RISC-V ARCHITECTURE TRAINING

@DEMO: Freedom IDE & HiFive1b board

Jim Wang (http://phdbreak99.github.io)

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Freedom IDE
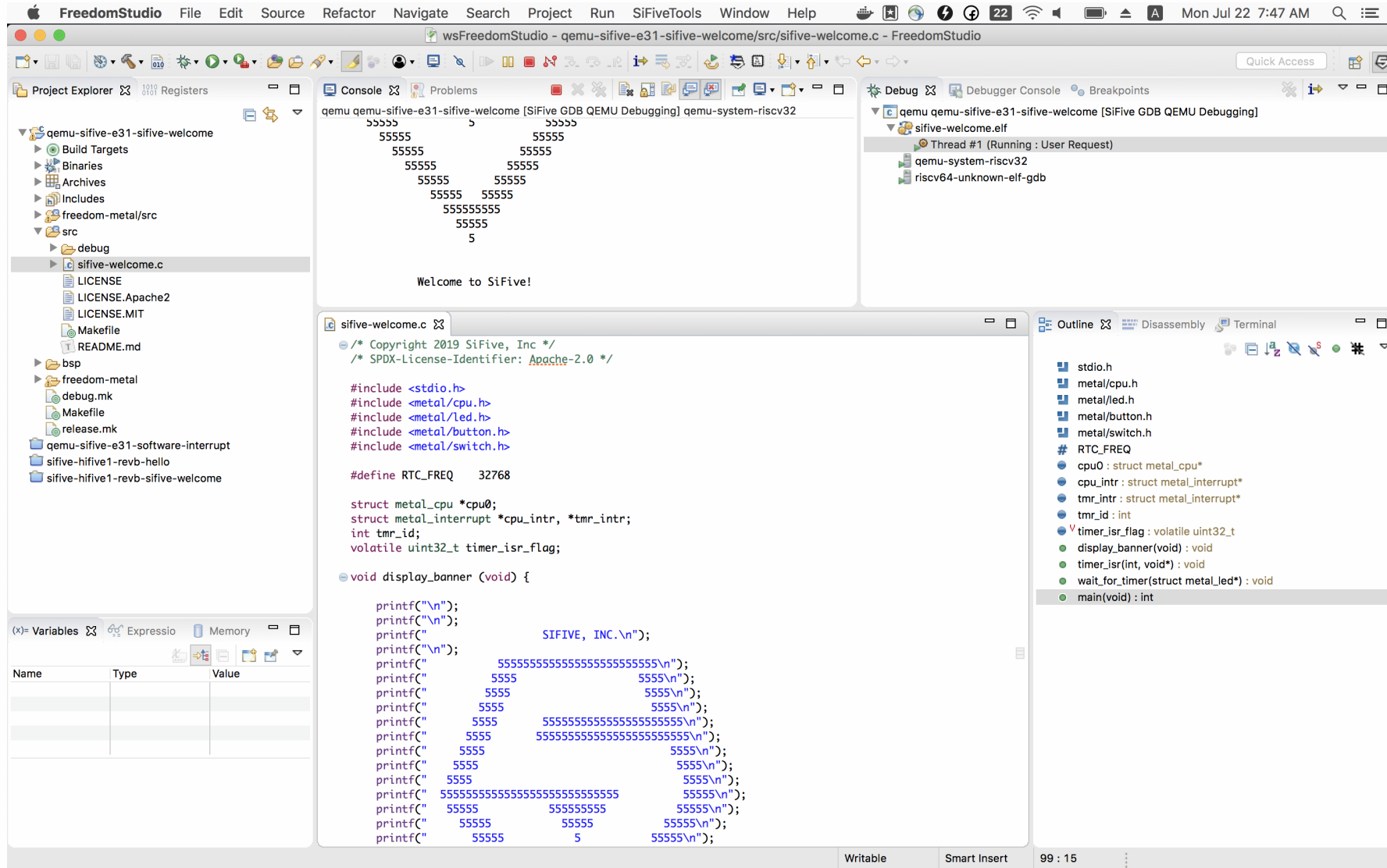
Emulate on QEMU

