



Кто-то съел мою память на C!



Вячеслав Ковалев

Android Engineer в Speed Android, Авито

- ex-Delivery Club;
- MIPT Graduate;
- Technotrack @Mail.ru Group Graduate;
- tg: @materkey.



О нашей команде

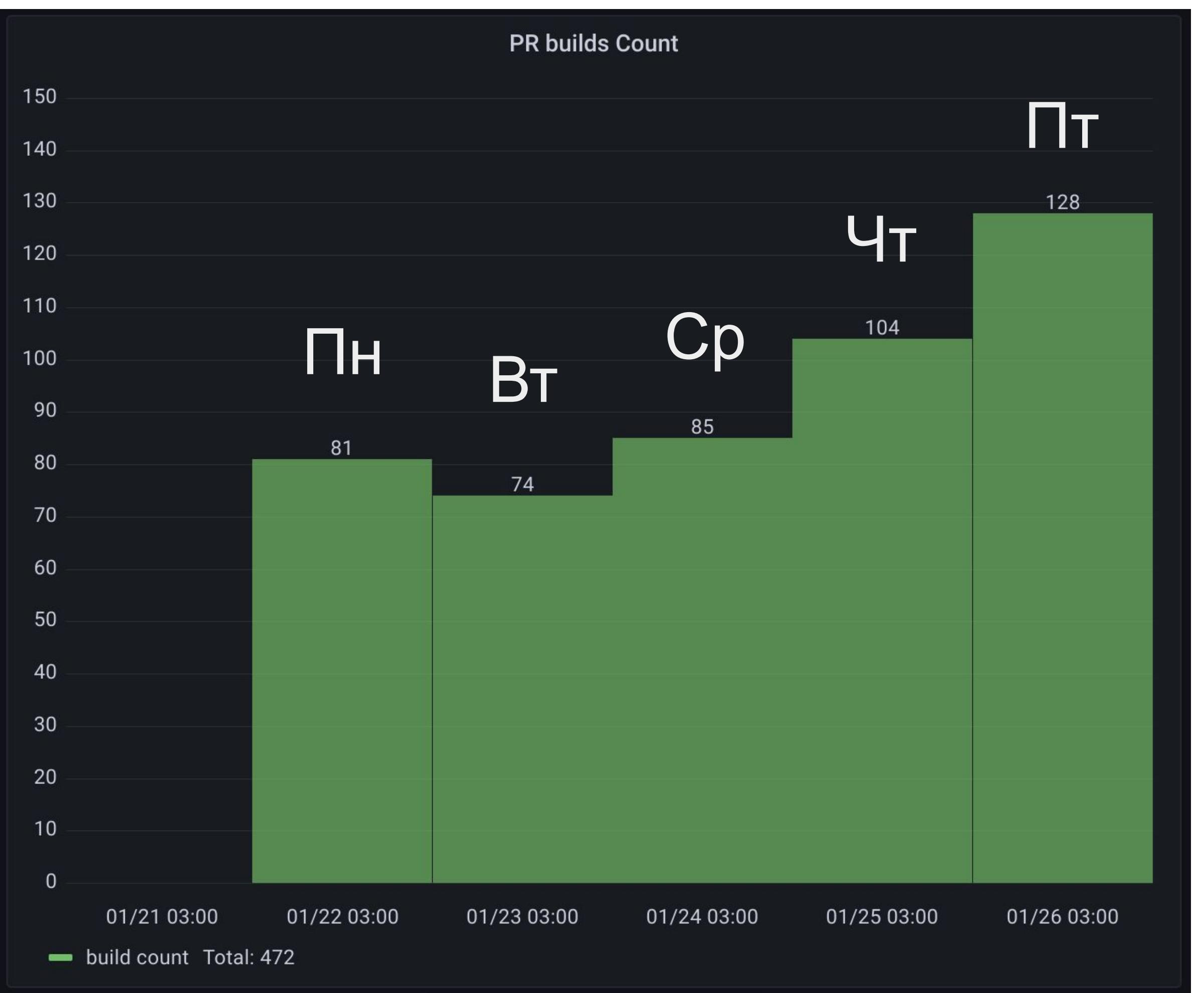
Юнит Speed, команда Android

- Делаем Android сборки **быстрее и стабильнее**.
- Делаем инструменты для: тестирования, CI, CD, Android разработки в open source репозитории
<https://github.com/avito-tech/avito-android>.
- TG чат про CI и Android сборку
https://t.me/avito_android_opensource.



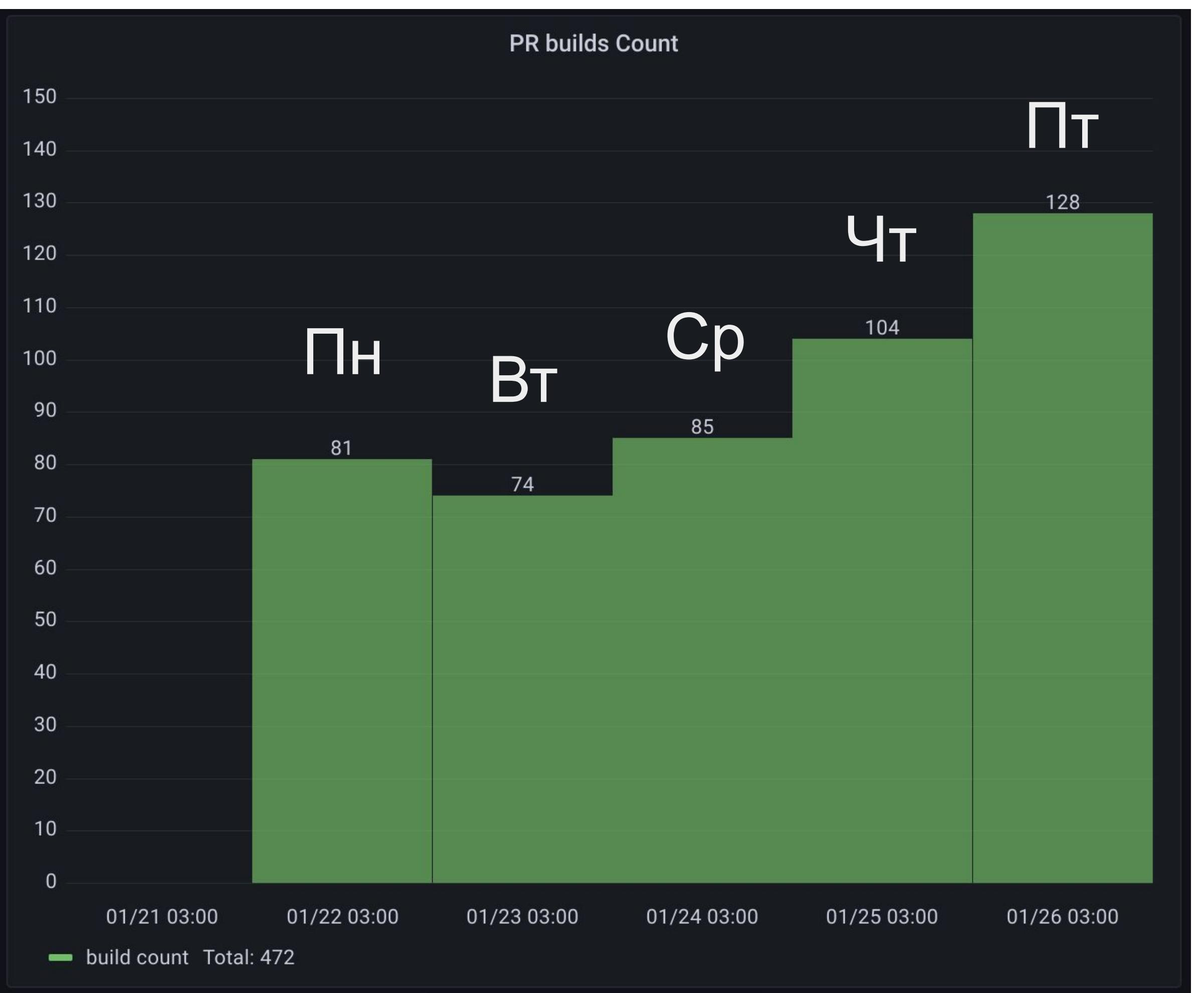
Android CI в Avito

- ❑ Релизы раз в неделю.
- ❑ ~ 80 Android разработчиков.



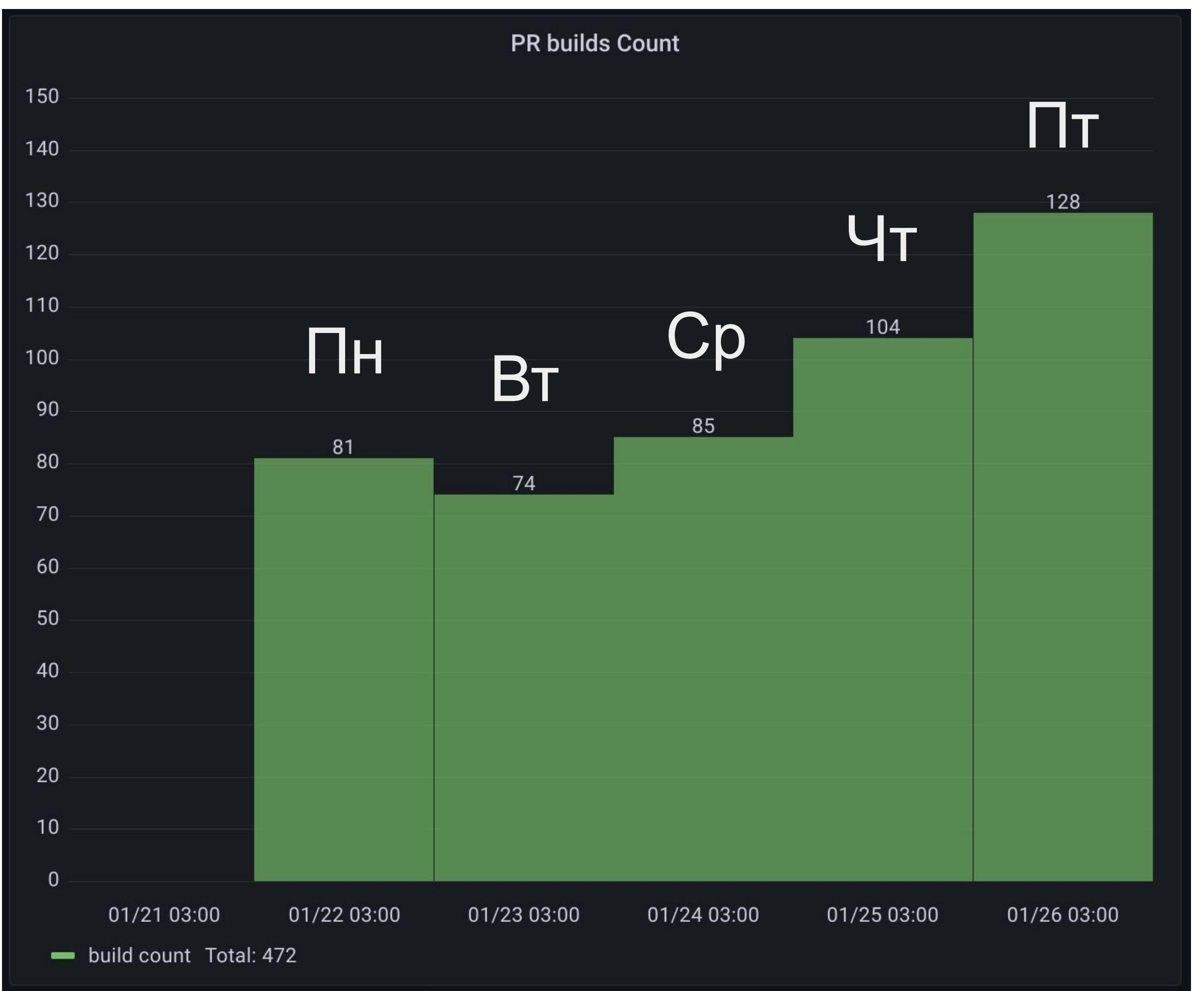
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- ❑ ~ 100 сборок на Pull Request в день.



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- ❑ ~ 80 Android разработчиков.
- ❑ ~ 100 сборок на Pull Request в день.
- ❑ А также:
 - свыше 1000 модулей;
 - ~ 15000 Robolectric Unit-тестов;
 - ~ 4000 Instrumentation тестов с mocked-сетью;
 - Detekt'ы, lint'ы и много написанных правил;
 - ~ 600 E2E тестов дляочных и релизных сборок;
 - 20 серверов в k8s кластере под сборки и эмуляторы.



Подробнее про команду Speed Android

Mobius
2023 Spring

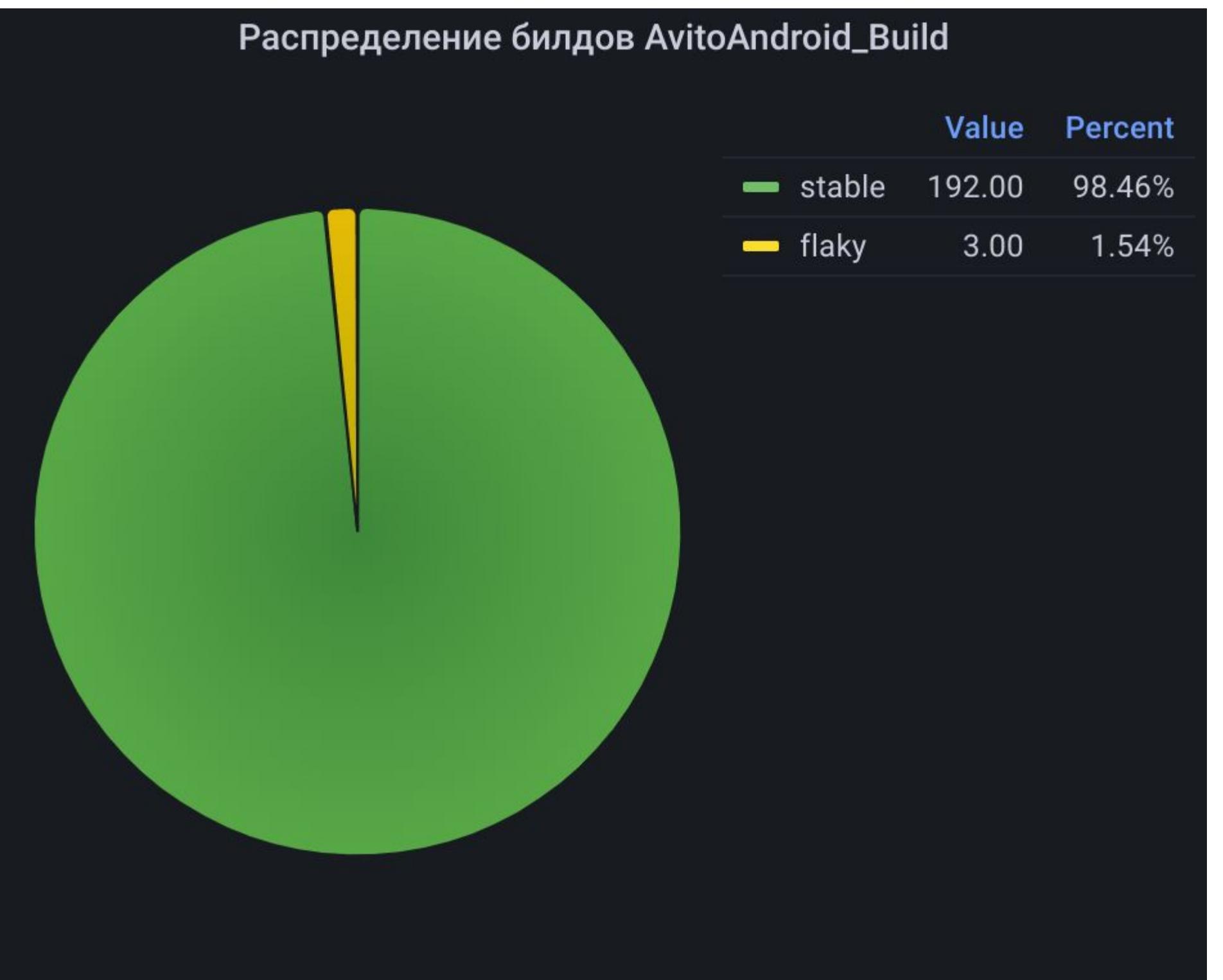
**Здоровье вашей
Gradle-сборки**

**Сергей
Боиштян**

Авито

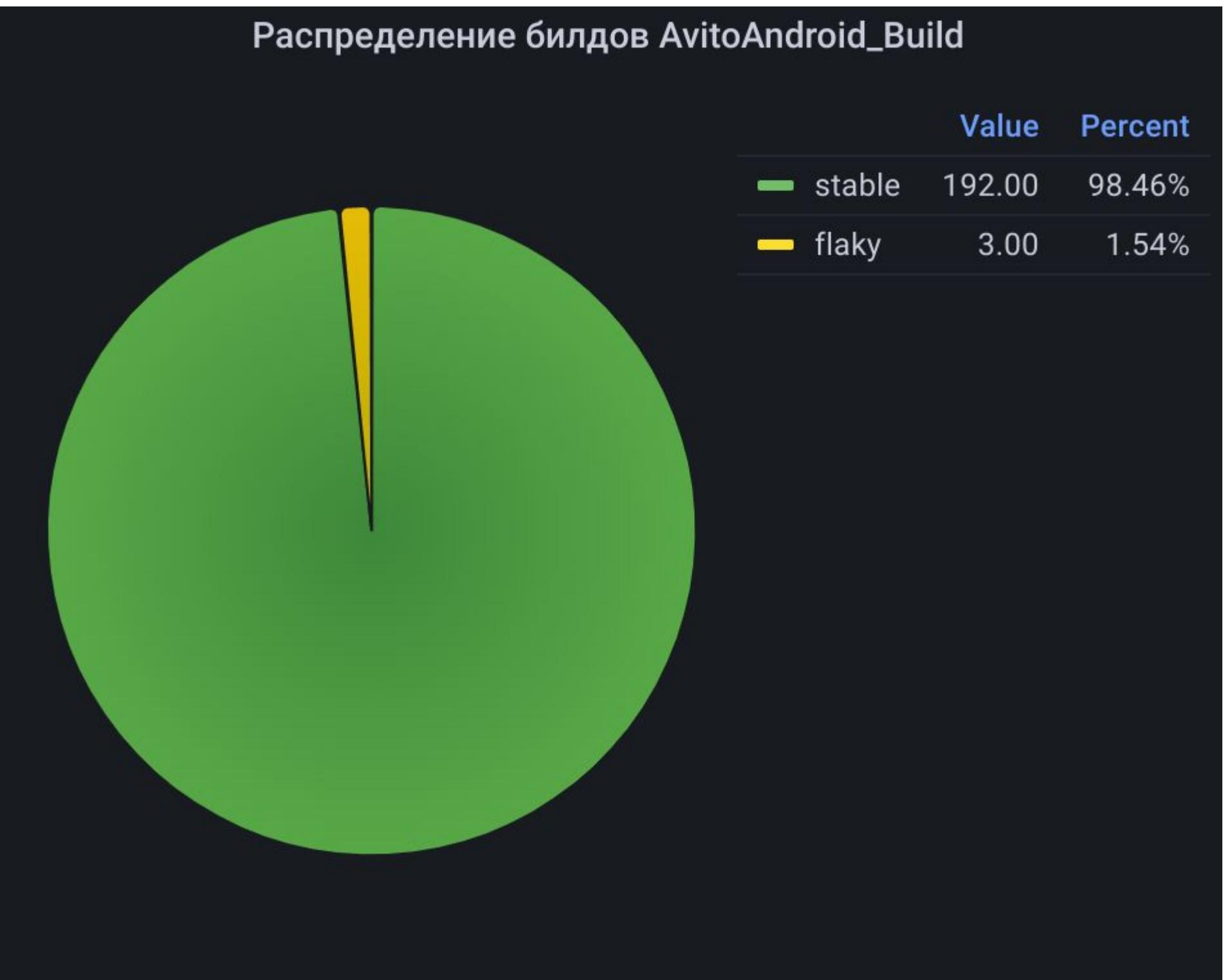
Android CI в Avito

- ❑ На этих ~100 сборках на Pull Request в день возникают flaky-сборки



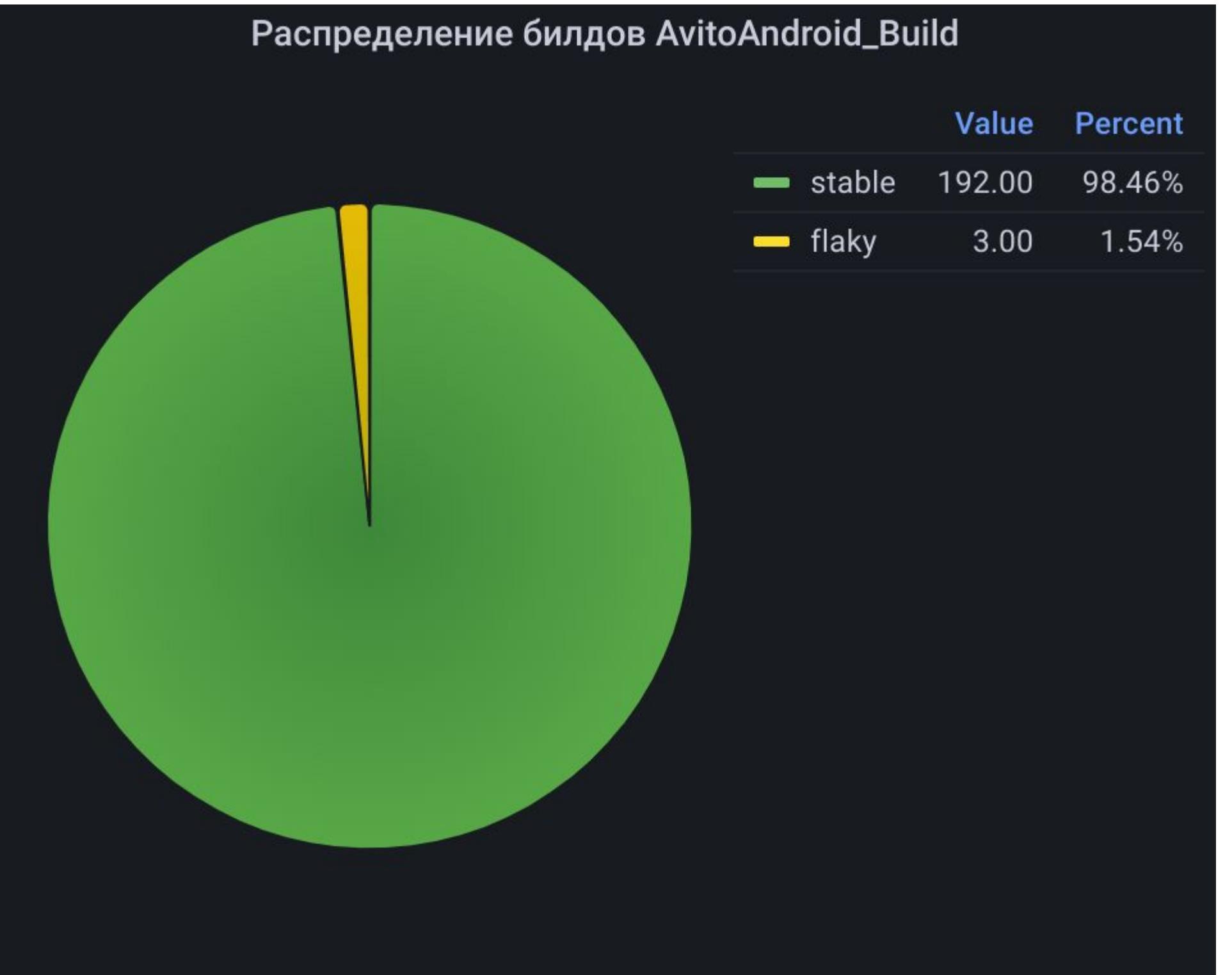
Flaky сборки

- ❑ **Стабильная сборка** — на конкретном коммите есть билд только в одном статусе: fail или success.
- ❑ **Flaky-сборка** — нестабильная сборка.



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- ❑ Пример — flaky-тесты, невалидный кэш.



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- ❑ Следим за такими сборками.



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- ❑ Постфикс 0, 1, 2 и т.п. — это количество flaky-сборок.



