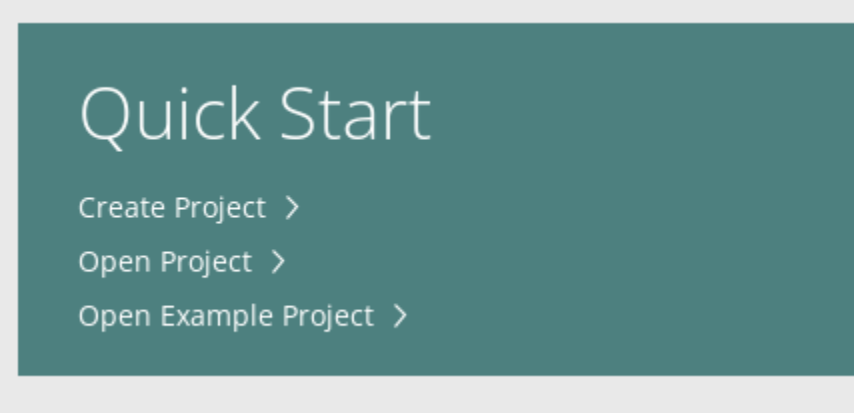
EEx62 Lab 0

Tasks

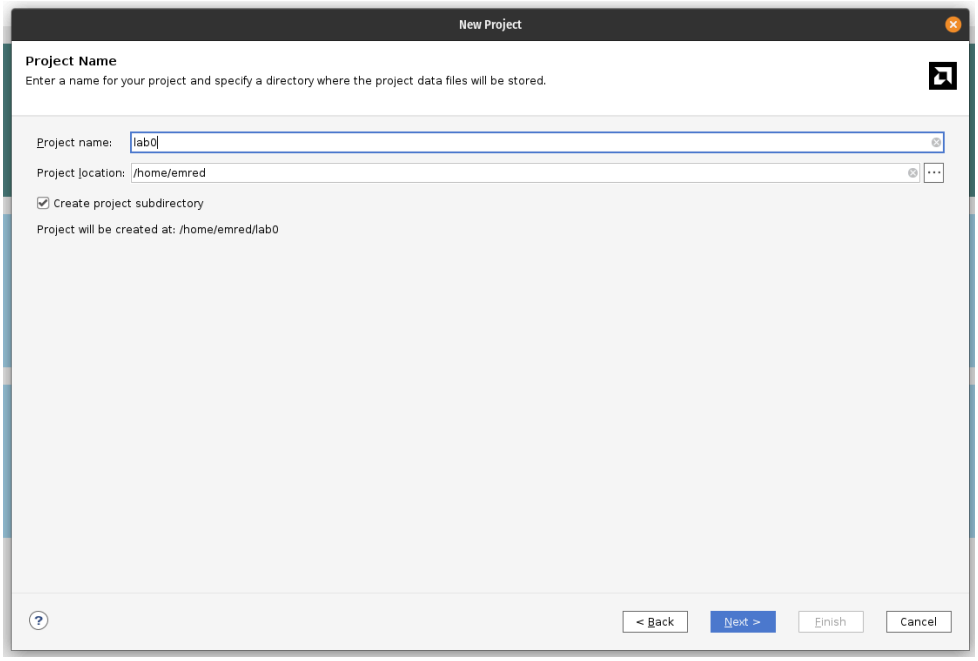
1. Synthesize slidingDot.v
2. Generate the Bitstream file
3. Program the device
4. Show your work to the TAs
5. Take a photo of your board while your design is running
6. Upload it to LMS in a zip file (Name it Sxxxxxx_Sxxxxxx.zip or Sxxxxxx.zip, where the x's are your and your partner's (if you have one) student IDs)

