What You Can Discover If You Just Look

Observability for your path to production

DPE SUMMIT

“Everyone” has observability in production.

Things You’re Actively Looking For

Security and Supply Chain

It starts with your build

What is a Dependency?

Everything.

XZ Supply Chain Attack

Complex, multi-year effort

Shift left

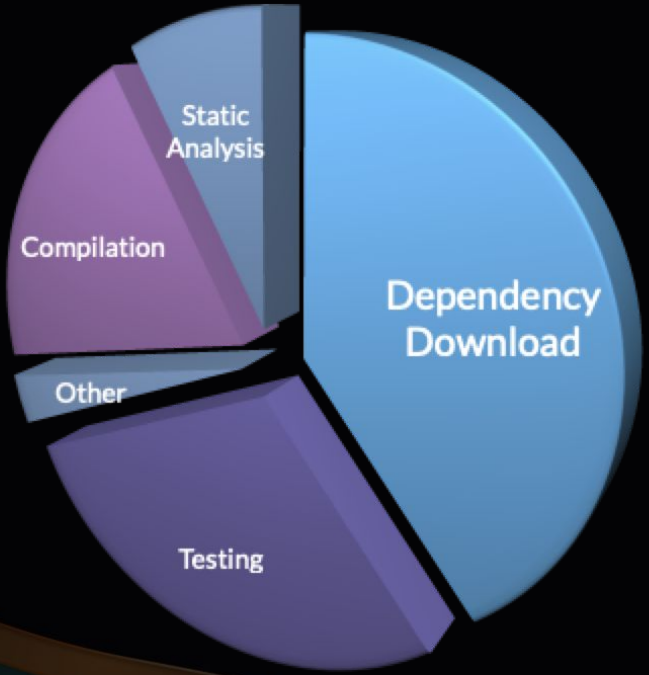
> “The tools, services, and environments that developers need to do their jobs should be treated with production-level SLAs. **The development platform *is* the production environment for the job of creating software**”

Release It! Second Edition (2018)
Michael Nygard

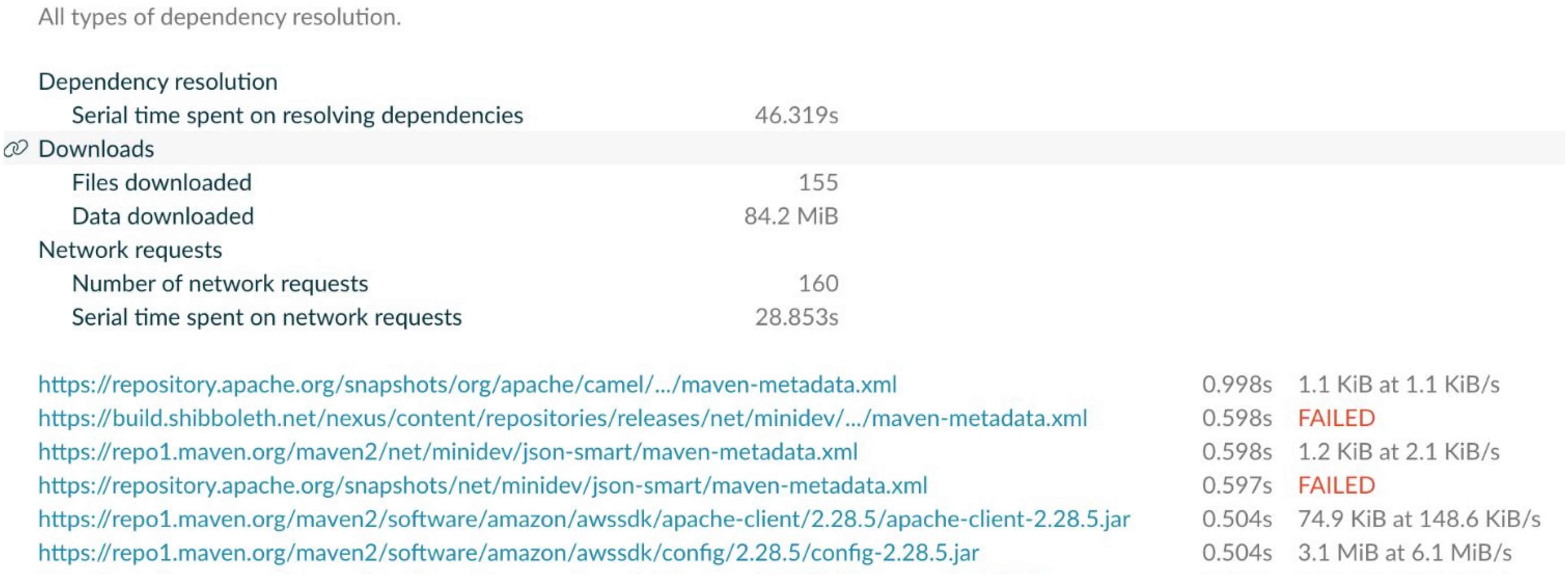
Things you knew, but you didn’t know how bad it was

30%-40% of all CI build time at large organizations is spent downloading dependencies

Wasting 30%-40% of CI CPU capacity



What is the scale of the problem?



