

GoldenBell Xilinx Spartan-6 EVB JTAG 로 최초 구동

<http://www.mangoboard.com/>

<http://cafe.naver.com/embeddedcrazyboys>

Crazy Embedded Laboratory

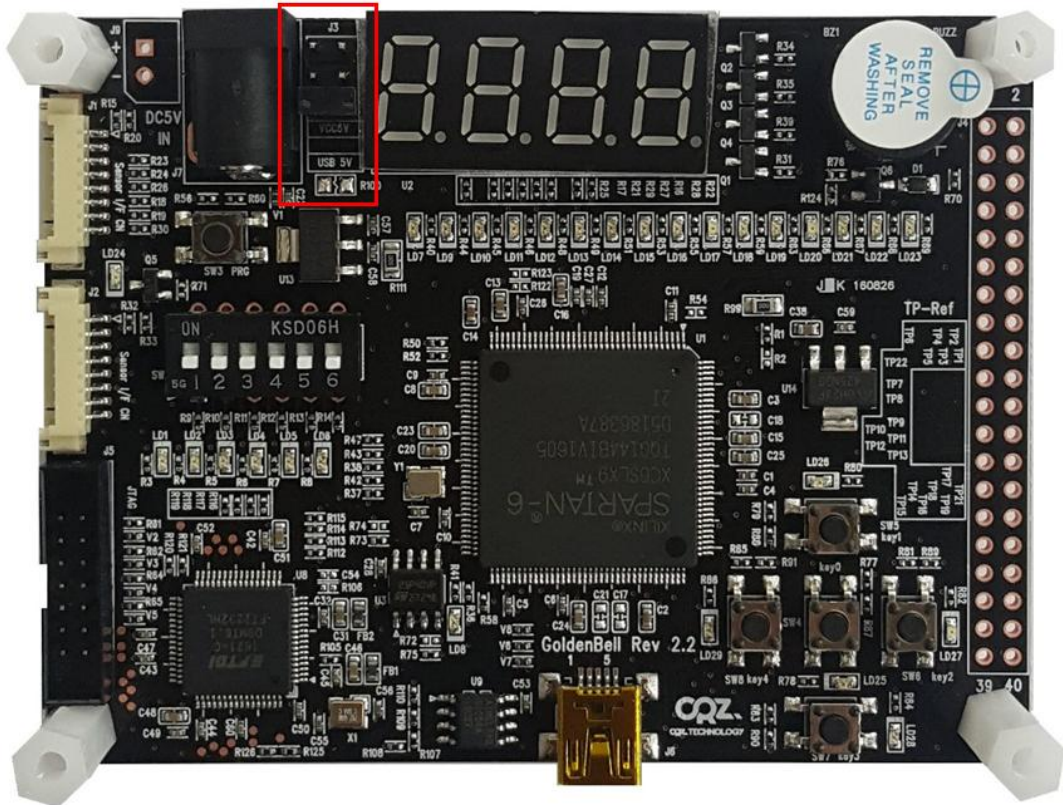
Document History

Revision	Date	Change note
Init	2016-10-10	전종인

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1. GB1 Goldenbell Xilinx Spartan-6 EVB 보드 전원

