

MediaWiki

New Developers



For a central
place for
developers to
find key
Wikimedia
technical
documentatio
n, see:

[Wikimedia](#)

[Developer](#)

[Portal \(http](#)

[s://developer.](#)

[wikimedia.org](https://www.wikimedia.org/)

g/).

This page explains how to get started as a developer who wants to contribute to Wikimedia technical projects.

Welcome!

Participants of the Wikimedia Hackathon 2019

Wikimedia's technical community always welcomes new contributors!

Become part of a global community, and help make access to free knowledge easier for everyone!

How to start contributing

The following steps are a general outline of how to get started contributing:

1. Learn the basics of how Wikimedia open source software projects work.
2. Read the Communication guidelines.
3. Set up accounts:
Create a

developer
account.

Depending
on the type
of
contribution
you want to
make, you
may also
need to set
up accounts
in
Phabricator,
and set up
Git and
Gerrit.

4. Choose a
software
project.

5. Choose and
solve a task

(write and test your code).

6. Submit your code changes for review.

Follow the [Guide to getting your code reviewed and submit a patch.](#)

The rest of this guide provides additional details about the process.

Basics of how Wikimedia software projects work

Wikimedia has software projects in many different areas.

The maintainers of each software project choose the infrastructure they prefer. In general, most software projects have:

- **a task tracking tool** where software bugs and enhancement requests are reported, managed and discussed. Examples are

Wikimedia

Phabricator,

GitHub, or

Wikimedia

GitLab.

- a **code**

repository

where the

source code

can be

"checked out"

to everybody.

Examples are

Wikimedia

Gerrit, GitHub,

or Wikimedia

GitLab.

- a **code review**

tool where

proposed code

changes

("patches") get discussed and improved.

Examples are

Wikimedia

Git/Gerrit,

GitHub, or

GitLab. After

your proposed

patch is

approved and

merged into

the code

repository, your

code changes

become

available to

everybody.

- **general places for discussion of**

the software project and for help and support. Those places can be mailing lists, IRC chat channels, wiki pages, or other places. The exact places depend on each project.

At any point, if you run into problems or need help, please ask. To ask good questions in the right places, follow the ["communication tips"](#).

Overview of technical areas

For an overview of Wikimedia technology and examples of the major areas where developers can contribute, visit [Introduction to the Wikimedia Technical Ecosystem](#).

Contributing to software in MediaWiki

Are you a user of a MediaWiki wiki looking to add a feature or fix a bug in one? Please see [How to become a MediaWiki hacker](#) to learn how to find and contribute to the software project part of MediaWiki you are looking for.

Choose a software project

The following projects offer resources, mentorship, and are looking for new developers to contribute to them. Choose one of the following projects and follow the project's documentation to set up your development environment, choose a task to work on, solve the task, and submit your code changes for review. You are free to contribute to these projects or any others you are interested in related to Wikimedia. Most can be found by searching for them on [Phabricator](#) or online.

An [offline reader \(https://www.kiwix.org\)](https://www.kiwix.org) for people

without internet
access

- **Skills**
required:
Java/Kotli
n
(Android),
Swift
(iOS), Qt
(desktop),
NodeJS
(mediawiki
offliner),
C++,
Python
(WP1)
- **Get in**
touch:
Mailing list

[.mailto:hello@kiwix.org](mailto:hello@kiwix.org)) / [Slack](https://join.slack.com/t/kiwixoffline/shared_invite/zt-c5fgl342-VDYtm7fwY6w0BAeBqYxIGg) (https://join.slack.com/t/kiwixoffline/shared_invite/zt-c5fgl342-VDYtm7fwY6w0BAeBqYxIGg).

- Get the source code: [GitHub](https://github.com/kiwix/) (<https://github.com/kiwix/>).

- Read the

general
document
ation (http
s://github.
com/kiwix/
overview/b
lob/maste
r/CONTRI
BUTING.m
d) and the
README.
md file of
the
correspon
ding
project

- Check the
recommen
ded tasks
to work on:
Android (h

<https://github.com/kiwix/kiwix-android/labels/good%20first%20issue>), [iOS \(https://github.com/kiwix/iOS/labels/good%20first%20issue\)](https://github.com/kiwix/iOS/labels/good%20first%20issue), [JS \(https://github.com/kiwix/js/labels/good%20first%20issue\)](https://github.com/kiwix/js/labels/good%20first%20issue), ,

[mwoffliner](#)