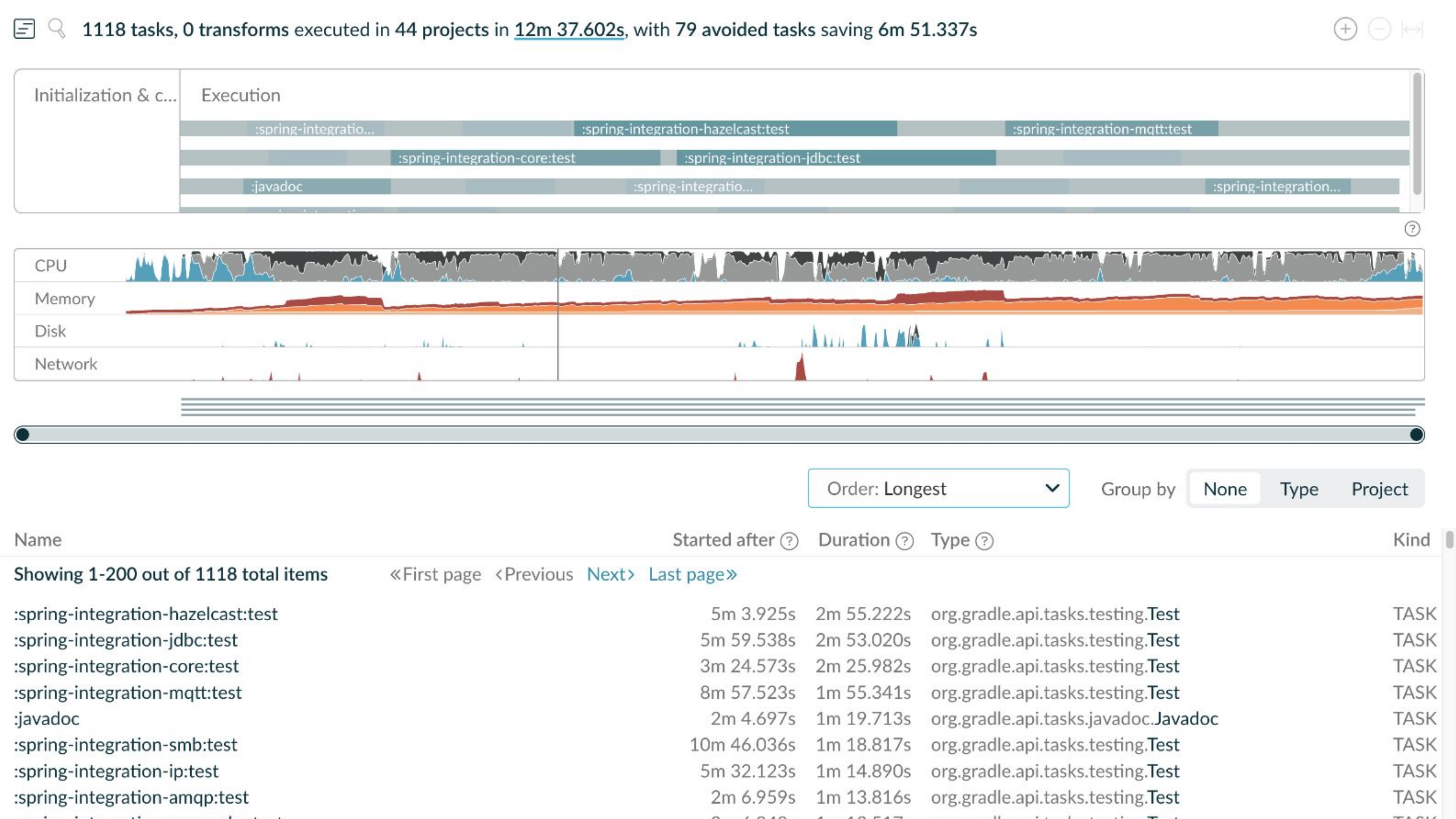
All types of dependency resolution.

