Lattice Diamond Tutorial (Basic Hello Word)

Topic

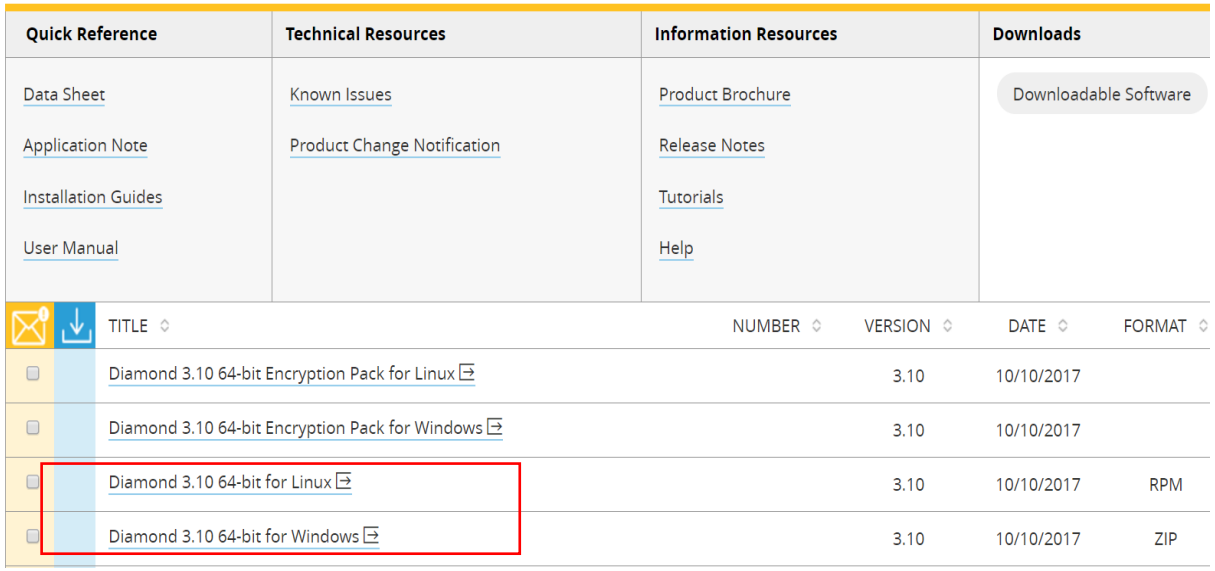
- Download Lattice Diamond Software and request for the license
- Use Lattice Diamond Software for writing Verilog code
- Use Lattice Diamond Software for signal assignments
- Use Lattice Diamond Software for generate bitstream
- Use Lattice Programmer to program MachXO2 FPGA chip

Lattice Diamond Software

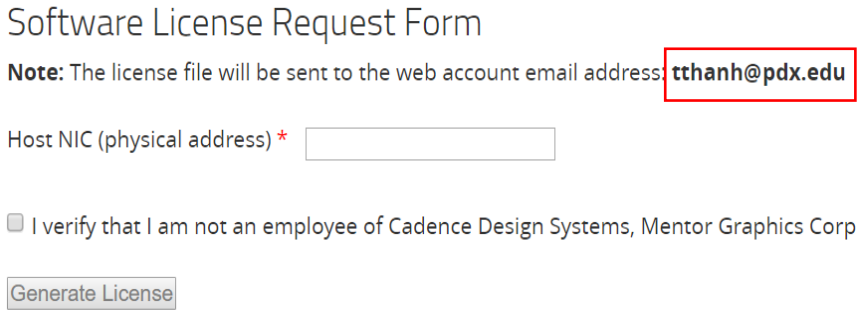
Download Lattice Diamond and request a license

A Lattice account is required to download software, documentations or request licenses

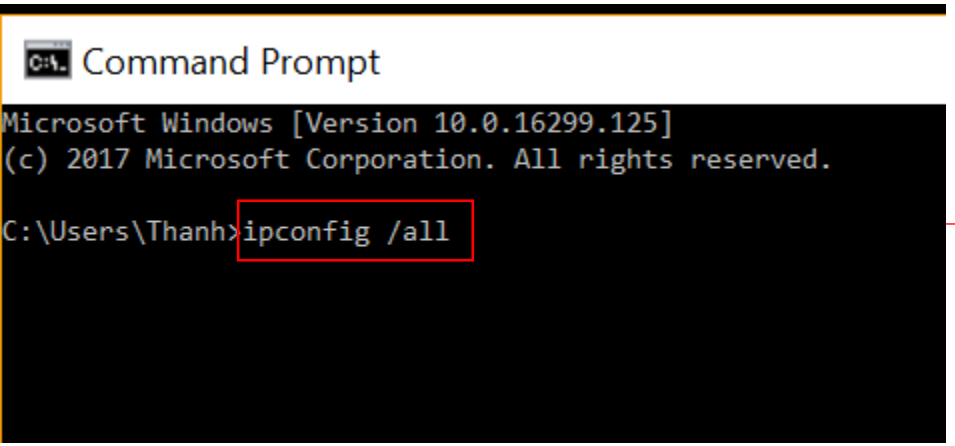
Download Lattice Diamond
http://www.latticesemi.com/en/Products/DesignSoftwareAndIP/FPGAandLDS/LatticeDiamond.aspx

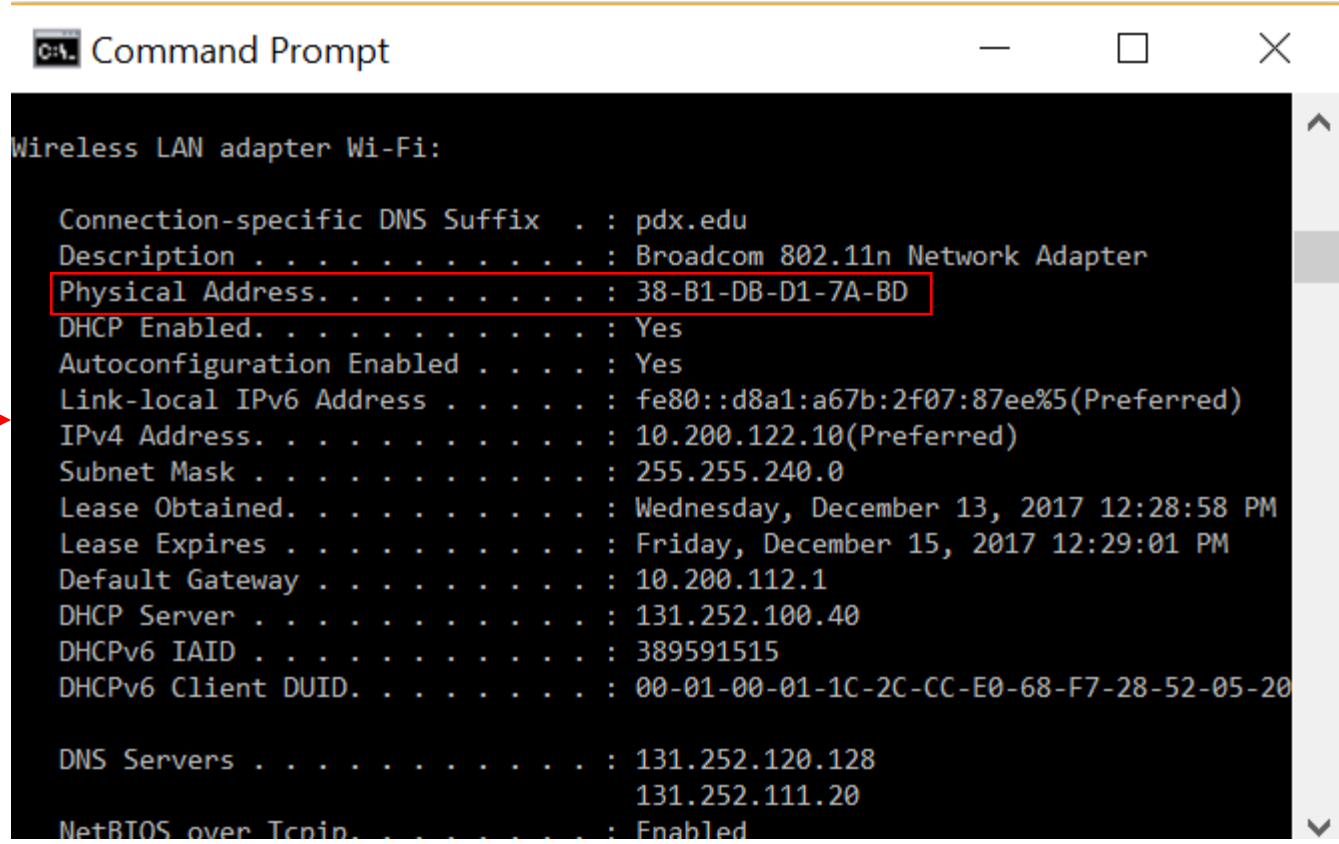


Request a license
http://www.latticesemi.com/en/Support/Licensing/DiamondAndiCEcube2SoftwareLicensing/DiamondFree.aspx



