



**TANGO**  
Device  
Server

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# **ID14 Sequence Server User's Guide**

## **Sequencer Class**

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**Revision: Sequencer-Release\_2\_0 - Author: meyer**  
**Implemented in C++ - CVS repository: ESRF**

### **Introduction:**

Tango server to run ID14 sequences. An interface to start and stop sequences and to survey the sequence state during execution.

### **Class Inheritance:**

- Tango::Device\_4Impl
  - Sequencer

### **Properties:**

<b>Device Properties</b>		
<b>Property name</b>	<b>Property type</b>	<b>Description</b>
<b>MD2_device_name</b>	Tango::DEV_STRING	Name of the TANGO device for the micro diffractometer.
<b>SC_device_name</b>	Tango::DEV_STRING	Name of TANGO device for the sample changer.

Device Properties Default Values:

<b>Property Name</b>	<b>Default Values</b>
MD2_device_name	No default value
SC_device_name	No default value

**There is no Class properties.**

**States:**

<b>States</b>	
<b>Names</b>	<b>Descriptions</b>
<b>MOVING</b>	A sequence is running.
<b>FAULT</b>	A sequence did not finish normally. An error occurred or the sequence was interrupted manually. A reset is needed before the next sequence execution.
<b>ON</b>	The sequencer is ready to run a new sequence.
<b>UNKNOWN</b>	Sample changer or micro diffractometer servers are not available

**Attributes:**

<b>Scalar Attributes</b>			
<b>Attribute name</b>	<b>Data Type</b>	<b>R/W Type</b>	<b>Expert</b>
<b>Basket</b>	DEV_SHORT	READ_WRITE	No
<b>Sample</b>	DEV_SHORT	READ_WRITE	No
<b>BasketDataMatrix:</b> The data matrix of the selected basket	DEV_STRING	READ	No
<b>SampleDataMatrix:</b> The data matrix of the selected sample	DEV_STRING	READ	No
<b>SampleInfo:</b> The information on all the samples in the sample changer in XML format	DEV_STRING	READ	No
<b>AutomaticMode:</b> Switches the loading sequence from automatic to semi-automatic with manual sample alignment	DEV_SHORT	READ_WRITE	No
<b>DataMatrixScanDone</b>	DEV_SHORT	READ	No

<b>Spectrum Attributes</b>			
<b>Attribute name</b>	<b>Data Type</b>	<b>X Data Length</b>	<b>Expert</b>
<b>SequenceHistory</b>	DEV_STRING	500	No

## Commands:

More Details on commands....

Device Commands for Operator Level		
Command name	Argument In	Argument Out
<b>Init</b>	DEV_VOID	DEV_VOID
<b>State</b>	DEV_VOID	DEV_STATE
<b>Status</b>	DEV_VOID	CONST_DEV_STRING
<b>Reset</b>	DEV_VOID	DEV_VOID
<b>Abort</b>	DEV_VOID	DEV_VOID
<b>LoadSample</b>	DEV_VOID	DEV_VOID
<b>UnloadSample</b>	DEV_VOID	DEV_VOID
<b>ReadHistory</b>	DEV_VOID	DEVVAR_STRINGARRAY
<b>LoadMatrixId</b>	DEV_STRING	DEV_VOID
<b>ScanSamples</b>	DEV_VOID	DEV_VOID
<b>UnloadPosition</b>	DEV_VOID	DEV_VOID
<b>ForceScanSamples</b>	DEV_VOID	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::MOVING
  - Tango::FAULT
  - Tango::ON
  - Tango::UNKNOWN

## 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::MOVING
  - Tango::FAULT
  - Tango::ON
  - Tango::UNKNOWN

## 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::MOVING
  - Tango::FAULT
  - Tango::ON
  - Tango::UNKNOWN

## 4 - Reset

- **Description:**
- **Argin:**  
**DEV\_VOID** :
- **Argout:**  
**DEV\_VOID** :
- **Command allowed for:**
  - Tango::FAULT

- Tango::ON
- Tango::UNKNOWN

## 5 - Abort

- **Description:** Abort the executing sequence properly.
- **Argin:**  
**DEV\_VOID :**
- **Argout:**  
**DEV\_VOID :**
- **Command allowed for:**
  - Tango::MOVING
  - Tango::FAULT
  - Tango::ON
  - Tango::UNKNOWN

## 6 - LoadSample

- **Description:** Start sample loading sequence.
- **Argin:**  
**DEV\_VOID :**
- **Argout:**  
**DEV\_VOID :**
- **Command allowed for:**
  - Tango::FAULT
  - Tango::ON
  - Tango::UNKNOWN

## 7 - UnloadSample

- **Description:** Start sample unloading sequence.
- **Argin:**  
**DEV\_VOID :**
- **Argout:**  
**DEV\_VOID :**
- **Command allowed for:**

- Tango::FAULT
- Tango::ON
- Tango::UNKNOWN

## 8 - ReadHistory

- **Description:**
- **Argin:**  
**DEV\_VOID :**
- **Argout:**  
**DEVVAR\_STRINGARRAY :** History buffer
- **Command allowed for:**
  - Tango::MOVING
  - Tango::FAULT
  - Tango::ON
  - Tango::UNKNOWN

## 9 - LoadMatrixId

- **Description:** Starts the sample loading sequence with a given sample data matrix.
- **Argin:**  
**DEV\_STRING :**
- **Argout:**  
**DEV\_VOID :**
- **Command allowed for:**
  - Tango::FAULT
  - Tango::ON
  - Tango::UNKNOWN

## 10 - ScanSamples

- **Description:** Scan all the samples of not yet scanned baskets for sample data matrix.
- **Argin:**  
**DEV\_VOID :**
- **Argout:**  
**DEV\_VOID :**

- **Command allowed for:**

- Tango::FAULT
- Tango::ON
- Tango::UNKNOWN

## 11 - UnloadPosition

- **Description:** Unload the sample to the position given by the two attributes basket and sample.

- **Argin:**

**DEV\_VOID :**

- **Argout:**

**DEV\_VOID :**

- **Command allowed for:**

- Tango::FAULT
- Tango::ON
- Tango::UNKNOWN

## 12 - ForceScanSamples

- **Description:** Force a basket presence scan and scans the samples in all found baskets. Even is the sample changer indicates that a scan was already done.

- **Argin:**

**DEV\_VOID :**

- **Argout:**

**DEV\_VOID :**

- **Command allowed for:**

- Tango::FAULT
- Tango::ON
- Tango::UNKNOWN

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