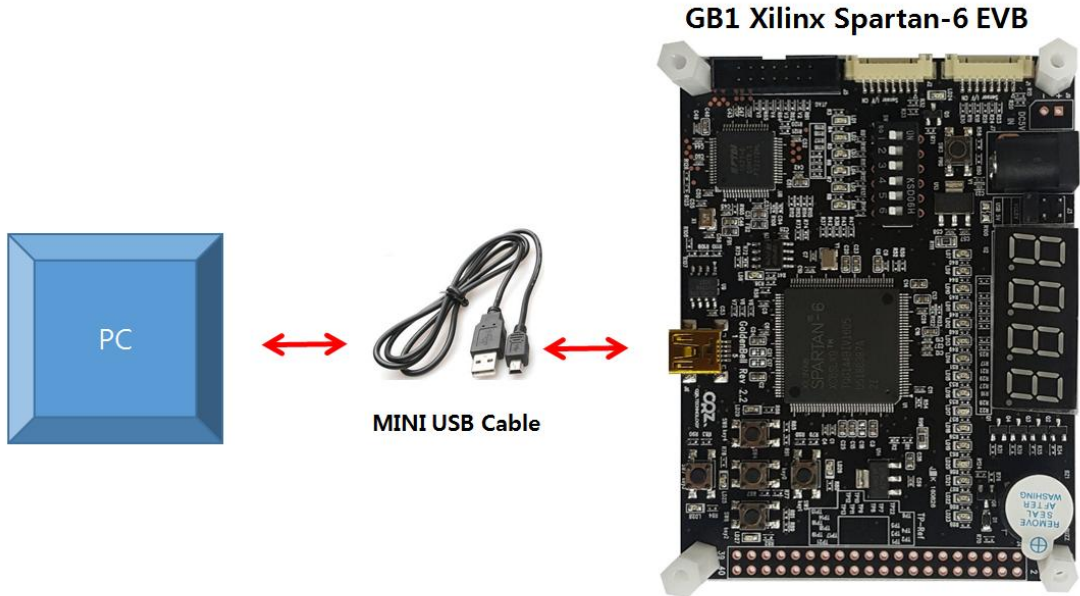
USB 5V와 DC 5V 선택 할 수 있는 점퍼로 선택합니다.



위의 그림은 USB 5V 선택 했습니다.

Mini USB device에 Mini USB cable을 장착합니다.

2. USB Cable 연결



GoldenBell 보드 USB device에 Mini USB cable 연결

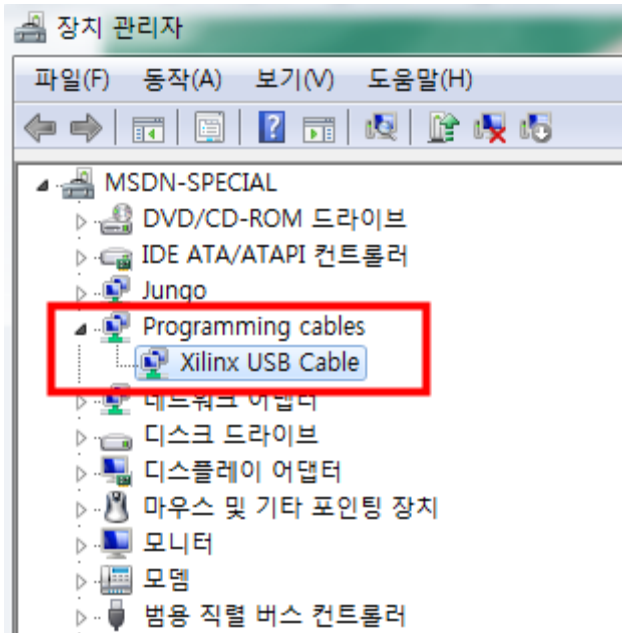
보드에 전원을 인가합니다.

드라이버를 설치할 해야 합니다.

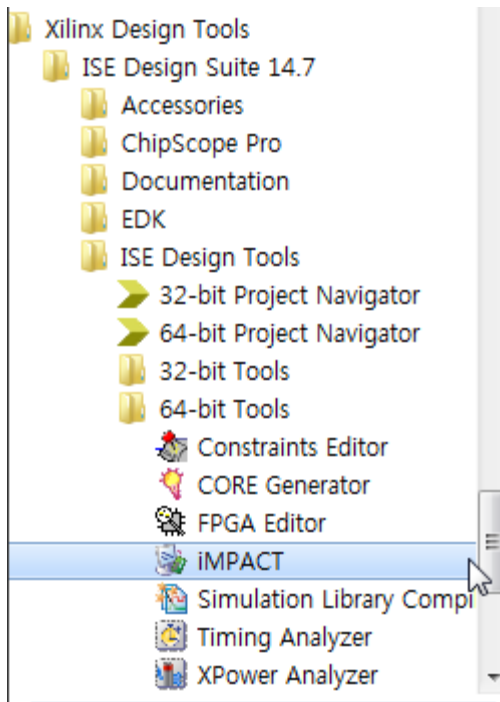
http://www.xilinx.com/support/documentation/user_guides/ug344.pdf

참조하세요.

