ConcurrentDataSharer

Generated by Doxygen 1.8.11

Contents

Chapter 1

README

ConcurrentDataSharer

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Chapter 3

Class Index

3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 4

Class Documentation

4.1 BlockingQueue< T > Class Template Reference

_TCPSendQueue = new BlockingQueue<QueueElementBase*>(255); _TCPSendQueue->put(new Queue↩ ElementBase());

`#include <BlockingQueue.h>`

Public Member Functions

- BlockingQueue ()

  Constructor.
- BlockingQueue (std::size_t capacity)

  Constructor.
- void Put (const T &task)

  put an element in the queue, blocks if full
- T Take ()

  take an element from the queue, blocks if empty
- T Front ()

  returns the front element(been longest in the queue), does not pop, blocks if empty
- T Back ()

  returns the back element(been shortest in the queue), does not pop, blocks if empty
- size_t Size ()

  returns the number of elements in the queue
- bool Empty ()

  returns true if the queue is empty
- void SetCapacity (const size_t capacity)

  sets the capacity of the queue

4.1.1 Detailed Description

template<typename T>
class BlockingQueue< T >

_TCPSendQueue = new BlockingQueue<QueueElementBase*>(255); _TCPSendQueue->put(new Queue↩ ElementBase());

This is a blocking thread safe FIFO queue

Author

Martin Soderen

Version

0.1

Date

2017/04/147 00:00:00

Contact: martin.soderen@gmail.com

Created on: Fri Apr 14 00:00:00 2017

Id

4.1.2 Constructor & Destructor Documentation

4.1.2.1 template<typename T> BlockingQueue< T >::BlockingQueue ( ) [inline]

Constructor.

Parameters

<T>	template

4.1.2.2 template<typename T> BlockingQueue< T >::BlockingQueue (std::size_t *capacity*) [inline]

Constructor.

Parameters

<T>	template
capacity	how many elements you can fill

4.1.3 Member Function Documentation

4.1.3.1 template<typename T > T BlockingQueue< T >::Back ( )

returns the back element(been shortest in the queue), does not pop, blocks if empty

Returns

element

4.1.3.2 template<typename T > bool BlockingQueue< T >::Empty ( )

returns true if the queue is empty

Returns

bool if empty

4.1.3.3 template<typename T > T BlockingQueue< T >::Front ( )

returns the front element(been longest in the queue), does not pop, blocks if empty

Returns

element

4.1.3.4 template<typename T> void BlockingQueue< T >::Put (const T & *task*)

put an element in the queue, blocks if full

Parameters

task	element to put in queue

4.1.3.5 template<typename T > void BlockingQueue< T >::SetCapacity (const size_t *capacity*)

sets the capacity of the queue

Parameters

capacity	the new capacity of the queue

4.1.3.6 template<typename T > size_t BlockingQueue< T >::Size ( )

returns the number of elements in the queue

Returns

size of queue

4.1.3.7 template<typename T > T BlockingQueue< T >::Take ( )

take an element from the queue, blocks if empty

Returns

element

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

- /home/martin/repositories/ConcurrentDataSharer/include/BlockingQueue.h
- /home/martin/repositories/ConcurrentDataSharer/src/BlockingQueue.cpp

4.2 clientData Class Reference

Public Member Functions

- **clientData** (std::string name, std::vector< std::string > IPV4, std::vector< std::string > IPV6)
- std::vector< std::string > **getIPV4** ()
- std::vector< std::string > **getIPV6** ()
- std::string **getName** ()

Friends

- class **boost::serialization::access**

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

- /home/martin/repositories/ConcurrentDataSharer/include/structures.h

4.3 ConcurrentDataSharer Class Reference

ConcurrentDataSharer* sharer = new ConcurrentDataSharer("test"); sharer->set<int>("data",43); sharer->set<int>("data1",42);.

```
#include <concurrentdatasharer.h>
```

Public Member Functions

- ConcurrentDataSharer (std::string const &groupname, std::string const &multicastadress="239.255.0.1", std::string const &listenadress="0.0.0.0", const short multicastport=30001)

  Constructor.
- ~ConcurrentDataSharer ()

  Destructor.
- template<typename T >
  void set (std::string const &name, T data)

  Set a local variable, creates it if it does not exists.
- template<typename T >
  T get (std::string const &name)

  Get a local variable.
- template<typename T >
  T get (std::string const &client, std::string const &name)

  Get a variable from another client.
- std::vector< std::string > getClients ()

  to get all connected clients
- void registerNewClientCallback (CallbackSig func)

  connects a callback when a new clients connects
- void registerCallback (std::string const &name, CallbackSig func)

  connects a callback if a local variable changes
- std::string getMyName ()

  return the name of this client
- std::vector< std::string > getClientVariables (std::string const &client)

  get a list with the names of a clients variables

4.3.1 Detailed Description

ConcurrentDataSharer* sharer = new ConcurrentDataSharer("test"); sharer->set<int>("data",43); sharer->set<int>("data1",42);.

