
phd 2
Positive Hack Days Fest
от ■ positive technologies
Open-source-инструменты для разработчика
которые мы заслужили
ESC
ENERGY HACK

@akuleshov7

Андрей Кулешов

Руководитель разработки
платформы данных

Разработчик с разносторонним опытом

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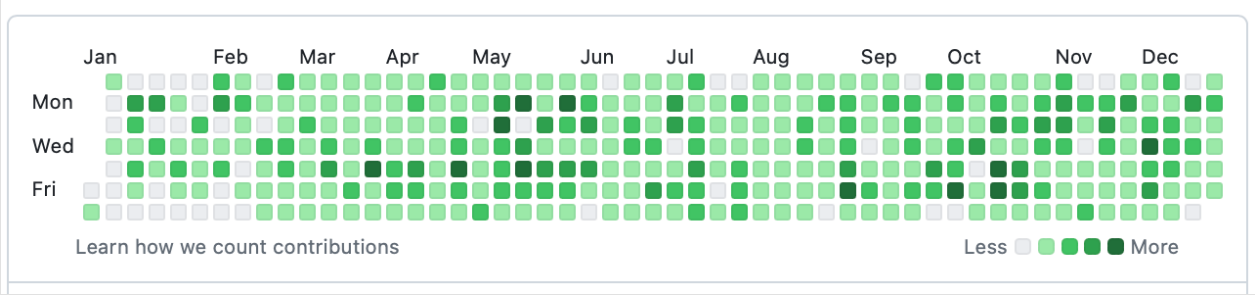
Мой Github

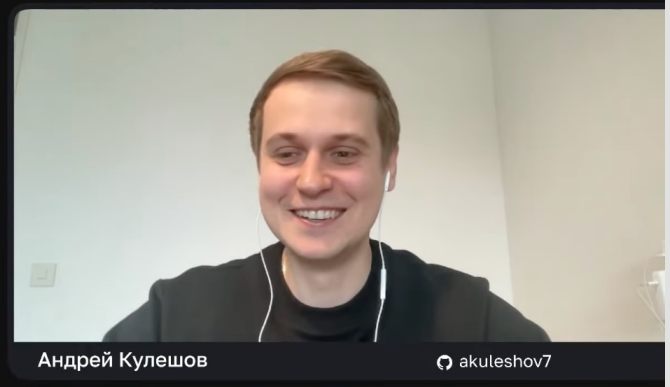
Дисклеймер!

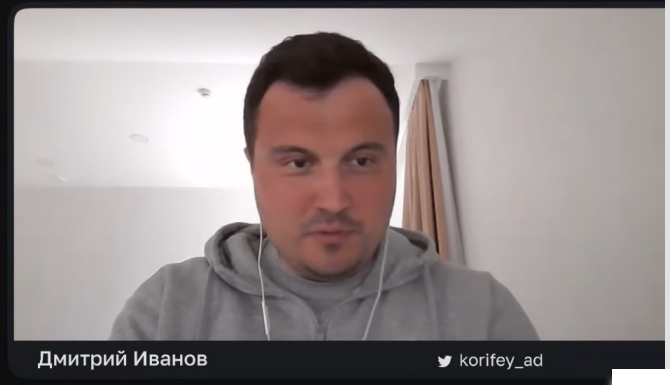
Почему я хочу поговорить на эту тему?

Почему *я хочу* поговорить на эту тему?

Пара моих последних лет







JPoint СБЕР Яндекс МИР Plat.Form РСХБ-ИНТЕХ

Дмитрий Иванов, Андрей Кулешов — Пирамида потребностей Маслоу для Java/Kotlin-разработчика

00

Предисловие

Немного про экосистемы

Open-source — это флагман инструментов разработчика

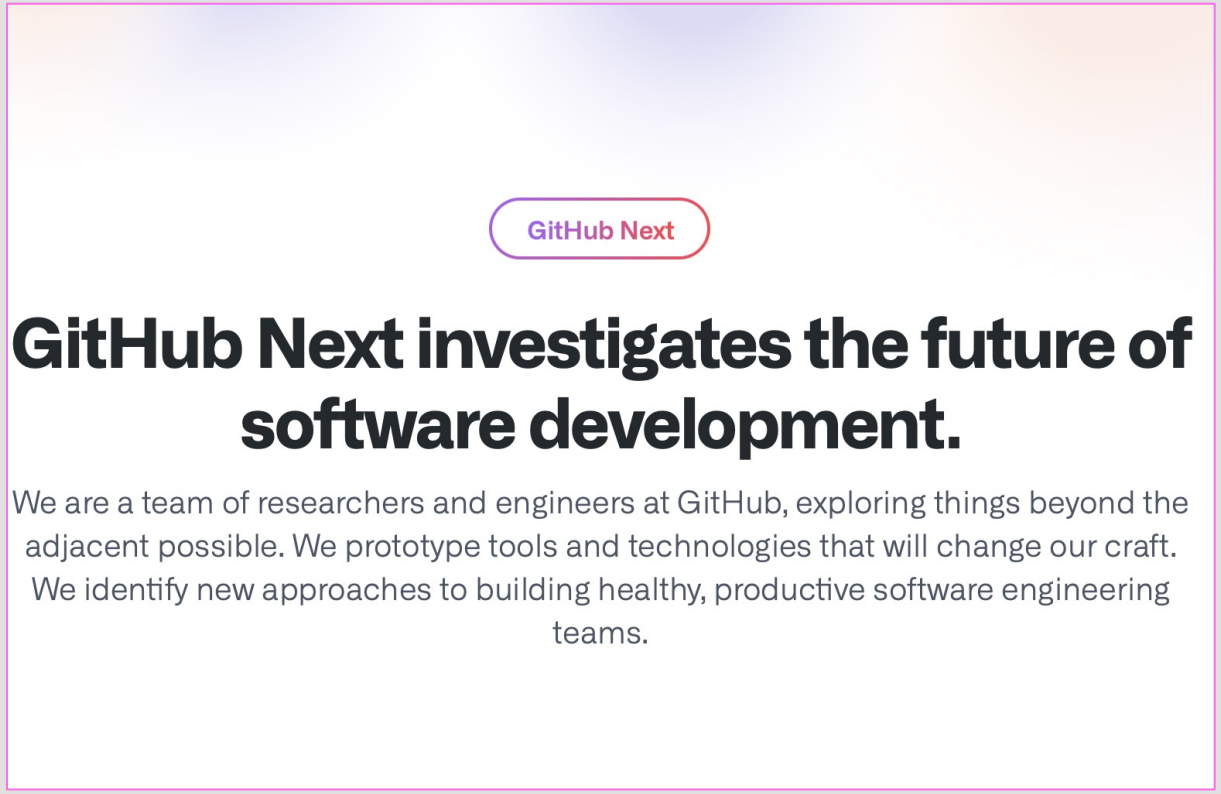
Open-source — это флагман инструментов разработчика

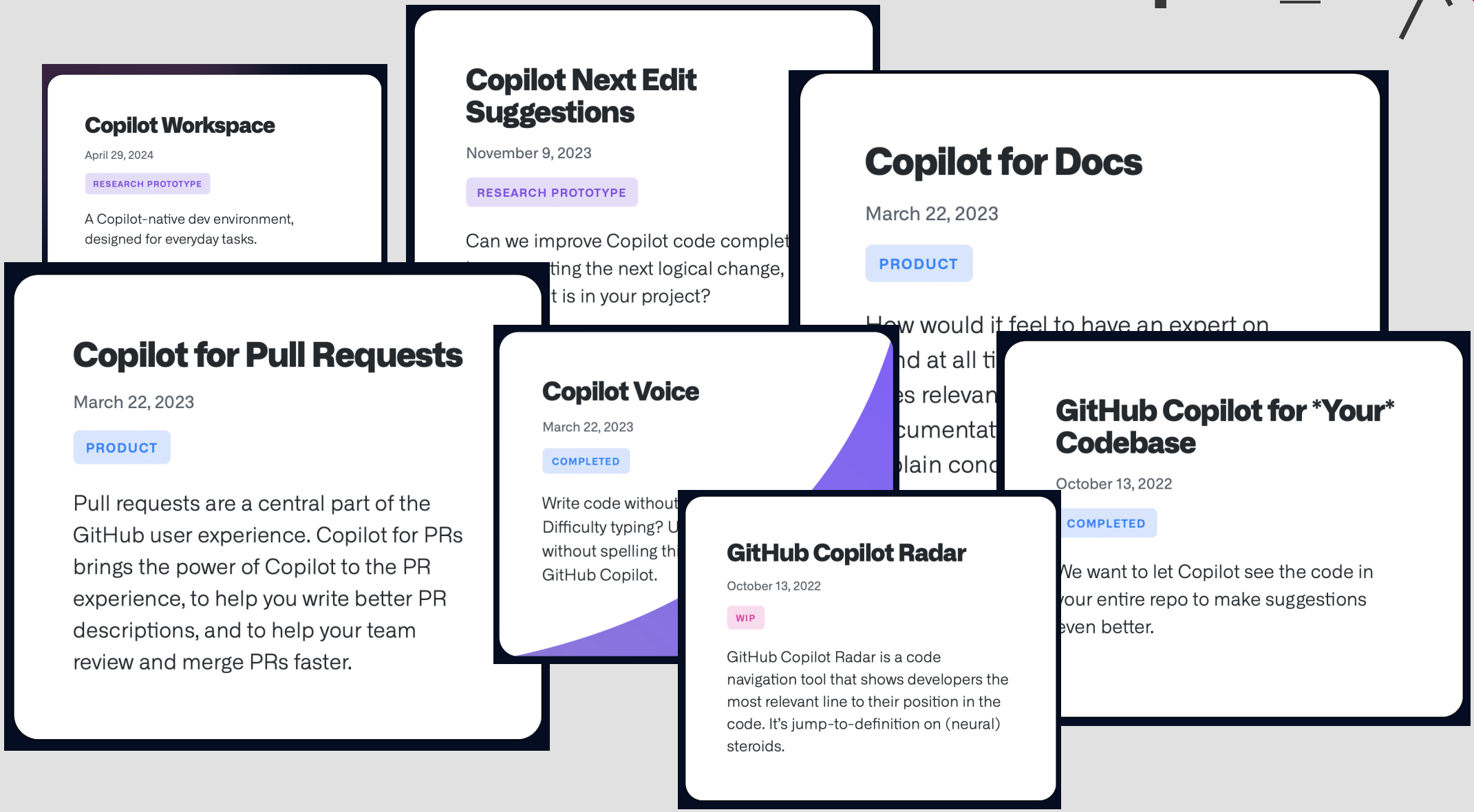
Знакомьтесь, Octocat

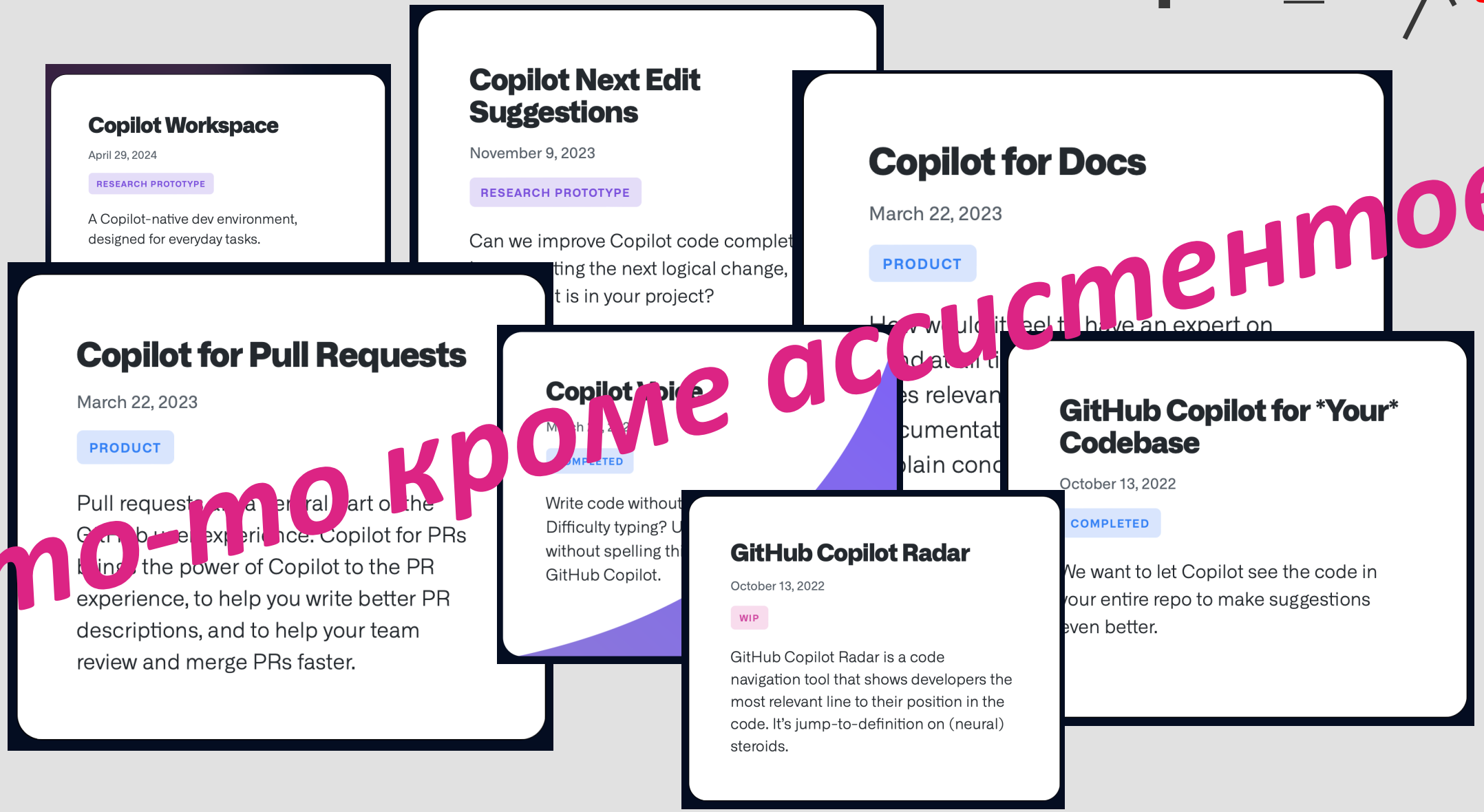
Github — лидер идей и мнений

Пример отличного DevTool'а

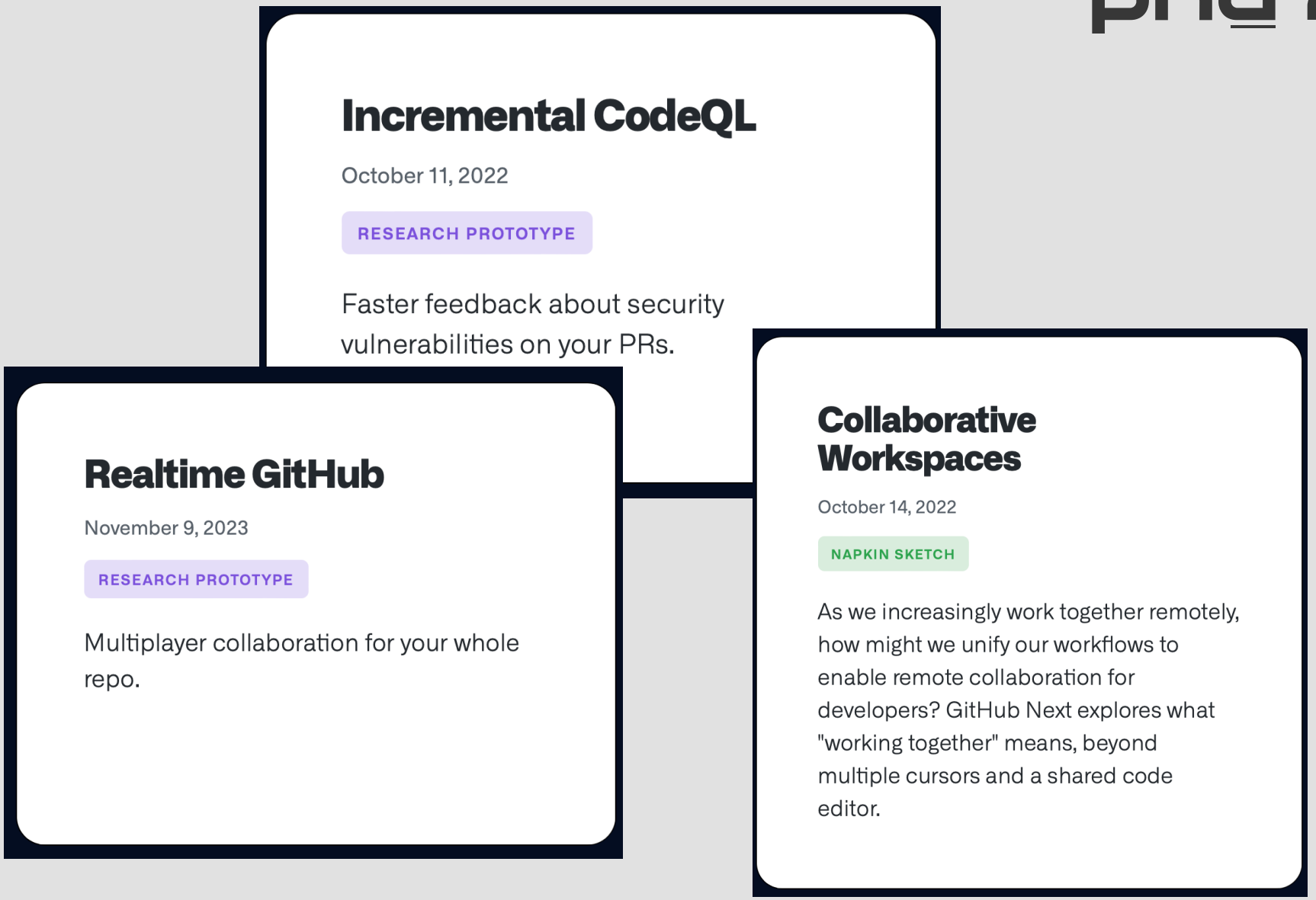
https://githubnext.com

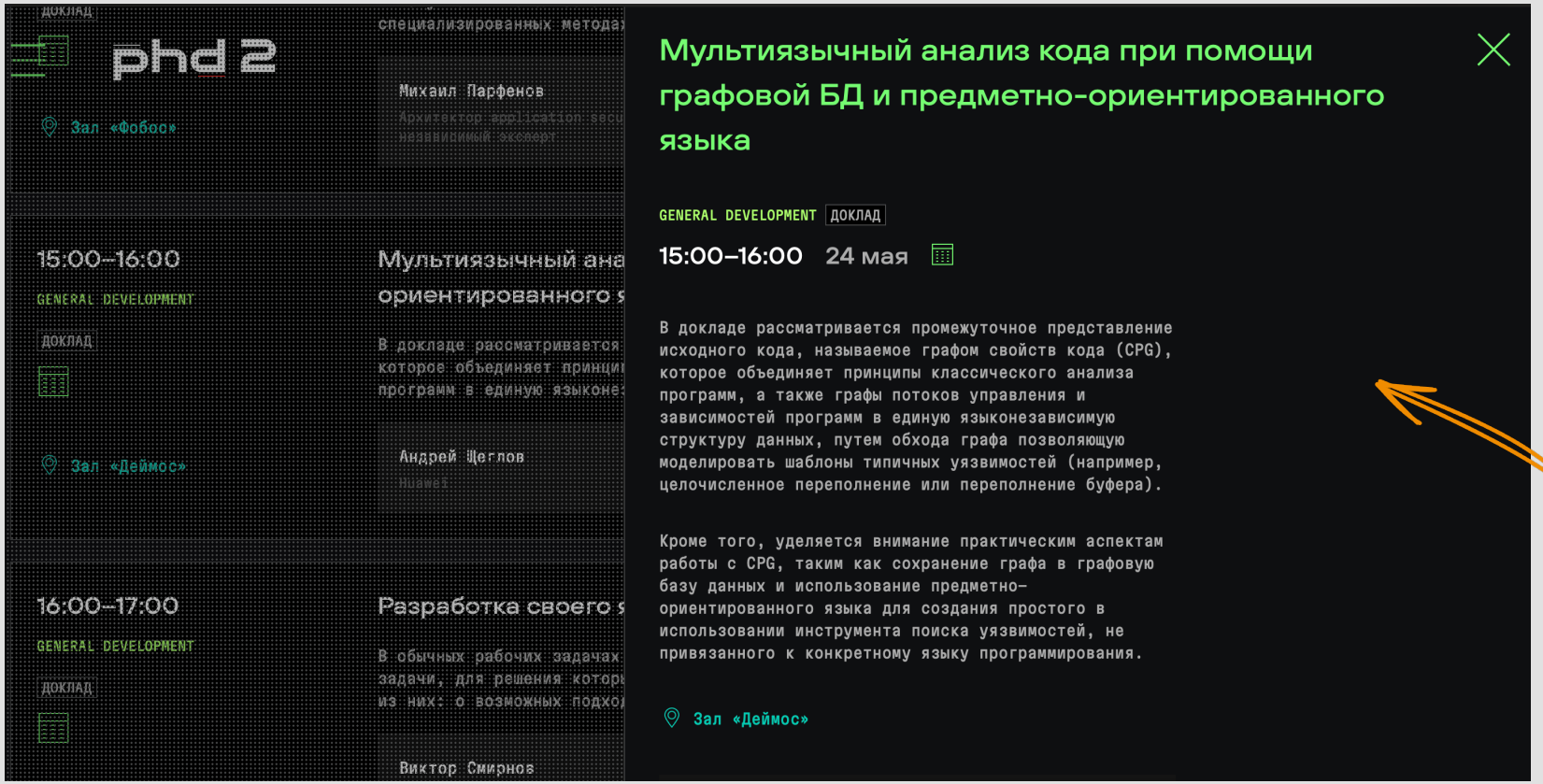



Copilot Workspace
April 29, 2024
RESEARCH PROTOTYPE
A Copilot-native dev environment, designed for everyday tasks.
Copilot Next Edit Suggestions
November 9, 2023
RESEARCH PROTOTYPE
Can we improve Copilot code complet
ting the next logical change,
t is in your project?
Copilot for Docs
March 22, 2023
PRODUCT
How would it feel to have an expert on
nd at all ti
es relevan
cumentat
lain conc
Copilot for Pull Requests
March 22, 2023
PRODUCT
Pull requests are a central part of the GitHub user experience. Copilot for PRs brings the power of Copilot to the PR experience, to help you write better PR descriptions, and to help your team review and merge PRs faster.
Copilot Voice
March 22, 2023
COMPLETED
Write code without
Difficulty typing? U
without spelling th
GitHub Copilot.
GitHub Copilot Radar
October 13, 2022
WIP
GitHub Copilot Radar is a code navigation tool that shows developers the most relevant line to their position in the code. It's jump-to-definition on (neural) steroids.
GitHub Copilot for *Your* Codebase
October 13, 2022
COMPLETED
We want to let Copilot see the code in your entire repo to make suggestions even better.



