



# TANGA

A stylized graphic for the word 'TANGA' where the letter 'A' is replaced by a green circle. Inside the circle, a black silhouette of a person is shown in a dynamic, jumping or dancing pose. The person's arms are outstretched, and their legs are bent. The background of the circle is a gradient of green, and the person's silhouette is black.

## BOX

Piotr Goryl, ICALEPCS'19, Brooklyn, NY, 5.10.2019



## Outline

- ▶ What is a TangoBox
- ▶ Walk through the tools
  - ▶ Tango System management
  - ▶ JLinac
  - ▶ Taurus
  - ▶ HDB++
  - ▶ Web App
  - ▶ Jupyter
  - ▶ Demo with Modbus
- ▶ How to get it
  - ▶ Pendrive / Download
  - ▶ AWS



## TangoBox

- ▶ A virtual machine image with the following goals:
  - ▶ Demonstration of Tango Controls ecosystem
  - ▶ Quick start for newcomers
  - ▶ Ready to use test and development environment
  - ▶ Reference for systems administrators

user = tango-cs  
pwd = tango

Examples

QTango exercises

TaurusApp

Astor

AtkMoni

AtkPanel

Bensikin

CumbiaClientDemo

E-giga

Mambo Mambo

Hdb Configurator

ModbusPal (Modbus simulation)

Hdb Viewer

TaurusGujD emo

Trash



Astor-7.2.5

File View Command Tools Help

# TANGO Control System

Tango Database

- MySQL
  - tango:10000
- Miscellaneous
  - tango ( TangoBox common services )
  - tango-archive
  - tango-com
  - tango-hdbpp
  - tango-sim

Jive 7.21 [tango:10000]

File Edit Tools Filter

Device:/com/modbus/composer/Properties

Property name	Value
DynamicAttributes	Temperature=DevDouble(reg(0x3)*0.1) Pressure=DevDouble(reg(0x4)*0.3+50)
Modbus_name	/com/modbus/modbus1
_SubDevices	/com/modbus/modbus1 /com/modbus/composer

Refresh Apply New property Copy

# TANGO box 9.3

VM assembled by  
 INNOVATION  
 & Tango Community

user = tango-cs  
pwd = tango

Mambo  
Mambo



Hdb Configurator

Hdb Viewer

Home

Astor

i-Tango

JDraw

Jive

Jlinac

JLInac

JupyTango

Tango REST API

LogViewer

E-giga

JLinac 4.11 (tango...

JLinac 4.11 (tango:10000)

File View Commands

Mod1 Power Out	0.25 MW	Mod1 VPFN	33 kV	CT device	PCT
Mod2 Power Out	0.25 MW	Mod2 VPFN	33 kV	SRCT limit	252.00

