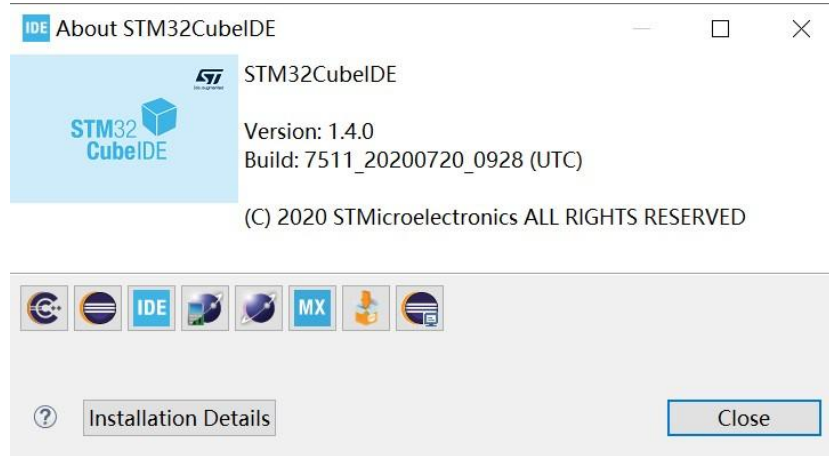


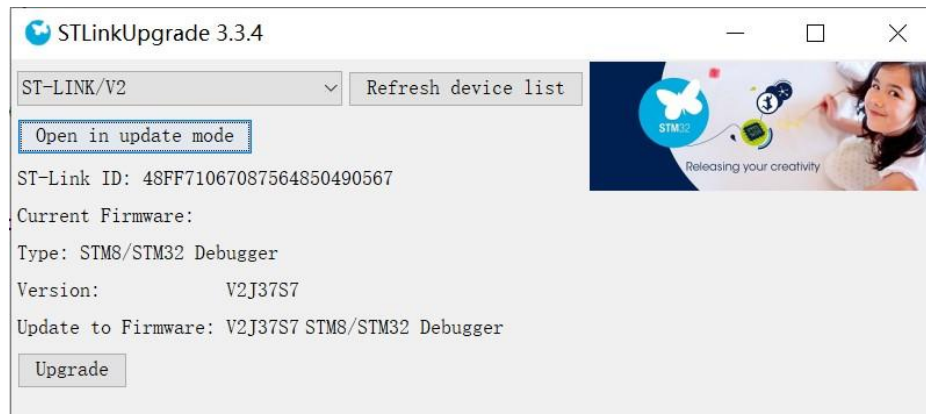
Sxx32CubeIDE The solution of online debugging APM32 chip