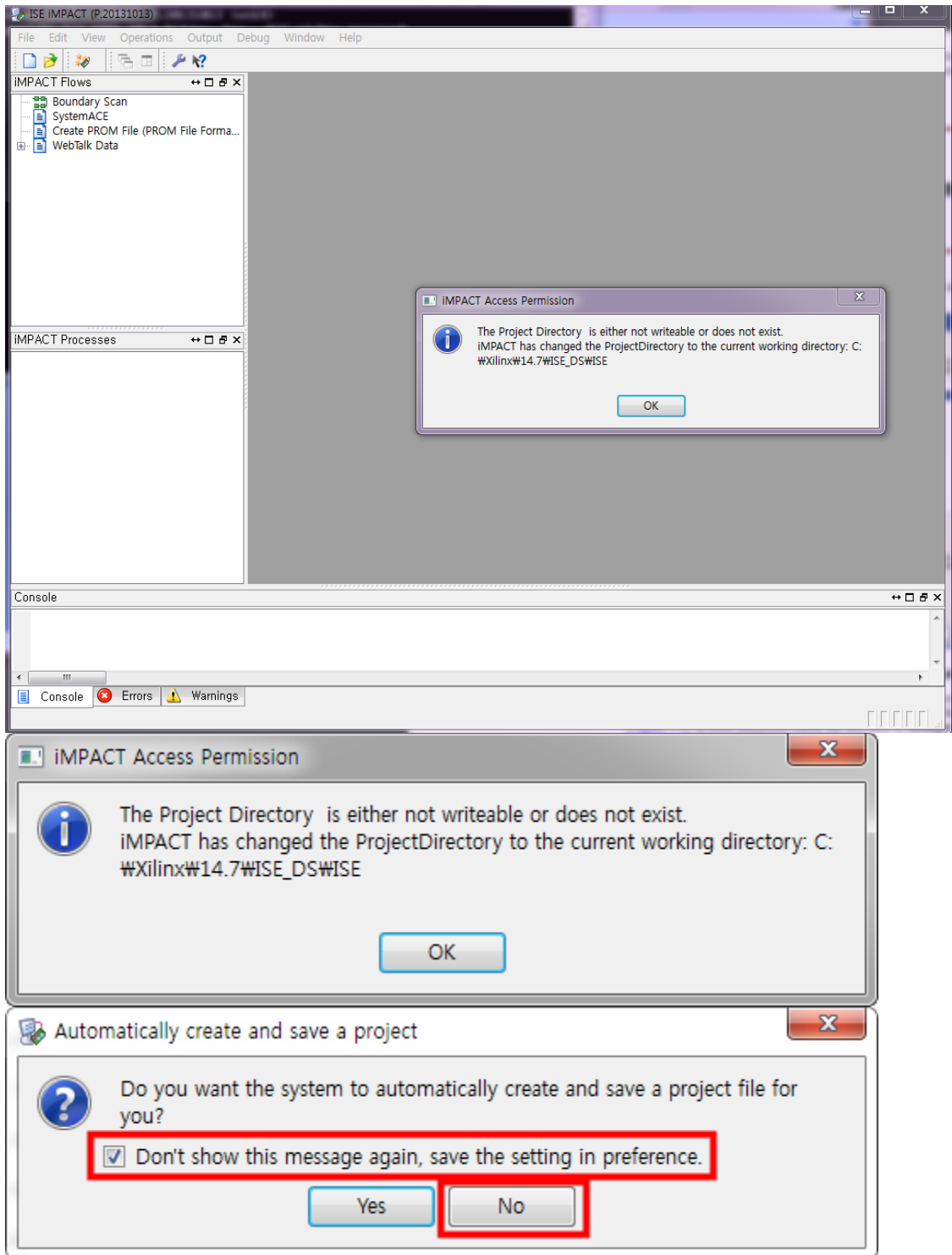
Window PC에 아래와 같이 인식이 됩니다.

