

**Application Note: AN10071** 

# How to set a breakpoint

This application note is a short how-to on programming/using the xTIMEcomposer tools. It shows how to set a breakpoint.

#### Required tools and libraries

This application note is based on the following components:

• xTIMEcomposer Tools - Version 14.0.0

### Required hardware

Programming how-tos are generally not specific to any particular hardware and can usually run on all XMOS devices. See the contents of the note for full details.



## 1 How to set a breakpoint

Instruction breakpoints are used to allow XGDB to halt the execution of a the program at a user defined position in the code. For example, compile the following code ensuring that debug is enabled (-g):

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

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



### 2 To set a breakpoint from xTIMEcomposer Studio

Create a new debug configuration via *Run->debug Configurations->xCORE Applications*. Double click in the left-hand margin of the *return 0* line in function *f*. This will create a new instruction breakpoint, thus when run, execution will pause when this line is reached.



### 3 To set a breakpoint from the command line

Breakpoints are set using the *breakpoint* command. This takes the breakpoint location as an argument, which can be either a function name or a file/linenumber combination. For example, the XGDB command: breakpoint  $setting_a_breakpoint.xc:2$  will install a breakpoint on the first line of the function f in the above code.

Using the above code, an example XGDB session using breakpoints could be as follows:

```
> xgdb a.xe
...etc...
(gdb) connect -s
0xffffc04e in ?? ()
(gdb) breakpoint f
Breakpoint 1 at 0x100ac
(gdb) run
...etc...
Breakpoint 1, 0x000100ac in f ()
(gdb) c
```



Copyright © 2015, All Rights Reserved.

Xmos Ltd. is the owner or licensee of this design, code, or Information (collectively, the "Information") and is providing it to you "AS IS" with no warranty of any kind, express or implied and shall have no liability in relation to its use. Xmos Ltd. makes no representation that the Information, or any particular implementation thereof, is or will be free from any claims of infringement and again, shall have no liability in relation to any such claims.