This is the main class for the ConcurrentDataSharer

Note

This is the shit

Author

Martin Soderen

Version

0.1

Date

2017/04/147 00:00:00

Contact: martin.soderen@gmail.com

Created on: Fri Apr 14 00:00:00 2017

Id

4.3.2 Constructor & Destructor Documentation

4.3.2.1 ConcurrentDataSharer::ConcurrentDataSharer (std::string const & *groupname,* std::string const & *multicastadress =* "239.255.0.1", std::string const & *listenadress =* "0.0.0.0", const short *multicastport =* 30001)

Constructor.

Parameters

groupname	the name for the ConcurrentDatasharer group to share data with
multicastadress	the adress for UDP broadcasting, default is 239.255.0.1
listenadress	the adress for UDP broadcasting listening, default is 0.0.0.0
multicastport	the port for UDP broadcasting, default is 30001

4.3.2.2 ConcurrentDataSharer::~ConcurrentDataSharer ( )

Destructor.

Destructs objects

4.3.3 Member Function Documentation

4.3.3.1 template<typename T > T ConcurrentDataSharer::get (std::string const & *name*) [inline]

Get a local variable.

Parameters

name	the name of the variable

4.3.3.2 template<typename T > T ConcurrentDataSharer::get (std::string const & *client,* std::string const & *name*) [inline]

Get a variable from another client.

Parameters

client	the name of the client
name	the name of the variable

4.3.3.3 std::vector< std::string > ConcurrentDataSharer::getClients ( )

to get all connected clients

Returns

std::vector<std::string> with the names of all the clients

4.3.3.4 std::vector< std::string > ConcurrentDataSharer::getClientVariables (std::string const & *client*)

get a list with the names of a clients variables

Parameters

client	the name of the client

Returns

a list with the names of a clients variables

4.3.3.5 std::string ConcurrentDataSharer::getMyName ( ) [inline]

return the name of this client

Returns

the name of this client

4.3.3.6 void ConcurrentDataSharer::registerCallback (std::string const & *name,* CallbackSig *func*) [inline]

connects a callback if a local variable changes

Parameters

name	the name of the variable
func	the function to connect with change

4.3.3.7 void ConcurrentDataSharer::registerNewClientCallback (CallbackSig *func*) [inline]

connects a callback when a new clients connects

Parameters

func	the function to connect

4.3.3.8 template<typename T > void ConcurrentDataSharer::set (std::string const & *name,* T *data*) [inline]

Set a local variable, creates it if it does not exists.

Parameters

name	the name of the variable
data	the data

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

- /home/martin/repositories/ConcurrentDataSharer/include/concurrentdatasharer.h
- /home/martin/repositories/ConcurrentDataSharer/src/concurrentdatasharer.cpp

4.4 DataBaseElement Class Reference

Public Member Functions

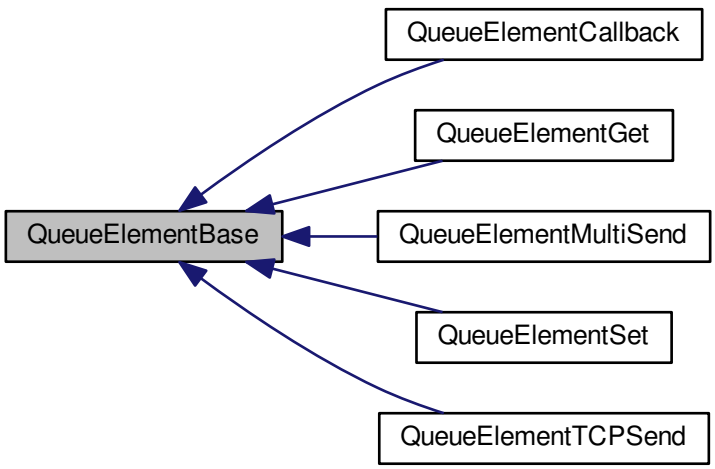
- **DataBaseElement** (std::string const &, std::string const &)
- **DataBaseElement** (QueueElementSet ∗)
- std::string **getData** ()
- void **setData** (std::string const &data)
- void **setCallback** (CallbackSig func)
- void **runCallback** ()

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

- /home/martin/repositories/ConcurrentDataSharer/include/structures.h
- /home/martin/repositories/ConcurrentDataSharer/src/structures.cpp

4.5 QueueElementBase Class Reference

Inheritance diagram for QueueElementBase:



Public Member Functions

- std::string **getName** ()
- std::string **getData** ()

Protected Attributes

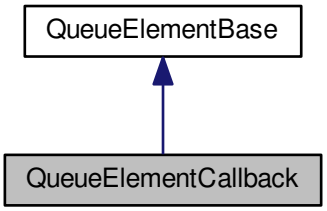
- std::string **_name**
- std::string **_data**