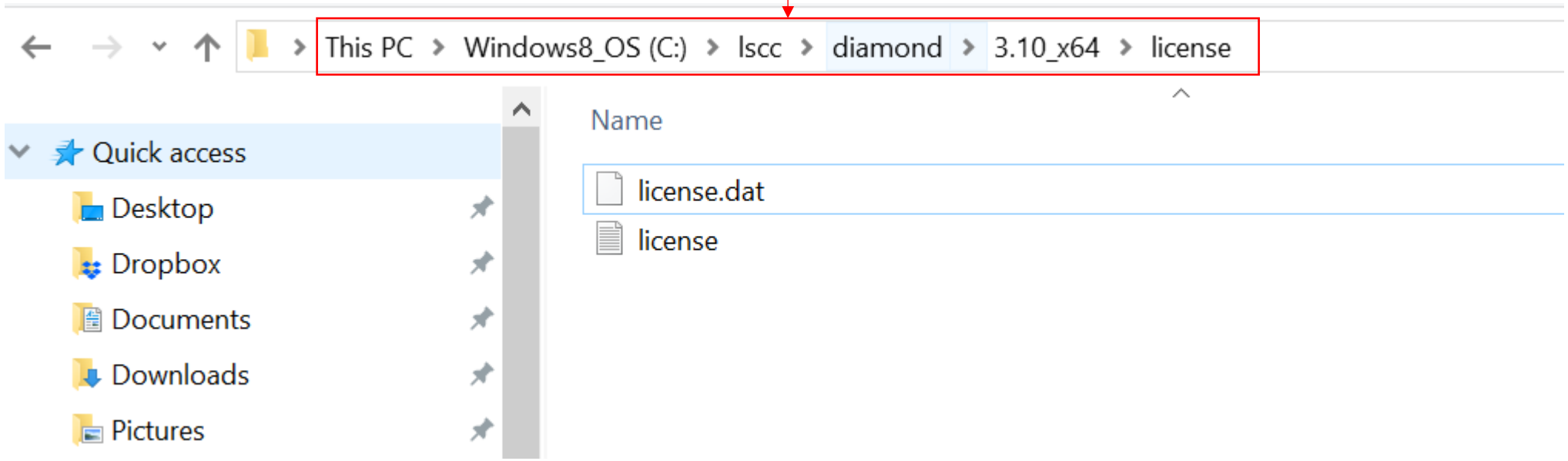
Get your MAC address





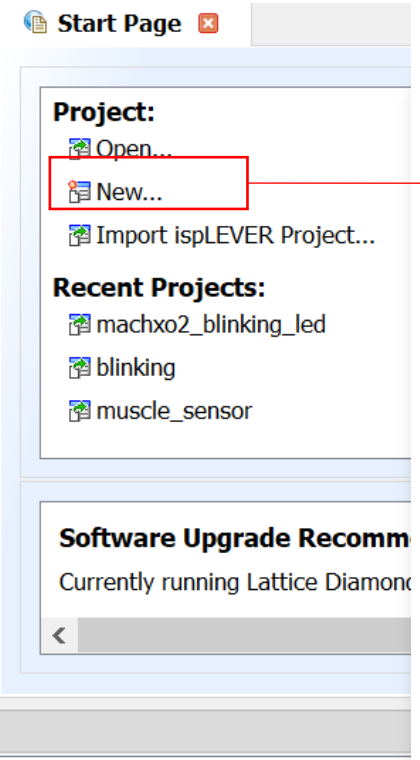
Activate Lattice Diamond With The License

