

A beginner's guide to Backports



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Preamble

≠ beginning OpenJDK

- Significant overlap

Why?

- Commercial reasons
- Fun!



<https://wiki.openjdk.org/display/JDKUpdates/How+to+contribute+or+backport+a+fix>

<https://openjdk.org/guide/>

Pre-requisites

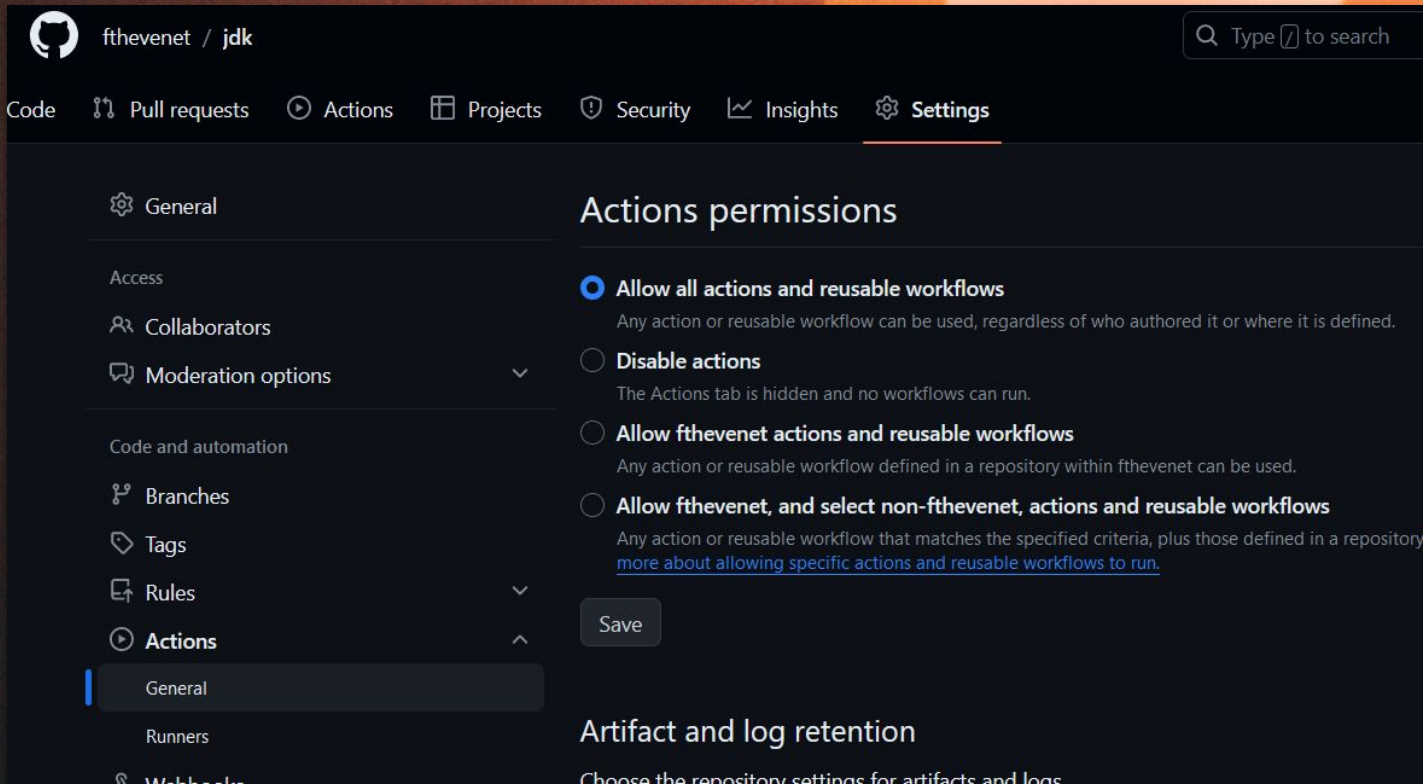
- **Sign OCA**
oca.opensource.oracle.com
- clone `git@github.com:openjdk/jdk.git`
- build
- Smoke test
- GitHub forks

doc/building.md
doc/testing.md

```
$ bash configure \  
  --enable-ccache \  
  --with-boot-jdk=$BOOTJDK \  
  --with-gtest=$GOOGLETEST \  
  --with-jtreg=$JT_HOME \  
$ make clean && make jdk
```

```
bash configure --disable-warnings-as-errors
```

