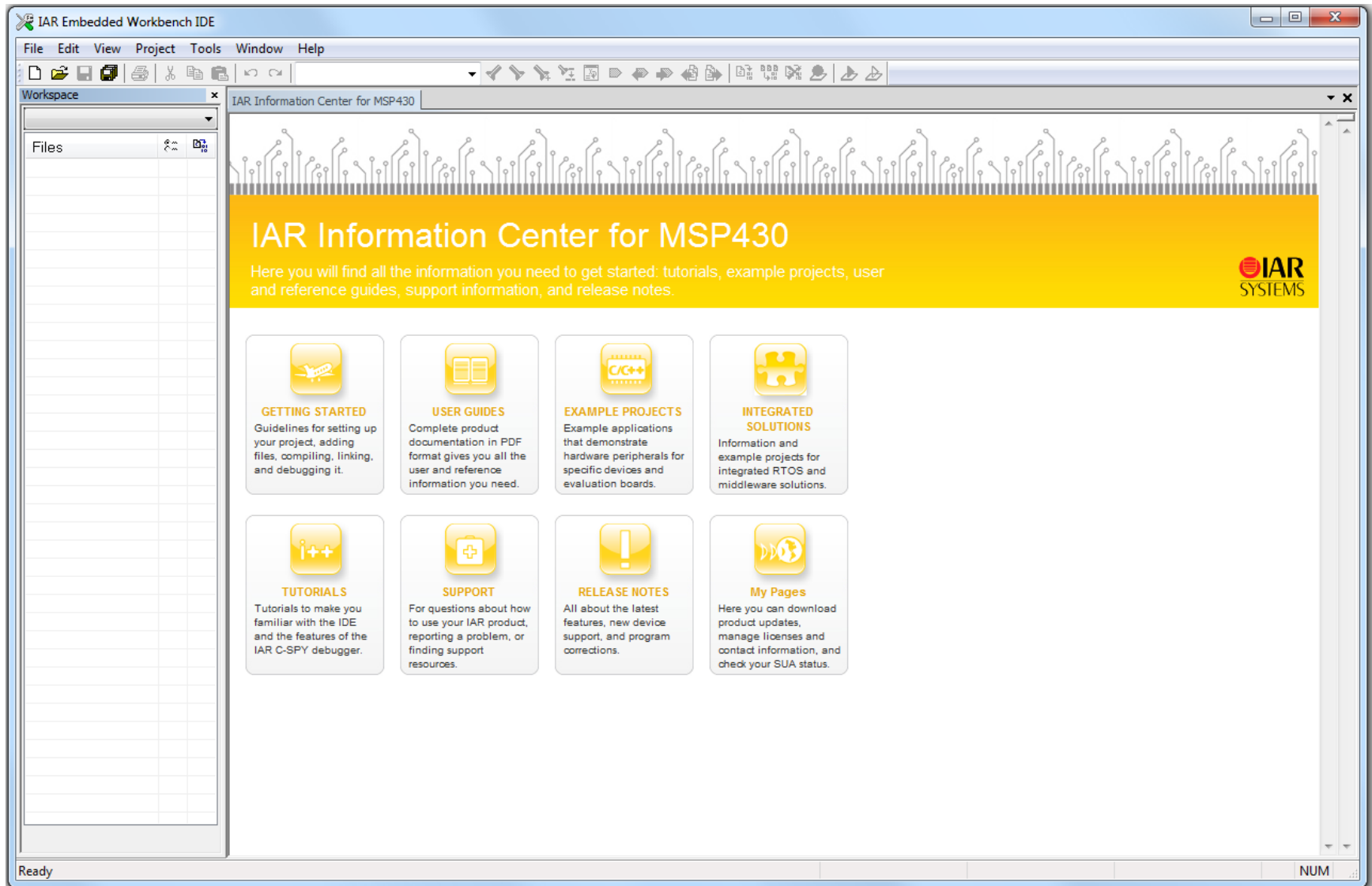


Getting Started with IAR

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Project 02 - IAR Embedded Workbench IDE

File Edit View Project Debug Emulator Tools Window Help

Workspace

Debug

Files

- Project 02 - ...
- clocks.c
- LCD.c
- main.c
- ports.c
- readme.txt
- system.c
- timersA0.c
- Output

