GigaDevice Semiconductor Inc.

GD-Link Adapter

User Manual

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1 Introduction

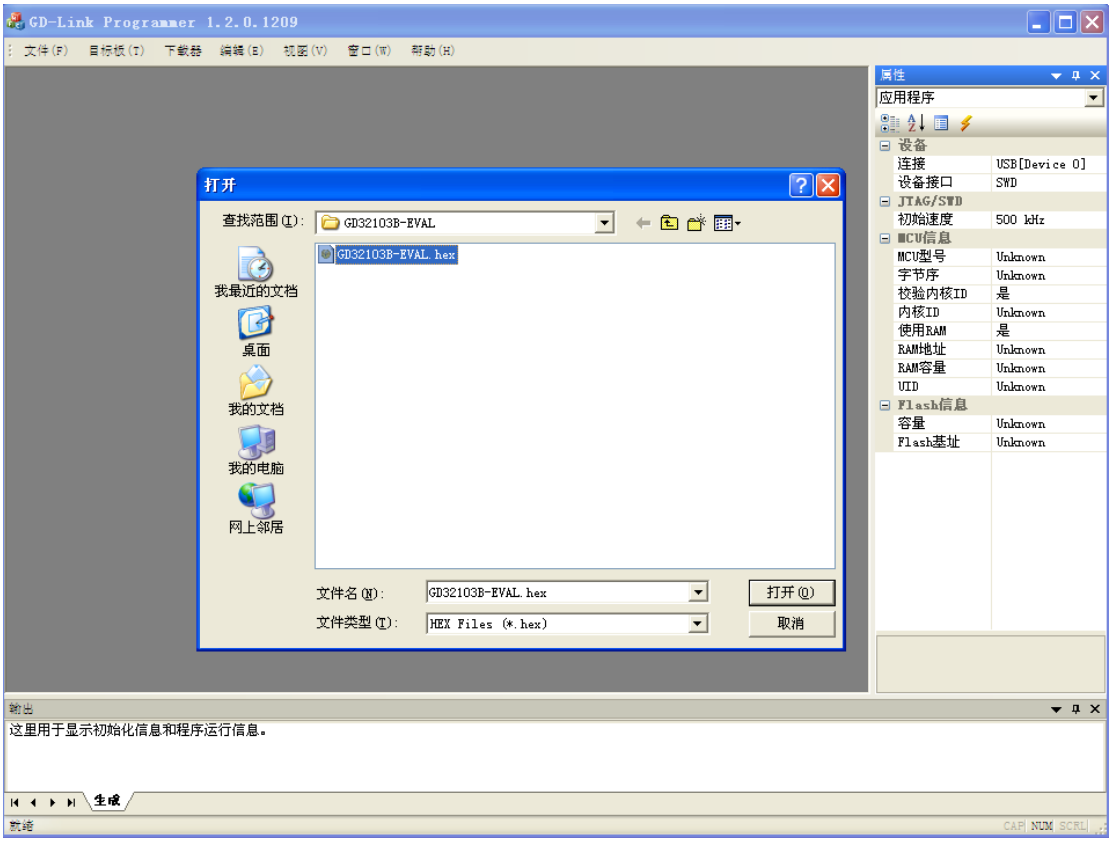
GD-Link adapter is a three-in-one multi-function development tool for GD32 series of MCUs. It provides CMSIS-DAP debugger port with JTAG/SWD interface. User can use GD-Link adapter for online programming or debug code in compatible IDE such as Keil or IAR. Another important function is offline programming.

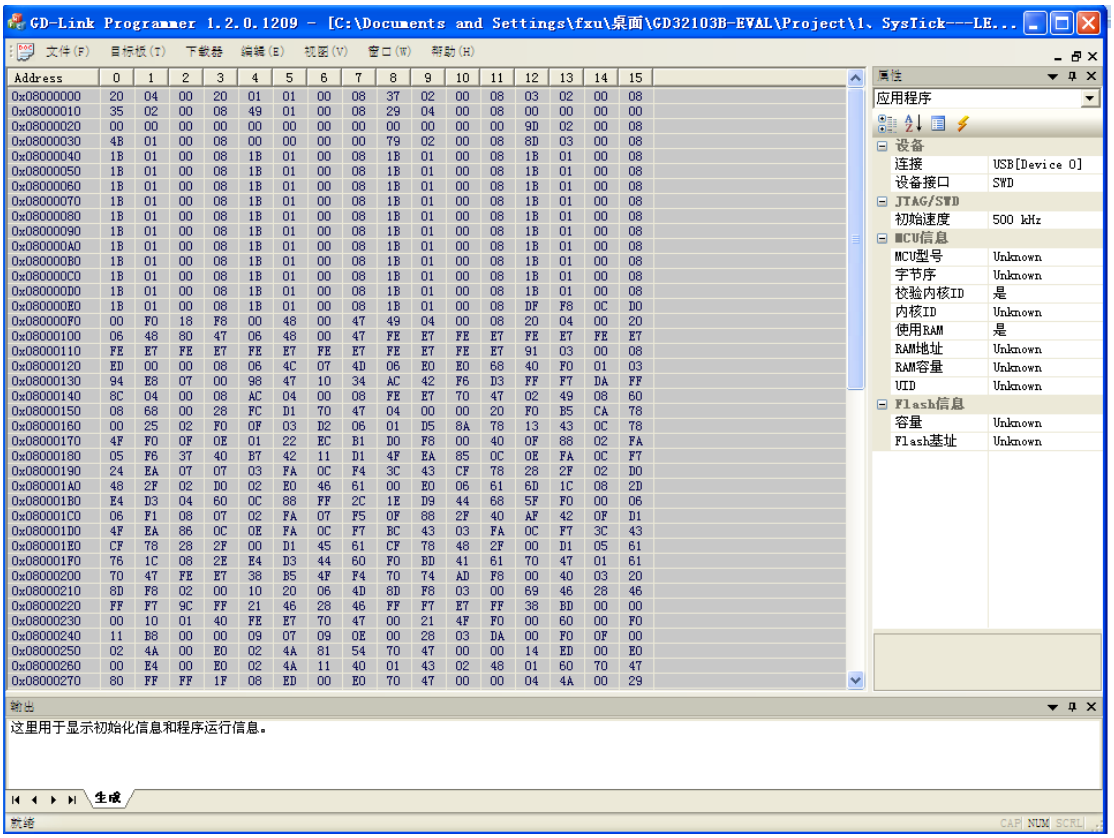
The objective of this user manual is to describe how to use GD-Link adapter to achieve the above function.

