

Основни стъпки



Свалете Energia

0

Свалете драйверите за Tiva EK-TM4C123GXL



В Свалете карта на пиновете на Tiva EK-TM4C123GXL



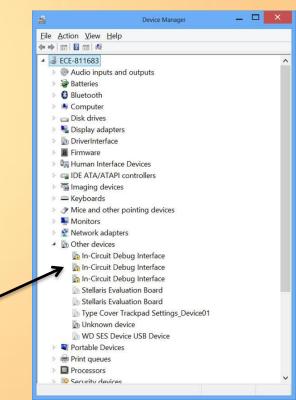
Разархивирайте архивите на Energia и драйверите





Инсталиране на драйвери

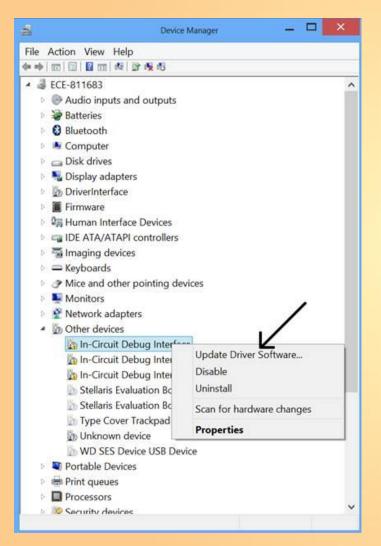
- Разархивирайте свалените драйвери;
- Свържете микроконтролерната платка към някой от USB портовете на компютъра;
- Отворете Device Manager и инсталирайте един по един липсващите драйвери, като указвате ръчно местоположението им в разархивираната папка със свалените драйвери;

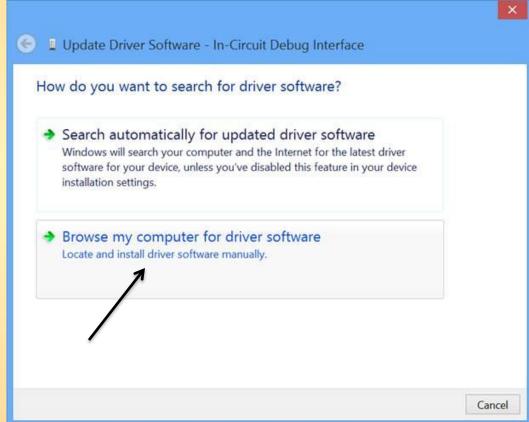








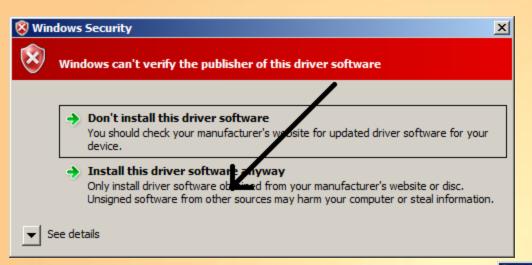


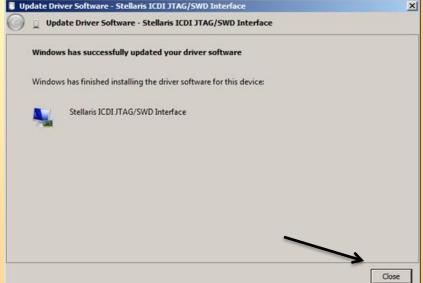
















Проблеми!



- Ако работите със Windows 8, Windows 8.1 или Windows 10 при инсталацията на драйверите е възможно да се получи грешка и те да не се инсталират;
- Възможна причина за това е, че трябва да се изключи изискването на Windows за инсталация на цифрово подписани драйвери;
- Това става по начина показан по-долу.
 Примерът е при Windows 8.1;





























PC settings

Personalize

Users

Notifications

Search

Share

Privacy

Devices

Wireless

Ease of Access

Sync your settings

HomeGroup

Windows Update

Language

Add or change input methods, keyboard layouts, and languages. Linguage preferences

Available storage

You have 38.3 GB available. See how much space your apps are using.

View app sizes

Refresh your PC without affecting your files

If your PC isn't running well, you can refresh it without losing your photos, music. videos, and other personal files.