main.c

```
P1DIR = 0x00;

P1SEL0 |= V_DETEC
P1SEL1 |= V_DETEC

P1SEL0 |= V_DETEC
P1SEL1 |= V_DETEC

P1SEL0 &= ~IR_LED
P1SEL1 &= ~IR_LED
P1OUT |= IR_LED;
P1DIR |= IR_LED;

P1SEL0 |= V_THUMB
P1SEL1 |= V_THUMB

P1SEL0 &= ~SPI_CS
P1SEL1 &= ~SPI_CS
P1OUT |= SPI_CS_I
P1DIR |= SPI_CS_I
// P1REN |= SPI_CS

P1SEL0 &= ~RESET
P1SEL1 &= ~RESET
P1OUT &= ~RESET_I
P1DIR |= RESET_LC

P1SEL0 &= ~SIMO_B; // SIMO_B selected
P1SEL1 |= SIMO_B; // SIMO_B selected
P1DIR |= SIMO_B; // SIMO_B set to Output

P1SEL0 &= ~SOMI_B; // SOMI_B is used on the LCD
P1SEL1 |= SOMI_B; // SOMI_B is used on the LCD
P1DIR &= ~SOMI_B; // SOMI_B set to Input
P1REN |= SIMO_B; // Enable pullup resistor
}

void Init_Port2(void){
```

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- MISRA-C:2004 Reference Guide (Non C-STAT)
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Disassembly

Goto

Disassembly

Address	Disassembly
00C27E	3C06
00C280	3C09
00C282	3C0B
00C284	3C0A
00C286	3C09
00C288	3C08
00C28A	3C07
TA0CCR1 += T	
00C28C	50B2 20
break;	
00C292	3C03
TA0CCR2 += T	
00C294	50B2 61
}	
00C29A	413F
00C29C	1300
Init_Ports();	
main:	
00C29E	13B0 C7
Init_Clocks();	
00C2A2	13B0 C4
Init_Conditions(
00C2A6	13B0 C7
PJOUT = LED1;	
00C2AA	D392 03
Time_Sequence =	
00C2AE	4382 1C
Init_Timers();	
00C2B2	13B0 C8
five_msec_sleep(
00C2B6	403C 00
00C2BA	13B0 C8
Init_LEDs();	
00C2BE	13B0 C8

Messages

Building configuration: Project 02 - Debug

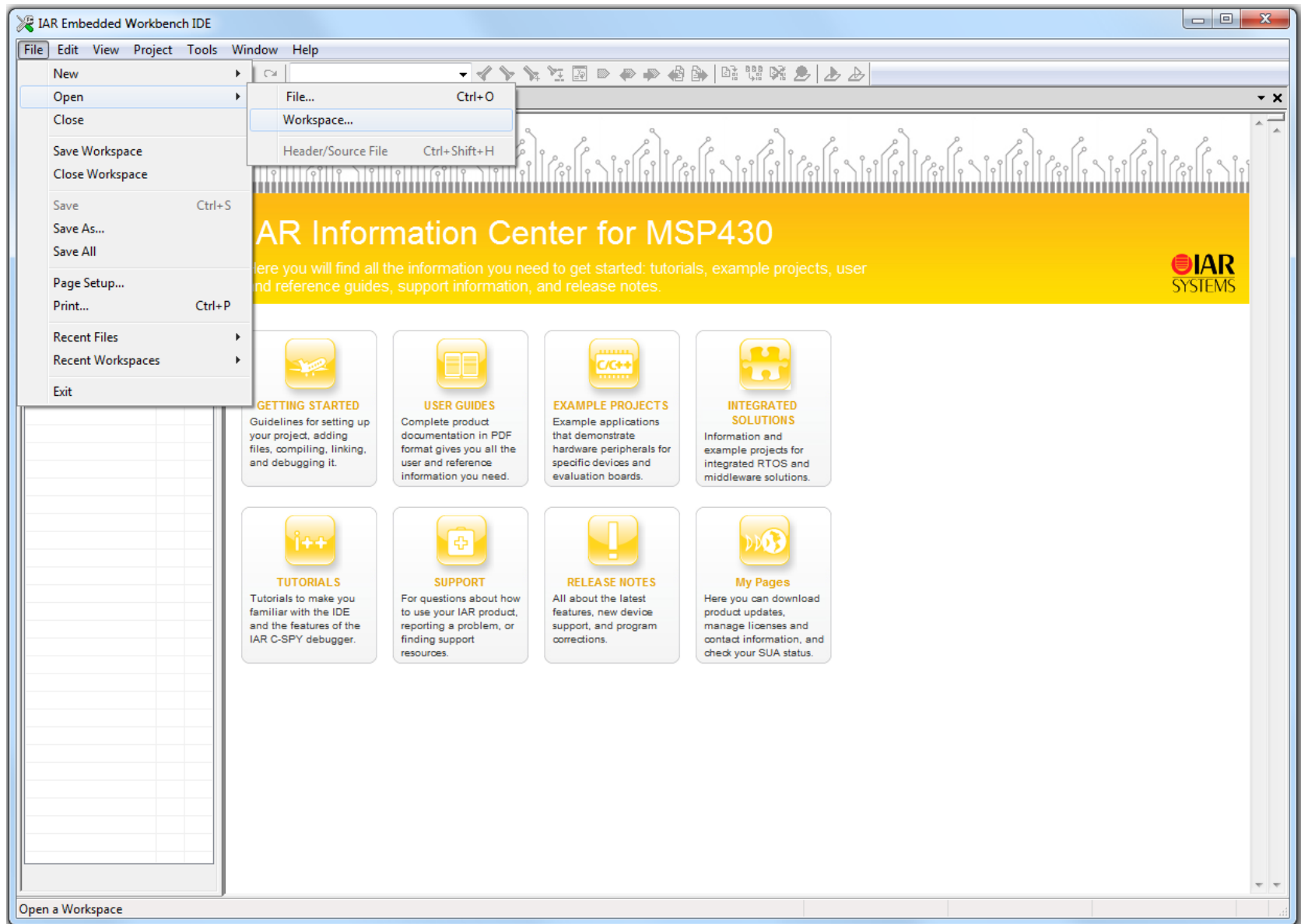
Updating build tree...