2 Update user code

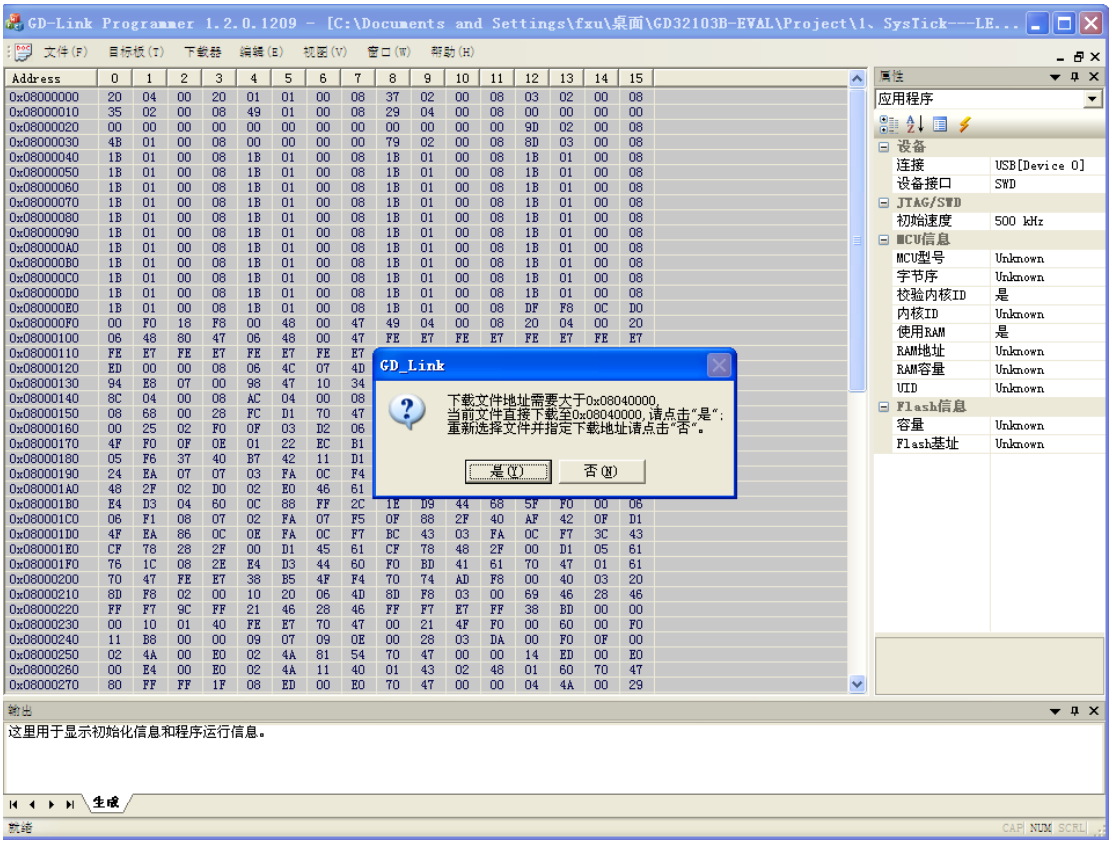
Plug GD-Link adapter into PC USB connector, LED4 will turn on, which indicates that GD-Link power on normally.LED2 will flash faster when GD-Link communication with PC correctly, and GD-Link will be enumerated as HID by PC, it indicates that GD-Link is working normally.

Open the “GD-Link Programmer” software, Click tool menu “File->Open”, and choose the user code.

