${\bf PyTestLog2DB}$

v. 0.1.1

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Introduction

TODO

Description

TODO

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_sw_test / 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. Deafult 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:

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:

3.1.11 Method: vUpdateStartEndTime

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 exsiting 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:

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:

Returns:

(no returns)

3.1.16 Method: vFinishTestResult

Finish upload:

- $\bullet\,$ 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:

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:

3.1.22 Method: vUpdateResultEndTime

Update test result end time.

Arguments:

```
_tbl_test_result_id
/ Condition: required / Type: int /
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: int /
Result UUID to be verified.
```

Returns:

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

pytestlog2db.py

4.1 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.
```

4.2 Function: is_valid_config

Validate the json configuration base on given schema.

Default schema supports below information:

```
CONFIG_SCHEMA = {
    "component" : [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.
```

4.3 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
```

value
 / Condition: required / Type: str /
 String value to be verified.

Returns:

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

4.4 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.
```

4.5 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).
```

4.6 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.
```

4.7 Function: get_test_result

Get test result from provided Testcase object.

Arguments:

```
    oTest
        / Condition: required / Type: etree._Element object /
Testcase object.
```

Returns:

```
/ Type: typle /
```

Testcase result which contains result_main, lastlog and result_return.

4.8 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: typle /
Component name maps with given testcase's classname. Otherwise, "unknown" will be return as component name.
```

4.9 Function: process_config_file

Parse information from configuration file:

• component:

```
"component" : {
    "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.
```

4.10 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 /
```

Returns:

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

4.11 Function: process_suite

Process to the lowest suite level (test file):

Start time of testcase.

- 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)

4.12 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 just check the RQM authentication 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.
- config: configuration json file for component mapping information.

Returns:

(no returns)

4.13 Class: Logger

Imported by:

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

Logger class for logging message.

4.13.1 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)

4.13.2 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)

4.13.3 Method: log_warning

Write warning message to console/file output.

Arguments:

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

Returns:

4.13.4 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:

Appendix

About this package:

Table 5.1: Package setup

Setup parameter	Value
Name	PyTestLog2DB
Version	0.1.1
Date	22.11.2022
Description	Imports pytest result(s) to TestResultWebApp database
Package URL	python-pytestlog2db
Author	Tran Duy Ngoan
Email	Ngoan.TranDuy@vn.bosch.com
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

History

0.1.0	11/2022		
Initial ver	sion		
0.1.1	22.11.2022		
Initial implementation of PyTestLog2DB tool			

 ${\bf PyTestLog2DB.pdf}$

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