First off, thanks for taking the time to contribute!

The following is a short set of guidelines for contributing to Iroha.

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## How Can I Contribute?

### Reporting bugs

\*Bug\* is an error, design flaw, failure or fault in Iroha that causes it to produce an incorrect or unexpected result, or to behave in unintended ways.

Bugs are tracked as [JIRA issues](https://jira.hyperledger.org/projects/IR/issues/IR-275?filter=allopenissues&orderby=issuetype+ASC%2C+priority+DESC%2C+updated+DESC) in Hyperledger Jira.

To submit a bug, [create new issue](https://jira.hyperledger.org/secure/CreateIssue.jspa) and include these details:

| Field | What to enter |

| :---------------------- | ---------------------------------------------------------------- |

| Project | Iroha (IR) |

| Issue Type | Bug |

| Summary | Essence of the problem |

| Description | What the issue is about; if you have any logs, please provide them|

| Priority | You can use Medium though if you see the issue as a high priority, please choose that|

| Environment | Your OS, device's specs, Virtual Environment if you use one, version of Iroha etc. |

### Suggesting Improvements

An \*improvement\* is a code or idea, which makes \*\*existing\*\* code or design faster, more stable, portable, secure or better in any other way.

Improvements are tracked as [JIRA improvements](https://jira.hyperledger.org/browse/IR-184?jql=project%20%3D%20IR%20and%20issuetype%20%3D%20Improvement%20ORDER%20BY%20updated%20DESC). To submit new improvement, [create new issue](https://jira.hyperledger.org/secure/CreateIssue.jspa) and include these details:

| Field | What to enter |

| :---------------------- | ---------------------------------------------------------------- |

| Project | Iroha (IR) |

| Issue Type | Improvement |

| Summary | Essence of the idea |

| Description | What the idea is about; if you have any code suggestions, you are welcome to add them here |

| Priority | You can use Medium |

| Assign | You can assign the task to yourself if you are planning on working on it|

### Asking Questions

A \*question\* is any discussion that is typically neigher a bug, nor feature request or improvement. If you have a question like "How do I do X?" - this paragraph is for you.

Please post your question in [your favourite messenger](#places-where-community-is-active) so members of the community could help you. You can also help others!

### Your First Code Contribution

Read our [C++ Style Guide](#c-style-guide) and start with beginner-friendly issues with JIRA label [`[good-first-issue]`](https://jira.hyperledger.org/issues/?jql=project%20%3D%20IR%20and%20labels%20%3D%20good-first-issue%20ORDER%20BY%20updated%20DESC) <- click here. Indicate somehow that you are working on this task: get in touch with maintainers team, community or simply assign this issue to yourself.

### Pull Requests

- Fill in [the required template](.github/PULL\_REQUEST\_TEMPLATE.md)

- End all files with a newline

- \*\*Write tests\*\* for new code. Test coverage for new code must be at least 70%

- Every pull request should be reviewed and \*\*get at least two approvals from maintainers team\*\*. Check who is a current maintainer in [MAINTAINERS.md](https://github.com/hyperledger/iroha/blob/master/MAINTAINERS.md) file

- When you've finished work make sure that you've got all passing CI checks — after that \*\*squash and merge\*\* your pull request

- Follow the [C++ Style Guide](#c-style-guide)

- Follow the [Git Style Guide](#git-style-guide)

- \*\*Document new code\*\* based on the [Documentation Styleguide](#documentation-styleguide)

- When working with \*\*PRs from forks\*\* check [this manual](https://help.github.com/articles/checking-out-pull-requests-locally)

## Styleguides

### Git Style Guide

- \*\*Sign-off every commit\*\* with [DCO](https://github.com/apps/dco): `Signed-off-by: $NAME <$EMAIL>`. You can do it automatically using `git commit -s`

- \*\*Use present tense\*\* ("Add feature", not "Added feature").

- \*\*Use imperative mood\*\* ("Deploy docker to..." not "Deploys docker to...").

- Write meaningful commit message.

- Limit the first line of commit message to 50 characters or less

- First line of commit message must contain summary of work done, second line must contain empty line, third and other lines can contain list of commit changes

### C++ Style Guide

- Use clang-format [settings](https://github.com/hyperledger/iroha/blob/master/.clang-format) file. There are guides available on the internet (e.g. [Kratos wiki](https://github.com/KratosMultiphysics/Kratos/wiki/How-to-configure-clang%E2%80%90format))

- Follow [CppCoreGuidelines](http://isocpp.github.io/CppCoreGuidelines/CppCoreGuidelines) and [Cpp Best Practices](https://lefticus.gitbooks.io/cpp-best-practices).

- Avoid [platform-dependent](https://stackoverflow.com/questions/1558194/learning-and-cross-platform-development-c) code.

- Use [C++14](https://en.wikipedia.org/wiki/C%2B%2B14).

- Use [camelCase](https://en.wikipedia.org/wiki/Camel\_case) for class names and methods, use [snake\_case](https://en.wikipedia.org/wiki/Snake\_case) for variables.

### Documentation Styleguide

- Use [Doxygen](http://www.stack.nl/~dimitri/doxygen/manual/docblocks.html).

- Document all public API: methods, functions, members, templates, classes...

### Places where community is active

Our community members are active at:

| Service | Link |

| ------------ | ------------------------------------------------------------ |

| RocketChat | https://chat.hyperledger.org/channel/iroha |

| StackOverflow| https://stackoverflow.com/questions/tagged/hyperledger-iroha |

| Mailing List | [hyperledger-iroha@lists.hyperledger.org](mailto:hyperledger-iroha@lists.hyperledger.org) |

| Gitter | https://gitter.im/hyperledger-iroha/Lobby |

| Telegram | https://t.me/hl\_iroha |

| YouTube | https://www.youtube.com/channel/UCYlK9OrZo9hvNYFuf0vrwww |

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Thank you for reading the document!