XDC Guide
9/23/2021

NTHU Logic Design Laboratory (Fall. 2021)

By Prof. Chun-Yi Lee

Agenda

Introduction

Create a new XDC file

Add a existing XDC file

Edit the XDC file
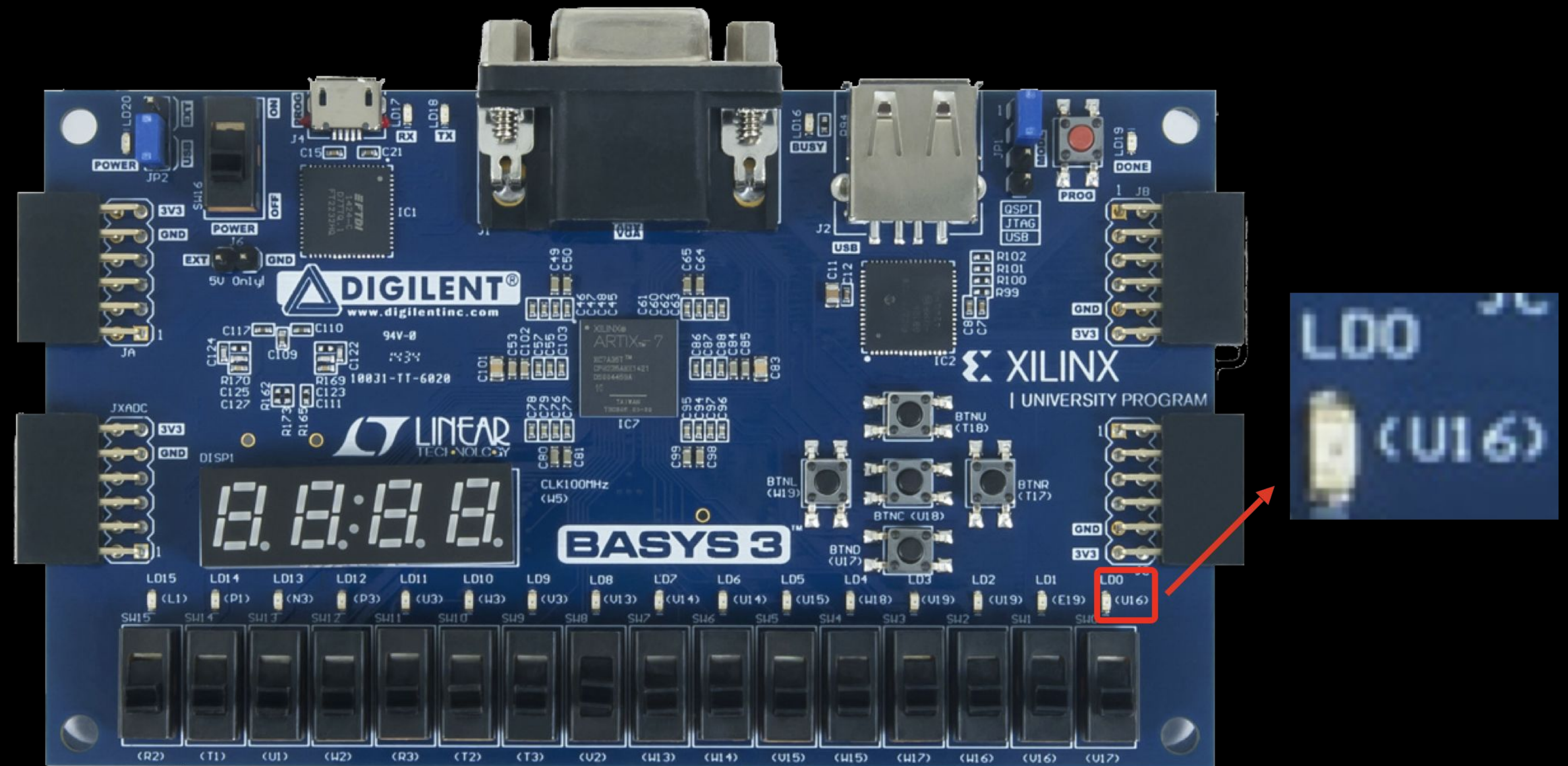
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Introduction

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Introduction (1/3)

- XDC maps module I/O signals to the I/O ports on the FPGA board.

Introduction (2/3)

```
set property PACKAGE_PIN V17  [getports {A}]
set property IOSTANDARD LVCMOS33 [getports {A}]
```

- the port name on FPGA

- input or output port names

- one-bit on each port

Introduction (3/3)

```verilog
module top_module (SW, LED);
input [2-1:0]SW;
output LED;
......
endmodule
```

```tcl
set property PACKAGE_PIN V17 [getports {SW[1]}]
set property IOSTANDARD LVCMOS33 [getports {SW[1]}]
set property PACKAGE_PIN V16 [getports {SW[0]}]
set property IOSTANDARD LVCMOS33 [getports {SW[0]}]
set property PACKAGE_PIN U16 [getports {LED}]
set property IOSTANDARD LVCMOS33 [getports {LED}]
```
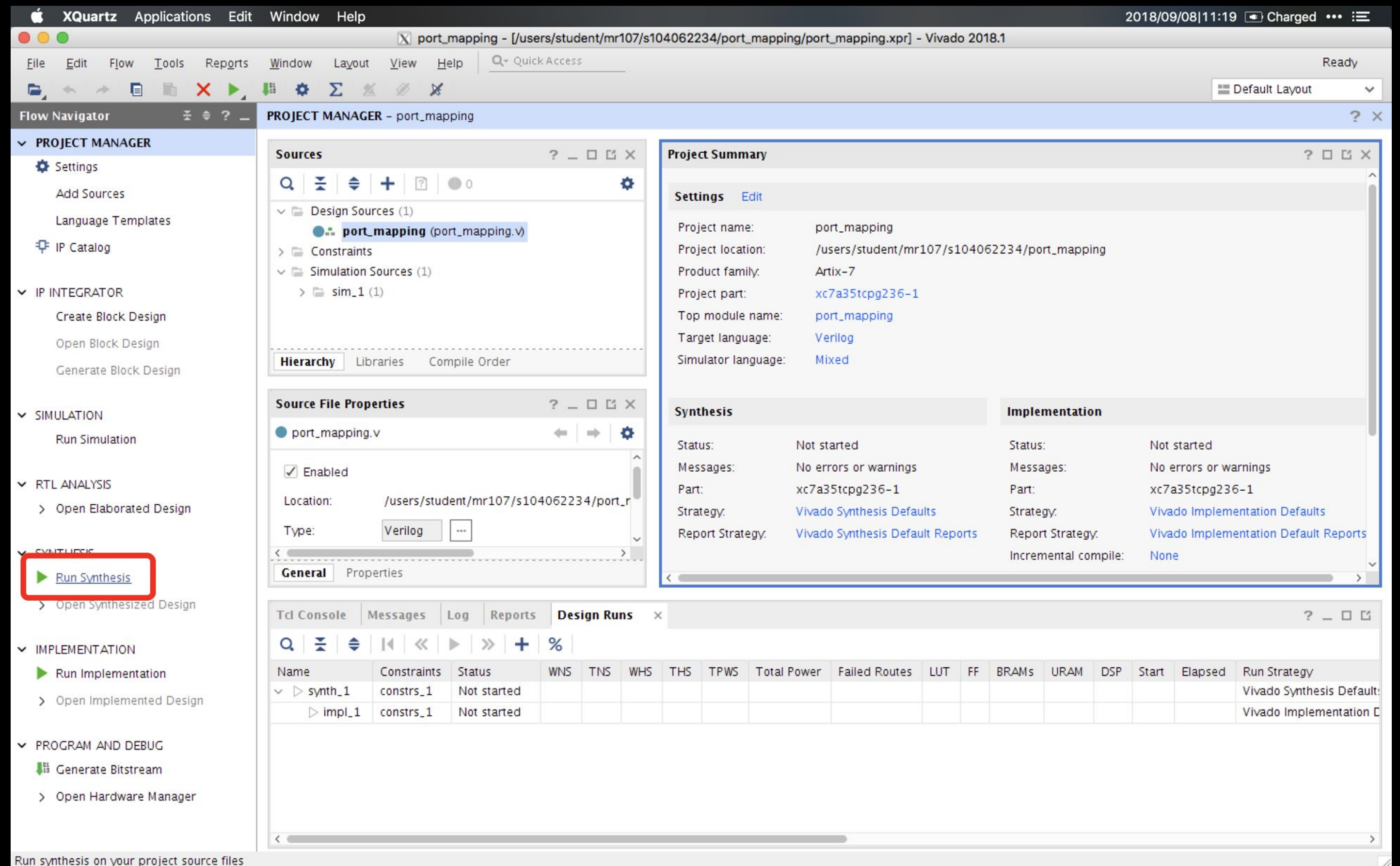
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Create a new XDC file (1/9)

