

Sysrepo community event #1, 2023

Quick start into sysrepo plugin development

With helper tools, documentation and references



November 15th, 2023

About Sartura

- We offer a range of high-tech engineering services
 - Concierge software development including kernel and user-space
 - Open Source project contributions
 - Delivering network products and solutions (including CPE and switches)
- Our mission is to bridge the gap between Open Source and Enterprise
- In collaboration with Deutsche Telekom and CESNET started work on sysrepo

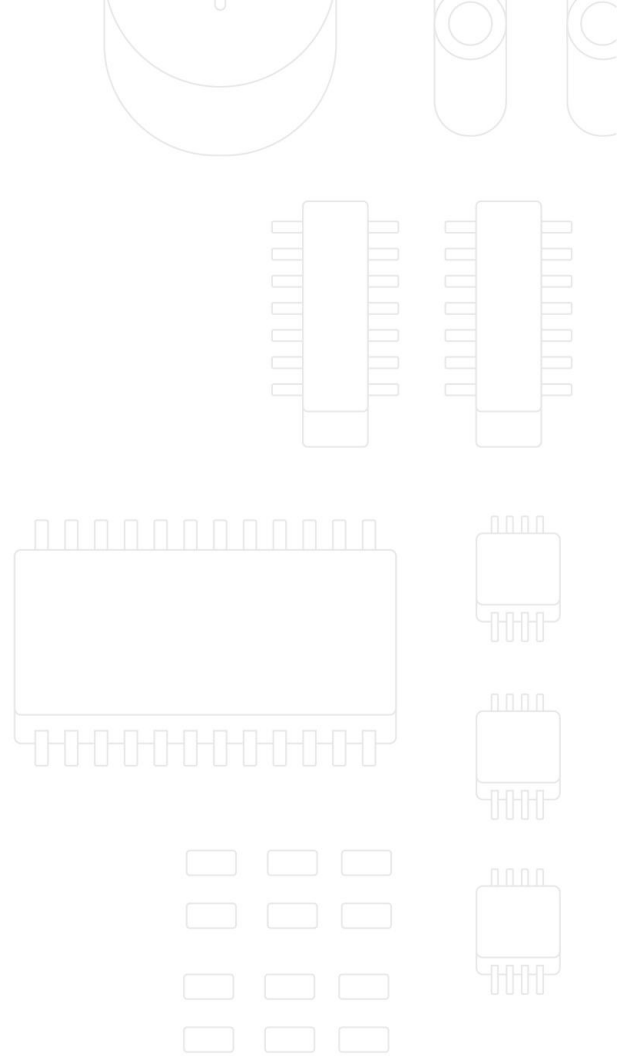


Open Source Contributions



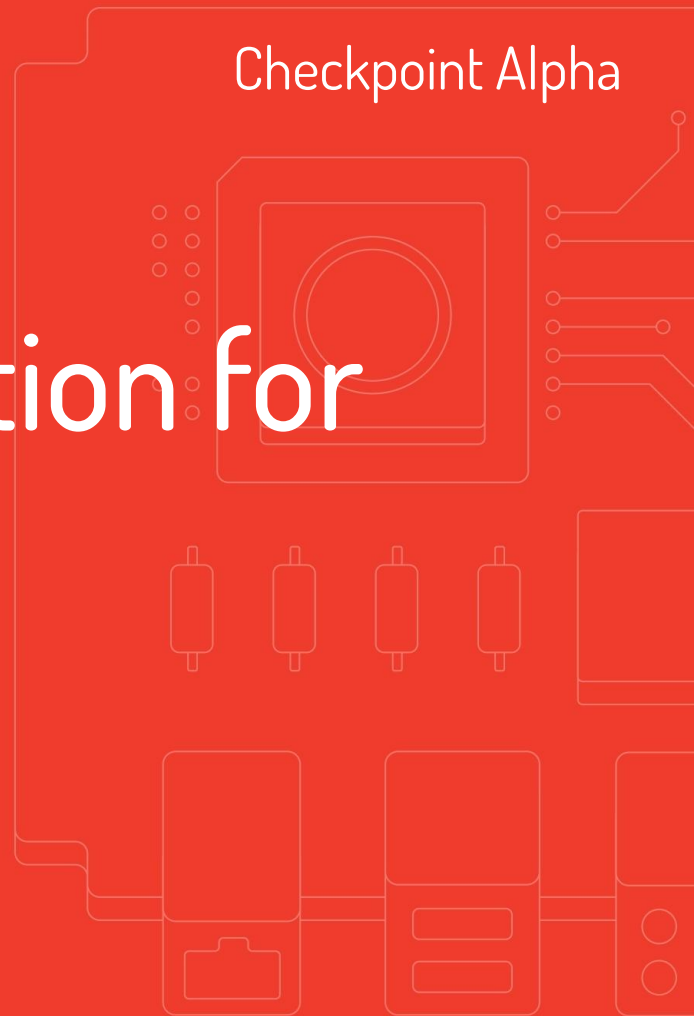
Checkpoints

- Available documentation for plugin development
- Sysrepo plugin generator(s)
- Sysrepo-plugin-commons
- Sysrepo robot framework library
- Open-source plugins as reference and examples



