

# Installing and Checking the Installation of the CLEARSY Safety Platform

Thierry Lecomte



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# Installation foreword

- ▶ Installation tested on Windows 10/11 (both exe installer and WSL with Ubuntu) and Ubuntu 24.04
- ▶ Current installation process depends on correct Python installation
- ▶ Most usual mistakes listed in the troubleshooting
- ▶ Other configurations not tested and full support not guaranteed
- ▶ Additional projects Clock and Combinatorial are created during the first execution of the Atelier CSSP by a Python script. If they do not show up, your python configuration is probably incorrect.



They all managed to install it on their personal computers during ROME 2025 Summer school in Fortaleza! You should succeed as well.

# Installation Windows 11

## ▶ Install **ATELIER B 24.04 CSP EDUCATIONAL VERSION** Windows

- 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/9pnrbtzxmb4z?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

### ATELIER B 24.04 CSP EDUCATIONAL VERSION

- > **Atelier B 24.04 CSP** – Windows 11 (also works with 10) ↓
- > **Atelier B 24.04 CSP** – Linux Debian 11 ↓
- > **Atelier B 24.04 CSP** – Linux Debian 12 ↓
- > **Atelier B 24.04 CSP** – Linux Ubuntu 22.04 ↓
- > **Atelier B 24.04 CSP** – Linux Ubuntu 23.10 ↓
- > **Atelier B 24.04 CSP** – Linux Ubuntu 24.04 ↓
- > **Script cssp\_install.sh** ↓
- > **Installation Guide** ↓
- > **Programming Handbook (Feb 2020)** ↓



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# Troubleshooting Windows 11 (Directories)

- ▶ When asked to select a directory (install/project), select a directory where you have read/write access. One symptom is the inability to create project or add components to a project.
- ▶ Do not use paths with special characters or space

# Troubleshooting Windows 11 (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

# Installation Ubuntu

## ► Install **ATELIER B 24.04 CSP EDUCATIONAL VERSION** Ubuntu

- Download page: <https://www.atelierb.eu/en/atelier-b-support-maintenance/download-atelier-b/>
- Download the cssp\_install.sh script: [https://www.atelierb.eu/wp-content/uploads/2024/09/cssp\\_install.sh](https://www.atelierb.eu/wp-content/uploads/2024/09/cssp_install.sh)
- Edit the last line of this script to match your distribution
- Run the script: `sudo ./cssp_install.sh`
- To start the tool, execute: `/opt/atelierb-cssp-24.04/bin/startAB &`

### ATELIER B 24.04 CSP EDUCATIONAL VERSION

- > **Atelier B 24.04 CSP** – Windows 11 (also works with 10) 
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- > **Atelier B 24.04 CSP** – Linux Ubuntu 24.04 
- > **Script cssp\_install.sh** 
- > **Installation Guide** 
- > **Programming Handbook (Feb 2020)** 



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# Troubleshooting Ubuntu

- ▶ Do not forget to update / upgrade apt
- ▶ Be sure that pip3 is installed
- ▶ Be sure that the cssp\_install.sh script last line is related to your distribution

```
20  echo "Installing Atelier B"
21  apt install --yes ./atelierb-cssp-24.04-ubuntu-24.04.deb
22
```

Atelier B  
version

Ubuntu version  
also available  
22.04 and 23.10

# Project Creation

We are going to create an empty project that we will modify to complete exercises