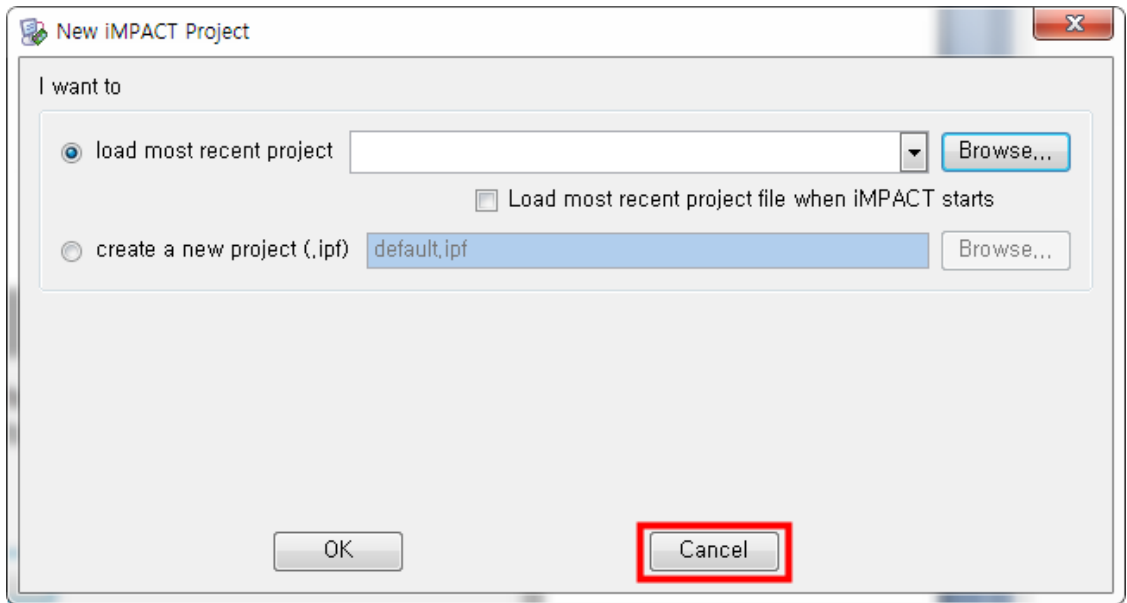


3. iMPACT 수행 및 JTAG 연결

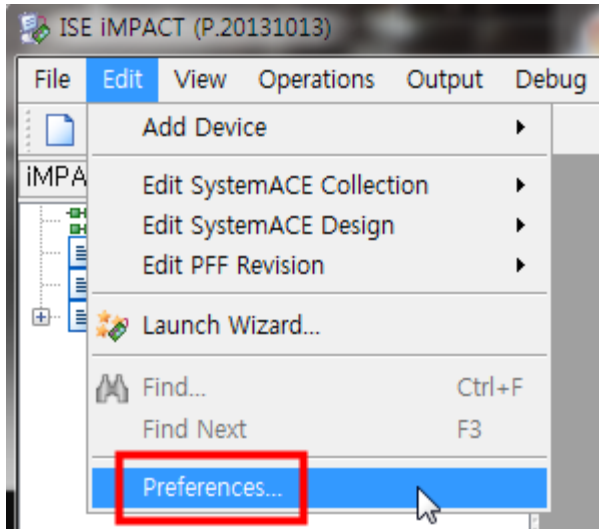


실행하면 아래와 같이 팝업창이 나옵니다.

