

STM32CubeMX IAR projekat

The screenshot displays the STM32CubeMX software interface for selecting a microcontroller. The main window is titled "New Project from a MCU/MPU" and has three tabs: "MCU/MPU Selector", "Board Selector", and "Cross Selector".

MCU/MPU Filters:

- Part Number Search: STM32F103C6
- Core: >
- Series: >
- Line: >
- Package: >
- Other: >

Selected Item: STM32F103C6

Features: Mainstream Performance line, Arm Cortex-M3 MCU with 32 Kbytes of Flash memory, 72 MHz CPU, motor control, USB and CAN

Status: ACTIVE (Active) - Product is in mass production

Unit Price for 10kU (US\$): 1.891

Package: LQFP48

Description: The STM32F103x4 and STM32F103x6 performance line family incorporates the high-performance ARM® Cortex-M3 32-bit RISC core operating at a 72 MHz frequency, high-speed embedded memories (Flash memory up to 32 Kbytes and SRAM up to 6 Kbytes), and an extensive range of enhanced I/Os and peripherals connected to two APB buses. All devices offer two 12-bit ADCs, three general purpose 16-bit timers plus one PWM timer, as well as standard and advanced communication interfaces: up to two I²Cs and SPIs, three USARTs, an USB and a CAN. The STM32F103xx low-density performance line family operates from a 2.0 to 3.6 V power supply. It is available in both the 40 to +85 °C

MCUs/MPUs List: 2 items

* Part No	Reference	Marketing St...	Unit Price for 10kU ...	Board	Package	Flash	RAM	IO	Freq.
☆ STM32F103C6	STM32F103C6Tx	Active	1.891		LQFP48	32 kBytes	10 kBytes	37	72 MHz
☆ STM32F103C6	STM32F103C6...	Active	1.891		UFQFP...	32 kBytes	10 kBytes	37	72 MHz

STM32CubeMX IAR projekt

The screenshot displays the STM32CubeMX software interface. The top navigation bar includes 'MCU/MPU Selector', 'Board Selector', and 'Cross Selector'. The left sidebar shows 'MCU/MPU Filters' with a search bar containing 'STM32F103C6' and various filter categories like Core, Series, Line, Package, and Other. The main area shows the selected product, STM32F103C6, with a description: 'Mainstream Performance line, Arm Cortex-M3 MCU with 32 Kbytes of Flash memory, 72 MHz CPU, motor control, USB and CAN'. It also indicates the product is 'ACTIVE' and in mass production, with a unit price of 1.891 for 10k units. A 'Start Project' button is visible in the top right. Below the product card, a table lists similar items.

*	Part No	Reference	Marketing St...	Unit Price for 10kU ...	Board	Package	Flash	RAM	IO	Freq.
☆	STM32F103C6	STM32F103C6Tx	Active	1.891		LQFP48	32 kBytes	10 kBytes	37	72 MHz
☆	STM32F103C6	STM32F103C6...	Active	1.891		UFQFP...	32 kBytes	10 kBytes	37	72 MHz

The screenshot displays the STM32CubeMX interface for configuring the STM32F103C6Tx. The 'Pinout & Configuration' tab is active, showing a pinout diagram of the LQFP48 package. Pin PA5 is highlighted in green and labeled 'GPIO_Output'. The interface includes a search bar, a category list on the left, and a table at the bottom showing the selected MCU configuration.

Series	Lines	McU	Package	Required Peripherals
STM32F1	STM32F103	STM32F103C6Tx	LQFP48	None

Aleksandar Peulic

Setujemo kao Output

STM32CubeMX Untitled*: STM32F103C6Tx

File Window Help

Home > STM32F103C6Tx > Untitled - Pinout & Configuration GENERATE CODE

Pinout & Configuration | Clock Configuration | Project Manager | Tools

Additional Software | Pinout

RCC Mode and Configuration

Mode

High Speed Clock (HSE)

Low Speed Clock (LSE)

Master Clock Output

Configuration

User Constants | NVIC Settings

Parameter Settings

parameters :

parameters

Pinout view | System view

STM32F103C6Tx LQFP48

GPIO_Output

MCUs Selection | Output

Series	Lines	Mcu	Package	Required Peripherals
<input checked="" type="checkbox"/> STM32F1	STM32F103	STM32F103C6Tx	LQFP48	None

Koristimo interni RCC

Aleksandar Peulic

MX STM32CubeMX Untitled*: STM32F103C6Tx

STM32CubeMX File Window Help

Home > STM32F103C6Tx > Untitled - Project Manager > GENERATE CODE

Pinout & Configuration Clock Configuration Project Manager Tools

Project

Code Generator

Advanced Settings

Project Settings

Project Name

Project Location Browse

Application Structure Basic Do not generate the ma...

Toolchain Folder Location

Toolchain / IDE Min Version

EWARM V8.32 Generate Under ...

EWARM
MDK-ARM
SW4STM32
TrueSTUDIO
STM32CubeIDE
Makefile
Other Toolchains (GPD)

MCUs Selection Output

Series	Lines	Mcu	Package	Required Peripherals
STM32F1	STM32F103	STM32F103C6Tx	LQFP48	None

Aleksandar Peulic

Biramo alat za razvoj, EWARM je IAR Embedded Workbench for Arm

MX STM32CubeMX Untitled*: STM32F103C6Tx

File Window Help

Home > STM32F103C6Tx > Untitled - Project Manager > GENERATE CODE

Pinout & Configuration Clock Configuration Project Manager Tools

Project

Code Generator

Advanced Settings

Project Settings

Project Name
Led_blink_IAR

Project Location
E:\fakultet\PmfMikroprocesorski_sistemi\Nedelje\Led_IAR Browse

Application Structure
Basic Do not generate the ma...

Toolchain Folder Location
E:\fakultet\PmfMikroprocesorski_sistemi\Nedelje\Led_IAR\Led_blink_IAR\

Toolchain / IDE Min Version
EWARM V8.32 Generate Under ...

