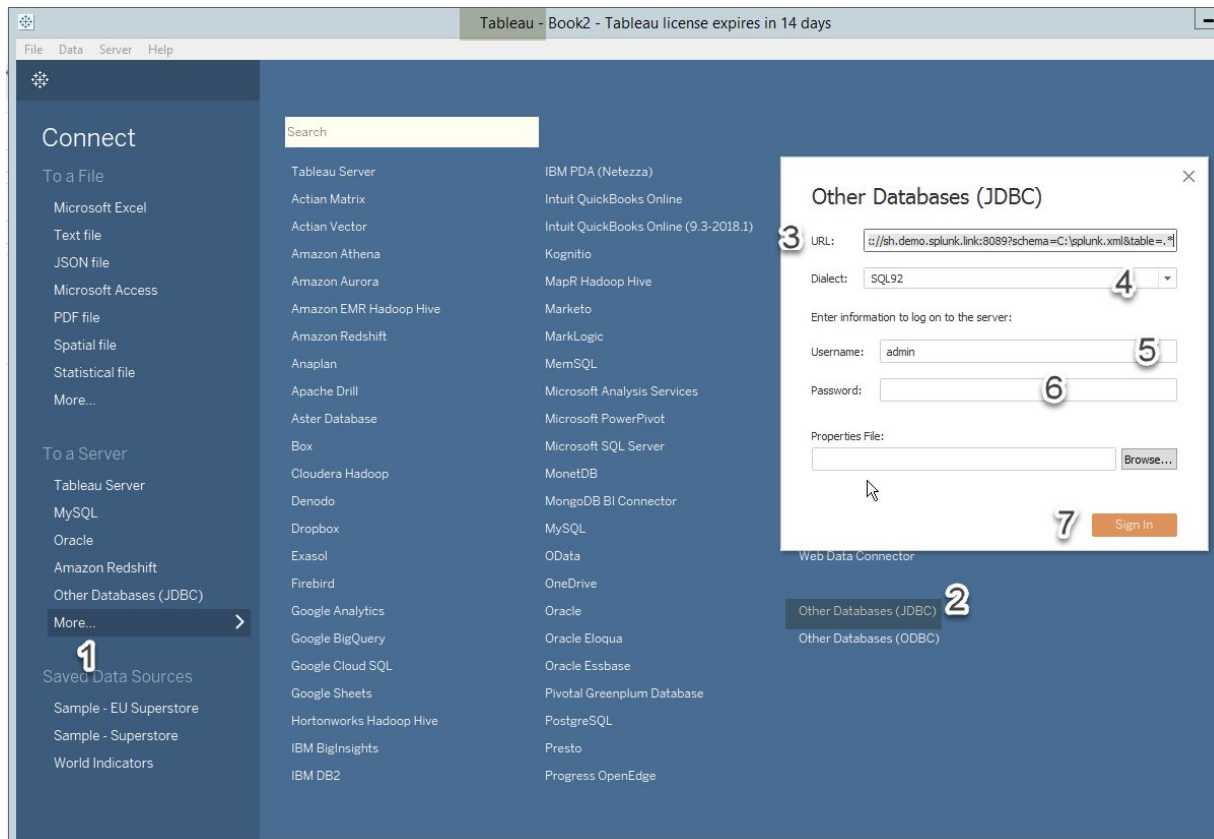


Image illustrating steps to connect UnityJDBC

1. Open **Tableau Desktop** and Click on “**More**”
2. Select **Other Databases (JDBC)**
3. Input **URL (full size snippet)**: URL starts with **jdbc:splunk** connector, and below are two variants of connector URL.
 - o **Minimal URL (required parameters)**:
`jdbc:splunk://splunk-host:8089?schema=C:\splunk.xml&table=.*`

```
jdbc:splunk://splunk-host:8089?schema=C:\splunk.xml&tables=.*
```

Required parameters:

- splunk-host is splunk instance IP or hostname
- 8089 is Splunk REST port
- schema= path to XML (file is created after connection)
- tables with .* denotes fetch all Saved Search and Index names.

○ **Detailed URL (with optional parameters):**

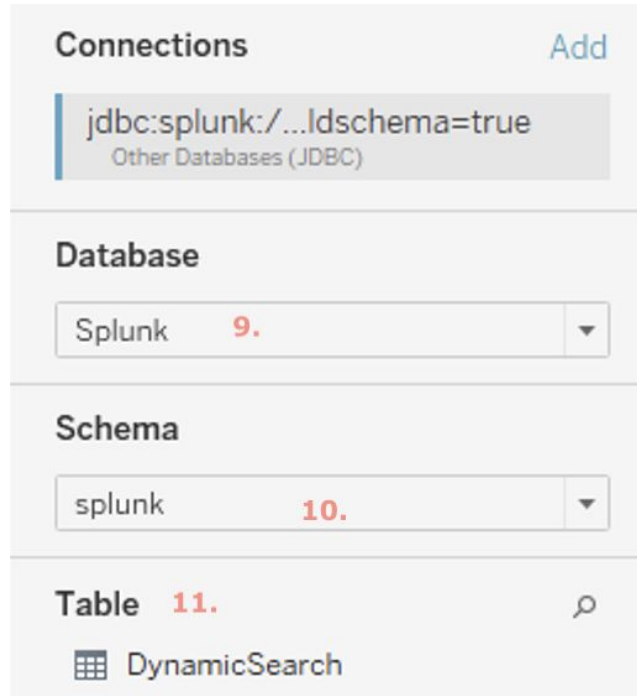
```
jdbc:splunk://splunk-host:8089?schema=C:\splunk.xml&tables=.*&debug=true&rebuildschema=false&log=c:\splunk.log
```

```
&debug=true&rebuildschema=false&log=c:\splunk.log
```

