# Contributing to topology

We would love for you to contribute to topology and help make it even better than it is

today! As a contributor, here are the guidelines we would like you to follow:

- [Issues and Bugs](#issue)

- [Feature Requests](#feature)

- [Submission Guidelines](#submit)

- [Coding Rules](#rules)

- [Commit Message Guidelines](#commit)

## <a name="issue"></a> Found a Bug?

If you find a bug in the source code, you can help us by

[submitting an issue](#submit-issue) to our [GitHub Repository][github]. Even better, you can

[submit a Pull Request](#submit-pr) with a fix.

## <a name="feature"></a> Missing a Feature?

You can \*request\* a new feature by [submitting an issue](#submit-issue) to our GitHub

Repository. If you would like to \*implement\* a new feature, please submit an issue with

a for your work first, to be sure that we can use it.

Please consider what kind of change it is:

\* For a \*\*Major Feature\*\*, first open an issue and outline your proposal so that it can be

discussed. This will also allow us to better coordinate our efforts, prevent duplication of work,

and help you to craft the change so that it is successfully accepted into the project.

\* \*\*Small Features\*\* can be crafted and directly [submitted as a Pull Request](#submit-pr).

## <a name="submit"></a> Submission Guidelines

### <a name="submit-issue"></a> Submitting an Issue

Before you submit an issue, please search the issue tracker, maybe an issue for your problem already exists and the discussion might inform you of workarounds readily available.

We want to fix all the issues as soon as possible, but before fixing a bug we need to reproduce and confirm it. In order to reproduce bugs we will systematically ask you to provide a minimal reproduction scenario using http://plnkr.co. Having a live, reproducible scenario gives us wealth of important information without going back & forth to you with additional questions like:

- version of topology used

- 3rd-party libraries and their versions

- and most importantly - a use-case that fails

A minimal reproduce scenario using http://plnkr.co/ allows us to quickly confirm a bug (or point out coding problem) as well as confirm that we are fixing the right problem. If plunker is not a suitable way to demonstrate the problem (for example for issues related to our npm packaging), please create a standalone git repository demonstrating the problem.

We will be insisting on a minimal reproduce scenario in order to save maintainers time and ultimately be able to fix more bugs. Interestingly, from our experience users often find coding problems themselves while preparing a minimal plunk. We understand that sometimes it might be hard to extract essentials bits of code from a larger code-base but we really need to isolate the problem before we can fix it.

Unfortunately we are not able to investigate / fix bugs without a minimal reproduction, so if we don't hear back from you we are going to close an issue that don't have enough info to be reproduced.

You can file new issues by filling out our [new issue form](https://github.com/le5le-com/topology/issues/new).

### <a name="submit-pr"></a> Submitting a Pull Request (PR)

Before you submit your Pull Request (PR) consider the following guidelines:

\* Search [GitHub](https://github.com/le5le-com/topology/pulls) for an open or closed PR

that relates to your submission. You don't want to duplicate effort.

\* Make your changes in a new git branch:

```shell

git checkout -b my-fix-branch master

```

\* Create your patch, \*\*including appropriate test cases\*\*.

\* Follow our [Coding Rules](#rules).

\* Run the full topology test suite <!-- , as described in the [developer documentation][dev-doc] -->, and ensure that all tests pass.

\* Commit your changes using a descriptive commit message that follows our

[commit message conventions](#commit). Adherence to these conventions

is necessary because release notes are automatically generated from these messages.

```shell

git commit -a

```

Note: the optional commit `-a` command line option will automatically "add" and "rm" edited files.

\* Push your branch to GitHub:

```shell

git push origin my-fix-branch

```

\* In GitHub, send a pull request to `topology:master`.

\* If we suggest changes then:

\* Make the required updates.

\* Re-run the topology test suites to ensure tests are still passing.

\* Rebase your branch and force push to your GitHub repository (this will update your Pull Request):

```shell

git rebase master -i

git push -f

```

That's it! Thank you for your contribution!

