LittleBenchmark_HDD

1.1.6

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Module Documentation

4.1 Libbuskol

Classes

- class buskol::ThreadTemplates::thread_1< ClassT >

  Thread_1 is very simple thread template which constainst few controle methods and entry for statistics.

Functions

- template<typename T >
  std::string buskol::Conv::ToString (const T &liczba)
- template<typename T >
  T buskol::Conv::FromString (const std::string &s_liczba)
- template<typename T >
  std::string buskol::Conv::Bandwidth (double dTime, const T &ui64Counter, const std::string &strAppEnd="/s")
- template<typename T >
  T buskol::Conv::SizeFromString (std::string str)
- std::string buskol::Conv::TimeToString (const double &dTime)
- template<typename T >
  T buskol::Conv::TimeFromString (std::string str, const double &dMulti=1)
- bool buskol::IO::simpleReadToStringByChar (const boost::filesystem::path &strFile, std::string ∗strBuf, std::list< double > ∗p_listStats=NULL)
- bool buskol::IO::simpleReadToStringByStream (const boost::filesystem::path &pathFile, std::string ∗strBuf, std::list< double > ∗p_listStats=NULL, std::ios_base::openmode mode=std::ios::in|std::ios::binary)
- bool buskol::IO::touch (const boost::filesystem::path &pathTo, const mode_t &mode=0644)
- void buskol::IO::createDir (const boost::filesystem::path &Path, const mode_t &mode=0644)
- bool buskol::IO::SimpleWriteToFile (const boost::filesystem::path &pathTo, const std::string &data, std::ios_base::openmode mode=std::ios::app|std::ios::binary)
- bool buskol::IO::appToFile (const boost::filesystem::path &path, const std::string &data, const mode_t &pmode=0644, const mode_t &emode=0444)
- void buskol::IO::rmAll_inDir (const boost::filesystem::path &directory, bool bForced=true, const unsigned &intDirScanDepth=1024)

- void buskol::IO::rm (const boost::filesystem::path &path, const std::string &strOpt="", bool bforced=false)
- void buskol::IO::lsFiles (const boost::filesystem::path &bfsp_dir, std::list< boost::filesystem::path > ∗list_dir)
- bool buskol::IO::CopyFileByChar (const boost::filesystem::path &pathFrom, const boost::filesystem::path &pathTo)
- bool buskol::IO::ReadByChunk (const boost::filesystem::path &path, const unsigned &chunk)
- boost::local_time::local_date_time ∗ buskol::Time::GetTime (const std::string &tzone="MST-07")
- double buskol::Time::TimeDiff (const boost::local_time::local_date_time &Higher, const boost::local_time::local_date_time &Lower)
- double buskol::Time::TimeDiff (const boost::local_time::local_date_time &Lower)
- std::string buskol::Time::GetLocalTime (const std::string &strTimeFormatter="[%Y/%m/%d %H:%M:%S]")

4.1.1 Detailed Description

Additional documentation for group libbuskol

4.1.2 Function Documentation

4.1.2.1 bool buskol::IO::appToFile (const boost::filesystem::path & *path*, const std::string & *data*, const mode_t & *pmode* = `0644`, const mode_t & *emode* = `0444`) `[inline]`

Function append data to file, support permission change.

4.1.2.2 template<typename T > std::string buskol::Conv::Bandwidth (double *dTime*, const T & *ui64Counter*, const std::string & *strAppEnd* = `"/s"`) `[inline]`

Count bandwidth or scale size. Output is human readable

4.1.2.3 bool buskol::IO::CopyFileByChar (const boost::filesystem::path & *pathFrom*, const boost::filesystem::path & *pathTo*) `[inline]`

Function copy file by character

4.1.2.4 void buskol::IO::createDir (const boost::filesystem::path & *Path*, const mode_t & *mode* = `0644`) `[inline]`

Function is equal to mkdir

4.1.2.5 template<typename T > T buskol::Conv::FromString (const std::string & *s_liczba*) `[inline]`

