

RISC-V ARCHITECTURE TRAINING

@DEMO: Setup lab environment

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Install VMWare Player

Create Ubuntu 16.04 from provided virtual machine

Username = riscv
Password = r5rocks

Install Freedom Studio from SiFive

<https://www.sifive.com/boards>

They have Windows / Mac OS / Linux versions.

@LAB

Path in LAB VM

`/opt/FreedomStudio-2019-08-2-lin64`

Setup shell environment

```
export SIFIVE=/opt/FreedomStudio-2019-08-2-lin64/SiFive  
export RISCV=${SIFIVE}/riscv64-unknown-elf-gcc-8.3.0-2019.08.0  
export QEMU=${SIFIVE}/riscv-qemu-4.1.0-2019.08.0  
  
export PATH=${RISCV}/bin:${QEMU}/bin:${PATH}
```

@LAB

Above setup has been added into .bashrc

@LAB: Hello world

```
cd ~/riscv-training/lab/20-lab.setup-env  
make
```

Here is the log:

```
make hello.elf SRC_TYPE=c  
make[1]: Entering directory '/mnt/hgfs/riscv-training/lab/20-lab.setup-env'  
/opt/FreedomStudio-2019-08-2-lin64/SiFive//riscv64-unknown-elf-gcc-8.3.0-2019.08.0/bin/riscv64-unknown-elf-gcc h  
make[1]: Leaving directory '/mnt/hgfs/riscv-training/lab/20-lab.setup-env'  
make hello.spike.log  
make[1]: Entering directory '/mnt/hgfs/riscv-training/lab/20-lab.setup-env'  
/opt/FreedomStudio-2019-08-2-lin64/SiFive//riscv64-unknown-elf-gcc-8.3.0-2019.08.0/bin/spike /opt/FreedomStudio-  
bbl loader  
Hello world!  
make[1]: Leaving directory '/mnt/hgfs/riscv-training/lab/20-lab.setup-env'  
make hello.spike.trace  
make[1]: Entering directory '/mnt/hgfs/riscv-training/lab/20-lab.setup-env'  
/opt/FreedomStudio-2019-08-2-lin64/SiFive//riscv64-unknown-elf-gcc-8.3.0-2019.08.0/bin/spike -l /opt/FreedomStud
```

감사합니다 Natick
Grazie Danke Ευχαριστίες Dalu
Thank You Köszönöm
Спасибо Dank Gracias
谢谢 Merci Seé
ありがとう

Obrigado