Get started

Remove everything and reinstall Windows

If you want to recycle your PC or start over completely, you can reset it to its factory settings.

Get started

Advanced startup

Start up from a device or disc (such as a USB drive or DVD), change your PC's. firmware settings, change Windows startup settings, or restore Windows from a system image. This will restart your PC.





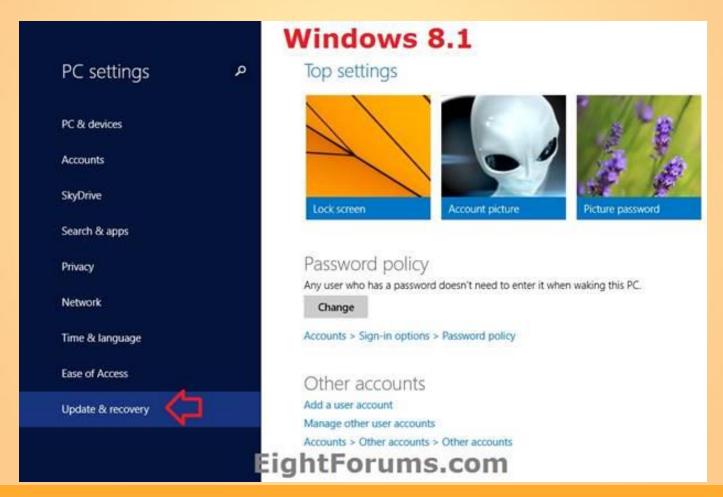








при Windows 8.1 -> PC settings -> Update and recovery -> Recovery -> Advanced Startup



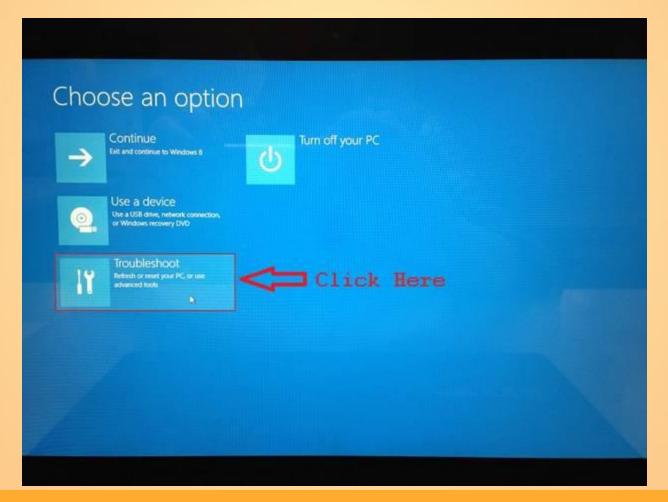








Стъпка <u>5</u> Системата е заредила и сме на този екран.































<u>Стъпка 8</u> Рестартираме системата отново.



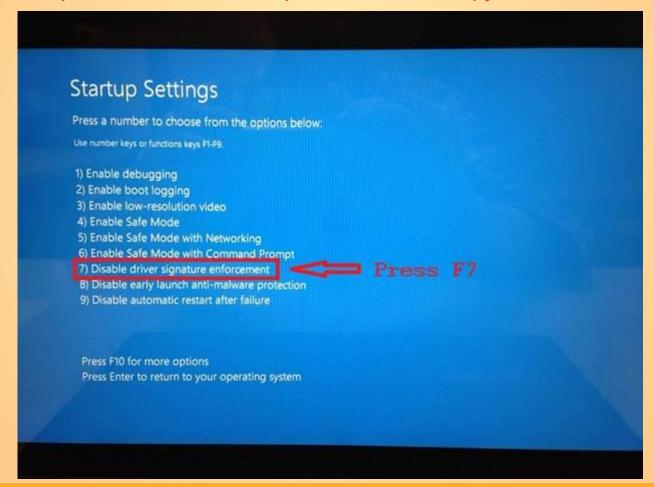








Системата е заредила началния екран. Натискаме функционалния клавиш F7.