File **NO FILE LOADED**

300  
223.00  
Beam Sto  
200  
100  
0

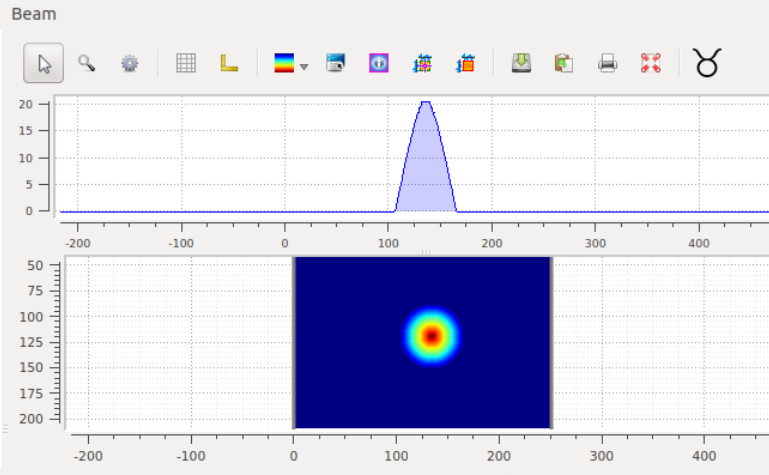
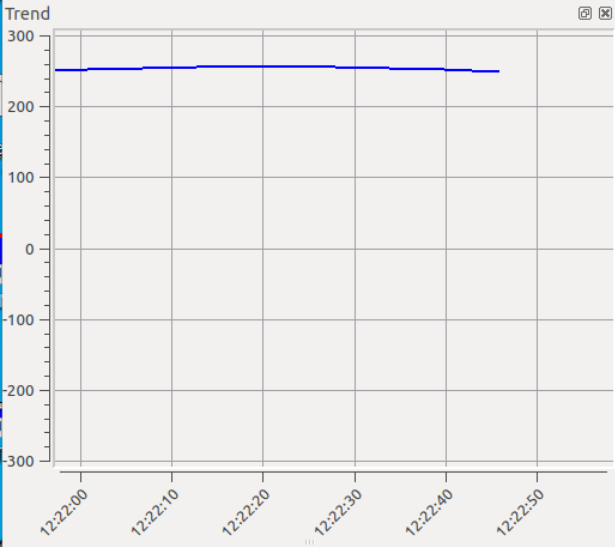
Standby : SR current reached !

Off ... LowHeating ... Standby On Reset

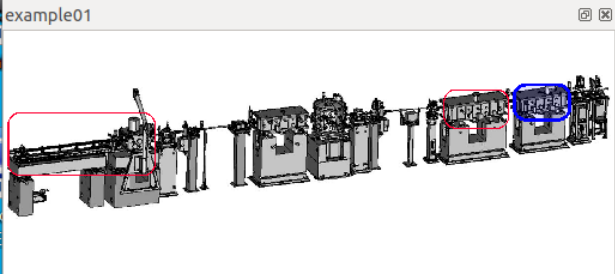


VM assembled by  
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EXAMPLE 01



NeXus Browser interface with a File/Group/Dataset list and various tool icons.



instrument1

double\_scalar

short\_scalar\_ro

float\_spectrum\_ro

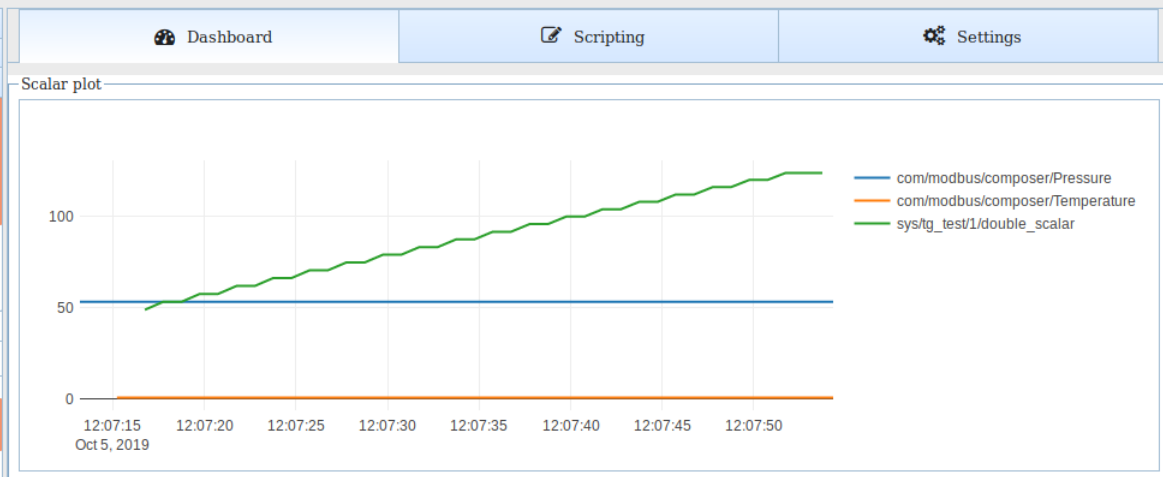
double\_spectrum

**Tango host: localhost:10000**

**Device: sys/tg\_test/1**

Alias	sys/tg_test/1
Name	sys/tg_test/1
Admin	TangoTest/test
DeviceClass	TangoTest
Exported	true
Host	tangobox

