How to Build Ardupilot with Arduino

From Version 3.1

For APM 2.0, 2.5, and 2.6

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Contents

Step 1 Install Git-SCM ......................................................................................................................... 3
Step 2 Download source .......................................................................................................................... 5
Step 3 Install MHV_AVR_Tools to its default location ........................................................................... 7
Step 4 Install ArduPilot-Arduino .......................................................................................................... 9
Step 5 Configure Arduino ........................................................................................................................ 10
Step 6 Connect your APM to your USB ................................................................................................. 12
Step 7 Configure Arducopter .................................................................................................................. 14
Step 8 Upload to your ArduPilot ............................................................................................................. 16
WARNING ................................................................................................................................................ 17
Updating your code .................................................................................................................................. 17
Step 1 Install Git-SCM
http://git-scm.com/download/win

Please follow the screenshots below to make your selections during install.
Installing
Please wait while Setup installs Git on your computer.

Extracting files...
C:\Program Files (x86)\Git\git-setup.exe

http://www.git-scm.com/

Completing the Git Setup Wizard
Setup has finished installing Git on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.

Finish
Step 2 Download source
In your C: drive, make a folder called GIT

Go to C:\GIT in windows Explorer (My computer)

Right click anywhere in the folder and click git bash

This screen will come up
In this screen type

git clone git://github.com/diydrones/ardupilot.git

When it is finished it should look like this....
Step 3 Install MHV_AVR_Tools to its default location.

Step 4 Install ArduPilot-Arduino

Next unzip the special ArduPilot Arduino package

This is a new version, using the 4.7.2 version of GCC

http://firmware.diydrones.com/Tools/Arduino/ArduPilot-Arduino-1.0.3-gcc-4.7.2-windows.zip

I unzipped this Directly to my C: drive.
Step 5. Configure Arduino

Go to your Arduino folder

Double click the Arduino icon

When Arduino opens, go to the file menu

Select preferences
Set Sketchbook location to your Ardupilot directory in your GIT folder.

Also set verbose for both compile and upload

And DO NOT check for updates on start-up... (Remember, this is a special version just for ArduPilot.)

Click OK and close Arduino
Step 6 Connect your APM to your USB
Re-open Ardupilot and under the file tab, click on sketchbook, then the program you wish to load onto your APM2.x (for this example we will use Arducopter, though the others use the same methods.

Once this is loaded, click on the Ardupilot tab, and select Ardupilot mega 2.x out of the HAL options.

Then click the “Tools” tab,
and select “Arduino Mega 2560 or Mega ADK” from the “Board” tab.

Next select the “Tools” tab again, and set the “Serial Port” to the one your APM is connected to.
In my case it was COM4, but check under device manager / Ports to find out on your system.

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Step 7 Configure Arducopter.
Click on the APM_Config.h file tab.

Enable or disable the features you wish in this file.

I.e. if you want to compile with auto tune enabled, make sure the line

```
#define AUTOTUNE DISABLED // disable the auto tune functionality to save 7k of flash
```

Is changed to

```
#define AUTOTUNE ENABLED // disable the auto tune functionality to save 7k of flash
```
Save this file and select the file Arducopter.

At this point you are ready to compile.

I would choose Verify for the first attempt.
Step 8 Upload to your ArduPilot.

Then if all is well

This may take a while...

You should end up with...

Configure Your ArduPilot using planner, as normal.
**WARNING**

The code you have just compiled is now UN-TESTED in your configuration. Please use only for testing. If you are not confident, please just use mission planner to upload pre-compiled code.

**Updating your code**

Please ensure that the version of code on your PC is the latest version, use git to update your code to the latest code.