

Nirgam Installation Guide by Dr. Nan Wang

1. Install Ubuntu on your computer

download ubuntu 14.04, 32-bit only.

install ubuntu on our computer, either VM or new partition.

2. Install Systemc-2.3.0

goto: <http://www.accellera.org/downloads/standards/systemc>

to download systemc 2.3.0

Extract the package in Downloads folder and move the folder systemc-2.3.0 to Desktop

open a terminal in ubuntu

```
~$ cd Desktop
```

```
~$ cd systemc-2.3.0
```

```
~$ sudo apt-get install build-essential
```

```
~$ sudo mkdir /usr/local/systemc-2.3.0
```

```
~$ mkdir objdir
```

```
~$ CD objdir
```

```
~$ export CXX=g++
```

```
~$ sudo ../configure --prefix=/usr/local/systemc-2.3.0
```

```
~$ sudo make
```

```
~$ sudo make install
```

Now you are done install systemc 2.3 on your computer.

You need to run two more commands to set up the lib path

```
~$ export SYSTEMC_HOME=/usr/local/systemc-2.3.0
```

```
~$ export LD_LIBRARY_PATH=/usr/local/systemc-2.3.0/lib-linux
```

To avoid doing it every time you start your computer run:

```
~$ sudo gedit /etc/environment
```

Add these two lines to the file

```
SYSTEMC_HOME="/usr/local/systemc-2.3.0/"
```

```
LD_LIBRARY_PATH=/usr/local/systemc-2.3.0/lib-linux
```

Save and close it. next time you don't have run these two manually.

```
// All systemc modules should include systemc.h header file
```

```
#include "systemc.h"
```

```
// Hello_world is module name
```

```
SC_MODULE (hello_world) {
```

```
    SC_CTOR (hello_world) {
```

```
        // Nothing in constructor
```

```
    }
```

```
    void say_hello() {
```

```
        //Print "Hello World" to the console.
```

```
        cout << "Hello World.\n";
```

```
}  
};  
  
// sc_main in top level function like in C++ main  
int sc_main(int argc, char* argv[]) {  
    hello_world hello("HELLO");  
    // Print the hello world  
    hello.say_hello();  
    return(0);  
}
```

Save the above program as hello.cpp in objdir folder

```
~$ g++ -I. -I$SYSTEMC_HOME/include -L. -L$SYSTEMC_HOME/lib-linux -  
Wl,-rpath=$SYSTEMC_HOME/lib-linux -o hello hello.cpp -lsystemc -lm  
~$ ./hello
```

you should see message like below.

SystemC 2.3.0-ASI --- Dec 8 2012 20:50:24

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Hello World

4. Install nirgam

goto: <http://nirgam.ecs.soton.ac.uk/Download.php> to download nirgam package.

extract it in Downloads folder and move the nirgam 2.1 folder to Desktop.

```
~$ cd Desktop
```

```
~$ cd nirgam\ 2.1/
```

open folder nirgam, open Makefile.defs

change line 2,3 to :

```
#SYSTEMC = /usr/local/systemc-2.3.0
```

```
SYSTEMC = /usr/local/systemc-2.3.0
```

Find in the file two "w1" change it to "wl"

save and close.

```
~$ make
```

```
~$ export SC_SIGNAL_WRITE_CHECK=DISABLE
```

To avoid doing it every time,

```
~$ sudo gedit ~/.bashrc then add the export line to the end of the file save and close.
```

now you can run nirgam.

```
~$ ./nirgam
```

By Dr. Nan Wang