

SAP Open Source **WEBINAR**

November 15th, 2023

Open Source Project ABAP Cleaner

Jörg-Michael Grassau | Senior Developer for
SAP S/4HANA Cloud | SAP

Open Source Project ABAP cleaner – Agenda

01

Motivation + Ambition

02

How to Install, Use, Configure

03

Journey to InnerSource

04

Journey to Open Source

05

How to Contribute

06

Clean ABAP Context

07

Q&A



Motivation and Ambition

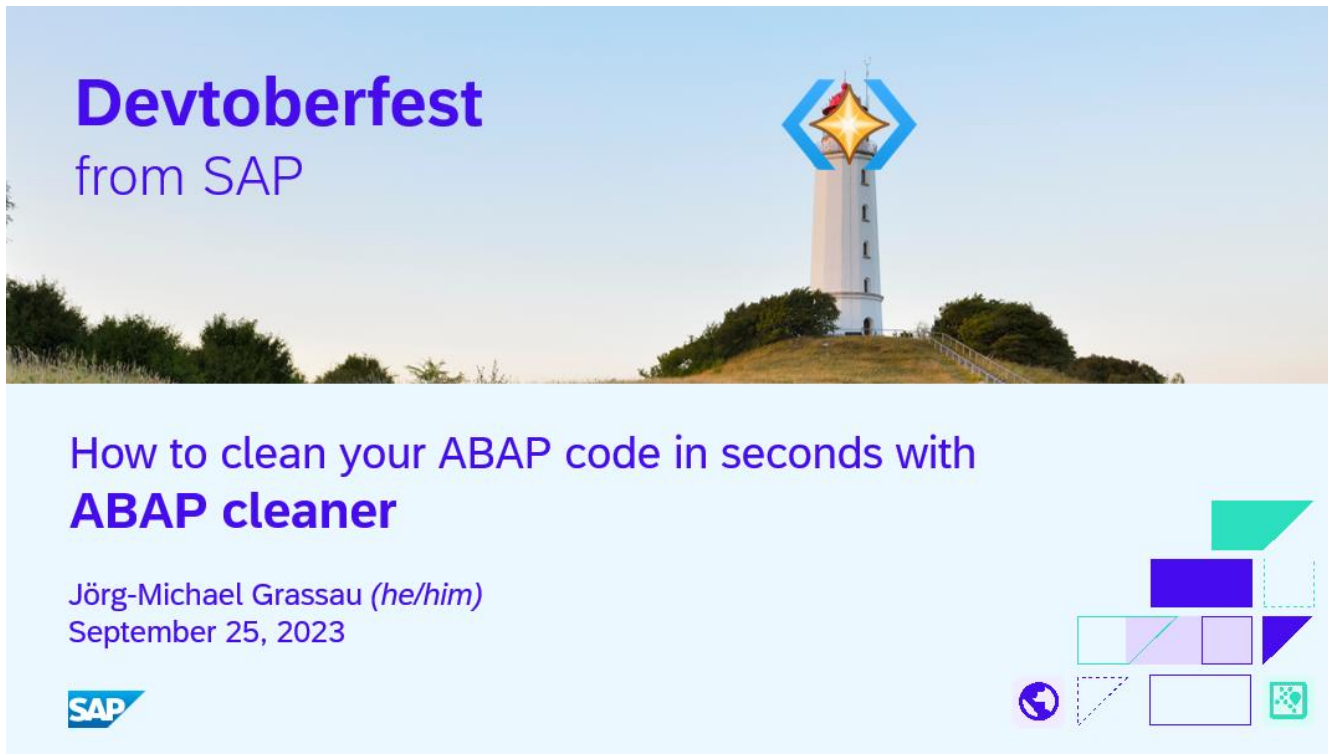


“ **ABAP cleaner** is a **configurable** tool with the ambition to **automate** whatever can be automated with respect to **ABAP code style**. ”

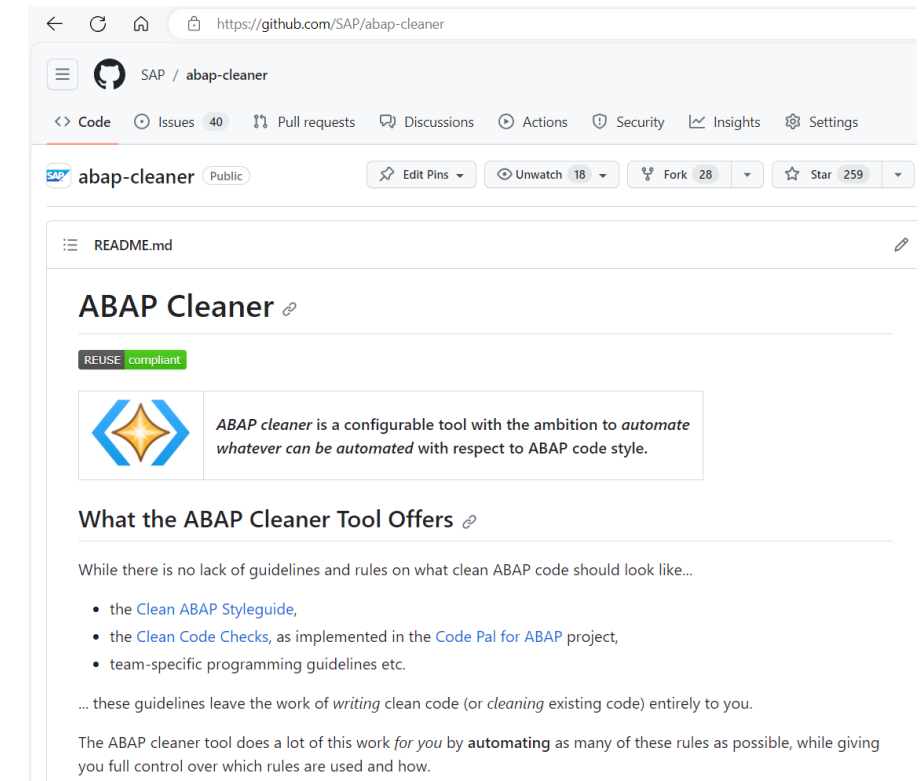
Demo: How to Install, Use, and Configure

More on how to install, use and configure

For > 60 minutes demo on how to install, use and configure ABAP cleaner, watch the **Devtoberfest** session on YouTube:

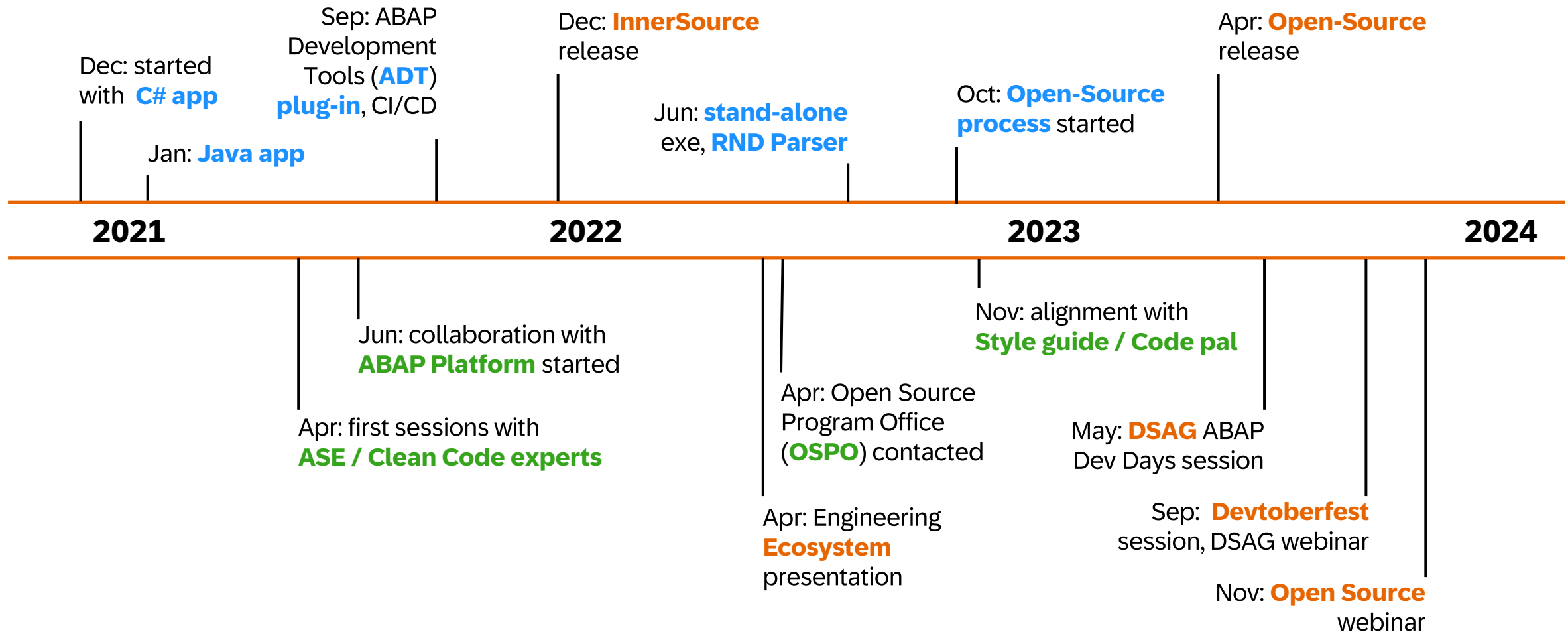


And of course you can find everything on the **ABAP cleaner repository** at <https://github.com/SAP/abap-cleaner>



Journey to InnerSource

Timeline: Implementation – Stakeholders – Community



What helped on the way to InnerSource

- Solving an **actual problem**
- Getting to the right people via **networks**
- Telling people **what I can't do**
- Having **something to offer**
- The **community!**



Solving an **actual problem**

Slide from very first ABAP cleaner presentation in April, 2021

I always wondered when I came across code like ...

```
lts_defitem_exp = VALUE #(
  recon_key = '20200030000103'
  rev_amt_delta = '437.50'
  rev_amt_posted = 800
  rev_qty_delta = 0
  rev_qty_nd_delta = 10
  pro_split = abap_true
  rev_qty_nd_posted = 20
  frozen = abap_false ).

lo_td_config_utility->set_ra_close_period(
  EXPORTING
    iv_company_code = gc_company_code
    iv_account_principle = gc_acct_principle
    iv_from_year = '2020'
    iv_from_period = '002'
    iv_status = co_status_open ).
```



... am I really supposed to *manually* press SPACE (or TAB) 70 times in order to get ...

```
lts_defitem_exp = VALUE #( recon_key      = '20200030000103'
                             rev_amt_delta = '437.50'
                             rev_amt_posted = 800
                             rev_qty_delta = 0
                             rev_qty_nd_delta = 10
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  iv_account_principle = gc_acct_principle
  iv_from_year         = '2020'
  iv_from_period       = '002'
  iv_status            = co_status_open ).
```

... rather than making *my computer* do this?

Getting to the right people via **networks**

Isn't Clean Code one of the concerns of Agile Software Engineering? Maybe you could demo this at our local **ASE Driver** meeting and see what they have to say about it.

You should present this to **Klaus Häuptle**, he's the author of the Clean ABAP book and does a lot on this topic!

We can ask **Sebastian Ratz** to support you to integrate this into ADT.

Why don't you show this to our **ASE Community of Practice** on **S/4HANA** level next week? I'll get you invited!

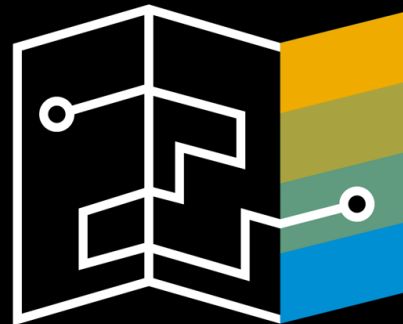
I think **Thomas Fiedler** should see this, he's the Product Owner of ABAP Development Tools (ADT), I'll introduce you to him.

Telling people **what I can't do**

Most important slide in my presentation: Listing **all the things of which I had NO CLUE** how to do them, and telling exactly that:

AbapCleaner – Possible Roadmap as of December 2021

- ✓ Move project to **SAP-internal GitHub** to allow for joint development
- ✓ Create **ADT plug-in** to enable pretty-printer-like usage (plus UI usage?)
- ✓ Access **RND Parser** to improve token identification
- ✓ Any **legal issues** using Java 1.8 (or Java 11+ for a plugin)?
 - Enhance with **further rules** and configuration as needed
 - Allow storing **package-specific team profile** in a central place

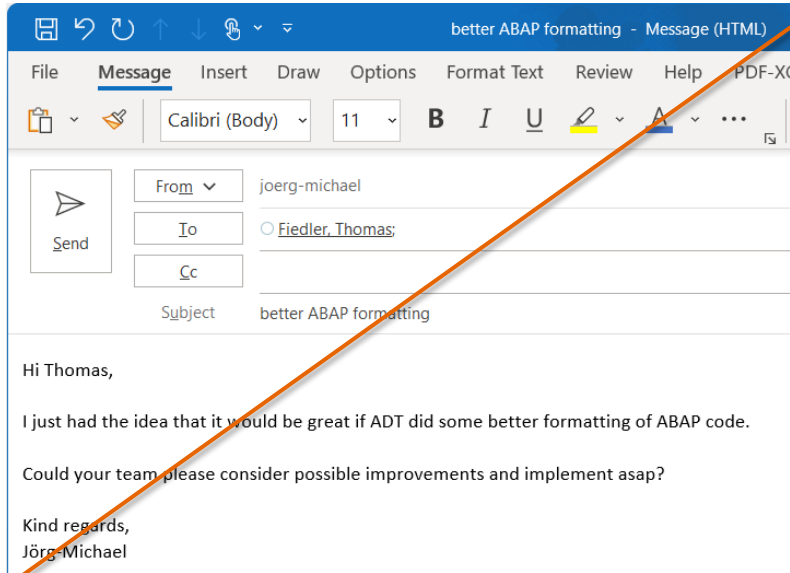


Hi Jörg-Michael,
thanks for your
presentation! I could
help you with GitHub,
happy to do that!

I think the OSPO
has legal experts,
you could ask there
about those Java
questions.