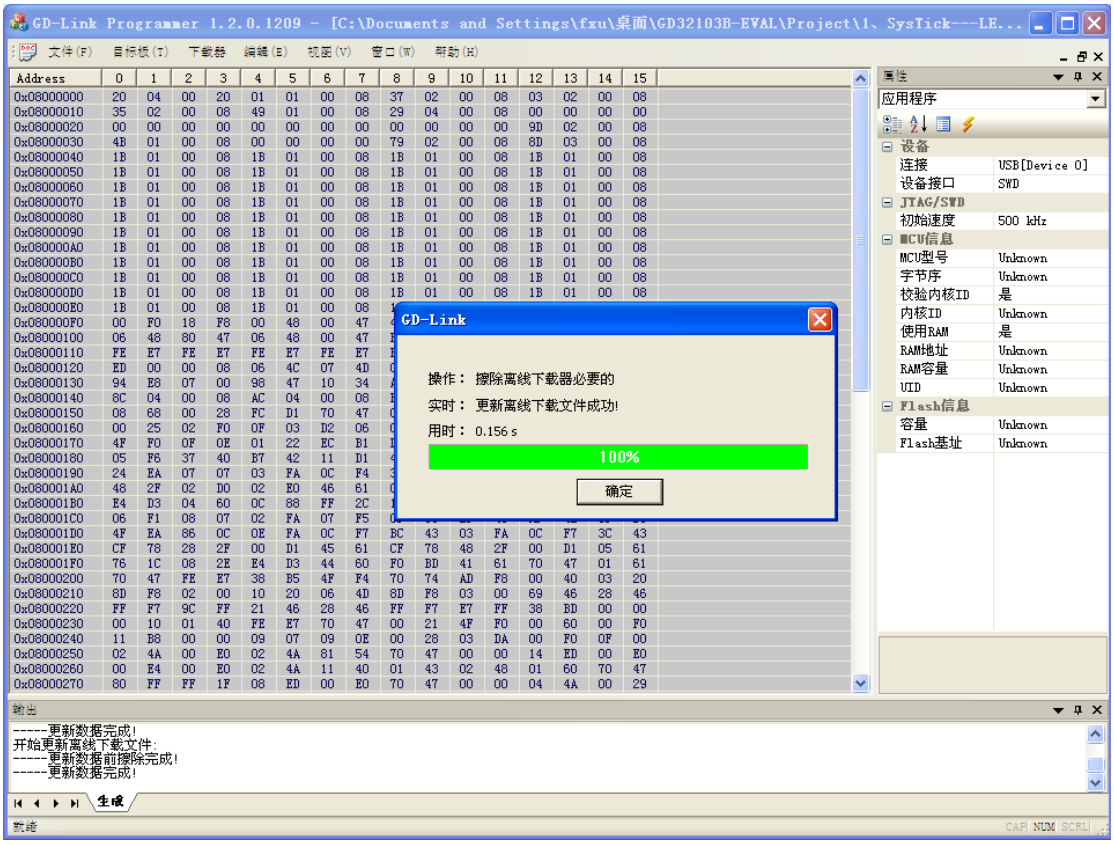




Click tool menu “Download->Update download file”



Click "Yes" and update user code.



3 Connecting GD-Link adapter with target board

The following figure and table shows the electrical connection relationship between GD-Link adapter and SWD interface of the target board, according to the information, connect GD-Link adapter with target board via DuPont lines or other connecting wires.

Figure 1. Schematic diagram of GD-link adapter

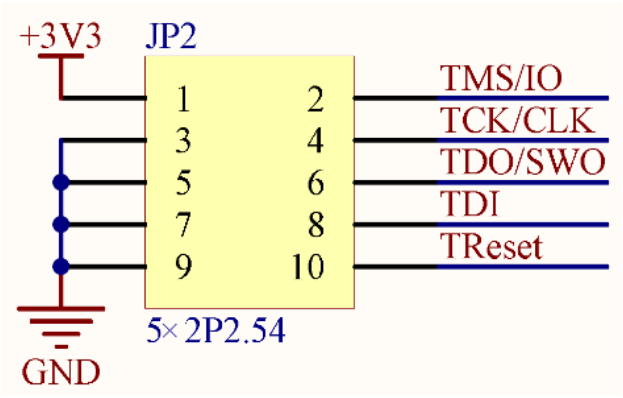


Table 2. Pin function of GD-link adapter

GD-Link Adapter	Target Board
+3V3	+3V3
GND	GND
TMS/IO	SWDIO(PA13)
TCK/CLK	SWCLK(PA14)
TReset	NRst