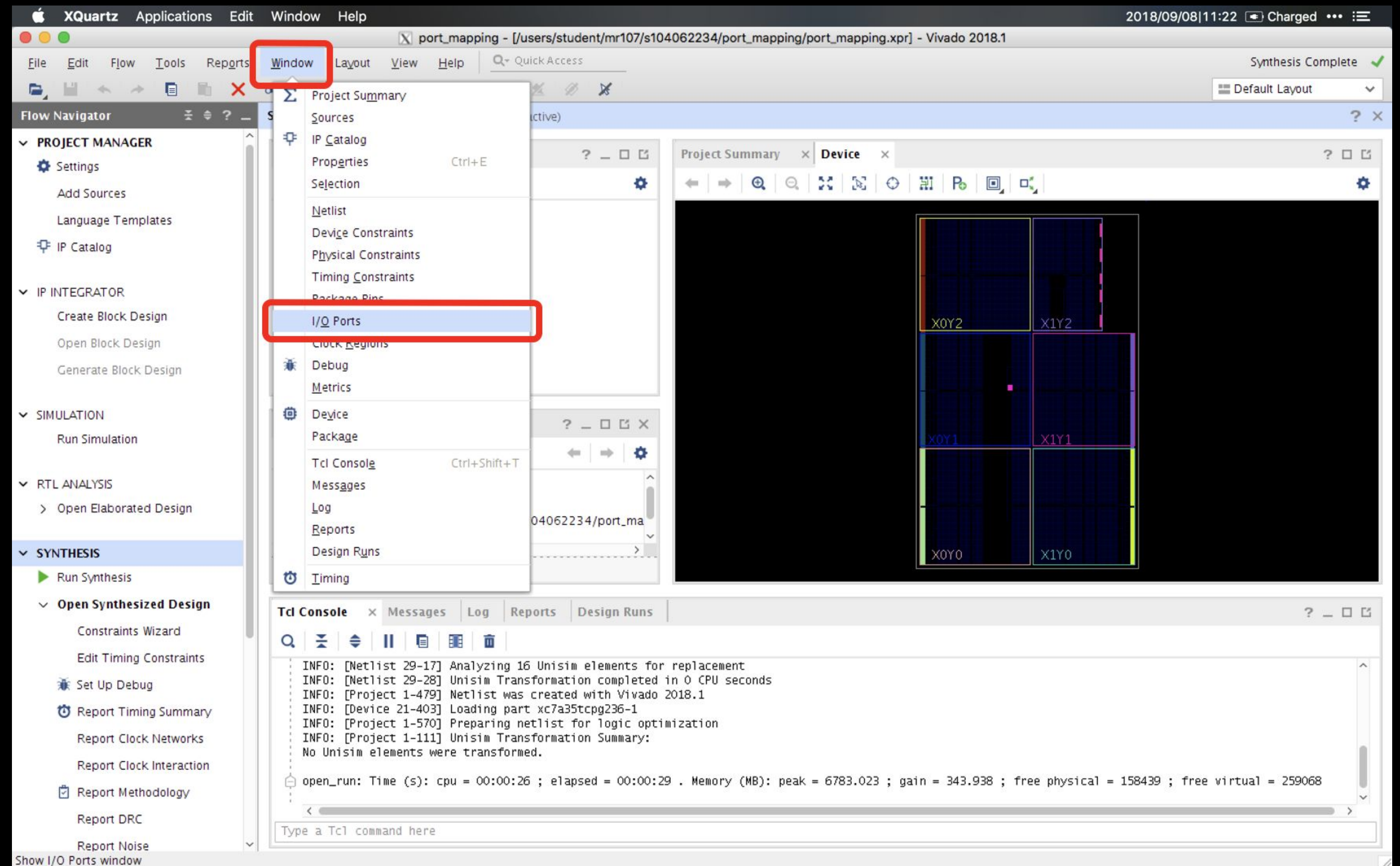- First, Run synthesis on your design

Create a new XDC file (2/9)