Convert string to number

4.1.2.6 std::string buskol::Time::GetLocalTime (const std::string & *strTimeFormatter* = `"[%Y/%m/%d %H:%M:%S]"`) `[inline]`

Function return time with defined formatting

< string buffer

< time structure for formatter

4.1.2.7 boost::local_time::local_date_time* buskol::Time::GetTime (const std::string & *tzone* = `"MST-07"`) `[inline]`

Function returns pointer to local_data_time struct Time and data format can be specified

4.1.2.8 void buskol::IO::lsFiles (const boost::filesystem::path & *bfsp_dir*, std::list< boost::filesystem::path > * *list_dir*) `[inline]`

Function list files in directory

4.1.2.9 bool buskol::IO::ReadByChunk (const boost::filesystem::path & *path*, const unsigned & *chunk*) `[inline]`

Function read from file defined data size (Not implemented yet)

4.1.2.10 void buskol::IO::rm (const boost::filesystem::path & *path*, const std::string & *strOpt* = `""`, bool *bforced* = `false`) `[inline]`

Function delete every thing in and give folder or empty file or folder depends on on string option Support forced remove by permission change (only for file or empty folder)

Fast remover for directory

Remove file or empty folder with premissions changing capabilities

4.1.2.11 void buskol::IO::rmAll_inDir (const boost::filesystem::path & *directory*, bool *bForced* = `true`, const unsigned & *intDirScanDepth* = `1024`) `[inline]`

Function delete all childerens in give directory by recurense Algoritm is fail proof by depth counter Support forced remove by permission change

4.1.2.12 bool buskol::IO::simpleReadToStringByChar (const boost::filesystem::path & *strFile*, std::string * *strBuf*, std::list< double > * *p_listStats* = `NULL`) `[inline]`

Function read file by character and feel statistics if defined

< keep result of time subtraction

< Keep start time

< counter for temporary fix

Bug from unknow reason read 1 character more, maybe its special character fault, seekp(std::ios::end) return bad file legnth probably special character...

4.1.2.13 bool buskol::IO::simpleReadToStringByStream (const boost::filesystem::path & *pathFile*, std::string ∗ *strBuf*, std::list< double > ∗ *p_listStats* = `NULL`, std::ios_base::openmode *mode* = `std::ios::in|std::ios::binary`) `[inline]`

Function read file by stream and feel statistics if defined

< Stream for read from file to string

< keep result of time subtraction

< Keep start time

4.1.2.14 bool buskol::IO::SimpleWriteToFile (const boost::filesystem::path & *pathTo*, const std::string & *data*, std::ios_base::openmode *mode* = `std::ios::app|std::ios::binary`) `[inline]`

Function write data to file by stream

4.1.2.15 template<typename T > T buskol::Conv::SizeFromString (std::string *str*) `[inline]`

Generate size from string

4.1.2.16 double buskol::Time::TimeDiff (const boost::local_time::local_date_time & *Lower*) `[inline]`

Function return time diffrence for give local_data_time structer and curren time Time is being scaled to seconds!

Returns time diffrence

4.1.2.17 double buskol::Time::TimeDiff (const boost::local_time::local_date_time & *Higher*, const boost::local_time::local_date_time & *Lower*) `[inline]`

Function return time diffrence for 2 give local_data_time structers Time is being scaled to seconds!

4.1.2.18 template<typename T > T buskol::Conv::TimeFromString (std::string *str*, const double & *dMulti* = `1`) `[inline]`

Convert time string to time as number, can also do scaling if multiplicand is defined

4.1.2.19 std::string buskol::Conv::TimeToString (const double & *dTime*) `[inline]`

From time generates human readable string

4.1.2.20 template<typename T > std::string buskol::Conv::ToString (const T & *liczba*) `[inline]`

Function convert number to string

4.1.2.21 bool buskol::IO::touch (const boost::filesystem::path & *pathTo*, const mode_t & *mode* = 0644) [inline]

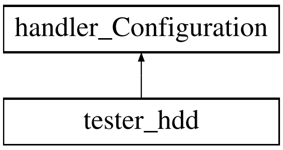
Function touch but can also set permission.

