

Unittest for fstools

January 8, 2021

Contents

1	Test Information	4
1.1	Test Candidate Information	4
1.2	Unittest Information	4
1.3	Test System Information	4
2	Statistic	4
2.1	Test-Statistic for testrun with python 2.7.18 (final)	4
2.2	Test-Statistic for testrun with python 3.8.5 (final)	5
2.3	Coverage Statistic	5
3	Testcases with no corresponding Requirement	6
3.1	Summary for testrun with python 2.7.18 (final)	6
3.1.1	Test creating a folder with fstools.mkdir	6
3.1.2	Test creating a folder with fstools.mkdir, when target exists	6
3.1.3	Test for fstools.dirlist (not existing folder)	7
3.1.4	Test for fstools.dirlist (not rekursive)	7
3.1.5	Test for fstools.dirlist (rekursive)	7
3.1.6	Test for fstools.filelist (not existing folder)	8
3.1.7	Test for fstools.filelist (not rekursive; all files)	8
3.1.8	Test for fstools.filelist (not rekursive; files ending with .rw)	9
3.1.9	Test for fstools.filelist (rekursive; all files)	9
3.1.10	Test for fstools.filelist (rekursive; files ending with .ro)	9
3.1.11	Test for fstools.is_writable	10
3.1.12	Test for fstools.openlocked_blocking	10
3.1.13	Test for fstools.openlocked_non_blocking	11
3.1.14	Test for fstools.uid	11
3.2	Summary for testrun with python 3.8.5 (final)	11
3.2.1	Test creating a folder with fstools.mkdir	11
3.2.2	Test creating a folder with fstools.mkdir, when target exists	12
3.2.3	Test for fstools.dirlist (not existing folder)	12

3.2.4	Test for fstools.dirlist (not rekursive)	13
3.2.5	Test for fstools.dirlist (rekursive)	13
3.2.6	Test for fstools.filelist (not existing folder)	14
3.2.7	Test for fstools.filelist (not rekursive; all files)	14
3.2.8	Test for fstools.filelist (not rekursive; files ending with .rw)	14
3.2.9	Test for fstools.filelist (rekursive; all files)	15
3.2.10	Test for fstools.filelist (rekursive; files ending with .ro)	15
3.2.11	Test for fstools.is_writable	16
3.2.12	Test for fstools.openlocked_blocking	16
3.2.13	Test for fstools.openlocked_non_blocking	16
3.2.14	Test for fstools.uid	17
A	Trace for testrun with python 2.7.18 (final)	18
A.1	Tests with status Failed (1)	18
A.1.1	Test for fstools.uid	18
A.2	Tests with status Info (13)	18
A.2.1	Test creating a folder with fstools.mkdir	18
A.2.2	Test creating a folder with fstools.mkdir, when target exists	20
A.2.3	Test for fstools.is_writable	20
A.2.4	Test for fstools.filelist (rekursive; all files)	22
A.2.5	Test for fstools.filelist (rekursive; files ending with .ro)	23
A.2.6	Test for fstools.filelist (not rekursive; all files)	24
A.2.7	Test for fstools.filelist (not rekursive; files ending with .rw)	25
A.2.8	Test for fstools.filelist (not existing folder)	26
A.2.9	Test for fstools.dirlist (rekursive)	26
A.2.10	Test for fstools.dirlist (not rekursive)	28
A.2.11	Test for fstools.dirlist (not existing folder)	29
A.2.12	Test for fstools.openlocked_non_blocking	29
A.2.13	Test for fstools.openlocked_blocking	30

B Trace for testrun with python 3.8.5 (final)	31
B.1 Tests with status Failed (1)	31
B.1.1 Test for fstools.uid	31
B.2 Tests with status Info (13)	32
B.2.1 Test creating a folder with fstools.mkdir	32
B.2.2 Test creating a folder with fstools.mkdir, when target exists	33
B.2.3 Test for fstools.is_writable	34
B.2.4 Test for fstools.filelist (rekursive; all files)	35
B.2.5 Test for fstools.filelist (rekursive; files ending with .ro)	36
B.2.6 Test for fstools.filelist (not rekursive; all files)	37
B.2.7 Test for fstools.filelist (not rekursive; files ending with .rw)	38
B.2.8 Test for fstools.filelist (not existing folder)	39
B.2.9 Test for fstools.dirlist (rekursive)	40
B.2.10 Test for fstools.dirlist (not rekursive)	41
B.2.11 Test for fstools.dirlist (not existing folder)	42
B.2.12 Test for fstools.openlocked_non_blocking	43
B.2.13 Test for fstools.openlocked_blocking	44
C Test-Coverage	45
C.1 fstools	45
C.1.1 fstools.__init__.py	45

1 Test Information

1.1 Test Candidate Information

The Module `fstools` is designed to help on all issues with files and folders. For more Information read the documentation.

Library Information	
Name	fstools
State	In development
Supported Interpreters	python2, python3
Version	32ca1c130dfa068b79f4e96071c46448

Dependencies	
--------------	--

1.2 Unittest Information

Unittest Information	
Version	cd70a42925cb3a7a0216abc08af6b9c5
Testruns with	python 2.7.18 (final), python 3.8.5 (final)

1.3 Test System Information

System Information	
Architecture	64bit
Distribution	Linux Mint 20 ulyana
Hostname	ahorn
Kernel	5.4.0-59-generic (#65-Ubuntu SMP Thu Dec 10 12:01:51 UTC 2020)
Machine	x86_64
Path	/user_data/data/dirk/prj/unittest/fstools/unittest
System	Linux
Username	dirk

2 Statistic

2.1 Test-Statistic for testrun with python 2.7.18 (final)

Number of tests	14
Number of successfull tests	13
Number of possibly failed tests	0
Number of failed tests	1

Executionlevel	Full Test (all defined tests)
Time consumption	0.547s

2.2 Test-Statistic for testrun with python 3.8.5 (final)

Number of tests	14
Number of successfull tests	13
Number of possibly failed tests	0
Number of failed tests	1

Executionlevel	Full Test (all defined tests)
Time consumption	0.546s

2.3 Coverage Statistic

Module- or Filename	Line-Coverage	Branch-Coverage
fstools	80.2%	77.5%
fstools.__init__.py	80.2%	

3 Testcases with no corresponding Requirement

3.1 Summary for testrun with python 2.7.18 (final)

3.1.1 Test creating a folder with fstools.mkdir

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.1!

Testrun:	python 2.7.18 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init_.py (22)
Start-Time:	2021-01-08 17:31:51,180
Finished-Time:	2021-01-08 17:31:51,184
Time-Consumption	0.004s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	fstools.mkdir executed to creating folder .../mkdir_test_folder_1
Success	Returnvalue of fstools.mkdir is correct (Content True and Type is <type 'bool'>).
Success	Returnvalue of os.path.isdir is correct (Content True and Type is <type 'bool'>).
Info	fstools.mkdir executed to creating folder .../mkdir_test_folder_2/sub_folder
Success	Returnvalue of fstools.mkdir is correct (Content True and Type is <type 'bool'>).
Success	Returnvalue of os.path.isdir is correct (Content True and Type is <type 'bool'>).
Info	fstools.mkdir executed to creating folder .../mkdir_test_folder_3
Success	Returnvalue of fstools.mkdir is correct (Content True and Type is <type 'bool'>).
Success	Returnvalue of os.path.isdir is correct (Content True and Type is <type 'bool'>).

3.1.2 Test creating a folder with fstools.mkdir, when target exists

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.2!

