

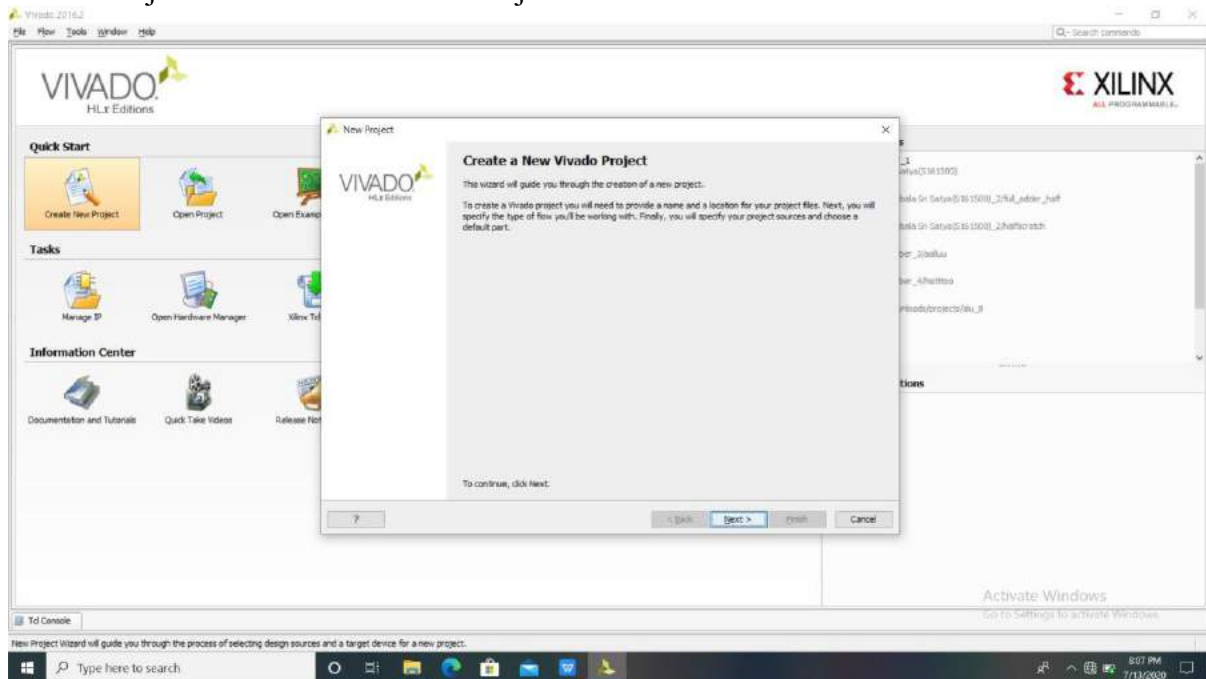
IP creation for Full Adder

Main Steps:

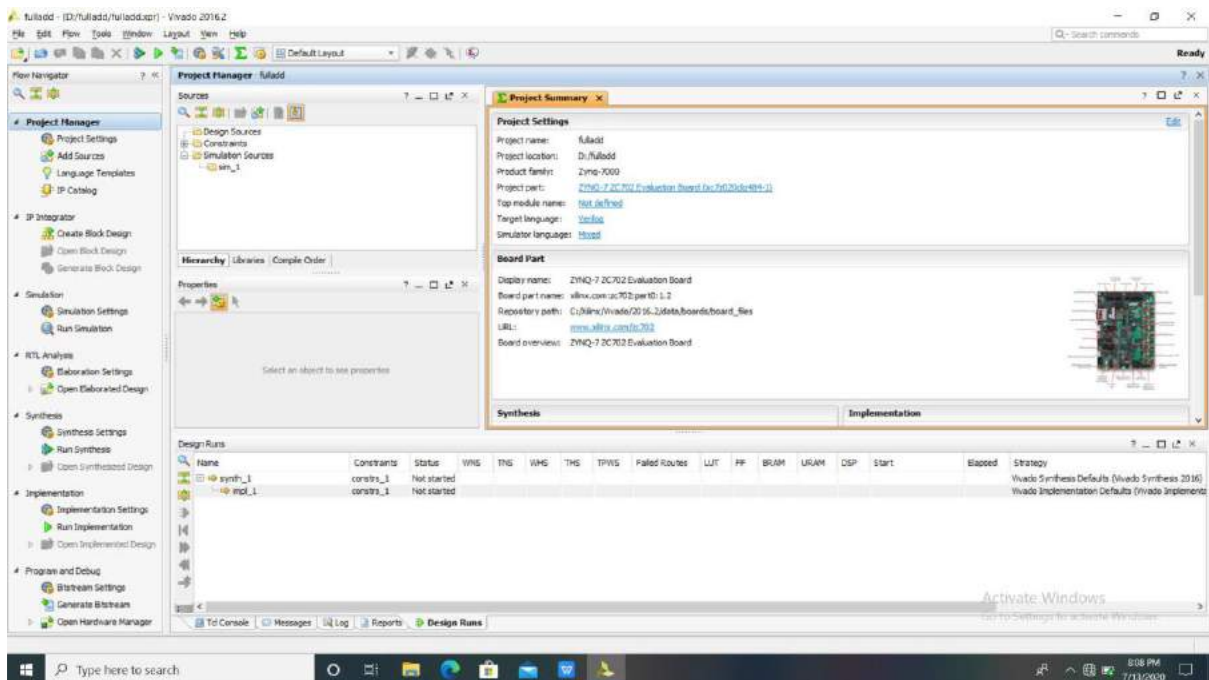
- write the full adder code
- Run Simulate
- RTL Schematic
- Synthesis
- Run Implementation
- Generate Bit Stream
- Create IP.

Detailed Steps:

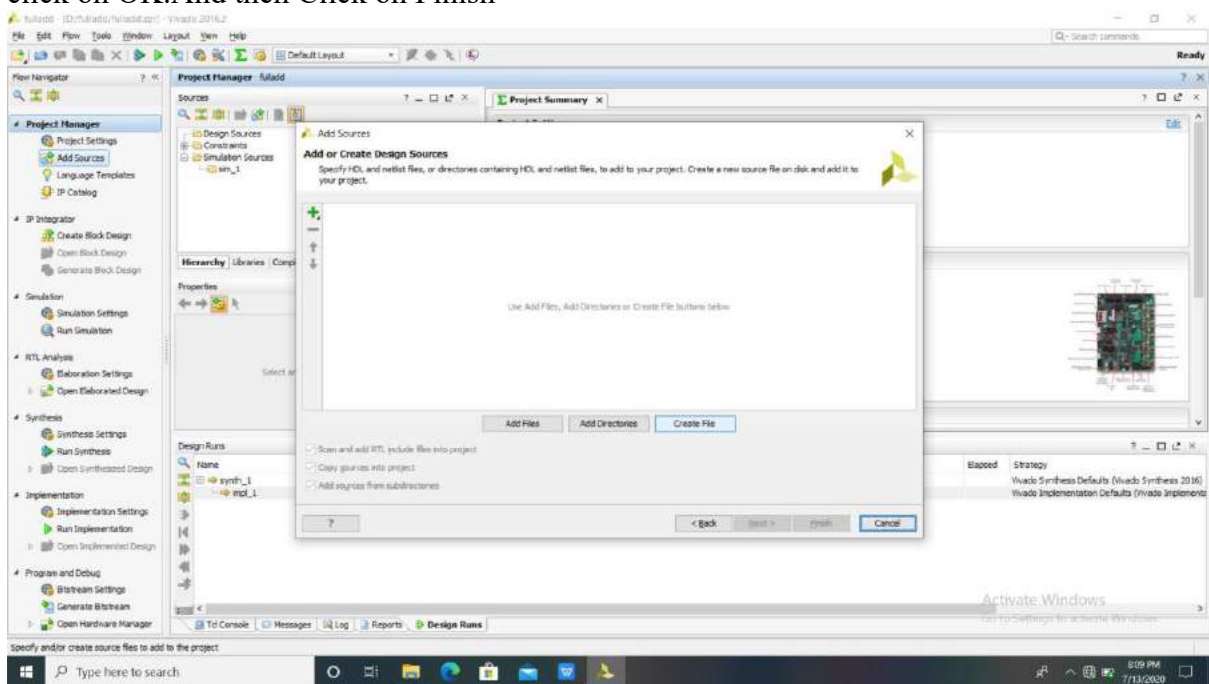
1. Open Vivado 2016.2 click on Create New Project. A new window opens Click on Next-->Enter Project Name-->Select RTL Project-->Next-->Select Board-->Next-->Fin