Configuration is up-to-date.

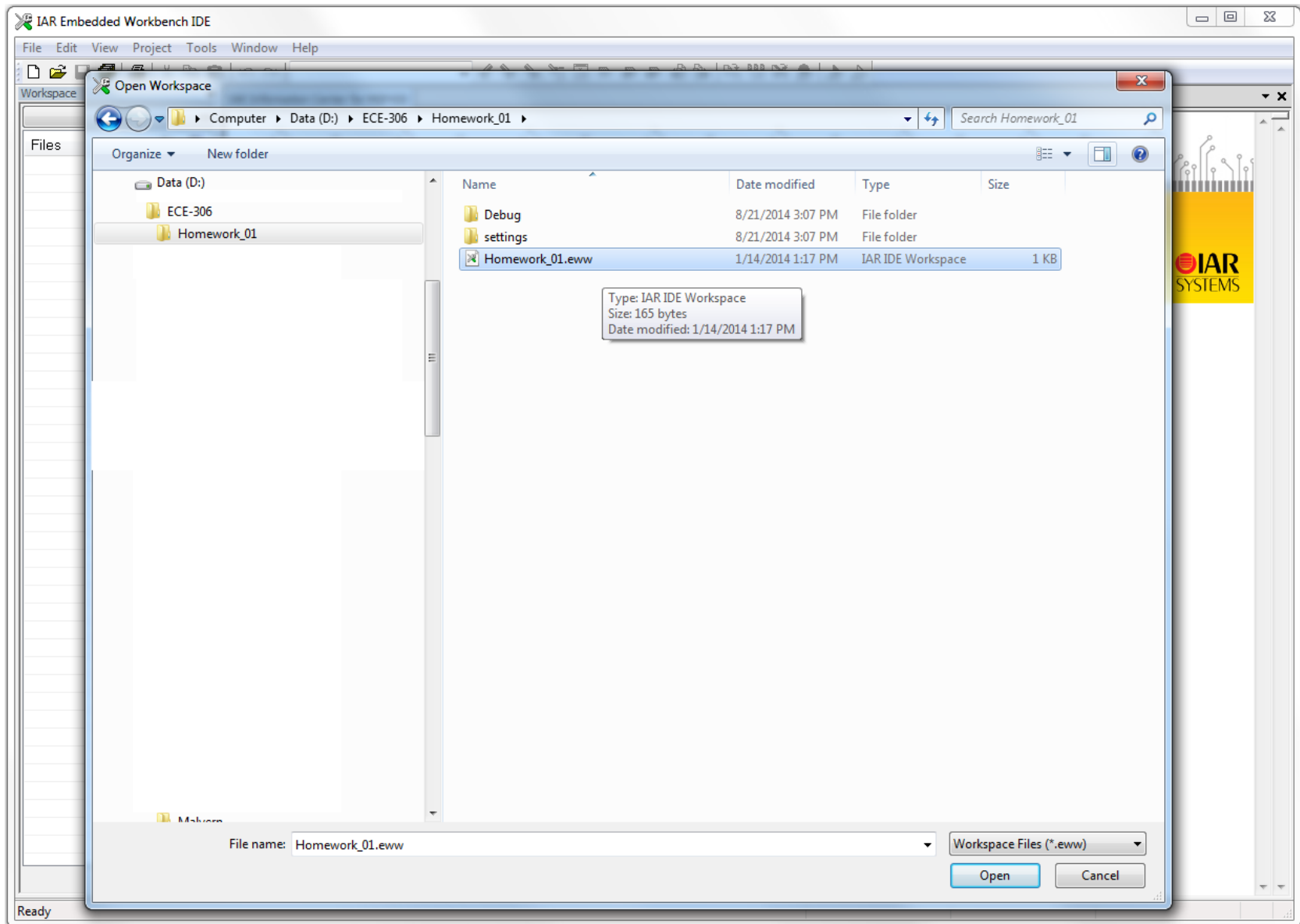
Debug Log Build

Errors 0, Warnings 0 Ln 29, Col 1 System