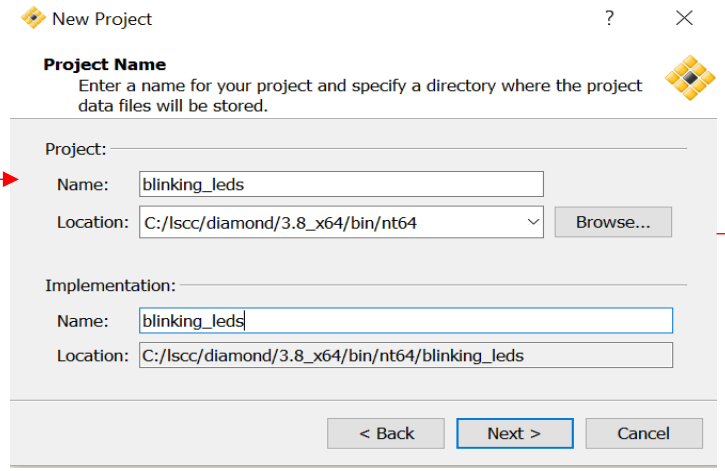
Installation path

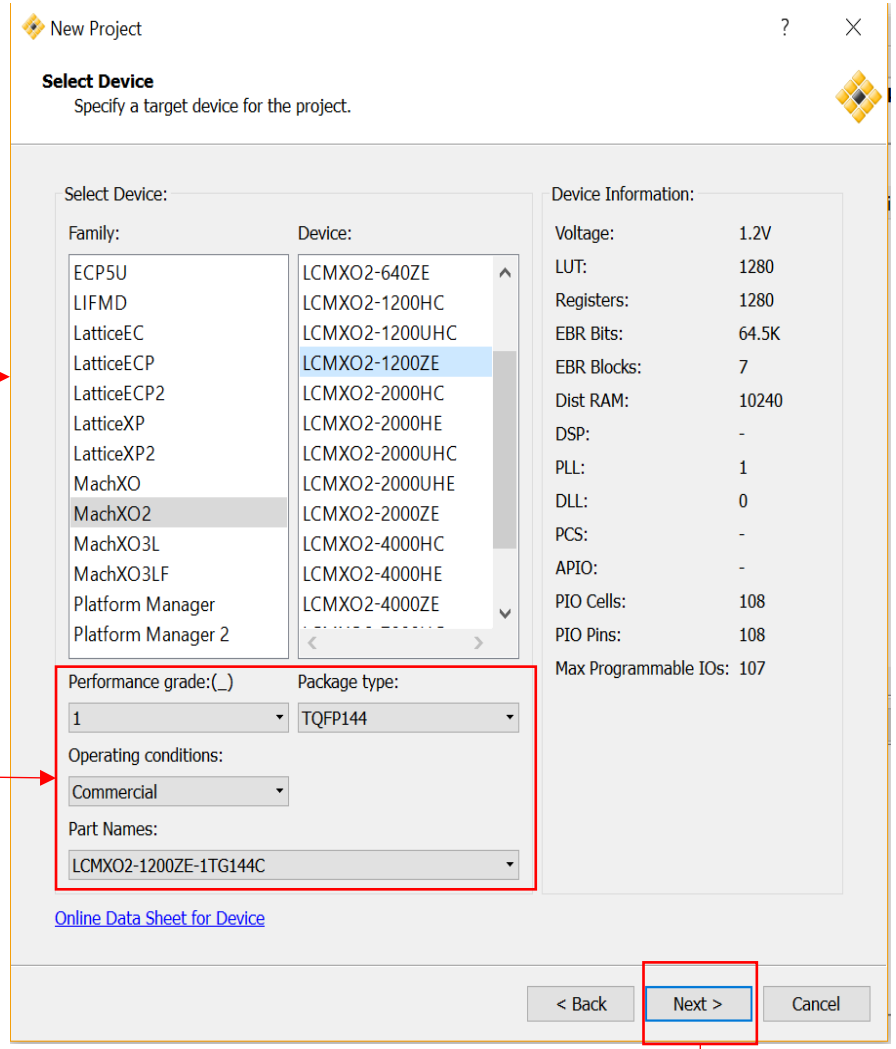


Hello World With MachXO2 Breakout Board

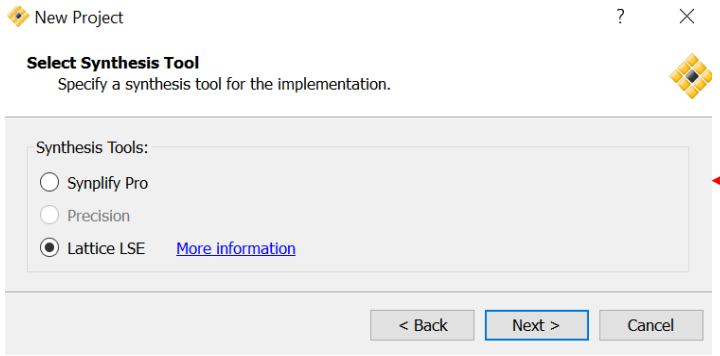
Create Working Directory



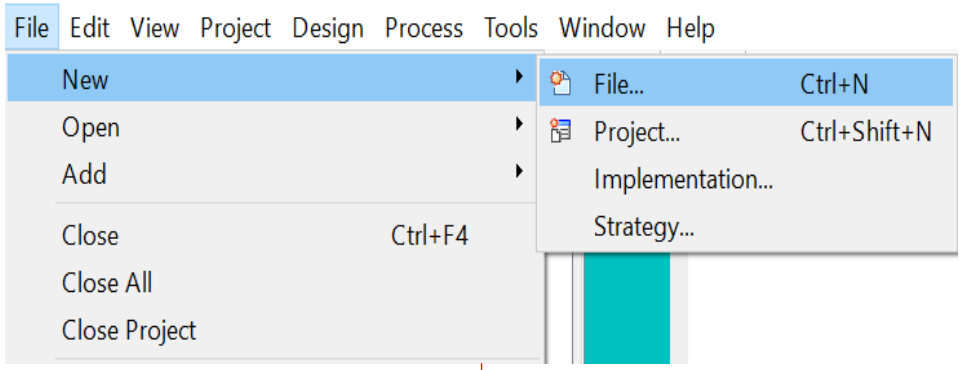


