# JDK Updates Guidance

Goal
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As an OpenJDK developer I'd like to fix a bug in a released JDK version, for
example JDK 8u201.


Getting Your Fix into an Updates Release Train
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The first step to get your bug fixed in a released JDK version is to attempt to
reproduce it with latest JDK: http://hg.openjdk.java.net/jdk/jdk/ (jdk/jdk). If that's the
case, the next step is to fix the bug in JDK head[1] and then follow the
backport-chain which is usually in this order:

 1. jdk/jdk (JDK N)
 2. jdk-updates/jdkXu (where X == N-1)
 3. jdk-updates/jdkYu (where Y is the current LTS version)
 4. jdk8u/jdk8u

Note that it is advised to let the fix in latest JDK receive a certain amount of
testing before a backport is being requested for an updates release.


Current Fast-Release-Cadence Development Model
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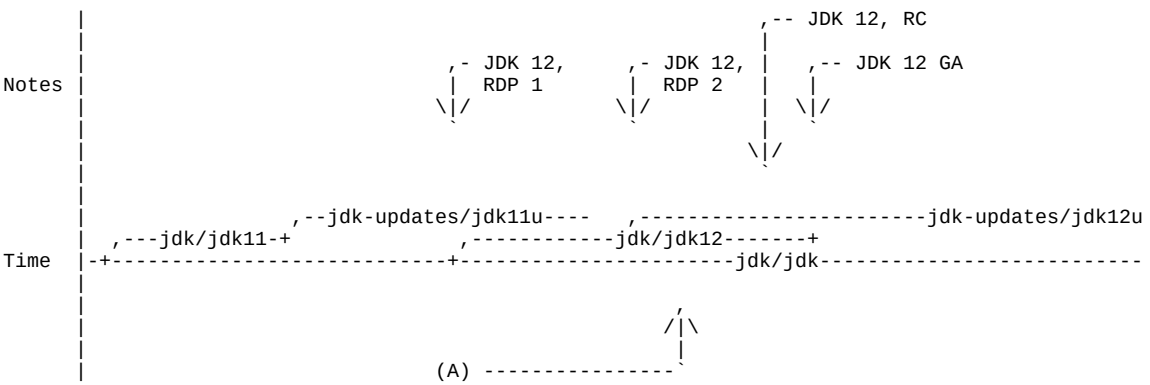
Understanding the fast release cadence development model helps when trying to
get bugfixes into a released JDK version. Below is a ascii-art picture of JDK 13
at a point where JDK 12 has not been released yet. That would be a time around
February 2019.





Example: Getting Bug Fixed at Time (A)
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Considering the above example we'll walk you through the process of getting the
bug fixed at point in time (A) as depicted above. At that point the jdk/jdk tree
is the development tree for JDK 13, the JDK 12 stabilization tree has been
branched already at point RDP 1. What's more, a JDK 12u updates tree has been
created as well at point RDP 2.

Let our example bug have priority 3. Once we have pushed the fix to jdk/jdk,
what happens next?

According to the JDK Release Process Rules[2], RDP 2, means
that only priority 1 and priority 2 bugs may be fixed beyond RDP 2 point. Note
that RDP 2 refers to Ramp Down 2 Phase. That means that the JDK 12 stabilization
tree is frozen for our P3 bug. Instead, we will get the bug-fix into an JDK 12u
update by following the JDK updates rules[3]. In our case we add label
'jdk12u-fix-request' to the master bug and add a comment with heading "Fix Request"
with some reasoning, risk assessment, testing done, etc. Once, JDK 12 maintainers
approve the backport by adding the 'jdk12u-fix-yes' label, we can now push the fix
to the jdk-updates/jdk12u tree.

Once we have the bug fixed in jdk/jdk and jdk-updates/jdk12u we may request a
backport to the latest LTS release, JDK 11 in our example. Note that persuing
this backport may happen in parallel to JDK 12 backports. Rules as determined by
the relevant updates project apply.

Finally, once the fixes were pushed to JDK 12 and JDK 11 updates, the bug may be
backported to JDK 8u. Again, project specific approval rules apply.

## Appendix

Where should I push backport patches to?

JDK 12u backports tree: http://hg.openjdk.java.net/jdk-updates/jdk12u
JDK 11u backports tree: http://hg.openjdk.java.net/jdk-updates/jdk11u-dev
JDK 8u backports tree: http://hg.openjdk.java.net/jdk8u/jdk8u-dev/

Which rules do apply for my backport?

JDK updates rules: http://openjdk.java.net/projects/jdk-updates/approval.html
JDK 11u updates rules: https://wiki.openjdk.java.net/display/JDKUpdates/JDK11u
JDK 8u updates rules: https://wiki.openjdk.java.net/display/jdk8u/Guidelines+for+working+on+jdk8u

## References

[1] http://openjdk.java.net/projects/jdk-updates/groundrules.html
[2] http://openjdk.java.net/jeps/3
[3] http://openjdk.java.net/projects/jdk-updates/approval.html