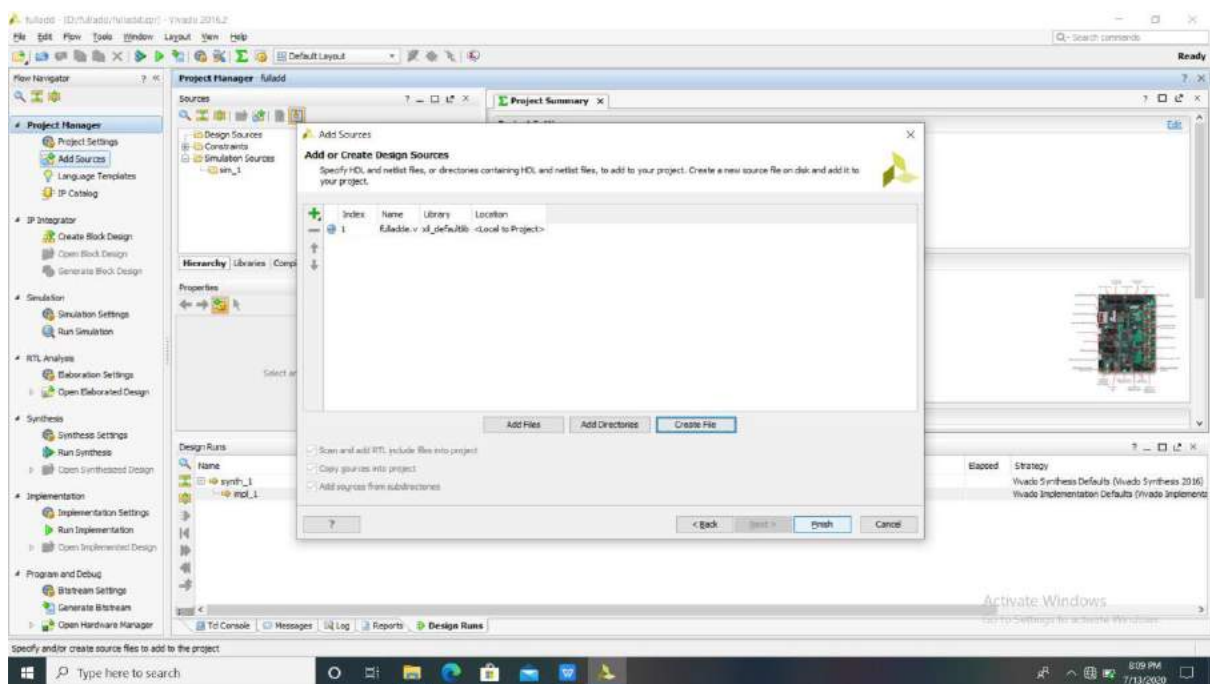
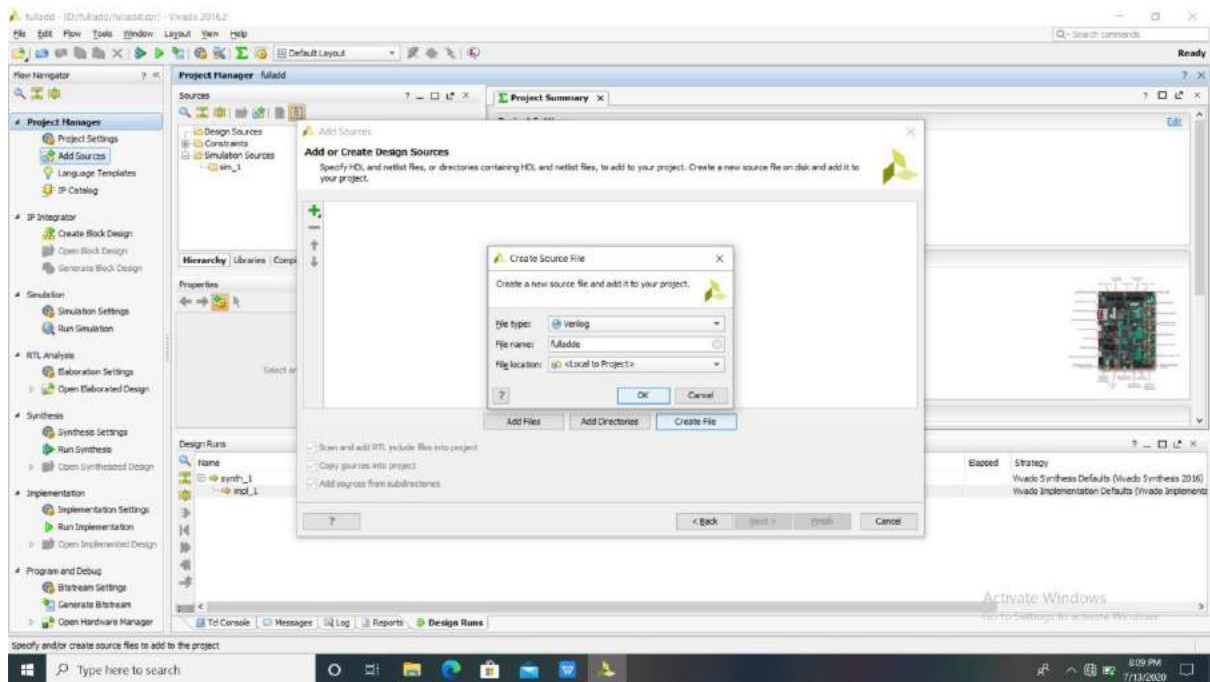


2. A new Project is created in the chosen directory. Click on Add Sources which on the right side of the window. A new window will be opened.