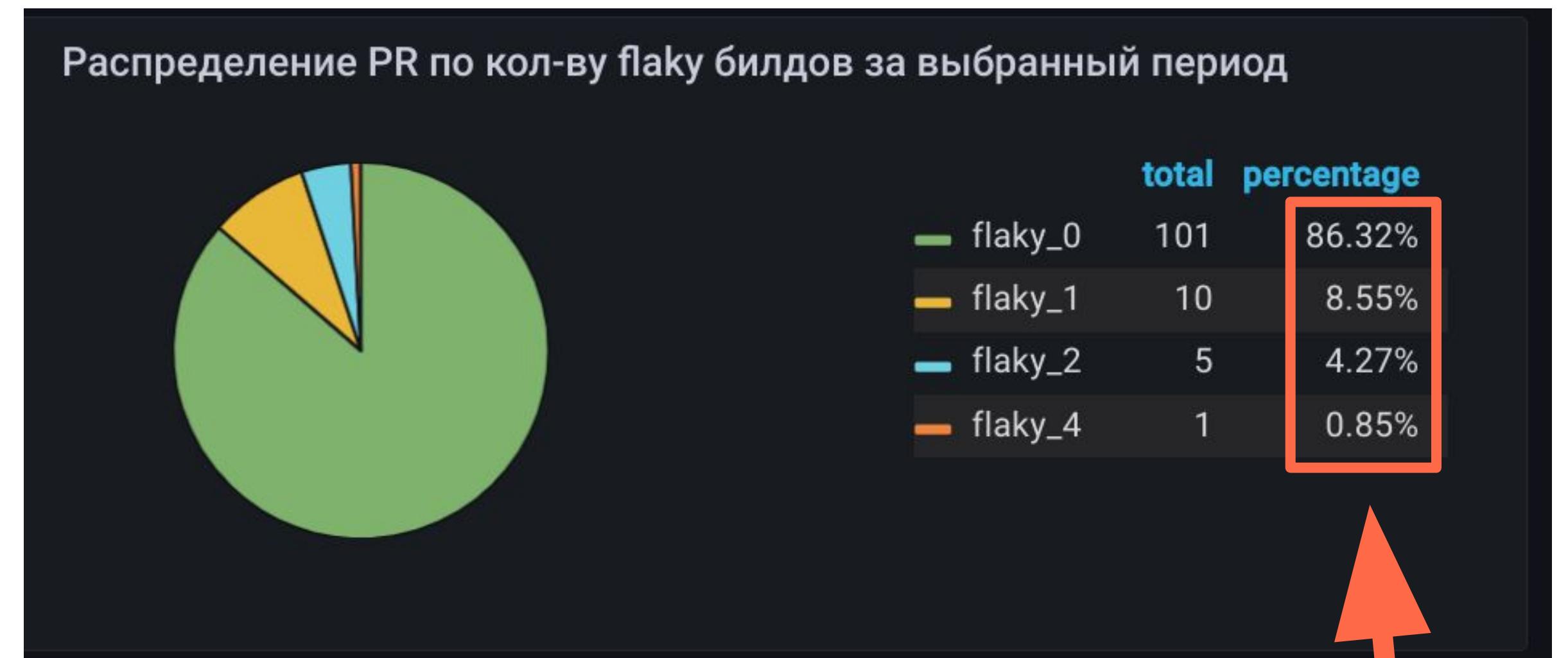
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- ❑ Total — это количество Pull Request'ов за неделю.



Flaky сборки

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- ❑ Постфикс 0, 1, 2 и т.п. — это количество flaky-сборок.
- ❑ Total — это количество Pull Request'ов за неделю.
- ❑ Percentage — процент таких Pull Request'ов.



К чему приводит потеря стабильности

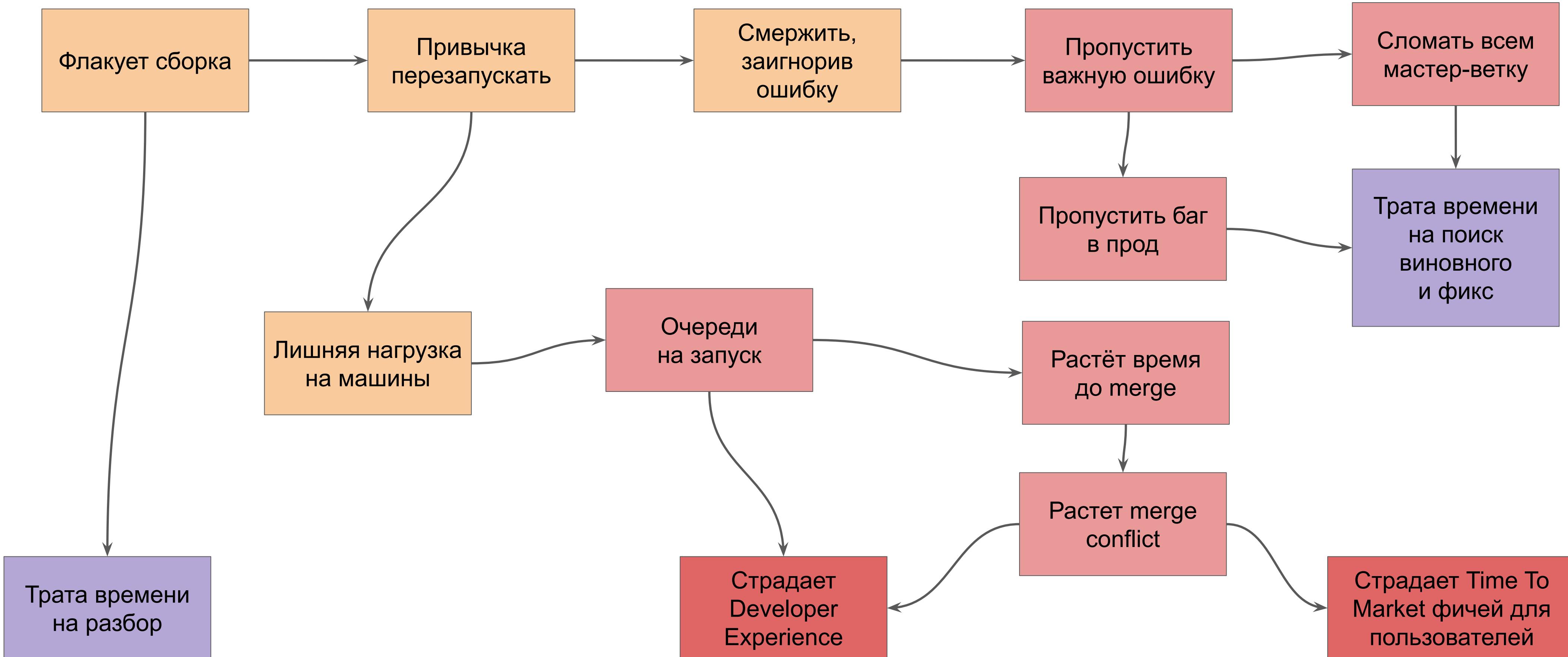
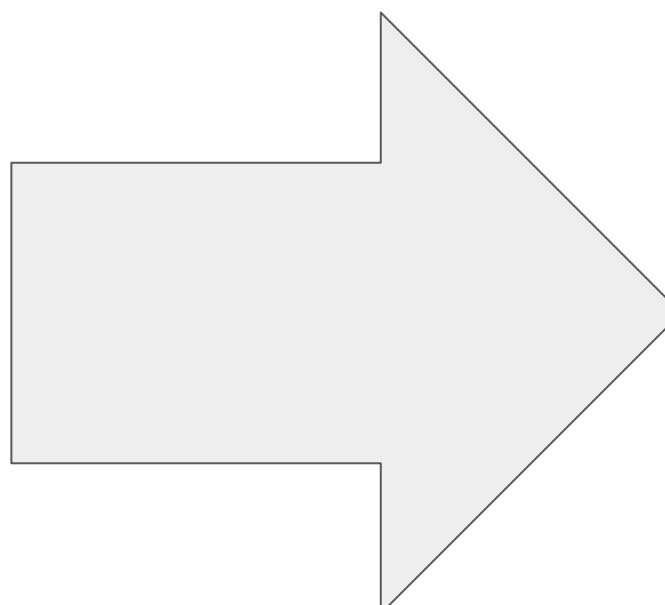


Таблица с flaky-сборками в рамках дежурства

analytics
models
reporters
tests
utils
__init__.py
flaky_builds_analyzer.py
pull_request_anaylyzer.py

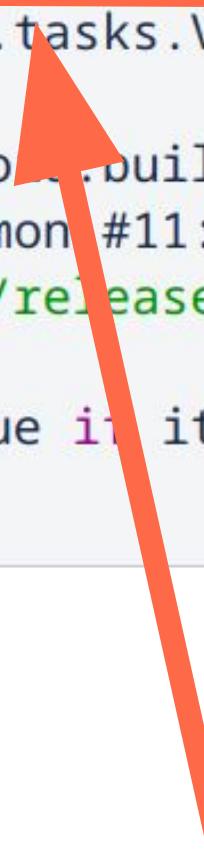


1	Date	PR	team	Причина падения	Задача Исправление	Комментарий
802	14-02-2023	http://sta...	https://tmc...	Flaky test	▼ Пометили флаки	com.avito.android.test.in_app_calls.notification.lacNotificationNoActiveScreenTest.test API25 FAILED
803	14-02-2023	http://sta...	https://tmc...	Flaky сборка	▼ MBSA-930	Process 'Gradle Test Executor 15' finished with non-zero exit value 137
804	13-02-2023	http://sta...	https://tmc...	Flaky сборка	▼ Проблема ушла	Compilation error. Unresolved reference.
805	13-02-2023	http://sta...	https://tmc...	Flaky сборка	▼ Проблема ушла	Compilation error. Unresolved reference.
806	10-02-2023	http://sta...	https://tmc...	Flaky test	▼ Починили	FAILED tests: com.avito.android.tariff.constructor_configure.vertical.viewmodel.ConstructorConfigureVerticalViewModelTest.lo
807	10-02-2023	http://sta...	https://tmc...	Flaky test	▼ Пометили флаки	com.avito.android.test.services.verification.UserProfile_VerificationStatus_ActionRestore_Mock.test API25 FAILED
808	10-02-2023	http://sta...	https://tmc...	Flaky test	▼ Пометили флаки	com.avito.android.test.seller_fullbase.photo_picker.PhotoPicker_PublishEdit_DeletePhoto_Mock.testDataSet0 API25
809	10-02-2023	http://sta...	https://tmc...	Сломан develop	▼ Ушло само	AAPT2 aapt2-7.2.2-7984345-linux Daemon #14: Unexpected error during link, attempting to stop daemon.
810	10-02-2023	http://sta...	https://tmc...	Сломан develop	▼ сломан девелоп	e: /Users/Shared/projects/avito-android/avito-app/extended-profile-creation/src/main/kotlin/com/avito/android/passpo
811	10-02-2023	http://sta...	https://tmc...	Сломан develop	▼ сломан девелоп	e: /Users/Shared/projects/avito-android/avito-app/extended-profile-creation/src/main/kotlin/com/avito/android/passpo
812	10-02-2023	http://sta...	https://tmc...	Сломан develop	▼ сломан девелоп	e: /Users/Shared/projects/avito-android/avito-app/extended-profile-creation/src/main/kotlin/com/avito/android/passpo
813	10-02-2023	http://sta...	https://tmc...	Flaky сборка	▼ MBSA-930	Process 'Gradle Test Executor 15' finished with non-zero exit value 137
814	09-02-2023	http://sta...	https://tmc...	Flaky сборка	▼ Проблема ушла	com.avito.android.test.profiles.user_profile.e2e.UserProfile_AvatarPick_Gallery.test API25 FAILED
815	09-02-2023	http://sta...	https://tmc...	Flaky сборка	▼ Ушло само	AAPT2 aapt2-7.2.2-7984345-linux Daemon #13: Unexpected error during link, attempting to stop daemon.
816	09-02-2023	http://sta...	https://tmc...	Flaky сборка	▼ Ушло само	AAPT2 aapt2-7.2.2-7984345-linux Daemon #17: Unexpected error during link, attempting to stop daemon.
817	09-02-2023	http://sta...	https://tmc...	Flaky test	▼ Пометили флаки	com.avito.android.test.electronics.PublishImeiStep_Mock.test API25 FAILED
818	09-02-2023	http://sta...	https://tmc...	Flaky test	▼ Пометили флаки	com.avito.android.test.messenger.component.chat.context_actions.ChannelContextActionsHideKeyboardTest.receiv
819	08-02-2023	http://sta...	https://tmc...	Flaky сборка	▼ Пометили флаки	com.avito.android.test.real_estate.publish.AdditionalCategoryComponentTest_FreeAppointment.nothingSelected_All

Видим, когда разработчикам приходится перезапускать сборку, чтобы влить свой ПР.

Заметили ошибку на дежурстве

```
Execution failed for task ':avito-libs:expss-lab:onboarding:verifyReleaseResources'.
> A failure occurred while executing com.android.build.gradle.tasks.VerifyLibraryResourcesTask$Action
    > There was a failure while executing work items
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            > AAPT2 aapt2-7.4.1-8841542-linux Daemon #11: Unexpected error during compile '/Users/Shared/projects/avito-
android/avito-libs/expss-lab/onboarding/build/intermediates/merged_res/release/drawable-hdpi-v4/abc_list_divider_mtrl_alpha.9.png', attempting to stop
daemon.
This should not happen under normal circumstances, please file an issue if it does.
    > Stream closed
```



Заметили ошибку на дежурстве

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Execution failed for task ':avito-libs:expss-lab:onboarding:verifyReleaseResources'.
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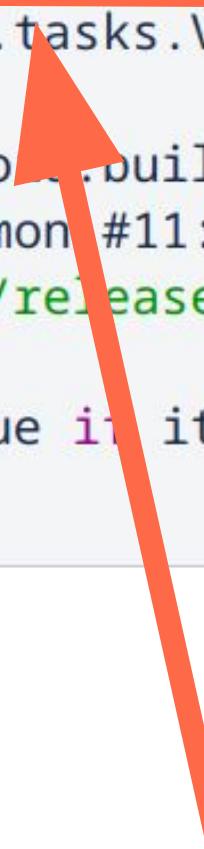
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Что за verifyResources Gradle Task?

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Что за verifyResources Gradle Task?

Android Gradle Plugin (AGP)

Gradle Tasks

generateRFile

...

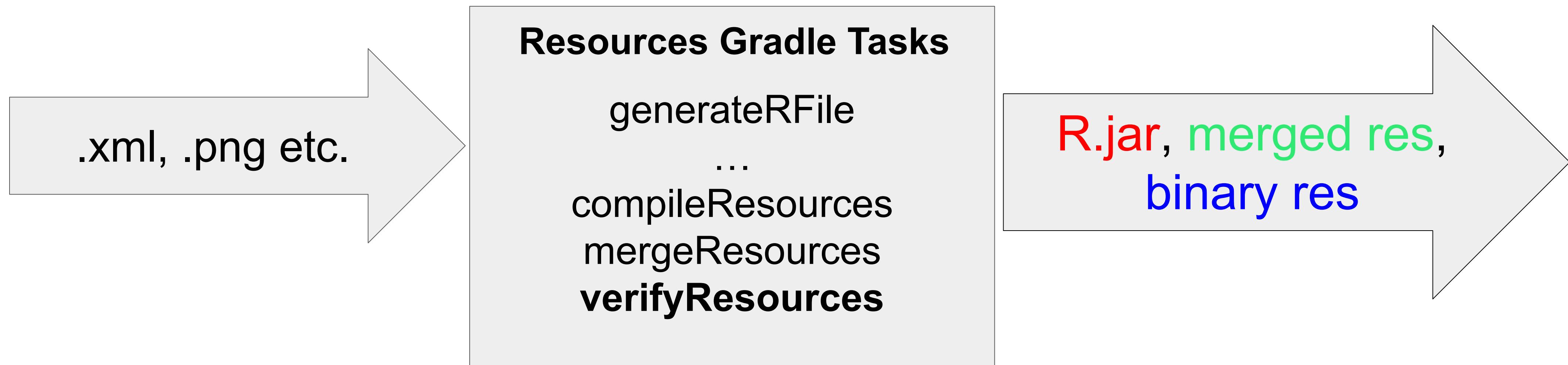
compileResources

mergeResources

verifyResources

...

Что за verifyResources Gradle Task?



Начинаем расследование

Что мы имеем

- ❑ Обнаружили Flaky-проблему с AAPT unexpected error во время дежурства.



Что мы имеем

- ❑ Обнаружили Flaky-проблему с AAPT unexpected error во время дежурства.
- ❑ Падает на PR в CI.



Что мы имеем

- ❑ Обнаружили Flaky-проблему с AAPT unexpected error во время дежурства.
- ❑ Падает на PR в CI.
- ❑ Приводит к перезапускам сборок на CI.



Что мы имеем

- ❑ Обнаружили Flaky-проблему с AAPT unexpected error во время дежурства.
- ❑ Падает на PR в CI.
- ❑ Приводит к перезапускам сборок на CI.
- ❑ Хотим посмотреть, как Gradle-таска выполняется.



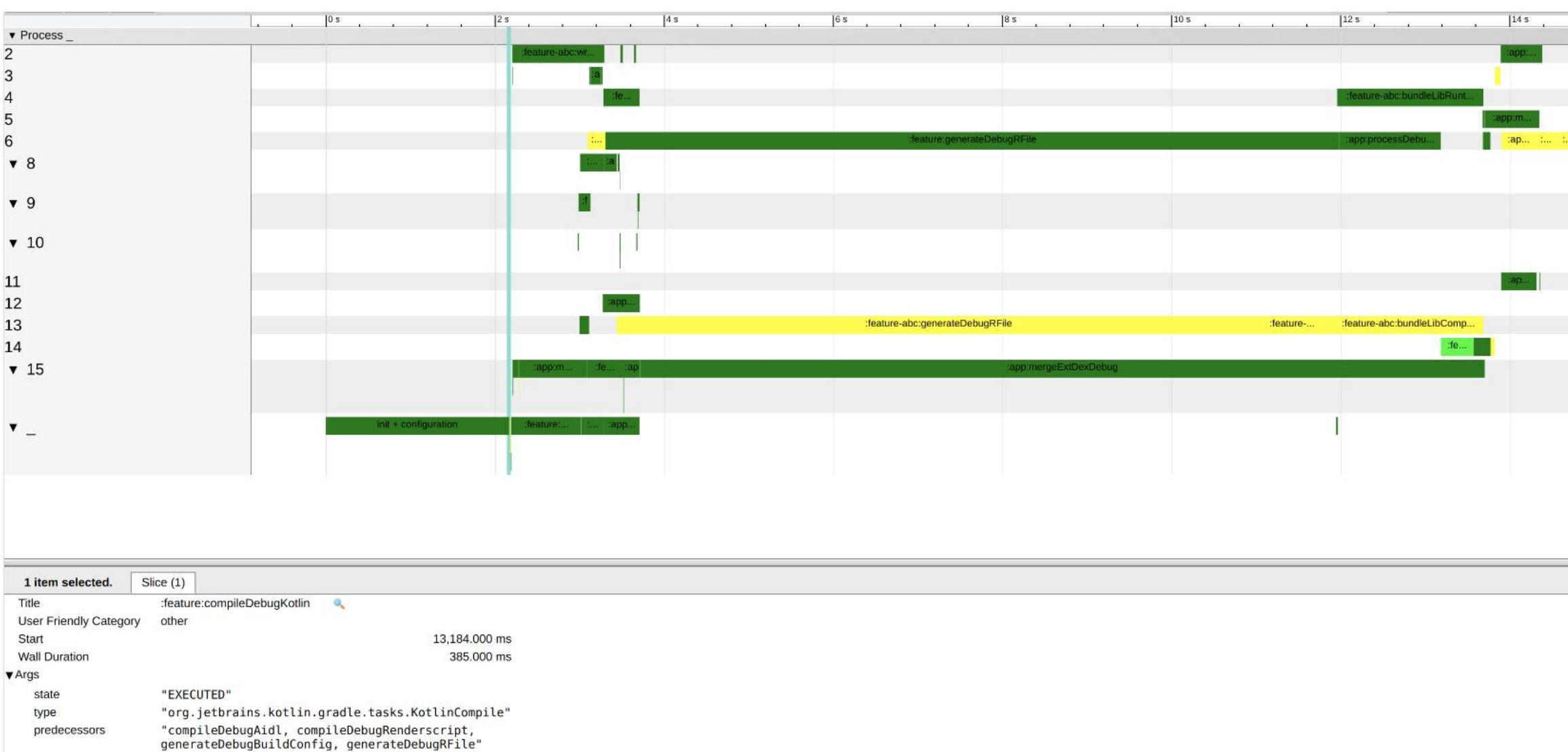
Avito build trace plugin

Build trace Gradle plugin



This plugin is a primitive analog of [Gradle build scan](#). Use it if you can't use a build scan for any reason.

This plugin collects tasks execution time in a trace event format.



Avito build trace plugin

- ❑ Файл build.trace хранится в артефактах сборки.
- ❑ Данные сборки не нужно отправлять вовне.
- ❑ Trace-файл есть всегда.
- ❑ Содержит информацию про критический путь.

