



Parameterizing an iWay Data Quality Server SQL Statement From an Input File or the Command Line

This topic describes how to parameterize an iWay Data Quality Server (DQS) SQL statement from an input file or the command line.

This how-to includes the following components that are packaged in the *samples_param_sql.zip* archive:

- batch_id.csv – Sample CSV file.
- cmdlineparam.comp – Sample DQS component file.
- cmdruntimeCfg.xml – Sample XML configuration file.

This how-to includes the following topics:

- [Prerequisites](#)
- [Setting the SQL Parameter Dynamically From the Input Data File](#)
- [Setting the SQL Parameter Dynamically From the Command Line](#)
- [Running From the Command Line](#)
- [Using the SQL Execute Step](#)

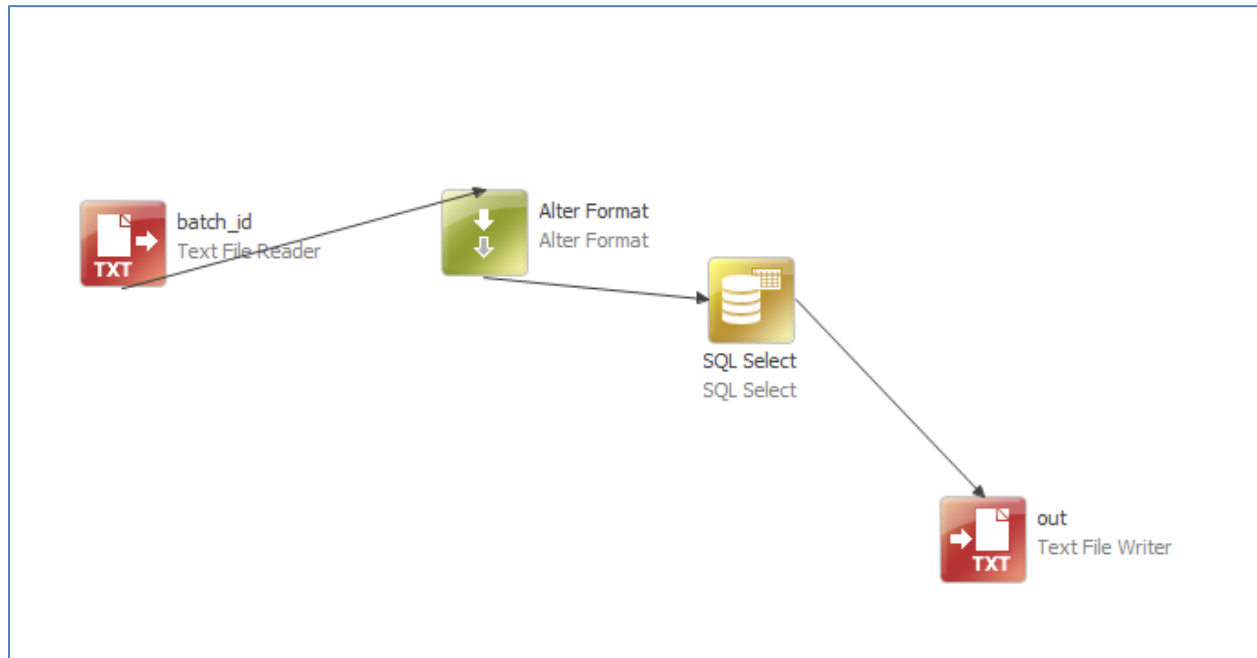
Prerequisites

Ensure that your environment satisfies the following prerequisites:

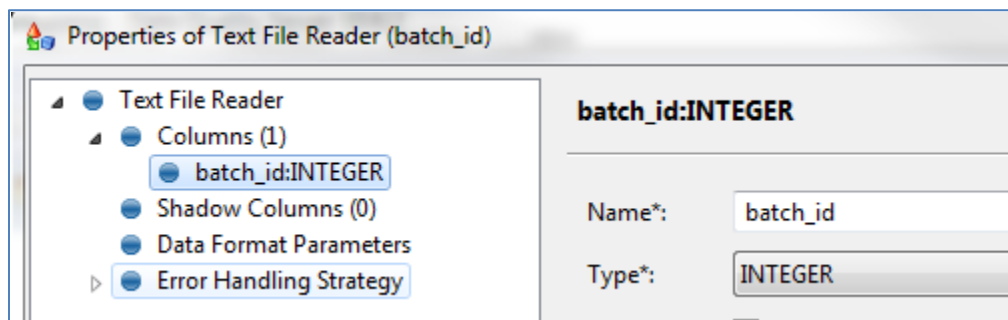
- iWay Data Quality Server (DQS) version 10x is installed.
- An available database table to query against. In this example, an Omni-Gen ramp control table will be queried.
- A properly configured database connection in iWay DQS, including the appropriate JDBC driver.
- To run components, which require database access, from the command line, a runtime configuration file is required to define the database connection parameters.

Setting the SQL Parameter Dynamically From the Input Data File

In the SQL Select step shown in the following image, an SQL parameter can be set dynamically from the input data file or the command line.

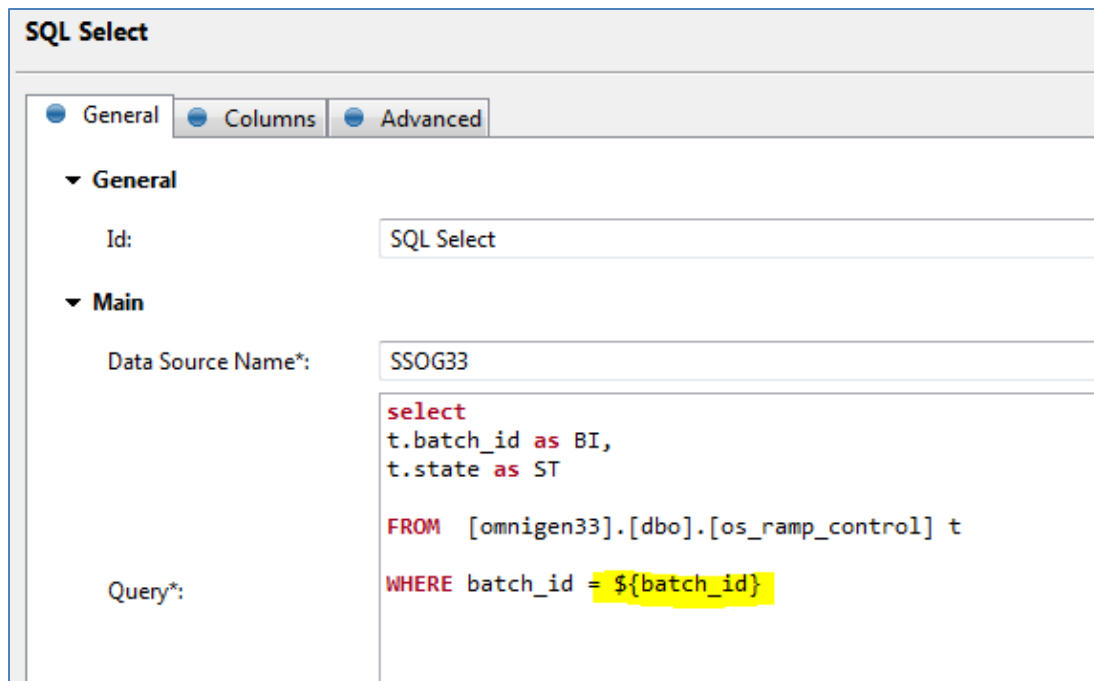


The following image shows the properties of a Text File Reader step, which brings in an integer column named *batch_id*.

