

Socket Tango Cpp Class

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Socket Class Identification :

Contact : at esrf.fr - accelerator-control
Class Family : Communication
Platform : Unix Like
Bus : Socket
Manufacturer : none
Manufacturer ref. :

Socket Class Inheritance :

- [Tango::DeviceImpl](#)
 - Socket

Socket Class Description :

This class implements basic `socket` IPC.

Socket Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
Hostname	This is the hostname of the host to connect to.	String	none
Port	This is the port number to connect to.	int	none
Readtimeout	Read timeout in milliseconds.	short	none
AutoReconnect	If true, the server try to re-create and re-connect to the socket after a failure. NOTE : The default values is false.	boolean	false

Socket Class Commands				
Name	Input type	Output type	Level	Description
State	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its <i>device_state</i> data member) and returns it to the caller.
Status	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its <i>device_status</i> data member) and returns it to the caller.
Reconnect	DEV_VOID	DEV_VOID	OPERATOR	Attempts to re-establish the socket connection.
				Command

Write	DEV_STRING	DEV_VOID	OPERATOR	used to send a string to the socket.
WriteAndRead	DEV_STRING	DEV_STRING	OPERATOR	Write to the socket and waits for the answer. The end of the answer is triggered by the new line character!
WriteReadUntil	DEVVAR_STRINGARRAY	DEV_STRING	OPERATOR	Write to the socket and waits for the answer. The answer is triggered by select() which indicates that the the anser has arrived.
WriteCharArray	DEVVAR_CHARARRAY	DEV_VOID	OPERATOR	write on socket input Argument.
Read	DEV_VOID	DEV_STRING	OPERATOR	Command used to read a string from the socket.
ReadIn	DEV_VOID	DEV_STRING	OPERATOR	Reads from a socket until a "\n" has been received.
ReadUntil	DEV_STRING	DEV_STRING	OPERATOR	This command read data from the socket until the terminator has been reached.
ReadCharArray	DEV_LONG	DEVVAR_CHARARRAY	OPERATOR	read on socket and return output Argument.
WriteReadCharArray	DEVVAR_LONGSTRINGARRAY	DEVVAR_CHARARRAY	OPERATOR	Send a given string to the socket and waits for a given number of binary bytes.

			Those received bytes are returned to the caller.
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Command State :

This command gets the device state (stored in its *device_state* data member) and returns it to the caller.

State Definition		
Input Argument	Tango::DEV_VOID	none.
Output Argument	Tango::DEV_STATE	State Code
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Status :

This command gets the device status (stored in its *device_status* data member) and returns it to the caller.

Status Definition		
Input Argument	Tango::DEV_VOID	none.
Output Argument	Tango::CONST_DEV_STRING	Status description
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Reconnect :

Attempts to re-establish the socket connection.

Reconnect Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command Write :

Command used to send a string to the socket.

Write Definition		
Input Argument	Tango::DEV_STRING	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• OFF	..

Command WriteAndRead :

Write to the socket and waits for the answer.

The end of the answer is triggered by the new line character!

WriteAndRead Definition		
Input Argument	Tango::DEV_STRING	Command string.
Output Argument	Tango::DEV_STRING	Answer string.
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• OFF	..

Command WriteReadUntil :

Write to the socket and waits for the answer.

The answer is triggered by select() which indicates that the the anser has arrived.

WriteReadUntil Definition		
Input Argument	Tango::DEVVAR_STRINGARRAY	[0] = Command string to be send, [1] = end of message character
Output Argument	Tango::DEV_STRING	Answer string.
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• OFF	..

Command WriteCharArray :

write on socket input Argument.

WriteCharArray Definition		
Input Argument	Tango::DEVVAR_CHARARRAY	array to write
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• OFF	..

Command Read :

Command used to read a string from the socket.

Read Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_STRING	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• OFF	..

Command ReadIn :

Reads from a socket until a "\n" has been received.

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ReadIn Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_STRING	argout
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• OFF	..

Command ReadUntil :

This command read data from the socket until the terminator has been reached.

ReadUntil Definition		
Input Argument	Tango::DEV_STRING	This is the terminator
Output Argument	Tango::DEV_STRING	This is the read string.
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• OFF	..

Command ReadCharArray :

read on socket and return output Argument.

ReadCharArray Definition		
Input Argument	Tango::DEV_LONG	number of char to read
Output Argument	Tango::DEVVAR_CHARARRAY	char read on socket
DisplayLevel	OPERATOR	..
Inherited	false	..

Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• OFF	..

Command WriteReadCharArray :

Send a given string to the socket and waits for a given number of binary bytes. Those received bytes are returned to the caller.

WriteReadCharArray Definition		
Input Argument	Tango::DEVVAR_LONGSTRINGARRAY	str[0] = String to send lg[0] = Number of bytes to be read
Output Argument	Tango::DEVVAR_CHARARRAY	Read bytes
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command NOT allowed for	• OFF	..

Socket Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
hostname	false	false	Scalar	READ	Tango::DEV_STRING	OPERATOR	Gives the name of the host were the socket is connected to
port	false	false	Scalar	READ	Tango::DEV_ULONG	OPERATOR	Used port

There is no dynamic attribute defined.

Attribute hostname :

Gives the name of the host were the socket is connected to

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STRING
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	Connected host
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Attribute port :

Used port

Attribute	
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Attribute	
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Attribute Event Criteria	
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Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_ULONG
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Properties	
label	Used port
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	false

Socket Class States	
Name	Description
ON	Normal state when everything is OK.
OFF	Disconnected from socket (or not yet connected to).