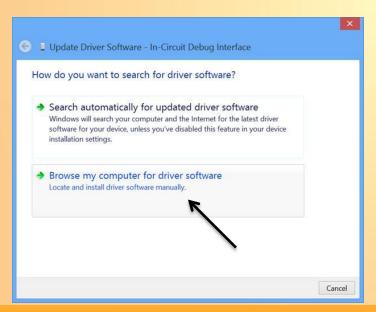


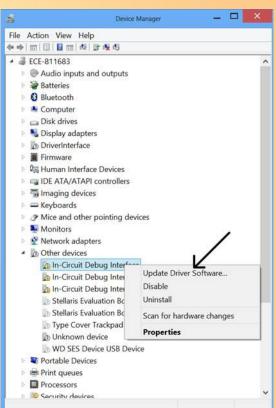




 След като сме натиснали F7 система ще се зареди и ние трябва отново да отворим Device Manager и да инсталираме

драйверите, като указваме ръчно местоположението им;



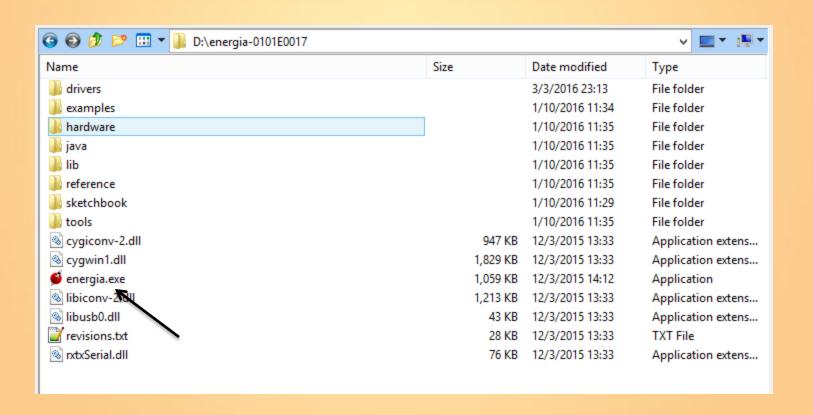






Стартиране на Energia

 Отиваме в разархивираната папка с Energia и кликваме два пъти върху файла energia.exe;









- По подразбиране се отваря нов празен sketch;
- Създаваме в основната директория на програмата нова папка с име

Sketchbook, за нашите

```
Name

| drivers | lib | hardware | java | lib | tools | cygiconv-2.dll | cygwin1.dll | energia.exe | libiconv-2.dll | libiconv-2.dll | libiconv-2.dll | libiconv-3.dll | libicon
```







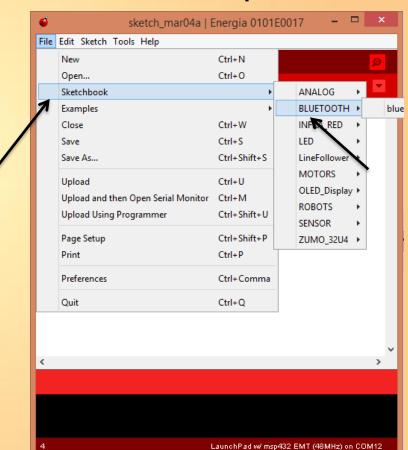


Всички проекти, разположени в папката Sketchbook, се зареждат автоматично при

стартиране на

програмата в подменюто

Sketchbook;



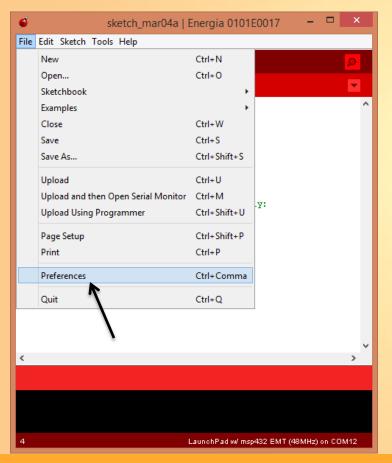




Настройки на Energia



Можем да си настроим известни опции в Energia от опцията Preferences в менюто File;