[https://git](https://github.com/penzim/mwoffliner/labels/good%20first%20issue)

[hub.com/o](https://github.com/penzim/mwoffliner/labels/good%20first%20issue)

[penzim/m](https://github.com/penzim/mwoffliner/labels/good%20first%20issue)

[woffliner/l](https://github.com/penzim/mwoffliner/labels/good%20first%20issue)

[abels/goo](https://github.com/penzim/mwoffliner/labels/good%20first%20issue)

[d%20firs](https://github.com/penzim/mwoffliner/labels/good%20first%20issue)

[t%20issu](https://github.com/penzim/mwoffliner/labels/good%20first%20issue)

[e\)](https://github.com/penzim/mwoffliner/labels/good%20first%20issue) on

GitHub

- Mentor(s):

Matthieu

Gauthier,

[Emmanuel](#)

[Engelhart,](#)

[Stephane](#)

[Coillet-](#)

[Matillon](#)

Commons **App for** **Android (h** **ttps://com** **mons-ap** **p.github.i** **o/).**

An app for
Android
devices to
upload your
pictures to
Wikimedia
Commons

- **Skills**
required:
Java
- **Get in**
touch:
Google
Groups (ht
tps://group

[s.google.com/forum/#!forum/commons-android](https://www.google.com/forum/#!forum/commons-android)

- Get the source code:
[GitHub \(https://github.com/commons-apps/android-commons/\)](https://github.com/commons-apps/android-commons/)
- Read the [documentation \(https://github.com/commons-apps/android-commons/\)](https://github.com/commons-apps/android-commons/)

mons-app/
apps-andr
oid-comm
ons/#docu
mentatio
n).

- Check the recommended tasks to work on: GitHub (https://github.com/commmons-app/apps-android-commons/labels/good%20first%20issue).

- Mentor(s):

Josephine

Lim

Wiki

Education

Dashboard

d ([https://](https://outreachd.wmflabs.org/)

outreachd

ashboard.

wmflabs.o

rg/).

A web application that supports Wikipedia education assignments, provides data and course management for instructors and students

- Skills

required:

Ruby,

JavaScript

- Get in

touch:

#wikimed

ia-ed (i

rcs://ir

c.libera

a.chat:6

697/wiki

media-e

d) [connect \(](#)

<https://web.li>

<bera.chat/?c>

<channel=#wiki>

<media-ed>).

on

irc.libera.c

hat

- Get the

source

code:

[GitHub \(https://github.com/WikiEducationFoundation/WikiEducationDashboard\)](https://github.com/WikiEducationFoundation/WikiEducationDashboard)

- Read the [documentation \(https://github.com/WikiEducationFoundation/WikiEducationDashboard\)](https://github.com/WikiEducationFoundation/WikiEducationDashboard).
- Check the recommen

ded tasks
to work on:
GitHub (<https://github.com/WikiEducationFoundation/WikiEducationDashboard/labels/newcomefriendly>).

- Mentor(s):
Sage Ross

Pywikibot

A *Python* library and collection of scripts that *automate work* on MediaWiki sites.

- **Skills**

required:

Python

- **Get in**

touch:

[#pywikibot](#)

[\(irc](#)

[s://irc.](#)

[libera.c](#)

[hat:669](#)

[7/pywiki](#)

[bot\)](#)

[connect \(http](#)

[s://web.liber](#)

[a.chat/?chan](#)

[nel=#pywikib](#)

[ot\)](#) on

irc.libera.c

hat /

Mailing list

([https://lists](https://lists.wikimedia.org/mailman/listinfo/pywikibot)

[s.wikimedi](https://lists.wikimedia.org/mailman/listinfo/pywikibot)

[a.org/mail](https://lists.wikimedia.org/mailman/listinfo/pywikibot)

[man/listinf](https://lists.wikimedia.org/mailman/listinfo/pywikibot)

[o/pywikibo](https://lists.wikimedia.org/mailman/listinfo/pywikibot)

[t](https://lists.wikimedia.org/mailman/listinfo/pywikibot)

- Get the source code: Use git to get the source code (<https://gerrit.wikimedia.org/r/plugins/gitiles/pywikibot/core/>).

