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# Quality Outreach

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# Quality Outreach – a short history

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- Why did we start the Quality Outreach ?
  - JDK 7 GA - 28 July 2011
  - Headlines - 29 July 2011 - “JDK 7 paralyses Apache Lucene/Solr”
    - Unfortunately, Apache Lucene only discovered the issue days before GA date.
- When did we start ?
  - Six months before JDK 8 release date March 18, 2014
  - Zero to ~20 Free Open-Source Software Projects (FOSS) testing EA build prior to GA
    - Apache Lucene (5 bugs)
    - Apache Maven (4 bugs)
    - Groovy (3 bugs)
    - Scala (2 bugs)

# Reaction - Past negative experiences

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- Before
  - “ I've already filed a bug against Java. As far as I recall I never received any response - not unusual in my experience of reporting bugs with Java. I've pretty much reached the conclusion - after reporting multiple bugs only to have them completely ignored - that reporting bugs in Java is a waste of my time.”
  - “I'll try the e-mail route but I have little hope that anything will actually come of it. ”
- After
  - “ [..] we have had much more success getting Java bugs fixed when you point us in the best direction to report stuff [..]”

# OpenJDK Quality Outreach Update

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- What - We send emails every 2-3 weeks
  - Latest Early Access builds available
    - JDK 17 EA builds
    - Alpine , jpackage EA builds
    - Loom, Panama etc.
  - Announce upcoming JEPs
    - any change of state for proposed JEPs
  - Request FOSS feedback on JEPs
    - e.g. switch expressions in JDK 12
  - Highlight future/proposed deprecations

# OpenJDK Quality Outreach Update

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- Timeline - current & imminent milestones
  - RDP1, RDP2, RC
- Bug fixes that might be of interest to the FOSS community
- Monitor FOSS logged bugs
  - help triage bugs
  - label bugs – apache-lucene-found, apache-lucene-interest
  - When fix available – request submitter to confirm fix.
- Publish regression test results for Early Access builds.
- Every three months we publish a Quality report.
  - <https://wiki.openjdk.java.net/display/quality/Quality+Outreach+Report+March+2021>

# OpenJDK Quality Outreach Update

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- Miscellaneous
  - PM Blogs, Crypto roadmap Updates
  - Interesting discussions on mailing lists
  - Survey such as - jinfo, jmap, jstack serviceability tools in JDK
  - Invitation to talks such as - Project Skara update and demo
  - Links to presentations such as - FOSDEM Videos
  - Information on specification changes such as - New Japanese era

# OpenJDK Quality Outreach Update

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- Last presentation to JCP
  - April 2017 - 104 FOSS Projects.
  - Currently communicating with 161 FOSS Projects.
- We would really appreciate it if you could review:
  - <https://wiki.openjdk.java.net/display/quality/Quality+Outreach>
  - Identify any missing - Project
  - Introduction / An active contact name would be appreciated.
  - EMAIL – [quality-discuss@openjdk.java.net](mailto:quality-discuss@openjdk.java.net) or [rory.odonnell@oracle.com](mailto:rory.odonnell@oracle.com)

# Current list of 161 FOSS Projects (1/2)

1. Akka
2. Angel-ML
3. Antlr
4. Apache Ant
5. Apache Aries CDI
6. Apache Aries JAX-RS
7. Apache Aries SPI Fly
8. Apache Batik
9. Apache Builds
10. Apache Camel
11. Apache Chemistry
12. **Apache CloudStack**
13. Apache Commons
14. Apache Commons VFS
15. Apache CXF
16. Apache DataSketches
17. Apache Derby
18. Apache Hadoop
19. Apache HttpComponents
20. Apache Isis
21. Apache Jmeter
22. Apache Kafka
23. Apache Karaf
24. Apache Log4J
25. Apache Lucene/Solr
26. Apache Maven
27. Apache Metamodel
28. Apache Netbeans
29. Apache PDFBox
30. Apache POI
31. Apache Syncope
32. Apache Tika
33. Apache Tomcat
34. Apache Wicket
35. Apache ZooKeeper
36. Apereo CAS
37. ApprovalTests.Java
38. Arquillian
39. ASM
40. AsciiDoctor
41. AssertJ
42. BlueJ
43. Bnd
44. BootstrapFX
45. Bt
46. Burningwave
47. Byte Buddy
48. Byteman
49. Cruisecontrol
50. Cryptomator
51. Checkstyle
52. Classworlds
53. Clojure
54. DataCleaner
55. Debezium
56. DesktopPaneFX
57. EasyMock
58. Eclipse
59. Eclipse AspectJ
60. Eclipse Collections
61. Eclipse GEF
62. Eclipse Jetty
63. Eclipse Vert.x
64. EHCACHE
65. EJBCA
66. Elasticsearch
67. eo-yaml
68. EqualsVerifier
69. FXGL
70. FXGraphics2D
71. FXyz
72. Golo
73. Gradle
74. GraphHopper
75. Greenfoot
76. Griffon
77. Groovy
78. guice-async-extension
79. Hazelcast
80. HdrHistogram
81. Hibernate ORM
82. Hibernate Validator
83. Hibernate Search
84. Hibernate Reactive
85. HSQLDB

