

## AttributeSequenceWriter Tango Cpp Class

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### **AttributeSequenceWriter Class Identification :**

Contact : at nexeya.com - sebastien.gara  
 Class Family : Miscellaneous  
 Platform : All Platforms  
 Bus : Not Applicable  
 Manufacturer : none  
 Manufacturer ref. :

### **AttributeSequenceWriter Class Inheritance :**

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

### **AttributeSequenceWriter Class Description :**

Generates a user's sequence on a attribute of a specified device. The sequence generated is gave by a command. It can be generated once, n times or indefinitely (until stop by user).  
 Be aware that the timings for the generation are **software** (so not very precise).

### **AttributeSequenceWriter Properties :**

## There is no class properties

Device Properties			
Name	Description	Type	Default Value
AttributeProxyWrite	The name of the attribute on which to generate the sequence.	String	none
AttributeProxyRead	The name of the attribute used to verify that the written value of AttributeProxyWrite has been reached.	String	none
Delta	The minimum acceptable difference between the value AttributeProxyWrite and AttributeProxyRead.	double	none
Timeout	The time in seconds to wait for AttributeProxyRead has reached AttributeProxyWrite.	double	none
PollingPeriod	The period in seconds at which AttributeProxyRead is read to check that it has reached the written value.	double	none
Iterations	The number of times the given sequence that will be generated once Start command is called. It can be 1..n or 0 to generate it indefinitely (until Stop command is called).	int	none
SequenceSize	The number of elements in a sequence.	int	none
FilePath	Path where the sequence files can be saved or loaded. Files` name, for a device named A/B/C, are: - A#B#C_SequenceValues.dat for sequence values, - A#B#C_WaitingTimes.dat for waiting times.	String	none

AttributeSequenceWriter Class Commands				
Name	Input type	Output type	Level	Description
<a href="#">State</a>	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.
<a href="#">Status</a>	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.
<a href="#">Start</a>	DEV_VOID	DEV_VOID	OPERATOR	Start the sequence generation.
<a href="#">Stop</a>	DEV_VOID	DEV_VOID	OPERATOR	Stop the sequence generation.
<a href="#">Pause</a>	DEV_VOID	DEV_VOID	OPERATOR	Pause the sequence generation.
<a href="#">Resume</a>	DEV_VOID	DEV_VOID	OPERATOR	Restart the sequence generation previously paused (with Pause command).
<a href="#">LoadSequenceValues</a>	DEVVAR_DOUBLEARRAY	DEV_VOID	OPERATOR	Give the device one sequence to generate.
<a href="#">LoadWaitingTimes</a>	DEVVAR_DOUBLEARRAY	DEV_VOID	OPERATOR	Give the device the waiting times of the sequence.

## **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	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

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### **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	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

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### **Command Start :**

Start the sequence generation.

Start 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	..

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### **Command Stop :**

Stop the sequence generation.

Stop 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	..

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### **Command Pause :**

Pause the sequence generation.

Pause 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	..

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### **Command Resume :**

Restart the sequence generation previously paused (with Pause command).

Resume 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 LoadSequenceValues :**

Give the device one sequence to generate.

LoadSequenceValues Definition		
Input Argument	Tango::DEVVAR_DOUBLEARRAY	One period of the sequence.
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

**Command LoadWaitingTimes :**

Give the device the waiting times of the sequence.

LoadWaitingTimes Definition		
Input Argument	Tango::DEVVAR_DOUBLEARRAY	One period of waiting times
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

AttributeSequenceWriter Class Attributes							
Name	Inherited	Abstract	Attr.	R/W type	Data type	Level	Description

			type				
<a href="#">currentSequenceValue</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	The current value written.
<a href="#">totalProgression</a>	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	The progression, in percents, of the sequence \nfor all iterations.
<a href="#">currentIterationProgression</a>	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	The progression, in percents, of the current sequence \n(for the current iteration).
<a href="#">currentIteration</a>	false	false	Scalar	READ	Tango::DEV_DOUBLE	OPERATOR	The current iteration.
<a href="#">sequenceName</a>	false	false	Scalar	READ_WRITE	Tango::DEV_STRING	EXPERT	Allow user to give a name for the sequence.\n(does not do anything). The write value is just \ncopied to the read value.
<a href="#">sequenceValues</a>	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	The waveform generated.
<a href="#">waitingTimes</a>	false	false	Spectrum	READ	Tango::DEV_DOUBLE	OPERATOR	The timings corresponding the waveform.

**There is no dynamic attribute defined.**

**Attribute currentSequenceValue :**

The current value written.

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

Attribute Properties	
label	current sequence value
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	

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

delta_time	
delta_val	

Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

**Attribute totalProgression :**

The progression, in percents, of the sequence \nfor all iterations.

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

Attribute Properties	
label	total progression
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	Not set

**Attribute currentIterationProgression :**

The progression, in percents, of the current sequence \n(for the current iteration).

Attribute Definition	
	Scalar

Attribute Properties	
	current iteration

Attribute Event Criteria	
Periodic	Not set

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

label	progression
unit	%
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

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	Not set

**Attribute currentIteration :**

The current iteration.

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

Attribute Properties	
label	current iteration
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	Not set

### **Attribute sequenceName :**

Allow user to give a name for the sequence.\n(does not do anything). The write value is just \ncopied to the read value.

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

Attribute Properties	
label	sequenceName
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	Not set

### **Attribute sequenceValues :**

The waveform generated.

Attribute Definition	
Attribute Type	Spectrum ( 1000000 )
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set

Attribute Properties	
label	waveform
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	

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

Read allowed for	All states

min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Archive Relative Change	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	Not set

### Attribute waitingTimes :

The timings corresponding the waveform.

Attribute Definition	
Attribute Type	Spectrum ( 1000000 )
R/W Type	READ
Data Type	Tango::DEV_DOUBLE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	Not polled
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	timings
unit	seconds
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	Not set

AttributeSequenceWriter Class States	
Name	Description
RUNNING	The sequence is currently generated.
STANDBY	The device is ready to proceed a sequence generation (waiting for Start command).

INIT	Device initialization in progress.
FAULT	Something is wrong with the device on which the sequence generation is done.
DISABLE	The sequence generation has been paused.