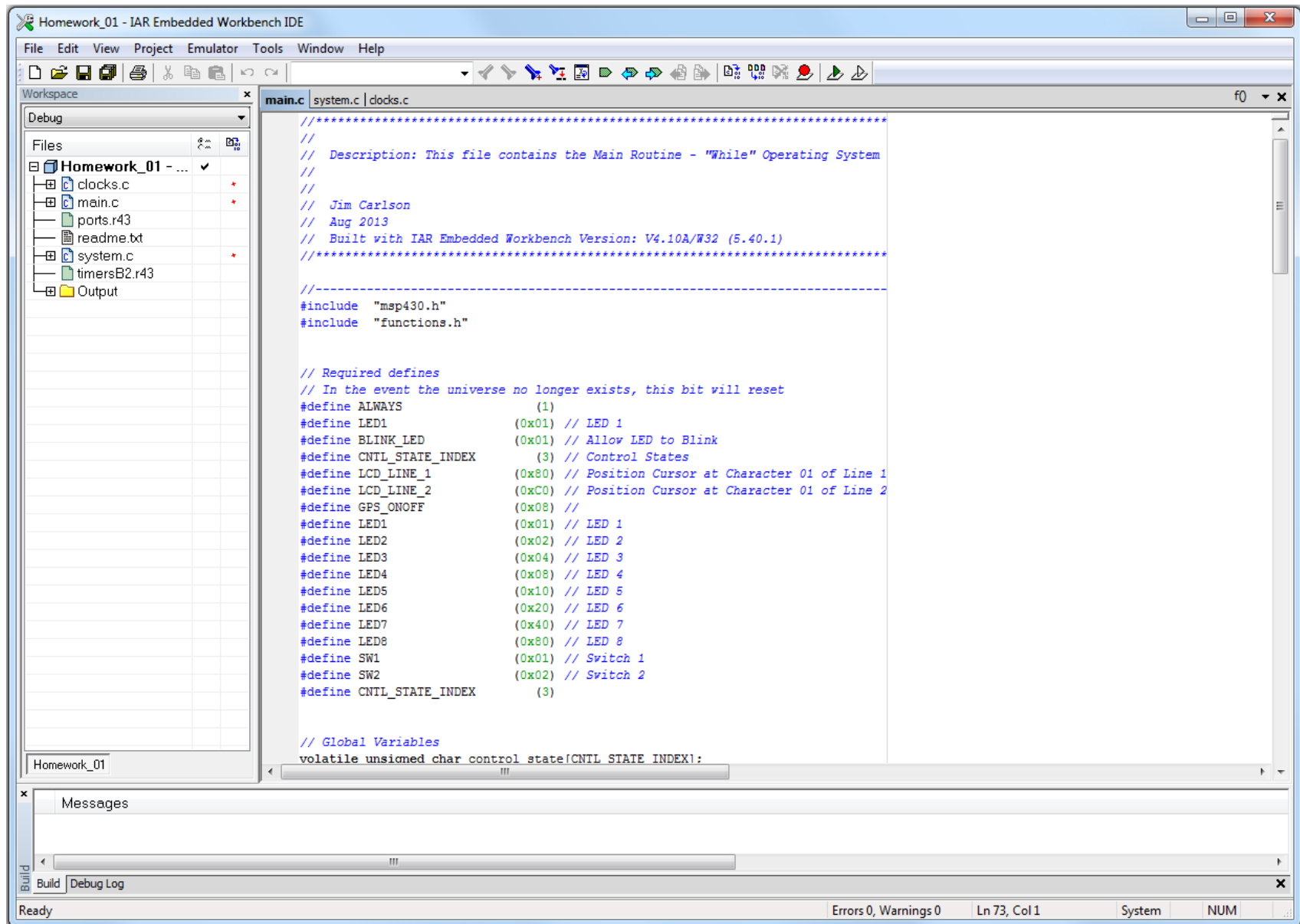
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Homework_01 - IAR Embedded Workbench IDE

