

TANGO Device Server

Attribute Sequence Writer User's Guide

AttributeSequenceWriter Class

Revision: release_1_0_2 - Author: abeilleg
Implemented in C++

Introduction:

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 indefinitly (until stop by user). Be aware that the timings for the generation are **software** (so not very precise).

Properties:

Device Properties		
Property name	**Property type**	**Description**
AttributeProxyWrite	Tango::DEV_STRING	The name of the attribute on which to generate the sequence.
AttributeProxyRead	Tango::DEV_STRING	The name of the attribute used to verify that the written value of AttributeProxyWrite has been reached.
Delta	Tango::DEV_DOUBLE	The minimum acceptable difference between the value AttributeProxyWrite and AttributeProxyRead.
Timeout	Tango::DEV_DOUBLE	The time in seconds to wait for AttributeProxyRead has reached AttributeProxyWrite.
PollingPeriod	Tango::DEV_DOUBLE	The period in seconds at which AttributeProxyRead is read to check that it has reached the written value.
Iterations	Tango::DEV_ULONG	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 indefinilty (until Stop command is called).
SequenceSize	Tango::DEV_ULONG	The number of elements in a sequence.
SequenceValues	Array of double	Attribute persistency.
WaitingTimes	Array of double	Attribute persistency.
FilePath	Tango::DEV_STRING	

Device Properties Default Values:

Property Name	**Default Values**
AttributeProxyWrite	No default value
AttributeProxyRead	No default value
Delta	No default value
Timeout	No default value
PollingPeriod	No default value
Iterations	No default value
SequenceSize	No default value
SequenceValues	No default value
WaitingTimes	No default value
FilePath	No default value

There is no Class properties.

States:

States	
Names	**Descriptions**
RUNNING	The sequence is currently generated.
STANDBY	The sequence generation has been paused.
INIT	The device is ready to proceed a sequence generation (waiting for Start command).
FAULT	Something is wrong with the device on which the sequence generation is done.

Attributes:

Scalar Attributes			
Attribute name	**Data Type**	**R/W Type**	**Expert**
currentSequenceValue: The current value written.	DEV_DOUBLE	READ	No
totalProgression: The progression, in percents, of the sequence for all iterations.	DEV_SHORT	READ	No
currentIterationProgression: The progression, in percents, of the current sequence (for the current iteration).	DEV_SHORT	READ	No
currentIteration: The current iteration.	DEV_DOUBLE	READ	No
sequenceName: Allow user to give a name for the sequence. (does not do anything). The write value is just copied to the read value.	DEV_STRING	READ_WRITE	Yes

Spectrum Attributes			
Attribute name	**Data Type**	**X Data Length**	**Expert**
sequenceValues: The waveform generated.	DEV_DOUBLE	1000000	No
waitingTimes: The timings corresponding the waveform.	DEV_DOUBLE	1000000	No

Commands:

More Details on commands....

Device Commands for Operator Level		
Command name	**Argument In**	**Argument Out**
Init	DEV_VOID	DEV_VOID
State	DEV_VOID	DEV_STATE
Status	DEV_VOID	CONST_DEV_STRING
Start	DEV_VOID	DEV_VOID
Stop	DEV_VOID	DEV_VOID
Pause	DEV_VOID	DEV_VOID
Resume	DEV_VOID	DEV_VOID
LoadSequenceValues	DEVVAR_DOUBLEARRAY	DEV_VOID
LoadWaitingTimes	DEVVAR_DOUBLEARRAY	DEV_VOID

1 - Init

- **Description:** This commands re-initialise a device keeping the same network connection.
  After an Init command executed on a device, it is not necessary for client to re-connect to the device.
  This command first calls the device *delete_device()* method and then execute its *init_device()* method.
  For C++ device server, all the memory allocated in the *nit_device()* method must be freed in the *delete_device()* method.
  The language device desctructor automatically calls the *delete_device()* method.

- **Argin:**
  DEV_VOID : none.

- **Argout:**
  DEV_VOID : none.

- **Command allowed for:**
  - Tango::RUNNING
  - Tango::STANDBY
  - Tango::INIT
  - Tango::FAULT

2 - State

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

- **Argin:**
  DEV_VOID : none.

- **Argout:**
  DEV_STATE : State Code

- **Command allowed for:**
  - Tango::RUNNING

- Tango::STANDBY
- Tango::INIT
- Tango::FAULT

3 - Status

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

- **Argin:**
  DEV_VOID : none.

- **Argout:**
  CONST_DEV_STRING : Status description

- **Command allowed for:**
  - Tango::RUNNING
  - Tango::STANDBY
  - Tango::INIT
  - Tango::FAULT

4 - Start

- **Description:** Start the sequence generation.