Testrun:	python 2.7.18 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init_.py (23)
Start-Time:	2021-01-08 17:31:51,184
Finished-Time:	2021-01-08 17:31:51,186
Time-Consumption	0.002s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	fstools.mkdir executed to creating folder .../writable_folder
Success	Returnvalue of fstools.mkdir is correct (Content True and Type is <type 'bool'>).
Info	fstools.mkdir executed to creating folder .../writable_file.rw
Success	Returnvalue of fstools.mkdir is correct (Content False and Type is <type 'bool'>).

3.1.3 Test for fstools.dirlist (not existing folder)

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.11!

Testrun:	python 2.7.18 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init....py (34)
Start-Time:	2021-01-08 17:31:51,205
Finished-Time:	2021-01-08 17:31:51,208
Time-Consumption	0.003s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Executing dirlist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_existing_folder
Success	Returnvalue of dirlist is correct (Content [] and Type is <type 'list'>).

3.1.4 Test for fstools.dirlist (not rekursive)

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.10!

Testrun:	python 2.7.18 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init....py (33)
Start-Time:	2021-01-08 17:31:51,203
Finished-Time:	2021-01-08 17:31:51,205
Time-Consumption	0.002s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Executing dirlist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Success	Returnvalue of dirlist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_folder', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder'] and Type is <type 'list'>).

3.1.5 Test for fstools.dirlist (rekursive)

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.9!

Testrun:	python 2.7.18 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init....py (32)
Start-Time:	2021-01-08 17:31:51,201
Finished-Time:	2021-01-08 17:31:51,203
Time-Consumption	0.002s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Executing dirlist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Success	Returnvalue of dirlist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_folder', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder/subfolder'] and Type is <type 'list'>).

3.1.6 Test for fstools.filelist (not existing folder)

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.8!

Testrun:	python 2.7.18 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init_.py (30)
Start-Time:	2021-01-08 17:31:51,200
Finished-Time:	2021-01-08 17:31:51,201
Time-Consumption	0.001s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_existing_folder
Success	Returnvalue of filelist is correct (Content [] and Type is <type 'list'>).

3.1.7 Test for fstools.filelist (not rekursive; all files)

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.6!

Testrun:	python 2.7.18 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init_.py (28)
Start-Time:	2021-01-08 17:31:51,195
Finished-Time:	2021-01-08 17:31:51,198
Time-Consumption	0.003s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Success	Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro'] and Type is <type 'list'>).

3.1.8 Test for fstools.filelist (not rekursive; files ending with .rw)

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.7!

Testrun:	python 2.7.18 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init_.py (29)
Start-Time:	2021-01-08 17:31:51,198
Finished-Time:	2021-01-08 17:31:51,200
Time-Consumption	0.002s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Success	Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw'] and Type is <type 'list'>).

3.1.9 Test for fstools.filelist (rekursive; all files)

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.4!

Testrun:	python 2.7.18 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init_.py (26)
Start-Time:	2021-01-08 17:31:51,188
Finished-Time:	2021-01-08 17:31:51,190
Time-Consumption	0.003s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Success	Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder/subfolder/subfile.rw'] and Type is <type 'list'>).

3.1.10 Test for fstools.filelist (rekursive; files ending with .ro)

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.5!

Testrun:	python 2.7.18 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init_.py (27)

Start-Time: 2021-01-08 17:31:51,191
 Finished-Time: 2021-01-08 17:31:51,195
 Time-Consumption 0.004s

Testsummary:

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Success Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro'] and Type is <type 'list'>).

3.1.11 Test for fstools.is_writable

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.3!

Testrun: python 2.7.18 (final)
 Caller: /user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init...py (25)
 Start-Time: 2021-01-08 17:31:51,186
 Finished-Time: 2021-01-08 17:31:51,188
 Time-Consumption 0.002s

Testsummary:

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Success Returnvalue of fstools.is_writable('.../writable_file.rw') is correct (Content True and Type is <type 'bool'>).
Success Returnvalue of fstools.is_writable('.../not_writable_file.ro') is correct (Content False and Type is <type 'bool'>).
Success Returnvalue of fstools.is_writable('.../writable_folder') is correct (Content True and Type is <type 'bool'>).
Success Returnvalue of fstools.is_writable('.../not_writable_folder') is correct (Content False and Type is <type 'bool'>).

3.1.12 Test for fstools.openlocked_blocking

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.13!

Testrun: python 2.7.18 (final)
 Caller: /user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init...py (37)
 Start-Time: 2021-01-08 17:31:51,217
 Finished-Time: 2021-01-08 17:31:51,723
 Time-Consumption 0.506s

Testsummary:

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Info Opening a file with a blocking lock, writing to it, sleep a bit, trying to open and write to it from a child process
Success Appended text to file is correct (Content 'Some more text.' and Type is <type 'str'>).

3.1.13 Test for fstools.openlocked_non_blocking

Testresult

This test was passed with the state: **Success**. See also full trace in section A.2.12!

Testrun: python 2.7.18 (final)
 Caller: /user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init_.py (36)
 Start-Time: 2021-01-08 17:31:51,208
 Finished-Time: 2021-01-08 17:31:51,217
 Time-Consumption 0.009s

Testsummary:

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info Opening a file with a non blocking lock, writing to it, trying to open and write to it from a child process and writing more text
Success Exception name thrown in child process is correct (Content u'IOError' and Type is <type 'unicode'>).
Success Appended text to file is correct (Content 'Some more text.' and Type is <type 'str'>).

3.1.14 Test for fstools.uid

Testresult

This test was passed with the state: **Failed**. See also full trace in section A.1.1!

Testrun: python 2.7.18 (final)
 Caller: /user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init_.py (39)
 Start-Time: 2021-01-08 17:31:51,724
 Finished-Time: 2021-01-08 17:31:51,730
 Time-Consumption 0.006s

Testsummary:

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Failed To be implemented

3.2 Summary for testrun with python 3.8.5 (final)

3.2.1 Test creating a folder with fstools.mkdir

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.1!

Testrun: python 3.8.5 (final)
 Caller: /user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init...py (22)
 Start-Time: 2021-01-08 17:31:52,107
 Finished-Time: 2021-01-08 17:31:52,110
 Time-Consumption 0.003s

Testsummary:

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info fstools.mkdir executed to creating folder .../mkdir_test_folder.1
Success Returnvalue of fstools.mkdir is correct (Content True and Type is <class 'bool'>).
Success Returnvalue of os.path.isdir is correct (Content True and Type is <class 'bool'>).
Info fstools.mkdir executed to creating folder .../mkdir_test_folder.2/sub_folder
Success Returnvalue of fstools.mkdir is correct (Content True and Type is <class 'bool'>).
Success Returnvalue of os.path.isdir is correct (Content True and Type is <class 'bool'>).
Info fstools.mkdir executed to creating folder .../mkdir_test_folder.3
Success Returnvalue of fstools.mkdir is correct (Content True and Type is <class 'bool'>).
Success Returnvalue of os.path.isdir is correct (Content True and Type is <class 'bool'>).

3.2.2 Test creating a folder with fstools.mkdir, when target exists

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.2!

Testrun: python 3.8.5 (final)
 Caller: /user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init...py (23)
 Start-Time: 2021-01-08 17:31:52,110
 Finished-Time: 2021-01-08 17:31:52,112
 Time-Consumption 0.002s

Testsummary:

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info fstools.mkdir executed to creating folder .../writable_folder
Success Returnvalue of fstools.mkdir is correct (Content True and Type is <class 'bool'>).
Info fstools.mkdir executed to creating folder .../writable_file.rw
Success Returnvalue of fstools.mkdir is correct (Content False and Type is <class 'bool'>).

3.2.3 Test for fstools.dirlist (not existing folder)

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.11!

Testrun: python 3.8.5 (final)
 Caller: /user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init...py (34)
 Start-Time: 2021-01-08 17:31:52,130
 Finished-Time: 2021-01-08 17:31:52,133

Time-Consumption 0.003s

Testsummary:

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Info Executing dirlist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_existing_folder

Success Returnvalue of dirlist is correct (Content [] and Type is <class 'list'>).

