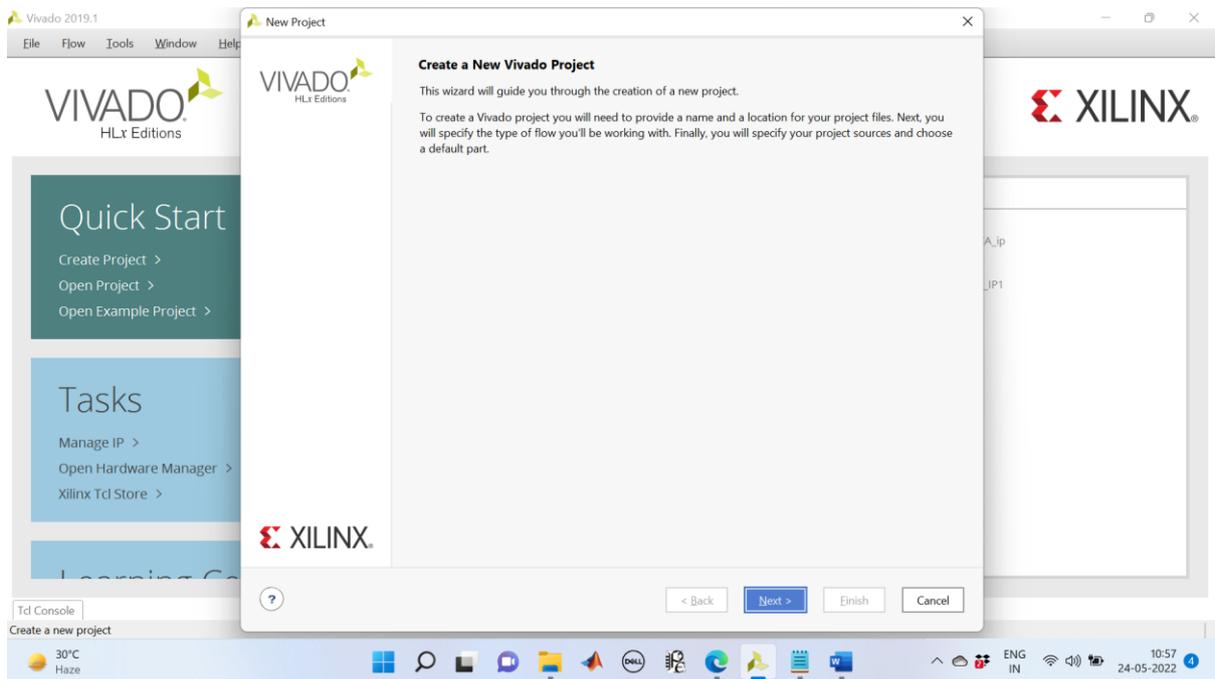
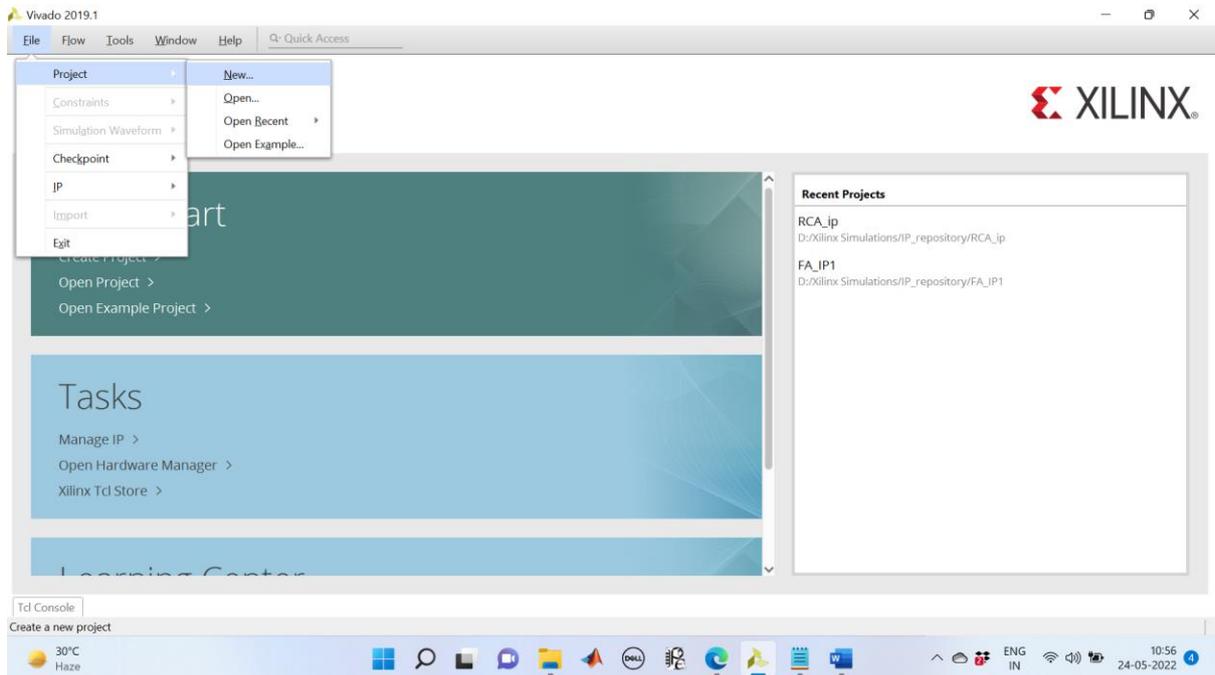
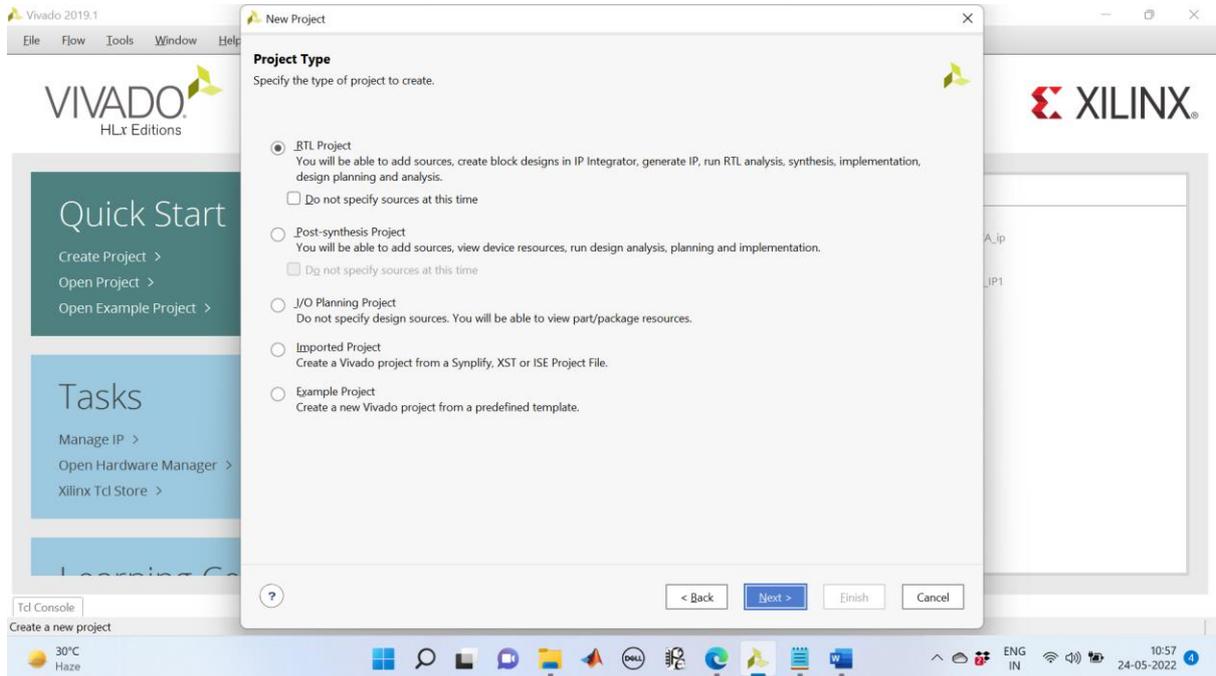
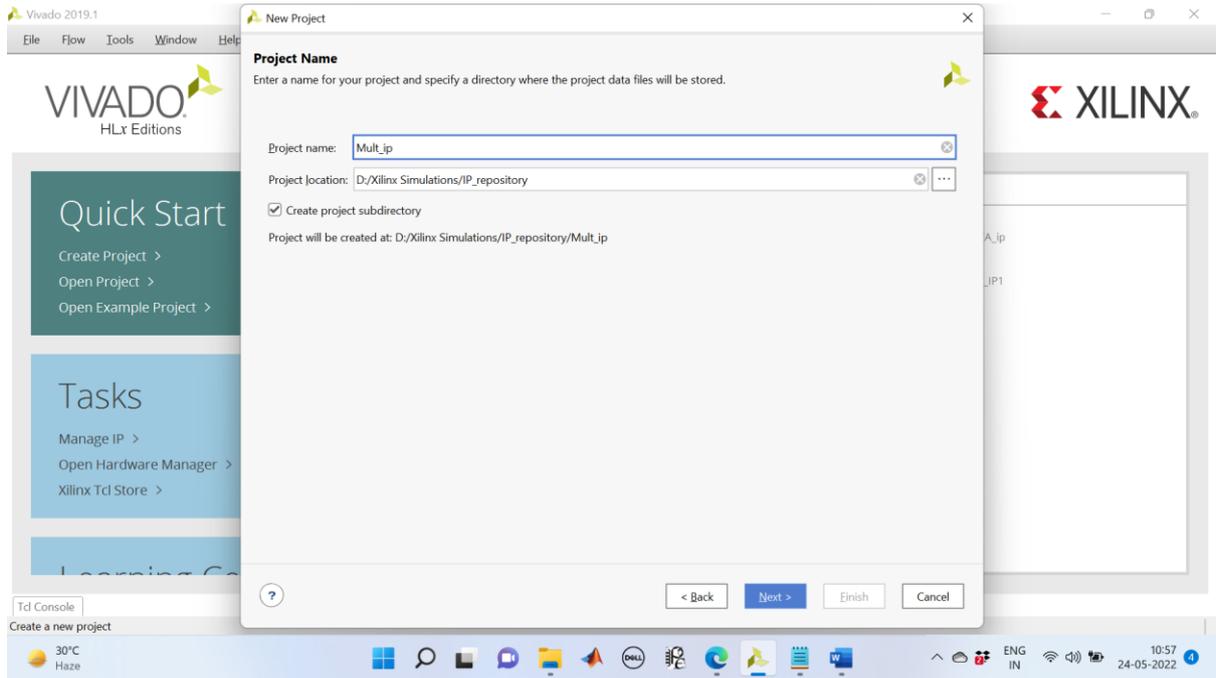
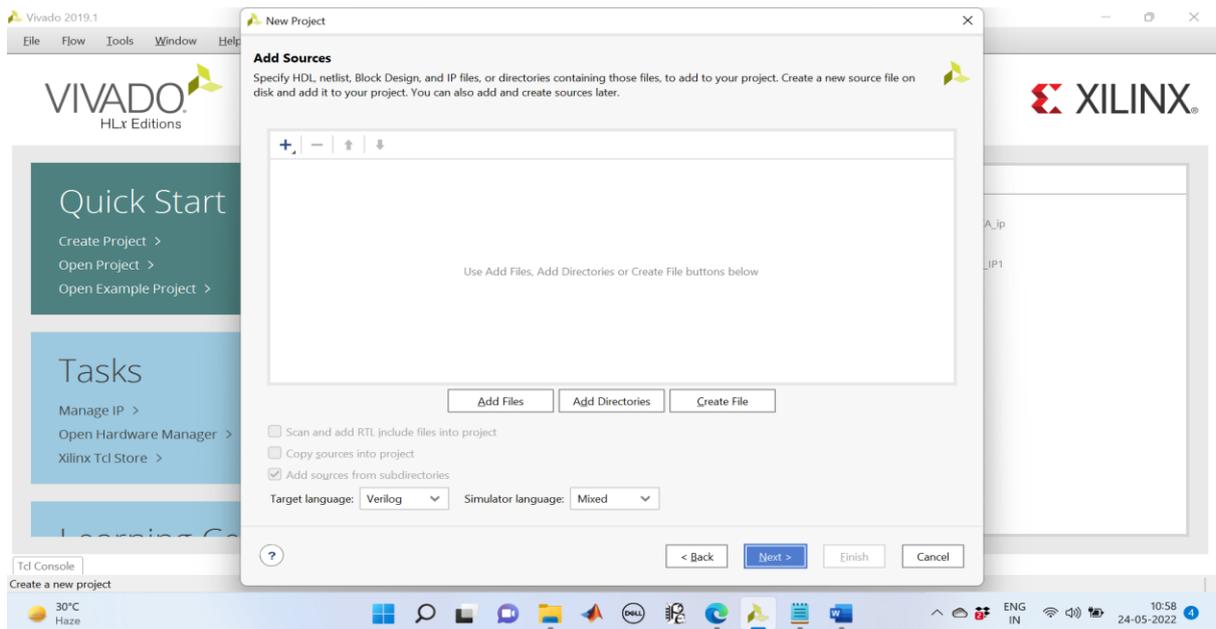
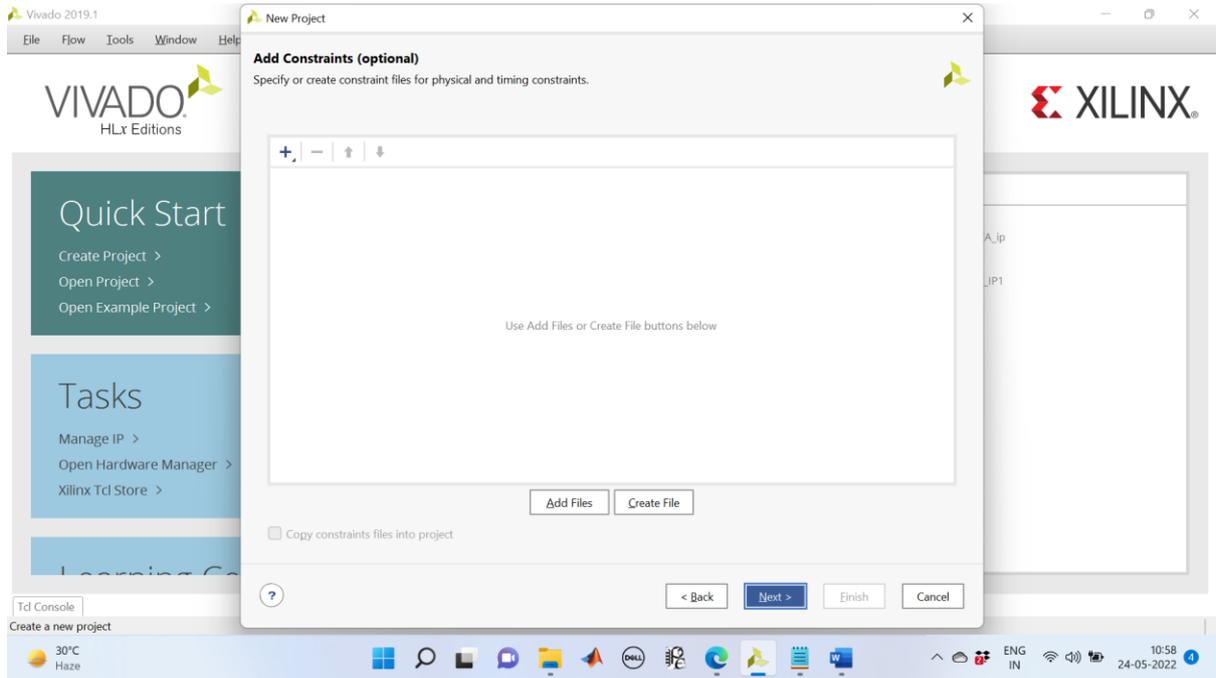