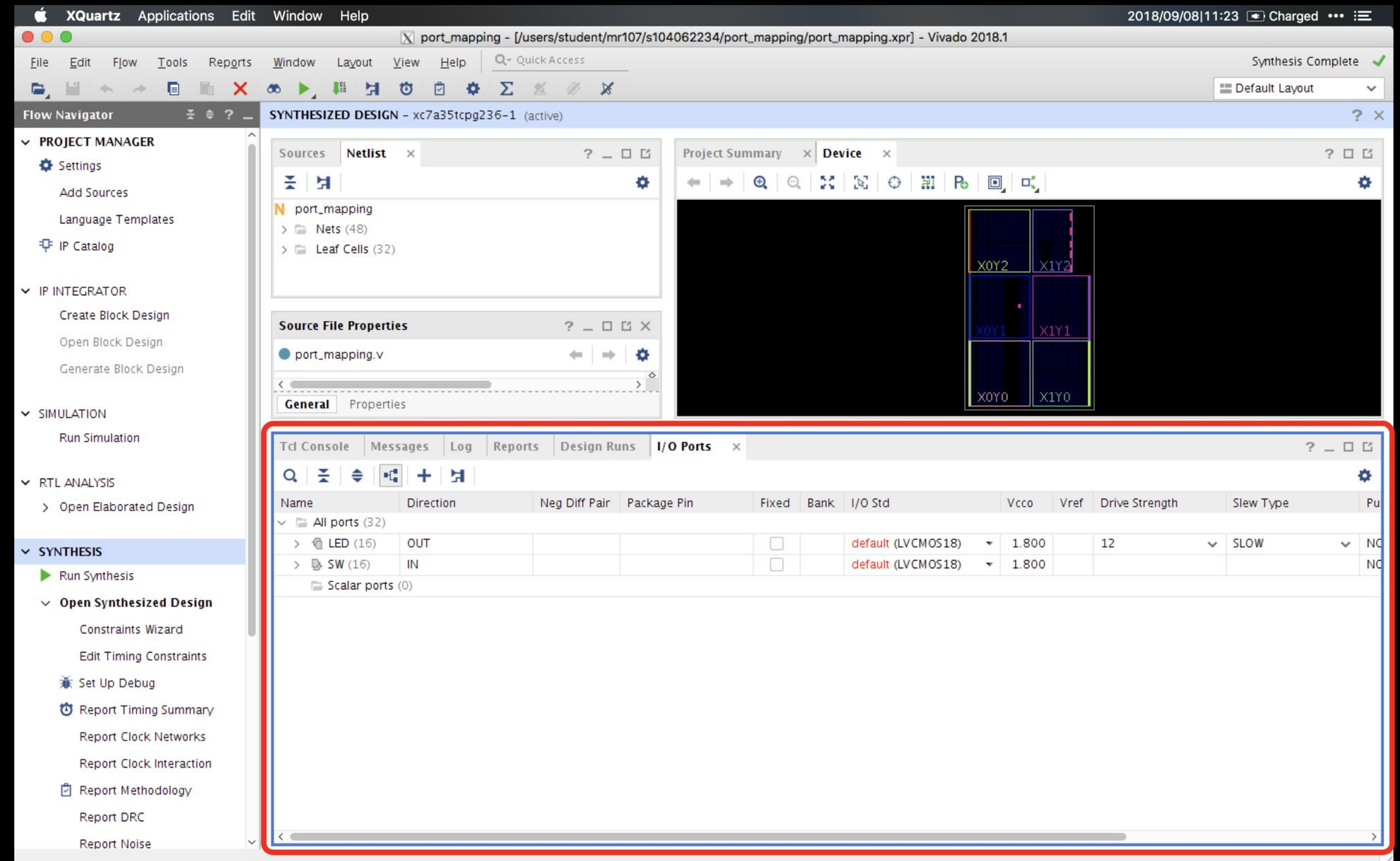- Then, open the

  synthesized design
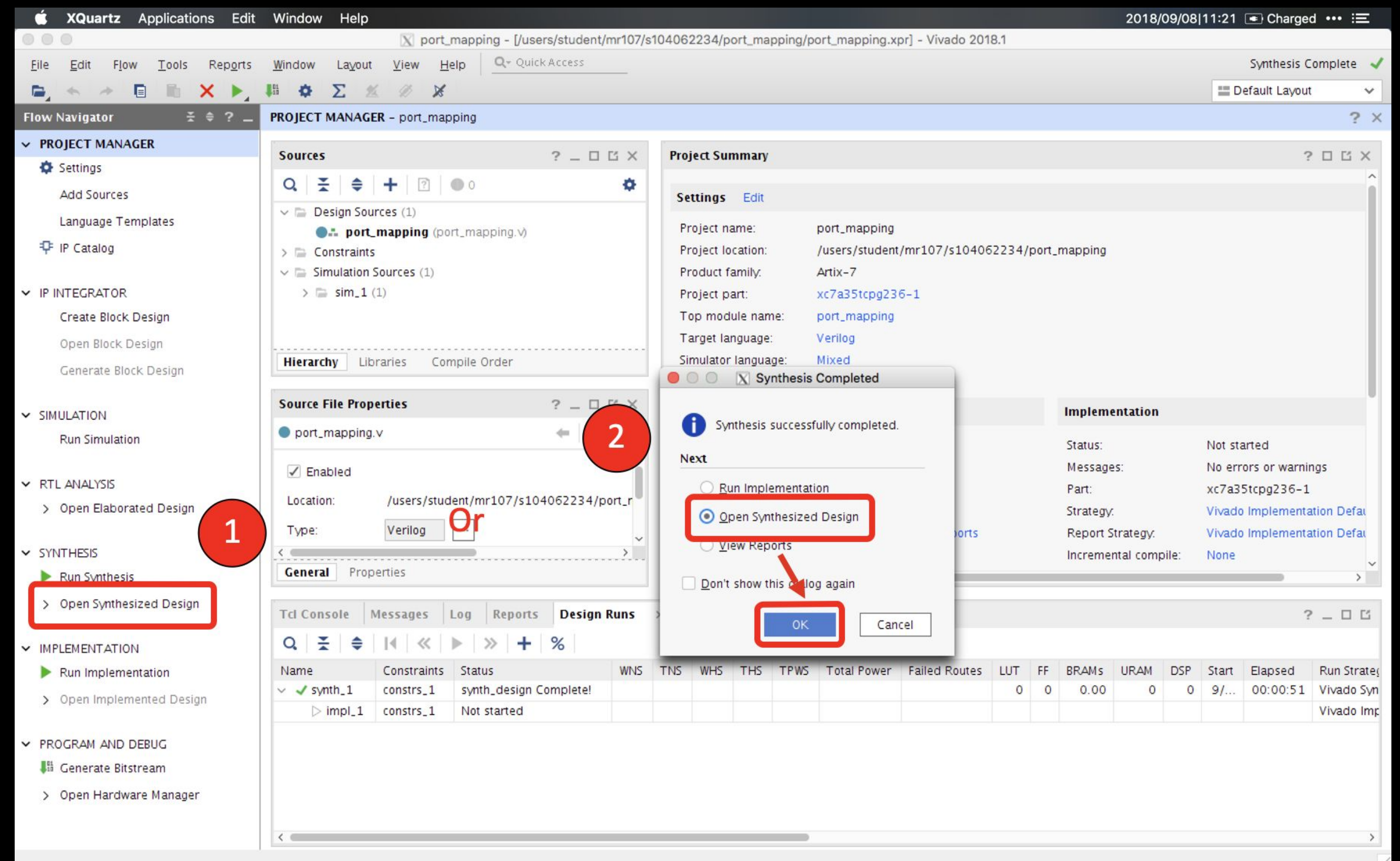
Create a new XDC file (3/9)