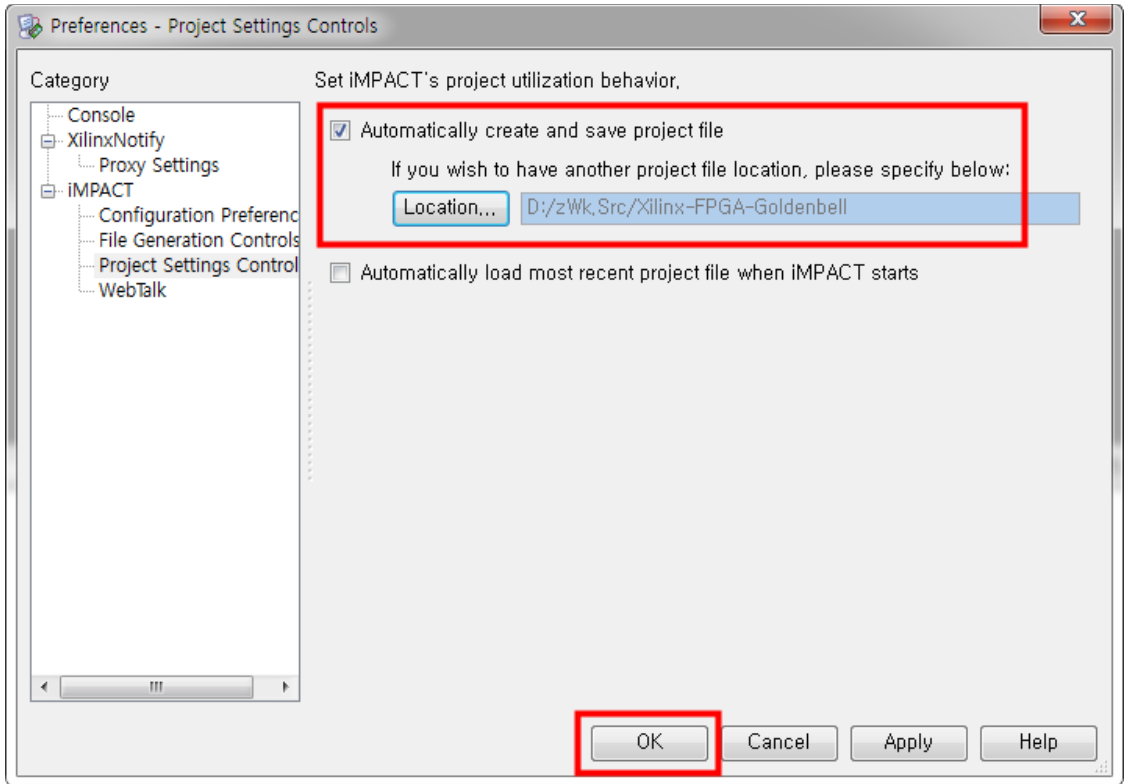




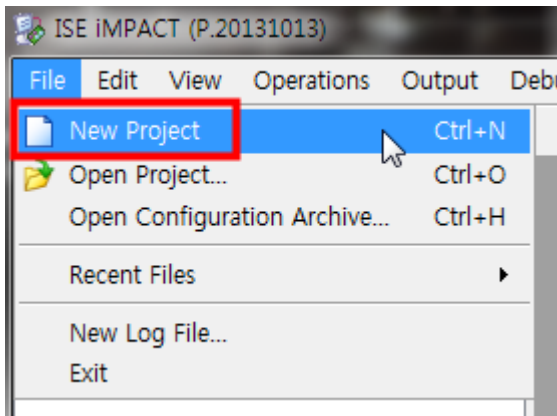
d:\WCRZ_보드\Mango-Board\Mango-GoldenBell\source\W