一、IDE test version

Sxx32CubeIDE Version:1.4.0

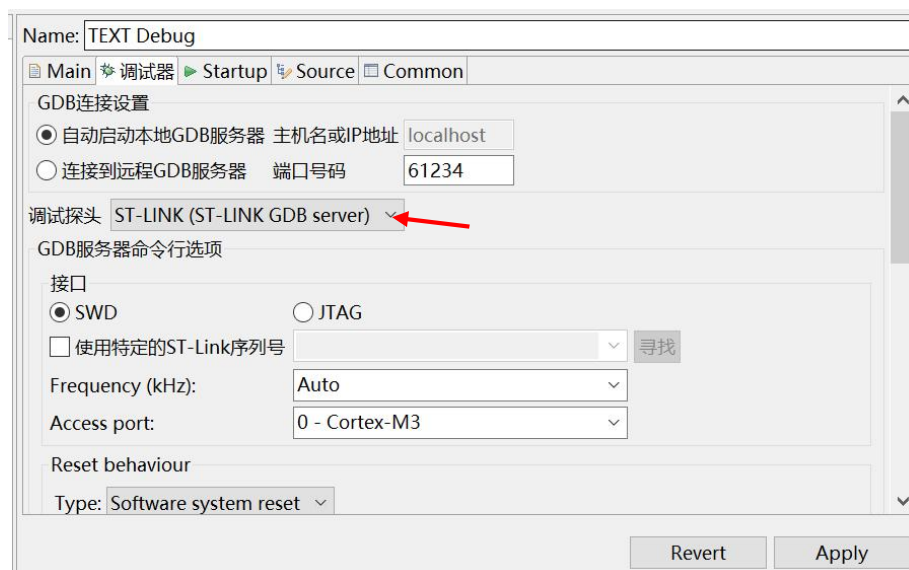


ST-Link version

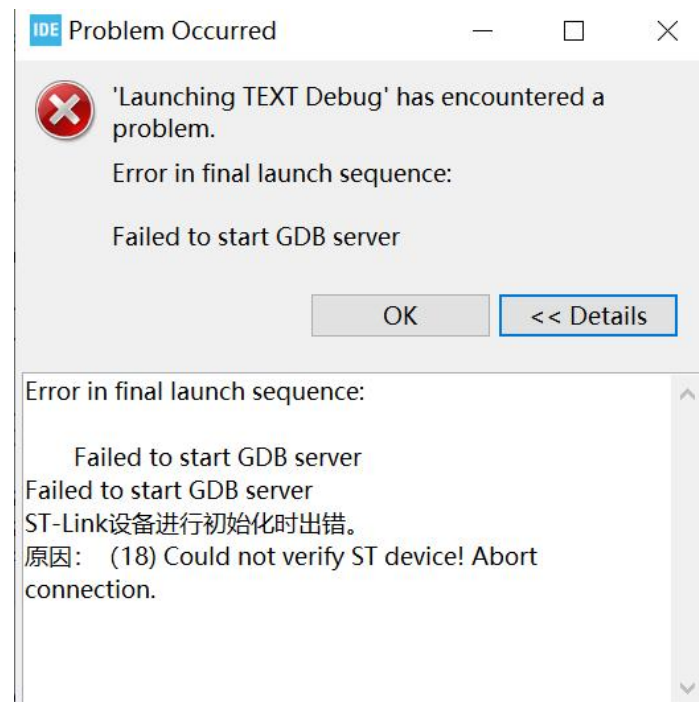


二、The reason for failure

>>RUN>>Debug configurations



When the debugging probe selects ST-Link (GDB server), the online debugging will prompt

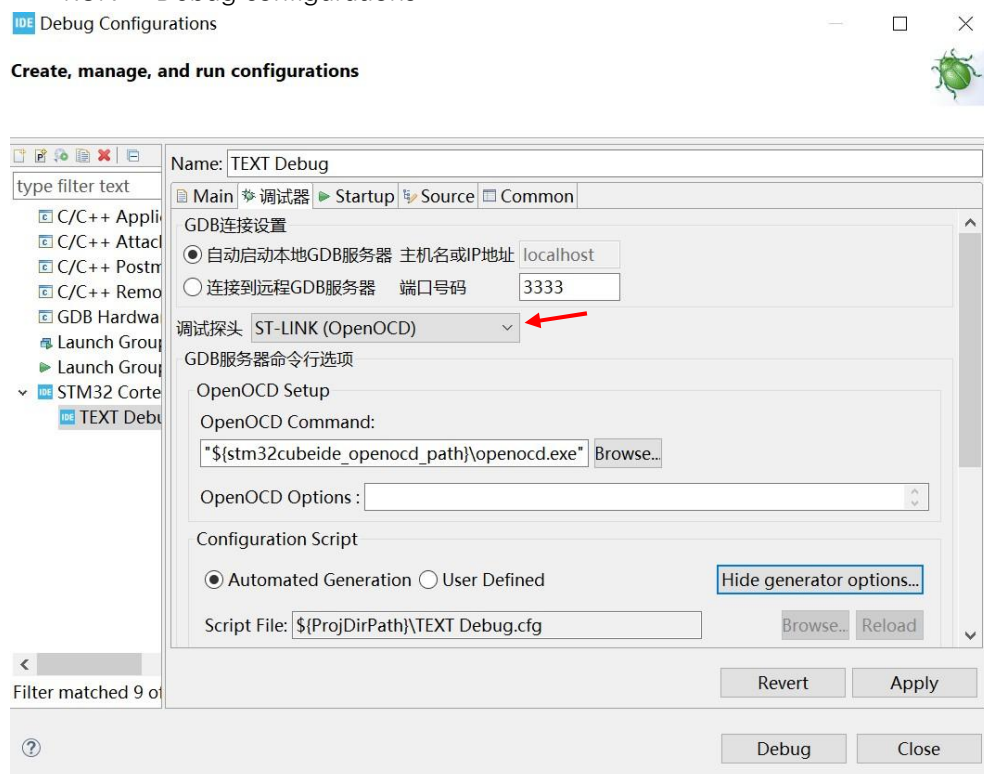


Could not verify ST device! Abort connection, This is because the Sxx32CubeIDE connection chip will verify the ID number, and the non-ST chip will not be connected.