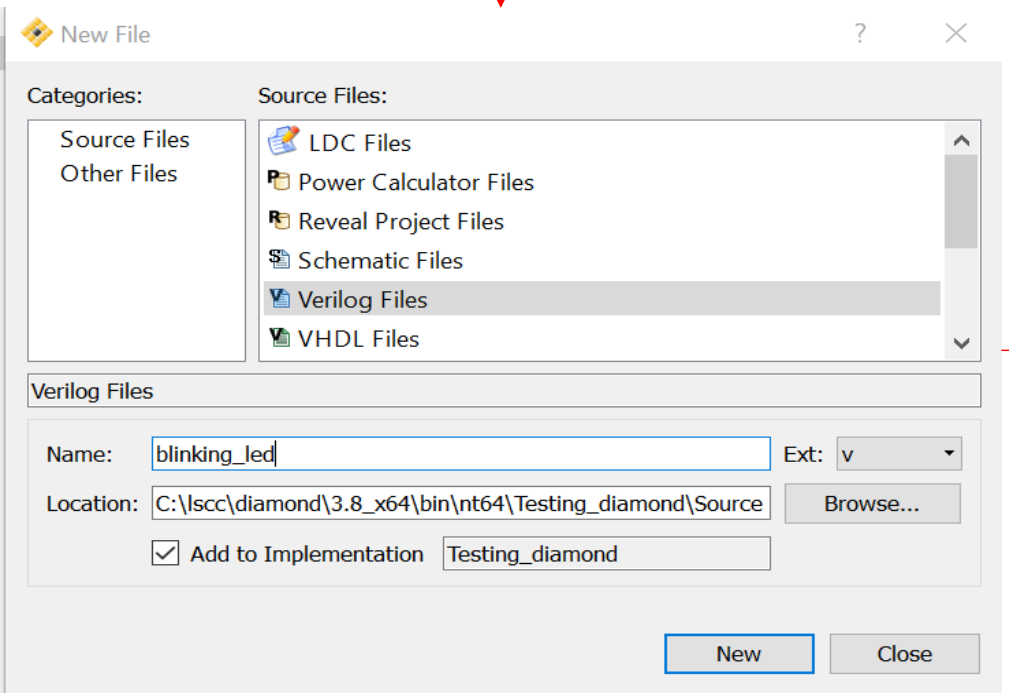


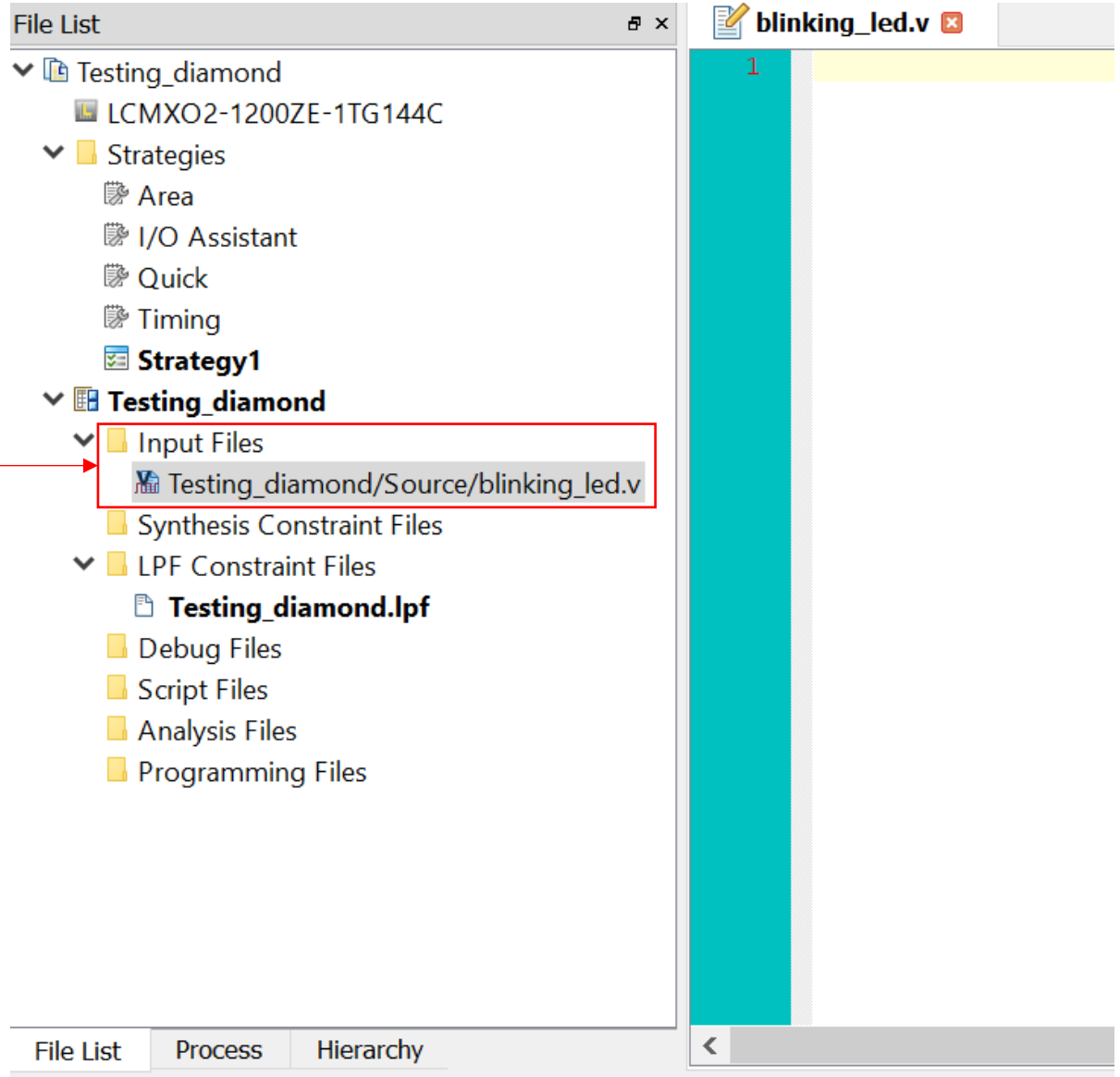
Found these info on Lattice's website



Adding Verilog files





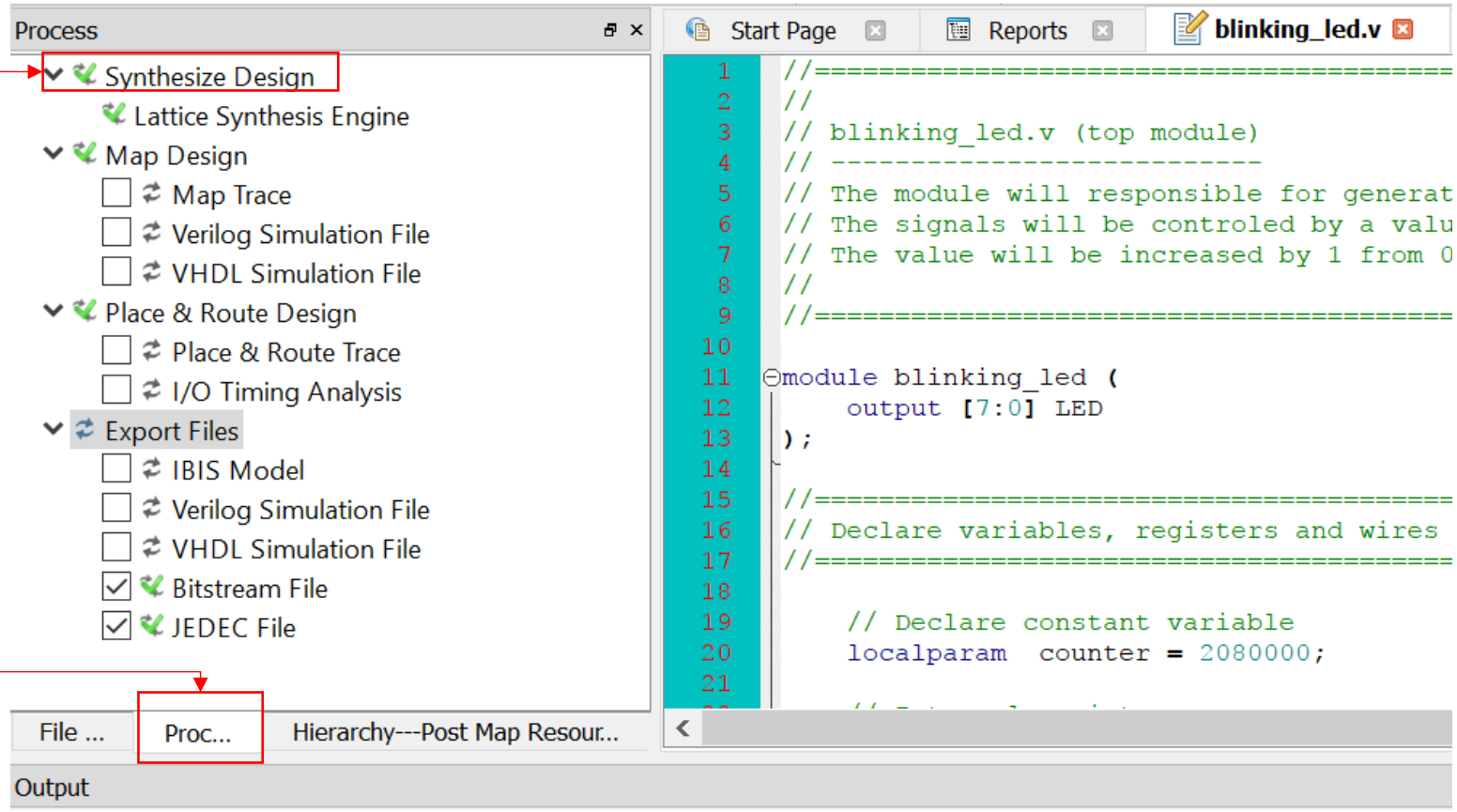


Writing Verilog Code And Program MachXO2 FPGA Chip

