

AttributeMonitor Tango Python Class

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AttributeMonitor Class Identification :

Contact : at esrf.fr - taurel
 Class Family : SoftwareSystem
 Platform : All Platforms
 Bus : Not Applicable
 Manufacturer : none
 Manufacturer ref. :

AttributeMonitor Class Inheritance :

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

AttributeMonitor Class Description :

This class monitors a Tango device attribute. A formula is applied on two consecutive attribute readings. If this formula is true, a voice alarm message is sent to the Control Room. The attribute to be monitored, the voice alarm message and the formula are defined as properties.

The device attribute **IsAlarm** has to be polled to force the attribute reading. The polling period is the delta time between the two consecutive attribute readings. In the formula, **previous_attr_value** has to be used to reference the previous attribute reading while **attr_value** has to be used to reference the last attribute reading

AttributeMonitor Properties :

There is no class properties

Device Properties			
Name	Description	Type	Default Value
VoiceDeviceName	Device name for the text talker device	String	none
DeviceName	Device name for which one of the attribute has to be monitored	String	none
AttributeName	Name of the attribute to be monitored	String	none
AlarmTrigger	Formula to be applied with the two attribute consecutive readings (previous_attr_value and attr_value)	String	none
AlarmMessage	Voice message sent to the talker message in case the alarm formula evaluates to true	String	none
DisableConsecutiveAlarms	If True only one Alarm is issue when the condition goes from False to True, and stays True	boolean	False

AttributeMonitor Class Commands				
Name	Input type	Output type	Level	Description
State	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its device_state data member) and returns it to the caller.
Status	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its device_status data member) and returns it to the caller.

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	Device state
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	Device status
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

AttributeMonitor Class Attributes							
Name	Inherited	Abstract	Attr. type	R/W type	Data type	Level	Description
IsAlarm	false	false	Scalar	READ	Tango::DEV_BOOLEAN	OPERATOR	This read-only attribute is set to true when the alarm condition evaluated from the alarm formula is met.
							This read-only attribute is set to the present AlarmTrigger

AlarmTrigger	false	false	Scalar	READ	Tango::DEV_STRING	OPERATOR	property value which is the alarm formula
AlarmMessage	false	false	Scalar	READ	Tango::DEV_STRING	OPERATOR	The message sent to the text talker device in case of alarm
MonitoredAttribute	false	false	Scalar	READ	Tango::DEV_STRING	OPERATOR	The full monitored attribute name (device name/att name)
Enabled	false	false	Scalar	READ_WRITE	Tango::DEV_BOOLEAN	OPERATOR	This read-write attribute enables, when set to true, the emission of a vocal message alarm

There is no dynamic attribute defined.

Attribute IsAlarm :

This read-only attribute is set to true when the alarm condition evaluated from the alarm formula is met.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_BOOLEAN
Display Level	OPERATOR

Attribute Properties	
label	
unit	
standard unit	
display unit	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set

Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

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 AlarmTrigger :

This read-only attribute is set to the present AlarmTrigger property value which is the alarm formula

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	
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 AlarmMessage :

The message sent to the text talker device in case of alarm

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	
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 MonitoredAttribute :

The full monitored attribute name (device name/att name)

Attribute Definition	

Attribute Properties	

Attribute Event Criteria	

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

label	
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

Attribute Enabled :

This read-write attribute enables, when set to true, the emission of a vocal message alarm

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ_WRITE
Data Type	Tango::DEV_BOOLEAN
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	true
Write hardware at init.	true
Read allowed for	All states

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

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	

Write allowed for	All states
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delta_val

code	false
Push Archive event by user code	false
Push DataReady event by user code	false

AttributeMonitor Class States	
Name	Description
ON	The device is ON en deverything is under control
ALARM	Device in ALARM due to an error occuring during attribute reading, formula evaluation or voice message sent to the talker message