三、Solution

Instead of using GDB Server debugging, you can change it to **OpenOCD**

>>RUN>>Debug configurations



The configuration file is then modified so that the IDE ignores the chip ID.

1、.Locate the configuration file of your chip, located in the Sxx32CubeIDE installation path, **STM32CubeIDE_1.4.0\STM32CubeIDE\plugins\com.st.stm32cube.ide.mcu.debug.openocd_1.4.0.202007081208\resources\openocd\st_scripts\target**

resources > openocd > st_scripts > target					▼	↺	🔍 搜索“ta
	名称	修改日期	类型	大小			
★	stm32f0x.cfg	2020/7/20 17:28	CFG 文件	4 KB			
★	stm32f1x.cfg	2020/10/22 11:00	CFG 文件	5 KB			
★	stm32f2x.cfg	2020/7/20 17:28	CFG 文件	4 KB			
★	stm32f3x.cfg	2020/7/20 17:28	CFG 文件	4 KB			
★	stm32f4x.cfg	2020/7/20 17:28	CFG 文件	5 KB			
	stm32f7x.cfg	2020/7/20 17:28	CFG 文件	11 KB			
	stm32g0x.cfg	2020/7/20 17:28	CFG 文件	3 KB			
	stm32g4x.cfg	2020/7/20 17:28	CFG 文件	4 KB			
	stm32h7x.cfg	2020/7/20 17:28	CFG 文件	20 KB			
	stm32h7x_dual_core.cfg	2020/7/20 17:28	CFG 文件	16 KB			
	stm32l0x.cfg	2020/7/20 17:28	CFG 文件	4 KB			
	stm32l1x.cfg	2020/7/20 17:28	CFG 文件	6 KB			
	stm32l4plus.cfg	2020/7/20 17:28	CFG 文件	5 KB			
	stm32l4x.cfg	2020/7/20 17:28	CFG 文件	5 KB			

2、Open it in the editor, and at line 62 it has:

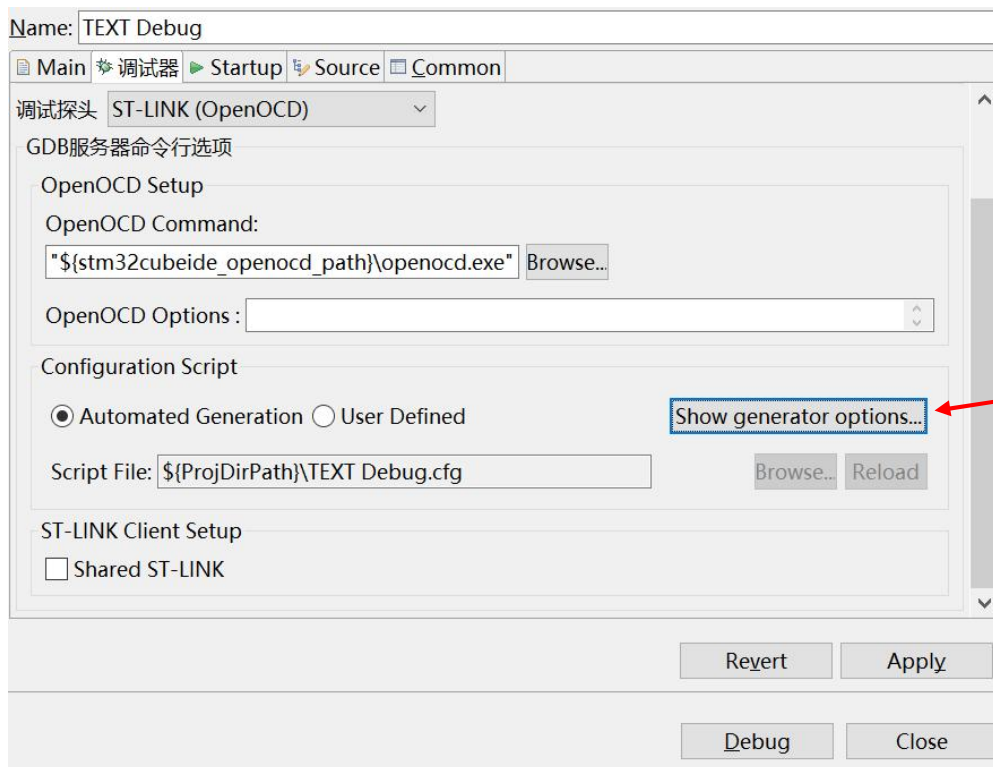
```
swj_newdap $_CHIPNAME cpu -irlen 4 -ircapture 0x1 -irmask 0xf -expected-id $_CPUTAPID
```