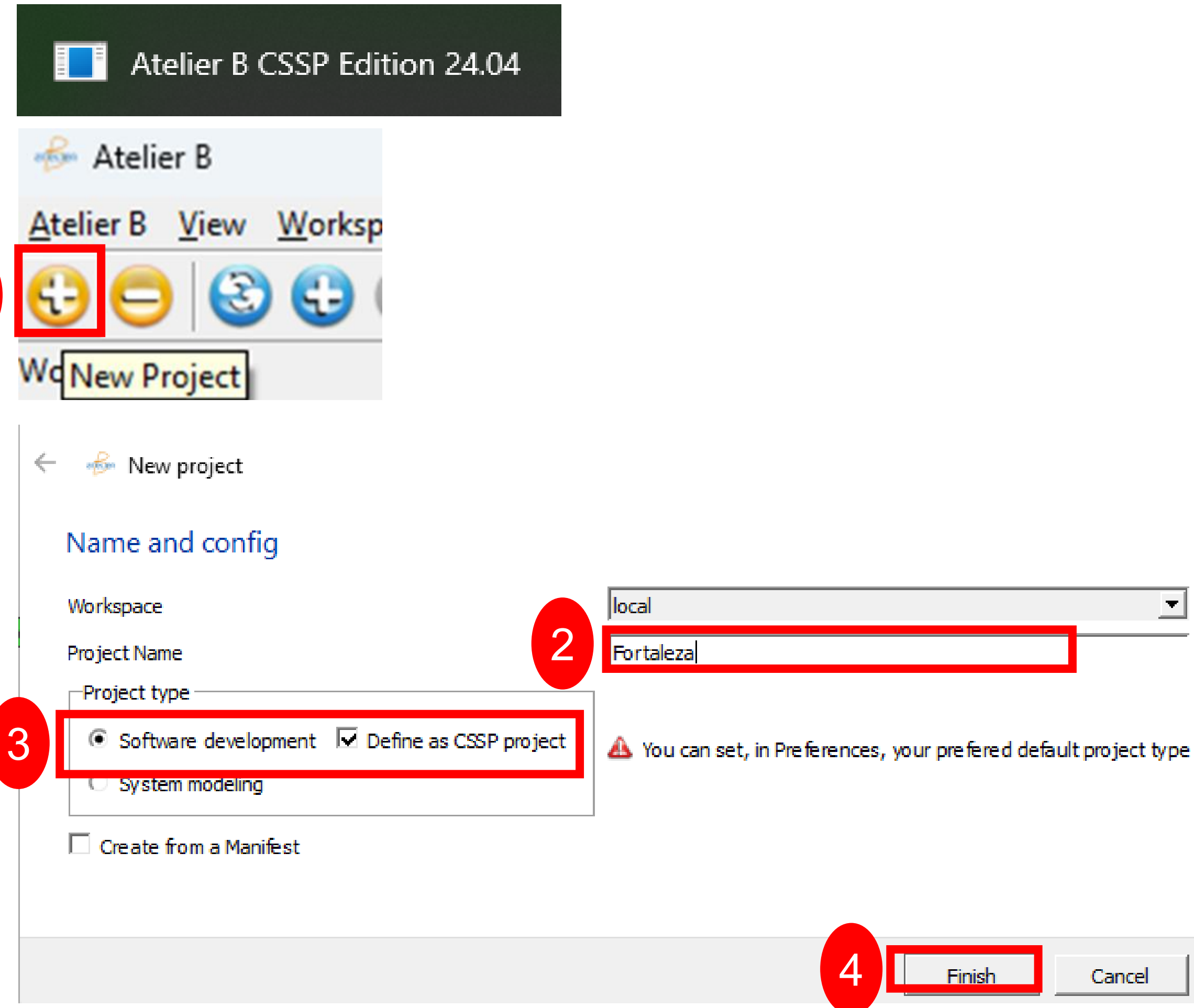


# Project Creation 1/3

► Start Atelier B