- Read the

document
ation and
API
reference

- Check the recommended tasks to work on:
Phabricato
r ([https://p
habricator.
wikimedia.
org/manip
hest/quer
y/D.pe8.a.
NRmY/#
R](https://phabricator.wikimedia.org/maniphest/query/D.pe8.a.NRmY/#R)).
- Mentor(s):
xqt

Scribe (https://github.com/scribe-org)

Scribe (https://github.com/scribe-org)

provides Wikidata based keyboards for second language learners. Features include translation, verb conjugation and noun-gender annotation. This project is very open to those who want to learn the needed languages and how to work with Wikidata!

- **Skills**

required:

Swift ([http](http://docs.swift.org/swift-book/GuidedTour/GuidedTour.html)

[s://docs.s](http://docs.swift.org/swift-book/GuidedTour/GuidedTour.html)

[wift.org/s](http://docs.swift.org/swift-book/GuidedTour/GuidedTour.html)

[wift-book/](http://docs.swift.org/swift-book/GuidedTour/GuidedTour.html)

[GuidedTou](http://docs.swift.org/swift-book/GuidedTour/GuidedTour.html)

[r/GuidedT](http://docs.swift.org/swift-book/GuidedTour/GuidedTour.html)

[our.html](http://docs.swift.org/swift-book/GuidedTour/GuidedTour.html)).

for Scribe-

iOS ([http](https://github.com/scribe-org/Scribe-iOS)

[s://github.](https://github.com/scribe-org/Scribe-iOS)

[com/scrib](https://github.com/scribe-org/Scribe-iOS)

[e-org/Scri](https://github.com/scribe-org/Scribe-iOS)

[be-iOS](https://github.com/scribe-org/Scribe-iOS)). ;

Kotlin ([htt](https://kotlinlang.org/docs/getting-started.html)

[ps://kotlinl](https://kotlinlang.org/docs/getting-started.html)

[ang.org/do](https://kotlinlang.org/docs/getting-started.html)

[cs/getting](https://kotlinlang.org/docs/getting-started.html)

[-started.ht](https://kotlinlang.org/docs/getting-started.html)

[ml](https://kotlinlang.org/docs/getting-started.html)). for

Scribe-

Android (<https://github.com/subscribe-org/Subscribe-Android>) ;
Python (<https://www.python.org/about/gettingstarted/>).
and/or
Wikidata
Query
Service (https://www.wikidata.org/wiki/Wikidata:SPA_RQL_tutori)

al) for our
Scribe-
Data
language
data
extraction
CLI (http
s://github.
com/scrib
e-org/Scri
be-Data).

- Get in touch:
GitHub (ht
tps://githu
b.com/scri
be-org) or
email
- Get the source code:

[GitHub \(https://github.com/scribe-org\)](https://github.com/scribe-org)

- Read the contribution

guidelines:

[Scribe-](#)

[iOS \(http](#)

[s://github.](https://github.com/scribe-org/Scribe-iOS/blob/main/CONTRIBUTING.md)

[com/scrib](#)

[e-org/Scri](#)

[be-iOS/blob](#)

[/main/CO](#)

[NTRIBUTI](#)

[NG.md](#)), ,

[Scribe-](#)

[Android \(h](#)

[ttps://gith](https://github.com/sc)

[ub.com/sc](#)

[scribe-org/Scribe-Android/blob/main/CONTRIBUTING.md](#). or [Scribe-Data](#) (<https://github.com/scribe-org/Scribe-Data/blob/main/CONTRIBUTING.md>).

- Check the recommended tasks: [Scribe-iOS](#) (<https://github.com/scribe-org/Scribe-iOS/blob/main/CONTRIBUTING.md>).

com/scrib
e-org/Scri
be-iOS/iss
ues?q=i
s%3Aissu
e+is%3Ao
pen+labe
l%3A%22
good+first
+issue%2
2). ,
Scribe-
Android (h
ttps://gith
ub.com/sc
ribe-org/S
cribe-Andr
oid/issue
s?q=is%3
Aissue+i
s%3Aopen

+label%3A%22good+first+issue%22)
or Scribe-Data (http://github.com/scribe-org/Scribe-Data/issues?q=issue+is%3Aopen+label%3A%22good+first+issue%22)

- Mentor(s):
Andrew McAllister

VideoCutTool (https://videocuttool.wmflabs.org/).

A tool to edit the videos on Wikimedia Commons.