- Open the I/O port panel

Create a new XDC file (4/9)
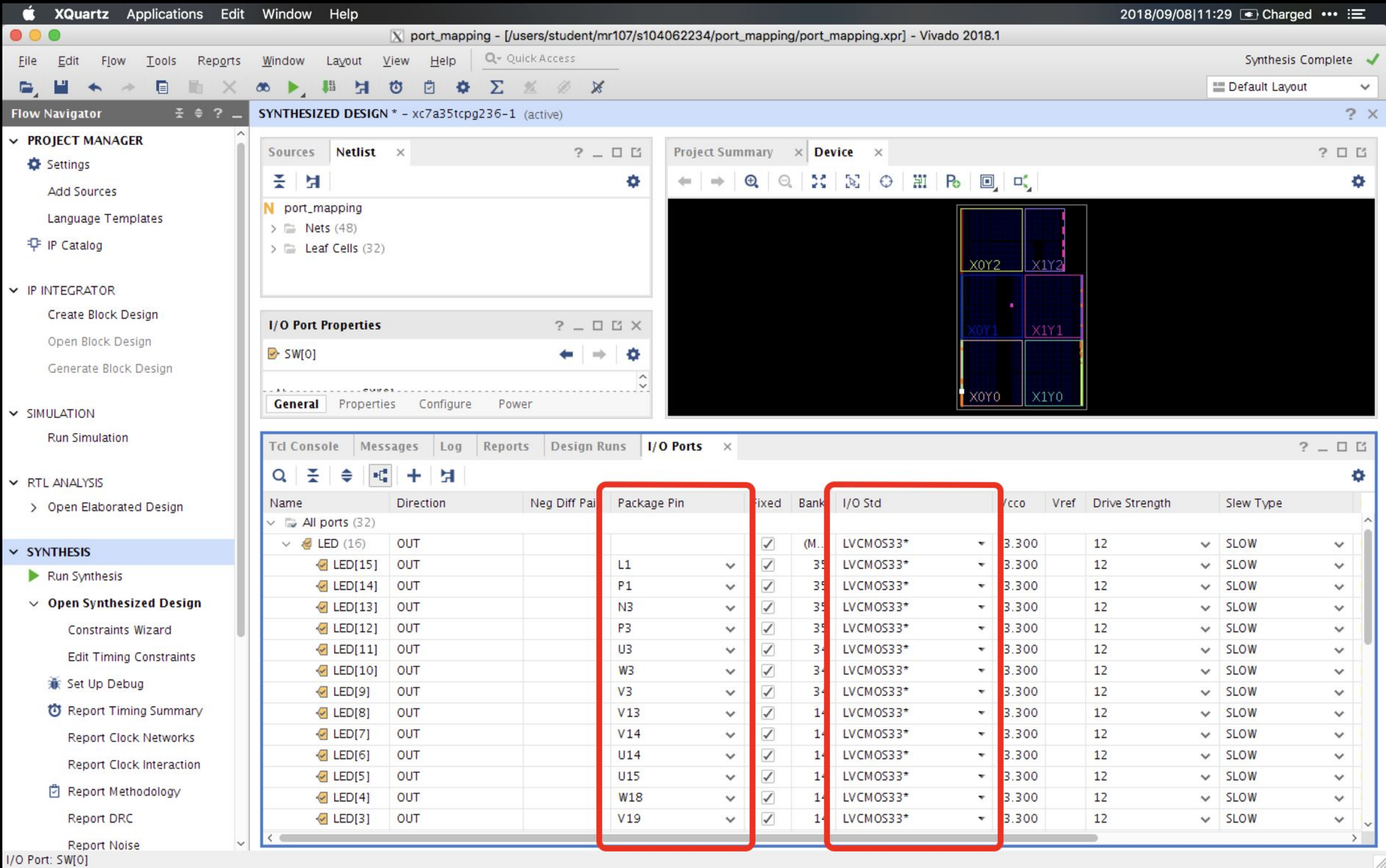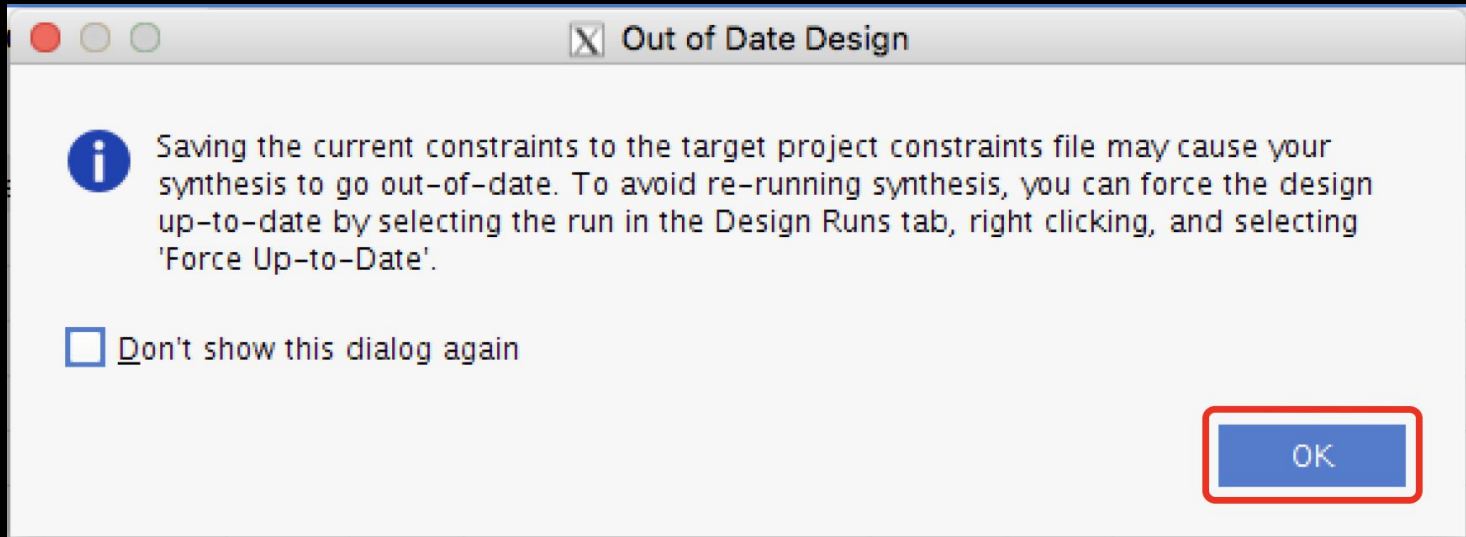
- Open the I/O port panel

Create a new XDC file (5/9)

- Fill in the fields according to your need
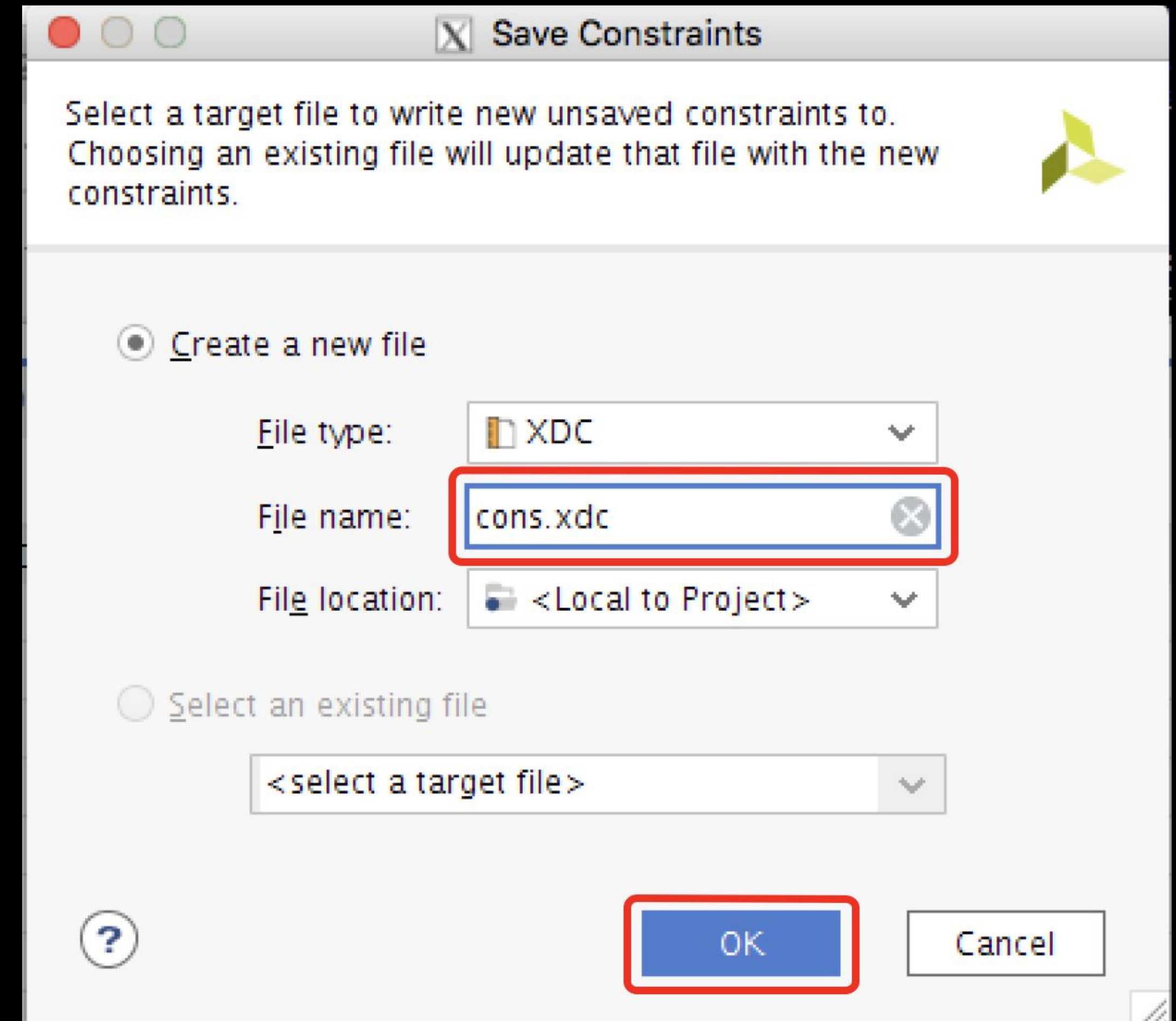
- For I/O std, select LVCMOS33

Create a new XDC file (6/9)