GitHub forks – Actions



The screenshot shows the GitHub Actions permissions settings for the repository `fthevenet / jdk`. The interface is dark-themed. At the top, there is a navigation bar with tabs for Code, Pull requests, Actions, Projects, Security, Insights, and Settings. The Settings tab is active. On the left, a sidebar menu lists various settings categories: General, Access, Collaborators, Moderation options, Code and automation, Branches, Tags, Rules, Actions, and Runners. The Actions category is selected, and the 'General' sub-tab is active. The main content area is titled 'Actions permissions' and contains three radio button options. The first option, 'Allow all actions and reusable workflows', is selected. Below it, a description states: 'Any action or reusable workflow can be used, regardless of who authored it or where it is defined.' The other two options are 'Disable actions' and 'Allow fthevenet actions and reusable workflows'. A 'Save' button is located at the bottom of the permissions section. Below the permissions section, the 'Artifact and log retention' section is partially visible.

fthevenet / jdk

Code Pull requests Actions Projects Security Insights Settings

General

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Rules

Actions

Runners

Actions permissions

- Allow all actions and reusable workflows**
Any action or reusable workflow can be used, regardless of who authored it or where it is defined.
- Disable actions**
The Actions tab is hidden and no workflows can run.
- Allow fthevenet actions and reusable workflows**
Any action or reusable workflow defined in a repository within fthevenet can be used.
- Allow fthevenet, and select non-fthevenet, actions and reusable workflows**
Any action or reusable workflow that matches the specified criteria, plus those defined in a repository [more about allowing specific actions and reusable workflows to run.](#)

Save

Artifact and log retention

Choose the repository settings for artifacts and logs



Status in OpenJDK

Community – Groups – Projects

1. Sign OCA
(\Rightarrow Community Contributor)
2. Do some backports (≥ 2)
3. Request Author in a Project
(\Rightarrow OpenJDK account)

<https://openjdk.org/bylaws>

JDK Bug System (JBS)

```
commit ed31b661d35a72948af6cf117cccea2e7537b920
Author: Koichi Sakata <sakatakui@oss.nttdata.com>
Date:   Wed Jul 8 11:39:11 2020 -0700
```

8247818: GCC 10 warning stringop-overflow with symbol code

Reviewed-by: kbarrett, iklam

The screenshot displays the JDK Bug System (JBS) web interface. The browser address bar shows the URL `https://bugs.openjdk.org/browse/JDK-8247818`. The page header includes the "JDK BUG SYSTEM" logo and navigation links for "Dashboards", "Projects", and "Issues". A search bar and "Log In" link are also present.

The main content area shows the bug details for **JDK / JDK-8247818**: **GCC 10 warning stringop-overflow with symbol code**. The status is **Resolved**. The bug is categorized as a **Bug** with a **P4** priority. It affects version **16** and is associated with the **hotspot** component. The environment is **gcc 10**.

Labels include `jdk13u-fix-request`, `jdk13u-fix-yes`, `jdk15u-fix-request`, `jdk15u-fix-yes`, and `oracle-triage-16`.