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

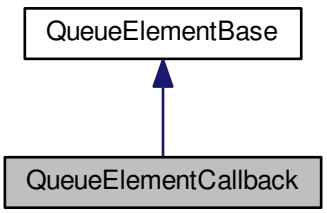
- /home/martin/repositories/ConcurrentDataSharer/include/structures.h
- /home/martin/repositories/ConcurrentDataSharer/src/structures.cpp

4.6 QueueElementCallback Class Reference

Inheritance diagram for QueueElementCallback:



Collaboration diagram for QueueElementCallback:



Public Member Functions

- **QueueElementCallback** (std::string const &name, CallbackSig func)
- CallbackSig **getCallback** ()

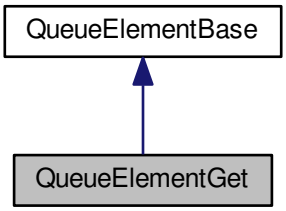
Additional Inherited Members

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

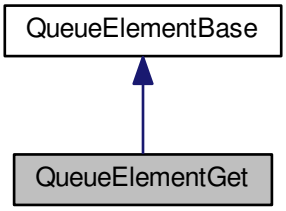
- /home/martin/repositories/ConcurrentDataSharer/include/structures.h

4.7 QueueElementGet Class Reference

Inheritance diagram for QueueElementGet:



Collaboration diagram for QueueElementGet:



Public Member Functions

- **QueueElementGet** (std::string const &)
- std::string **getData** ()
- void **setData** (std::string const &)

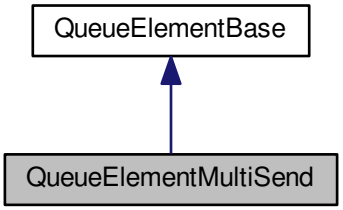
Additional Inherited Members

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

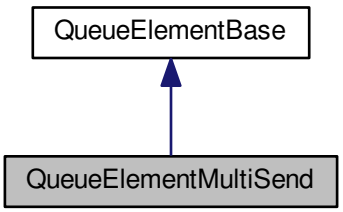
- /home/martin/repositories/ConcurrentDataSharer/include/structures.h
- /home/martin/repositories/ConcurrentDataSharer/src/structures.cpp

4.8 QueueElementMultiSend Class Reference

Inheritance diagram for QueueElementMultiSend:



Collaboration diagram for QueueElementMultiSend:



Public Member Functions

- **QueueElementMultiSend** (std::string const &, std::string const &, MultiSend)
- MultiSend **getPurpose** ()

Friends

- class **boost::serialization::access**

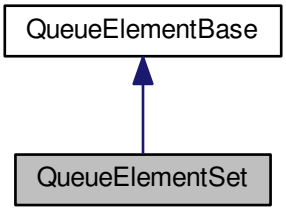
Additional Inherited Members

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

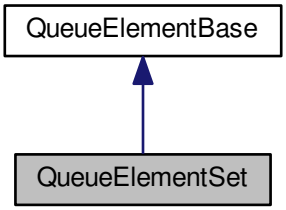
- /home/martin/repositories/ConcurrentDataSharer/include/structures.h
- /home/martin/repositories/ConcurrentDataSharer/src/structures.cpp

4.9 QueueElementSet Class Reference

Inheritance diagram for QueueElementSet:



Collaboration diagram for QueueElementSet:



Public Member Functions

- **QueueElementSet** (std::string const &, std::string const &)

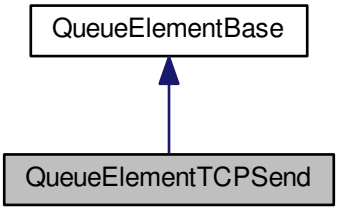
Additional Inherited Members

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

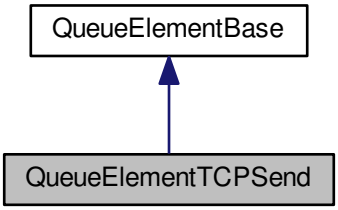
- /home/martin/repositories/ConcurrentDataSharer/include/structures.h
- /home/martin/repositories/ConcurrentDataSharer/src/structures.cpp

4.10 QueueElementTCPSend Class Reference

Inheritance diagram for QueueElementTCPSend:



Collaboration diagram for QueueElementTCPSend:



Public Member Functions

- **QueueElementTCPSend** (std::string const &name, std::string const &data, TCPSend purpose, bool respons)
- void **setTag** (std::string const &tag)
- std::string **getTag** ()
- bool **getResponsRequired** ()
- TCPSend **getPurpose** ()
- void **setRequestor** (std::string const &requestor)
- std::string **getRequestor** ()
- void **setData** (std::string const &data)
- std::string **getData** ()
- std::string **getDataNoneBlocking** ()

Friends

- class **boost::serialization::access**

Additional Inherited Members

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

- /home/martin/repositories/ConcurrentDataSharer/include/structures.h

Index