4 Offline programming

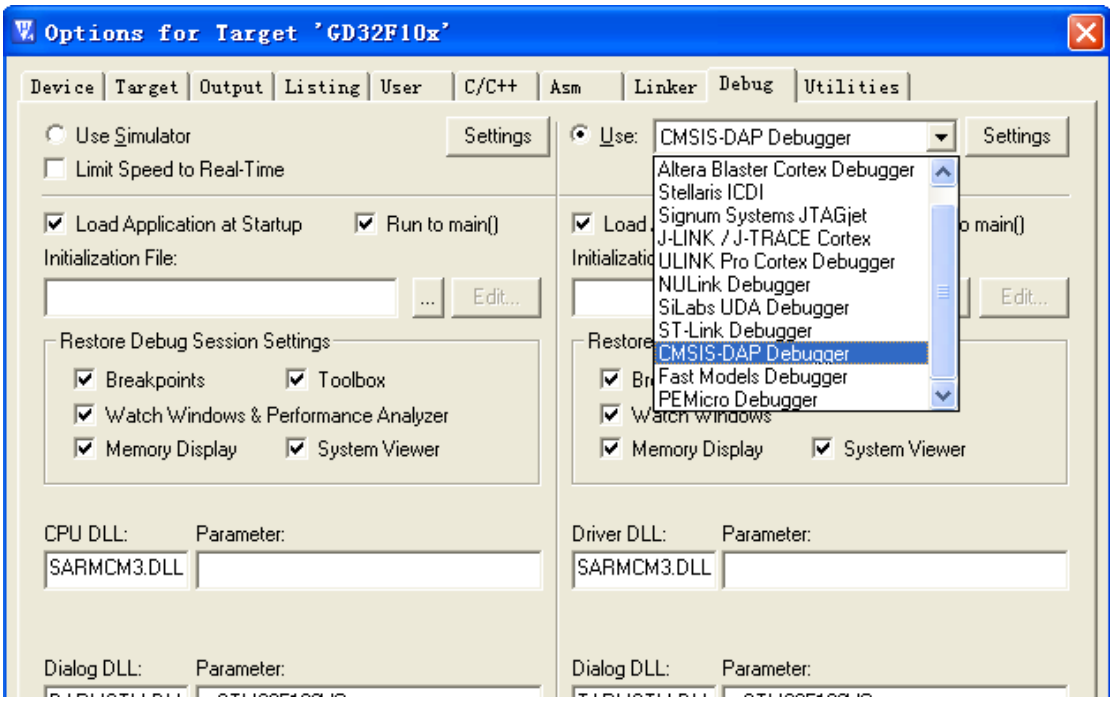
Complete the above steps correctly, presses button key K1, then LED1 will flash at the moment, it indicates that the GD-Link adapter is downloading the user code to target board.

If the user code is downloaded to the target board correctly, LED1 will stop flashing and turn on normally.

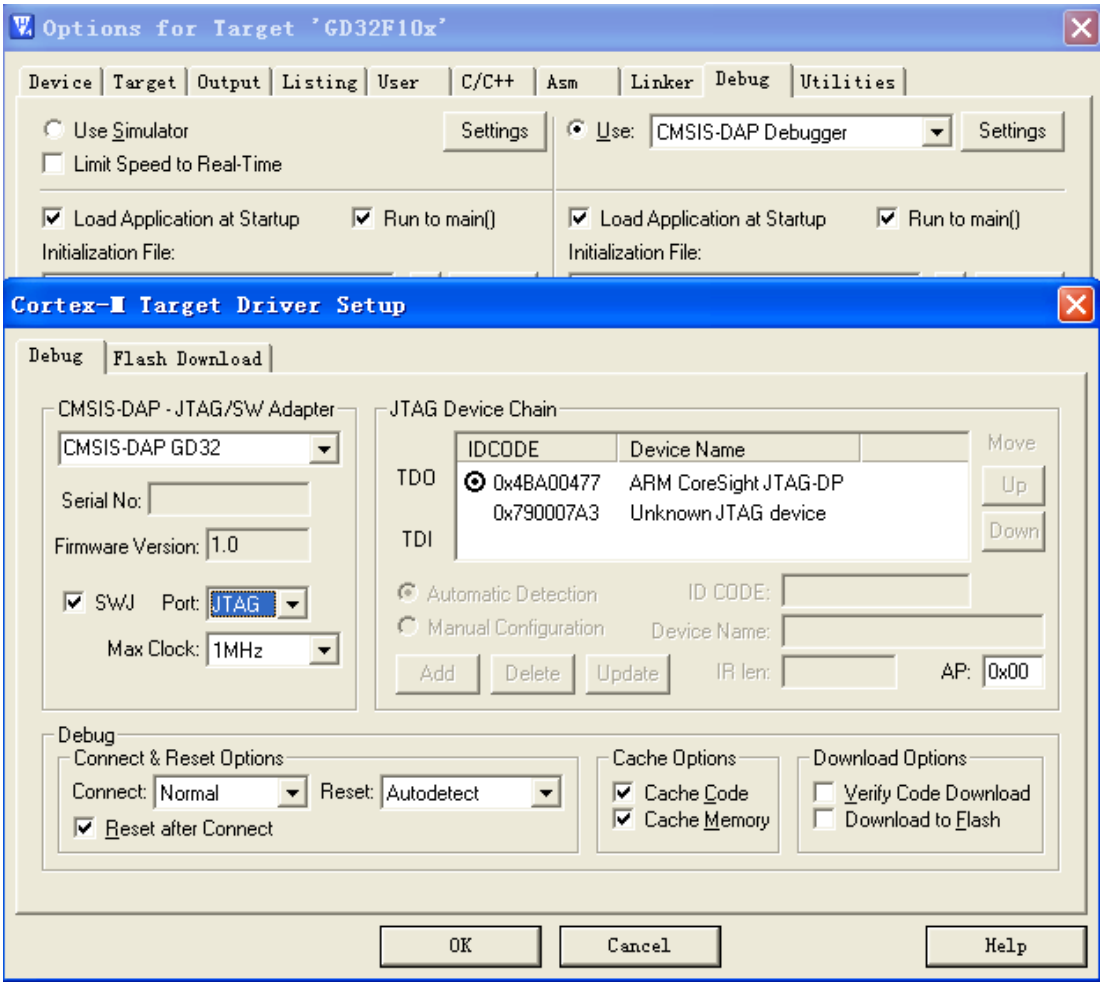
4.1 In Keil (Version 4.7 above) for programming