Что-то кроме ассистентов?


Incremental CodeQL
October 11, 2022
RESEARCH PROTOTYPE
Faster feedback about security vulnerabilities on your PRs.
Realtime GitHub
November 9, 2023
RESEARCH PROTOTYPE
Multiplayer collaboration for your whole repo.
Collaborative Workspaces
October 14, 2022
NAPKIN SKETCH
As we increasingly work together remotely, how might we unify our workflows to enable remote collaboration for developers? GitHub Next explores what "working together" means, beyond multiple cursors and a shared code editor.



Доклад от моей ex-команды Huawei про CodeQL и около


Me
DevTools?
Open Source Code

01

*Базовые DevTools**

И вот мы начали свой open-source проект...

** Пропуская этап выбора языка, его компилятора, систем сборки и так далее*

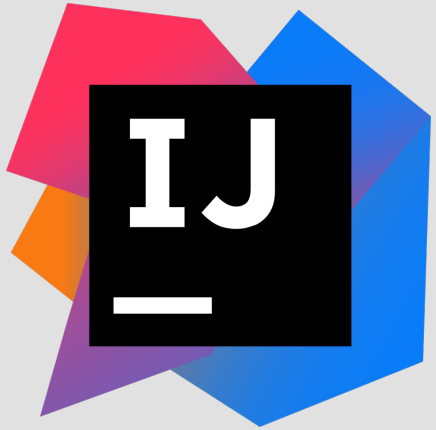
IDE — Integrated Development Environment

IDE — ~~Integrated Development Environment~~ экосистема для полного цикла индивидуальной локальной разработки

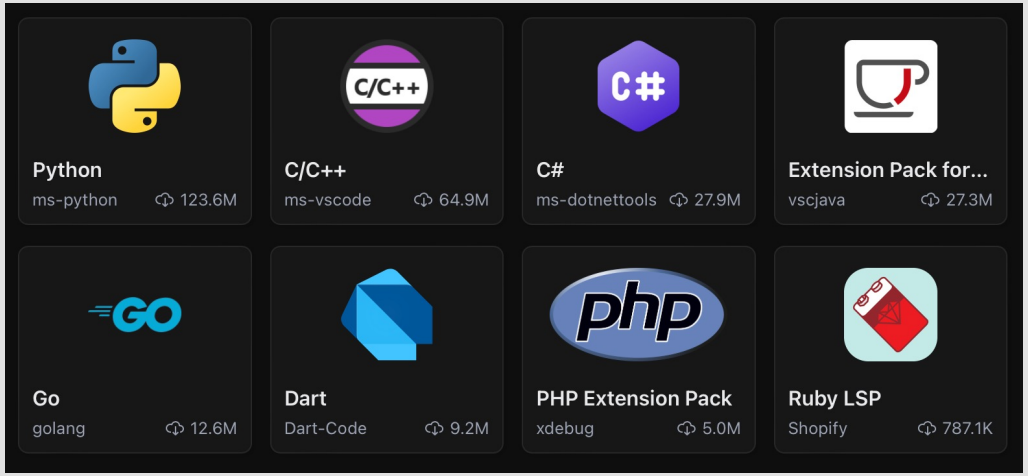
IDE: десктопные

JetBrains

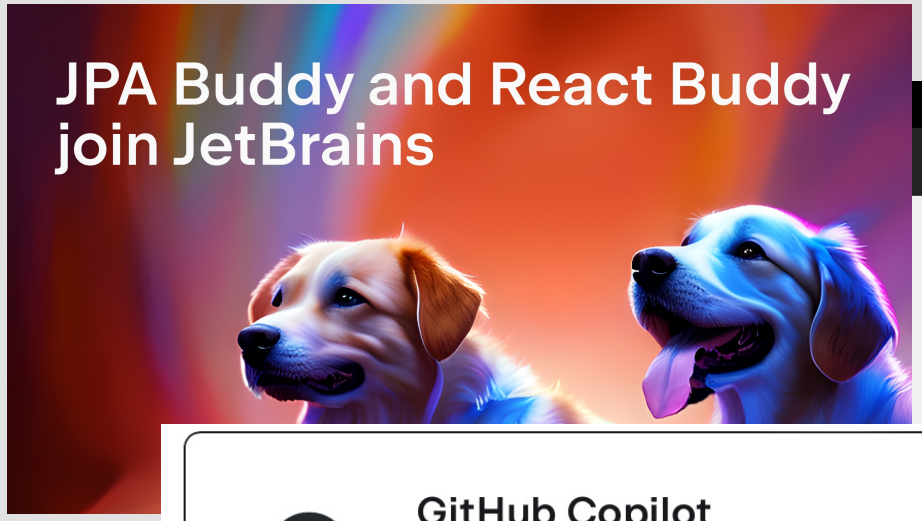
And more



Microsoft



IDE: плагины



GitHub Copilot

★★★☆☆

GitHub

What's GitHub CopilotGitHub Copilot is your AI-powered coding assistant, offering assistance throughout your software

12,214,259 downloads Free

Visual Studio | Marketplace

Visual Studio Code > Programming Languages > Language Support for Java(TM) by Red Hat

Language Support for Java(TM) by Red Hat

Red Hat redhat.com | 35,034,775 installs | ★★★½☆ (163) | Free

Java Linting, Intellisense, formatting, refactoring, Maven/Gradle support and more...

Install Trouble Installing?

verview Version History Q & A Rating & Review

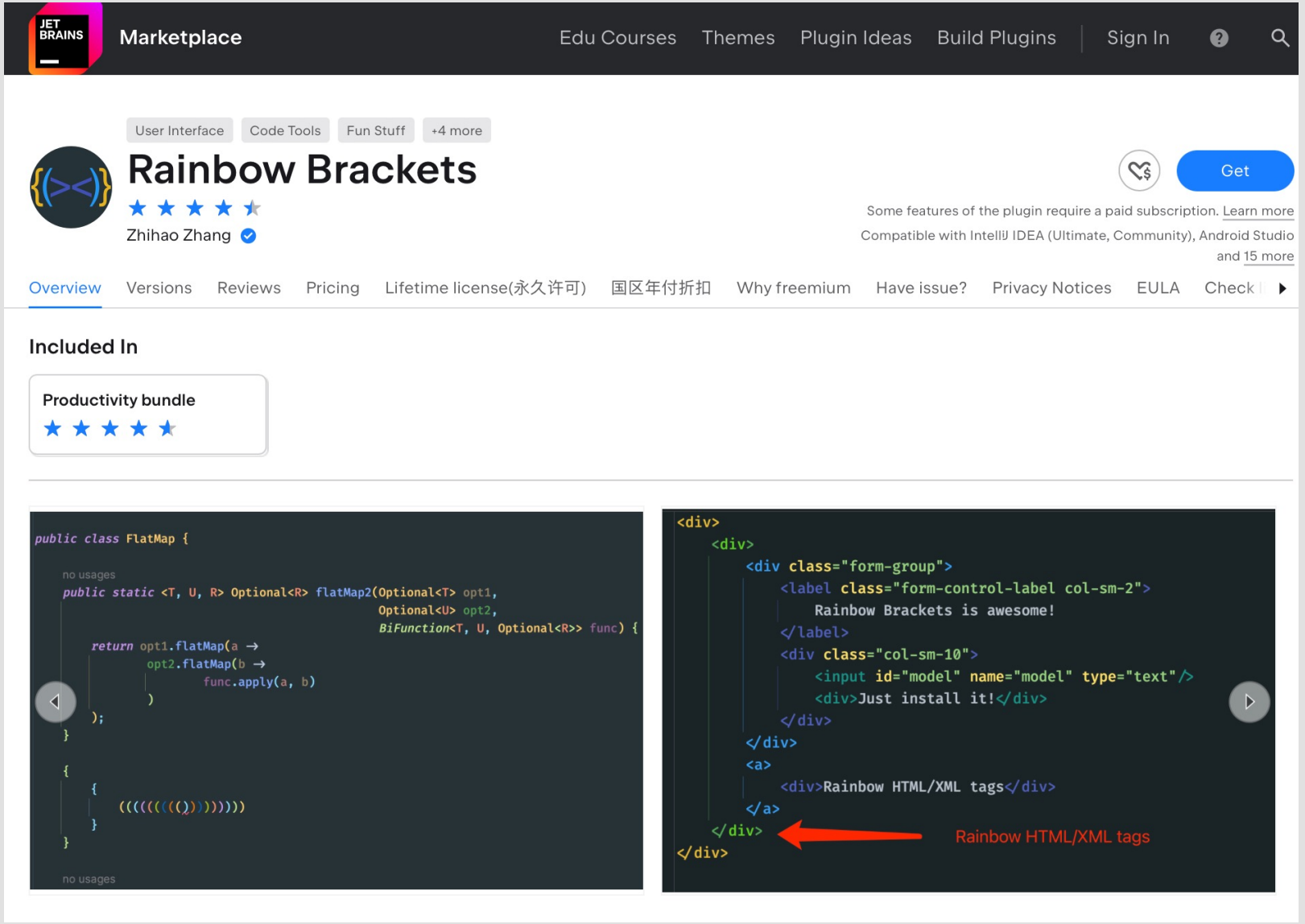
anguage support for Java ™ for Visual Studio Code

VS MARKETPLACE V1.30.0 INSTALLS 35M CHAT ON GITTER BUILD PASSING

LICENSE EPL-2.0

ovides Java ™ language support via Eclipse ™ JDT Language Server, which utilizes Eclipse ™ JDT, M2Eclipse and ildship.

IDE: плагины


JET BRAINS
Marketplace
Edu Courses
Themes
Plugin Ideas
Build Plugins
Sign In
User Interface
Code Tools
Fun Stuff
+4 more
Rainbow Brackets
Zhihao Zhang
Get
Some features of the plugin require a paid subscription. Learn more
Compatible with IntelliJ IDEA (Ultimate, Community), Android Studio and 15 more
Overview
Versions
Reviews
Pricing
Lifetime license(永久许可)
国区年付折扣
Why freemium
Have issue?
Privacy Notices
EULA
Check
Included In
Productivity bundle
public class FlatMap {
no usages
public static <T, U, R> Optional<R> flatMap2(Optional<T> opt1,
Optional<U> opt2,
BiFunction<T, U, Optional<R>> func) {
return opt1.flatMap(a →
opt2.flatMap(b →
func.apply(a, b)
)
);
}
{
{
(((((((((())))))))))
}
}
no usages

<label class="form-control-label col-sm-2">
Rainbow Brackets is awesome!
</label>

<input id="model" name="model" type="text"/>
Just install it!

<a>
Rainbow HTML/XML tags

Rainbow HTML/XML tags

IDE — ~~Integrated Development Environment~~ экосистема для полного цикла индивидуальной локальной разработки

IDE — ~~Integrated Development Environment~~ экосистема для полного цикла индивидуальной (?) локальной (?) разработки