Steps

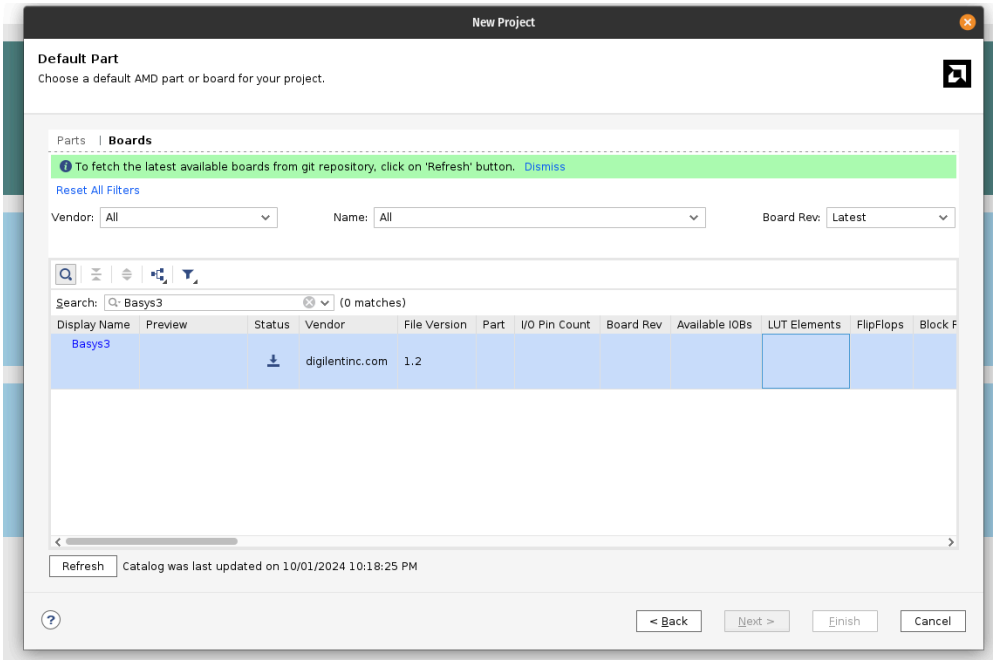
1. Start Vivado and create a new project.



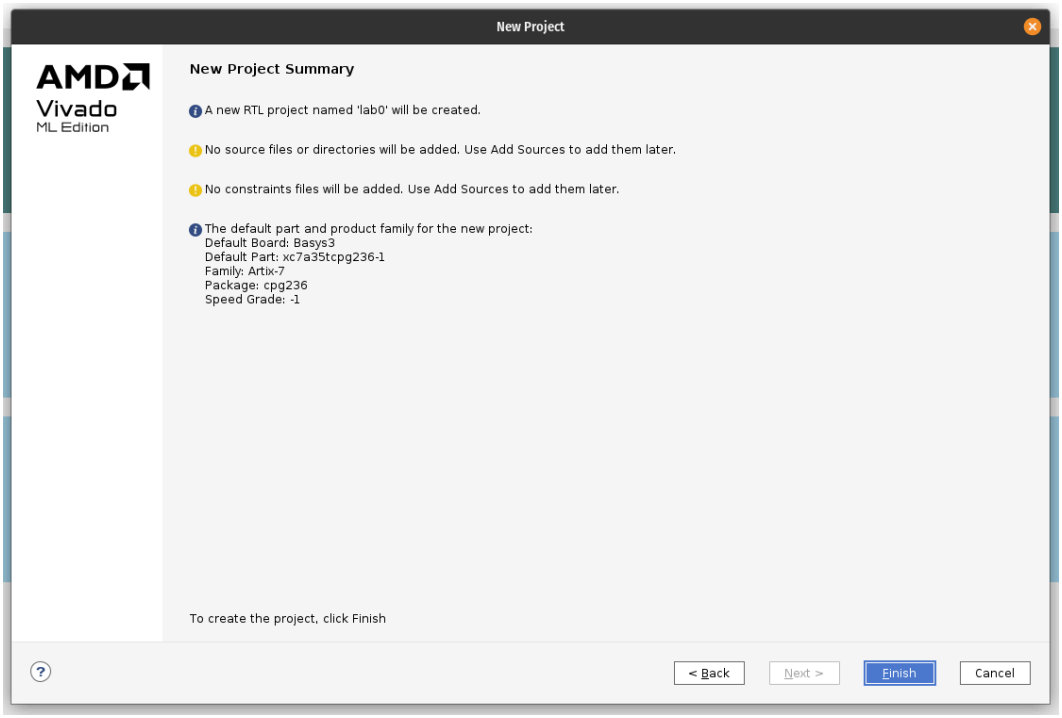
2. Give your project a name and select a directory to place it. Keep the rest of the settings until you reach the device selection screen.