Linker Settings

Minimum Heap Size 0x200

Minimum Stack Size 0x400

MCUs Selection Output

Series	Lines	Mcu	Package	Required Peripherals
STM32F1	STM32F103	STM32F103C6Tx	LQFP48	None

MX STM32CubeMX Untitled*: STM32F103C6Tx

File Window Help

Home > STM32F103C6Tx > Untitled - Project Manager **GENERATE CODE**

Pinout & Configuration Clock Configuration **Project Manager** Tools

Project

Project Settings

Project Name
Led_blink_IAR

Project Location
E:\fakultet\Pmf\Mikroprocesorski_sistemi\Nedelje\Led_IAR Browse

Application Structure
Basic Do not generate the ma...

Code Generation

i The Code is successfully generated under E:\fakultet\Pmf\Mikroprocesorski_sistemi\Nedelje\Led_IAR\Led_blink_IAR

Open Folder **Open Project** Close

Advanced Settings

Linker Settings

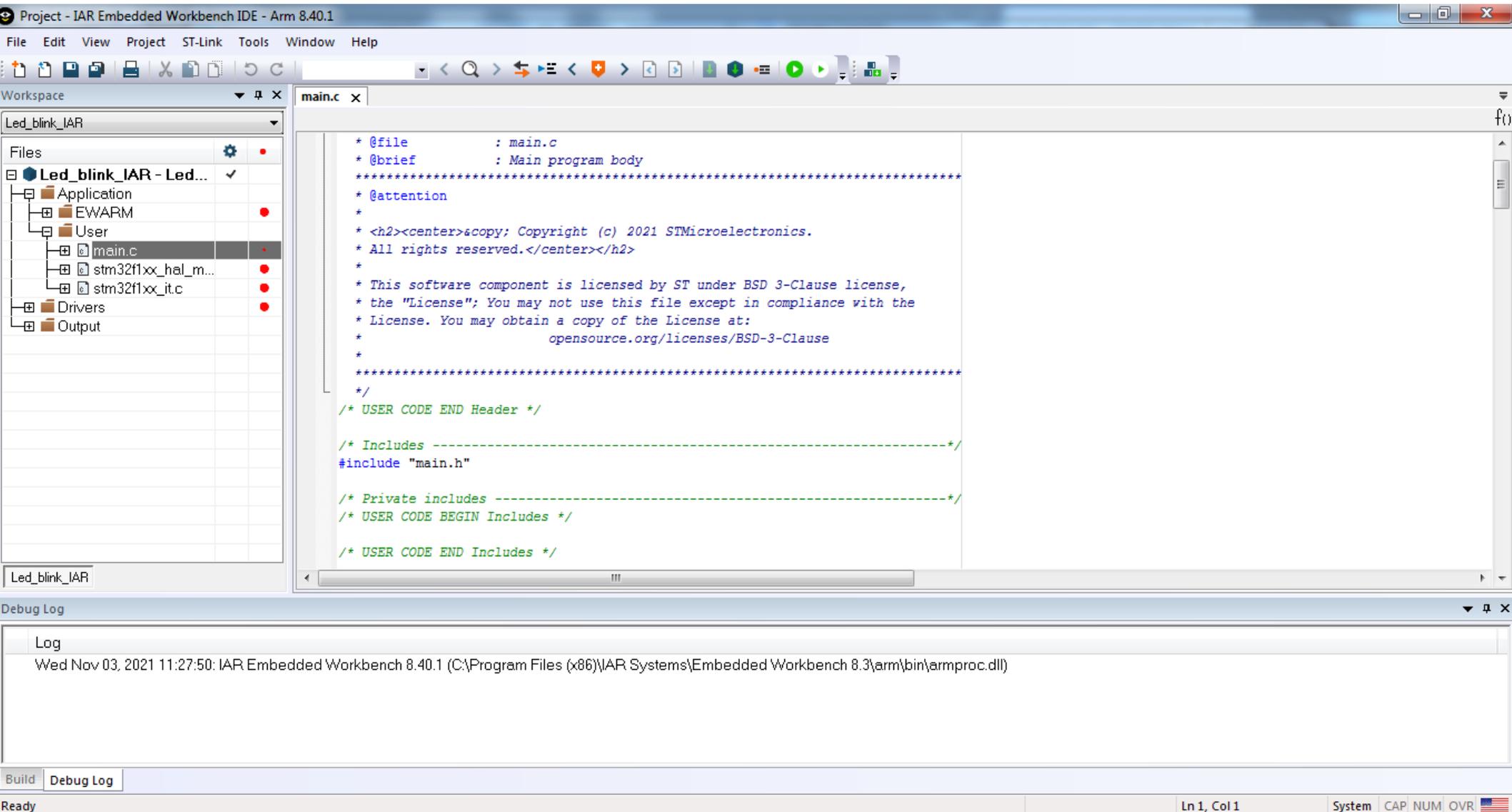
Minimum Heap Size 0x200

Minimum Stack Size 0x400

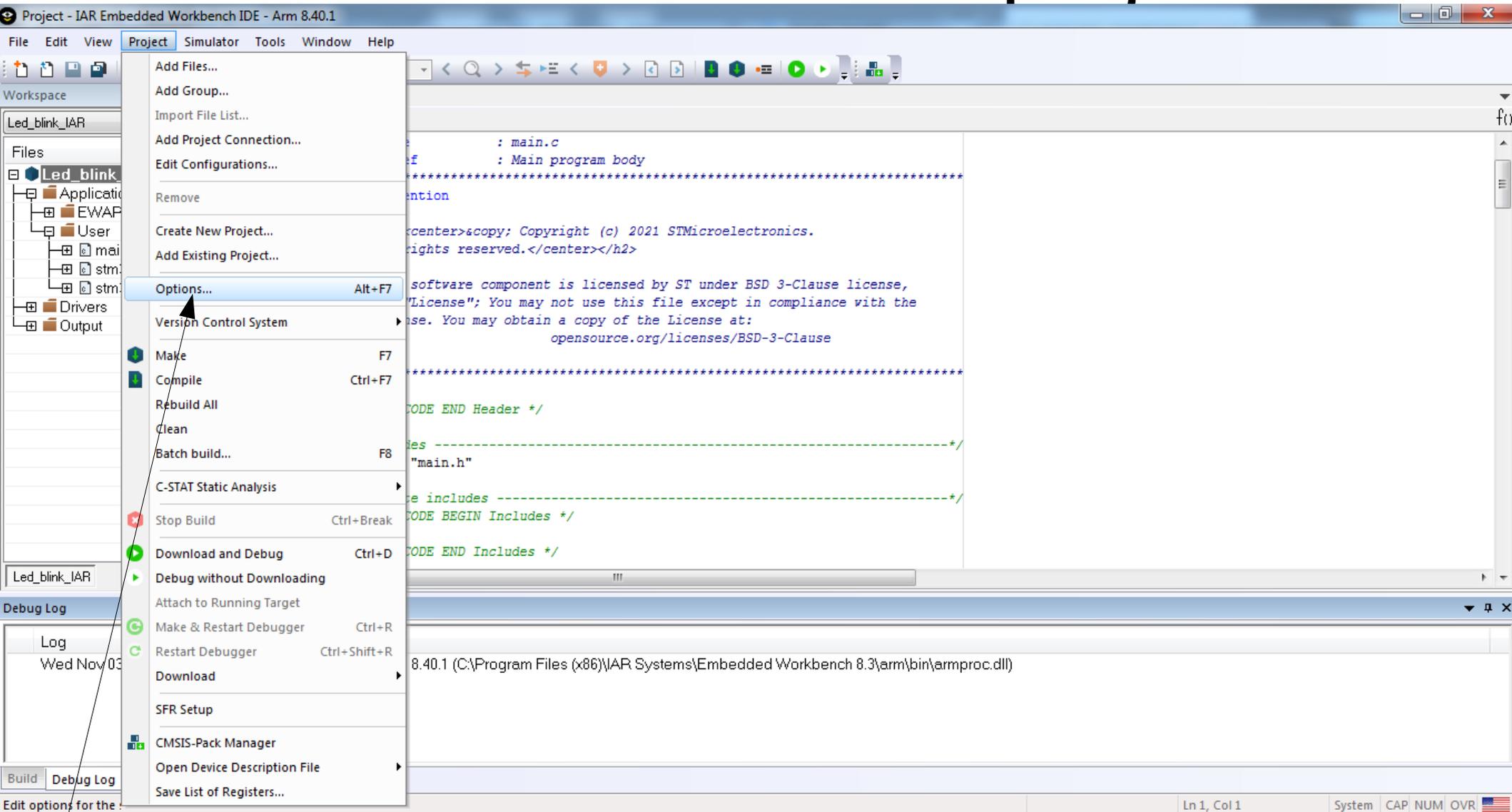
MCUs Selection **Output**

	Series	Lines	Mcu	Package	Required Peripherals
☑	STM32F1	STM32F103	STM32F103C6Tx	LQFP48	None
	STM32F1	STM32F103	STM32F103C6Tx	LQFP48	None

