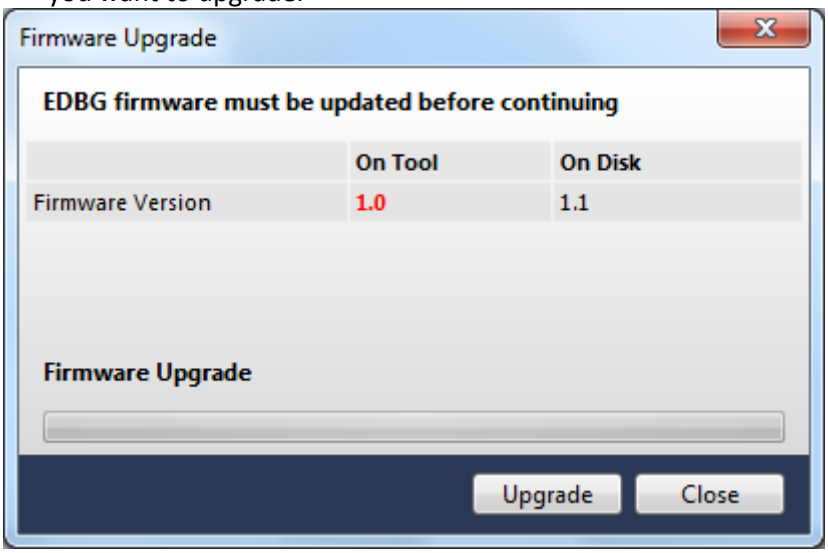
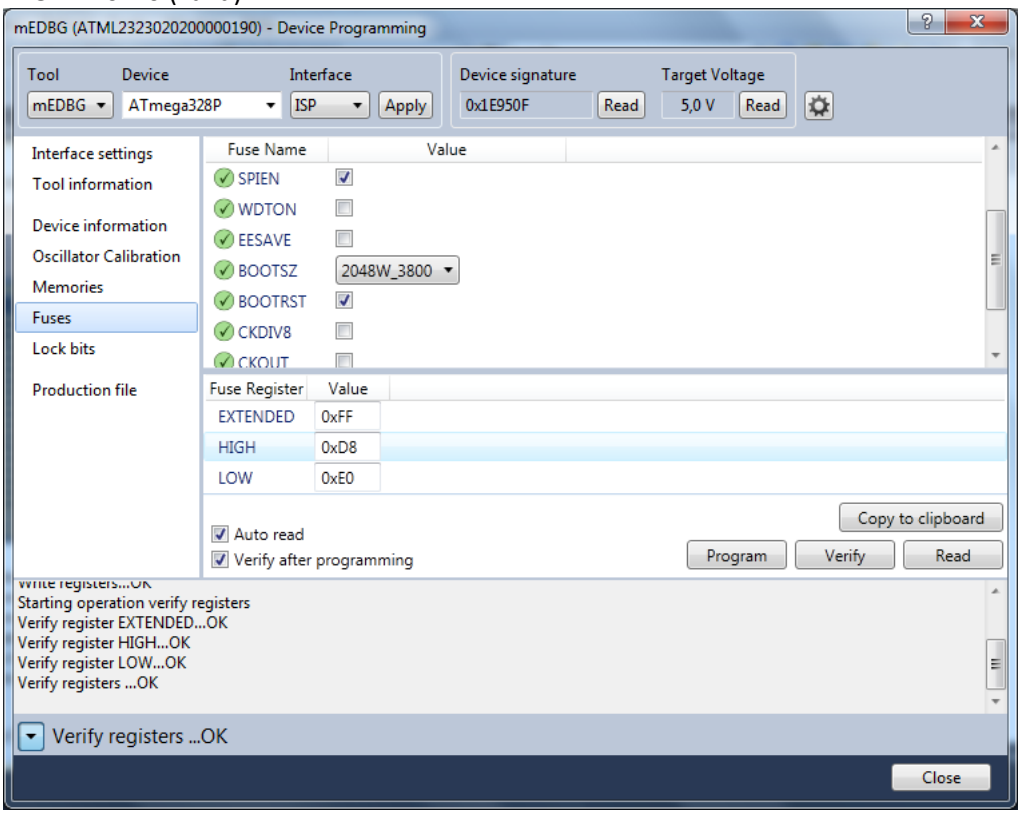
How to connect the AVR Xplained Mini to the Arduino IDE

1	*Download the Arduino IDE from Arduino.cc*
2	*Upgrade the mEDBG firmware on the AVR Xplained Mini to latest revision*.
	1. If you have an Atmel Studio release 6.2.1153 or later Download the "medbgdebugger" package from Atmel spaces and follow the instructions http://spaces.atmel.com/gf/project/avr_xp_mini/frs/ 2. Start Atmel Studio 3. Connect the AVR Xplained Mini to the computer. 4. In Atmel Studio, select Tools – Device programming (Ctrl – Shift – P) 5. In the Device Programming window, select Tool to mEDBG and click Apply, Studio will now ask you if you want to upgrade. 

