

NAME

development - introduction to FreeBSD development process

DESCRIPTION

FreeBSD development is split into three major subprojects: doc, ports, and src. Doc is the documentation, such as the FreeBSD Handbook. To read more, see:

<https://docs.FreeBSD.org/en/books/fdp-primer/>

Ports, described further in ports(7), are the way to build, package, and install third party software. To read more, see:

<https://docs.FreeBSD.org/en/books/porters-handbook/>

The last one, src, revolves around the source code for the base system, consisting of the kernel, and the libraries and utilities commonly called the world.

The Committer's Guide, describing topics relevant to all committers, can be found at:

<https://docs.freebsd.org/en/articles/committers-guide/>

FreeBSD src development takes place in the project-hosted Git repository, located at:

<https://git.FreeBSD.org/src.git>

The push URL is:

<ssh://git@gitrepo.FreeBSD.org/src.git>

There is also a list of public, read-only Git mirrors at:

<https://docs.FreeBSD.org/en/books/handbook/mirrors/#external-mirrors>

The 'main' Git branch represents CURRENT; all changes are first committed to CURRENT and then usually cherry-picked back to STABLE, which refers to Git branches such as 'stable/14'. Every few years a new STABLE is branched from CURRENT, with an incremented major version number. Releases are then branched off STABLE and numbered with consecutive minor numbers such as 'releng/14.3'

The layout of the source tree is described in its *README.md* file. Build instructions can be found in build(7) and release(7). Kernel programming interfaces (KPIs) are documented in section 9 manual pages;

use ‘`apropos -s 9 .`’ for a list. Regression test suite is described in tests(7). For coding conventions, see style(9).

To ask questions regarding development, use the mailing lists, such as `freebsd-arch@` and `freebsd-hackers@`:

<https://lists.FreeBSD.org>

To get your patches integrated into the main FreeBSD repository use Phabricator; it is a code review tool that allows other developers to review the changes, suggest improvements, and, eventually, allows them to pick up the change and commit it:

<https://reviews.FreeBSD.org>

Or Github:

<https://github.com/freebsd>

To check the latest FreeBSD build and test status of CURRENT and STABLE branches, the continuous integration system is at:

<https://ci.FreeBSD.org>

FILES

<code>/usr/src/CONTRIBUTING.md</code>	FreeBSD contribution guidelines
<code>/usr/src/tools/tools/git/git-arc.sh</code>	Phabricator review tooling
<code>/usr/ports/devel/freebsd-git-devtools</code>	Phabricator review tooling as a port

EXAMPLES

Apply a patch from Github pull #1234, using `devel/gh`:

```
gh pr checkout 1234
```

Apply a patch from Phabricator review D1234, using `git-arc(1)`:

```
git arc patch -c D1234
```

Apply a manually downloaded `git-format-patch(1)`, *draft.patch*, from Bugzilla or mail:

```
git am draft.patch
```

Apply a manually downloaded patch, *draft.diff*, from Bugzilla or mail:

```
git apply draft.diff
```

SEE ALSO

git(1), git-arc(1), witness(4), build(7), hier(7), ports(7), release(7), tests(7), locking(9), style(9)

HISTORY

The **development** manual page was originally written by Matthew Dillon <dillon@FreeBSD.org> and first appeared in FreeBSD 5.0, December 2002. It was since extensively modified by Eitan Adler <eadler@FreeBSD.org> to reflect the repository conversion from CVS: **<https://www.nongnu.org/cvs/>** to Subversion: **<https://subversion.apache.org/>**. It was rewritten from scratch by Edward Tomasz Napierala <trasz@FreeBSD.org> for FreeBSD 12.0.