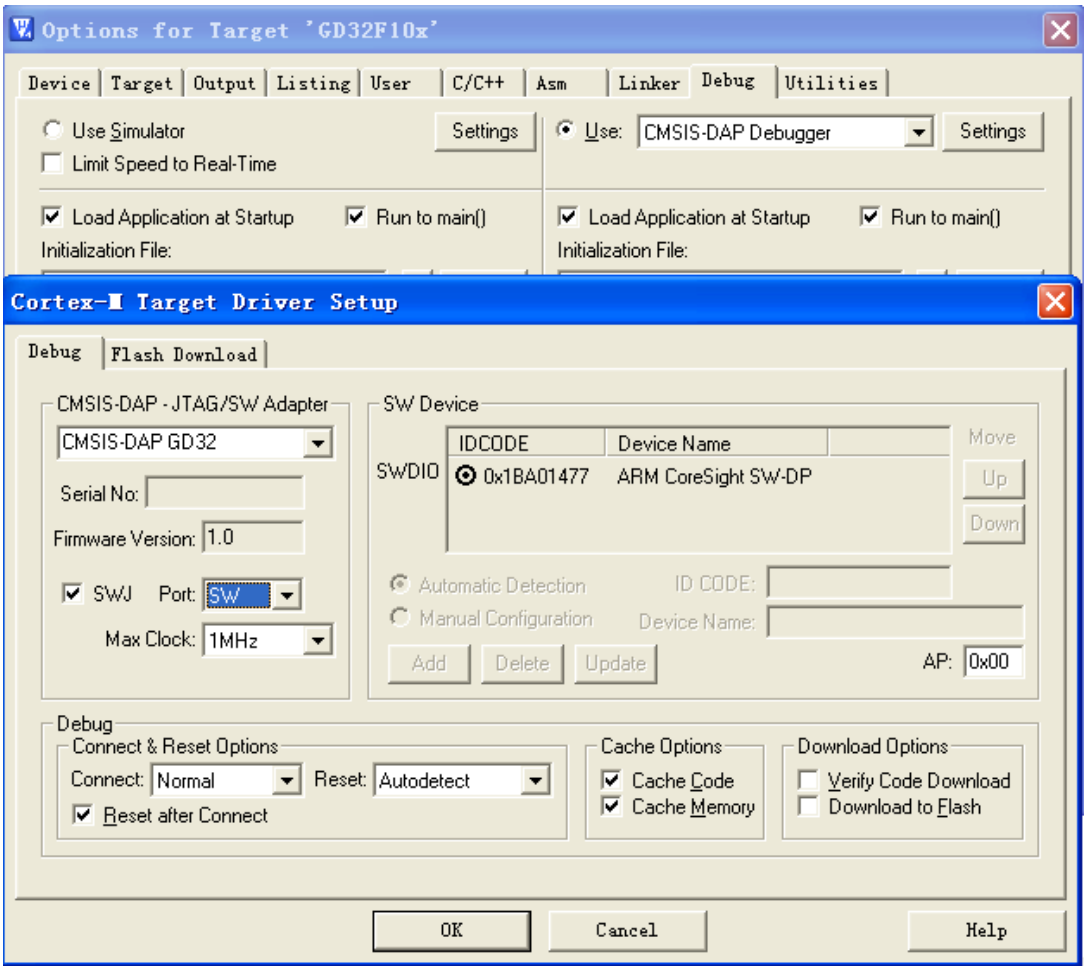
Power on and connect GD-Link adapter with target board via JTAG/SWD interface.

Select “CMSIS-DAP Debugger” in “Configure Flash Tools” Tools menu.