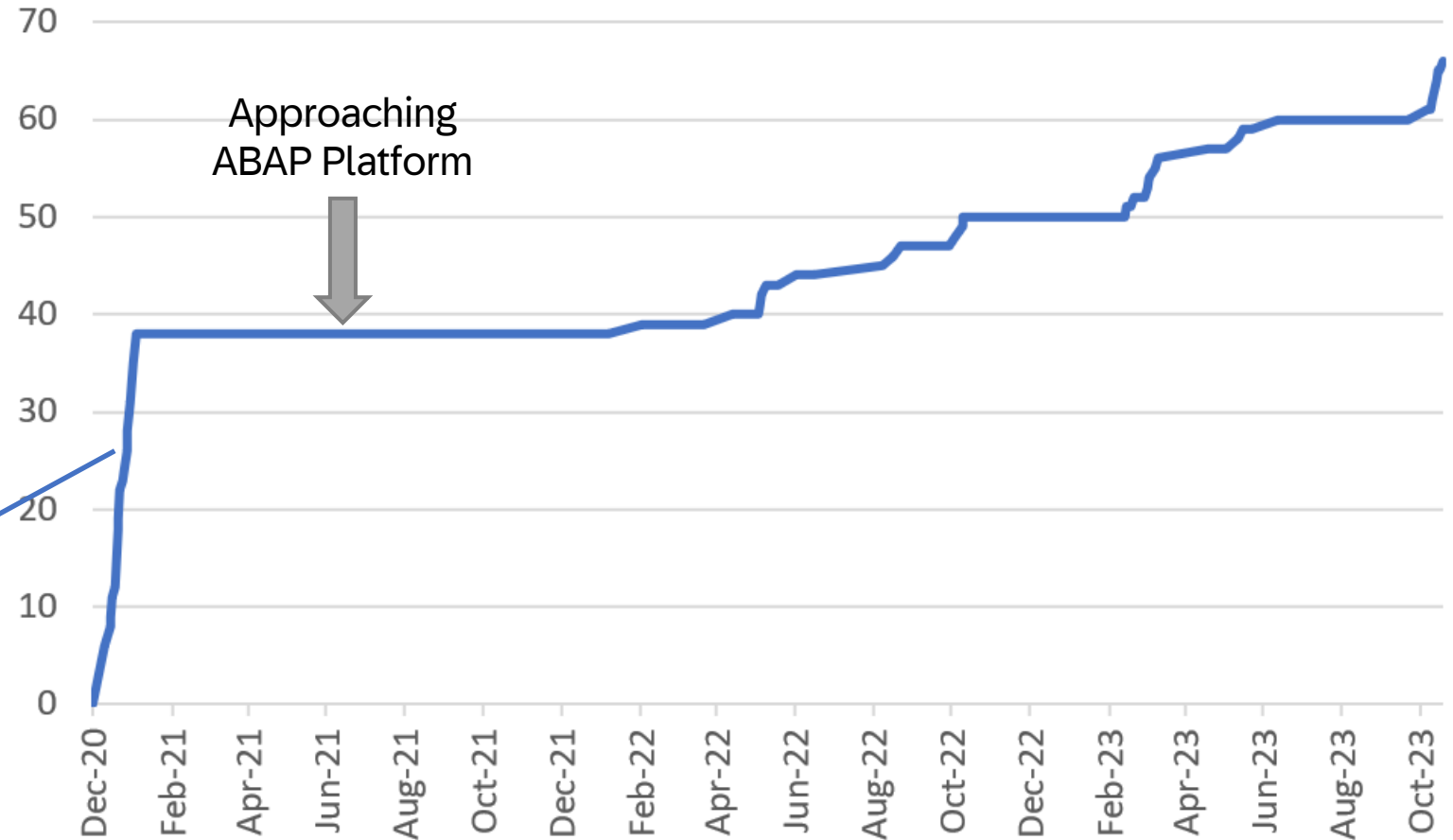
Sebastian is just the
right person to help
you with integrating
that into ADT and
the RND Parser.

Having something to offer



Having **invested** so much effort upfront definitely emphasized how much **we needed this** as ABAP developers...

Number of Cleanup Rules



InnerSource Phase (Dec. 2021 – Apr. 2023)

- **Feedback** overwhelmingly positive and appreciative
- **Bug reports** helped to solve first issues; **ideas** led to many new rules + features
- Feedback from approx. 100 individuals representing **75 different teams**
- => many different coding styles => **Growing confidence** that this actually works...
- In parallel, several **requests** for better **formatting tools** from outside SAP
- => no reason why ABAP cleaner shouldn't **benefit ABAP developers** outside SAP, too

Projects / abap-dev / Components / ABAP cleaner / Overview

ABAP cleaner

 Description: ABAP cleaner applies 55+ cleanup rules to ABAP code at a single keystroke