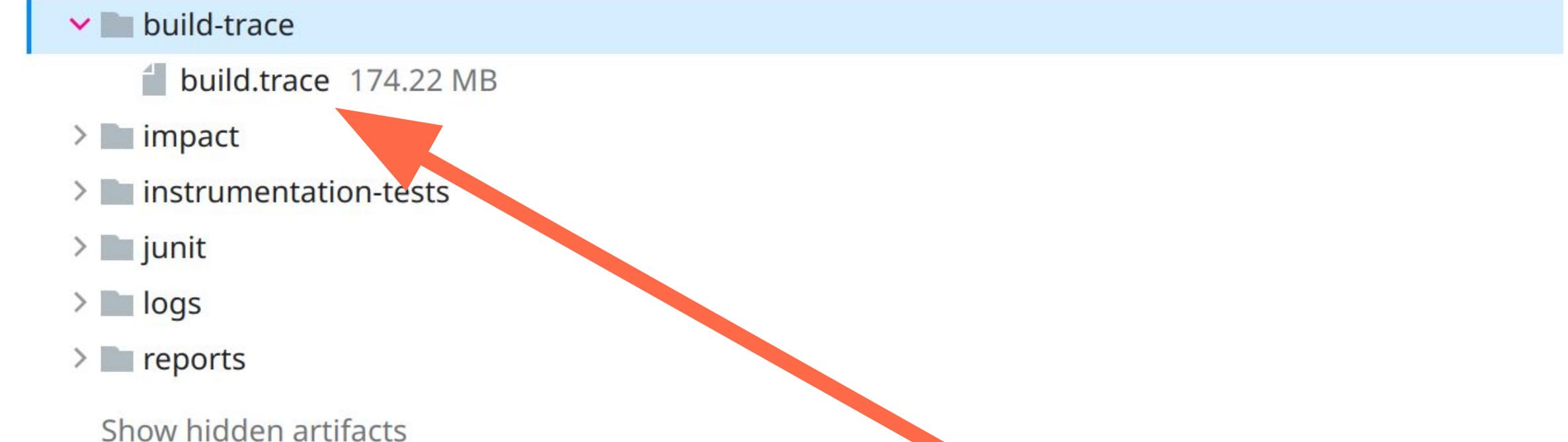
Mobile Apps / Android projects / Monorepo / Checks / Pull request checks (./gradlew prCheck)

✓ #91871 at 31 Jan 15:41 ☆

Tests passed: 20683, ignored: 8484

MTS-2210_carousel_custom Actions Details

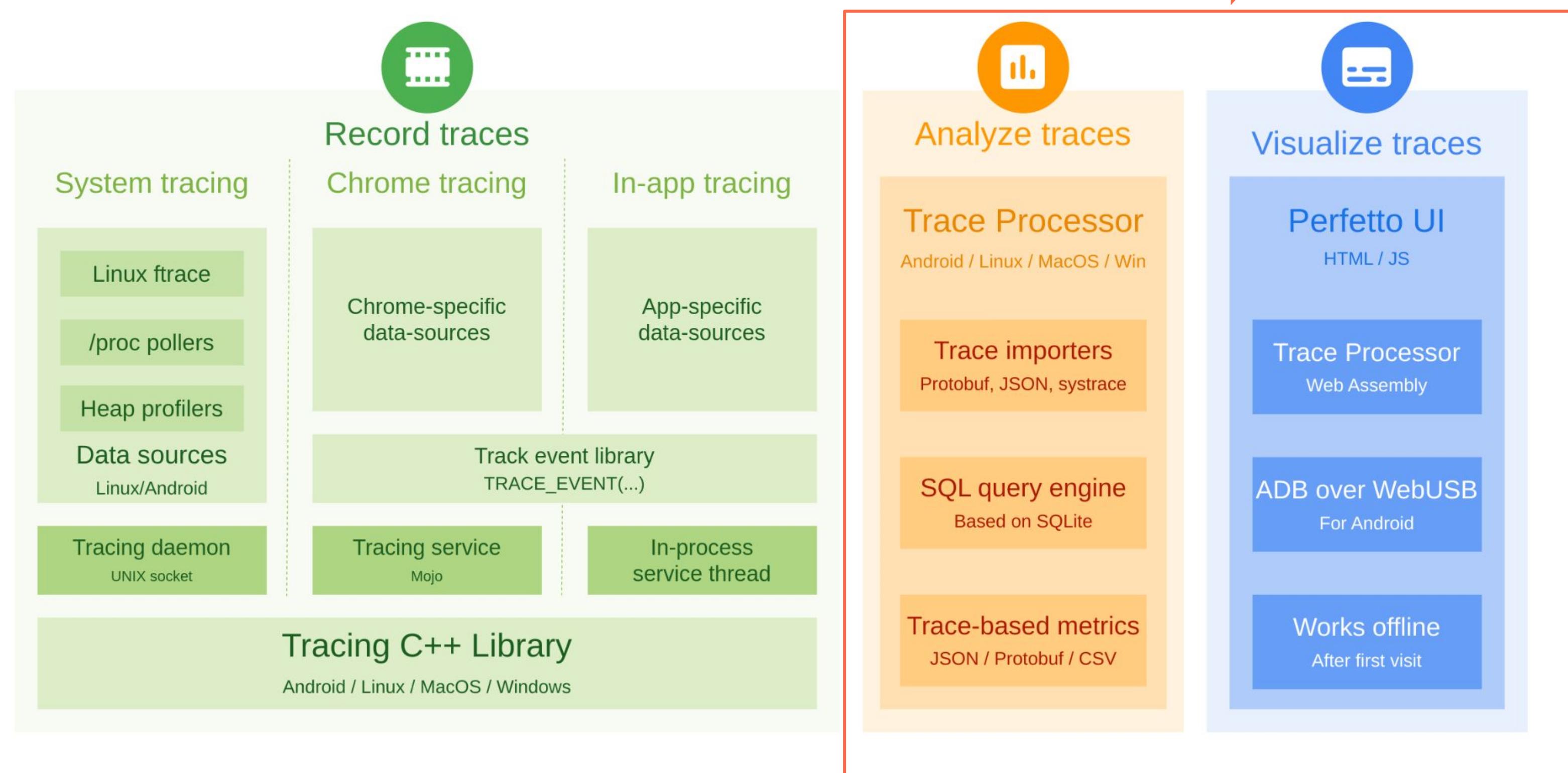
Overview Changes Tests Build Log Artifacts More



Perfetto Traceviewer

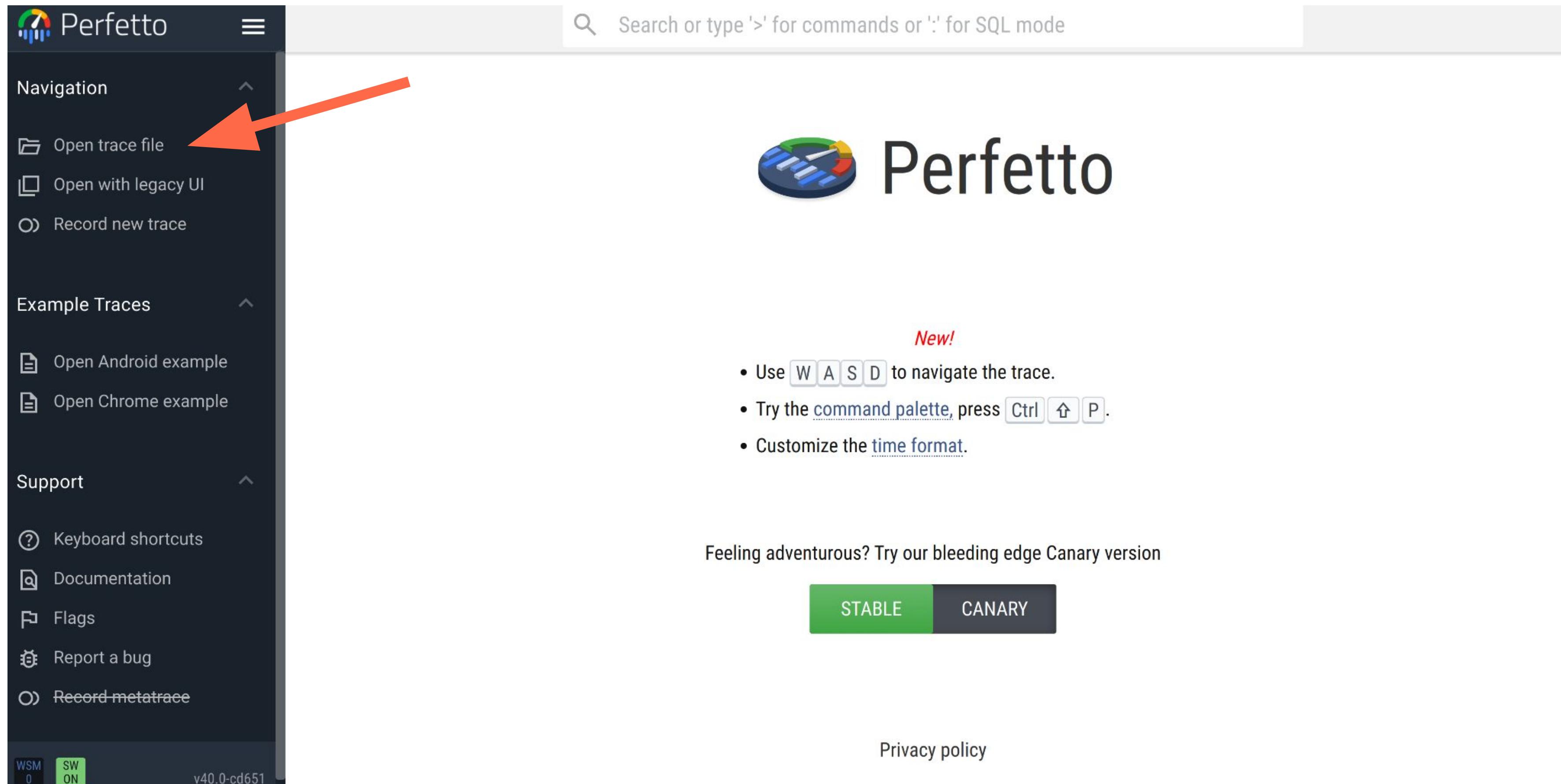
Perfetto - System profiling, app tracing and trace analysis

Perfetto is a production-grade open-source stack for performance instrumentation and trace analysis. It offers services and libraries for recording system-level and app-level traces, native + java heap profiling, a library for analyzing traces using SQL and a web-based UI to visualize and explore multi-GB traces.



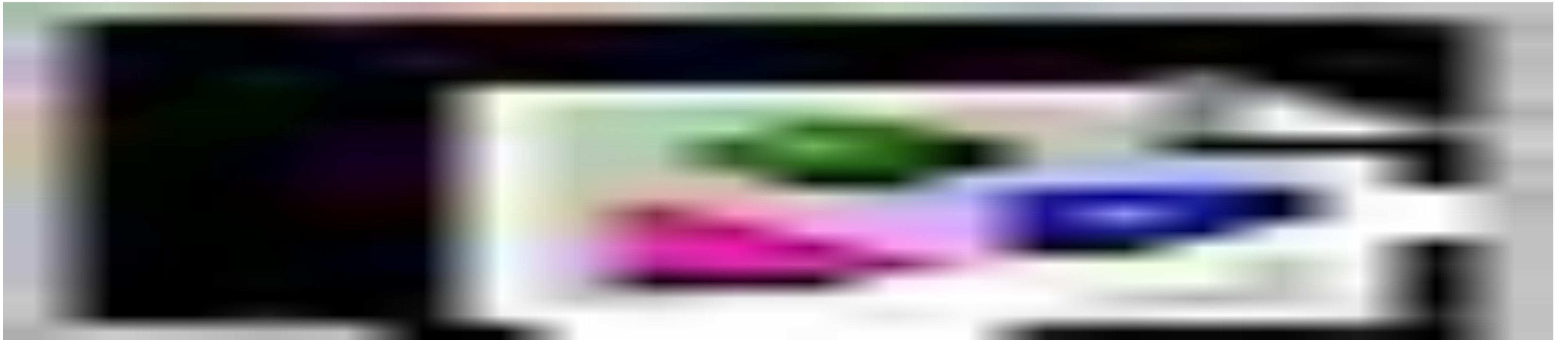
<https://ui.perfetto.dev/>

Perfetto Traceviewer



<https://ui.perfetto.dev/>

Смотрим build.trace



Много resource Gradle-таск работают одновременно

**Видим много
параллельных тасок**

Что мы имеем:

- ❑ Видим большое количество одновременных verifyResources-тасок.
- ❑ Вдруг они потребляют много памяти.
- ❑ Пробуем ограничить их одновременное количество с помощью --max-workers-параметра.



Всё равно падает

```
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    > Stream closed
```

Смотрим дальше

Хотим гипотез

Посмотрим, как этот Gradle Task устроен:

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Находим название класса таски

Смотрим код Android Gradle Plugin

```
VerifyLibraryResourcesTask.kt
```

```
111
112     override fun doTaskAction(inputChanges: InputChanges) {
113         val manifestsOutputs = BuiltArtifactsLoaderImpl().load(manifestFiles)
114         ?: throw RuntimeException("Cannot load manifests from $manifestFiles")
115         val manifestFile = Iterables.getOnlyElement(manifestsOutputs.elements).outputFile
116
117         workerExecutor.noIsolation().submit(Action::class.java) { params ->
118             params.initializeFromAndroidVariantTask(this)
119             params.androidJar.set(androidJarInput.getAndroidJar().get())
120             params.aapt2.set(aapt2)
121             params.inputs.set(inputChanges.getChangesInSerializableForm(inputDirectory))
122             params.manifestFile.set(File(manifestFile))
123             params.compiledDependenciesResources.from(compiledDependenciesResources)
124             params.manifestMergeBlameFile.set(manifestMergeBlameFile)
125             params.compiledDirectory.set(compiledDirectory)
126             params.mergeBlameFolder.set(mergeBlameFolder)
127         }
128     }
```

Видим, что создается поток через Gradle Worker API

```
import org.gradle.workers.WorkerExecutor
```

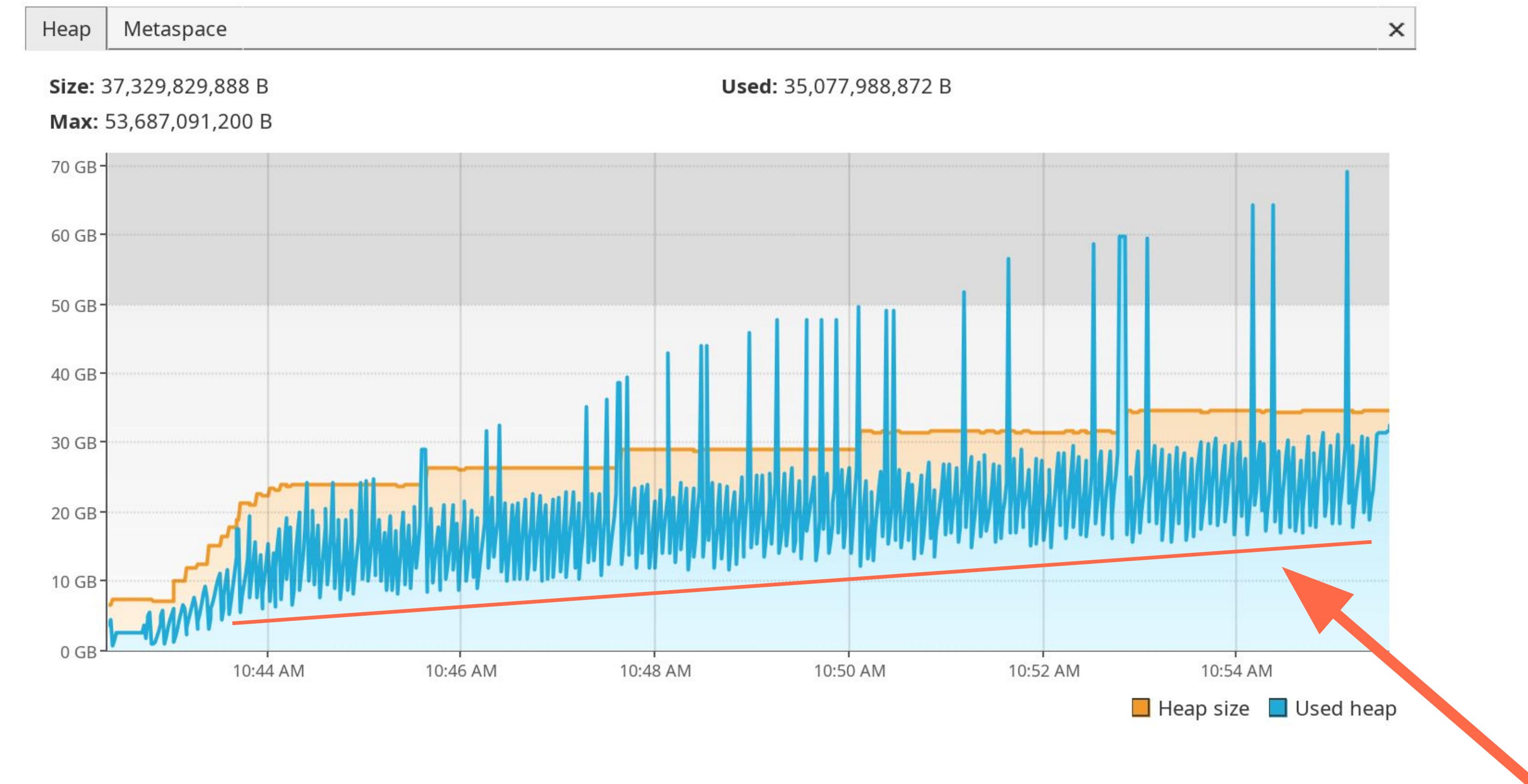
**Профилируем
потребление JVM
процесса**

Что мы имеем

- ❑ Работа выполняется в рамках процесса главного Gradle-воркера.
- ❑ Попробуем профилировать его потребление памяти.



Потребление памяти JVM-процесса во время verifyResources



Собрали статистику в инструменте для профайлинга JVM процессов – **VisualVM**

Есть запас памяти, так как GC успевает освобождать память, судя по пилообразному графику.

Разбираемся дальше

Что мы имеем:

- Уменьшение количества одновременных verifyResources-тасок не помогает.
- Проверили потребление памяти JVM-процессов.
- Там всё ок.
- Решаем копать дальше.



Смотрим код verifyResources-таски дальше

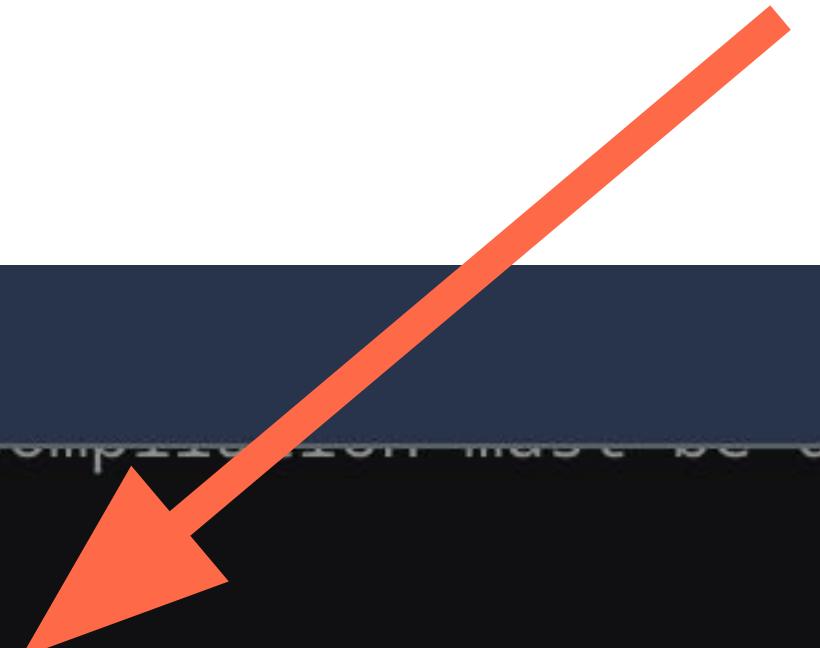
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119             params.androidJar.set(androidJarInput.getAndroidJar().get())  
120             params.aapt2.set(aapt2)  
121             params.inputs.set(inputChanges.getChangesInSerializableForm(inputDirectory))  
122             params.manifestFile.set(File(manifestFile))  
123             params.compiledDependenciesResources.from(compiledDependenciesResources)  
124             params.manifestMergeBlameFile.set(manifestMergeBlameFile)  
125             params.compiledDirectory.set(compiledDirectory)  
126             params.mergeBlameFolder.set(mergeBlameFolder)  
127         }  
128     }
```

Замечаем некий Action
Что же внутри него происходит?

Смотрим код verifyResources таски дальше

VerifyLibraryResourcesTask.kt