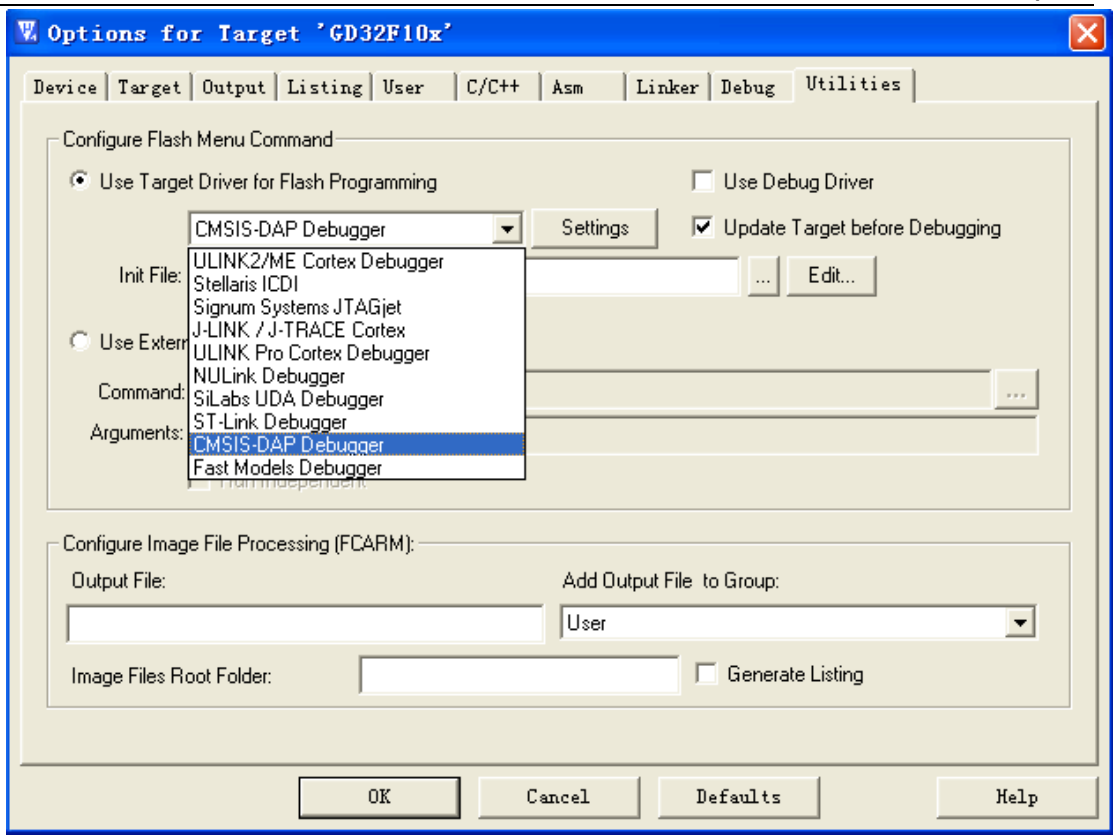


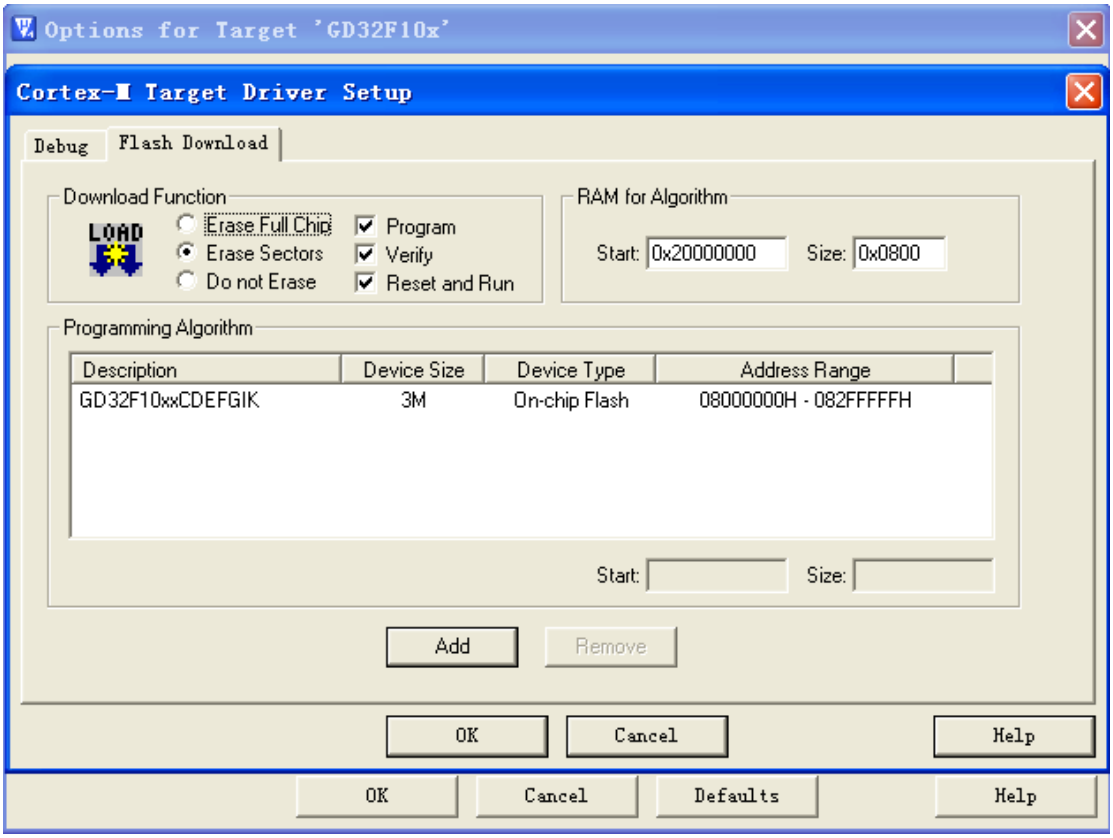
Click “Settings” command button, select “JTAG” or “SWD” port.





Select “Utilities” page, and then select “CMSIS-DAP Debugger”, then click “Settings” command button, “Add” the correct flash programming algorithm according to the GD32 MCU which is using.