Activity:  **Active**
Added on: October 20, 2022 11:59 AM

Tags: **inner-source**

Labels: **language: Java**

Repository

Created at: June 22, 2021 Last Update: April 24, 2023

Enterprise Search or jump to... Pull

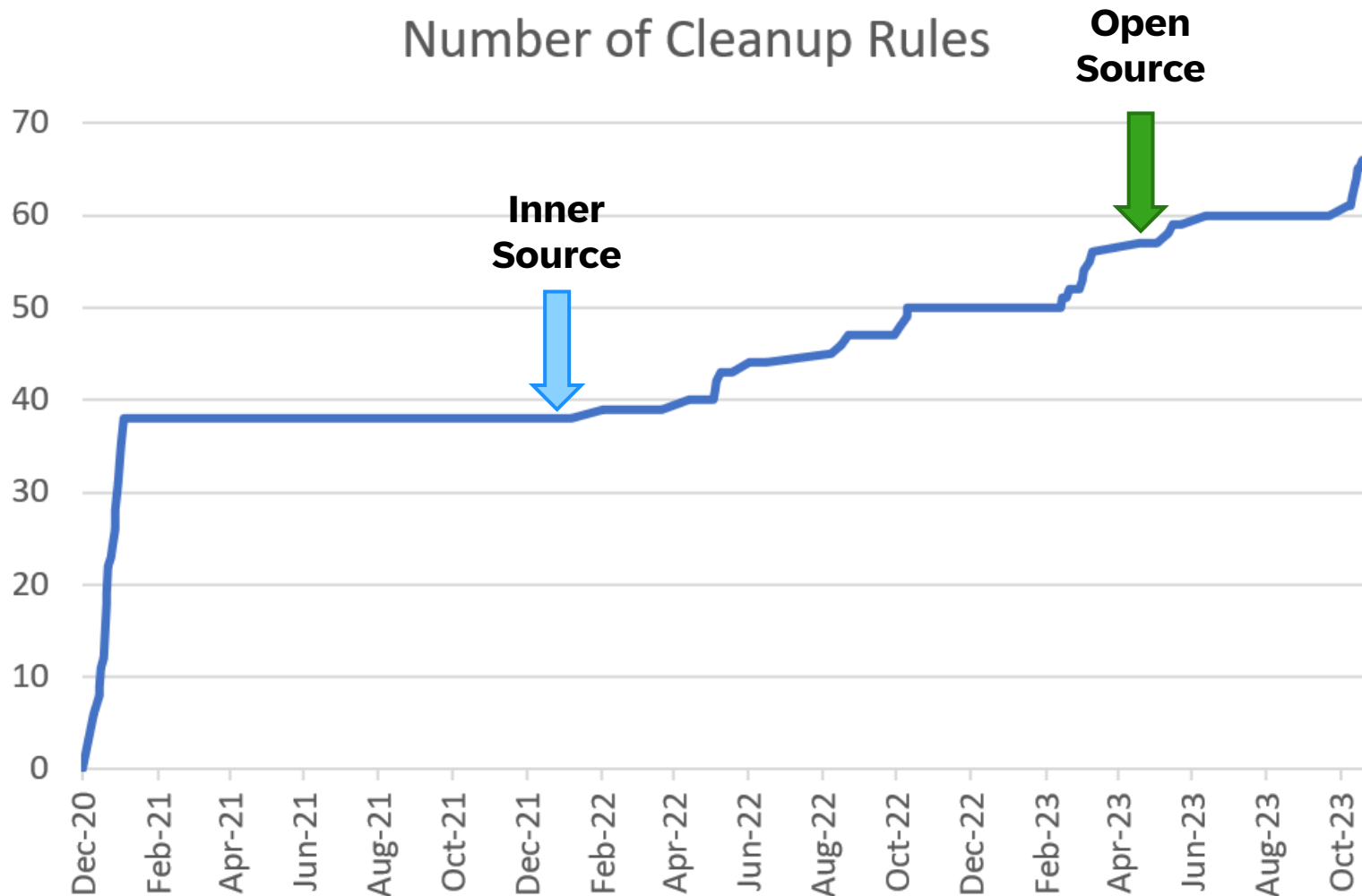
abap-dev / AbapCleaner Public

<> Code Issues 5 Pull requests Discussions

Filters is:issue is:open

☐ 5 Open ✓ 107 Closed

New ideas now coming from... the community!



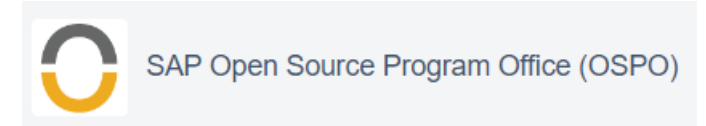
Once the project was InnerSource / Open Source, lots of **new ideas** for cleanup rules and other features were posted by the **community**!

Similarly, **discussions** on new ideas are very helpful:

- What exactly should the **cleaned code** look like?
- Which **options** do we need?
- Which **defaults** do we want?

Journey to Open Source

The open-source process – overview



0 Open ✓ 5 Closed

Author	Label	Projects	Milestones	Assignee	Sort
✓	Fill out Request form	form-v2	request accepted		5
#1 by ospo-bot (bot) was closed on Apr 26					
✓	Read and confirm Guidelines for SAP initiated Projects				4
#2 by ospo-bot (bot) was closed on Nov 10, 2022					
✓	Scan source code				3
#3 by [redacted] was closed on Nov 10, 2022					
✓	Get Project Name Approval				2
#4 by [redacted] was closed on Nov 10, 2022					
✓	Set up Github repository	form-v2	Repo Created		22
#5 by [redacted] was closed on Apr 26 1 of 1					

Prettier Printer (Dec. 2020)	
AbapCleaner (Jan. 2021)	
1. ABAP Cleaner Date: Oct. 25, 2022 05:05 PM	● Dropped
2. ABAP cleaner Date: Oct. 27, 2022 09:28 PM	● Dropped
3. ABAP cleaner tool Date: Oct. 27, 2022 09:28 PM	● Dropped
4. ABAP cleanup tool Date: Nov. 02, 2022 02:07 PM	● Dropped
5. ABAP cleanup Date: Nov. 03, 2022 08:18 PM	● Dropped
6. ABAP cleaner Date: Nov. 07, 2022 06:47 PM	● Kept

- ✓ Fill out **official request** to OSPO (2-3 hours)
- ✓ Confirm open source **guidelines** (1 day)
get **management approval**
- ✓ Solve **licensing + legal issues** (2 weeks)
 - ✓ Obfuscate SAP code from examples and tests
 - ✓ Legal: What if ABAP cleaner messes up code?
- ✓ **Source code scans** (security, APIs etc.) – no issue
- ✓ Get official approval for **project name** (2 weeks)
- ✓ Set up GitHub **repository** (4 months... + 1 day)
 - ✓ CI/CD completely reworked with GitHub Actions

The **logo**: 16 iterations over 5 months!



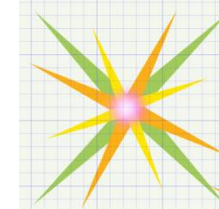
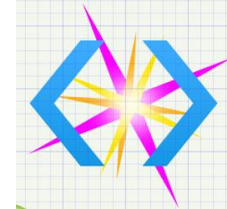
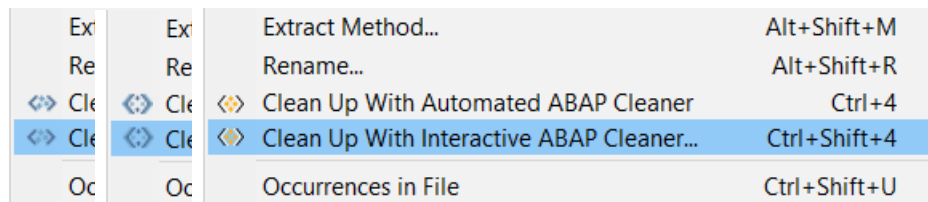
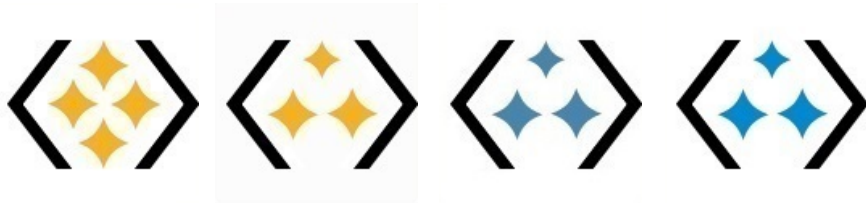
Critique on sponge: the logo should not highlight the **process** of cleanup, but rather its **result**: Clean code!



Shiny classes representing clean ABAP code? **Already used** for “new ABAP Class”!

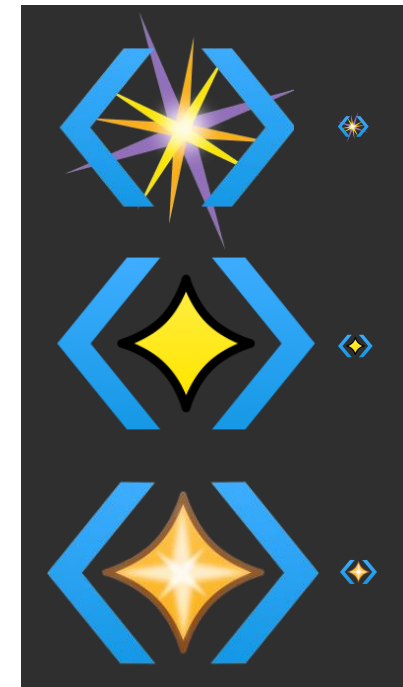


Already **too much detail** for tiny icons!