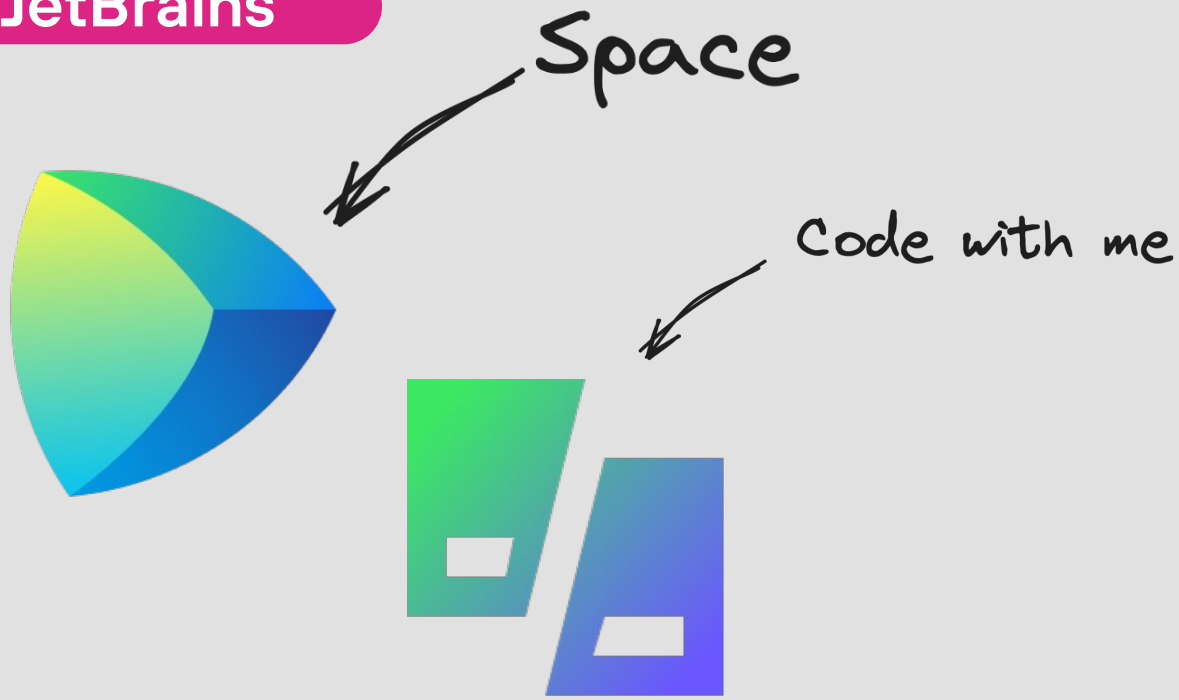
IDE: Cloud/Web

JetBrains

Microsoft

IDE: Cloud/Web

JetBrains



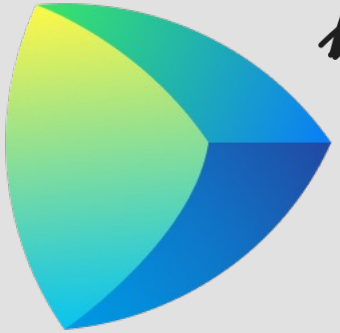
Microsoft

IDE: Cloud/Web

JetBrains

Space

Code with me



Microsoft

VS code
for the web

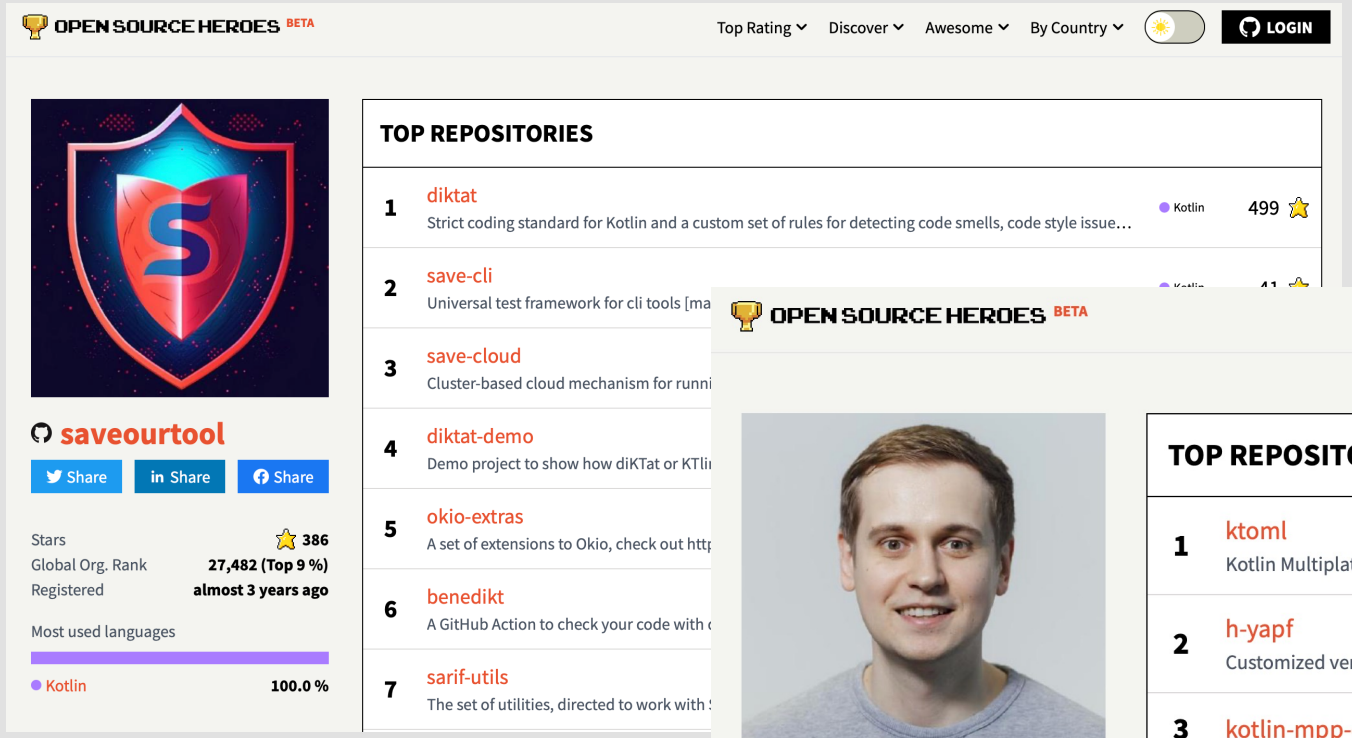
Codespaces

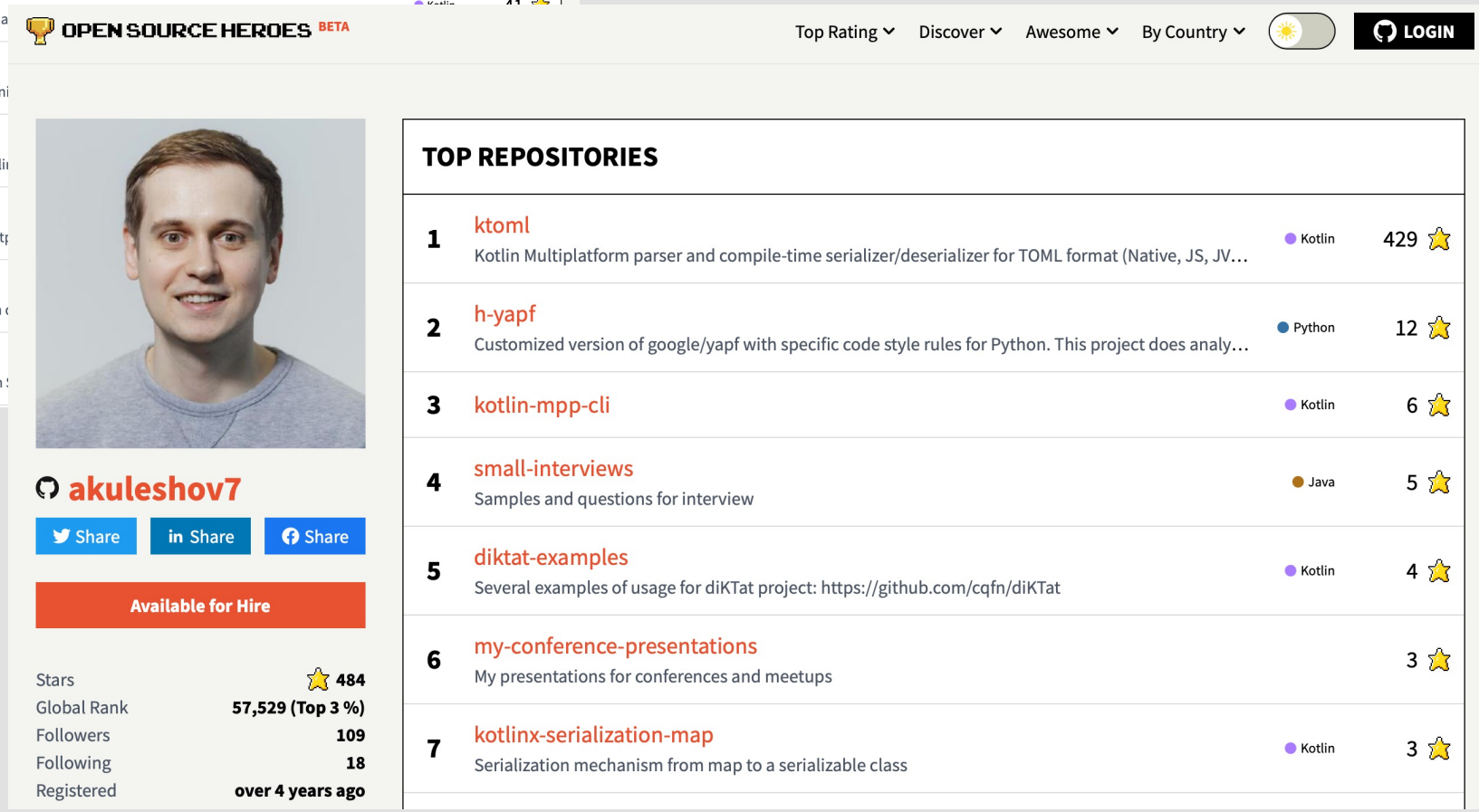
Devcontainers

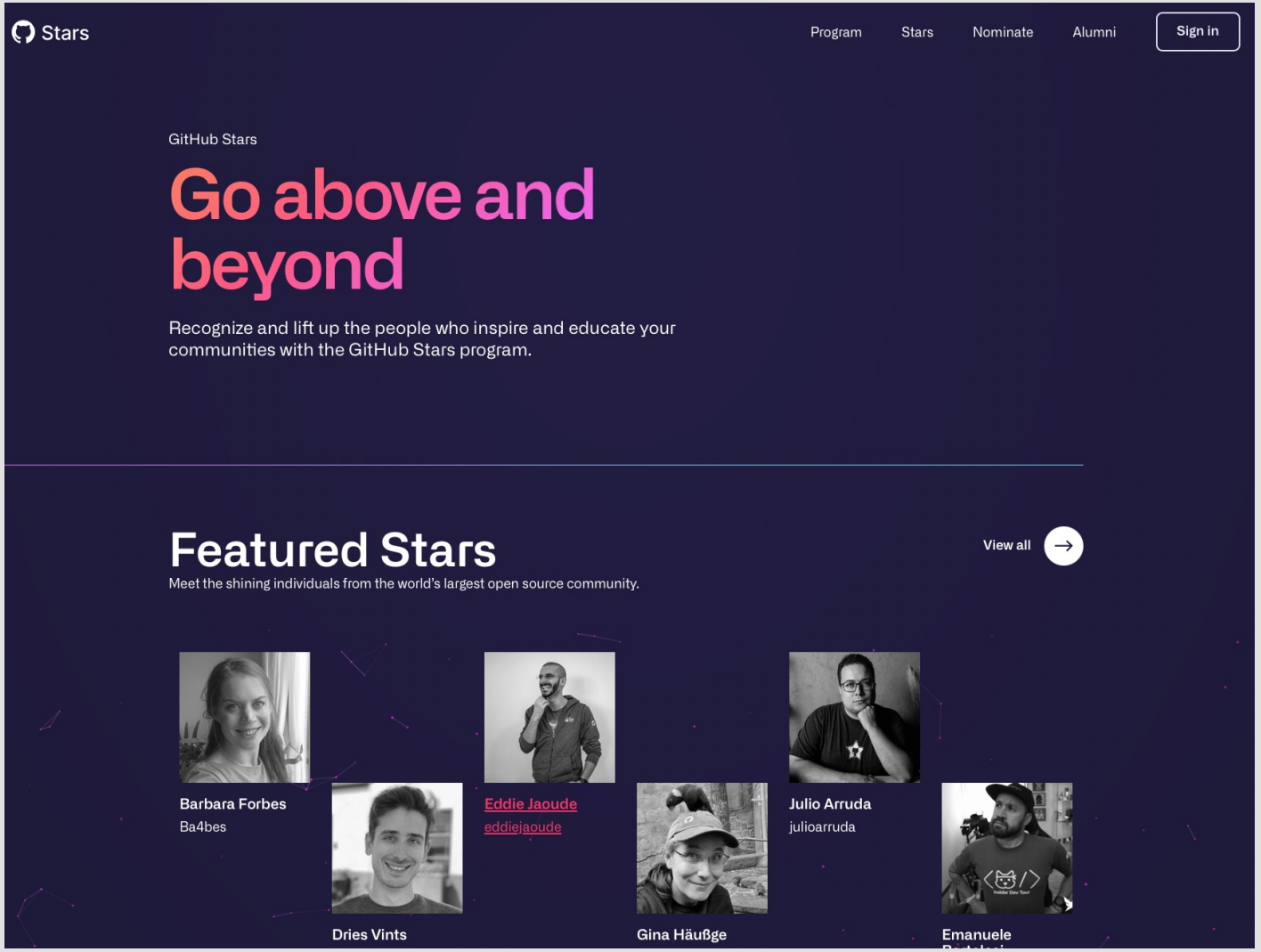
https://github.com/devcontainers

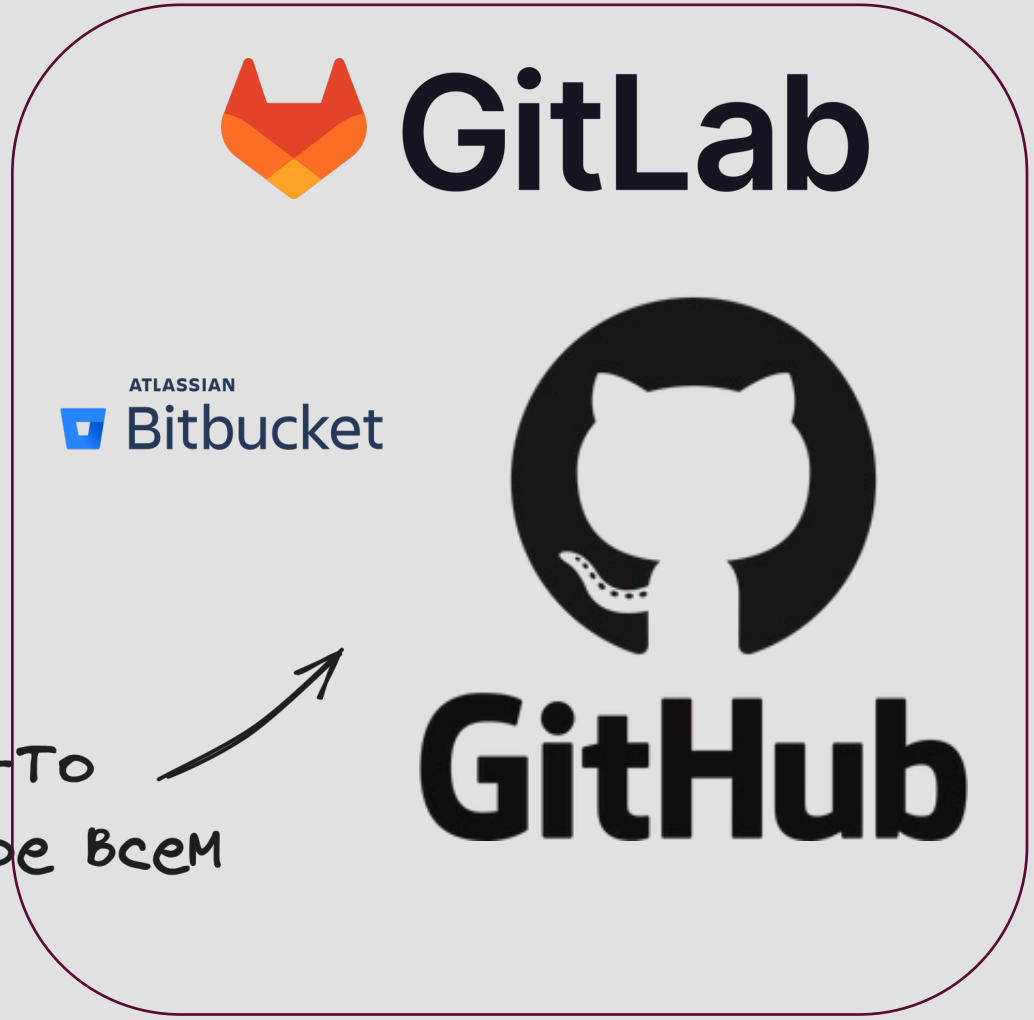
Git хостинг — платформа для хранения исходного кода

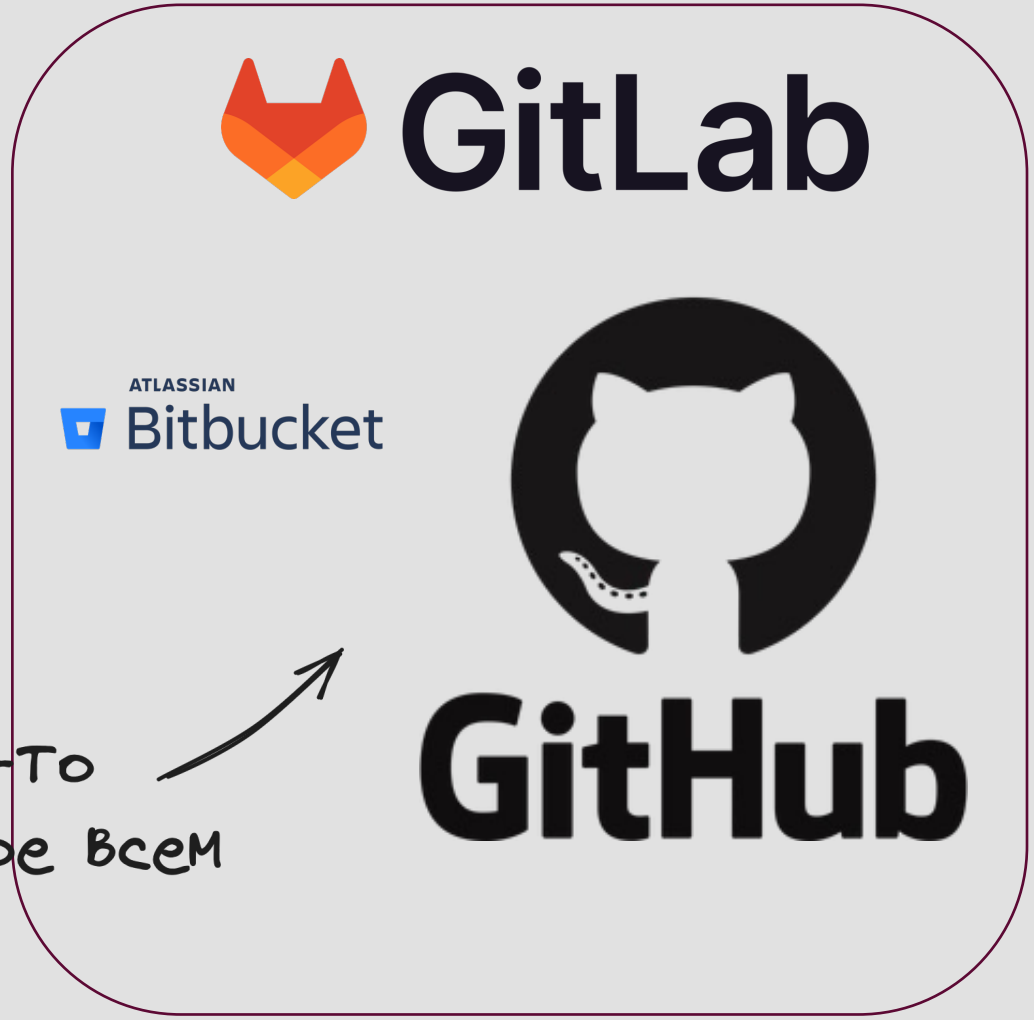
Git хостинг — ~~платформа для хранения исходного кода~~ экосистема для привлечения коммьюнити и совместного кодинга


OPEN SOURCE HEROES BETA
Top Rating
Discover
Awesome
By Country
LOGIN
saveourtool
Share
Share
Share
Stars 386
Global Org. Rank 27,482 (Top 9 %)
Registered almost 3 years ago
Most used languages
Kotlin 100.0 %
TOP REPOSITORIES
1 diktat
Strict coding standard for Kotlin and a custom set of rules for detecting code smells, code style issue…
Kotlin 499
2 save-cli
Universal test framework for cli tools [ma
3 save-cloud
Cluster-based cloud mechanism for runni
4 diktat-demo
Demo project to show how diKTat or KTli
5 okio-extras
A set of extensions to Okio, check out htt
6 benedikt
A GitHub Action to check your code with
7 sarif-utils
The set of utilities, directed to work with


OPEN SOURCE HEROES BETA
Top Rating
Discover
Awesome
By Country
LOGIN
akuleshov7
Share
Share
Share
Available for Hire
Stars 484
Global Rank 57,529 (Top 3 %)
Followers 109
Following 18
Registered over 4 years ago
TOP REPOSITORIES
1 ktoml
Kotlin Multiplatform parser and compile-time serializer/deserializer for TOML format (Native, JS, JV…
Kotlin 429
2 h-yapf
Customized version of google/yapf with specific code style rules for Python. This project does analy…
Python 12
3 kotlin-mpp-cli
Kotlin 6
4 small-interviews
Samples and questions for interview
Java 5
5 diktat-examples
Several examples of usage for diKTat project: https://github.com/cqfn/diKTat
Kotlin 4
6 my-conference-presentations
My presentations for conferences and meetups
3
7 kotlinx-serialization-map
Serialization mechanism from map to a serializable class
Kotlin 3


Stars
Program
Stars
Nominate
Alumni
Sign in
GitHub Stars
Go above and beyond
Recognize and lift up the people who inspire and educate your communities with the GitHub Stars program.
Featured Stars
Meet the shining individuals from the world's largest open source community.
View all
Barbara Forbes
Ba4bes
Eddie Jaoude
eddiejaoude
Julio Arruda
julioarruda
Dries Vints
Gina Häußge
Emanuele


GitLab
ATLASSIAN
Bitbucket
GitHub
Что-то
знакомое всем



Что-то знакомое всем

Наша специфика

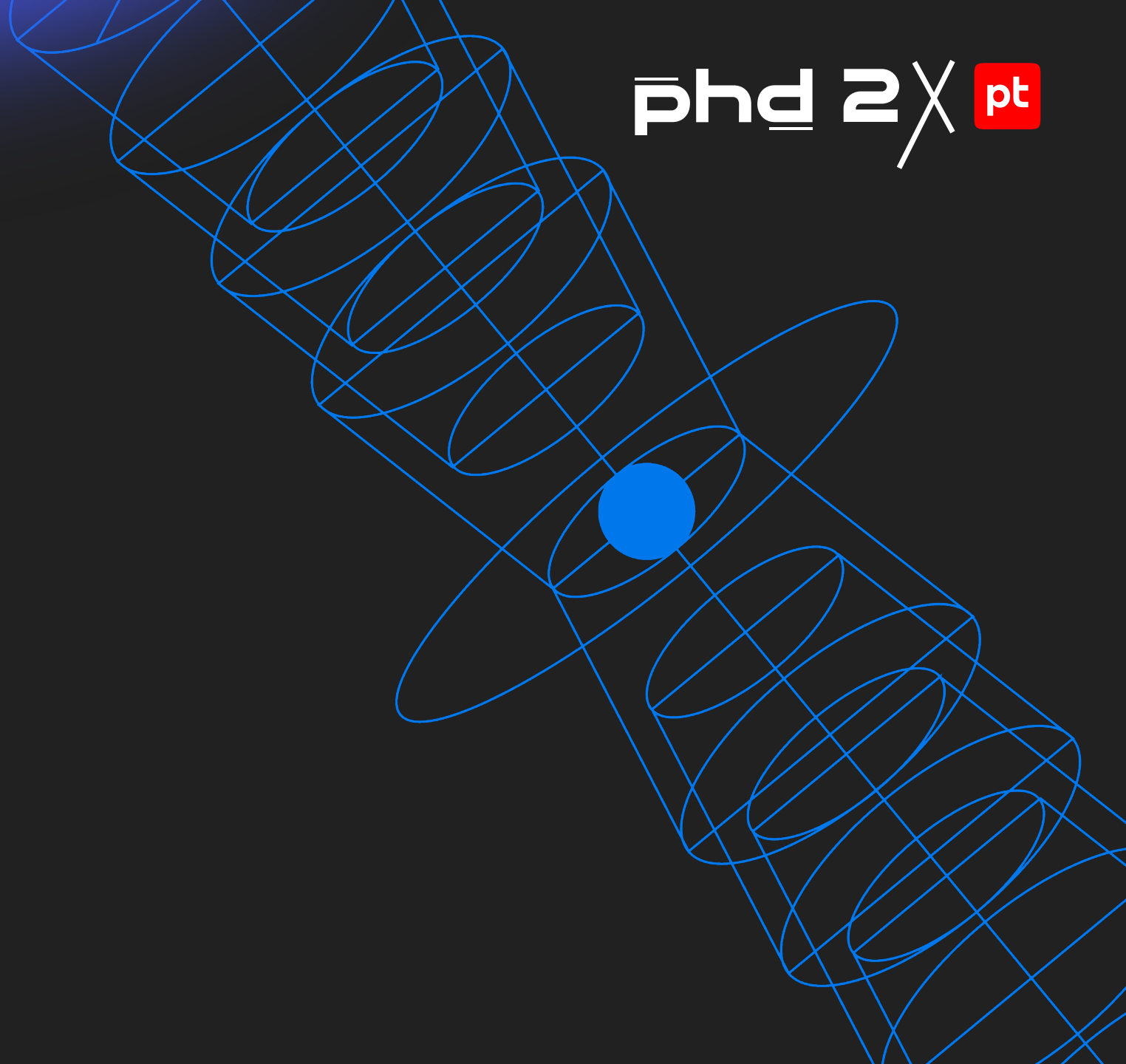

Me
IDE
Хостинг


Me
IDE
Хостинг

02

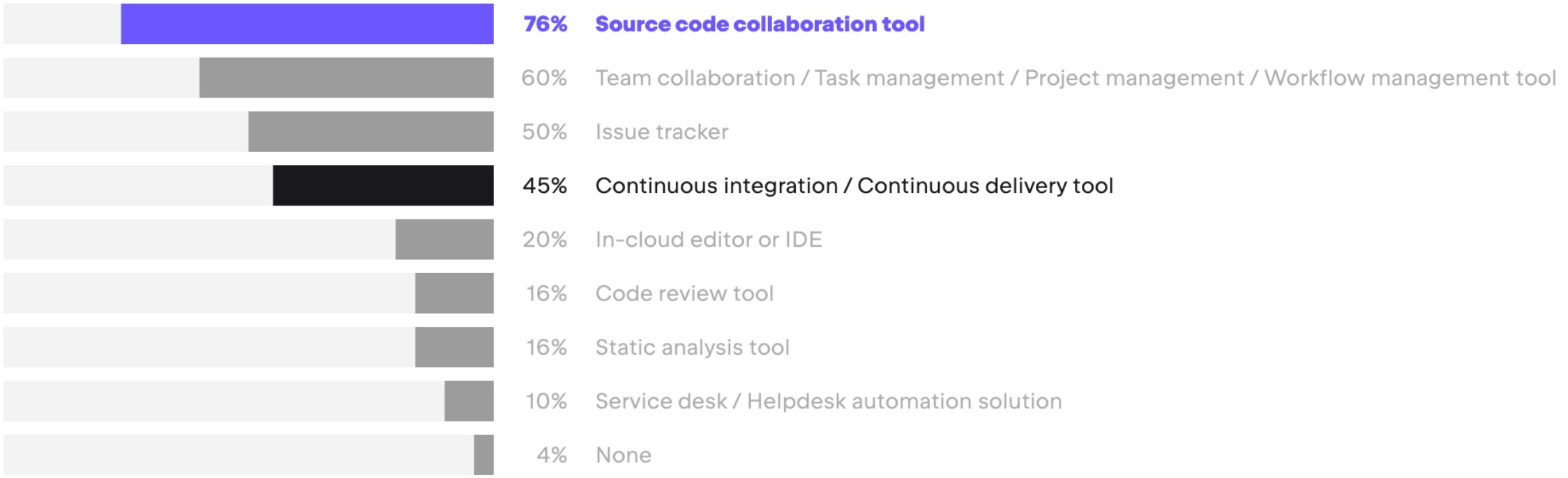
DevTools

Код выложен, что еще нам нужно?

