

# **PyTestLog2DB**

**v. 0.1.7**

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# Chapter 1

## Introduction

[PyTestLog2DB](#) is the tool that helps to import PyTest results file(s) (as [JUnit XML](#) format) to [TestResultWebApp](#) Dashboard.

PyTestLog2DB will:

- parse all results in given pytest result file(s)
- add metadata information which required by TestResultWebApp
- import into database

So that, you can have pretty report with many kinds of chart for visualizing pytest result and tracking purpose.

## Chapter 2

# Description

### 2.1 Get the pytest XML result

In order to import the execution result(s), the **\*.xml** file which contains result of all executed pytest testcases is required.

But that file is not generated by default. The argument `--junit-xml=<log>` needs to be specified when executing the pytest to get the generated JUnit XML result file at given path.

The example pytest command to get the **\*.xml** result file:

```
pytest --junit-xml=path/to/result.xml pytest/folder
```

### 2.2 Tool features

#### 2.2.1 Usage

Use `PyTestLog2DB -h` command to get tools's usage

The usage should be showed as below:

```
usage: PyTestLog2DB (PyTestXMLReport to TestResultWebApp importer) [-h] [-v]
                        [--recursive] [--dryrun] [--append] [--UUID UUID]
                        [--variant VARIANT] [--versions VERSIONS] [--config CONFIG]
                        resultxmlfile server user password database

PyTestLog2DB imports pytest JUnit XML report file(s) generated by pytest into a WebApp ↩
    ↪ database.

positional arguments:
  resultxmlfile          absolute or relative path to the pytest JUnit XML report
                        file or directory of report files to be imported.
  server                 server which hosts the database (IP or URL).
  user                   user for database login.
  password               password for database login.
  database               database schema for database login.

optional arguments:
  -h, --help             show this help message and exit
  -v                     Version of the PyTestLog2DB importer.
  --recursive            if set, then the path is searched recursively for output
                        files to be imported.
  --dryrun               if set, then verify all input arguments (includes DB connection)
                        and show what would be done.
  --append               is used in combination with --UUID UUID. If set, allow to append
                        new result(s) to existing execution result UUID in --UUID argument.
  --UUID UUID            UUID used to identify the import and version ID on webapp.
                        If not provided PyTestLog2DB will generate an UUID for the whole ↩
                        ↪ import.
  --variant VARIANT      variant name to be set for this import.
```

```
--versions VERSIONS  metadata: Versions (Software;Hardware;Test) to be set for this import
                        (semicolon separated)
--config CONFIG       configuration json file for component mapping information.
```

The below command is simple usage with all required arguments to import PyTest results into TestResultWebApp's database:

```
PyTestLog2DB resultxmlfile server user password database
```

Besides the executable file, you can also run tool as a Python module

```
python -m PyTestLog2DB resultxmlfile server user password database
```

## 2.2.2 Verify provided arguments

Sometimes, we just want to validate the **\*.xml** and database connection without changing anything in the database, the optional argument `--dryrun` can be used in this case.

When executing in dryrun mode, **PyTestLog2DB** will:

- Verify the provided **\*.xml** file is valid or not.
- Verify the database connection with provided credential.
- Verify other information which given in optional arguments.
- Just print all test cases will be imported without touching database.

This feature will helps you to ensure that there is no error when executing **PyTestLog2DB** tool (normal mode) to create new record(s) and update TestResultWebApp's database.

## 2.2.3 Searching \*.xml result file(s)

**PyTestLog2DB** accepts the first argument `resultxmlfile` can be a single file or the folder that contains multiple result files.

When the folder is used, **PyTestLog2DB** will only search for **\*.xml** file under given directory and exclude any file within subdirectories as default.

In case you have result file(s) under the subdirectory of given folder and want these result files will also be imported, the optional argument `--recursive` should be used when executing **PyTestLog2DB** command.

When `--recursive` argument is set, **PyTestLog2DB** will walk through the given directory and its subdirectories to discover and collect all available **\*.xml** for importing.

For example: your result folder has a structure as below:

```
logFolder
|_____ result_1.xml
|_____ result_2.xml
|_____ subFolder_1
|           |_____ result_sub_1.xml
|           |_____ subSubFolder
|                   |_____ result_sub_sub_1.xml
|_____ subFolder_2
|           |_____ result_sub_2.xml
```

- Without `--recursive` : only **result\_1.xml** and **result\_2.xml** are found for importing.
- With `--recursive` : all **result\_1.xml**, **result\_2.xml**, **result\_sub\_1.xml**, **result\_sub\_2.xml** and **result\_sub\_sub\_1.xml** will be imported.

## 2.2.4 Handle missing information

The \*.xml report file which is generated by PyTest contains only the testcase result(s) and less metadata information about the test execution such as *project/variant*, *software version*, *tester*, *component*, ... which are required by TestResultWebApp.

So that, **PyTestLog2DB** will handle those information with the default values as below:

- *project/variant*: **PyTest**
- *version\_sw*: execution time as `%Y%m%d_%H%M%S` format. E.g **20221128\_143547**
- *version\_hw*: empty string
- *version\_test*: empty string
- *component*: **unknown**
- *testtool*: current python and pytest version. E.g **PyTest 6.2.5 (Python 3.9.0)**
- *tester* current user.

However, those information can be specified as the command line parameters when executing **PyTestLog2DB** tool with below optional arguments:

- `--variant VARIANT`

To specify the Project/Variant information.

- `--versions VERSIONS`

To specify the Software version information.