Available documentation for plugin development

[including the outdated ones]



Available documentation for plugin development

- **Challenge:** a new co-worker joins the developers field corp. Needs recruitment into **sysrepo** and **libyang**
- get everything installed and running
- brief overview to understand the concept of sysrepo
- hands-on experience and development examples

Set of scripts for installation:

<https://github.com/sartura/sysrepo-dev-env> (a bit outdated but can server as a quick help for getting the development environment set-up)



Available documentation for plugin development

We all know about:

- **Sysrepo** documentation:
<https://netopeer.liberouter.org/doc/sysrepo/master/html/index.html>
- **libyang** documentation:
<https://netopeer.liberouter.org/doc/libyang/master/html/index.html>
- **Old** plugin development documentation:
https://github.com/sysrepo/sysrepo/blob/master/plugin_dev_doc.md

Then there is:

- **New** Sysrepo plugin development documentation:
<https://plugindex.sysrepo.org>

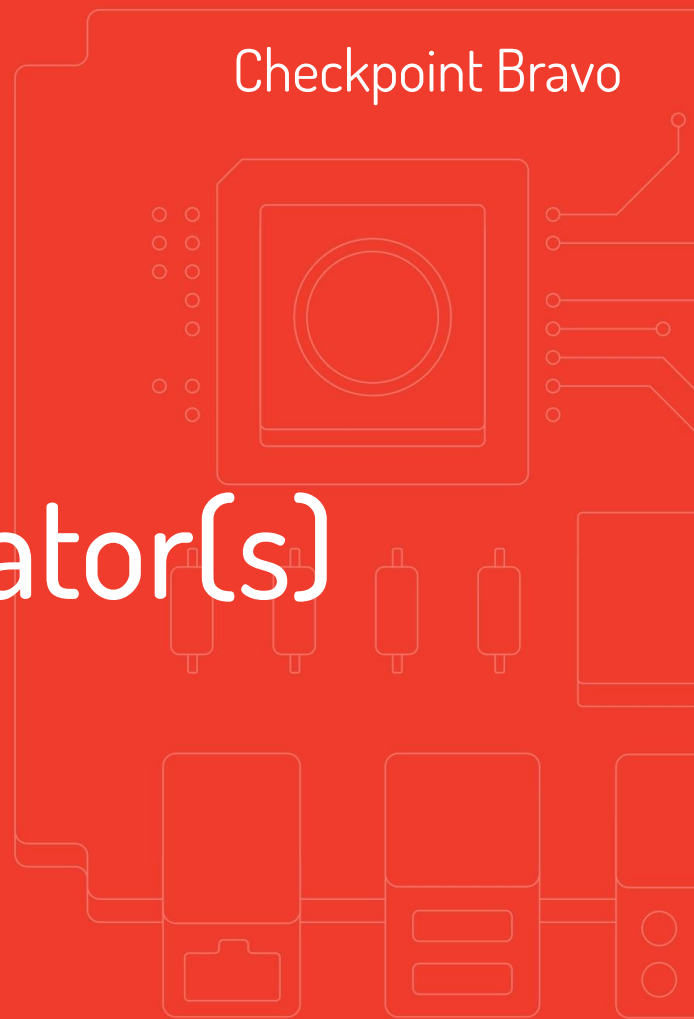


Sysrepo plugin generator(s)

[it's actually one project]

