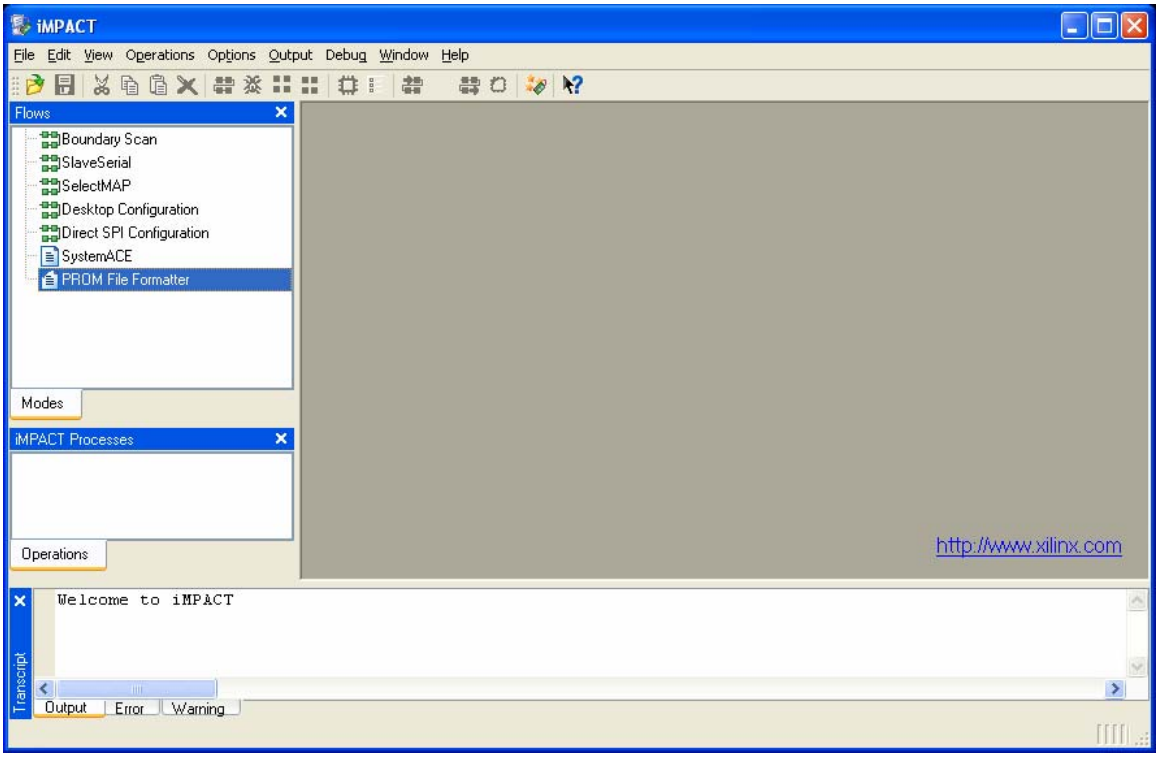
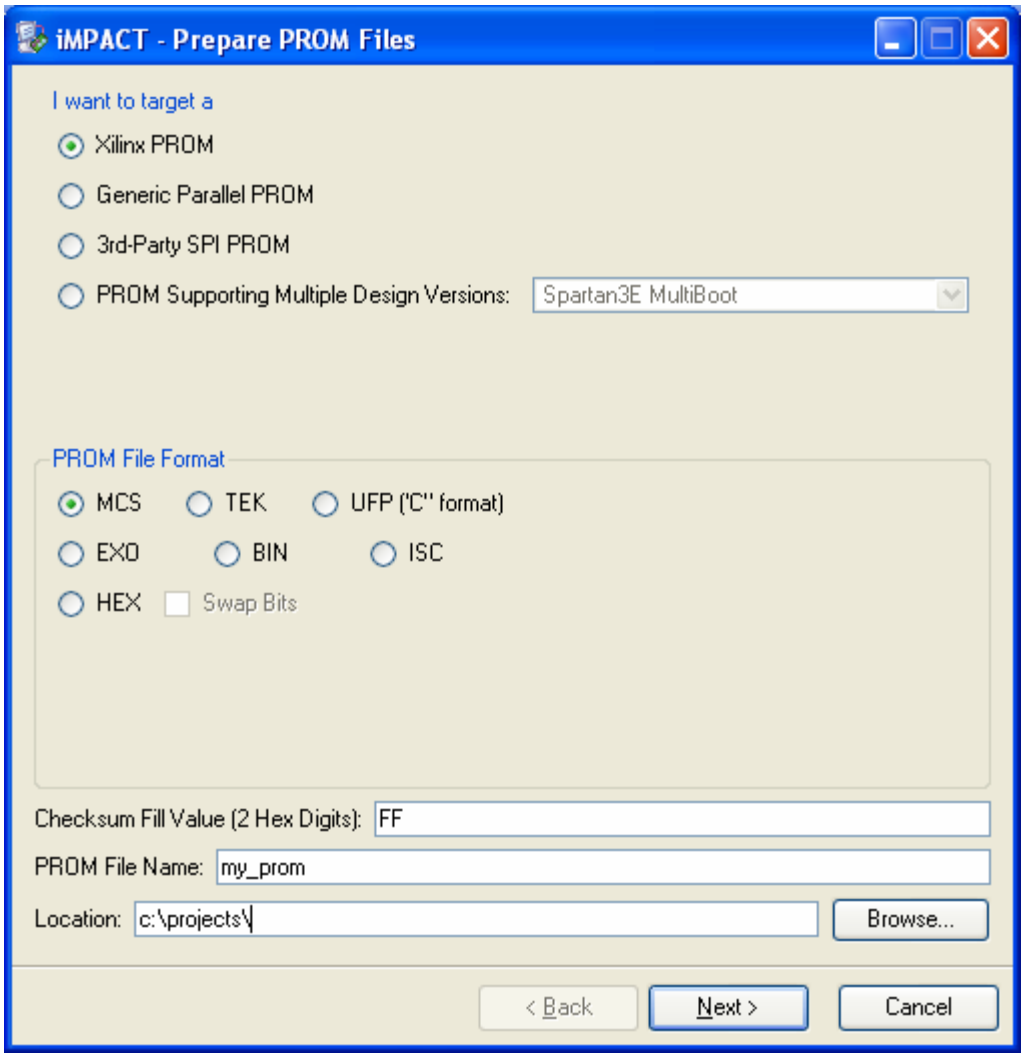
Step by Step : Programming Platform Flash on the Xilinx Spartan 3 Starter Kit

