Building tools:

These tools were taken from the ArduinoIDE and contain a few different executables. The first is ArduinoBuilder (<https://github.com/arduino/arduino-builder>), which pre-processes the aruino-c code into c++ code and finally into a hex file that will be uploade by the second executable – avrdude. This creates a hex file for a specific microcontroller using the ino file generated by ArduinoBuilder. Avrdude requires minimal support, whereas ArduinoBuilder requires the hardware, libraries and tools folders which contain definitions for the different arduinos, wifi support, C++ libraries, etc. Avrdude only requires the arduinos.conf file and libusb0.

The uploader class (which can probably be made into a static class) gives functions creating and uploading the hex files. The code is first preprocessed by ArduinoBuilder into a hex file with LoadSketch, and then uploaded to the Arduino with UploadSketch.