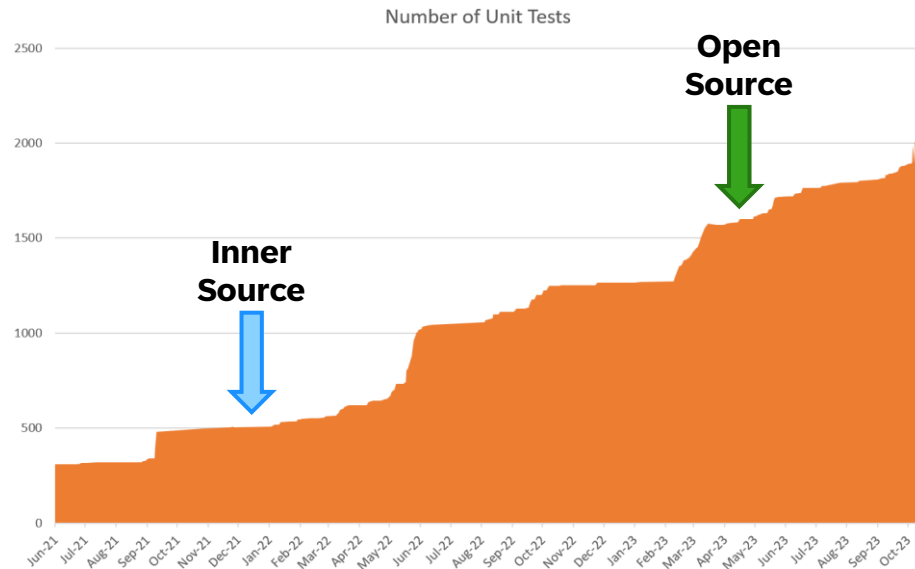


How to imitate “shiny”?

Biggest challenge: Logo must work large and small + on light and dark background!



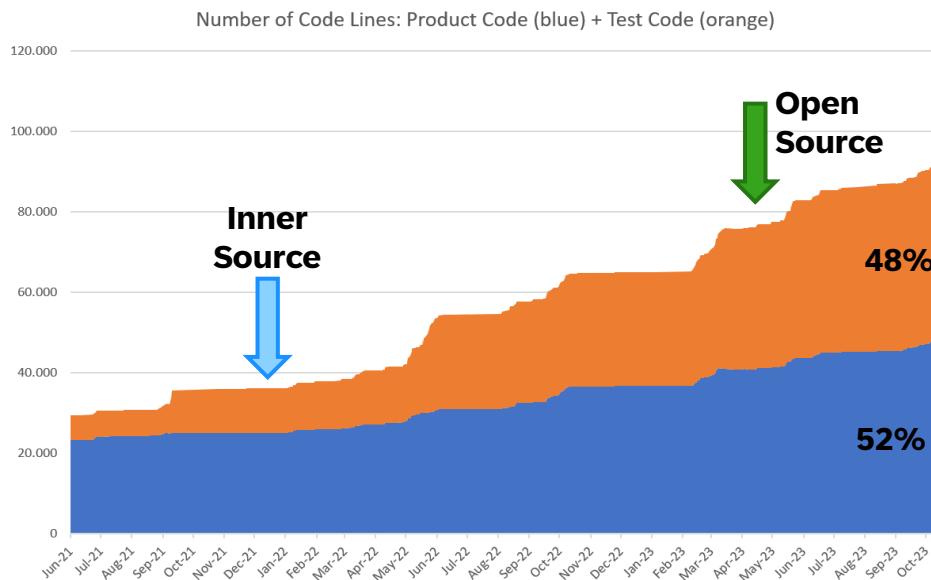
How dare we change your ABAP code?



ABAP cleaner tests (13.11.2023 17:38:03)

Element	Coverage	Covered Branches	Missed Branches	Total Branches
com.sap.adt.abapcleaner	88,5 %	13.284	1.719	15.003
src	88,5 %	13.284	1.719	15.003
com.sap.adt.abapcleaner.parser	91,0 %	4.426	438	4.864
com.sap.adt.abapcleaner.comparer	69,1 %	584	261	845
com.sap.adt.abapcleaner.rulehelpers	87,8 %	1.724	239	1.963
com.sap.adt.abapcleaner.rules.alignment	91,7 %	1.603	145	1.748
com.sap.adt.abapcleaner.rulebase	84,4 %	729	135	864
com.sap.adt.abapcleaner.rules.declarations	90,2 %	1.013	110	1.123
com.sap.adt.abapcleaner.rules.syntax	87,1 %	691	102	793
com.sap.adt.abapcleaner.base	89,9 %	899	101	1.000
com.sap.adt.abapcleaner.programbase	80,0 %	345	86	431
com.sap.adt.abapcleaner.rules.commands	90,8 %	474	48	522
com.sap.adt.abapcleaner.rules.spaces	92,9 %	368	28	396
com.sap.adt.abapcleaner.rules.emptylines	93,9 %	201	13	214
com.sap.adt.abapcleaner.rules.prettyprinter	94,6 %	227	13	240

- **Test coverage** of relevant packages at almost 90%
- **Regression tests** whenever any bug is found
- Clean 35+ MB of **real-life code** + check syntax
- **Stress test**: run 128 variants (see next slide)
- Strongly encourage community to **report bugs**



What does the stress test do?

Just any example of “Resolve equals sign chain into several commands”:

```
" equals sign chaining  
a = b = 'any text'.
```



```
" equals signs unchained  
b = 'any text'.  
a = b.
```

The same statement may also look like this, syntax being 100% fine:

```
##NO_TEXT a " some comment  
* more comment  
  " and still more!  
: " why not put a colon here?  
  = " assignment operator  
b      =  
* still not done commenting  
  'any text' ##NO_TEXT  
. " last chance to say something
```



??

The stress test...

- systematically **introduces** line-end comments, full-line **comments**, **pragmas** and chain **colons** into any possible place in the code,
- runs all **cleanup** rules,
- and lets RND Parser **check the syntax** of the result.

This is done for:

- all **2100+ unit test** * 128 variants
= 40 seconds
- **35 MB real-life code** * 128 variants
= 70 minutes

After the Open Source Release...

Promotion

... is not my personal strength ...

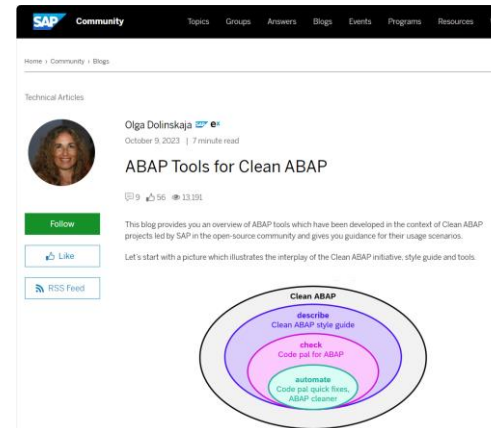
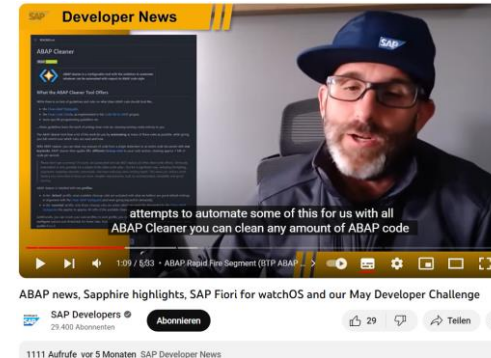
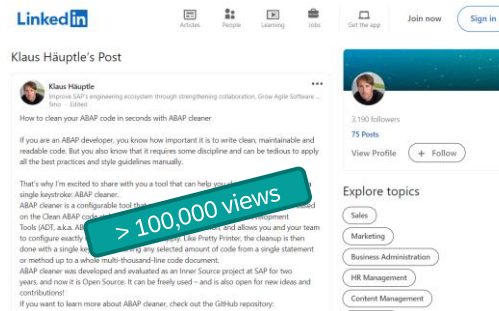


So there's this little Open-Source project that I started a while ago, and we just went public with it recently, maybe if you find some time in your busy schedules, you might consider visiting our [site](#), we'd appreciate.