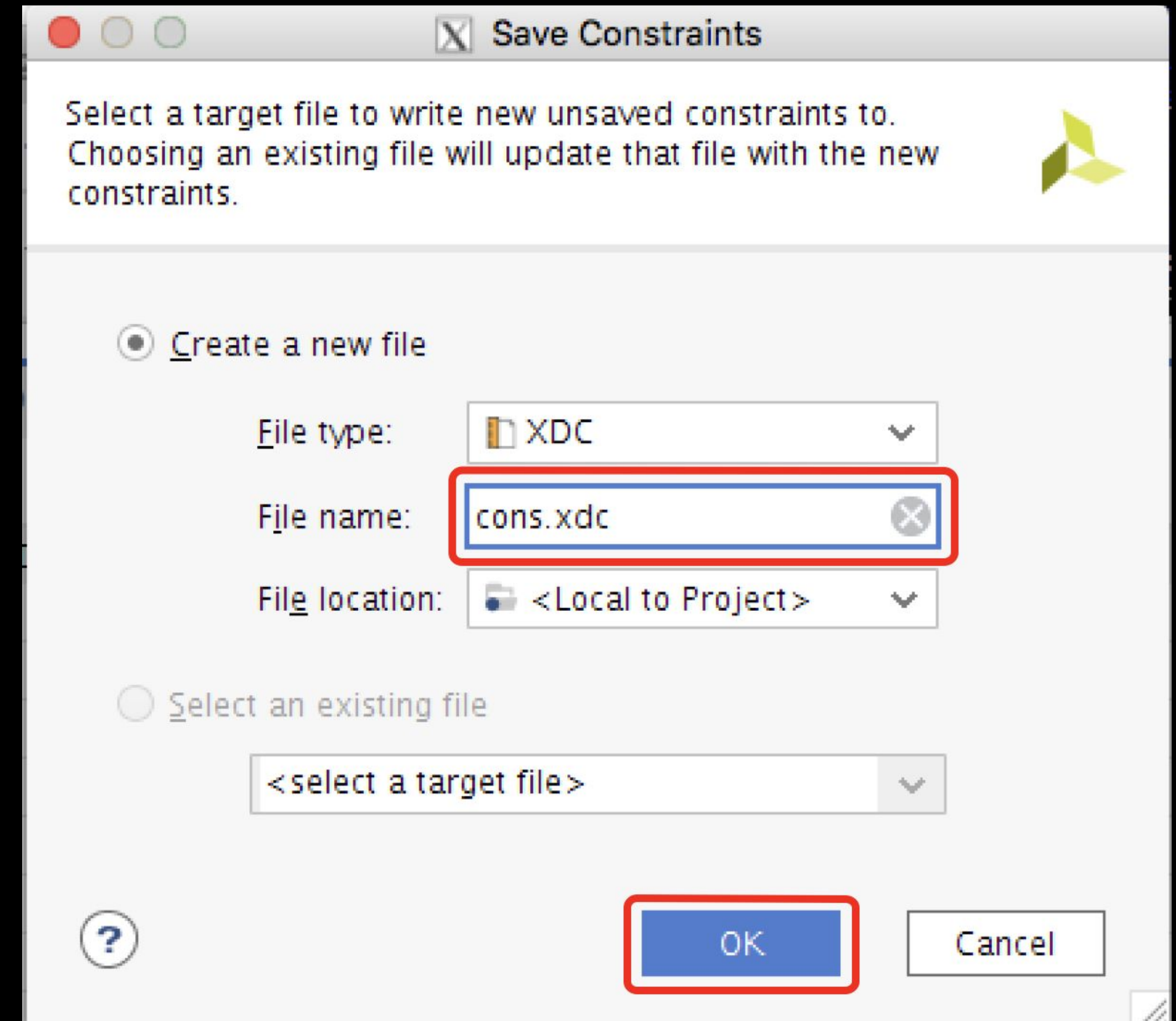- Save XDC configuration

  by cntrl + s

Create a new XDC file (7/9)

- Set the filename and file path of
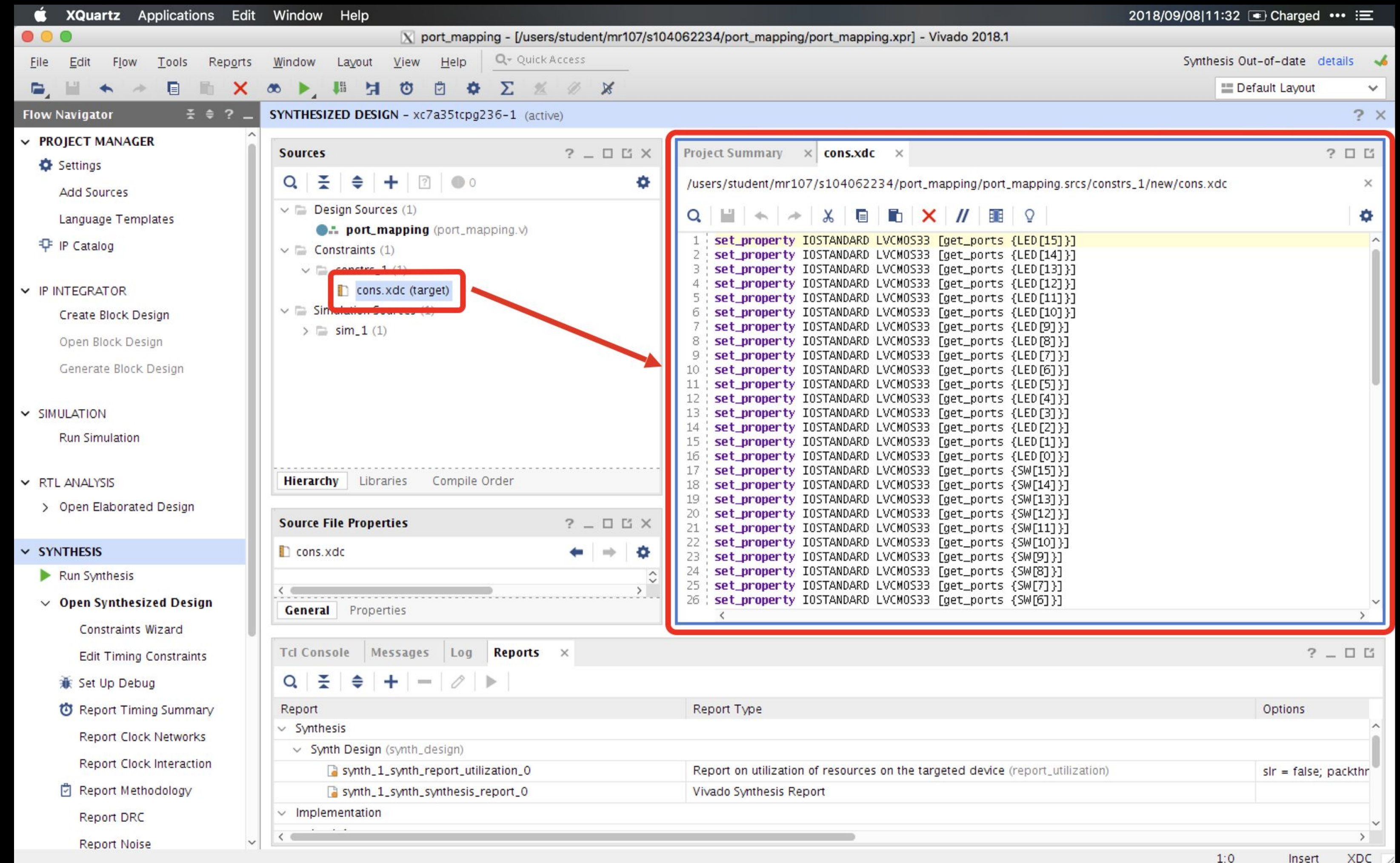
  your constraint file.

Create a new XDC file (8/9)

- Set the filename and file path of

  your constraint file.