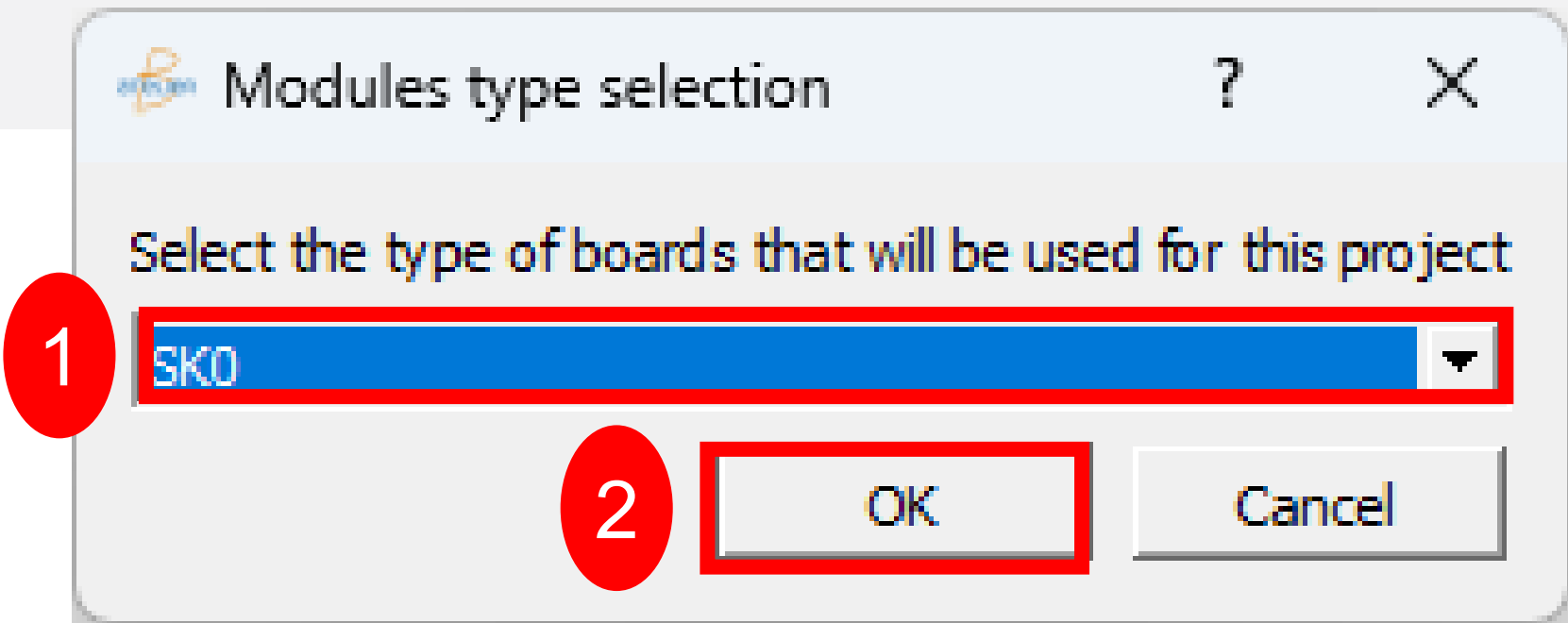
► Create a new project

► Give a name and a type