- `--config CONFIG`

To provide a configuration \*.json file as `CONFIG` argument. Currently, the configuration \*.json supports below settings:

- `"version_sw"` to specify the **Software version** information as `string` value.
- `"variant"` to specify the **Project/Variant** as `string` value.



### Notice

These above settings with `--config CONFIG` will have lower priority than the commandline arguments `--variant VARIANT` and `--versions VERSIONS`

- `"version_hw"` to specify the **Hardware under-test version** as `string` value.
- `"version_test"` to specify the **Test version** as `string` value.
- `"testtool"` to specify the **Test toolchain** as `string` value.
- `"tester"` to specify the **Test user** as `string` value.
- `"components"` to specify the **Component** information which will be displayed on [TestResultWebApp](#). Value can be:

- \* `string` : to specify the same *component* for all testcase within this execution.

```
{
  "components" : "atest",
  ...
}
```

- \* `object` : to specify the mapping between *component* info and *classname* of testcase.

```
{
  "components": {
    "Testsuite1": "test-data.test_tsclass.TestSuite1",
    "Testsuite2": "test-data.test_tsclass.TestSuite2",
    "Others"    : [
```

```

        "test-data.test_ts1",
        "test-data.test_ts2"
    ]
},
...
}

```

Sample configuration json file:

```

{
  "variant"      : "MyProject",
  "version_sw"   : "0.1.1",
  "components"  : {
    "Testsuite1" : "test-data.test_tsclass.TestSuite1",
    "Testsuite2" : "test-data.test_tsclass.TestSuite2",
    "Others"     : [
      "test-data.test_ts1",
      "test-data.test_ts2"
    ]
  },
  "tester"      : "Tran Duy Ngoan"
}

```

As above sample configuration, the component mapping can be explained as below:

- Testcase(s) with classname **test-data.test\_tsclass.TestSuite1** is belong to component **Testsuite1**
- Testcase(s) with classname **test-data.test\_tsclass.TestSuite2** is belong to component **Testsuite2**
- And component **Others** contains all testcases with classnames **test-data.test\_ts1** and **test-data.test\_ts2**.

With this feature, the importing execution result can be displayed properly without missing any required information.

### 2.2.5 Append to existing execution result

**PyTestLog2DB** also allow you to append new test result(s) (missing from previous import, on other test setup, ...) into the existing execution result (identified by the **UUID**) in TestResultWebApp's database. The combination of optional arguments `--UUID <UUID>` and `--append` should be used in this case.

The `--append` makes **PyTestLog2DB** run in append mode and the `--UUID <UUID>` will specify the existing UUID of execution result to be appended.

For example, the result with UUID **c7991c07-4de2-4d65-8568-00c5556c82aa** is already existing in TestResultWebApp's database and you want to append result(s) in **output.xml** into that execution result.

The command will be used as below:

```
python -m PyTestLog2DB output.xml localhost testuser testpw testdb --UUID ↵
↵ c7991c07-4de2-4d65-8568-00c5556c82aa --append
```

If the argument `--UUID <UUID>` is used without `--append` :

- An error will be thrown and the import job is terminated immediately if the provided **UUID** is already existing

```

FATAL ERROR: Execution result with UUID 'c7991c07-4de2-4d65-8568-00c5556c82aa' is ↵
↵ already existing.
      Please use other UUID (or remove '--UUID' argument from your command) ↵
↵ for new execution result.
      Or add '--append' argument in your command to append new result(s) to ↵
↵ this existing UUID.

```

- The importing execution result will have an identifier as the provided **UUID** if that **UUID** is not existing

If the argument `--append` is used and:



- given UUID in `--UUID <UUID>` argument is existing: the new result(s) will be appended to that UUID
- given UUID in `--UUID <UUID>` argument is not existing: tool will be terminated immediately with below error

```
FATAL ERROR: Execution result with UUID 'c7991c07-4de2-4d65-8568-00c5556c82aa' is ↵
↳ not existing for appending.
    Please use an existing UUID to append new result(s) to that UUID.
    Or remove '--append' argument in your command to create new execution ↵
↳ result with given UUID.
```

- `--UUID <UUID>` is not provided: tool will be terminated immediately with below error

```
FATAL ERROR: '--append' argument should be used in combination with '--UUID UUID' ↵
↳ argument
```

### Notice

When using append mode and `project` / `variant` , `version_sw` are provided within `--variant VARIANT` , `--versions VERSIONS` or `--config CONFIG` arguments, they will be validated with the existing values in database.

An error will be raised in case the given value is not matched with the existing one. E.g:

```
FATAL ERROR: Given version software 'my_version' is different with existing ↵
↳ value 'SW01' in database.
```

## 2.3 Display on TestResultWebApp

When the result file(s) is importing successfully to database, the result for that execution will be available on TestResultWebApp.

Dashboard view:

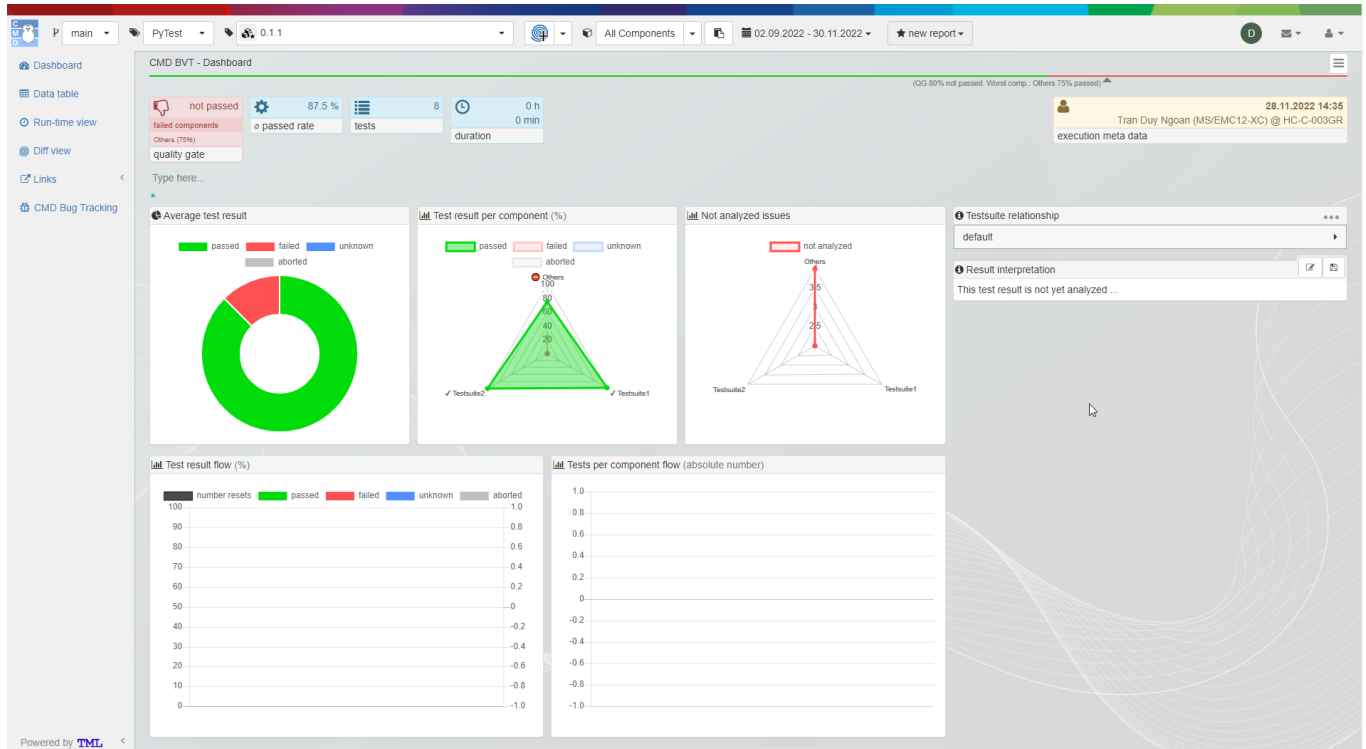


Figure 2.1: Dashboard view

Datatable view:

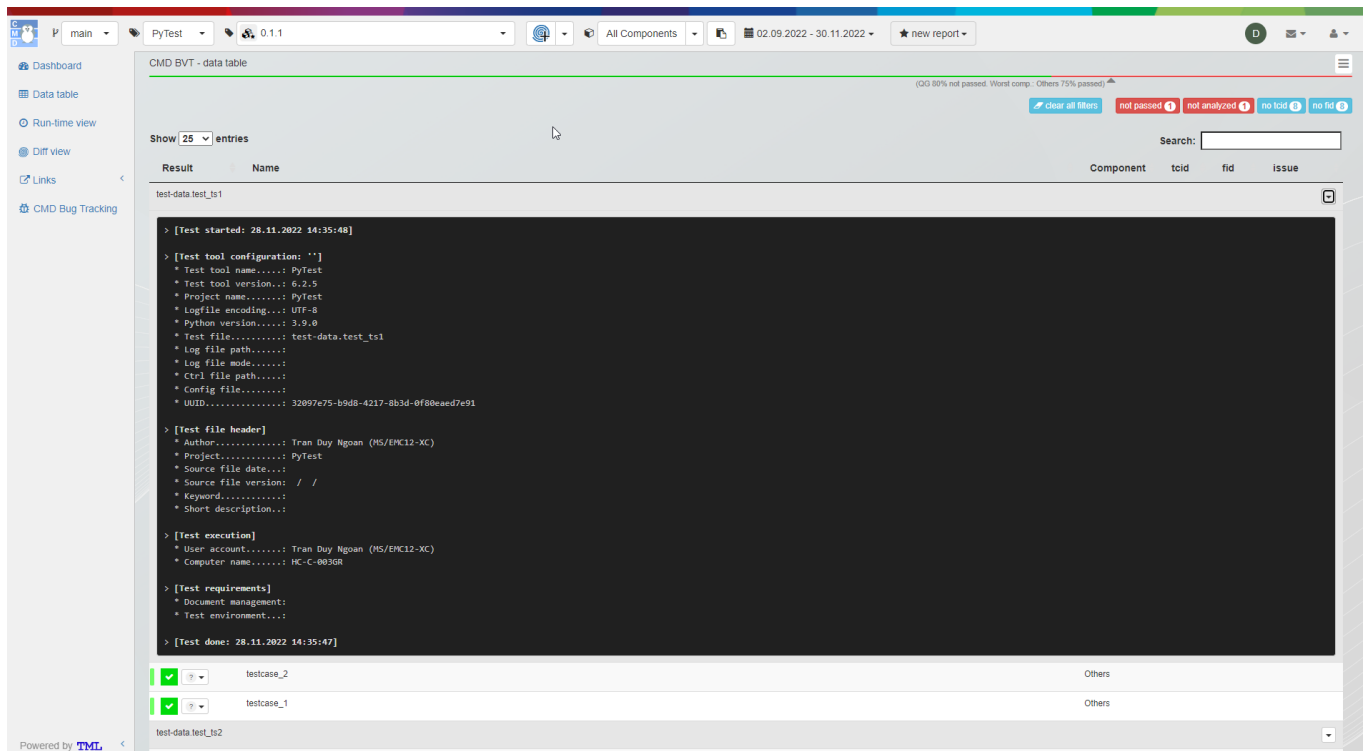


Figure 2.2: Datatable view

## Chapter 3

# CDataBase.py

### 3.1 Class: CDataBase

*Imported by:*

```
from PyTestLog2DB.CDataBase import CDataBase
```

CDataBase class play a role as mysqlclient and provide methods to interact with TestResultWebApp's database.

