

Install M2OS

Installation tested in Ubuntu 20.04 (64 bits).

0. Common Prerequisites

This prerequisites must be fulfilled for any target you plan to use M2OS.

- **Native GNAT compiler:** gnat-community-2019-20190517-x86_64-linux-bin (<https://www.adacore.com/download>) (For Arduino Uno and Epiphany targets more modern versions of GNAT can be used)

```
$ chmod u+x gnat-community-2019-20190517-x86_64-linux-bin
$ ./gnat-community-2019-20190517-x86_64-linux-bin
```

During the GNAT installation choose all the default settings. GNAT will be installed in `~/opt/GNAT/2019/`

1.a Install M2OS for Arduino Uno target

AVR-gcc compiler with support for the Ada language

Download `avr-gcc-gnat-7.3.0.zip` and unzip it (for example in `~/opt/avr-gcc-gnat-7.3.0`).

simulavr (Only if you want to use the Arduino emulator)

Two options: - Install from the official repository (`sudo apt install simulavr`). - Download `libsim_1.1.0_amd64.deb` and `simulavr_1.1.0_amd64.deb` from the simulavr site. Install both packages (in Ubuntu you can install them with “Software Install” or with “GDebi Package Installer”).

Add everything to the **PATH environment variable**:

```
$ export PATH=~/opt/avr-gcc-gnat-7.3.0/bin:~/opt/GNAT/2019/bin:$PATH
```

1.b Install M2OS for STM32F target

ARM GNAT compiler 2018: gnat-community-2018-20180524-arm-elf-linux64-bin (<https://www.adacore.com/download> “More packages, platforms, versions and sources”)

```
$ chmod u+x gnat-community-2018-20180524-arm-elf-linux64-bin
$ ./gnat-community-2018-20180524-arm-elf-linux64-bin
```

During the GNAT installation choose all the default settings. GNAT will be installed in `~/opt/GNAT/2018-arm-elf/`

Add everything to the **PATH environment variable**:

```
$ export PATH=~/opt/GNAT/2018-arm-elf/bin:~/opt/GNAT/2019/bin:$PATH
```

1.c Install M2OS for Epiphany target

Install **epiphany-gcc compiler** with support for the Ada language:

Download `epiphany-gcc-7.4.0.zip` and unzip it (for example in `~/opt/epiphany-gcc-7.4.0`).

Add everything to the **PATH environment variable**:

```
$ export PATH=~/opt/epiphany-gcc-7.4.0/bin:~/opt/GNAT/2019/bin:$PATH
```

Install the **Epiphany specific libraries**:

Download `e-lib.zip` and unzip it in the `$(M2OS)/arch/epiphany/` folder.

2. Build M2OS libraries and RTS

Edit `config_params.mk` and comment out all the `CONFIG_BOARD_*` constants except the one corresponding to the target you want to build M2OS for.

Build the M2OS libraries, the GNAT RTS and the code transformation tool:

```
$ make install
```

3. Build and run an application

For instructions about how build and run an application visit the appropriate User's Guide:

- M2OS in Arduino Uno User's Guide
- M2OS in STM32 User's Guide
- M2OS in Epiphany User's Guide