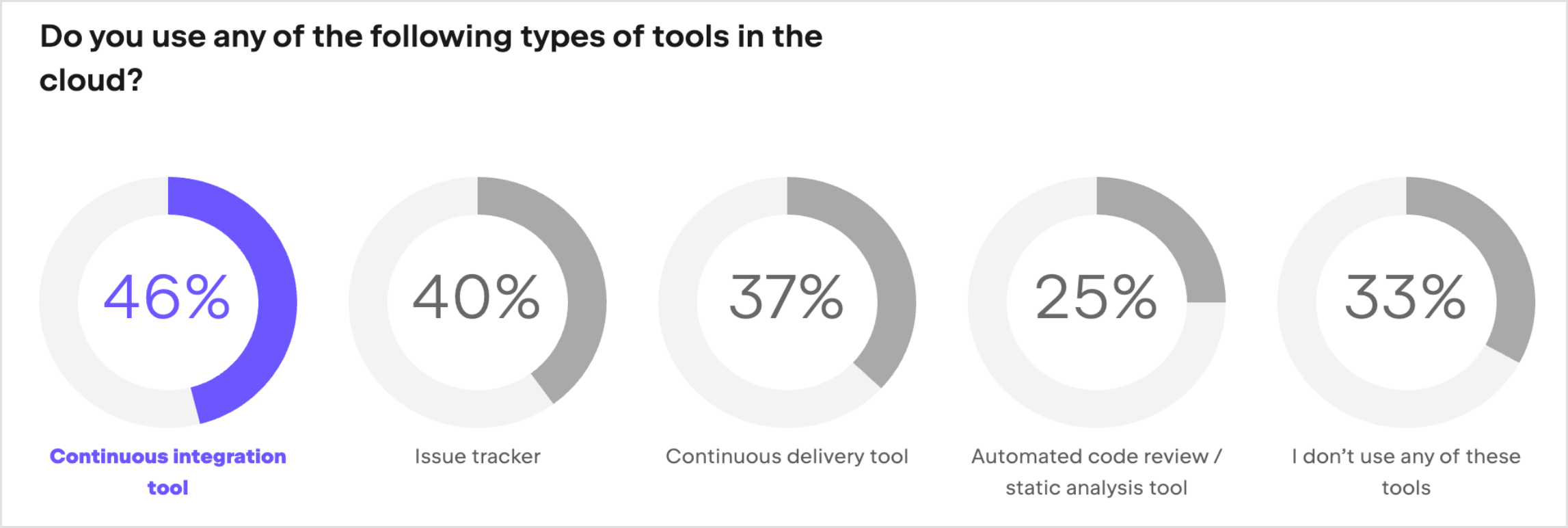


CI — Continuous Integration

CI — ~~Continuous Integration~~
Сборка и валидации



The State of Developer Ecosystem 2023 Survey



The State of Developer Ecosystem 2023 Survey

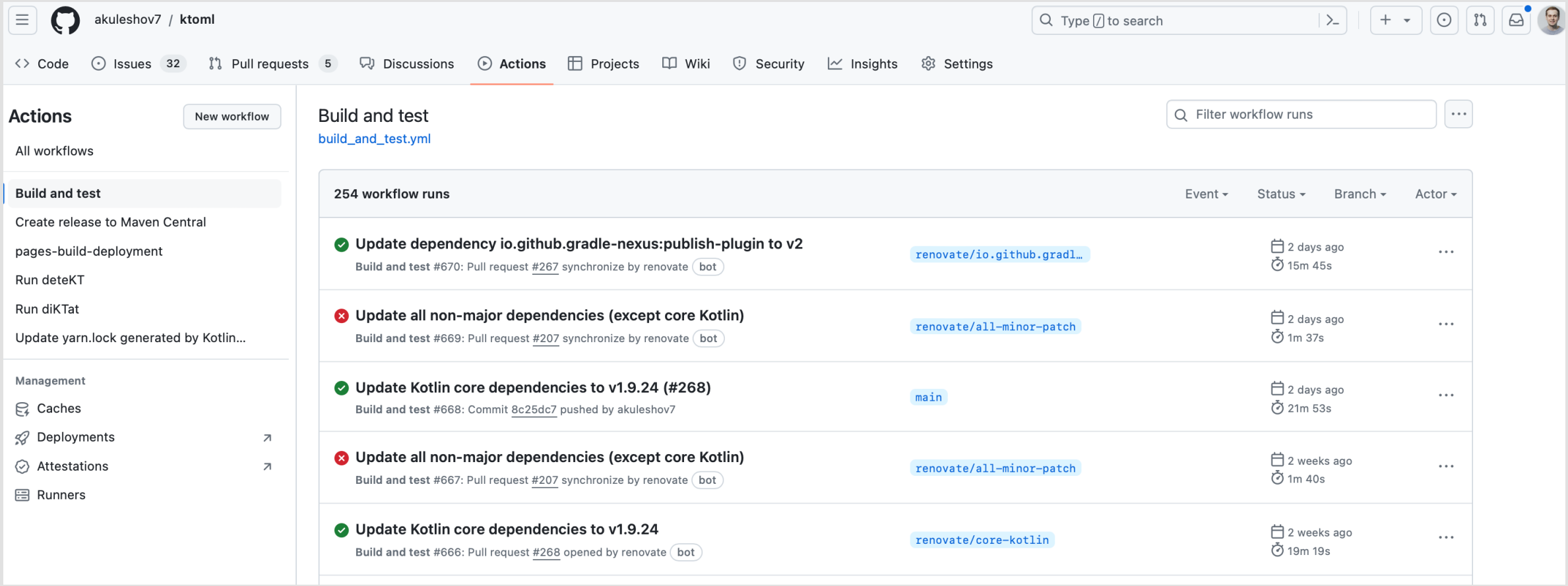
Which Continuous Integration (CI) systems do you regularly use?

54%	Jenkins
51%	GitHub Actions
51%	GitLab CI
15%	Azure DevOps
13%	Custom tool
11%	CircleCI
11%	Bitbucket Pipelines
11%	AWS CodePipeline / AWS CodeStar
10%	TeamCity
9%	Travis CI
7%	Google Cloud Build
7%	JetBrains Space
6%	Bamboo
5%	Drone
4%	AppVeyor
4%	GoCD
4%	CodeShip
4%	Buildkite
4%	Harness

The State of Developer Ecosystem 2023 Survey


Базовый минимум
Сборка на каждый PR
Сборка на каждый коммит в main
Unit тесты всегда, регулярный запуск функциональных тестов

Github Actions — in Action



```
name: Build and test

on:
  pull_request:
  push:
    branches:
      - 'main’

jobs:
  build_and_test:
    name: Build and test
    runs-on: macos-latest

steps:
      - uses: actions/checkout@v4
      - uses: gradle/wrapper-validation-action@v1
      - name: Set up JDK 8
        uses: actions/setup-java@v3
        with:
          java-version: 8
          distribution: zulu
```

```
name: Build and test

on:
  pull_request:
  push:
    branches:
      - 'main’

jobs:
  build_and_test:
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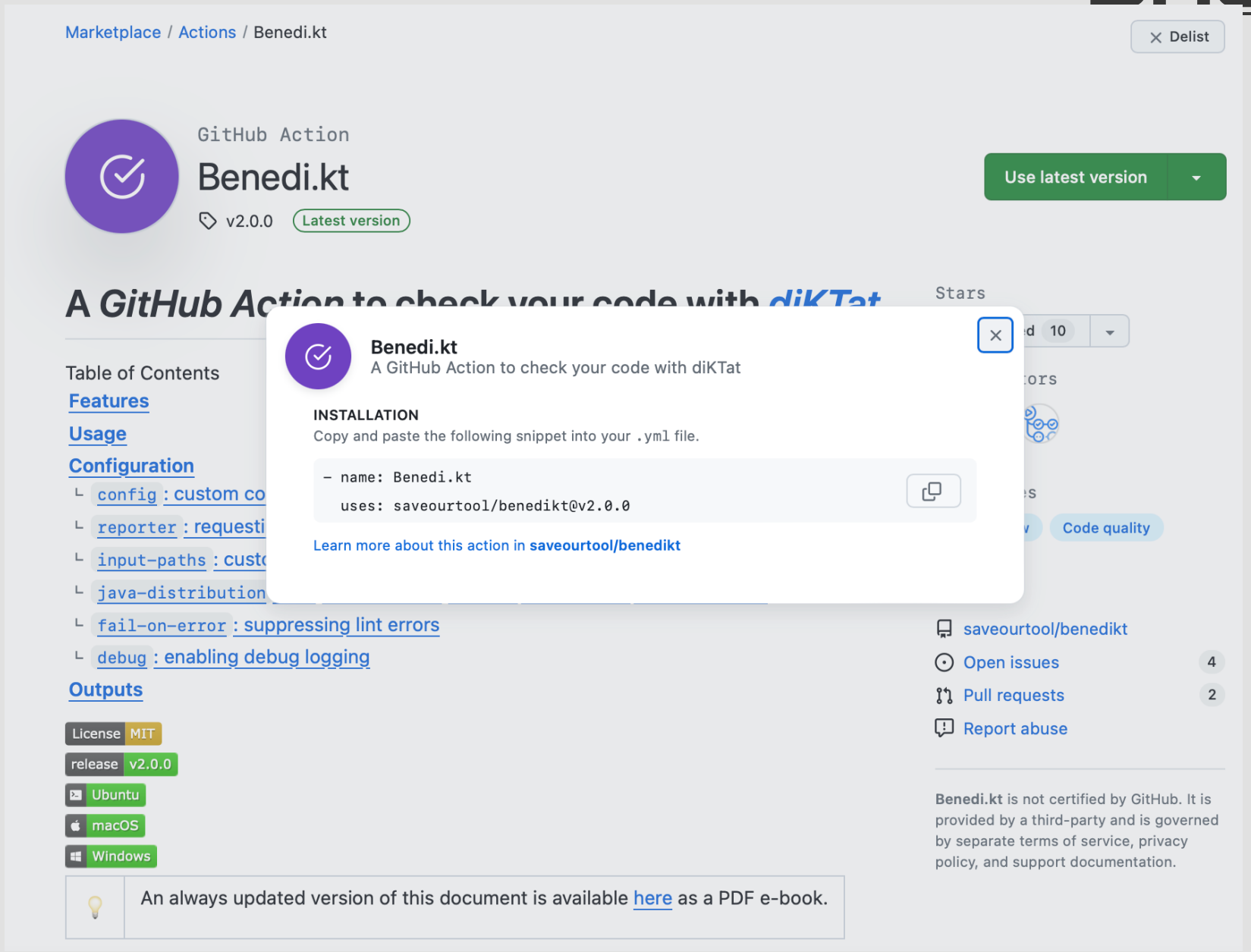
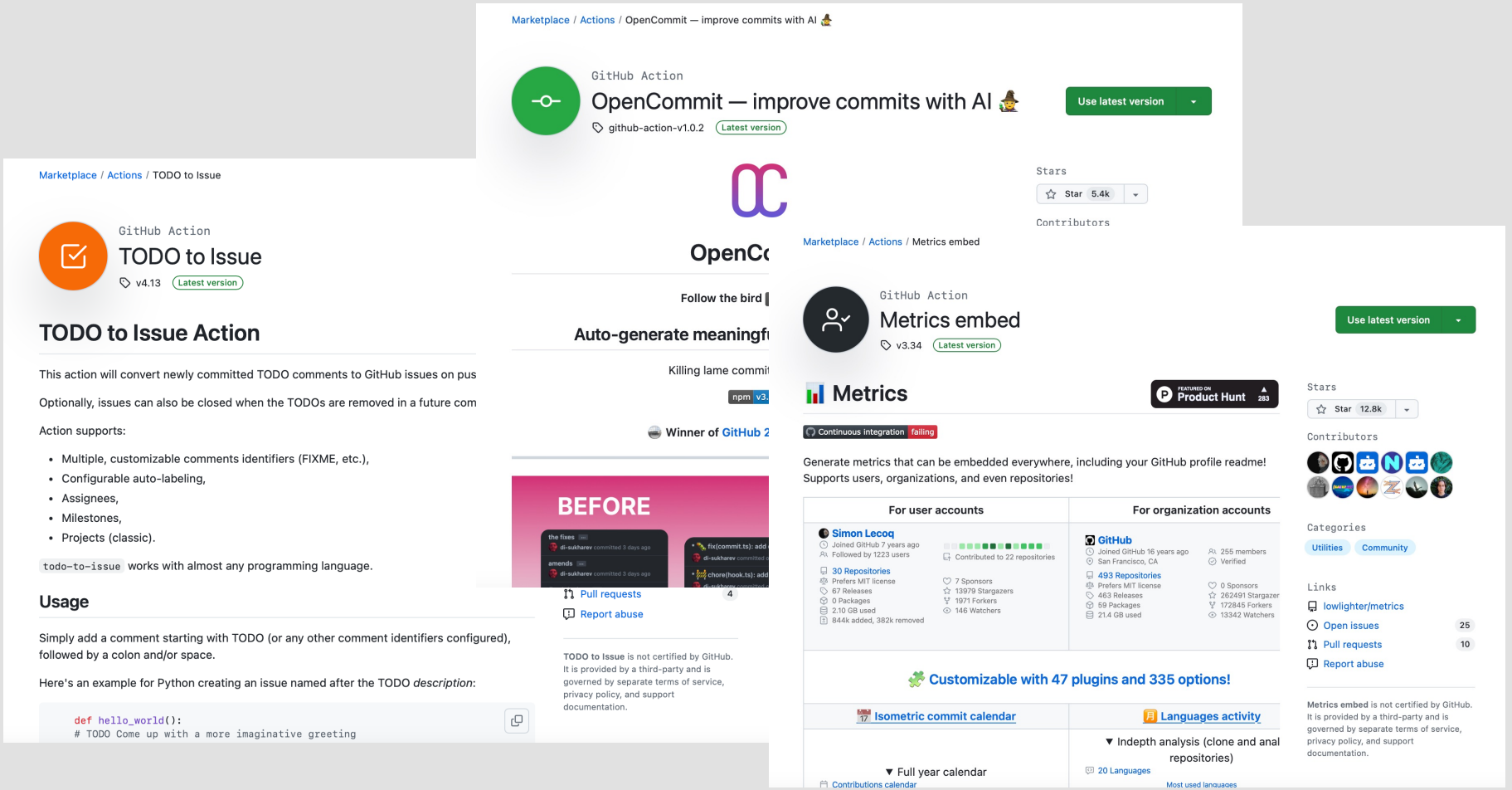
        uses: actions/setup-java@v3
        with:
          java-version: 8
          distribution: zulu
```

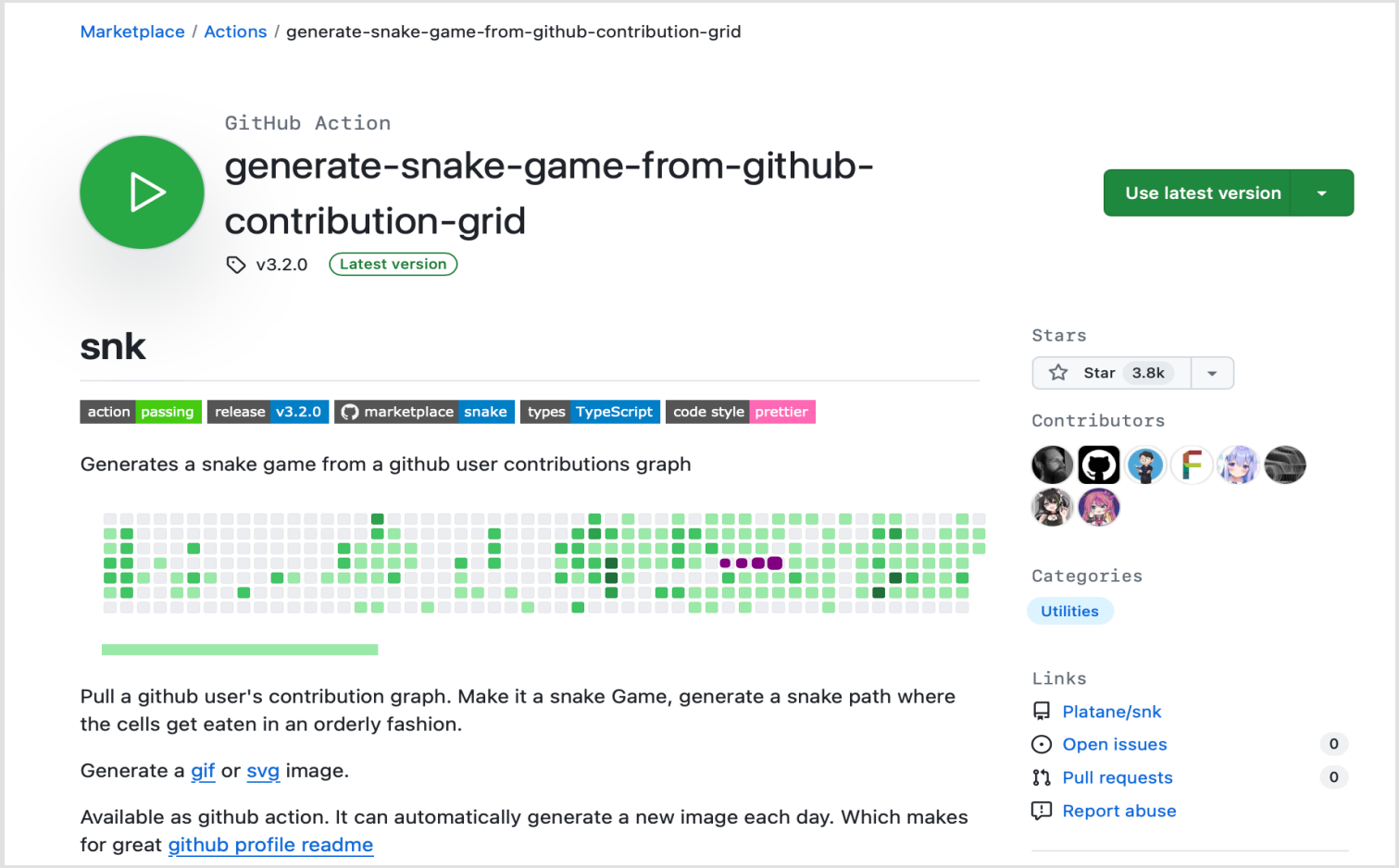
И снова удобство в плагинах


Marketplace / Actions / Benedi.kt
Delist
GitHub Action
Benedi.kt
v2.0.0
Latest version
Use latest version
A GitHub Action to check your code with diKTat
Table of Contents
Features
Usage
Configuration
config : custom co
reporter : requesti
input-paths : custo
java-distribution
fail-on-error : suppressing lint errors
debug : enabling debug logging
Outputs
Benedi.kt
A GitHub Action to check your code with diKTat
INSTALLATION
Copy and paste the following snippet into your .yml file.
- name: Benedi.kt
uses: saveourtool/benedikt@v2.0.0
Learn more about this action in saveourtool/benedikt
Stars
10
Code quality
saveourtool/benedikt
Open issues 4
Pull requests 2
Report abuse
Benedi.kt is not certified by GitHub. It is provided by a third-party and is governed by separate terms of service, privacy policy, and support documentation.
License MIT
release v2.0.0
Ubuntu
macOS
Windows
An always updated version of this document is available here as a PDF e-book.

Плагины — абсолютно любой DevTool и не только



Плагины — абсолютно любой DevTool и не только




Базовый минимум
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Сборка на каждый коммит в main
Unit тесты всегда, регулярный запуск функциональных тестов


Базовый минимум
Сборка на каждый PR
Сборка на каждый коммит в main
Unit тесты всегда, регулярный запуск функциональных тестов
Приятные улучшения
Автоматические обновления кодовой базы
Проверка кода
Статистики Разработчика
Метрики проекта

Code Analysis в CI – обязательный инструмент любого разработчика

Стиль

Следование код-стилю

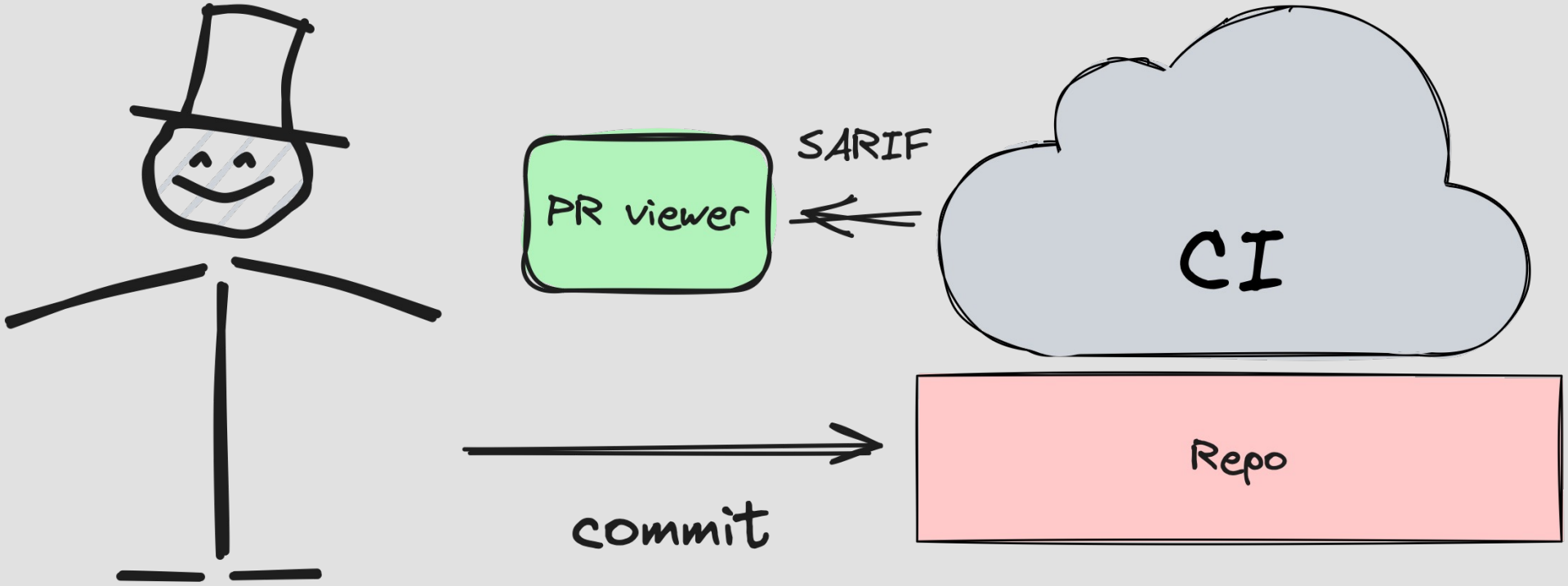
Паттерны

Проблемы дизайна и архитектуры

Глубокие Ошибки

NPE/Arithmetic errors/etc.

Github + Sarif = 💗



save-frontend/build.gradle.kts Fixed

Hide fixed

```
277 +     tasks.forEach {
278 +         println(it.name)
279 +     }
280 + }
```

Check failure

Code scanning / ktlint

[WRONG_INDENTATION] only spaces are allowed for indentation and each indentation should equal to 4 spaces (tabs are not allowed): no newline at the end of file build.gradle.kts

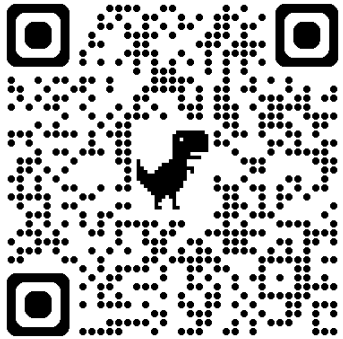
Error

[WRONG_INDENTATION] only spaces are allowed for indentation and each indentation should equal to 4 spaces (tabs are not allowed): no newline at the end of file build.gradle.kts

Show more details

Dismiss alert

Reply...



```
- name: Copy SARIF reports into a single directory
        if: ${{ failure() }}
        run: |
             # ваша логика копирования репортов

- name: Upload SARIF report to Github
        uses: github/codeql-action/upload-sarif@v2
        if: ${{ failure() }}
        with:
          sarif_file: build/diktat-sarif-reports

- name: Upload SARIF artifacts
        uses: actions/upload-artifact@v3
        if: ${{ failure() }}
        with:
          name: sarif-reports
          path: "**/build/diktat-sarif-reports/"
          retention-days: 1
```

```
- name: Copy SARIF reports into a single directory
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      if: ${{ failure() }}
      with:
        name: sarif-reports
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        retention-days: 1
```

собираете отчеты анализатора

```
- name: Copy SARIF reports into a single directory
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      if: ${{ failure() }}
      with:
        name: sarif-reports
        path: "**/build/diktat-sarif-reports/"
        retention-days: 1
```

отдаете в API GitHub

```
- name: Copy SARIF reports into a single directory
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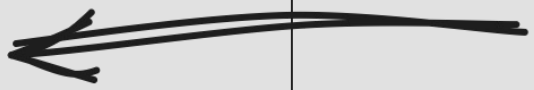
```



храните на всякий случай

OASIS OPEN

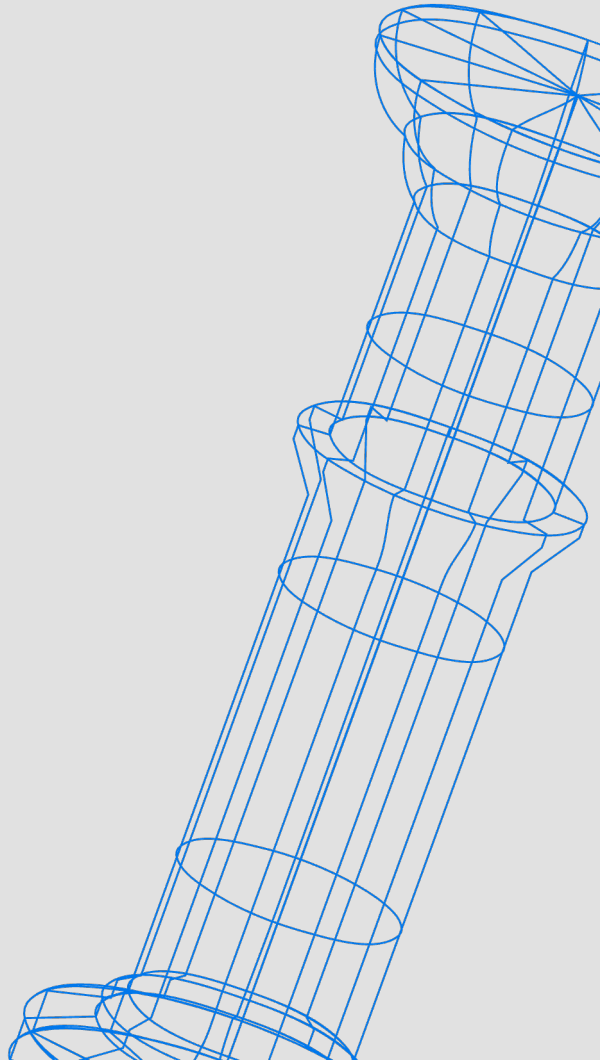
Static Analysis Results Interchangeable Format

```
{
  ...
  "results": [
    {
      "level": "error",
      "message": {
        "text": "'x' is assigned a value but never used."
      },
      "locations": [
       {
         "physicalLocation": {
           "artifactLocation": {
             "uri": "file:///C:/dev/example.js",
             "index": 0
           },
           "region": {
             "startLine": 1,
             "startColumn": 5
           }
         }
       }
      ],
      "ruleId": "no-unused-vars",
      "ruleIndex": 0
    }
  ]
 }
}
```

Агрегаторы анализа

Spotless:
Keep your code spotless

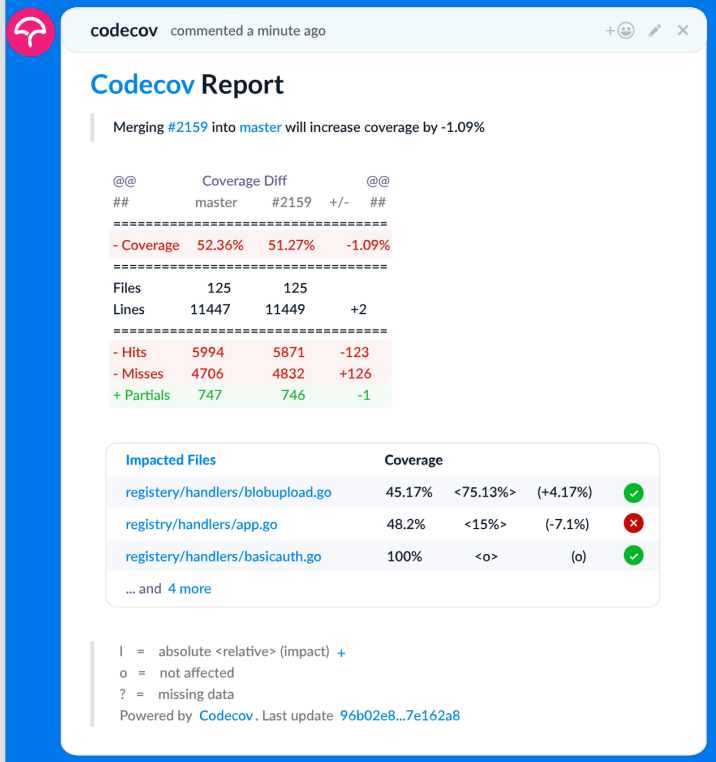
Super-linter:
collection of linters and code analyzers, to help validate your source code.



Что еще идет вместе с CI?

Что еще идет вместе с CI?

CodeCoverage



codecov commented a minute ago

Codecov Report

Merging #2159 into master will increase coverage by -1.09%

@@ ##	Coverage Diff master	#2159	+/-	@@ ##
- Coverage	52.36%	51.27%	-1.09%	
Files	125	125		
Lines	11447	11449	+2	
- Hits	5994	5871	-123	
- Misses	4706	4832	+126	
+ Partials	747	746	-1	

Impacted Files	Coverage			
registery/handlers/blobupload.go	45.17%	<75.13%>	(+4.17%)	✓
registry/handlers/app.go	48.2%	<15%>	(-7.1%)	✗
registery/handlers/basicauth.go	100%	<o>	(o)	✓

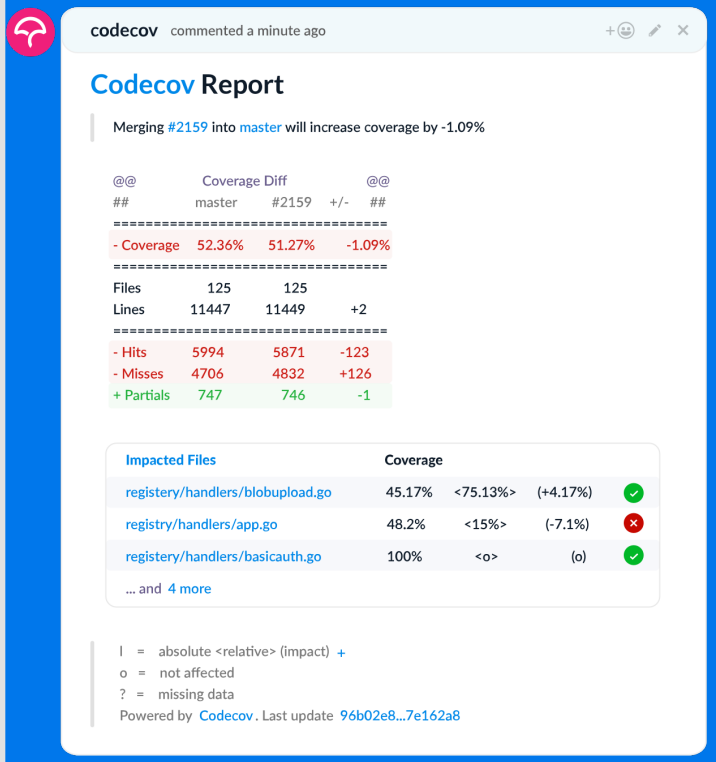
... and 4 more

Δ = absolute <relative> (impact) +
o = not affected
? = missing data
Powered by Codecov. Last update 96b02e8...7e162a8

codecov/codecov-action@v3

Что еще идет вместе с CI?

CodeCoverage



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registery/handlers/basicauth.go	100%	<o>	(o)	✓

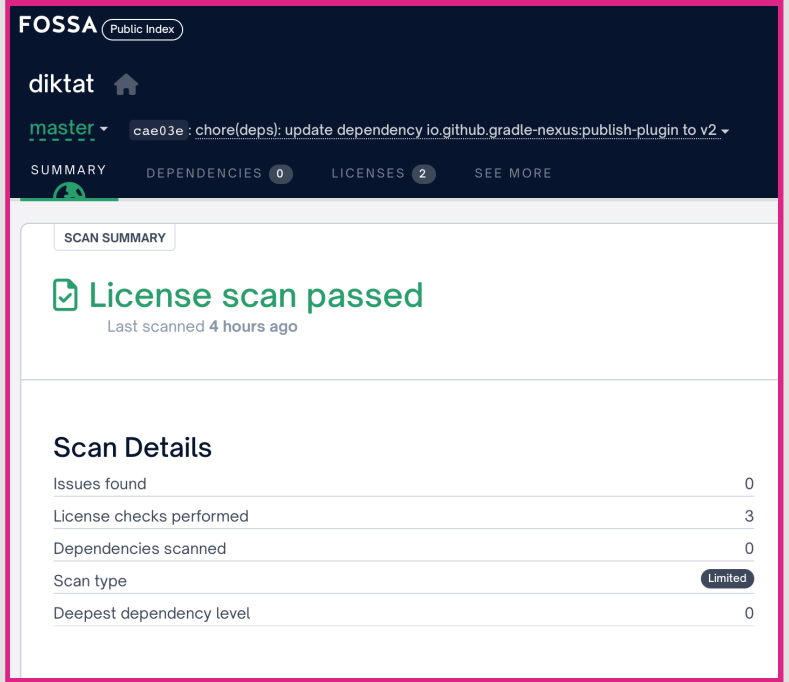
... and 4 more

l = absolute <relative> (impact) +
o = not affected
? = missing data

Powered by Codecov. Last update 96b02e8...7e162a8

codecov/codecov-action@v3

License scanning



FOSSA Public Index

diktat

master cae03e : chore(deps): update dependency io.github.gradle-nexus:publish-plugin to v2

SUMMARY DEPENDENCIES 0 LICENSES 2 SEE MORE

SCAN SUMMARY

License scan passed

Last scanned 4 hours ago

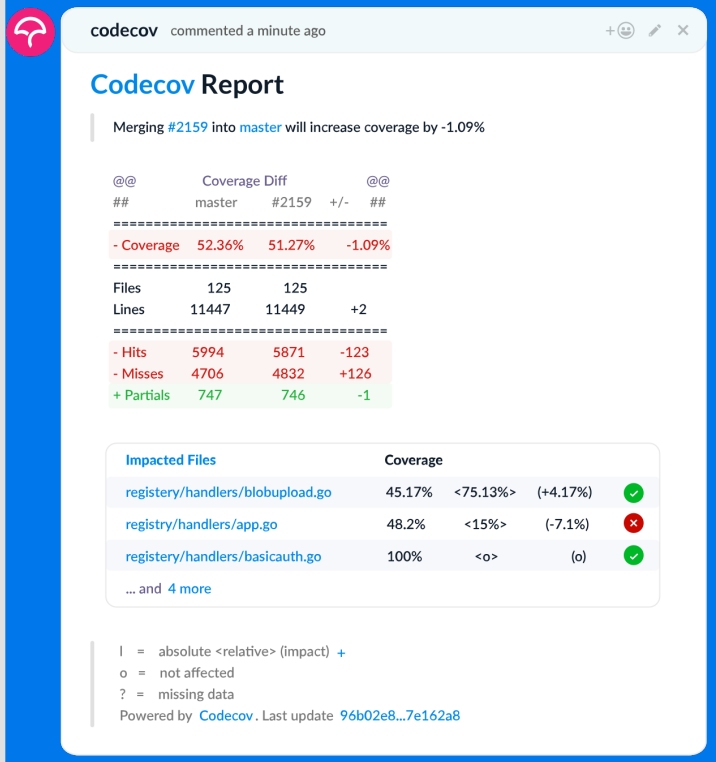
Scan Details

Issues found	0
License checks performed	3
Dependencies scanned	0
Scan type	Limited
Deepest dependency level	0

https://app.fossa.com/

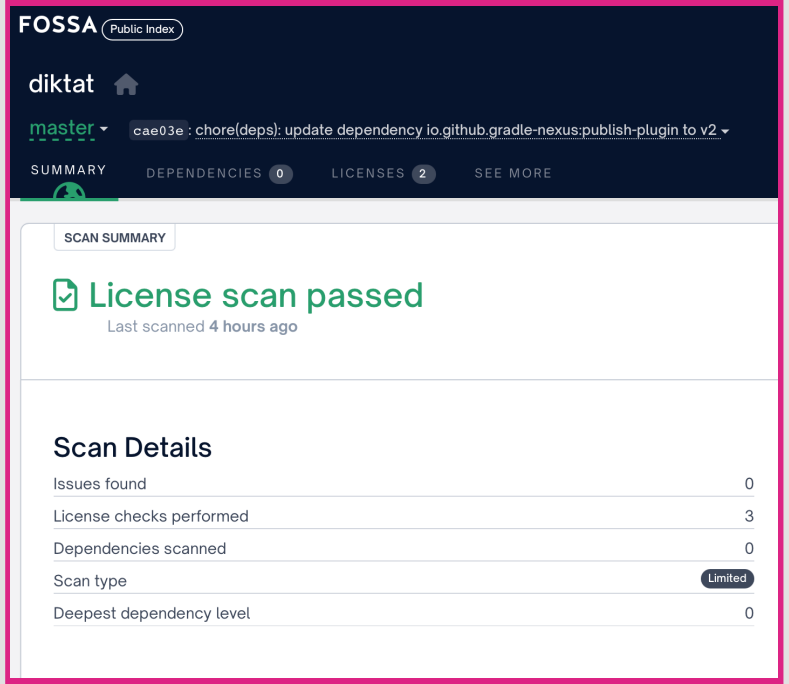
Что еще идет вместе с CI?

CodeCoverage



codecov/codecov-action@v3

License scanning



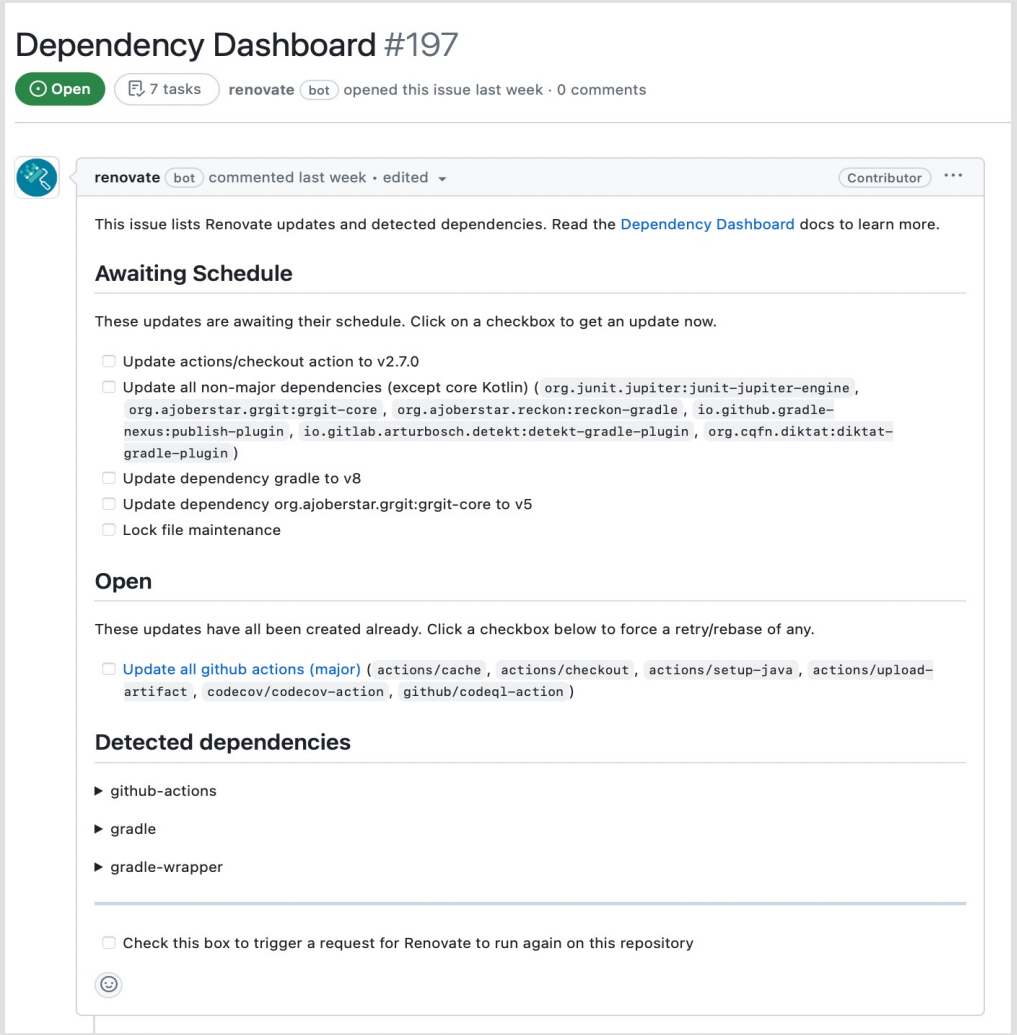
https://app.fossa.com/

Кастомизации

- Авто-обновление кода
- Генерация документации
- Работа с внешними API
- Подсчет метрик
- И многое другое...

DevTools боты: dependencies

Renovate



Dependency Dashboard #197

Open · 7 tasks · renovate bot opened this issue last week · 0 comments

renovate bot commented last week • edited — Contributor

This issue lists Renovate updates and detected dependencies. Read the Dependency Dashboard docs to learn more.

Awaiting Schedule

These updates are awaiting their schedule. Click on a checkbox to get an update now.

- [ ] Update actions/checkout action to v2.7.0
- [ ] Update all non-major dependencies (except core Kotlin) (`org.junit.jupiter:junit-jupiter-engine` , `org.ajoberstar.grgit:grgit-core` , `org.ajoberstar.reckon:reckon-gradle` , `io.github.gradle-nexus:publish-plugin` , `io.gitlab.arturbosch.detekt:detekt-gradle-plugin` , `org.cqfn.diktat:diktat-gradle-plugin`)
- [ ] Update dependency gradle to v8
- [ ] Update dependency org.ajoberstar.grgit:grgit-core to v5
- [ ] Lock file maintenance

Open

These updates have all been created already. Click a checkbox below to force a retry/rebase of any.

- [ ] Update all github actions (major) (`actions/cache` , `actions/checkout` , `actions/setup-java` , `actions/upload-artifact` , `codecov/codecov-action` , `github/codeql-action`)

Detected dependencies

- ▶ github-actions
- ▶ gradle
- ▶ gradle-wrapper

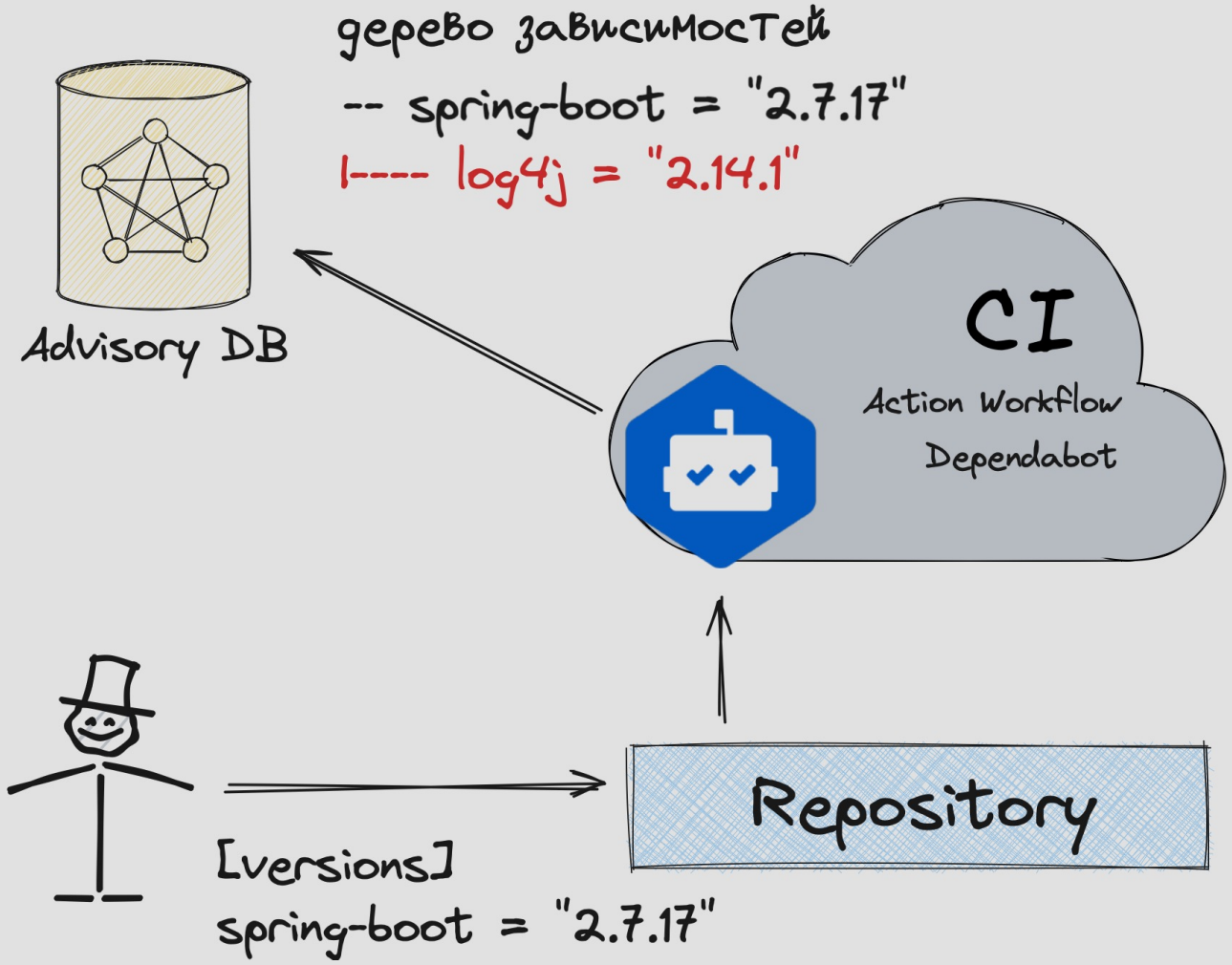
- [ ] Check this box to trigger a request for Renovate to run again on this repository

```
{
 "enabled": true,
 "dependencyDashboard": true,
 "schedule": [
  "before 4am on Monday"
 ],
 "lockFileMaintenance": {
  "enabled": true
 },
 "packageRules": [
  {
   "managers": ["github-actions"],
   "groupName": "all github actions",
   "groupSlug": "all-github-actions"
  },
  {
   "managers": ["gradle"],
   "matchPackagePatterns": [
    "*"
   ],
   "excludePackagePatterns": [
    "^org\\.jetbrains\\.kotlin[.:]",
    "^org\\.cqfn\\.diktat\\:diktat-gradle-plugin"
   ],
   "matchUpdateTypes": [
    "minor",
    "patch"
   ],
   "groupName": "all non-major dependencies",
   "groupSlug": "all-minor-patch"
  }
}
```

Dependabot

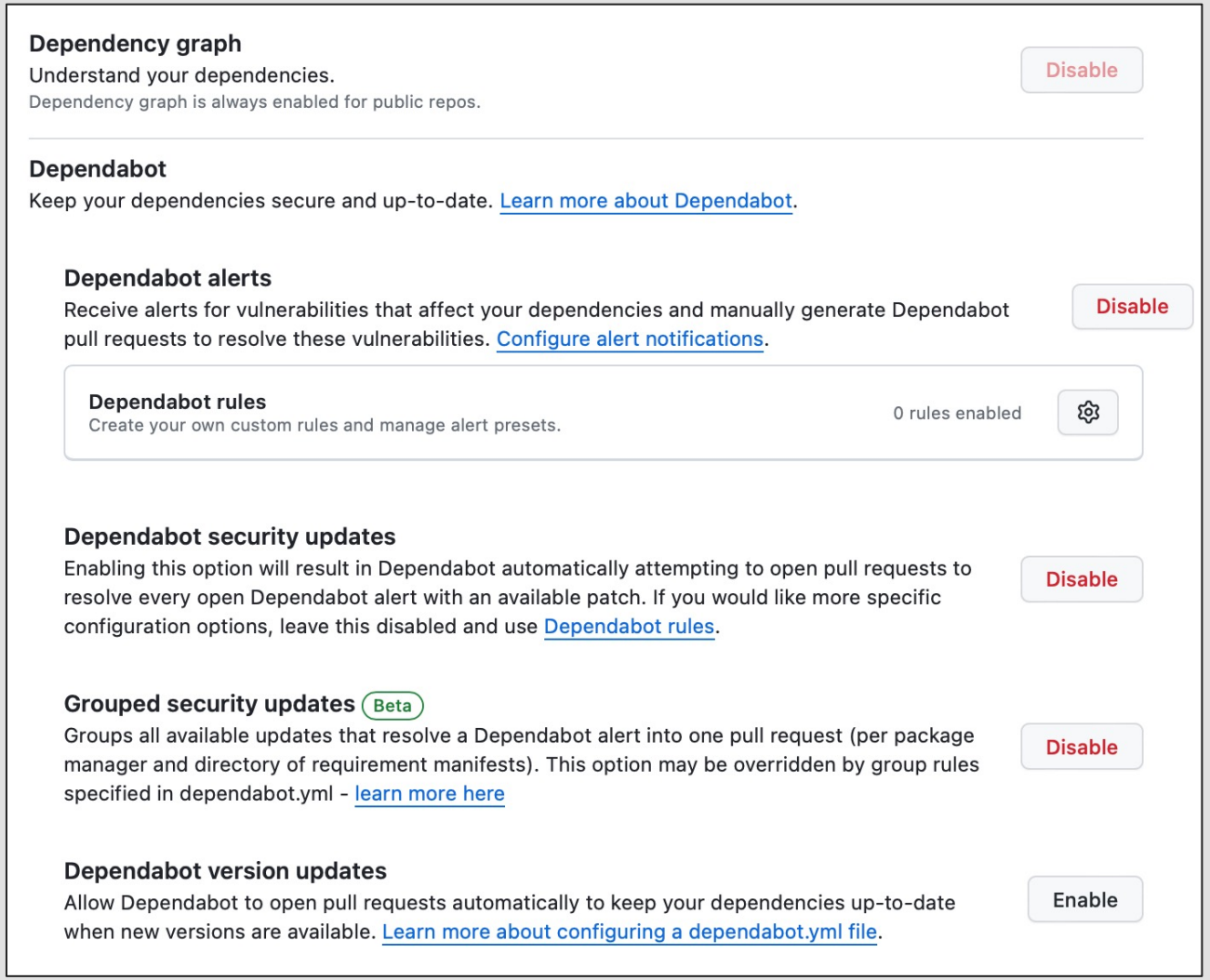
July 25, 2019

Dependabot

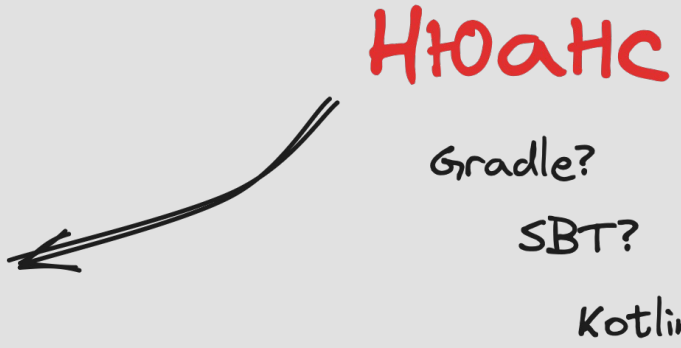

дерево зависимостей
-- spring-boot = "2.7.17"
|---- log4j = "2.14.1"
Advisory DB
CI
Action Workflow
Dependabot
Repository
[versions]
spring-boot = "2.7.17"

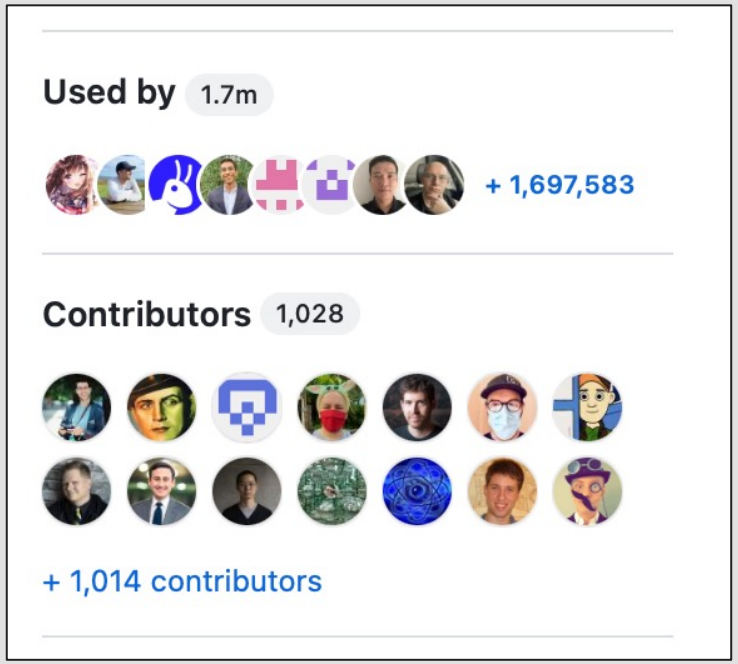
Dependabot

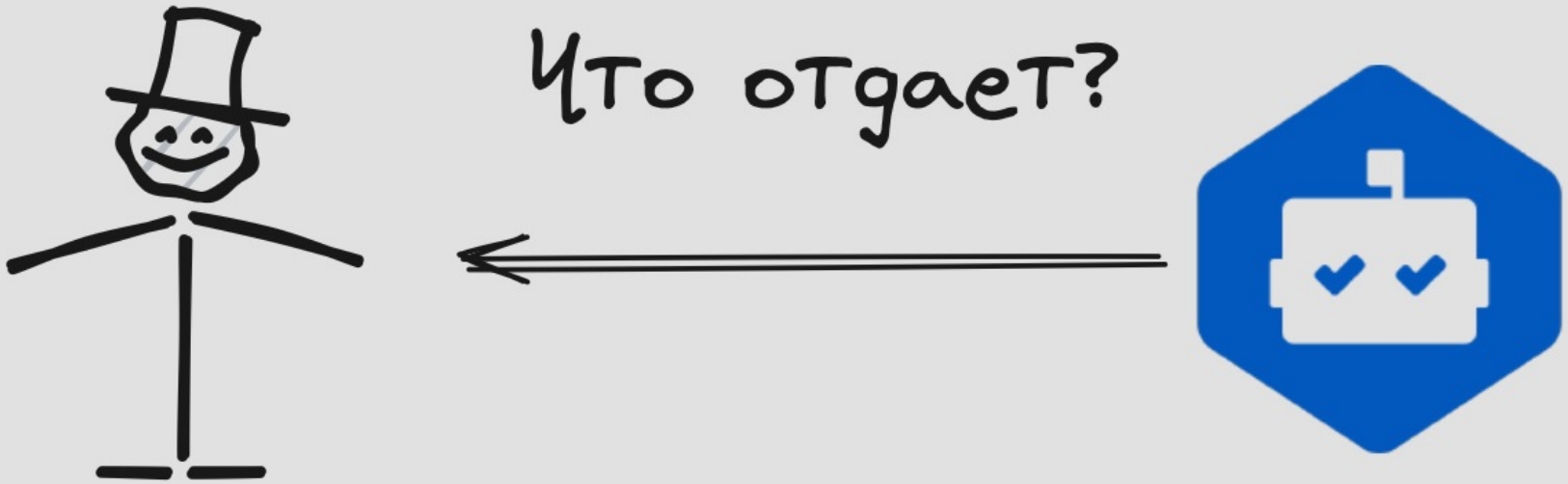
- Граф зависимостей, но **есть нюанс**
- Авто-обновление зависимостей через PR
- Нотификации об уязвимостях

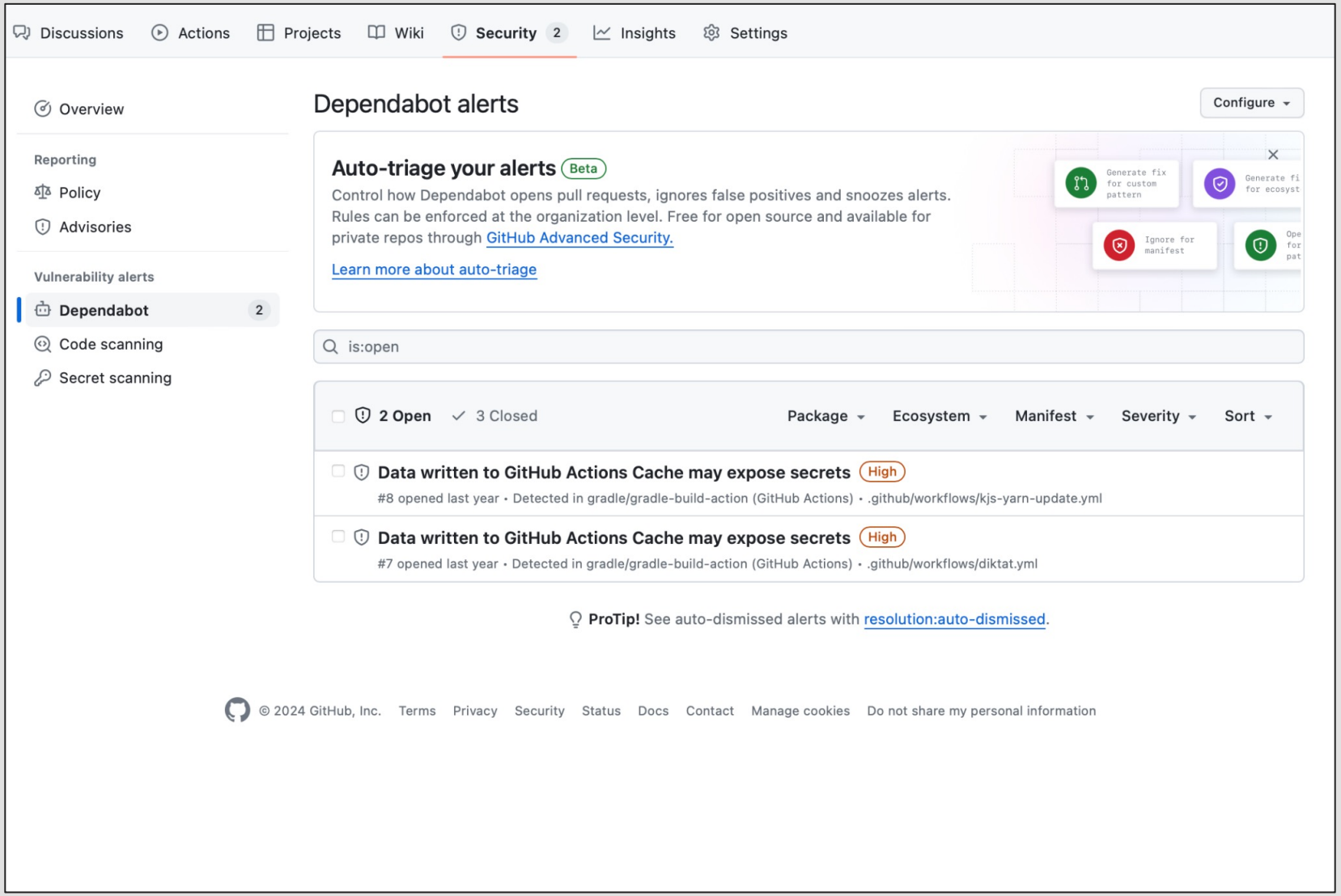


Cargo	Rust
Composer	PHP
NuGet	.NET languages (C#, F#, VB), C++
GitHub Actions	YAML
Go modules	Go
Maven	Java, Scala
npm	JavaScript
pip	Python
pnpm	JavaScript
pub	Dart
Python Poetry	Python
RubyGems	Ruby
Swift Package Manager	Swift
Yarn	JavaScript






Что отдает?


Discussions
Actions
Projects
Wiki
Security 2
Insights
Settings
Overview
Reporting
Policy
Advisories
Vulnerability alerts
Dependabot 2
Code scanning
Secret scanning
Dependabot alerts
Configure
Auto-triage your alerts Beta
Control how Dependabot opens pull requests, ignores false positives and snoozes alerts. Rules can be enforced at the organization level. Free for open source and available for private repos through GitHub Advanced Security.
Learn more about auto-triage
Generate fix for custom pattern
Ignore for manifest
is:open
2 Open
3 Closed
Package
Ecosystem
Manifest
Severity
Sort
Data written to GitHub Actions Cache may expose secrets High
#8 opened last year • Detected in gradle/gradle-build-action (GitHub Actions) • .github/workflows/kjs-yarn-update.yml
Data written to GitHub Actions Cache may expose secrets High
#7 opened last year • Detected in gradle/gradle-build-action (GitHub Actions) • .github/workflows/diktat.yml
ProTip! See auto-dismissed alerts with resolution:auto-dismissed.
© 2024 GitHub, Inc. Terms Privacy Security Status Docs Contact Manage cookies Do not share my personal information

ДОКЛАД Analytics 14.03 / 11:00 – 11:45 (UTC+3)

Архивы уязвимостей и как их готовить

RU

Презентация pdf

В мире существует множество баз данных и форматов для хранения уязвимостей. Многие из вас знакомы с такими аббревиатурами, как CVE и CWE. Некоторые слышали о NVD и OWASP, а кто-то, возможно, даже умеет рассчитывать векторы атак по CVSS. Однако в глобальном мире, где программистам важно быстро анализировать свой код и узнавать об уязвимых зависимостях, существует множество баз данных для лучшей агрегации и поиска по существующим проблемам безопасности.

Есть целые комитеты, которые разрабатывают форматы — такие, как OSV — для лучшего представления и репортинга проблем с безопасностью в базах GitHub Advisory, Ubuntu Security Notices, Android Vulnerability Database и других. В итоге очень сложно уследить за всеми новыми аббревиатурами и обновлениями, которые появляются почти ежедневно.

Обобщу знания об уже существующих форматах, схемах и репозиториях для уязвимостей. Поделюсь своим опытом создания нового формата для представления и хранения уязвимостей под названием COSV. Кроме того, расскажу про личный опыт разработки базы данных уязвимостей, построенной на основе этого формата, которая стала стандартом для China Computing Federation (CCF).

Спикеры

Андрей Кулешов
Huawei

Приглашенные эксперты

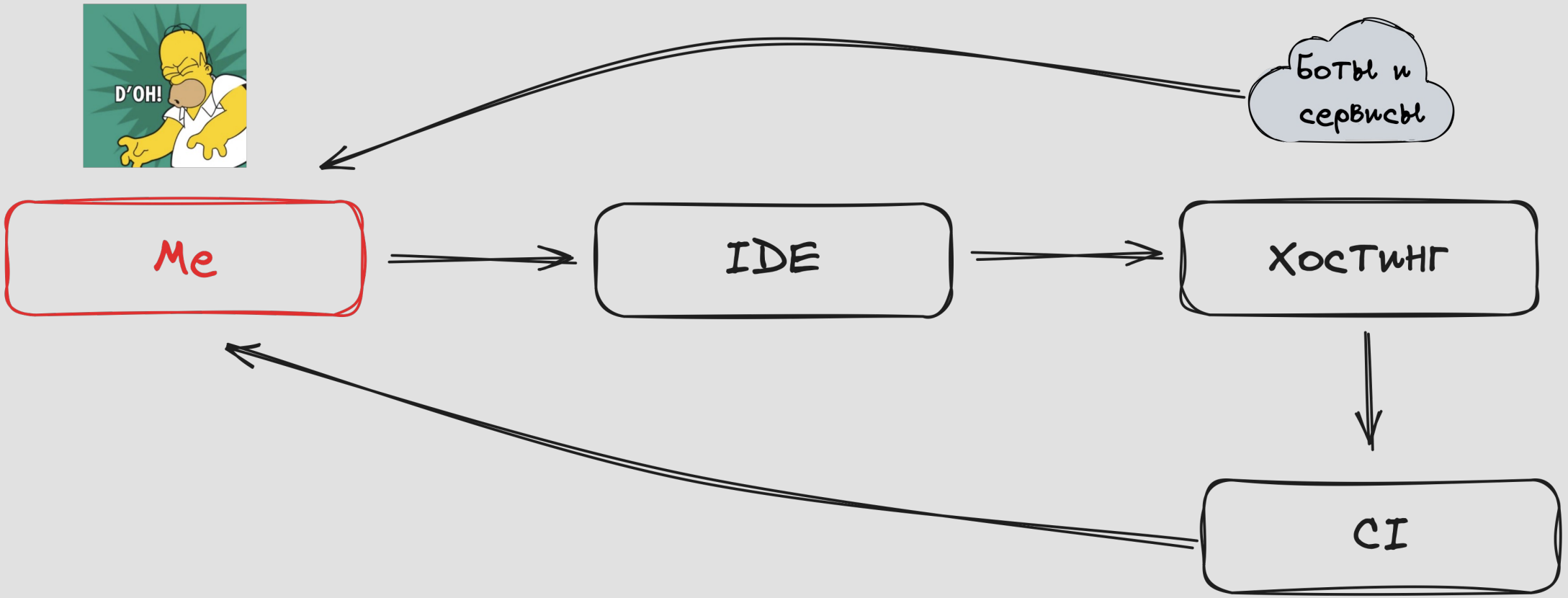
Антон Сысоев
Независимый разработчик

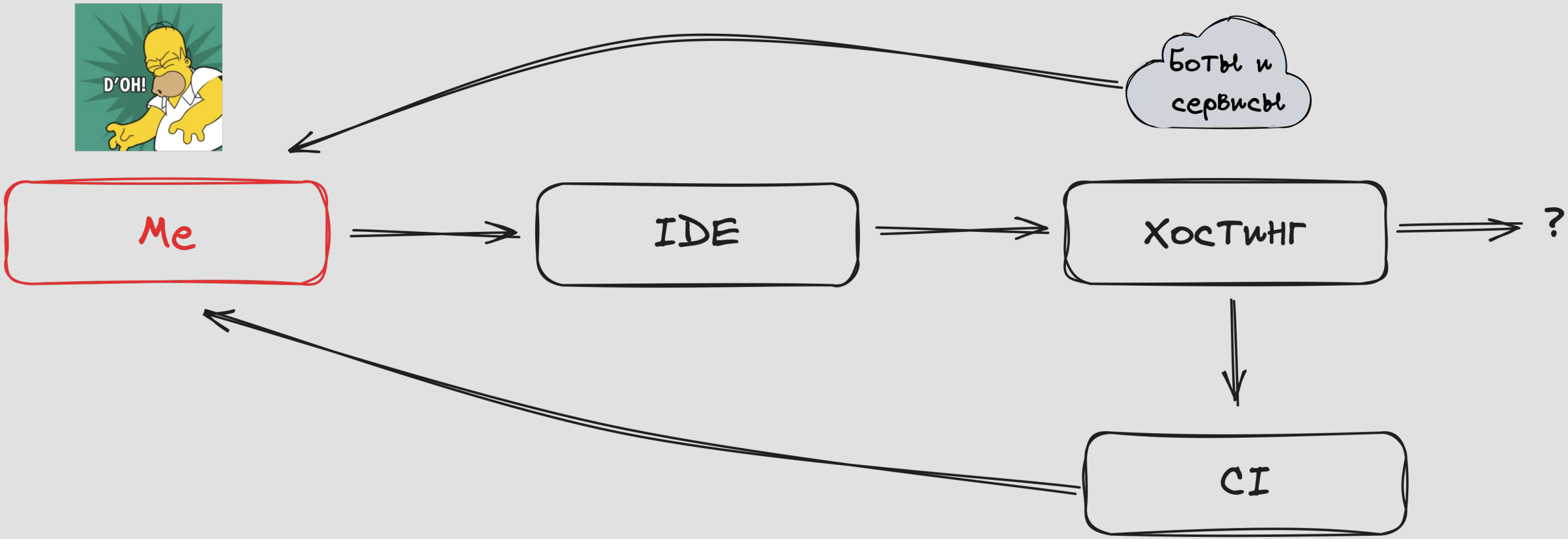
DevTools боты: CodeQL

```
/**
 * @id java/examples/tryfinally
 * @name Try-finally statements
 * @description Finds try-finally statements without a catch clause
import java

from TryStmt t
where
exists(t.getFinally()) and
not exists(t.getACatchClause())
select t
```

https://docs.github.com/en/code-security/code-scanning

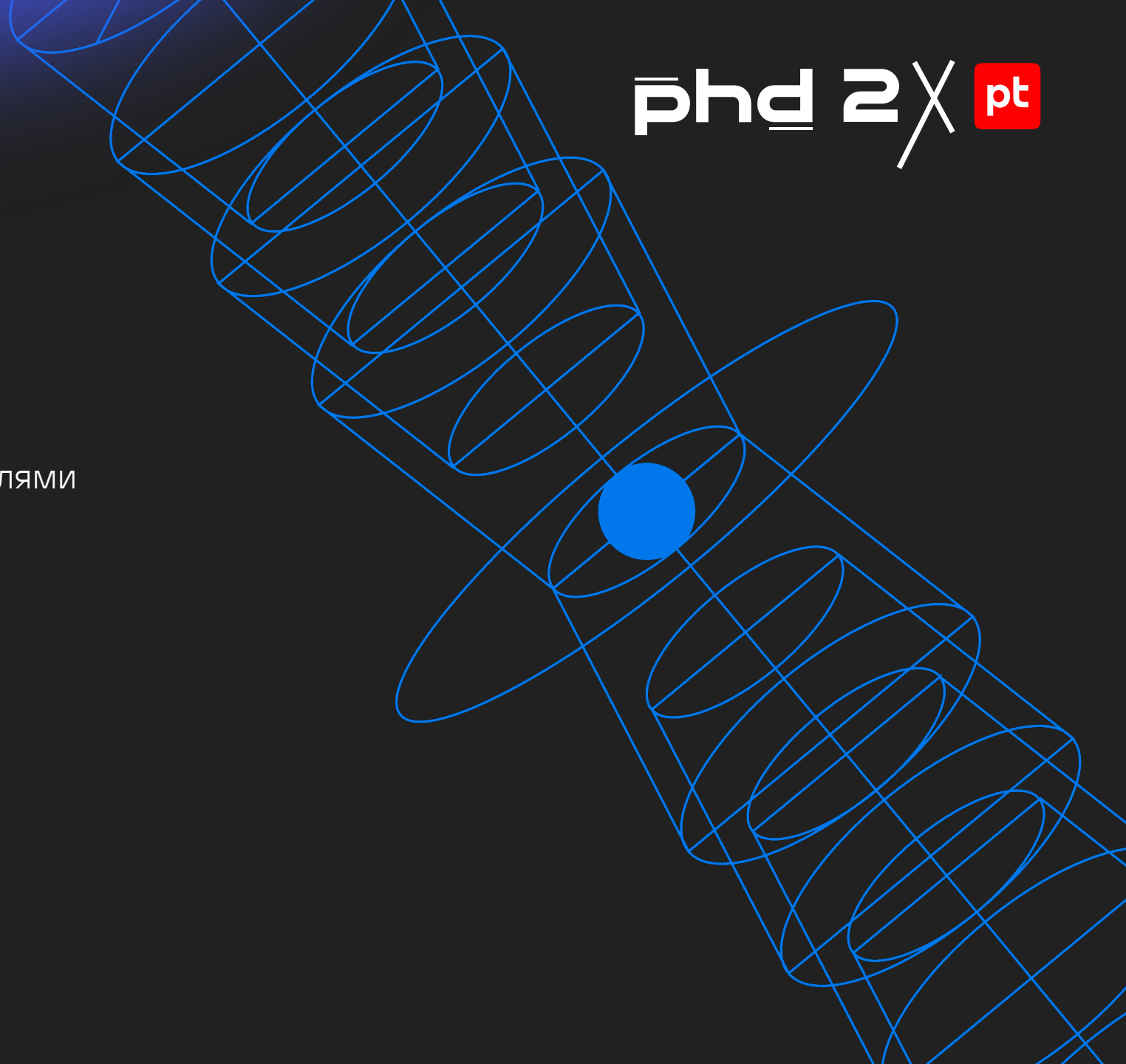

D'OH!
Боты и сервисы
Me
IDE
Хостинг
CI


D'OH!
Боты и сервисы
Me
IDE
Хостинг
?
CI

03

DevTools

Дело за малым! Поработать с пользователями



Packages — результат работы

GitHub Packages /

Working with a GitHub Packages registry

Learn how to use a supported GitHub Packages registry.

- Working with the Container registry
- Working with the Docker registry
- Working with the RubyGems registry
- Working with the npm registry
- Working with the Apache Maven registry
- Working with the Gradle registry
- Working with the NuGet registry
- Migrating to the Container registry from the Docker registry

Работает абсолютно как и любой другой артефакт менеджер

Packages — для библиотек

Clear current search query, filters, and sorts

6 packages

com.saveourtool.okio-extras-jvm
Published on Mar 2, 2023 by Save Our Tool! in com.saveourtool.okio-extras-jvm — 448

com.saveourtool.okio-extras
Published on Mar 2, 2023 by Save Our Tool! in com.saveourtool.okio-extras — 300

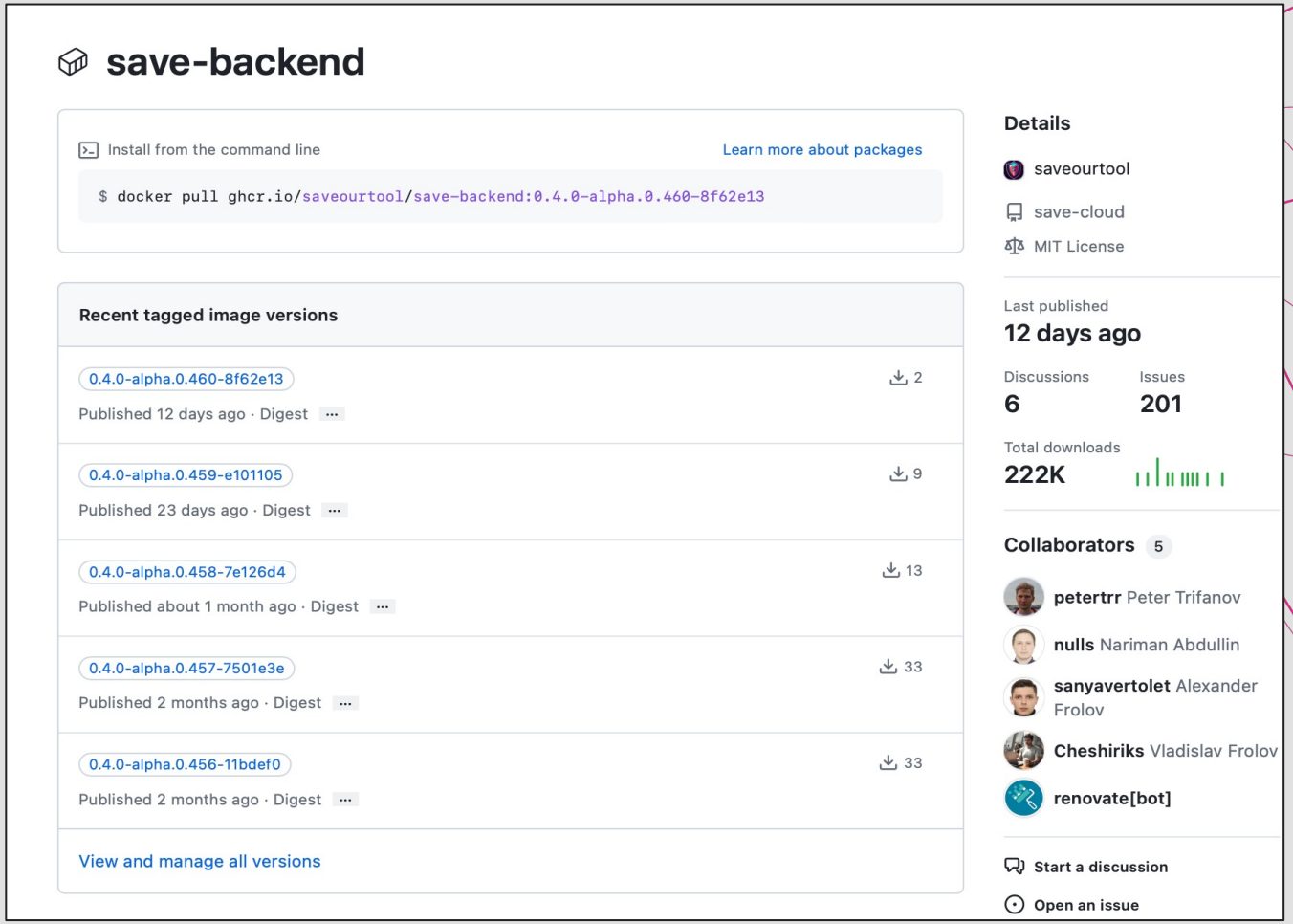
com.saveourtool.okio-extras-linuxx64
Published on Mar 2, 2023 by Save Our Tool! in com.saveourtool.okio-extras-linuxx64 — 256

com.saveourtool.okio-extras-mingwx64
Published on Mar 2, 2023 by Save Our Tool! in com.saveourtool.okio-extras-mingwx64 — 25

com.saveourtool.okio-extras-macosx64
Published on May 4, 2023 by Save Our Tool! in com.saveourtool.okio-extras-macosx64 — 18

com.saveourtool.okio-extras-macosarm64
Published on May 4, 2023 by Save Our Tool! in com.saveourtool.okio-extras-macosarm64 — 1

Packages — для приложений



save-backend

Install from the command line

Learn more about packages

```
$ docker pull ghcr.io/saveourtool/save-backend:0.4.0-alpha.0.460-8f62e13
```

