

## Configuration File Creation

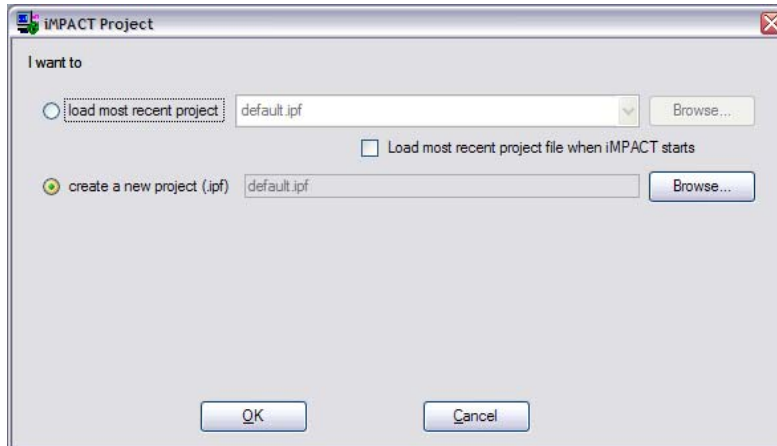
ExPort supports SVF (Serial Vector Format) files. These files contain explicit commands detailing what operations are required on the JTAG scan chain. A .svf file can be used to program most JTAG devices. Some devices can only be programmed by ExPort using .svf files.

### To Generate an .svf File in iMPACT

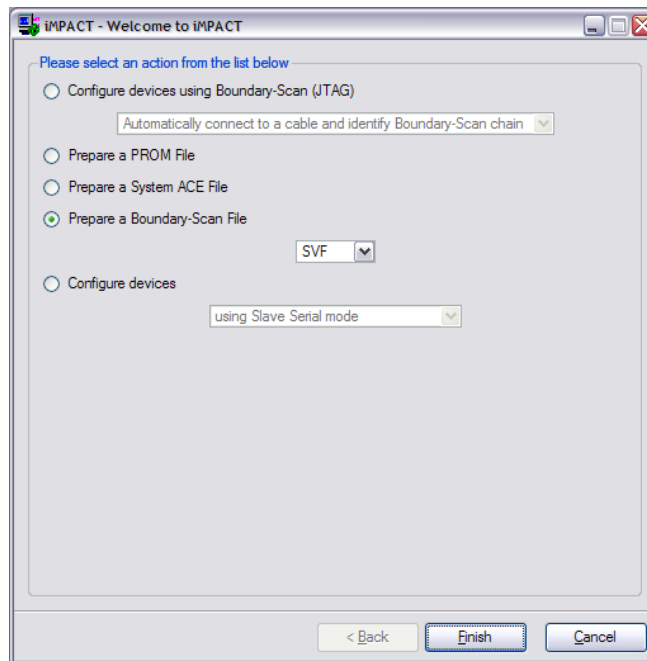
The .svf files are generated by Xilinx's iMPACT tool. A single .svf file can modify every device on the JTAG scan chain. To simplify the process, it is recommended that each .svf file be created to affect only one device.

### To Create a JTAG Scan Chain in iMPACT

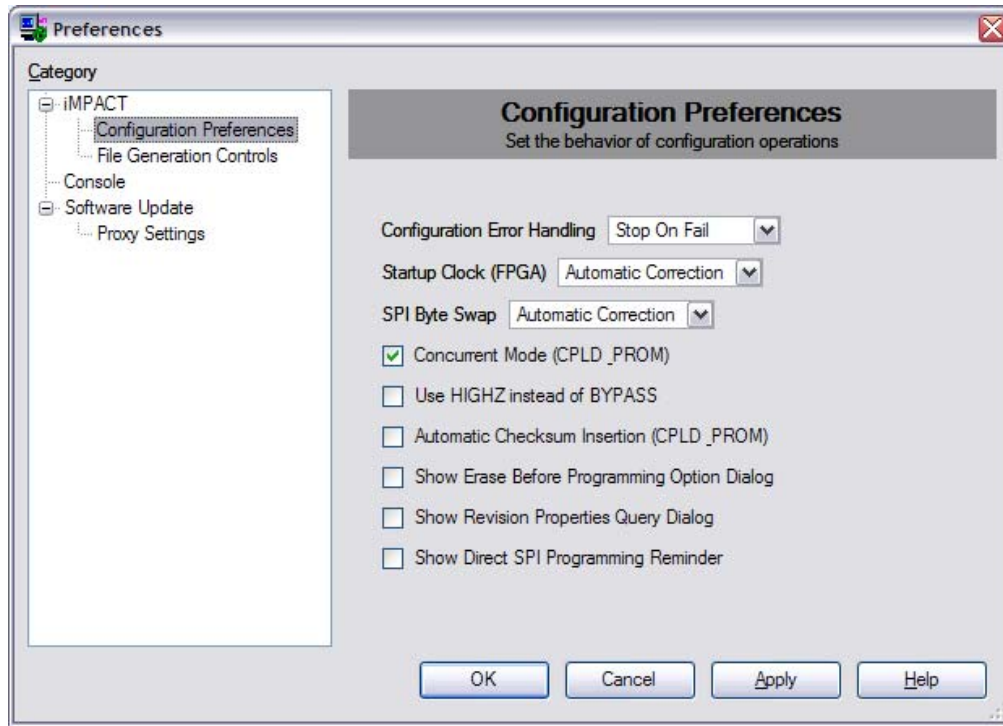
1. Connect and power all boards and Ethernet or USB modules properly.
2. Open the Digilent ExPort tool.
  - a. Select the module the .svf file will be created for.
  - b. Click Initialize Scan Chain. This window defines each of the devices in the board's scan chain. This information is used to build an .svf file.
3. Open the Xilinx iMPACT tool. The Project wizard will appear.
4. Select Create New Project and click OK.