Create a new XDC file (9/9)
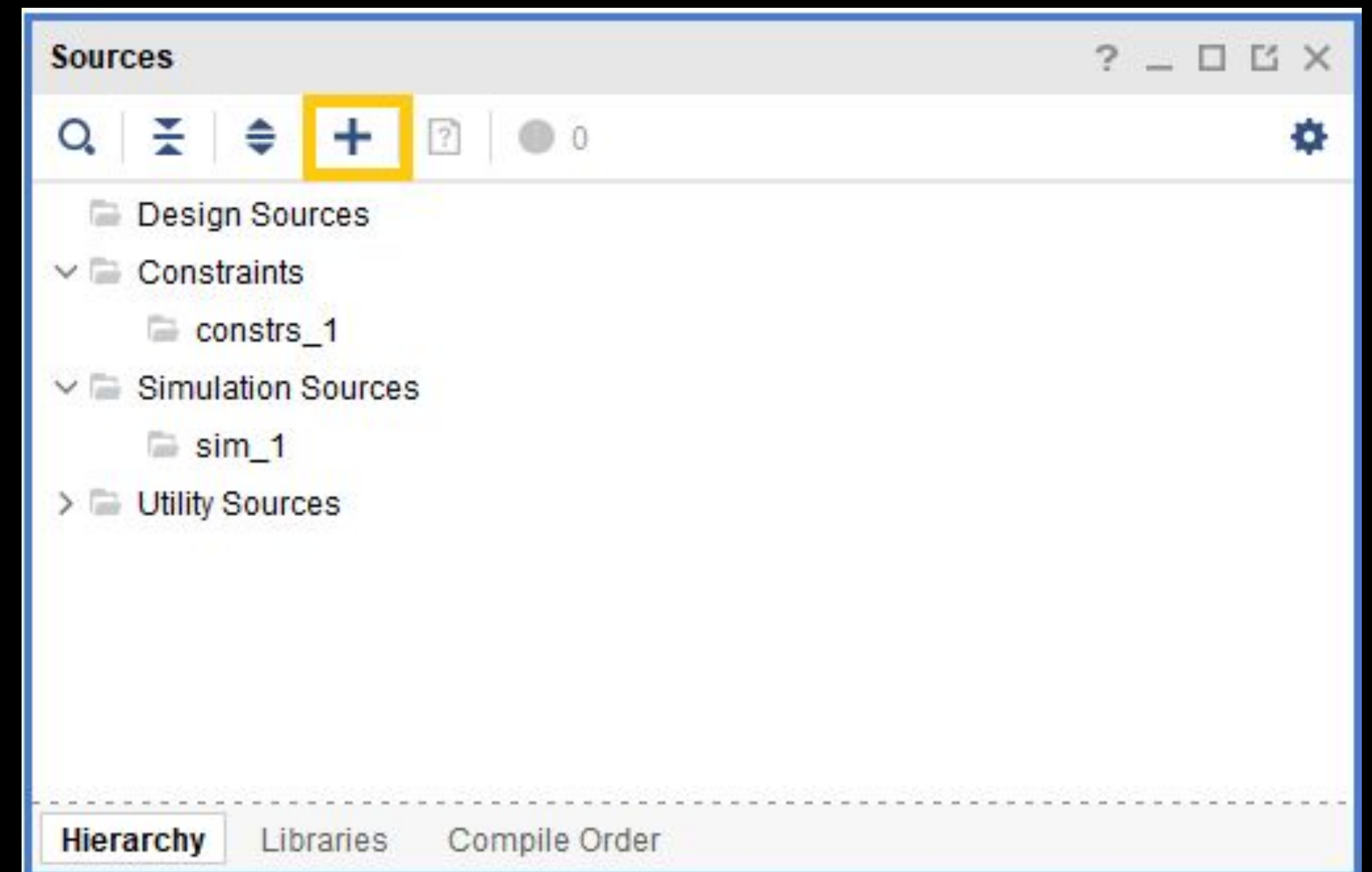
- Done

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Create a new XDC file

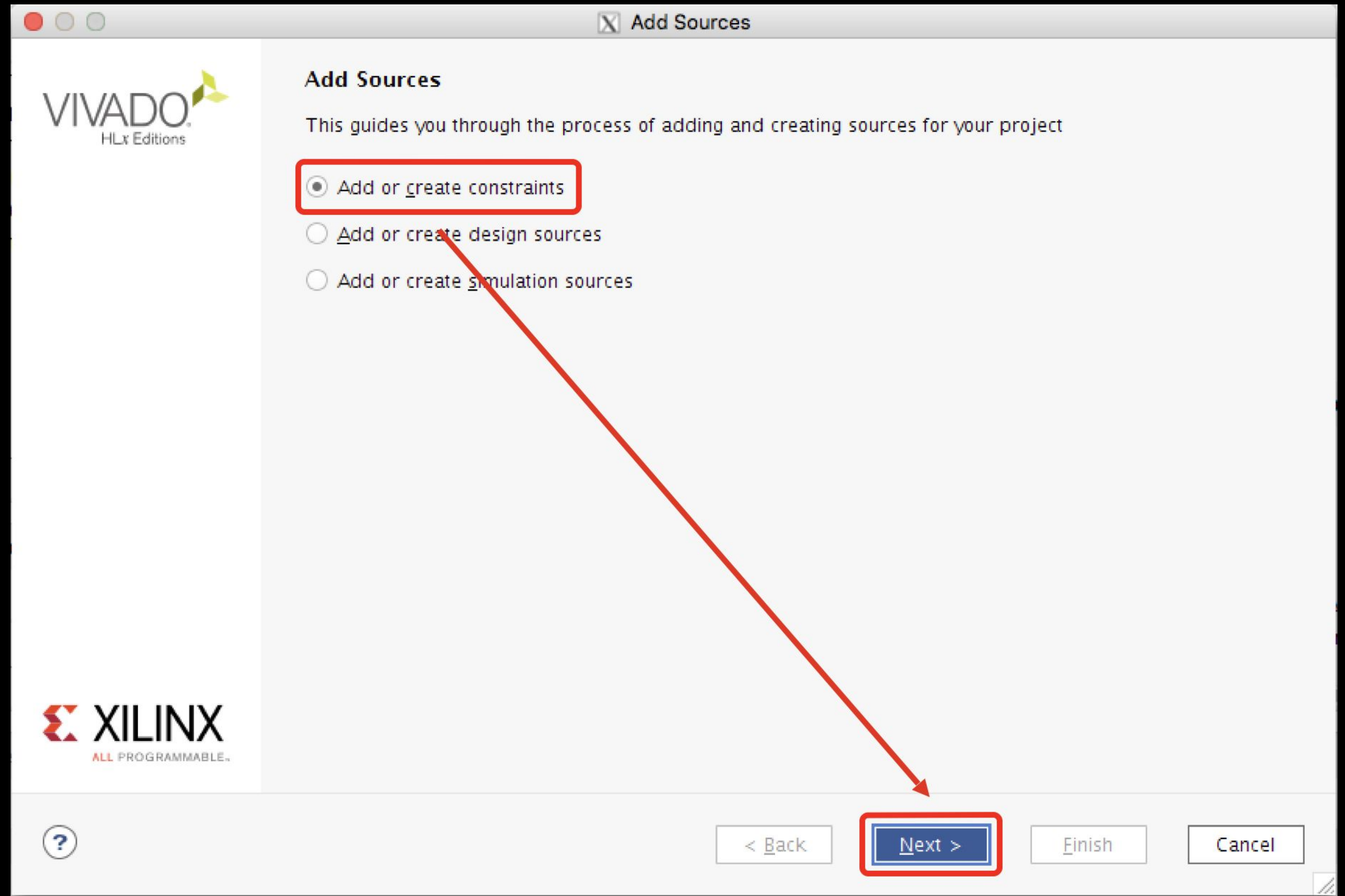**Add a existing XDC file**

Edit the XDC file

Add a existing XDC file (1/5)

