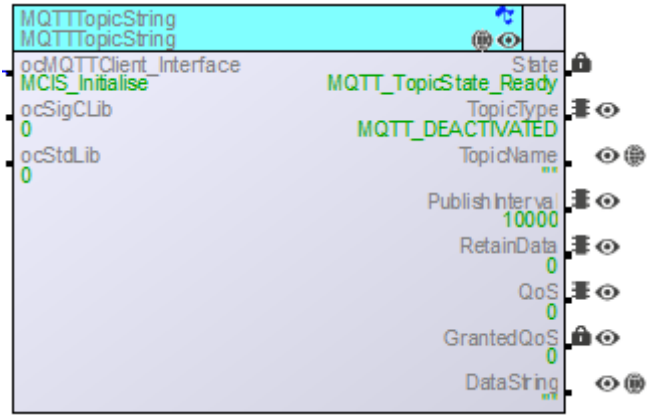
MQTTTopicString



Derivation of the base class MQTTTopic. With this class strings received and sent.

Depending on the topic type, the user can read the received strings from the server “DataString" or set his strings to send.

Interfaces

Clients

ocMQTTClient_Interface	Object channel to the MQTTClient_Interface class.	
	Data type	MQTTClient_Interface::t_e_MQTTClientStates
ocSigCLib	Object channel to the SigCLib class. Does not have to be connected.	
	Data type	DINT
ocStdLib	Object channel to the StdLib class. Does not have to be connected.	
	Data type	DINT

Server

State

This server can be used to call the global methods of the class.
Shows the current step of the routine's internal stepping mechanism.

MTS_Init	Initialization of the topic
MTS _WaitForConnection	It is waited until the client has established a connection to the server.
MTS _Ready	Class is ready for the operation defined in the server TopicType
MTS _Subscribe	A logon to the defined topic is executed.
MTS _WaitForSubscribe	The system waits for confirmation of the logon process.
MTS _Subscribed	The logon was successful
MTS _Unsubscribe	A logoff from the defined topic is executed.
MTS _WaitForUnsubscribe	The system waits for confirmation of the logoff process.
MTS _Unsubscribed	The logoff was successful
MTS _WaitForPublishInterval	It waits for the time delay defined in the server PublishInterval before sending data to the server.
MTS _WaitForPublishCommand	It waits for a change to the user-defined data before sending data to the server.
MTS _Publish	It waits for a manual trigger from the user before sending data to the server.
MTS _WaitForPublishDone	The send process for the user-defined data is triggered.
MTS _Error	It waits for a response to the transmission process.
MTS _Error_WaitForReset	An error has occurred during the routine.
MTS _WaitForPublishCommand	It waits for the user to reset the class from the error.

Unit	-	Data type	t_e_MQTT_Topic State
Value range	-	Write Protected	TRUE
Default value	-	Retentive	FALSE

TopicType

Here you can specify how the MQTT topic defined in the server TopicName should be handled.

MQTT_DEACTIVATED	Class is deactivated We are not logged into a topic, nor are data sent to a topic.
MQTT_SUB	You want to log on to the defined topic.
MQTT_PUB_POLL	The user-defined data should be sent to the defined topic in a certain time interval, which can be set on the server PublishInterval.
MQTT_PUB_ONCHANGE	If a change of the user-defined data is detected, then these should be sent to the defined topic.
MQTT_PUB_MAN	Trigger manually to send the data to the defined topic. Can be triggered by calling the method DoManualPublish().

Unit	-	Data type	t_e_MQTT_TopicType
Value range	0-4	Write Protected	FALSE
Default value	adjustable	Retentive	SRAM

TopicName

The name of the topic must be defined here.

Unit	-	Data type	UDINT Object channel for the StringRAM class.
Value range	-	Write Protected	FALSE
Default value	-	Retentive	SRAM

PublishInterval

If the topic type is set to MQTT_PUB_POLL (server TopicType), the time interval for sending the data can be defined here.

Unit	ms	Data type	UDINT
Value range	-	Write Protected	FALSE
Default value	10 s	Retentive	SRAM

RetainData

Here you define whether the data which is sent to the server for a certain topic (Publish) should be stored. If a new client logs on to this topic, the last stored data is immediately sent to it.
Otherwise the new client would only get data as soon as someone sends something to this topic again.

0...Data is not stored in the server

1...Data is stored in the server.

Unit	-	Data type	UDINT
Value range	0-1	Write Protected	FALSE
Default value	0	Retentive	SRAM

QoS

The "Quality of Service" for data transmission can be set here.
This always means between client and server (broker).

0...The data is sent at most once. The receiver does not acknowledge reception of the data. Provides the same guarantee as the underlying TCP protocol.

1...The data is sent at least once. The sender is waiting for confirmation from the receiver. If this is not done within a certain time, the data is sent again. It is possible to send and receive the same data more often.

2...The data is sent exactly once. This ensures that the recipient receives the message exactly once.

Note: The higher the "Quality of Service" is set, the longer the processing of the send and receive routine will take.

Unit	-	Data type	DINT
Value range	0-2	Write Protected	FALSE
Default value	0	Retentive	SRAM

GrantedQoS

Only relevant in the topic type MQTT_SUB.
The "Quality of Service" for the subscribed topic is displayed here. It is set by the server. The quality displayed here is at most the quality defined in the server QoS, but can also be smaller after settings of the MQTT server.

Unit	-	Data type	DINT
Value range	0-2	Write Protected	TRUE
Default value	-	Retentive	FALSE

DataString	Depending on the topic type, the received data is displayed here, or if data is to be sent, it must be set here.

Unit	-	Data type	String
Value range	-	Write Protected	FALSE
Default value	-	Retentive	FALSE

Global Methods

For the global methods of the base class, see the description of the base class.

WriteDataString	Use this method to set the data string to be sent to the server.

► inPtrDataString	Pointer to the data string.
◄ outSuccess	True... Setting of the data string successful. False... Setting of the data string failed.

ReadDataString	Use this method to read the data string from the logged on topic.

► inDstPtrDataString	Pointer to the target string, where the data should be stored.
► inLenOfDataString	Length of the target string
◄ outSuccess	True…Copying of the data successful False…Copying of the data failed

GetDataStringLength	Returns the length of the data string. The 0 termination is not included.

◄ outDataStringLen	Length of the data string without 0 termination.

Private Methods

See description of the base class.