

How to control the XTA from a python script

| | |
|-------------|--|
| version | 1.1.0 |
| scope | Example. This code is provided as example code for a user to base their code on. |
| description | How to control the XTA from a python script |
| 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. |

There are occasions when the inbuilt XTA command scripting mechanism does not offer the required level of power and/or flexibility. For example, you may wish to pass arguments to a script, use the return value of one command as input to another or make use of conditional/looping constructs. With this in mind, the XTA provides an interface which allows the tool to be controlled from Python scripts.

For example, compile the following code:

```
#include <stdlib.h>
#include <xs1.h>

port p1 = XS1_PORT_1A;
port p2 = XS1_PORT_1B;

int main() {
    int x;

    #pragma xta endpoint "input"
    p1 :> x;

    // Checks for errors..
    if (x == 1) {
        #pragma xta label "error_case"
        exit(1);
    }

    // do some computation here..

    #pragma xta endpoint "output"
    p2 <: 0;
    return 0;
}
```

As an example, assume that you want to time from the input to the output, set a requirement and exclusion, and this this must be done from a Python script. To achieve this, place the following lines in a file, e.g. script.py:

```
import java

try:
    xta.load("a.xe") ;

except java.lang.Exception, e:
    print e.getMessage()

try:
    xta.addExclusion("error_case")
    ids = xta.analyzeEndpoints("input", "output")
    for id in ids:
        print xta.getRouteDescription(id) + ":",
        print xta.getWorstCase(id, "ns"),

except java.lang.Exception, e:
    print e.getMessage()
```

The above script can then be run using the XTA *source* command:

```
xta source script.py -exit
```

Note: See the Xmos-Timing-Analyzer-Manual for further information on available interface methods.



Copyright © 2013, 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.