Dependency resolution	
Serial time spent on resolving dependencies	46.319s
Downloads	
Files downloaded	155
Data downloaded	84.2 MiB
Network requests	
Number of network requests	160
Serial time spent on network requests	28.853s

https://repository.apache.org/snapshots/org/apache/camel/.../maven-metadata.xml	0.998s	1.1 KiB at 1.1 KiB/s
https://build.shibboleth.net/nexus/content/repositories/releases/net/minidev/.../maven-metadata.xml	0.598s	FAILED
https://repo1.maven.org/maven2/net/minidev/json-smart/maven-metadata.xml	0.598s	1.2 KiB at 2.1 KiB/s
https://repository.apache.org/snapshots/net/minidev/json-smart/maven-metadata.xml	0.597s	FAILED
https://repo1.maven.org/maven2/software/amazon/awssdk/apache-client/2.28.5/apache-client-2.28.5.jar	0.504s	74.9 KiB at 148.6 KiB/s
https://repo1.maven.org/maven2/software/amazon/awssdk/config/2.28.5/config-2.28.5.jar	0.504s	3.1 MiB at 6.1 MiB/s

90% of CPUs in CI are unused

But still have queuing issues



1118 tasks, 0 transforms executed in 44 projects in 12m 37.602s, with 79 avoided tasks saving 6m 51.337s

Order: Longest

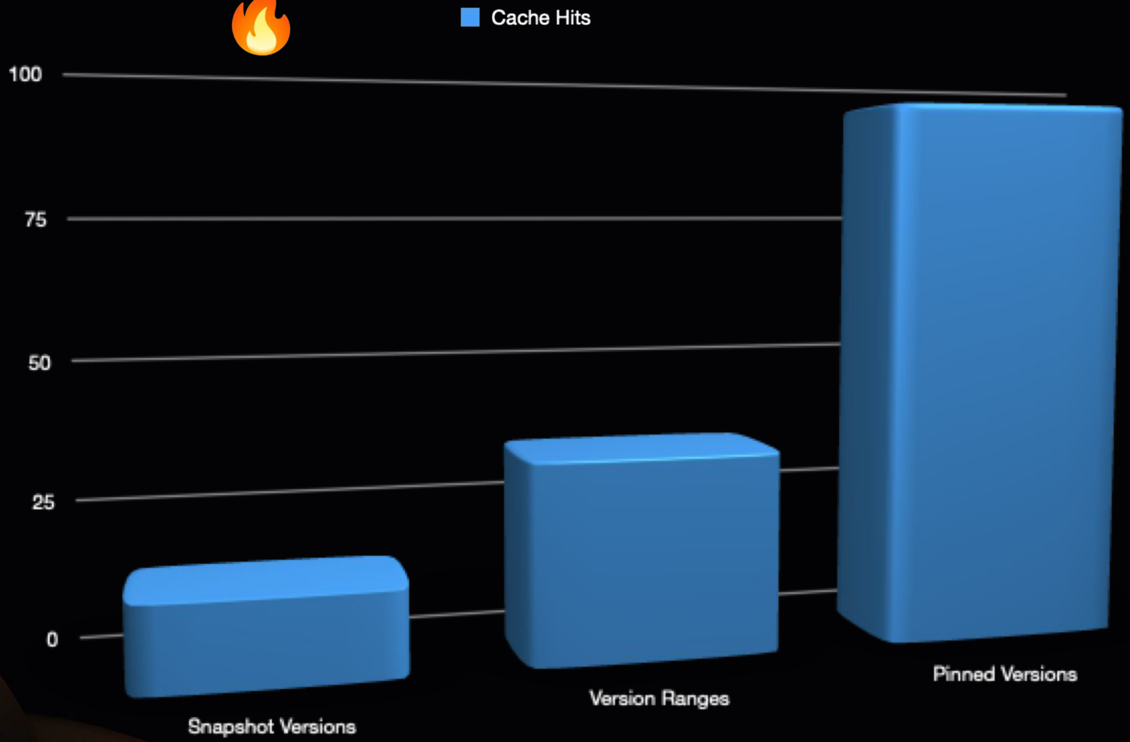
Group by: None | Type | Project

Showing 1-200 out of 1118 total items «First page ‹Previous Next› Last page»