#### After your pull request is merged

After your pull request is merged, you can safely delete your branch and pull the changes

from the main (upstream) repository:

\* Delete the remote branch on GitHub either through the GitHub web UI or your local shell as follows:

```shell

git push origin --delete my-fix-branch

```

\* Check out the master branch:

```shell

git checkout master -f

```

\* Delete the local branch:

```shell

git branch -D my-fix-branch

```

\* Update your master with the latest upstream version:

```shell

git pull --ff upstream master

```

## <a name="rules"></a> Coding Rules

To ensure consistency throughout the source code, keep these rules in mind as you are working:

\* All features or bug fixes \*\*must be tested\*\* by one or more specs (unit-tests).

\* All public API methods \*\*must be documented\*\*.

## <a name="commit"></a> Commit Message Guidelines

We have very precise rules over how our git commit messages can be formatted. This leads to \*\*more

readable messages\*\* that are easy to follow when looking through the \*\*project history\*\*. But also,

we use the git commit messages to \*\*generate the topology change log\*\*.

### Commit Message Format

Each commit message consists of a \*\*header\*\*, a \*\*body\*\* and a \*\*footer\*\*. The header has a special

format that includes a \*\*type\*\*, a \*\*scope\*\* and a \*\*subject\*\*:

```

<type>(<scope>): <subject>

<BLANK LINE>

<body>

<BLANK LINE>

<footer>

```

The \*\*header\*\* is mandatory and the \*\*scope\*\* of the header is optional.

Any line of the commit message cannot be longer 100 characters! This allows the message to be easier

to read on GitHub as well as in various git tools.

Footer should contain a [closing reference to an issue](https://help.github.com/articles/closing-issues-via-commit-messages/) if any.

Samples: (even more [samples](https://github.com/le5le-com/topology/commits/master))

```

docs(changelog): update change log to beta.5

```

```

fix(release): need to depend on latest rxjs and zone.js

The version in our package.json gets copied to the one we publish, and users need the latest of these.

```

### Revert

If the commit reverts a previous commit, it should begin with `revert: `, followed by the header of the reverted commit. In the body it should say: `This reverts commit <hash>.`, where the hash is the SHA of the commit being reverted.

### Type

Must be one of the following:

\* \*\*build\*\*: Changes that affect the build system or external dependencies (example scopes: gulp, broccoli, npm)

\* \*\*ci\*\*: Changes to our CI configuration files and scripts (example scopes: Travis, Circle, BrowserStack, SauceLabs)

\* \*\*docs\*\*: Documentation only changes

\* \*\*feat\*\*: A new feature

\* \*\*fix\*\*: A bug fix

\* \*\*perf\*\*: A code change that improves performance

\* \*\*refactor\*\*: A code change that neither fixes a bug nor adds a feature

\* \*\*style\*\*: Changes that do not affect the meaning of the code (white-space, formatting, missing semi-colons, etc)

\* \*\*test\*\*: Adding missing tests or correcting existing tests

### Subject

The subject contains succinct description of the change:

\* use the imperative, present tense: "change" not "changed" nor "changes"

\* don't capitalize first letter

\* no dot (.) at the end

### Body

Just as in the \*\*subject\*\*, use the imperative, present tense: "change" not "changed" nor "changes".

The body should include the motivation for the change and contrast this with previous behavior.

### Footer

The footer should contain any information about \*\*Breaking Changes\*\* and is also the place to

reference GitHub issues that this commit \*\*Closes\*\*.

\*\*Breaking Changes\*\* should start with the word `BREAKING CHANGE:` with a space or two newlines. The rest of the commit message is then used for this.

A detailed explanation can be found in this [document][commit-message-format].

[commit-message-format]: https://docs.google.com/document/d/1QrDFcIiPjSLDn3EL15IJygNPiHORgU1\_OOAqWjiDU5Y/edit#

[github]: https://github.com/le5le-com/topology

[plunker]: http://plnkr.co/edit