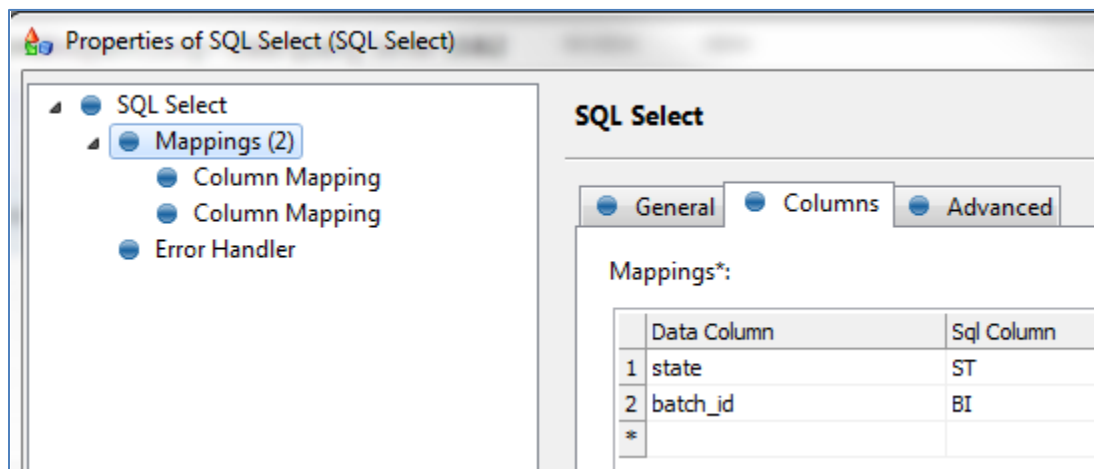


This value will be used in the SQL query to be executed.

The WHERE clause value is retrieved from the input column using the $\${column_name}$ syntax, in this case $\${batch_id}$, as shown in the following image.

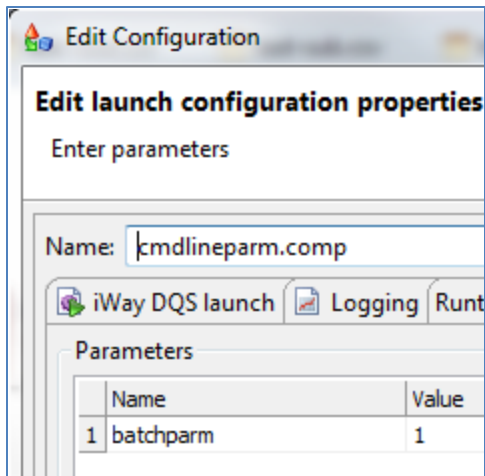


To capture the output of the query, map the SQL columns (returned by the query) to your data columns. These must exist, and if not present in the original input data, can be added in the Alter Format step.



This component can now be run from iWay DQS. It will read the input file with the *batch_id* value required for the query.

Note: If you are running the completed sample, which is provided with this how-to, then you can ignore the Edit Configuration dialog that shows the parameter value, as shown in the following image.



This will be used at a later point. For now, the value in the input file is only required.

For example, when the value is 1, the *COMPLETE* state is returned, as shown in the following image.

batch_id	state
1 1	COMPLETE

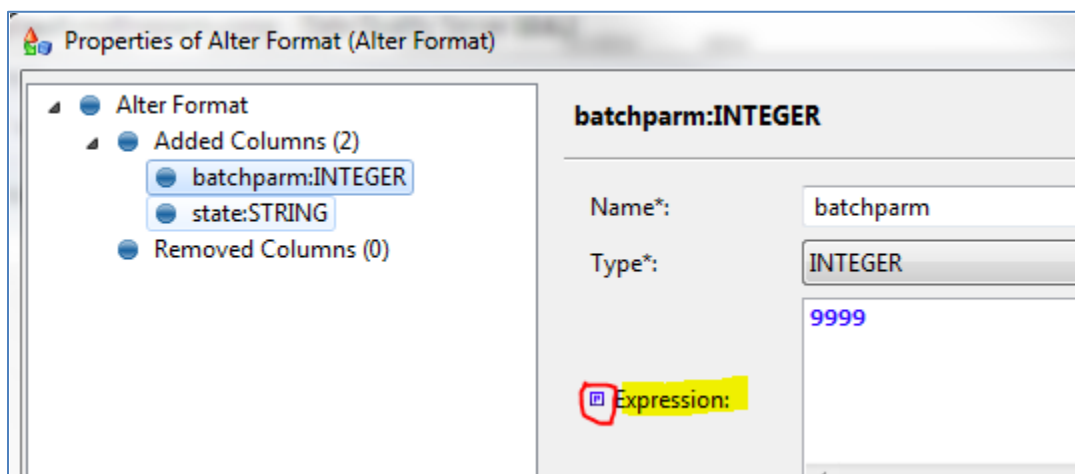
Any other value returns a *NULL* state. The state depends on the data in your database tables.