3a	*Set the bootloader fuses in ATmega328P*

1. Start Atmel Studio
2. Connect the AVR Xplained Mini to the computer.
3. In Atmel Studio, select Tools – Device programming (Ctrl – Shift – P)
4. In the Device Programming window, select Tool to mEDBG and click Apply.
5. Select Fuses
6. Change value on EXTENDED, HIGH, and LOW and click Program

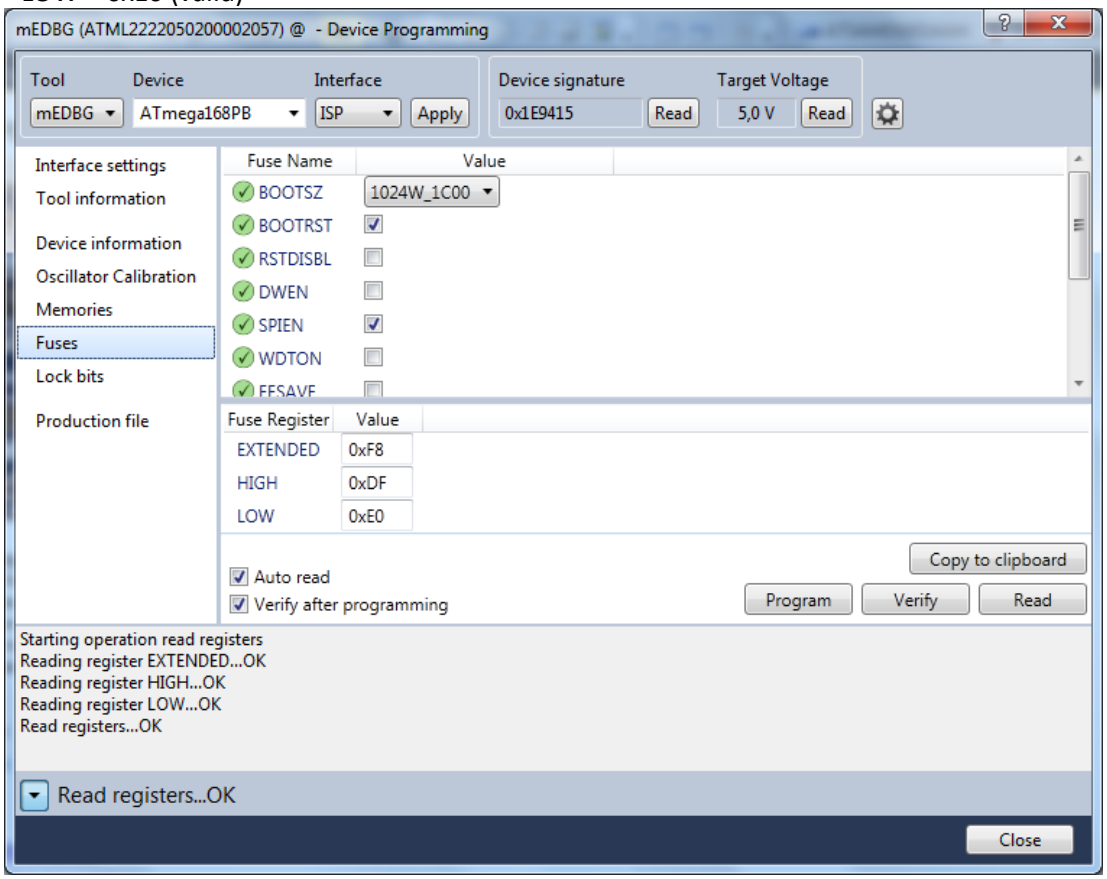
Select Bootloader Address as Reset Vector and select largest boot size
EXTENDED = 0xFF (valid)
HIGH = 0xD8 (valid)
LOW = 0xE0 (valid)



3b	*Set the bootloader fuses in ATmega168PB,*

1. Start Atmel Studio
2. Connect the ATmega168PB-XMINI to the computer.
3. In Atmel Studio, select Tools – Device programming (Ctrl – Shift – P)
4. In the Device Programming window, select Tool to mEDBG and click Apply.
5. Select Fuses
6. Change value on EXTENDED, HIGH, and LOW and click Program