STM32CubeMX IAR projekat

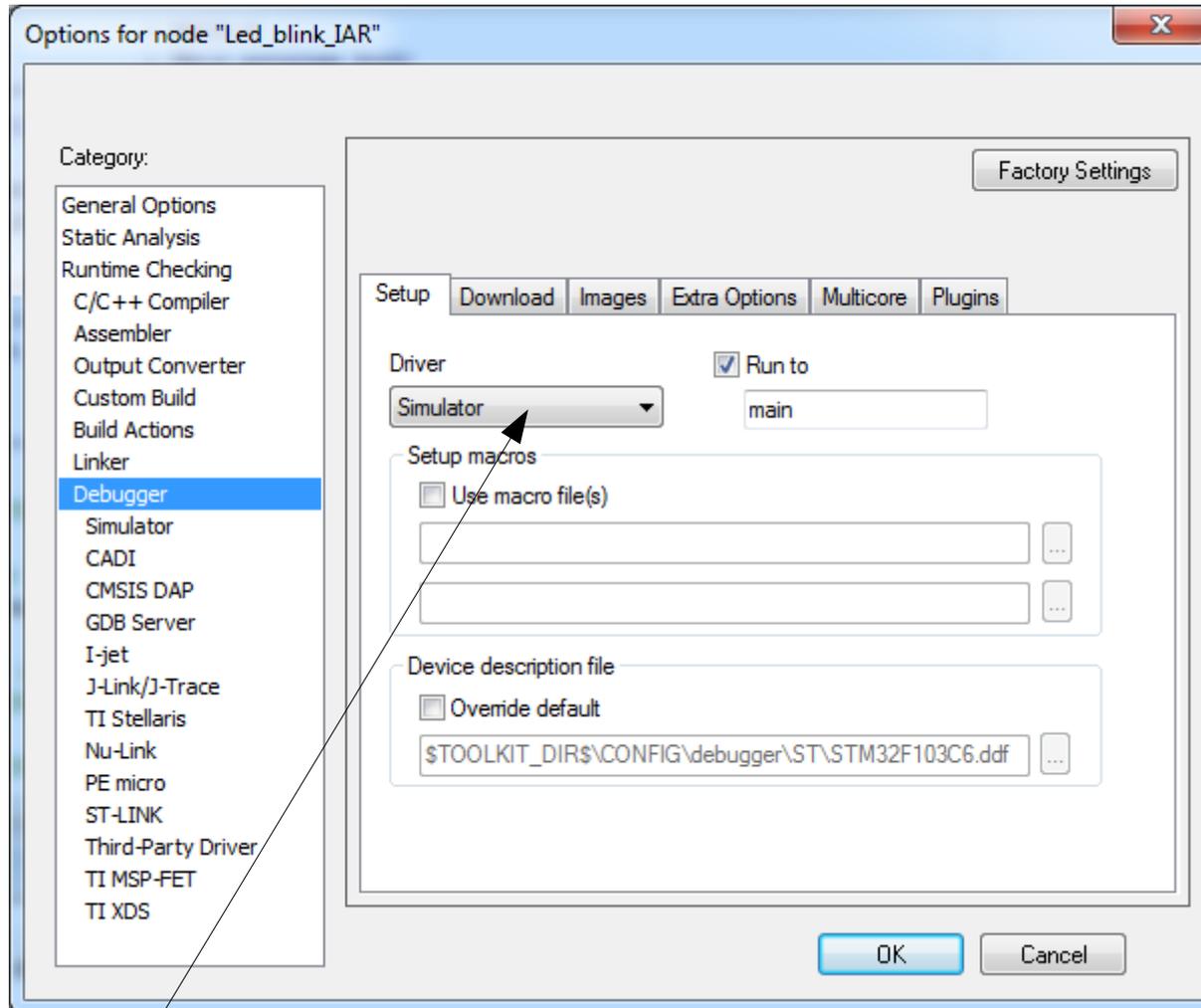


STM32CubeMX IAR projekat



Klik Project/Option

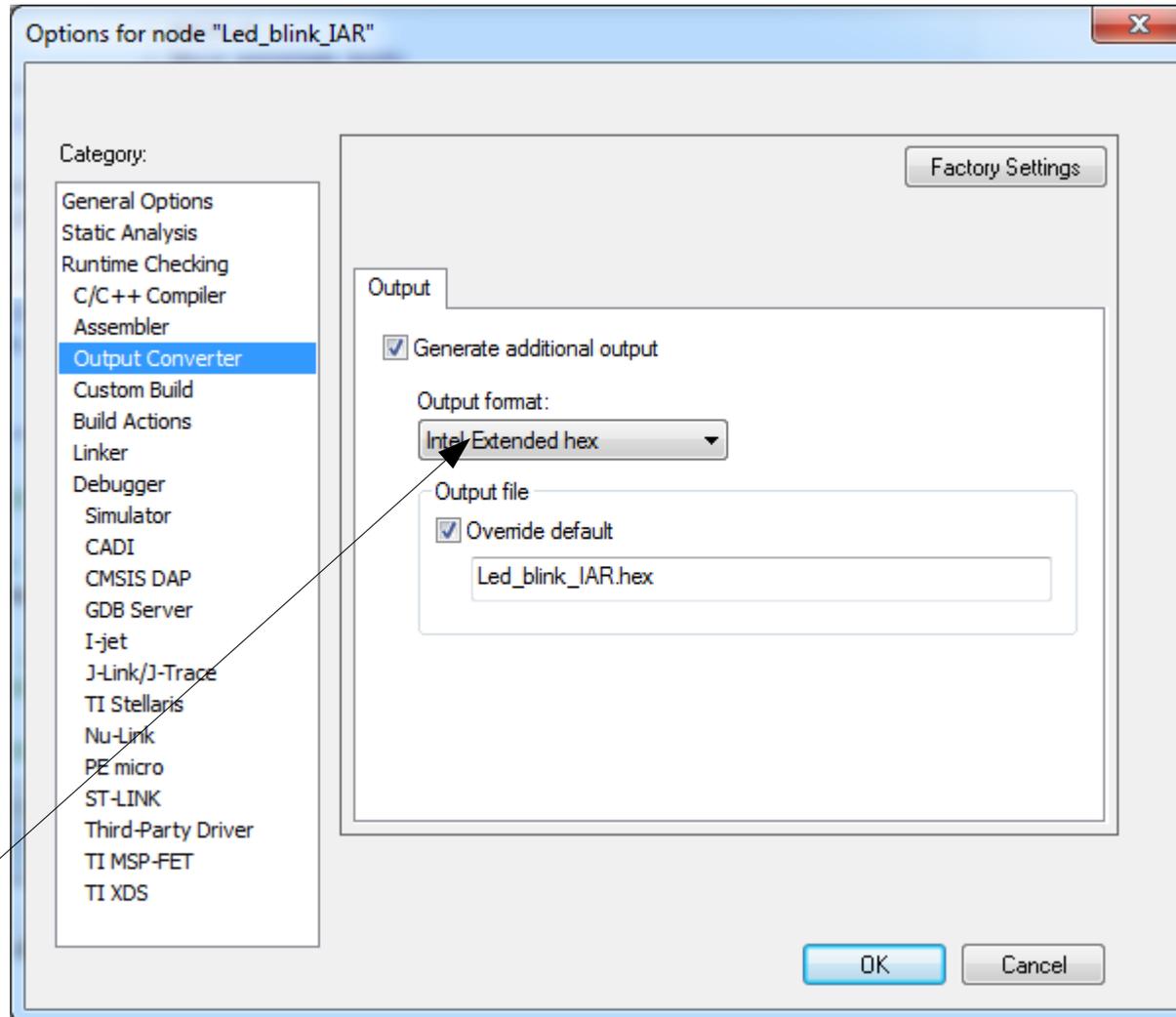
STM32CubeMX IAR projekat