Setting the SQL Parameter Dynamically From the Command Line

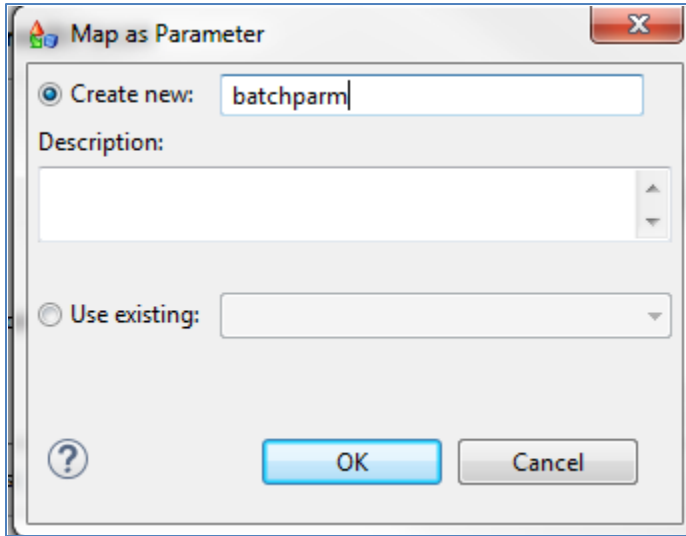
When you run a DQ component from the command line, you can directly pass in parameters. These parameters can usually be referenced directly in an expression. However, to embed the value directly into an SQL query requires an extra step.

To pass in a value from the command line to a component, the property must be parameterized. You can use the Alter Format step to create a new column that holds the parameter value (for example, *batchparm*).

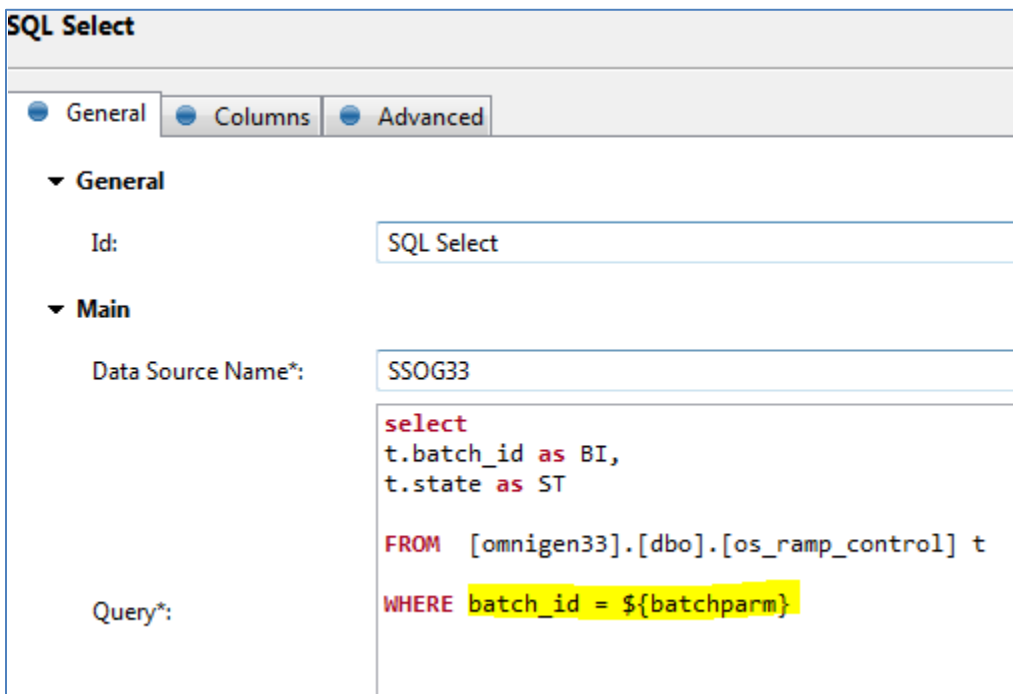
1. In the Alter Format step properties dialog, right-click *Expression* and select *Map As Parameter*, as shown in the following image.