Name	Started after	Duration	Type	Kind
:spring-integration-hazelcast:test	5m 3.925s	2m 55.222s	org.gradle.api.tasks.testing.Test	TASK
:spring-integration-jdbc:test	5m 59.538s	2m 53.020s	org.gradle.api.tasks.testing.Test	TASK
:spring-integration-core:test	3m 24.573s	2m 25.982s	org.gradle.api.tasks.testing.Test	TASK
:spring-integration-mqtt:test	8m 57.523s	1m 55.341s	org.gradle.api.tasks.testing.Test	TASK
:javadoc	2m 4.697s	1m 19.713s	org.gradle.api.tasks.javadoc.Javadoc	TASK
:spring-integration-smb:test	10m 46.036s	1m 18.817s	org.gradle.api.tasks.testing.Test	TASK
:spring-integration-ip:test	5m 32.123s	1m 14.890s	org.gradle.api.tasks.testing.Test	TASK
:spring-integration-amqp:test	2m 6.959s	1m 13.816s	org.gradle.api.tasks.testing.Test	TASK

Home office bottleneck

🔥 Dependency Hell 🔥



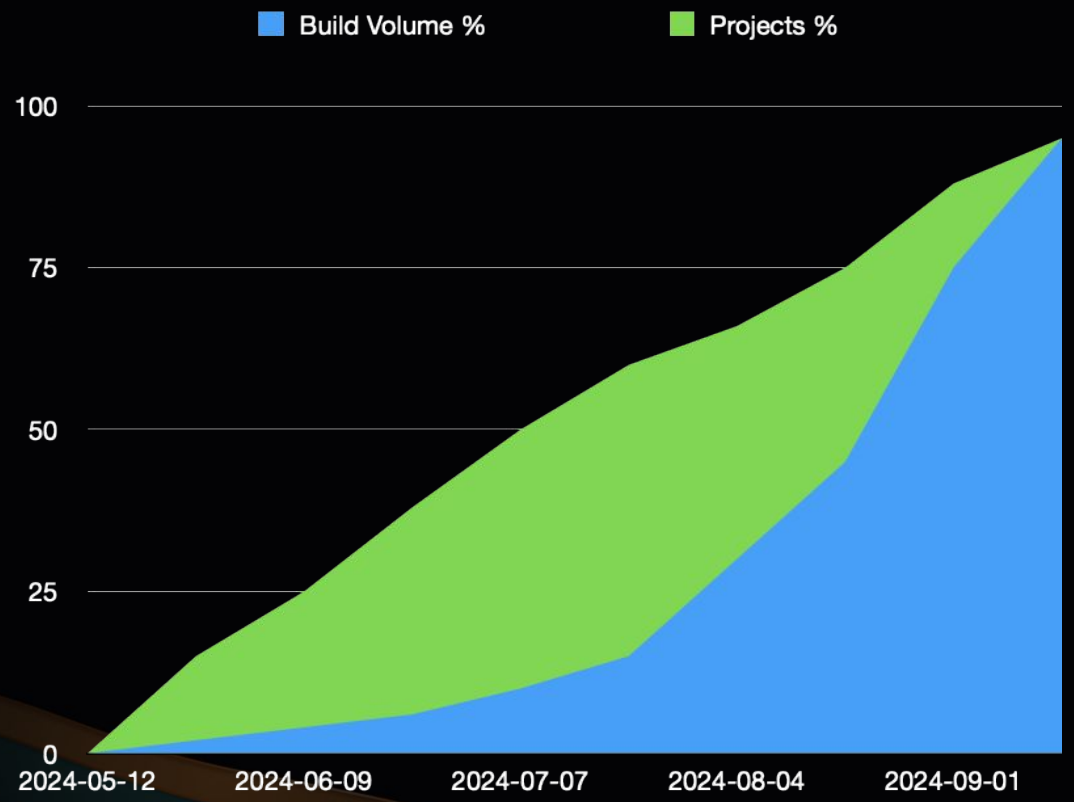
Did you know how hot it is?

DevOps: Whose problem is it?

DEV
OPS
IT
imgflip.com

Migrations

When is the Migration done?