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Checkpoint Bravo

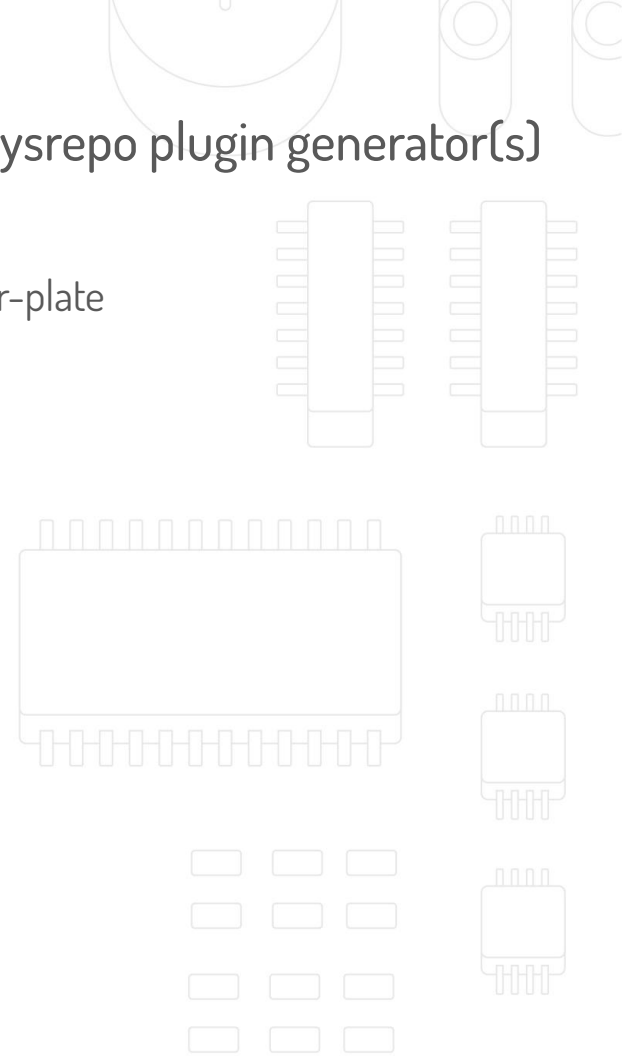


Sysrepo plugin generator(s)

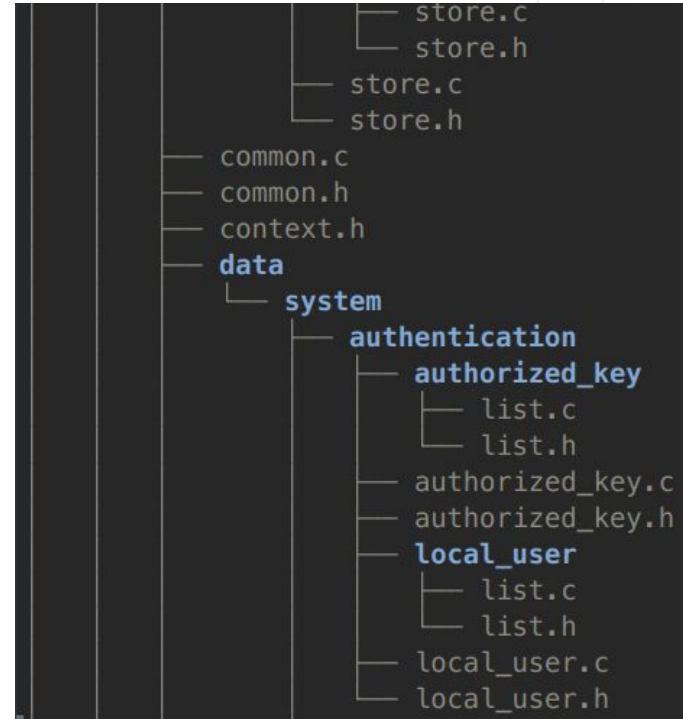
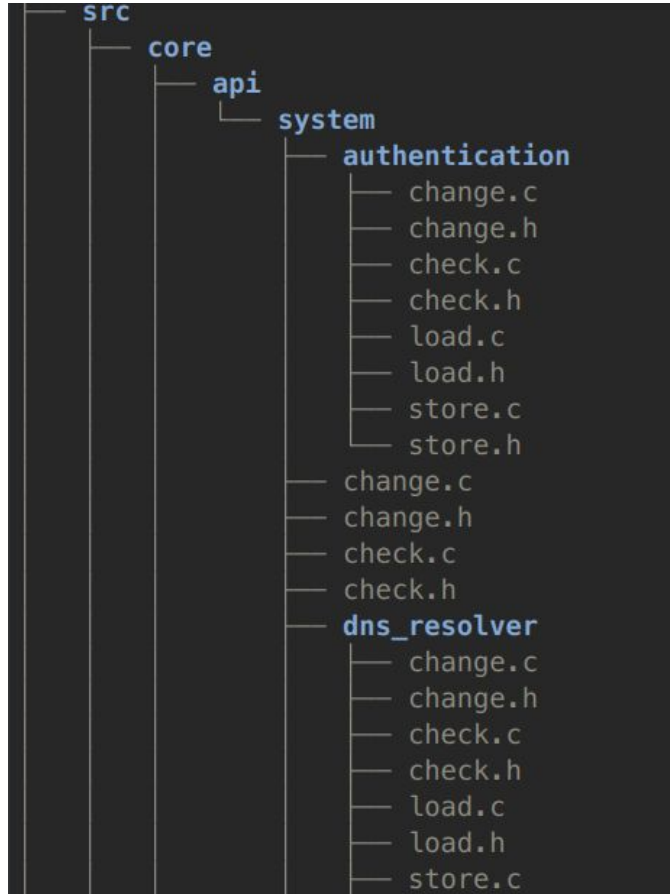
- Drastically reduce the time to have a bare-bones plugin with the boiler-plate code for the desired YANG model
- Supports both generating C and C++ versions of a plugin