#### 3.1.1 Method: connect

Connect to the database with provided authentication and db info.

**Arguments:**

- `host`  
/ *Condition*: required / *Type*: str /  
URL which is hosted the TestResultWebApp's database.
- `user`  
/ *Condition*: required / *Type*: str /  
User name for database authentication.
- `passwd`  
/ *Condition*: required / *Type*: str /  
User's password for database authentication.
- `database`  
/ *Condition*: required / *Type*: str /  
Database name.
- `charset`  
/ *Condition*: optional / *Type*: str / *Default*: 'utf8' /  
The connection character set.
- `use_unicode`  
/ *Condition*: optional / *Type*: bool / *Default*: True /  
If True, CHAR and VARCHAR and TEXT columns are returned as Unicode strings, using the configured character set.

**Returns:**

*(no returns)*

### 3.1.2 Method: disconnect

Disconnect from TestResultWebApp's database.

**Arguments:**

(no arguments)

**Returns:**

(no returns)

### 3.1.3 Method: cleanAllTables

Delete all table data. Please be careful before calling this method.

**Arguments:**

(no arguments)

**Returns:**

(no returns)

### 3.1.4 Method: sCreateNewTestResult

Creates a new test result in `tbl_result`. This is the main table which is linked to all other data by means of `test_result_id`.

**Arguments:**

- `tbl_prj_project`  
/ Condition: required / Type: str /  
Project information.
- `tbl_prj_variant`  
/ Condition: required / Type: str /  
Variant information.
- `tbl_prj_branch`  
/ Condition: required / Type: str /  
Branch information.
- `tbl_test_result_id`  
/ Condition: required / Type: str /  
UUID of test result.
- `tbl_result_interpretation`  
/ Condition: required / Type: str /  
Result interpretation.
- `tbl_result_time_start`  
/ Condition: required / Type: str /  
Test result start time as format %Y-%m-%d %H:%M:%S.
- `tbl_result_time_end`  
/ Condition: required / Type: str /  
Test result end time as format %Y-%m-%d %H:%M:%S.
- `tbl_result_version_sw_target`  
/ Condition: required / Type: str /  
Software version information.

- `tbl_result_version_swtest`  
/ *Condition*: required / *Type*: str /  
Test version information.
- `tbl_result_version_target`  
/ *Condition*: required / *Type*: str /  
Hardware version information.
- `tbl_result_jenkinsurl`  
/ *Condition*: required / *Type*: str /  
Jenkinsurl in case test result is executed by jenkins.
- `tbl_result_reporting_qualitygate`  
/ *Condition*: required / *Type*: str /  
Qualitygate information for reporting.

**Returns:**

- `tbl_test_result_id`  
/ *Type*: str /  
`test_result_id` of new test result.

**3.1.5 Method: nCreateNewFile**

Create new file entry in `tbl_file` table.

**Arguments:**

- `tbl_file_name`  
/ *Condition*: required / *Type*: str /  
File name information.
- `tbl_file_tester_account`  
/ *Condition*: required / *Type*: str /  
Tester account information.
- `tbl_file_tester_machine`  
/ *Condition*: required / *Type*: str /  
Test machine information.
- `tbl_file_time_start`  
/ *Condition*: required / *Type*: str /  
Test file start time as format `%Y-%m-%d %H:%M:%S`.
- `tbl_file_time_end`  
/ *Condition*: required / *Type*: str /  
Test file end time as format `%Y-%m-%d %H:%M:%S`.
- `tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
UUID of test result for linking to `tbl_result` table.
- `tbl_file_origin`  
/ *Condition*: required / *Type*: str /  
Origin (test framework) of test file. Default is "ROBFW"

**Returns:**

- `iInsertedID`  
/ *Type*: int /  
ID of new entry.

### 3.1.6 Method: vCreateNewHeader

Create a new header entry in `tbl_file_header` table which is linked with the file.

**Arguments:**

- `tbl_file_id`  
/ *Condition*: required / *Type*: int /  
File ID information.
- `tbl_header.testtoolconfiguration.testtoolname`  
/ *Condition*: required / *Type*: str /  
Test tool name.
- `tbl_header.testtoolconfiguration.testtoolversionstring`  
/ *Condition*: required / *Type*: str /  
Test tool version.
- `tbl_header.testtoolconfiguration.projectname`  
/ *Condition*: required / *Type*: str /  
Project name.
- `tbl_header.testtoolconfiguration.logfileencoding`  
/ *Condition*: required / *Type*: str /  
Encoding of logfile.
- `tbl_header.testtoolconfiguration.pythonversion`  
/ *Condition*: required / *Type*: str /  
Python version info.
- `tbl_header.testtoolconfiguration.testfile`  
/ *Condition*: required / *Type*: str /  
Test file name.
- `tbl_header.testtoolconfiguration.logfilepath`  
/ *Condition*: required / *Type*: str /  
Path to log file.
- `tbl_header.testtoolconfiguration.logfilemode`  
/ *Condition*: required / *Type*: str /  
Mode of log file.
- `tbl_header.testtoolconfiguration.ctrlfilepath`  
/ *Condition*: required / *Type*: str /  
Path to control file.
- `tbl_header.testtoolconfiguration.configfile`  
/ *Condition*: required / *Type*: str /  
Path to configuration file.
- `tbl_header.testtoolconfiguration.confname`  
/ *Condition*: required / *Type*: str /  
Configuration name.
- `tbl_header.testfileheader.author`  
/ *Condition*: required / *Type*: str /  
File author.

