Liquibase

Liquibase Community is an open source project that helps millions of developers rapidly manage database schema changes.

Usage:

In this will show you how to use Liquibase cli using docker and you don’t have to worry about versions or any other dependencies, you only need to have Docker installed on your system and you also don’t care about your database is configured it can be local, cloud or on premise you only need endpoint for your database please find Example JDBC Urls in the following link: <https://hub.docker.com/r/liquibase/liquibase>

Steps:

1. Create <FILENAME>.properties file it should have following attributes:
   1. classpath= /liquibase/changelog
   2. url=<Find url from the above link>
   3. changeLogFile=<changelogpath>
   4. liquibaseSchemaName=<DB SchemaName>
   5. username= <DB username>
   6. password= <DB password>

2. To check the connection between Liquibase cli and database run the following command

docker run --network=host --platform=linux/amd64 --rm -v <LocalPath>:/liquibase/changelog liquibase/liquibase:4.6 —defaults-file=changelog/<Path for properties file> —changelog-file=changelog/<Changelog script file> —database-changelog-lock-table-name=<Changelog table name.lock> —database-changelog-table-name=<Changelog table name> status

Above command tries to connect with the database mentioned in the properties file. Once test was successful you can proceed to next step.

3. Create <Changelog script>.sql, file should be in Liquibase formatted SQL. Refer: <https://docs.liquibase.com/concepts/changelogs/sql-format.html>

4. Below command shows what needs to be executed on the database(Shows SQL as output).

docker run --network=host --platform=linux/amd64 --rm -v <LocalPath>:/liquibase/changelog liquibase/liquibase:4.6 —defaults-file=changelog/<Path for properties file> —changelog-file=changelog/<Changelog script file> —database-changelog-lock-table-name=<Changelog table name.lock> —database-changelog-table-name=<Changelog table name> updateSQL

5. Below command will update the database with the changelog file.

docker run --network=host --platform=linux/amd64 --rm -v <LocalPath>:/liquibase/changelog liquibase/liquibase:4.6 —defaults-file=changelog/<Path for properties file> —changelog-file=changelog/<Changelog script file> —database-changelog-lock-table-name=<Changelog table name.lock> —database-changelog-table-name=<Changelog table name> update

Always write changelog file in Liquibase format. Add author and id(it should be unique) for each changeset in changelog file.

6. To run multiple files at once need to have to <>.xml file in the Liquibase directory. Mention the directory of .sql scripts in the xml file. For sample xml file refer: <https://docs.liquibase.com/workflows/liquibase-community/multiple-sql-migration.html>

docker run --network=host --platform=linux/amd64 --rm -v <LocalPath>:/liquibase/changelog liquibase/liquibase:4.6 —defaults-file=changelog/<Path for properties file> —changelog-file=changelog/<Changelog>.xml —database-changelog-lock-table-name=<Changelog table name.lock> —database-changelog-table-name=<Changelog table name> update

In the above command point changelog-file to <>.xml file. Now you can run the same commands from step 2, 4, 5 for status, updateSQL and update. You can either use <File name>.properties file or —changelog-file flag to point to <Change log>.xml file.