Hosted on GitHub and BSD-3 licensed:

<https://github.com/sartura/sysrepo-plugin-generator>

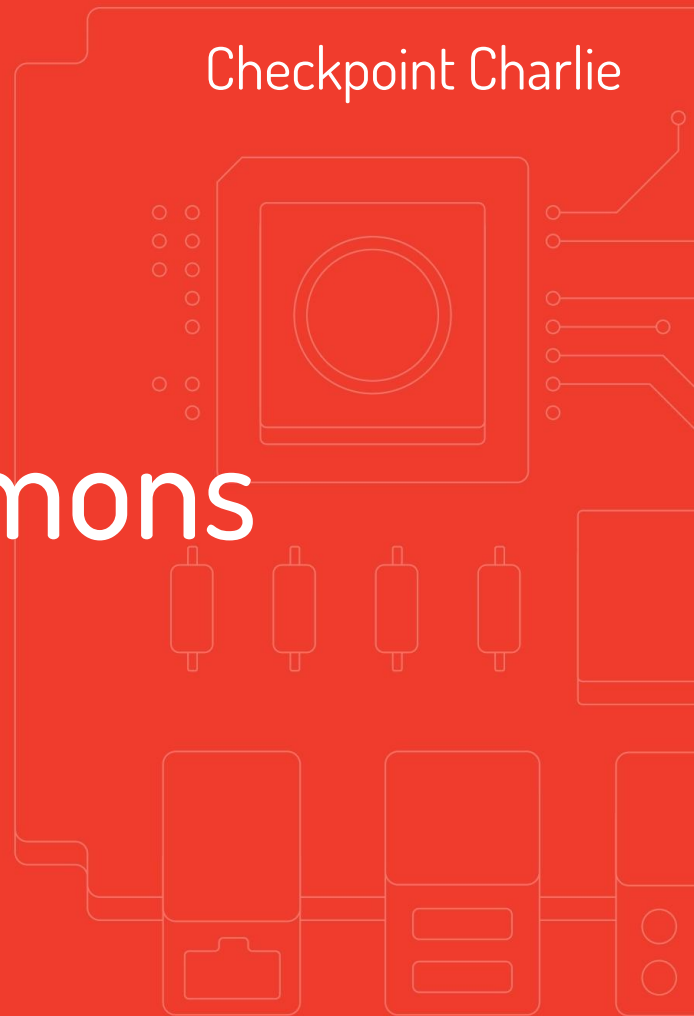


Sysrepo plugin generator(s)



Sysrepo-plugin-commons

[wrappers for most used sysrepo api calls]



Sysrepo-plugin-commons

- Set of utilities and functions which can help create easier and more readable code for a sysrepo plugin
- for example: `srpc_iterate_changes()` for iterating over changes, based on `sr_get_changes_iter()`

