

Configuring Git

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http://www-verimag.imag.fr/~moy/cours/formation-git/
configuring-git-slides.pdf

2015



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Git Configuration: Which Files

- 3 places
 - ▶ System-wide: /etc/gitconfig
 - ▶ User-wide ("global"): ~/.gitconfig or ~/.config/git/config
 - ▶ Per-repository: \$project/.git/config
- Precedence: per-repo overrides user-wide overrides system-wide.
- Not versionned by default, not propagated by git clone



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Querying/Modifying Config Files

```
# Modify per-repo .git/config:
$ git config user.name 'Matthieu Moy'
$ cat .git/config
...
[user]
    name = Matthieu Moy
# Modify user-wide ~/.gitconfig:
$ git config --global user.name 'Matthieu Moy'
# Get the value of a variable:
$ git config user.name
Matthieu Moy
```



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Aliases

```
# Definition
$ cat .git/config
...
[alias]
    lg = log --graph --oneline

# Use
$ git lg
* a5da80c Merge branch 'master' into HEAD
| \
| * 048e8c1 bar
* | 5034527 boz
| /
* 1e0e4a5 foo
```



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Configuration of Git

- What you already did:
 - ▶ Introduce yourself (user.name = ... , user.email = ...)
 - ▶ Tell Git about your favorite editor (core.editor)
 - ▶ Tell Git to ignore some files (.gitignore)
- What we're about to do:
 - ▶ Learn where the config files are
 - ▶ Learn how to read the docs



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Git Configuration: Syntax

- Simple syntax, key/value:


```
[section1]
# This is a comment
    key1 = value1 # comment as well
    key2 = value2
[section2 "subsection"]
    key3 = value3
```
- Semantics:
 - ▶ "section1.key1 takes value value1"
 - ▶ "section1.key2 takes value value2"
 - ▶ "section2.subsection.key3 takes value value3"
- "section" and "key" are case-insensitive.



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Some Useful Config Variables

- User-wide:
 - user.name, user.email Who you are (used in git commit)
 - core.editor Text editor to use for commit, rebase -i, ...
- Per-repo:
 - remote.origin.url Where to fetch/push



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Documentation about Configuration

- man git-config: documents all configuration variables (> 350)
- Example:


```
user.email
Your email address to be recorded in any
newly created commits. Can be overridden
by the GIT_AUTHOR_EMAIL, GIT_COMMITTER_EMAIL,
and EMAIL environment variables.
See git-commit-tree(1).
```



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Ignore Files: Why?

- Git needs to know which files to track (`git add`, `git rm`)
- You don't want to forget a `git add`
- ⇒ `git status` shows Untracked files as a reminder. Two options:
 - `git add them`
 - ask Git to ignore: add a rule to `.gitignore`
- Only impacts `git status` and `git add`.



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Ignore Files: Where?

- User-wide: `~/.config/git/ignore`:
 - Example: your editor's file like `*~` or `.*.swp`
 - Don't disturb your co-workers with your personal preferences
 - Set once and for all
- Per-repo, not versionned: `.git/info/exclude`
 - Not very useful ;-)
- Tracked within the project (`git add it`): `.gitignore` in any directory, applies to this directory and subdirectories.
 - Generated files (especially binary)
 - Example: `*.o` and `*.so` for a C project
 - Share with people working on the same project



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Ignore Files: How?

- `.gitignore` file contain one rule per line:


```
# This is a comment

# Ignore all files ending with ~:
*~
# Ignore all files named 'core':
core
# Ignore file named foo.pdf in this directory:
/foo.pdf
```



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About Generated Files

- Versionning (`git add-ing`) generated files is bad
- Versionning generated **binary** files is **very** bad
- Why?
 - breaks make (timestamp = `git checkout` time)
 - breaks merge
 - eats disk space (inefficient delta-compression)



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