

# The seven rules of a great Git commit message

Keep in mind: [This has all been said before](#).

1. Separate subject from body with a blank line
2. Limit the subject line to 50 characters
3. Capitalize the subject line
4. Do not end the subject line with a period
5. Use the imperative mood in the subject line
6. Wrap the body at 72 characters
7. Use the body to explain [what](#) and [why vs. how](#)

For example:

```
Summarize changes in around 50 characters or less
```

```
More detailed explanatory text, if necessary. Wrap it to about 72
characters or so. In some contexts, the first line is treated as the
subject of the commit and the rest of the text as the body. The
blank line separating the summary from the body is critical (unless
you omit the body entirely); various tools like `log`, `shortlog`
and `rebase` can get confused if you run the two together.
```

```
Explain the problem that this commit is solving. Focus on why you
are making this change as opposed to how (the code explains that).
Are there side effects or other unintuitive consequences of this
change? Here's the place to explain them.
```

```
Further paragraphs come after blank lines.
```

- Bullet points are okay, too
- Typically a hyphen or asterisk is used for the bullet, preceded by a single space, with blank lines in between, but conventions vary here

```
If you use an issue tracker, put references to them at the bottom,
like this:
```

```
Resolves: #123
See also: #456, #789
```

## 1. Separate subject from body with a blank line

From the `git commit` manpage:

Though not required, it's a good idea to begin the commit message with a single short (less than 50 character) line summarizing the change, followed by a blank line and then a more thorough description. The text up to the first blank line in

a commit message is treated as the commit title, and that title is used throughout Git. For example, `Git-format-patch(1)` turns a commit into email, and it uses the title on the Subject line and the rest of the commit in the body. Firstly, not every commit requires both a subject and a body. Sometimes a single line is fine, especially when the change is so simple that no further context is necessary. For example:

```
Fix typo in introduction to user guide
```

Nothing more need be said; if the reader wonders what the typo was, she can simply take a look at the change itself, i.e. use `git show` or `git diff` or `git log -p`.

If you're committing something like this at the command line, it's easy to use the `-m` option to `git commit`:

```
$ git commit -m"Fix typo in introduction to user guide"
```

However, when a commit merits a bit of explanation and context, you need to write a body. For example:

```
Derezz the master control program
```

```
MCP turned out to be evil and had become intent on world domination.  
This commit throws Tron's disc into MCP (causing its deresolution)  
and turns it back into a chess game.
```

Commit messages with bodies are not so easy to write with the `-m` option. You're better off writing the message in a proper text editor. If you do not already have an editor set up for use with Git at the command line, read this section of Pro Git.

In any case, the separation of subject from body pays off when browsing the log. Here's the full log entry:

```
$ git log  
commit 42e769bdf4894310333942ffc5a15151222a87be  
Author: Kevin Flynn <kevin@flynnsarcade.com>  
Date:   Fri Jan 01 00:00:00 1982 -0200
```

```
Derezz the master control program
```

```
MCP turned out to be evil and had become intent on world domination.  
This commit throws Tron's disc into MCP (causing its deresolution)  
and turns it back into a chess game.
```

And now `git log --oneline`, which prints out just the subject line:

```
$ git log --oneline
42e769 Derezz the master control program
```

Or, `git shortlog`, which groups commits by user, again showing just the subject line for concision:

```
$ git shortlog
Kevin Flynn (1):
    Derezz the master control program

Alan Bradley (1):
    Introduce security program "Tron"

Ed Dillinger (3):
    Rename chess program to "MCP"
    Modify chess program
    Upgrade chess program

Walter Gibbs (1):
    Introduce prototype chess program
```

There are a number of other contexts in Git where the distinction between subject line and body kicks in—but none of them work properly without the blank line in between.

## 2. Limit the subject line to 50 characters

50 characters is not a hard limit, just a rule of thumb. Keeping subject lines at this length ensures that they are readable, and forces the author to think for a moment about the most concise way to explain what's going on.

*Tip: If you're having a hard time summarizing, you might be committing too many changes at once. Strive for [atomic commits](#) (a topic for a separate post).*

GitHub's UI is fully aware of these conventions. It will warn you if you go past the 50 character limit:



### Commit changes

 **ProTip:** Great commit summaries are 50 characters or less. Place extra information in the extended description.

Demonstrate a subject line that goes on too long and gets truncated by the GitHub UI

Add an optional extended description...

And will truncate any subject line longer than 72 characters with an ellipsis:



**Demonstrate a subject line that goes on too long and gets truncated b...** ...

cbeams authored 2 minutes ago

So shoot for 50 characters, but consider 72 the hard limit.

