

# Quality Outreach Report March 2021

## Quality Outreach Report introduction

The first Quality Report was published in September 2015 [here](#), our initial intention was to provide a report every six months. We now release a Feature Release every 6 months so we have decided to publish a Quality Outreach Report every three months.

The previous report was issued in December 2020 [here](#)

- Section one looks at the number of FOSS Project participating in the Quality Outreach .
- Section two lists Bug logging activities over the past three months (end of December 2020 - March 2021).
- Section three lists FOSS project activity on JDK 16 Early Access builds.
- Section four lists FOSS project activity on JDK 17 Early Access builds.
- Section five lists traffic on [quality-discuss@openjdk.java.net](mailto:quality-discuss@openjdk.java.net).
- Section six JDK 16 is now available!

## 1.0 FOSS Projects listed on Quality Outreach Wiki

We now have **145** FOSS Projects and their developers listed on the Quality Outreach [Wiki](#) page.

There have been **3** new FOSS Projects added since the last report in December 2020. Welcome!

New Projects added :

- ApprovalTests.Java
- Burningwave
- Piranha Cloud

Note, we have a further 8 Projects that we communicate with that are not listed on the wiki i.e 153 projects in total.

All FOSS Projects receive regular updates when Early Access (EA) builds become available, they are encouraged to test and report back any issues they find during their testing.

## 2.0 Bugs logged since December 2020

Developers from **8** of the **153** participating projects filed **14** new issues in the JDK Bug System in the last three months, thank you !

Priority	Fixed	Open	Duplicate	Not an Issue	Total
P1	0	0	0	0	0
P2	1	0	0	0	1
P3	3	3	0	0	6
P4	0	5	1	1	7
Total Unique Issues	4	8	1	1	14

The table above lists the number of bugs logged in total - **14**, of which **1** was P2, **6** were P3 bugs and **7** were P4 bugs.

Component	P1	P2	P3	P4	Total
core-libs	0	1	3	6	10
tools	0	0	3	1	4
Total Unique Issues	0	1	6	7	14

The table above lists the number of bugs logged by Component. Total **14** Bugs were found in **2** component areas.

## 2.1 FOSS Projects logging significant bugs

The following Projects have submitted bug reports in the last three months and deserve special mention:

- Apache Ant
- Apache Commons
- Apache Lucene

- Apache Maven
- Apache Tomcat
- Byte Buddy
- jOOQ
- JUnit5

## 2.2 Overall Summary of bugs filed by FOSS Projects since October 2013

Priority	Fixed	Open	Duplicate	Not an Issue	Incomplete	Won't fix	Can't Reproduce	Other	Total
P1	13	0	0	0	0	0	0	0	13
P2	62	0	10	6	0	0	4	2	84
P3	120	14	27	22	4	7	6	2	204
P4	32	42	13	11	4	6	5	0	113
P5	2	0	1	0	0	0	0	0	3
Total Issues	229	56	51	39	8	13	15	4	415

## 3.0 FOSS activity on JDK 16 Early Access Builds - bugs logged since December 2020 to now

Priority	Fixed	Open	Duplicate	Not an Issue	Total
P1	0	0	0	0	0
P2	1	0	0	0	1
P3	3	2	0	0	5
P4	0	2	0	0	2
Total Unique Issues	4	4	0	0	8

The following Projects have submitted bug reports against JDK 16 Early Access builds :

- Apache Commons
- Apache Lucene
- Apache Maven
- JUnit5

Commendable contributions (3 bug fixes & 6 reports) from Christian Stein of Junit5 for JDK 16. Well done!

## 3.1 Testing Early Access builds of JDK 16 - list of FOSS Projects results and their comments

	FOSS Project	JDK 16 EA+GA	Comments
1	Apache Ant	✓	Ran our Ant project testsuite on a Linux setup against JDK 16 build 16+36-2231. No issues found.
2	Apache Commons	✓	I migrated most of the Apache Commons build on github from 16-EA to 16. I don't expect any issues, I hope.
3	Apache Derby	✓	For the record, the Derby build/test cycle found no problems with the GA JDK 16.
4	Apache Lucene	✓	Logged 4 bugs including 1 enhancement on b30, 3 bugs were fixed already.
5	Apache Maven	✓	Reported an issue - we fixed our integration tests for Maven components with Groovy and few old plugin updates.
6	Apache Syncope	✓	I am glad to say we did restore the JDK 16 b29 build with a dedicated Maven profile.
7	Apache Tomcat	✓	Build and tests pass successfully with JDK 16 16+36-2231 on both Linux x86_64 and aarch64!
8	Apache Wicket	✓	Build and tests are green with JDK 16 build 16+36-2231 on both Linux x86_64 and aarch64!
9	Apache ZooKeeper	✓	ZooKeeper tests are passing on the latest JDK16-ea build b35.