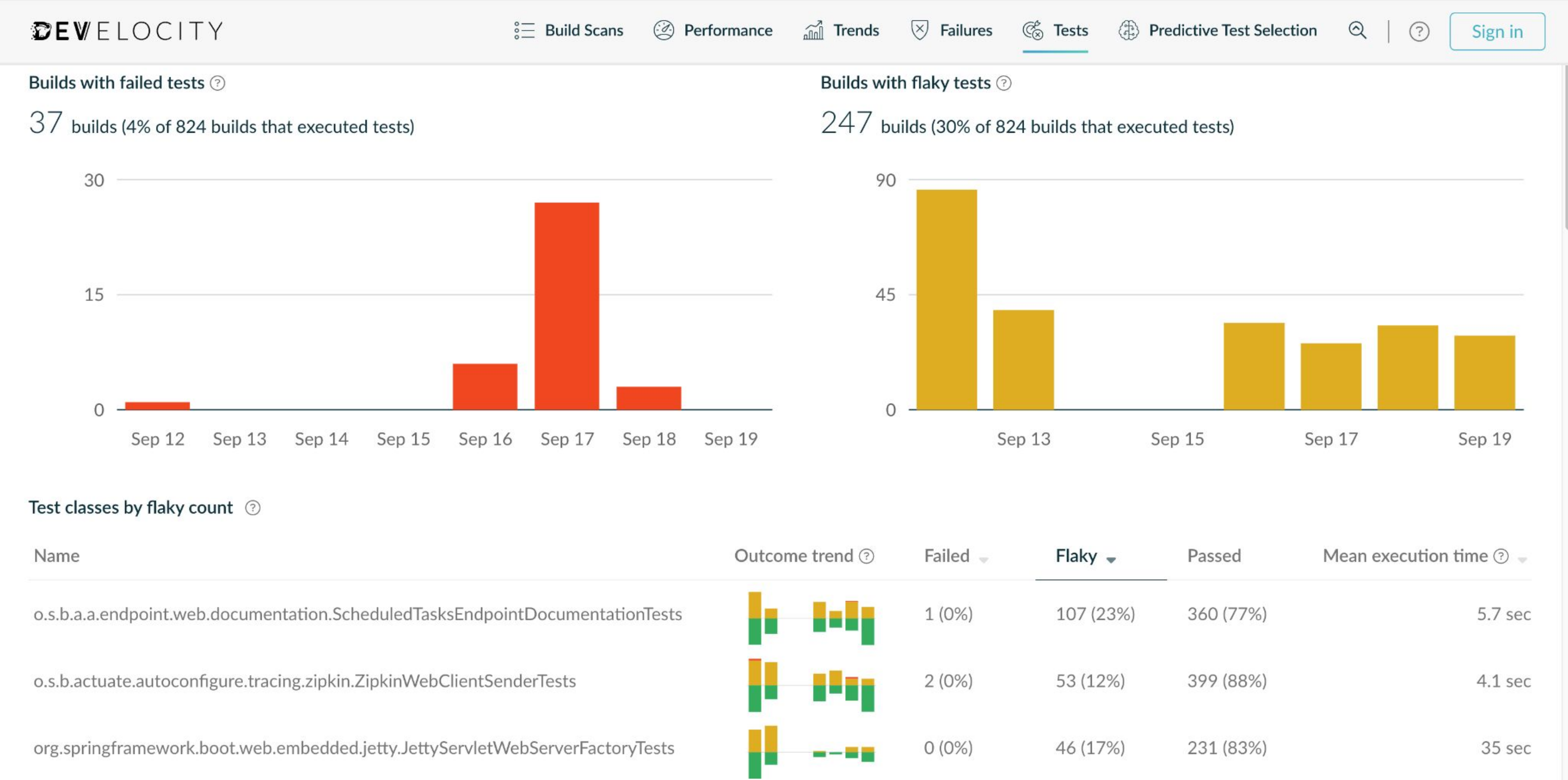


“Strong reliability practices predict better operational performance, team performance, and organizational performance”

State of DevOps Report 2023
DORA

Things You Discover Along The Way

How flaky are your tests?



Builds with failed tests ?

37 builds (4% of 824 builds that executed tests)

Builds with flaky tests ?

247 builds (30% of 824 builds that executed tests)

Test classes by flaky count ?

Name	Outcome trend ?	Failed	Flaky	Passed	Mean execution time ?
o.s.b.a.a.endpoint.web.documentation.ScheduledTasksEndpointDocumentationTests		1 (0%)	107 (23%)	360 (77%)	5.7 sec
o.s.b.actuate.autoconfigure.tracing.zipkin.ZipkinWebClientSenderTests		2 (0%)	53 (12%)	399 (88%)	4.1 sec
org.springframework.boot.web.embedded.jetty.JettyServletWebServerFactoryTests		0 (0%)	46 (17%)	231 (83%)	35 sec

Without observability you don’t even know to ask about these problems

Observability can indicate process inefficiencies

JavaScript, Python, & Beyond!

THANKS

Start your journey to
Developer Productivity Engineering mastery

dpeuniversity.gradle.com