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Dotfiles: Best way to store in a bare git repository

Disclaimer: the title is slightly hyperbolic, there are other proven solutions to the problem. I do think the technique below is very elegant though.

Recently I read about this amazing technique in an Hacker News thread on people's solutions to store their dotfiles. User `StreakyCobra` showed his elegant setup and ... It made so much sense! I am in the process of switching my own system to the same technique. The only pre-requisite is to install Git.

In his words the technique below requires:

No extra tooling, no symlinks, files are tracked on a version control system, you can use different branches for different computers, you can replicate you configuration easily on new installation.

The technique consists in storing a Git bare repository in a "*side*" folder (like `$HOME/.cfg` or `$HOME/.myconfig`) using a specially crafted alias so that commands are run against that repository

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Starting from scratch

If you haven't been tracking your configurations in a Git repository before, you can start using this technique easily with these lines:

```
git init --bare $HOME/.cfg
alias config='/usr/bin/git --git-di
config config --local status.showUn
echo "alias config='/usr/bin/git --
```

- The first line creates a folder `~/.cfg` which is a Git bare repository that will track our files.
- Then we create an alias `config` which we will use instead of the regular `git` when we want to interact with our configuration repository.
- We set a flag - local to the repository - to hide files we are not explicitly tracking yet. This is so that when you type `config status` and other commands later, files you are not

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- Also you can add the alias definition by hand to your `.bashrc` or use the the fourth line provided for convenience.

I packaged the above lines into a snippet up on Bitbucket and linked it from a short-url. So that you can set things up with:

```
curl -Lks http://bit.do/cfg-init | /bin/bash
```

After you've executed the setup any file within the `$HOME` folder can be versioned with normal commands, replacing `git` with your newly created `config` alias, like:

```
config status
config add .vimrc
config commit -m "Add vimrc"
config add .bashrc
config commit -m "Add bashrc"
config push
```

Installing your dotfiles onto a new system (or migrate to this setup)

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- Prior to the installation make sure you have committed the alias to your `.bashrc` or `.zsh`:

```
alias config='/usr/bin/git --git-dir=$HOME/.cfg/ --work-
```

- And that your source repository ignores the folder where you'll clone it, so that you don't create weird recursion problems:

```
echo ".cfg" >> .gitignore
```

- Now clone your dotfiles into a bare repository in a "*dot*" folder of your `$HOME`:

```
git clone --bare <git-repo-url> $HOME/.cfg
```

- Define the alias in the current shell scope:

```
alias config='/usr/bin/git --git-dir=$HOME/.cfg/ --work-
```

- Checkout the actual content from the bare repository to your `$HOME`:

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- The step above might fail with a message like:

```
error: The following untracked working tree files would
    .bashrc
    .gitignore
Please move or remove them before you can switch branche
Aborting
```

This is because your `$HOME` folder might already have some stock configuration files which would be overwritten by Git. The solution is simple: back up the files if you care about them, remove them if you don't care. I provide you with a possible rough shortcut to move all the offending files automatically to a backup folder:

```
mkdir -p .config-backup && \
config checkout 2>&1 | egrep "\s+\." | awk {'print $1'}
xargs -I{} mv {} .config-backup/{}
```

- Re-run the check out if you had problems:

```
config checkout
```

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```
config config --local status.showUntrackedFiles no
```

- You're done, from now on you can now type `config` commands to add and update your dotfiles:

```
config status
config add .vimrc
config commit -m "Add vimrc"
config add .bashrc
config commit -m "Add bashrc"
config push
```

Again as a shortcut not to have to remember all these steps on any new machine you want to setup, you can create a simple script, store it as Bitbucket snippet like I did, create a short url for it and call it like this:

```
curl -Lks http://bit.do/cfg-install | /bin/bash
```

For completeness this is what I ended up with (tested on many freshly minted Alpine Linux containers to test it out):

```
git clone --bare https://bitbucket.org/durdn/cfg.git $HC
function config {
```

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```
mkdir -p .config-backup
config checkout
if [ $? = 0 ]; then
  echo "Checked out config.";
  else
    echo "Backing up pre-existing dot files.";
    config checkout 2>&1 | egrep "\s+\." | awk {'print $
fi;
config checkout
config config status.showUntrackedFiles no
```

Wrapping up

I hope you find this technique useful to track your configuration. If you're curious, my dotfiles live here. Also please do stay connected by following @durdn or my awesome team at @atlassiandev.