- `.tbl_header.testfileheader_project`  
/ *Condition*: required / *Type*: str /  
Project information.
- `.tbl_header.testfileheader_testfiledate`  
/ *Condition*: required / *Type*: str /  
File creation date.
- `.tbl_header.testfileheader_version_major`  
/ *Condition*: required / *Type*: str /  
File major version.
- `.tbl_header.testfileheader_version_minor`  
/ *Condition*: required / *Type*: str /  
File minor version.
- `.tbl_header.testfileheader_version_patch`  
/ *Condition*: required / *Type*: str /  
File patch version.
- `.tbl_header.testfileheader_keyword`  
/ *Condition*: required / *Type*: str /  
File keyword.
- `.tbl_header.testfileheader_shortdescription`  
/ *Condition*: required / *Type*: str /  
File short description.
- `.tbl_header.testexecution_useraccount`  
/ *Condition*: required / *Type*: str /  
Tester account who run the execution.
- `.tbl_header.testexecution_computername`  
/ *Condition*: required / *Type*: str /  
Machine name which is executed on.
- `.tbl_header.testrequirements_documentmanagement`  
/ *Condition*: required / *Type*: str /  
Requirement management information.
- `.tbl_header.testrequirements_testenvironment`  
/ *Condition*: required / *Type*: str /  
Requirement environment information.
- `.tbl_header.testbenchconfig_name`  
/ *Condition*: required / *Type*: str /  
Testbench configuration name.
- `.tbl_header.testbenchconfig_data`  
/ *Condition*: required / *Type*: str /  
Testbench configuration data.
- `.tbl_header.preprocessor_filter`  
/ *Condition*: required / *Type*: str /  
Preprocessor filter information.
- `.tbl_header.preprocessor_parameters`  
/ *Condition*: required / *Type*: str /  
Preprocessor parameters definition.

**Returns:***(no returns)*

### 3.1.7 Method: nCreateNewSingleTestCase

Create single testcase entry in `tbl_case` table immediately.

**Arguments:**

- `tbl_case_name`  
/ *Condition*: required / *Type*: str /  
Test case name.
- `tbl_case_issue`  
/ *Condition*: required / *Type*: str /  
Test case issue ID.
- `tbl_case_tcid`  
/ *Condition*: required / *Type*: str /  
Test case ID (used for testmanagement tool).
- `tbl_case_fid`  
/ *Condition*: required / *Type*: str /  
Test case requirement (function) ID.
- `tbl_case_testnumber`  
/ *Condition*: required / *Type*: int /  
Order of test case in file.
- `tbl_case_repeatcount`  
/ *Condition*: required / *Type*: int /  
Test case repeatition count.
- `tbl_case_component`  
/ *Condition*: required / *Type*: str /  
Component which test case is belong to.
- `tbl_case_time_start`  
/ *Condition*: required / *Type*: str /  
Test case start time as format %Y-%m-%d %H:%M:%S.
- `tbl_case_result_main`  
/ *Condition*: required / *Type*: str /  
Test case main result.
- `tbl_case_result_state`  
/ *Condition*: required / *Type*: str /  
Test case completion state.
- `tbl_case_result_return`  
/ *Condition*: required / *Type*: int /  
Test case result code (as integer).
- `tbl_case_counter_resets`  
/ *Condition*: required / *Type*: int /  
Counter of target reset within test case execution.
- `tbl_case_lastlog`  
/ *Condition*: required / *Type*: str /  
Traceback information when test case is failed.



- `tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
UUID of test result for linking to file in `tbl_result` table.
- `tbl_file_id`  
/ *Condition*: required / *Type*: int /  
Test file ID for linking to file in `tbl_file` table.

**Returns:**

- `iInsertedID`  
/ *Type*: int /  
ID of new entry.

**3.1.8 Method: `nCreateNewTestCase`**

Create bulk of test case entries: new test cases are buffered and inserted as bulk.

Once `_NUM_BUFFERD_ELEMENTS_FOR_EXECUTEMANY` is reached, the creation query is executed.

**Arguments:**

- `tbl_case_name`  
/ *Condition*: required / *Type*: str /  
Test case name.
- `tbl_case_issue`  
/ *Condition*: required / *Type*: str /  
Test case issue ID.
- `tbl_case_tcid`  
/ *Condition*: required / *Type*: str /  
Test case ID (used for testmanagement tool).
- `tbl_case_fid`  
/ *Condition*: required / *Type*: str /  
Test case requirement (function) ID.
- `tbl_case_testnumber`  
/ *Condition*: required / *Type*: int /  
Order of test case in file.
- `tbl_case_repeatcount`  
/ *Condition*: required / *Type*: int /  
Test case repeatition count.
- `tbl_case_component`  
/ *Condition*: required / *Type*: str /  
Component which test case is belong to.
- `tbl_case_time_start`  
/ *Condition*: required / *Type*: str /  
Test case start time as format `%Y-%m-%d %H:%M:%S`.
- `tbl_case_result_main`  
/ *Condition*: required / *Type*: str /  
Test case main result.