Aleksandar Peulic

Za Debugger biramo Simulator

STM32CubeMX IAR projekat

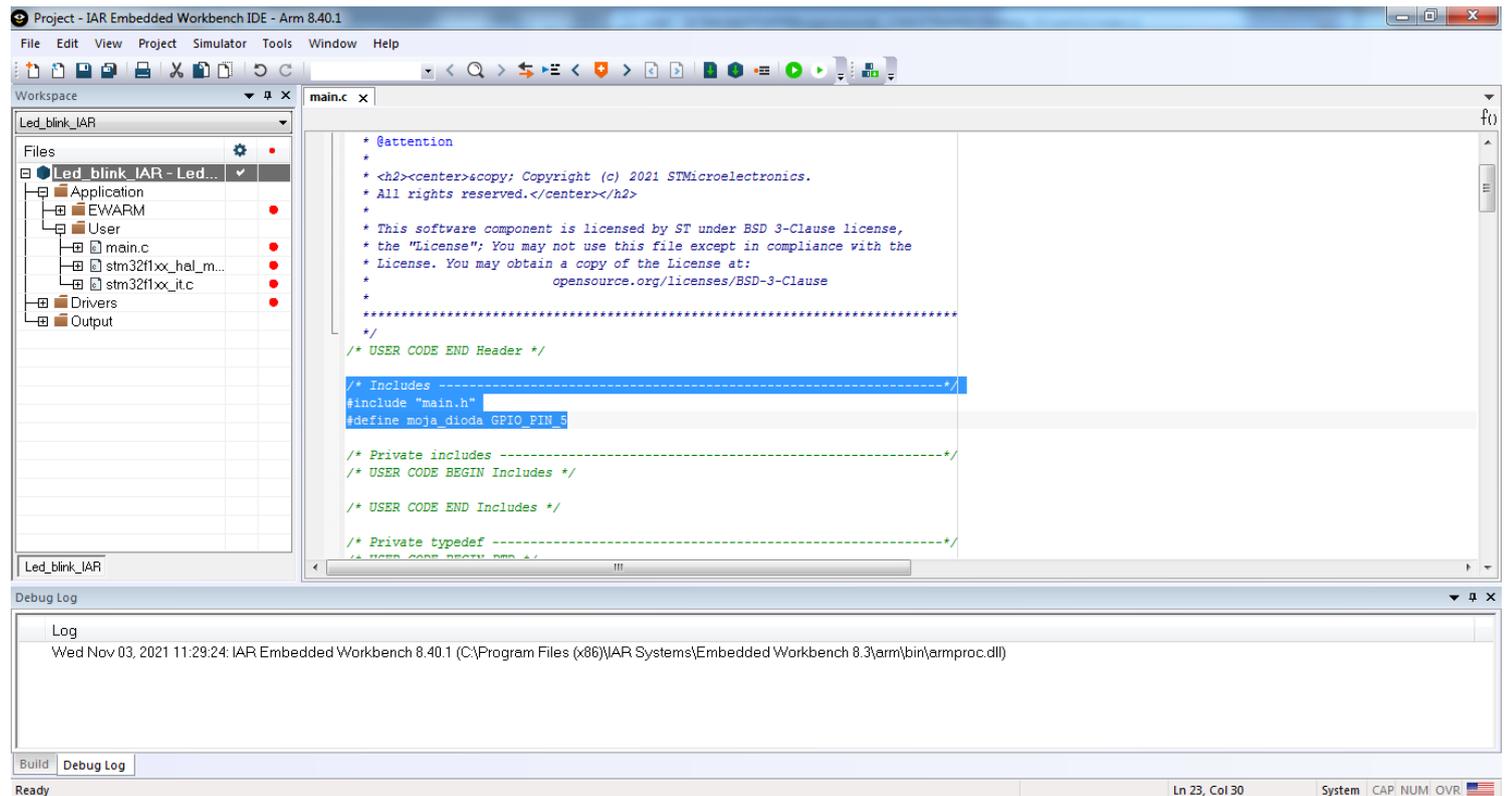


Aleksandar Peulic

Proverimo da li je output Intel hex, cekiramo