

# OpenRISC Toolchain Installation Guide

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Please send corrections (or suggestions) to [youngwlim@hotmail.com](mailto:youngwlim@hotmail.com).

This document was produced by using OpenOffice and Octave.

# Based on

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OpenRISC tool chain installation guide

<https://github.com/juliusbaxter/mor1kx-dev-env/wiki/OpenRISC-tool-chain-installation-guide>

# Step 1

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```
sudo apt-get -y install build-essential make gcc g++ flex bison patch texinfo  
libncurses5-dev libmpfr-dev libgmp3-dev libmpc-dev libzip-dev python-dev  
libexpat1-dev libftdi-dev libtool autoconf
```

```
mkdir $HOME/or1k && cd $HOME/or1k
```

```
git clone git://github.com/openrisc/or1k-src.git
```

```
git clone git://github.com/openrisc/or1k-gcc.git
```

```
sudo mkdir /opt/or1k-toolchain
```

```
sudo chown $USER /opt/or1k-toolchain
```

## Step 2

---

```
mkdir bld-or1k-src bld-or1k-gcc
```

```
cd bld-or1k-src
```

```
../or1k-src/configure --target=or1k-elf --prefix=/opt/or1k-toolchain --enable-shared  
--disable-itcl --disable-tk --disable-tcl --disable-winsup --disable-libgui --disable-rda  
--disable-sid --disable-sim --disable-gdb --with-sysroot --disable-newlib --disable-  
libgloss --disable-werror
```

```
make
```

```
make install
```

# Step 3

---

```
cd ../bld-or1k-gcc
```

```
../or1k-gcc/configure --target=or1k-elf --prefix=/opt/or1k-toolchain --enable-languages=c --disable-shared --disable-libssp
```

```
make
```

```
make install
```

# Step 4

---

```
cd ../bld-or1k-src
```

```
../or1k-src/configure --target=or1k-elf --prefix=/opt/or1k-toolchain --enable-shared  
--disable-itcl --disable-tk --disable-tcl --disable-winsup --disable-libgui --disable-rda  
--disable-sid --enable-sim --disable-or1ksim --enable-gdb --with-sysroot --enable-  
newlib --enable-libgloss --disable-werror
```

```
make
```

```
make install
```

# Step 5

---

```
cd ../bld-or1k-gcc
```

```
../or1k-gcc/configure --target=or1k-elf --prefix=/opt/or1k-toolchain --enable-languages=c,c++ --disable-shared --disable-libssp --with-newlib
```

```
make
```

```
make install
```



# Configure and Make install

- \* uncompress tgz file  
`tar -xzvf systemc-2.3.1.tgz`
- \* cd into the newly created directory  
`cd systemc-2.3.1/`
- \* make the installation directory, this needs su privilege so use sudo  
`sudo mkdir /usr/local/systemc-2.3.1`
- \* still we are in the directory where uncompressing was done
- \* make temporary directory ( objdir )  
`mkdir objdir`  
`cd objdir`
- \* first configure your computers environment in objdir --> ../configure
- \* prefix means the final installed directory  
`../configure --prefix=/usr/local/systemc-2.3.1`
- \* now start to install  
`sudo make install`

# Or1ksim Installation

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<https://github.com/kdgpwill/OR1K/wiki/OpenRisc-tools-Install>

```
git clone https://github.com/openrisc/or1ksim.git
```

```
mkdir or1ksim-build
```

```
cd or1ksim-build
```

```
../or1ksim/configure --program-prefix=or1k-elf- --prefix=/opt/or1ksim
```

```
export PATH=$PATH:/opt/or1ksim/bin
```

## References

- [1] <http://en.wikipedia.org/>
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- [3] W. Wolf, "Modern VLSI Design : Systems on Silicon"
- [4] N. Weste, D. Harris, "CMOS VLSI Design: A Circuits and Systems Perspective"
- [5] J. P. Uyemura, "Introduction to VLSI Circuits and Systems"
- [6] [https://en.wikiversity.org/wiki/The\\_necessities\\_in\\_SOC\\_Design](https://en.wikiversity.org/wiki/The_necessities_in_SOC_Design)
- [7] [https://en.wikiversity.org/wiki/The\\_necessities\\_in\\_Digital\\_Design](https://en.wikiversity.org/wiki/The_necessities_in_Digital_Design)
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- [10] [https://en.wikiversity.org/wiki/The\\_necessities\\_in\\_Computer\\_Organization](https://en.wikiversity.org/wiki/The_necessities_in_Computer_Organization)