- `.tbl_case_result_state`  
/ *Condition*: required / *Type*: str /  
Test case completion state.
- `.tbl_case_result_return`  
/ *Condition*: required / *Type*: int /  
Test case result code (as integer).
- `.tbl_case_counter_resets`  
/ *Condition*: required / *Type*: int /  
Counter of target reset within test case execution.
- `.tbl_case_lastlog`  
/ *Condition*: required / *Type*: str /  
Traceback information when test case is failed.
- `.tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
UUID of test result for linking to file in `tbl_result` table.
- `.tbl_file_id`  
/ *Condition*: required / *Type*: int /  
Test file ID for linking to file in `tbl_file` table.

**Returns:***(no returns)***3.1.9 Method: vCreateTags**

Create tag entries.

**Arguments:**

- `.tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
UUID of test result.
- `.tbl_usr_result_tags`  
/ *Condition*: required / *Type*: str /  
User tags information.

**Returns:***(no returns)***3.1.10 Method: vSetCategory**

Create category entry.

**Arguments:**

- `.tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
UUID of test result.
- `tbl_result_category_main`  
/ *Condition*: required / *Type*: str /  
Category information.

**Returns:***(no returns)*

### 3.1.11 Method: vUpdateStartTime

Create start-end time entry.

**Arguments:**

- `_tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
UUID of test result.
- `_tbl_result_time_start`  
/ *Condition*: required / *Type*: str /  
Result start time as format `%Y-%m-%d %H:%M:%S`.
- `_tbl_result_time_end`  
/ *Condition*: required / *Type*: str /  
Result end time as format `%Y-%m-%d %H:%M:%S`.

**Returns:**

(no returns)

### 3.1.12 Method: arGetCategories

Get existing categories.

**Arguments:**

(no arguments)

**Returns:**

- `arCategories`  
/ *Type*: list /  
List of existing categories.

### 3.1.13 Method: vCreateAbortReason

Create abort reason entry.

**Arguments:**

- `_tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
UUID of test result.
- `_tbl_abort_reason`  
/ *Condition*: required / *Type*: str /  
Abort reason.
- `_tbl_abort_message`  
/ *Condition*: required / *Type*: str /  
Detail message of abort.

**Returns:**

(no returns)

### 3.1.14 Method: vCreateReanimation

Create reanimation entry.

**Arguments:**

- `_tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
UUID of test result.
- `_tbl_num_of_reanimation`  
/ *Condition*: required / *Type*: int /  
Counter of target reanimation during execution.

**Returns:**

(no returns)

### 3.1.15 Method: vCreateCCRdata

Create CCR data per test case.

**Arguments:**

- `_tbl_test_case_id`  
/ *Condition*: required / *Type*: int /  
test case ID.
- `lCCRdata`  
/ *Condition*: required / *Type*: list /  
list of CCR data.

**Returns:**

(no returns)

### 3.1.16 Method: vFinishTestResult

Finish upload:

- First do bulk insert of rest of test cases if buffer is not empty.
- Then set state to "new report".

**Arguments:**

- `_tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
UUID of test result.

**Returns:**

(no returns)

### 3.1.17 Method: vUpdateEvtbls

Call `update_evtbls` stored procedure.

**Arguments:**

(no arguments)

**Returns:**

(no returns)

### 3.1.18 Method: vUpdateEvtbl

Call `update_evtbl` stored procedure to update provided `test_result_id`.

**Arguments:**

- `tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
UUID of test result.

**Returns:**

(no returns)

### 3.1.19 Method: vEnableForeignKeyCheck

Switch `foreign_key_checks` flag.

**Arguments:**

- `enable`  
/ *Condition*: optional / *Type*: bool / *Default*: True /  
If True, enable foreign key constraint.

**Returns:**

(no returns)

### 3.1.20 Method: sGetLatestFileID

Get latest file ID from `tbl_file` table.

**Arguments:**

- `tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
UUID of test result.

**Returns:**

- `tbl_file_id`  
/ *Type*: int /  
File ID.

### 3.1.21 Method: vUpdateFileEndTime

Update test file end time.

**Arguments:**

- `tbl_file_id`  
/ *Condition*: required / *Type*: int /  
File ID to be updated.
- `tbl_file_time_end`  
/ *Condition*: required / *Type*: str /  
File end time as format `%Y-%m-%d %H:%M:%S`.

**Returns:**

(no returns)

### 3.1.22 Method: vUpdateResultEndTime

Update test result end time.

**Arguments:**

- `_tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
Result UUID to be updated.
- `_tbl_result_time_end`  
/ *Condition*: required / *Type*: str /  
Result end time as format `%Y-%m-%d %H:%M:%S`.

**Returns:**

(no returns)

### 3.1.23 Method: bExistingResultID

Verify the given test result UUID is existing in `_tbl_result` table or not.

**Arguments:**

- `_tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
Result UUID to be verified.

**Returns:**

- `bExisting`  
/ *Type*: bool /  
True if test result UUID is already existing.

### 3.1.24 Method: arGetProjectVersionSWByID

Get the project and version\_sw information of given `test_result_id`

**Arguments:**

- `_tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
Result UUID to be get the information.

**Returns:**

- / *Type*: tuple /  
None if test result UUID is not existing, else the tuple which contains project and version\_sw: (project, variant) is returned.

## Chapter 4

# pytestlog2db.py

### 4.1 Function: collect\_xml\_result\_files

Collect all valid Robot xml result file in given path.

**Arguments:**

- `path`  
/ *Condition*: required / *Type*: str /  
Path to Robot result folder or file to be searched.
- `search_recursive`  
/ *Condition*: optional / *Type*: bool / *Default*: False /  
If set, the given path is searched recursively for xml result files.

**Returns:**

- `lFoundFiles`  
/ *Type*: list /  
List of valid xml result file(s) in given path.