# How to Create and Package an Intellectual Property







Vivado 2019.1

File Flow Tools Window Help

VIVADO HLx Editions

Quick Start

- Create Project >
- Open Project >
- Open Example Project >

Tasks

- Manage IP >
- Open Hardware Manager >
- Xilinx Tcl Store >

Td Console

Create a new project

30°C Haze

ENG IN 10:58 24-05-2022

New Project

**Default Part**

Choose a default Xilinx part or board for your project.

Parts | Boards

Reset All Filters

Category: General Purpose Package: ftg256 Temperature: All Remaining

Family: Artix-7 Speed: -2 Static power: All Remaining

Search: Q:

Part	I/O Pin Count	Available IOBs	LUT Elements	FlipFlops	Block RAMs	Ultra RAMs	DSPs	Gb Trans
xc7a15tftg256-2	256	170	10400	20800	25	0	45	0
xc7a35tftg256-2	256	170	20800	41600	50	0	90	0
xc7a50tftg256-2	256	170	32600	65200	75	0	120	0
xc7a75tftg256-2	256	170	47200	94400	105	0	180	0
xc7a100tftg256-2	256	170	63400	126800	135	0	240	0

< Back Next > Finish Cancel

Vivado 2019.1

File Flow Tools Window Help

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ENG IN 10:58 24-05-2022

New Project

**New Project Summary**

- A new RTL project named 'Mult\_ip' will be created.
- No source files or directories will be added. Use Add Sources to add them later.
- No constraints files will be added. Use Add Sources to add them later.
- The default part and product family for the new project:
  - Default Part: xc7a35tftg256-2
  - Product: Artix-7
  - Family: Artix-7
  - Package: ftg256
  - Speed Grade: -2

To create the project, click Finish

< Back Next > Finish Cancel

Multi\_ip - [D:/Xilinx Simulations/IP\_repository/Multi\_ip/Multi\_ip.xpr] - Vivado 2019.1