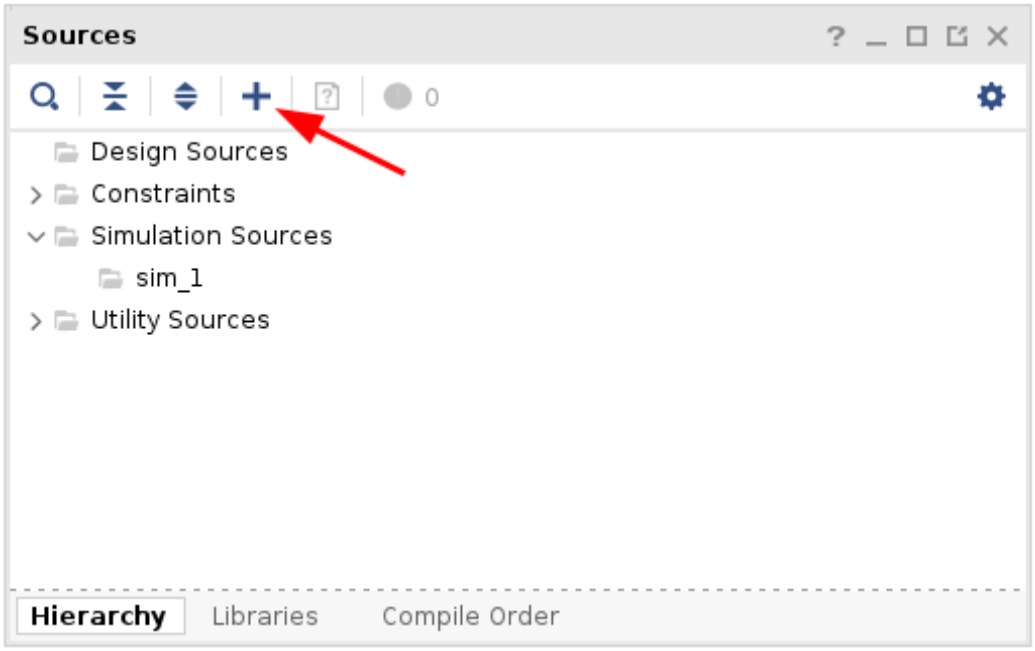
3. Go into the “**Boards**” tab and select “**Basys3” on the device selection screen**. If you can’t find the device, click the “**Refresh**” button at the bottom. Vivado will download the latest board database, and you will be able to see the board.



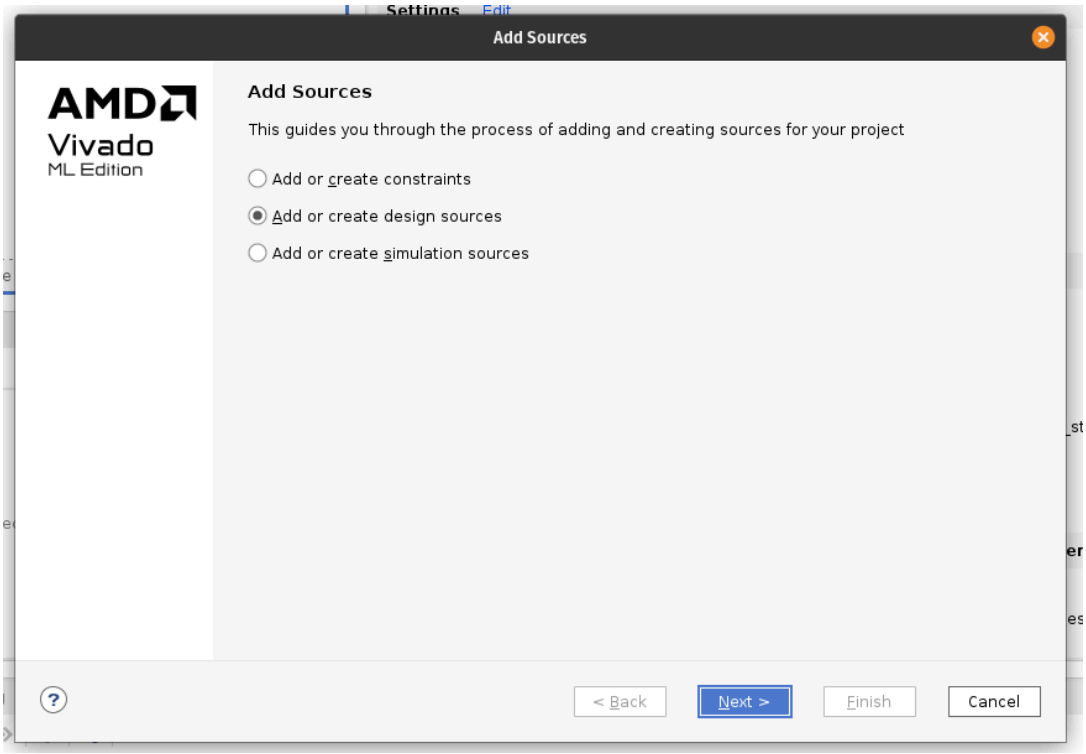
4. After selecting the device, click “**Finish**” on the **next screen**.



