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Inspired by Cellie's answer, I investigated further and found a similar method that can be implemented using the regular interface of the Arduino IDE.

It appears that GitHub user Wackerbarth, while facing the very same problem, opened an issue on the Arduino bug tracker:

> It would be very useful to be able to add a recipe to the platform specification that is executed at the start of the build process. (pre-build)
>
> In particular, my use case is to generate version strings which will be incorporated in the Rom image based on information extracted from a SCM repository.

He went on to submit a pull request for adding “hooks” to the build process, which made it to release 1.6.2. See the documentation on these Pre and post build hooks.

Here is how you can use this feature for including git commit information into your program (tested on Arduino 1.8.5 / Ubuntu 16.04):

1. Save the following file under the name make-git-version, somewhere in your PATH, and make it executable:

```
#!/bin/bash

# Go to the source directory.
[ -n "$1" ] && cd "$1" || exit 1

# Build a version string with git.
version=$(git describe --tags --always --dirty 2> /dev/null)

# If this is not a git repository, fallback to the compilation date.
[ -n "$version" ] || version=$(date -I)

# Save this in git-version.h.
echo "#define GIT_VERSION \"$version\"" > $2/sketch/git-version.h
```

2. Locate the file named platform.txt in the Arduino installation directory (currently in arduino-1.8.5/hardware/arduino/avr for the AVR boards). In the same directory, create a file named platform.local.txt with the following content:

```
recipe.hooks.sketch.prebuild.1.pattern=make-git-version "{build.source.path}" "{build.path}"
```

3. In your sketch, include "git-version.h" and use it like so:

```
#include "git-version.h"
```

```
void setup() {
  Serial.begin(9600);
  Serial.println("This is version " GIT_VERSION);
}
```

4. Create an empty file in your sketch directory named git-version.h.

Note that the git-version.h in the current directory is only needed for the first compilation. The real git-version.h will be in the temporary build directory.

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answered Apr 4, 2018 at 16:03

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