

WebJive progress report

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Nov 2020

Goals



To provide an overview of

- what happened since June 2020,
- where we are heading, and
- who we are



Who am I

- faculty of the Univ. of Udine, Italy
- software engineer
- co-founder of [Interaction Design Solutions](#)

- consultant for SKA
 - Lean UX specialist
 - leading the software testing activities

- product manager for WebJive

WebJive



What is WebJive

A web application:

- To view a list of Tango devices
- To view and modify device properties
- To view and execute device commands
- To create dashboards for interacting with devices.

The screenshot displays the WebJive web application interface, which is used for managing and monitoring radio telescope devices. The interface is divided into several sections:

- Top Panel:** Shows the user's current session (logged in as CREAM) and navigation options like 'Devices', 'Dashboards', and 'Start'.
- Left Panel:** A tree view showing the hierarchy of devices, including 'dserver', 'mid_csp', and 'elt'.
- Main Content Area:**
 - Device Overview:** Displays a list of devices, such as 'mid_csp/elt/master', with a search bar and various control buttons like 'ON/STANDBY' and 'State: value'.
 - VCC States:** A row of buttons representing different VCC states, numbered 001 through 020.
 - VCCs Dashboard:** A grid of 16 sub-dashboards, each corresponding to a VCC state (e.g., 001, 002, ..., 017). Each sub-dashboard contains a table with fields like 'ObsState', 'ReceptorID', 'Frequency band', 'Subarray membership', and 'Health state'.
 - Master Devices:** A section showing the status of master devices, including 'mid_csp/elt/master' and 'mid_csp/elt/subarray_01'.
 - Sub Array 1 and 2:** Sections showing the status of sub-arrays, including 'mid_csp/elt/subarray_01' and 'mid_csp/elt/subarray_02'.
 - Sensors Dish 1-4:** Sections showing the status of sensors, including 'mid_csp/elt/master' and 'mid_csp/elt/subarray_01'.
- Right Panel:** A sidebar with 'My Dashboards' and 'Shared Dashboards' sections, allowing users to manage their workspace.

Who we are aiming at

- an **engineer** that develops Tango devices
 - who needs a GUI to monitor and debug his/her devices
 - ⇒ quick cycle time
 - ⇒ little expertise on web technologies and UIs
- a user (like a **commissioner**)
 - who uses existing dashboards to monitor and control devices
 - ⇒ relatively complex and dense dashboards
 - ⇒ built by others

WebJive: recent changes

Recent changes

History of changes to WebJive

The current version is 1.0.4.

Latest changes:

- improved installation of WebJive (with kubernetes and minikube)
- added the [Command File Widget](#)
- added the [Boolean Display Widget](#) and made it customizable
- added the [Command Array Widget](#)
- added the [Attribute Writer Dropdown Widget](#)
- added the [Import/Export Dashboard](#) functionality
- revised the way in which layers are handled: drag & drop, last widget on top
- changed notifications: now they appear in a dedicated area as an overlay panel
- fixed a problem with the display of Enum's in attributes
- fixed several usability defects
- greatly improved test code coverage

Command argument upload

Widget with no file uploaded

Upload File *No file selected* Send DevBoolean

Widget with file 'untitled.txt' uploaded

Upload File *Untitled.txt* Send DevBoolean

Uploaded file 'Untitled.txt' content

View File Content

Restore Content Compare

```
[
  {
    "_id": "5f7eeec131dbaf5c7bf5d90d",
    "index": 0,
    "guid": "d3f26380-659f-41d0-b725-84d35773d4d9",
    "isActive": false,
    "balance": "$3,412.18",
    "picture": "http://placeholder.it/32x32",
    "age": 26,
    "eyeColor": "blue",
    "name": "Schroeder Gill",
    "gender": "male",
    "company": "NEUROCELL",
    "email": "schroedergill@neurocell.com",
    "phone": "+1 (940) 483-3145",
    "address": "453 Quentin Street, Dunlo, Arizona,
8023",
    "about": "Voluptate nulla proident esse cillum
minim eu do incididunt veniam excepteur fuciat est.
```