Workspace: main.c, system.c, clocks.c

main.c:

```
#define SW2 (0x02) // Switch 2
#define CNTL_STATE_INDEX (3)

// Global Variables
volatile unsigned char control_state[CNTL_STATE_INDEX];
volatile unsigned int Time_Sequence;
char led_smclk;
volatile char one_time;

//-----
// Main Program
// This is the main routine for the program. Execution of code starts here.
// The operating system is Back Ground Fore Ground.
//-----

void main(void) {
    Init_Ports(); // Initialize Ports
    Init_Clocks(); // Initialize Clock System
    Init_Conditions();
    P1OUT |= LED1; // Turn LED 1 on to indicate boot
    Time_Sequence = 0; //
    Init_Timers(); // Initialize Timers
    Init_LEDS(); // Initialize LEDs

    //-----
    // Beginning of the "While" Operating System
    //-----
    while(ALWAYS) {
        switch(Time_Sequence) {
            case 250: // 1000 msec
                if(one_time) {
                    Init_LEDS(); // Initialize LEDs
                    one_time = 0;
                }
                Time_Sequence = 0; //
            case 200: // 1000 msec
                if(one_time) {
                    P1OUT |= LED4; // Change State of LED 4
                    P3OUT |= LED5; // Change State of LED 5
                }
            // ...
        }
    }
}
```

Watch 1:

Expression	Value	Location	Type
Time_Sequence	200	Memory: 0x1C00	unsigned int
one_time	0x01	Memory: 0x1C08	char
control_state	" "	Memory: 0x1C04	unsigned ch...
[0]	0x00	Memory: 0x1C04	unsigned char
[1]	0x00	Memory: 0x1C05	unsigned char
[2]	0x00	Memory: 0x1C06	unsigned char

Disassembly:

Address	Disassembly	Comment
00C2AE	93C2 1C08	tst.b &one_time
00C2B2	2404	jeq 0xC2BC
00C2B4	13B0 C4B8	calla #Init_LEDS
00C2B8	43C2 1C08	clr.b &one_time
00C2BC	43B2 1C00	clr.w &Time_Sequence
00C2C0	93C2 1C08	tst.b &one_time
00C2C4	2407	jeq 0xC2D4
00C2C6	D2B2 0322	bis.w #0x8,&P1OUT
00C2CA	D0F2 0010 0222	bis.b #0x10,&P3OUT
00C2D0	43C2 1C08	clr.b &one_time

Log:

```
Tue Jan 14, 2014 13:36:44: Device: MSP430FR5739
Tue Jan 14, 2014 13:36:44: External voltage: 0.0 V
Tue Jan 14, 2014 13:36:44: VCC voltage: 3.5 V
Tue Jan 14, 2014 13:36:44: Invalid parameter(s): (Configure), mode=0x12, value=0x0
Tue Jan 14, 2014 13:36:45: Verify download: no errors found
Tue Jan 14, 2014 13:36:45: Download completed and verification successful.
Tue Jan 14, 2014 13:36:45: Loaded debuggee: D:\carlson\NCSU\Current\Code Class\Homework_01\Debug\Exe\Homework_01.d43
```

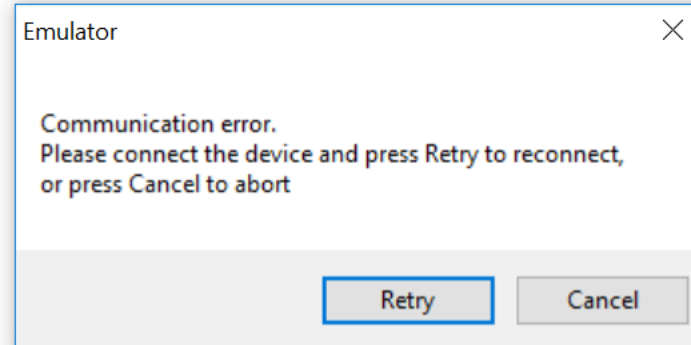
Memory:

Address	Value
1c00	c8 00 c8 00 00 00 40 01 31 34 00 32 32 3a 32
1c10	37 3a 34 35 00 6f 00 00 00 00 00 00 00 00 00
1c20	00 00 00 00 00 00 00 00 00 00 00 94 1c a5 1c 00
1c30	00 00 fa 00 00 00 00 00 00 00 00 00 00 00 00
1c40	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1c50	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1c60	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1c70	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1c80	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1c90	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1ca0	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1cb0	00 00 00 00 00 00 00 00 61 00 01 40 00 00 00