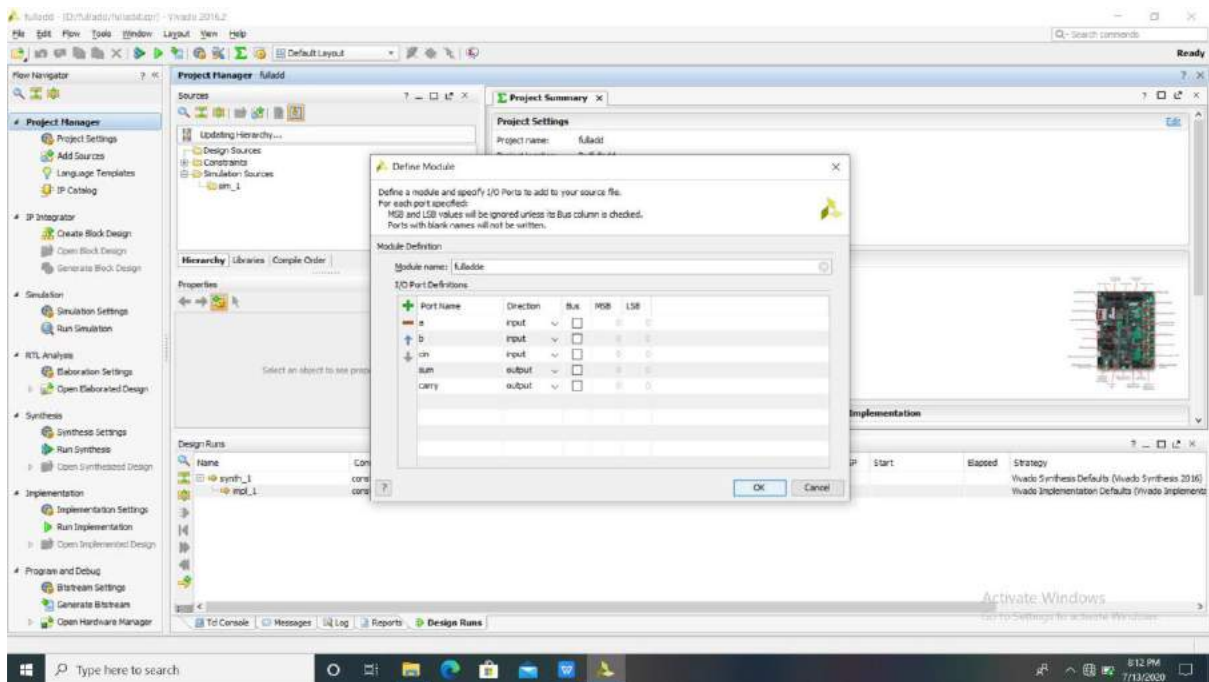


3. Click on Create File. A new pop up window opens. Enter File Name and click on OK. And then Click on Finish

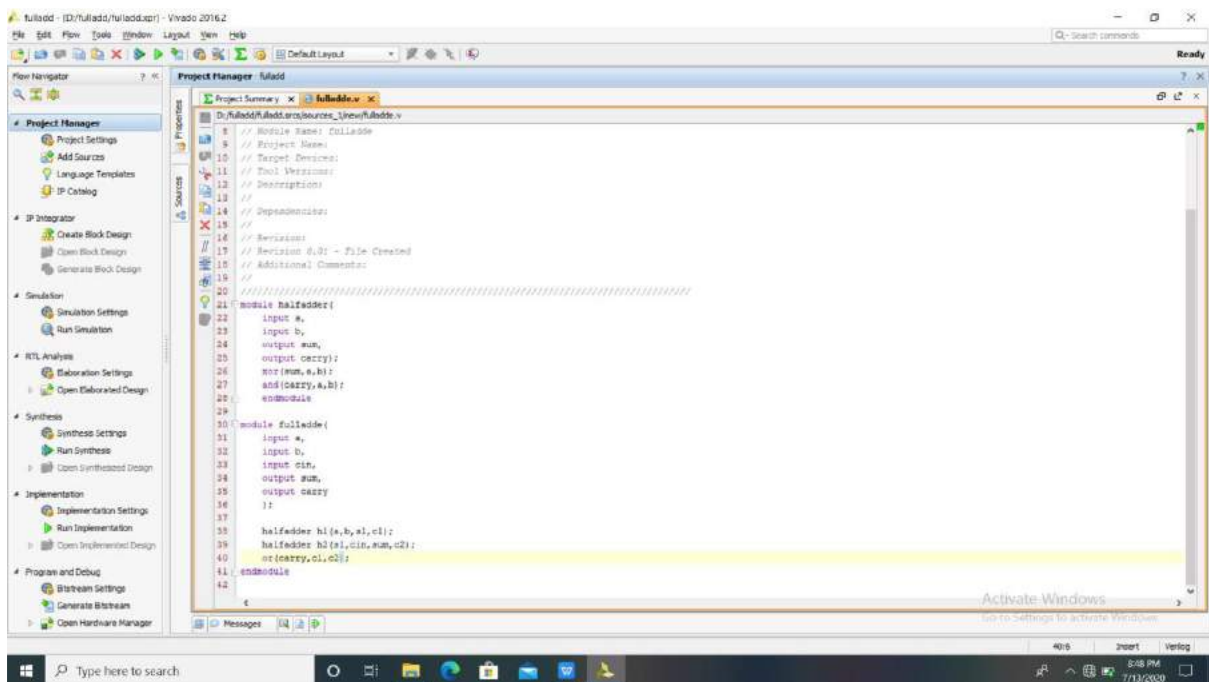




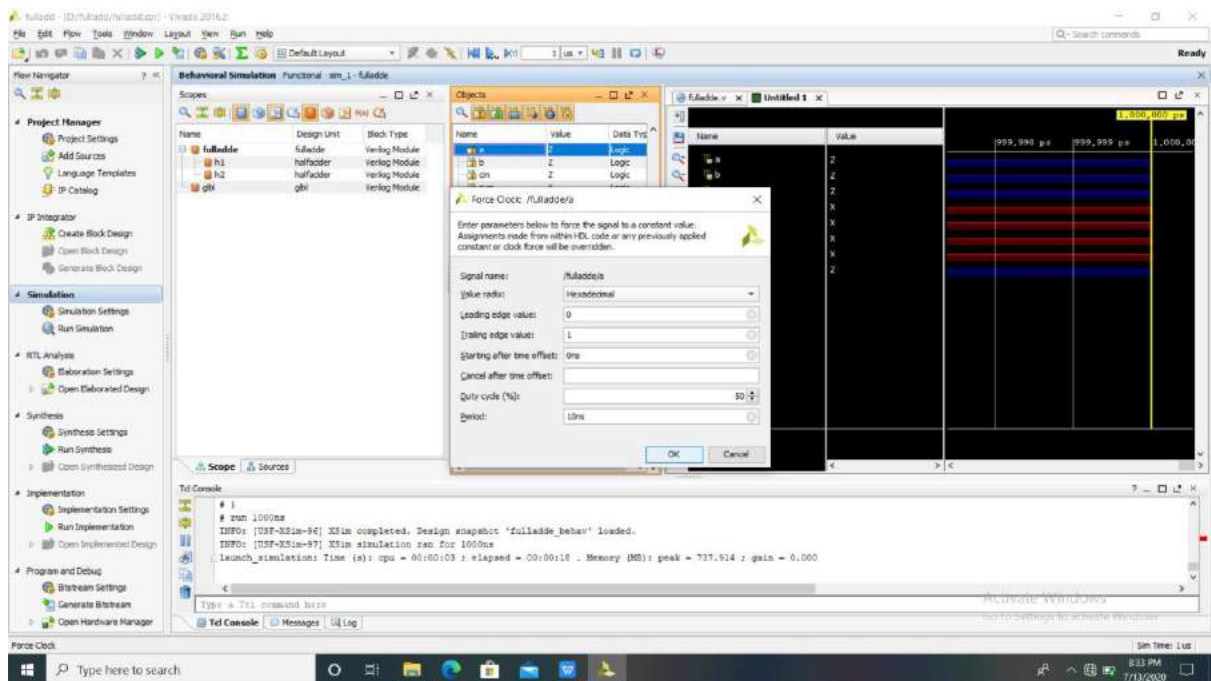
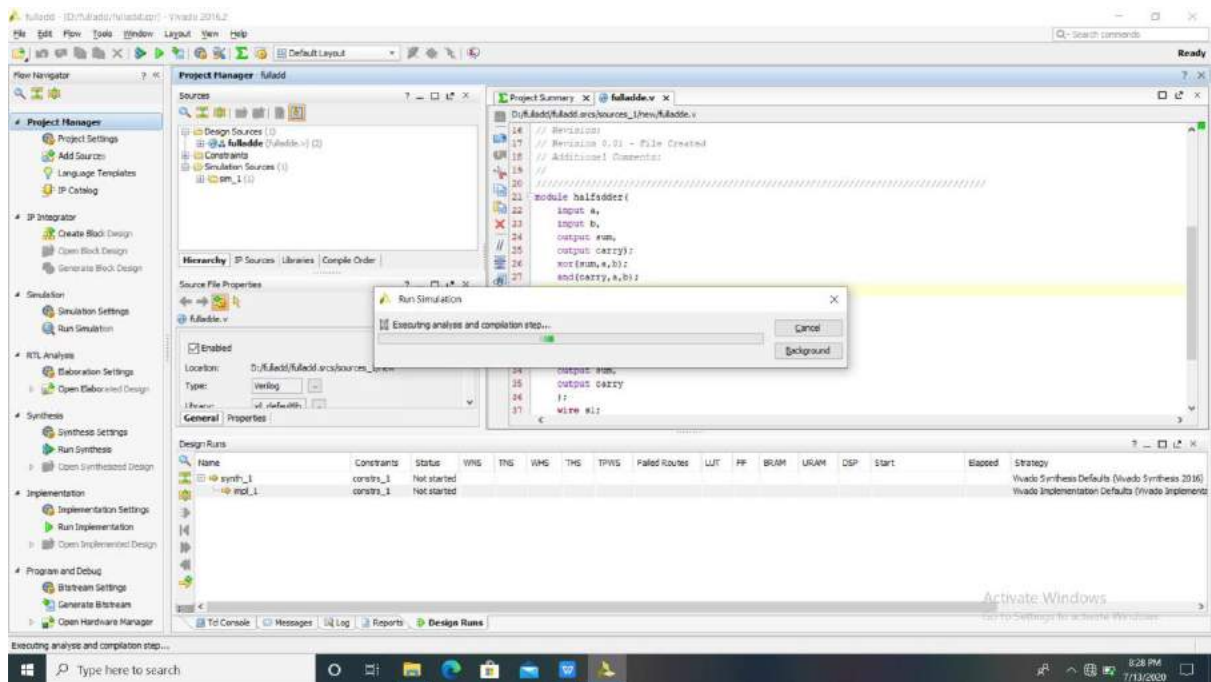
4.A new window for defining module will be opened Enter the variables which are to be used while writing program and assign them as input/output.

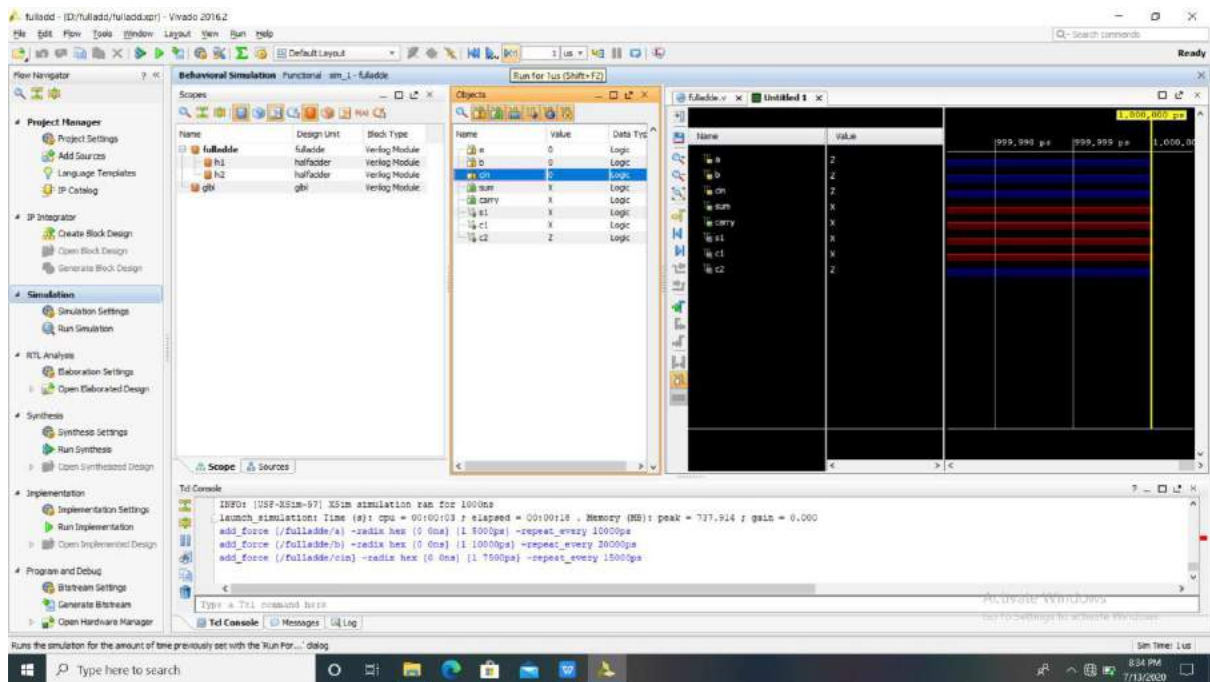


5. The code for the required project is as follows.

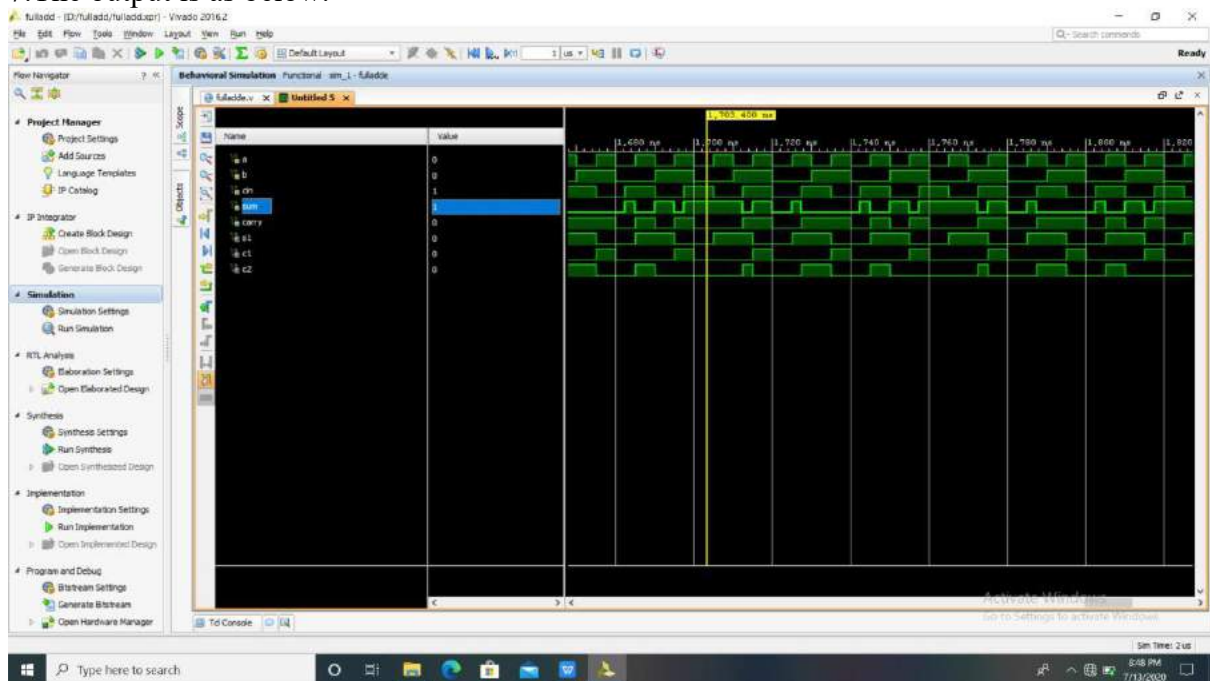


6. Click on Run Simulation. Right Click on the variables. Select Force Clock. Enter leading edge and trailing edge values. Click on Run for 1μ sec.