A small *P* icon appears next to the Expression field when the parameter is mapped. Note that the default value is 9999.



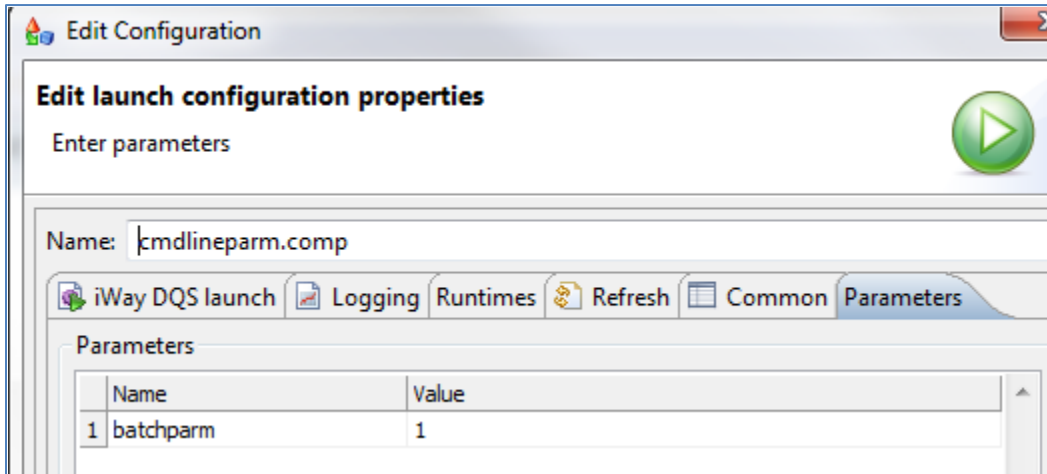
2. In the Map as Parameter dialog, select *Create new* and enter a name for the parameter (for example, *batchparm*).
3. Click *OK* to save the changes and then close the Alter Format step properties dialog.
4. Edit the SQL Select step query, as shown in the following image.



The WHERE clause should reference the $\${batchparm}$ column. This column holds the value that was passed in from the command line parameter. Note that despite the similar names, you are not referencing the parameter directly.

The *batch_id* column from the input file that was used previously is no longer required and irrelevant.

5. When you run the component from iWay DQS, you must now specify the parameter to be passed in, as shown in the following image.



Note: The value read from the input file is now irrelevant.

You should receive the same output as during the input file test.

Running From the Command Line

```
D:\DQS_STUFF\10\iWay-dqs-10.6.2.ga-2017-03-03-win-x86_64>runcif.bat -params.batc
hparm=2 -runtimeConfig "C:\18CASES\180823040 sqlparams\HOWTO-sql\test\cmdruntime
Cfg.xml" "C:\18CASES\180823040 sqlparams\HOWTO-sql\test\cmdlineparm.comp"
Using java at: "C:\Program Files\Java\jdk1.8.0_151\bin\java.exe"
Using DQC at: "D:\DQS_STUFF\10\iWay-dqs-10.6.2.ga-2017-03-03-win-x86_64\runtime
"
05.09.2018 15:57:34 [INFO] Using following licenses:
05.09.2018 15:57:34 [INFO] C:\Users\jp03794\license_iway_10_limited_2018-1
0-12.plf
05.09.2018 15:57:34 [INFO] =====
05.09.2018 15:57:34 [INFO] This is a trial license key only. It's valid only
till 2018-10-12.
05.09.2018 15:57:34 [INFO] =====
05.09.2018 15:57:34 [INFO] Using DQS configuration file C:\18CASES\180823040
sqlparams\HOWTO-sql\test\cmdlineparm.comp
05.09.2018 15:57:34 [INFO] Using runtime configuration file C:\18CASES\18082
3040 sqlparams\HOWTO-sql\test\cmdruntimeCfg.xml
05.09.2018 15:57:34 [INFO] DQS engine initialized.
05.09.2018 15:57:34 [INFO] Creating runtime...
05.09.2018 15:57:35 [INFO] Starting runtime...
05.09.2018 15:57:35 [INFO] Running runtime...
05.09.2018 15:57:36 [INFO] Stopping runtime...
05.09.2018 15:57:36 [INFO] Finished!
05.09.2018 15:57:36 [INFO] Task completed successfully. Elapsed time: 00:00:
01
```