3.2.4 Test for fstools.dirlist (not rekursive)

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.10!

Testrun: python 3.8.5 (final)

Caller: /user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init_.py (33)

Start-Time: 2021-01-08 17:31:52,128

Finished-Time: 2021-01-08 17:31:52,130

Time-Consumption 0.002s

Testsummary:

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Info Executing dirlist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Success Returnvalue of dirlist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_folder', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder'] and Type is <class 'list'>).

3.2.5 Test for fstools.dirlist (rekursive)

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.9!

Testrun: python 3.8.5 (final)

Caller: /user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init_.py (32)

Start-Time: 2021-01-08 17:31:52,127

Finished-Time: 2021-01-08 17:31:52,128

Time-Consumption 0.002s

Testsummary:

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Info Executing dirlist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Success Returnvalue of dirlist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_folder', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder/subfolder'] and Type is <class 'list'>).

3.2.6 Test for fstools.filelist (not existing folder)

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.8!

Testrun:	python 3.8.5 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init....py (30)
Start-Time:	2021-01-08 17:31:52,125
Finished-Time:	2021-01-08 17:31:52,126
Time-Consumption	0.001s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_existing_folder
Success	Returnvalue of filelist is correct (Content [] and Type is <class 'list'>).

3.2.7 Test for fstools.filelist (not rekursive; all files)

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.6!

Testrun:	python 3.8.5 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init....py (28)
Start-Time:	2021-01-08 17:31:52,122
Finished-Time:	2021-01-08 17:31:52,123
Time-Consumption	0.002s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Success	Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro'] and Type is <class 'list'>).

3.2.8 Test for fstools.filelist (not rekursive; files ending with .rw)

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.7!

Testrun:	python 3.8.5 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init....py (29)
Start-Time:	2021-01-08 17:31:52,123
Finished-Time:	2021-01-08 17:31:52,125
Time-Consumption	0.002s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Success	Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw'] and Type is <class 'list'>).

3.2.9 Test for fstools.filelist (rekursive; all files)

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.4!

Testrun:	python 3.8.5 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init...py (26)
Start-Time:	2021-01-08 17:31:52,114
Finished-Time:	2021-01-08 17:31:52,117
Time-Consumption	0.003s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Success	Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder/subfolder/subfile.rw'] and Type is <class 'list'>).

3.2.10 Test for fstools.filelist (rekursive; files ending with .ro)

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.5!

Testrun:	python 3.8.5 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init...py (27)
Start-Time:	2021-01-08 17:31:52,117
Finished-Time:	2021-01-08 17:31:52,121
Time-Consumption	0.004s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Success	Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro'] and Type is <class 'list'>).

3.2.11 Test for fstools.is_writable

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.3!

Testrun:	python 3.8.5 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init....py (25)
Start-Time:	2021-01-08 17:31:52,112
Finished-Time:	2021-01-08 17:31:52,114
Time-Consumption	0.002s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Success	Returnvalue of fstools.is_writable('.../writable_file.rw') is correct (Content True and Type is <class 'bool'>).
Success	Returnvalue of fstools.is_writable('.../not_writable_file.ro') is correct (Content False and Type is <class 'bool'>).
Success	Returnvalue of fstools.is_writable('.../writable_folder') is correct (Content True and Type is <class 'bool'>).
Success	Returnvalue of fstools.is_writable('.../not_writable_folder') is correct (Content False and Type is <class 'bool'>).

3.2.12 Test for fstools.openlocked_blocking

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.13!

Testrun:	python 3.8.5 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init....py (37)
Start-Time:	2021-01-08 17:31:52,142
Finished-Time:	2021-01-08 17:31:52,649
Time-Consumption	0.506s

Testsummary:

Info	Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info	Opening a file with a blocking lock, writing to it, sleep a bit, trying to open and write to it from a child process
Success	Appended text to file is correct (Content 'Some more text.' and Type is <class 'str'>).

3.2.13 Test for fstools.openlocked_non_blocking

Testresult

This test was passed with the state: **Success**. See also full trace in section B.2.12!

Testrun:	python 3.8.5 (final)
Caller:	/user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/...init....py (36)

Start-Time: 2021-01-08 17:31:52,133
 Finished-Time: 2021-01-08 17:31:52,142
 Time-Consumption 0.009s

Testsummary:

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Info Opening a file with a non blocking lock, writing to it, trying to open and write to it from a child process and writing more text
Success Exception name thrown in child process is correct (Content 'BlockingIOError' and Type is <class 'str'>).
Success Appended text to file is correct (Content 'Some more text.' and Type is <class 'str'>).

3.2.14 Test for fstools.uid

Testresult

This test was passed with the state: **Failed**. See also full trace in section B.1.1!

Testrun: python 3.8.5 (final)
 Caller: /user_data/data/dirk/prj/unittest/fstools/unittest/src/tests/_init_.py (39)
 Start-Time: 2021-01-08 17:31:52,650
 Finished-Time: 2021-01-08 17:31:52,656
 Time-Consumption 0.006s

Testsummary:

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Failed To be implemented

A Trace for testrun with python 2.7.18 (final)

A.1 Tests with status **Failed** (1)

A.1.1 Test for fstools.uid

Testresult

This test was passed with the state: **Failed**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

Creating general Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder

```

Failed To be implemented

```

DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder/
↳ uid_test_folder) exists - looking for directories to
↳ append
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
↳ /uid_test_folder) exists - looking for files to
↳ append

```

A.2 Tests with status **Info** (13)

A.2.1 Test creating a folder with fstools.mkdir

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

Creating general Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder

```

Info fstools.mkdir executed to creating folder ../mkdir_test_folder_1

Success Returnvalue of fstools.mkdir is correct (Content True and Type is <type 'bool'>).

```

Result (Returnvalue of fstools.mkdir): True (<type 'bool'>)
Expectation (Returnvalue of fstools.mkdir): result = True (<type 'bool'>)

```

Success Returnvalue of os.path.isdir is correct (Content True and Type is <type 'bool'>).

```

Result (Returnvalue of os.path.isdir): True (<type 'bool'>)
Expectation (Returnvalue of os.path.isdir): result = True (<type 'bool'>)

```

Info fstools.mkdir executed to creating folder ../mkdir_test_folder_2/sub_folder

Success Returnvalue of fstools.mkdir is correct (Content True and Type is <type 'bool'>).

```

Result (Returnvalue of fstools.mkdir): True (<type 'bool'>)
Expectation (Returnvalue of fstools.mkdir): result = True (<type 'bool'>)

```

Success Returnvalue of os.path.isdir is correct (Content True and Type is <type 'bool'>).

```

Result (Returnvalue of os.path.isdir): True (<type 'bool'>)
Expectation (Returnvalue of os.path.isdir): result = True (<type 'bool'>)

```

Info fstools.mkdir executed to creating folder ../mkdir_test_folder_3

Success Returnvalue of fstools.mkdir is correct (Content True and Type is <type 'bool'>).

```

Result (Returnvalue of fstools.mkdir): True (<type 'bool'>)
Expectation (Returnvalue of fstools.mkdir): result = True (<type 'bool'>)

```

Success Returnvalue of os.path.isdir is correct (Content True and Type is <type 'bool'>).

```

Result (Returnvalue of os.path.isdir): True (<type 'bool'>)
Expectation (Returnvalue of os.path.isdir): result = True (<type 'bool'>)

```

A.2.2 Test creating a folder with fstools.mkdir, when target exists

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating general Basefolder

↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating folder in general Basefolder: ../writable_folder

Creating folder in general Basefolder: ../not_writable_folder

Creating file in general Basefolder: ../writable_file.rw

Creating file in general Basefolder: ../not_writable_file.ro

Creating folder in general Basefolder: ../writable_folder/subfolder

Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw

Creating UID-Basefolder

↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder

Creating file in UID-Basefolder: ../uid_test_file

Creating folder in UID-Basefolder: ../uid_test_folder

Info fstools.mkdir executed to creating folder ../writable_folder

Success Returnvalue of fstools.mkdir is correct (Content True and Type is <type 'bool'>).