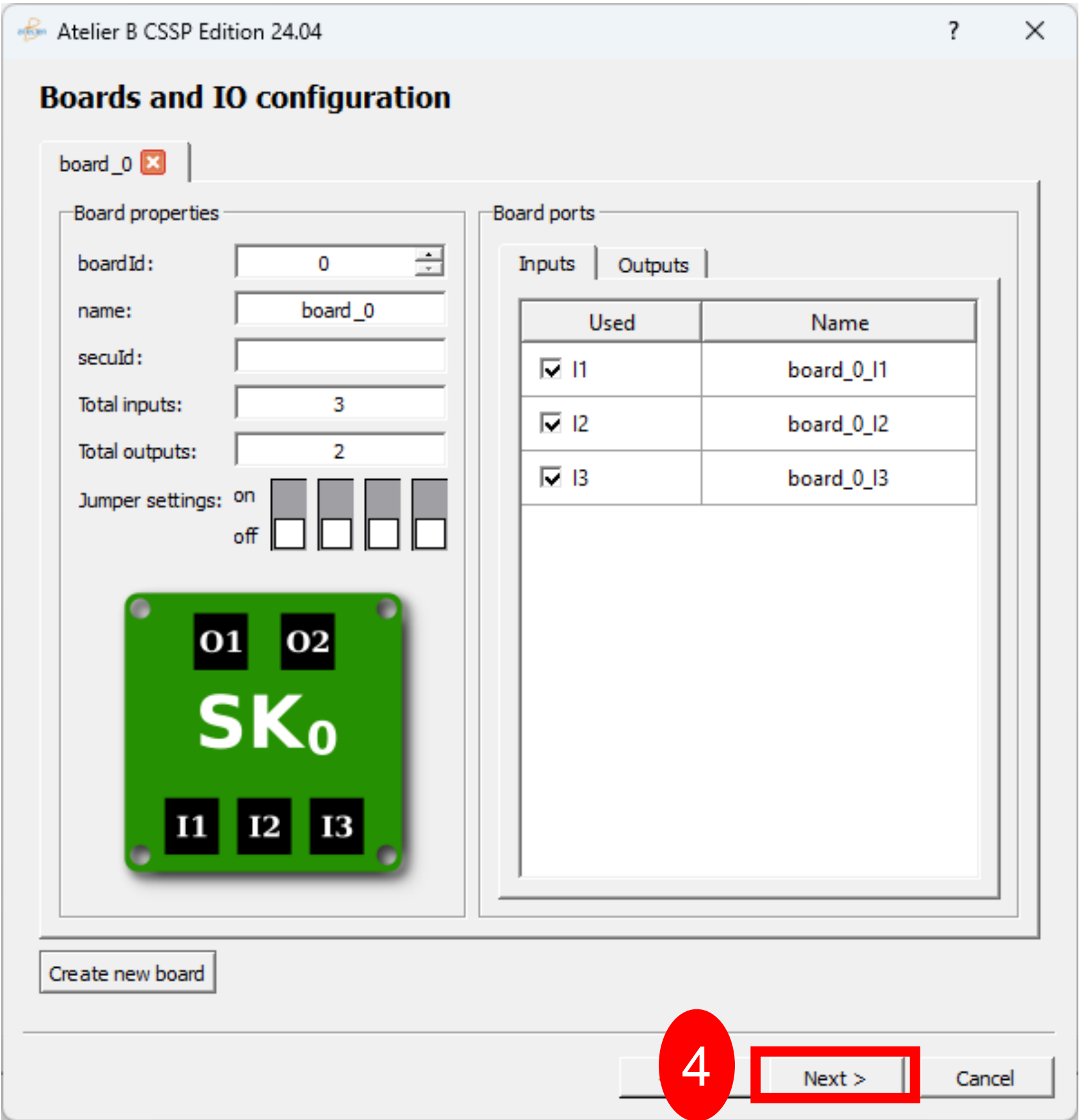
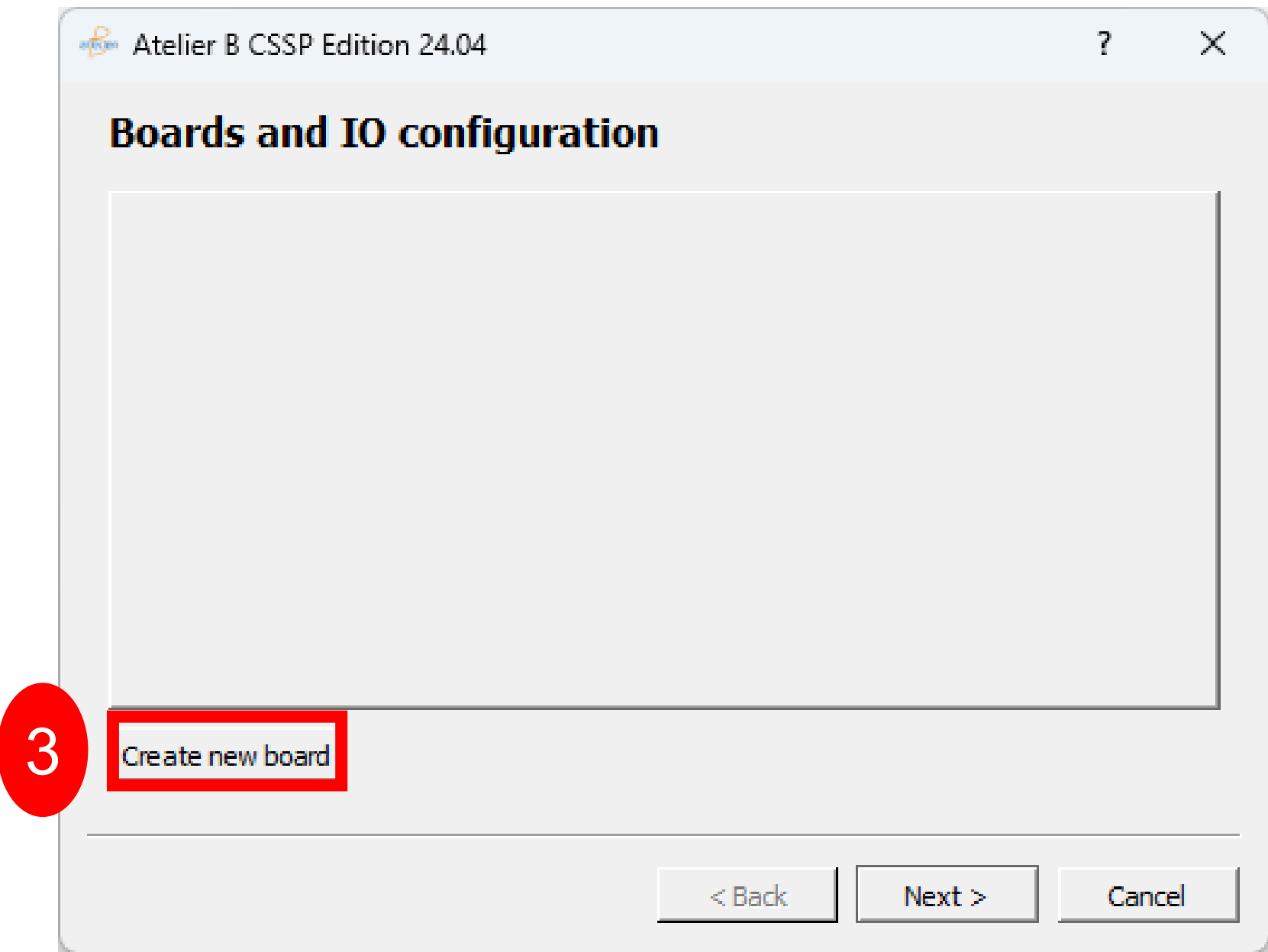