### 4.2 Function: validate\_xml\_result

Verify the given xml result file is valid or not.

**Arguments:**

- `xml_result`  
/ *Condition*: required / *Type*: str /  
Path to PyTest result file.
- `xsd_schema`  
/ *Condition*: optional / *Type*: str / *Default*: <installed\_folder>/xsd/junit.xsd /  
Path to Robot schema \*.xsd file.
- `exit_on_failure`  
/ *Condition*: optional / *Type*: bool / *Default*: True /  
If set, exit with fatal error if the schema validation of given xml file failed.

**Returns:**

- / *Type*: bool /  
True if the given xml result is valid with the provided schema \*.xsd.

### 4.3 Function: is\_valid\_uuid

Verify the given UUID is valid or not.

#### Arguments:

- `uuid_to_test`  
/ *Condition*: required / *Type*: str /  
UUID to be verified.
- `version`  
/ *Condition*: optional / *Type*: int / *Default*: 4 /  
UUID version.

#### Returns:

- `bValid`  
/ *Type*: bool /  
True if the given UUID is valid.

### 4.4 Function: is\_valid\_config

Validate the json configuration base on given schema.

Default schema supports below information:

```
CONFIG_SCHEMA = {
    "components": [str, dict],
    "variant"    : str,
    "version_sw" : str,
    "version_hw" : str,
    "version_test": str,
    "testtool"   : str,
    "tester"     : str
}
```

#### Arguments:

- `dConfig`  
/ *Condition*: required / *Type*: dict /  
Json configuration object to be verified.
- `dSchema`  
/ *Condition*: optional / *Type*: dict / *Default*: CONFIG\_SCHEMA /  
Schema for the validation.
- `bExitOnFail`  
/ *Condition*: optional / *Type*: bool / *Default*: True /  
If True, exit tool in case the validation is fail.

#### Returns:

- `bValid`  
/ *Type*: bool /  
True if the given json configuration data is valid.



## 4.5 Function: validate\_db\_str\_field

Validate the string value for database field bases on its acceptable length.The error will be thrown and tool terminates if the verification is failed.

### Arguments:

- field  
/ *Condition*: required / *Type*: str /  
Field name in the database.
- value  
/ *Condition*: required / *Type*: str /  
String value to be verified.

### Returns:

/ *Type*: str /  
String value if the verification is fine.

## 4.6 Function: truncate\_db\_str\_field

Truncate input string before importing to database.

### Arguments:

- sString  
/ *Condition*: required / *Type*: str /  
Input string for truncation.
- iMaxLength  
/ *Condition*: required / *Type*: int /  
Max length of string to be allowed.
- sEndChars  
/ *Condition*: optional / *Type*: str / *Default*: "..." /  
End characters which are added to end of truncated string.

### Returns:

- content  
/ *Type*: str /  
String after truncation.

## 4.7 Function: parse\_pytest\_xml

Parse and merge all given pytest \*.xml result files into one result file.Besides, starttime and endtime are also calculated and added in the merged result.

### Arguments:

- xmlfiles  
/ *Condition*: required / *Type*: str /  
Path to pytest \*.xml result file(s).

### Returns:

- oMergedTree  
/ *Type*: etree.Element object /  
The result object which is parsed from provided pytest \*.xml result file(s).

## 4.8 Function: get\_branch\_from\_swversion

Get branch name from software version information.

Convention of branch information in suffix of software version:

- All software version with .0F is the main/freature branch. The leading number is the current year. E.g. 17.0F03
- All software version with .1S, .2S, ... is a stabi branch. The leading number is the year of branching out for stabilization. The number before "S" is the order of branching out in the year.

### Arguments:

- `sw_version`  
/ *Condition*: required / *Type*: str /  
Software version.

### Returns:

- `branch_name`  
/ *Type*: str /  
Branch name.

## 4.9 Function: get\_test\_result

Get test result from provided Testcase object.

### Arguments:

- `oTest`  
/ *Condition*: required / *Type*: `etree.Element` object /  
Testcase object.

### Returns:

/ *Type*: tuple /  
Testcase result which contains `result_main`, `lastlog` and `result_return`.

## 4.10 Function: process\_component\_info

Return the component name bases on provided testcase's classname and component mapping.

### Arguments:

- `dConfig`  
/ *Condition*: required / *Type*: dict /  
Configuration which contains the mapping between component and testcase's classname.
- `sTestClassname`  
/ *Condition*: required / *Type*: str /  
Testcase's classname to get the component info.

### Returns:

- `sComponent`  
/ *Type*: tuple /  
Component name maps with given testcase's classname. Otherwise, "unknown" will be return as component name.

## 4.11 Function: process\_config\_file

Parse information from configuration file:

- component:

```
{
  "components" : {
    "componentA" : "componentA/path/to/testcase",
    "componentB" : "componentB/path/to/testcase",
    "componentC" : [
      "componentC1/path/to/testcase",
      "componentC2/path/to/testcase"
    ]
  }
}
```

Then all testcases which their paths contain componentA/path/to/testcase will be belong to componentA, ...

### Arguments:

- config\_file  
/ Condition: required / Type: str /  
Path to configuration file.

### Returns:

- dConfig  
/ Type: dict /  
Configuration object.

## 4.12 Function: process\_test

Process test case data and create new test case record.

### Arguments:

- db  
/ Condition: required / Type: CDataBase object /  
CDataBase object.
- test  
/ Condition: required / Type: etree.Element object /  
Robot test object.
- file\_id  
/ Condition: required / Type: int /  
File ID for mapping.
- test\_result\_id  
/ Condition: required / Type: str /  
Test result ID for mapping.
- component\_name  
/ Condition: required / Type: str /  
Component name which this test case is belong to.