... but others are all the better at it:



🔴 Attention #ABAP developers 🔴 Do you want to clean your code with one keystroke? ✨? What if you could choose from 55+ cleanup rules to suit your needs? Meet ABAP cleaner, the ultimate tool for the ABAP code style! 🚀 [github.com/SAP/abap-clean...](https://github.com/SAP/abap-cleaner) #CleanABAP #OpenSource #Automation #SAP



How to Clean your ABAP code in Seconds with ABAP Cleaner
9268 Aufrufe • vor 1 Monat



#32- Academia ABAP Moderno - ABAP Cleaner
266 Aufrufe • vor 1 Monat

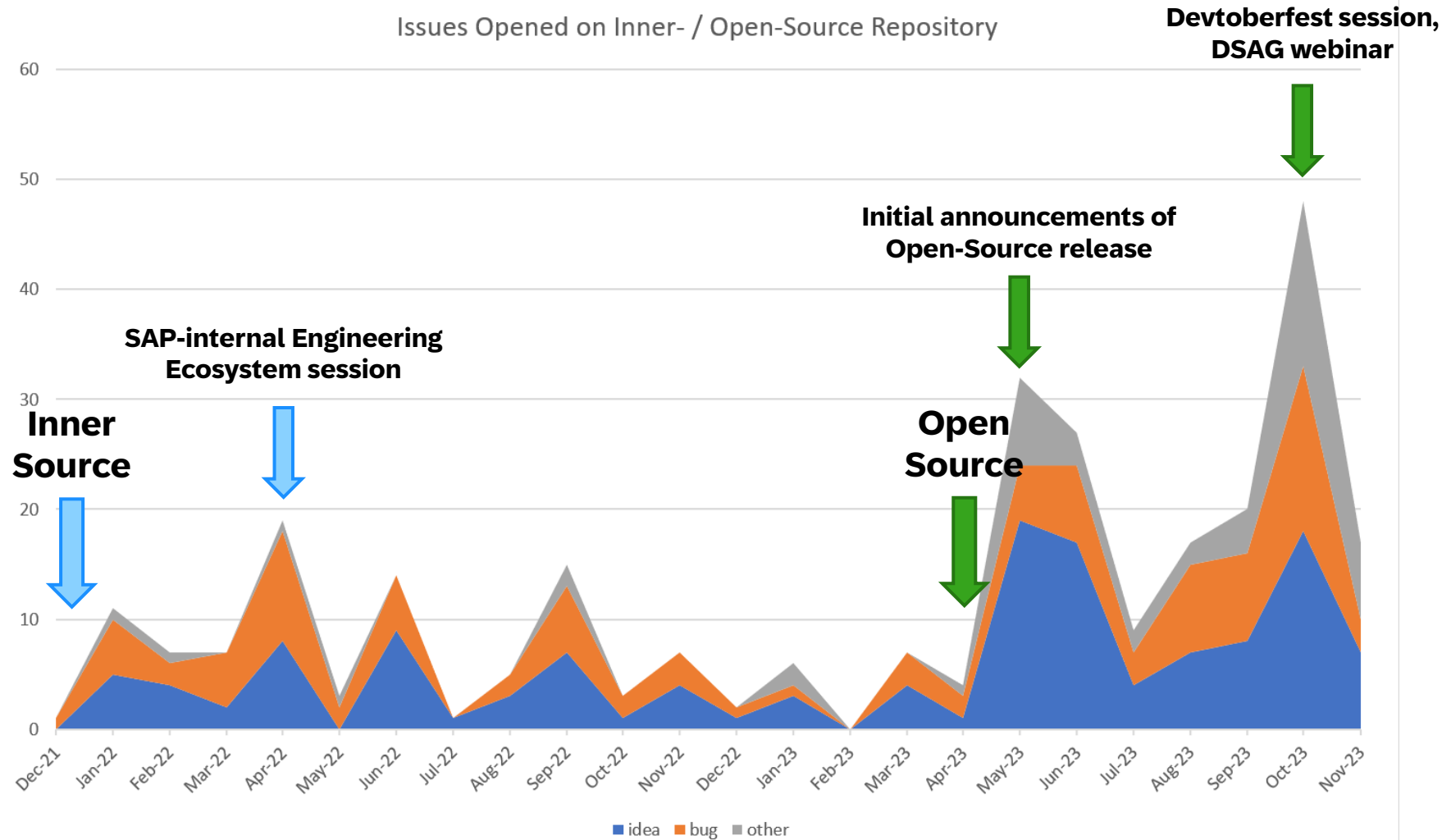


ABAP Cleaner - Clean Up with Automated ABAP Cleaner | Clean...
374 Aufrufe • vor 2 Wochen



ABAP Cleaner - ABAP Code Formatting, Refactoring, Logic...
275 Aufrufe • vor 2 Tagen

Community engagement



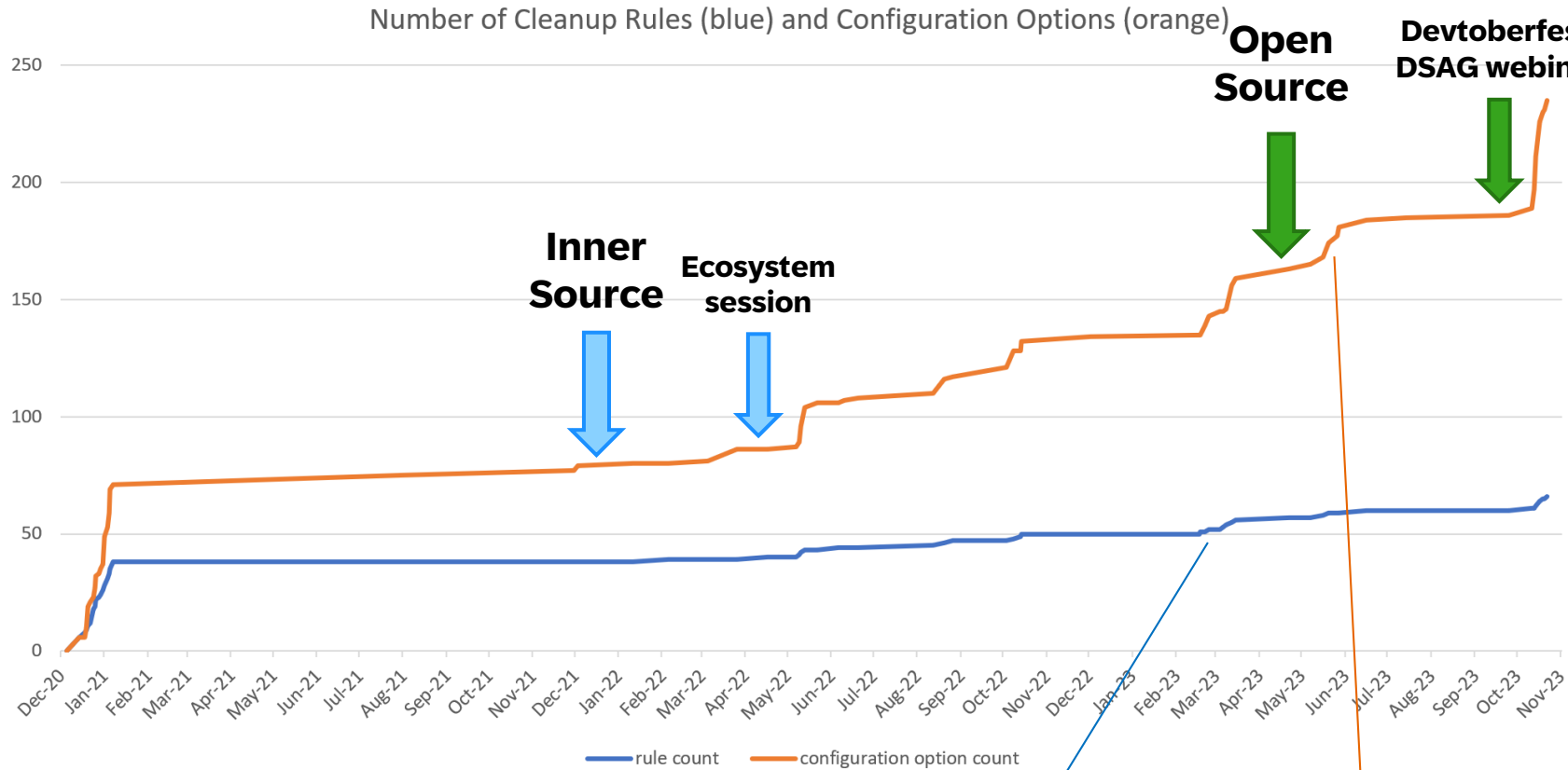
- **112 issues** on InnerSource repository (now closed)
- **170 issues** on Open Source repository in first 7 months