File Edit Flow Tools Reports Window Layout View Help Quick Access Ready

Flow Navigator PROJECT MANAGER - Multi\_ip

**PROJECT MANAGER**

- Settings
- Add Sources
- Language Templates
- IP Catalog

**IP INTEGRATOR**

- Create Block Design
- Open Block Design
- Generate Block Design

**SIMULATION**

- Run Simulation

**RTL ANALYSIS**

- Open Elaborated Design

**SYNTHESIS**

- Run Synthesis
- Open Synthesized Design

**Sources**

- Design Sources
- Constraints
- Simulation Sources
  - sim\_1
- Utility Sources

Hierarchy Libraries Compile Order

**Properties**

Select an object to see properties

**Project Summary**

Overview | Dashboard

Settings Edit

Project name: Multi\_ip  
 Project location: D:/Xilinx Simulations/IP\_repository/Multi\_ip  
 Product family: Artix-7  
 Project part: xc7a35ftg256-2  
 Top module name: Not defined  
 Target language: Verilog  
 Simulator language: Mixed

Synthesis Implementation

Tcl Console Messages Log Reports Design Runs

Name	Constraints	Status	WNS	TNS	WHS	THS	TPWS	Total Power	Failed Routes	LUT	FF	BRAMs	URAM	DSP	Start	Elapsed	Run Strate
synth_1	constrs_1	Not started															Vivado Syr
impl_1	constrs_1	Not started															Vivado Im

30°C Haze

Multi\_ip - [D:/Xilinx Simulations/IP\_repository/Multi\_ip/Multi\_ip.xpr] - Vivado 2019.1

File Edit Flow Tools Reports Window Layout View Help Quick Access Ready

Flow Navigator PROJECT MANAGER - Multi\_ip

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 Product family: Artix-7  
 Project part: xc7a35ftg256-2  
 Top module name: Not defined  
 Target language: Verilog  
 Simulator language: Mixed

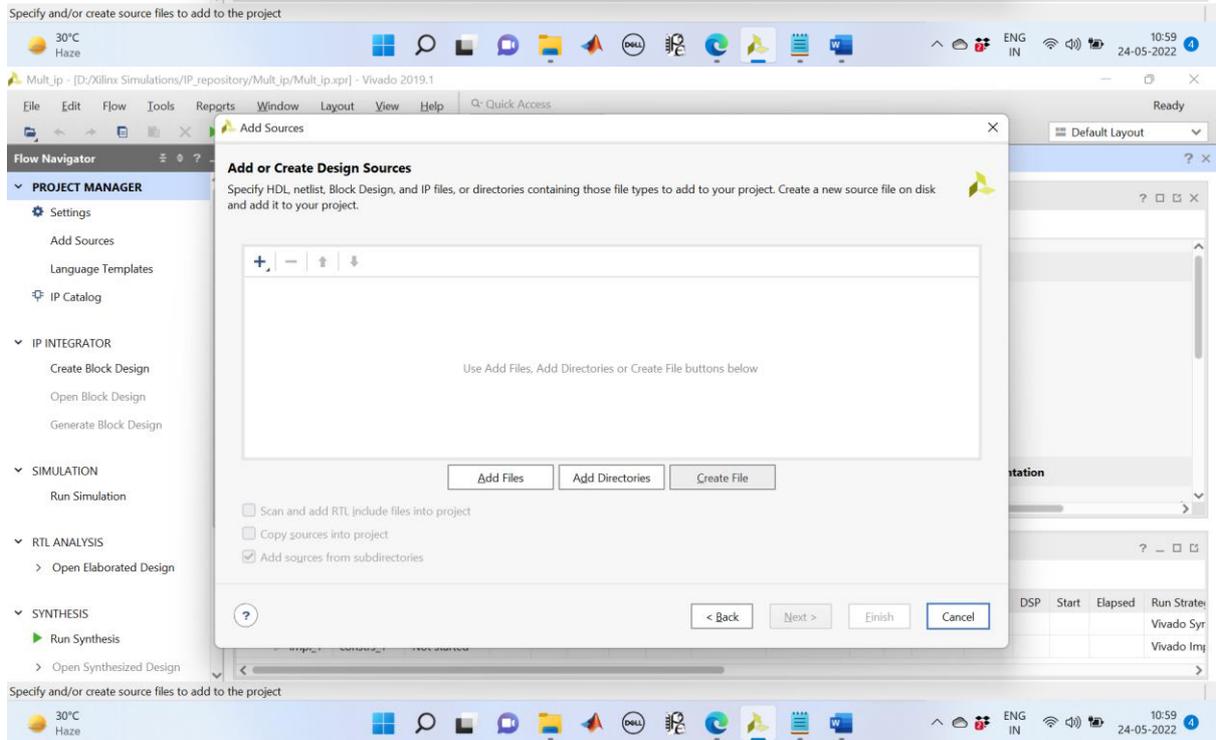
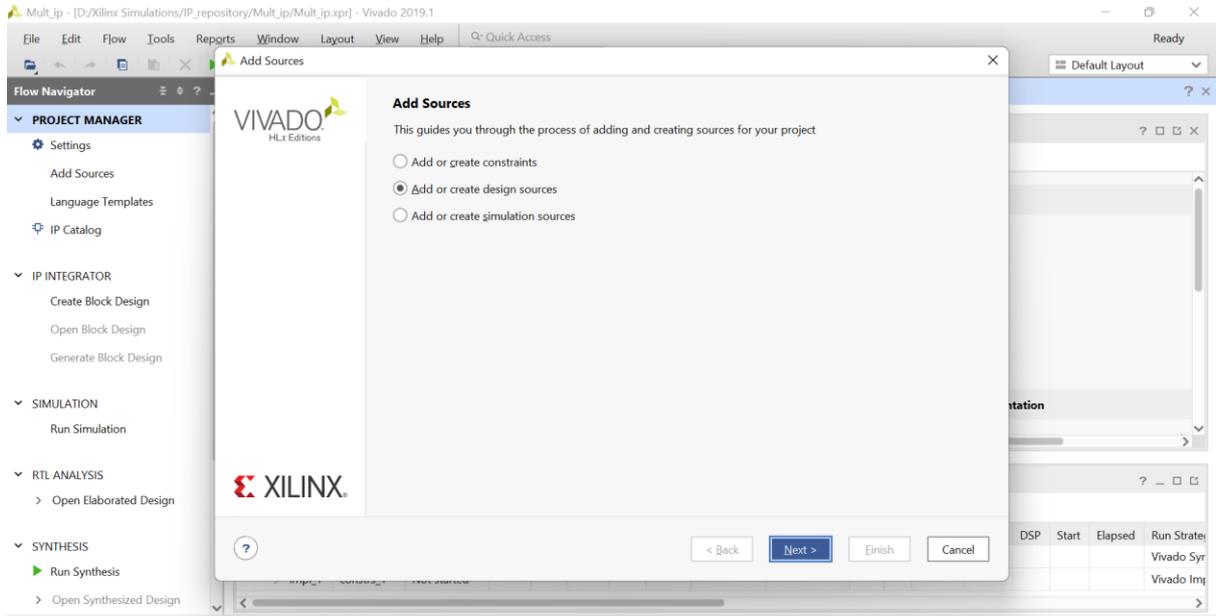
Synthesis Implementation