Change the “**expected-id \$_CPUTAPID**” to “**expected-id 0**”

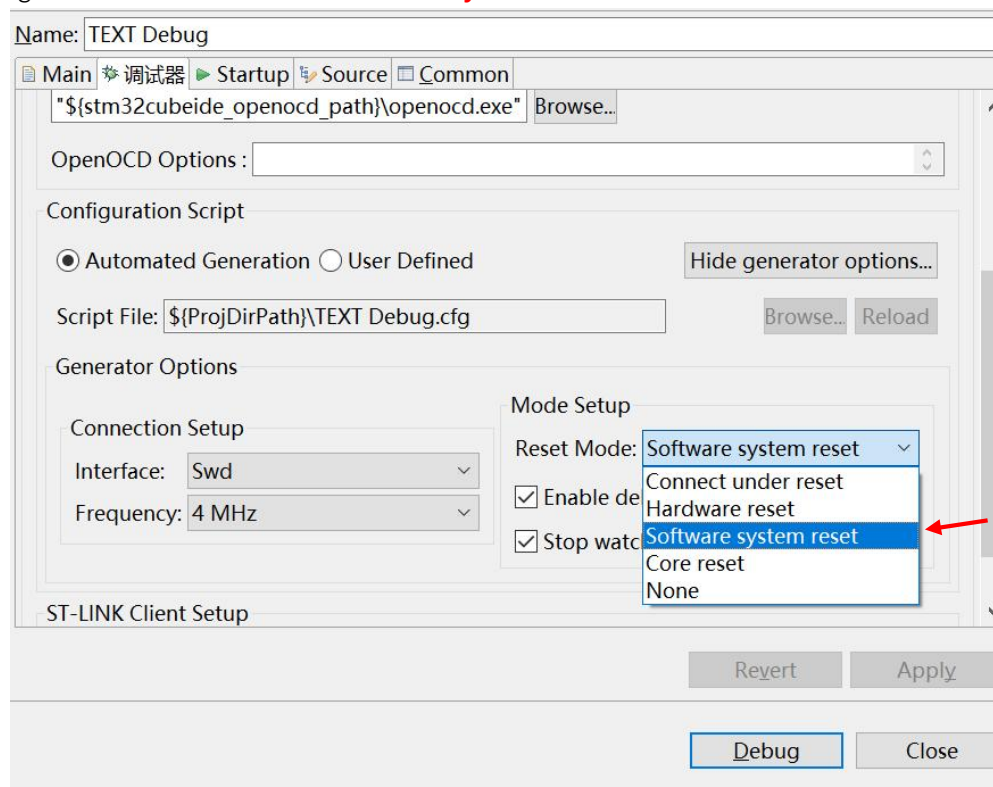
Let Sxx32CubeIDE ignore the chip ID and modify it as shown in the figure below:

```
stm32f1x.cfg
52 } else {
53     if { [using_jtag] } {
54         # See STM Document RM0008 Section 26.6.3
55         set _CPUTAPID 0x3ba00477
56     } {
57         # this is the SW-DP tap id not the jtag tap id
58         set _CPUTAPID 0x1ba01477
59     }
60 }
61
62 #swj_newdap $_CHIPNAME cpu -irlen 4 -ircapture 0x1 -irmask 0xf -expected-id $_CPUTAPID
63 swj_newdap $_CHIPNAME cpu -irlen 4 -ircapture 0x1 -irmask 0xf -expected-id 0
64 set _TARGETNAME $_CHIPNAME.cpu
65
66 dap create $_CHIPNAME.dap -chain-position $_TARGETNAME
67 target create $_TARGETNAME cortex_m -endian $_ENDIAN -dap $_CHIPNAME.dap -ap-num 0
68
69 $_TARGETNAME configure -work-area-phys 0x20000000 -work-area-size $_WORKAREASIZE -work-area-backup 1
70
71 # flash size will be probed
72 set _FLASHNAME $_CHIPNAME.flash
73 flash bank $_FLASHNAME stm32f1x 0x08000000 0 0 0 $_TARGETNAME
74
```

3、Then go back to the **Debug Configurations** TAB of STM32CubeIDE, Click on the “**Show generator options...**”



Change the “**Reset Mode**” to “**Software system reset**”



Finally, click "Apply" and "Debug" to enter the online debugging.