Gray (18%) = no defect, duplicate, out of scope

Orange (35%) = bugs, dumps, unexpected cleanup results, poor alignment

Blue (47%) = ideas for new cleanup rules, new options, new UI features etc.

Effects on ABAP cleaner



More users => more diverse code styles => more need for **configuration**

More users => more ideas => more **cleanup rules** + **UI features** + **command line options** + ...

More users => more code styles * config variants => more bugs found => more fixes + tests => more **stability**

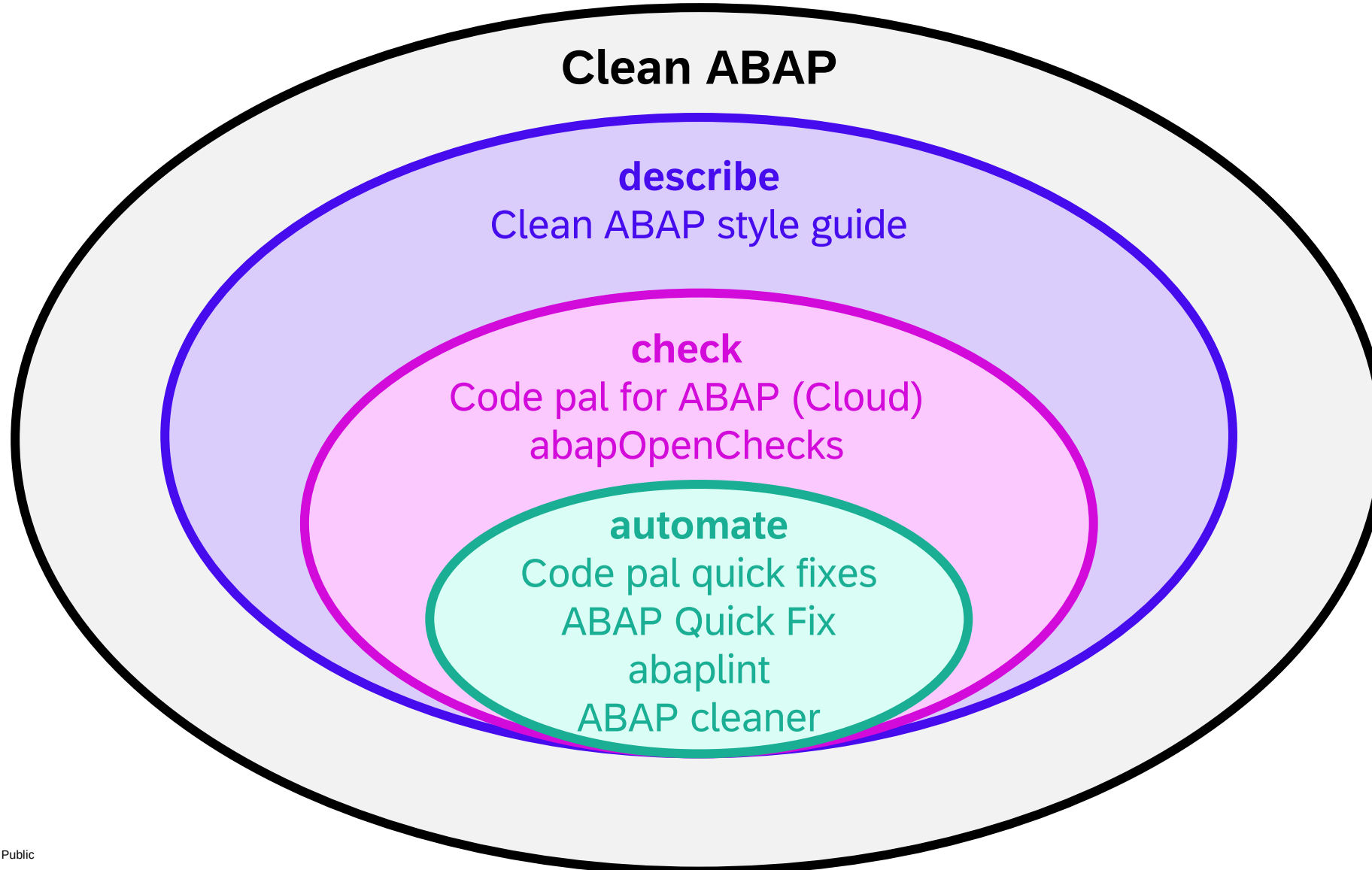


How to contribute

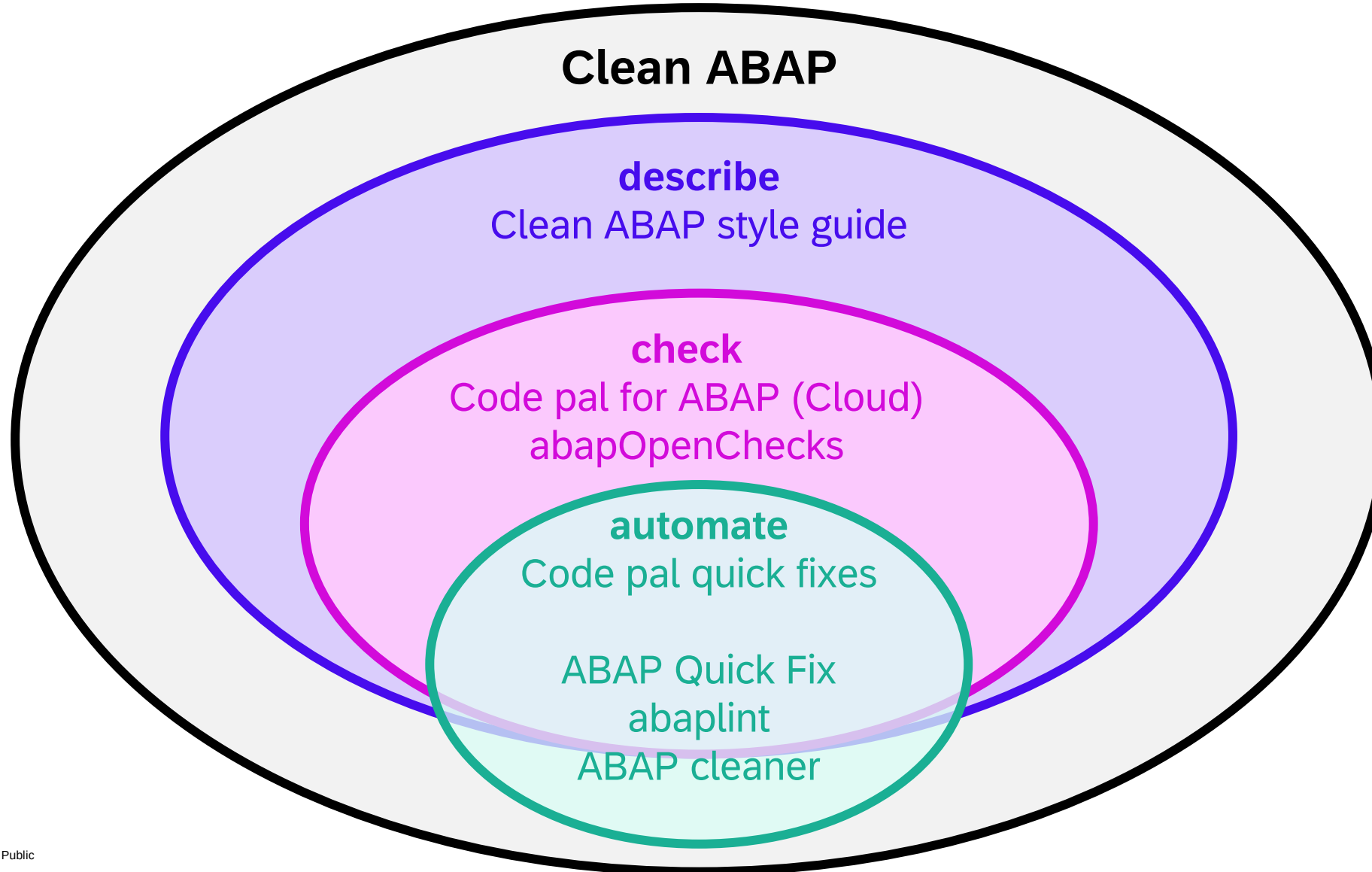
- If you like ABAP cleaner: **spread the word**
- Report **bugs** New issue
 - Open an issue on the GitHub repository
 - With a minimal example, show actual vs. expected result
- Tell us about your **ideas** New issue
 - What else could be automated? What config is needed?
 - What UI features are missing?
- Contribute to **development**
- With just **one click**: give it a star ☆ Star 261 ▼
 - Open-Source projects are often not part of the job description
 - => only your feedback shows us (and management!) if it's worth the effort