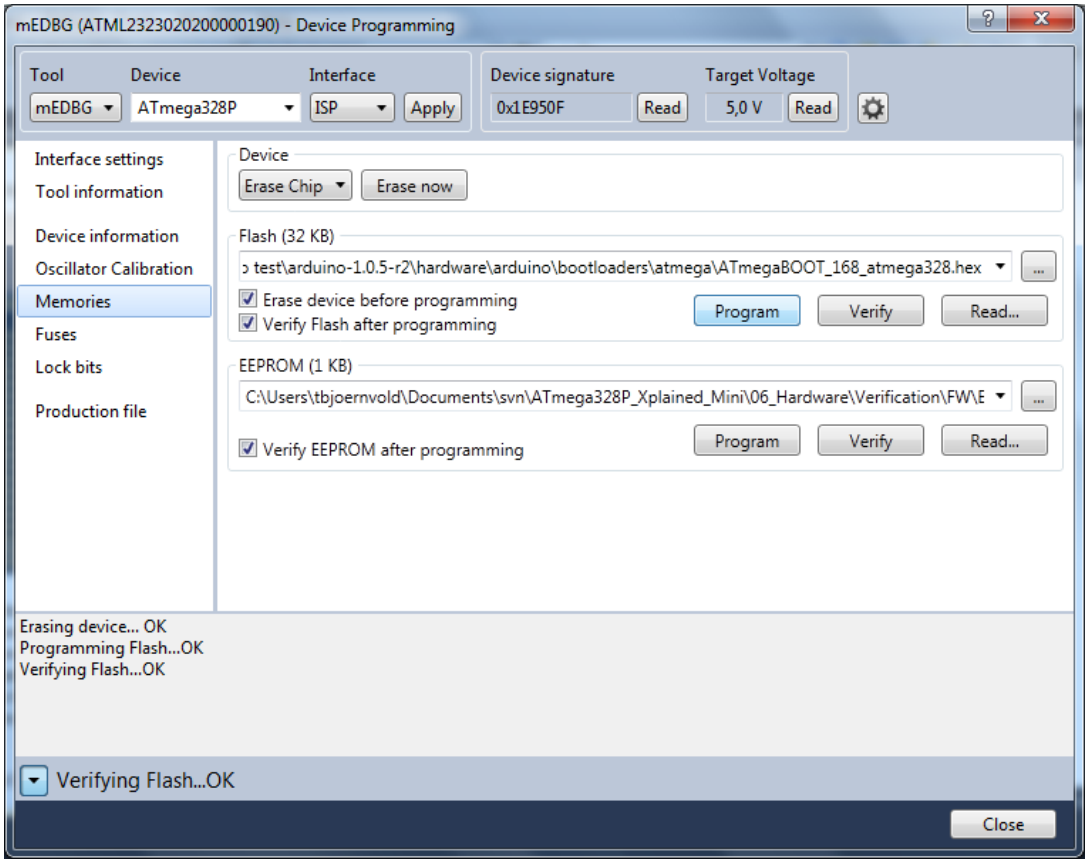
Select Bootloader Address as Reset Vector and select largest boot size
EXTENDED = 0xF8 (valid)
HIGH = 0xDF (valid)
LOW = 0xE0 (valid)



4	*Program the ATmega328P with the Arduino bootloader*

The bootloader hex file is located in the Arduino IDE folder:
/hardware/arduino/bootloaders/atmega/*.hex
Select bootloader according to your board configuration as listed in table below:

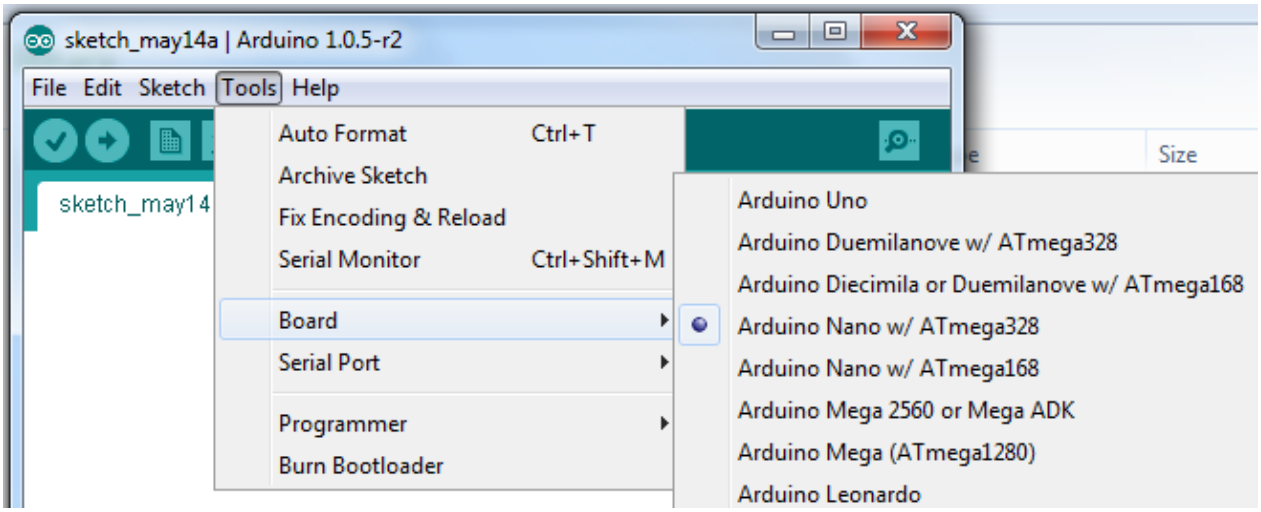
1. Start Atmel Studio
2. Connect the AVR Xplained Mini to the computer.
3. In Atmel Studio, select Tools – Device programming (Ctrl – Shift – P)
4. In the Device Programming window, select Tool to mEDBG and click Apply.
5. Select Memories
6. Browse for file
7. Click Program