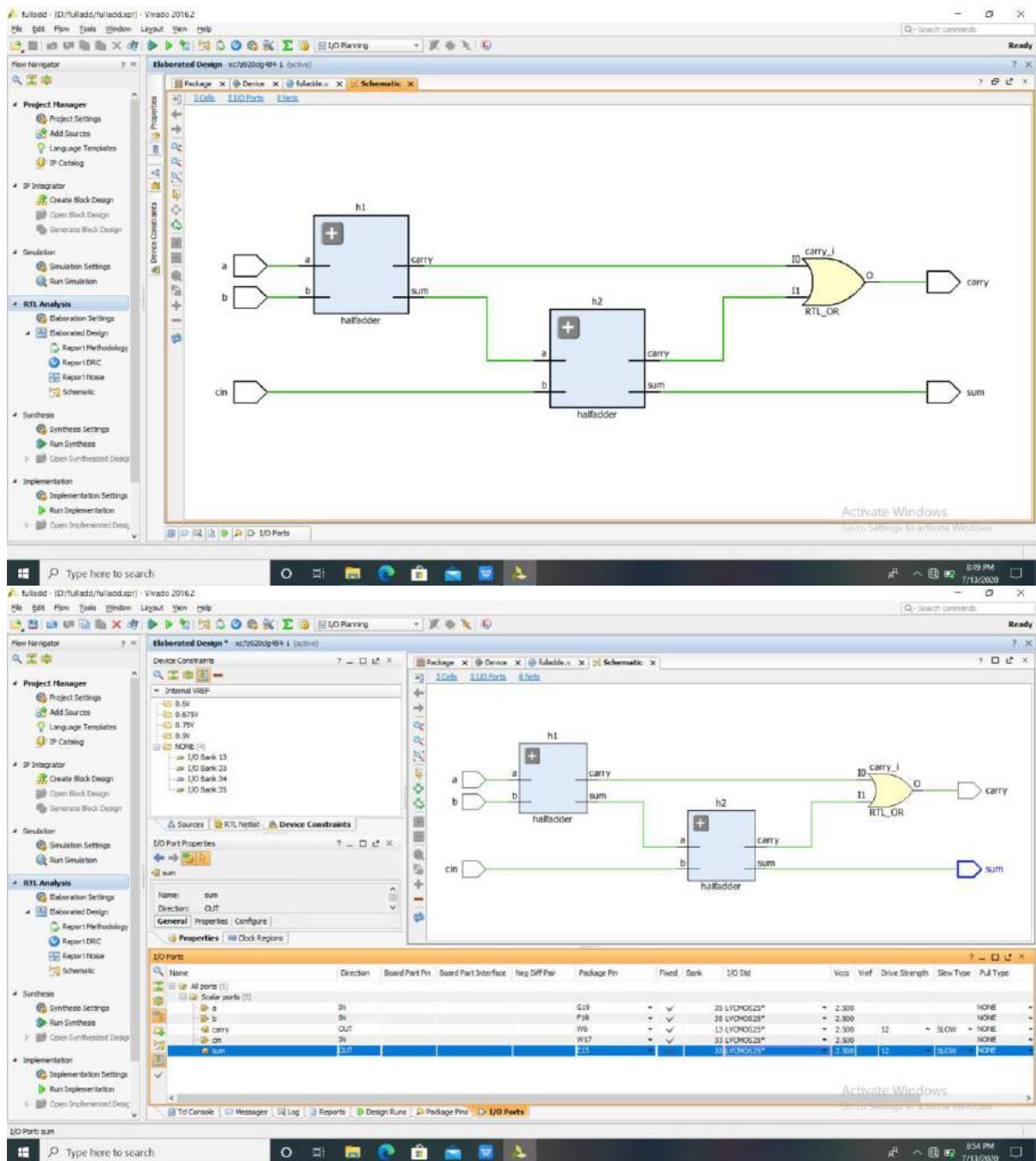




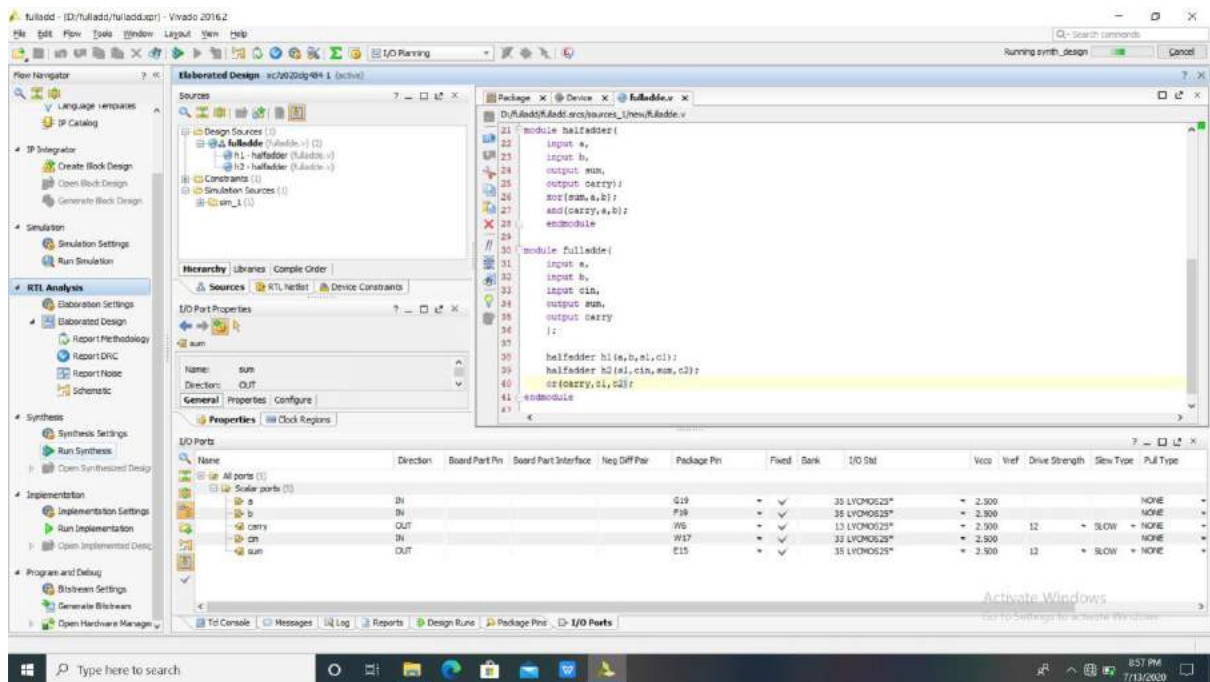
7.The output is as below.



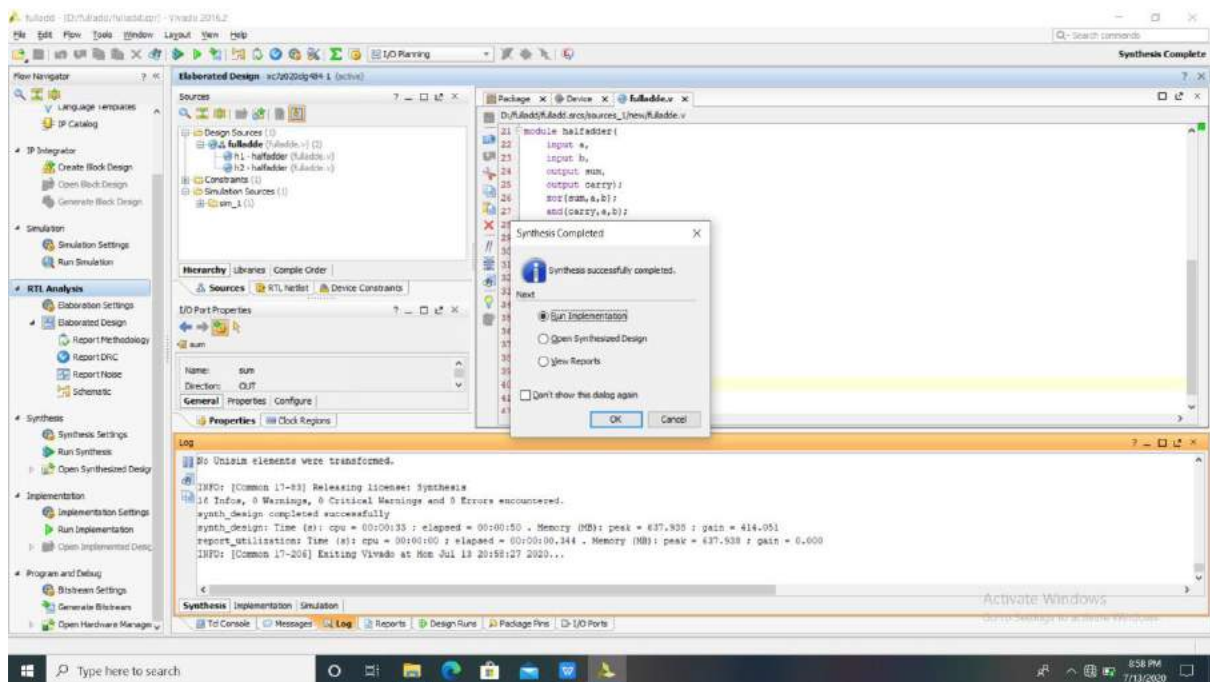
8.Click on Schematic.RTL schematic opens. Enter the package pins according to the inputs and output pins.