Context of Clean ABAP Projects

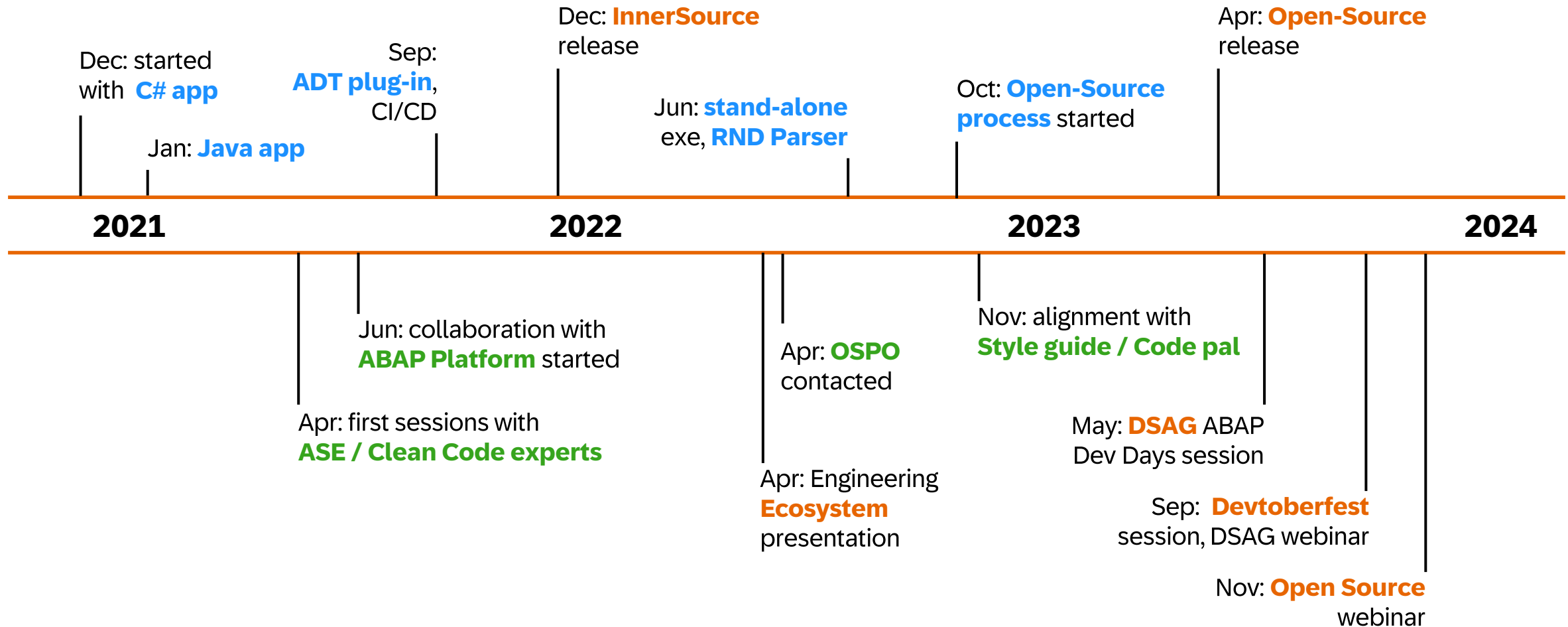
ABAP cleaner in the context of other open-source **Clean ABAP** projects (1)



ABAP cleaner in the context of other open-source **Clean ABAP** projects (2)



Timeline: Implementation – Stakeholders – Community (2)





Q & A

Resources

ABAP cleaner:

- Open Source repository: <https://github.com/SAP/abap-cleaner> (contains [Installation Instructions](#), [Documentation](#), [Release Notes](#), list of [Available Cleanup Rules](#), allows to create [Issues](#) etc.)
- Updatesite for Eclipse plug-in: <https://sap.github.io/abap-cleaner/updatesite>
- Devtoberfest session on YouTube: https://www.youtube.com/watch?v=0mp0FuJV5_k showing in depth how to install, use and configure ABAP cleaner

Related Open Source Projects on Clean ABAP, see blog [ABAP Tools for Clean ABAP](#):

- “Describe”: [Clean ABAP style guide](#)
- “Check”: [Code pal for ABAP](#) + [Cloud Edition](#), [abapOpenChecks](#), [abaplint](#)
- “Automate”: [ABAP Quick Fix](#), [abaplint](#)

Thank you.

Contact information:

Jörg-Michael Grassau
abap-cleaner@sap.com