First complete your FPGA design, and generate a programming file using Xilinx Webpack. Once your ".bit" file has been created and tested via conventional upload, it is time to burn it to the Xilinx Platform Flash to enable the FPGA to automatically configure itself at power-on.

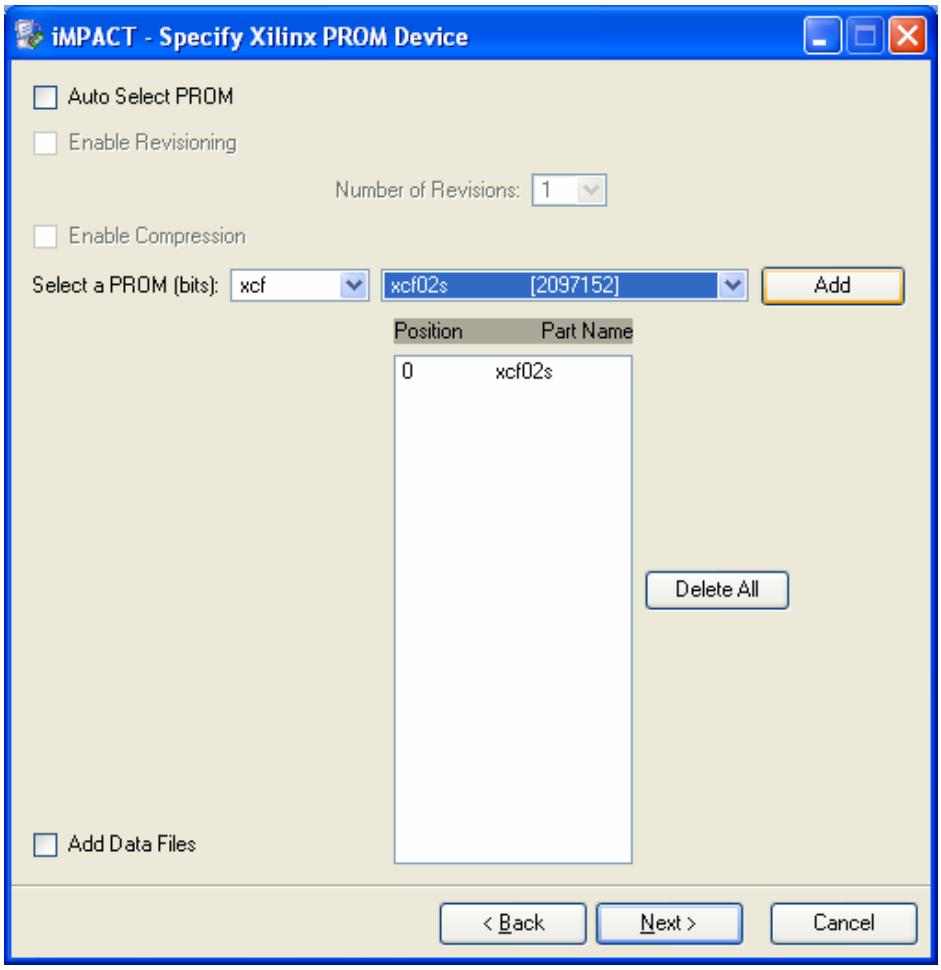
The first step is to convert your bitfile to a file appropriate for programming flash. For this exercise, we will choose a ".,mcs" file.

