ZCM

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Contents

Chapter 1

Hierarchical Index

1.1 Class Hierarchy

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

Base_Operation . . . . . ??
  Server_Operation . . . . . ??
  Subscriber_Operation . . . . . ??
  Timer_Operation . . . . . ??
Client . . . . . ??
Component . . . . . ??
Operation_Queue . . . . . ??
Operation_Queue::PriorityOrdering . . . . . ??
Publisher . . . . . ??
Server . . . . . ??
Subscriber . . . . . ??
Timer . . . . . ??
XML_Parser . . . . . ??

Chapter 2

Class Index

2.1 Class List

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

Base_Operation . . . . . ??
Client . . . . . ??
Component . . . . . ??
Operation_Queue . . . . . ??
Operation_Queue::PriorityOrdering . . . . . ??
Publisher . . . . . ??
Server . . . . . ??
Server_Operation . . . . . ??
Subscriber . . . . . ??
Subscriber_Operation . . . . . ??
Timer
    Timer class . . . . . ??
Timer_Operation . . . . . ??
XML_Parser . . . . . ??

Chapter 3

File Index

3.1 File List

Here is a list of all documented files with brief descriptions:

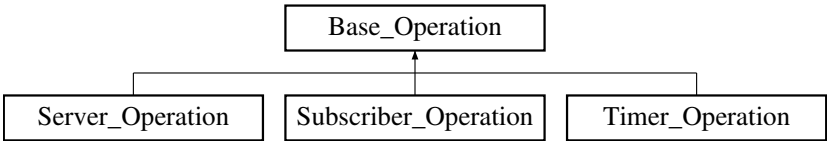
/home/pranav/Repositories/zmq-comm/include/**client.hpp** . . . . . **??**
/home/pranav/Repositories/zmq-comm/include/**component.hpp** . . . . . **??**
/home/pranav/Repositories/zmq-comm/include/**operation_queue.hpp** . . . . . **??**
/home/pranav/Repositories/zmq-comm/include/**operation_types.hpp** . . . . . **??**
/home/pranav/Repositories/zmq-comm/include/**publisher.hpp** . . . . . **??**
/home/pranav/Repositories/zmq-comm/include/**server.hpp** . . . . . **??**
/home/pranav/Repositories/zmq-comm/include/**subscriber.hpp** . . . . . **??**
/home/pranav/Repositories/zmq-comm/include/timer.hpp
This file declares the Timer class . . . . . **??**
/home/pranav/Repositories/zmq-comm/include/**xml_parser.hpp** . . . . . **??**
/home/pranav/Repositories/zmq-comm/src/timer.cpp
This file contains definitions for the Timer class . . . . . **??**

Chapter 4

Class Documentation

4.1 Base_Operation Class Reference

Inheritance diagram for Base_Operation:



Public Member Functions

- **Base_Operation** (std::string name, unsigned int priority)
- std::string **get_name** ()
- unsigned int **get_priority** () const
- virtual void **execute** ()

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

- /home/pranav/Repositories/zmq-comm/include/operation_types.hpp

4.2 Client Class Reference

Public Member Functions

- **Client** (std::string name)
- **Client** (std::string name, std::vector< std::string > endpoints)
- void **connect** (std::vector< std::string > new_endpoints)
- std::string **get_name** ()
- std::string **call** (std::string message)

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

- /home/pranav/Repositories/zmq-comm/include/client.hpp

4.3 Component Class Reference

Public Member Functions

- std::thread * **spawn** ()

Protected Attributes

- Operation_Queue * **operation_queue**
- std::thread * **executor_thread**

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

- /home/pranav/Repositories/zmq-comm/include/component.hpp

4.4 Operation_Queue Class Reference

Classes

- struct PriorityOrdering

Public Member Functions

- void **enqueue** (Base_Operation *new_operation)
- void **dequeue** ()
- bool **empty** ()
- Base_Operation * **top** ()
- void **process** ()
- std::thread * **spawn** ()

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

- /home/pranav/Repositories/zmq-comm/include/operation_queue.hpp

4.5 Operation_Queue::PriorityOrdering Struct Reference

Public Member Functions

- bool **operator()** (const Base_Operation *lhs, const Base_Operation *rhs) const

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

- /home/pranav/Repositories/zmq-comm/include/operation_queue.hpp

4.6 Publisher Class Reference

Public Member Functions

- **Publisher** (std::string name)
- **Publisher** (std::string name, std::vector< std::string > endpoints)
- void **bind** (std::vector< std::string > new_endpoints)
- std::string **get_name** ()
- void **add_connection** (std::string new_connection)
- void **send** (std::string message)