srpc - <https://github.com/telekom/sysrepo-plugins-common>



Sysrepo robot framework library

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Checkpoint Delta



Sysrepo robot framework library

Sysrepo robot framework

- Robot framework library wrapper around sysrepo-python bindings

Available on PyPi.org

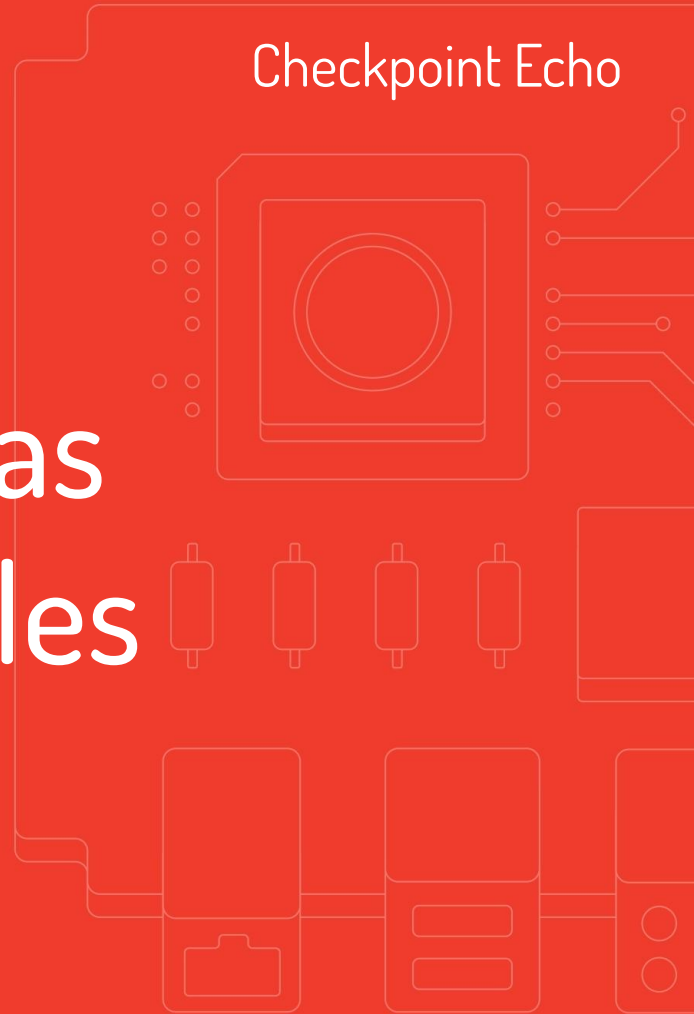
- <https://pypi.org/project/robotframework-sysrepolibrary/>



Open-source plugins as reference and examples

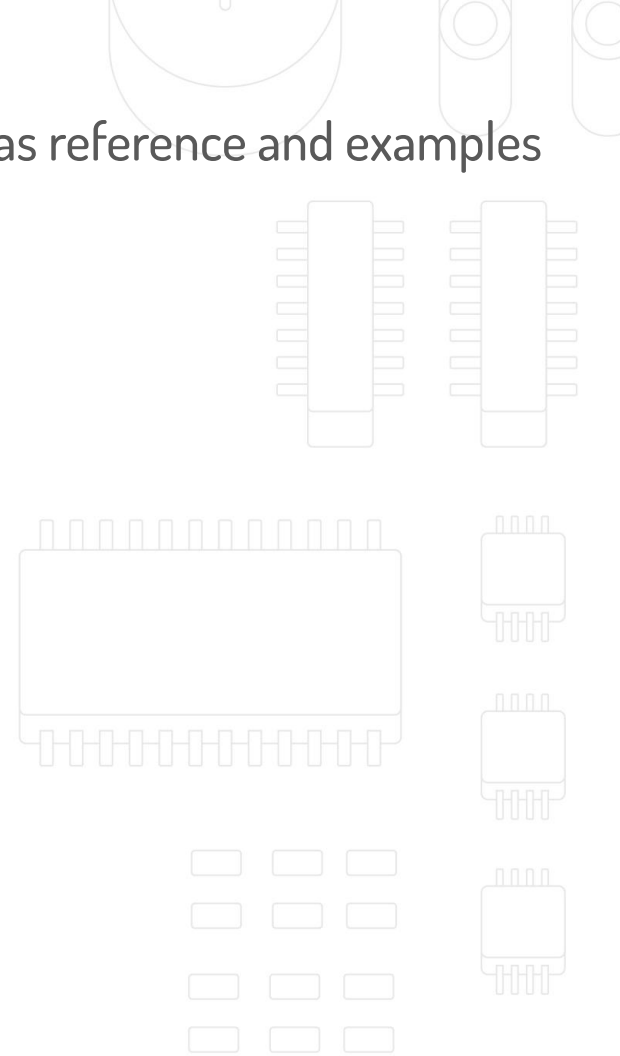
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Checkpoint Echo



Open-source plugins as reference and examples

- <https://github.com/telekom/sysrepo-plugin-interfaces>
 - Based on the following YANG models:
 - ietf-routing
 - ietf-interfaces
 - leee802-dot1q-bridge
- <https://github.com/telekom/sysrepo-plugin-system>
 - Based on the ietf-system yang model



Extra slide – not part of the presentation of the community event

- In case the YANG data modelling language has features missing or not behaving as you would like to, feel free to join the discussion on the NETMOD's GitHub repository for feature requests:
 - <https://github.com/netmod-wg/yang-next>

This slide was skipped in the Sysrepo community event 2023 as that was aimed towards discussions about the actual implementations of the RFC's related to NETCONF, YANG, etc. using Sysrepo and libyang.



Thank you! Questions?



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Checkpoint Golf

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