# Compiling PARI from the GIT repository

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15/01/2018



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 676541

# Introduction

This talk focuses on the current development version of the PARI library (2.10.*), available from our GIT repository, see

`http://pari.math.u-bordeaux.fr/anongit.html`

The text of this talk is available in the files `sources.*` in

`http://pari.math.u-bordeaux.fr/Events/PARI2018/talks/`

# Windows users

Download a precompiled 64bit installer
`Pari64-2-10-0.A2018.exe` or 32bit binary
`Pari32-2-10-0.A2018.exe` from

`http://pari.math.u-bordeaux.fr/pub/pari/windows/snapshots/`

Also available are precompiled 64bit binary
`gp64-gmp-git*.exe` or 32bit binary `gp32-gmp-git*.exe`.

# Mac OS users

Download a precompiled DMG
`PariGP-full-2.10.0.A2018.dmg` from

`http://pari.math.u-bordeaux.fr/pub/pari/mac/snapshots/`

Also are precompiled binary `gp-git*-osx`.

# Debian/Ubuntu

On Debian/Ubuntu, to install all the packages required to build pari from source:

```
sudo apt-get build-dep pari
```

# From source with GIT

Clone the PARI repository with GIT ($\sim$ 150MB).

```
git clone http://pari.math.u-bordeaux.fr/git/pari.git
cd pari
```

# From source without GIT

Download `pari-2.10.0.A2018.tar.gz` from

`http://pari.math.u-bordeaux.fr/pub/pari/snapshots/`

and unpack it

```
tar xf pari-2.10*.tar.gz
cd pari-2.10*
```

# PARI compilation

```
./Configure --prefix=GPDIR --mt=pthread
make -j4 gp
make doc
make statest-all
make install
make install-bin-sta
./Configure --prefix=GPDIR.dbg -g
make -j4 gp
make install -C Olinux-x86_64.dbg
GPDIR/bin/gp
```

# GP configuration

Create and customize `~/.gprc`. Add

```
histfile = "~/.gp_history"
colors = "lightbg" \\ or "darkbg"
lines = 40
parisizemax = 4G \\ or the maximum amount of memory
                 \\ GP can use (important)
read "~/.gprc.gp"
```

Create an empty file `~/.gprc.gp`

# GP2C compilation

With GIT (and automake, autoconf):

```
git clone http://pari.math.u-bordeaux.fr/git/gp2c.git
cd gp2c
./autogen.sh
```

Without GIT: download GP2C from http://pari.math.u-bordeaux.fr/download.html#gp2c

```
tar xf gp2c-0.0.10pl1.tar.gz
cd gp2c-0.0.10pl1
```

# GP2C compilation

```
./configure --prefix=$PWD/../GPDIR \
      --with-paricfg=../GPDIR/lib/pari/pari.cfg \
      --with-paricfg.dbg=../GPDIR.dbg/lib/pari/pari.cfg
make check
make install
cd ..
GPDIR/bin/gp2c -v
```

# Updating GIT

To update GIT to the most recent revision:

```
git fetch
git rebase origin/master
./Configure -l
make install
```

# Changelog

You can see the latest commits with

```
git log
```