### 3. Capitalize the subject line

This is as simple as it sounds. Begin all subject lines with a capital letter.

For example:

●Accelerate to 88 miles per hour

Instead of:

●~~accelerate to 88 miles per hour~~

### 4. Do not end the subject line with a period

Trailing punctuation is unnecessary in subject lines. Besides, space is precious when you're trying to keep them to 50 chars or less.

Example:

●Open the pod bay doors

Instead of:

●~~Open the pod bay doors.~~

### 5. Use the imperative mood in the subject line

*Imperative mood* just means “spoken or written as if giving a command or instruction”. A few examples:

●Clean your room

●Close the door

●Take out the trash

Each of the seven rules you're reading about right now are written in the imperative (“Wrap the body at 72 characters”, etc.).

The imperative can sound a little rude; that's why we don't often use it. But it's perfect for Git commit subject lines. One reason for this is that **Git itself uses the imperative whenever it creates a commit on your behalf.**

For example, the default message created when using `git merge` reads:

```
Merge branch 'myfeature'
```

And when using `git revert`:

```
Revert "Add the thing with the stuff"
```

```
This reverts commit cc87791524aedd593cff5a74532befe7ab69ce9d.
```

Or when clicking the “Merge” button on a GitHub pull request:

```
Merge pull request #123 from someuser/somebranch
```

So when you write your commit messages in the imperative, you’re following Git’s own built-in conventions. For example:

- Refactor subsystem X for readability
- Update getting started documentation
- Remove deprecated methods
- Release version 1.0.0

Writing this way can be a little awkward at first. We’re more used to speaking in the *indicative mood*, which is all about reporting facts. That’s why commit messages often end up reading like this:

- ~~Fixed bug with Y~~
- ~~Changing behavior of X~~

And sometimes commit messages get written as a description of their contents:

- ~~More fixes for broken stuff~~
- ~~Sweet new API methods~~

To remove any confusion, here’s a simple rule to get it right every time.

**A properly formed Git commit subject line should always be able to complete the following sentence:**

- If applied, this commit will *your subject line here*

For example:

- If applied, this commit will *refactor subsystem X for readability*
- If applied, this commit will *update getting started documentation*
- If applied, this commit will *remove deprecated methods*
- If applied, this commit will *release version 1.0.0*
- If applied, this commit will *merge pull request #123 from user/branch*

Notice how this doesn’t work for the other non-imperative forms:

- If applied, this commit will ~~*fixed bug with Y*~~
- If applied, this commit will ~~*changing behavior of X*~~
- If applied, this commit will ~~*more fixes for broken stuff*~~
- If applied, this commit will ~~*sweet new API methods*~~

*Remember: Use of the imperative is important only in the subject line. You can relax this restriction when you're writing the body.*

## 6. Wrap the body at 72 characters

Git never wraps text automatically. When you write the body of a commit message, you must mind its right margin, and wrap text manually.

The recommendation is to do this at 72 characters, so that Git has plenty of room to indent text while still keeping everything under 80 characters overall.

A good text editor can help here. It's easy to configure Vim, for example, to wrap text at 72 characters when you're writing a Git commit. Traditionally, however, IDEs have been terrible at providing smart support for text wrapping in commit messages (although in recent versions, IntelliJ IDEA has finally gotten better about this).

## 7. Use the body to explain what and why vs. how

This commit from Bitcoin Core is a great example of explaining what changed and why:

```
commit eb0b56b19017ab5c16c745e6da39c53126924ed6
Author: Pieter Wuille <pieter.wuille@gmail.com>
Date:   Fri Aug 1 22:57:55 2014 +0200
```

Simplify serialize.h's exception handling

Remove the 'state' and 'exceptmask' from serialize.h's stream implementations, as well as related methods.

As exceptmask always included 'failbit', and setstate was always called with bits = failbit, all it did was immediately raise an exception. Get rid of those variables, and replace the setstate with direct exception throwing (which also removes some dead code).

As a result, good() is never reached after a failure (there are only 2 calls, one of which is in tests), and can just be replaced by !eof().

fail(), clear(n) and exceptions() are just never called. Delete them.

Take a look at the full diff and just think how much time the author is saving fellow and future committers by taking the time to provide this context here and now. If he didn't, it would probably be lost forever.

In most cases, you can leave out details about how a change has been made. Code is generally self-explanatory in this regard (and if the code is so complex that it needs to be explained in prose, that's what source comments are for). Just focus on making clear the reasons why you made the change in the first place—the way things worked before the change (and what was wrong with that), the way they work now, and why you decided to solve it the way you did. The future maintainer that thanks you may be yourself!