



JAGIELLONIAN
UNIVERSITY
IN KRAKOW

Mobile and Web Tango at Solaris

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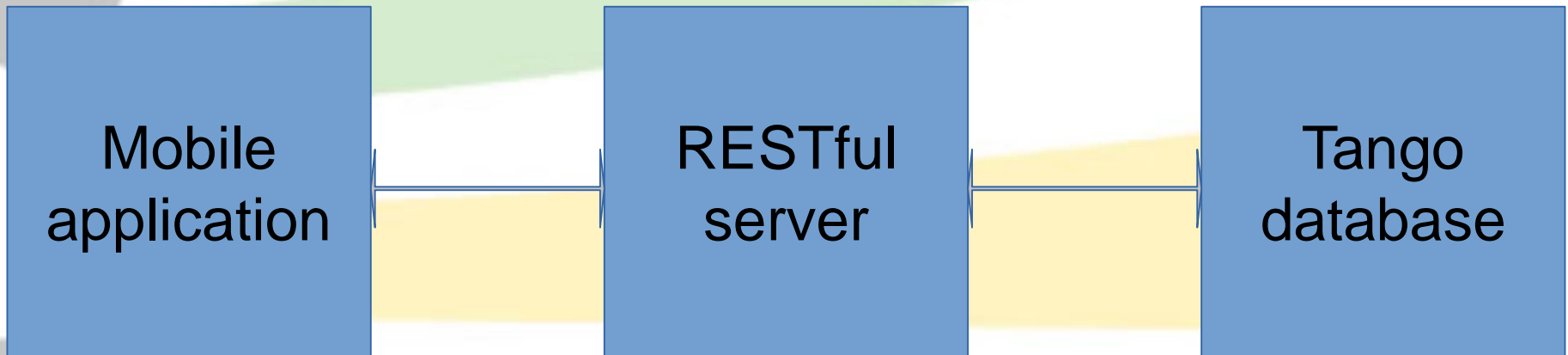
SOLARIS
NATIONAL SYNCHROTRON
RADIATION CENTRE



EUROPEAN UNION
EUROPEAN REGIONAL
DEVELOPMENT FUND



System architecture



- ❑ Technologies used by server:
 - ❑ Java, TangORB
 - ❑ Nginx + Tomcat
 - ❑ SSL protected
 - ❑ Authorisation with LDAP

Documentation is available in interactive web service

RESTful Tango interface

This server allows you to access Tango database through HTTP protocol. You can find more about Tango Controls system at <http://www.tango-controls.org/>

[Terms of service](#)
[Contact the developer](#)
[GNU GPL 3.0](#)

Tango : Access to Tango database Show/Hide | List Operations | Expand Operations | Raw

GET	/({host}::{port})/SortedDeviceList/{sorting_type}/{trackStatus}	List and sort all devices
GET	/({host}::{port})/Device/{domain}/{class}/{member}/get_info	Get device info
PUT	/({host}::{port})/Device/{domain}/{class}/{member}/set_source/{source}	Set source of device data
GET	/({host}::{port})/Device/{domain}/{class}/{member}/get_source	Get source of device data
GET	/({host}::{port})/Device/{domain}/{class}/{member}/get_device_info	Get device info
GET	/({host}::{port})/Device/{domain}/{class}/{member}/ping_device	Pings device
GET	/({host}::{port})/Device/{domain}/{class}/{member}/poll_status	Poll device
PUT	/({host}::{port})/Device/{domain}/{class}/{member}/restart	Restart device
GET	/({host}::{port})/Device/{domain}/{class}/{member}/get_property_list	Get properties of device
PUT	/({host}::{port})/Device/{domain}/{class}/{member}/set_timeout_milis/{timeout}	Set device timeout

On application first run, user must specify server address and Tango host.