```
191
192     try {
193         processResources(
194             aapt = aapt2Input.getLeasingAapt2(),
195             aaptConfig = config,
196             rJar = null,
197             logger = Logging.getLogger(this::class.java),
198             errorFormatMode = aapt2Input.buildService.get().parameters.errorFormatMode.get()
199         )
200     } finally {
201         Files.deleteIfExists(linkedApk.toPath())
202     }
203 }
204 }
```



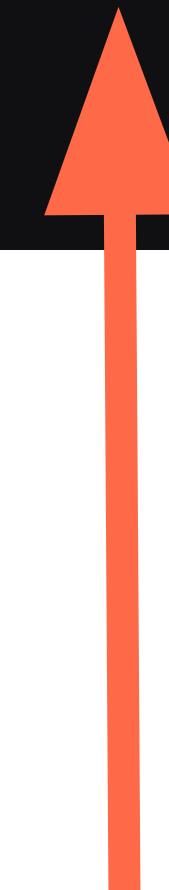
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Что же внутри него происходит?

Смотрим код verifyResources-таски дальше

Aapt2DaemonBuildService.kt

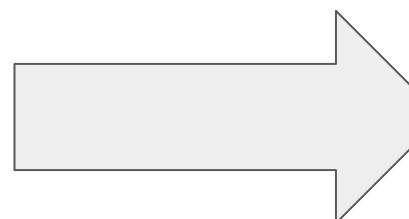
```
83     private val registeredServices = mutableSetOf<Aapt2DaemonServiceKey>()
84     private val services = mutableMapOf<Aapt2DaemonServiceKey, Aapt2DaemonManager>()
85     private val closer = Closer.create()
86     private val logger: ILogger = LoggerWrapper.getLogger(this.javaClass)
87
88     fun getLeasingAapt2(aapt2Input: Aapt2Input) : Aapt2 {
89         val manager = getManager(Aapt2DaemonServiceKey(aapt2Input.version.get()), getAapt2ExecutablePath(aapt2Input))
90         val leasingAapt2 = manager.leasingAapt2Daemon
91         return PartialInProcessResourceProcessor(leasingAapt2)
92     }
93 }
```



Смотрим код verifyResources-таски дальше

C/C++ код

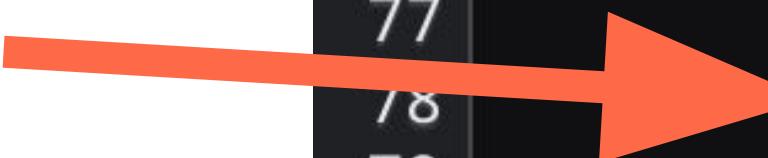
.clang-format	Debug.cpp	LoadedApk.cpp	Resource.cpp	ResourceTable.cpp	ResourceValues.cpp	SdkConstants.cpp	ValueVisitor.h
Android.bp	Debug.h	LoadedApk.h	Resource.h	ResourceTable.h	ResourceValues.h	SdkConstants.h	ValueVisitor_test.cpp
Android.mk	Diagnostics.h	Main.cpp	ResourceMetadata.proto	ResourceTable_test.cpp	ResourceValues_test.cpp	SdkConstants_test.cpp	development.md
ApkInfo.proto	DominatorTree.cpp	NameMangler.h	ResourceParser.cpp	ResourceUtils.cpp	Resource_test.cpp	ValueTransformer.cpp	formats.md
AppInfo.h	DominatorTree.h	NameMangler_test.cpp	ResourceParser.h	ResourceUtils.h	Resources.proto	ValueTransformer.h	readme.md
Configuration.proto	DominatorTree_test.cpp	OWNERS	ResourceParser_test.cpp	ResourceUtils_test.cpp	ResourcesInternal.proto	ValueTransformer_inline.h	



AAAPT
binary

Смотрим код verifyResources-таски дальше

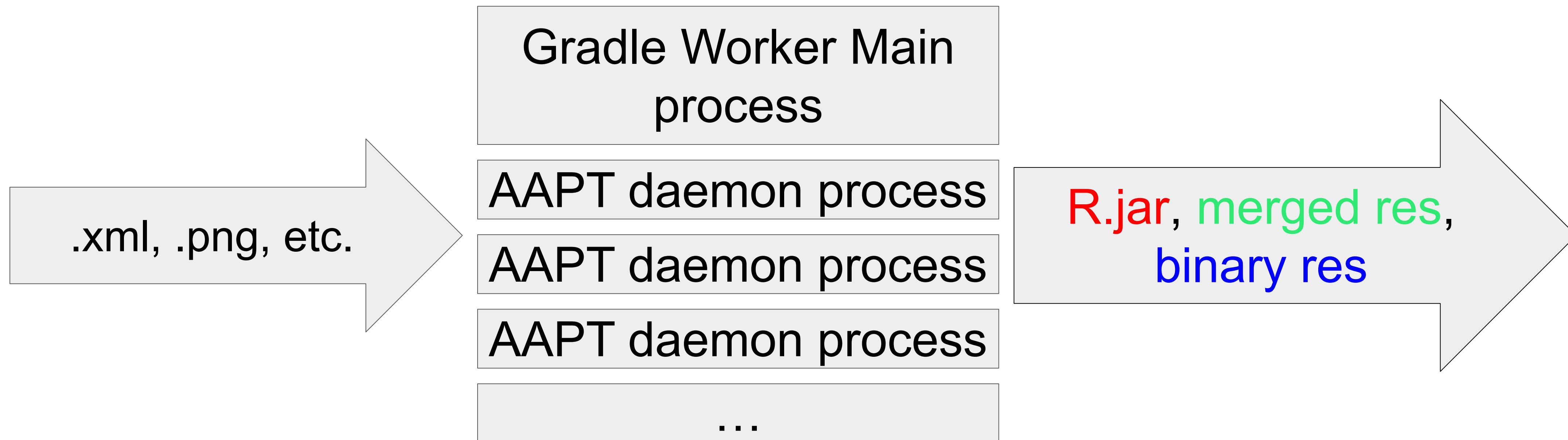
```
Aapt2DaemonManager.kt
68
69     /**
70      * Returns a [LeasedAaptDaemon], either from a pool of started daemons,
71      * or starting a new process if all the existing daemons in the pool are in use
72      *
73      * Blocks until the daemon is ready to receive commands.
74      */
75     @Synchronized
76     fun leaseDaemon(): LeasedAaptDaemon {
77         val daemon =
78             pool.find { !it.busy } ?: newAaptDaemon()
79         daemon.busy = true
80         return LeasedAaptDaemon(daemon, this::returnProcess)
81     }
```



AAPT – Android Asset Packaging Tool



AAPT – Android Asset Packaging Tool



**Смотрим потребление
всех процессов**

Что мы имеем:

- ❑ AAPT демоны – это отдельные процессы, а не потоки JVM-процесса!
- ❑ Надо смотреть потребление памяти по другому.



Используем Docker для сборки Android-приложений

Контейнеры помогают обеспечить:

- переносимость;
- воспроизводимость;
- изолированность.



Используем Docker для сборки Android-приложений

Контейнеры используют механизмы ядра Linux:

- cgroups;
- namespaces;
- etc.



Что такое cgroups

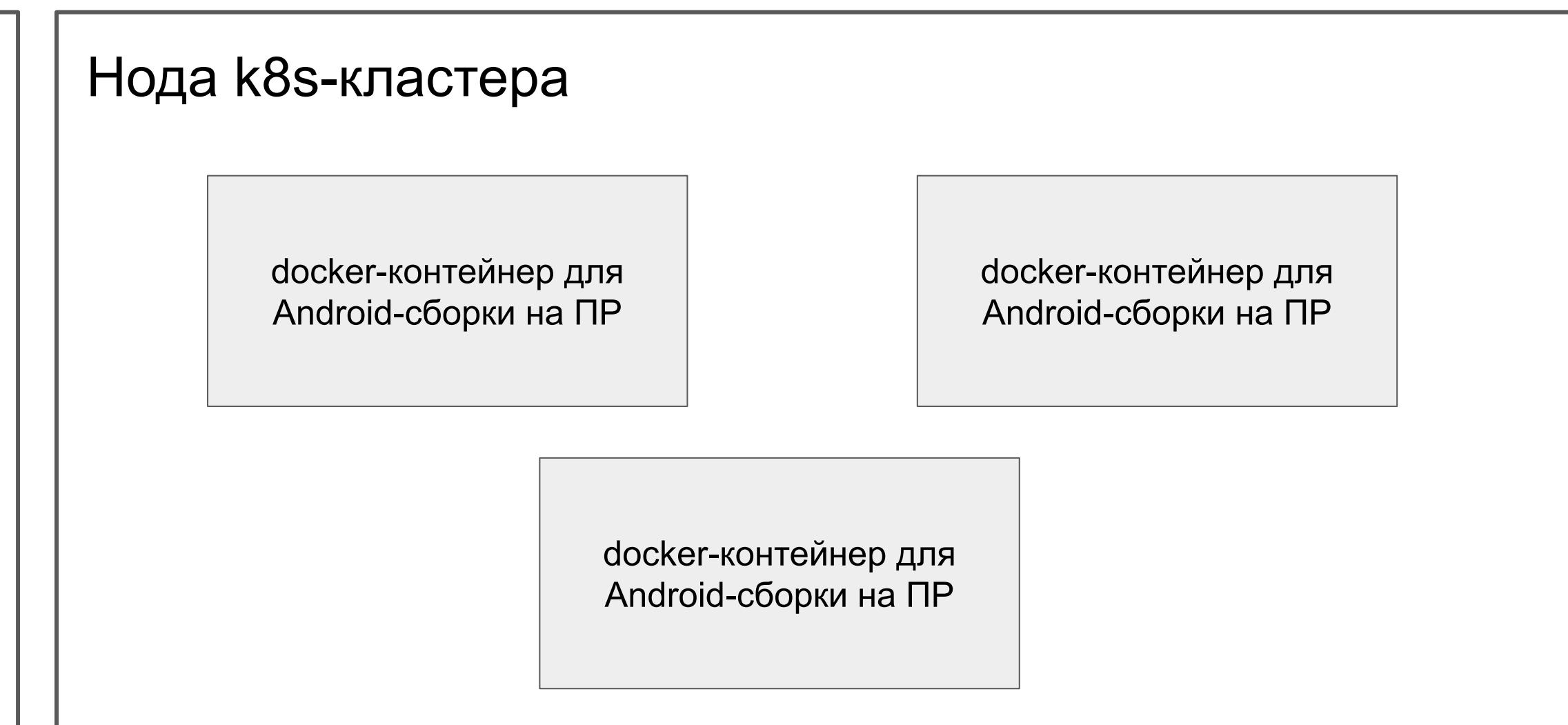
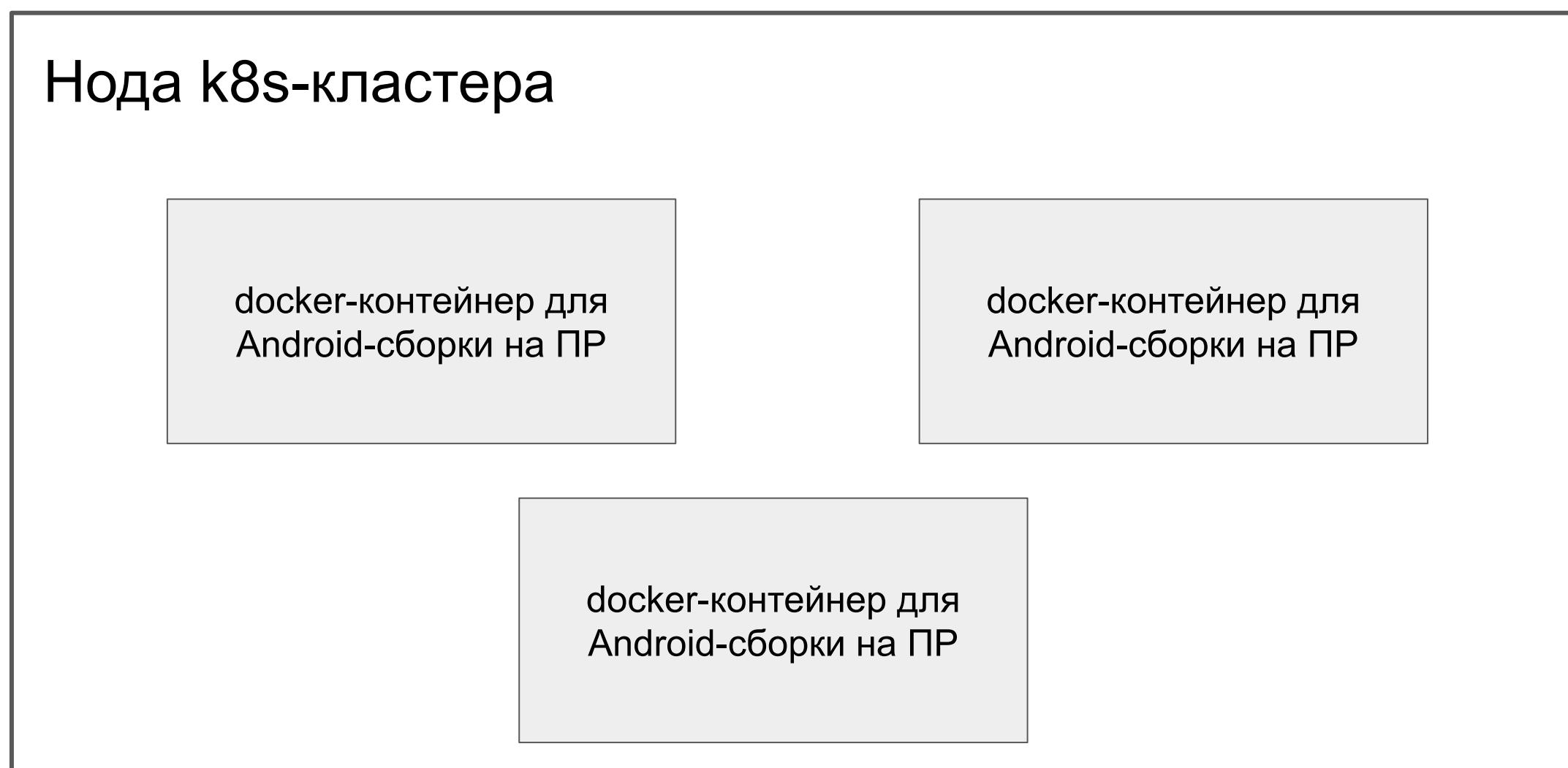
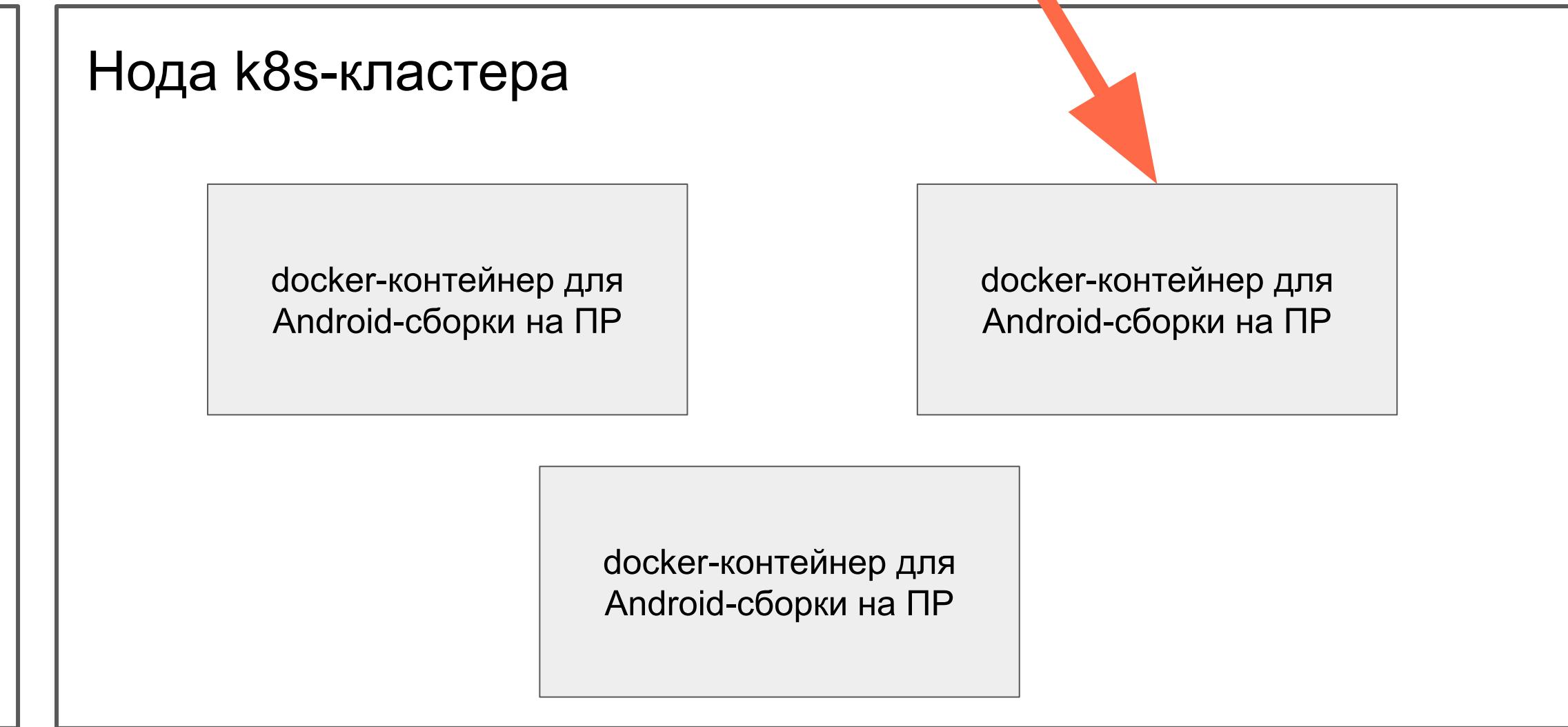
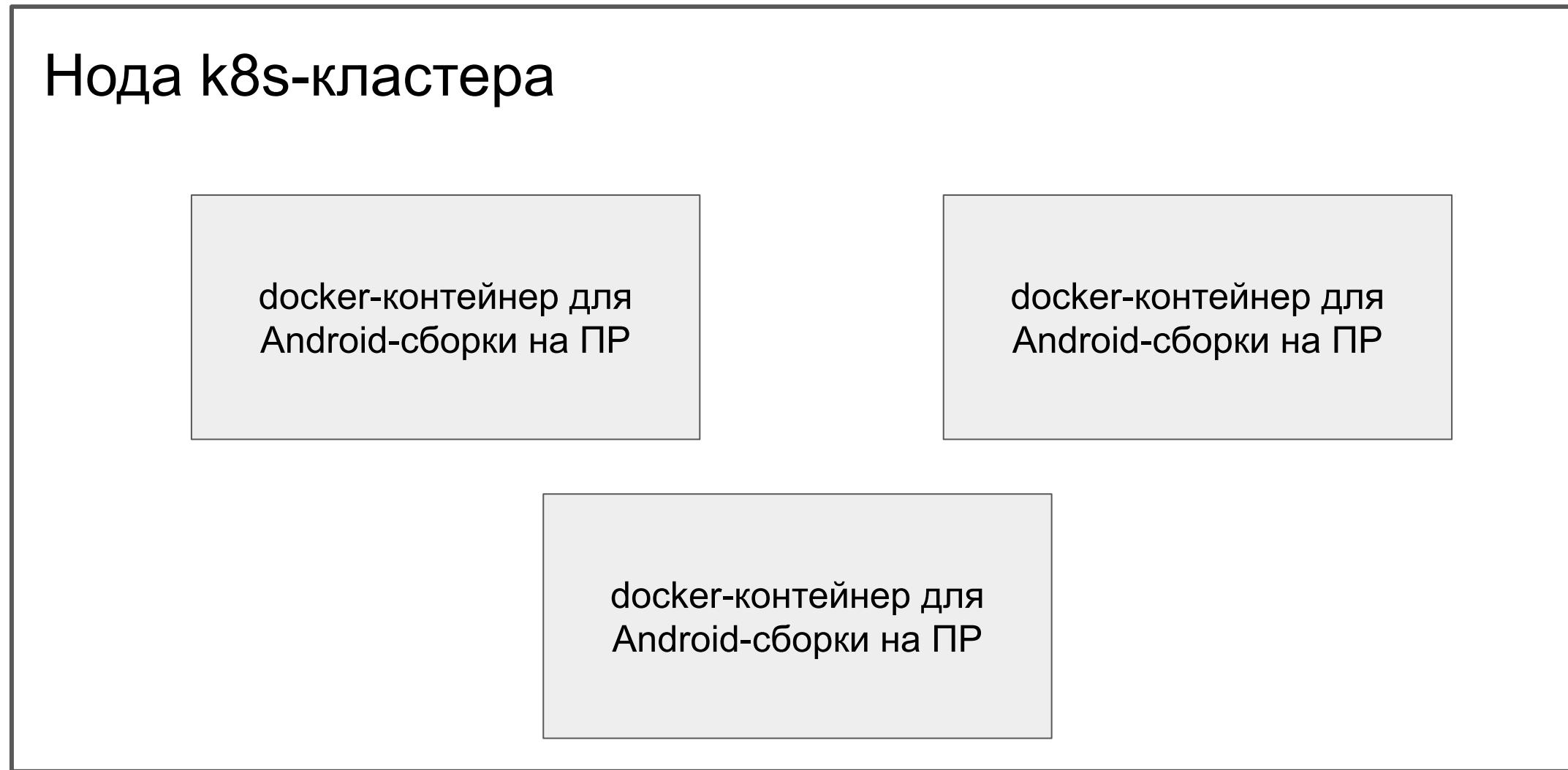
- ❑ Механизм cgroups – control groups.
- ❑ Механизм ядра для иерархической группировки процессов в Linux, чтобы разграничивать количество ресурсов.
- ❑ В нашем случае одна группа – это процессы одной сборки.
- ❑ Благодаря этому сборки не мешают друг другу на сборочной машине.
- ❑ Доступен через API с файловой иерархией по пути /sys/fs/cgroups.

limit_in_bytes
...
cgroup

mm subsystem

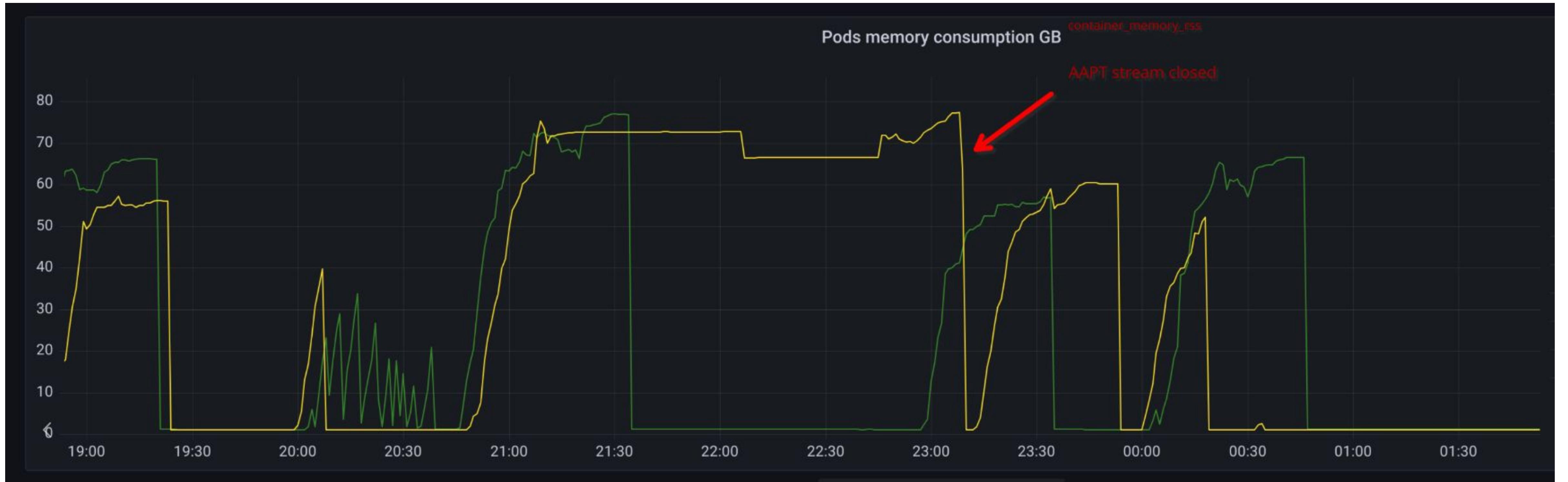
kernel

У каждого контейнера свой лимит памяти



У каждого контейнера
свой лимит по памяти

Смотрим k8s-метрики для отдельного котейнера



Перед падением видим всплеск потребления памяти

Но является ли это причиной?

**Но как понять, что
проблема уйдет, если
увеличим память?**

Что мы имеем:

- ❑ Видим подозрительный всплеск памяти.
- ❑ Но этот всплеск перед падением мог быть не связан с падением сборки.
- ❑ **Но как понять, что проблема уйдет, если увеличим память?**



Что можем еще сделать:

- ❑ Хотим найти информацию о том, что происходило в системе.
- ❑ В имеющихся дашбордах нет нужной информации.
- ❑ Такая информация есть в логах ОС Linux, которую используем для сборки.
- ❑ Например, можем посмотреть в логи ядра /dev/kmsg.
- ❑ Туда пишутся системные логи, например, от OOMKiller.



Добавили логи ядра

Поймал момент воспроизведения ошибки в логах ядра



```
[Sun Oct 15 12:06:54 2023] Task in /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
[Sun Oct 15 12:06:54 2023] memory: usage 99614720kB, limit 99614720kB, failcnt 6013536
[Sun Oct 15 12:06:54 2023] memory+swap: usage 0kB, limit 9007199254740988kB, failcnt 0
[Sun Oct 15 12:06:54 2023] kmem: usage 3418872kB, limit 9007199254740988kB, failcnt 0
[Sun Oct 15 12:06:54 2023] Memory cgroup stats for /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2
[Sun Oct 15 12:06:54 2023] Tasks state (memory values in pages):
[Sun Oct 15 12:06:54 2023] [ pid   ]  uid  tgid total_vm      rss pgtables_bytes swapents oom_score_adj name
[Sun Oct 15 12:06:54 2023] [ 75835]  0  75835    2224      897      53248      0      0 entrypoint.sh
[Sun Oct 15 12:06:54 2023] [ 75904]  0  75904    3050     1173      61440      0      0 sudo
[Sun Oct 15 12:06:54 2023] [ 75905] 1000 75905   865878     33464     606208      0      0 java
[Sun Oct 15 12:06:54 2023] [ 75960] 1000 75960 26163894 15853099 142860288      0      0 java
[Sun Oct 15 12:06:54 2023] [ 79546] 1000 79546   741784     629888     5132288      0      0 aapt2
[Sun Oct 15 12:06:54 2023] [ 79569] 1000 79569   684224     512922     4186112      0      0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80033] 1000 80033   430381     406543     3334144      0      0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80056] 1000 80056   412049     372650     3055616      0      0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80168] 1000 80168   402828     353231     2908160      0      0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80172] 1000 80172   382862     310073     2551808      0      0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80175] 1000 80175   251605     242957     2007040      0      0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80177] 1000 80177   218194     175358     1466368      0      0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80384] 1000 80384   211951     161474     1359872      0      0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80385] 1000 80385   142311     119019     1072192      0      0 aapt2
[Sun Oct 15 12:06:54 2023] [ 27466] 1000 27466   83845      77029     700416      0      0 aapt2
[Sun Oct 15 12:06:54 2023] [ 28634] 1000 28634   62972      61180     548864      0      0 aapt2
[Sun Oct 15 12:06:54 2023] [ 31371] 1000 31371   68224      63408     569344      0      0 aapt2
[Sun Oct 15 12:06:54 2023] Memory cgroup out of memory, kill process 75960 (java) score 637 or sacrifice child
[Sun Oct 15 12:06:54 2023] Killed process 79546 (aapt2) total-vm:2967136kB, anon-rss:2512204kB, file-rss:7348kB, shmem-rss:0kB
```

Поймал момент воспроизведения ошибки в логах ядра



```
Memory cgroup out of memory: Kill process 75960 (com.google.android.aapt2.manifestmerger) total-vm:2967136kB, killed:75960  
Killed process 79546 (aapt2) total-vm:2967136kB,
```

Поймал момент воспроизведения ошибки в логах ядра



Превышение лимита → OOMKiller

```
Task in /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
memory: usage 99614720kB, limit 99614720kB, failcnt 6013536
memory+swap: usage 0kB, limit 9007199254740988kB, failcnt 0
kmem: usage 3418872kB, limit 9007199254740988kB, failcnt 0
Memory cgroup stats for /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
Tasks state (memory values in pages):
[ pid ]  uid  tgid total_vm      rss pgtables_bytes swapents oom_score_adj name
[ 75835]  0    75835     2224      897      53248        0          0 entrypoint.sh
[ 75904]  0    75904     3050     1173      61440        0          0 sudo
[ 75905] 1000  75905   865878     33464     606208        0          0 java
[ 75960] 1000  75960  26163894  15853099  142860288        0          0 java
[ 79546] 1000  79546    741784     629888     5132288        0          0 aapt2
[ 79569] 1000  79569    684224     512922     4186112        0          0 aapt2
[ 80033] 1000  80033    430381     406543     3334144        0          0 aapt2
[ 80056] 1000  80056    412049     372650     3055616        0          0 aapt2
[ 80168] 1000  80168    402828     353231     2908160        0          0 aapt2
[ 80172] 1000  80172    382862     310073     2551808        0          0 aapt2
[ 80175] 1000  80175    251605     242957     2007040        0          0 aapt2
[ 80177] 1000  80177    218194     175358     1466368        0          0 aapt2
[ 80384] 1000  80384    211951     161474     1359872        0          0 aapt2
[ 80385] 1000  80385    142311     119019     1032192        0          0 aapt2
[ 27466] 1000  27466     83845     77029      700416        0          0 aapt2
[ 28634] 1000  28634     62972      61180      548864        0          0 aapt2
[ 31371] 1000  31371     68224      63408      569344        0          0 aapt2
Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
Killed process 79546 (aapt2) total-vm:2967136kB, anon-rss:2512204kB, file-rss:7348kB, shmem-rss:0kB
```

Превышение лимита → OOMKiller

```
Task in /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
memory: usage 99614720kB, limit 99614720kB, failcnt 6013536
memory+swap: usage 0kB, limit 9007199254740988kB, failcnt 0
kmem: usage 3418872kB, limit 9007199254740988kB, failcnt 0
Memory cgroup stats for /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2
Tasks state (memory values in pages):
[ pid  ]  uid  tgid total_vm      rss pgtables_bytes swapents oom_score_adj name
[ 75835]  0  75835    2224      897      53248      0          0 entrypoint.sh
[ 75904]  0  75904    3050     1173      61440      0          0 sudo
[ 75905] 1000  75905   865878     33464     606208      0          0 java
[ 75960] 1000  75960 26163894  15853099  142860288      0          0 java
[ 79546] 1000  79546   741784     629888     5132288      0          0 aapt2
[ 79569] 1000  79569   684224     512922     4186112      0          0 aapt2
[ 80033] 1000  80033   430381     406543     3334144      0          0 aapt2
[ 80056] 1000  80056   412049     372650     3055616      0          0 aapt2
[ 80168] 1000  80168   402828     353231     2908160      0          0 aapt2
[ 80172] 1000  80172   382862     310073     2551808      0          0 aapt2
[ 80175] 1000  80175   251605     242957     2007040      0          0 aapt2
[ 80177] 1000  80177   218194     175358     1466368      0          0 aapt2
[ 80384] 1000  80384   211951     161474     1359872      0          0 aapt2
[ 80385] 1000  80385   142311     119019     1032192      0          0 aapt2
[ 27466] 1000  27466   83845      77029     700416      0          0 aapt2
[ 28634] 1000  28634   62972      61180     548864      0          0 aapt2
[ 31371] 1000  31371   68224      63408     569344      0          0 aapt2
Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
Killed process 79546 (aapt2) total-vm:2967136kB, anon-rss:2512204kB, file-rss:7348kB, shmem-rss:0kB
```

Превышение лимита → OOMKiller