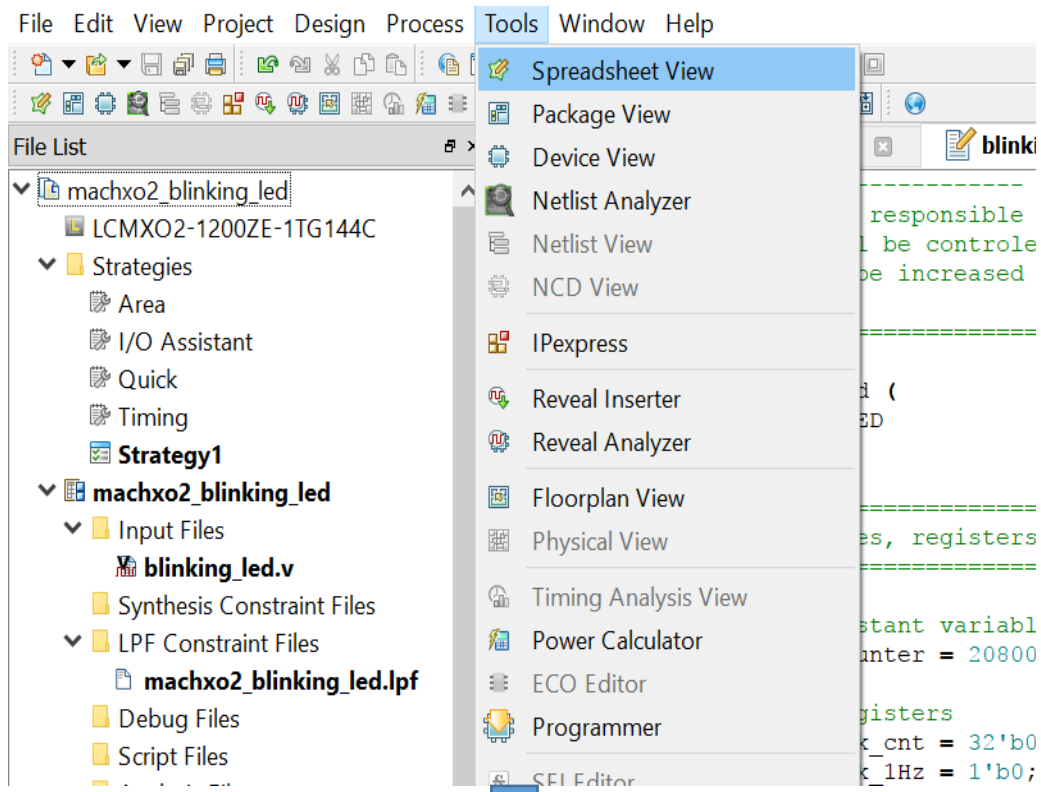
Run Synthesizer

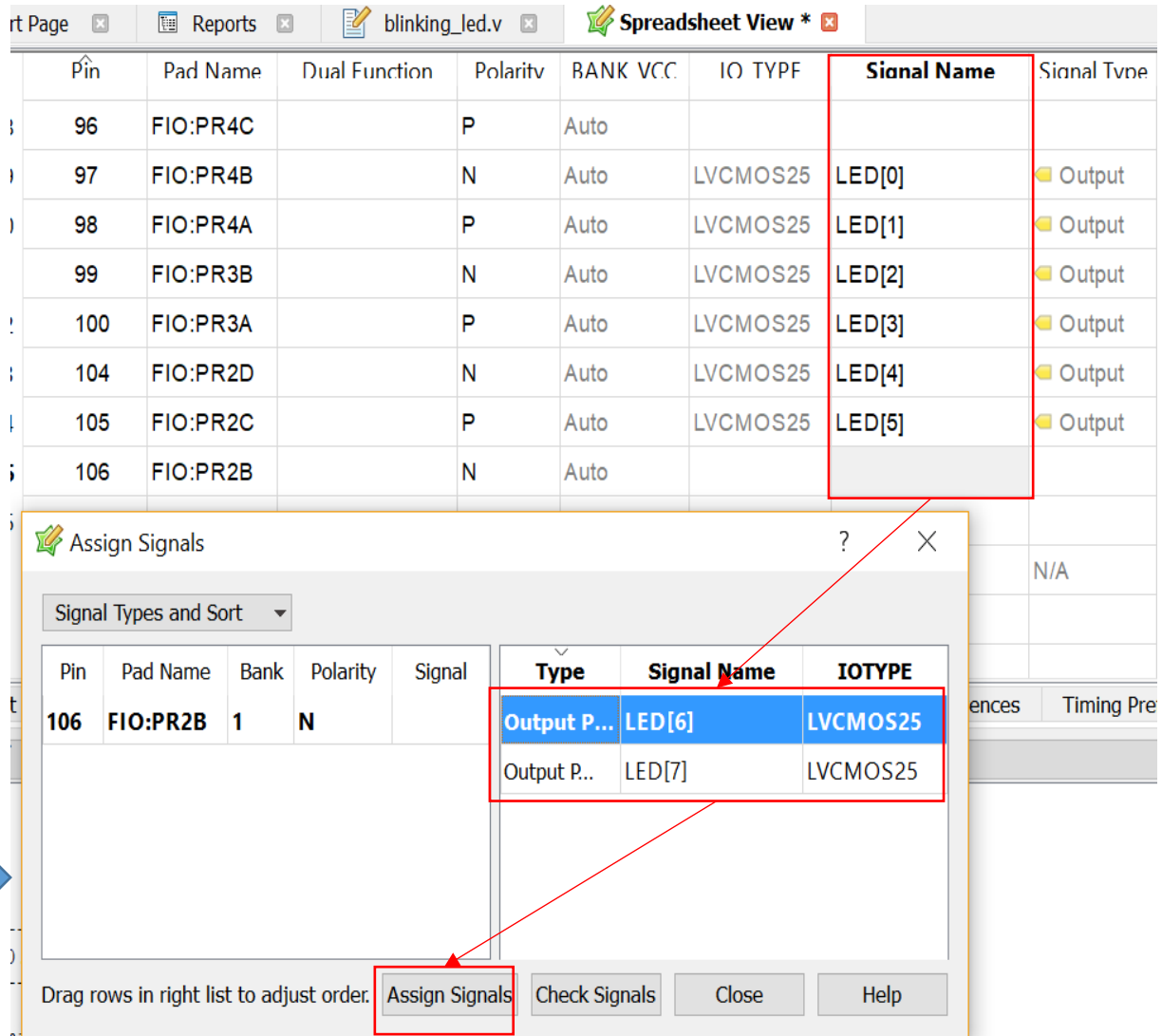
Double Click (2)

Click (1)



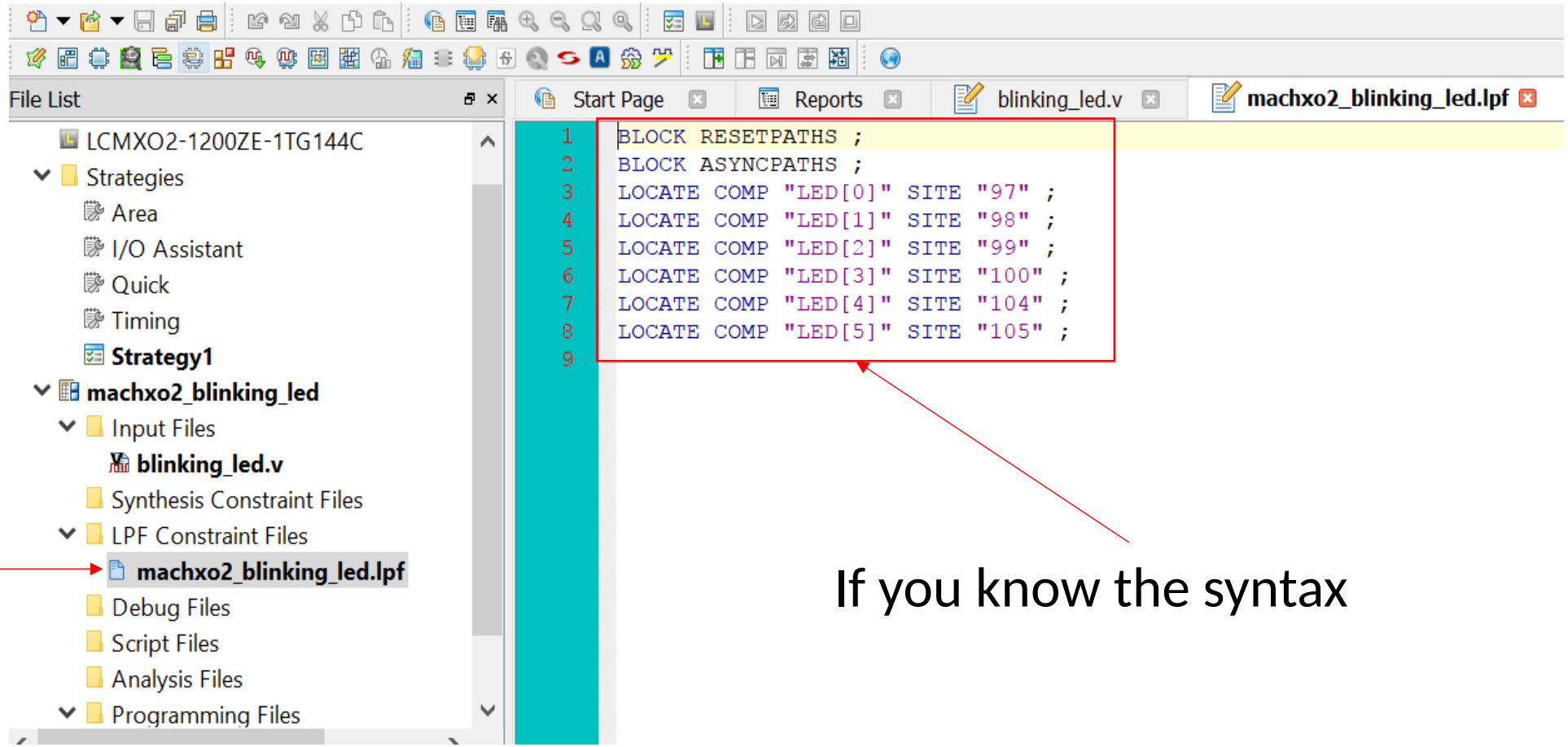
Signal assignments (Pin assignments – Opt 1)





Signal assignments (Pin assignments – Opt 2)

