## How to examine the register state in a core

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version 1.1.1

scope Example. This code is provided as example code for a user to base

their code on.

description How to examine the register state in a core

boards Unless otherwise specified, this example runs on the SliceKIT Core

Board, but can easily be run on any XMOS device by using a different

XN file.

XGDB can be used to examine the contents of memory at a given point in time. For example, compile the following code ensuring that debug is enabled (-g):

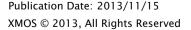
```
int main() {
  return 0;
}
```

## 1 From within xTIMEcomposer Studio

Create a new debug configuration via Run->debug Configurations->xCORE Applications. Set a breakpoint at the start of main then start debugging. Execution will now break when main is reached. The contents of the registers, and some core specific internal registers, are visible via the Registers view.

## 2 From the command line

On the command line, register state can examined using the *print* command. For example, start XGDB, connect to the simulator and set a breakpoint on *main*. When run, execution will break at the start of *main*. You can now display the register contents using the *print* command as follows:





```
> xgdb a.xe
...etc...
(gdb) connect -s
Oxffffc04e in ?? ()
(gdb) b main
Breakpoint 1 at 0x100b0: file examining_core_state.xc, line 9.
(gdb) r
...etc...
Breakpoint 1, main () at examining_core_state.xc:9
    return 0;
(gdb) print /x $r0
$1 = 0x0
(gdb) print /x $r1
$2 = 0x10240
(gdb) print /x $r2
$3 = 0x1f
(gdb) print /x $1r
$4 = 0 \times 10062
(gdb) print /x $pc
$5 = 0x100b0
...etc...
```

Note: If required, the *info registers* command can be used to display the complete state of all of the registers.



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