```

Task in /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
memory: usage 99614720kB, limit 99614720kB, failcnt 6013536
memory+swap: usage 0kB, limit 9007199254740988kB, failcnt 0
kmem: usage 3418872kB, limit 9007199254740988kB, failcnt 0

memory: usage 99614720kB, limit 99614720kB,

L 75855]   0 75855    2224     897  5048      0          0 entrypoint.s
[ 75904]   0 75904    3050    1173  61440      0          0 sudo
[ 75905] 1000 75905   865878   33464  606208      0          0 java
[ 75960] 1000 75960 26163894 15853099 142860288      0          0 java
[ 79546] 1000 79546   741784   629888  5132288      0          0 aapt2
[ 79569] 1000 79569   684224   512922  4186112      0          0 aapt2
[ 80033] 1000 80033   430381   406543  3334144      0          0 aapt2
[ 80056] 1000 80056   412049   372650  3055616      0          0 aapt2
[ 80168] 1000 80168   402828   353231  2908160      0          0 aapt2
[ 80172] 1000 80172   382862   310073  2551808      0          0 aapt2
[ 80175] 1000 80175   251605   242957  2007040      0          0 aapt2
[ 80177] 1000 80177   218194   175358  1466368      0          0 aapt2
[ 80384] 1000 80384   211951   161474  1359872      0          0 aapt2
[ 80385] 1000 80385   142311   119019  1032192      0          0 aapt2
[ 27466] 1000 27466   83845    77029  700416      0          0 aapt2
[ 28634] 1000 28634   62972    61180  548864      0          0 aapt2
[ 31371] 1000 31371   68224    63408  569344      0          0 aapt2

Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
Killed process 79546 (aapt2) total-vm:2967136kB, anon-rss:2512204kB, file-rss:7348kB, shmem-rss:0kB

```

Превышение лимита → OOMKiller

```
Task in /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
memory: usage 99614720kB, limit 99614720kB, failcnt 6013536
memory+swap: usage 0kB, limit 9007199254740988kB, failcnt 0
kmem: usage 3418872kB, limit 9007199254740988kB, failcnt 0
Memory cgroup stats for /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
Tasks state (memory values in pages):
[ pid ]  uid  tgid total_vm      rss pgtables_bytes swapents oom_score_adj name
[ 75835]  0    75835   2224      897      53248        0          0  entrypoint.sh
[ 75904]  0    75904   3050     1173      61440        0          0  sudo
[ 75905] 1000  75905  865878     33464     606208        0          0  java
[ 75960] 1000  75960 26163894  15853099  142860288        0          0  java
[ 79546] 1000  79546  741784     629888     5132288        0          0  aapt2
[ 79569] 1000  79569  684224     512922     4186112        0          0  aapt2
[ 80033] 1000  80033  430381     406543     3334144        0          0  aapt2
[ 80056] 1000  80056  412049     372650     3055616        0          0  aapt2
[ 80168] 1000  80168  402828     353231     2908160        0          0  aapt2
[ 80172] 1000  80172  382862     310073     2551808        0          0  aapt2
[ 80175] 1000  80175  251605     242957     2007040        0          0  aapt2
[ 80177] 1000  80177  218194     175358     1466368        0          0  aapt2
[ 80384] 1000  80384  211951     161474     1359872        0          0  aapt2
[ 80385] 1000  80385  142311     119019     1032192        0          0  aapt2
[ 27466] 1000  27466   83845     77029      700416        0          0  aapt2
[ 28634] 1000  28634   62972     61180      548864        0          0  aapt2
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```



Превышение лимита → OOMKiller

Память здесь измеряется в page
4000 page = 1 kB

```

Task in /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
memory: usage 99614720kB, limit 99614720kB, failcnt 6013536
memory+swap: usage 0kB, limit 9007199254740988kB, failcnt 0
kmem: usage 3418872kB, limit 9007199254740988kB, failcnt 0
Memory cgroup stats for /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
Tasks state (memory values in pages):
[ pid ]  uid  tgid total_vm      rss pgtables_bytes swapents oom_score_adj name
[ 75835]  0  75835    2224      897      53248        0          0 entrypoint.sh
[ 75904]  0  75904    3050     1173      61440        0          0 sudo
[ 75905] 1000  75905   865878     33464      606208        0          0 java
[ 75960] 1000  75960  26163894  15853099      142860288        0          0 java
[ 79546] 1000  79546    741784    629888      5132288        0          0 aapt2
[ 79569] 1000  79569    684224    512922      4186112        0          0 aapt2
[ 80033] 1000  80033    430381    406543      3334144        0          0 aapt2
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[ 80175] 1000  80175    251605    242957      2007040        0          0 aapt2
[ 80177] 1000  80177    218194    175358      1466368        0          0 aapt2
[ 80384] 1000  80384    211951    161474      1359872        0          0 aapt2
[ 80385] 1000  80385    142311    119019      1032192        0          0 aapt2
[ 27466] 1000  27466    83845     77029      700416        0          0 aapt2
[ 28634] 1000  28634    62972     61180      548864        0          0 aapt2
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Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
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```

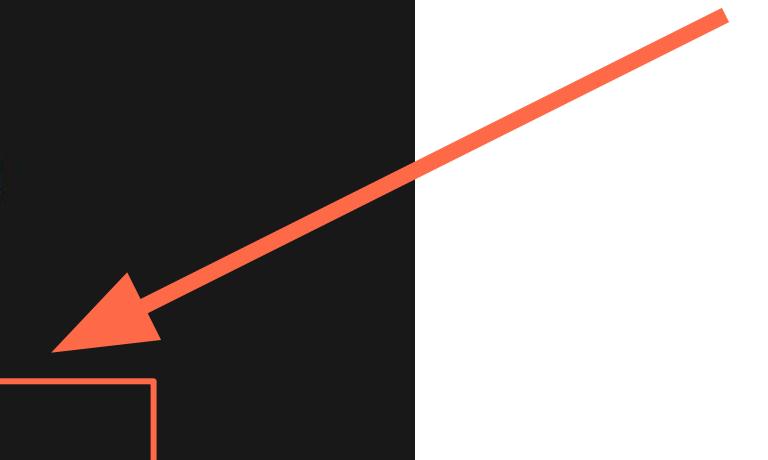
Превышение лимита → OOMKiller

```

Task in /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
memory: usage 99614720kB, limit 99614720kB, failcnt 6013536
memory+swap: usage 0kB, limit 9007199254740988kB, failcnt 0
kmem: usage 3418872kB, limit 9007199254740988kB, failcnt 0
Memory cgroup stats for /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
Tasks state (memory values in pages):
[ pid ]  uid  tgid total_vm      rss pgtables_bytes swapents oom_score_adj name
[ 75835]  0    75835   2224       897      53248        0          0 entrypoint.sh
[ 75904]  0    75904   3050      1173      61440        0          0 sudo
[ 75905] 1000  75905  865878     33464     606208        0          0 java
[ 75960] 1000  75960 26163894  15853099  142860288        0          0 java
[ 79546] 1000  79546   741784     629888     5132288        0          0 aapt2
[ 79569] 1000  79569   684224     512922     4186112        0          0 aapt2
[ 80033] 1000  80033   430381     406543     3334144        0          0 aapt2
[ 80056] 1000  80056   412049     372650     3055616        0          0 aapt2
[ 80168] 1000  80168   402828     353231     2908160        0          0 aapt2
[ 80172] 1000  80172   382862     310073     2551808        0          0 aapt2
[ 80175] 1000  80175   251605     242957     2007040        0          0 aapt2
[ 80177] 1000  80177   218194     175358     1466368        0          0 aapt2
[ 80384] 1000  80384   211951     161474     1359872        0          0 aapt2
[ 80385] 1000  80385   142311     119019     1032192        0          0 aapt2
[ 27466] 1000  27466   83845      77029      700416        0          0 aapt2
[ 28634] 1000  28634   62972      61180      548864        0          0 aapt2
[ 31371] 1000  31371   68224      63408      569344        0          0 aapt2
Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
Killed process 79546 (aapt2) total-vm:2967136kB, anon-rss:2512204kB, file-rss:7348kB, shmem-rss:0kB

```

Gradle Worker Main



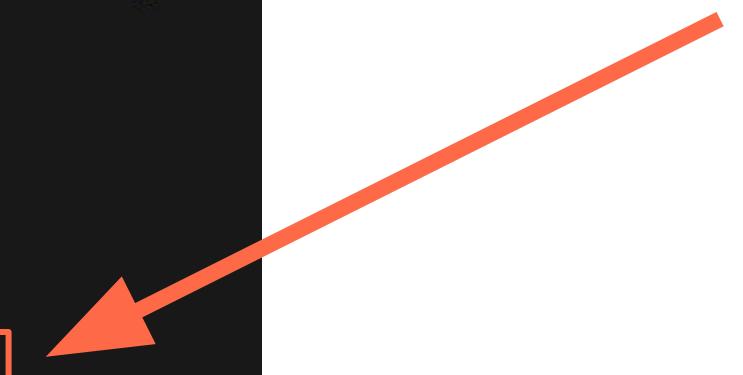
Превышение лимита → OOMKiller

```

Task in /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
memory: usage 99614720kB, limit 99614720kB, failcnt 6013536
memory+swap: usage 0kB, limit 9007199254740988kB, failcnt 0
kmem: usage 3418872kB, limit 9007199254740988kB, failcnt 0
Memory cgroup stats for /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
Tasks state (memory values in pages):
[ pid ]  uid  tgid total_vm      rss pgtables_bytes swapents oom_score_adj name
[ 75835]  0    75835   2224      897      53248       0          0  entrypoint.sh
[ 75904]  0    75904   3050     1173      61440       0          0  sudo
[ 75905]  1000  75905  865878     33464      606208       0          0  java
[ 75960]  1000  75960 26163894  15853099  142860288       0          0  java
[ 79546]  1000  79546   741784     629888      5132288       0          0  aapt2
[ 79569]  1000  79569   684224     512922      4186112       0          0  aapt2
[ 80033]  1000  80033   430381     406543      3334144       0          0  aapt2
[ 80056]  1000  80056   412049     372650      3055616       0          0  aapt2
[ 80168]  1000  80168   402828     353231      2908160       0          0  aapt2
[ 80172]  1000  80172   382862     310073      2551808       0          0  aapt2
[ 80175]  1000  80175   251605     242957      2007040       0          0  aapt2
[ 80177]  1000  80177   218194     175358      1466368       0          0  aapt2
[ 80384]  1000  80384   211951     161474      1359872       0          0  aapt2
[ 80385]  1000  80385   142311     119019      1032192       0          0  aapt2
[ 27466]  1000  27466   83845      77029      700416       0          0  aapt2
[ 28634]  1000  28634   62972      61180      548864       0          0  aapt2
[ 31371]  1000  31371   68224      63408      569344       0          0  aapt2
Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
Killed process 79546 (aapt2) total-vm:2967136kB, anon-rss:2512204kB, file-rss:7348kB, shmem-rss:0kB

```

Kotlin Compiler



Превышение лимита → OOMKiller

```

Task in /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
memory: usage 99614720kB, limit 99614720kB, failcnt 6013536
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kmem: usage 3418872kB, limit 9007199254740988kB, failcnt 0
Memory cgroup stats for /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
Tasks state (memory values in pages):
[ pid ]  uid  tgid total_vm      rss pgtables_bytes swapents oom_score_adj name
[ 75835]  0    75835   2224       897      53248        0          0 entrypoint.sh
[ 75904]  0    75904   3050      1173      61440        0          0 sudo
[ 75905] 1000  75905  865878     33464     606208        0          0 java
[ 75960] 1000  75960 26163894  15853099  142860288        0          0 java
[ 79546] 1000  79546  741784     629888     5132288        0          0 aapt2
[ 79569] 1000  79569  684224     512922     4186112        0          0 aapt2
[ 80033] 1000  80033  430381     406543     3334144        0          0 aapt2
[ 80056] 1000  80056  412049     372650     3055616        0          0 aapt2
[ 80168] 1000  80168  402828     353231     2908160        0          0 aapt2
[ 80172] 1000  80172  382862     310073     2551808        0          0 aapt2
[ 80175] 1000  80175  251605     242957     2007040        0          0 aapt2
[ 80177] 1000  80177  218194     175358     1466368        0          0 aapt2
[ 80384] 1000  80384  211951     161474     1359872        0          0 aapt2
[ 80385] 1000  80385  142311     119019     1032192        0          0 aapt2
[ 27466] 1000  27466   83845      77029      700416        0          0 aapt2
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Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
Killed process 79546 (aapt2) total-vm:2967136kB, anon-rss:2512204kB, file-rss:7348kB, shmem-rss:0kB

```

AAPT процессы

Превышение лимита → OOMKiller

```
[Sun Oct 15 12:06:54 2023] Task in /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
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[Sun Oct 15 12:06:54 2023] Memory cgroup stats for /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
[Sun Oct 15 12:06:54 2023] Tasks state (memory values in pages):
[Sun Oct 15 12:06:54 2023] [ pid   ]  uid  tgid total_vm      rss pgtables_bytes swapents oom_score_adj name
[Sun Oct 15 12:06:54 2023] [ 75835]  0 75835    2224      897      53248      0          0 entrypoint.sh
[Sun Oct 15 12:06:54 2023] [ 75904]  0 75904    3050     1173      61440      0          0 sudo
[Sun Oct 15 12:06:54 2023] [ 75905] 1000 75905   865878     33464     606208      0          0 java
[Sun Oct 15 12:06:54 2023] [ 75960] 1000 75960 26163894 15853099 142860288      0          0 java
[Sun Oct 15 12:06:54 2023] [ 79546] 1000 79546   741784     629888     5132288      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 79569] 1000 79569   684224     512922     4186112      0          0 aapt2
```

Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
 Killed process 79546 (aapt2) total-vm:2967136kB, anon-rss:2512204kB, file-rss:7348kB,

```
[Sun Oct 15 12:06:54 2023] [ 80175] 1000 80175 251605 242957 2007040      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80177] 1000 80177 218194 175358 1466368      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80384] 1000 80384 211951 161474 1359872      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80385] 1000 80385 142311 119019 1032192      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 27466] 1000 27466 83845 77029 700416      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 28634] 1000 28634 62972 61180 548864      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 31371] 1000 31371 68224 63408 569344      0          0 aapt2
[Sun Oct 15 12:06:54 2023] Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
[Sun Oct 15 12:06:54 2023] Killed process 79546 (aapt2) total-vm:2967136kB, anon-rss:2512204kB, file-rss:7348kB, shmem-rss:0kB
```

Превышение лимита → OOMKiller

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[Sun Oct 15 12:06:54 2023] memory: usage 99614720kB, limit 99614720kB, failcnt 6013536
[Sun Oct 15 12:06:54 2023] memory+swap: usage 0kB, limit 9007199254740988kB, failcnt 0
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[Sun Oct 15 12:06:54 2023] Memory cgroup stats for /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
[Sun Oct 15 12:06:54 2023] Tasks state (memory values in pages):
[Sun Oct 15 12:06:54 2023] [ pid   ]  uid  tgid total_vm      rss pgtables_bytes swapents oom_score_adj name
[Sun Oct 15 12:06:54 2023] [ 75835]    0 75835     2224      897      53248      0          0 entrypoint.sh
[Sun Oct 15 12:06:54 2023] [ 75904]    0 75904     3050     1173      61440      0          0 sudo
[Sun Oct 15 12:06:54 2023] [ 75905]  1000 75905    865878     33464     606208      0          0 java
[Sun Oct 15 12:06:54 2023] [ 75960]  1000 75960  26163894  15853099  142860288      0          0 java
[Sun Oct 15 12:06:54 2023] [ 79546]  1000 79546    741784     629888     5132288      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 79569]  1000 79569    684224     512922     4186112      0          0 aapt2
```

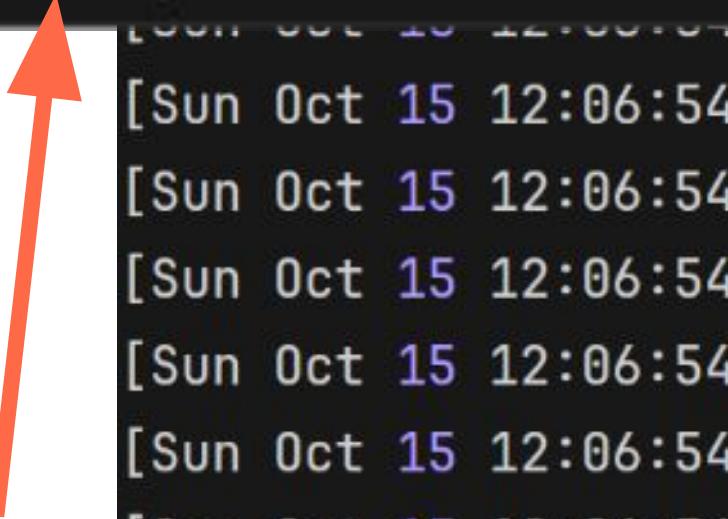
Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
 Killed process 79546 (aapt2) total-vm:2967136kB, anon-rss:2512204kB, file-rss:7348kB,

```
↑
[Sun Oct 15 12:06:54 2023] [ 80175] 1000 80175  251605  242957  2007040      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80177] 1000 80177  218194  175358  1466368      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80384] 1000 80384  211951  161474  1359872      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80385] 1000 80385  142311  119019  1032192      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 27466] 1000 27466  83845   77029   700416      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 28634] 1000 28634  62972   61180   548864      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 31371] 1000 31371  68224   63408   569344      0          0 aapt2
[Sun Oct 15 12:06:54 2023] Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
[Sun Oct 15 12:06:54 2023] Killed process 79546 (aapt2) total-vm:2967136kB, anon-rss:2512204kB, file-rss:7348kB, shmem-rss:0kB
```

Превышение лимита → OOMKiller

```
[Sun Oct 15 12:06:54 2023] Memory cgroup stats for /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4
[Sun Oct 15 12:06:54 2023] Tasks state (memory values in pages):
[Sun Oct 15 12:06:54 2023] [ pid   ]  uid  tgid total_vm      rss pgtables_bytes swapents oom_score_adj name
[Sun Oct 15 12:06:54 2023] [ 75835]    0 75835     2224      897      53248      0          0 entrypoint.sh
[Sun Oct 15 12:06:54 2023] [ 75904]    0 75904     3050     1173      61440      0          0 sudo
[Sun Oct 15 12:06:54 2023] [ 75905]  1000 75905   865878     33464     606208      0          0 java
[Sun Oct 15 12:06:54 2023] [ 75960]  1000 75960 26163894 15853099 142860288      0          0 java
[Sun Oct 15 12:06:54 2023] [ 90937]  1000 90937 8888669 4714664 39632896      0          0 java
[Sun Oct 15 12:06:54 2023] [ 79546]  1000 79546    741784     629888     5132288      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 79569]  1000 79569    684224     512922     4186112      0          0 aapt2
```

Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
 Killed process 90937 (java) total-vm:35554676kB, anon-rss:18817352kB, file-rss:41304kB



[Sun Oct 15 12:06:54 2023]	[pid]	uid	tgid	total_vm	rss	pgtables_bytes	swapents	oom_score_adj	name
	[80175]	1000	80175	251605	242957	2007040	0	0	aapt2
	[80177]	1000	80177	218194	175358	1466368	0	0	aapt2
	[80384]	1000	80384	211951	161474	1359872	0	0	aapt2
	[80385]	1000	80385	142311	119019	1032192	0	0	aapt2
	[27466]	1000	27466	83845	77029	700416	0	0	aapt2
	[28634]	1000	28634	62972	61180	548864	0	0	aapt2
	[31371]	1000	31371	68224	63408	569344	0	0	aapt2
[Sun Oct 15 12:06:54 2023]									Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
[Sun Oct 15 12:06:54 2023]									Killed process 90937 (java) total-vm:35554676kB, anon-rss:18817352kB, file-rss:41304kB, shmem-rss:0kB

Это касается некоторых других flaky-проблем:

- ❑ Gradle build daemon disappeared unexpectedly;
- ❑ Robolectric tests error 137.

Что в итоге:

Повысили лимиты памяти для docker

Commits



Vyacheslav Kovalev authored [8946cc52aa3](#) ⌂ 04 Oct 2023

MBSA-1145 increase memory limit to avoid aapt and unit tests ooms

Что в итоге:

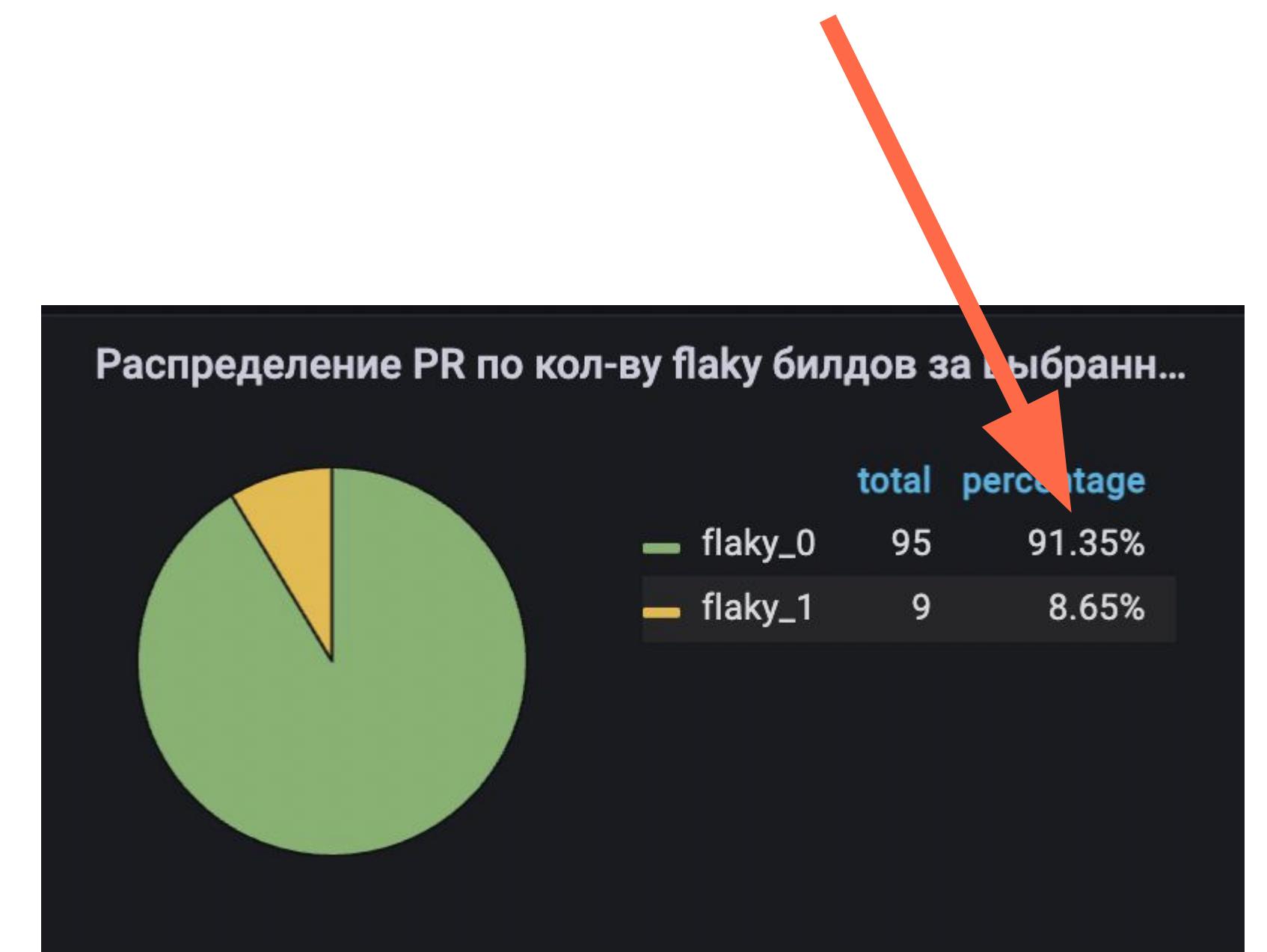
Проблема ушла!

- Повысили лимиты памяти для docker.
- Сборки теперь не падают с ААРТ.



Что в итоге:

Стало меньше PR с flaky-сборками и перезапусками!



Что в итоге:

Стало меньше PR с flaky-сборками и перезапусками!