Chapter 5

Class Documentation

5.1 handler_Configuration Class Reference

Inheritance diagram for handler_Configuration:



Public Member Functions

- void setUserDir ()
- void **addNodeToStored** (const string &, const string &)
- void **clearNodes** ()
- void **parseConfigs** ()
- void **saveConfigs** ()

Protected Attributes

- boost::filesystem::path pathProfile

  Keeps path to config file.

- boost::filesystem::path pathConfig

  Keeps path to config file.

- bool **bLetUpdate**

5.1.1 Member Function Documentation

5.1.1.1 void handler_Configuration::setUserDir ()

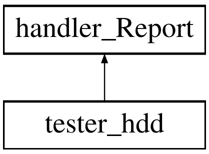
Creates program profile directory for current user

The documentation for this class was generated from the following files:

- handler_Configuration.hpp
- handler_Configuration.cpp

5.2 handler_Report Class Reference

Inheritance diagram for handler_Report:



Public Member Functions

- handler_Report ()

  Constractor set all args with default values.

- void addStatData (string &, string &, const unsigned &, const unsigned &)

  Will add data to specified buffers.

- uint8_t **findAndAdd** (string &, string &, unsigned &, unsigned &)
- void **FormatDataInVector** ()
- void **SaveToDisk** (boost::filesystem::path)
- string GeneratDataFromVector ()

  Return refernce to string value generated from vector.

- string **GenerateXMLFromVector** ()

Protected Member Functions

- void setArgs ()

  Set Args determinates functionality.

Protected Attributes

- vector< string > ∗ p_vecstr_Log

  keep log output in vector

- vector< structRow > ∗ p_vecstr_formattedTXT

  keep data in vector

- boost::filesystem::path pathReport

  Keeps path to report file.

- string strReportFile

  File to report will be written.

- bool bLog

  To log.

- bool bFormattedTxt

  Generate formatted txt.

- bool bGenXML

  Generate xml.

- unsigned uiMultiplySpacer

  Multiply spacer.

- unsigned uiMaxCols

  Max columns.

- string strSpacerChar

  spacer character

The documentation for this class was generated from the following files:

- handler_Report.hpp
- handler_Report.cpp

5.3 profileNode Struct Reference

Public Member Functions

- **profileNode** (const string &, const string &)
- string **getData** ()

Public Attributes

- string **strVar**
- string **strVal**

The documentation for this struct was generated from the following files:

- handler_Configuration.hpp
- handler_Configuration.cpp

5.4 structRow Struct Reference

Public Member Functions

- structRow (unsigned &)

Public Attributes

- vector< string > data

  Row.

5.4.1 Constructor & Destructor Documentation

5.4.1.1 structRow::structRow (unsigned & *col*)

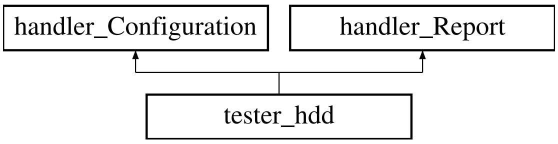
Creates defined number of columns

The documentation for this struct was generated from the following files:

- handler_Report.hpp
- handler_Report.cpp

5.5 tester_hdd Class Reference

Inheritance diagram for tester_hdd:



Public Member Functions

- tester_hdd (int, char ∗∗)
- void Run ()

Public Attributes

- bool **bRun**

5.5.1 Constructor & Destructor Documentation

5.5.1.1 tester_hdd::tester_hdd (int *ac*, char ∗∗ *av*)

Important notes for Linux: ∗ In file /etc/nsswitch.conf change passwd compat to passwd file in order to prevent memory leak

Number of columns

Set output args

5.5.2 Member Function Documentation

5.5.2.1 void tester_hdd::Run ()

Create threads and insert it to list

Running threads from list

If multithreading is disable program will wait for thread to do its job before running next one

With multithreading wating for all started threads to end its jobs

The documentation for this class was generated from the following files:

- tester_hdd.hpp
- tester_hdd.cpp

5.6 buskol::ThreadTemplates::thread_1< ClassT > Class Template Reference

Thread_1 is very simple thread template which constainst few controle methods and entry for statistics.

