

Steps to be followed for dumping c code on shakti

- 1) Go to uart_applns dir as the device required is UART
shakti-sdk/software/examples/uart_applns
- 2) Create a folder first under uart_applns.
In that folder create .c file with the same name as the folder
- 3) Copy paste the make file from hello folder
In that makefile make following changes: -
program =? "name" (name of c file)
target =? parashu (by default it will be artix7_35t. We need to change it to parashu)
- 4) Go to examples folder
shakti-sdk/software/examples/
In this example folder there will be a makefile. We need to edit this makefile by adding the following commands: -
target ?= parashu (by default it will be artix7_35t. We need to change it to parashu)
At line 153,
else
ifeq (\$(PROGRAM),"name")
filepath := uart_applns/name
There will be many such else statements in that makefile. At the end of all these else statements we need to add **endif** to complete the else statement.
- 5) Now we need to compile the c code by following command: -
Go to shakti/shakti-sdk folder and then run the following
#include <stdint.h>
#include "platform.h"
make software PROGRAM="name" TARGET=parashu
- 6) Open miniterm: -
sudo miniterm.py /dev/ttyUSB1 19200
- 7) In other terminal go to the following directory: -
shakti-sdk/bsp/third_party/parashu
Run Openocd with the following command: -
sudo \$(which openocd) -f ftdi.cfg
(Close Vivado Hardware manager when running this command..JTAG issue shouldn't be there then)
- 8) In other terminal run gdb: -
riscv32-unknown-elf-gdb
(gdb) **set remotetimeout unlimited**
(gdb) **target extended-remote localhost:3333**

```
(gdb) file ./software/examples/uart_applns/"name"/output/"name".shakti
(gdb) load
(gdb) c
```

- 9) Now the output will be displayed in the miniterm terminal.

Commands including changing directory

Terminal Window 1:

```
cd /home/iitdh/shakti/shakti-sdk/
#include <stdint.h>
#include "platform.h"
make software PROGRAM=<name> TARGET=parashu
sudo miniterm.py /dev/ttyUSB1 19200
```

Terminal Window 2:

```
cd /home/iitdh/shakti/shakti-sdk/bsp/third_party/parashu/
sudo $(which openocd) -f ftdi.cfg
```

Terminal Window 3:

```
cd /home/iitdh/shakti/shakti-sdk/
riscv32-unknown-elf-gdb
```

```
(gdb) set remotetimeout unlimited
(gdb) target extended-remote localhost:3333
(gdb) file ./software/examples/uart_applns/<name>/output/<name>.shakti
(gdb) load
(gdb) c
```

Note that FTDI and Vivado Hardware Manager must not be open at the same time.. Otherwise, there will be issues with dumping code/programming FPGA with bitstream