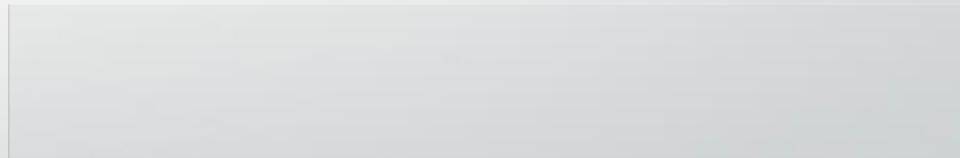




STM32CubeIDE *Hello World*



New

Alt+Shift+N >

-  Makefile Project with Existing Code
-  C/C++ Project
-  **IDE STM32 Project**
-  STM32 Project from an Existing STM32CubeMX Configuration File (.ioc)
-  Project... Create a New STM32 project
-  Source Folder
-  Folder
-  Source File
-  Header File
-  File from Template
-  Class
-  Other... Ctrl+N

Recent Files

>

Close Editor

Ctrl+W

Close All Editors

Ctrl+Shift+W

Save

Ctrl+S

Save As...

Save All

Ctrl+Shift+S

Revert

Move...

Rename...

F2

Refresh

F5

Convert Line Delimiters To

>

Print...

Ctrl+P

Import...

Export...

Properties

Alt+Enter

Switch Workspace

>

Restart

Exit

Tasks Console Properties



Description	Resource	Path	Location

Build Analyzer X Static Stack Analyzer



Memory Regions Memory Details

Region	Start address	End address	Size	Free	Used



Target Selection

Select STM32 target or STM32Cube example

MCU/MPU Selector **Board Selector** Example Selector Cross Selector

Board Filters

Commercial Part Number
STM32F407G-DISC1

PRODUCT INFO >

MEMORY >

FEATURES >

Features

Large Picture

Docs & Resources

Datasheet

Buy

STM32F4 Series

STM32F407G-DISC1

ACTIVE

Product is in mass production

Discovery kit with STM32F407VG MCU * New order code STM32F407G-DISC1 (replaces STM32F4DISCOVERY)Part Number : STM32F4DISCOVERY
Commercial Part Number : STM32F407G-DISC1

Unit Price (US\$) : 19.9

Mounted Device : STM32F407VGT6



The STM32F4DISCOVERY Discovery kit leverages the capabilities of the STM32F407 high-performance microcontrollers, to allow users to develop audio applications easily. It includes an ST-LINK/V2-A embedded debug tool, one ST-MEMS digital accelerometer, one digital microphone, one audio DAC with integrated class D speaker driver, LEDs, push-buttons, and a USB OTG Micro-AB connector.

Boards List: 1 item

Export

*	Overview	X Commercial Part No	Type	X Marketing Status	X Unit Price (US\$)	X Mounted Device
		STM32F407G-DISC1 Discovery Kit	Active	19.9	STM32F407VGT6	



< Back

Next >

Finish

Cancel

Project Explorer X

There are no projects in your workspace.
To add a project:

- [Create a new Makefile project in a directory containing existing code](#)
- [Create a new C or C++ project](#)
- [Create a New STM32 project](#)
- [Create a New STM32 Project from an Existing STM32CubeMX Configuration File \(.ioc\)](#)
- [Create a project...](#)
- [Import projects...](#)

IDE STM32 Project

Setup STM32 project

Project

Project Name: basic

Use default location

Location: C:/Nilesh/mar22/DESD/arm/day11

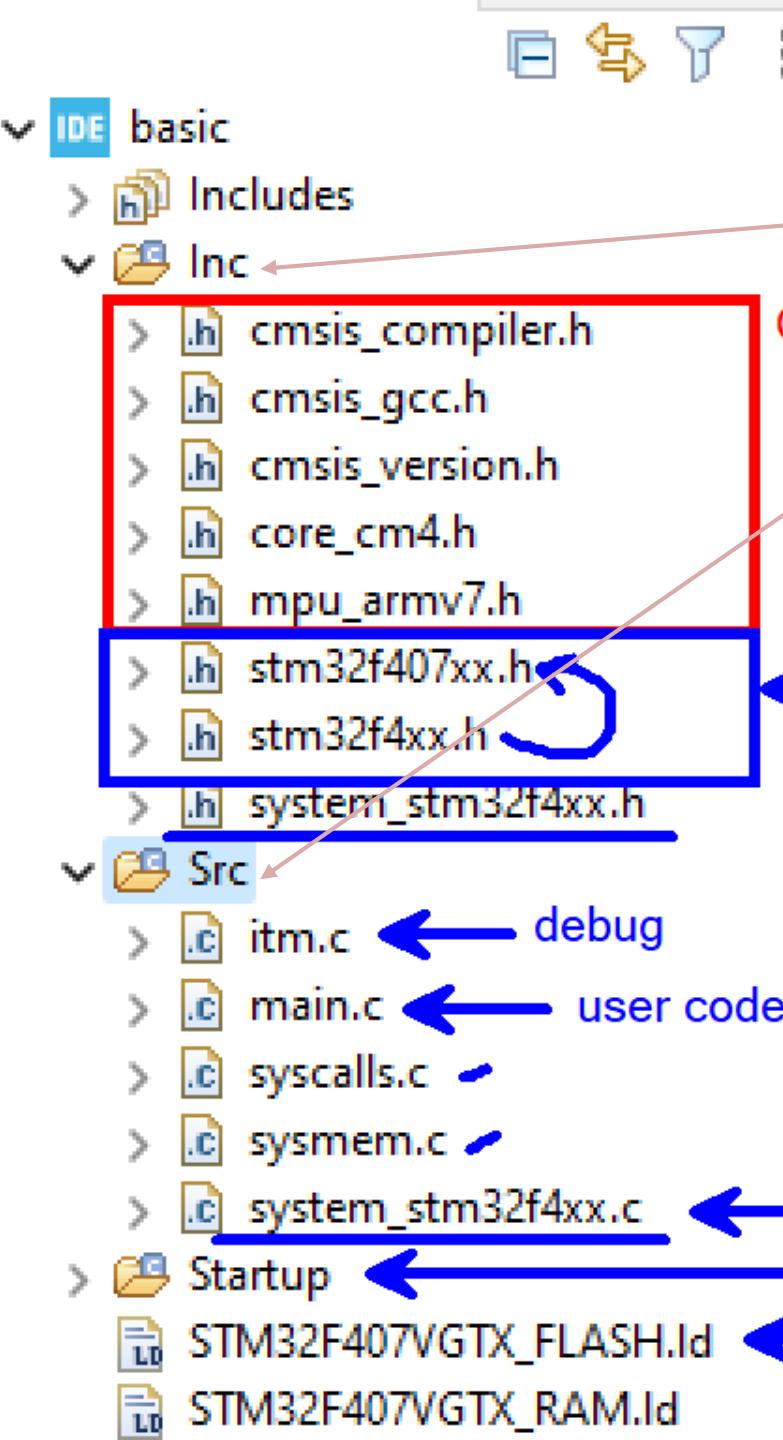
Options

Targeted Language: C C++

Targeted Binary Type: Executable Static Library

Targeted Project Type: STM32Cube Empty

Finish Cancel



Copy files in “Inc” and “Src” folders from the shared “basic” project.

CM4 (CMSIS)

Peri addresses and MMIO structs

System Init (DS, BSS, Clock config)

vector table, reset handler.

Linker script

IDE day11 - basic/Src/main.c - STM32CubeIDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer X

IDE basic

- Includes
- Inc
 - cmsis_compiler.h
 - cmsis_gcc.h
 - cmsis_version.h
 - core_cm4.h
 - mpu_armv7.h
 - stm32f407xx.h
 - stm32f4xx.h
 - system_stm32f4xx.h
- Src
 - itm.c
 - main.c
 - syscalls.c
 - sysmem.c
 - system_stm32f4xx.c
- Startup
 - startup_stm32f407vgtx.s
 - STM32F407VGTX_FLASH.Id
 - STM32F407VGTX_RAM.Id

Open Project Close Project

Build All Ctrl+B

Build Configurations

Build Project

Build Working Set

Clean...

Build Automatically

Build Targets Properties

C/C++ Index

Generate Report

Generate Code

Properties

```
14
15
16
17
18
19
20
21
22
23
24
25 int main(void)
26 {
27     /* Loop forever */
28     for(;;);
29 }
30
```

copy of this software component.
e comes with this software, it is provided AS-IS.

FP__) && defined(__ARM_FP)
ot initialized, but the project is compiling for an FPU. Please init

Problems X Tasks Console Properties

Build Analyzer X Static Stack Analyzer

Description Resource Path Location

Memory Regions Memory Details

Region	Start address	End address	Size	Free	Used

IDE basic

12:53 18-05-2022 ENG US

IDE day11 - basic/Src/main.c - STM32CubelDE

File Edit Source Refactor Navigate Search

Project Explorer X

IDE basic

- > Includes
- > Inc
 - cmsis_compiler.h
 - cmsis_gcc.h
 - cmsis_version.h
 - core_cm4.h
 - mpu_armv7.h
 - stm32f407xx.h
 - stm32f4xx.h
 - system_stm32f4xx.h
- > Src
 - itm.c
 - main.c
 - syscalls.c
 - sysmem.c
 - system_stm32f4xx.c
- > Startup
 - startup_stm32f407vgtx.s
 - STM32F407VGTX_FLASH.Id
 - STM32F407VGTX_RAM.Id

IDE Properties for basic

type filter text

C/C++ Build

Builders

C/C++ General

CMSIS-SVD Settings

Project References

Run/Debug Settings

Settings

MCU Toolchain

MCU Settings

MCU Post build outputs

MCU GCC Assembler

- General
- Debugging
- Preprocessor
- Include paths
- Miscellaneous

MCU GCC Compiler

- General
- Debugging
- Preprocessor
- Include paths
- Optimization
- Warnings
- Miscellaneous

MCU GCC Linker

- General
- Libraries
- Miscellaneous

MCU

Board

Floating-point unit

Floating-point ABI

Instruction set

Runtime library

Use float with printf from newlib-nano (-u_printf_float)

Use float with scanf from newlib-nano (-u_scanf_float)

STM32F407VGTX

STM32F407G-DISC1

FPU4-SP-D16

Software implementation (-mfloating-abi=soft)

Thumb2

Reduced C (--specs=nano.specs)

an FPU. Please init

Apply and Close

Cancel

IDE basic

12:54 18-05-2022 ENG US

IDE day11 - basic/Src/main.c - STM32CubelDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer X

IDE basic

- Binaries
- Includes
- Inc
 - cmsis_compiler.h
 - cmsis_gcc.h
 - cmsis_version.h
 - core_cm4.h
 - mpu_armv7.h
 - stm32f407xx.h
 - stm32f4xx.h
 - system_stm32f4xx.h
- Src
 - itm.c
 - main.c
 - syscalls.c
 - sysmem.c
 - system_stm32f4xx.c
- Startup
 - startup_stm32f407vgtx.s
- Debug
- STM32F407VGTX_FLASH.Id
- STM32F407VGTX_RAM.Id

Open Project Close Project

Build All Ctrl+B

Build Configurations

Build Project Build Project

Build Working Set

Clean...

Build Automatically

Build Targets

C/C++ Index

Generate Report

Generate Code

Properties

FP __) && defined(__ARM_FP)
ot initialized, but the project is compiling for an FPU. Please init

M32!\n");
SD!\n");
s You!\n");

}

Problems Tasks Console X Properties

CDT Build Console [basic]
Finished building: basic.list
12:59:00 Build Finished. 0 errors, 0 warnings

Build Analyzer X Static Stack Analyzer

basic.elf - /basic/Debug - May 18, 2022, 12:59:00 PM

Memory Regions	Memory Details				
Region	Start address	End address	Size	Free	Used
CCMRAM	0x10000000	0x10010000	64 KB	64 KB	0 B
RAM	0x20000000	0x20020000	128 KB	126.35 KB	1.65 KB
FLASH	0x08000000	0x08100000	1024 KB	1020.06 KB	3.94 KB

Writable Smart Insert 33 : 1 : 972

ENG US 12:59 18-05-2022

IDE day11 - basic/Src/main.c - STM32CubeIDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer X (no launch history)

IDE basic

- Binaries
- Includes
- Inc
 - cmsis_compiler.h
 - cmsis_gcc.h
 - cmsis_version.h
 - core_cm4.h
 - mpu_armv7.h
 - stm32f407xx.h
 - stm32f4xx.h
 - system_stm32f4xx.h
- Src
 - itm.c
 - main.c
 - syscalls.c
 - sysmem.c
 - system_stm32f4xx.c
- Startup
 - startup_stm32f407vgtx.s
- Debug
- STM32F407VGTX_FLASH.Id
- STM32F407VGTX_RAM.Id

19 #include "stm32f4xx.h"
20 #include "main.h"
21
22 #if !defined(__SOFT_FPU__) && defined(__ARM_FP)
23 #warning "FPU is not initialized, but the project is compiling for an FPU. Please init
24 #endif
25
26 int main(void)
27 {
28 printf("Hello STM32!\n");
29 printf("Hello DESD!\n");
30 printf("God Bless You!\n");
31 }
32
33

Debug As
Debug Configurations...
Organize Favorites...

Problems Tasks Console X Properties

CDT Build Console [basic]
Finished building: basic.list
12:59:00 Build Finished. 0 errors, 0 warnings

Build Analyzer X Static Stack Analyzer

basic.elf - /basic/Debug - May 18, 2022, 12:59:00 PM

Memory Regions		Memory Details			
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CCMRAM	0x10000000	0x10010000	64 KB	64 KB	0 B
RAM	0x20000000	0x20020000	128 KB	126.35 KB	1.65 KB
FLASH	0x08000000	0x08100000	1024 KB	1020.06 KB	3.94 KB

IDE basic

12:59 ENG US 18-05-2022

IDE day11 - basic/Src/main.c - STM32CubelDE

File Edit Source Refactor Navigate Search

Project Explorer X

IDE basic

- > Binaries
- > Includes
- Inc
 - > cmsis_compiler.h
 - > cmsis_gcc.h
 - > cmsis_version.h
 - > core_cm4.h
 - > mpu_armv7.h
 - > stm32f407xx.h
 - > stm32f4xx.h
 - > system_stm32f4xx.h
- Src
 - > itm.c
 - > main.c
 - > syscalls.c
 - > sysmem.c
 - > system_stm32f4xx.c
- Startup
 - > startup_stm32f407vgtx.s
- Debug
 - > basic Debug.launch
 - > STM32F407VGTX_FLASH.Id
 - > STM32F407VGTX_RAM.Id

IDE Debug Configurations

Create, manage, and run configurations

IDE basic

IDE basic Debug

Name: basic Debug

Main Debugger Startup Source Common

Project: basic

C/C++ Application:

Debug/basic.elf 

Search Project... Browse...

Build (if required) before launching

Build Configuration: Select Automatically

Enable auto build Disable auto build

Use workspace settings [Configure Workspace Settings...](#)

Revert Apply

Debug Close

12:59

Filter matched 8 of 8 items

Used 0 B 1.65 KB 3.94 KB

13:00 ENG US 18-05-2022

IDE basic

IDE

IDE day11 - basic/Src/main.c - STM32CubelDE

File Edit Source Refactor Navigate Search

Project Explorer X

IDE basic

- > Binaries
- > Includes
- Inc
 - > cmsis_compiler.h
 - > cmsis_gcc.h
 - > cmsis_version.h
 - > core_cm4.h
 - > mpu_armv7.h
 - > stm32f407xx.h
 - > stm32f4xx.h
 - > system_stm32f4xx.h
- Src
 - > itm.c
 - > main.c
 - > syscalls.c
 - > sysmem.c
 - > system_stm32f4xx.c
- Startup
 - > startup_stm32f407vgtx.s
- Debug
 - > basic Debug.launch
 - STM32F407VGTX_FLASH.Id
 - STM32F407VGTX_RAM.Id

IDE Debug Configurations

Create, manage, and run configurations

IDE basic Debug

Main Debugger Startup Source Common

Name: basic Debug

Reset behaviour

Type: Connect under reset

Device settings

Debug in low power modes: Enable

Suspend watchdog counters while halted: No configuration

Serial Wire Viewer (SWV)

Enable

Core Clock (MHz): 16.0

Limit SWO clock

Maximum SWO clock (kHz): auto detect

Port number: 61235

RTOS Kernel Awareness

Enable RTOS Proxy

Driver settings

Driver: ThreadX

Port: cortex_m0

Port number: 60000

Revert Apply

Filter matched 8 of 8 items

12:59 ?

IDE basic

Used 0 B
1.65 KB
3.94 KB

ENG US 13:01 18-05-2022

IDE

IDE day11 - basic/Src/main.c - STM32CubelDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer X

IDE basic

- Binaries
- Includes
- Inc
 - cmsis_compiler.h
 - cmsis_gcc.h
 - cmsis_version.h
 - core_cm4.h
 - mpu_armv7.h
 - stm32f407xx.h
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 - main.c
 - syscalls.c
 - sysmem.c
 - system_stm32f4xx.c
- Startup
 - startup_stm32f407vgtx.s
- Debug
 - basic Debug.launch
 - STM32F407VGTX_FLASH.Id
 - STM32F407VGTX_RAM.Id

startup_stm32f407vgtx.s main.c

```
19 #include <stdint.h>
20 #include <stdio.h>
21
22 #if !defined(__SOFT_FP__) && defined(__ARM_FP)
23     #warning "FPU is not initialized, but the project is compiling for an FPU. Please init
24 #endif
25
26 int main(void)
27 {
28     printf('
29     printf('
30     printf('
31 }
```

IDE Confirm Perspective Switch

This kind of launch is configured to open the Debug perspective when it suspends.

This Debug perspective supports application debugging by providing views for displaying the debug stack, variables and breakpoints.

Switch to this perspective?

Remember my decision

Switch **No**

Problems Tasks Console Properties

basic Debug [STM32 Cortex-M C/C++ Application]

Download verified successfully

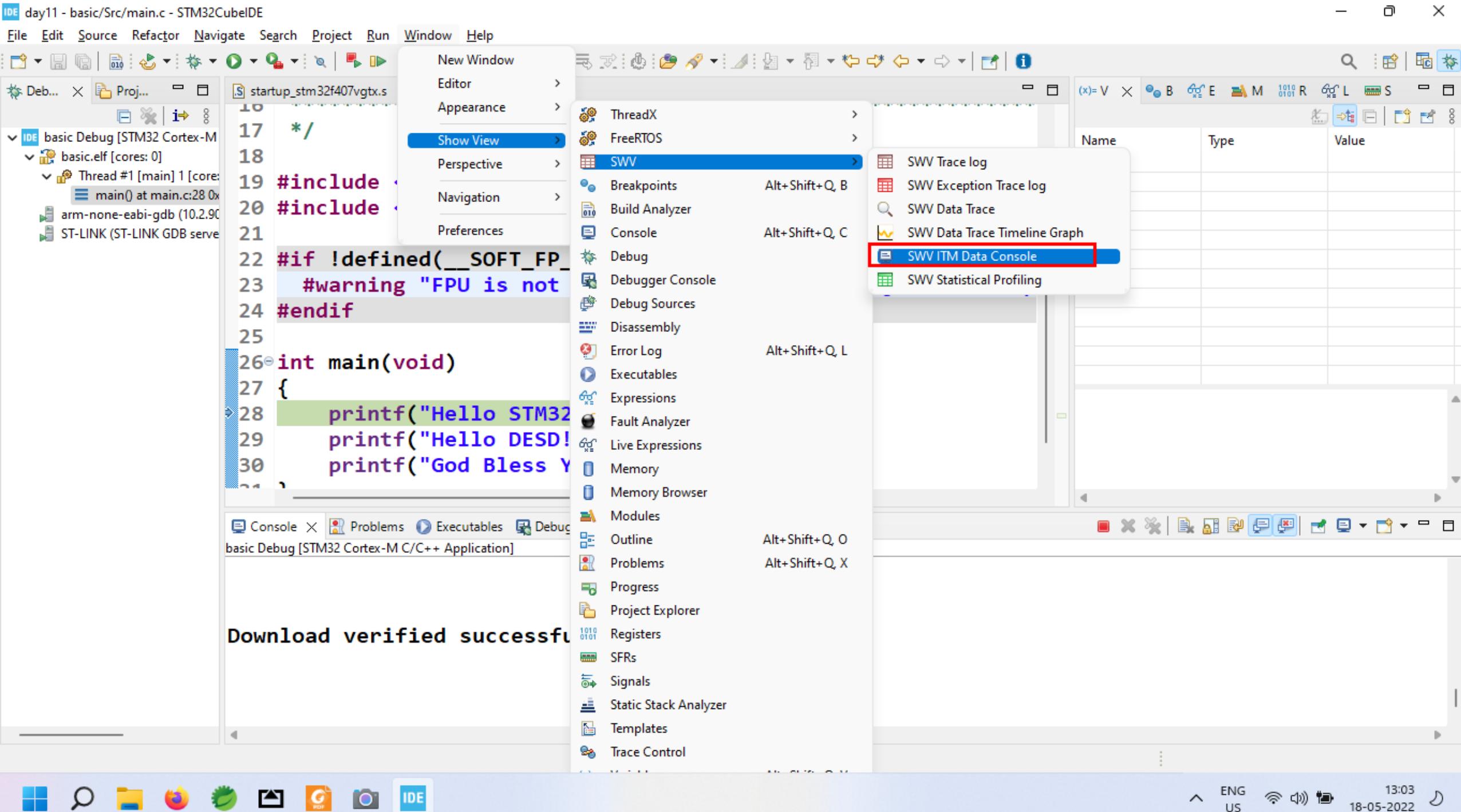
Build Analyzer X Static Stack Analyzer

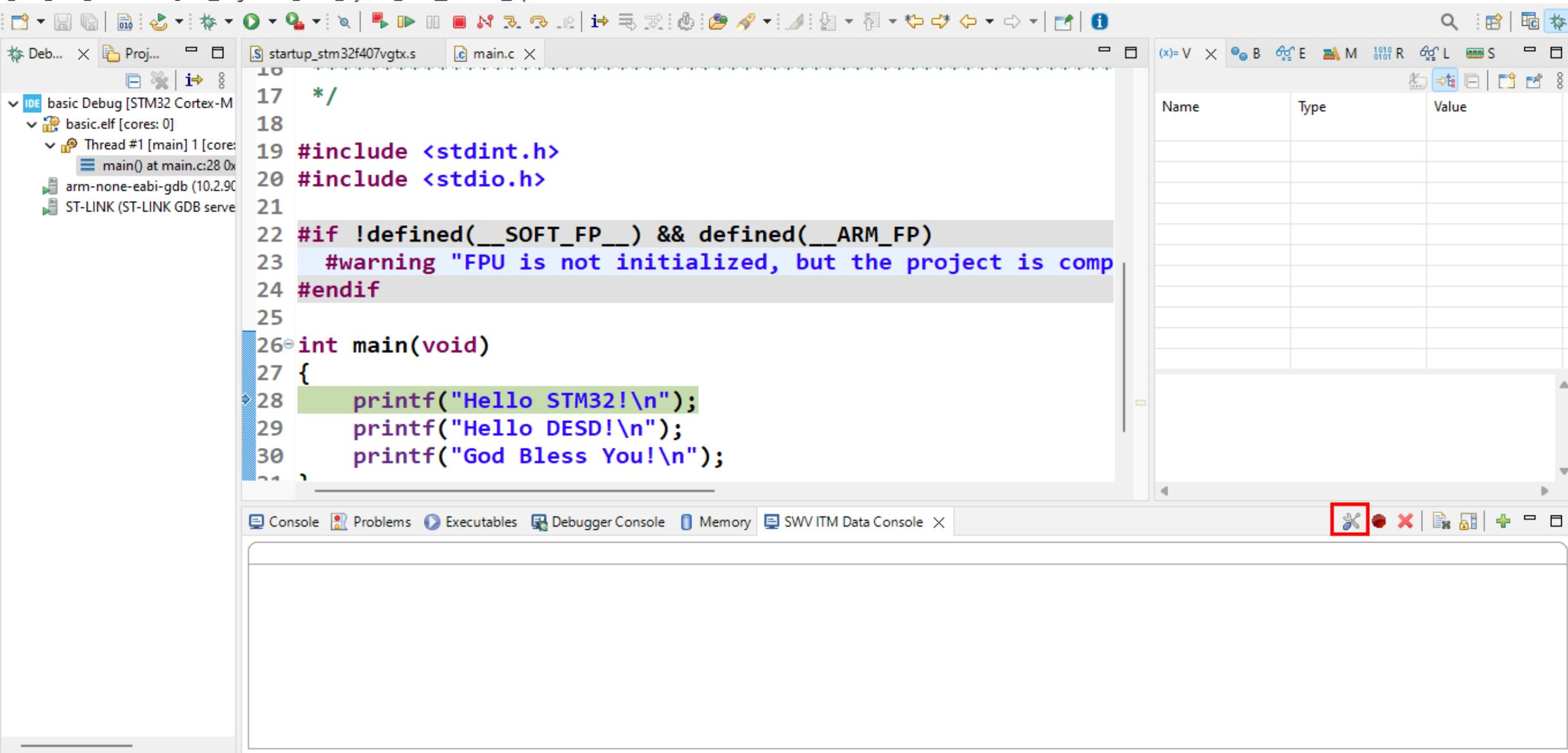
basic.elf - /basic/Debug - May 18, 2022, 12:59:00 PM

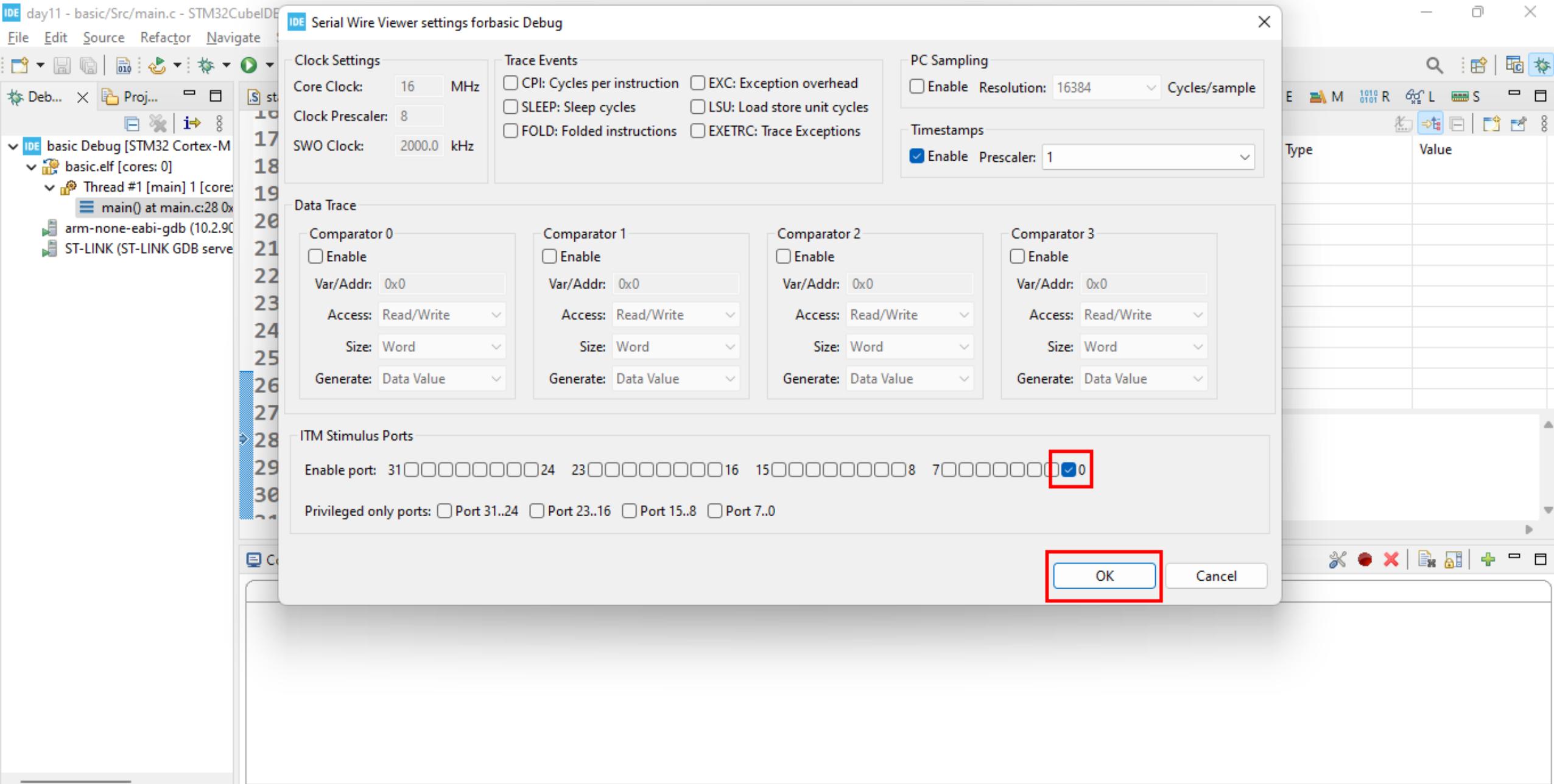
Memory Regions	Memory Details				
Region	Start address	End address	Size	Free	Used
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RAM	0x20000000	0x20020000	128 KB	126.35 KB	1.65 KB
FLASH	0x08000000	0x08100000	1024 KB	1020.06 KB	3.94 KB

IDE basic

13:02 18-05-2022 ENG US







ENG
US 13:04
18-05-2022

IDE day11 - basic/Src/main.c - STM32CubeIDE

File Edit Source Refactor Navigate Search Project Run Window Help

Deb... X Proj... □

IDE basic Debug [STM32 Cortex-M]

basic.elf [cores: 0]

Thread #1 [main] 1 [core: main() at main.c:28 0x arm-none-eabi-gdb (10.2.90) ST-LINK (ST-LINK GDB serve

startup_stm32f407vgtx.s main.c X

17 */
18
19 #include <stdint.h>
20 #include <stdio.h>
21
22 #if !defined(__SOFT_FP__) && defined(__ARM_FP)
23 #warning "FPU is not initialized, but the project is comp
24 #endif
25
26 int main(void)
27 {
28 printf("Hello STM32!\n");
29 printf("Hello DESD!\n");
30 printf("God Bless You!\n");
31 }

(x)= V X B E M 1010 R L S

Name Type Value

Console Problems Executables Debugger Console Memory SWV ITM Data Console X

Port 0 X

Start Trace...

IDE

ENG US 13:04 18-05-2022

IDE day11 - basic/Src/main.c - STM32CubeIDE

File Edit Source Refactor Navigate Search Project Run Window Help

Deb... X Proj... □ S startup_stm32f407vgtx.s main.c X

basic Debug [STM32 Cortex-M]

basic.elf [cores: 0]

Thread #1 [main] 1 [core: main() at main.c:31 0x arm-none-eabi-gdb (10.2.90) ST-LINK (ST-LINK GDB serve

```
20 #include <stdio.h>
21
22 #if !defined(__SOFT_FP__) && defined(__ARM_FP)
23     #warning "FPU is not initialized, but the project is comp
24 #endif
25
26 int main(void)
27 {
28     printf("Hello STM32!\n");
29     printf("Hello DESD!\n");
30     printf("God Bless You!\n");
31 }
```

Console Problems Executables Debugger Console Memory SWV ITM Data Console X

Port 0 X

Hello STM32!
Hello DESD!
God Bless You!

Writable Smart Insert 31:1:969

ENG US 13:05 18-05-2022



Thank you!