

**Question:** If I have a Arduino IDE and a Arduino UNO, I want to be flexible in the way of programming it.

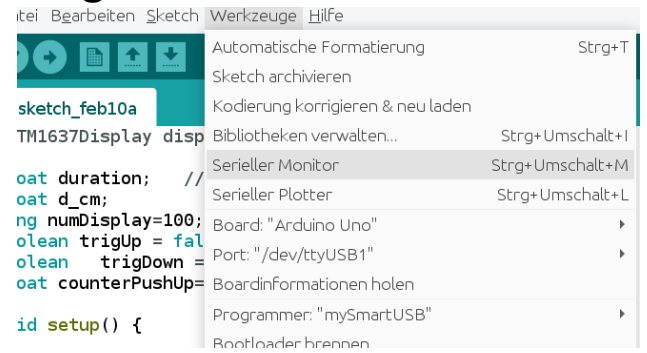
For example I want to use mySmartUSB light programmer or my USB cable connected to the 8u2 Chip on the UNO-Board.

Questions I couldn't reach my arduino anymore with USB:

Reason: When programming with ISP you overwrite the Bootloader.

For uploading again a bootloader you can use the mySmartUSB light and upload it with avrdude. Then the Arduino is again reachable

# Option 1: Program Sketch with ISP



## „Hochladen mit Programmierer“



```

avrdude: load data flash data from input file /tmp/arduino_build_885482/sketch_
avrdude: input file /tmp/arduino_build_885482/sketch_feb10a.ino.hex contains 3
avrdude: reading on-chip flash data:

Reading | ##### | 100% 0.67s

avrdude: verifying ...
avrdude: 3222 bytes of flash verified

avrdude done. Thank you.

```

# Option 2: Programm Sketch with USB

## 1.) Make sure to program a bootloader onto Arduino

```

avrdude: stk500_getsync() attempt 4 of 10: not in sync: resp=0x00
avrdude: stk500_getsync() attempt 5 of 10: not in sync: resp=0x13
avrdude: stk500_getsync() attempt 6 of 10: not in sync: resp=0x3e
avrdude: stk500_getsync() attempt 7 of 10: not in sync: resp=0xbb
avrdude: stk500_getsync() attempt 8 of 10: not in sync: resp=0x65
avrdude: stk500_getsync() attempt 9 of 10: not in sync: resp=0x72
avrdude: stk500_getsync() attempt 10 of 10: not in sync: resp=0x72

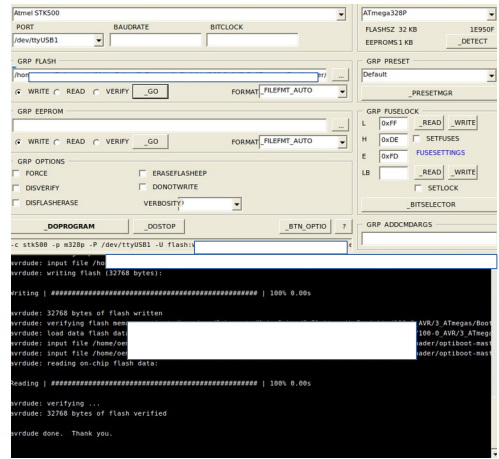
avrdude done. Thank you.

Problem uploading to board. See https://support.arduino.cc/hc/en-us/sections/

```

← error with no bootloader

You can download **optiboot** and flash it with ISP onto Arduino



## 2.) For USB-upload just choose the right port. The „programmer „ is not important