Preferences ×
Sketchbook location: D:\energia-0101E0017\sketchbook Browse
Editor font: Monospaced *
Show verbose output during: compilation upload
✓ Verify code after upload ☐ Use external editor
✓ Check for updates on startup
✓ Update sketch files to new extension on save (.pde -> .ino) ☐ Include debug information in the output ELF file
Compile DriverLib from source
Automatically associate .ino files with Energia
More preferences can be edited directly in the file C:\Users\anchevab\AppData\Roaming\Energia\preferences.txt (edit only when Energia is not running) OK Cancel





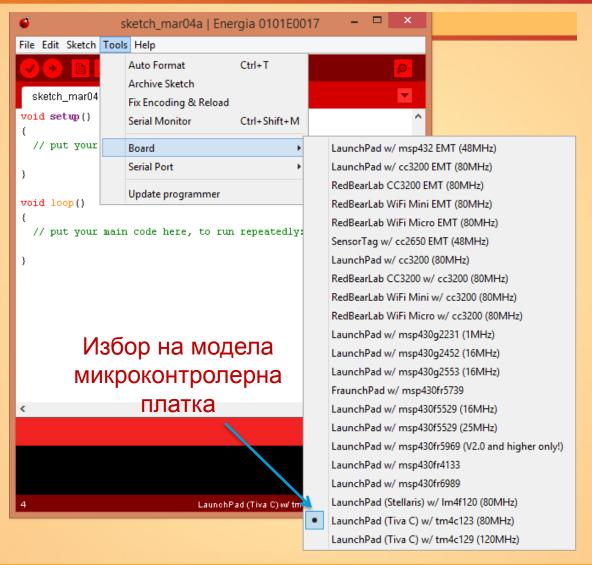


- Трябва да зададем типа на микроконтролерната платка, номера на серийния порт, на който е свързана и типа на програматора, с който ще я програмираме;
- За Tiva EK-TM4C123GXL правим настройките показани на следващите страници;





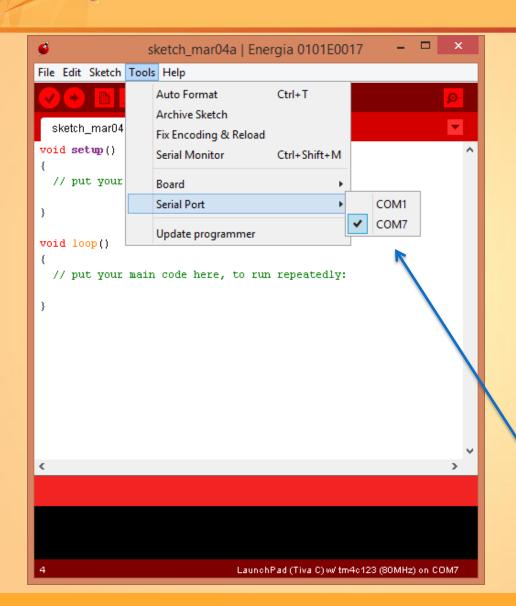












Избор на сериен порт за комуникация с микроконтролерната платка





Зареждане на проект



 След като сме подготвили проектът за зареждане в микроконтролера имаме

следните опции:

Компилиране на проекта

Компилиране и зареждане на проекта

```
Blink | Energia 0101E0017
File Edit Sketch Tools Help
  The basic Energia example.
  Turns on an LED on for one second, then off for one second, repeatedly.
  Change the LED define to blink other LEDs.
  Hardware Required:
  * LaunchPad with an LED
  This example code is in the public domain.
// most launchpads have a red LED
#define LED RED LED
//see pins energia.h for more LED definitions
//#define LED GREEN LED
// the setup routine runs once when you press reset:
  // initialize the digital pin as an output.
 pinMode(LED, OUTPUT);
                                                          LaunchPad w/ msp432 EMT (48MHz) on COM12
```