86.32% → 91.35%

* не 100% так как есть flaky тесты



Что в итоге:

Проблема ушла!

- Повысили лимиты памяти для docker.
- Сборки теперь не падают с AAPT.
- Стало меньше flaky-сборок и перезапусков.



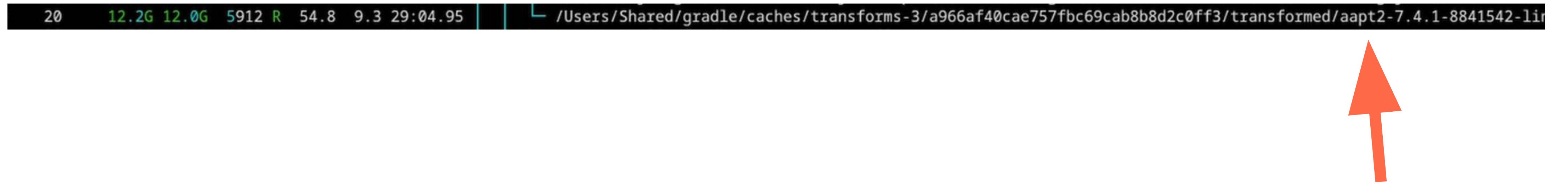
**Хотим упредждать такие
аварии**

Хотим упреждать такие аварии

- Требуется:
 - Возможность наблюдать в CI, какие процессы что потребляют во время сборки



Смотрим в системный монитор во время сборки



```
20 12.2G 12.0G 5912 R 54.8 9.3 29:04.95 | | L /Users/Shared/gradle/caches/transforms-3/a966af40cae757fbc69cab8b8d2c0ff3/transformed/aapt2-7.4.1-8841542-lir
```

A screenshot of the htop process monitor showing system resource usage. The top row displays CPU usage (20%), memory usage (12.2G total, 12.0G used), swap usage (5912), and other system metrics (R 54.8, 9.3, 29:04.95). Below this, a list of processes is shown, with the last entry being a gradle task. A red arrow points to the memory usage row at the top.

Скриншот из htop

Смотрим в системный монитор во время сборки

```
20 12.2G 12.0G 5912 R 54.8 9.3 29:04.95 | | L /Users/Shared/gradle/caches/transforms-3/a966af40cae757fbc69cab8b8d2c0ff3/transformed/aapt2-7.4.1-8841542-lir
```

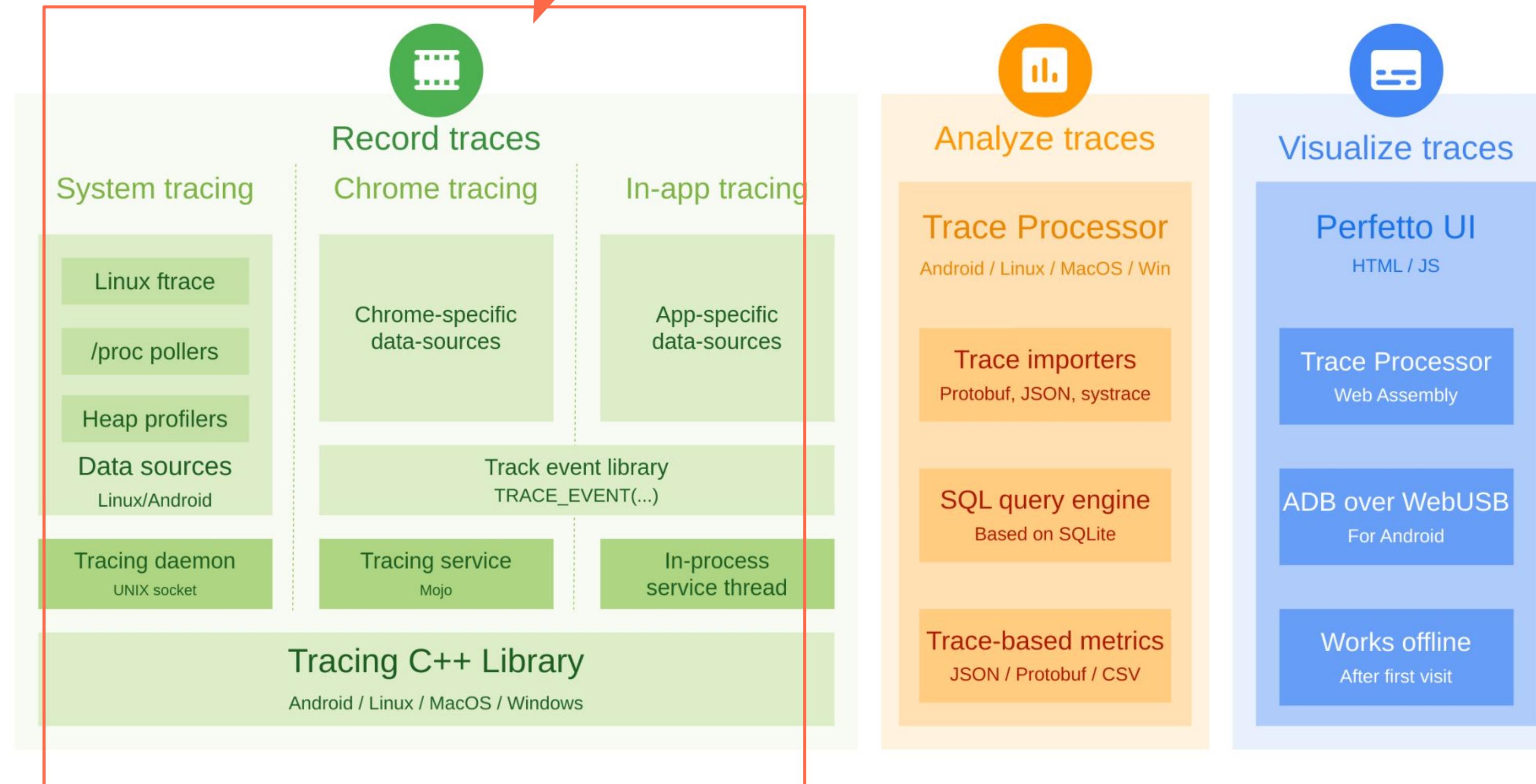


Скриншот из htop

Perfetto.dev

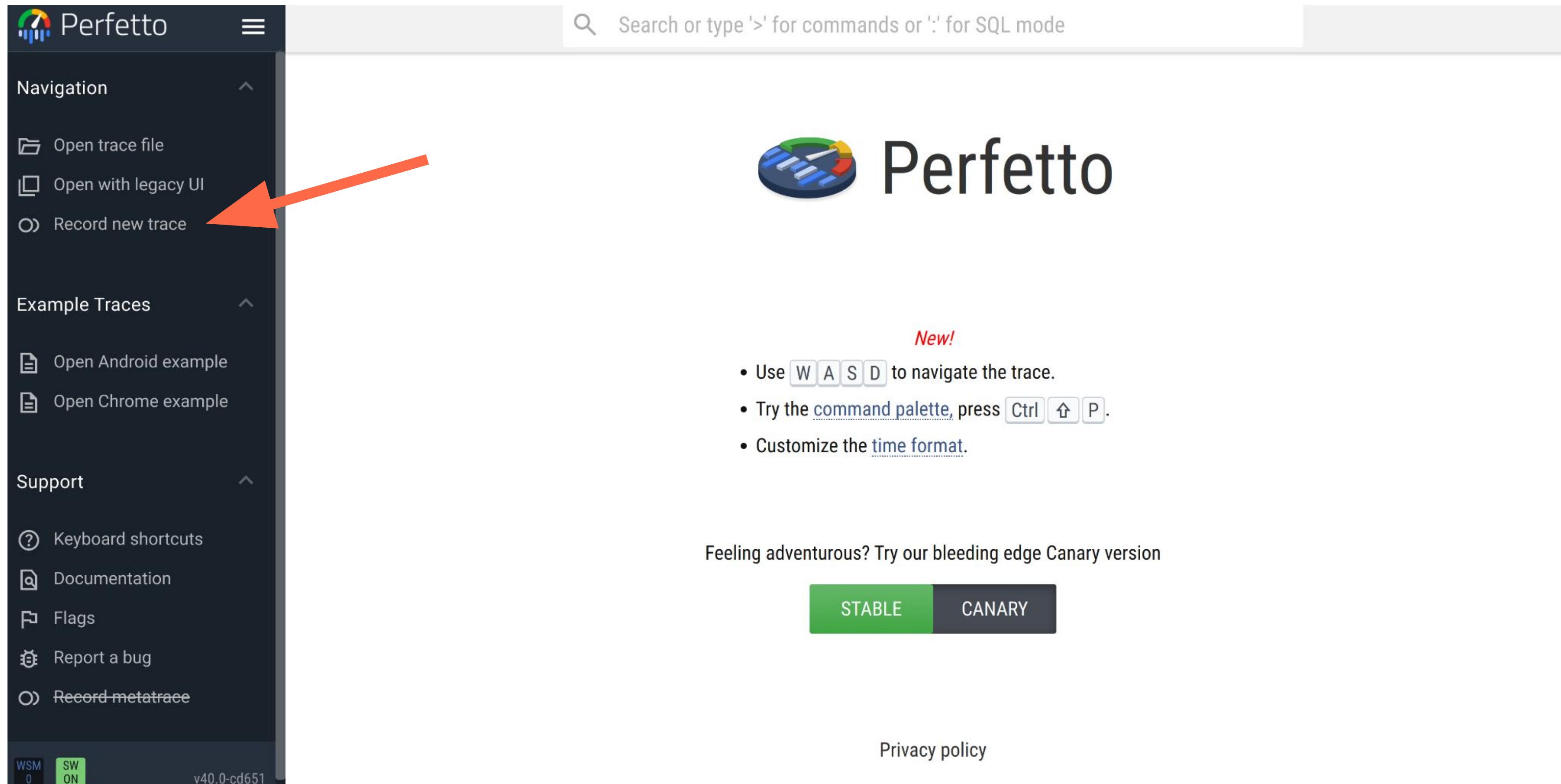
Perfetto - System profiling, app tracing and trace analysis

Perfetto is a production-grade open-source stack for performance instrumentation and trace analysis. It offers services and libraries for recording system-level and app-level traces, native + java heap profiling, a library for analyzing traces using SQL and a web-based UI to visualize and explore multi-GB traces.



<https://ui.perfetto.dev/>

Perfetto.dev



The screenshot shows the main interface of the Perfetto.dev website. On the left, there is a dark sidebar with the following sections and items:

- Navigation**
 - Open trace file
 - Open with legacy UI
 - Record new trace** (highlighted with a red arrow)
- Example Traces**
 - Open Android example
 - Open Chrome example
- Support**
 - Keyboard shortcuts
 - Documentation
 - Flags
 - Report a bug
 - Record metatrace

At the bottom of the sidebar, there are two status indicators: "WSM 0" and "SW ON".

The main content area features a large "Perfetto" logo with a circular icon. Below the logo, there is a "New!" section with the following bullet points:

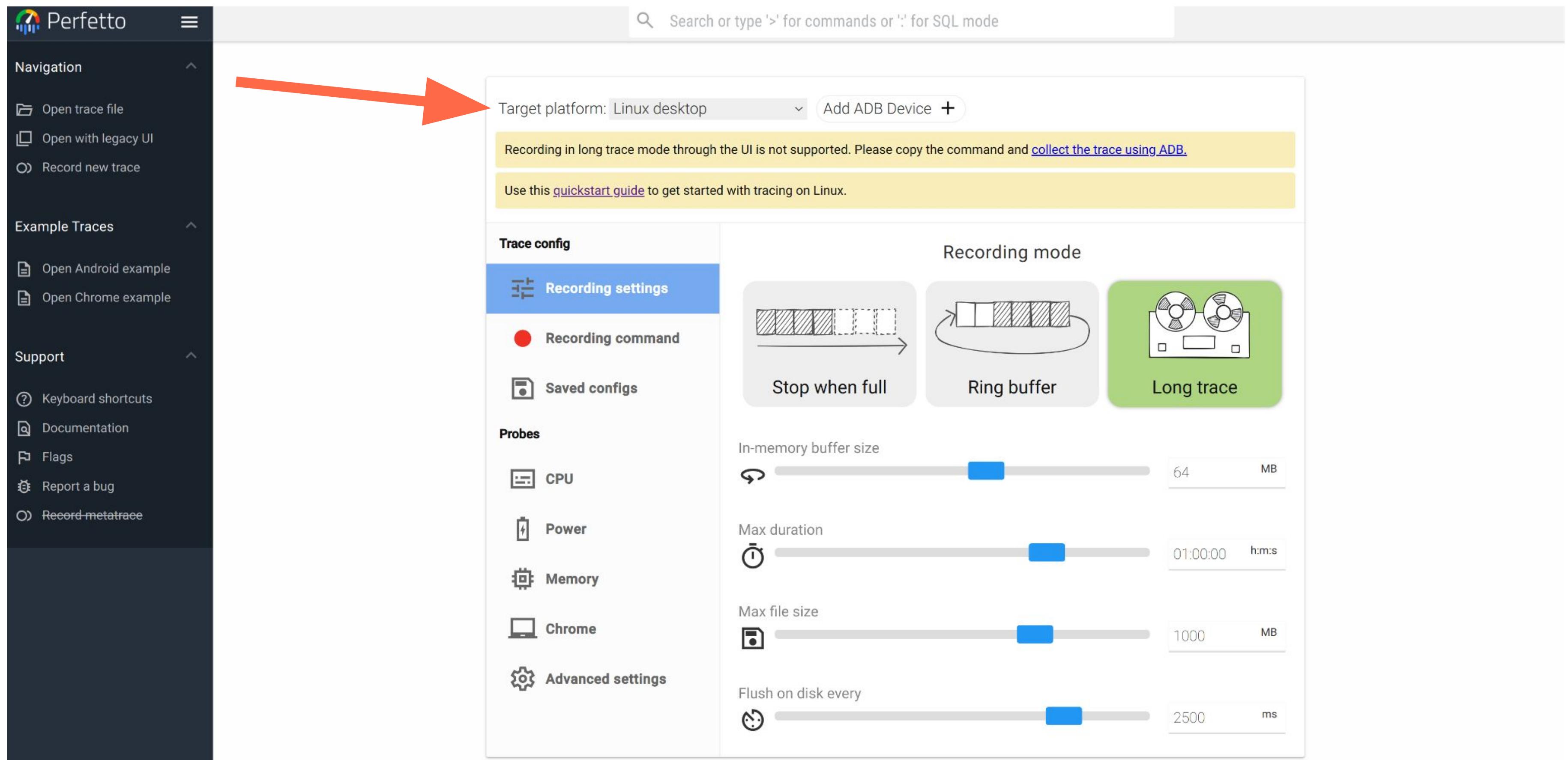
- Use `W A S D` to navigate the trace.
- Try the command palette, press `Ctrl P`.
- Customize the time format.

Below this, there is a link to the Canary version: "Feeling adventurous? Try our bleeding edge Canary version". At the bottom right, there are "STABLE" and "CANARY" buttons.

At the very bottom center, there is a link to the "Privacy policy".