Your filter l

WER/PYALA

Attributes

YALARM1

Attributes

ALARM1

Attributes

PYALARM1

Attributes

PYALARM1

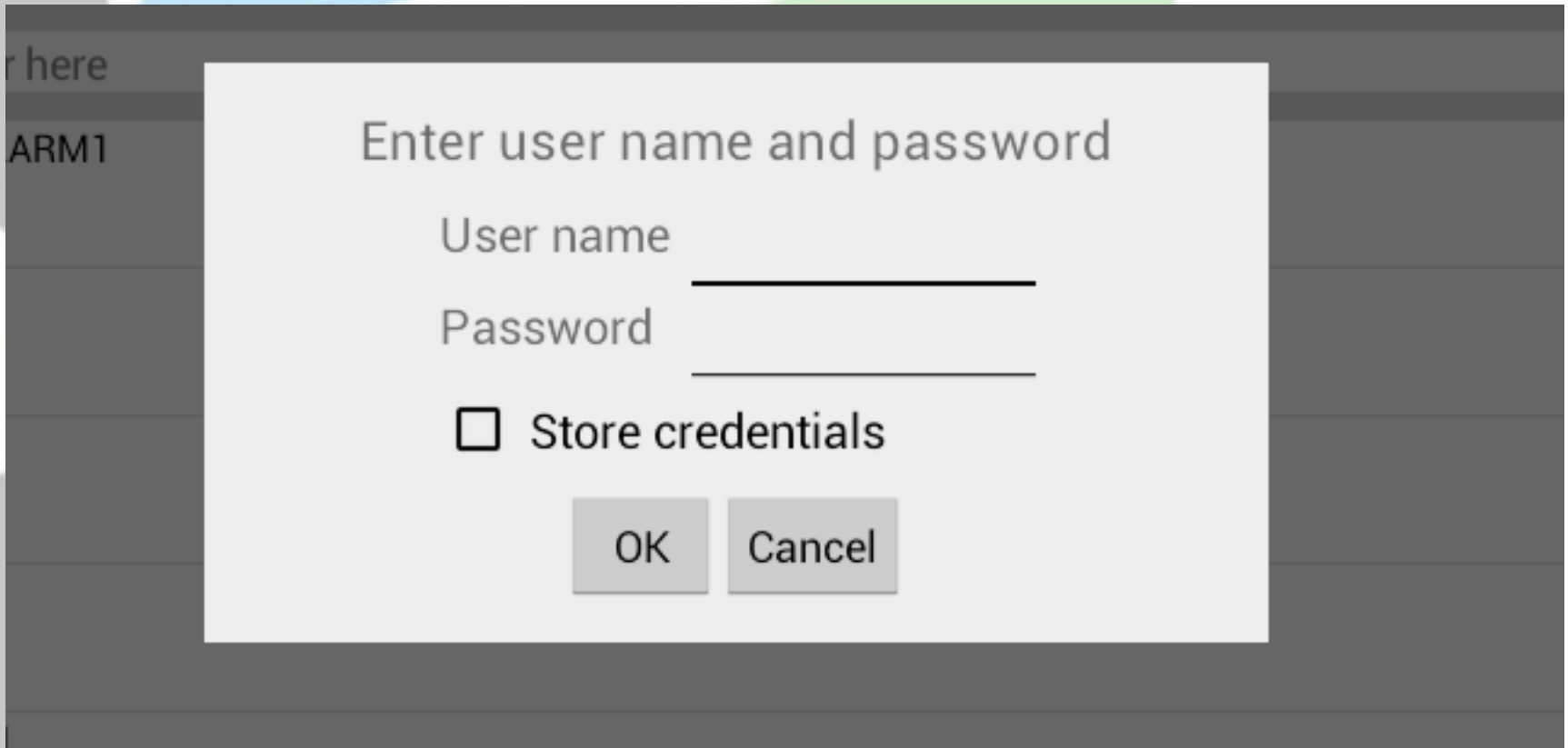
Attributes

Define new host

REST server address	example: http://192.168.105.140
Tango host	example: 192.168.130.100
Tango port	example: 10000

Cancel OK

To successfully connect to server, user have to log in.



The image shows a screenshot of a mobile application interface. A dark grey background contains a white dialog box for user login. The dialog box has a title "Enter user name and password" and two input fields: "User name" and "Password". Below the input fields is a checkbox labeled "Store credentials". At the bottom of the dialog box are two buttons: "OK" and "Cancel".

here

ARM1

Enter user name and password

User name _____

Password _____

Store credentials

OK Cancel

Application main window



REST host: https://192.168.105.140, TANGO_HOST: 192.168.130.200:10000



Full list of devices

Filter

Refresh

ALARM/ARCHIVE-VIEWER/PYALARM1

Details Properties Attributes

ALARM/DIA-BPMS/PYALARM1

Details Properties Attributes

ALARM/DIA-CAM/PYALARM1

Details Properties Attributes

ALARM/DIA-SCOPE/PYALARM1

Details Properties Attributes

ALARM/DIA-TIMING/PYALARM1

Details Properties Attributes

ALARM/HDB/PYALARM1

Details Properties Attributes

ALARM/MAG-LINAC/PYALARM1

Details Properties Attributes

ALARM/MAG-RING/PYALARM1

Details Properties Attributes

ALARM/PLC/PYALARM1

Details Properties Attributes

ALARM/RF-LINAC/PYALARM1

Details Properties Attributes

Sorting devices – full list



REST host: https://192.168.105.140, TANGO_HOST: 192.168.130.200:10000



Full list of devices

ALARM/ARCHIVE-VIEWER/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/DIA-BPMS/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/DIA-CAM/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/DIA-SCOPE/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/DIA-TIMING/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/HDB/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/MAG-LINAC/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/MAG-RING/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/PLC/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/RF-LINAC/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