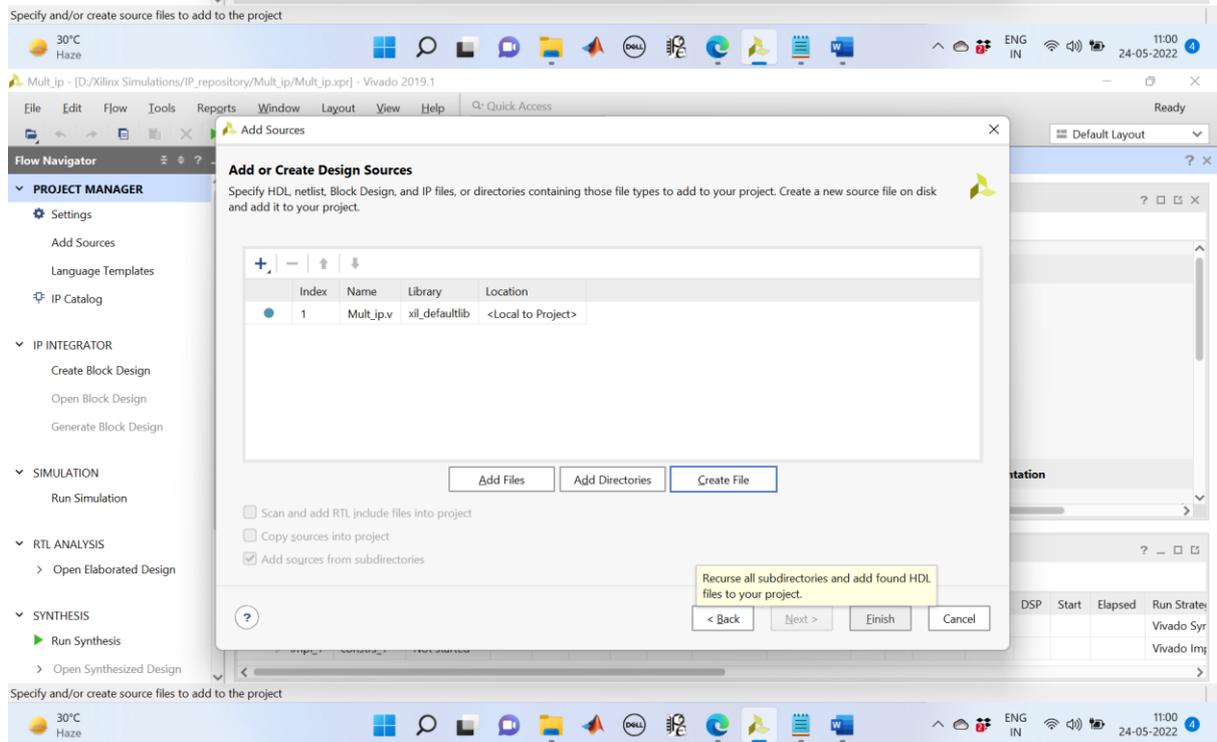
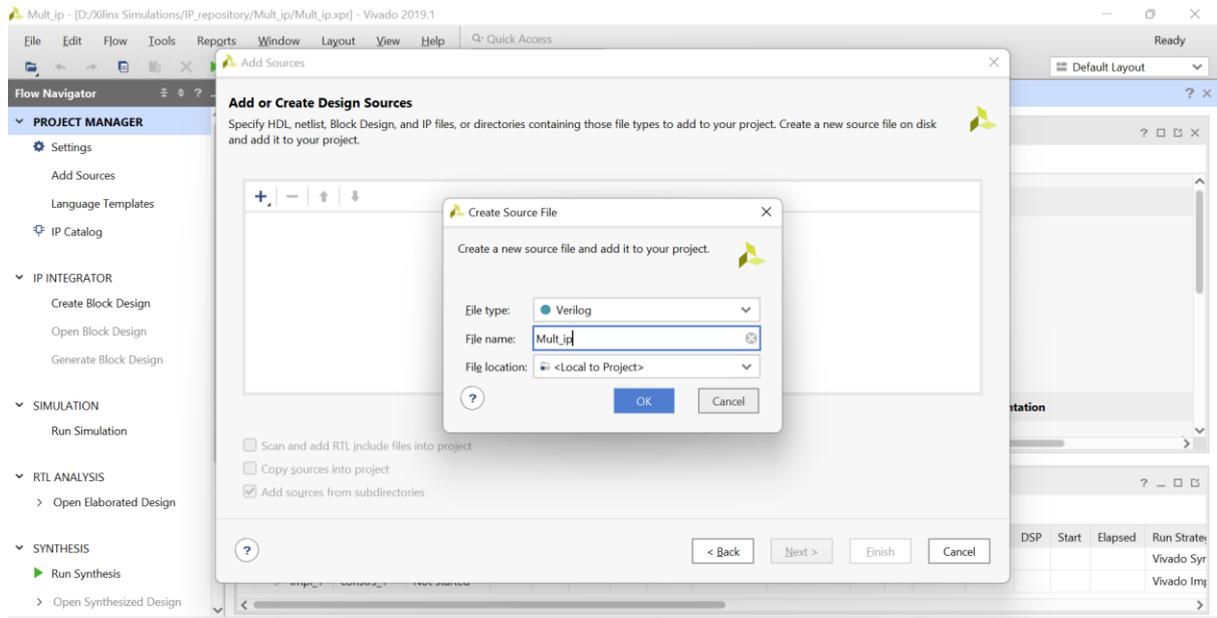
Tcl Console Messages Log Reports Design Runs

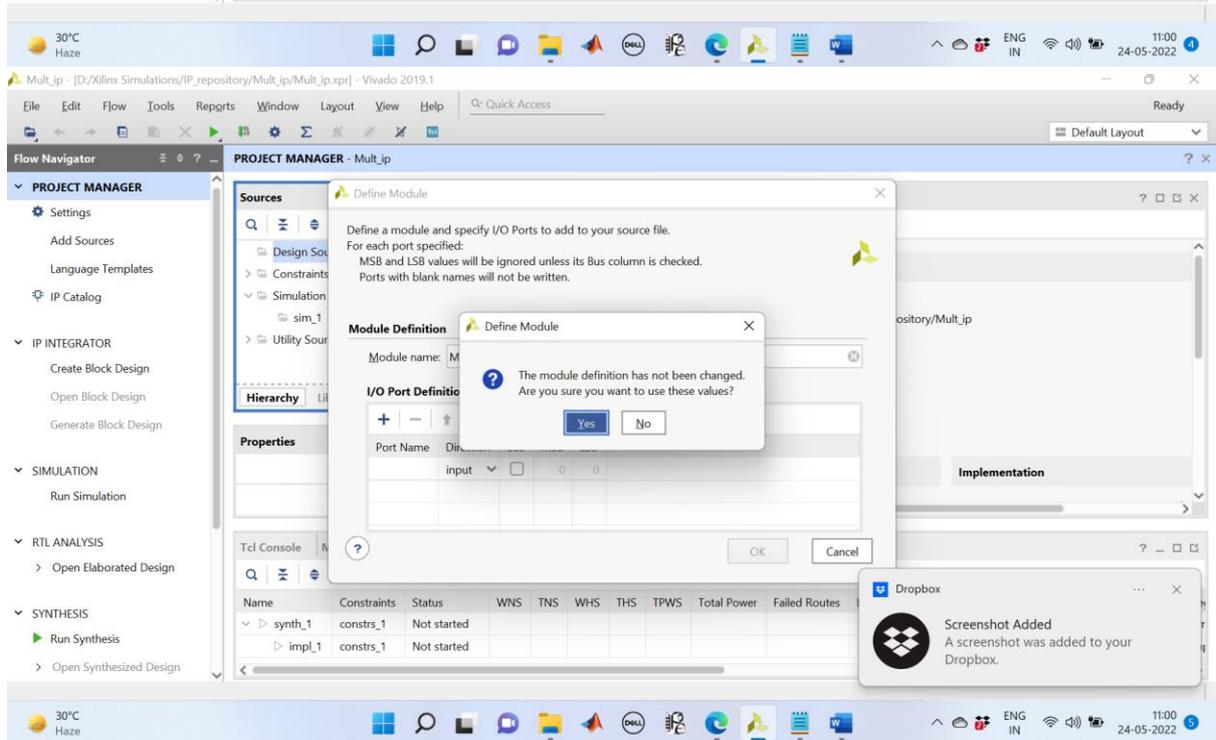
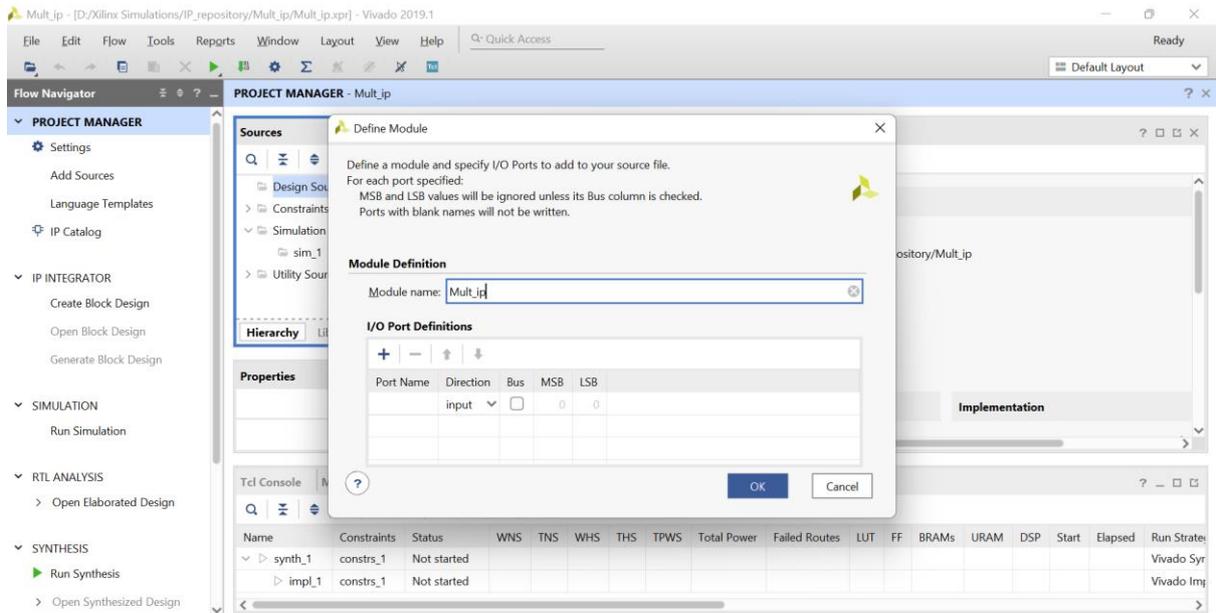
Name	Constraints	Status	WNS	TNS	WHS	THS	TPWS	Total Power	Failed Routes	LUT	FF	BRAMs	URAM	DSP	Start	Elapsed	Run Strate
synth_1	constrs_1	Not started															Vivado Syr
impl_1	constrs_1	Not started															Vivado Im