To run a component from the command line, use the *runcif.bat* script.

```
cd [DQC_HOME]\runtime\bin>
```

Enter the following command (all on one line, without comments):

```
runcif.bat -params.batchparm=1 -runtimeConfig runtimecfg.xml cmdlineparm.comp
```

where:

-params.batchparm=1

Specifies the parameter value to be passed.

-runtimeConfig runtimecfg.xml

Is required since SQL databases are being used.

cmdlineparm.comp

Is the specific component that you want to run.

Quotes are required if you have spaces in your directory names, as shown in the following example:

```
cd D:\DQS_STUFF\10\iWay-dqs-10.6.2.ga-2017-03-03-win-x86_64
```

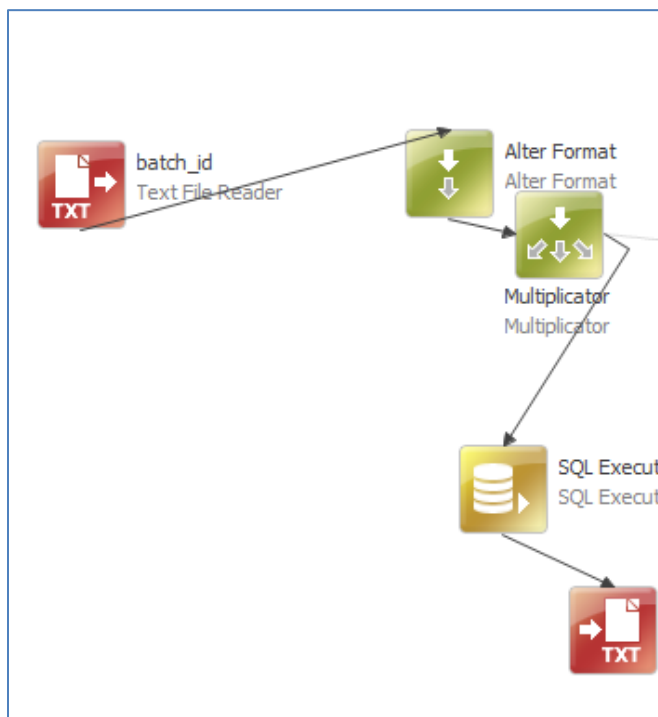
```
D...> runcif.bat -params.batchparm=1 -runtimeConfig "C:\18CASES\180823040
sqlparams\HOWTO-sql\test\cmdruntimeCfg.xml" "C:\18CASES\180823040
sqlparams\HOWTO-sql\test\cmdlineparm.comp"
```

Note: Ensure that the JDBC driver is found by the DQ run time. You can either set the path or copy the JDBC .jar file into the following folder:

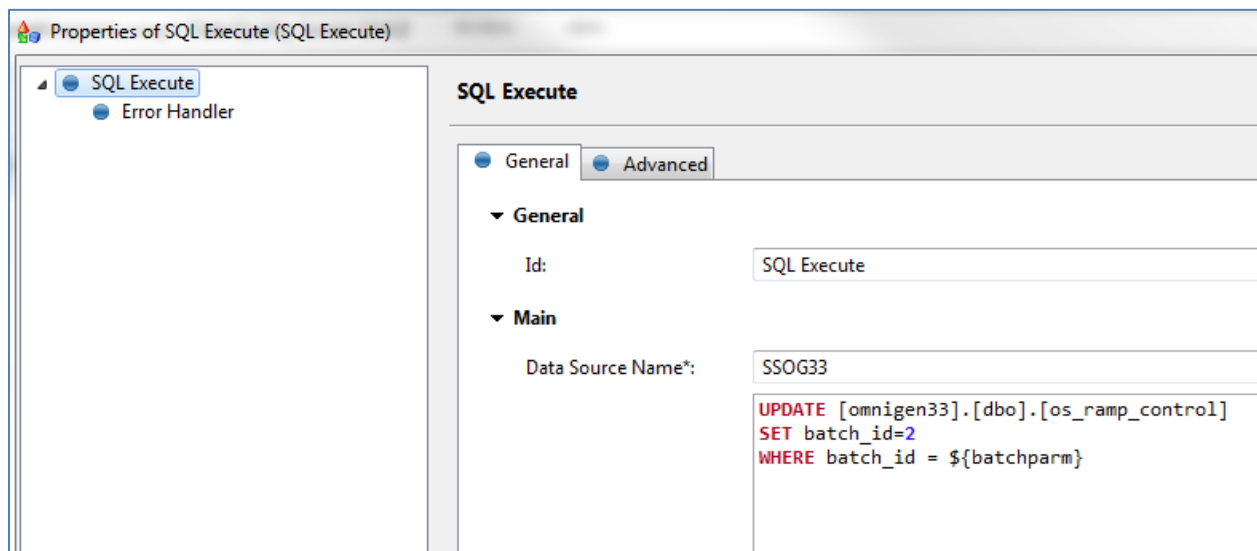
DQ_HOME/runtime/lib

Using the SQL Execute Step

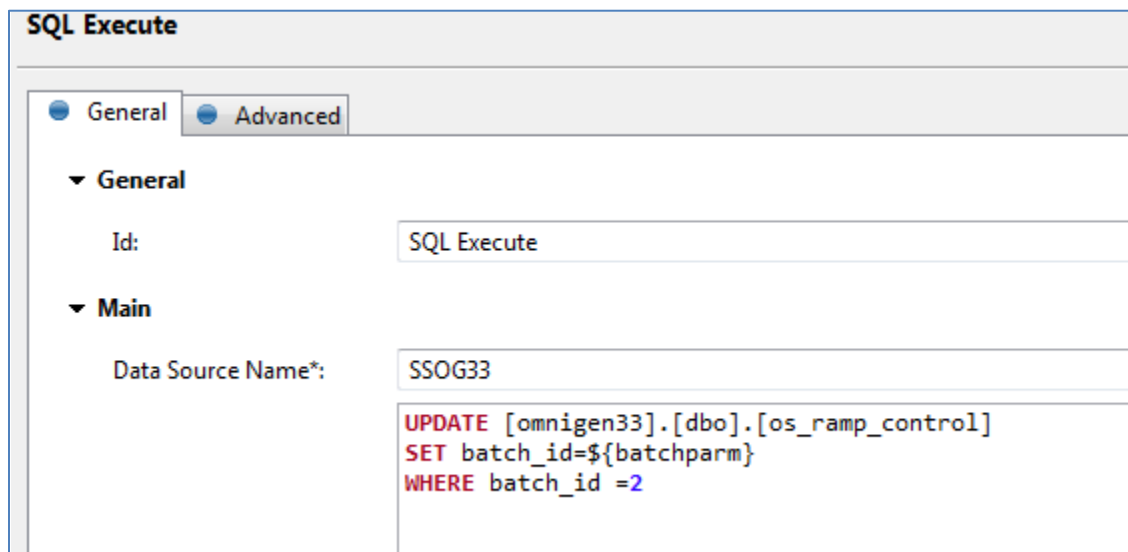
This technique also works for the SQL Execute step, as shown in the following image.



The following image shows the properties dialog for the SQL Execute step.



For testing purposes, change all values of 1 to 2.



Then continue testing by changing all values of 2 back to 1.