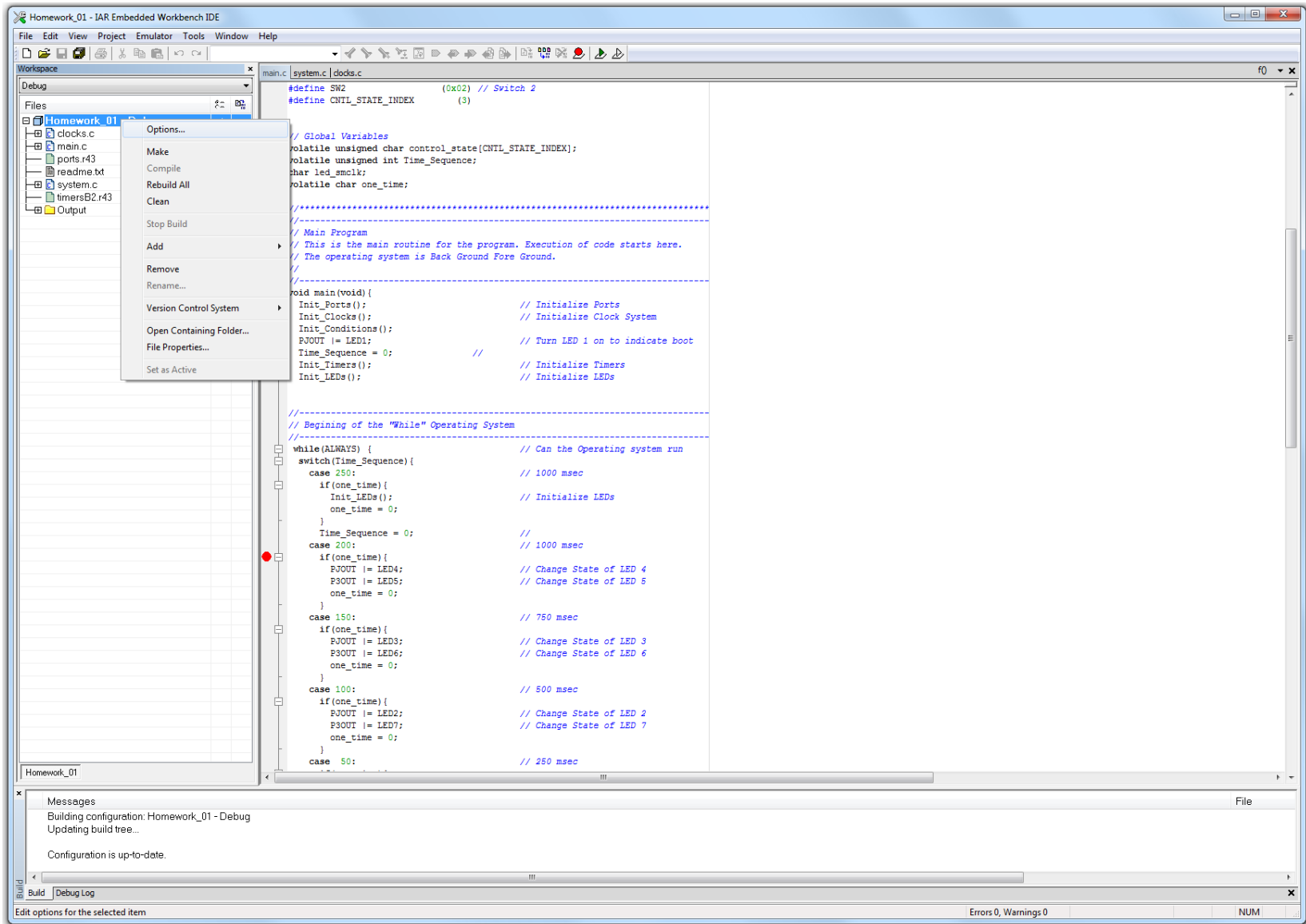
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Errors / Not Connecting