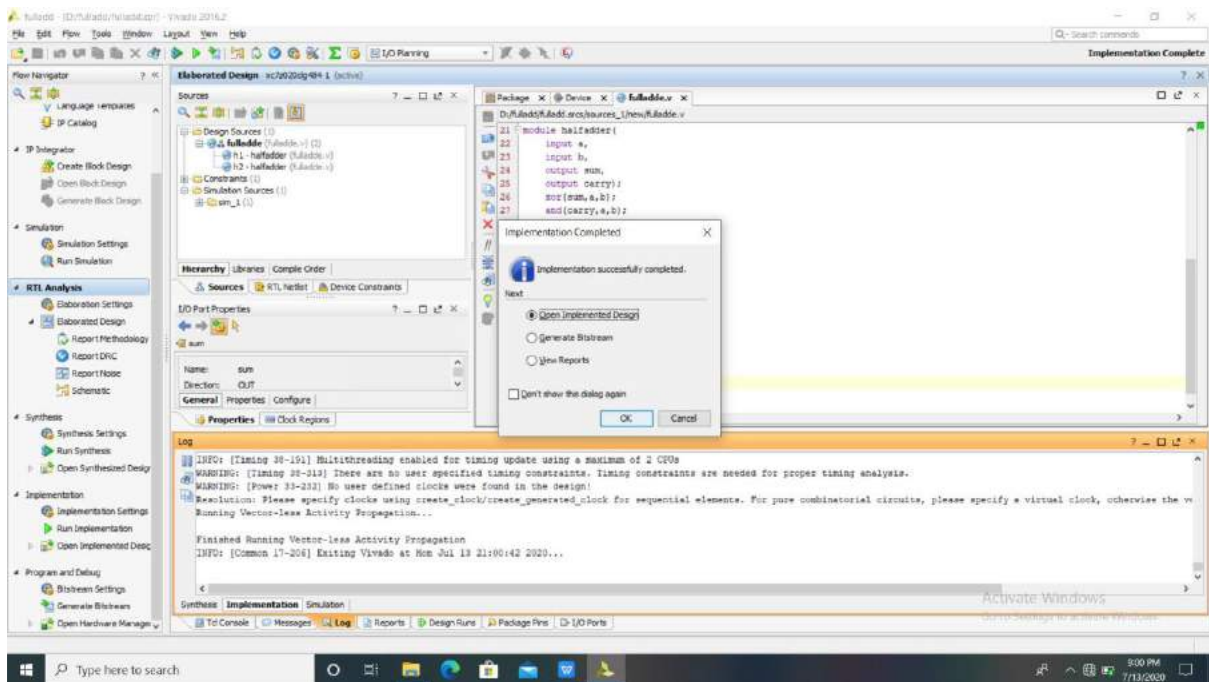
9. Click on Run Synthesis



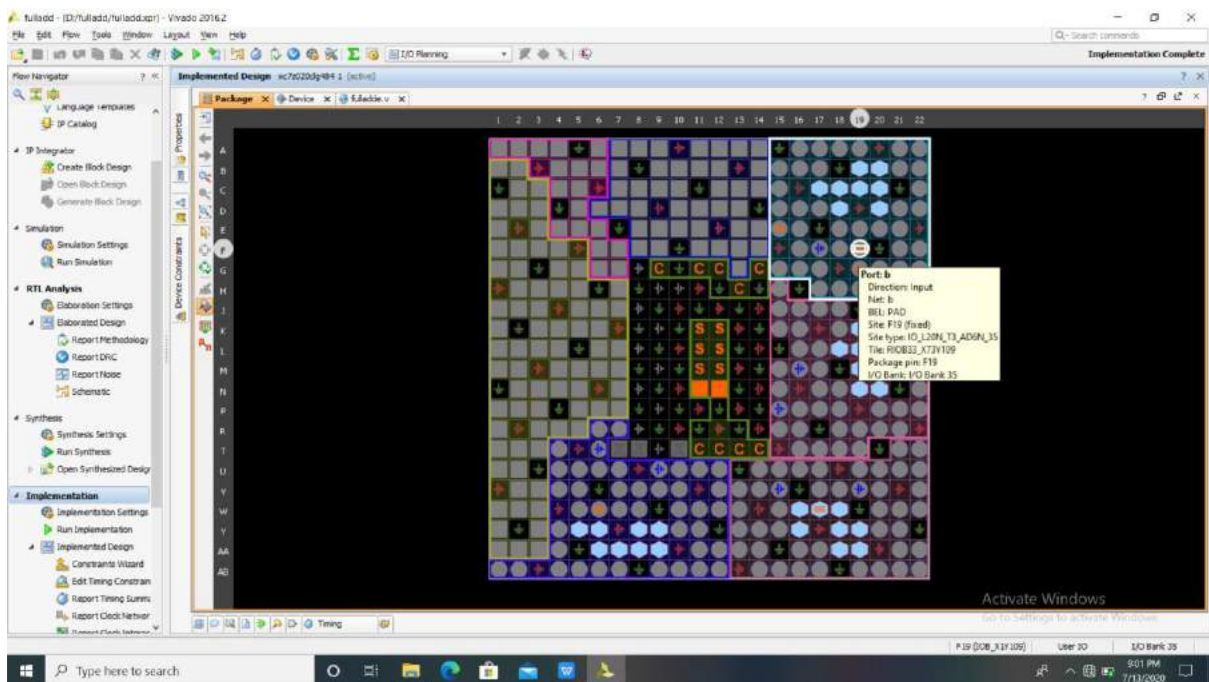
10. Synthesis Successfully Completed. Click on Run Implementation.



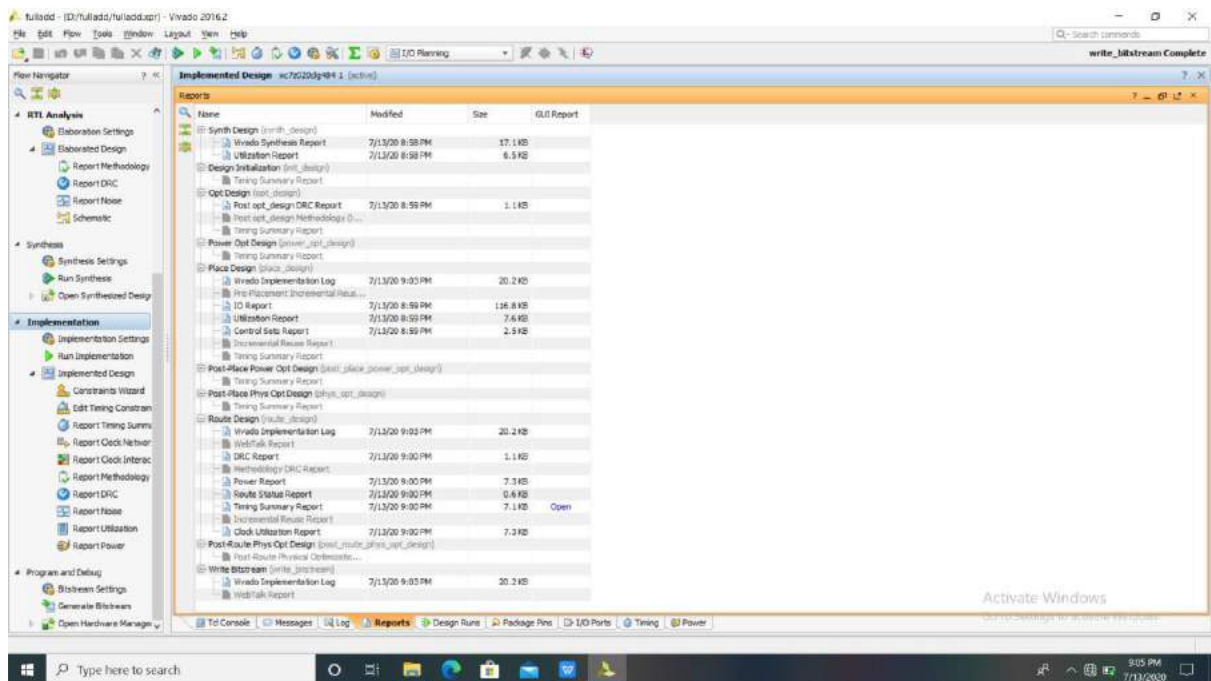
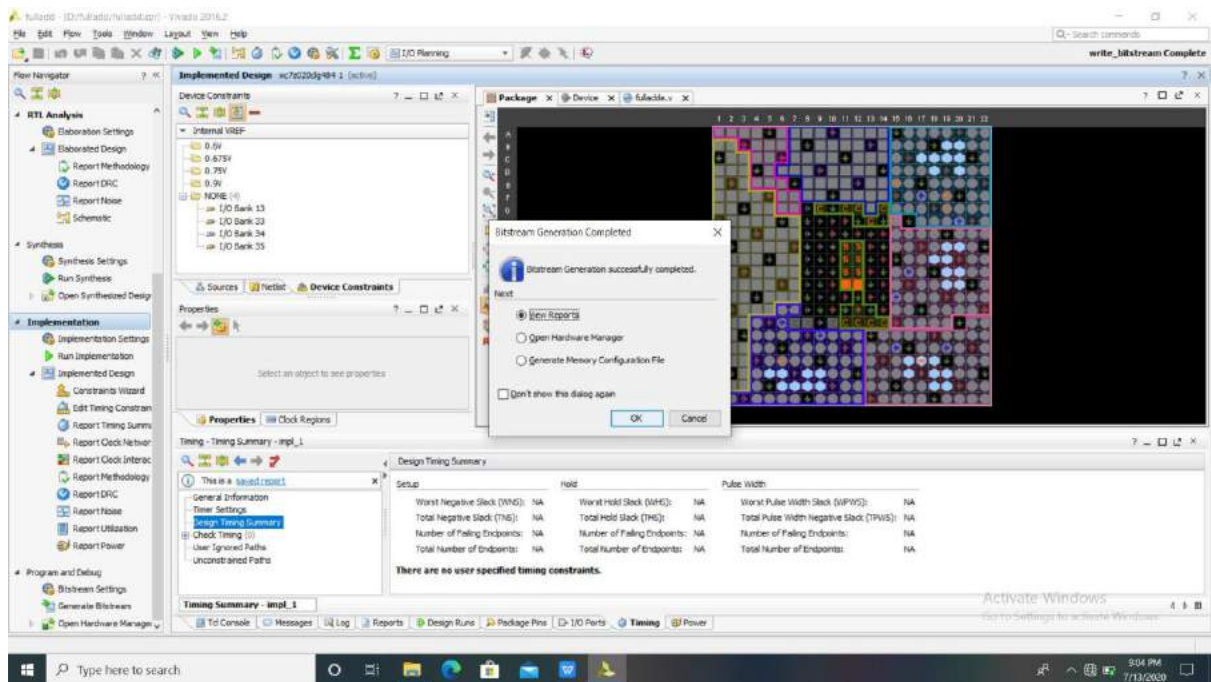
11. Implementation Successfully Completed. Open Implemented Design.