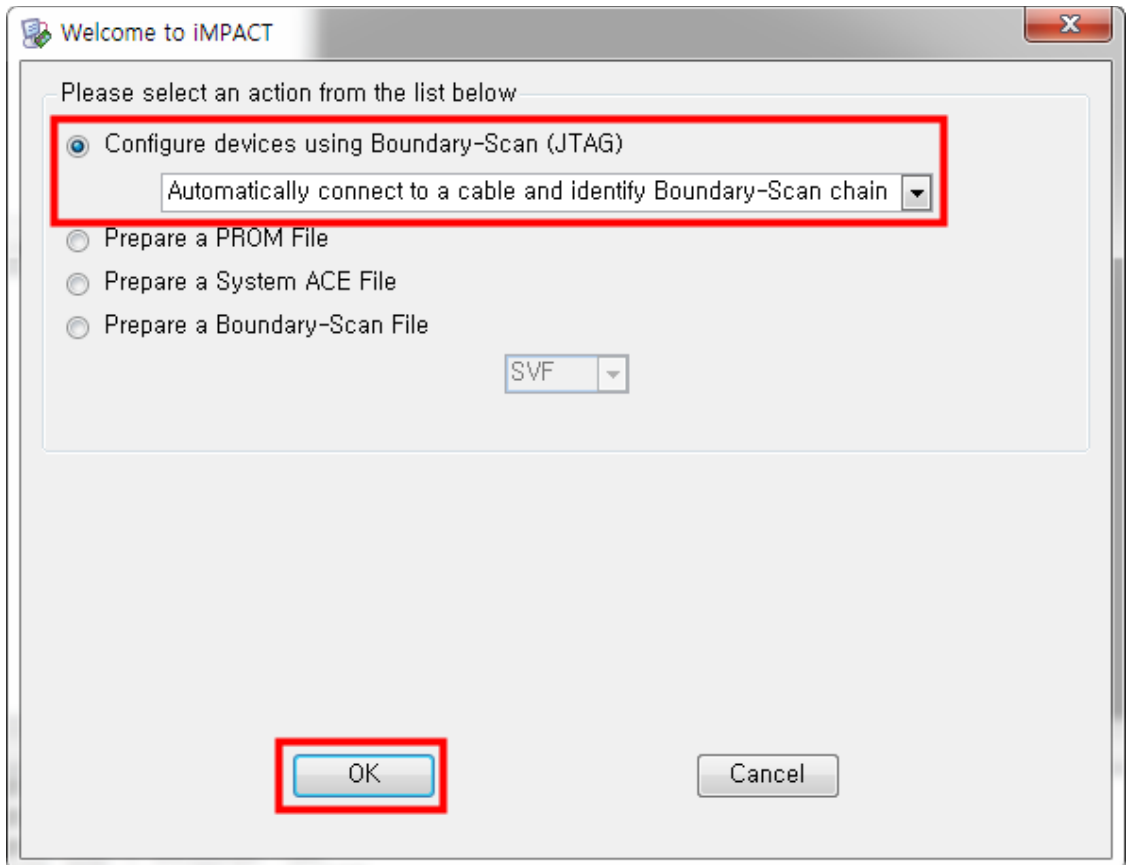


작업할 디렉토리를 설정합니다.

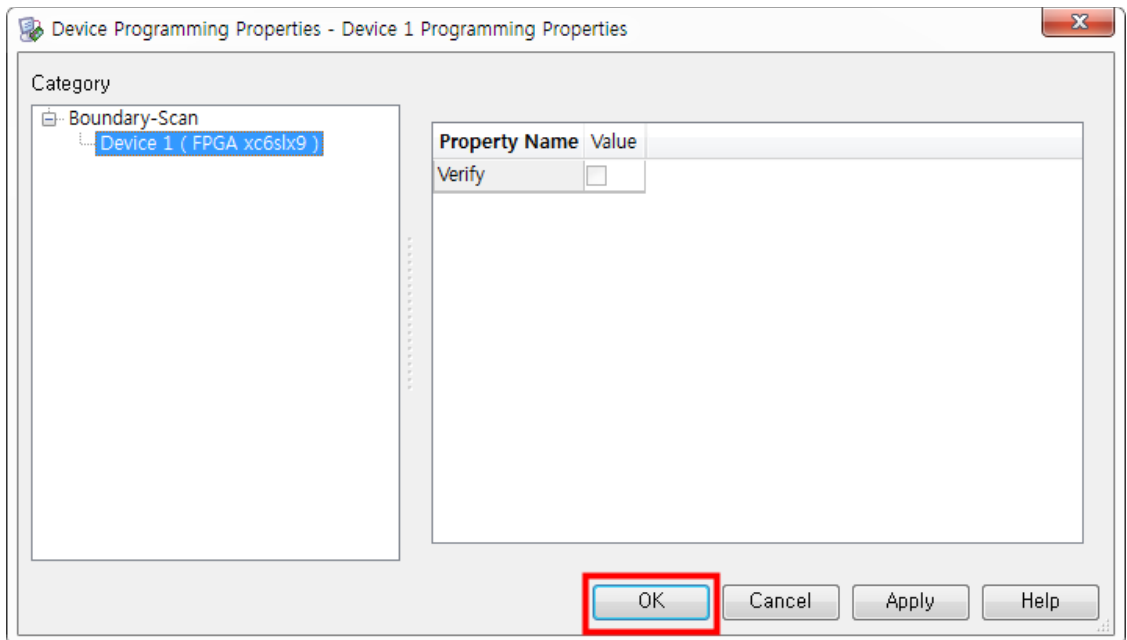


3.1. 프로젝트 구성





인식이 되면 아래와 같이 나옵니다.