# Project Creation 2/3

► 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

?

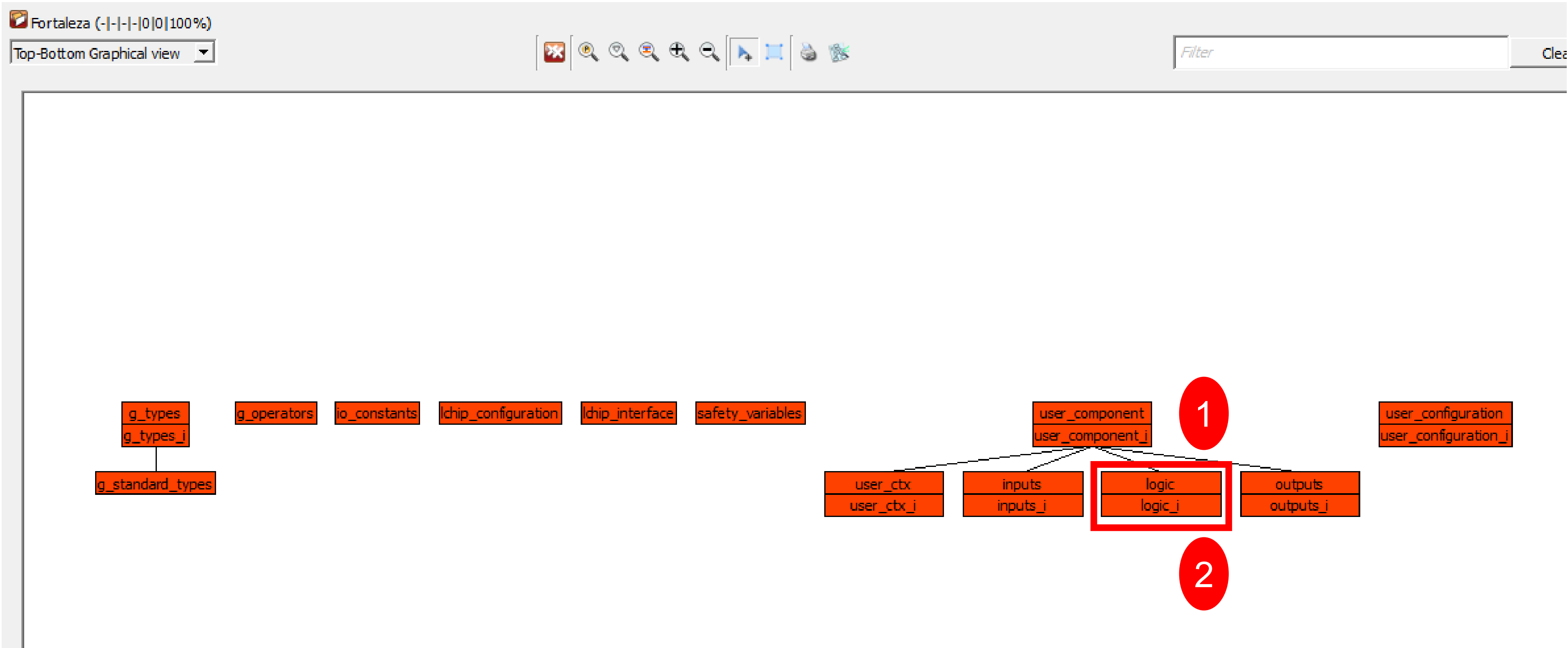
The new config will replace the one of your current project. Are you sure you want to proceed?