# Current list of 161 FOSS Projects (2/2)

- 86. Hudson
- 87. Ikonli
- 88. IntelliJ
- 89. Jackson
- 90. JaColine
- 91. JaCoCo
- 92. Java Katas
- 93. Java Native Access
- 94. Javassist
- 95. JavaEWAH
- 96. JavaLite
- 97. JBoss Tools
- 98. JBossForge
- 99. Jenkins
- 100. JFreechart
- 101. JFreeSVG
- 102. JFreePDF
- 103. JHipster
- 104. JITWATCH
- 105. Jline
- 106. JMetro
- 107. JobRunr
- 108. Jogl-jogamp
- 109. JOOQ
- 110. JSilhouette
- 111. JUnit 5
- 112. Jython
- 113. **Karate**
- 114. Kotlin
- 115. Lillith
- 116. Logback
- 117. LWJGL
- 118. Micrometer
- 119. Micronaut
- 120. Mockito
- 121. MyBatis
- 122. Netty
- 123. Objenesis
- 124. Orson Charts
- 125. oVirt
- 126. Parallel Collectors
- 127. PDFsam
- 128. PicoCLI
- 129. Piranha Cloud
- 130. PMD
- 131. Proguard
- 132. Qdox
- 133. RabbitMQ
- 134. Rapidoid
- 135. Ratpack
- 136. RedHat Infinispan
- 137. RedHat Wildfly
- 138. Reflections
- 139. restrict-imports-enforcer-rule
- 140. Roaring
- 141. RxJava
- 142. Scala
- 143. Sejda
- 144. Selenide
- 145. semantic-version
- 146. SLF4J
- 147. SonarJava
- 148. SonarQube
- 149. Spotbugs
- 150. Spring
- 151. Susel
- 152. Thermostat
- 153. Travis CI
- 154. Vaadin
- 155. VAVR
- 156. VMOptionsExplorer
- 157. Woodstox
- 158. Xstream
- 159. Xtend
- 160. Xtext
- 161. Zxing

# OpenJDK Quality Outreach Update

## Two Dimensional Filter Statistics: foss\_found\_bugs

Components	Unresolved	Fixed	Won't Fix	Duplicate	Incomplete	Cannot Reproduce	Other	Not an Issue	Withdrawn	Approved	T:
client-libs	18	18	2	8	3	2	0	2	0	0	53
core-libs	27	70	2	10	0	2	0	17	0	3	131
core-svc	1	3	1	3	0	0	0	1	0	0	9
deploy	1	2	1	1	0	1	0	0	0	0	6
hotspot	0	53	1	11	3	8	1	5	0	0	82
infrastructure	0	4	0	0	0	0	0	1	0	0	5
install	0	0	0	0	1	0	0	0	0	0	1
javafx	4	5	0	0	0	1	0	1	0	0	11
security-libs	4	20	1	5	0	0	1	2	0	0	33
tools	9	58	5	12	0	1	0	10	1	0	96
xml	0	4	0	1	0	0	0	1	0	0	6
<b>Total Unique Issues:</b>	<b>64</b>	<b>237</b>	<b>13</b>	<b>51</b>	<b>7</b>	<b>15</b>	<b>2</b>	<b>40</b>	<b>1</b>	<b>3</b>	<b>433</b>

Grouped by: Resolution

Showing 11 of 11 statistics.