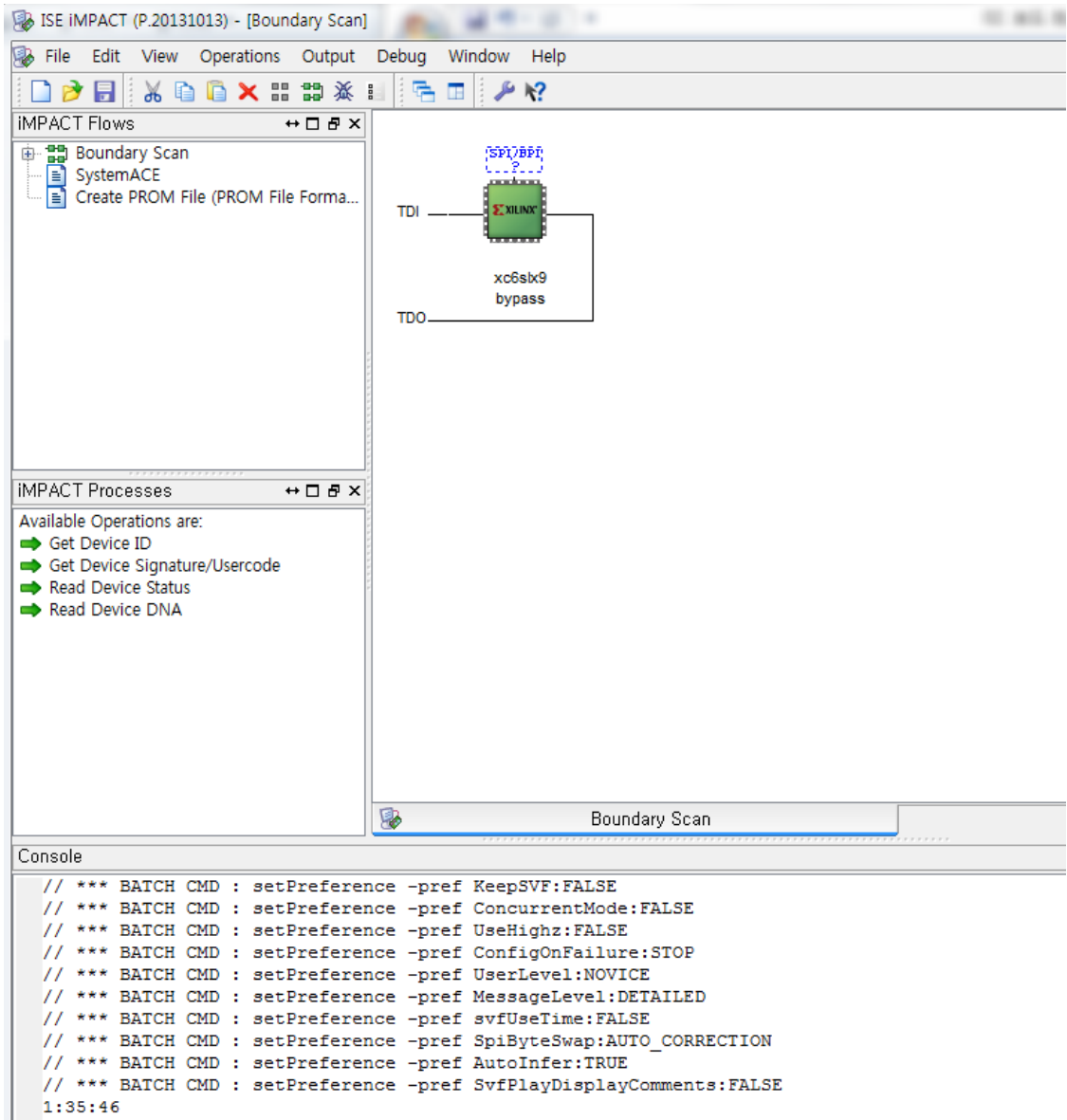


GoldenBell 보드는 XC6SLX9 입니다.