- **Skills required: React JS, Node JS.**

- Get in touch: [#VideoCut Tool \(https://wikimedia.zulipchat.com/#narrow/stream/275007-VideoCutTool\)](https://wikimedia.zulipchat.com/#narrow/stream/275007-VideoCutTool) in [Zulip](#)
- Get the source code: See link in [description in Phabricator](#)
- Read the

**document
ation**

- Check the recommended tasks to work on:

Phabricator

- Mentor(s):

Gopa

Vasanth,

Varun

Shrivastava,

Punith B

Nayak

*Are you a maintainer and want your project to be included in the list of software projects above?
Find out more and join!*

Outreach programs and single tasks

In addition to the recommended software projects above, there are more ways to choose a project or task to work on:

Outreach programs

Wikimedia offers internships in programs such as Google Summer of Code and Outreachy.

Good first tasks

There are many single tasks

(across many software projects) that are suitable for newcomers. However, mentors may not be available for these tasks, and your proposed patches may not receive fast reviews.

Communicati
on tips

Follow these tips to communicate effectively and get help from community members.

Use Phabricator tasks effectively

When you plan to work on a Phabricator task:

- **No need to ask for permission:**
You can work on unassigned tasks without asking someone to assign them to you. There is no authority who

assigns tasks
or who needs
to be asked
first.

- If a task already has a recent patch in Gerrit, choose a different task to work on instead.
- If an existing patch in Gerrit has not been merged

and has not seen any changes for a long time, you could improve that existing patch, based on the feedback in Gerrit and in the task.

- **Do your research:**
When you consider

working on a task, do research before you start coding. Look at the code, try to understand what it is supposed to do, read related documentation , and try to find the places where you need to make code changes.

- In a Phabricator task, use the project

tags in the side bar to find the code repository for the task.

- If you have no idea at all how to fix the bug, consider finding an easier one first.

- You do not need to **announce your plans** before you start working

on a task, but you should communicate that you are working on the task.

- When you start work, **set yourself as task assignee** by clicking *Edit Task...* in Phabricator, and set your Phabricator username

in the

Assigned

To field.

This

communic

ates to

others that

you are

working on

it, so they

don't

duplicate

work.

- **When your plans or interests change:** If you are no longer working on

a task,
remove
yourself as
the
assignee
of the task.
This tells
others that
they can
work on
the task,
and they
won't
expect you
to still
work on it.

- Follow Phabricator etiquette.

- In Phabricato

r tasks,
discuss
only
specific
questions
about the
topic of
that task.
Don't use
Phabricato
r to ask
general
questions,
like how to
set up a
developme
nt
environme
nt or how
to fix
problems

with Gerrit.

Compose good questions

- **Don't ask to ask...just ask!** (<https://dontasktoask.com/>). .
- **Be specific and provide context:**
Instead of simply asking "Can you give me more info?", "Please guide me", or "Please tell me how to start", include

the following
information in
your question:

- What are you trying to achieve?
- What have you already tried?

Copy and paste your commands and their output (if not too long) instead of paraphrasing in your

own

words.

- What have you found out already during your research? Include links to code, documentation, or other resources you already consulted.

- Use specific titles and

subject lines in your communication . "Proposal draft" or "Need help" is not specific.

- **Keep conversations readable:**
When you reply in Zulip, in Phabricator tasks, or on mailing lists, only quote sections of previous comments that are relevant to your response.

If you quote a *complete* previous comment, it makes threads hard to read.

Follow communication policies and best practices

Before you send or post your question:

- Read and follow the code of conduct for Wikimedia technical spaces.
- **Use Inclusive language**:

Instead of using terms that assume a gender identity (like "guys (<https://heyguys.cc/>), "madam", or "sir") use the name of the person instead.

Ask in the right place

- **Ask in public:**

Do not send private messages if your conversation

topic is not
secret. Private
messages
don't help
others.

- **Ask and discuss in the best place:**

- In Phabricator tasks, discuss only specific questions about the topic of that task.
- Ask general technical

questions,
like how to
set up a
developme
nt
environme
nt or how
to fix
problems
with Gerrit,
in the
places
listed on
Communic
ation.

- If you take part in an outreach program, then Zulip is for

discussing questions about the outreach programs themselves.

Be patient

After you post your question:

- **Do not ask people for code review in a separate message.** People receive Gerrit and Phabricator notifications and will

respond when they can.

- When seeking input and comments, especially during weekends and holidays, you may need to wait until business hours resume. On chat channels like IRC: if nobody answers, try again at a different time; don't just give up!

- If you don't get an answer even after waiting and being patient, consider if other Communication channels might be a better place to ask your question.

Additional resources

- [Introduction to the Wikimedia Technical Ecosystem](#)