- Commands Attributes
- type to filter
- boolean\_spectrum
  - boolean\_spectrum\_ro
  - double\_image
  - double\_image\_ro
  - double\_scalar
  - double\_scalar\_rww
  - double\_scalar\_w
  - double\_spectrum
  - double\_spectrum\_ro
  - float\_image
- Attr: Temperature



Scalars

Device	Attribute	Value	Quality	Last u
com/modbus/composer	Pressure	53.3	ATTR_VALID	2019-1
com/modbus/composer	Temperature	0.5	ATTR_VALID	2019-1
sys/tg_test/1	double_scalar	124.1111670595652	ATTR_VALID	2019-1

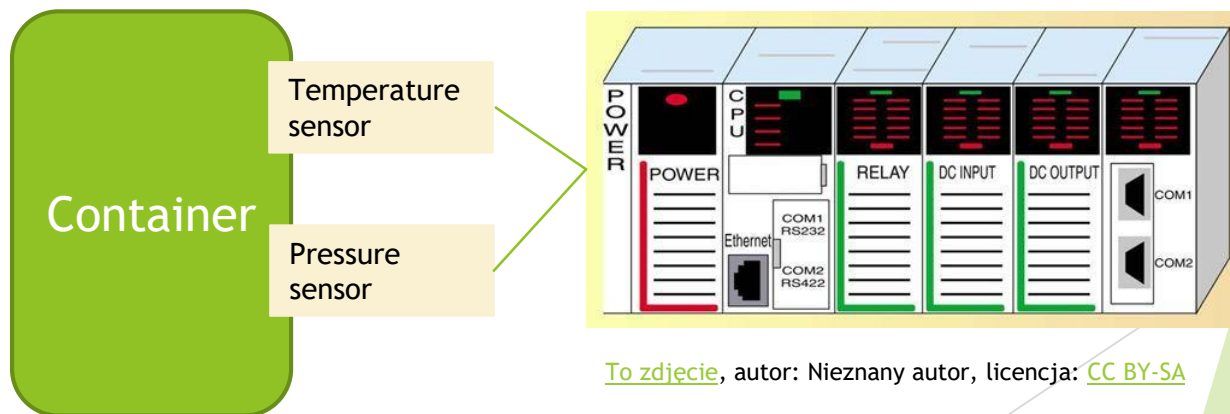
Refresh - 1000 + Stop

2019-10-05T11:57:25: Welcome, tango-cs!!!



# Modbus

- ▶ Use ModbusPal to simulate the protocol
  - ▶ Add registers
- ▶ Show Modbus and ModbusComposer configuration



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## How to get the TangoBox

- ▶ Available on the provided pendrive
- ▶ Look on a documentation: <https://tango-controls.readthedocs.io/en/latest/installation/virtualmachine.html#tango-box-9-3>
- ▶ Use the AWS image:
  - ▶ ami-0a2e0cddaa68be39f
  - ▶ Region: Ireland



## AWS startup tutorial

- ▶ Launch an instance
- ▶ Connect to it and change the password
- ▶ Enable 3389 port
- ▶ Login with RDP
- ▶ Play
- ▶ See: <https://tango-controls.readthedocs.io/en/latest/installation/amazon-cloud.html>



Thank You!

TANGA

The word 'TANGA' is rendered in a bold, black, sans-serif font. The letter 'A' is replaced by a green circle. Inside the circle, a black silhouette of a person is shown in a dynamic, jumping or dancing pose. The person's feet are positioned at the bottom of the circle, and their arms are raised. The overall design is modern and energetic.