Вмъкване на библиотека

Вмъкването на библиотека се извършва от опцията Import Library от менюто Sketch;

```
IVIZAStreamClient
                   sketch_mar04a | Energia 0
                                                      MQTTClient
File Edit Sketch Tools Help
                                                      OneMsTaskTimer
              Verify / Compile
                                      Ctrl+R
                                                      OneWire
                                                      OPT3001
              Copy Hex File as Path
  sketch
                                                      PubNub
              Show Compilation Folder
                                      Ctrl+Alt+R
void ser
                                                      PubSubClient
              Show Sketch Folder
                                      Ctrl+K
                                                      Servo
   // pu
              Add File...
                                                      SPI
              Import Library...
                                                      Stepper
                                                      Temboo
void loop()
                                                      WiFi
  // put your main code here, to run reped
                                                      Wire
                                                                                       Библиотеки
                                                      Adafruit_GFX
                                                      Adafruit_TMP006
                                                      aJson
                                                      CogLCD
                                                      EEPROM
                                                      Ethornot
```

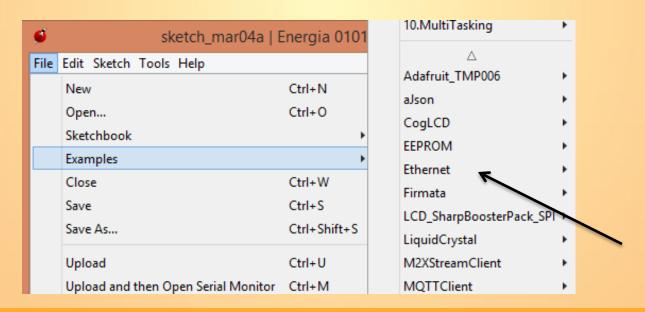




Примерни проекти



- В Energia има налични различни примерни проекти, някои от които идват заедно с развойната среда, други идват с библиотеките, които ние вмъкваме;
- Te се намират в Examples в менюто File;







Arduino vs Energia



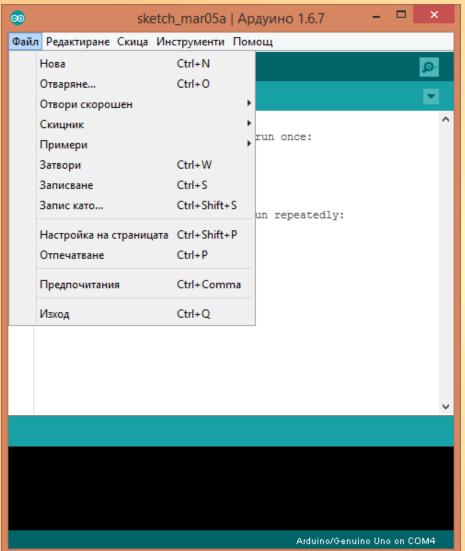
```
<u></u>
                         Blink | Ардуино 1.6.7
Файл Редактиране Скица Инструменти Помощ
                                                                  ø
  Blink
     Blink
      Turns on an LED on for one second, then off for one second,
     Most Arduinos have an on-board LED you can control. On the Ur
     Leonardo, it is attached to digital pin 13. If you're unsure
     pin the on-board LED is connected to on your Arduino model,
      the documentation at http://www.arduino.cc
 9
 10
      This example code is in the public domain.
 11
12
     modified 8 May 2014
 13
     by Scott Fitzgerald
14
15
16
 17 // the setup function runs once when you press reset or power t
 18 void setup() {
                                              Arduino/Genuino Uno on COM4
```

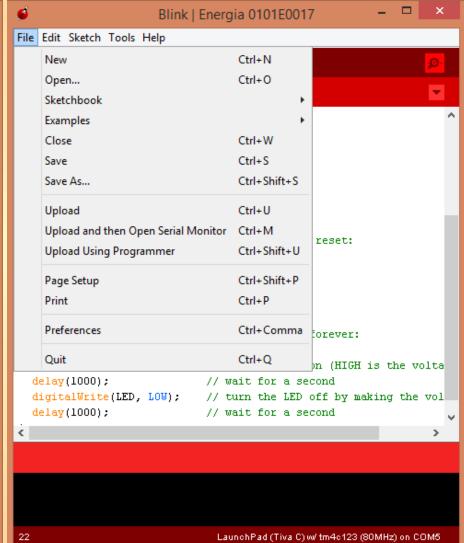
```
Blink | Energia 0101E0017
File Edit Sketch Tools Help
  Blink
// most launchpads have a red LED
#define LED RED LED
//see pins energia.h for more LED definitions
//#define LED GREEN LED
// the setup routine runs once when you press reset:
void setup() {
  // initialize the digital pin as an output.
  pinMode(LED, OUTPUT);
// the loop routine runs over and over again forever:
void loop() {
  digitalWrite(LED, HIGH); // turn the LED on (HIGH is the volta
  delay(1000);
                             // wait for a second
  digitalWrite(LED, LOW);
                             // turn the LED off by making the vol
  delay(1000);
                              // wait for a second
                                LaunchPad (Tiva C) w/tm4c123 (80MHz) on COM5
```