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

- /home/pranav/Repositories/zmq-comm/include/publisher.hpp

4.7 Server Class Reference

Public Member Functions

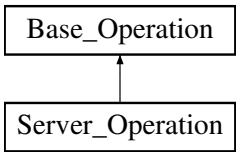
- **Server** (std::string name, unsigned int priority, std::function< std::string(const std::string &)> operation_function, Operation_Queue *operation_queue_ptr)
- **Server** (std::string name, unsigned int priority, std::vector< std::string > endpoints, std::function< std::string(const std::string &)> operation_function, Operation_Queue *operation_queue_ptr)
- void **bind** (std::vector< std::string > new_endpoints)
- std::string **get_name** ()
- unsigned int **get_priority** ()
- void **add_connection** (std::string new_connection)
- void **recv** ()
- void **rebind_operation_function** (std::function< std::string(const std::string &)> new_operation_function)
- std::thread **spawn** ()
- void **start** ()

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

- /home/pranav/Repositories/zmq-comm/include/server.hpp

4.8 Server_Operation Class Reference

Inheritance diagram for Server_Operation:



Public Member Functions

- **Server_Operation** (std::string name, unsigned int priority, std::function< std::string()> operation_function, zmq::socket_t *socket_ptr, bool *recv_ready)
- void **execute** ()
- zmq::socket_t * **get_socket_ptr** ()
- void **set_ready** ()
- std::string **get_name** ()
- unsigned int **get_priority** () const

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

- /home/pranav/Repositories/zmq-comm/include/operation_types.hpp

4.9 Subscriber Class Reference

Public Member Functions

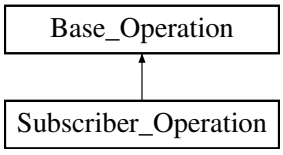
- **Subscriber** (std::string name, unsigned int priority, std::string filter, std::function< void(const std::string &)> operation_function, Operation_Queue *operation_queue_ptr)
- **Subscriber** (std::string name, unsigned int priority, std::string filter, std::vector< std::string > endpoints, std::function< void(const std::string &)> operation_function, Operation_Queue *operation_queue_ptr)
- void **connect** (std::vector< std::string > new_endpoints)
- std::string **get_name** ()
- unsigned int **get_priority** ()
- void **add_connection** (std::string new_connection)
- void **recv** ()
- void **rebind_operation_function** (std::function< void(const std::string &)> new_operation_function)
- std::thread **spawn** ()
- void **start** ()

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

- /home/pranav/Repositories/zmq-comm/include/subscriber.hpp

4.10 Subscriber_Operation Class Reference

Inheritance diagram for Subscriber_Operation:



Public Member Functions

- **Subscriber_Operation** (std::string name, unsigned int priority, std::function< void()> operation_function)
- void **execute** ()
- std::string **get_name** ()
- unsigned int **get_priority** () const

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

- /home/pranav/Repositories/zmq-comm/include/operation_types.hpp

4.11 Timer Class Reference

Timer class.

`#include <timer.hpp>`

Public Member Functions

- **Timer** (std::string name, unsigned int priority, long long period, std::function< void()> operation_function, Operation_Queue *operation_queue_ptr)
- void **operation** ()
- std::string **get_name** ()
- unsigned int **get_priority** ()
- void **change_period** (long long new_period)
- void **rebind_operation_function** (std::function< void()> new_operation_function)
- std::thread **spawn** ()
- void **start** ()

4.11.1 Detailed Description

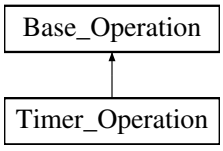
Timer class.

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

- /home/pranav/Repositories/zmq-comm/include/timer.hpp
- /home/pranav/Repositories/zmq-comm/src/timer.cpp

4.12 Timer_Operation Class Reference

Inheritance diagram for Timer_Operation:



Public Member Functions

- **Timer_Operation** (std::string name, unsigned int priority, std::function< void()> operation_function)
- void **execute** ()
- std::string **get_name** ()
- unsigned int **get_priority** () const

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

- /home/pranav/Repositories/zmq-comm/include/operation_types.hpp

4.13 XML_Parser Class Reference

Public Member Functions

- **XML_Parser** (const char *filename)
- void **parse** ()

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

- /home/pranav/Repositories/zmq-comm/include/xml_parser.hpp

Chapter 5

File Documentation

5.1 /home/pranav/Repositories/zmq-comm/include/timer.hpp File Reference

This file declares the Timer class.

```
#include <iostream>
#include <string>
#include <chrono>
#include <ratio>
#include <thread>
#include "operation_queue.hpp"
```

Classes

- class Timer

  Timer class.

5.1.1 Detailed Description

This file declares the Timer class.

Author

Pranav Srinivas Kumar

Date

2016.04.24

5.2 /home/pranav/Repositories/zmq-comm/src/timer.cpp File Reference

This file contains definitions for the Timer class.

```
#include "timer.hpp"
```

5.2.1 Detailed Description

This file contains definitions for the Timer class.

Author

Pranav Srinivas Kumar

Date

2016.04.24