Override default ako nije cekirano

STM32CubeMX IAR projekat

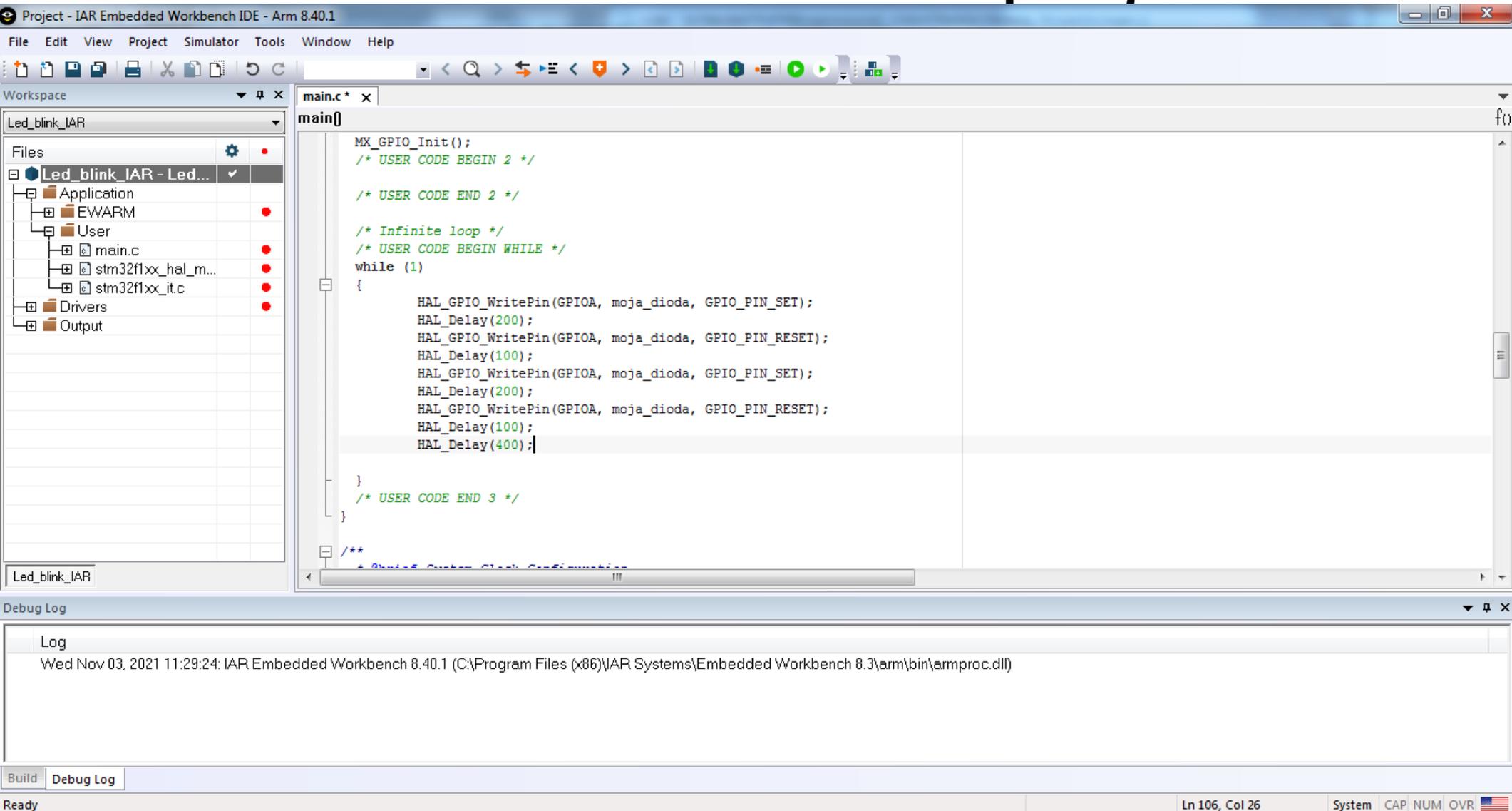
```
/* Includes -----*/  
#include "main.h"  
#define moja_dioda GPIO_PIN_5
```