Result (Returnvalue of fstools.mkdir): True (<type 'bool'>)

Expectation (Returnvalue of fstools.mkdir): result = True (<type 'bool'>)

Info fstools.mkdir executed to creating folder ../writable_file.rw

Success Returnvalue of fstools.mkdir is correct (Content False and Type is <type 'bool'>).

Result (Returnvalue of fstools.mkdir): False (<type 'bool'>)

Expectation (Returnvalue of fstools.mkdir): result = False (<type 'bool'>)

A.2.3 Test for fstools.is_writable

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating general Basefolder

↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating folder in general Basefolder: ../writable_folder

Creating folder in general Basefolder: ../not_writable_folder

Creating file in general Basefolder: ../writable_file.rw

Creating file in general Basefolder: ../not_writable_file.ro

Creating folder in general Basefolder: ../writable_folder/subfolder

Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw

Creating UID-Basefolder

↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder

Creating file in UID-Basefolder: ../uid_test_file

Creating folder in UID-Basefolder: ../uid_test_folder

Success Returnvalue of `fstools.is_writable('../writable_file.rw')` is correct (Content True and Type is <type 'bool'>).

Result (Returnvalue of `fstools.is_writable("../writable_file.rw")`): True (<type 'bool'>)

Expectation (Returnvalue of `fstools.is_writable("../writable_file.rw")`): result = True

↳ (<type 'bool'>)

Success Returnvalue of `fstools.is_writable('../not_writable_file.ro')` is correct (Content False and Type is <type 'bool'>).

Result (Returnvalue of `fstools.is_writable("../not_writable_file.ro")`): False (<type 'bool'>)

Expectation (Returnvalue of `fstools.is_writable("../not_writable_file.ro")`): result = False

↳ (<type 'bool'>)

Success Returnvalue of `fstools.is_writable('../writable_folder')` is correct (Content True and Type is <type 'bool'>).

Result (Returnvalue of `fstools.is_writable("../writable_folder")`): True (<type 'bool'>)

Expectation (Returnvalue of `fstools.is_writable("../writable_folder")`): result = True (<type

↳ 'bool'>)

Success Returnvalue of `fstools.is_writable('../not_writable_folder')` is correct (Content False and Type is <type 'bool'>).

Result (Returnvalue of `fstools.is_writable("../not_writable_folder")`): False (<type 'bool'>)

Expectation (Returnvalue of `fstools.is_writable("../not_writable_folder")`): result = False

↳ (<type 'bool'>)

A.2.4 Test for fstools.filelist (rekursive; all files)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating general Basefolder

↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating folder in general Basefolder: ../writable_folder

Creating folder in general Basefolder: ../not_writable_folder

Creating file in general Basefolder: ../writable_file.rw

Creating file in general Basefolder: ../not_writable_file.ro

Creating folder in general Basefolder: ../writable_folder/subfolder

Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw

Creating UID-Basefolder

↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder

Creating file in UID-Basefolder: ../uid_test_file

Creating folder in UID-Basefolder: ../uid_test_folder

Info Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder)

↪ exists - looking for files to append

FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_

↪ _writable_folder) exists - looking for files to

↪ append

FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/wri_

↪ table_folder) exists - looking for files to

↪ append

FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/wri_

↪ table_folder/subfolder) exists - looking for files to

↪ append

Success Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder/subfolder/subfile.rw'] and Type is <type 'list'>).

```
Result (Returnvalue of filelist): [ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder/subfolder/subfile.rw' ] (<type
↳ 'list'>)
```

```
Expectation (Returnvalue of filelist): result = [ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder/subfolder/subfile.rw' ] (<type
↳ 'list'>)
```

A.2.5 Test for fstools.filelist (rekursive; files ending with .ro)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating general Basefolder

↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating folder in general Basefolder: ../writable_folder

Creating folder in general Basefolder: ../not_writable_folder

Creating file in general Basefolder: ../writable_file.rw

Creating file in general Basefolder: ../not_writable_file.ro

Creating folder in general Basefolder: ../writable_folder/subfolder

Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw

Creating UID-Basefolder

↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder

Creating file in UID-Basefolder: ../uid_test_file

Creating folder in UID-Basefolder: ../uid_test_folder

Info Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder)
↳ exists - looking for files to append
```

```
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_
↳ _writable_folder) exists - looking for files to
↳ append
```

```
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/wri_
↳ table_folder) exists - looking for files to
↳ append
```

```
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/wri_
↳ table_folder/subfolder) exists - looking for files to
↳ append
```

Success Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro'] and Type is <type 'list'>).

```
Result (Returnvalue of filelist): [ '/user_data/data/dirk/prj/unittest/fstools/unittest/outpu_
↳ t_data/testfolder/not_writable_file.ro' ] (<type
↳ 'list'>)
```

```
Expectation (Returnvalue of filelist): result = [ '/user_data/data/dirk/prj/unittest/fstools/_
↳ unittest/output_data/testfolder/not_writable_file.ro' ] (<type
↳ 'list'>)
```

A.2.6 Test for fstools.filelist (not rekursive; all files)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```
Creating general Basefolder
```

```
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
```

```
Creating folder in general Basefolder: ../writable_folder
```

```
Creating folder in general Basefolder: ../not_writable_folder
```

```
Creating file in general Basefolder: ../writable_file.rw
```

```
Creating file in general Basefolder: ../not_writable_file.ro
```

```
Creating folder in general Basefolder: ../writable_folder/subfolder
```

```
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
```

```
Creating UID-Basefolder
```

```
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
```

```
Creating file in UID-Basefolder: ../uid_test_file
```

```
Creating folder in UID-Basefolder: ../uid_test_folder
```

Info Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder)
↳ exists - looking for files to append
```

Success Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro'] and Type is <type 'list'>).

```
Result (Returnvalue of filelist): [ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro' ] (<type 'list'>)
```

```
Expectation (Returnvalue of filelist): result = [ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro' ] (<type 'list'>)
```

A.2.7 Test for fstools.filelist (not rekursive; files ending with .rw)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```
Creating general Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder
```

Info Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder)
↳ exists - looking for files to append
```

Success Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw'] and Type is <type 'list'>).

```
Result (Returnvalue of filelist): [ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw' ] (<type 'list'>)
```

```
Expectation (Returnvalue of filelist): result = [ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw' ] (<type 'list'>)
```

A.2.8 Test for fstools.filelist (not existing folder)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```
Creating general Basefolder
```

```
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
```

```
Creating folder in general Basefolder: ../writable_folder
```

```
Creating folder in general Basefolder: ../not_writable_folder
```

```
Creating file in general Basefolder: ../writable_file.rw
```

```
Creating file in general Basefolder: ../not_writable_file.ro
```

```
Creating folder in general Basefolder: ../writable_folder/subfolder
```

```
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
```

```
Creating UID-Basefolder
```

```
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
```

```
Creating file in UID-Basefolder: ../uid_test_file
```

```
Creating folder in UID-Basefolder: ../uid_test_folder
```

Info Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_existing_folder

```
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_existing_folder) does not exist - empty filelist will be returned
```

Success Returnvalue of filelist is correct (Content [] and Type is <type 'list'>).

```
Result (Returnvalue of filelist): [ ] (<type 'list'>)
```

```
Expectation (Returnvalue of filelist): result = [ ] (<type 'list'>)
```

A.2.9 Test for fstools.dirlist (rekursiv)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

Creating general Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder

```

Info Executing dirlist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder)
↳ exists - looking for directories to append
DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_w
↳ ritable_folder) exists - looking for directories to
↳ append
DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writ
↳ able_folder) exists - looking for directories to
↳ append
DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writ
↳ able_folder/subfolder) exists - looking for directories to
↳ append

```

Success Returnvalue of dirlist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_folder', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder/subfolder'] and Type is <type 'list'>).

```

Result (Returnvalue of dirlist): [ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_
↳ _data/testfolder/not_writable_folder',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folde
↳ r',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folde
↳ r/subfolder' ] (<type
↳ 'list'>)

```

```

Expectation (Returnvalue of dirlist): result = [ '/user_data/data/dirk/prj/unittest/fstools/u
↳ nittest/output_data/testfolder/writable_folder',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_f
↳ older',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folde
↳ r/subfolder' ] (<type
↳ 'list'>)

```

```

Content '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writab
↳ le_folder' is incorrect for
↳ test_variable.