# OpenJDK Quality Outreach Update

Two Dimensional Filter Statistics: foss\_found\_bugs

Components	1 P1	2 P2	3 P3	4 P4	5 P5	T:
client-libs	0	2	29	22	0	53
core-libs	2	21	55	52	1	131
core-svc	1	0	4	4	0	9
deploy	0	1	3	2	0	6
hotspot	6	37	32	7	0	82
infrastructure	1	2	1	1	0	5
install	0	0	1	0	0	1
javafx	0	1	4	5	1	11
security-libs	2	7	15	9	0	33
tools	1	12	62	20	1	96
xml	0	1	4	1	0	6
<b>Total Unique Issues:</b>	<b>13</b>	<b>84</b>	<b>210</b>	<b>123</b>	<b>3</b>	<b>433</b>

Grouped by: Priority

Showing 11 of 11 statistics.

# FOSS issues reported during JDK 16 EA

11 FOSS Projects logged 21 bugs against JDK 16 EA builds

1. JUnit5 (6) – Christian Stein (A)
2. Apache Lucene (5) – Uwe Schindler (A)
3. Apache Maven (2)
4. Apache Ant (1) – Jaikiran Pai (C)
5. Apache Tomcat (1) – Mark Thomas (A)
6. ByteBuddy (1) – Rafael Winterhalter (A)
7. JaCoCo (1) – Marc Hoffmann (A)
8. Apache Zookeeper (1) Enrico Olivelli
9. Apache Commons (1)
10. Graphhopper (1) Peter Karich
11. JOSM (1) – Vincent Privat

Priority	Fixed	Open	Total
P1	0	0	0
P2	1	0	1
P3	9	3	12
P4	4	4	8
Unique issues	14	7	21



# FOSS feedback during JDK 16 EA

	FOSS Project	Builds	Feedback
1	Apache Ant	b36	Ran our Ant project testsuite on a Linux setup against JDK 16 GA build. No issues found.
2	Apache Aries	b36	Everything id green for Aries JAX-RS and Aries Spi Fly projects.
3	Apache Commons	b36	I migrated most of the Apache Commons build on github from 16-EA to 16 GA.
4	Apache Derby	b36	For the record, the Derby build/test cycle found no problems with the GA JDK 16.
5	Apache Lucene	b30	Logged 4 bugs including one enhancement, 3 bugs were fixed already.
6	Apache Maven	b35	Reported an issue - we fixed our integration tests for Maven components with Groovy.
7	Apache Syncope	b29	I am glad to say we did restore the JDK 16 build with a dedicated Maven profile.
8	Apache Tomcat	b36	Build and tests pass successfully with JDK 16 on both Linux x86_64 and aarch64!
9	Apache Wicket	b36	Build and tests are green with JDK 16 on both Linux x86_64 and aarch64!
10	Apache ZooKeeper	b35	ZooKeeper tests are passing on the latest JDK16-ea build.
11	Burningwave	b36	All tests are green.
12	Eclipse Collections	b35	All our tests are passing and pipelines are green!
13	eo-yaml	b35	I can confirm from Travis CI that the build works fine on the latest OpenJDK 16.
14	FXGL	b21	Tests are also green on JDK 16 build.
15	FXyz	b24	Works fine with latest 16-ea build.
16	GraphHopper	b35	It seems to be fine for us.

# FOSS feedback during JDK 16 EA

	FOSS Project	Builds	Feedback
17	Hibernate ORM	b36	Version 5.4 tested against JDK 16 GA. No problem to report.
18	Hibernate Validator	b36	Versions 6.1, 6.2, 7.0 tested against JDK 16 GA. No problem to report.
19	Hibernate Search	b36	Version 5.11, 6.0 tested against JDK 16 GA. No problem to report.
20	Hibernate Reactive	b36	Version 1.0 tested against JDK 16. No problem to report.
21	JaCoCo	b35	Our tests are still green on latest OpenJDK 16 Early Access build.
22	Jenkins	b36	We have completed smoke testing of Jenkins with Java 16.
23	JobRunr	b36	JobRunr is still running smoothly on JDK16.
24	jOOQ	b21	Tried with JDK 16 as well now. I haven't discovered any issues.
25	JUnit5	b35	No issues detected by me this time. Using JDK 16 "RC1" since its day zero.
26	Kotlin	b35	Kotlin 1.5.0+ will work under JDK 16+ in Gradle, in the IntelliJ's build system, and if run manually via CLI.
27	Micrometer	b17	Micrometer 1.5.x build with 16 EA build and did not have any problems.
28	MyBatis	b35	I just verified that all tests passed on JDK 16.
29	PDFsam	b28	All tests are green in PDFsam with this version.
30	RxJava	b35	Target 15: Compile - OK, Tests - OK. Target 16: not supported by Gradle yet.
31	Sejda	b28	All green on Sejda.
32	Vaadin	b36	Works perfectly with JDK 16.