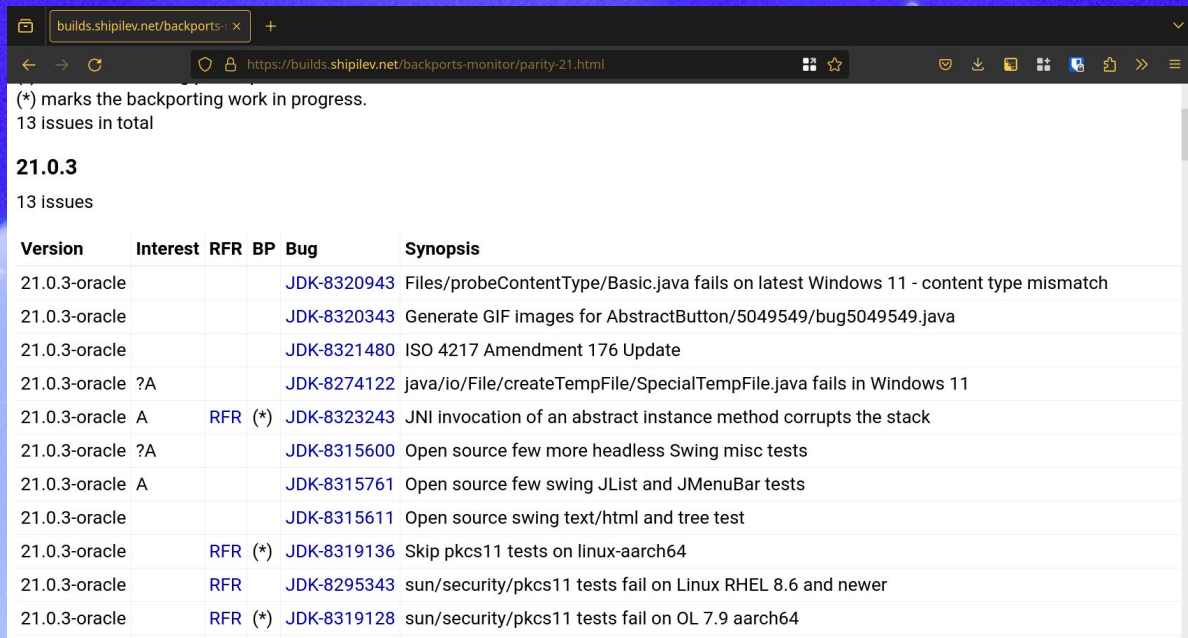
The **People** section lists the assignee as **loi Lam**, the reporter as **David Holmes**, and provides options to vote for the issue or start watching it.

The **Dates** section is partially visible at the bottom.

Backports Monitor

<https://github.com/shipilev/jdk-backports-monitor>

<https://builds.shipilev.net/backports-monitor/>



(*) marks the backporting work in progress.
13 issues in total

21.0.3

13 issues

Version	Interest	RFR	BP	Bug	Synopsis
21.0.3-oracle				JDK-8320943	Files/probeContentType/Basic.java fails on latest Windows 11 - content type mismatch
21.0.3-oracle				JDK-8320343	Generate GIF images for AbstractButton/5049549/bug5049549.java
21.0.3-oracle				JDK-8321480	ISO 4217 Amendment 176 Update
21.0.3-oracle	?A			JDK-8274122	java/io/File/createTempFile/SpecialTempFile.java fails in Windows 11
21.0.3-oracle	A	RFR	(*)	JDK-8323243	JNI invocation of an abstract instance method corrupts the stack
21.0.3-oracle	?A			JDK-8315600	Open source few more headless Swing misc tests
21.0.3-oracle	A			JDK-8315761	Open source few swing JList and JMenuBar tests
21.0.3-oracle				JDK-8315611	Open source swing text/html and tree test
21.0.3-oracle		RFR	(*)	JDK-8319136	Skip pkcs11 tests on linux-aarch64
21.0.3-oracle		RFR		JDK-8295343	sun/security/pkcs11 tests fail on Linux RHEL 8.6 and newer
21.0.3-oracle		RFR	(*)	JDK-8319128	sun/security/pkcs11 tests fail on OL 7.9 aarch64