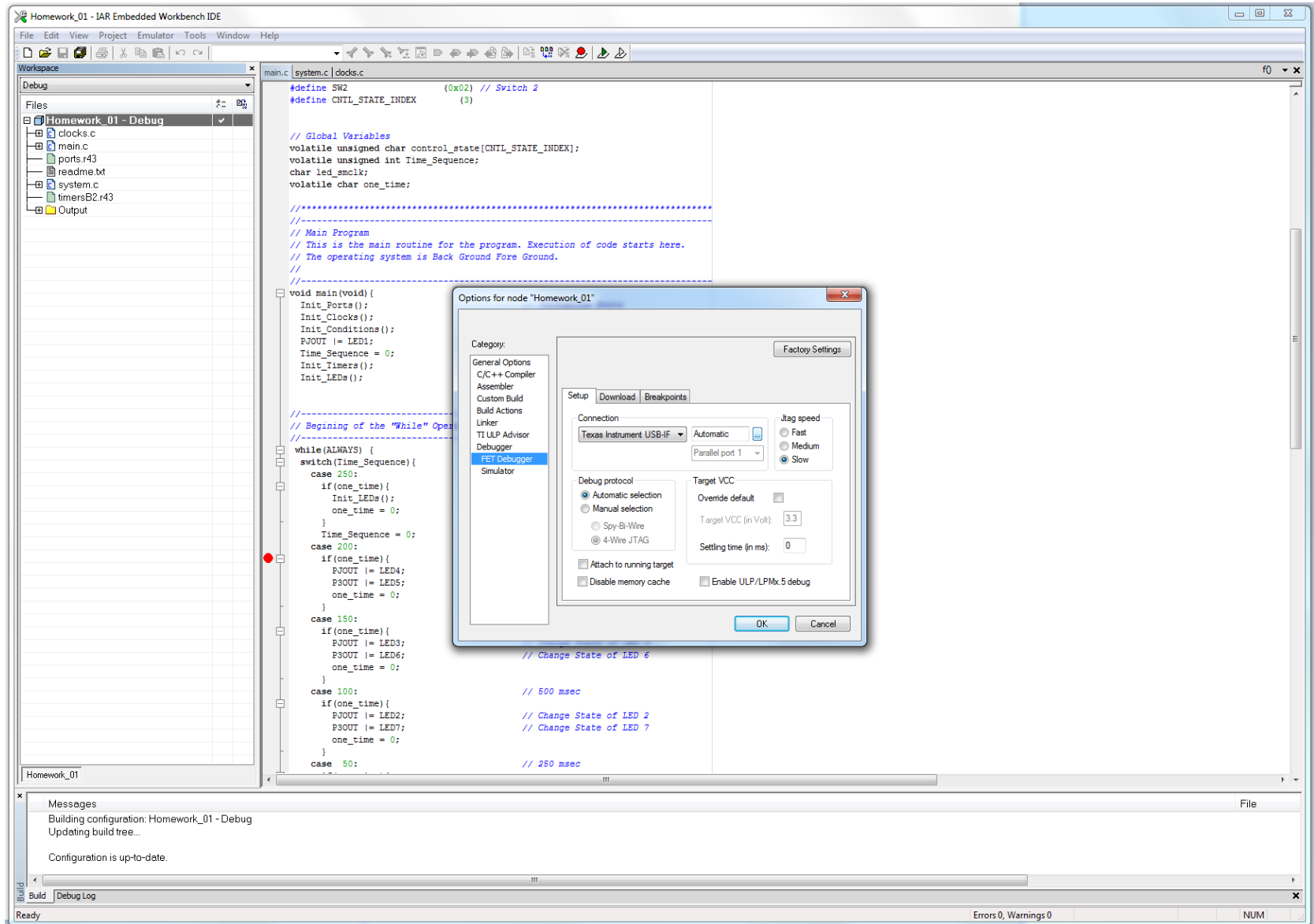
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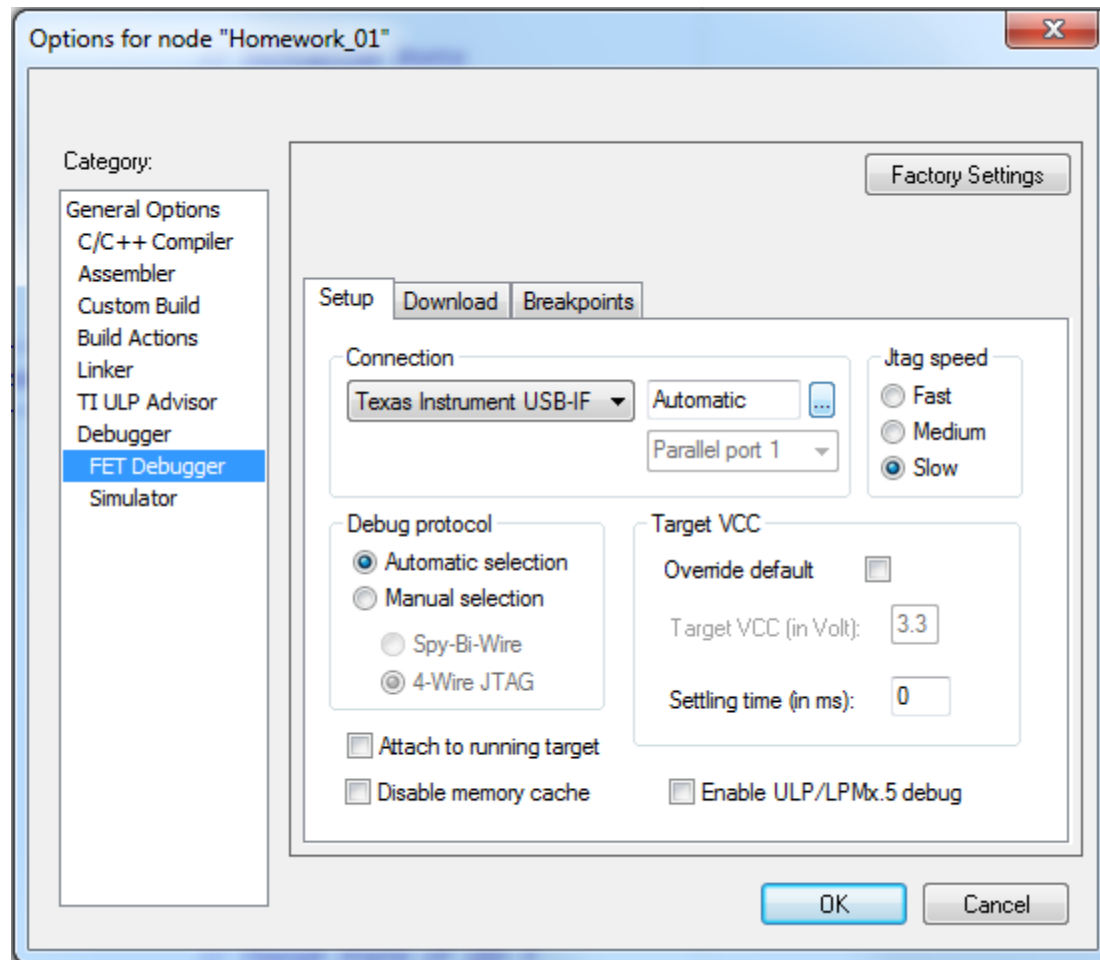