- **Argin:**
  DEV_VOID :

- **Argout:**
  DEV_VOID :

- **Command allowed for:**
  - Tango::INIT
  - Tango::FAULT

5 - Stop

- **Description:** Stop the sequence generation.

- **Argin:**
  DEV_VOID :

- **Argout:**
  DEV_VOID :

- **Command allowed for:**
  - Tango::RUNNING

6 - Pause

- **Description:** Pause the sequence generation.
- **Argin:**
  DEV_VOID :
- **Argout:**
  DEV_VOID :
- **Command allowed for:**
  - Tango::RUNNING

7 - Resume

- **Description:** Restart the sequence generation previoulsy paused (with Pause command).
- **Argin:**
  DEV_VOID :
- **Argout:**
  DEV_VOID :
- **Command allowed for:**
  - Tango::STANDBY

8 - LoadSequenceValues

- **Description:** Give the device one sequence to generate.
- **Argin:**
  DEVVAR_DOUBLEARRAY : One period of the sequence.
- **Argout:**
  DEV_VOID :
- **Command allowed for:**
  - Tango::INIT
  - Tango::FAULT

9 - LoadWaitingTimes

- **Description:** Give the device the waiting times of the sequence.
- **Argin:**
  DEVVAR_DOUBLEARRAY : One period of waiting times
- **Argout:**
  DEV_VOID :
- **Command allowed for:**
  - Tango::INIT

- Tango::FAULT

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Revision: release_1_0_2 - Author: abeilleg
Implemented in C++

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PollingPeriod	Tango::DEV_DOUBLE	The period in seconds at which AttributeProxyRead is read to check that it has reached the written value.
Iterations	Tango::DEV_ULONG	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 indefinilty (until Stop command is called).
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FilePath	Tango::DEV_STRING	

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Scalar Attributes			
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Attribute name	**Data Type**	**X Data Length**	**Expert**
sequenceValues: The waveform generated.	DEV_DOUBLE	1000000	No
waitingTimes: The timings corresponding the waveform.	DEV_DOUBLE	1000000	No

Commands:

More Details on commands....

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Status	DEV_VOID	CONST_DEV_STRING
Start	DEV_VOID	DEV_VOID
Stop	DEV_VOID	DEV_VOID
Pause	DEV_VOID	DEV_VOID
Resume	DEV_VOID	DEV_VOID
LoadSequenceValues	DEVVAR_DOUBLEARRAY	DEV_VOID
LoadWaitingTimes	DEVVAR_DOUBLEARRAY	DEV_VOID

1 - Init

- **Description:** This commands re-initialise a device keeping the same network connection.
  After an Init command executed on a device, it is not necessary for client to re-connect to the device.
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- **Argin:**
  DEV_VOID : none.

- **Argout:**
  DEV_VOID : none.

- **Command allowed for:**
  - Tango::RUNNING
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  - Tango::INIT
  - Tango::FAULT

2 - State

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

- **Argin:**
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  DEV_STATE : State Code

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- **Description:** Start the sequence generation.

- **Argin:**
  DEV_VOID :

- **Argout:**
  DEV_VOID :

- **Command allowed for:**
  - Tango::INIT
  - Tango::FAULT

5 - Stop

- **Description:** Stop the sequence generation.

- **Argin:**
  DEV_VOID :

- **Argout:**
  DEV_VOID :

- **Command allowed for:**
  - Tango::RUNNING

6 - Pause

- **Description:** Pause the sequence generation.
- **Argin:**
  DEV_VOID :
- **Argout:**
  DEV_VOID :
- **Command allowed for:**
  - Tango::RUNNING

7 - Resume

- **Description:** Restart the sequence generation previoulsy paused (with Pause command).
- **Argin:**
  DEV_VOID :
- **Argout:**
  DEV_VOID :
- **Command allowed for:**
  - Tango::STANDBY

8 - LoadSequenceValues

- **Description:** Give the device one sequence to generate.
- **Argin:**
  DEVVAR_DOUBLEARRAY : One period of the sequence.
- **Argout:**
  DEV_VOID :
- **Command allowed for:**
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  - Tango::FAULT

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- **Argout:**
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Link to Non-frame version.

TANGO
Device
Server

Attribute Sequence Writer
Device Commands Description
AttributeSequenceWriter Class

Revision: release_1_0_2 - Author: abeilleg

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DEV_STATE : State Code

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- **Argin:**
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- **Description:** Stop the sequence generation.

- **Argin:**
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- **Argin:**
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- **Argin:**
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- **Command allowed for:**
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