- `test_number`  
/ *Condition*: required / *Type*: int /  
Order of test case in file.
- `start_time`  
/ *Condition*: required / *Type*: datetime object /  
Start time of testcase.

**Returns:**

/ *Type*: float /  
Duration (in second) of test execution.

## 4.13 Function: process\_suite

Process to the lowest suite level (test file):

- Create new file and its header information
- Then, process all child test cases

**Arguments:**

- `db`  
/ *Condition*: required / *Type*: CDataBase object /  
CDataBase object.
- `suite`  
/ *Condition*: required / *Type*: etree.Element object /  
Robot suite object.
- `tbl_test_result_id`  
/ *Condition*: required / *Type*: str /  
UUID of test result for importing.
- `dConfig`  
/ *Condition*: required / *Type*: dict / *Default*: None /  
Configuration data which is parsed from given json configuration file.

**Returns:**

(no returns)

## 4.14 Function: PyTestLog2DB

Import pytest results from \*.xml file(s) to TestResultWebApp's database.

Flow to import PyTest results to database:

1. Process provided arguments from command line.
2. Parse PyTest results.
3. Connect to database.
4. Import results into database.
5. Disconnect from database.

**Arguments:**

- args  
/ *Condition*: required / *Type*: ArgumentParser object /  
Argument parser object which contains:
  - resultxmlfile : path to the xml result file or directory of result files to be imported.
  - server : server which hosts the database (IP or URL).
  - user : user for database login.
  - password : password for database login.
  - database : database name.
  - recursive : if True, then the path is searched recursively for log files to be imported.
  - dryrun : if True, then verify all input arguments (includes DB connection) and show what would be done.
  - append : if True, then allow to append new result(s) to existing execution result UUID which is provided by --UUID argument.
  - UUID : UUID used to identify the import and version ID on TestResultWebApp.
  - variant : variant name to be set for this import.
  - versions : metadata: Versions (Software;Hardware;Test) to be set for this import.
  - config : configuration json file for component mapping information.

**Returns:***(no returns)*

## 4.15 Class: Logger

*Imported by:*

```
from PyTestLog2DB.pytestlog2db import Logger
```

Logger class for logging message.

### 4.15.1 Method: config

Configure Logger class.

**Arguments:**

- output\_console  
/ *Condition*: optional / *Type*: bool / *Default*: True /  
Write message to console output.
- output\_logfile  
/ *Condition*: optional / *Type*: str / *Default*: None /  
Path to log file output.
- indent  
/ *Condition*: optional / *Type*: int / *Default*: 0 /  
Offset indent.
- dryrun  
/ *Condition*: optional / *Type*: bool / *Default*: True /  
If set, a prefix as 'dryrun' is added for all messages.

**Returns:***(no returns)*

### 4.15.2 Method: log

Write log message to console/file output.

**Arguments:**

- `msg`  
/ *Condition*: optional / *Type*: str / *Default*: "" /  
Message which is written to output.
- `color`  
/ *Condition*: optional / *Type*: str / *Default*: None /  
Color style for the message.
- `indent`  
/ *Condition*: optional / *Type*: int / *Default*: 0 /  
Offset indent.

**Returns:**

(no returns)

### 4.15.3 Method: log\_warning

Write warning message to console/file output.

**Arguments:**

- `msg`  
/ *Condition*: required / *Type*: str /  
Warning message which is written to output.

**Returns:**

(no returns)

### 4.15.4 Method: log\_error

Write error message to console/file output.

**Arguments:**

- `msg`  
/ *Condition*: required / *Type*: str /  
Error message which is written to output.
- `fatal_error`  
/ *Condition*: optional / *Type*: bool / *Default*: False /  
If set, tool will terminate after logging error message.

**Returns:**

(no returns)

## Chapter 5

# Appendix

About this package:

Table 5.1: Package setup

Setup parameter	Value
Name	PyTestLog2DB
Version	0.1.7
Date	10.03.2023
Description	Imports pytest result(s) to TestResultWebApp database
Package URL	<a href="#">python-pytestlog2db</a>
Author	Tran Duy Ngoan
Email	<a href="mailto:Ngoan.TranDuy@vn.bosch.com">Ngoan.TranDuy@vn.bosch.com</a>
Language	Programming Language :: Python :: 3
License	License :: OSI Approved :: Apache Software License
OS	Operating System :: OS Independent
Python required	>=3.0
Development status	Development Status :: 4 - Beta
Intended audience	Intended Audience :: Developers
Topic	Topic :: Software Development

## Chapter 6

# History

<b>0.1.0</b>	11/2022	
<i>Initial version</i>		
<b>0.1.1</b>	22.11.2022	
<i>Initial implementation of PyTestLog2DB tool</i>		
<b>0.1.2</b>	01.12.2022	
<i>Add tool's document</i>		
<b>0.1.4</b>	24.02.2023	
<i>- Rename renamed key "components" in configuration json - Change behaviour of append mode without UUID to raise a fatal error - Improve console log for append mode and matched component for testcase - Add command line arguments -versions and -variant</i>		
<b>0.1.5</b>	27.02.2023	
<i>Change behaviour of append mode with not existing UUID to raise a fatal error</i>		
<b>0.1.6</b>	01.03.2023	
<i>Add a validation for xmlresultfile with junitxml schema</i>		
<b>0.1.7</b>	10.03.2023	
<i>Add a validation for existing project/variant and version_sw in db when using append mode</i>		

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