Installing Microsoft SQL Server Linux ODBC Driver

For Use With Kognitio Analytical Platform

For Controlled External Release

Kognitio Document No	
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1. Introduction

This document gives an overview of the steps necessary to install the Microsoft SQL Server Linux ODBC Driver such that it can then be used by the Kognitio Analytical Platform ODBC external connector capability to create a seamless connection between the two environments.

The Microsoft SQL Server Linux ODBC driver is available for the following Linux distributions:

- Red Hat Enterprise Linux 5 and 6 (64-bit);
- SUSE Linux Enterprise 11 Service Pack 2 (64-bit) [Community Technology Preview].

This document covers the installation of the ODBC driver on CentOS (Red Hat) v6.5, but the principles should also be applicable to SUSE Linux Enterprise.

2. SQL Server ODBC Driver Installation Steps

1. Download the SQL Server Linux ODBC Driver TAR file for the appropriate Linux OS from the Microsoft web site at `http://msdn.microsoft.com/en-us/library/hh568451.aspx`. This file will be of the form `msodbcsql-11.0.22x0.0.tar.gz` depending on the Linux OS;
2. Steps 3-13 in this section below *must* be repeated for every node in the Kognitio instance as the `'root'` user;
3. Ensure that the required Linux libraries are present on each Kognitio node as listed in `http://msdn.microsoft.com/en-us/library/hh568452.aspx`. A functioning C compiler such as `GCC` (`'yum install gcc'`) will also need to be present on each node;
4. Microsoft strongly recommends that any existing Linux ODBC Driver Manager installations are removed before the specific version required by the SQL Server ODBC driver is installed. This is to avoid components being overwritten. On CentOS, the command would typically be `'yum erase unixODBC'` or `'zypper remove unixODBC'` on SUSE;
5. Retrieve the specific v2.3.0 version of unixODBC required by the Microsoft ODBC Driver from `ftp://ftp.unixodbc.org/pub/unixODBC/unixODBC-2.3.0.tar.gz` and copy the downloaded file to a directory on the node. *Do not unpack or untar the file at this stage*. Note that it must be unixODBC v2.3.0, as any other version will not work;
6. Copy the previously downloaded ODBC Driver TAR file (`msodbcsql-11.0.22x0.0.tar.gz`) to a directory on the node, unpack it using the command `'tar xvfz msodbcsql-11.0.22x0.0.tar.gz'` and then type `'cd msodbcsql-11.0.22x0.0'`;
7. Build the unixODBC v2.3.0 package by running `'./build_dm.sh'` as follows, replacing `'/root/unixODBC-2.3.0.tar.gz'` with the absolute path to the location of the unixODBC file downloaded at Step 5 above:

```
node% ./build_dm.sh --download-url=file:///root/unixODBC-2.3.0.tar.gz

Build unixODBC 2.3.0 DriverManager script
Copyright Microsoft Corp.

In order to use the Microsoft ODBC Driver 11 for SQL Server on Linux,
the unixODBC DriverManager must be installed on your computer.  unixODBC
<etc.>
arising out of your use of the script.

Enter 'YES' to have this script continue: YES
```

```
Verifying processor and operating system ..................................... OK
Verifying wget is installed .................................................. OK
Verifying tar is installed ................................................... OK
Verifying make is installed .................................................. OK
Downloading unixODBC 2.3.0 DriverManager ..................................... OK
Unpacking unixODBC 2.3.0 DriverManager ....................................... OK
Configuring unixODBC 2.3.0 DriverManager ..................................... OK
Building unixODBC 2.3.0 DriverManager ........................................ OK
Build of the unixODBC 2.3.0 DriverManager complete.

Run the command 'cd /tmp/unixODBC.4869.19704.25969/unixODBC-2.3.0; make install' to
install the driver manager.

PLEASE NOTE THAT THIS WILL POTENTIALLY INSTALL THE NEW DRIVER MANAGER OVER ANY
EXISTING UNIXODBC DRIVER MANAGER.  IF YOU HAVE ANOTHER COPY OF UNIXODBC INSTALLED,
THIS MAY POTENTIALLY OVERWRITE THAT COPY.
```