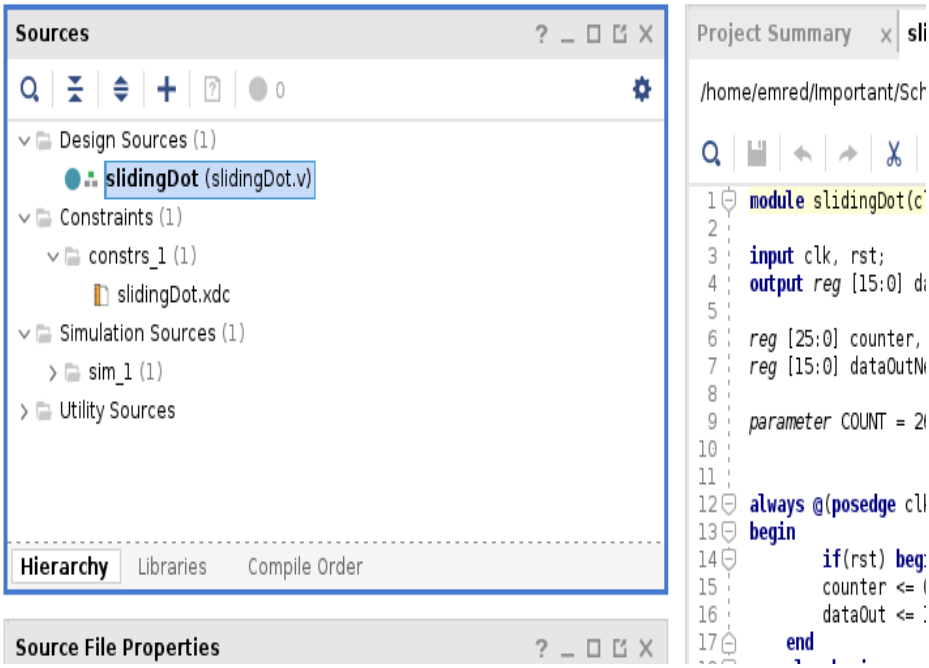
5. On the main screen, click the plus icon at the top left corner.

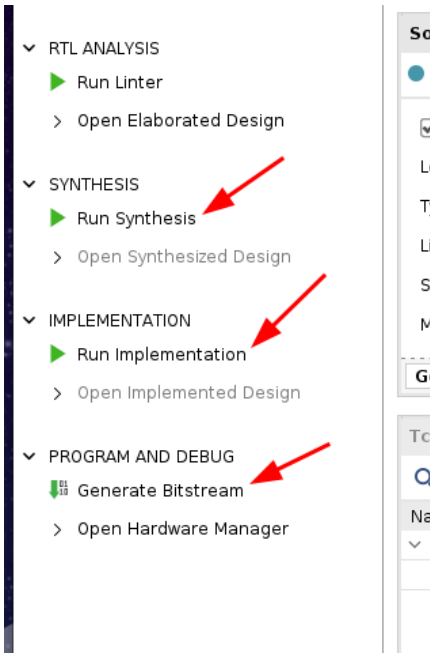


6. When the “**Add Sources**” screen appears, first select “**Add or create design sources**” and add “**slidingDot.v**” to your project. Then, follow the same process by selecting “**Add or create constraints**” to add “**slidingDot.xdc**” to the project.