Double click



If you know the syntax

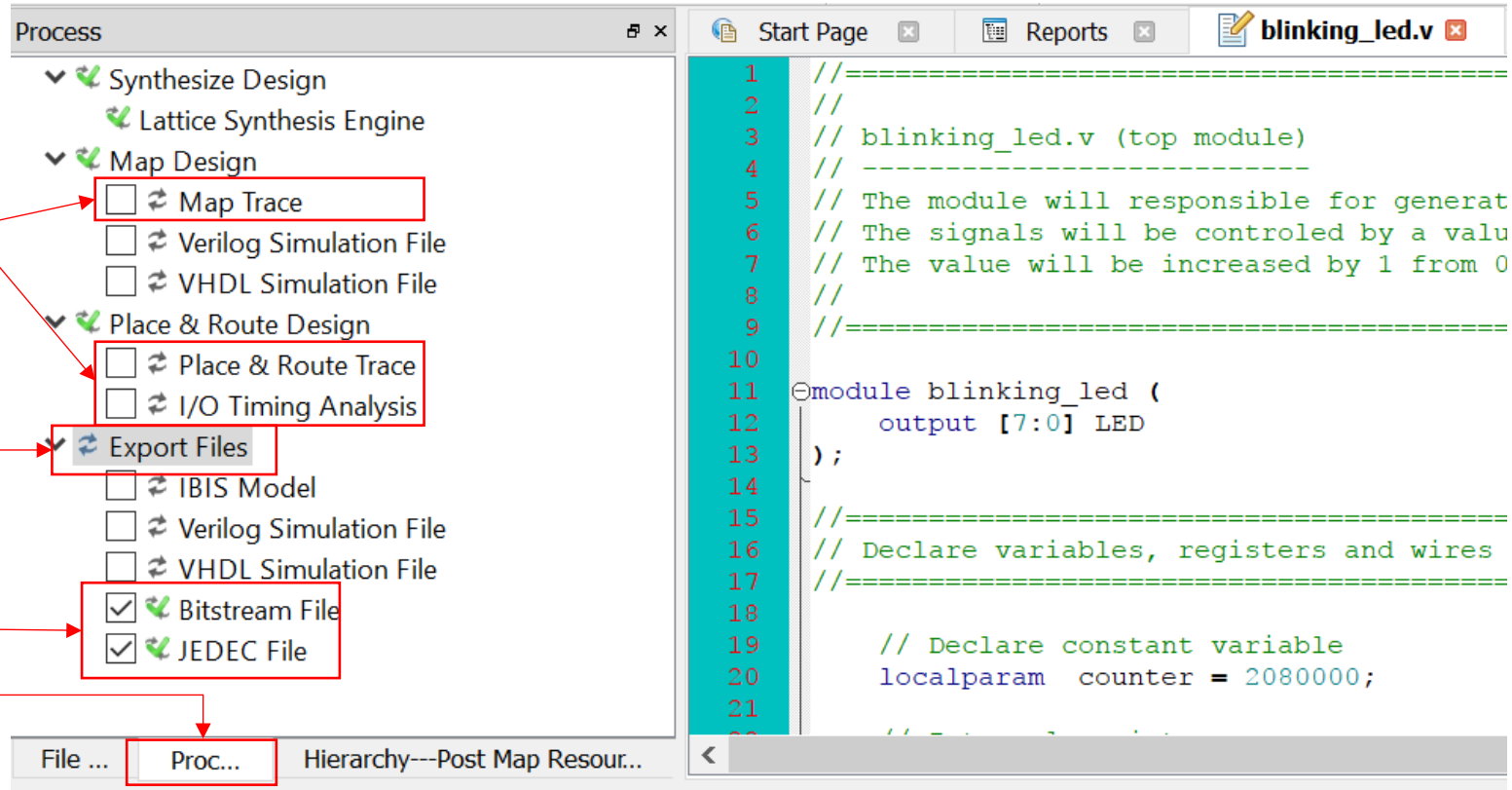
Generating a Bitstream and a JEDEC file

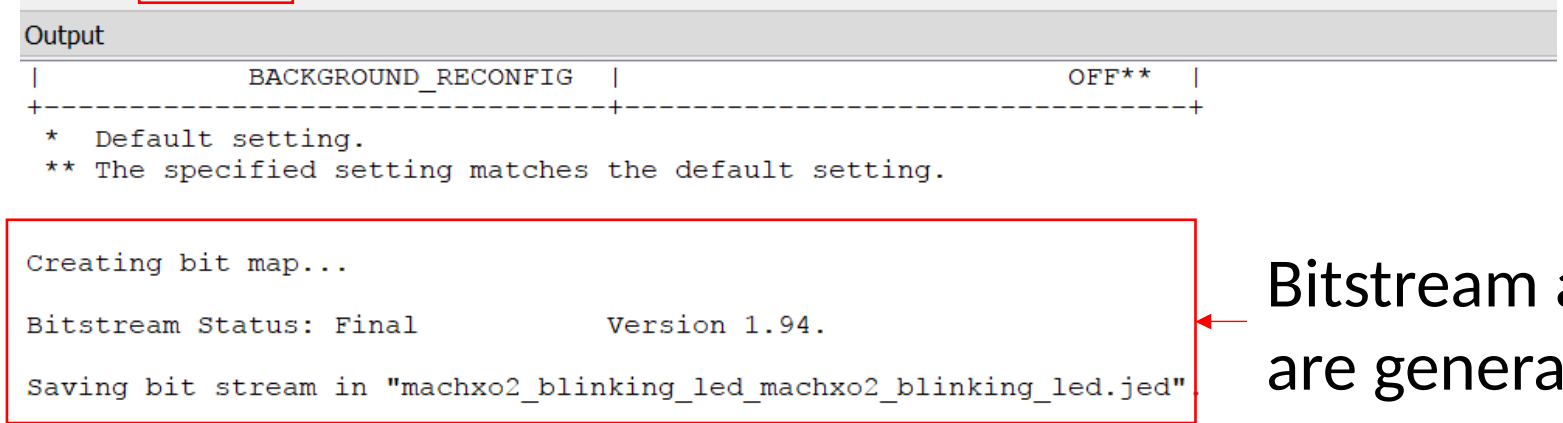
Check if you want to look at the report

Double Click (3)

Check (2)

Click (1)