Optional parameters:

- debug = enable debug mode (true/false)
- rebuildschema = rebuild XML files (default true)
- log = file where UnityJDBC can dump logs

4. Select **Dialect**: SQL92
5. Enter Splunk **Username**
6. Enter Splunk **Password**
7. Press “**Sign In**” to connect
 - Note: During the first time, it could take around 4-5 minutes for UnityJDBC connector to build Schema in XML format. Though, subsequent connections should take very less time.
8. Once connection is established, new window will appear.

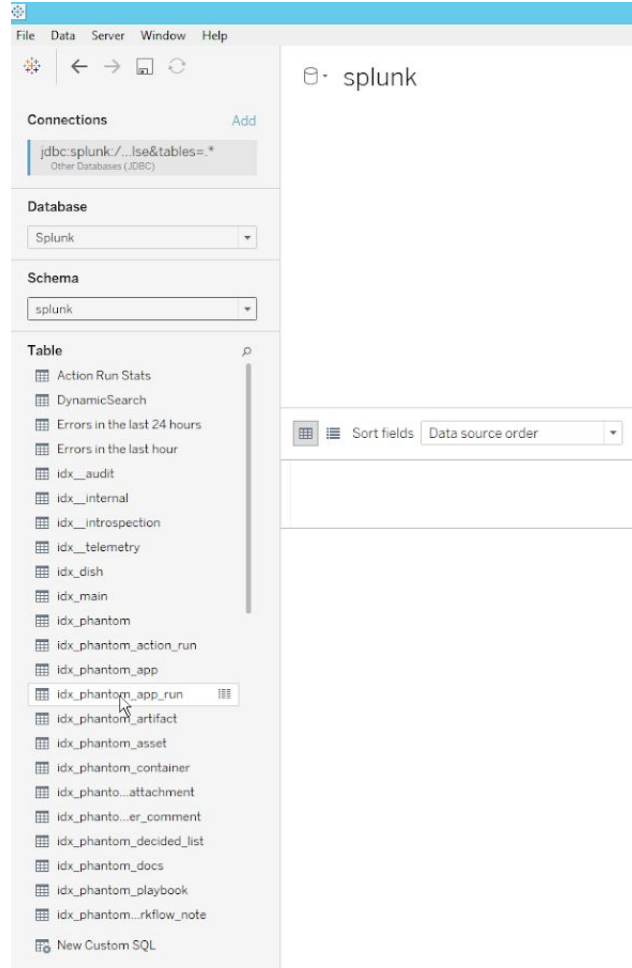


9. Click on **Database** from the left panel (and pick Splunk)
10. Click on **Schema** from the left panel (and pick Splunk)
11. You should be able to see List of Saved Searches and Index names in a new window!

Debugging Result

1. Check if we are able to retrieve the list of "Saved Searches" that we see in Splunk
 - a. [✓] Upon recurring execution of Tableau, UnityJDBC driver retrieves latest (newly added Saved Search) and shows it in Tableau inside the lower left-hand pane.

Note: Based on permission, the user may not see all "Saved Searches" in Tableau






2. Verify if **Dynamic Search** (Custom SPL) works as Intended
 - a. [X] DynamicSearch (Custom SPL) does not seem to work with the build of UnityJDBC tested on or before 02/11/2019. This should be fixed by the UnityJDBC's development team in near future.
3. Compare with ODBC (and older Splunk)
 - a. Ensure you are getting same results employing JDBC as you were ODBC.
4. Check connectivity using in Tableau Server
 - a. Tableau Server is just a wrapper on top of Tableau Desktop to collaborate and share content made on Tableau Desktop by users.

Troubleshooting

1. Verify Java (jre) version by opening command prompt and typing "java -version"
2. By opening command prompt and typing "echo %JAVA_HOME%", verify that the JAVA_HOME system environment variable is set.
3. Check Tableau Desktop Log at C:\Users\Administrator\Documents\My Tableau Repository\Logs

FAQ

1. Do you have **TLDR** version of this guide?
 - a. Install Tableau Desktop (optional) 
 - b. Download and Install UnityJDBC 
 - c. Use UnityJDBC on Tableau Desktop 
2. Does the UnityJDBC solution require **registration**?
 - a. Yes, while downloading the trial version, UnityJDBC would need the user's email address for registration.
3. Do you have to buy UnityJDBC license for long term usage?
 - a. Yes, learn more about licensing at <http://unityjdbc.com/purchase.php>
4. Do you get support before buying this license?
 - a. Yes — Email: support@unityjdbc.com | Call: +1-250-863-6296

Reference

Note: Some external excerpts come from:

1. http://www.unityjdbc.com/splunk/splunk_jdbc.php
2. https://onlinehelp.tableau.com/current/pro/desktop/en-us/examples_otherdatabases_jdbc.htm
3. https://tc18.tableau.com/sites/default/files/session/assets/18BI-050_JDBC%20connectors%20in%20Tableau.pdf

Contributors

- Erica Pescio
- Mayur Pipaliya
- Karthika Krishnan
- Joe Welsh