Specify and/or create source files to add to the project

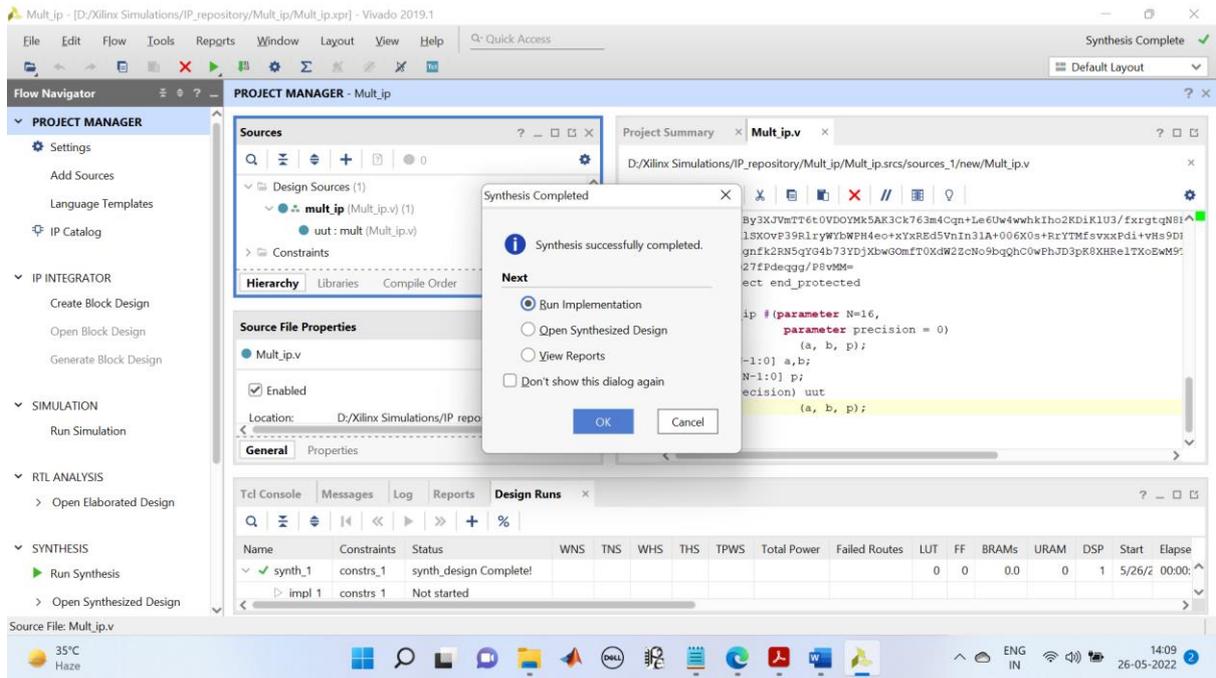
30°C Haze



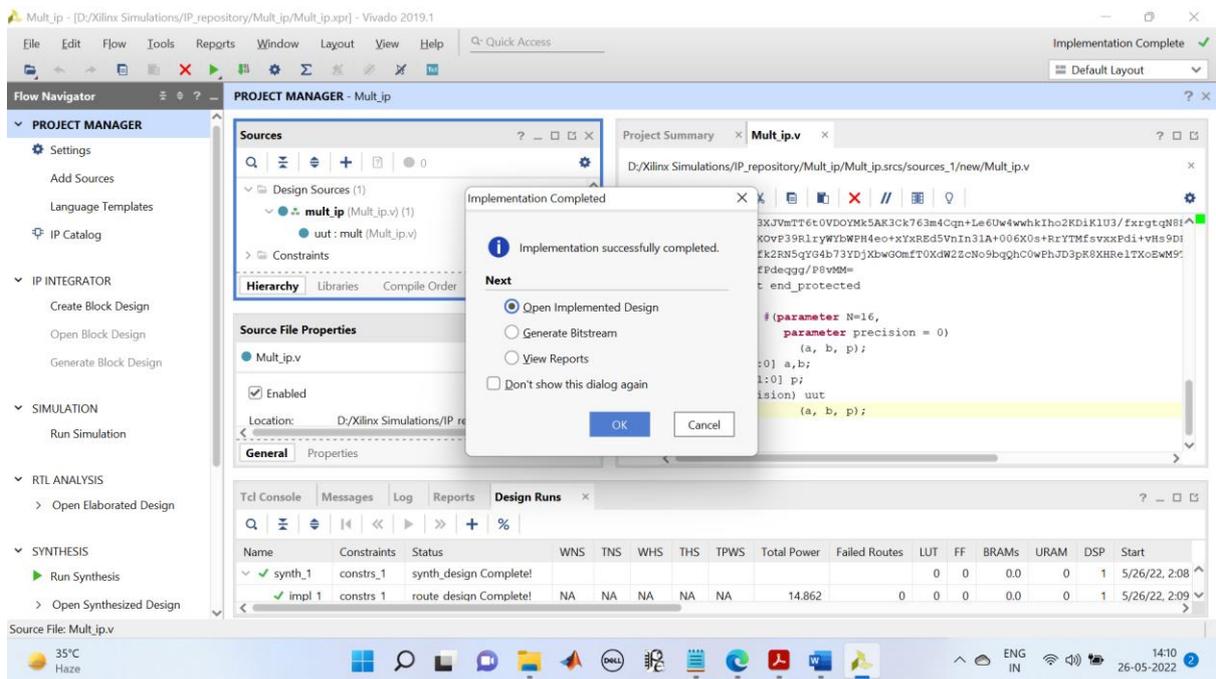


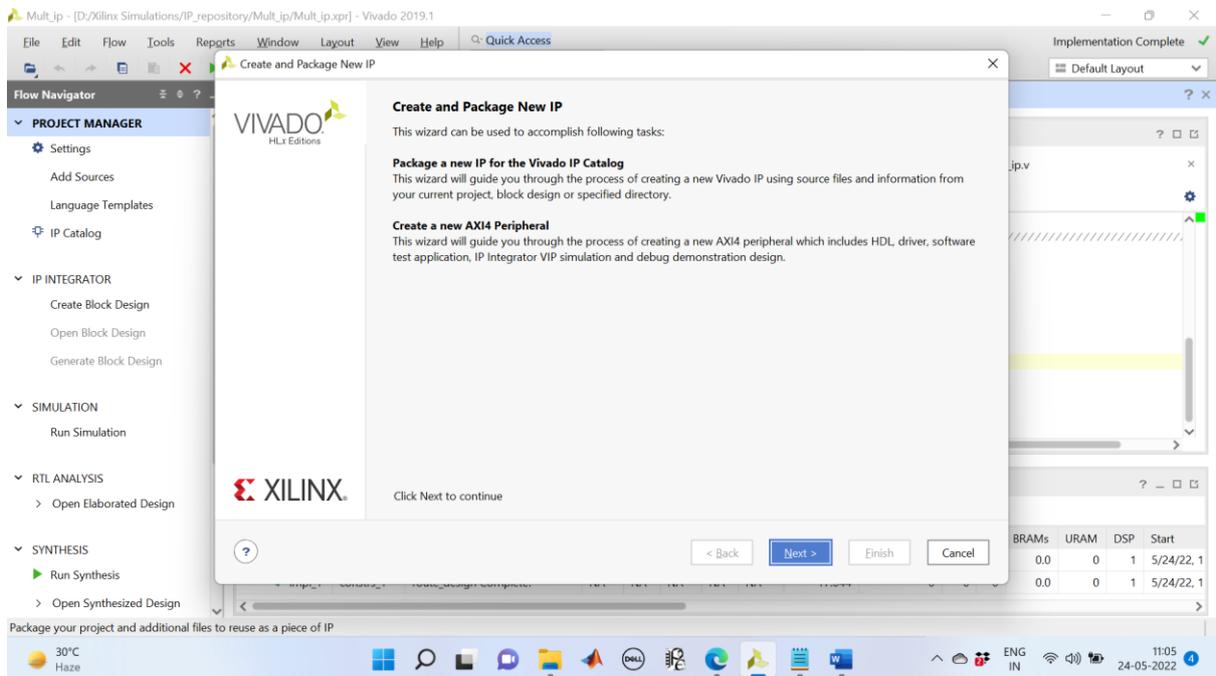
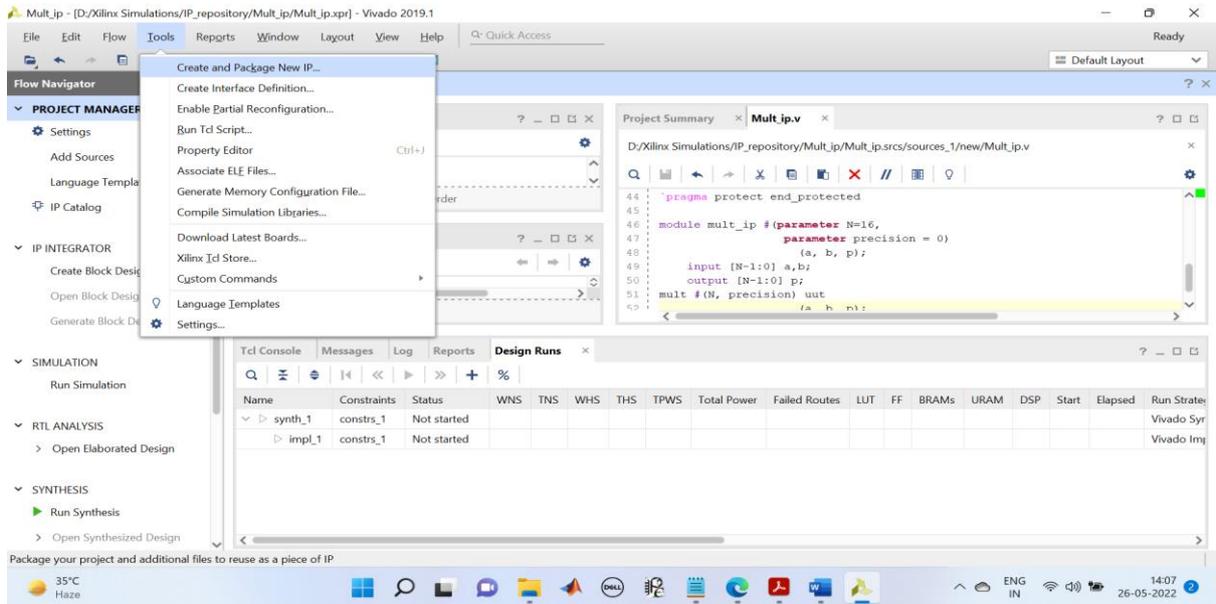






Next do the implementation also. Bitstream generation also should be done. Once the Verilog code is fully verified then we can proceed to packaging.





