



TANGO
Device
Server

Tango Device Server User's Guide

Mindstorms Class

**Revision: - Author: goetz
Implemented in Java**

Introduction:

A java class to control the LEGO minstorms robot dancing the tango.

Class Inheritance:

- fr.esrf.TangoDs.Device_2Impl
 - Mindstorms

Properties:

Device Properties		
Property name	Property type	Description
RCXTTY	string	RCX tty (e.g. USB or COM1)

Device Properties Default Values:

Property Name	Default Values
RCXTTY	No default value

There is no Class properties.

States:

States	
Names	Descriptions
ON	tango robot ready to receive commands
MOVING	tango robot is dancing

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
Light	DEV_SHORT	READ	No

Image Attributes				
Attribute name	Data Type	X Data Length	Y Data Length	Expert
Vision	DEV_SHORT	160	120	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
MoveForward	DEV_VOID	DEV_VOID
MoveBackward	DEV_VOID	DEV_VOID
TurnLeft	DEV_VOID	DEV_VOID
TurnRight	DEV_VOID	DEV_VOID
LeanForward	DEV_VOID	DEV_VOID
LeanBackward	DEV_VOID	DEV_VOID
DanceTango	DEV_VOID	DEV_VOID
Stop	DEV_VOID	DEV_VOID
Remote	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::ON
 - Tango::MOVING

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::ON
 - Tango::MOVING

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::ON
 - Tango::MOVING

4 - MoveForward

- **Description:** move robot forward
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON

5 - MoveBackward

- **Description:** move lego robot backward
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON

6 - TurnLeft

- **Description:** turn lego robot left
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON

7 - TurnRight

- **Description:** turn lego robot right
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON

8 - LeanForward

- **Description:** lean lego robot forward
- **Argin:**
DEV_VOID :

- **Argout:**
DEV_VOID :

- **Command allowed for:**
 - Tango::ON

9 - LeanBackward

- **Description:** lean lego robot backward

- **Argin:**
DEV_VOID :

- **Argout:**
DEV_VOID :

- **Command allowed for:**
 - Tango::ON

10 - DanceTango

- **Description:** start lego robot dancing the tango

- **Argin:**
DEV_VOID :

- **Argout:**
DEV_VOID :

- **Command allowed for:**
 - Tango::ON

11 - Stop

- **Description:** stop robot dancing

- **Argin:**
DEV_VOID :

- **Argout:**
DEV_VOID :

- **Command allowed for:**
 - Tango::ON
 - Tango::MOVING

12 - Remote

- **Description:**
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::MOVING

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Device Servers : CVS repository on tango-ds project