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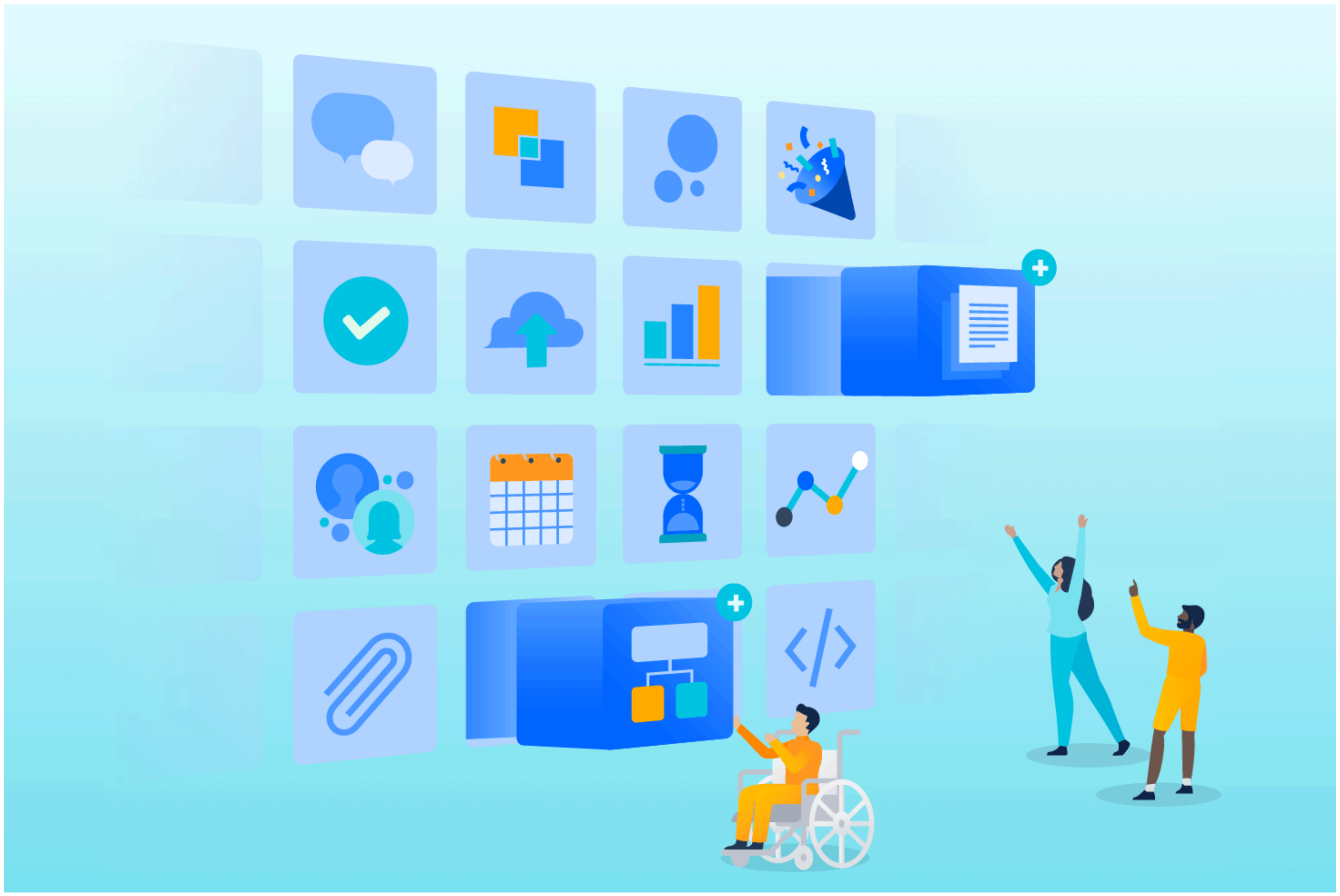