Finding a good backport bug

(*) marks the backporting work in progress.
13 issues in total

21.0.3

13 issues

Version	Interest	RFR	BP	Bug	Synopsis
21.0.3-oracle				JDK-8320943	Files/probeContentType/Basic.java fails on latest Windows 11 - content type mismatch
21.0.3-oracle				JDK-8320343	Generate GIF images for AbstractButton/5049549/bug5049549.java
21.0.3-oracle				JDK-8321480	ISO 4217 Amendment 176 Update
21.0.3-oracle	?A			JDK-8274122	java/io/File/createTempFile/SpecialTempFile.java fails in Windows 11
21.0.3-oracle	A	RFR (*)		JDK-8323243	JNI invocation of an abstract instance method corrupts the stack
21.0.3-oracle	?A			JDK-8315600	Open source: few more headlines: Swing misc tests
21.0.3-oracle	A			JDK-8315760	Open source: new swing JList and JMenuBar tests
21.0.3-oracle				JDK-8315611	Open source: swing text/html and tree test
21.0.3-oracle		RFR (*)		JDK-8319136	Skip pkcs11 tests on linux-aarch64
21.0.3-oracle		RFR		JDK-8295343	sun/security/pkcs11 tests fail on Linux, RHEL 8.6 and newer
21.0.3-oracle		RFR (*)		JDK-8319128	sun/security/pkcs11 tests fail on OL 7.9 aarch64
21.0.3-oracle		RFR (*)		JDK-8312410	Tests in Locale should have more descriptive names
21.0.3-oracle				JDK-8316947	Write a test to check textArea triggers MouseEntered/MouseExited events properly

EXCLUSIVE: OPENJDK REJECTED

Perfecting Git

```
213M    jdk8u-dev/.git
406M    jdk11u-dev/.git
532M    jdk17u-dev/.git
1.2G    jdk21u-dev/.git
1.2G    jdk/.git
1.5G    all remotes in one repo
```



Git worktrees

```
git worktree add -b local-branch \  
../new-directory jdk8u-dev/master
```

git-worktree(1)

<https://jmttd.net/log/worktrees>

JDK path changes

```
git mv <8u path> <path from patch source>  
git commit -am "pre-pick path adjustments"
```

```
git cherry-pick <patch>  
# resolve conflicts, further changes...
```

```
git revert <sha1 of git-mv commit above>
```

```
vigg ()  
{  
    vim "+/$1" $(git grep -l "$@")  
}
```

UI tests

```
carbyne ▶ ;$JT_HOME/bin/jtreg -jdk:$JAVA_HOME $(git show HEAD
--name-only --pretty="")
Test results: passed: 4; failed: 1
Report written to /home/jon/rh/git/jdk/jdk17u-dev/JTreport/html/repo
rt.html
Results written to /home/jon/rh/git/jdk/jdk17u-dev/JTwork
Error: Some tests failed or other problems occurred.
carbyne ▶ 2 ▶ ;|
```

Xephyr

```
carbyne ➤ ;$JT_HOME/bin/jtreg -jdk:$JAVA_HOME $(git show HEAD
--name-only --pretty="")
Test results: passed: 4; failed: 1
Report written to /home/jon/rh/git/jdk/jdk17u-dev/JTreport.html
Results written to /home/jon/rh/git/jdk/jdk17u-dev/JTwork
Error: Some tests failed
carbyne ➤ 2 ➤ ;
```

Xephyr on :2.0 (ctrl+shift grabs mouse and keyboard)

```
carbyne ➤ ;$JT_HOME/bin/jtreg -jdk:$JAVA_HOME $(git
show HEAD --name-only --pretty="")
Test results: passed: 5
Report written to /home/jon/rh/git/jdk/jdk17u-dev/JTreport.html/report.html
Results written to /home/jon/rh/git/jdk/jdk17u-dev/JTwork
carbyne ➤ |
```


A lava lamp with a blue top and a white bulbous shape inside, and a red hat with a black band.

Thank you!

jmtd.net

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First few backports

```
$ git checkout -b my-first-backport jdk21u-dev/master
$ git cherry-pick <backportCommitSha>
$ bash configure ... && make clean && make jdk
$ make test-tier1
$ git push -u <your-fork-remote>
# raise draft PR with title "Backport <backportCommitSha>"
```