# FOSS issues reported during JDK 17 EA – so far!

## 7 FOSS Projects logged 13 bugs against JDK 17 EA builds

1. Byte Buddy (4) - Rafael Winterhalter (A)
2. Apache Ant (2) – Jaikiran Pai (C)
3. Apache Lucene (2) - Uwe Schindler (A)
4. Apache PDFBox (2) – Tilman Hausherr (A)
5. Apache Commons (1) - Gary Gregory (A)
6. Apache Tomcat (1) – Mark Thomas (A)
7. JUnit5 (1) – Christian Stein (A)

Priority	Fixed	Open	Total
P1	0	0	0
P2	0	0	0
P3	3	3	6
P4	3	4	7
Unique issues	6	7	13

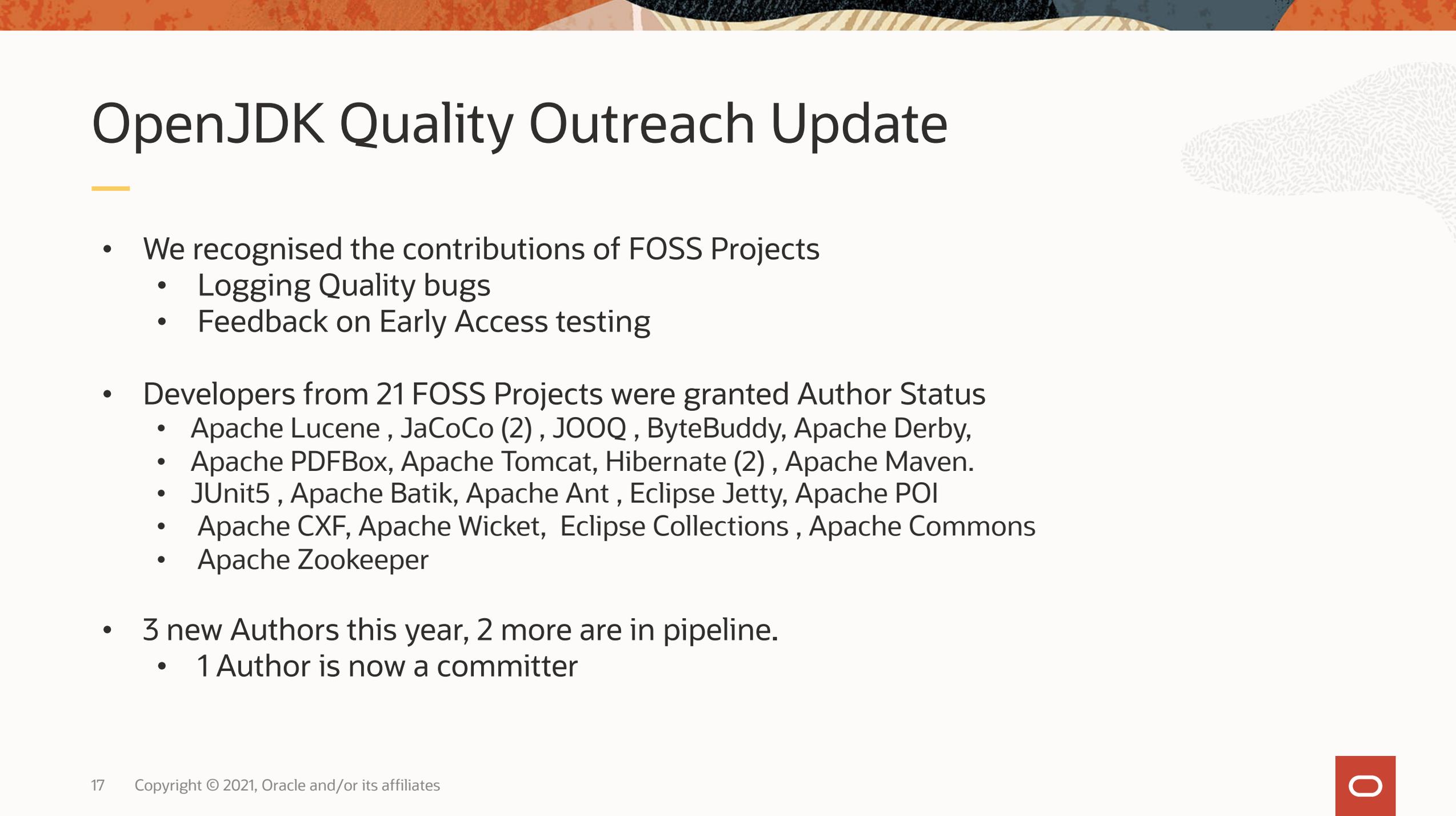
# FOSS feedback during JDK 17 EA

	FOSS Project	Builds	Feedback
1	Apache Ant	b23	Ran this build against our Ant project on a Linux system and no issues observed.
2	Apache Aries JAX-RS	b16	I've just added JDK 17-ea to the Aries JAX-RS project build matrix and everything is green across the board.
3	Apache Aries SPI Fly	b16	All tests are green on Java 17-ea.
4	Apache Commons	b6	Logged one regression (JDK-8262108) against JDK 17, resolved.
5	Apache DataSketches	b16	Green for JDK 17 EA.
6	Apache Derby	b23	Builds and tests are fine against build 23 of Open JDK 17.
7	Apache Lucene	b16	Logged one regression - JDK-8264843.
8	Apache Syncope	b16	I am glad to confirm that all works with JDK 17ea as well, on Linux, Windows and Mac OS.
9	Apache Tomcat	b23	Build and tests pass successfully with JDK 17-ea on Linux x86_64 and aarch64!
10	Apache Wicket	b23	Build and tests pass successfully with JDK 17-ea on Linux x86_64 and aarch64!
11	Apache Zookeeper	b21	The build passes as before.
12	Burningwave	b16	All test are green.
13	Eclipse Collections	b21	All builds are green.
14	eo-yaml	b23	eo-yaml seems to work fine on OpenJDK 17 EA, the CI build is green.