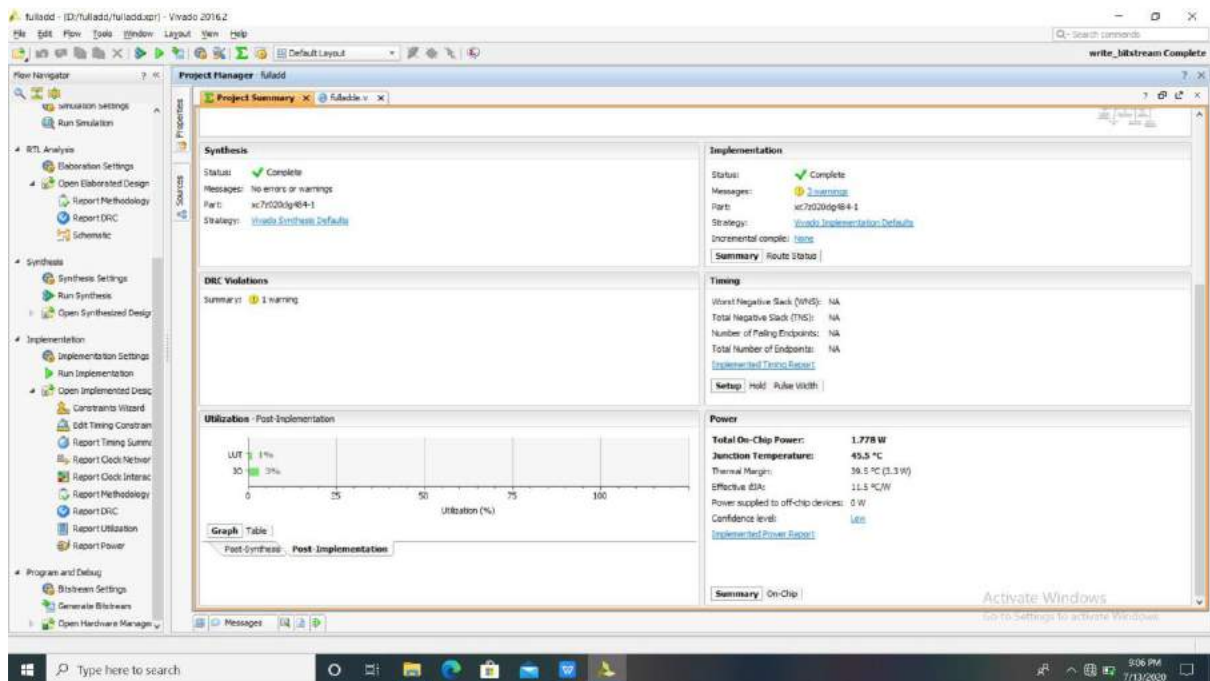
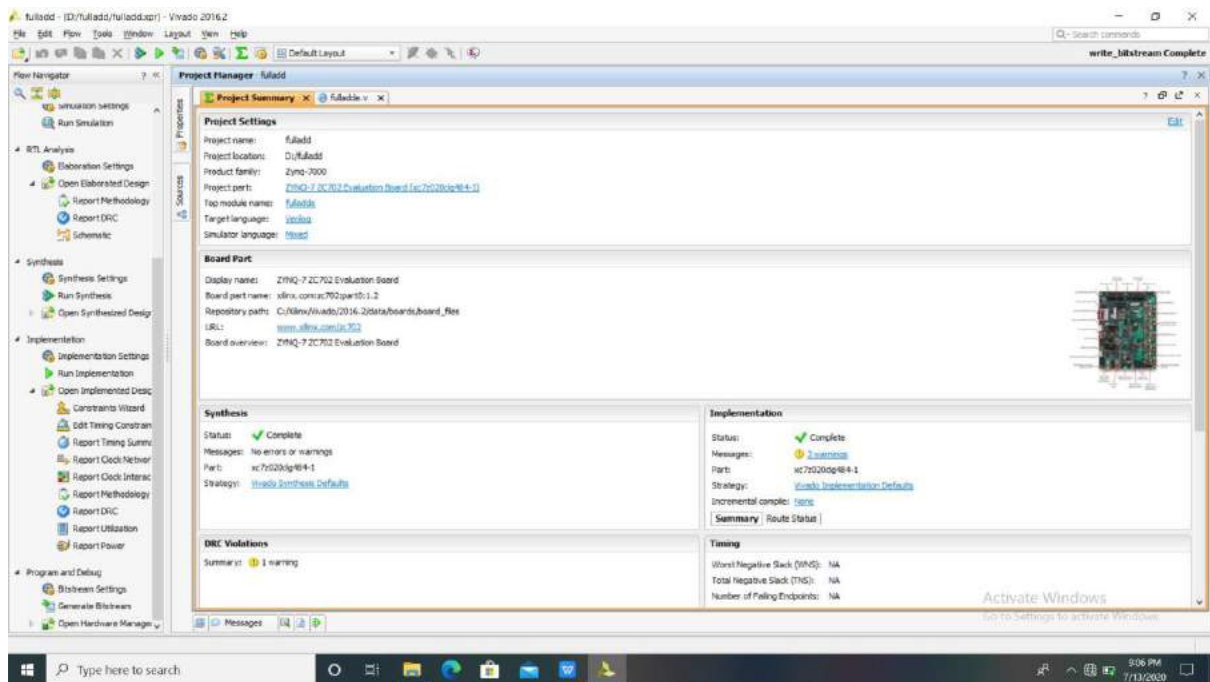


12.Implemented Design is as follows. Click on Generate Bit Stream.

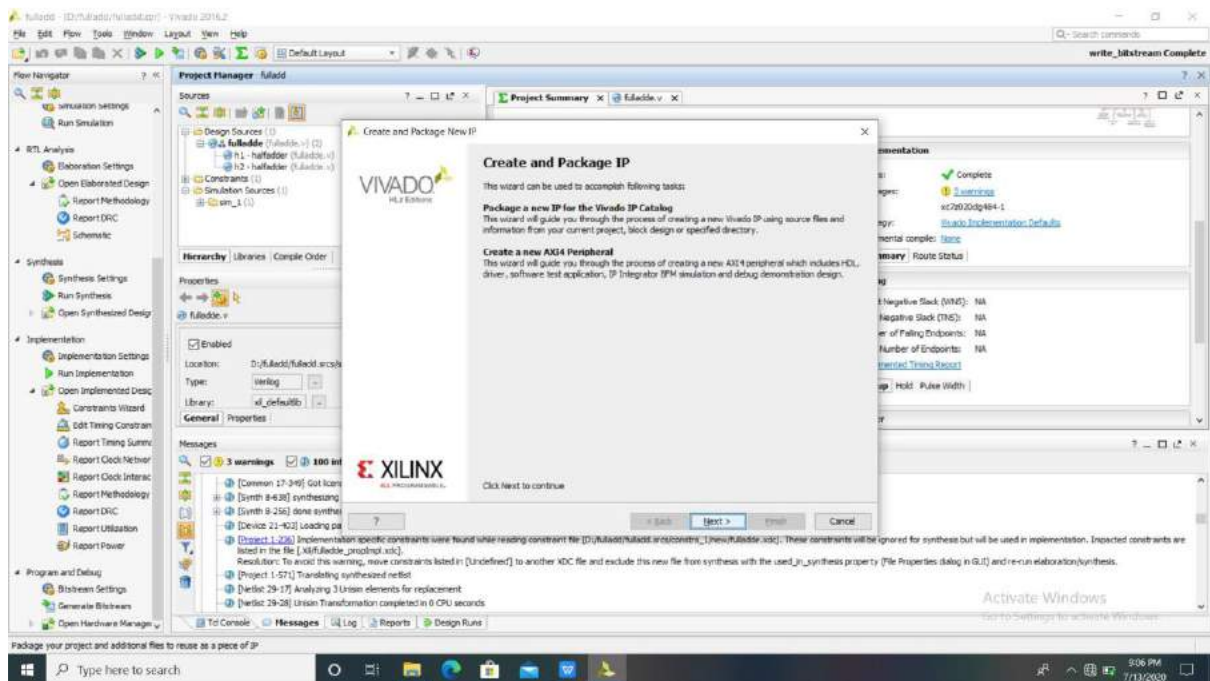
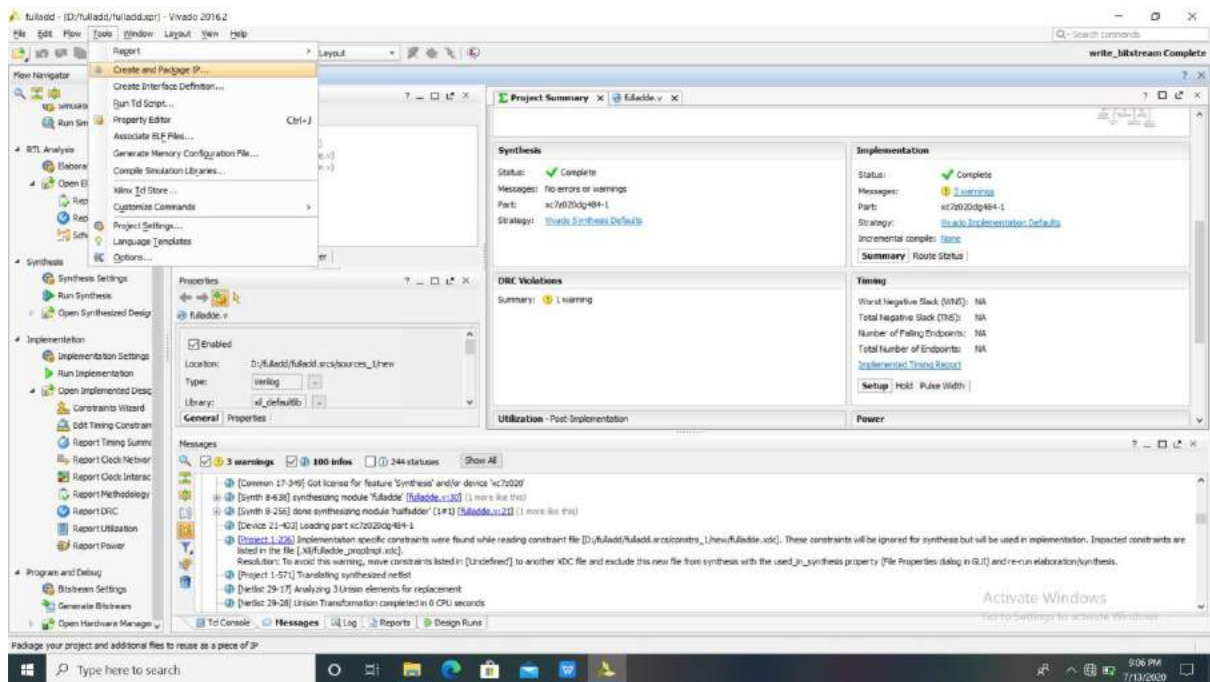