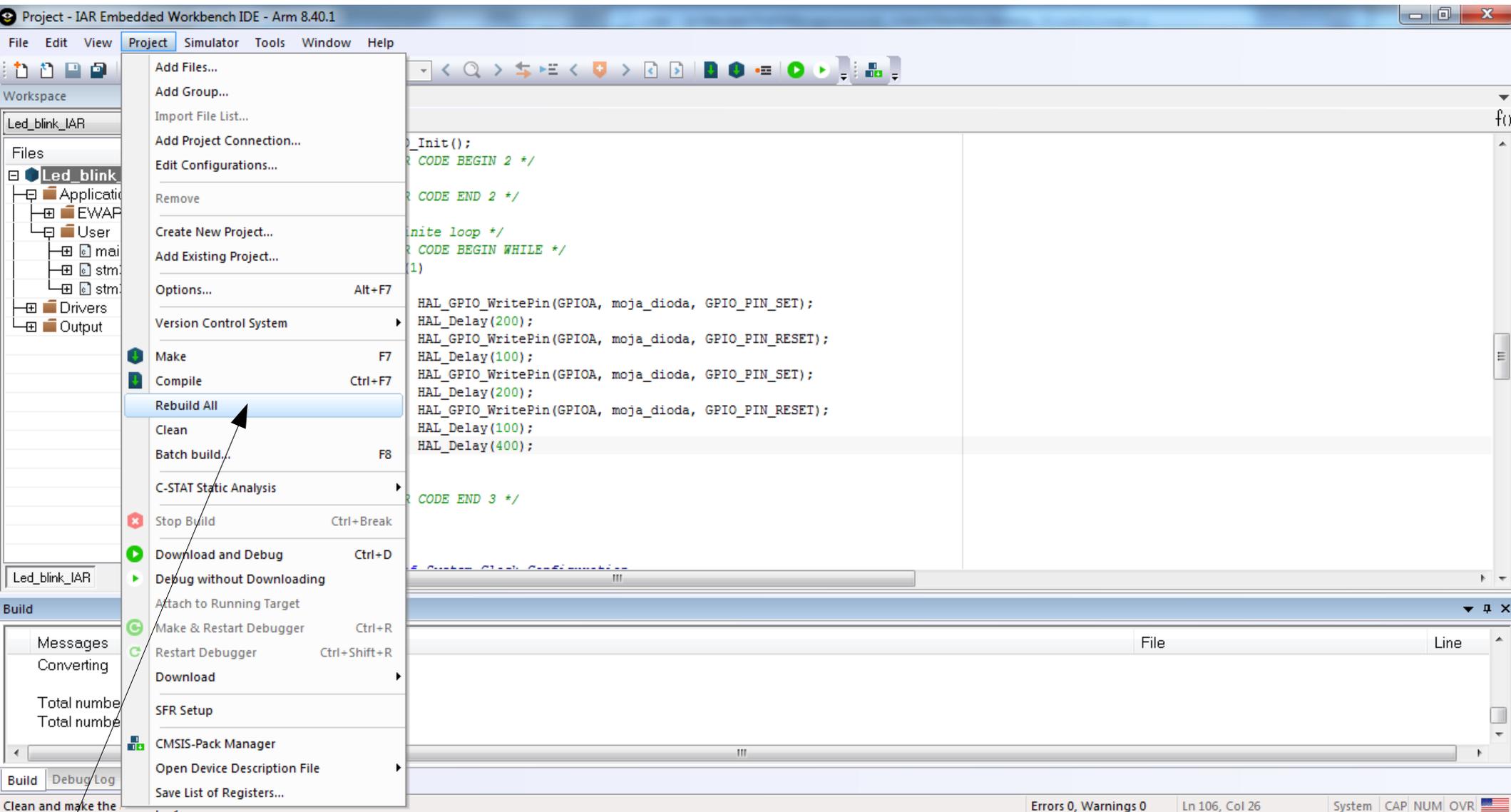
STM32CubeMX IAR projekat

```
while (1)
{
    HAL_GPIO_WritePin(GPIOA, moja_dioda, GPIO_PIN_SET);
    HAL_Delay(200);
    HAL_GPIO_WritePin(GPIOA, moja_dioda, GPIO_PIN_RESET);
    HAL_Delay(100);
    HAL_GPIO_WritePin(GPIOA, moja_dioda, GPIO_PIN_SET);
    HAL_Delay(200);
    HAL_GPIO_WritePin(GPIOA, moja_dioda, GPIO_PIN_RESET);
    HAL_Delay(100);
    HAL_Delay(400)
}
```