Show full list

Sort by Classes

Sort by Devices

Sort by Servers

Track status

About filter

Enter login and password

Set Host

Load SSL certificate file



12:16



Sorting devices – by classes



REST host: https://192.168.105.140, TANGO_HOST: 192.168.130.200:10000

List sorted by classes

Absorber

ArchivingManager

BackgroundSubstractionDeviceServer

Basler

BeamEnergyCalculation

I-K00/DIA/I-K00-DIA-BEC1

R1-ALL/DIA/R1-ALL-DIA-BEC1

R1-ALL/DIA/R1-ALL-DIA-BEC2

BeamViewerDeviceServer

BPMDDeviceServer

BPMLiberaAll

BPMLiberaAllPushEvent

CTAveraging

DanfysikPowerSupplySys8500

Show full list

Sort by Classes

Sort by Devices

Sort by Servers

Track status

About filter

Enter login and password

Set Host

Load SSL certificate file

Sorting devices – by devices

REST host: https://192.168.105.140, TANGO_HOST: 192.168.130.200:10000

List sorted by devices

- ALARM
- ARCHIVING
- DSERVER
- I-K00
 - CTL
 - DIA
 - I-K00/DIA/I-K00-DIA-BEC1
 - Details
 - Properties
 - Attributes
 - I-K00/DIA/I-K00CAB03-DIA-OSC1
 - Details
 - Properties
 - Attributes
 - I-K00/DIA/I-K00CAB03-DIA-OSC2
 - Details
 - Properties
 - Attributes
 - HOT
 - MAG
 - RF
 - VAC
 - WAT
 - I-K01
 - Show full list
 - Sort by Classes
 - Sort by Devices**
 - Sort by Servers
 - Track status
 - About filter
 - Enter login and password
 - Set Host
 - Load SSL certificate file

12:17

Sorting devices – by servers



REST host: https://192.168.105.140, TANGO_HOST: 192.168.130.200:10000

List sorted by servers

- Absorber
 - ArchivingManager
 - BeamEnergyCalculation
 - CTAveraging
 - DanfysikPowerSupply
 - DataBases
 - DCCT
 - DIA-SCOPE-RING01
 - DCCT
 - R1-01/DIA/R1-01-DIA-DCCT1
-

- DeltaController
- DriveAmplifier
- GammaMPCe
- GammaSPCe
- HdbArchiver












- Show full list
- Sort by Classes
- Sort by Devices
- Sort by Servers**
- Track status
- About filter
- Enter login and password
- Set Host
- Load SSL certificate file

Tracking device statuses



REST host: https://192.168.105.140, TANGO_HOST: 192.168.130.200:10000

Full list of devices

	R1-01S/MAG/R1-01S-MAG-PMV1	Details Properties Attributes
	R1-01S/MAG/R1-01S-MAG-SM1B	Details Properties Attributes
	R1-01S/MASK/R1-01S-DIA-CCAM1	Details Properties Attributes
	R1-01S/PEAKFINDER/R1-01S-DIA-CCAM1	Details Properties Attributes
	R1-01S/ROI2SPECTRUM/R1-01S-DIA-CCAM1	Details Properties Attributes
	R1-01S/ROICOUNTER/R1-01S-DIA-CCAM1	Details Properties Attributes
	R1-01S/VAC/R1-01S-VAC-SCRPT1	Details Properties Attributes
	R1-01S/VAC/R1-01S-VAC-VGRC1	Details Properties Attributes
	R1-01S/VAC/R1-01S-VAC-VGRC2	Details Properties Attributes
	R1-02/DIA/R1-02-DIA-BPM1	Details Properties Attributes
	R1-02/DIA/R1-02-DIA-BPM2	Details Properties Attributes