**2** Yes

No

# Project Created

- ▶ The view
- ▶ 2 components to modify



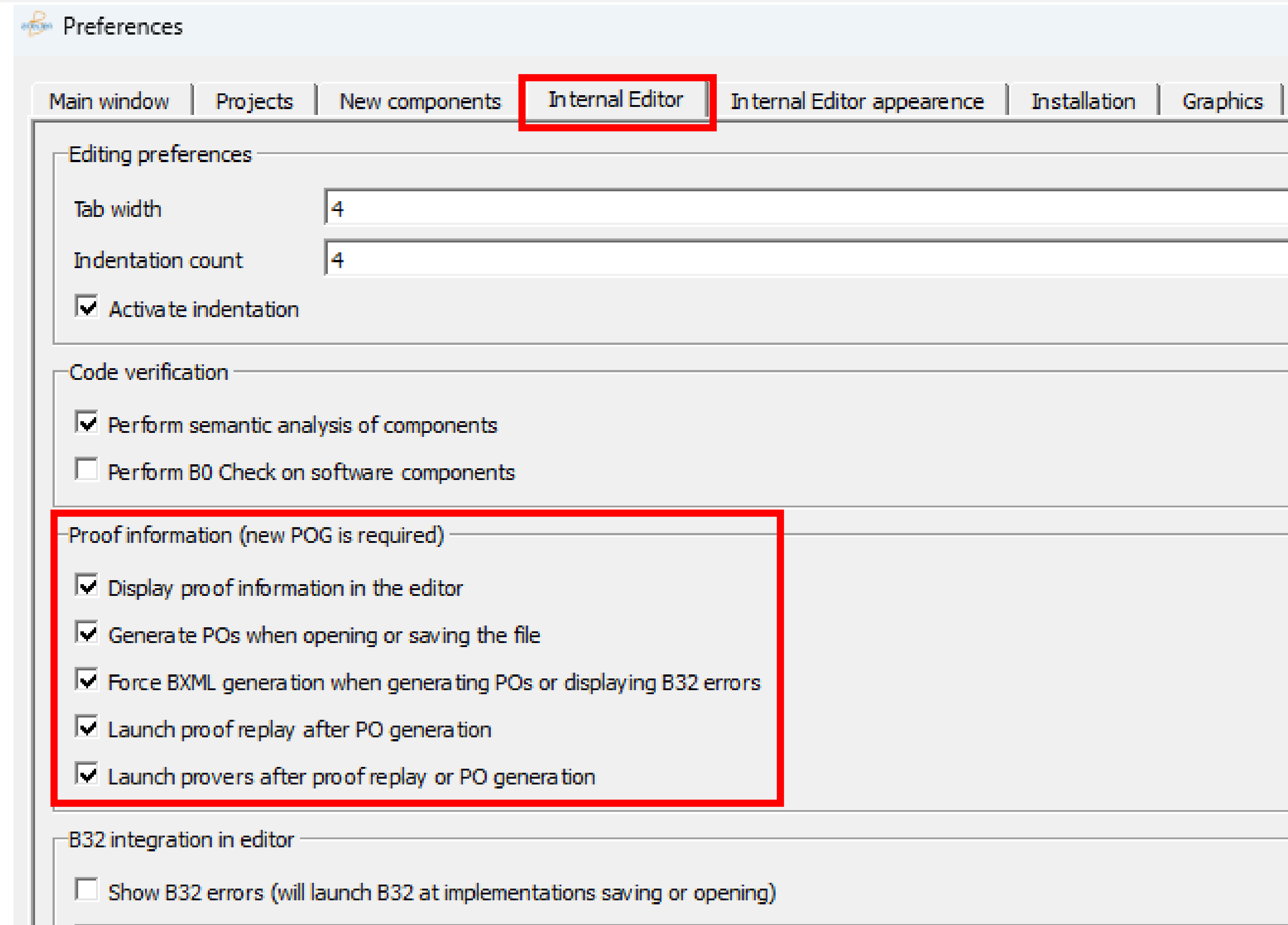
# Atelier B and Project Setup

Let us verify  
that we are going to see  
the same User Interface



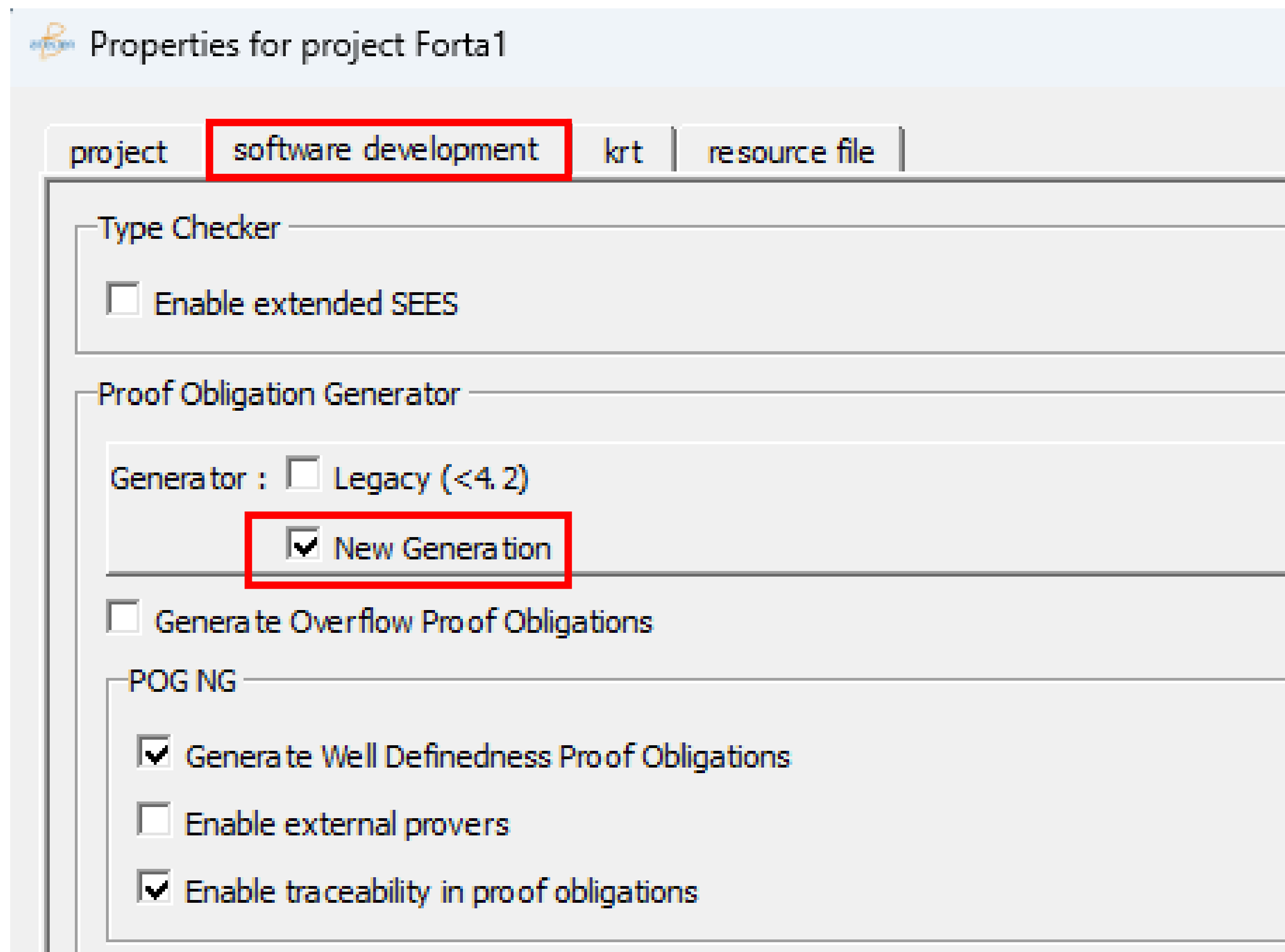
# Checking Setup 1/2

- ▶ 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



# Atelier B CSSP Configuration

Let us verify  
that we all can activate the simulator

# 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 'Workspaces' panel on the left lists the project structure. The main window displays a 'Top-Bottom Graphical view' of the Fortaleza project, showing a hierarchy of components. The 'Tasks' panel at the bottom is highlighted with a red box and 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”)

The screenshot shows the Atelier B IDE interface. The top menu