STM32CubeMX IAR projekat



STM32CubeMX IAR projektat

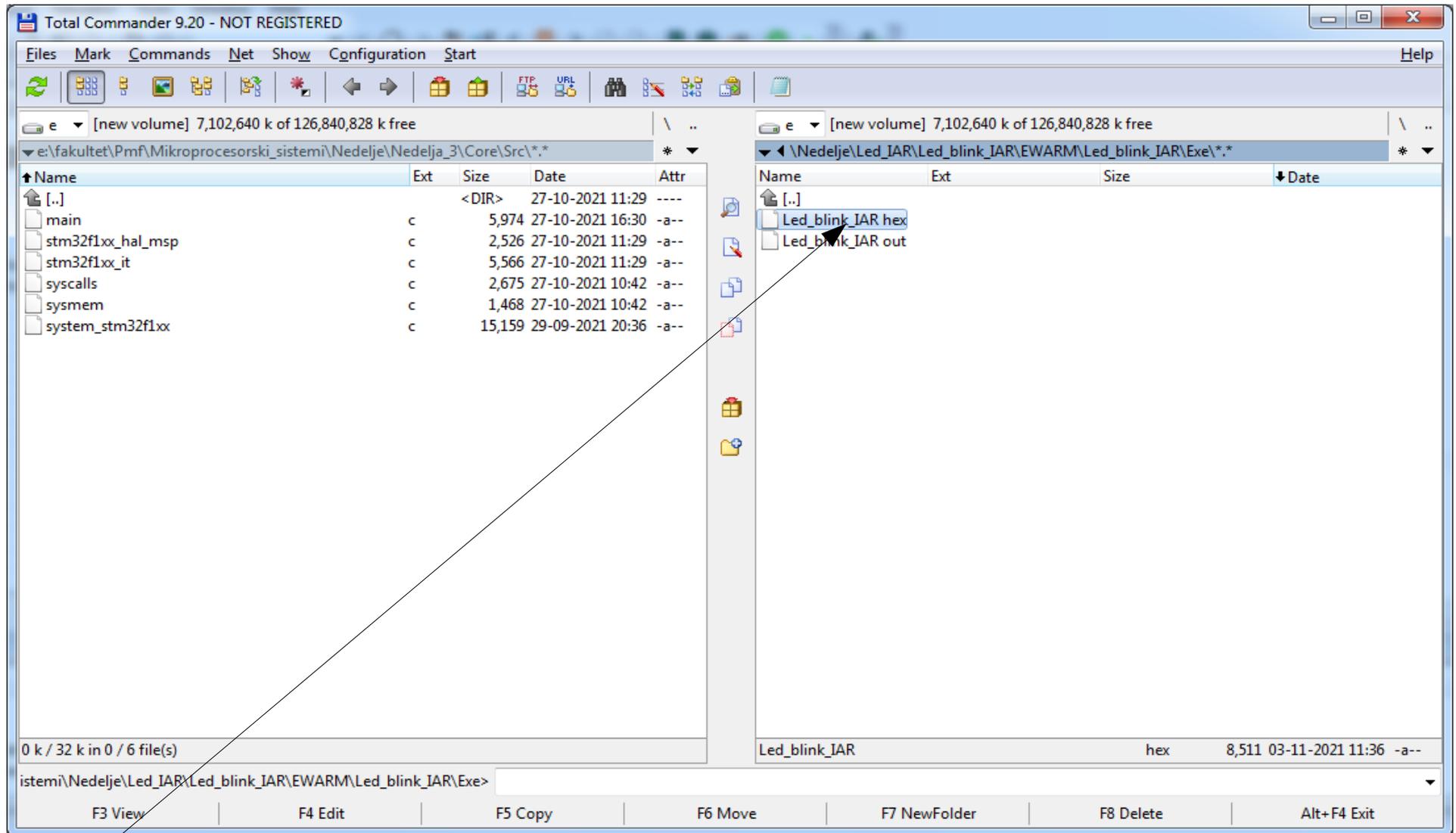


Project. Rebuild All

Aleksandar Peulic

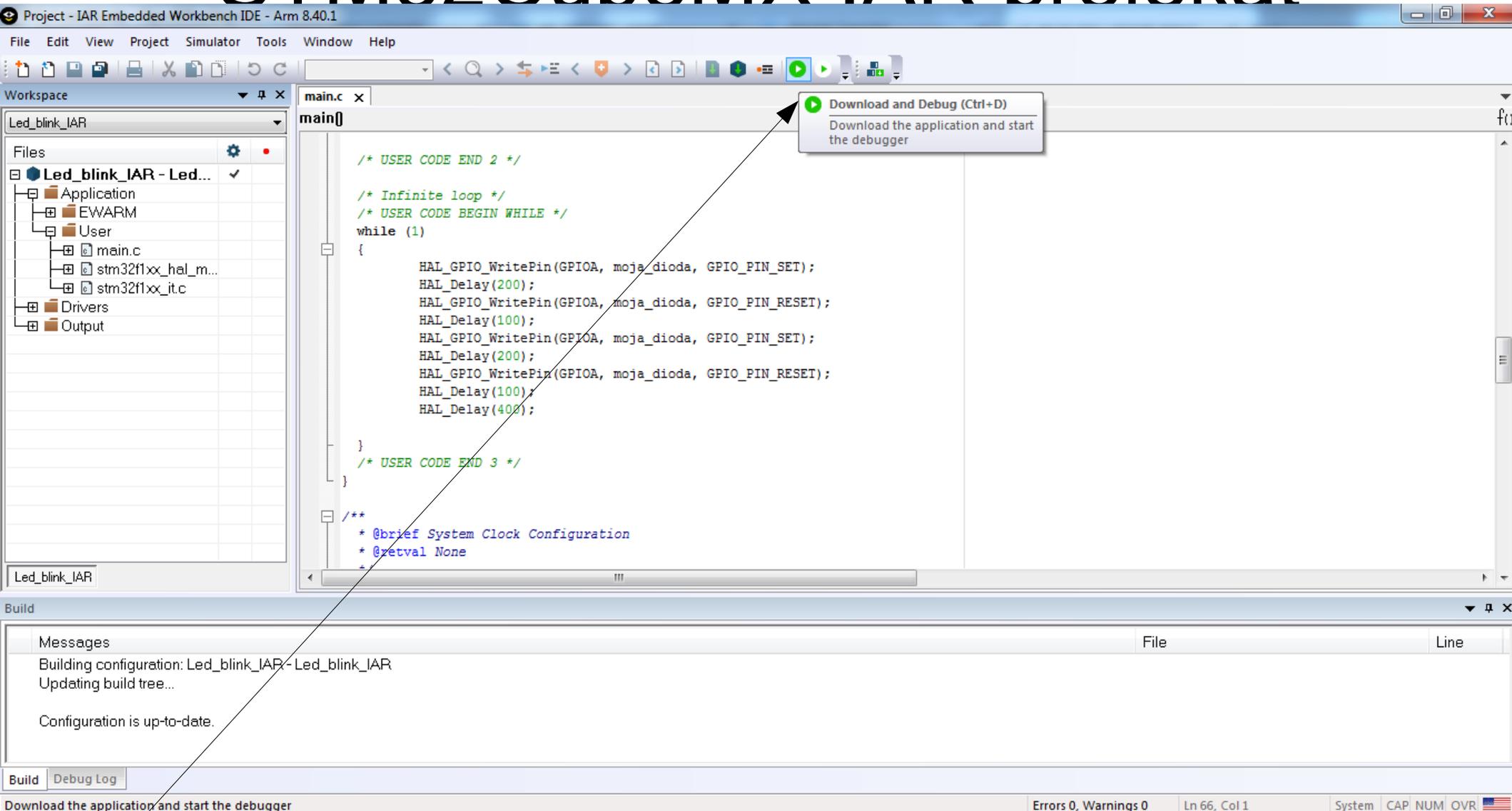
17

STM32CubeMX IAR projekat



Aleksandar Peulic
U Exe direktorijumu nalazi se generisani hex fajl

STM32CubeMX IAR projekat



Aleksandar Peulic
Klik na Download and Debug pokrecemo simulator

STM32CubeMX IAR projekat

The screenshot displays the IAR Embedded Workbench IDE interface. The main window shows the C source code for the `HAL_Init()` function in `stm32f1xx_hal.c`. The code includes several conditional compilation blocks for different STM32 devices and configurations. A red arrow points from the `HAL_InitTick(TICK_INT_PRIORITY);` call in the C code to the corresponding instruction in the disassembly window.

```
HAL_StatusTypeDef HAL_Init(void)
{
    /* Configure Flash prefetch */
    #if (PREFETCH_ENABLE != 0)
    #if defined (STM32F101x6) || defined (STM32F101xB) || defined (STM32F101xE) || defined (STM32
    defined (STM32F102x6) || defined (STM32F102xB) || \
    defined (STM32F103x6) || defined (STM32F103xB) || defined (STM32F103xE) || defined (STM32
    defined (STM32F105xC) || defined (STM32F107xC)

    /* Prefetch buffer is not available on value line devices */
    __HAL_FLASH_PREFETCH_BUFFER_ENABLE();
    #endif
    #endif /* PREFETCH_ENABLE */

    /* Set Interrupt Group Priority */