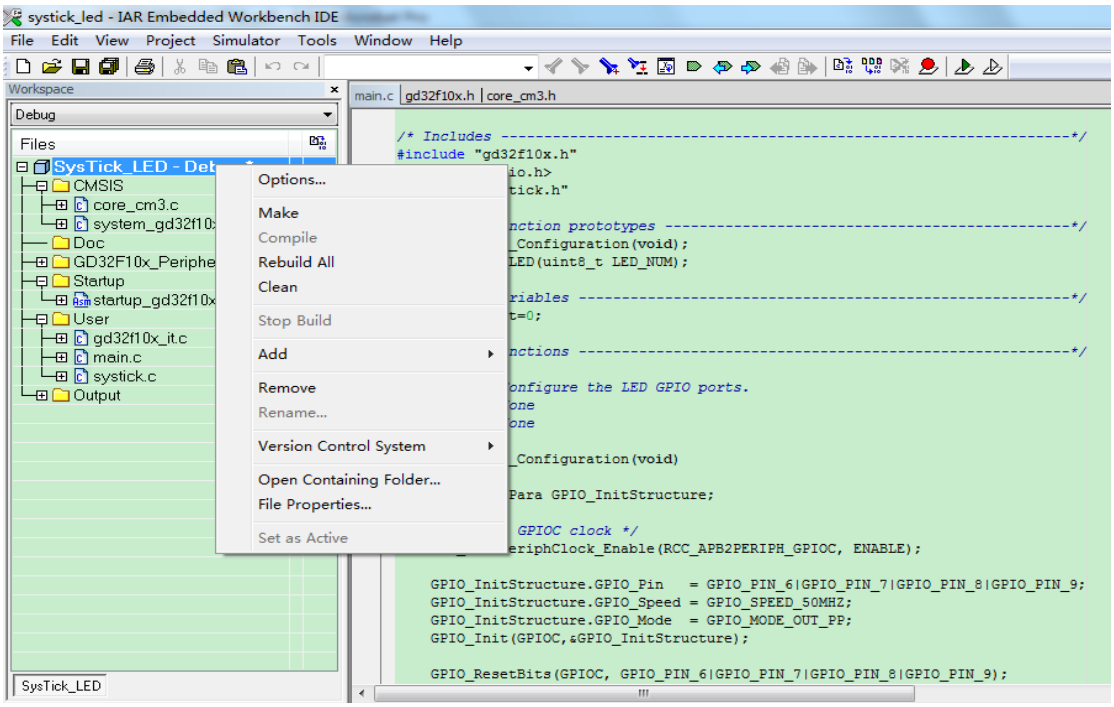

Options for Target 'GD32F10x'
Device
Target
Output
Listing
User
C/C++
Asm
Linker
Debug
Utilities
Configure Flash Menu Command
Use Target Driver for Flash Programming
Use Debug Driver
CMSIS-DAP Debugger
Settings
Update Target before Debugging
Init File:
Edit...
Use Extern
Command:
Arguments:
ULINK2/ME Cortex Debugger
Stellaris ICDI
Signum Systems JTAGjet
J-LINK / J-TRACE Cortex
ULINK Pro Cortex Debugger
NULink Debugger
SiLabs UDA Debugger
ST-Link Debugger
CMSIS-DAP Debugger
Fast Models Debugger
Configure Image File Processing (FCARM):
Output File:
Add Output File to Group:
User
Image Files Root Folder:
Generate Listing
OK
Cancel
Defaults
Help


Options for Target 'GD32F10x'
Cortex-M Target Driver Setup
Debug
Flash Download
Download Function
LOAD
Erase Full Chip
Erase Sectors
Do not Erase
Program
Verify
Reset and Run
RAM for Algorithm
Start: 0x20000000
Size: 0x0800
Programming Algorithm
Description
Device Size
Device Type
Address Range
GD32F10xxCDEFGIK
3M
On-chip Flash
08000000H - 082FFFFFH
Start:
Size:
Add
Remove
OK
Cancel
Help
OK
Cancel
Defaults
Help