Show full list

Sort by Classes

Sort by Devices

Sort by Servers

Track status

About filter

Enter login and password

Set Host

Load SSL certificate file

Filtering device list



REST host: https://192.168.105.140, TANGO_HOST: 192.168.130.200:10000

Full list of devices

Filter

Refresh

I-K01/VAC/I-K01CAB05-VAC-IPC1

Details Properties Attributes

I-K01/VAC/I-K01CAB05-VAC-IPC2

Details Properties Attributes

I-K01/VAC/I-K01CAB05-VAC-IPC3

Details Properties Attributes

I-K01/VAC/I-K01CAB05-VAC-IPC4

Details Properties Attributes

I-K01/VAC/I-K01CAB05-VAC-IPC5

Details Properties Attributes

I-K01/VAC/I-K01CAB05-VAC-IPC6

Details Properties Attributes

I-K01/VAC/I-K01CAB05-VAC-IPC7

Details Properties Attributes

I-K01/VAC/I-K01CAB05-VAC-IPC8

Details Properties Attributes

I-K01/VAC/I-K01CAB05-VAC-IPC9

Details Properties Attributes



12:37



Changing host



REST host: https://192.168.105.140, TANGO_HOST: 192.168.130.200:10000

Full list of devices

ALARM/ARCHIVE-VIEWER/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/DIA-BPMS/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/DIA-CAM/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/DIA-SCOPE/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/DIA-TIMING/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/HDB/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/MAG-LINAC/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/MAG-RING/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/PLC/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

ALARM/RF-LINAC/PYALARM1

[Details](#) [Properties](#) [Attributes](#)

Show full list

Sort by Classes

Sort by Devices

Sort by Servers

Track status

About filter

Enter login and password

Set Host

Load SSL certificate file



13:29



Adding SSL certificate file



REST host: https://192.168.105.140, TANGO_HOST: 192.168.130.200:10000

Full list of devices

ALARM/ARCHIVE-VIEWER/PYALARM1

Details Properties Attributes

ALARM/DIA-BPMS/PYALARM1

Details Properties Attributes

ALARM/DIA-CAM/PYALARM1

Details Properties Attributes

ALARM/DIA-SCOPE/PYALARM1

Details Properties Attributes

ALARM/DIA-TIMING/PYALARM1

Details Properties Attributes

ALARM/HDB/PYALARM1

Details Properties Attributes

ALARM/MAG-LINAC/PYALARM1

Details Properties Attributes

ALARM/MAG-RING/PYALARM1

Details Properties Attributes

ALARM/PLC/PYALARM1

Details Properties Attributes

ALARM/RF-LINAC/PYALARM1

Details Properties Attributes

Show full list

Sort by Classes

Sort by Devices

Sort by Servers

Track status

About filter

Enter login and password

Set Host

Load SSL certificate file

Properties view



REST host: https://192.168.105.140, TANGO_HOST: 192.168.130.200:10000

Device I-K01/VAC/I-K01CAB05-VAC-IPCU3 properties

Refresh

CommAddress SPC

Host 192.168.133.133

import_aggregate_gui VAC_K01-IPC3

import_comment

import_custom_gui

import_description Exit 1st linac structure, 9 o'clock

import_element_name I-K01CAB05-VAC-IPCU3i

import_l

import_s

import_section I-K01

import_subsystem VAC

import_triggered_by_ttl

import_type

Cancel

Update

Attributes view



REST host: https://192.168.0.12, TANGO_HOST: 192.168.0.12:10000

Device SYS/TG_TEST/1 attributes

Refresh

Plot short_scalar 123

Plot short_scalar_ro 213

Plot short_scalar_rww 230

Plot short_scalar_w 0

Plot string_scalar Default string

Plot throw_exception

Plot uchar_scalar 0

Plot ulong64_scalar 152

Plot ushort_scalar 0

Plot ulong_scalar 48

Plot boolean_spectrum false, false, false, false, false, false, false, false, false, false, false, false, false, false, false, false, false, false, false, false

Plot boolean spectrum ro true, false, true, false, true, false, false, false, true, false, false, true, false, true, false, false, false, true, tr

Cancel

Update

Monitor mode – generic operator panel

ATK Panel : SYS/TG_TEST/1

The device is in RUNNING state.

CrashFromDeveloperThread

double_scalar	124.11176120504264	Edit
double_scalar_rww	124.11176120504264	Edit
double_scalar_w	0.0	Edit
float_scalar	0.0	Edit
long64_scalar	249	Edit
long_scalar	5	Edit
long_scalar_rww	98	Edit
long_scalar_w	0	Edit
no_value		
short_scalar	254	Edit
short_scalar_ro	135	
short_scalar_rww	206	Edit
short_scalar_w	0	Edit
string_scalar	<u>Default string</u>	Edit

throw exception

Scalar

19:21

Test mode



REST host: https://192.168.0.12, TANGO_HOST: 192.168.0.12:10000

COMMANDS

ATTRIBUTES

ADMIN

Device:SYS/TG_TEST/1

CrashFromDeveloperThread

CrashFromOmniThread

DevBoolean

DevDouble

DevFloat

DevLong

DevLong64

DevShort

DevString

DevULong

DevULong64

DevUShort

DevVarCharArray

DevVarDoubleArray

DevVarDoubleStringArray

DevVarFloatArray

DevVarLong64Array

Description

Execute

Plot

Input argument value:

Input argument type: DevVarCharArray

Output argument type: DevVarCharArray





Thank you !