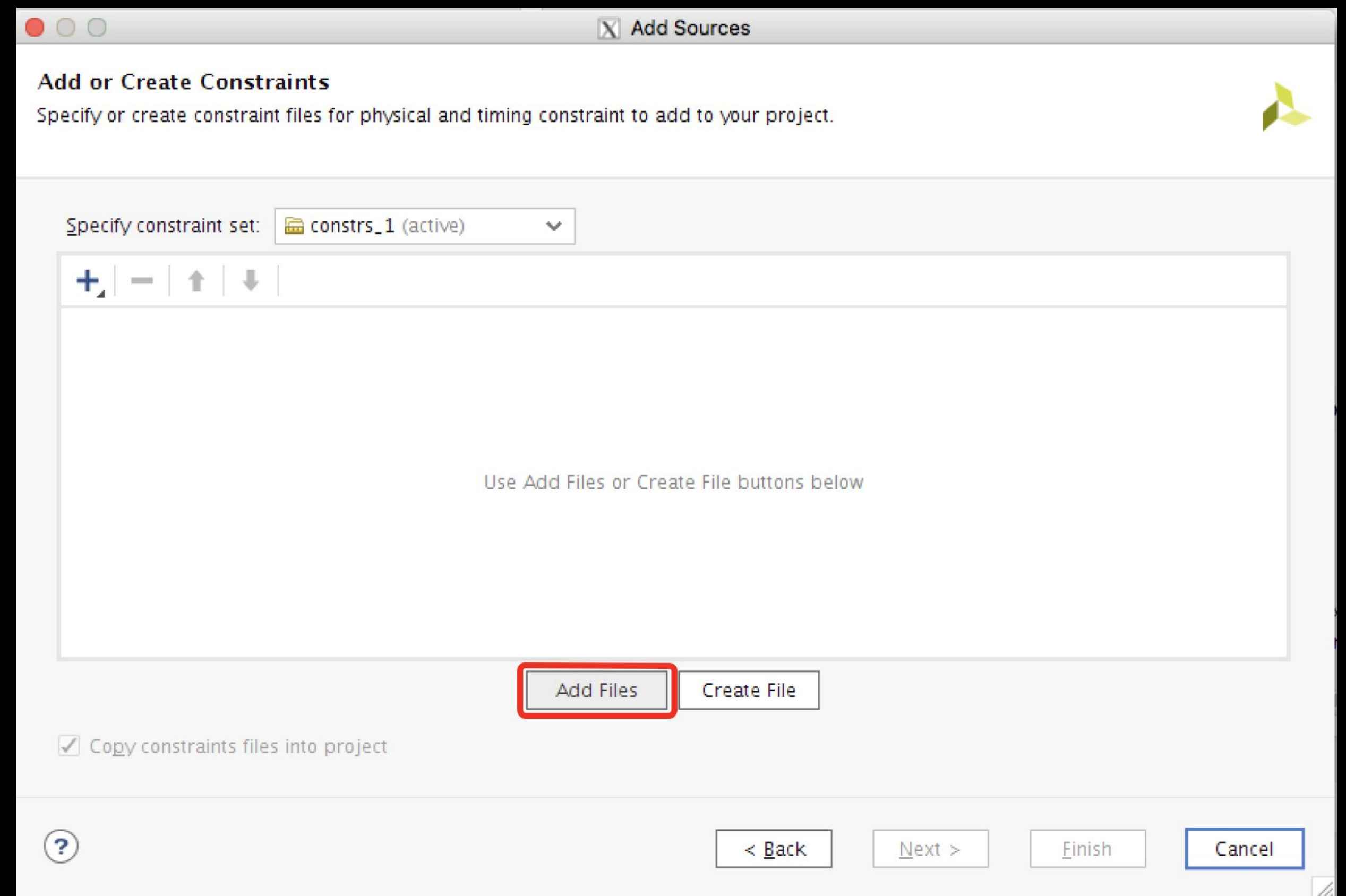- Just like adding a design source, click on the **+** in the source panel

Add a existing XDC file (2/5)

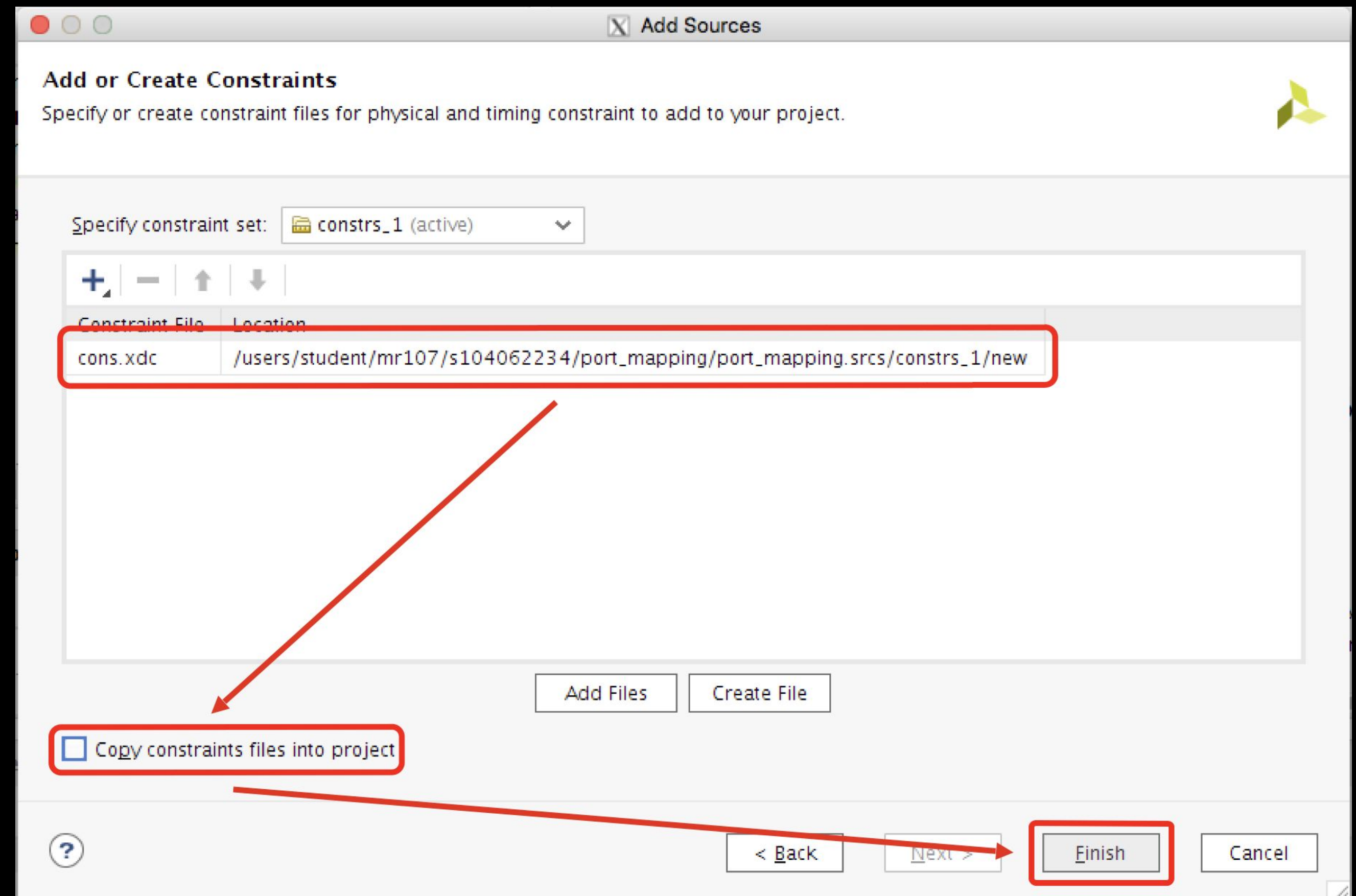- Select **Add or create**

  constraints.