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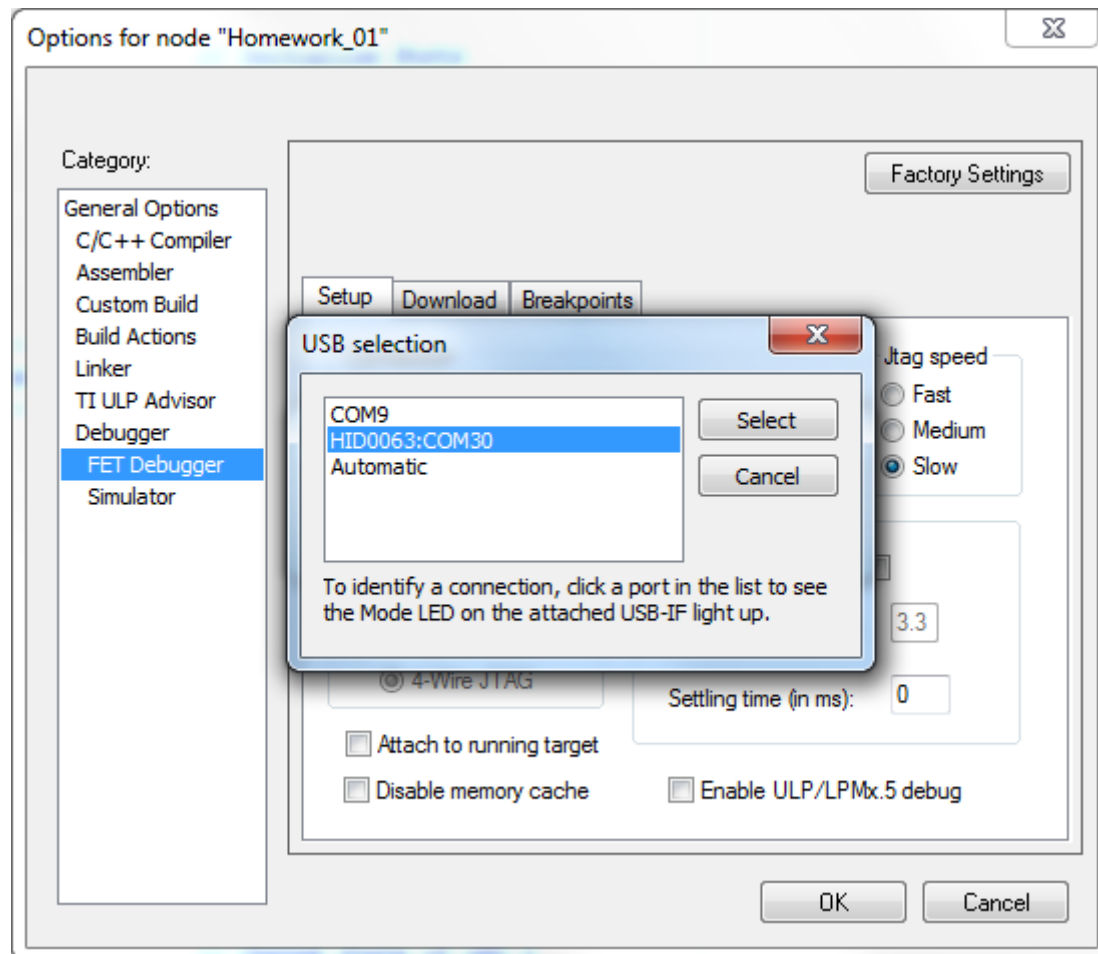
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