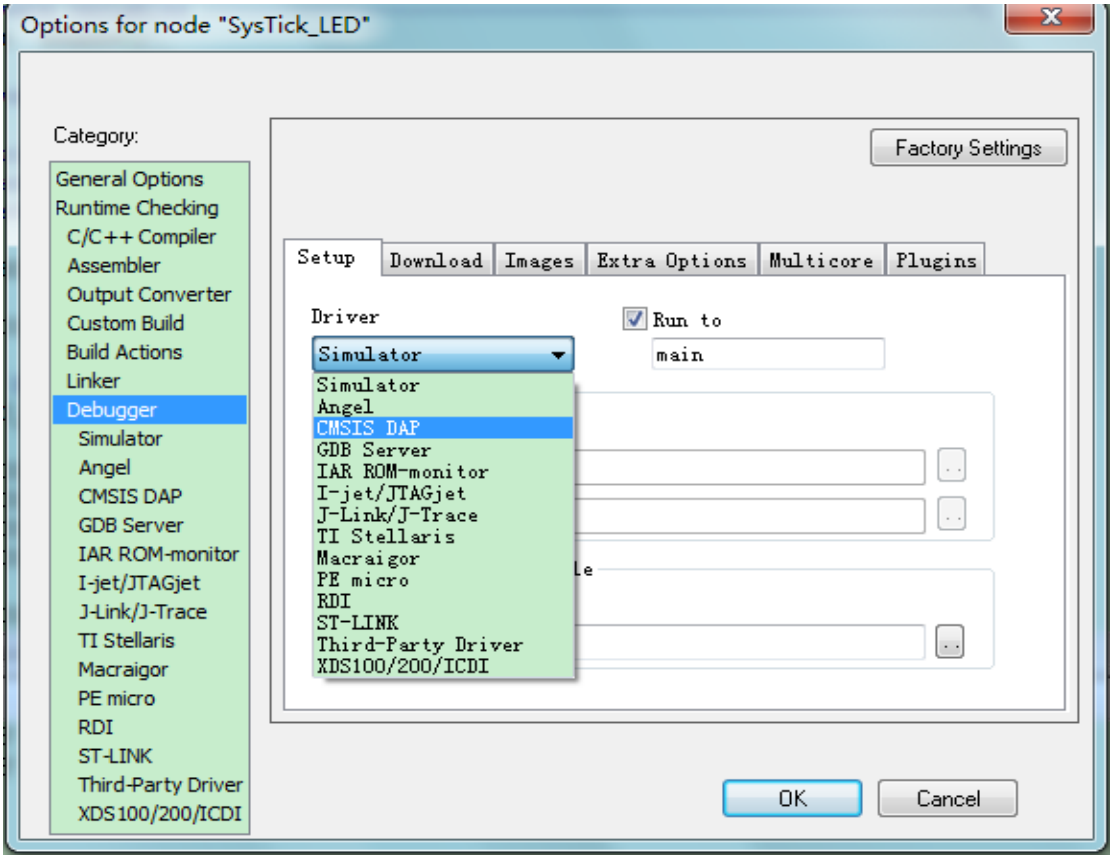
4.2 In IAR (Version 6.5 above) for programming

Power on and connect GD-Link adapter with target board via JTAG/SWD interface.

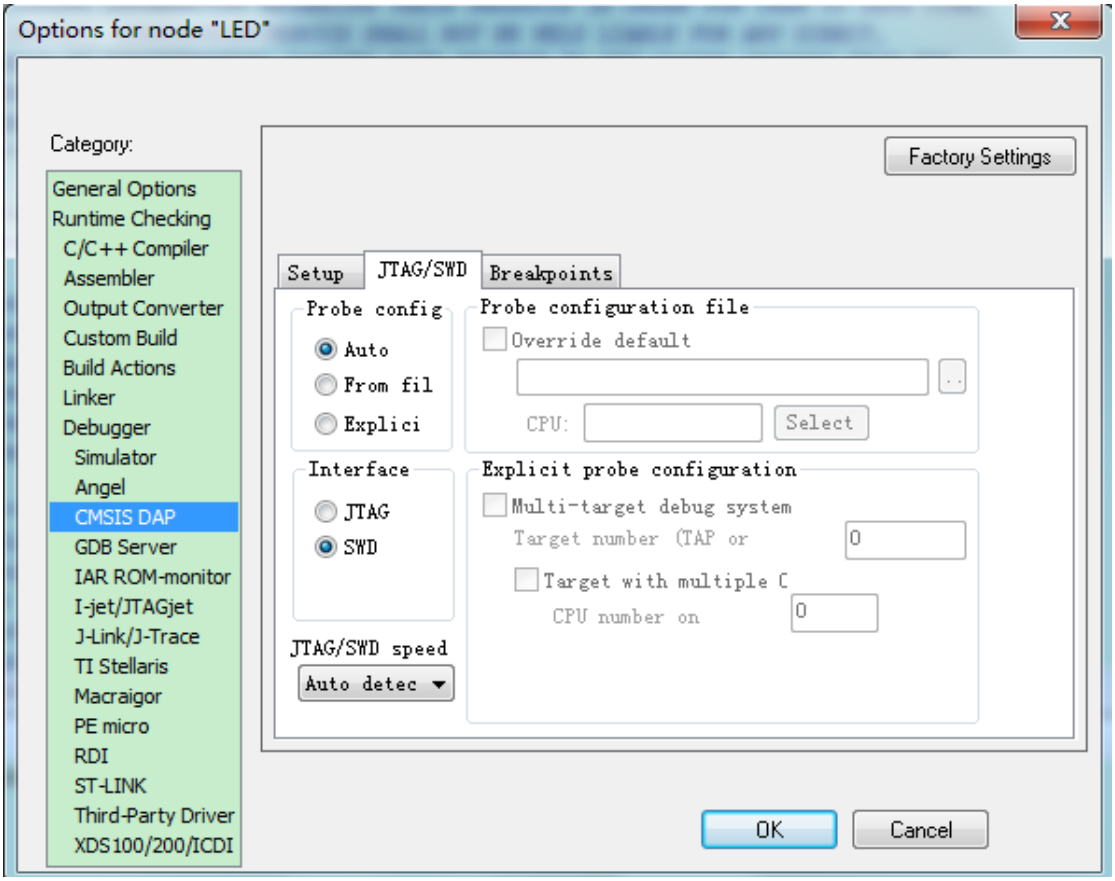
Right-click the project name, select the “Options”



Select “CMSIS-DAP” in “Debugger->Setup->Driver” tools menu.



Select “JTAG or SW” interface in “CMSIS DAP->JTAG/SW->Interface” tool menu.



5 Revision history

Table 1. Revision history

Revision No.	Description	Date
1.0	Initial Release	Jul.15, 2015