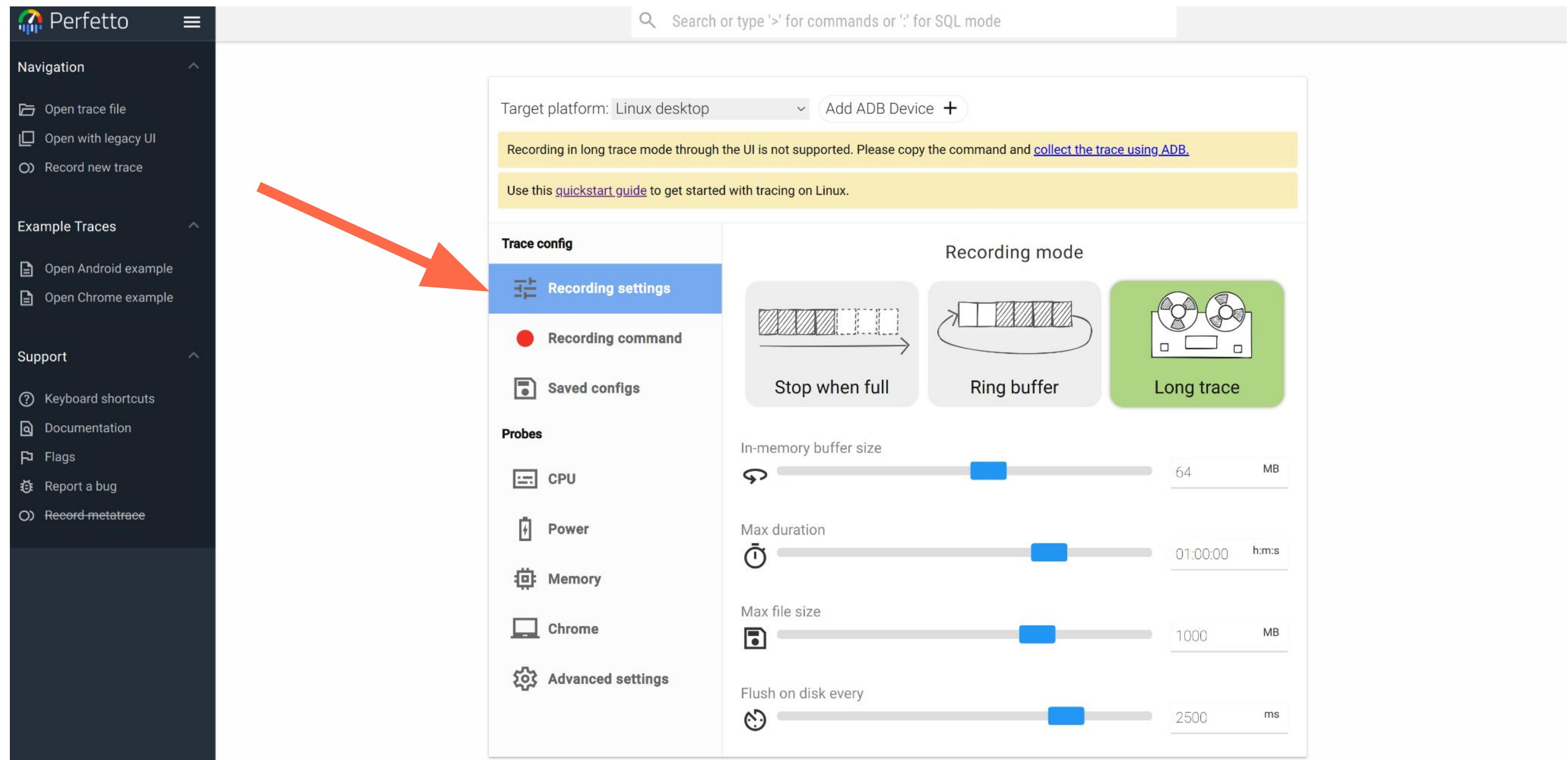
<https://ui.perfetto.dev/>

Perfetto.dev



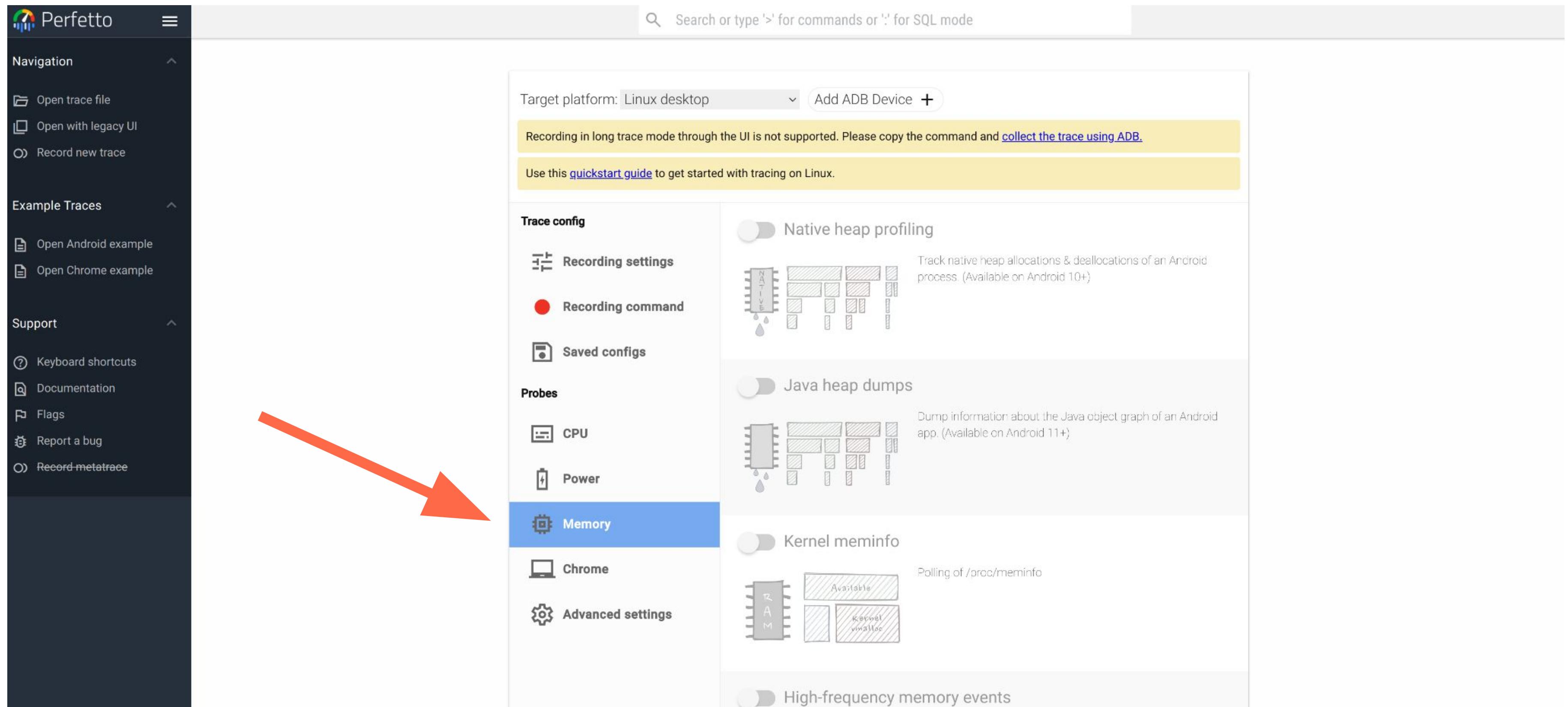
<https://ui.perfetto.dev/>

Perfetto.dev



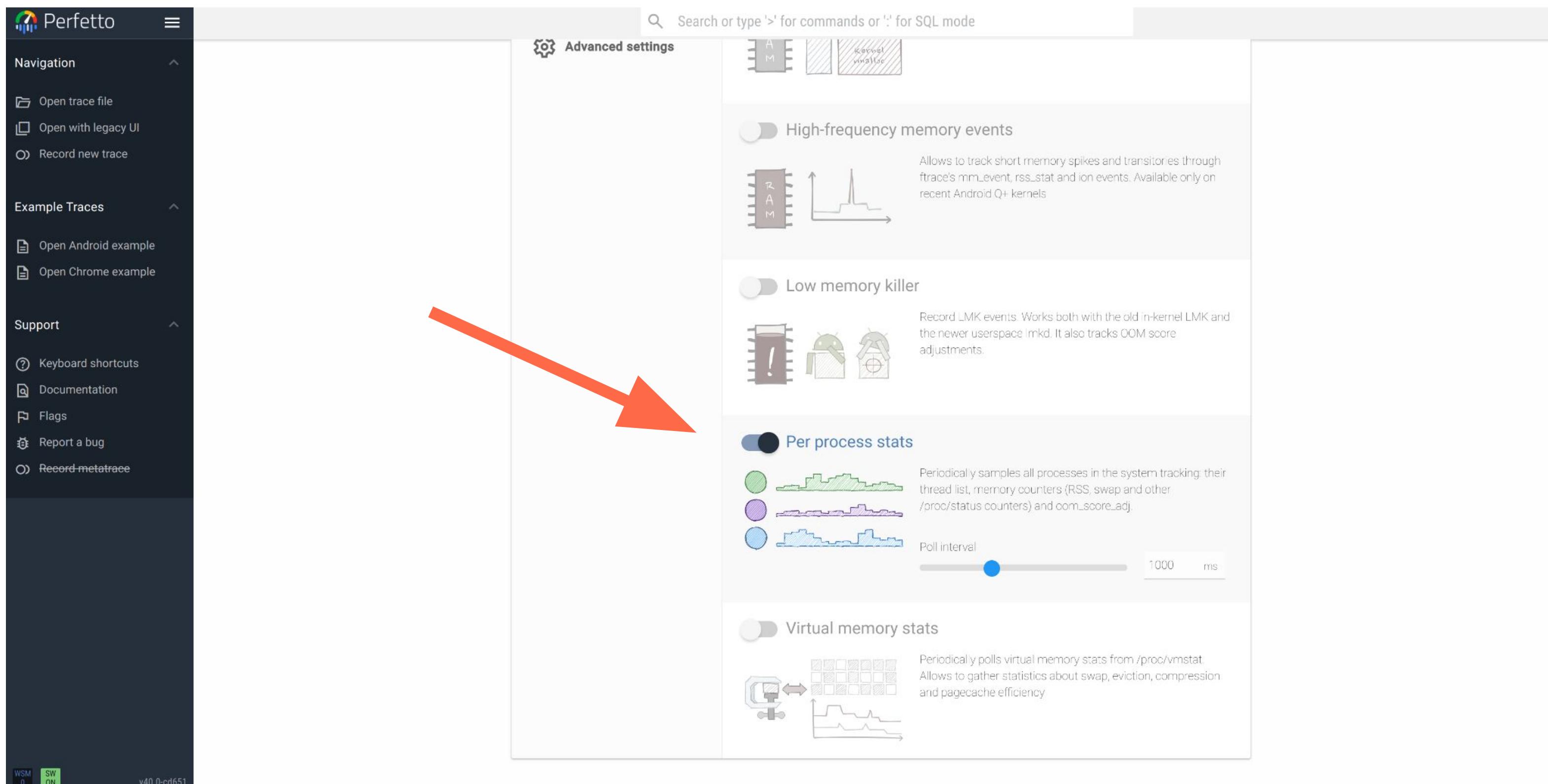
<https://ui.perfetto.dev/>

Perfetto.dev



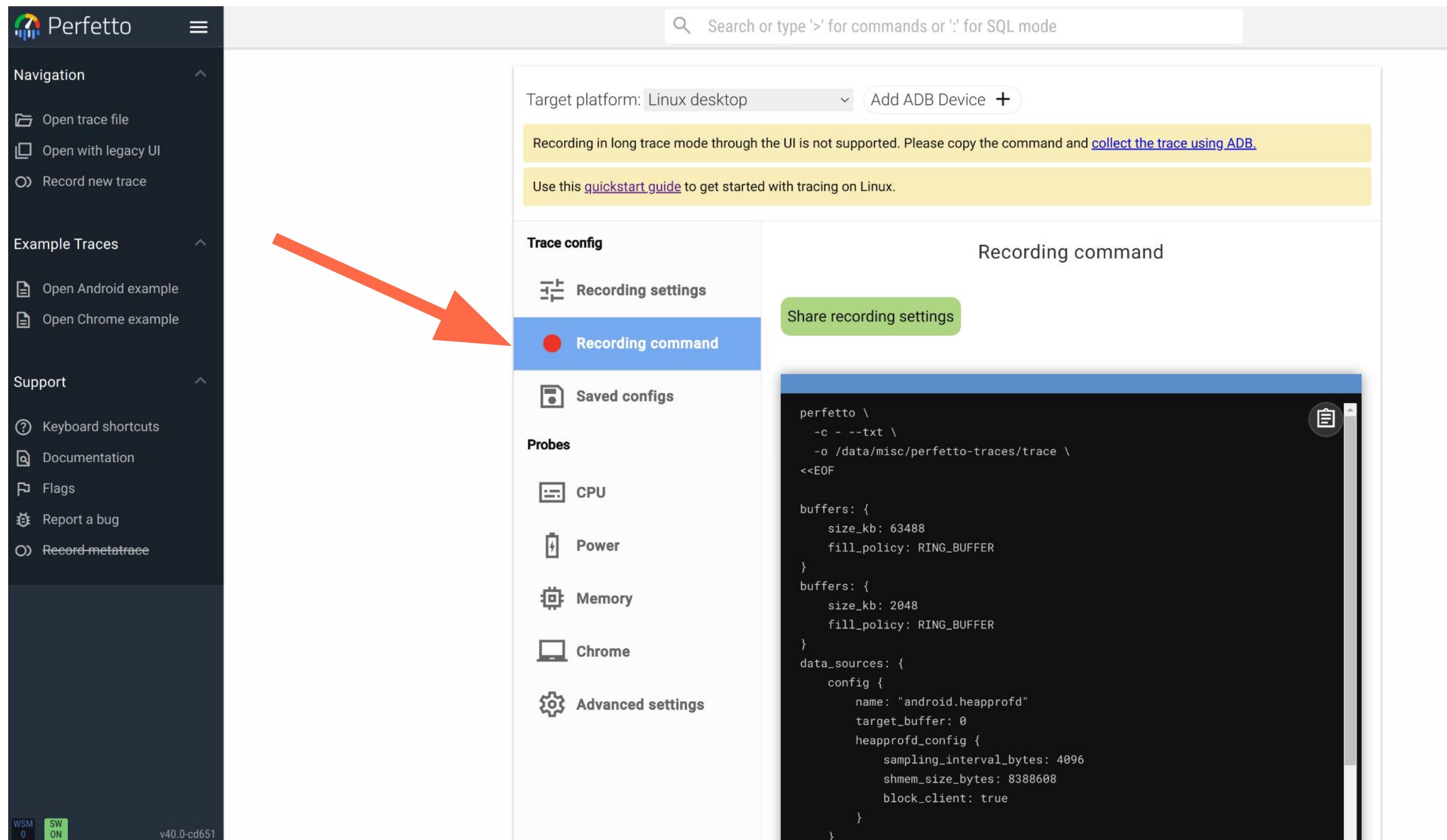
<https://ui.perfetto.dev/>

Perfetto.dev



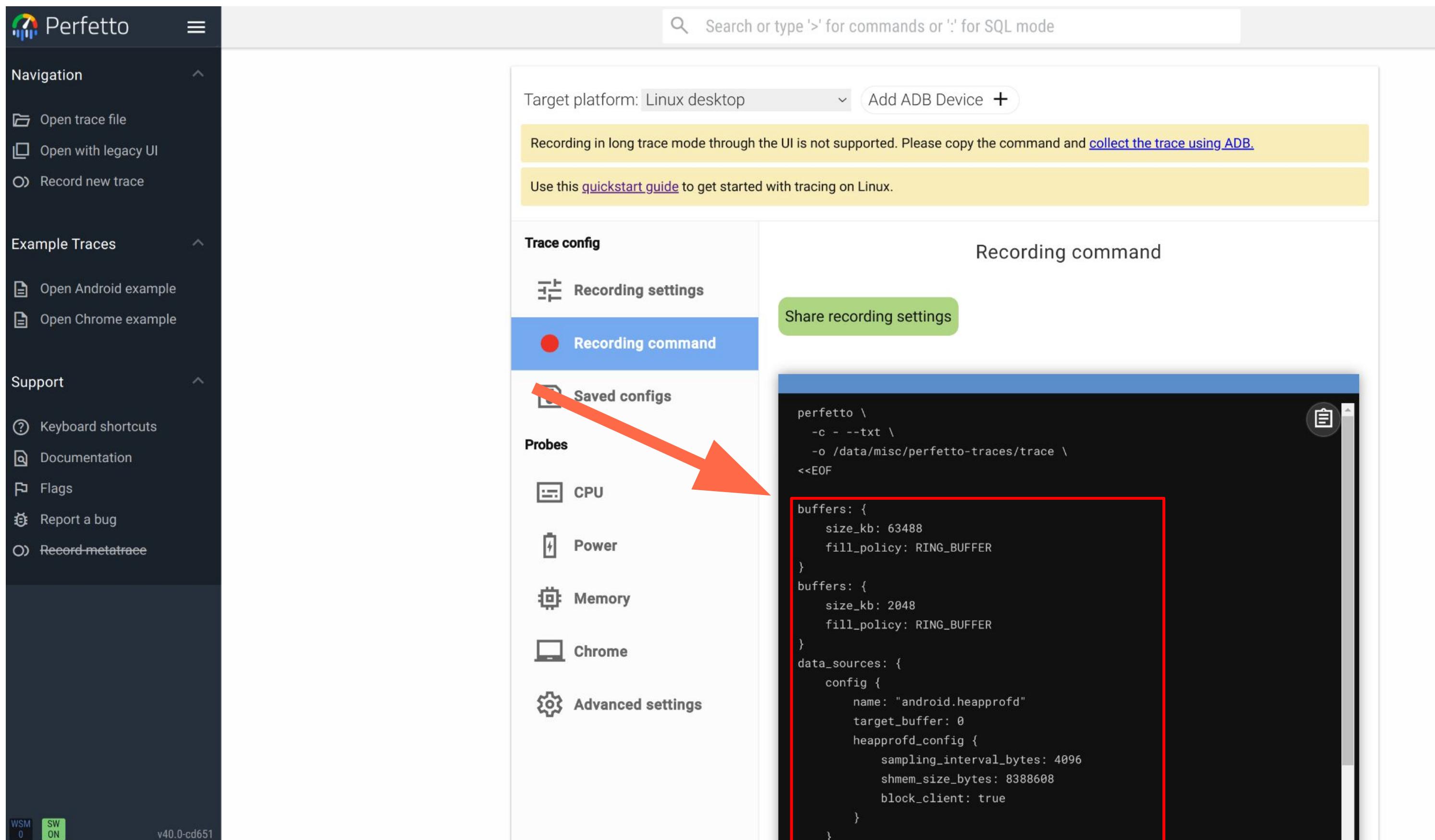
<https://ui.perfetto.dev/>

Perfetto.dev



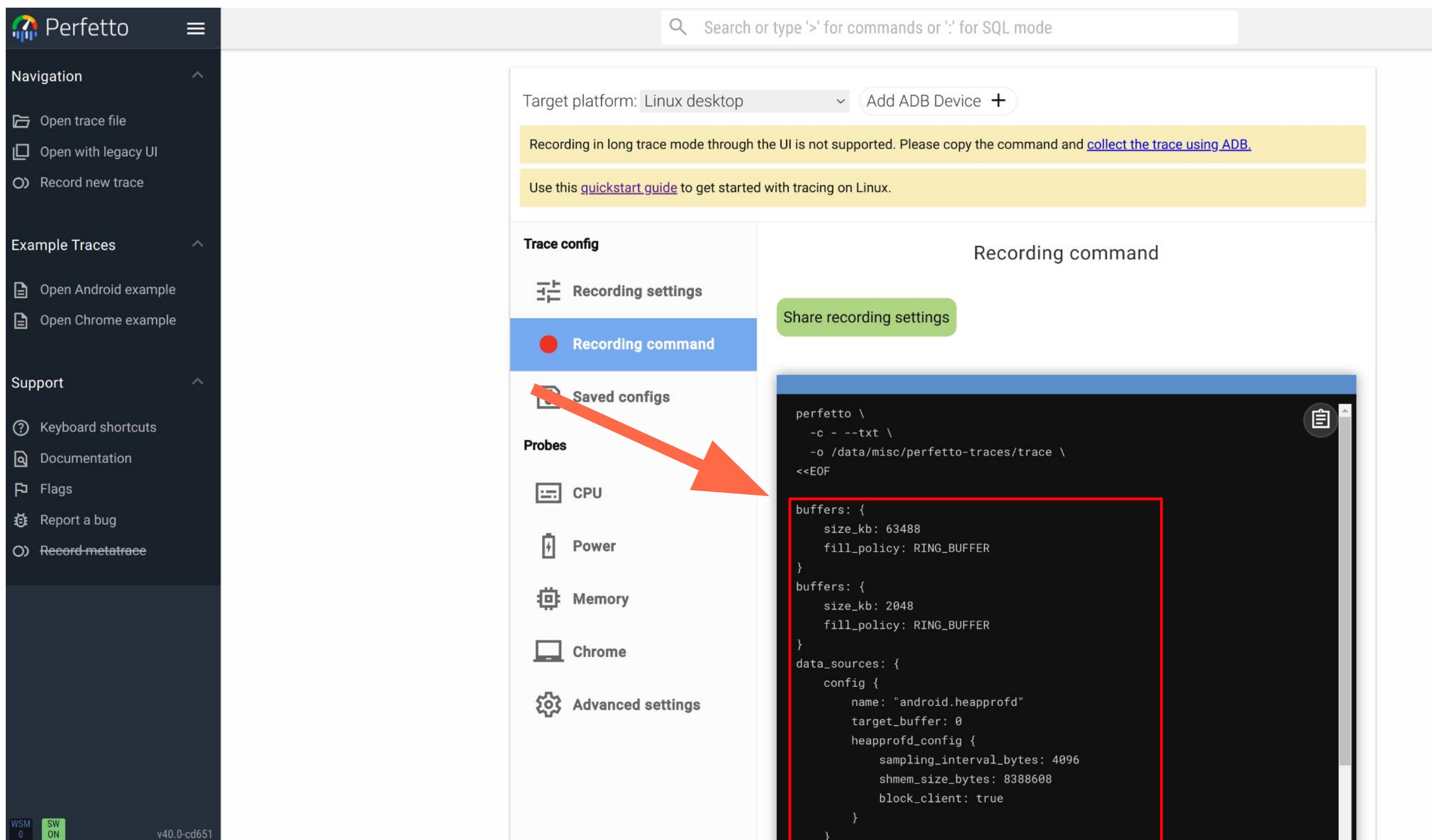
<https://ui.perfetto.dev/>

Perfetto.dev



<https://ui.perfetto.dev/>

Perfetto.dev



<https://ui.perfetto.dev/>

Добавляем tracing процессов во время сборки

```
1 ▶  #!/bin/bash
2
3 # Start tracebox in the background with specified configuration and output
4 ./tracebox -o outputs/trace_file.perfetto-trace --txt -c ci/tracing/sys_stats.cfg &
5
6 # Retrieve and store the PID of the tracebox process
7 TRACEBOX_PID=$!
8
9 # Run Gradle build
10 ./gradle assemble
11
12 # If TRACEBOX_PID is not empty, terminate the tracebox process
13 if [[ -n $TRACEBOX_PID ]]; then
14     kill -TERM "$TRACEBOX_PID"
15     wait $TRACEBOX_PID
16 fi
```

<https://github.com/google/perfetto/releases>

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<https://github.com/google/perfetto/releases>

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16 fi
```

<https://github.com/google/perfetto/releases>

Смотрим trace

Mobile Apps / Android projects / Monorepo / Checks / Integrity check

✓ #163 at 1 Feb 19:04 ★

Tests passed: 16647, ignored: 55

MBSA-1111-try-use-tracing

Actions ▾

Details ▾

Overview

Changes 100+

Tests

Build Log

Artifacts

More ▾

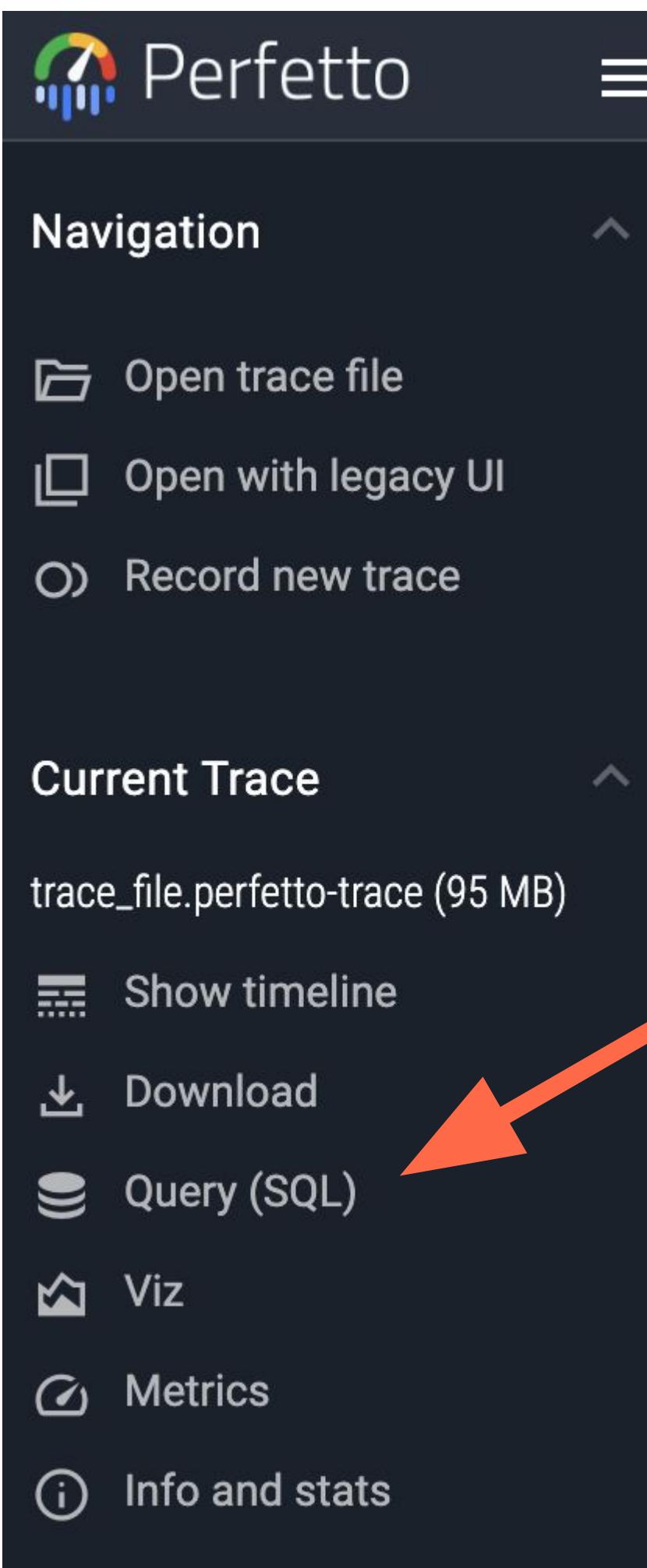
- > build-trace
- > instrumentation-tests
- > junit
- > logs
- > reports
- trace_file.perfetto-trace 89.89 MB



Show hidden artifacts

Total size: 271.68 MB

Смотрим trace



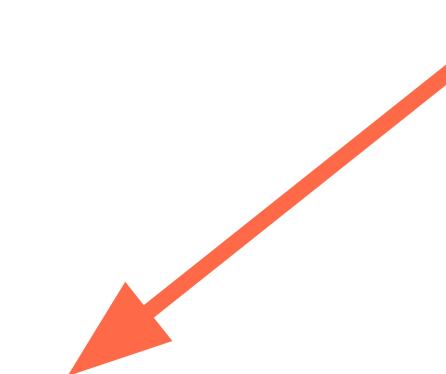
SQL-запрос для получения списка процессов и их памяти