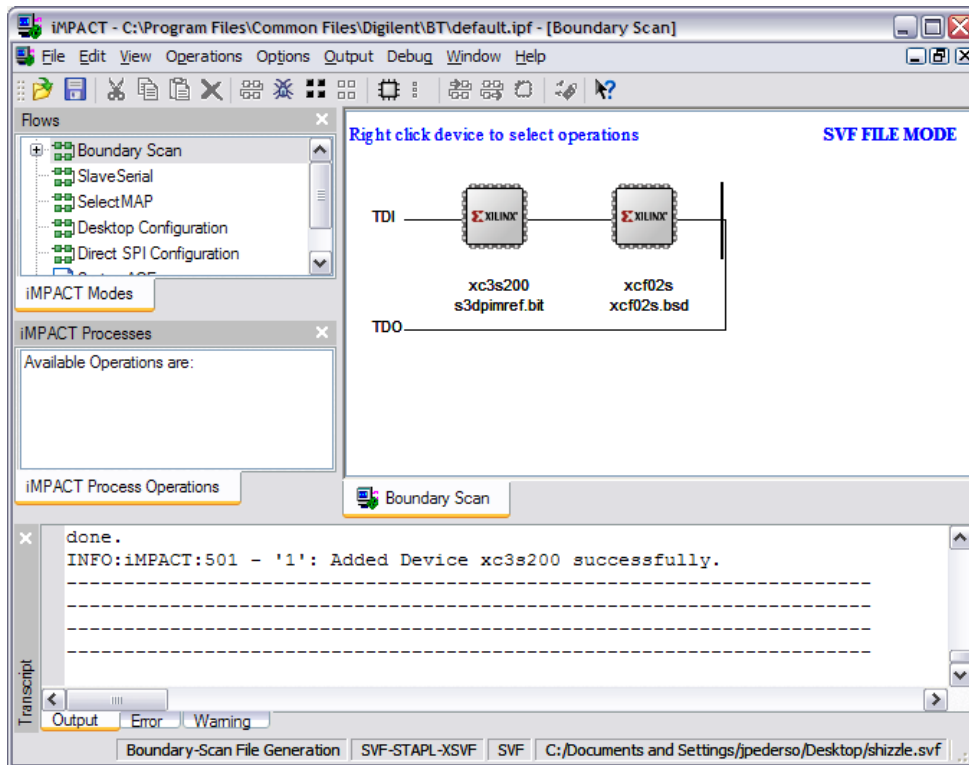
5. Select Prepare a Boundary-Scan File and make sure "SVF" is selected in the pull-down box. Click Finish.



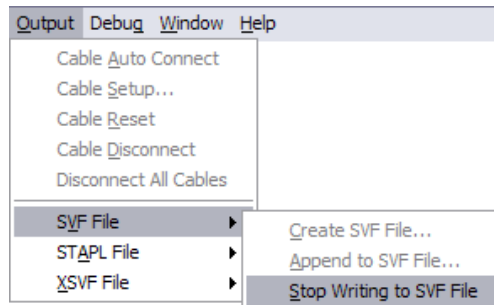
6. iMPACT will prompt for the filename of the .svf file to be created. Enter an appropriate name and click Save to open the Add Device window.
7. BSDL files are found under the Xilinx directory.
  - a. Select the .bsd file for the first device listed in the scan chain generated in the Digilent ExPort tool. For example, the Spartan-3 200 die would be the file Xilinx/Spartan3/data/xc3s200.bsd.
  - b. Click Add.
8. Repeat step 7 for the remaining devices in the Digilent ExPort Scan Chain window by right-clicking in the empty space of the SVF-STAPL-XSVF window and select Add Xilinx Device. The SVF-STAPL-XSVF window should contain the same scan chain diagram as the Digilent Export Scan Chain window.
9. From the Edit menu, select Preferences to open the Preferences window.
10. In the Preferences window, select Configuration Preferences to the left of the window. Confirm that only the “Concurrent Mode (CPL PROM)” checkbox is checked. The window should appear as follows:



11. In the Preferences window, select File Generation Controls on the left side of the window. Confirm that Use Absolute Time in SVF File option is not checked. Click OK to apply the changes and close the window.



12. Right-click the device you want to program in the SVF-STAPL-XSVF window.  
NOTE: If this device is a PROM or a CPLD, first select Erase and then Blank Check by right-clicking the device. Erasure and Blank Check must be done as two separate actions.
  - a. Right-click the device and select the Select Assign New Configuration File option.
  - b. Select the appropriate program file for the device (for example, .mcs for PROMs).
  - c. Right-click the device and select Program. Uncheck Erase and Verify for CPLDs and PROMs.
  - d. Click OK.
13. Repeat step 13 for all devices in the scan chain that will be programmed by the .svf file.
14. To complete the .svf file, select SVF File->Stop Writing to SVF File from the Output menu.



15. Return to the Digilent ExPort tool.
16. Assign the .svf file to one of the devices programmed in iMPACT.
  - a. Assign any other program files to appropriate devices.
  - b. Click Program Chain or right-click on the device to specifically program it.

NOTE: The JTAG scan chain created in iMPACT must be identical to the scan chain initialized in ExPort.