Start IMPACT @ Start → Programs → Xilinx ISE → Accessories → IMPACT. From the start, double click on PROM File Formatter

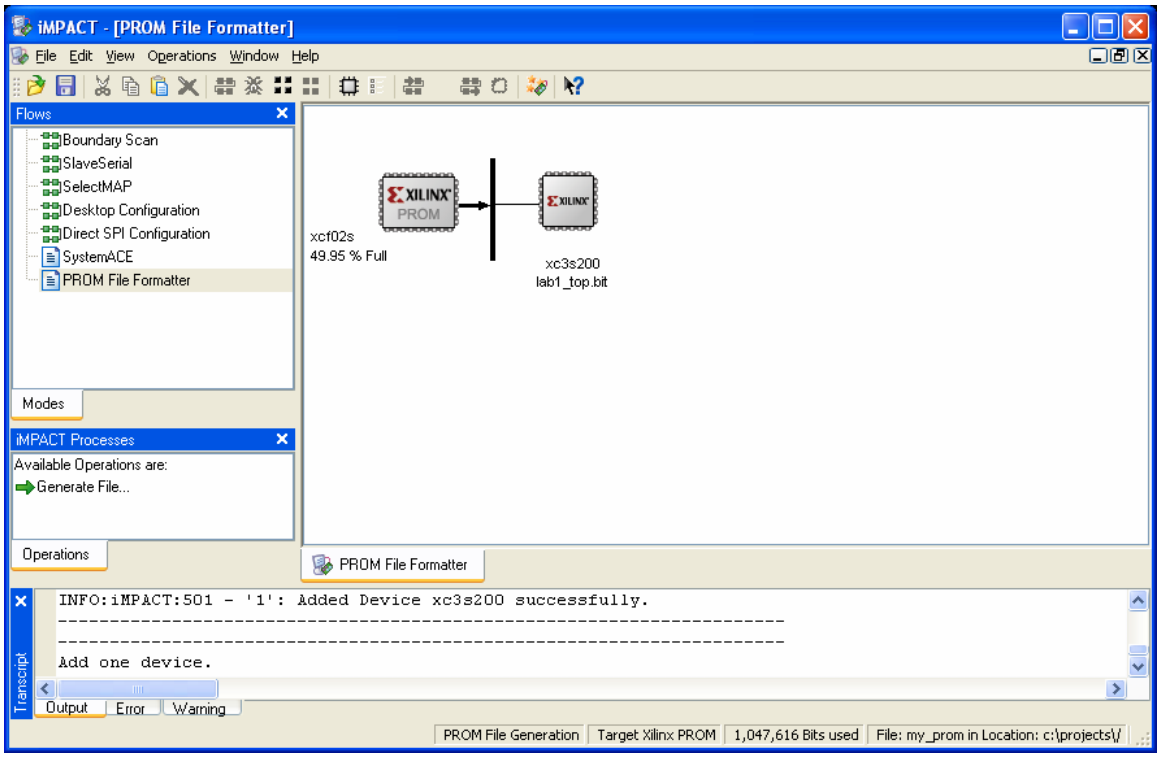




In the next box, select the appropriate PROM type, and click Add. The screen should look like below before clicking Next.



You will then be prompted to add data files to the PROM file. Simply browse to your previously created ".bit" file, and click "Open"



At this point, you are ready to create the file. Simply right click in the white area, and select "Generate File".

The New MCS file is where you told it to go, and you are now ready to actually program the Flash device. To do this, double click on boundary scan.

Right click in the white area, and with your board connected and powered on "Initialize Chain". From here, things work much like in the previous tutorial, select the newly created MCS file as the file for your flash device, and you may safely "Bypass" the FPGA. Program the flash, but this time make sure the box that says "Erase before Programming" is checked.

Note: after the programming is complete, the FPGA configuration has not changed at all, only the Flash memory. The FPGA will load the new configuration from Flash on the next power cycle (if JP1 is set to the right hand position as described in ug130.pdf)