`#include <myThreadTemplates.hpp>`

Public Member Functions

- **thread_1** (ClassT ∗parent, list< string ∗ > ∗list=NULL, bool show=false)
- void start ()
- void start_self_test ()
- void join ()
- void join (unsigned val)
- string **GetThreadID** ()
- void UpdateStats (string ∗str)
- virtual ∼thread_1 ()

Static Public Member Functions

- static void self_test ()
- static void Execute_ (ClassT ∗p)

5.6.1 Detailed Description

template<class ClassT> class buskol::ThreadTemplates::thread_1< ClassT >

Thread_1 is very simple thread template which constainst few controle methods and entry for statistics.

5.6.2 Constructor & Destructor Documentation

5.6.2.1 template<class ClassT> virtual buskol::ThreadTemplates::thread_1< ClassT >::∼thread_1 () `[inline, virtual]`

Virtual destructor which can show time of execution

5.6.3 Member Function Documentation

5.6.3.1 template<class ClassT> static void buskol::ThreadTemplates::thread_1< ClassT >::Execute_ (ClassT ∗ *p*) `[inline, static]`

Static linker for dynamic method

5.6.3.2 template<class ClassT> void buskol::ThreadTemplates::thread_1< ClassT >::join (unsigned *val*) `[inline]`

Join thread after specified time in seconds

5.6.3.3 template<class ClassT> void buskol::ThreadTemplates::thread_1< ClassT >::join () [inline]

Join thread

5.6.3.4 template<class ClassT> static void buskol::ThreadTemplates::thread_1< ClassT >::self_test () [inline, static]

This method is only for test purpose!

5.6.3.5 template<class ClassT> void buskol::ThreadTemplates::thread_1< ClassT >::start () [inline]

Creates Thread and links it dynamic using static method

5.6.3.6 template<class ClassT> void buskol::ThreadTemplates::thread_1< ClassT >::start_self_test () [inline]

This method is only for test purpose!

5.6.3.7 template<class ClassT> void buskol::ThreadTemplates::thread_1< ClassT >::UpdateStats (string * *str*) [inline]

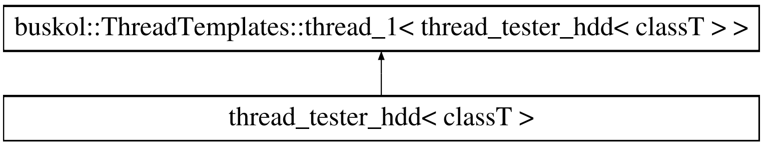
Push statistic information

The documentation for this class was generated from the following file:

- myThreadTemplates.hpp

5.7 thread_tester_hdd< classT > Class Template Reference

Inheritance diagram for thread_tester_hdd< classT >:


buskol::ThreadTemplates::thread_1< thread_tester_hdd< classT > >
thread_tester_hdd< classT >

Public Member Functions

- **thread_tester_hdd** (vector< uint64_t > &, boost::filesystem::path &, unsigned &, unsigned &, unsigned &, unsigned &, uint16_t &, mode_t &, bool, bool, bool, classT ∗)
- **thread_tester_hdd** (classT ∗)
- void **setNewData** (vector< unsigned > &, boost::filesystem::path &)
- void Execute ()

template<class classT> class thread_tester_hdd< classT >

5.7.1 Member Function Documentation

5.7.1.1 template<class classT > void thread_tester_hdd< classT >::Execute () `[inline]`

Write test

Both read test

Cleaning after rw tests

hybrird drive test which is normal test but with reversed order

Write test

Both read test

Cleaning after rw tests

Write test

Cleaning after rw tests

The documentation for this class was generated from the following files:

- thread_tester_hdd.hpp
- thread_tester_hdd.cpp

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