8. Run the commands listed at the end of the build in Step 7 above, e.g. '`cd /tmp/unixODBC.4869.19704.25969/unixODBC-2.3.0`' and then type '`make install`' to install unixODBC;
9. Go back to the directory '`msodbcsql-11.0.22x0.0`' and type '`./install.sh install`' to start the SQL Server ODBC Driver installation;
10. Read and accept the license terms, making sure to type '`YES`' in upper case at the appropriate point to install the driver:

```
Enter YES to accept the license or anything else to terminate the installation: YES

Checking for 64 bit Linux compatible OS ..................................... OK
Checking required libs are installed ....................................... OK
unixODBC utilities (odbc_config and odbcinst) installed ..................... OK
unixODBC Driver Manager version 2.3.0 installed ............................. OK
unixODBC Driver Manager configuration correct ............................... OK*
Microsoft ODBC Driver 11 for SQL Server already installed ............ NOT FOUND
Microsoft ODBC Driver 11 for SQL Server files copied ........................ OK
Symbolic links for bcp and sqlcmd created ................................... OK
Microsoft ODBC Driver 11 for SQL Server registered ................... INSTALLED

Install log created at /tmp/msodbcsql.5942.29815.14162/install.log.

One or more steps may have an *. See README for more information regarding
these steps.
```

11. The '`/etc/odbcinst.ini`' file should now contain something like this:

```
[ODBC Driver 11 for SQL Server]
Description=Microsoft ODBC Driver 11 for SQL Server
Driver=/opt/microsoft/msodbcsql/lib64/libmsodbcsql-11.0.so.2270.0
Threading=1
UsageCount=1
```

12. Edit '`/etc/odbc.ini`' to add the details of the SQL Server database to be accessed remotely:

```
[testsqlsrv]
Driver=ODBC Driver 11 for SQL Server  ; Must match driver name in odbcinst.ini file
                                      ; between the square brackets.
Server=z.z.z.z[,<portno>]             ; IP address of SQL Server database.
                                      ; If necessary add port number after a comma
Database=AdventureWorks2008
```

13. Test the SQL Server ODBC connection using the unixODBC '`isql`' utility as follows:

```
node% isql testsqlsrv test <password>
```

```
+---------------------------------------+
| Connected!                            |
|                                       |
| sql-statement                         |
| help [tablename]                      |
| quit                                  |
|                                       |
+---------------------------------------+
SQL> select top 10 title,firstname,lastname from person.person;
+---------+-------------------------------------------------------+--------------------
--------------------------------+
| title   | firstname                                             | lastname
|
+---------+-------------------------------------------------------+--------------------
--------------------------------+
|         | Ken                                                   | Sánchez
|
|         | Terri                                                 | Duffy
|
|         | Roberto                                               | Tamburello
|
|         | Rob                                                   | Walters
|
| Ms.     | Gail                                                  | Erickson
|
| Mr.     | Jossef                                                | Goldberg
|
|         | Dylan                                                 | Miller
|
|         | Diane                                                 | Margheim
|
|         | Gigi                                                  | Matthew
|
|         | Michael                                               | Raheem
|
+---------+-------------------------------------------------------+--------------------
--------------------------------+
SQLRowCount returns 0
10 rows fetched
SQL> quit;
```

3. Kognitio ODBC External Connector Configuration

1. Ensure that Kognitio Analytical Platform version `v8.01.00-rel131217` or later is installed on all nodes;
2. Ensure that the 'External Tables' feature is enabled by adding the following lines to the Kognitio config file using `wxviconf` or equivalent:

```
[boot options]
external_tables=yes
```

3. Load the ODBC External Connector plugin:

```
create module odbc;
alter module odbc set mode active;
```

4. Create a connector to the specific SQL Server instance using the previously defined ODBC details:

```
create connector sqlsrv
source odbc
target 'driver /usr/lib64/libodbc.so,
connect "dsn=testsqlsrv;uid=test;pwd=<password>"';
```

5. Create a Kognitio external table definition to connect to the required SQL Server table:

```
create external table person
from sqlsrv
target 'query "select title,firstname,lastname from person.person"';
```

6. Test the external table connection:

```
>select top 10 * from person;
title   |firstname                                       |lastname
<null>  |Terri                                           |Duffy
<null>  |Roberto                                         |Tamburello
<null>  |Rob                                             |Walters
Ms.     |Gail                                            |Erickson
Mr.     |Jossef                                          |Goldberg
<null>  |Dylan                                           |Miller
<null>  |Diane                                           |Margheim
<null>  |Gigi                                            |Matthew
<null>  |Michael                                         |Raheem
<null>  |Ken                                             |Sánchez
Query           8             10 rows     ----   0:00.0   0:00.2   0:00.2
```