Add a existing XDC file (3/5)

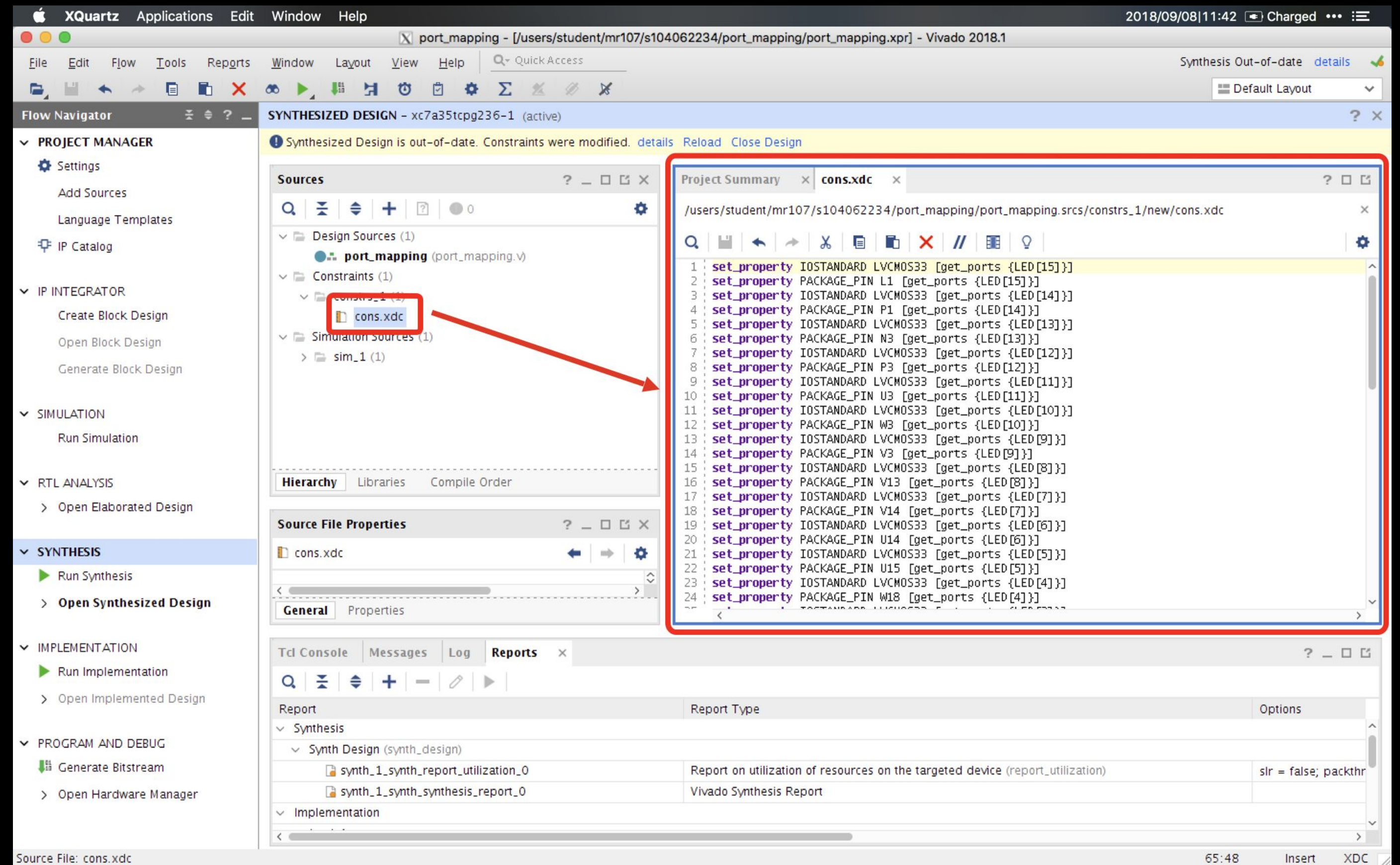- Select *Add Files* and select

  the .xdc file you want to add.

Add a existing XDC file (4/5)

- Make sure the file you include is correct

- Select *Copy constraints files into project*.

- Hit *Finish*.
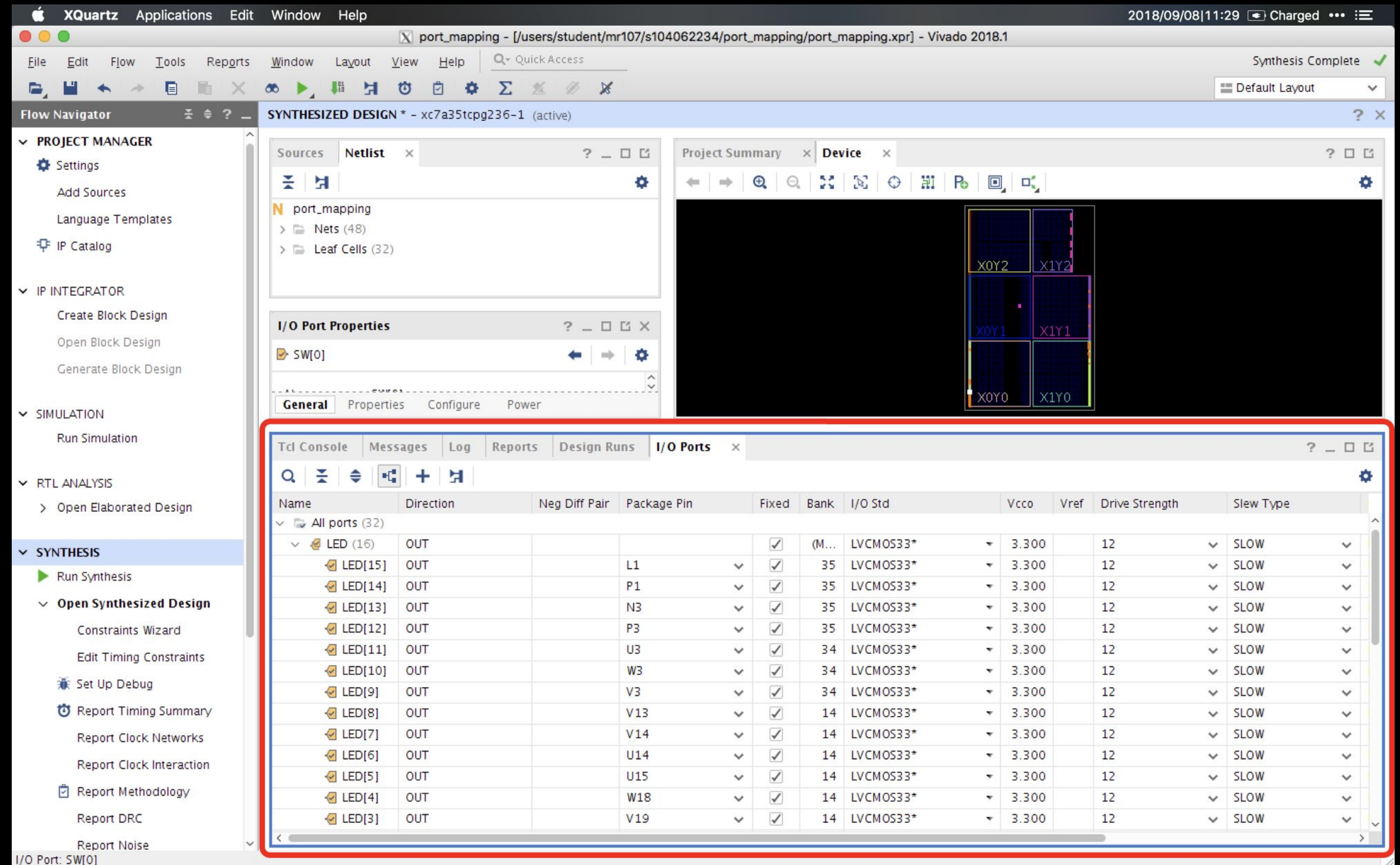
Add a existing XDC file (5/5)

- Done

Agenda

Edit the XDC file (1/1)

- Open synthesized design.

- Open I/O panel.

- Edit.

- Save.

- Done.

Q&A