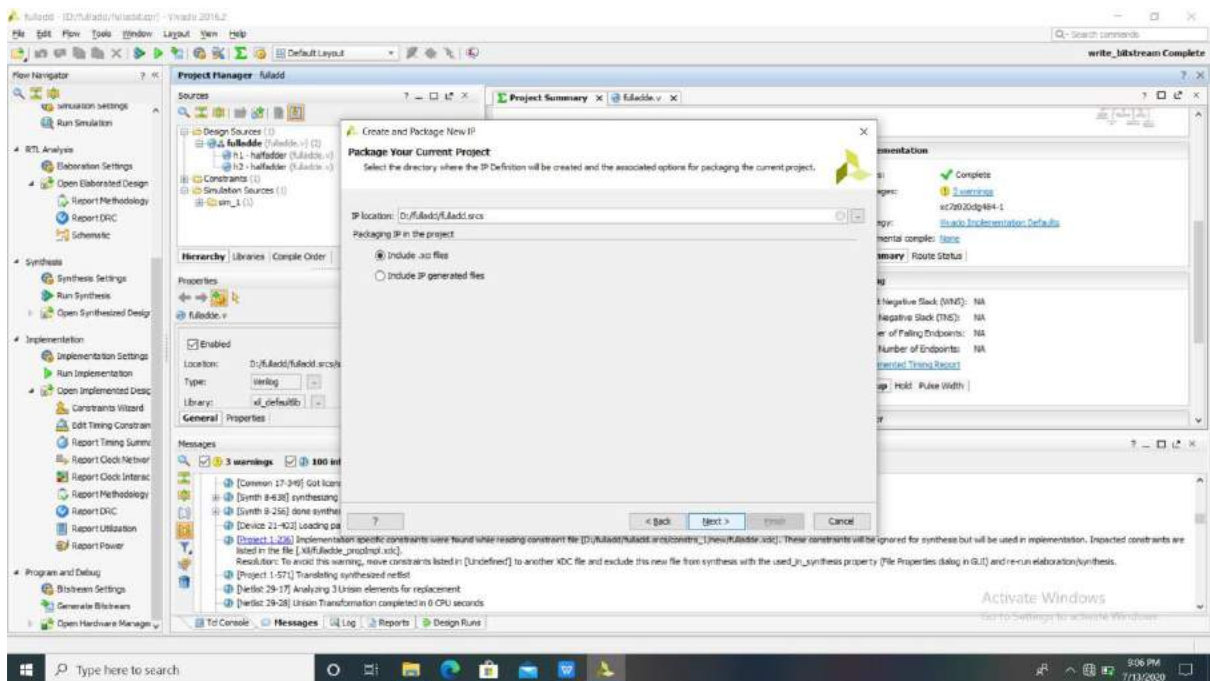
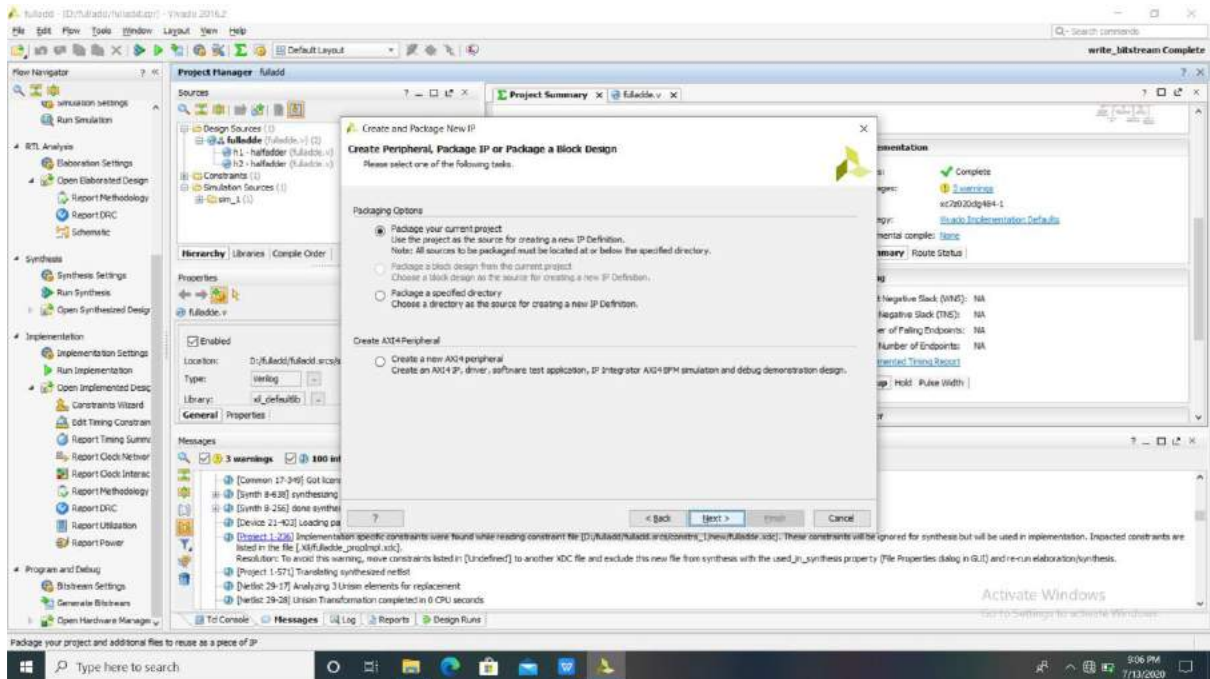
13.Bit Stream Generated Successfully. Open reports log to view all the reports. Open Project Manager to view all the details of the project.

