PUFacademy
A PUFsecurity Alliance

Urbana FPGA Board Power on Testing

2025 Spring

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Agenda

1. Download & installation of Vivado
2. Power on Urbana board
3. Program Urbana board
4. Function check

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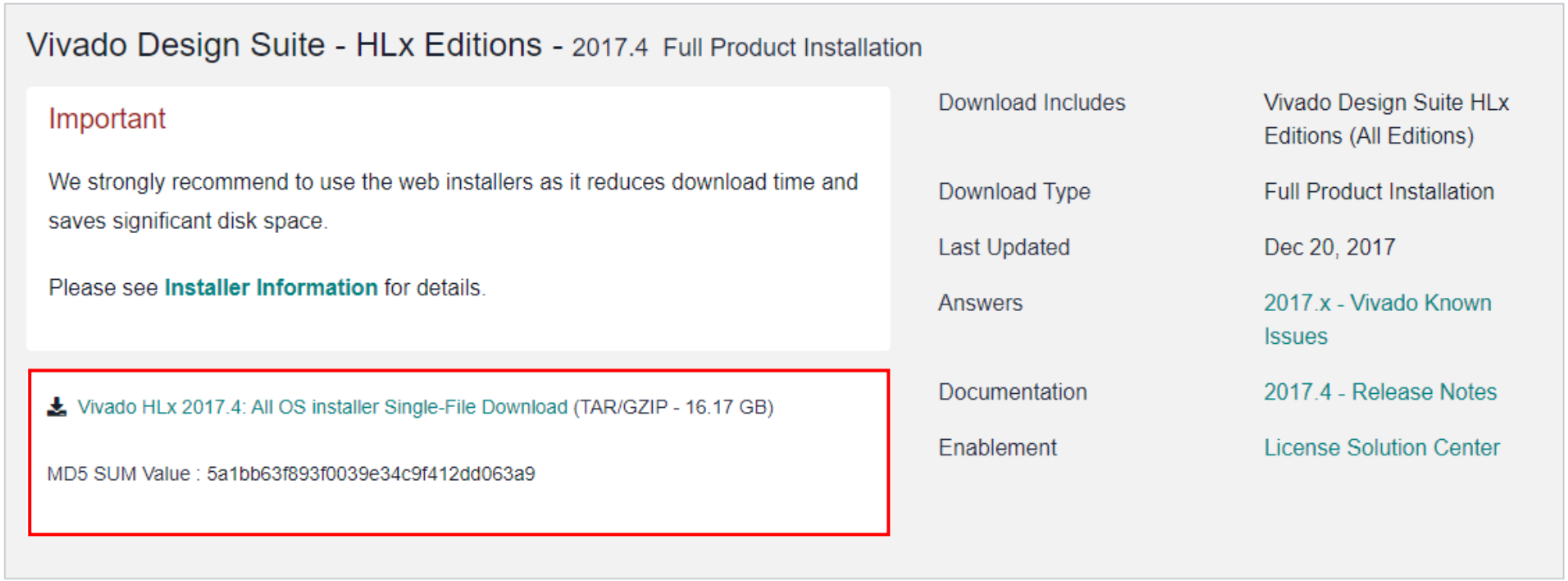
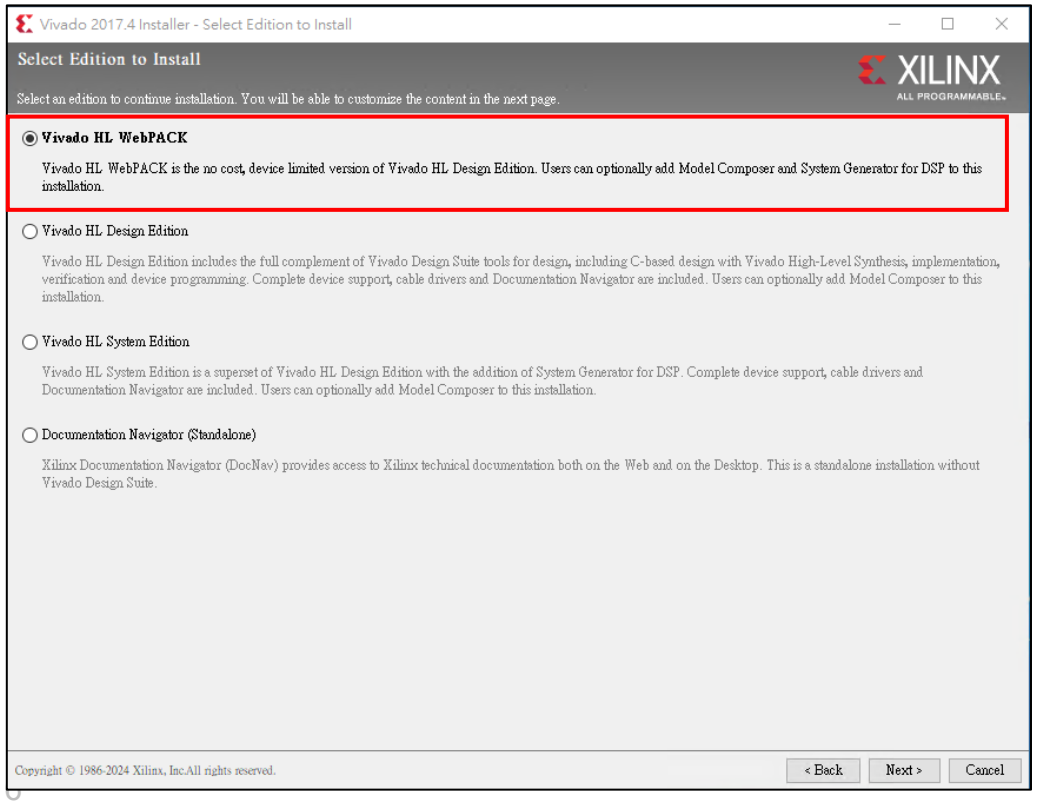
Download Vivado

- Download Vivado 2017.4
  - https://www.xilinx.com/support/download/index.html/content/xilinx/en/downloadNav/vivado-design-tools/archive.html
  - The later versions are also acceptable, but make sure that you have enough disk space for them
- Create account is required before download

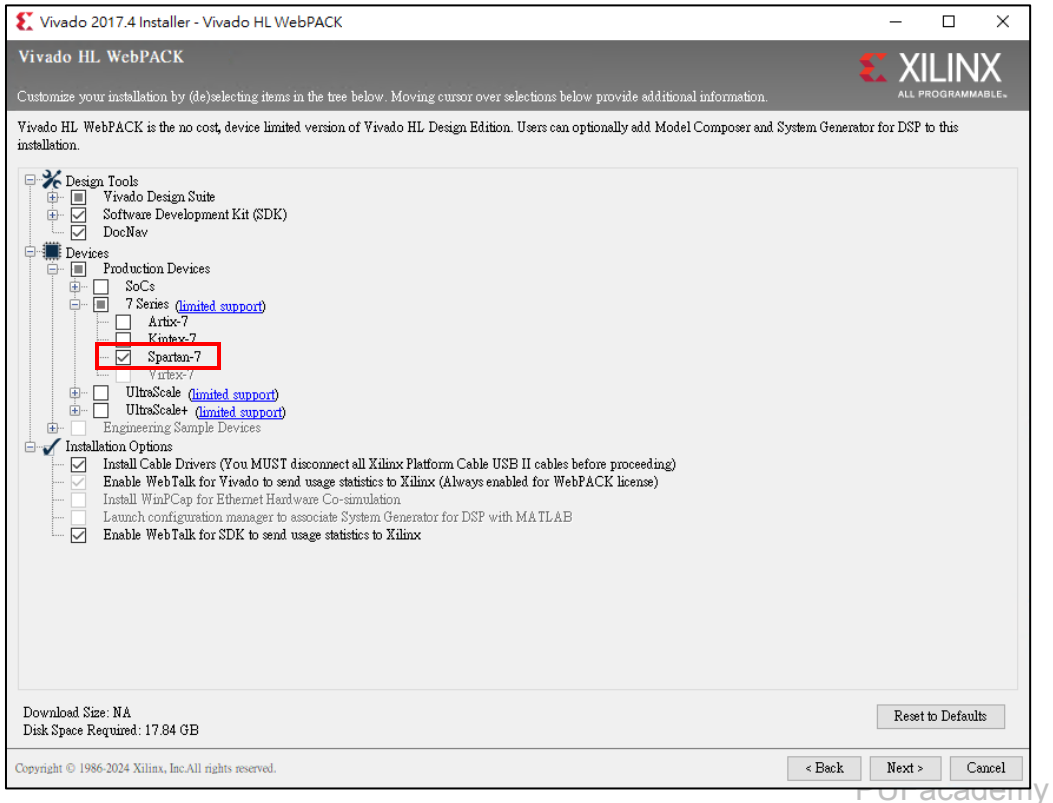


Install Vivado

- Follow the steps (1-14) of installation in this website:
  - https://blog.csdn.net/qq_41305281/article/details/120669572
- For step 10 and step 11, please follow the configuration below



Step 10



Step 11

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Before Powering on Urbana Board

- Connect the Power Select jumper to **Main USB port**

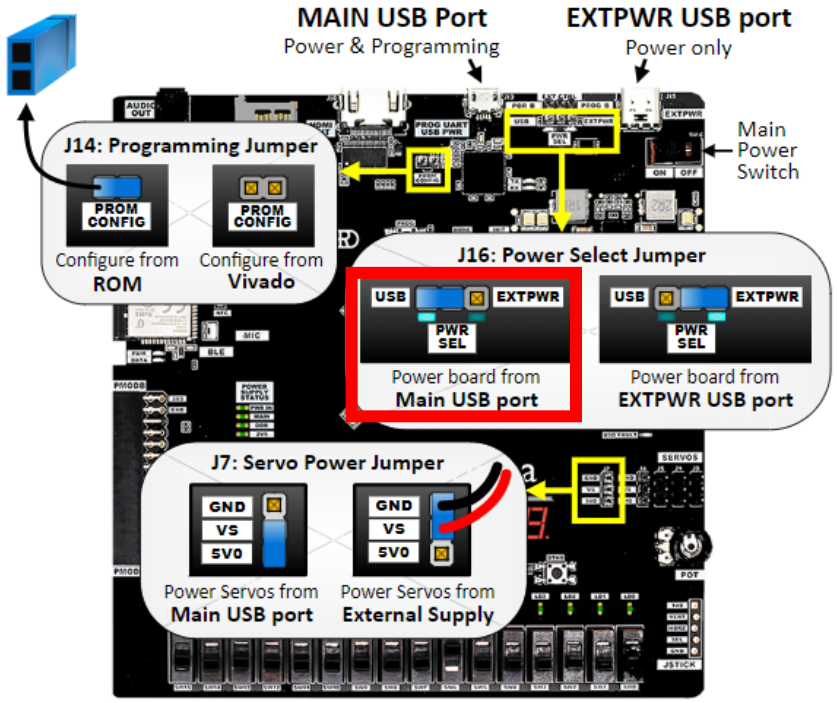
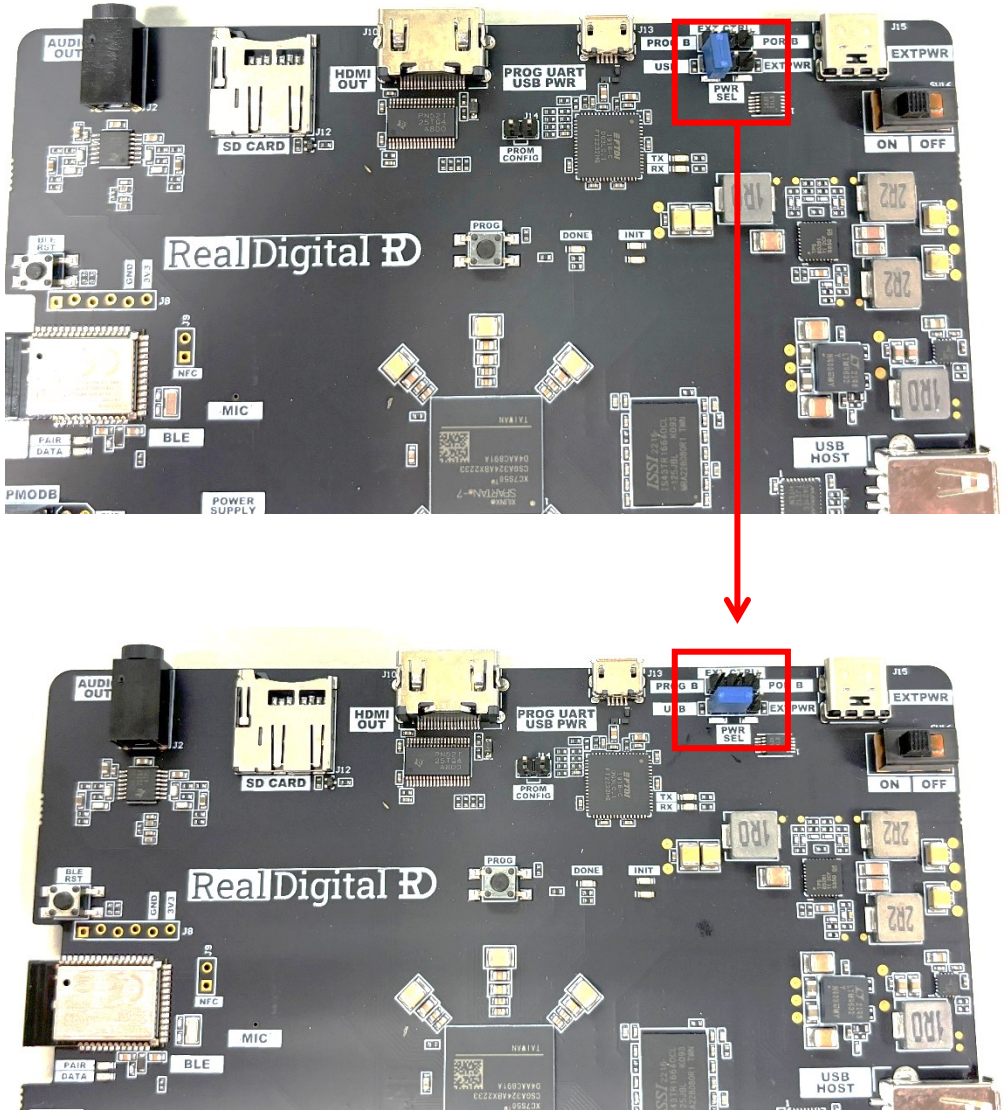
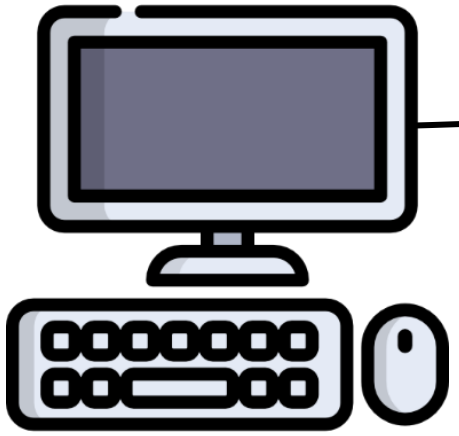


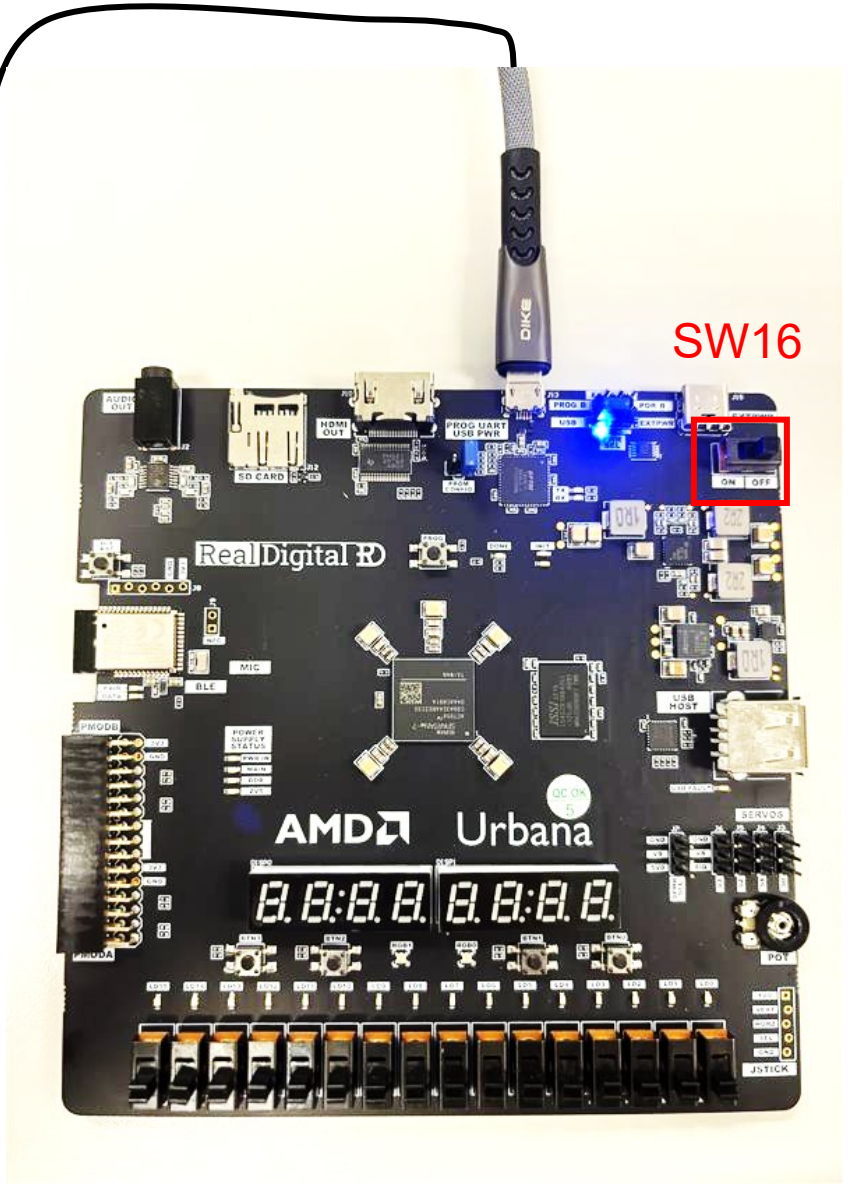
Figure 4. Urbana board jumper blocks and Power Delivery



Power on Urbana Board (1/2)

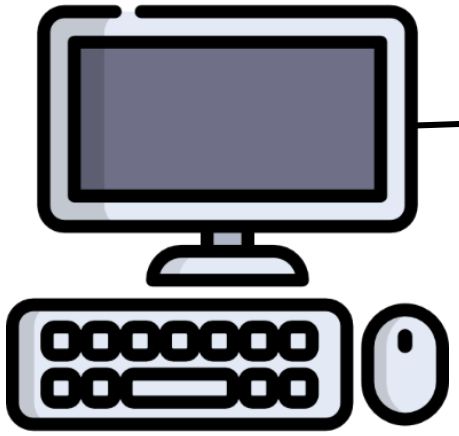
- Connect Urbana board with your computer via Micro-USB cable
- As SW16 is “OFF”, you should see a blue LED lighting up

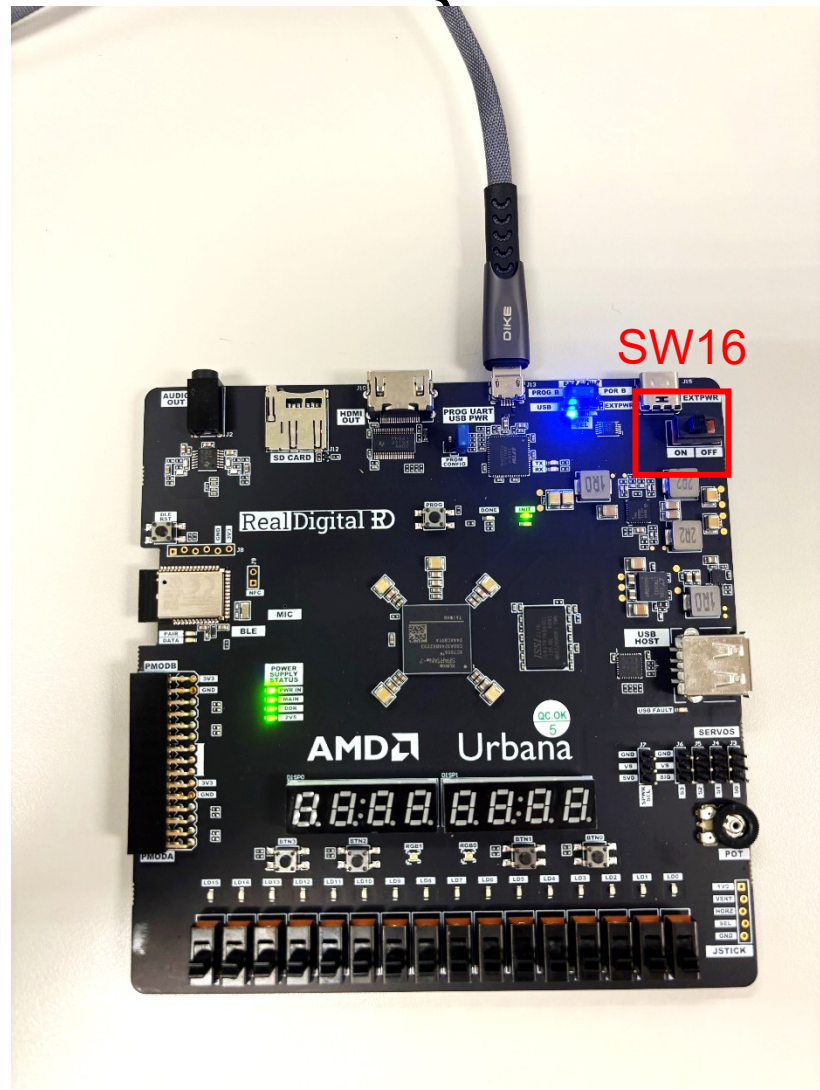




Power on Urbana Board (2/2)

- As SW16 is “ON”, you should see several green LEDs lighting up
- Now, Vivado can detect the Urbana board





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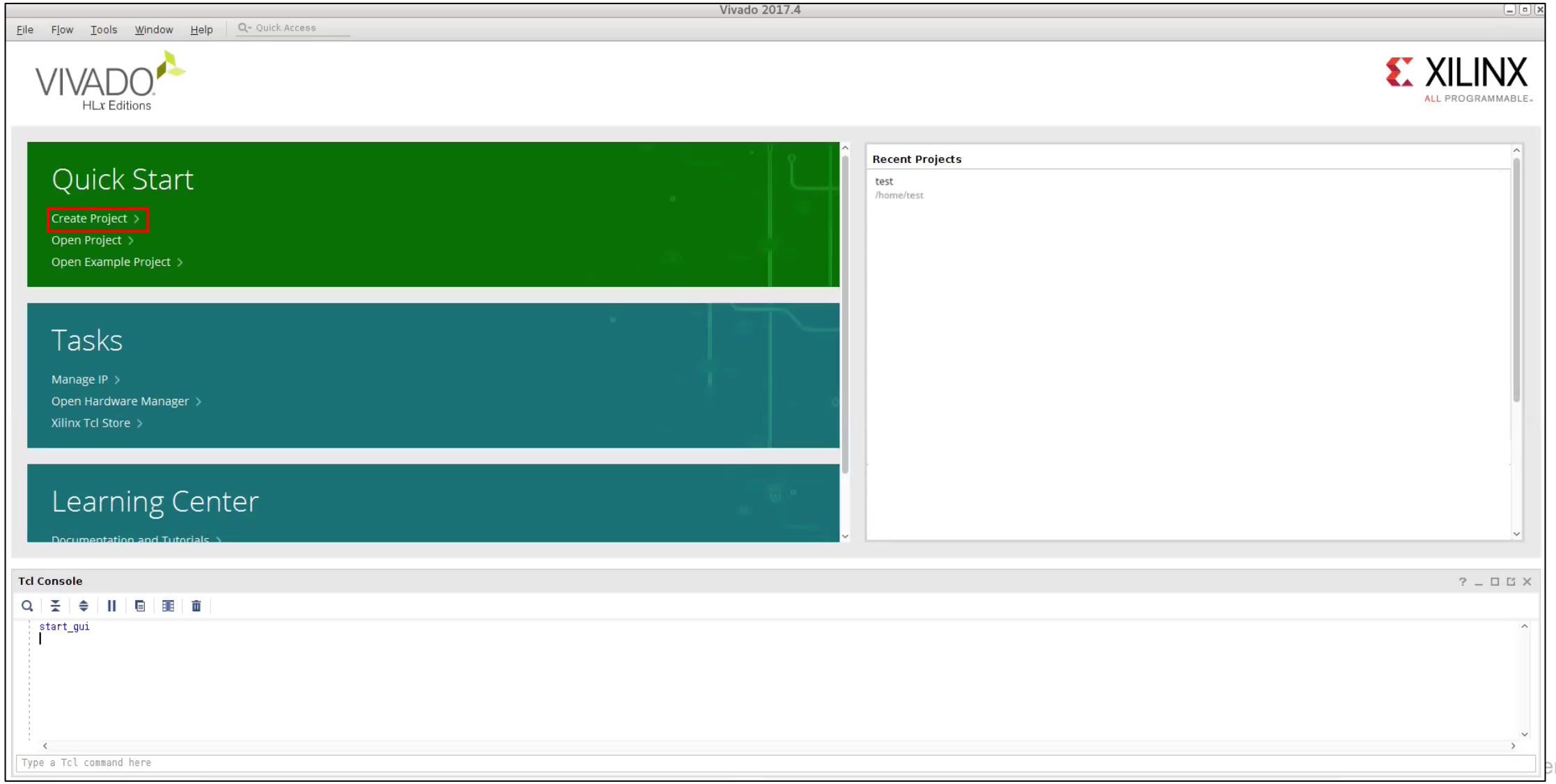
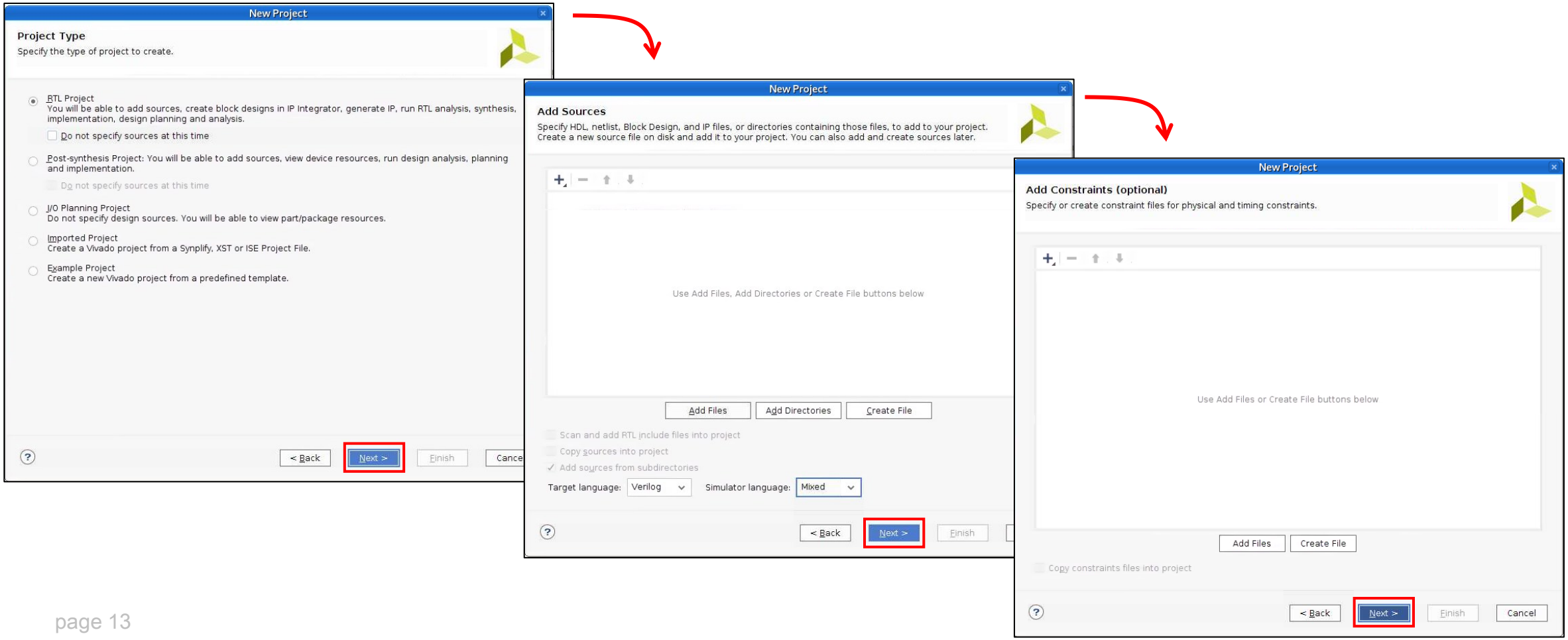
Create Project (1/3)



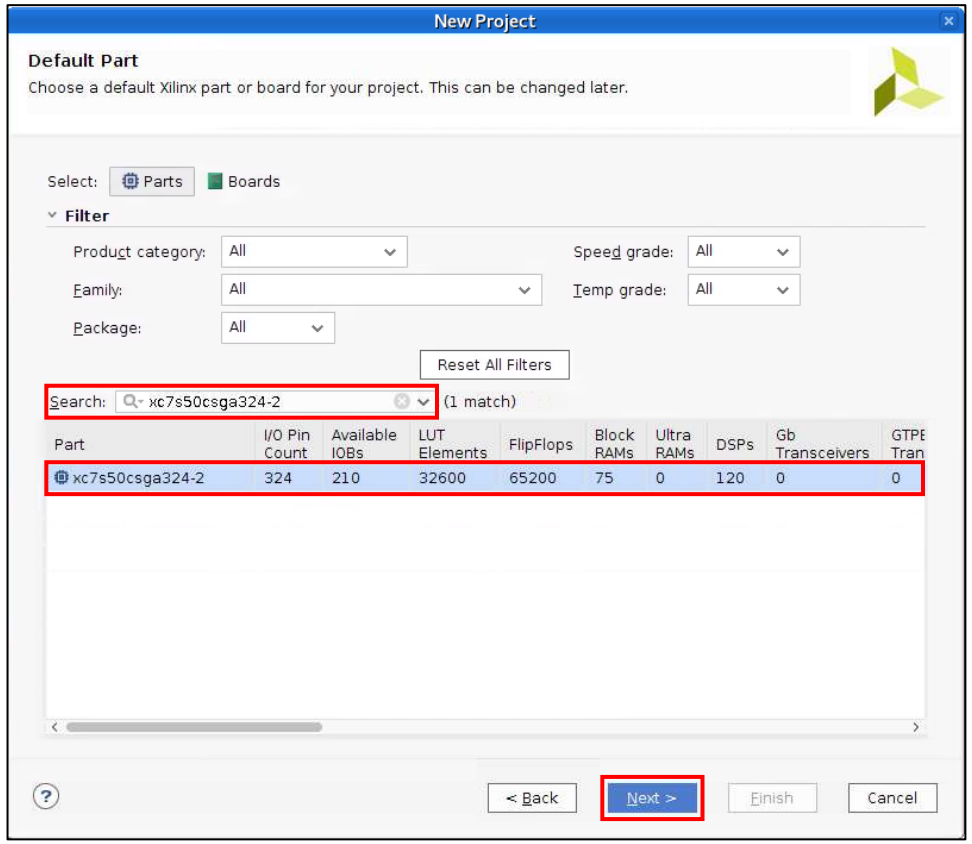
Create Project (2/3)

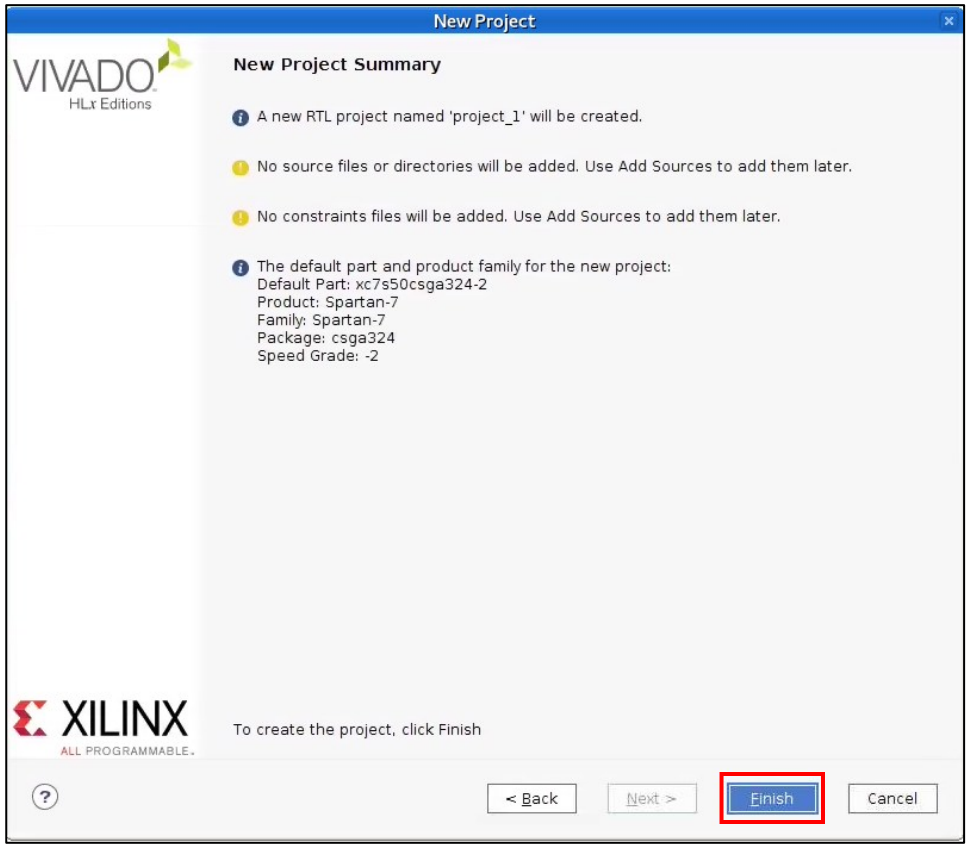
- Three “Next >”s



Create Project (3/3)

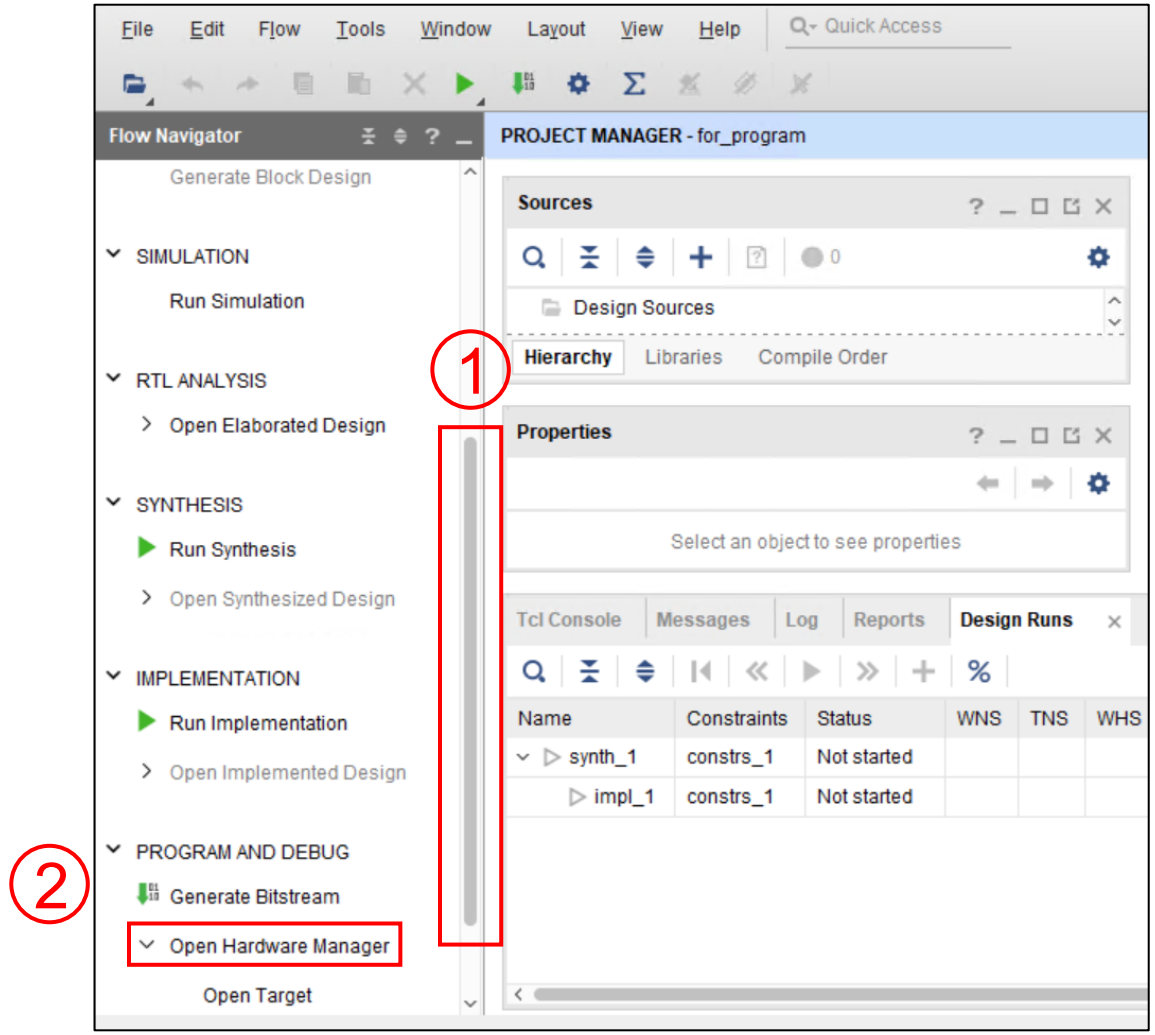
- Enter “xc7s50csga324-2” in Search bar and select the part, then finish the New Project setting





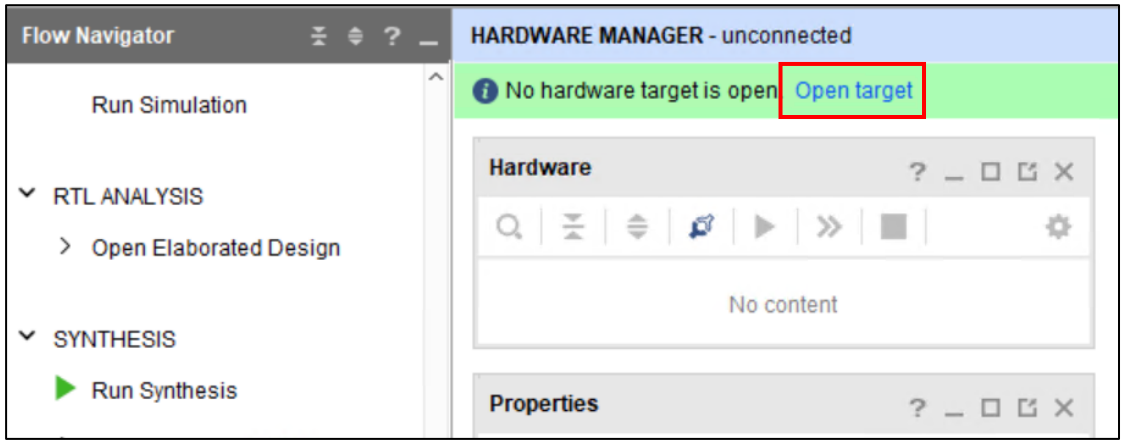
Open Hardware Manager for Programming

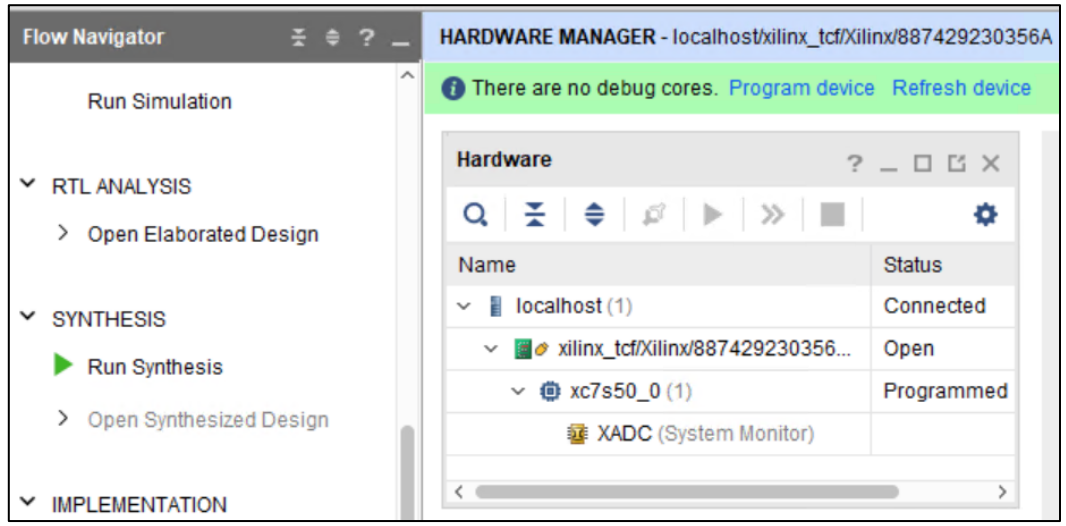
- Scroll down the Flow Navigator to find “Open Hardware Manager”, then click



Connect with Urbana Board

- In the jump-out HARDWARE MANAGER window, click Open target to connect with Urbana board
  - Before this step, make sure your board has connected to your computer via Micro-USB cable

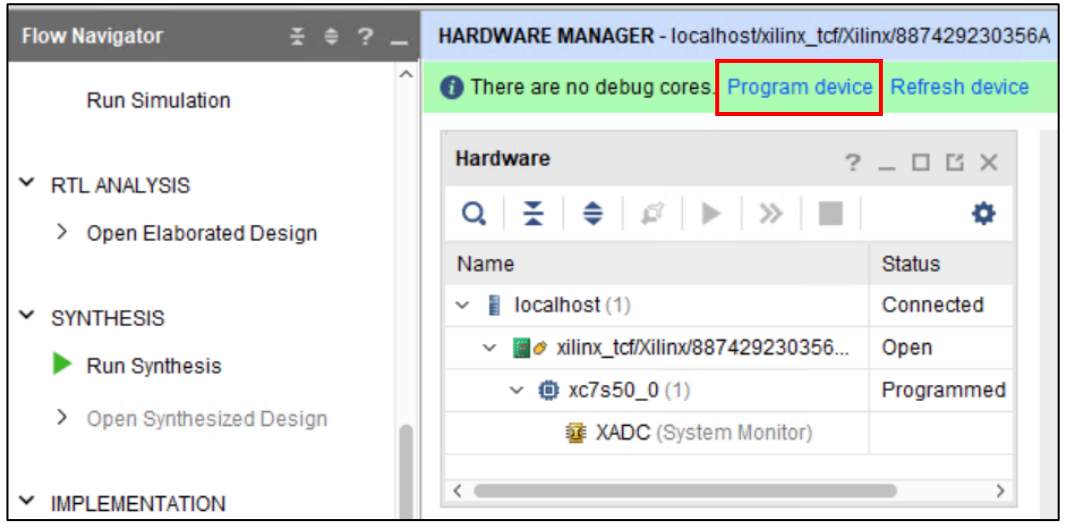


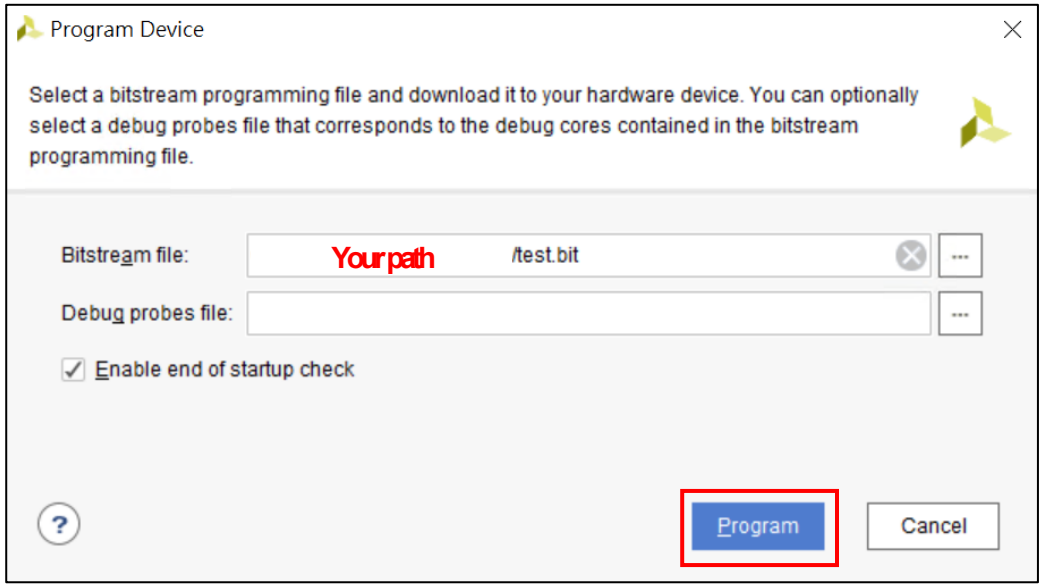


Connect successfully

Program bitstream into Urbana Board

- Click “Program device”, find the path of TA’s “test.bit” file for Bitstream file
- Then click “Program”





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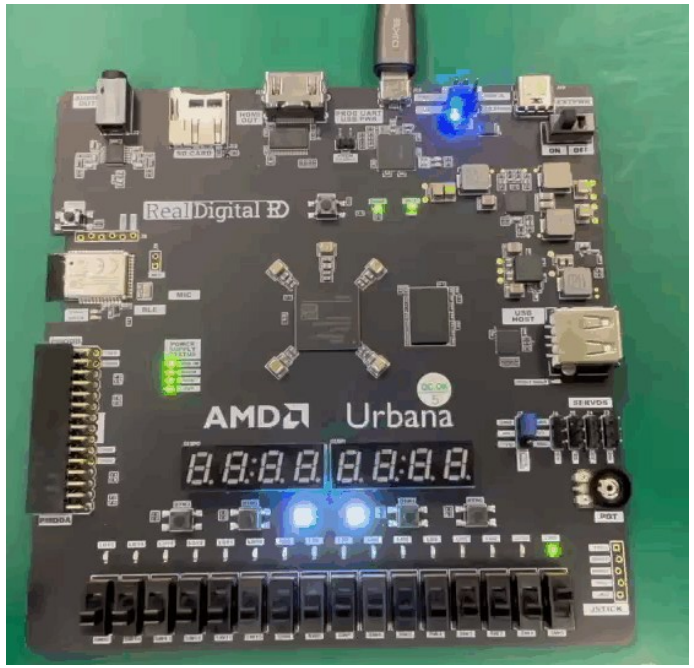
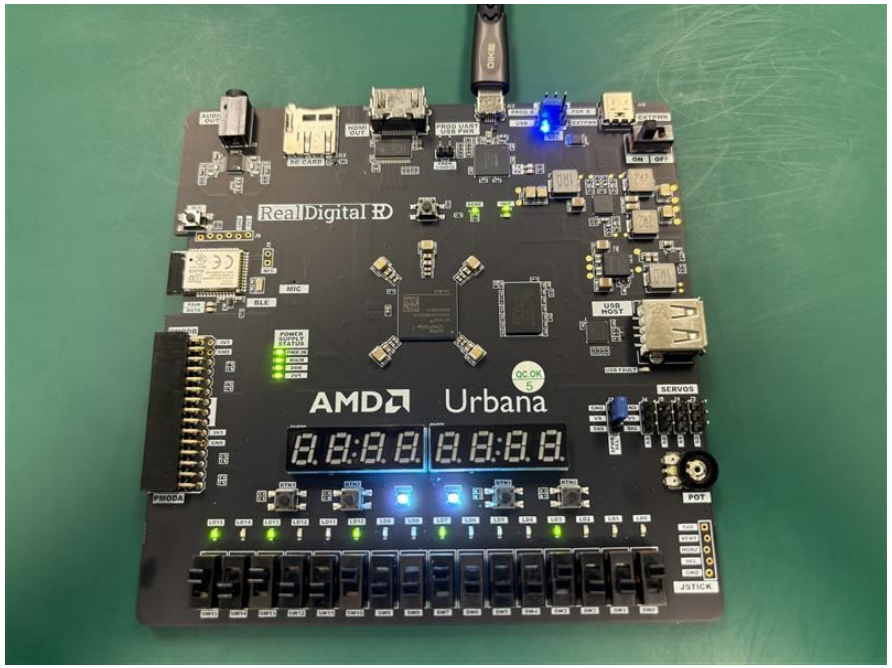
Function Check

- If programming is successful, no error message will occur on Tcl Console
- Switch on SW0, then LED0 will start to blink
- SW1~15 can control LED1~15





Feedback to us

https://forms.office.com/r/DYDu8vLaWN

Thank you!

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Contact us: PUFacademy@pufsecurity.com