

# Git clone tiki

The clone operation creates a local repository by copying information from a source repository. In the standard behavior, git will bring the entire changes history from source repository to local repository. That means both source and local repository will have the same history at the clone moment.

## Cloning Tiki

### The basics

The basic and short syntax is `git clone <repository> <directory>`, where the mandatory argument `<repository>` is the source repository path or URL and the optional argument `<directory>` is the directory name where git will create the local repository.

By default, the clone process creates a repository in a folder with the same name of source repository, so in this case, the folder for local repository will have the name **tiki**.

#### Clone into tiki folder

```
git clone https://gitlab.com/tikiwiki/tiki.git
```

By passing a second argument to clone command, it is possible to define the name to the folder for the cloned repository, like the examples below.

#### Also clone into tiki folder

```
git clone https://gitlab.com/tikiwiki/tiki.git tiki
```

#### Clone into tikiwiki folder

```
git clone https://gitlab.com/tikiwiki/tiki.git tikiwiki
```

#### Clone into current folder

```
git clone https://gitlab.com/tikiwiki/tiki.git .
```

## Choosing a branch

By default, the clone operation creates a local repository having the current branch set to **master**. There is an option called `--branch` to change this behavior. The examples below creates 3 clones, each one with a different branch set.

#### Clone and set 18.x into tiki18 folder

```
git clone --branch=18.x https://gitlab.com/tikiwiki/tiki.git tiki18
```

#### Clone and set 19.x into tiki19 folder

```
git clone --branch=19.x https://gitlab.com/tikiwiki/tiki.git tiki19
```

#### Clone and set 20.x into tiki20 folder

```
git clone --branch=20.x https://gitlab.com/tikiwiki/tiki.git tiki20
```

## Dealing with Tiki huge repository

The examples above clone Tiki source repository with the entire history. After a decade of contributions, Tiki history sizes 3GB when decompressed locally. That is too big when several Tiki instances is needed. As of now, two approaches were tested to deal with this problem:

- Share git objects with other clones
  - `git clone --shared --reference=<local-repository> <repository> [<directory>]`
- Trim history size
  - `git clone --depth=1 <repository>`

For example to create a clone of branch 20 in a folder named tiki20 without all the history:

#### Clone and set 20.x into tiki20 folder

```
git clone --depth=1 --branch=20.x https://gitlab.com/tikiwiki/tiki.git tiki20
```

## Sharing git history

That is a good approach to developers needing to have the full Tiki history, but without waste network bandwidth or disk space. Git is capable to borrow information from other local clone when creating a new clone. This reduces the network usage while cloning and reduces disk usage to maintain several Tiki instances.

Information sharing is set by using the option `--reference=<local-repository>` and the option `--shared`, where `<local-repository>` is another clone made before.

The first step is to create a standard Tiki clone, like the example below.

#### Clone into tikiwiki folder

```
git clone https://gitlab.com/tikiwiki/tiki.git tikiwiki
```

Then, other clones can be created by borrowing the information from the clone above.

#### Clone and set 18.x into tiki18 folder

```
git clone --branch=18.x --reference=./tikiwiki --shared https://gitlab.com/tikiwiki/tiki.git tiki18
```

#### Clone and set 19.x into tiki19 folder

```
git clone --branch=19.x --reference=./tikiwiki --shared https://gitlab.com/tikiwiki/tiki.git tiki19
```

#### Clone and set 20.x into tiki20 folder

```
git clone --branch=20.x --reference=./tikiwiki --shared https://gitlab.com/tikiwiki/tiki.git
```

## Trimming git history

Another available to reduce disk and network usage is the `--depth=<n>`, where `<n>` is the number of history entries desired to bring. This approach may not be so good to Tiki development, because the change history is not available. But it is good to keep track of file state when installing Tiki in a server.

### Clone into tiki18 folder with 1 commit in history

```
git clone --branch=18.x --depth=1 https://gitlab.com/tikiwiki/tiki.git tiki18
```

### Clone into tiki18 folder with 2 commits in history

```
git clone --branch=18.x --depth=2 https://gitlab.com/tikiwiki/tiki.git tiki18
```

On the examples above, just the last `<n>` commits of branch 18.x will be available on local repository. All other information about branches and tags will not exist on local repository.

It is possible to have a cloned repository with the last `<n>` commits of each branch available. This is done by passing `--no-single-branch` to clone command.

## Creating a workspace

This is just a suggestion on how to setup a workspace in a development environment. The paths below can be set up in Nginx, Apache or any other webserver.

### 1. Create a base folder and change to it

```
mkdir "/var/www/html"  
cd "/var/www/html"
```

### 2. Create a standard tiki clone

```
git clone https://gitlab.com/tikiwiki/tiki.git tiki
```

### 3. Create a clone per tiki instance, referencing the tiki folder

```
git clone --branch=20.x --shared --reference=./tiki https://gitlab.com/tikiwiki/tiki.git doc.tiki.org  
git clone --branch=20.x --shared --reference=./tiki https://gitlab.com/tikiwiki/tiki.git dev.tiki.org  
git clone --branch=18.x --shared --reference=./tiki https://gitlab.com/tikiwiki/tiki.git example.com  
git clone --branch=master --shared --reference=./tiki https://gitlab.com/tikiwiki/tiki.git tikimaster.docker  
git clone --branch=20.x --shared --reference=./tiki https://gitlab.com/tikiwiki/tiki.git tiki20.docker  
git clone --branch=19.x --shared --reference=./tiki https://gitlab.com/tikiwiki/tiki.git tiki19.docker  
git clone --branch=18.x --shared --reference=./tiki https://gitlab.com/tikiwiki/tiki.git tiki18.docker
```

After above commands, the working space should have this structure:

```
/var/www/html/tiki  
/var/www/html/doc.tiki.org  
/var/www/html/dev.tiki.org  
/var/www/html/example.com  
/var/www/html/tikimaster.docker  
/var/www/html/tiki20.docker  
/var/www/html/tiki19.docker  
/var/www/html/tiki18.docker
```

## Reference

- <https://git-scm.com/docs/git-clone>