Recent tagged image versions

0.4.0-alpha.0.460-8f62e13	2
Published 12 days ago · Digest	
0.4.0-alpha.0.459-e101105	9
Published 23 days ago · Digest	
0.4.0-alpha.0.458-7e126d4	13
Published about 1 month ago · Digest	
0.4.0-alpha.0.457-7501e3e	33
Published 2 months ago · Digest	
0.4.0-alpha.0.456-11bdef0	33
Published 2 months ago · Digest	

View and manage all versions

Details

saveourtool

save-cloud

MIT License

Last published

12 days ago

Discussions 6

Issues 201

Total downloads

222K

Collaborators 5

petertrr Peter Trifanov

nulls Nariman Abdullin

sanyavertolet Alexander Frolov

Cheshiriks Vladislav Frolov

renovate[bot]

Start a discussion

Open an issue

Метрики — завлечем пользователей


```
CII Best Practices Level:
CII Best Practices Tiered Percentage:
CII Best Practices Summary:
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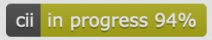
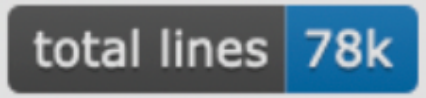
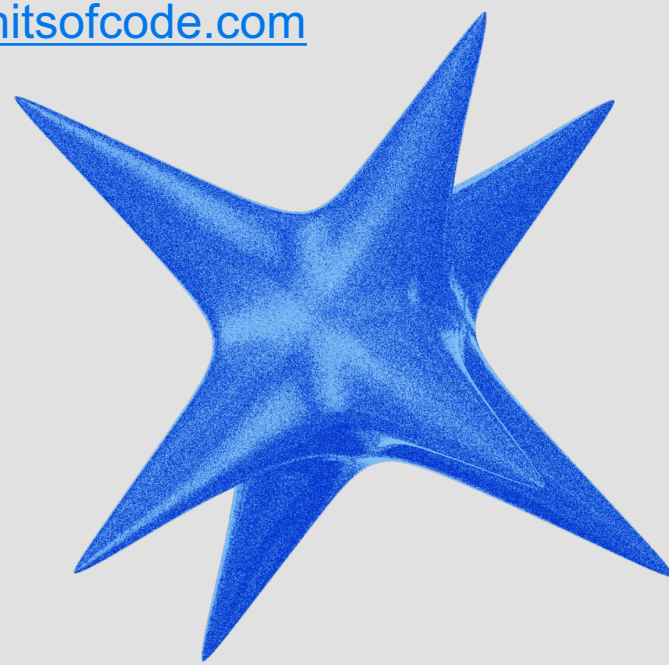


https://bestpractices.coreinfrastructure.org

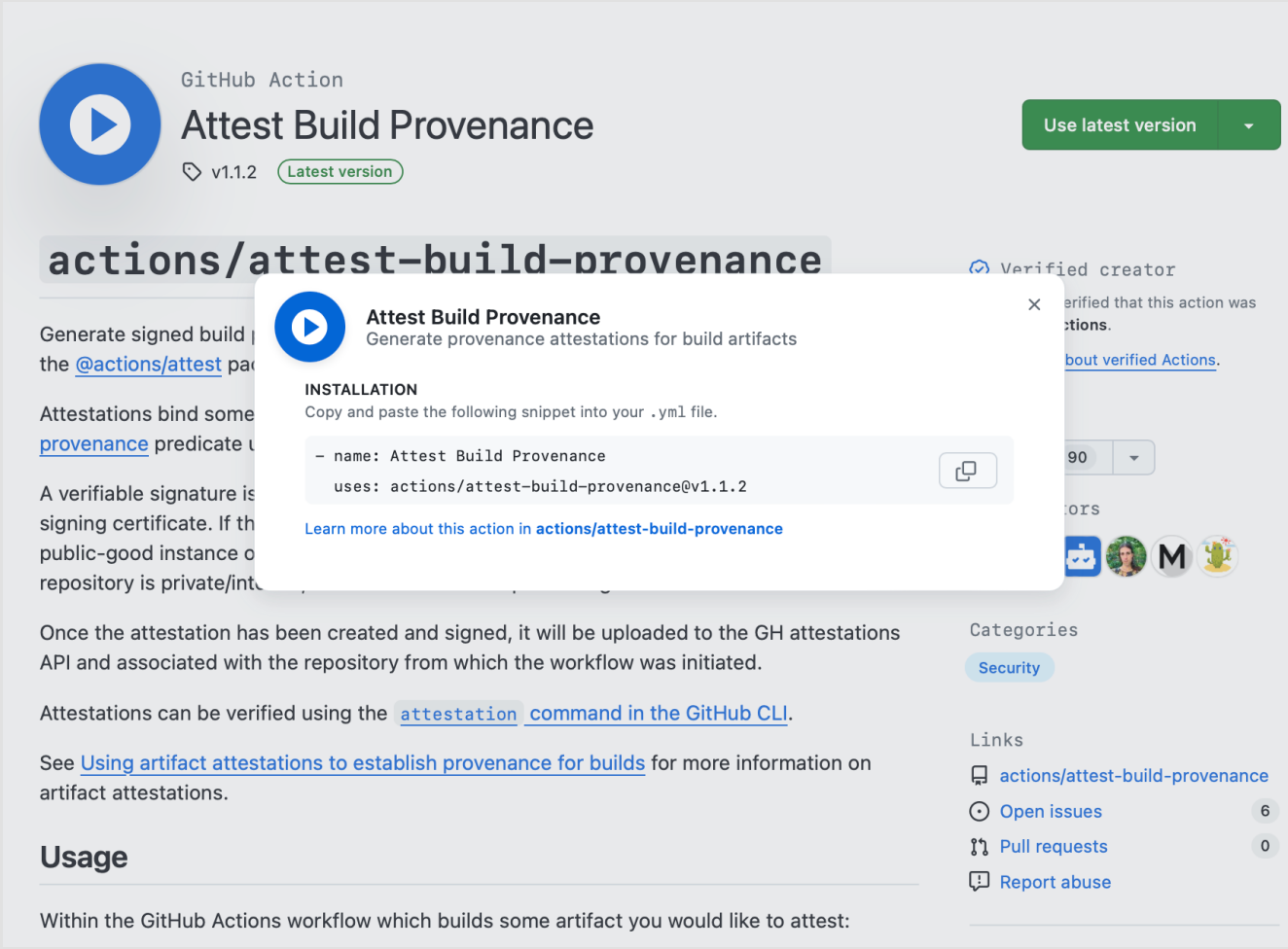


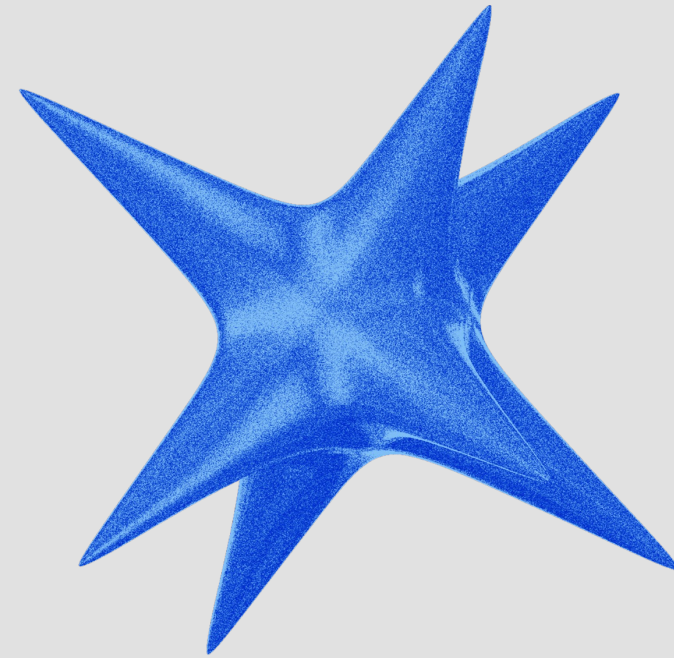
https://hitsofcode.com

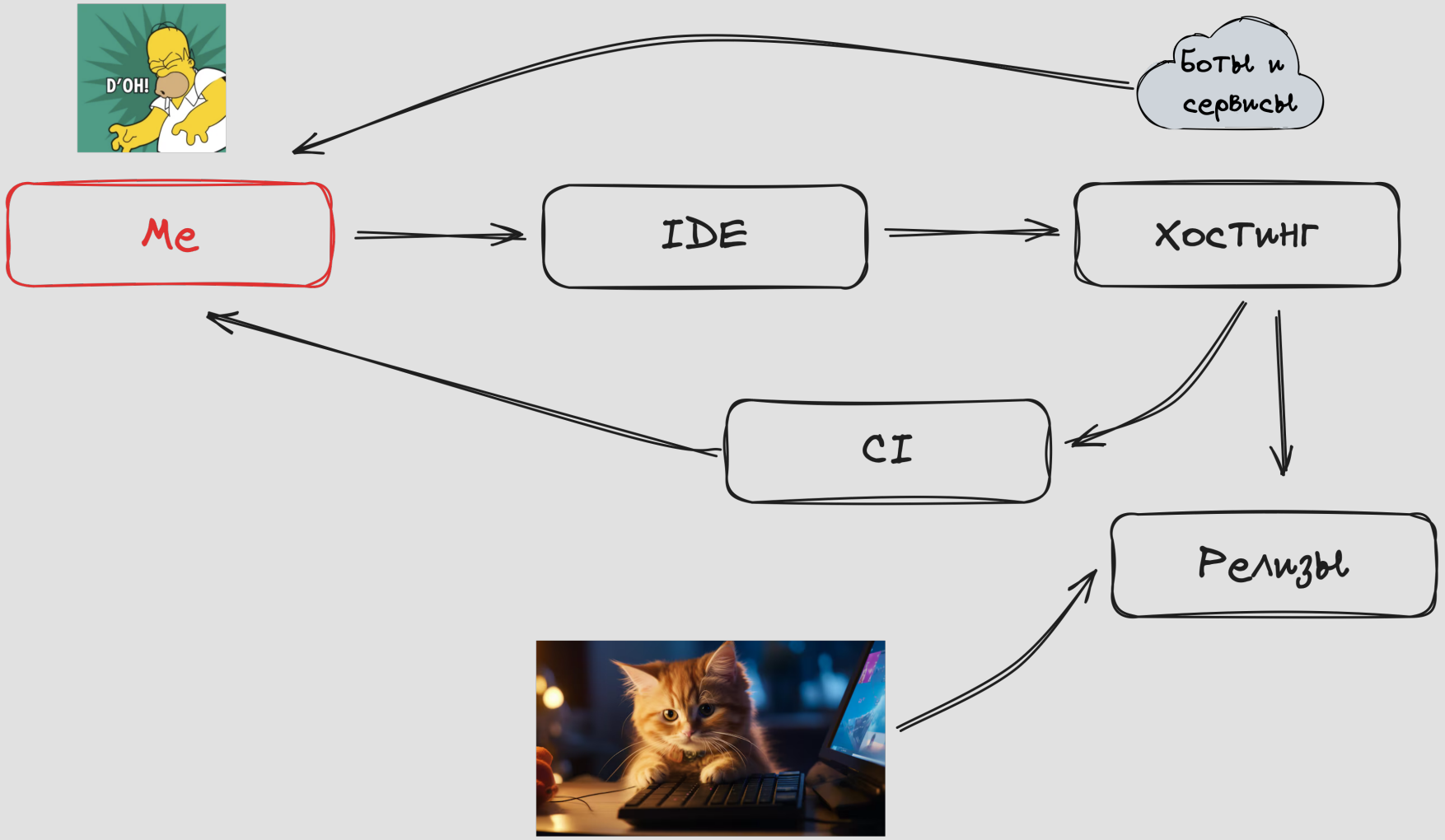
https://codebeat.co



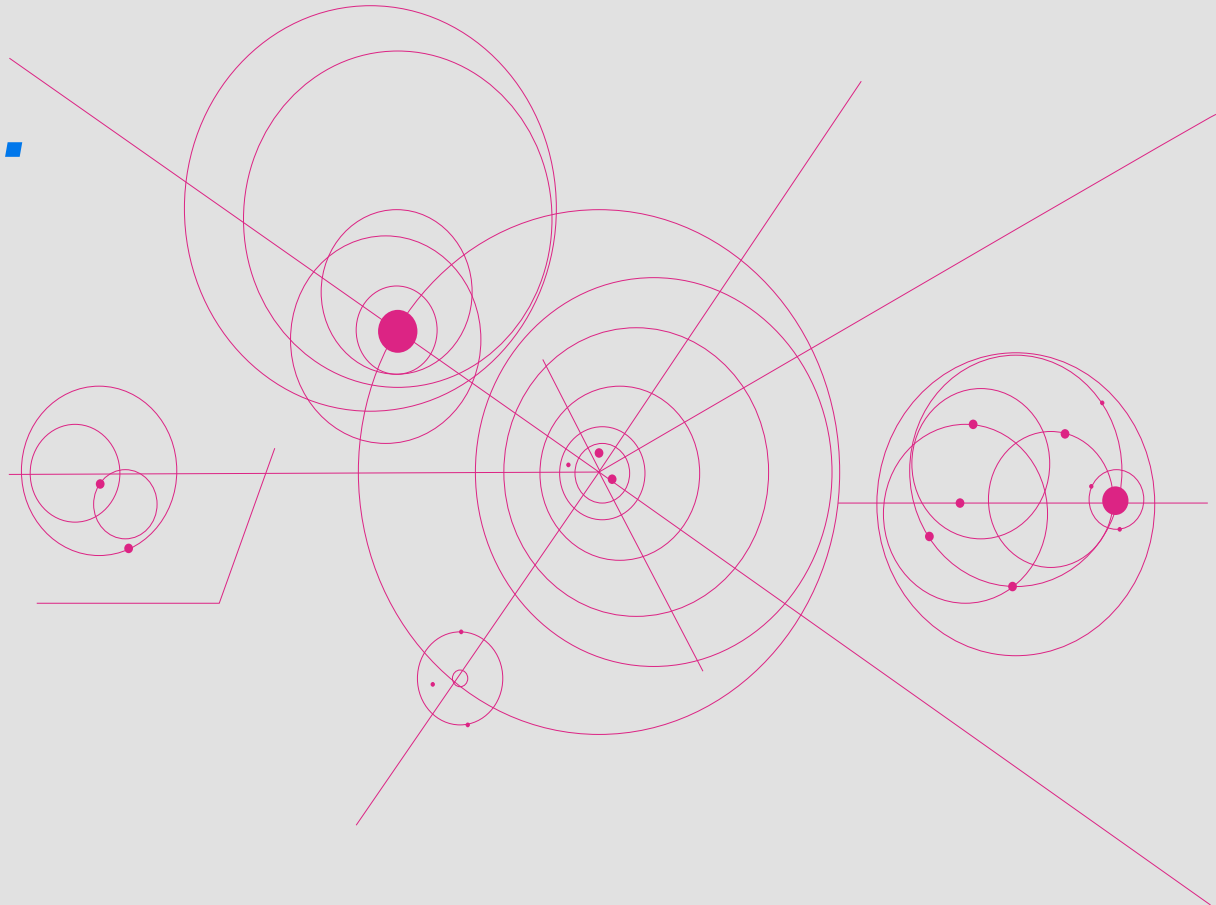
Аттестация и provenance — завлечем пользователей



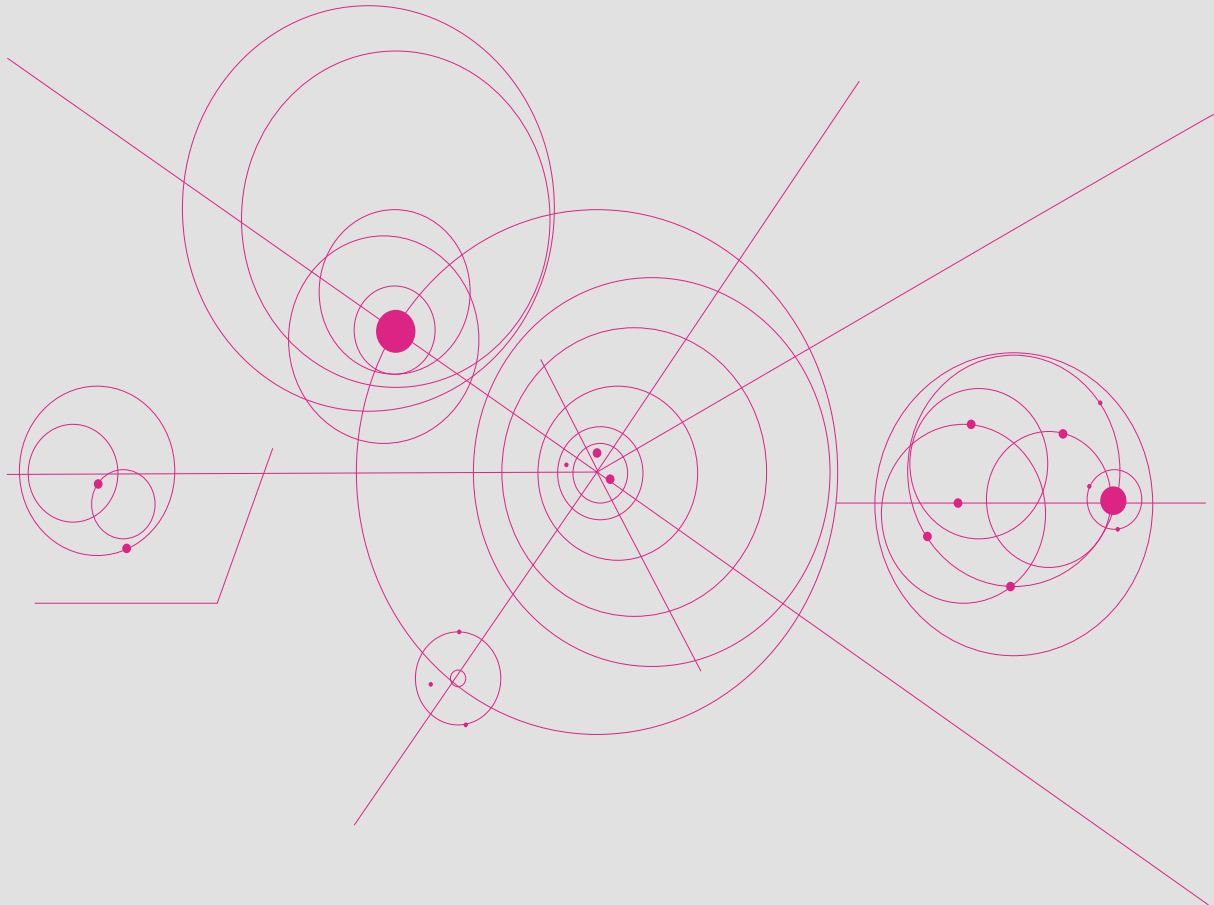


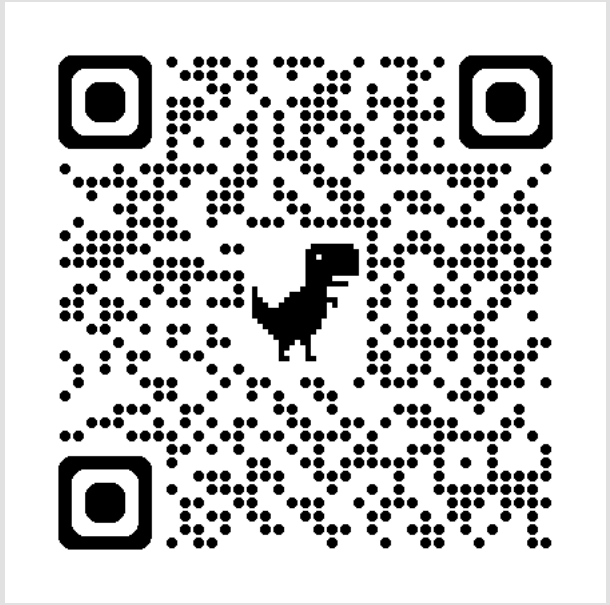

D'OH!
Боты и сервисы
Me
IDE
Хостинг
CI
Релизы

И вот мы достучались до пользователя, а впереди еще больше плагинов и инструментов...



И о них мы поговорим на следующем Positive Hack Days 🥰





Подпишись!

Спасибо!

Оставь обратную связь