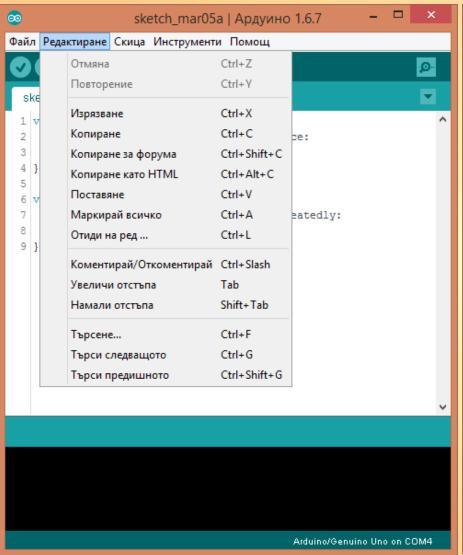


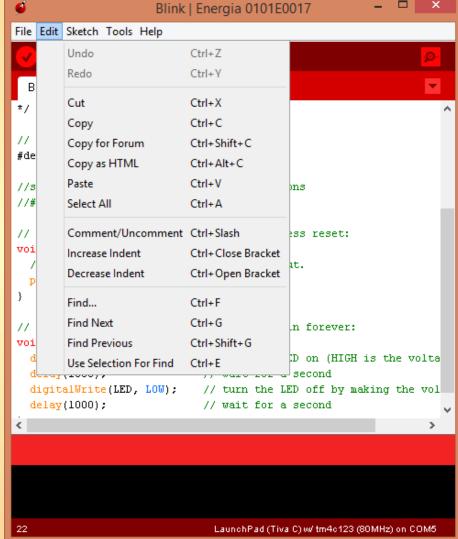








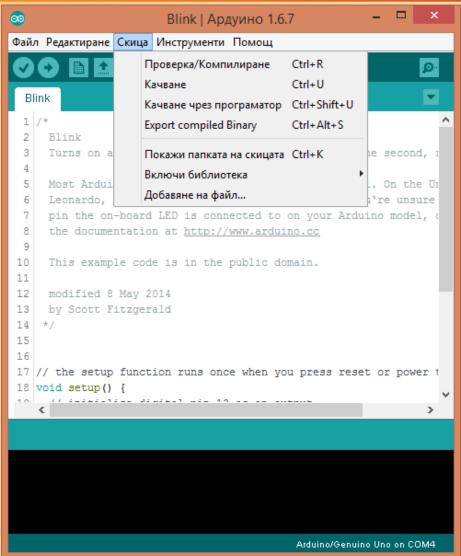












```
Blink | Energia 0101E0017
File Edit Sketch Tools Help
             Verify / Compile
                                   Ctrl+R
             Copy Hex File as Path
  Blink
             Show Compilation Folder Ctrl+Alt+R
             Show Sketch Folder
                                   Ctrl+K
// most
             Add File...
#define
             Import Library...
//see p
//#define LED GREEN LED
// the setup routine runs once when you press reset:
void setup() {
  // initialize the digital pin as an output.
  pinMode(LED, OUTPUT);
// the loop routine runs over and over again forever:
void loop() {
  digitalWrite(LED, HIGH);
                               // turn the LED on (HIGH is the volta
  delay(1000);
                               // wait for a second
  digitalWrite(LED, LOW);
                              // turn the LED off by making the vol
  delay(1000);
                               // wait for a second
22
                                 LaunchPad (Tiva C) w/tm4c123 (80MHz) on COM5
```