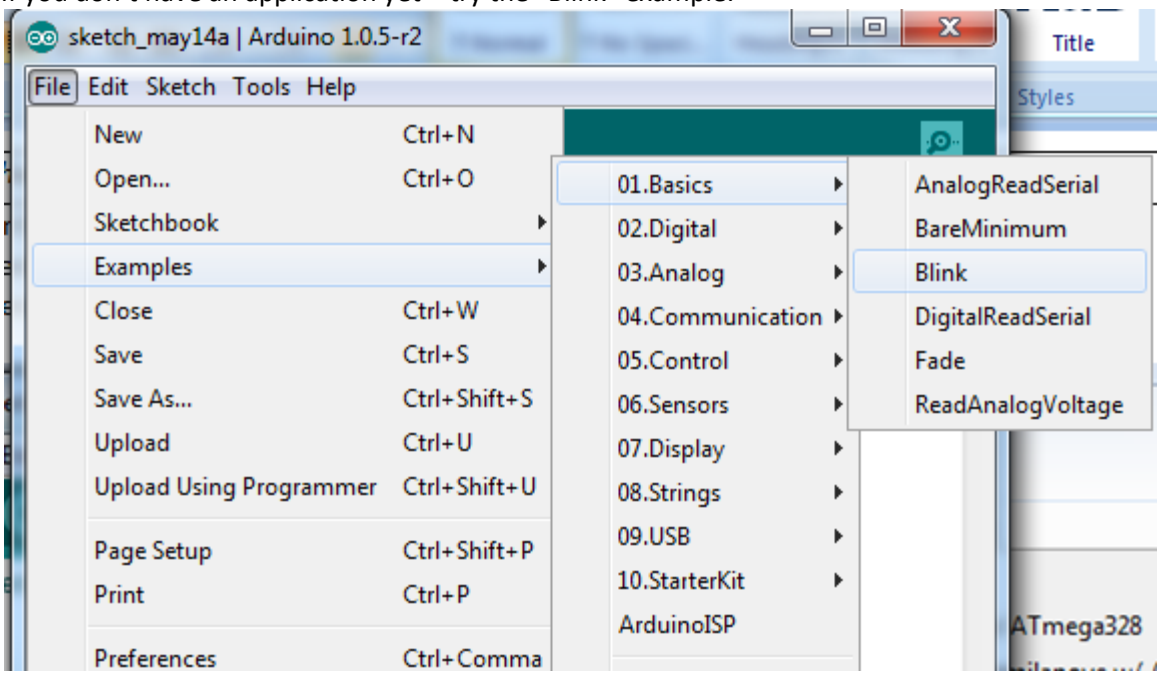
	Xplained Mini	**Bootloader**
	ATmega328P/5V/16MHz	ATmegaBOOT_168_atmega328.hex
	ATmega328P/3.3V/8MHz	
	ATmega168PB/5V/16MHz	ATmegaBOOT_168_ng.hex
	ATmega168PB/3.3V/8MHz	ATmegaBOOT_168_pro_8MHz.hex

5	*Configure the Arduino IDE*

1. Start the Arduino IDE
2. select the mEDBG COM port
3. Select board according to table below



Xplained MIni	Board to select in Arduino IDE
ATmega328P-XMINI	Arduino Nano w/ATmega328
ATmega168PB-XMINI	Arduino Nano w/ATmega168

6	*Get your application*
	If you don't have an application yet – try the "Blink" example: 

8	*Use the Arduino IDE and upload your program to the AVR Xplained Mini*
	Upload the code: