

Installing and Checking the Installation of the CLEARSY Safety Platform

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Installation

▶ Install **ATELIER B 24.04 CSP EDUCATIONAL VERSION** Windows (unfortunately other OS cannot be used for the session)

- Download page: <https://www.atelierb.eu/en/atelier-b-support-maintenance/download-atelier-b/>
- Direct link: <https://www.atelierb.eu/wp-content/uploads/2024/09/atelierb-cssp-24.04.exe>

▶ Execute the Atelier B installer

▶ Install **Python** (3.6+) if not yet installed on your computer:

- Download page: <https://apps.microsoft.com/detail/9pnrh2zymb4z?hl=en-us&gl=US>
- Download page: <https://www.python.org/downloads/windows/> (and rename python.exe as python3.exe)

▶ Install **Cmake**

- Download page: <https://cmake.org/download/>
- Add the cmake/bin directory to the PATH

▶ Install **MinGW**

- Download page: <https://winlibs.com>
- Select the latest UCRT version with the POSIX
- Add the mingw64/bin directory to the PATH

Troubleshooting (Python installation)

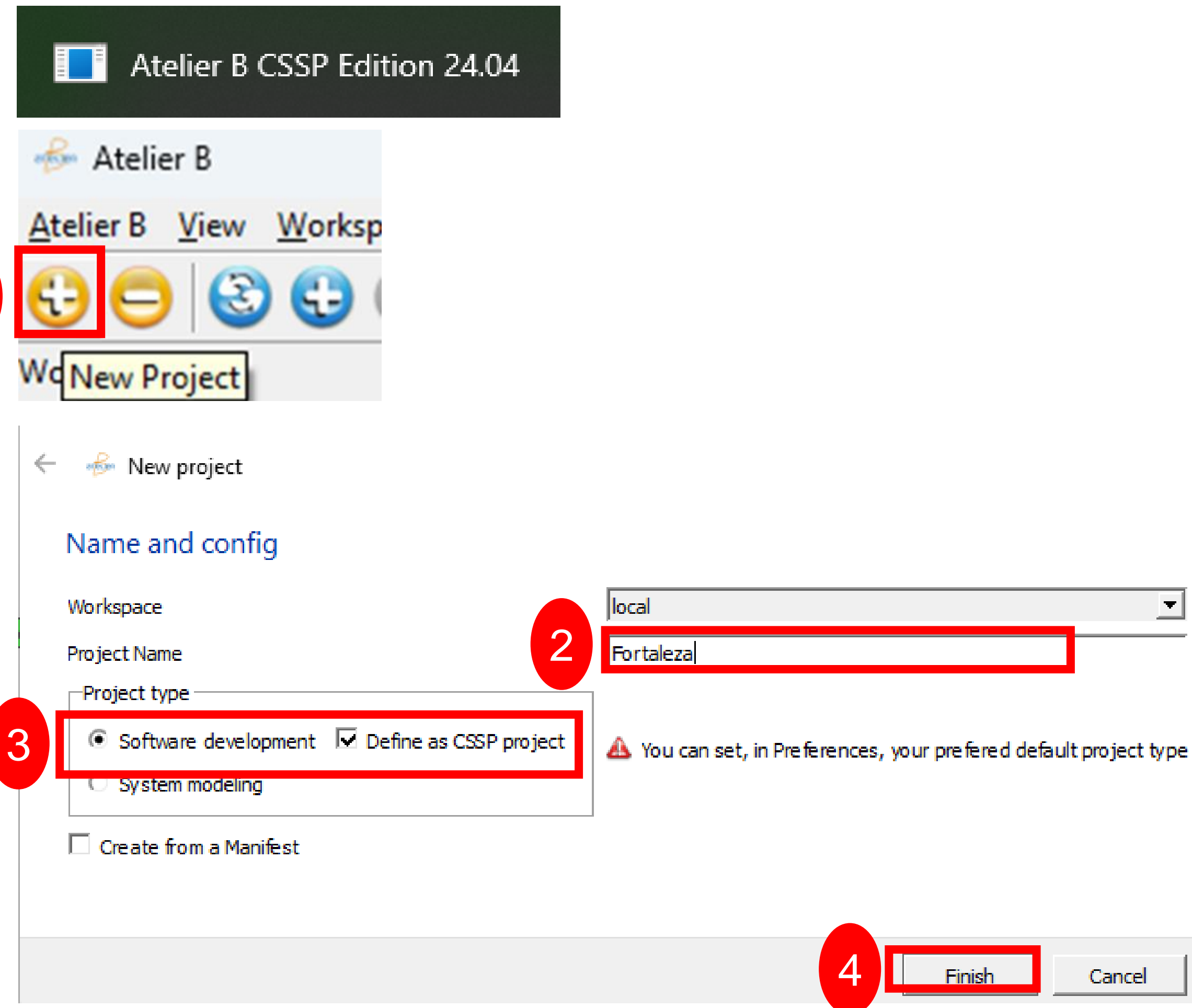
- ▶ Python is often installed several times on your computer.
- ▶ Atelier B CSSP 24.04 requires **python3.exe** and **pip3.exe** to be in the PATH
- ▶ Type in a DOS terminal: *where python3*
 - You should get C:\Users\<user>\AppData\Local\Microsoft\WindowsApps\python3.exe
- ▶ Type in a DOS terminal: *where pip3*
 - You should get C:\Users\<user>\AppData\Local\Microsoft\WindowsApps\pip3.exe
- ▶ You should get the same path
- ▶ If not, either change your PATH to point to the correct directory, or copy and rename resp. python.exe in python3.exe and pip.exe in pip3.exe

Project Creation 1/3

► Start Atelier B

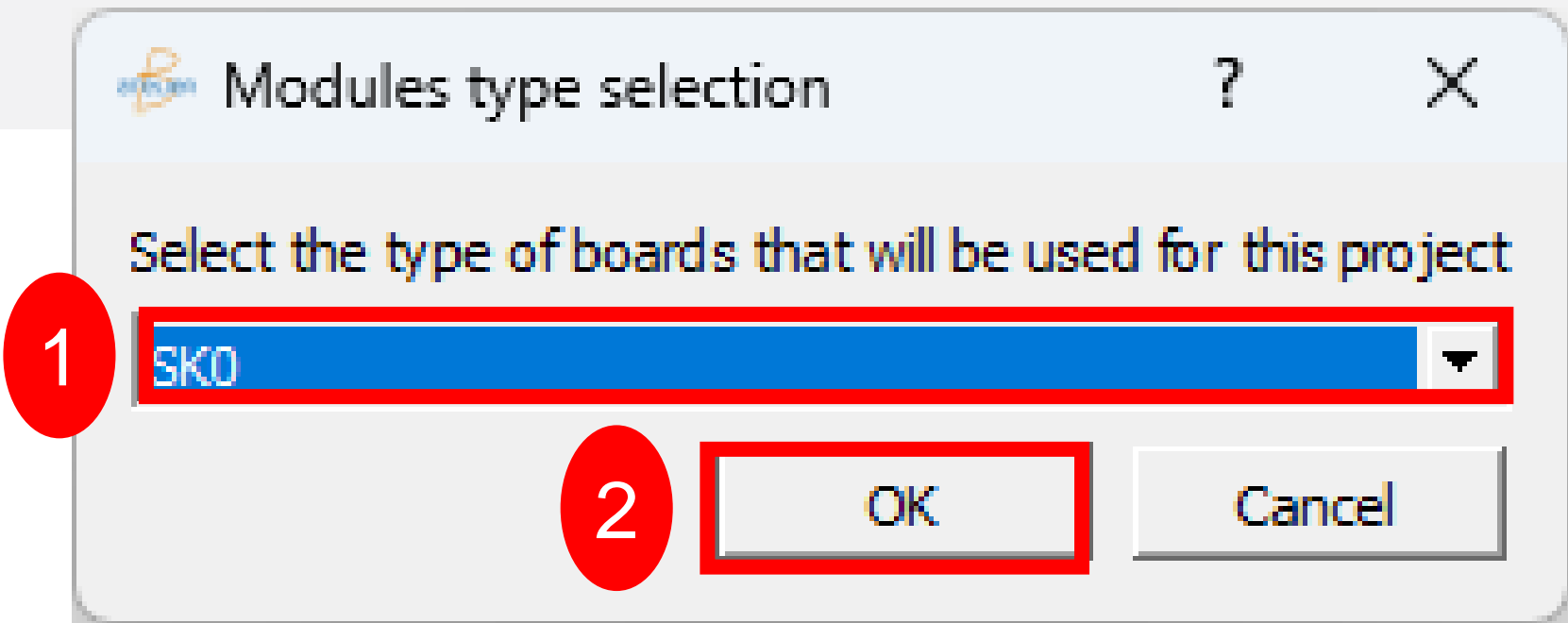
► Create a new project

► Give a name and a type

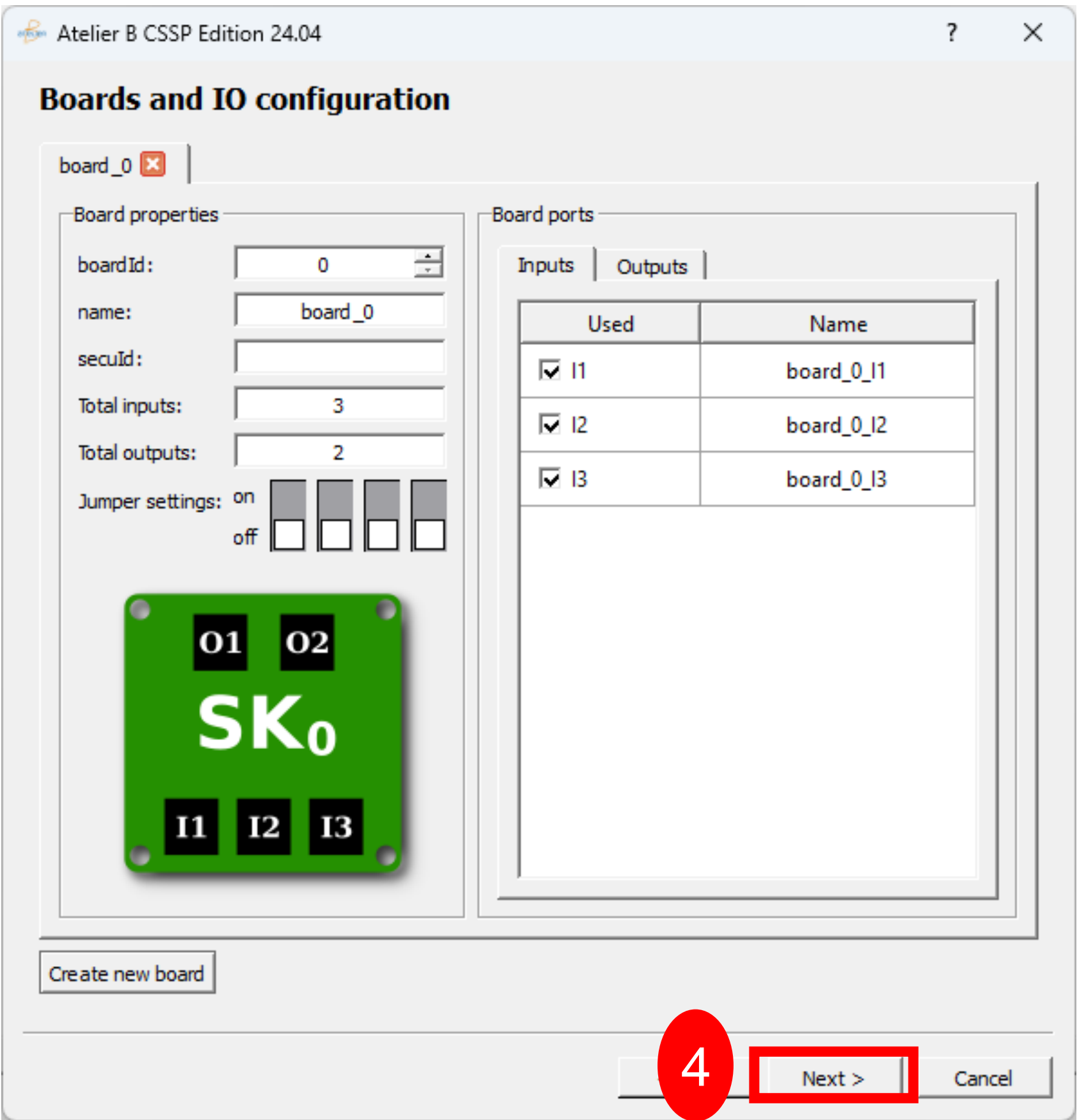
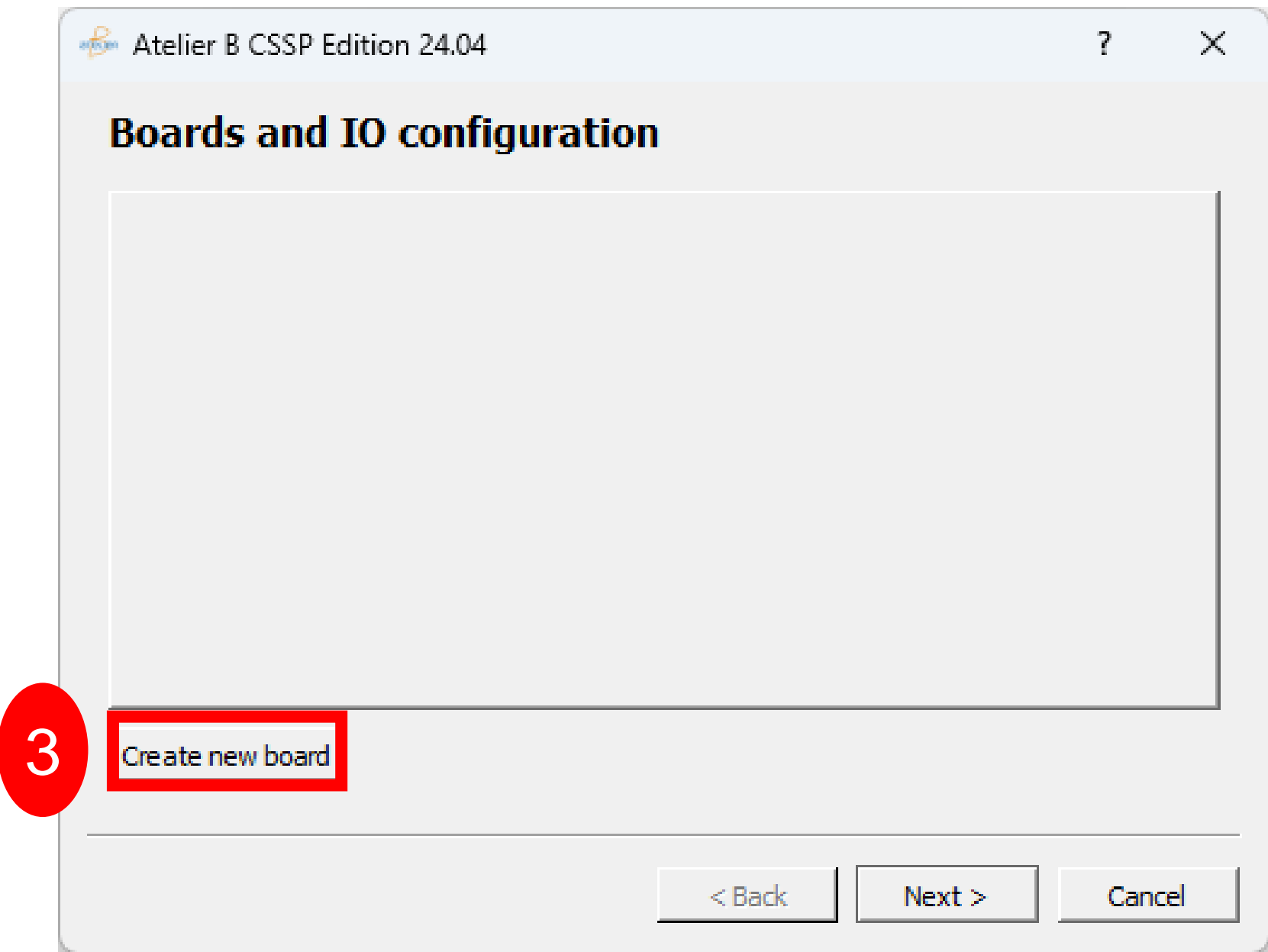


Project Creation 2/3

► Select SK0



► Create a new board



Project Creation 3/3

► Finish the creation

Atelier B CSSP Edition 24.04

Boards summary

BoardId: 0
Total inputs: 3
Total outputs: 2
SecuId: 0xF0F00
Board type: SK0

Inputs:

module_id	global_id	local_id	name	used
0	0	0	board_0_I1	true
0	1	1	board_0_I2	true
0	2	2	board_0_I3	true

Outputs:

module_id	global_id	local_id	name	used
0	0	0	board_0_O1	true
0	1	1	board_0_O2	true

Please check the configuration and click finish if you want to apply the changes to your project. Otherwise click cancel to abandon the wizard.

< Back

1 Finish

Cancel

Warning

?

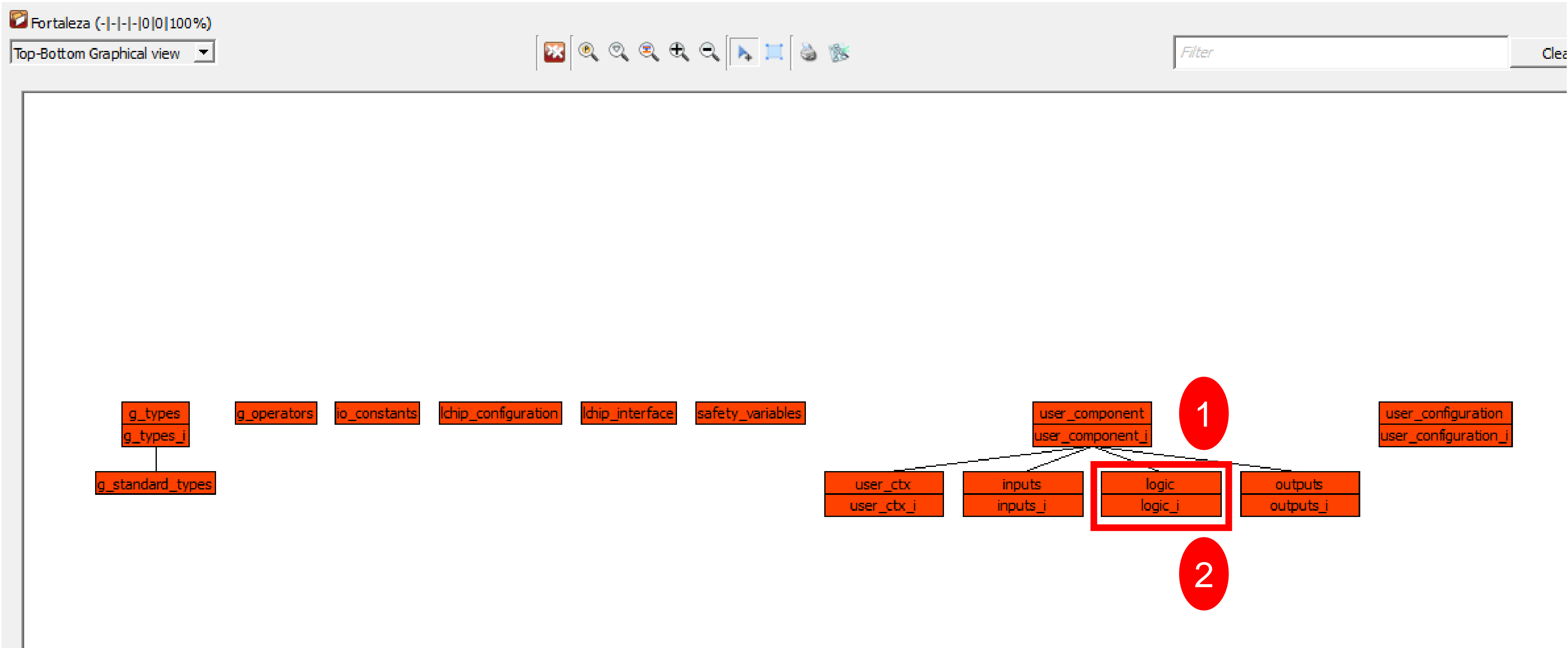
The new config will replace the one of your current project. Are you sure you want to proceed?

2 Yes

No

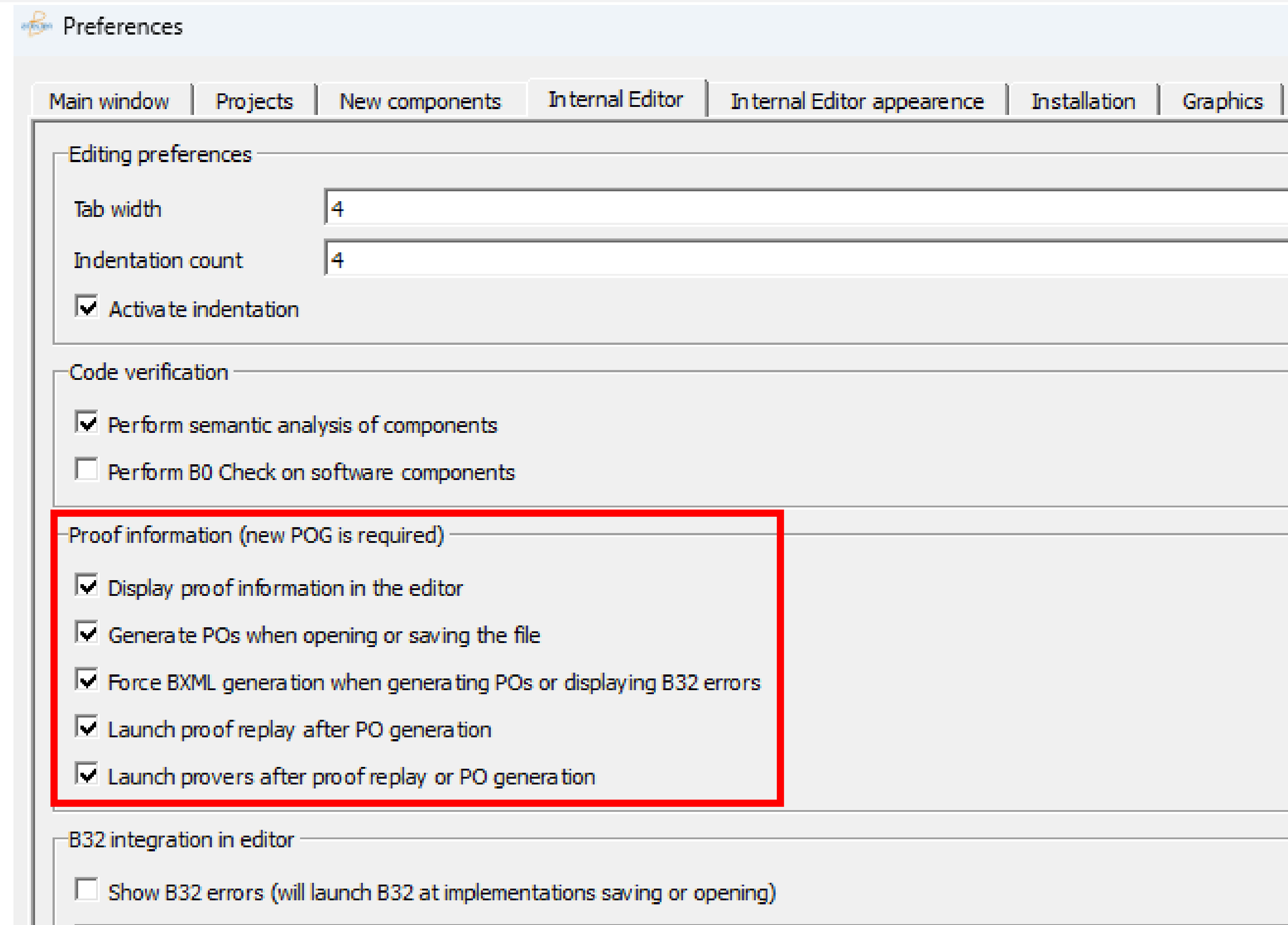
Project Created

- ▶ The view
- ▶ 2 components to modify



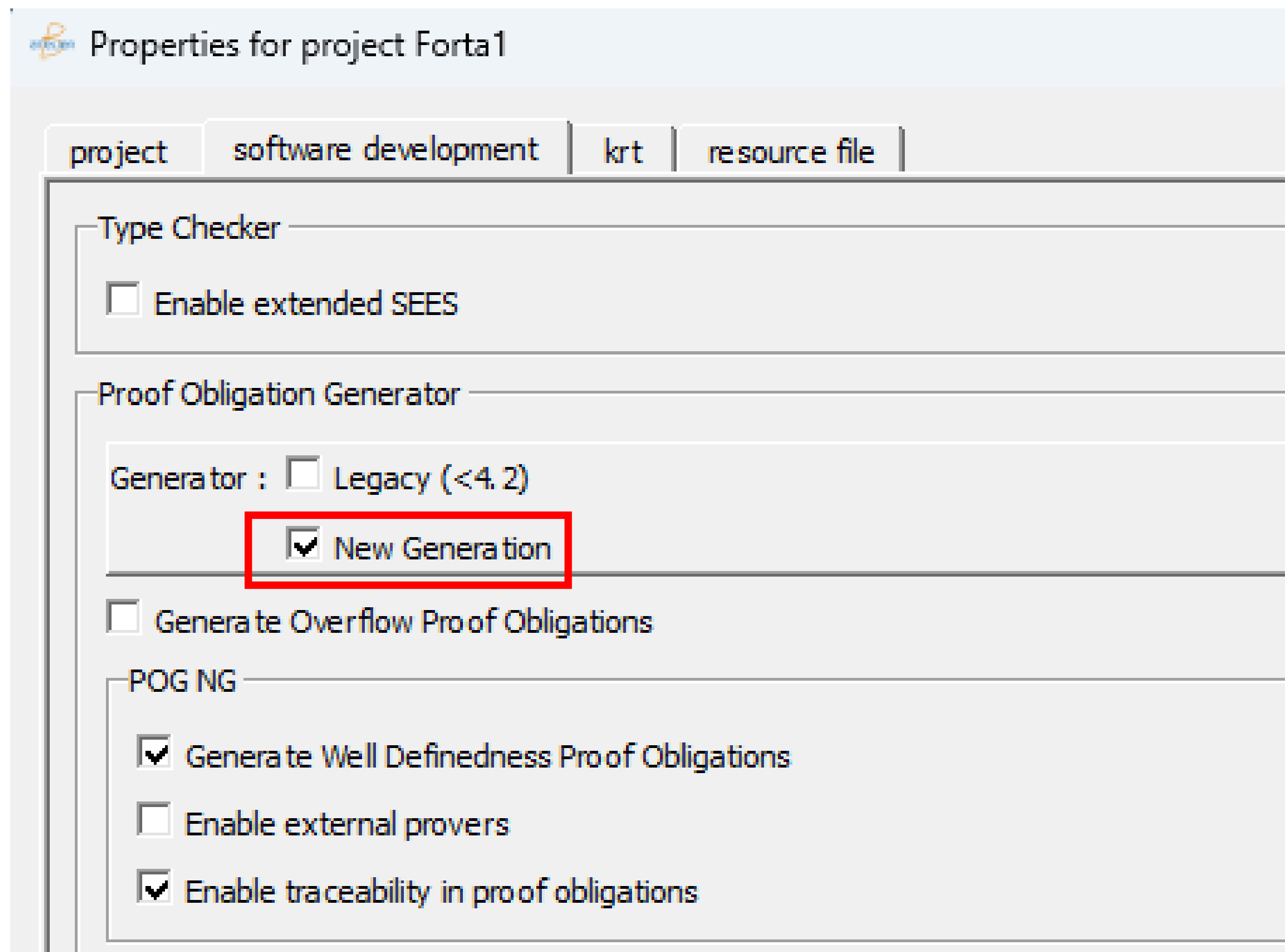
Checking Setup 1/2

- ▶ Open menu Atelier B / Preferences
- ▶ Select Internal Editor
- ▶ Ensure that Proof Information is fully checked



Checking Setup 2/2

- ▶ Open your project
- ▶ Open menu Project / Properties
- ▶ Select Software Development
- ▶ Ensure that New Generation is checked in Proof Obligation Generator



To be sure Your Environment is Operational ...1/5

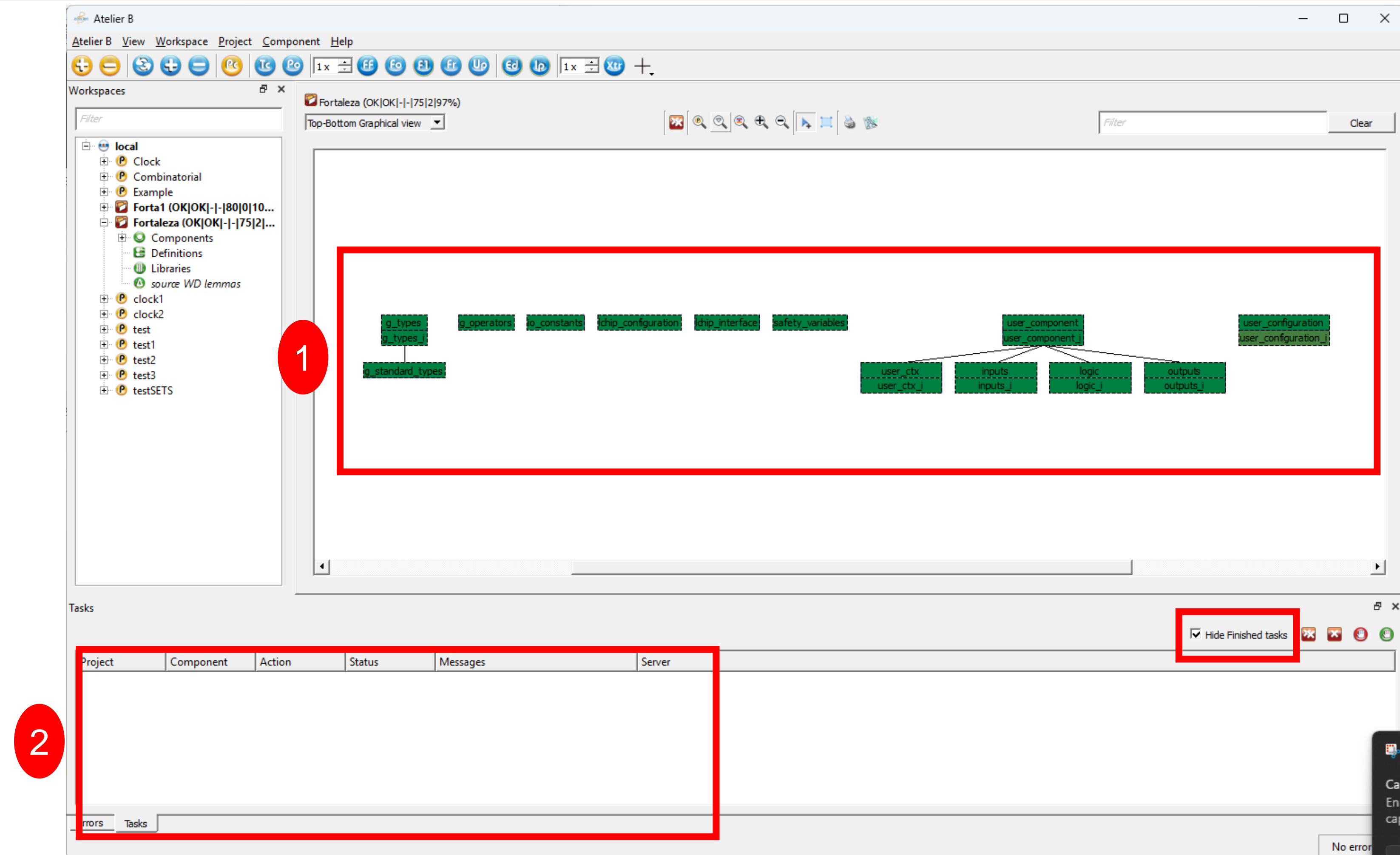
- ▶ Select all the components with Ctrl+A
- ▶ Start Proof Force 0 (or Ctrl-0)
- ▶ Wait for proof to complete

The screenshot shows the Atelier B IDE interface. The top toolbar has a red circle with the number 1 highlighting the 'Fo' (Proof Force) button. The main workspace displays a hierarchical diagram of the Fortaleza project components. The bottom panel, labeled 'Tasks', is highlighted with a red circle with the number 2. It contains a table with the following data:

Project	Component	Action	Status	Messages	Server
Fortaleza	g_operators		Running	Pog generation...	localhost
Fortaleza	g_standard_types		Waiting		
Fortaleza	g_types		Waiting		
Fortaleza	g_types_i		Waiting		
Fortaleza	inputs		Waiting		
Fortaleza	inputs_i		Waiting		
Fortaleza	io_constants		Waiting		
Fortaleza	lchip_configura...		Waiting		

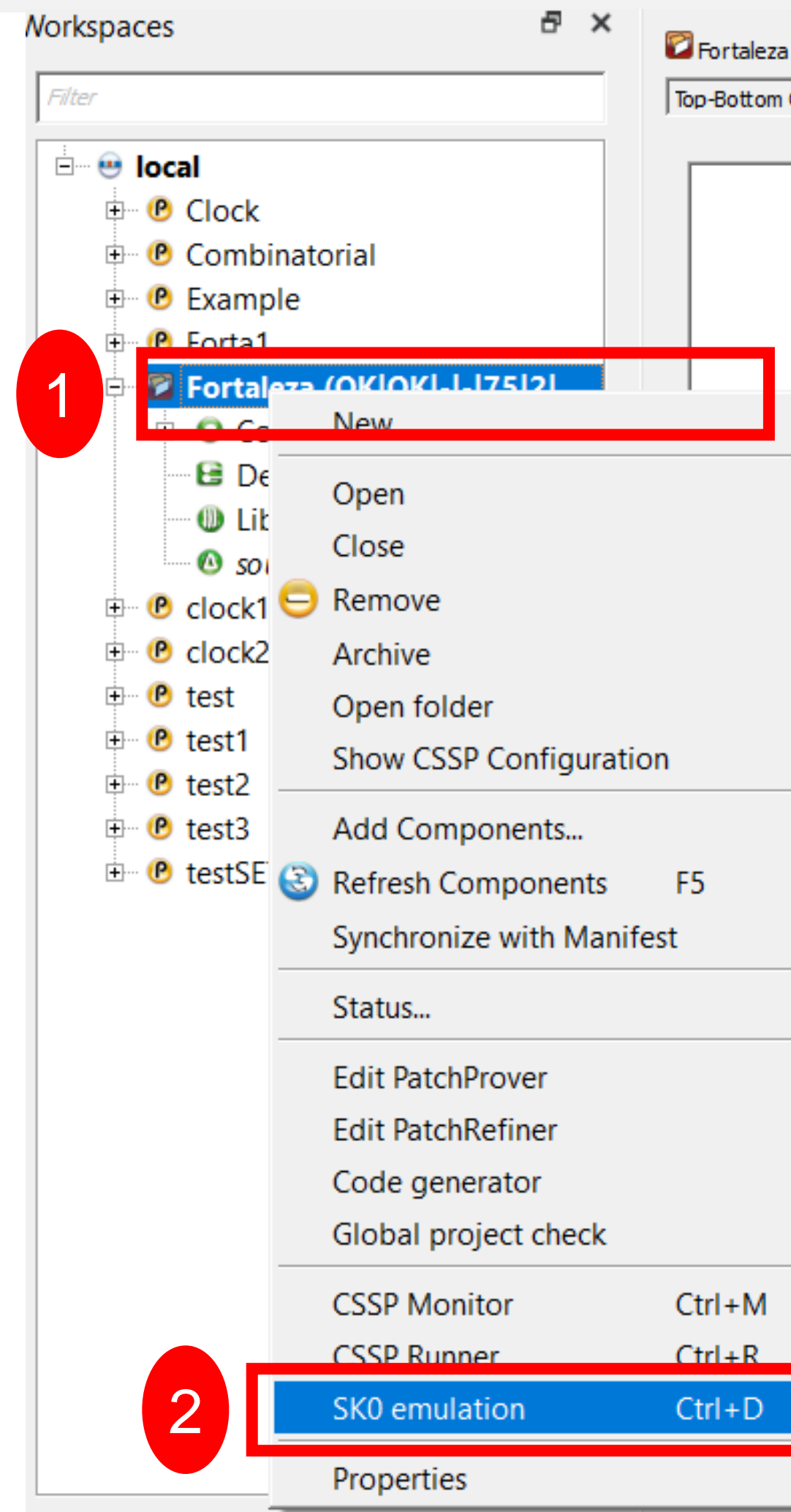
To be sure Your Environment is Operational ... 2/5

- ▶ All components green
- ▶ All tasks completed (select “Hide finished tasks”)



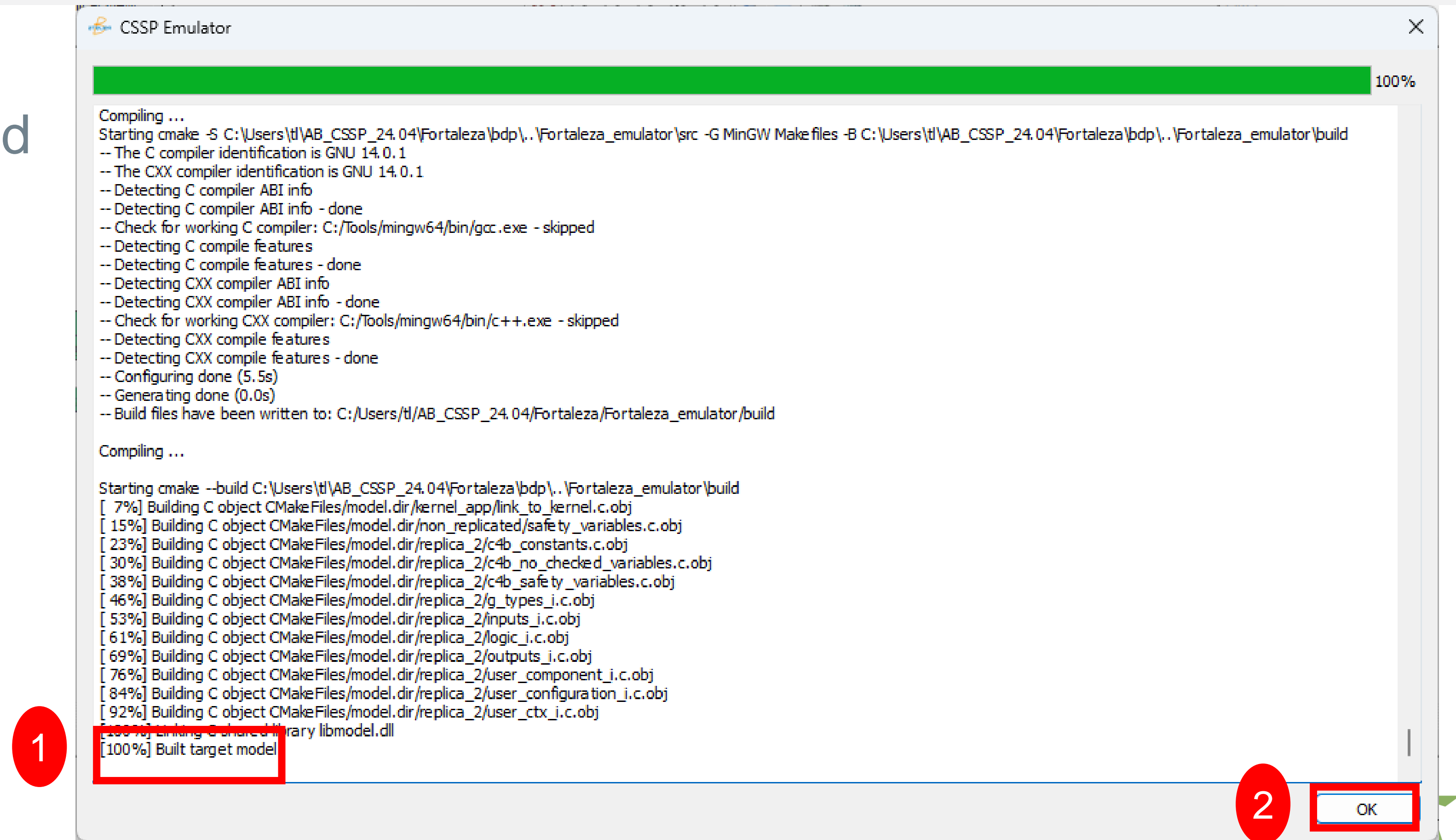
To be sure Your Environment is Operational ... 3/5

- ▶ Right click on the project
- ▶ Select “SK0 emulation” or Ctrl-D



To be sure Your Environment is Operational ... 4/5

- ▶ After several seconds and verbose messages ...
- ▶ The process terminates with [100%] Built target model
- ▶ Click on OK



If stops before 100%, cmake / gcc installation is probably incomplete

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To be sure Your Environment is Operational ... 5/5

- ▶ The simulator starts
- ▶ If you click on I1, I2 or I3, the v_board_0_Ix variables change
- ▶ The time flies

The screenshot displays the CSSP Emulator interface. On the left, a green circuit board is shown with various components labeled: POWER, O1, O2, SERIAL, USB, RESET, UC1, UC2, and a 'clearsy Safety platform' logo. At the bottom of the board, three input modules labeled I1, I2, and I3 are highlighted with a red box and a red circle containing the number 1. On the right, a 'Variables' table is visible, with its content highlighted by a red box and a red circle containing the number 2. The table lists several variables and their current values. A red circle containing the number 3 highlights the 'v_ms_tick' variable, which has a value of 5671.

Variables	Values
v_board_0_I1	0
v_board_0_I2	0
v_board_0_I3	0
v_board_0_O1	0
v_board_0_O2	0
v_divergence_test_var	0
v_ms_tick	5671



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