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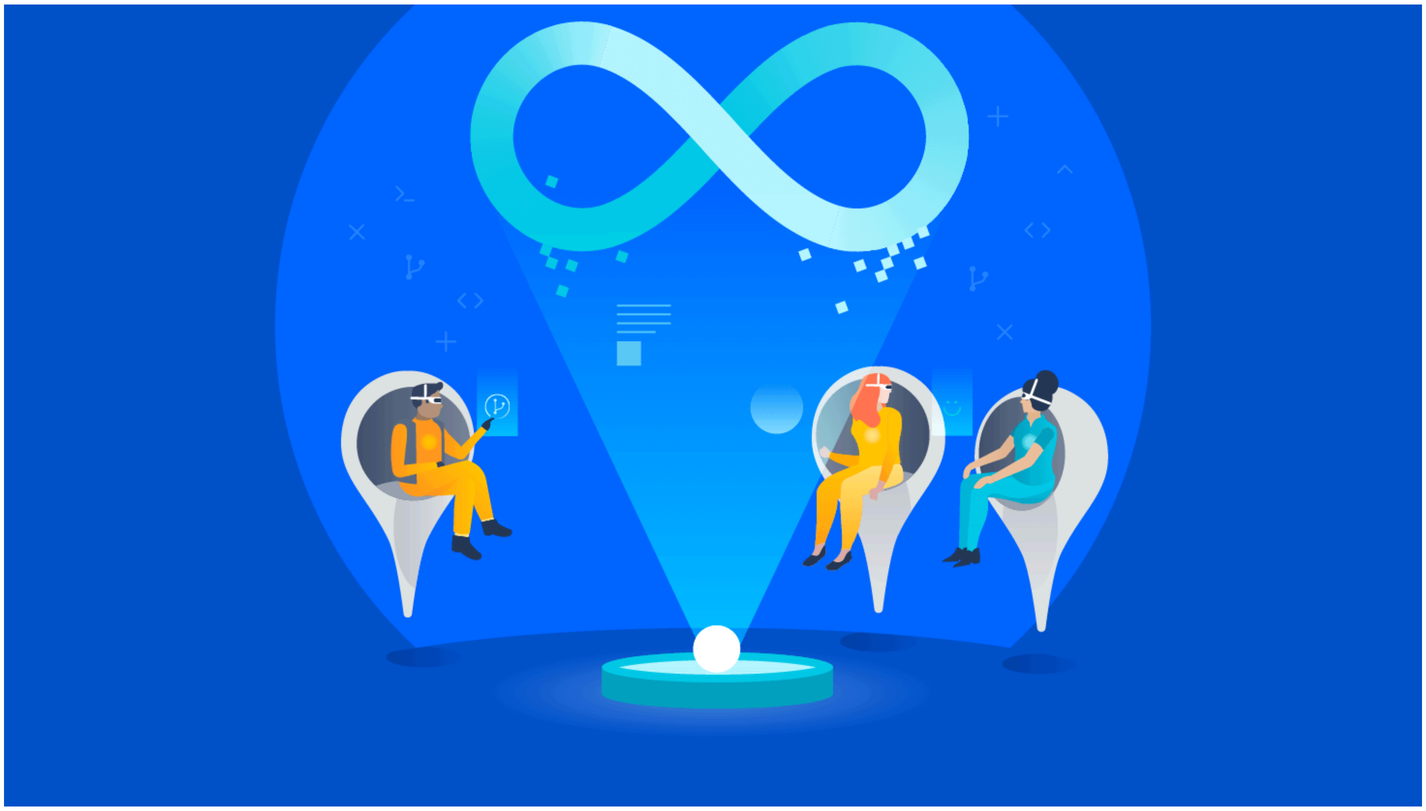