Mult\_ip - [D:\Xilinx Simulations\IP\_repository\Mult\_ip\Mult\_ip.xpr] - Vivado 2019.1

File Edit Flow Tools Reports Window Layout View Help Quick Access

Flow Navigator

- PROJECT MANAGER
  - Settings
  - Add Sources
  - Language Templates
  - IP Catalog
- IP INTEGRATOR
  - Create Block Design
  - Open Block Design
  - Generate Block Design
- SIMULATION
  - Run Simulation
- RTL ANALYSIS
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- SYNTHESIS
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**Create Peripheral, Package IP or Package a Block Design**

Please select one of the following tasks.

**Packaging Options**

- Package your current project  
Use the project as the source for creating a new IP Definition.
- Package a block design from the current project  
Choose a block design as the source for creating a new IP Definition.
- Package a specified directory  
Choose a directory as the source for creating a new IP Definition.

**Create AXI4 Peripheral**

- Create a new AXI4 peripheral  
Create an AXI4 IP, driver, software test application, IP Integrator AXI4 VIP simulation and debug demonstration design.

< Back Next > Finish Cancel

BRAMs	URAM	DSP	Start
0.0	0	1	5/24/22, 1
0.0	0	1	5/24/22, 1

Package your project and additional files to reuse as a piece of IP

30°C Haze

Mult\_ip - [D:\Xilinx Simulations\IP\_repository\Mult\_ip\Mult\_ip.xpr] - Vivado 2019.1

File Edit Flow Tools Reports Window Layout View Help Quick Access

Flow Navigator

- PROJECT MANAGER
  - Settings
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**Package Your Current Project**

Select the directory where the IP Definition will be created and the associated options for packaging the current project.

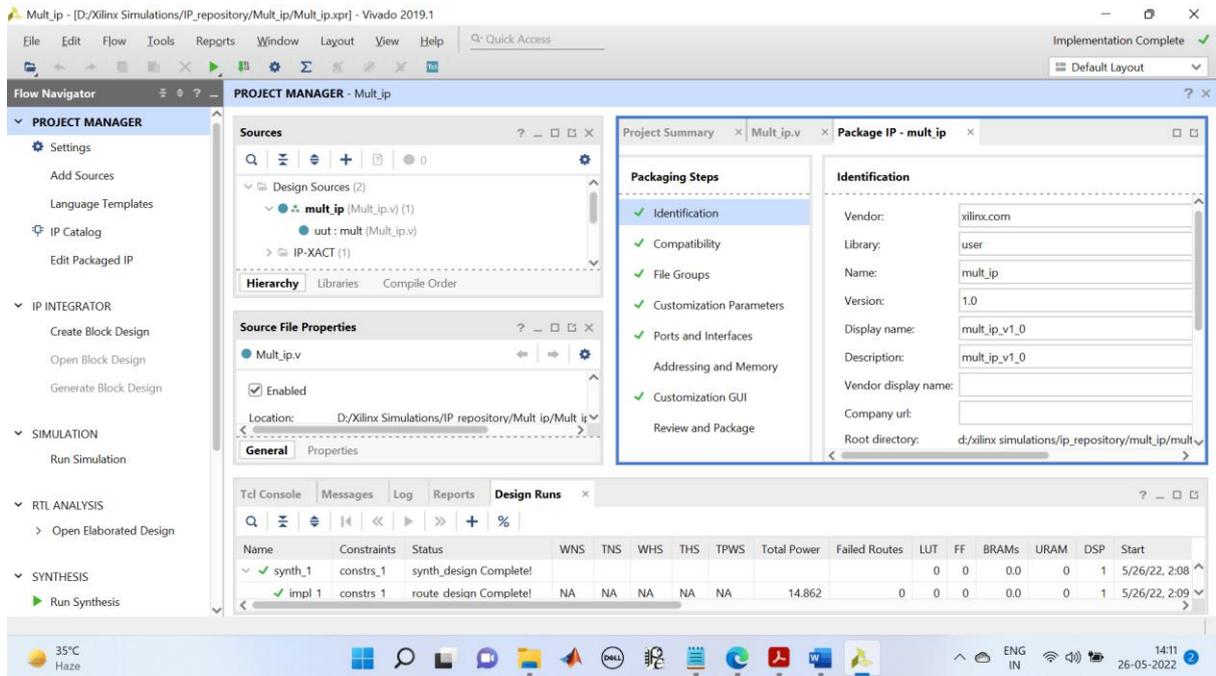
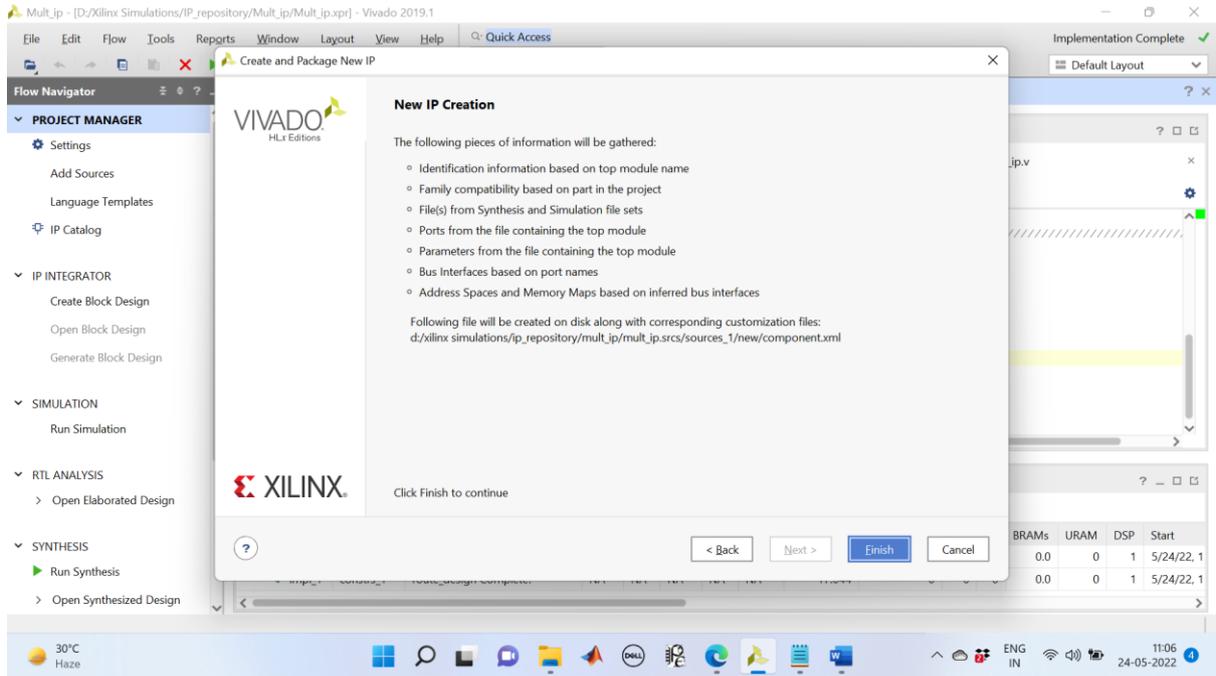
IP location: d:\xilinx simulations\ip\_repository\mult\_ip\mult\_ip.srcs/sources\_1/new

