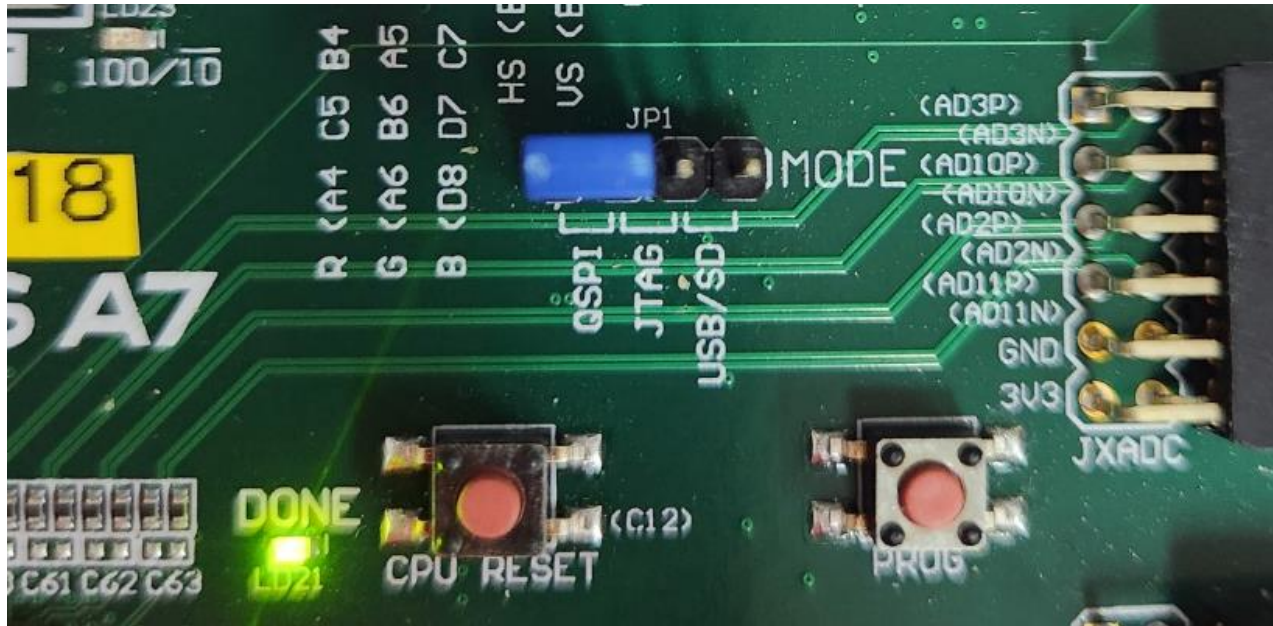


How to Program Board with QSPI flash

1. Board Setting: Change board JP1 jumper Setting
2. Software Setting : Change Vivado Setting to generate bin file
3. Generate Bin file: Run Synthesis, Implementation, & bitstream Generation
4. Connect FPGA board and PC with USB and turn ON the power of the board
5. Open Hardware Manager and Program the board
 - 1) Connect Board
 - 2) Add Configuration Memory Device
 - 3) Program Configuration Memory
6. Run the design
 - 1) Push the board Programming button (PROG)
 - 2) Wait a few seconds !
 - 3) Watch and enjoy the demo

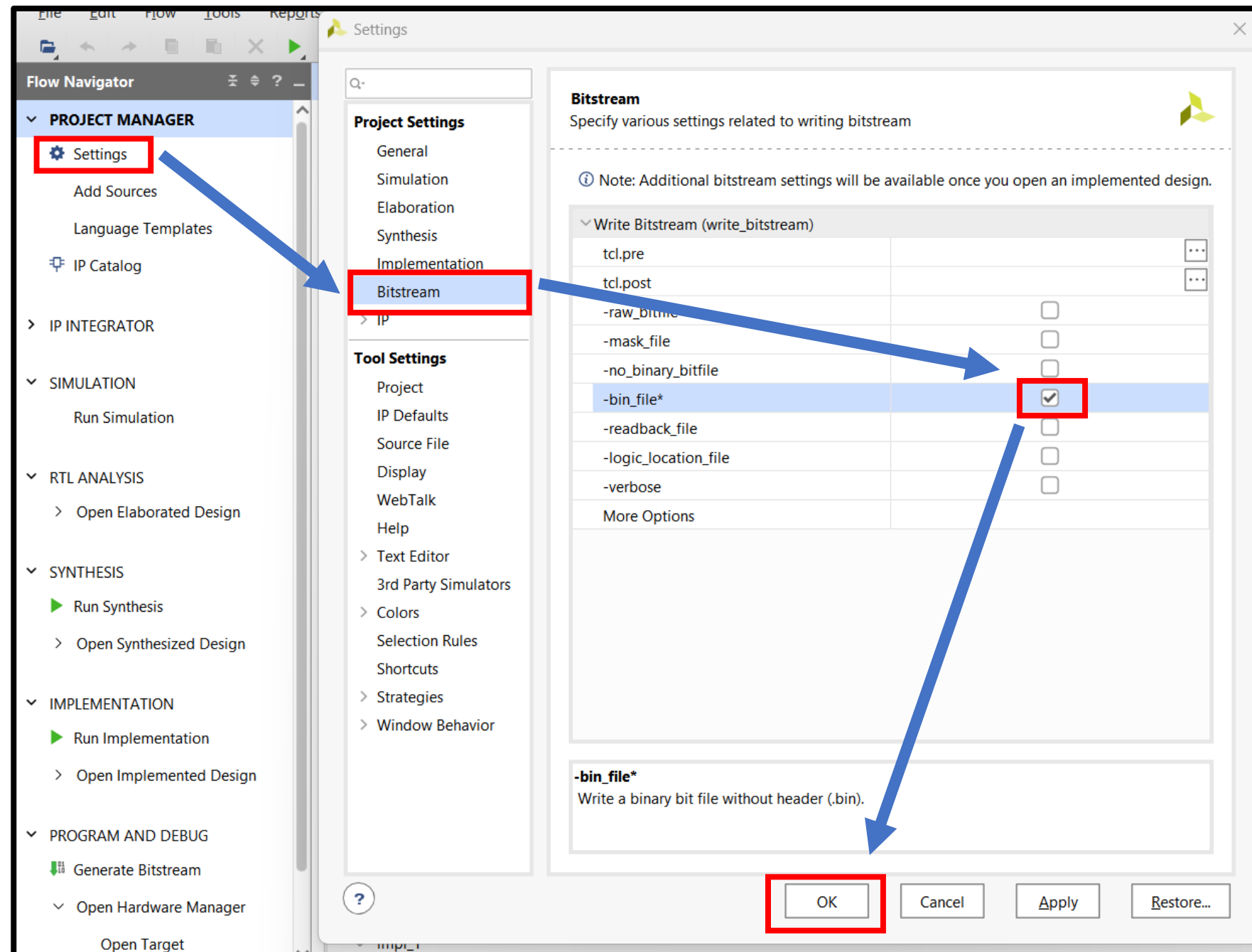
1. FPGA board Setting (JP1)

- JP1 : set Jumper as QSPI mode



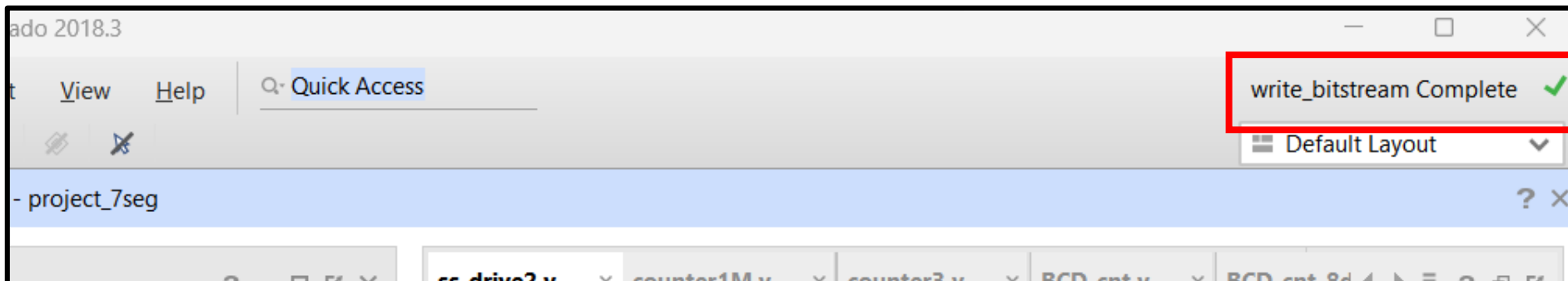
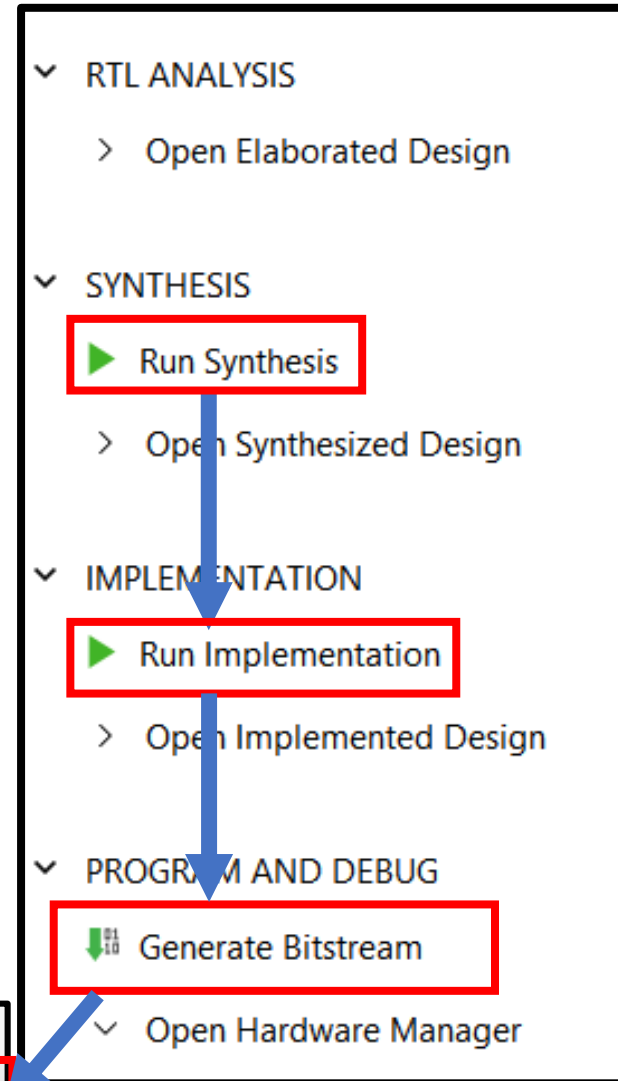
2. Vivado Setting

- Project Setting
→ Bitstream
→ Check **-bin_file**
- It will result in both *bit* and *bin* file generation



3. Generate Bitstream

- Run Synthesis
 - Implemenation
 - Generate Bitstream
- Under the *project/project.runs/Impl_1* folder:
you can find both **bit** and **bin** files
 - 1) *top_module.bin*
 - 2) *top_module.bit*



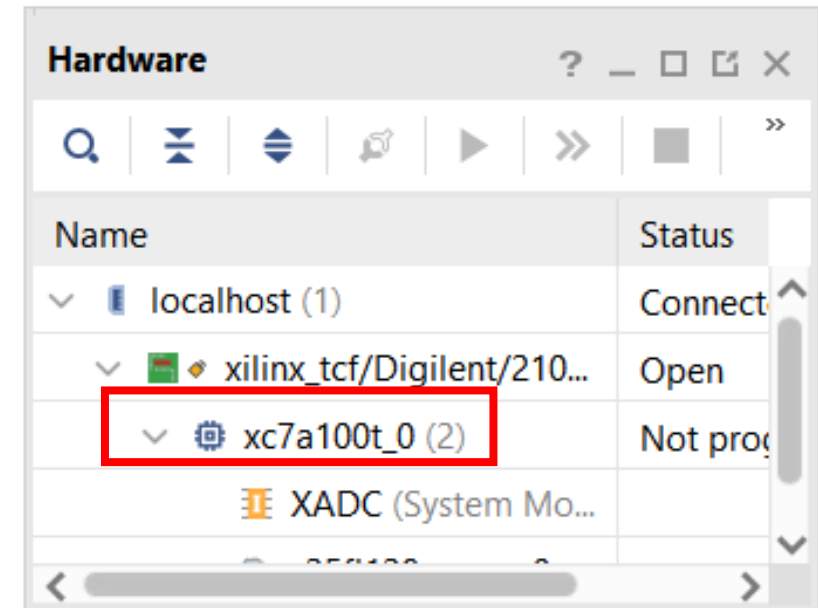
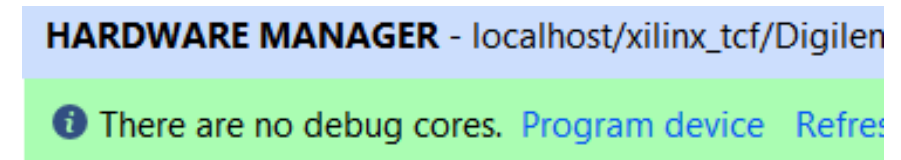
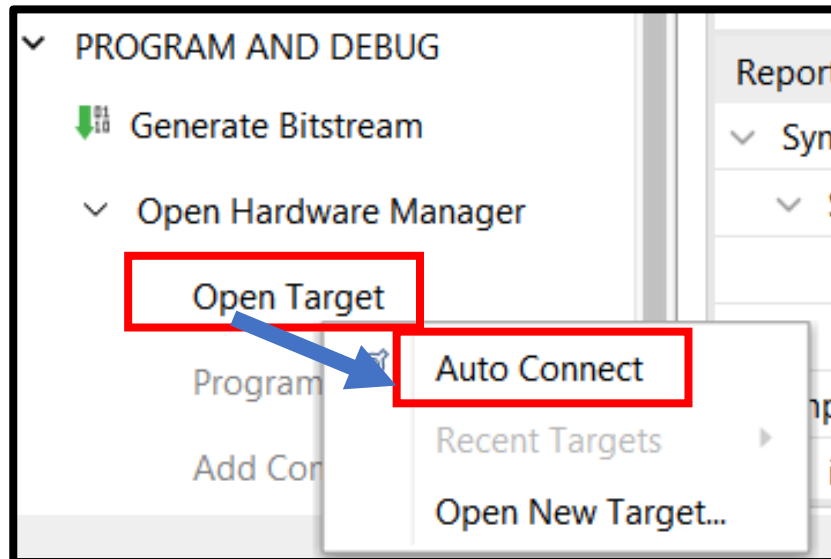
4. Connect and Turn ON the Power



5. Open Hardware Manager

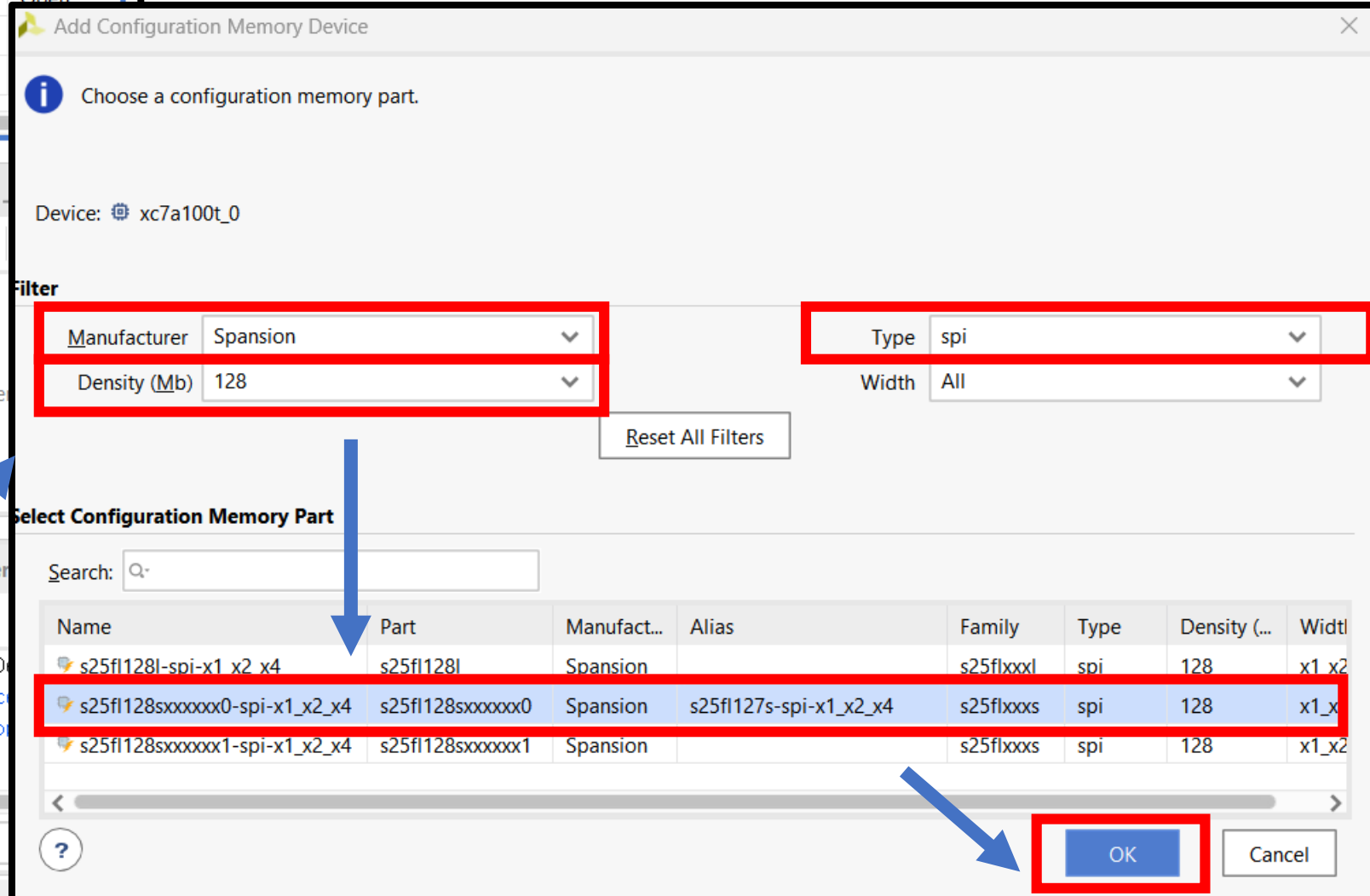
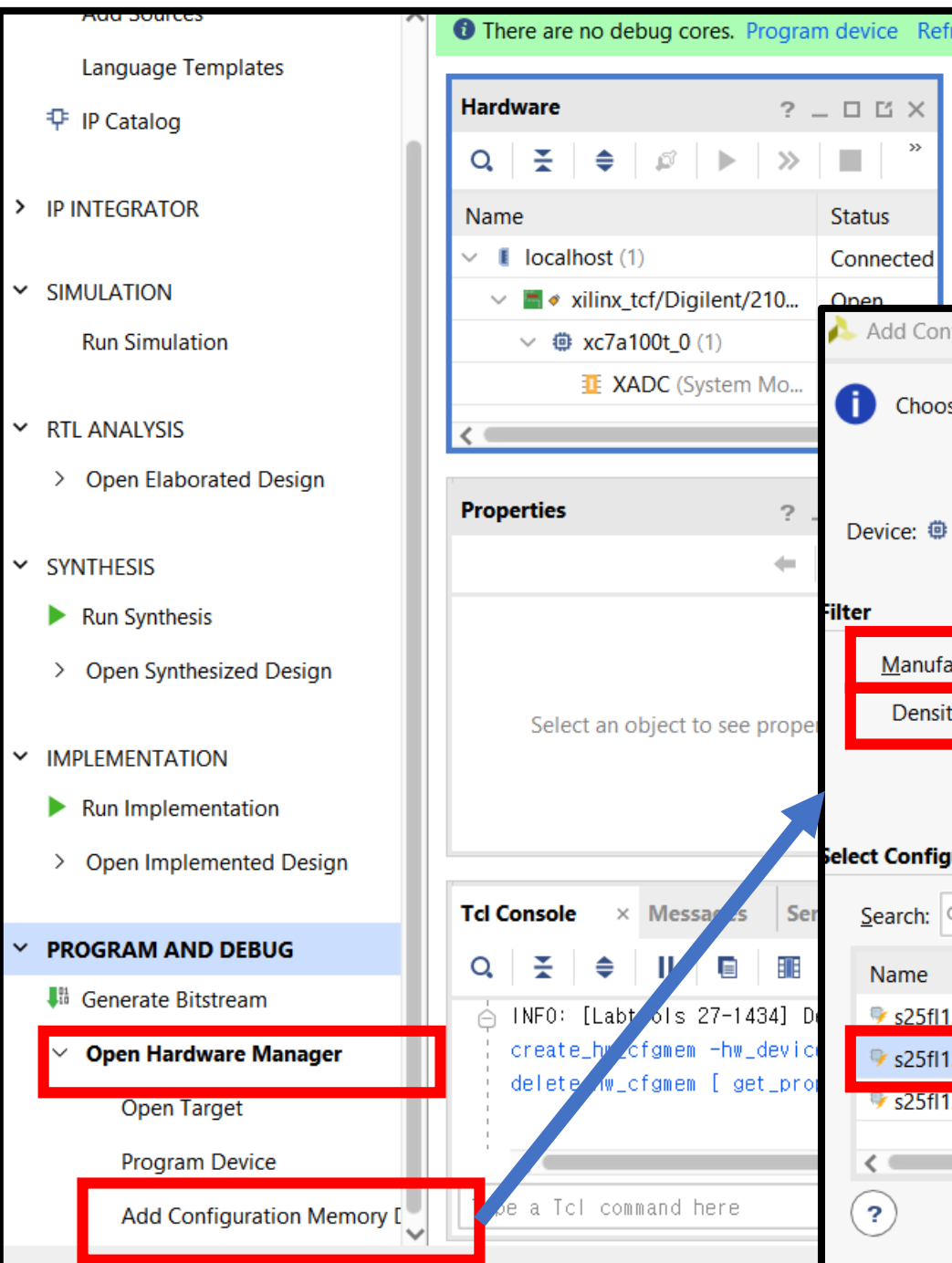
1) Connect Board