bar includes 'Atelier B', 'View', 'Workspace', 'Project', 'Component', and 'Help'. Below the menu is a toolbar with various icons. The left sidebar shows a 'Workspaces' panel with a tree view of the project structure. The main area displays a 'Top-Bottom Graphical view' of the project components. The bottom panel shows a 'Tasks' table with columns for Project, Component, Action, Status, Messages, and Server. A red box labeled '1' highlights the graphical view, and a red box labeled '2' highlights the tasks table. A checkbox labeled 'Hide Finished tasks' is also visible in the bottom right corner of the tasks panel.

1

2

Hide Finished tasks

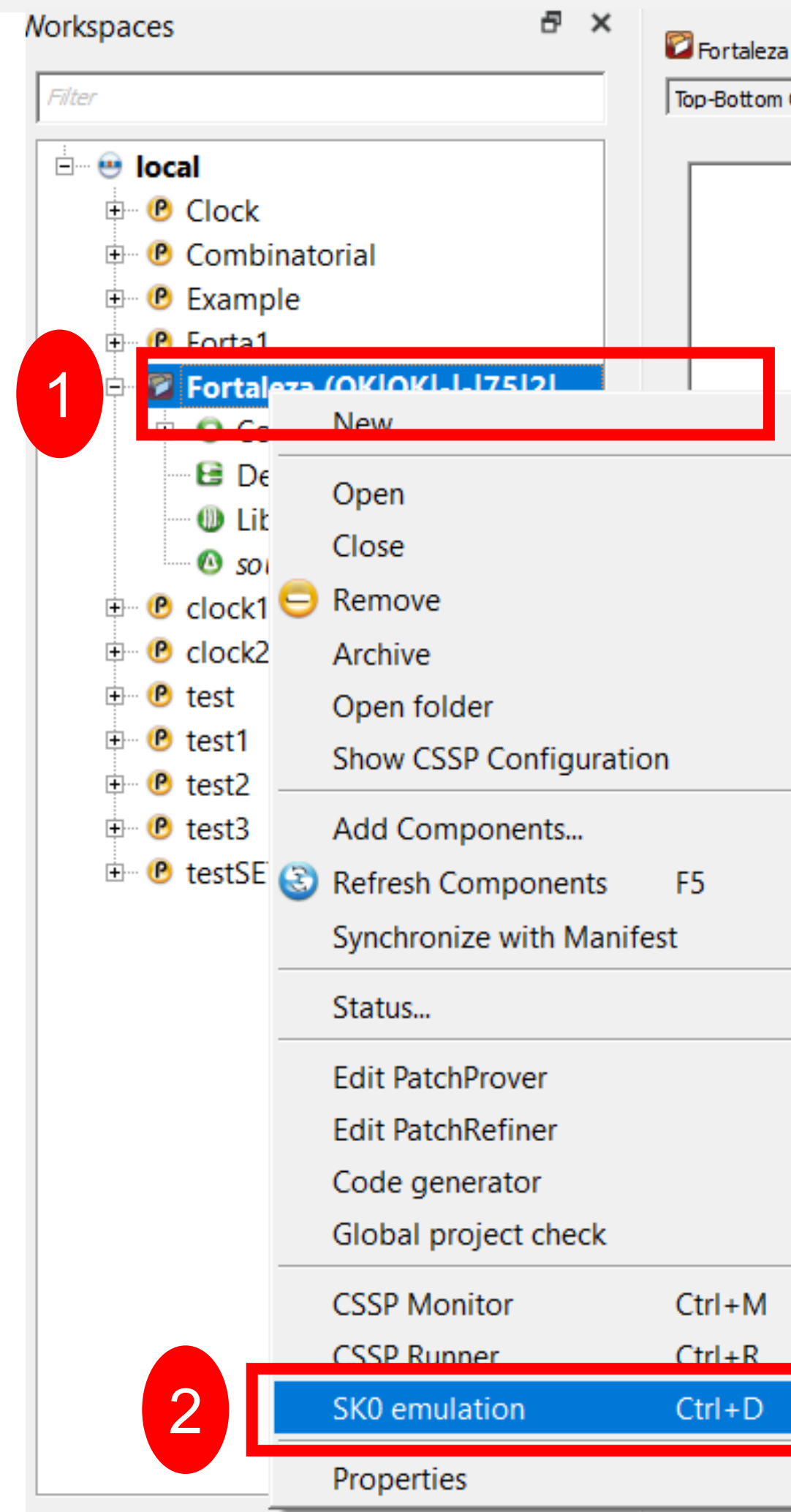
Project	Component	Action	Status	Messages	Server
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# To be sure Your Environment is Operational ... 3/5