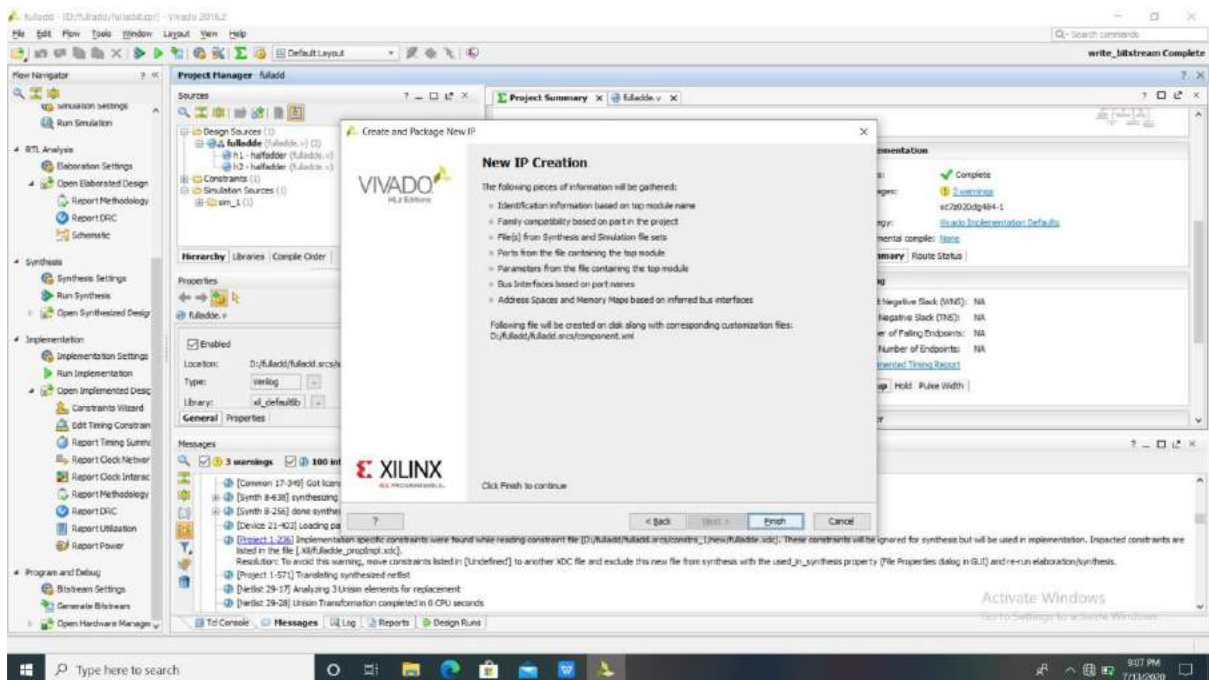




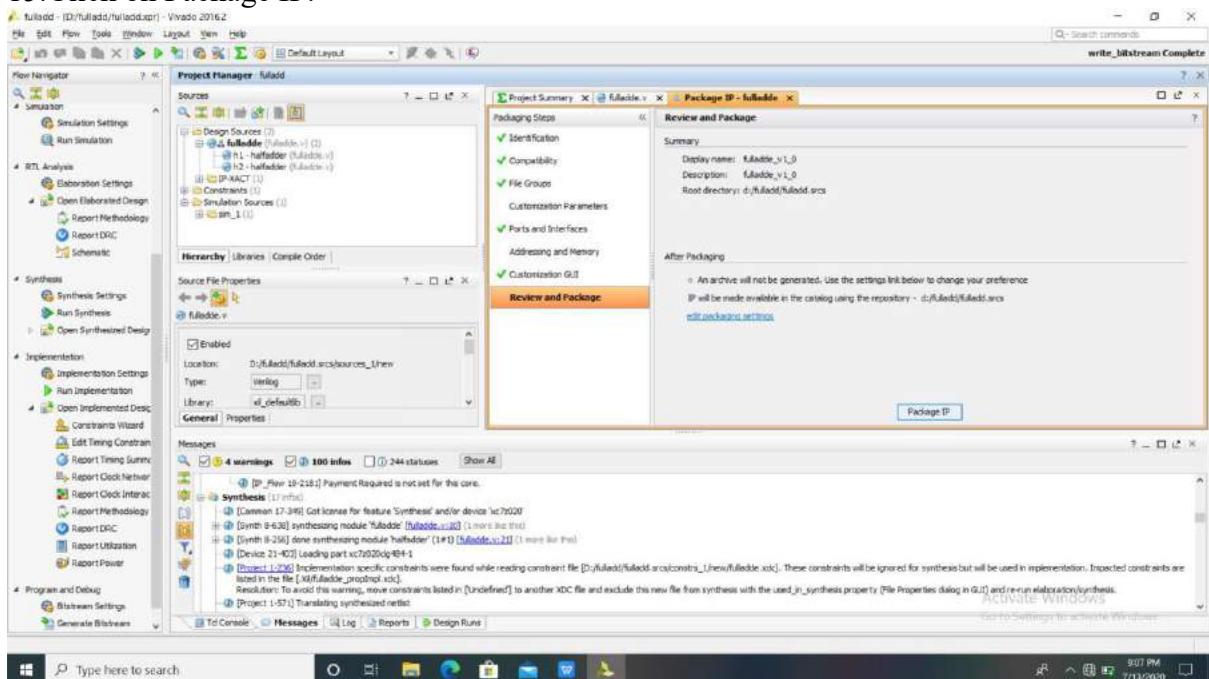
14. To create IP click on Tools→Create and Package IP→Next→Package your current Project→Next→Include .xci files.→Next→Finish.



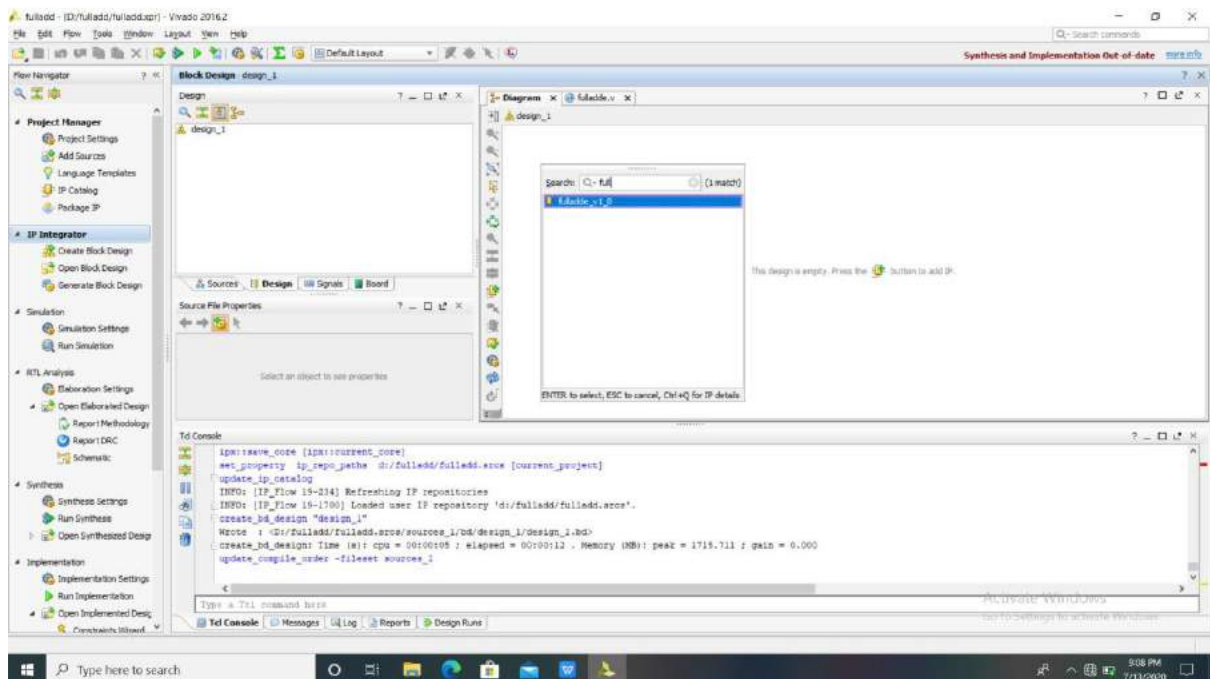
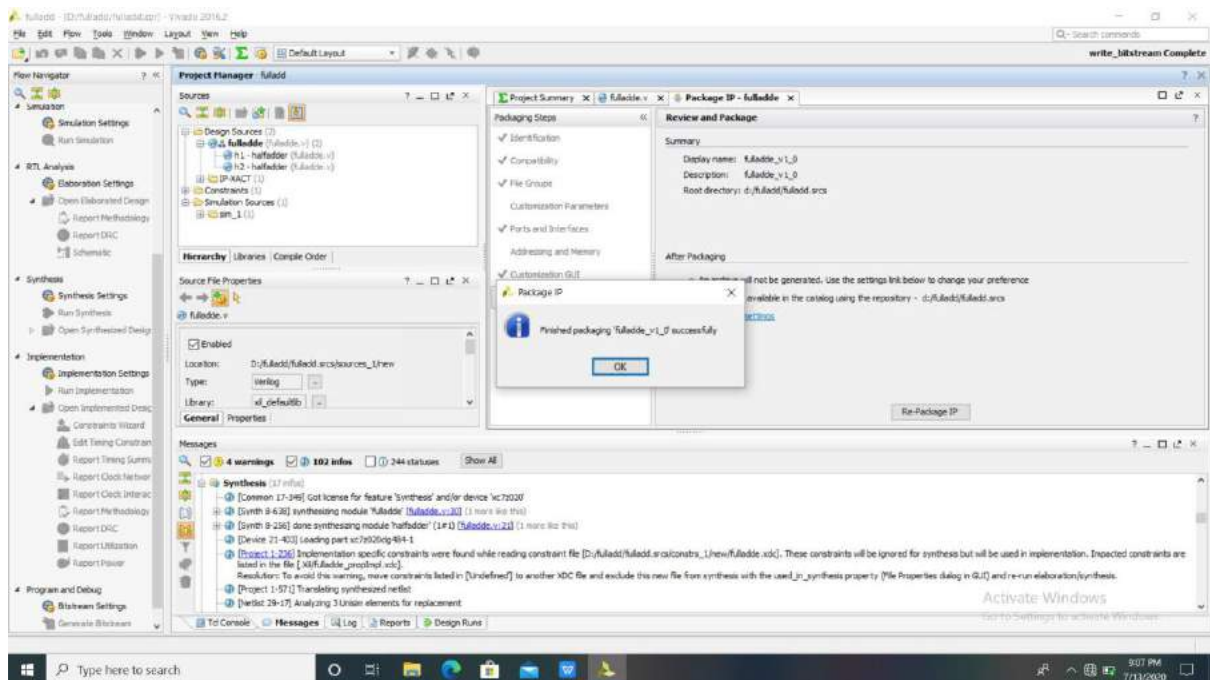


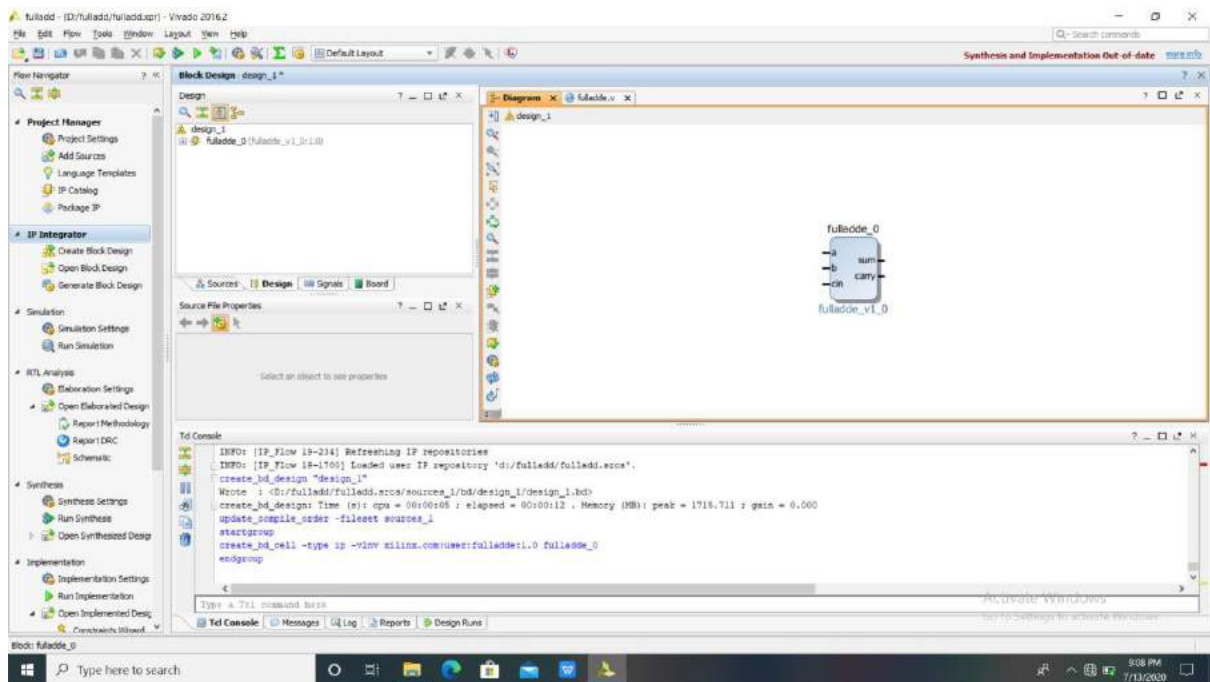


15. Click on Package IP.



16. IP generated successfully. Click on Create Block Design. Click on add IP search fulladde_v1_0 and double click on it.





Result: IP for full adder is generated successfully.