# FOSS feedback during JDK 17 EA

	FOSS Project	Builds	Feedback
15	Hibernate ORM	b23	Versions 5.4, 5.5 tested against JDK 17 EA. No problems to report.
16	Hibernate Validator	b23	Versions 6.1, 6.2, 7.0 tested against JDK 17 EA. No problems to report.
17	Hibernate Search	b23	Versions 5.11, 6.0 tested against JDK 17 EA. No problems to report.
18	Hibernate Reactive	b23	Version 1.0 tested against JDK 17 EA. No problems to report.
19	JaCoCo	b23	Our tests are green with OpenJDK 17 Early Access build.
20	Java Katas	b21	Build for: JDK 17 b22, 16, 15, Loom, Valhalla and Panama. Happy to report all green!
21	JUnit5	b13	JUnit5 is green for JDK17.
22	MyBatis	b18	All tests are passing on JDK 17 build.
23	PDFsam	b23	Tests are all green with this release.
24	RxJava	b23	Target 16: Compile OK, Tests OK. Target 17: have not tried, probably not supported by Gradle yet.
25	Sejda	b23	All tests are passing with this release.
26	Selenide	b16	All tests are green but we don't run them regularly yet.
27	Vaadin	b21	Our products build and work correctly with OpenJDK 17 EA.

# OpenJDK Quality Outreach Update



- We recognised the contributions of FOSS Projects
  - Logging Quality bugs
  - Feedback on Early Access testing
- Developers from 21 FOSS Projects were granted Author Status
  - Apache Lucene , JaCoCo (2) , JOOQ , ByteBuddy, Apache Derby,
  - Apache PDFBox, Apache Tomcat, Hibernate (2) , Apache Maven.
  - JUnit5 , Apache Batik, Apache Ant , Eclipse Jetty, Apache POI
  - Apache CXF, Apache Wicket, Eclipse Collections , Apache Commons
  - Apache Zookeeper
- 3 new Authors this year, 2 more are in pipeline.
  - 1 Author is now a committer