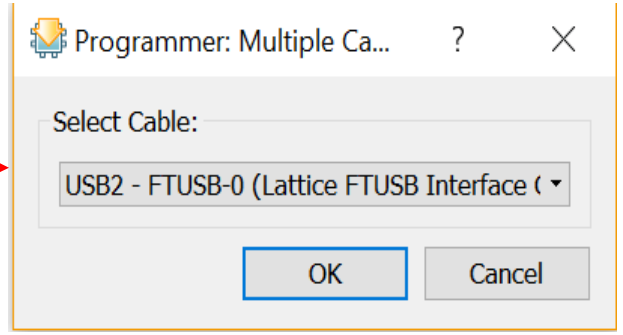


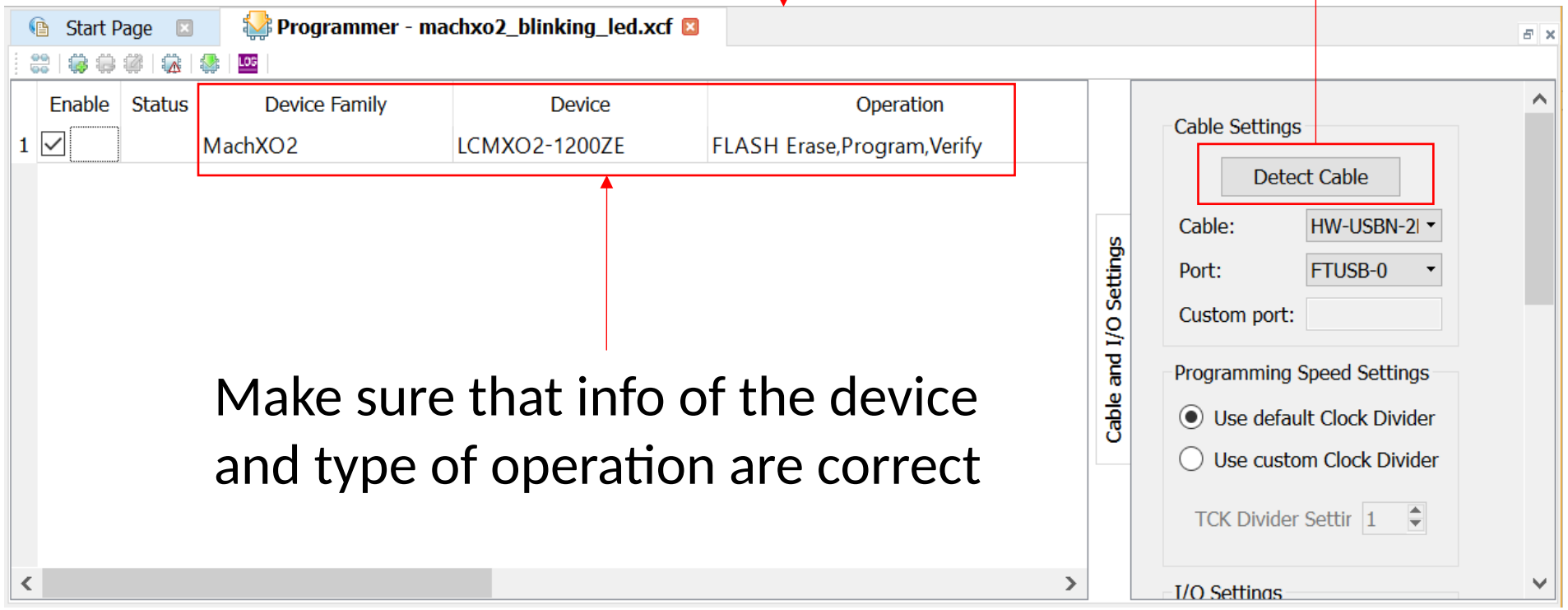


Bitstream and JEDEC are generated

Program MachXO2 FPGA Chip

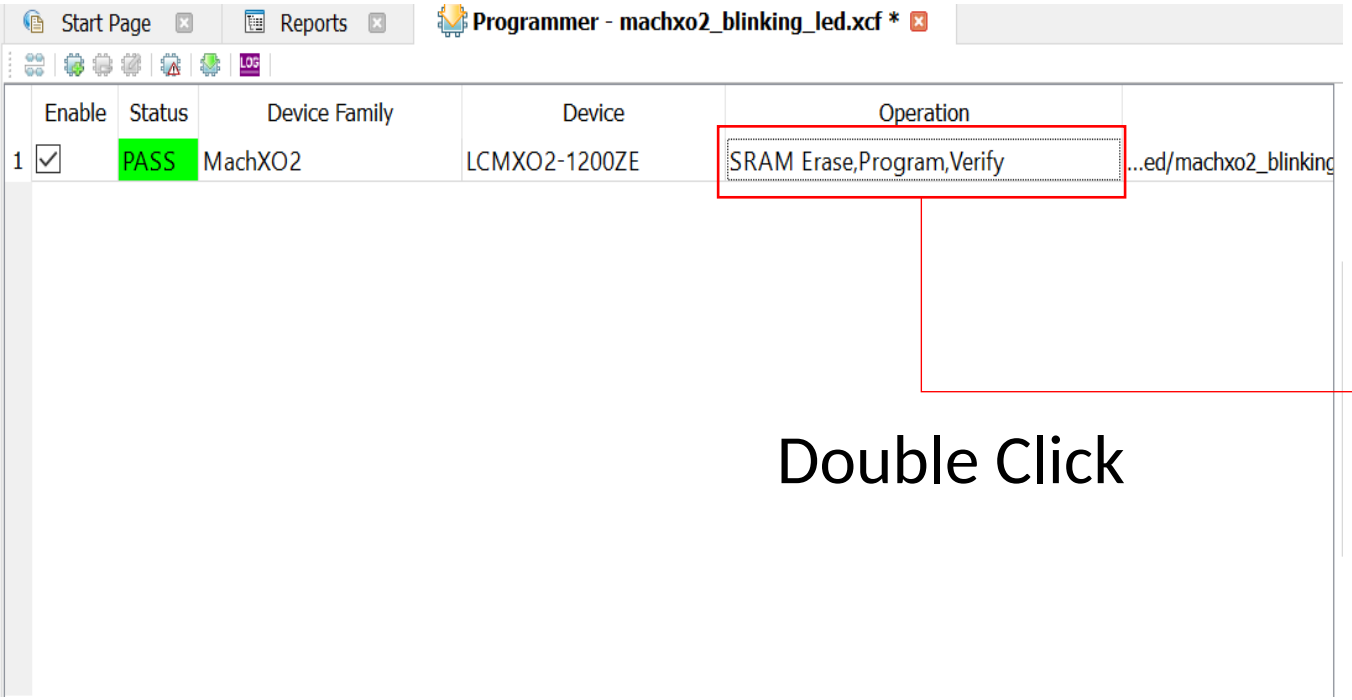
If the software can't recognize the connected device