- Open Hardware Manager → Open Target → Auto Connect
- Confirm the Proper Board type and FPGA Device were detected



5. Open Hardware Manager

2) Add Configuration Memory Device (Spansion, S25FL127S)



5. Hardware Manager

3) Program the Configuration Memory

Diagram illustrating the steps to program the configuration memory device:

Step 1: Add Configuration Memory Device Completed

Do you want to program the configuration memory device now?

☐ Don't show this dialog again

OK (highlighted)

Step 2: Hardware Manager

Select Memory and Click Mouse Left button

Hardware

Name	Status
xilinx_tcf/Digilent/210...	Open
xc7a100t_0 (2)	Program
XADC (System Mo...	
s25fl128sxxxxxx0-...	

s25fl128sxxxxxx0-... (highlighted)

Step 3: Memory Device Configuration

Memory Device: s25fl128sxxxxxx0-spi-x1_x2_x4

Configuration file: .../Users/yk/project_7seg/project_7seg.runs/impl_1/BCD_cnt_8digits.bin (highlighted)

PRM file: ...

State of non-config mem I/O pins: Pull-none

Program Operations

Address Range: Configuration File Only

☒ Erase (highlighted)

☐ Blank Check

☒ Program (highlighted)

☒ Verify (highlighted)

☐ Verify Checksum

SVF Options

☐ Create SVF Only (no program operation)

SVF File: ...

OK (highlighted)

Step 4: Specify File

Look in: impl_1

BCD_cnt_8digits.bin (highlighted)

Recent Directories

C:/Users/yk/project_7seg/project_7seg.runs/impl_1

File Preview

File: BCD_cnt_8digits.bin

Directory: C:/Users/yk/project_7seg/project_7seg.runs/impl_1

Created: Today at 19:58 PM

Accessed: Today at 19:58 PM

File name: BCD_cnt_8digits.bin

Files of type: Configuration Files (.mcs, bin)

OK (highlighted)

OR

Select by clicking OK

6. Run

- 1) PRESS PROG button of FPGA Board
- 2) Wait for 10 seconds