```

A.2.10 Test for fstools.dirlist (not rekursive)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under `/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder`

Creating general Basefolder

↪ `/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder`

Creating folder in general Basefolder: `../writable_folder`

Creating folder in general Basefolder: `../not_writable_folder`

Creating file in general Basefolder: `../writable_file.rw`

Creating file in general Basefolder: `../not_writable_file.ro`

Creating folder in general Basefolder: `../writable_folder/subfolder`

Creating file in general Basefolder: `../writable_folder/subfolder/subfile.rw`

Creating UID-Basefolder

↪ `/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder`

Creating file in UID-Basefolder: `../uid_test_file`

Creating folder in UID-Basefolder: `../uid_test_folder`

Info Executing dirlist to get list for `/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder`

DIRLIST: path (`/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder`)

↪ `exists - looking for directories to append`

Success Returnvalue of dirlist is correct (Content [`'/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_folder'`, `'/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder'`] and Type is `<type 'list'>`).

Result (Returnvalue of dirlist): [`'/user_data/data/dirk/prj/unittest/fstools/unittest/output`

↪ `_data/testfolder/not_writable_folder'`,

↪ `'/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folde`

↪ `r'] (<type`

↪ `'list'>`)

Expectation (Returnvalue of dirlist): result = [`'/user_data/data/dirk/prj/unittest/fstools/u`

↪ `nitest/output_data/testfolder/writable_folder'`,

↪ `'/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_f`

↪ `older'] (<type`

↪ `'list'>`)

Content `'/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writab`

↪ `le_folder'` is incorrect for

↪ `test_variable`.

A.2.11 Test for fstools.dirlist (not existing folder)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating general Basefolder

↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating folder in general Basefolder: ../writable_folder

Creating folder in general Basefolder: ../not_writable_folder

Creating file in general Basefolder: ../writable_file.rw

Creating file in general Basefolder: ../not_writable_file.ro

Creating folder in general Basefolder: ../writable_folder/subfolder

Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw

Creating UID-Basefolder

↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder

Creating file in UID-Basefolder: ../uid_test_file

Creating folder in UID-Basefolder: ../uid_test_folder

Info Executing dirlist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_existing_folder

DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_ existing_folder) does not exist - empty filelist will be returned

Success Returnvalue of dirlist is correct (Content [] and Type is <type 'list'>).

Result (Returnvalue of dirlist): [] (<type 'list'>)

Expectation (Returnvalue of dirlist): result = [] (<type 'list'>)

A.2.12 Test for fstools.openlocked_non_blocking

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

Creating general Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder

```

Info Opening a file with a non blocking lock, writing to it, trying to open and write to it from a child process and writing more text

Success Exception name thrown in child process is correct (Content u'IOError' and Type is <type 'unicode'>).

```

Result (Exception name thrown in child process): u'IOError' (<type 'unicode'>)
Expectation (Exception name thrown in child process): result = u'IOError' (<type 'unicode'>)

```

Success Appended text to file is correct (Content 'Some more text.' and Type is <type 'str'>).

```

Result (Appended text to file): 'Some more text.' (<type 'str'>)
Expectation (Appended text to file): result = 'Some more text.' (<type 'str'>)

```

A.2.13 Test for fstools.openlocked_blocking

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

Creating general Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder

```

Info Opening a file with a blocking lock, writing to it, sleep a bit, trying to open and write to it from a child process

Success Appended text to file is correct (Content 'Some more text.' and Type is <type 'str'>).

```

Result (Appended text to file): 'Some more text.' (<type 'str'>)
Expectation (Appended text to file): result = 'Some more text.' (<type 'str'>)

```

B Trace for testrun with python 3.8.5 (final)

B.1 Tests with status **Failed** (1)

B.1.1 Test for fstools.uid

Testresult

This test was passed with the state: **Failed**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

Creating general Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder

```

Failed To be implemented

```
DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder/
↳ uid_test_folder) exists - looking for directories to
↳ append
```

```
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
↳ /uid_test_folder) exists - looking for files to
↳ append
```

B.2 Tests with status Info (13)

B.2.1 Test creating a folder with fstools.mkdir

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating general Basefolder

↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating folder in general Basefolder: ../writable_folder

Creating folder in general Basefolder: ../not_writable_folder

Creating file in general Basefolder: ../writable_file.rw

Creating file in general Basefolder: ../not_writable_file.ro

Creating folder in general Basefolder: ../writable_folder/subfolder

Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw

Creating UID-Basefolder

↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder

Creating file in UID-Basefolder: ../uid_test_file

Creating folder in UID-Basefolder: ../uid_test_folder

Info fstools.mkdir executed to creating folder ../mkdir_test_folder_1

Success Returnvalue of fstools.mkdir is correct (Content True and Type is <class 'bool'>).

Result (Returnvalue of fstools.mkdir): True (<class 'bool'>)

Expectation (Returnvalue of fstools.mkdir): result = True (<class 'bool'>)

Success Returnvalue of os.path.isdir is correct (Content True and Type is <class 'bool'>).

Result (Returnvalue of os.path.isdir): True (<class 'bool'>)

Expectation (Returnvalue of os.path.isdir): result = True (<class 'bool'>)

Info fstools.mkdir executed to creating folder ../mkdir_test_folder_2/sub_folder

Success Returnvalue of fstools.mkdir is correct (Content True and Type is <class 'bool'>).

Result (Returnvalue of fstools.mkdir): True (<class 'bool'>)

Expectation (Returnvalue of fstools.mkdir): result = True (<class 'bool'>)

Success Returnvalue of os.path.isdir is correct (Content True and Type is <class 'bool'>).

Result (Returnvalue of os.path.isdir): True (<class 'bool'>)

Expectation (Returnvalue of os.path.isdir): result = True (<class 'bool'>)

Info fstools.mkdir executed to creating folder ../mkdir_test_folder.3

Success Returnvalue of fstools.mkdir is correct (Content True and Type is <class 'bool'>).

Result (Returnvalue of fstools.mkdir): True (<class 'bool'>)

Expectation (Returnvalue of fstools.mkdir): result = True (<class 'bool'>)

Success Returnvalue of os.path.isdir is correct (Content True and Type is <class 'bool'>).

Result (Returnvalue of os.path.isdir): True (<class 'bool'>)

Expectation (Returnvalue of os.path.isdir): result = True (<class 'bool'>)

B.2.2 Test creating a folder with fstools.mkdir, when target exists

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating general Basefolder

↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating folder in general Basefolder: ../writable_folder

Creating folder in general Basefolder: ../not_writable_folder

Creating file in general Basefolder: ../writable_file.rw

Creating file in general Basefolder: ../not_writable_file.ro

Creating folder in general Basefolder: ../writable_folder/subfolder

Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw

Creating UID-Basefolder

↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder

Creating file in UID-Basefolder: ../uid_test_file

Creating folder in UID-Basefolder: ../uid_test_folder

Info fstools.mkdir executed to creating folder ../writable_folder

Success Returnvalue of fstools.mkdir is correct (Content True and Type is <class 'bool'>).

Result (Returnvalue of fstools.mkdir): True (<class 'bool'>)

Expectation (Returnvalue of fstools.mkdir): result = True (<class 'bool'>)

Info fstools.mkdir executed to creating folder .../writable_file.rw

Success Returnvalue of fstools.mkdir is correct (Content False and Type is <class 'bool'>).

Result (Returnvalue of fstools.mkdir): False (<class 'bool'>)

Expectation (Returnvalue of fstools.mkdir): result = False (<class 'bool'>)

B.2.3 Test for fstools.is_writable

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating general Basefolder

↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating folder in general Basefolder: ../writable_folder

Creating folder in general Basefolder: ../not_writable_folder

Creating file in general Basefolder: ../writable_file.rw

Creating file in general Basefolder: ../not_writable_file.ro

Creating folder in general Basefolder: ../writable_folder/subfolder

Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw

Creating UID-Basefolder

↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder

Creating file in UID-Basefolder: ../uid_test_file

Creating folder in UID-Basefolder: ../uid_test_folder

Success Returnvalue of fstools.is_writable('../writable_file.rw') is correct (Content True and Type is <class 'bool'>).

Result (Returnvalue of fstools.is_writable("../writable_file.rw")): True (<class 'bool'>)

Expectation (Returnvalue of fstools.is_writable("../writable_file.rw")): result = True

↳ (<class 'bool'>)

Success Returnvalue of fstools.is_writable('../not_writable_file.ro') is correct (Content False and Type is <class 'bool'>).

Result (Returnvalue of fstools.is_writable("../not_writable_file.ro")): False (<class

↳ 'bool'>)

Expectation (Returnvalue of fstools.is_writable("../not_writable_file.ro")): result = False

↳ (<class 'bool'>)

Success Returnvalue of fstools.is_writable('../writable_folder') is correct (Content True and Type is <class 'bool'>).

