

SQL XML (MyBatis) Validator Automation tool Guidelines

sqlXmlValidator is a tool that aims to detect the usage of primary keys such as COMPANY_CODE in the JOIN and WHERE clauses. The tool will create a report in excel indicating the line number of missing usage of the primary key in the JOIN and WHERE clauses. Aside, it can also detect invalid SQL statements, broken JOIN statements, and the usage of parameter variable in the JOIN statements. Parameter variable as much as possible should be placed in the WHERE clause instead of using it in the JOINS.

The workflow:

1. Reads the config.ini for the source code path, entity path, primary keys to validate, output directory, and output filename.
2. Collects list of data tables which has primary key(s) such as COMPANY_CODE from the entity path.
3. Iterate directories and subdirectories of the source code path.
4. Validate each .xml files for the usage of primary key(s) such as COMPANY_CODE in the following manner:
 - a. For every JOIN statement, it will check if the first data fields are joined by the primary key. If not, then it will be logged that *“the JOIN statement should be joined first by its primary keys before the other data fields”*.
 - b. It will also check if parameter variable is used in the JOIN. It is expected that data tables should be joined using its data fields not by parameter variable. In this scenario, it will logged that *“the parameter variable is used in the JOIN statement it should be placed in the WHERE clause.”*
 - c. For every WHERE clause, it will check if the primary key is used when the main table of the query has the primary key. If the primary key is not used, it will log that *“the primary key is not present in the WHERE clause.”*
 - d. If there is abnormality of the SQL statement it will log that *“the SQL statement is invalid.”*
 - e. If *“Longer JOIN statement encountered!”* is logged, it means that there is multiple JOINS in a single line of code.
5. Report file in excel will be created after the tool runs. Program name with specific line number, and findings will be indicated in the report.

How to set the config.ini:

1. Set the “pathEntity” with the path for data tables.
Example: *pathEntity = C:\workspace\njd-profit-entity\njd-profit-entity*
2. Set the “pathSource” with the path of the source codes
Example: *pathEntity = C:\workspace\njd-profit-web\njd-profit-web\src\main\resources\jp\co\alsok\njd\profit\web\domain*
3. Set “primaryKeys” with primary keys to check such as COMPANY_CODE
Example: *primaryKeys= COMPANY_CODE*

4. Set "outputDirectory" with the output path the report should be created. If empty it will use the current path of the exe.
5. Set the "outputFileName" to the report name you want. File extension is .xlsx

How to run the program:

There are two ways to run the program.

1. Just double click the executable file [sqlXmlValidator.exe](#) after you have configured the config.ini
2. Run it through Python using a python IDE such as Visual Studio Code.

Pre-requisite:

- a. Install Python in your machine.
- b. Download the necessary python packages through pip command. Make sure you have an open port. In this tool, you have to install pandas, numpy, and xlswriter.

Example: `pip install pandas`
`pip install numpy`
`pip install xlswriter`

- c. Install Visual Studio Code.