    HAL_NVIC_SetPriorityGrouping(NVIC_PRIORITYGROUP_4);

    /* Use systick as time base source and configure 1ms tick (default clock after Reset is
    HAL_InitTick(TICK_INT_PRIORITY);

    /* Init the low level hardware */
    HAL_MspInit();

    /* Return function status */
}
```

The disassembly window shows the following instructions for the `HAL_Init` function:

Address	Instruction	Comment
0x800'0934	PUSH {R7, I	
0x800'0936	LDR N R0, [E	
0x800'0938	LDR R1, [F	
0x800'093a	ORR.W R1, R1	
0x800'093e	STR R1, [F	
0x800'0940	MOVS R0, #0	
0x800'0942	BL HAL_NV	
0x800'0946	MOVS R0, #0	
0x800'0948	BL HAL_Ir	
0x800'094c	BL HAL_Me	
0x800'0950	MOVS R0, #0	
0x800'0952	POP {R1, F	
0x800'0954	DC32 FLASH_	
0x800'0958	PUSH {R4, I	
0x800'095a	MOV R4, #0	

The Debug Log window shows the following messages:

```
Log
Wed Nov 03, 2021 11:42:55: IAR Embedded Workbench 8.40.1 (C:\Program Files (x86)\IAR Systems\Embedded Workbench 8.3\arm\bin\armproc.dll)
Wed Nov 03, 2021 11:42:55: Loaded macro file: C:\Program Files (x86)\IAR Systems\Embedded Workbench 8.3\arm\config\debugger\ST\STM32F1xx.dmac
Wed Nov 03, 2021 11:42:55: Download complete.
Wed Nov 03, 2021 11:42:55: Loaded debuggee: E:\fakultet\Pmf\Mikroprocesorski_sistemi\Nedelje\Led_IAR\Led_blink_IAR\EWARM\Led_blink_IAR\Exe\Led_blink_IAR.out
Wed Nov 03, 2021 11:42:55: Target reset
```

Meni za Debug, F11 za korak po korak na primer