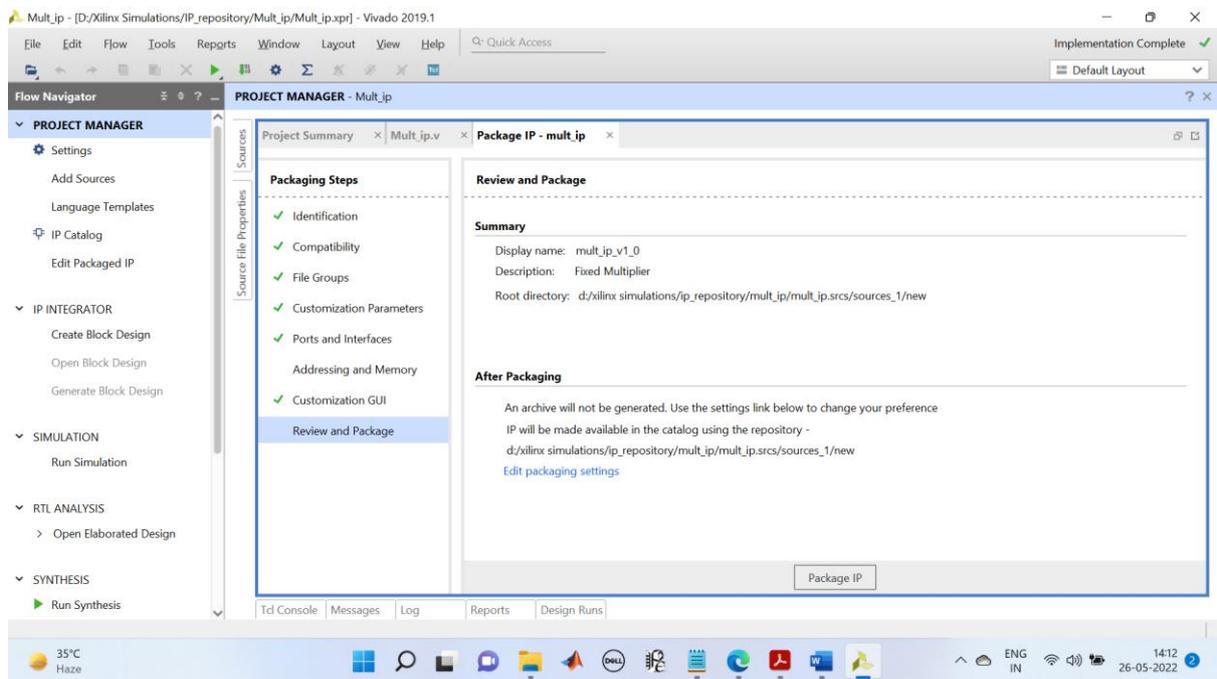
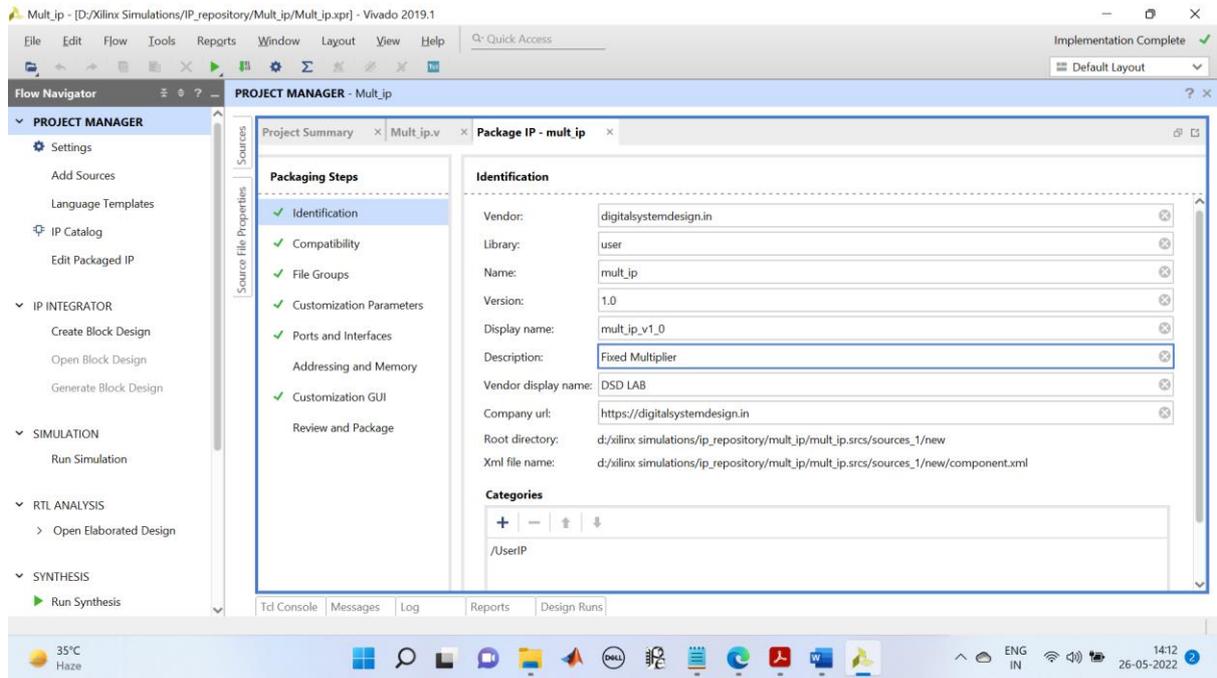
< Back Next > Finish Cancel

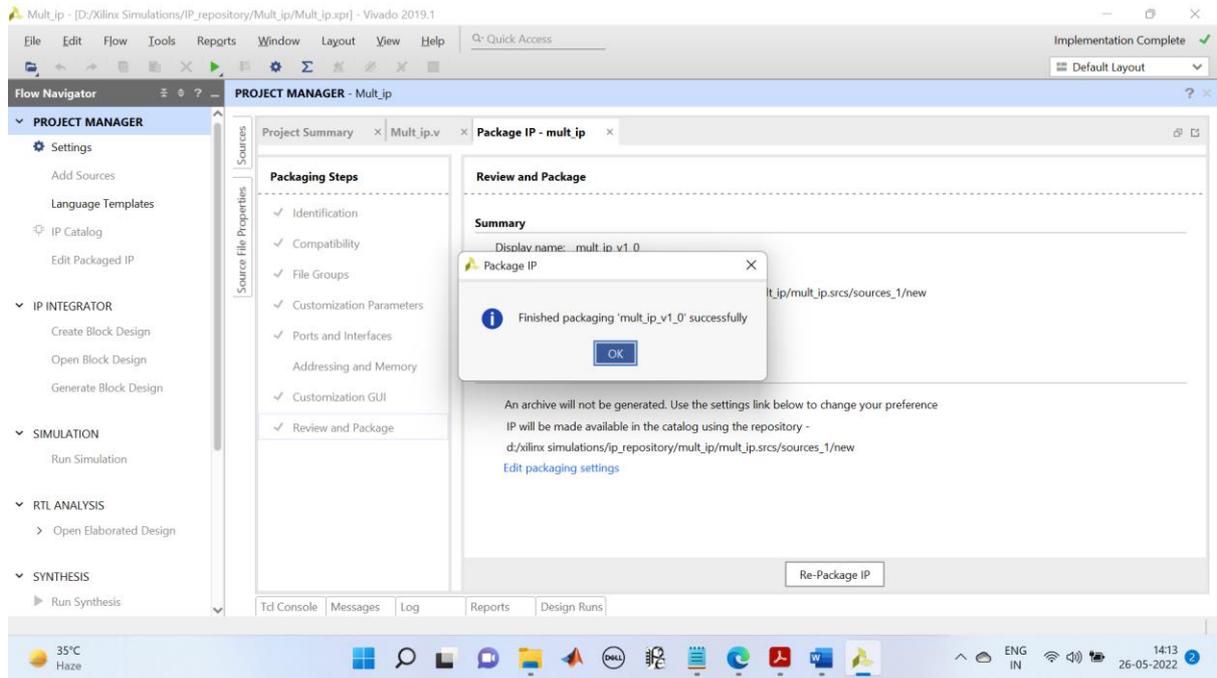
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0.0	0	1	5/24/22, 1