7. At this point, you should be able to see both files.



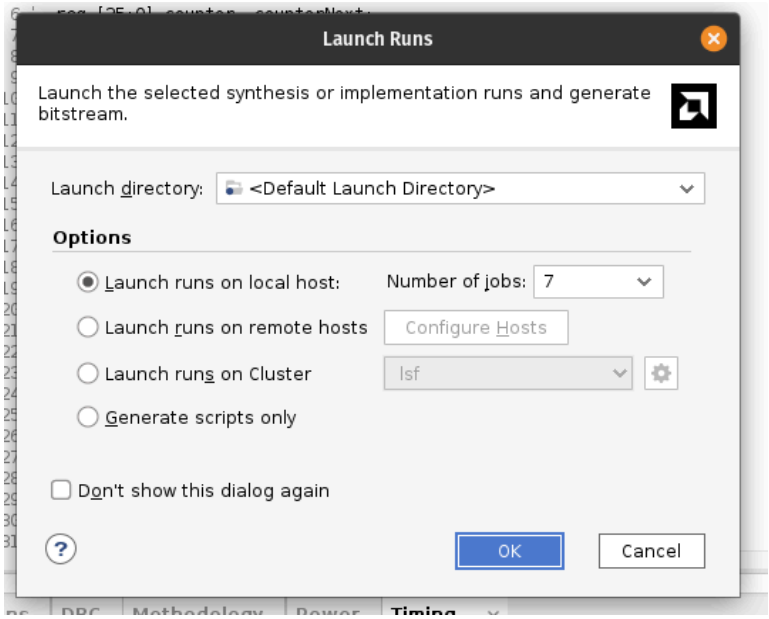


8. Now, we will synthesize our first design. On the left side, you will see different stages of the development process. For now, click on the "**Generate Bitstream**" button.

Note: Pressing on any later stages of the process will automatically run the previous stages.

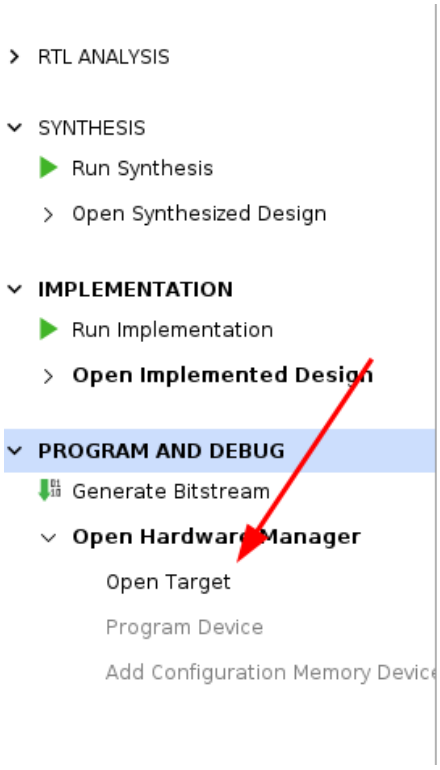
9. When the "**Launch Runs**" window opens, click "**OK**" to run the process. You don't have to change anything on this screen.

   Note: You can increase the "**Number of Jobs**" to a higher number if your computer allows it. It'll make Vivado use more hardware threads (on your CPU) to speed up the process.



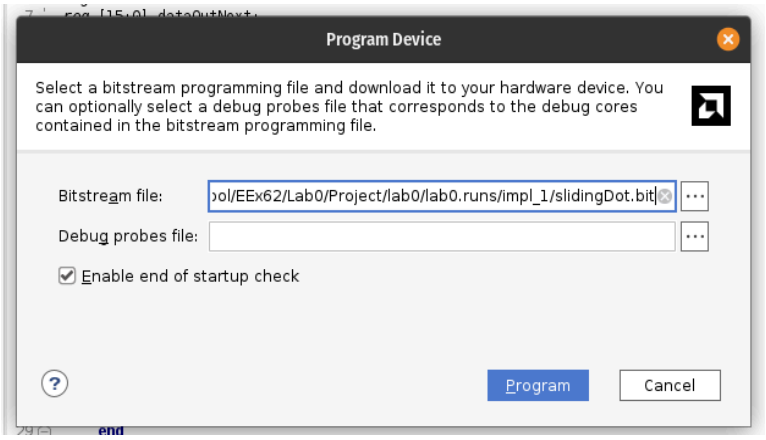
10. When the process finishes, a new screen will appear. Click on "**OK**".

11. Now, we will program our device. Please ensure the device is connected to your computer and turned on.



12. Click on "**Open Target**" and then "**Auto Connect**". It will automatically detect your device.

13. Click on "**Program Device**". A new window will pop up. Click on "**Program**".



14. You should see your device light up and automatically run the design.