# Recognition of FOSS contributions

## Bugs logged since becoming Authors

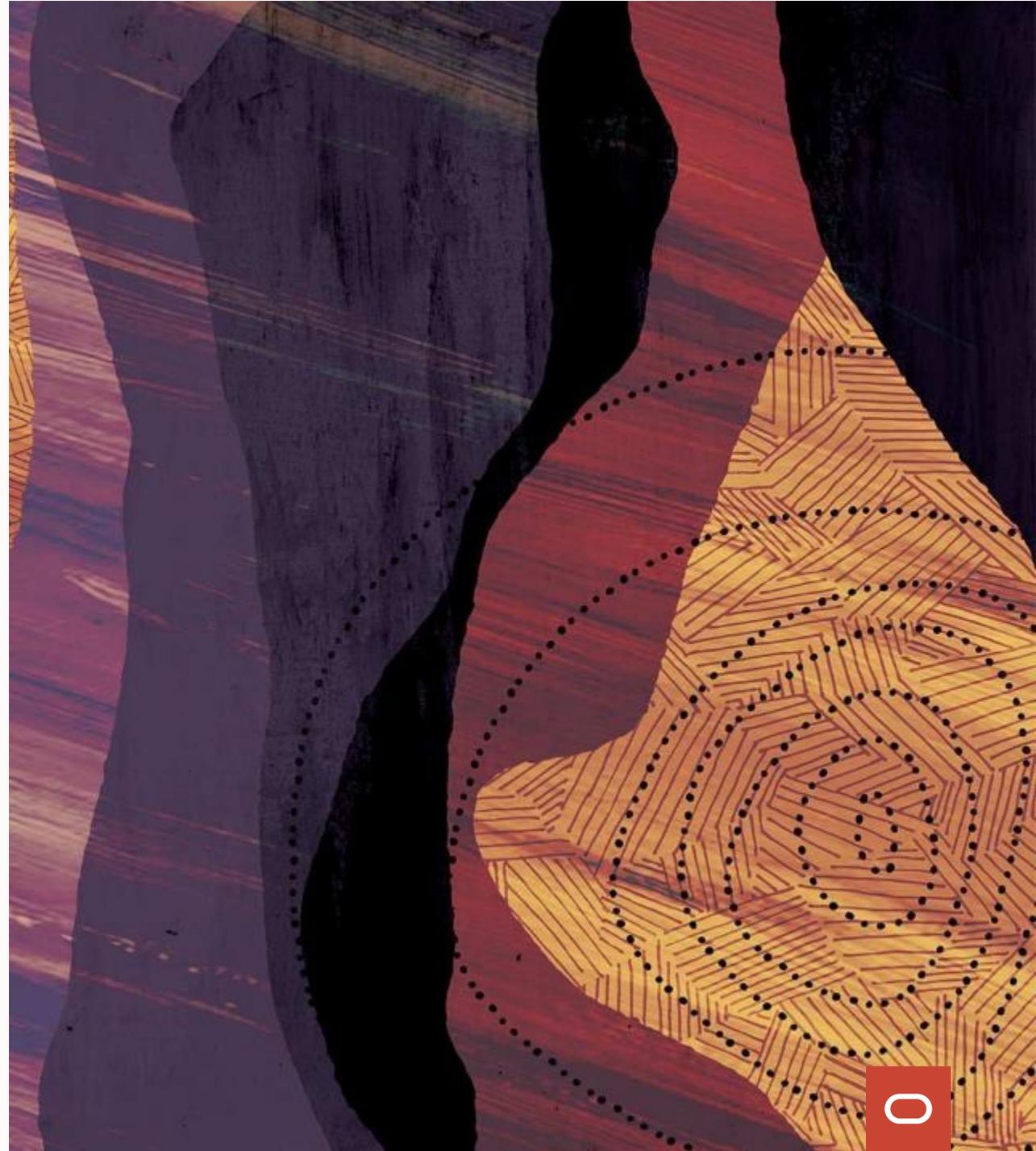
Author	Project	Total bugs	JDK 17 & JDK 16	JDK 15 to JDK 8
Jaikiran Pai *	Apache Ant	16	3	13
Uwe Schlinder	Apache Lucene	15	7	8
Christian Stein	JUnit5	12	6	6
Rafael Winterhalter	Byte Buddy	11	6	5
Lukas Eder	JOOQ	7	2	5
Mark Thomas	Apache Tomcat	6	2	4
Tilman Hausherr	PDFBox	6	2	4
Simone Bordet	Eclipse Jetty	4	0	4
Evgeny Mandrikov/Marc Hoffman	JaCoCo	4	1	3
Robert Scholte	Apache Maven	2	1	1

Jaikiran Pai was awarded Committer status to honor his contributions in reporting and fixing OpenJDK bugs.



# Thank You

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