30°C Haze

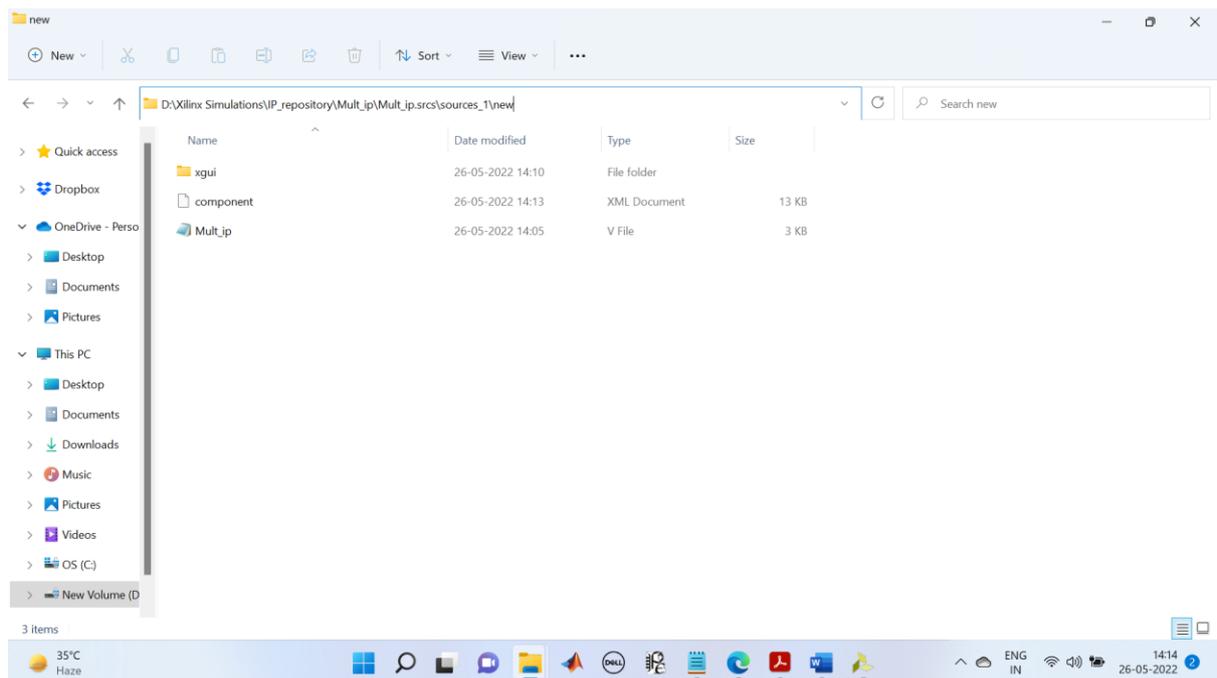
11:06 24-05-2022

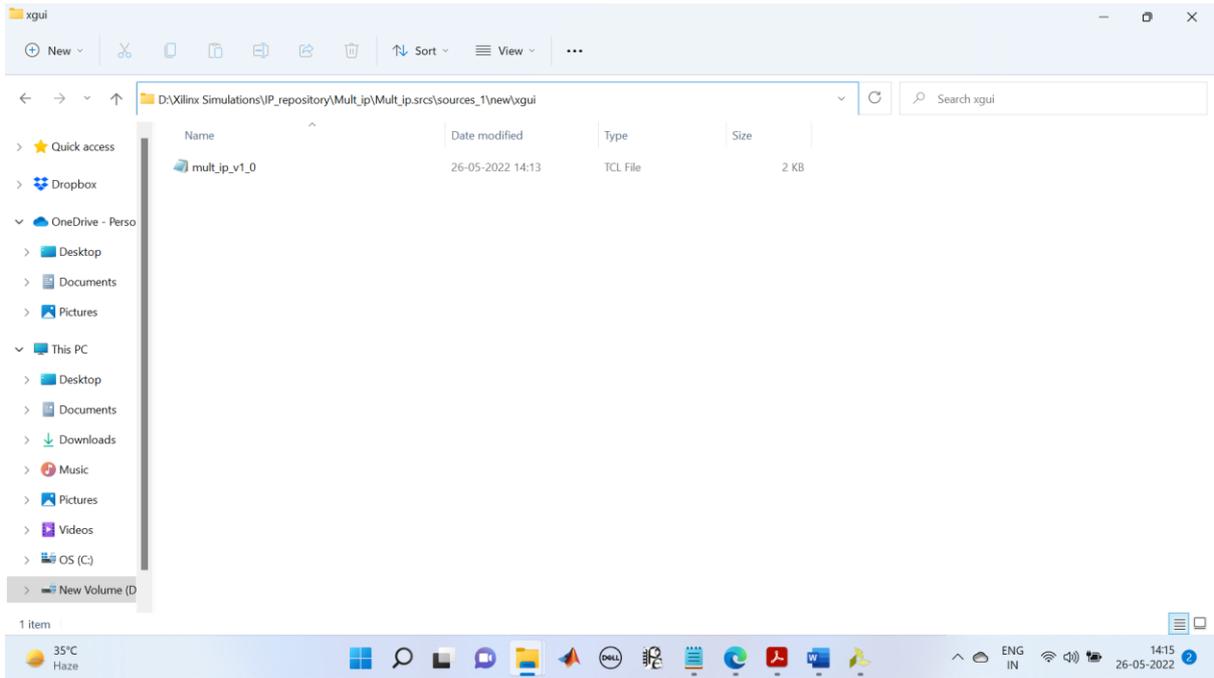




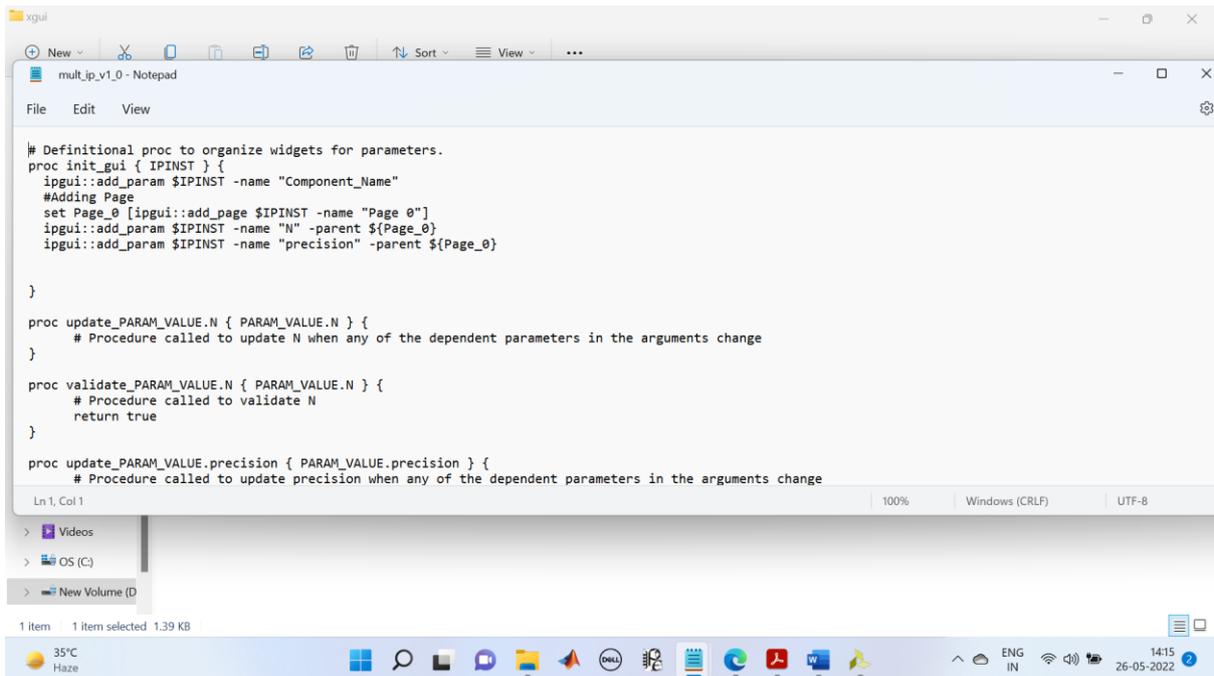


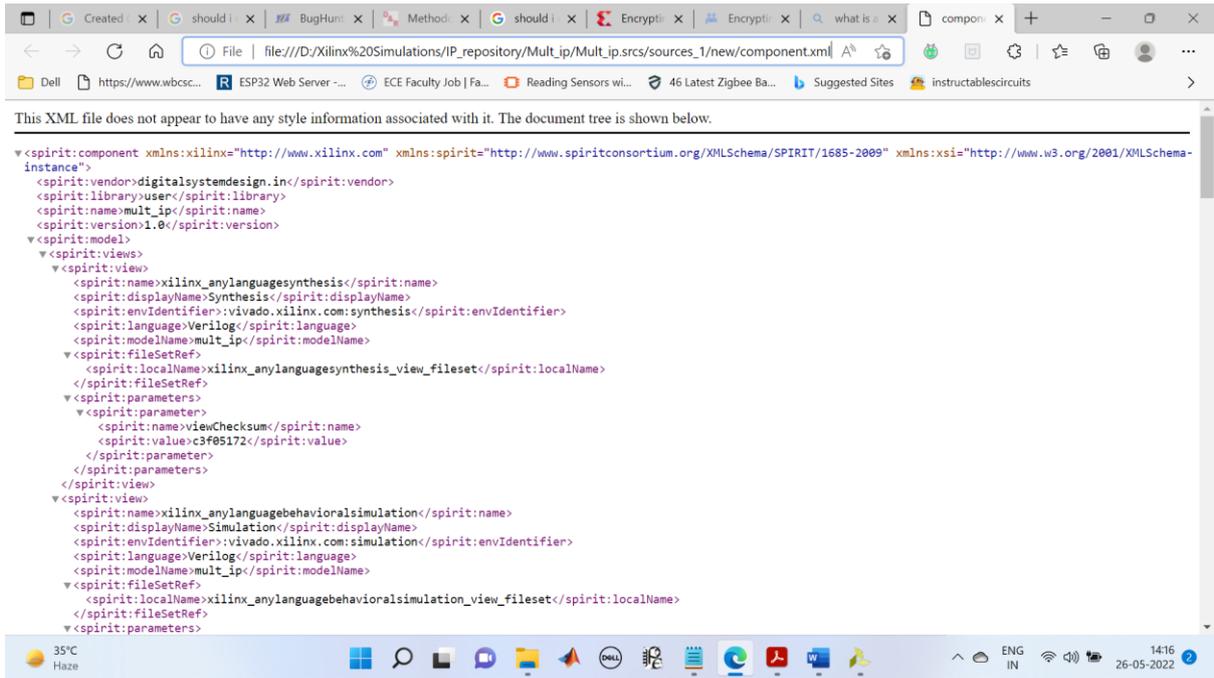
Two other important files are created. One XML file which is responsible for GUI and another is tcl file which is responsible for interface between the Verilog file and the GUI.





This is the .tcl file which was generated.





This is the XML file of the IP.