```
Result (Returnvalue of fstools.is_writable("../writable_folder")): True (<class 'bool'>)
Expectation (Returnvalue of fstools.is_writable("../writable_folder")): result = True
↪ (<class 'bool'>)
```

Success Returnvalue of fstools.is_writable('../not_writable_folder') is correct (Content False and Type is <class 'bool'>).

```
Result (Returnvalue of fstools.is_writable("../not_writable_folder")): False (<class 'bool'>)
Expectation (Returnvalue of fstools.is_writable("../not_writable_folder")): result = False
↪ (<class 'bool'>)
```

B.2.4 Test for fstools.filelist (rekursive; all files)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```
Creating general Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder
```

Info Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder)
↳ exists - looking for files to append
```

```
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_
↳ _writable_folder) exists - looking for files to
↳ append
```

```
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/wri_
↳ table_folder) exists - looking for files to
↳ append
```

```
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/wri_
↳ table_folder/subfolder) exists - looking for files to
↳ append
```

Success Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder/subfolder/subfile.rw'] and Type is <class 'list'>).

```
Result (Returnvalue of filelist): [ '/user_data/data/dirk/prj/unittest/fstools/unittest/outu_
↳ t_data/testfolder/writable_file.rw',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_f_
↳ ile.ro',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folde_
↳ r/subfolder/subfile.rw' ] (<class
↳ 'list'>)
```

```
Expectation (Returnvalue of filelist): result = [ '/user_data/data/dirk/prj/unittest/fstools/_
↳ unittest/output_data/testfolder/writable_file.rw',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_f_
↳ ile.ro',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folde_
↳ r/subfolder/subfile.rw' ] (<class
↳ 'list'>)
```

B.2.5 Test for fstools.filelist (rekursive; files ending with .ro)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

Creating general Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder

```

Info Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder)
↳ exists - looking for files to append
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_
↳ _writable_folder) exists - looking for files to
↳ append
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/wri_
↳ table_folder) exists - looking for files to
↳ append
FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/wri_
↳ table_folder/subfolder) exists - looking for files to
↳ append

```

Success Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro'] and Type is <class 'list'>).

```

Result (Returnvalue of filelist): [ '/user_data/data/dirk/prj/unittest/fstools/unittest/outu_
↳ t_data/testfolder/not_writable_file.ro' ] (<class
↳ 'list'>)
Expectation (Returnvalue of filelist): result = [ '/user_data/data/dirk/prj/unittest/fstools/_
↳ unittest/output_data/testfolder/not_writable_file.ro' ] (<class
↳ 'list'>)

```

B.2.6 Test for fstools.filelist (not rekursive; all files)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

Creating general Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder

```

Info Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder)
↳ exists - looking for files to append

```

Success Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_file.ro'] and Type is <class 'list'>).

```

Result (Returnvalue of filelist): [ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_
↳ t_data/testfolder/writable_file.rw',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_f
↳ ile.ro' ] (<class
↳ 'list'>)

```

```

Expectation (Returnvalue of filelist): result = [ '/user_data/data/dirk/prj/unittest/fstools/
↳ unittest/output_data/testfolder/writable_file.rw',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_f
↳ ile.ro' ] (<class
↳ 'list'>)

```

B.2.7 Test for fstools.filelist (not rekursive; files ending with .rw)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

Creating general Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder

```

Info Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder)
↳ exists - looking for files to append

```

Success Returnvalue of filelist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_file.rw'] and Type is <class 'list'>).

```

Result (Returnvalue of filelist): [ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_
↳ t_data/testfolder/writable_file.rw' ] (<class
↳ 'list'>)

```

```

Expectation (Returnvalue of filelist): result = [ '/user_data/data/dirk/prj/unittest/fstools/
↳ unittest/output_data/testfolder/writable_file.rw' ] (<class
↳ 'list'>)

```

B.2.8 Test for fstools.filelist (not existing folder)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

Creating general Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder

```

Info Executing filelist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_existing_folder

```

FILELIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_
↳ _existing_folder) does not exist - empty filelist will be
↳ returned

```

Success Returnvalue of filelist is correct (Content [] and Type is <class 'list'>).

```

Result (Returnvalue of filelist): [ ] (<class 'list'>)
Expectation (Returnvalue of filelist): result = [ ] (<class 'list'>)

```

B.2.9 Test for fstools.dirlist (rekursive)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```

Creating general Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↳ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder

```

Info Executing dirlist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```
DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder)
↳ exists - looking for directories to append
```

```
DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_
↳ writable_folder) exists - looking for directories to
↳ append
```

```
DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writ
↳ able_folder) exists - looking for directories to
↳ append
```

```
DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writ
↳ able_folder/subfolder) exists - looking for directories to
↳ append
```

Success Returnvalue of dirlist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_folder', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder/subfolder'] and Type is <class 'list'>).

```
Result (Returnvalue of dirlist): [ '/user_data/data/dirk/prj/unittest/fstools/unittest/output
↳ _data/testfolder/not_writable_folder',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folde
↳ r',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folde
↳ r/subfolder' ] (<class
↳ 'list'>)
```

```
Expectation (Returnvalue of dirlist): result = [ '/user_data/data/dirk/prj/unittest/fstools/u
↳ nittest/output_data/testfolder/writable_folder',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_f
↳ older',
↳ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folde
↳ r/subfolder' ] (<class
↳ 'list'>)
```

```
Content '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writab
↳ le_folder' is incorrect for
↳ test_variable.
```

B.2.10 Test for fstools.dirlist (not rekursive)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating general Basefolder

↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating folder in general Basefolder: ../writable_folder

Creating folder in general Basefolder: ../not_writable_folder

Creating file in general Basefolder: ../writable_file.rw

Creating file in general Basefolder: ../not_writable_file.ro

Creating folder in general Basefolder: ../writable_folder/subfolder

Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw

Creating UID-Basefolder

↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder

Creating file in UID-Basefolder: ../uid_test_file

Creating folder in UID-Basefolder: ../uid_test_folder

Info Executing dirlist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder)

↪ exists - looking for directories to append

Success Returnvalue of dirlist is correct (Content ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_folder', '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folder'] and Type is <class 'list'>).