10	Eclipse Collections	✓	All our tests are passing and pipelines are green!
11	eo-yaml	✓	I can confirm from Travis CI that the build works fine on the latest OpenJDK 16.
12	FXGL	✓	Tests are also green on JDK 16 b21.
13	FXyz	✓	Works fine with latest 16-ea build b24.
14	GraphHopper	✓	It seems to be fine for us.
15	Hibernate ORM	✓	Version 5.4 tested against JDK 16 GA. No problem to report.
16	Hibernate Validator	✓	Versions 6.1, 6.2, 7.0 tested against JDK 16 GA. No problem to report.
17	Hibernate Search	✓	Version 5.11, 6.0 tested against JDK 16 GA. No problem to report.
18	Hibernate Reactive	✓	Version 1.0 tested against JDK 16. No problem to report.
19	JaCoCo	✓	Our tests are still green on latest OpenJDK 16 Early Access build.
20	Jenkins	✓	We have completed smoke testing of Jenkins with Java 16.
21	JobRunr	✓	JobRunr is still running smoothly on JDK16
22	jOOQ	✓	Tried with JDK 16(b21) as well now. I haven't discovered any issues
23	JUnit5	✓	No issues detected by me this time. Using JDK 16 "RC1" (build 35) since its day zero.
24	Kotlin	✓	Kotlin 1.5.0+ will work under JDK 16+ in Gradle, in the IntelliJ's build system, and if run manually via CLI. The problem remains for Kotlin+Maven though
25	Micrometer	✓	Micrometer 1.5.x build with 16 EA b17 and did not have any problems.
26	MyBatis	✓	All MyBatis tests are passing on CI with JDK 16 GA build.
27	PDFsam	✓	All tests are green in PDFsam with this version (b28).
28	RxJava	✓	Target 15: Compile - OK, Tests - OK Target 16: not supported by Gradle yet.
29	Sejda	✓	All green on Sejda with b28.
30	Vaadin	✓	Works perfectly with JDK 16 GA.

### 3.2 Feedback from FOSS projects on Twitter

	FOSS Project	JDK 16 GA	Tweets
1	Apache Maven	✓	Maven plugins and libraries are all green. #AllTestsGreenOnJDK16
2	Apache Tomcat	✓	#AllTestsGreenOnJDK16
3	Apache Wicket	✓	#AllTestsGreenOnJDK16
4	ApprovalTests	✓	#AllTestsGreenOnJDK16 for ApprovalTests.
5	AsciidoctorJ	✓	AsciidoctorJ 2.4.3 has #AllTestsGreenOnJDK16
6	AssertJ	✓	AssertJ 3.19.0 #AllTestsGreenOnJDK16.
7	Byte Buddy	✓	#AllTestsGreenOnJDK16 Byte Buddy 1.10.22.
8	Eclipse Collections	✓	Eclipse Collections v10.4.0 has #AllTestsGreenOnJDK16.
9	EqualsVerifier	✓	EqualsVerifier 3.5.5 has #AllTestsGreenOnJDK16.
10	FXGL	✓	FXGL 11.14 #AllTestsGreenOnJDK16.
11	Gradle	✓	Gradle 7.0-rc-1 has #AllTestsGreenOnJDK16.
12	Hibernate ORM	✓	Hibernate ORM v. 5.4.30.Final #AllTestsGreenOnJDK16.
13	JaCoCo	✓	JaCoCo 0.8.6 #AllTestsGreenOnJDK16.
14	Java Katas	✓	Happy to note that the Java Katas are green with Java 16.
15	JFreeSVG	✓	JFreeSVG 4.2 #AllTestsGreenOnJDK16.
16	JHipster	✓	jhipster is #AllTestsGreenOnJDK16!
17	jOOQ	✓	jOOQ 3.15 will officially support JDK 16. #AllTestsGreenOnJDK16

18	JUnit5	✓	JUnit 5 #AllTestsGreenOnJDK16 and also #JDK17
19	Spring Boot	✓	Spring Boot is ready for Java 16. #AllTestsGreenOnJDK16

#### 4.0 FOSS activity on JDK 17 Early Access Builds - bugs logged since December 2020 to now

Priority	Fixed	Open	Duplicate	Not an Issue	Total
P1	0	0	0	0	0
P2	0	0	0	0	0
P3	1	1	0	0	2
P4	0	2	0	1	3
Total Unique Issues	1	3	0	1	5

The following Projects have submitted bug reports against JDK 17 Early Access builds:

- Apache Ant
- Apache Commons
- Apache Tomcat
- Byte Buddy
- JUnit5

#### 4.1 Testing Early Access builds of JDK 17 - list of FOSS Projects results and their comments

	FOSS Project	JDK 17 EA	Comments
1	Apache Ant	✓	Ran our Ant project testsuite on a Linux setup against JDK 17 build 17-ea+13-1000. No issues found.
2	Apache Commons	✓	Logged one regression (JDK-8262108) against JDK 17 b5.
3	Apache Tomcat	✓	Build and tests pass successfully with JDK 17-ea+13-1000 on both Linux x86_64 and aarch64!
4	Apache Wicket	✓	Build and tests are green with JDK 17-ea+13-1000 on both Linux x86_64 and aarch64!
5	Hibernate ORM	✓	Version 5.4 tested against JDK 17 EA13. No problem to report.
6	Hibernate Validator	✓	Versions 6.1, 6.2, 7.0 tested against JDK 17 EA13. No problem to report.
7	Hibernate Search	✓	Version 6.0 tested against JDK 17 EA13. No problem to report.
8	Hibernate Reactive	✓	Version 1.0 tested against JDK 17 EA13. No problem to report.
9	JaCoCo	✓	Our tests are still green on latest OpenJDK 17 Early Access build.
10	Java Katas	✓	Java Katas are green with JDK 17ea.
11	JUnit5	✓	JUnit5 is green for JDK17.
12	RxJava	✓	JDK 17b8 - Target 15: Compile - OK, Tests - OK, Target 16: not supported by Gradle yet, Target 17: not supported by Gradle yet.

#### 5.0 Discussion of the [quality-discuss@openjdk.java.net](mailto:quality-discuss@openjdk.java.net) mailing list

- Total 6 members participated in various discussions on the mailing list.
- Discussion threads
  - OpenJDK 17 EA build test results - 9
  - OpenJDK 16 EA build test results - 5
  - Announcement: JDK 16 is in Rampdown Phase Two - 1
  - Announcement: JDK 16 is in the Release Candidate Phase - 1
  - Release Announcement: General Availability of JDK 16 - 1
  - Suggestions to improve AWT - 2
  - Testing on JDK 16 EA - 2
  - Add project to the Quality Outreach page - 4

## 6.0 Java 16 is now available!

- Worth reading - [The Arrival of Java 16!](#)
- [#AllTestsGreenOnJDK16](#) - If your tests are green on JDK 16 please respond to this [tweet](#).
- Oracle Developer Live event - Individual sessions:
  1. **Java 16: Consistency and Innovation** (Aurelio Garcia-Ribeyro): <https://youtu.be/1acKCBbd6f4>
  2. **Java Language Futures: Spring 2021** (Gavin Bierman): <https://youtu.be/K9SVV0XNIP8>
  3. **Ask the Java Architects** (Mark Reinhold, Brian Goetz, Mikael Vidstedt, Ron Pressler): <https://youtu.be/CVE4bWvuD3o>
  4. **Learn Java 16 with IntelliJ IDEA** (Trisha Gee[JetBrains]): <https://youtu.be/1hyWJTjxeGM>
  5. **How Records Can Improve Serialization** (Julia Boes, Chris Hegarty): <https://youtu.be/44D8M6ZxuLU>
  6. **Vector API: SIMD Programming in Java** (Paul Sandoz, Sandhya Viswanathan[Intel]): <https://youtu.be/VYo3p4R66N8>
  7. **Your Guide to OpenJDK Development** (Jesper Wilhelmsson): [https://youtu.be/bHcKTYy\\_Nec](https://youtu.be/bHcKTYy_Nec)
  8. **Project Skara: Migrating OpenJDK to Git and GitHub** (Erik Duveblad, Robin Westberg): <https://youtu.be/-pBgplk7fV/k>
  9. **Monitoring and Troubleshooting Tools in the JDK** (Poonam Parhar): <https://youtu.be/mcfubUmbZhQ>
  10. **Fast and Efficient Microservices for Java with GraalVM** (Alina Yurenko): [https://youtu.be/\\_eRD6qJqtNw](https://youtu.be/_eRD6qJqtNw)
  11. **Accelerating Productivity with Micronaut and Java Records** (Graeme Rocher): <https://youtu.be/RoNeoXQBs9w>
  12. **Scalable Microservices for Java using Helidon and Coherence CE** (Dmitry Aleksandrov, Aleks Seovi): <https://youtu.be/WTL0Zbjzveo>
  13. **Cross-Platform User Interfaces, Developed with Java & OpenJFX Project** (Johan Vos [Gluon]): <https://youtu.be/7eytbaBMm5o>

The next Quality Outreach report is due in June 2021