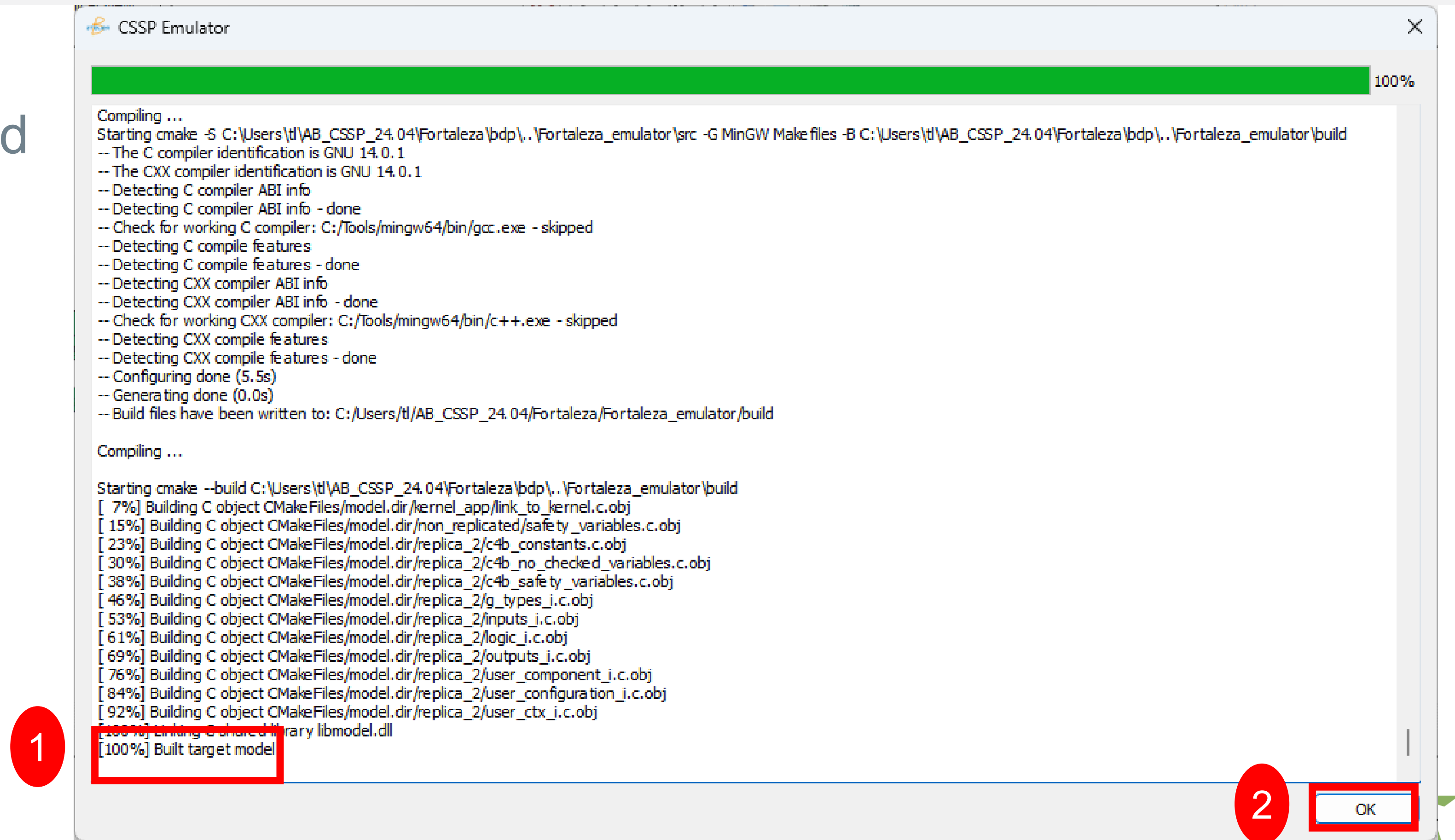
► Right click on the project

► 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 points to 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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