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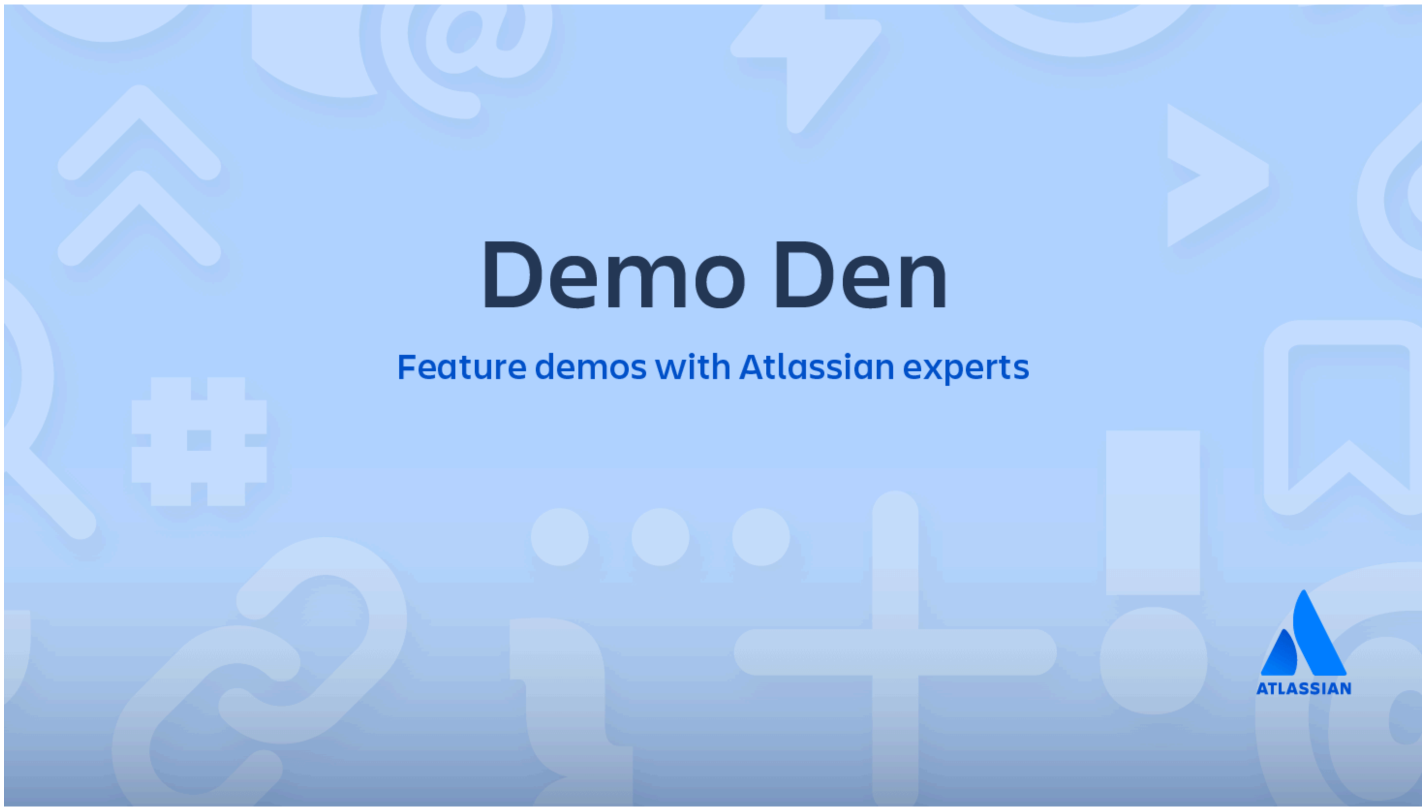

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