

# Configuration

If you already have cross-compilers available, you may define yours in configuration files, see [here](#).

## Get the sources

For Mips (LE and BE) and PowerPC, you will need gnu binutils, gcc and gdb. They are available on ftp.gnu.org or any gnu mirror. [?http://ftp.gnu.org/gnu/binutils](http://ftp.gnu.org/gnu/binutils), [?http://ftp.gnu.org/gnu/gcc](http://ftp.gnu.org/gnu/gcc), [?http://ftp.gnu.org/gnu/gdb](http://ftp.gnu.org/gnu/gdb).

You'll probably also need [?http://ftp.gnu.org/gnu/gmp/](http://ftp.gnu.org/gnu/gmp/) and [?http://ftp.gnu.org/gnu/mpfr/](http://ftp.gnu.org/gnu/mpfr/), depending on your distribution, it will be provided by a dev package or not.

Let's unpack sources:

```
$ mkdir src
$ cd src
$ tar xjf ../binutils-2.xx.tar.bz2
$ tar xjf ../gcc-x.x.x.tar.bz2
$ tar xjf ../gdb-x.x.x.tar.bz2
$
```

## Compilation

Now lets compile a Mips LE/BE toolchain. I assume we'll need to compile more toolchains later, so let's share the sources and compile in a separate directory:

```
$ cd ..
$ mkdir build build/mipsel build/mipsel/binutils build/mipsel/gcc build/mipsel/gdb
```

First, binutils

```
$ cd build/mipsel/binutils
$ ../../src/binutils-2.x/configure --prefix=/where/to/put/it --target=mipsel-unknown-elf \
--program-prefix=mipsel-unknown-elf- --disable-nls --disable-werror
$ make
$ make install
$
```

Export the bin directory of your installation path, if not already in it. You should make this permanent by setting the PATH variable in a shell's startup script.

```
$ export PATH=$PATH:/where/to/put/it/bin
$
```

Now gcc

**Important !** Use the same --prefix= option for binutils and GCC or your GCC will be invalid.

```
$ cd ../gcc
$ ../../src/gcc-x.x.x/configure --prefix=/where/to/put/it --target=mipsel-unknown-elf \
--program-prefix=mipsel-unknown-elf- --disable-nls --disable-werror --enable-languages=c --dis
--disable-threads --without-headers
$ make
$ make install
$
```

Now gdb

```
$ cd ../gdb
$ ../../src/gdb-x.x.x/configure --prefix=/where/to/put/it --target=mipsel-unknown-elf \
  --program-prefix=mipsel-unknown-elf-
$ make
$ make install
$
```

We're done !

You may compile PowerPC, ARM, ... toolchains as well, with the same lines, replacing mipsel by powerpc, arm, ....

## Vendor archs

- Nios2: [?ftp://ftp.altera.com/outgoing/download/support/ip/processors/nios2/gnu](ftp://ftp.altera.com/outgoing/download/support/ip/processors/nios2/gnu)
- Microblaze: [?http://www.petalogix.com/resources/downloads/mb-gcc](http://www.petalogix.com/resources/downloads/mb-gcc)