Close

Switch widget

Boolean Display <

sys/tg_test/1

boolean_scalar

Device Name

sys/tg_test/1/boolean_scalar :

- Used for setting boolean attributes
- Customizable look & feel

Command with array arg

Command Array <

Title

Button Label

Select command... ▾

Show Device Name

Show Command Name

Require Confirmation

Display Output

TimeOut for output display ms

Cooldown (s)

Text Color

Background Color

Text size (in units)

Font type

sys/tg_test/1/DevVarStringArray:

Attribute dropdown writer

Attribute Writer Dropdown <

jonas/tg_test/1

ampli

Button Title

Dropdown Title

Write Values

Label ✕

Value

Label ✕

Value

Show Device Name

Attribute display:

Text Color

Background Color

Text size (in units)

Font type

Dropdown Title CSS ▾

Submit Button CSS ▾

jonas/tg_test/1/ampli:

Dropdown ▾


Highest

Lowest

Import/export of dashboards

- ability to export a dashboard
 - as a versioned JSON file in the local file system
- ability to import a saved dashboard
 - and validate/migrate the JSON file
- to share it with others
- to cope with instability of the server on which WebJive is running
- to load it on another instance of WebJive

Notification handling

Devices Dashboards  Edit Untitled dashboard

Notifications [Clear all](#)

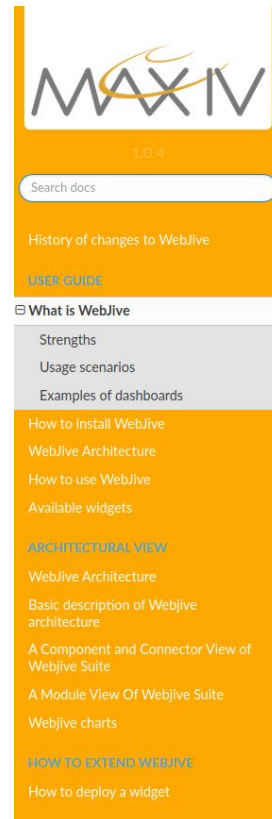
Error "DevString" in "sys/tg_test/1" with incompatible command argument type, expected type is :
Tango: DevString_API_Incompatible ... [view more](#)
4:34:29 PM, 11/18/2020

[Clear all](#)

sys/tg_test/1/DevString:

Other improvements

- better handling of layers
 - drag & drop, last widget on top
- added customization parameters for several widgets
- greatly improved test code coverage
- improved CI/CD pipelines
- fixed usability defects
- improved user documentation



» What is WebJive

[View page source](#)

What is WebJive

WebJive is a web application that allows a user to create a graphical user interface to interact with Tango devices; the interface may include a variety of charts, numerical indicators, dials, commands that can be used to monitor and to control devices.

Strengths

The strengths of WebJive are that:

- It allows you to **easily browse devices** of a Tango server, inspect them and interact with them, all using your web browser of choice.
- Secondly it allows you to **quickly develop** and change **interactive dashboards** with widgets that allow you to monitor and interact with Tango devices. Once created, dashboards can be run, saved, and exported.
- A dashboard can be defined in a few minutes, with **minimal knowledge of web technologies**; you only need to know which devices you want to interact with and what attributes and commands they expose.

Usage scenarios

WebJive is meant to be used in two main scenarios:

- As a tool for building dashboards that support an engineer in monitoring and debugging a device that the engineer is working on. In this scenario the dashboard designer is expected to quickly produce a new dashboard, quickly change it to suite current needs, and perhaps after a few days or weeks, the dashboard is discarded. This is the scenario that is currently active in many SKA teams, where engineers use dashboards to debug their devices and to demo their behaviour.
- As a tool for building long-lived dashboards. They are carefully crafted by dashboard designers and are used by other people to monitor and interact with devices. This is a scenario that is currently active in MaxIV.