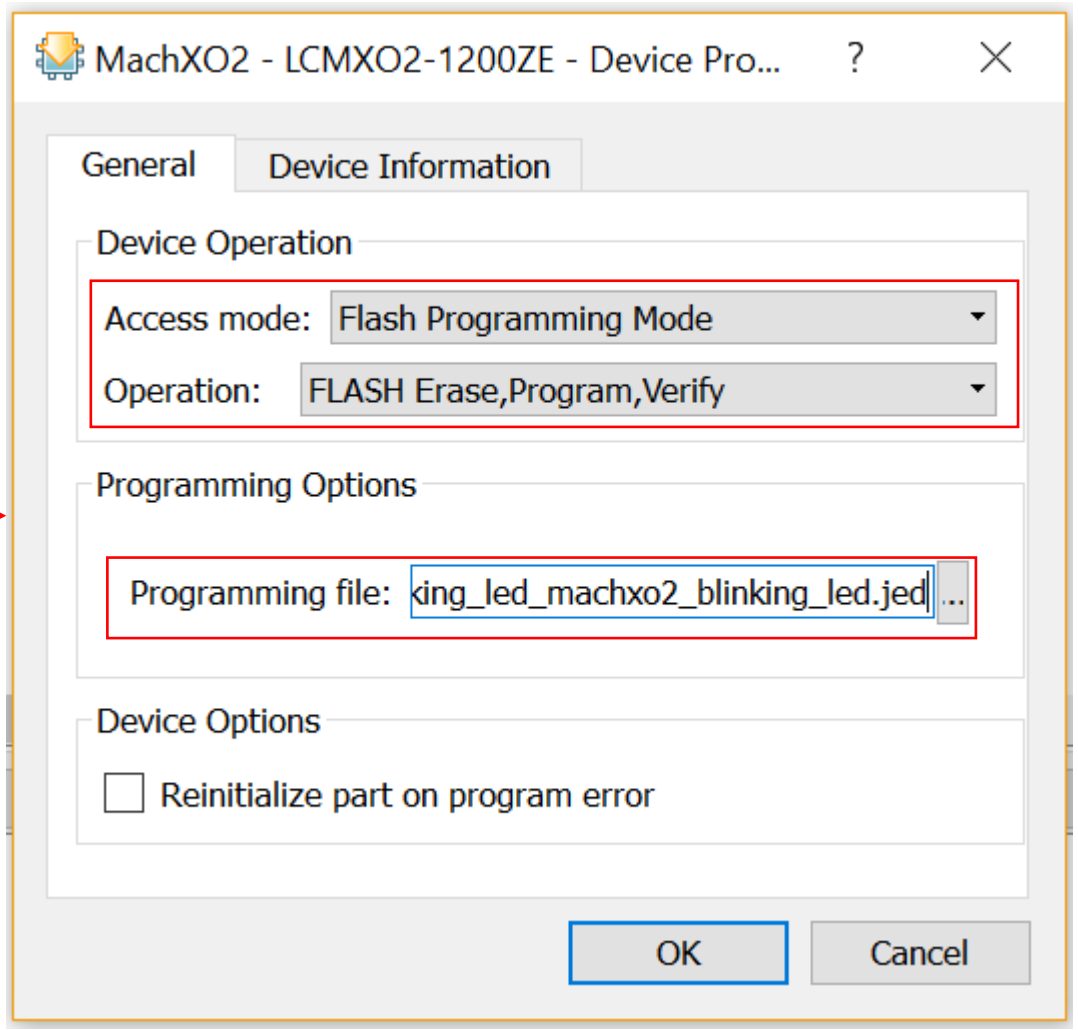


Make sure that info of the device and type of operation are correct

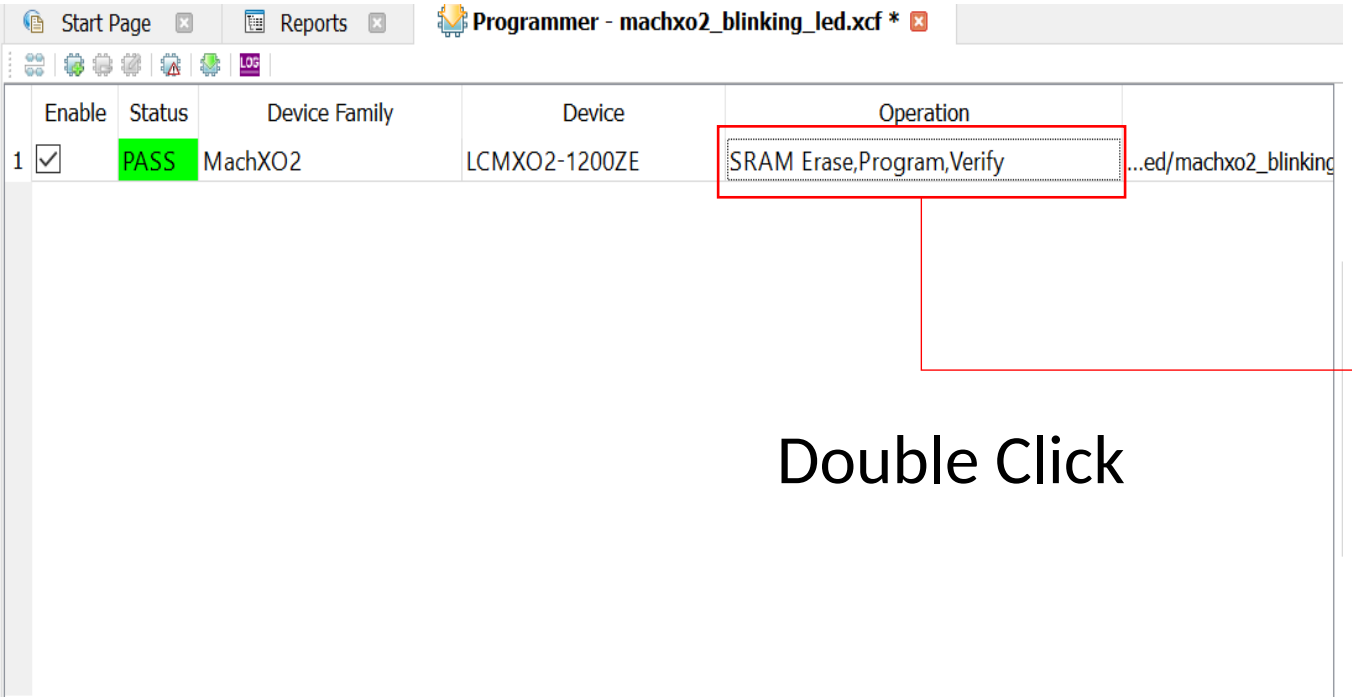
Programming Flash



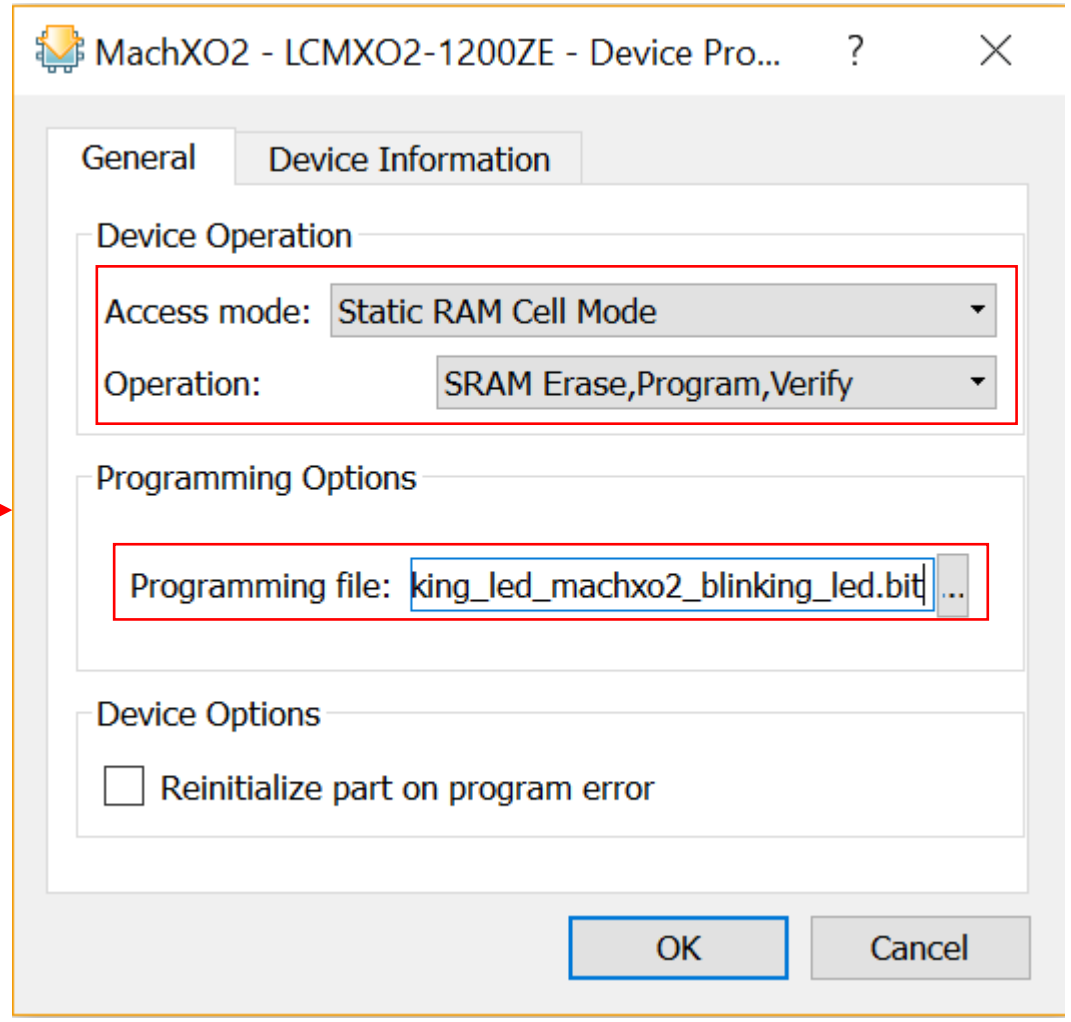
Double Click



Programming SRAM

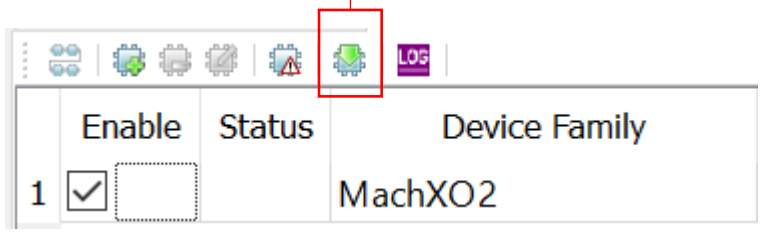


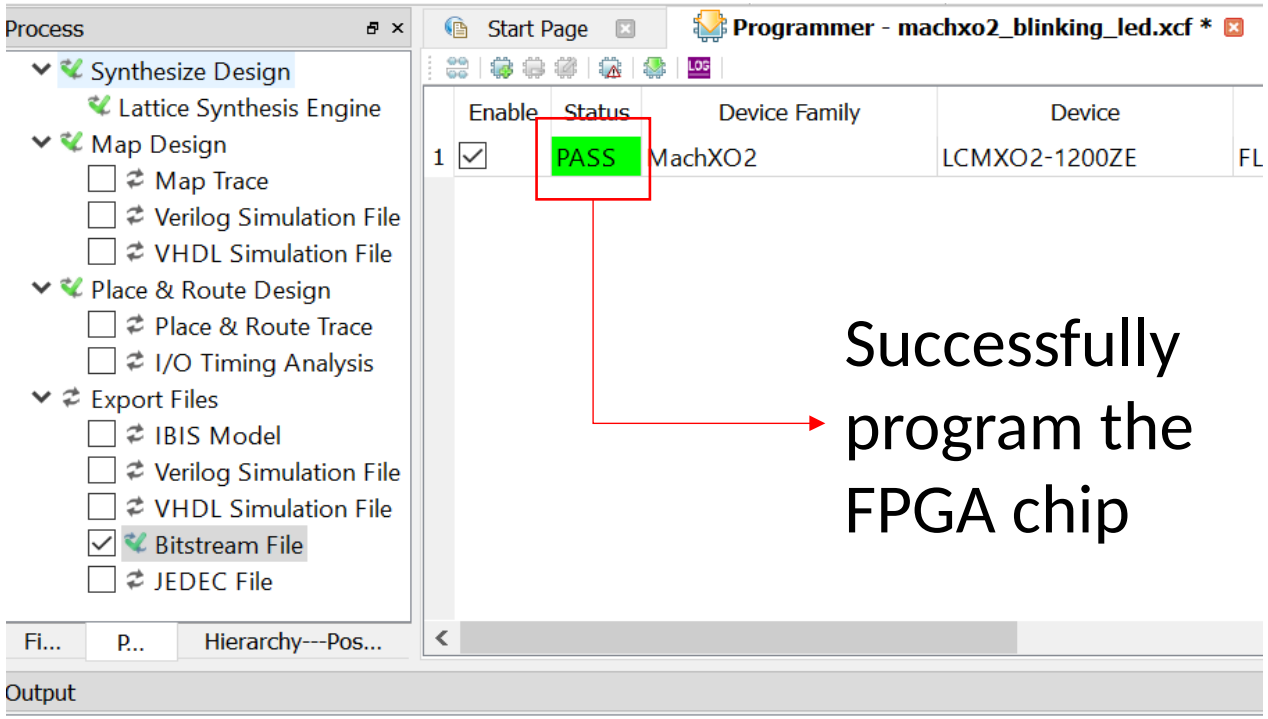
Double Click



Program MachXO2 FPGA Chip

Click to program





Successfully program the FPGA chip