```
SELECT
    SUBSTR(p.name, 1, 100) AS process_name,
    ROUND(MAX(c.value) / (1024 * 1024), 1) AS max_rss_memory_mb,
    SUBSTR(p.cmdline, 1, 1000) AS command_line
FROM
    process p
JOIN
    process_counter_track pct ON p.upid = pct.upid
JOIN
    counters c ON pct.id = c.track_id AND c.name = 'mem.rss'
GROUP BY
    p.upid
ORDER BY
    max_rss_memory_mb DESC
```

Смотрим потребление во время сборки

aapt, clang, cmake, ninja, sh, adb

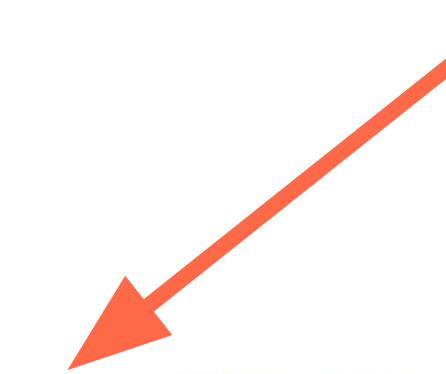
Query result (633 rows) ·



process_name	max_rss_memory_mb	
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	82249.1	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -XX:MaxMetaspaceSize=768m -XX:+UseParallelGC -XX:+UseGCOverheadLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 --add-opens=java.base/java.util UNNAMED --add-opens=java.base/java.net=ALL-UNNAMED --add-opens=java.base/java.util.concurrent.atomic=ALL-UNNAMED -Xmx96g -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.v
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	18422.8	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -cp /Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-compiler-embeddable/1.7.10/909803167c98606fcf22b4c848647c68e35 1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-stdlib/1.7.10/d2abf9e77736acc4450dc4a3f707fa2c10f5099d/kotlin-stdlib-1.7.10.jar:/Users/Shared/gradl 2.1/org.jetbrains.kotlin/kotlin-daemon-embeddable/1.7.10/3a9f7aef7080d3ae63126cbb4f827ed664f32fa/kotlin-daemon-embeddable-1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4732.3 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4593.4 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2584.1 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2369.6 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1617.3 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1260 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	1220.3	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh Dtask.outputs.abTestsOwnership.debug=build/outputs/test-generated/abTestsOwnership/debug -Dtask.outputs.apiJson.debug=build/outputs/test-generated/apiJson/debug -Dtask.outputs.deeplinks- Dtask.outputs.featureTogglesJson.debug=build/outputs/test-generated/featureTogglesJson/debug -Dtask.outputs.featureTogglesOwnership.debug=build/outputs/test-generated/featureTogglesOwner
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1101.6 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	937.4	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Shared/projects/avito-andro classpath12489070142453859259txt -Xmx512m -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.variant -ea worker.org.gradle.process.internal.worker.GradleWorkerMain 'Gradle Te
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	864.9	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh XX:+UseParallelGC -XX:+UseGCOverheadLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 -XX:MaxMetaspaceSize=256m @/Users/Shared/.tmp/gradle-worker-classpath2749623776957531206txt -Xm

Смотрим потребление во время сборки

Query result (633 rows)



process_name	max_rss_memory_mb	
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	82249.1	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -XX:MaxMetaspaceSize=768m -XX:+UseParallelGC -XX:+UseGCOvertimeLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 --add-opens=java.base/java.util UNNAMED --add-opens=java.base/java.net=ALL-UNNAMED --add-opens=java.base/java.util.concurrent.atomic=ALL-UNNAMED -Xmx96g -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.v
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	18422.8	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -cp /Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-compiler-embeddable/1.7.10/909803167c98606fcf22b4c848647c68e35 1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-stdlib/1.7.10/d2abf9e77736acc4450dc4a3f707fa2c10f5099d/kotlin-stdlib-1.7.10.jar:/Users/Shared/gradl 2.1/org.jetbrains.kotlin/kotlin-daemon-embeddable/1.7.10/3a9f7aef7080d3ae63126cbb4f827ed664f32fa/kotlin-daemon-embeddable-1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4732.3 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4593.4 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2584.1 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2369.6 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1617.3 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1260 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	1220.3	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh Dtask.outputs.abTestsOwnership.debug=build/outputs/test-generated/abTestsOwnership/debug -Dtask.outputs.apiJson.debug=build/outputs/test-generated/apiJson/debug -Dtask.outputs.deeplinks- Dtask.outputs.featureTogglesJson.debug=build/outputs/test-generated/featureTogglesJson/debug -Dtask.outputs.featureTogglesOwnership.debug=build/outputs/test-generated/featureTogglesOwner
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1101.6 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	937.4	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Shared/projects/avito-andro classpath12489070142453859259txt -Xmx512m -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.variant -ea worker.org.gradle.process.internal.worker.GradleWorkerMain 'Gradle Te
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	864.9	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh XX:+UseParallelGC -XX:+UseGCOvertimeLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 -XX:MaxMetaspaceSize=256m @/Users/Shared/.tmp/gradle-worker-classpath2749623776957531206txt -Xm

Смотрим потребление во время сборки

process_name



process_name	max_rss_memory_mb	command_line
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	82249.1	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -XX:MaxMetaspaceSize=768m -XX:+UseParallelGC -XX:+UseGCOverheadLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 --add-opens=java.base/java.util UNNAMED --add-opens=java.base/java.net=ALL-UNNAMED --add-opens=java.base/java.util.concurrent.atomic=ALL-UNNAMED -Xmx96g -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.v
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	18422.8	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -cp /Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-compiler-embeddable/1.7.10/909803167c98606fcf22b4c848647c68e35 1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-stdlib/1.7.10/d2abf9e77736acc4450dc4a3f707fa2c10f5099d/kotlin-stdlib-1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-daemon-embeddable/1.7.10/3a9f7aef7080d3ae63126cbb4f827ed664f32fa/kotlin-daemon-embeddable-1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4732.3 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4593.4 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2584.1 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2369.6 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1617.3 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1260 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	1220.3	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh Dtask.outputs.abTestsOwnership.debug=build/outputs/test-generated/abTestsOwnership/debug -Dtask.outputs.apiJson.debug=build/outputs/test-generated/apiJson/debug -Dtask.outputs.deeplinks- Dtask.outputs.featureTogglesJson.debug=build/outputs/test-generated/featureTogglesJson/debug -Dtask.outputs.featureTogglesOwnership.debug=build/outputs/test-generated/featureTogglesOwner
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1101.6 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	937.4	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Shared/projects/avito-andro classpath12489070142453859259txt -Xmx512m -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.variant -ea worker.org.gradle.process.internal.worker.GradleWorkerMain 'Gradle Te
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	864.9	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh XX:+UseParallelGC -XX:+UseGCOverheadLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 -XX:MaxMetaspaceSize=256m @/Users/Shared/.tmp/gradle-worker-classpath2749623776957531206txt -Xm

Смотрим потребление во время сборки

max_rss_memory_mb



process_name	max_rss_memory_mb
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	82249.1
	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -XX:MaxMetaspaceSize=768m -XX:+UseParallelGC -XX:+UseGCOverheadLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 --add-opens=java.base/java.util UNNAMED --add-opens=java.base/java.net=ALL-UNNAMED --add-opens=java.base/java.util.concurrent.atomic=ALL-UNNAMED -Xmx96g -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.variant
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	18422.8
	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -cp /Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-compiler-embeddable/1.7.10/909803167c98606fcf22b4c848647c68e35 1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-stdlib/1.7.10/d2abf9e77736acc4450dc4a3f707fa2c10f5099d/kotlin-stdlib-1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-daemon-embeddable/1.7.10/3a9f7aef7080d3ae63126cbb4f827ed664f32fa/kotlin-daemon-embeddable-1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4732.3	7.4.1-88
	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4593.4	7.4.1-88
	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2584.1	7.4.1-88
	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2369.6	7.4.1-88
	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1617.3	7.4.1-88
	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1260	7.4.1-88
	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	1220.3
	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh Dtask.outputs.abTestsOwnership.debug=build/outputs/test-generated/abTestsOwnership/debug -Dtask.outputs.apiJson.debug=build/outputs/test-generated/apiJson/debug -Dtask.outputs.deeplinks- Dtask.outputs.featureTogglesJson.debug=build/outputs/test-generated/featureTogglesJson/debug -Dtask.outputs.featureTogglesOwnership.debug=build/outputs/test-generated/featureTogglesOwner
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1101.6	7.4.1-88
	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2.m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	937.4
	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Shared/projects/avito-andro classpath12489070142453859259txt -Xmx512m -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.variant -ea worker.org.gradle.process.internal.worker.GradleWorkerMain 'Gradle Te
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	864.9
	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh XX:+UseParallelGC -XX:+UseGCOverheadLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 -XX:MaxMetaspaceSize=256m @/Users/Shared/.tmp/gradle-worker-classpath2749623776957531206txt -Xm

Смотрим потребление во время сборки

cmdline

process_name	max_rss_memory_mb	command_line
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	82249.1	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -XX:MaxMetaspaceSize=768m -XX:+UseParallelGC -XX:+UseGCOverheadLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 --add-opens=java.base/java.util UNNAMED --add-opens=java.base/java.net=ALL-UNNAMED --add-opens=java.base/java.util.concurrent.atomic=ALL-UNNAMED -Xmx96g -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.variant
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	18422.8	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -cp /Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-compiler-embeddable/1.7.10/909803167c98606fcf22b4c848647c68e35 1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-stdlib/1.7.10/d2abf9e77736acc4450dc4a3f707fa2c10f5099d/kotlin-stdlib-1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-daemon-embeddable/1.7.10/3a9f7aef7080d3ae63126cbb4f827ed664f32fa/kotlin-daemon-embeddable-1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4732.3 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4593.4 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2584.1 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2369.6 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1617.3 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1260 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	1220.3	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh Dtask.outputs.abTestsOwnership.debug=build/outputs/test-generated/abTestsOwnership/debug -Dtask.outputs.apiJson.debug=build/outputs/test-generated/apiJson/debug -Dtask.outputs.deeplinks- Dtask.outputs.featureTogglesJson.debug=build/outputs/test-generated/featureTogglesJson/debug -Dtask.outputs.featureTogglesOwnership.debug=build/outputs/test-generated/featureTogglesOwner
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1101.6 7.4.1-88		/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	937.4	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Shared/projects/avito-andro classpath12489070142453859259txt -Xmx512m -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.variant -ea worker.org.gradle.process.internal.worker.GradleWorkerMain 'Gradle Te
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	864.9	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh XX:+UseParallelGC -XX:+UseGCOverheadLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 -XX:MaxMetaspaceSize=256m @/Users/Shared/.tmp/gradle-worker-classpath2749623776957531206txt -Xm

Смотрим потребление во время сборки

Query result (633 rows) - 140.3ms SELECT SUBSTR(p.name, 1, 100) AS process_name, ROUND(MAX(c.value) / (1024 * 1024), 1) AS max_rss_memory_mb, SUBSTR(p.cmdline, 1, 1000) AS command_line FROM process p JOIN process_counter_track pct ON p.pid = pct.pid JOIN counters c ON pct.id = c.track_id AND c.name = ... Copy query Copy result (.tsv) Close

process_name	max_rss_memory_mb	command_line
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	82249.1	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -XX:MaxMetaspaceSize=768m -XX:+UseParallelGC -XX:+UseGCOverheadLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 --add-opens=java.base/java.util UNNAMED --add-opens=java.base/java.net=ALL-UNNAMED --add-opens=java.base/java.util.concurrent.atomic=ALL-UNNAMED -Xmx96g -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.va
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	18422.8	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -cp /Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-compiler-embeddable/1.7.10/909803167c98606fcf22b4c848647c68e35 1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-stdlib/1.7.10/d2abf9e77736acc4450dc4a3f707fa2c10f5099d/kotlin-stdlib-1.7.10.jar:/Users/Shared/gradl 2.1/org.jetbrains.kotlin/kotlin-daemon-embeddable/1.7.10/3a9f7aef7080d3ae63126cbb4f827ed664f32fa/kotlin-daemon-embeddable-1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4732.3	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4593.4	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transform	7.4.1-88	
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1260	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	1220.3	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh Dtask.outputs.abTestsOwnership.debug=build/outputs/test-generated/abTestsOwnership/debug -Dtask.outputs.apiJson.debug=build/outputs/test-generated/apiJson/debug -Dtask.outputs.deeplinks- Dtask.outputs.featureTogglesJson.debug=build/outputs/test-generated/featureTogglesJson/debug -Dtask.outputs.featureTogglesOwnership.debug=build/outputs/test-generated/featureTogglesOwner
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1101.6	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	937.4	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Shared/projects/avito-andro classpath12489070142453859259txt -Xmx512m -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.variant -ea worker.org.gradle.process.internal.worker.GradleWorkerMain 'Gradle Te
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	864.9	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh XX:+UseParallelGC -XX:+UseGCOverheadLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 -XX:MaxMetaspaceSize=256m @/Users/Shared/gradle/.tmp/gradle-worker-classpath2749623776957531206txt -Xm

Смотрим потребление во время сборки

Query result (633 rows) - 140.3ms SELECT SUBSTR(p.name, 1, 10) AS process_name, ROUND(MAX(c.value) / (1024 * 1024), 1) AS max_rss_memory_mb, SUBSTR(p.cmdline, 1, 1000) AS command_line FROM process p JOIN process_counter_track pct ON p.pid = pct.pid JOIN counters c ON pct.id = c.track_id AND c.name = ... Copy query Copy result (.tsv) Close

process_name	max_rss_memory_mb	command_line
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	82249.1	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -XX:MaxMetaspaceSize=768m -XX:+UseParallelGC -XX:+UseGCOvertimeLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 --add-opens=java.base/java.util UNNAMED --add-opens=java.base/java.net=ALL-UNNAMED --add-opens=java.base/java.util.concurrent.atomic=ALL-UNNAMED -Xmx96g -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.v
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	18422.8	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -cp /Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-compiler-embeddable/1.7.10/900003167e98606fcf22b4c848647e68c35 1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-stdlib/1.7.10/d2abf9e77736acc4450dc4a3f707fa2c10f5099d/kotlin-stdlib-1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-daemon-embeddable/1.7.10/3a9f7aef7080d3ae63126cbba4f827ed664f32fa/kotlin-daemon-embeddable-1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-4732.3	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-4593.4	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-4593.4	7.4.1-88	
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	1220.3	Dtask.outputs.abTestsOwnership.debug=build/outputs/test-generated/abTestsOwnership/debug -Dtask.outputs.apiJson.debug=build/outputs/test-generated/apiJson/debug -Dtask.outputs.deeplinks- Dtask.outputs.featureTogglesJson.debug=build/outputs/test-generated/featureTogglesJson/debug -Dtask.outputs.featureTogglesOwnership.debug=build/outputs/test-generated/featureTogglesOwner
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-1101.6	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	937.4	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DIsInvokedFromIDE=false -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Shared/projects/avito-andro classpath12489070142453859259txt -Xmx512m -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.variant -ea worker.org.gradle.process.internal.worker.GradleWorkerMain 'Gradle Te
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	864.9	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DIsInvokedFromIDE=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh XX:+UseParallelGC -XX:+UseGCOvertimeLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 -XX:MaxMetaspaceSize=256m @/Users/Shared/.tmp/gradle-worker-classpath2749623776957531206txt -Xm

Смотрим потребление во время сборки

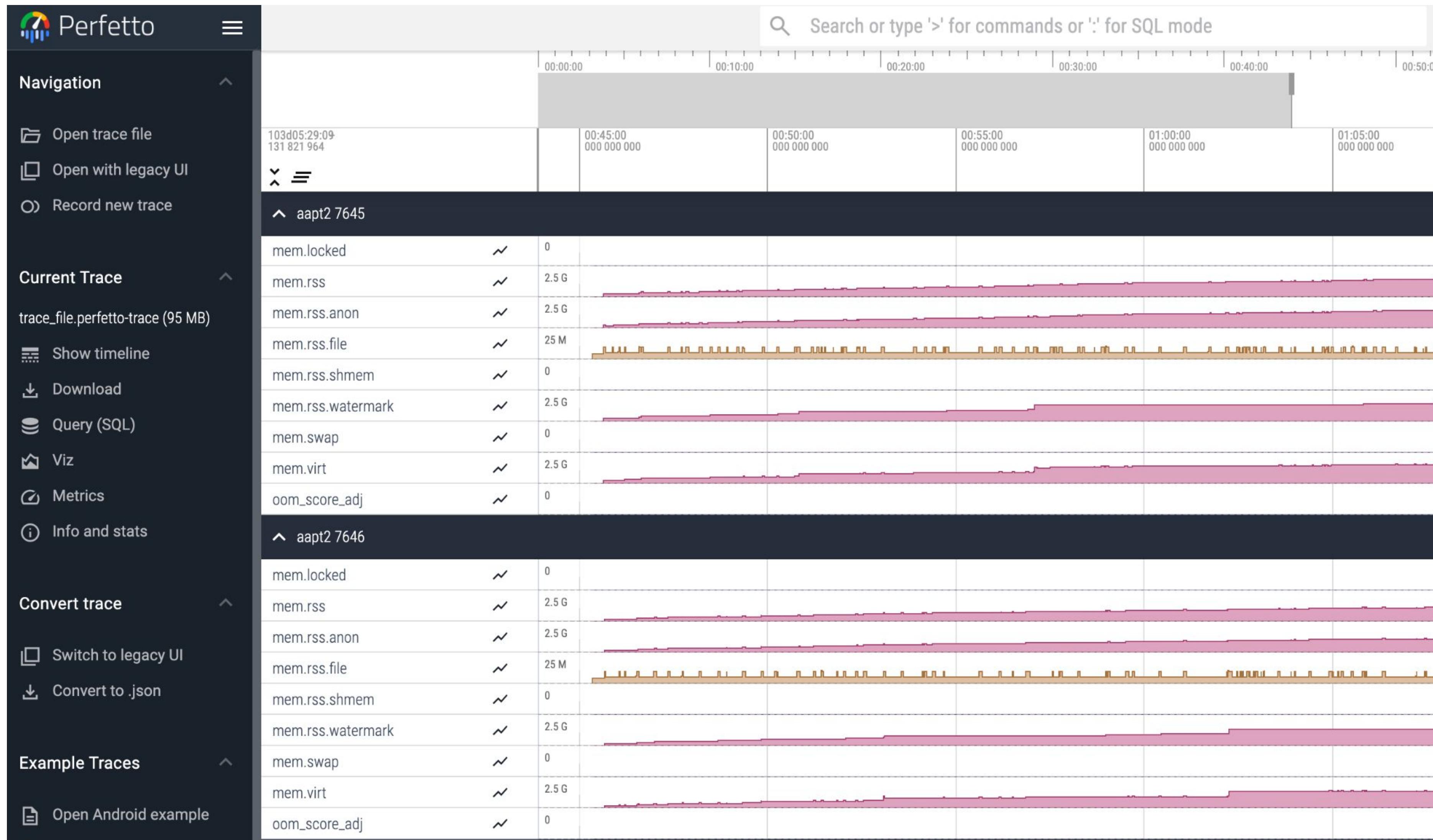
process_name	max_rss_memory_mb	
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	82249.1	aapt2- 4732.3
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	18422.8	aapt2- 4593.4
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4732.3		
7.4.1-88		
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4593.4		
7.4.1-88		
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2584.1		aapt2- 2584.1
7.4.1-88		
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2369.6		
7.4.1-88		
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1617.3		aapt2- 2369.6
7.4.1-88		
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1260		
7.4.1-88		
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	1220.3	aapt2- 1617.3
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1101.6		
7.4.1-88		
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	937.4	
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	864.9	aapt2- 1260
XX:+UseParallelGC -XX:+UseGCOverheadLimit		

Смотрим потребление во время сборки

Query result (633 rows) - 140.3ms SELECT SUBSTR(p.name, 1, 100) AS process_name, ROUND(MAX(c.value) / (1024 * 1024), 1) AS max_rss_memory_mb, SUBSTR(p.cmdline, 1, 1000) AS command_line FROM process p JOIN process_counter_track pct ON p.pid = pct.pid JOIN counters c ON pct.id = c.track_id AND c.name = ... Copy query Copy result (.tsv) Close

process_name	max_rss_memory_mb	command_line
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	82249.1	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -XX:MaxMetaspaceSize=768m -XX:+UseParallelGC -XX:+UseGCOvertimeLimit -XX:GCTimeLimit=10 -XX:GCHeapFreeLimit=10 --add-opens=java.base/java.util UNNAMED --add-opens=java.base/java.net=ALL-UNNAMED --add-opens=java.base/java.util.concurrent.atomic=ALL-UNNAMED -Xmx96g -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.varia
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	18422.8	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -cp /Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-compiler-embeddable/1.7.10/909803167c98606fcf22b4c848647c68e35 1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.jetbrains.kotlin/kotlin-stdlib/1.7.10/d2abf9e77736acc4450dc4a3f707fa2c10f5099d/kotlin-stdlib-1.7.10.jar:/Users/Shared/gradle/2.1/org.jetbrains.kotlin/kotlin-daemon-embeddable/1.7.10/3a9f7aef7080d3ae63126cbb4f827ed664f32fa/kotlin-daemon-embeddable-1.7.10.jar:/Users/Shared/gradle/caches/modules-2/files-2.1/org.
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4732.3	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 4593.4	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2584.1	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 2369.6	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1617.3	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1260	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	1220.3	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh Dtask.outputs.abTestsOwnership.debug=build/outputs/test-generated/abTestsOwnership/debug -Dtask.outputs.apiJson.debug=build/outputs/test-generated/apiJson/debug -Dtask.outputs.deeplinks- Dtask.outputs.featureTogglesJson.debug=build/outputs/test-generated/featureTogglesJson/debug -Dtask.outputs.featureTogglesOwnership.debug=build/outputs/test-generated/featureTogglesOwner
/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2- 1101.6	7.4.1-88	/Users/Shared/gradle/caches/transforms-3/635a11dfdf4871e80faf75aadf0f19a3/transformed/aapt2-7.4.1-8841542-linux/aapt2 m
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	937.4	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Shared/projects/avito-andro classpath12489070142453859259txt -Xmx512m -Dfile.encoding=UTF-8 -Duser.country -Duser.language=en -Duser.variant -ea worker.org.gradle.process.internal.worker.GradleWorkerMain 'Gradle Te
/usr/lib/jvm/java-17-openjdk-amd64/bin/java	864.9	/usr/lib/jvm/java-17-openjdk-amd64/bin/java -DisInvokedFromIde=false -Djava.awt.headless=true -Djunit.jupiter.execution.timeout.default=120s -Dorg.gradle.internal.worker.tmpdir=/Users/Sh XX:+UseParallelGC XX:+UseGCOvertimeLimit XX:GCTimeLimit=10 XX:GCHeapFreeLimit=10 XX:MaxMetaspaceSize=256m @/Users/Shared/gradle/.tmp/gradle-worker.classpath2749623776057531206txt -Xm

Видим соседей java/kotlin: aapt, clang, cmake, ninja, sh, adb



**Хотим знать что пришел
оомkiller**

Хотим упреждать такие аварии

- Требуется:
 - Возможность наблюдать в CI, какие процессы что потребляют во время сборки.
 - Знать, что пришел OOMKiller.



Алерты на ООМ

```
[Sun Oct 15 12:06:54 2023] Task in /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
[Sun Oct 15 12:06:54 2023] memory: usage 99614720kB, limit 99614720kB, failcnt 6013536
[Sun Oct 15 12:06:54 2023] memory+swap: usage 0kB, limit 9007199254740988kB, failcnt 0
[Sun Oct 15 12:06:54 2023] kmem: usage 3418872kB, limit 9007199254740988kB, failcnt 0
[Sun Oct 15 12:06:54 2023] Memory cgroup stats for /kubepods.slice/kubepods-burstable.slice/kubepods-burstable-podc829d033_fba2_4631_af44_38a51
[Sun Oct 15 12:06:54 2023] Tasks state (memory values in pages):
[Sun Oct 15 12:06:54 2023] [ pid   ]  uid  tgid total_vm      rss pgtables_bytes swapents oom_score_adj name
[Sun Oct 15 12:06:54 2023] [ 75835]  0  75835    2224      897      53248      0          0 entrypoint.sh
[Sun Oct 15 12:06:54 2023] [ 75904]  0  75904    3050     1173      61440      0          0 sudo
[Sun Oct 15 12:06:54 2023] [ 75905] 1000 75905   865878     33464     606208      0          0 java
[Sun Oct 15 12:06:54 2023] [ 75960] 1000 75960 26163894 15853099 142860288      0          0 java
[Sun Oct 15 12:06:54 2023] [ 79546] 1000 79546   741784     629888     5132288      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 79569] 1000 79569   684224     512922     4186112      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80033] 1000 80033   430381     406543     3334144      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80056] 1000 80056   412049     372650     3055616      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80168] 1000 80168   402828     353231     2908160      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80172] 1000 80172   382862     310073     2551808      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80175] 1000 80175   251605     242957     2007040      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80177] 1000 80177   218194     175358     1466368      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80384] 1000 80384   211951     161474     1359872      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 80385] 1000 80385   142311     119019     1032192      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 27466] 1000 27466   83845      77029     700416      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 28634] 1000 28634   62972      61180     548864      0          0 aapt2
[Sun Oct 15 12:06:54 2023] [ 31371] 1000 31371   68224      63408     569344      0          0 aapt2
[Sun Oct 15 12:06:54 2023] Memory cgroup out of memory: Kill process 75960 (java) score 637 or sacrifice child
[Sun Oct 15 12:06:54 2023] Killed process 79546 (aapt2) total-vm:2967136kB, anon-rss:2512204kB, file-rss:7348kB, shmem-rss:0kB
```

Алерты на ООМ

 Alertino вот 7:26 PM

WARN: Сработал ООМКiller в сборке

Процесс: `aapt2`

Потребление памяти: 2572 МВ

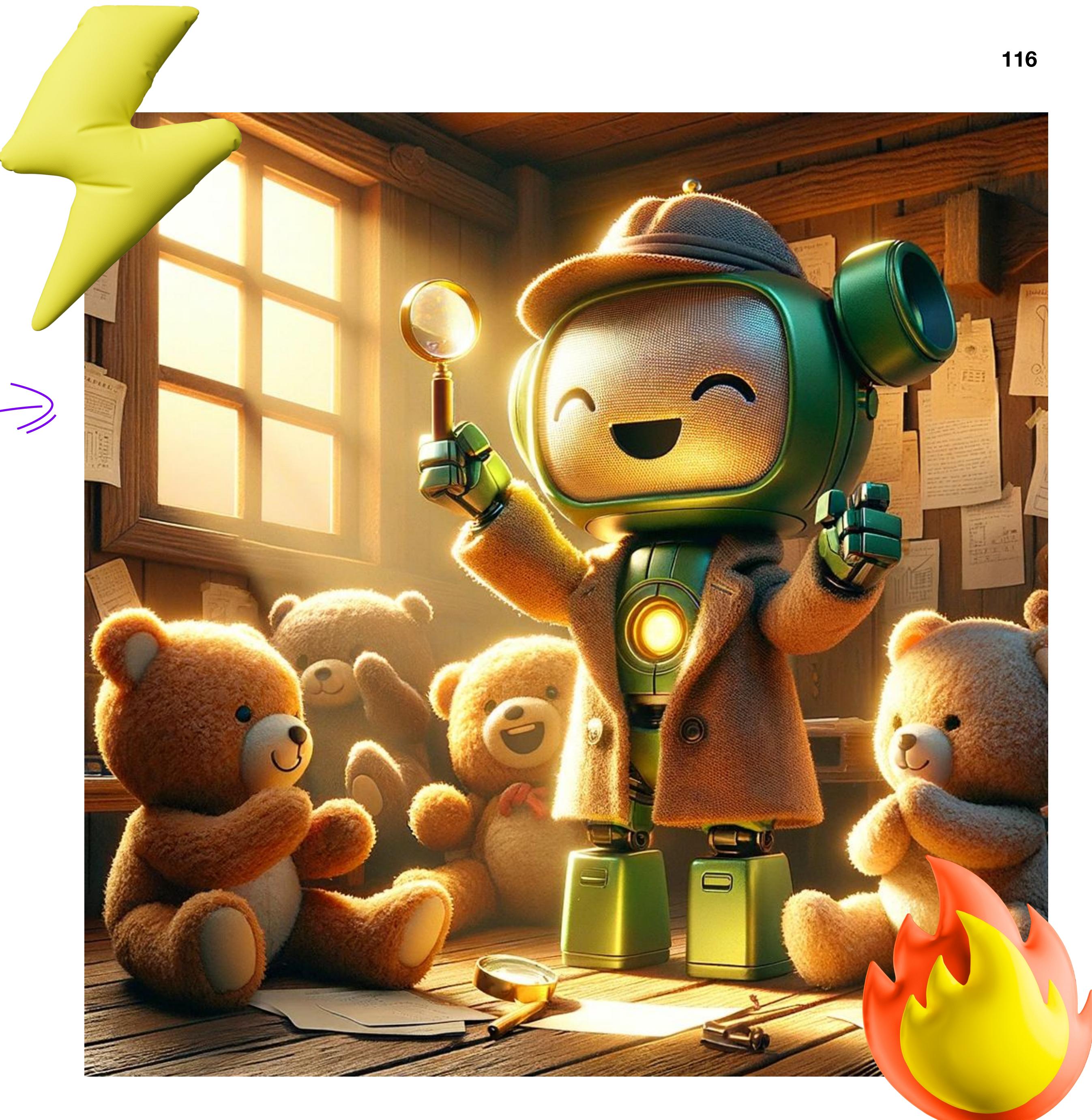
Важно: ООМКiller завершил процесс `aapt2` из-за высокого потребления памяти.

[Документация как исправить](#)

Финальный итог

Проблема была из-за нехватки памяти

- Повысили лимиты памяти для docker.
- Сборки теперь не падают с ААРТ.
- Стало меньше flaky-сборок и перезапусков.
- Понимаем, как в будущем заметить похожие проблемы.



Ссылки

- ❑ [Подробнее про команду Speed Android](#)
- ❑ Про работу с контейнерами в контексте этого доклада:
 - ❑ [Статья про cgroups и memory-лимиты](#)
 - ❑ [Подробнее про Docker и cgroups](#)
 - ❑ [Специфика работы Java + Docker](#)
 - ❑ [Java в контейнере: особенности эксплуатации](#)
- ❑ TG-чат про CI и Android-сборку:
[https://t.me/avito android opensource](https://t.me/avito_android_opensource)



Спасибо за внимание!

