Datasource and Configuration Issues

Alex Clemons - 2023-03-02 - Comments (0) - Autoform DM General Information

Autoform DM

If there is an issue with the database connection configuration in DM or a problem connecting to the configured database, then Autoform DM will fail on startup with an exception ending in the line:

Caused by: org.hibernate.HibernateException: Access to DialectResolutionInfo cannot be null when 'hibernate.dialect' not set.

The database configuration itself can be found in **standalone.xml** and looks like this:

Standalone.xml

```
<datasource jndi-name="java:/PDM" pool-name="PDM" enabled="true" use-java-context="true" use-ccm="true">
    <connection-url>jdbc:jtds:sqlserver://localhost:1433/MYDB</connection-url>
    <driver>jtds</driver>
    <pool>
      <min-pool-size>10</min-pool-size>
      <max-pool-size>20</max-pool-size>
      <prefill>false</prefill>
      <use-strict-min>false</use-strict-min>
      <flush-strategy>FailingConnectionOnly</flush-strategy>
    </pool>
    <security>
      <user-name>pdm</user-name>
      <password>pdm</password>
    </security>
    <validation>
      <check-valid-connection-sql>SELECT 1</check-valid-connection-sql>
```

```
        <validate-on-match>true</validate-on-match>
    </validation>
  </datasource>
```

The **connection-url** and **security** sections are the important lines as they hold the database location and authentication.

This article documents the failure behaviour in order to help diagnose the actual underlying problem.

General Symptoms

A database configuration error will cause DM to fail to deploy correctly at startup and cause large amounts of error logging. Look for the following symptoms:

- DM fails to deploy on startup - navigating to the web frontend results in a **404 - Not Found** error message.

- Checking the server logs shows a large number of log lines such as the following:

Server logs

```
service
jboss.deployment.subunit."pdm_app_module.ear"."applicationservice-8.0
.0-
SNAPSHOT.jar".component.ClientApplicationServiceEJB.VIEW."com.efstech
.pdm.applicationservice.ejb.se
ssion.ClientApplicationService".LOCAL (missing) dependents: [service
jboss.deployment.subunit."pdm_app_module.ear"."applicationservice-8.0
.0-SNAPSHOT.jar".component.ClientApplicationSer
viceEJB.START]
```

- Just before the deployment failure errors (as above) there is a stackstrace ending with the line:

```
Caused by: org.hibernate.HibernateException: Access to
DialectResolutionInfo cannot be null when 'hibernate.dialect' not set
```

Identifying the root cause

Should the above symptoms be apparent, then first search for a log line containing the text:

IJ000604: Throwable while attempting to get a new connection: null:

javax.resource.ResourceException: IJ031084: Unable to create connection

SQL Server

If the following error logs are displayed, there is usually a cause and a way to fix the error, as follows

Error logs

```
...
Caused by: java.sql.SQLException: Unknown server host name
'<hostname>'
...
Caused by: java.net.UnknownHostException: <hostname>
```

Cause:

Unable to resolve the hostname of the database server -

Fix:

Check the hostname is correct and verify that you can ping it and resolve its DNS entry without issue. Depending on the network setup you may need the **FQDN** (fully qualified domain name), i.e. `databasehost.some.domain.com` rather than just `databasehost`.

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Error logs

```
...
Caused by: java.sql.SQLException: Network error IOException:
Connection refused
...
Caused by: java.net.ConnectException: Connection refused
```

Cause:

Unable to connect to database server - most likely an issue with the port.

Fix:

Verify the Database server is running and available on the configured port.

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Error logs

```
...
Caused by: java.sql.SQLException: Cannot open database "AFPDM8DPP"
requested by the login. The login failed.
```

Cause:

The connection to the database server was successful and the login credentials were valid, but the user was not able to access the configured database.

Fix:

Check the database name is correct and that the user has the correct permissions to be able to access and read the tables.

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Error logs

```
...
Caused by: java.sql.SQLException: Login failed for user 'pdm'.
```

Cause:

The specified credentials for connecting to the database server are invalid.

Fix:

Verify the username and password are correct and the user has the correct permissions to be able to connect to the database server and read the configured database.

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Oracle

Error logs

```
...
Caused by: java.sql.SQLRecoverableException: IO Error: Unknown host
specified
...
Caused by: oracle.net.ns.NetException: Unknown host specified
```

Cause:

Unable to resolve the hostname of the database server.

Fix:

Check the hostname is correct and verify that you can ping it and resolve its DNS entry without issue. Depending on the network setup you may need the **FQDN** (fully qualified domain name), i.e. `databasehost.some.domain.com` rather than just `databasehost`.

Error logs

```
...
Caused by: java.sql.SQLRecoverableException: IO Error: The Network
Adapter could not establish the connection
...
Caused by: oracle.net.ns.NetException: The Network Adapter could not
establish the connection
...
Caused by: java.net.ConnectException: Connection refused
```

Cause:

Unable to connect to database server - most likely an issue with the port.

Fix:

Verify the Database server is running and available on the configured port.

Error logs:

```
...
Caused by: java.sql.SQLException: Listener refused the connection
with the following error:
ORA-12514, TNS:listener does not currently know of service requested
in connect descriptor
...
Caused by: oracle.net.ns.NetException: Listener refused the
connection with the following error:
ORA-12514, TNS:listener does not currently know of service requested
```

in connect descriptor

Cause:

Unable to locate Oracle database service - the connection to the Oracle database server has been established but the specified Oracle database service is not valid.

Fix:

Check the service name specified and verify that you are able to use another tool such as SQL Developer to connect.

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Error logs

```
...
Caused by: java.sql.SQLException: ORA-01017: invalid
username/password; logon denied
```

Cause:

The specified credentials for connecting to the database are invalid.

Fix:

Verify the username and password are correct and the user has the correct permissions to be able to read and use the database service.

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Error logs

```
...
WARN
[org.jboss.jca.adapters.jdbc.local.LocalManagedConnectionFactory]
(ServerService Thread Pool -- 65) IJ030027: Destroying connection
that is not valid, due to the following exception:
oracle.jdbc.driver.T4CConnection@351298af:
java.sql.SQLSyntaxErrorException: ORA-00923: FROM keyword not found
where expected
    at oracle.jdbc.driver.T4CTTIoer.processError(T4CTTIoer.java:447)
    at oracle.jdbc.driver.T4CTTIoer.processError(T4CTTIoer.java:396)
    at oracle.jdbc.driver.T4C8Oall.processError(T4C8Oall.java:951)
```

. . .

Cause:

The SQL statement used to validate the connections in the connection pool is invalid, this will be because DM has been installed with a database type other than **Oracle** so the wrong SQL has been configured.

Fix:

1. Edit the Wildfly configuration file (**standalone.xml** or **domain.xml**) or edit the database 'datasource' connection via the *management console*.

2. Find the **check-valid-connection-sql** property and ensure it is:

```
SELECT 1 FROM DUAL
```

For example:

```
<datasources>
   <datasource jndi-name="java:/PDM" pool-name="PDM" enabled="true" use-java-context="true" use-ccm="true" statistics-enabled="true">
      ...
      <validation>
       <check-valid-connection-sql>SELECT 1 FROM DUAL</check-valid-connection-sql>
       <validate-on-match>true</validate-on-match>
      </validation>
   </datasource>
  </datasources>
```