Recent dashboards



Master versionId: 0.6.9

ON/STANDBY State: ON ●

[Navigate to detailed dashboard](#)

VCC States

001 ●	002 ●	003 ●	004 ●
------------------------------------------	------------------------------------------	------------------------------------------	------------------------------------------

Unassigned receptors IDs

4.000	2.000	1.000	3.000
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SubArrays

001 On Off

State: ON ● obsState: EMPTY

AddReceptors: Submit

Configure: Submit

ObsReset Restart Abort

GoToIdle

RemoveReceptors: Submit

RemoveAllReceptors

Receptors

002 On Off

State: ON ● obsState: EMPTY

AddReceptors: Submit

Configure: Submit

ObsReset Restart Abort

GoToIdle

RemoveReceptors: Submit

RemoveAllReceptors

Receptors

003 On Off

State: ON ● obsState: EMPTY

AddReceptors: Submit

Configure: Submit

ObsReset Restart Abort

GoToIdle


RemoveReceptors: Submit

RemoveAllReceptors

Receptors

Recent dashboards



 **VCCs Dashboard** [Navigate to Command dashboard](#)

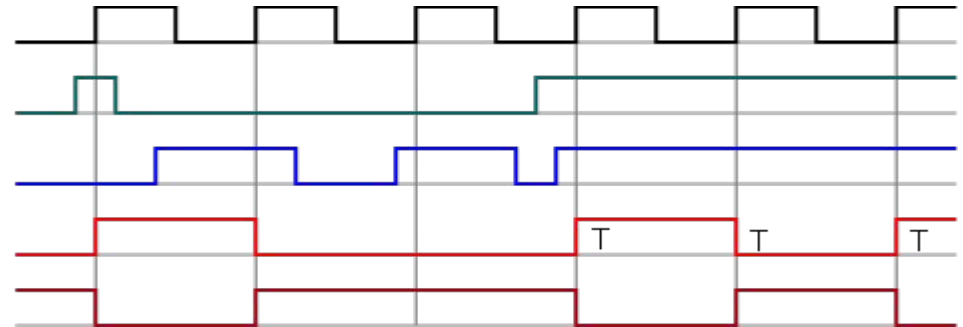
001 STATE ● ObsState value ReceptorID value Frequency band value Subarray membership value Health state value	002 STATE ● ObsState value ReceptorID value Frequency band value Subarray membership value Health state value	003 STATE ● ObsState value ReceptorID value Frequency band value Subarray membership value Health state value	004 STATE ● ObsState value ReceptorID value Frequency band value Subarray membership value Health state value	005 STATE ● ObsState value ReceptorID value Frequency band value Subarray membership value Health state value
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WebJive: roadmaps



Short term roadmap: < March 2021

- improved conditional formatting:
 - css style selected on the basis of predicates on attributes
- timing diagrams
- more consistency between “Devices” and “Dashboards”
- dropdown menu to select argument for a command
- further improvements in documentation
- better testing



jonas/tg_test/1/ampli:

Dropdown ▾ send

Highest

Lowest write value: 10

Short term process improvements

- better nurturing of the Tango Community
 - improved feedback loop
 - more structured responses
 - more info/transparency
- more “Lean UX” practices
- focus on technical and UX debts

Longer term roadmap

< end of 2021

- grouping of widgets/UI containers
- parametric dashboards
- toggeable features
- configurable digital assets
- reliable and high quality tool
- improved usability of dashboard editor

SKA aims at a **mature product** that can be mandated to all teams involved in the “Construction” phase

Who we are



Teams

Two teams:

- at MaxIV, the creators of WebJive
- at SKA, co-developers
 - initially the “BUTTONS” team
 - later the “CREAM” team

SKA teams are

- adopting an agile approach, within SAFe
- work on 2 week sprints/6 sprint PIs cadence
- with a clear [Definition of Done](#)
- with a clear [testing policy and strategy](#)

Community support

We are setting up this process:

- **external merge requests:**
 - we will respond ASAP (quickly for widgets, more slowly for bigger changes)
- **bug reports:**
 - we will soon publish the medium (likely to be gitlab)
 - we do a weekly triage meeting
- **help requests:**
 - we do a weekly triage and do our best to cover everything
- **new features:**
 - we will regularly update our roadmap
 - we will analyse and respond on a weekly basis

We have a request for you

“WebJive” evokes the wrong meaning

- the current product is more than just the “web version of Jive”

What name would you suggest?

shorturl.at/gT467

Questions?



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