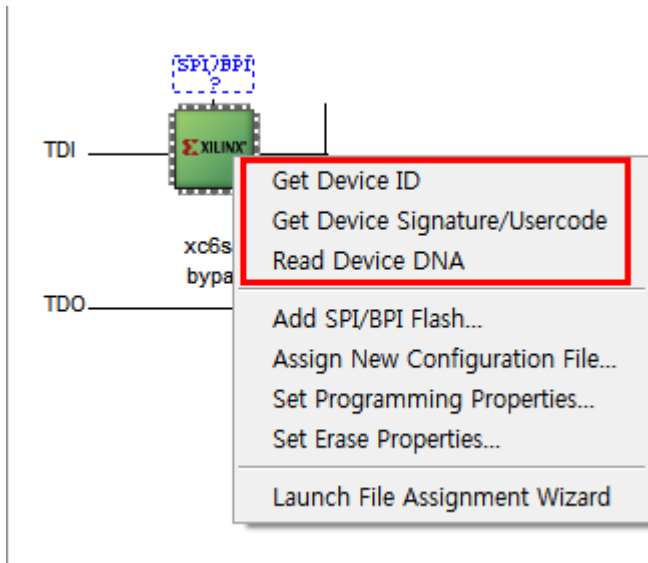
Spartan-6 FPGA Feature Summary

Table 1: Spartan-6 FPGA Feature Summary by Device

Device	Logic Cells ⁽¹⁾	Configurable Logic Blocks (CLBs)			DSP48A1 Slices ⁽³⁾	Block RAM Blocks		CMTs ⁽⁵⁾	Memory Controller Blocks (Max) ⁽⁶⁾	Endpoint Blocks for PCI Express	Maximum GTP Transceivers	Total I/O Banks	Max User I/O
		Slices ⁽²⁾	Flip-Flops	Max Distributed RAM (Kb)		18 Kb ⁽⁴⁾	Max (Kb)						
XC6SLX4	3,840	600	4,800	75	8	12	216	2	0	0	0	4	132
XC6SLX9	9,152	1,430	11,440	90	16	32	576	2	2	0	0	4	200
XC6SLX16	14,579	2,278	18,224	136	32	32	576	2	2	0	0	4	232
XC6SLX25	24,051	3,758	30,064	229	38	52	936	2	2	0	0	4	266



칩을 선택하고, 마우스 우측키를 누르면 아래와 같이 나옵니다.



Get Device ID, Get Device Signature/Usercode, Read Device DNA를 차례로 실행해 보았다.

Get Device ID

```
INFO:iMPACT - Current time: 2016-05-26 11:11:11 // *** BATCH CMD : ReadIdcode -p 1
Maximum TCK operating frequency for this device chain: 25000000.
Validating chain...
Boundary-scan chain validated successfully.
'1': IDCODE is '0010010000000000001000010010011'
'1': IDCODE is '24001093' (in hex).
'1': : Manufacturer's ID = Xilinx xc6slx9, Version : 2
```

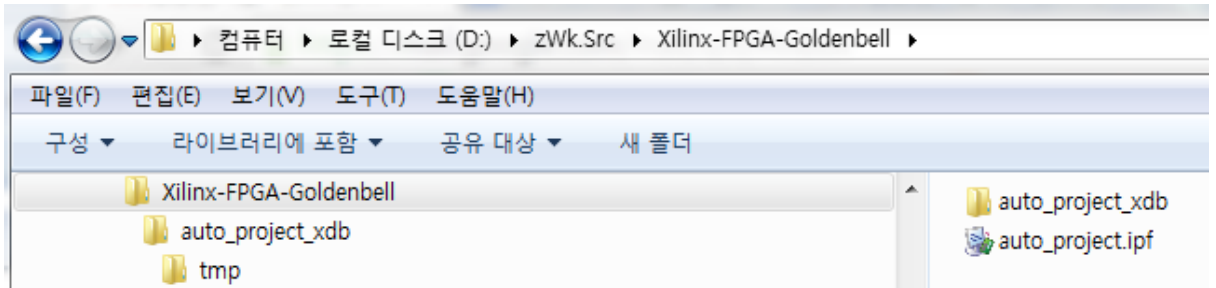
Get Device Signature/Usercode

```
INFO:iMPACT - Current time: 2016-05-26 11:11:11 // *** BATCH CMD : ReadUserCode -p 1
Maximum TCK operating frequency for this device chain: 25000000.
Validating chain...
Boundary-scan chain validated successfully.
'1': Usercode is 'ffffff'
```

Read Device DNA

```
INFO:iMPACT - Current time: 2016-05-26 11:11:11 // *** BATCH CMD : readdna -p 1
Maximum TCK operating frequency for this device chain: 25000000.
Validating chain...
Boundary-scan chain validated successfully.
```

'1': DNA = '100110111111001000001010101100100111100110100110101010101'



iMPACT을 종료해 보면 위 그림과 같이 D:\zWk.Src\Xilinx-FPGA-Goldenbell 폴더에 아래 폴더와 파일이 생성되어 있다.

auto_project_xdb

auto_project.ipf