Result (Returnvalue of dirlist): ['/user_data/data/dirk/prj/unittest/fstools/unittest/output_

↪ _data/testfolder/not_writable_folder',

↪ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/writable_folde_

↪ r'] (<class

↪ 'list'>)

Expectation (Returnvalue of dirlist): result = ['/user_data/data/dirk/prj/unittest/fstools/u_

↪ nittest/output_data/testfolder/writable_folder',

↪ '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writable_f_

↪ older'] (<class

↪ 'list'>)

Content '/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_writab_

↪ le_folder' is incorrect for

↪ test_variable.

B.2.11 Test for fstools.dirlist (not existing folder)

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating general Basefolder

↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

Creating folder in general Basefolder: ../writable_folder

Creating folder in general Basefolder: ../not_writable_folder

Creating file in general Basefolder: ../writable_file.rw

Creating file in general Basefolder: ../not_writable_file.ro

Creating folder in general Basefolder: ../writable_folder/subfolder

Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw

Creating UID-Basefolder

↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder

Creating file in UID-Basefolder: ../uid_test_file

Creating folder in UID-Basefolder: ../uid_test_folder

Info Executing dirlist to get list for /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_existing_folder

DIRLIST: path (/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder/not_existing_folder) does not exist - empty filelist will be returned

Success Returnvalue of dirlist is correct (Content [] and Type is <class 'list'>).

Result (Returnvalue of dirlist): [] (<class 'list'>)

Expectation (Returnvalue of dirlist): result = [] (<class 'list'>)

B.2.12 Test for fstools.openlocked_non_blocking

Testresult

This test was passed with the state: **Success**.

Info Files and folders for fstools unittest created under /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder

```
Creating general Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder
```

Info Opening a file with a non blocking lock, writing to it, trying to open and write to it from a child process and writing more text

Success Exception name thrown in child process is correct (Content 'BlockingIOError' and Type is <class 'str'>).

```
Result (Exception name thrown in child process): 'BlockingIOError' (<class 'str'>)
Expectation (Exception name thrown in child process): result = 'BlockingIOError' (<class
↪ 'str'>)
```

Success Appended text to file is correct (Content 'Some more text.' and Type is <class 'str'>).

```
Result (Appended text to file): 'Some more text.' (<class 'str'>)
Expectation (Appended text to file): result = 'Some more text.' (<class 'str'>)
```

B.2.13 Test for `fstools.openlocked_blocking`

Testresult

This test was passed with the state: **Success**.

Info Files and folders for `fstools unittest` created under `/user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder`

```

Creating general Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/testfolder
Creating folder in general Basefolder: ../writable_folder
Creating folder in general Basefolder: ../not_writable_folder
Creating file in general Basefolder: ../writable_file.rw
Creating file in general Basefolder: ../not_writable_file.ro
Creating folder in general Basefolder: ../writable_folder/subfolder
Creating file in general Basefolder: ../writable_folder/subfolder/subfile.rw
Creating UID-Basefolder
↪ /user_data/data/dirk/prj/unittest/fstools/unittest/output_data/uid_testfolder
Creating file in UID-Basefolder: ../uid_test_file
Creating folder in UID-Basefolder: ../uid_test_folder

```

Info Opening a file with a blocking lock, writing to it, sleep a bit, trying to open and write to it from a child process

Success Appended text to file is correct (Content 'Some more text.' and Type is <class 'str'>).

```
Result (Appended text to file): 'Some more text.' (<class 'str'>)
```

```
Expectation (Appended text to file): result = 'Some more text.' (<class 'str'>)
```

C Test-Coverage

C.1 fstools

The line coverage for `fstools` was 80.2%

The branch coverage for `fstools` was 77.5%

C.1.1 `fstools.__init__.py`

The line coverage for `fstools.__init__.py` was 80.2%

The branch coverage for `fstools.__init__.py` was 77.5%

```

1 #!/usr/bin/env python
2 # -*- coding: utf-8 -*-
3 #
4 """
5 fstools (Filesystem Tools)
6
7
8 **Author:**
9
10 * Dirk Alders <sudo-dirk@mount-mockery.de>
11
12 **Description:**
13
14 This module supports functions and classes to handle files and paths
15

```

Unittest for fstools

```
16 **Submodules:**
17
18 * :func:`fstools.dirlist`
19 * :func:`fstools.filelist`
20 * :func:`fstools.is_writeable`
21 * :func:`fstools.mkdir`
22 * :func:`fstools.open_locked_blocking`
23 * :func:`fstools.open_locked_non_blocking`
24 * :func:`fstools.uid`
25
26 **Unittest:**
27
28     See also the :download:`unittest <fstools/_testresults_/unittest.pdf>` documentation.
29
30 **Module Documentation:**
31
32 """
33 __DEPENDENCIES__ = []
34
35 import glob
36 import hashlib
37 import hmac
38 import logging
39 import os
40 from functools import partial
41 import sys
42 import time
43
44
45 try:
46     from config import APP_NAME as ROOT_LOGGER_NAME
47 except ImportError:
48     ROOT_LOGGER_NAME = 'root'
49 logger = logging.getLogger(ROOT_LOGGER_NAME).getChild(__name__)
50
51
52 try:
53     import fcntl
54 except ImportError:
55     logger.warning('Importing "fcntl" was not possible. Only a limited functionality of fstools
56         is available.')
57
58 __DESCRIPTION__ = """The Module {\\tt %s} is designed to help on all issues with files and
59     folders.
60 For more Information read the documentation.""" % __name__.replace('-', '\\-')
61 """The Module Description"""
62 __INTERPRETER__ = (2, 3)
63 """The Tested Interpreter-Versions"""
64
65 def dirlist(path='.', rekursive=True):
66     """
67     Function returning a list of directories below a given path.
68
69     :param str path: folder which is the basepath for searching files.
70     :param bool rekursive: search all subfolders if True.
71     :returns: list of filenames including the pathe
72     :rtype: list
73
74     .. note:: The returned filenames could be relative pathes depending on argument path.
75
```

```

76  **Example:**
77
78  .. literalinclude:: fstools/_examples_/dirlist.py
79
80  .. literalinclude:: fstools/_examples_/dirlist.log
81  """
82  li = list()
83  if os.path.exists(path):
84      logger.debug('DIRLIST: path (%s) exists - looking for directories to append', path)
85      for dirname in os.listdir(path):
86          full_dir = os.path.join(path, dirname)
87          if os.path.isdir(full_dir):
88              li.append(full_dir)
89              if rekursive:
90                  li.extend(dirlist(full_dir))
91  else:
92      logger.warning('DIRLIST: path (%s) does not exist - empty filelist will be returned',
93  path)
94  return li
95
96  def filelist(path='.', expression='*', rekursive=True):
97      """
98      Function returning a list of files below a given path.
99
100     :param str path: folder which is the basepath for searching files.
101     :param str expression: expression to fit including shell-style wildcards.
102     :param bool rekursive: search all subfolders if True.
103     :returns: list of filenames including the pathe
104     :rtype: list
105
106     .. note:: The returned filenames could be relative pathes depending on argument path.
107
108     **Example:**
109
110     .. literalinclude:: fstools/_examples_/filelist.py
111
112     .. literalinclude:: fstools/_examples_/filelist.log
113     """
114     li = list()
115     if os.path.exists(path):
116         logger.debug('FILELIST: path (%s) exists - looking for files to append', path)
117         for filename in glob.glob(os.path.join(path, expression)):
118             if os.path.isfile(filename):
119                 li.append(filename)
120         for directory in os.listdir(path):
121             directory = os.path.join(path, directory)
122             if os.path.isdir(directory) and rekursive and not os.path.islink(directory):
123                 li.extend(filelist(directory, expression))
124     else:
125         logger.warning('FILELIST: path (%s) does not exist - empty filelist will be returned',
126     path)
127     return li
128
129  def is_writeable(path):
130      """
131      Method to get the Information, if a file or folder is writable.
132
133     :param str path: file or folder to check.
134     :returns: Whether path is writable or not.

```

Unittest for fstools

```
135     :rtype: bool
136
137     .. note:: If path does not exist, the return Value is :const:`False`.
138
139     **Example:**
140
141     .. literalinclude:: fstools/_examples_/is_writeable.py
142
143     .. literalinclude:: fstools/_examples_/is_writeable.log
144     """
145     if os.access(path, os.W_OK):
146         # path is writable whatever it is, file or directory
147         return True
148     else:
149         # path is not writable whatever it is, file or directory
150         return False
151
152
153 def mkdir(path):
154     """
155     Method to create a folder.
156
157     .. note:: All needed subfoilders will also be created (rekursive mkdir).
158
159     :param str path: folder to be created.
160     :returns: True, if folder exists after creation commands, otherwise False.
161     :rtype: bool
162     """
163     path = os.path.abspath(path)
164     if not os.path.exists(os.path.dirname(path)):
165         mkdir(os.path.dirname(path))
166     if not os.path.exists(path):
167         os.mkdir(path)
168     return os.path.isdir(path)
169
170
171 def open_locked_blocking(*args, **kwargs):
172     """
173     Method to get exclusive access to a file.
174
175     :param args: Arguments for a standard file open call.
176     :param kwargs: Keyword arguments for a standard file open call.
177     :returns: A file descriptor.
178     :rtype: file handle
179
180     .. note:: The call blocks until file is able to be used. This can cause a deadlock, if the
181     file release es done after trying to open the file!
182     """
183     locked_file_descriptor = open(*args, **kwargs)
184     fcntl.lockf(locked_file_descriptor, fcntl.LOCK_EX)
185     return locked_file_descriptor
186
187 def open_locked_non_blocking(*args, **kwargs):
188     """
189     Method to get exclusive access to a file.
190
191     :param args: Arguments for a standard file open call.
192     :param kwargs: Keyword arguments for a standard file open call.
193     :raises: OSError, if the file is already blocked.
194     :returns: A file descriptor.
195     :rtype: file handle
196
197     .. note:: The call blocks until file is able to be used. This can cause a deadlock, if the
198     file release es done after trying to open the file!
199     """
```

Unittest for fstools

```
199 locked_file_descriptor = open(*args, **kwargs)
200 fcntl.lockf(locked_file_descriptor, fcntl.LOCK_EX | fcntl.LOCK_NB)
201 return locked_file_descriptor
202
203
204 def uid(path, max_staleness=3600):
205     """
206     Function returning a "unique" id for a given file or path.
207
208     :param str path: File or folder to generate a uid for.
209     :param int max_staleness: If a file or folder is older than that, we may consider
210                             it stale and return a different uid – this is a
211                             dirty trick to work around changes never being
212                             detected. Default is 3600 seconds, use None to
213                             disable this trickery. See below for more details.
214     :returns: An object that changes value if the file changed,
215              None is returned if there were problems accessing the file
216              or folder.
217     :rtype: str
218
219     .. warning:: Depending on the operating system capabilities and the way the
220                 file update is done, this function might return the same value
221                 even if the file has changed. It should be better than just
222                 using file's mtime though.
223                 max_staleness tries to avoid the worst for these cases.
224
225     .. note:: If this function is used for a path, it will stat all pathes and files rekursively.
226
227     **Example:**
228
229     .. literalinclude:: fstools/_examples_/uid.py
230
231     .. literalinclude:: fstools/_examples_/uid.log
232
233     Using just the file's mtime to determine if the file has changed is
234     not reliable – if file updates happen faster than the file system's
235     mtime granularity, then the modification is not detectable because
236     the mtime is still the same.
237
238     This function tries to improve by using not only the mtime, but also
239     other metadata values like file size and inode to improve reliability.
240
241     For the calculation of this value, we of course only want to use data
242     that we can get rather fast, thus we use file metadata, not file data
243     (file content).
244     """
245     if os.path.isdir(path):
246         pathlist = dirlist(path) + filelist(path)
247         pathlist.sort()
248     else:
249         pathlist = [path]
250     uid = []
251     for element in pathlist:
252         try:
253             st = os.stat(element)
254         except (IOError, OSError):
255             uid.append(None) # for permanent errors on stat() this does not change, but
256                             # having a changing value would be pointless because if we
257                             # can't even stat the file, it is unlikely we can read it.
258         else:
259             fake_mtime = int(st.st_mtime)
260             if not st.st_ino and max_staleness:
```

Unittest for fstools

```

261         # st_ino being 0 likely means that we run on a platform not
262         # supporting it (e.g. win32) – thus we likely need this dirty
263         # trick
264         now = int(time.time())
265         if now >= st.st_mtime + max_staleness:
266             # keep same fake_mtime for each max_staleness interval
267             fake_mtime = int(now / max_staleness) * max_staleness
268     uid.append((
269         st.st_mtime,      # might have a rather rough granularity, e.g. 2s
270                         # on FAT, 1s on ext3 and might not change on fast
271                         # updates
272         st.st_ino,       # inode number (will change if the update is done
273                         # by e.g. renaming a temp file to the real file).
274                         # not supported on win32 (0 ever)
275         st.st_size,     # likely to change on many updates, but not
276                         # sufficient alone
277         fake_mtime)      # trick to workaround file system / platform
278                         # limitations causing permanent trouble
279     )
280     if sys.version_info < (3, 0):
281         secret = ''
282         return hmac.new(secret, repr(uid), hashlib.sha1).hexdigest()
283     else:
284         secret = b''
285         return hmac.new(secret, bytes(repr(uid), 'latin-1'), hashlib.sha1).hexdigest()
286
287
288 def uid_filelist(path='.', expression='*', rekursive=True):
289     """
290     Function returning a unique id for a given file or path.
291
292     :param str path: folder which is the basepath for searching files.
293     :param str expression: expression to fit including shell-style wildcards.
294     :param bool rekursive: search all subfolders if True.
295     :returns: An object that changes value if one of the files change.
296     :rtype: str
297
298     .. note:: This UID is created out of the file content. Therefore it is more
299               reliable then :func:`fstools.uid`, but also much slower.
300
301     **Example:**
302
303     .. literalinclude:: fstools/_examples_/uid_filelist.py
304
305     .. literalinclude:: fstools/_examples_/uid_filelist.log
306     """
307     SHAhash = hashlib.md5()
308     #
309     fl = filelist(path, expression, rekursive)
310     fl.sort()
311     for f in fl:
312         if sys.version_info < (3, 0):
313             with open(f, 'rb') as fh:
314                 SHAhash.update(hashlib.md5(fh.read()).hexdigest())
315         else:
316             with open(f, mode='rb') as fh:
317                 d = hashlib.md5()
318                 for buf in iter(partial(fh.read, 128), b''):
319                     d.update(buf)
320                 SHAhash.update(d.hexdigest().encode())
321     #
322     return SHAhash.hexdigest()

```