Run on HiFive1b board

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>>>> Freedom IDE

Emulate on QEMU

Run on HiFive1b board

Freedom IDE

Freedom IDE (cont'd)

Different targets

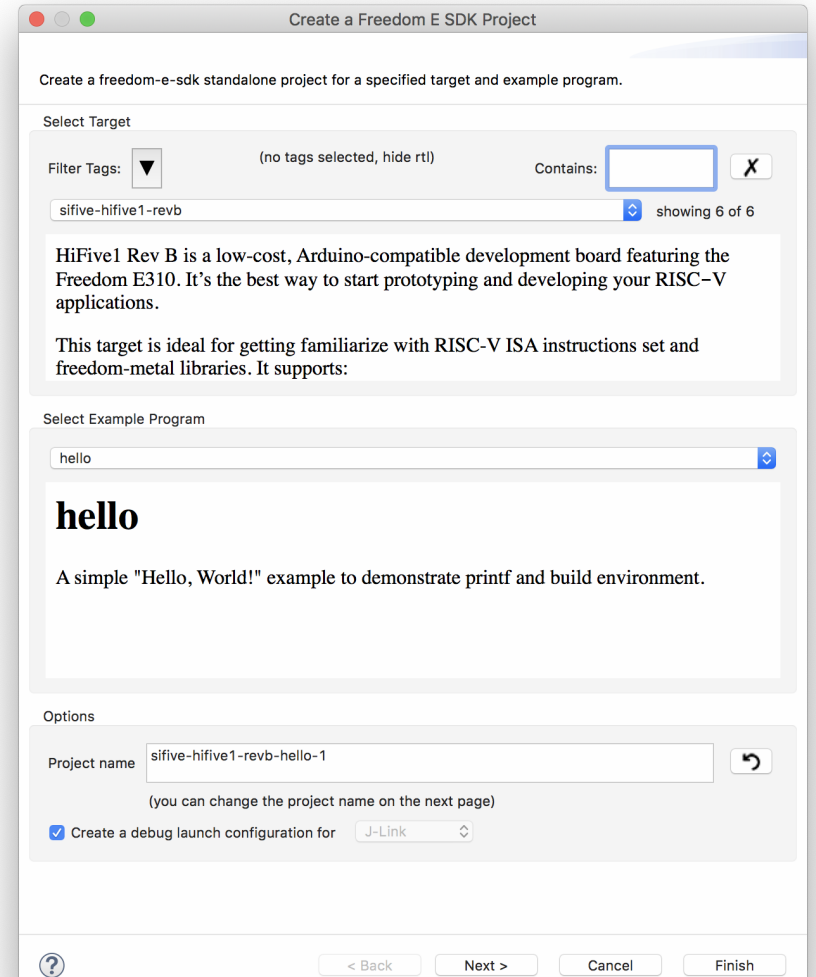| Targets	Comments
qemu-sifive-e31	QEMU emulator for 32-bit E31 CPU
qemu-sifive-s51	QEMU emulator for 64-bit S51 CPU
freedom-e310-arty	Arty FPGA platfrom
sifive-hifive-unleashed	SiFive's HiFive Unleased board that support Linux
sifive-hifive1	SiFive's HiFive1 board
sifive-hifive1-revb	SiFive's HiFive1-RevB board

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Freedom IDE

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Emulate on QEMU

- QEMU is a full system emulator
  - Translate target instruction to host instruction
  - Only functional (not trace accurate) but really fast
  - It's good for software development, not for hardware debugging

@DEMO: qemu-sifive-e31-sifive-welcome

```
QEMU emulator version 3.1.0 (SiFive QEMU 3.1.0-2019.05.1)
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              SIFIVE, INC.

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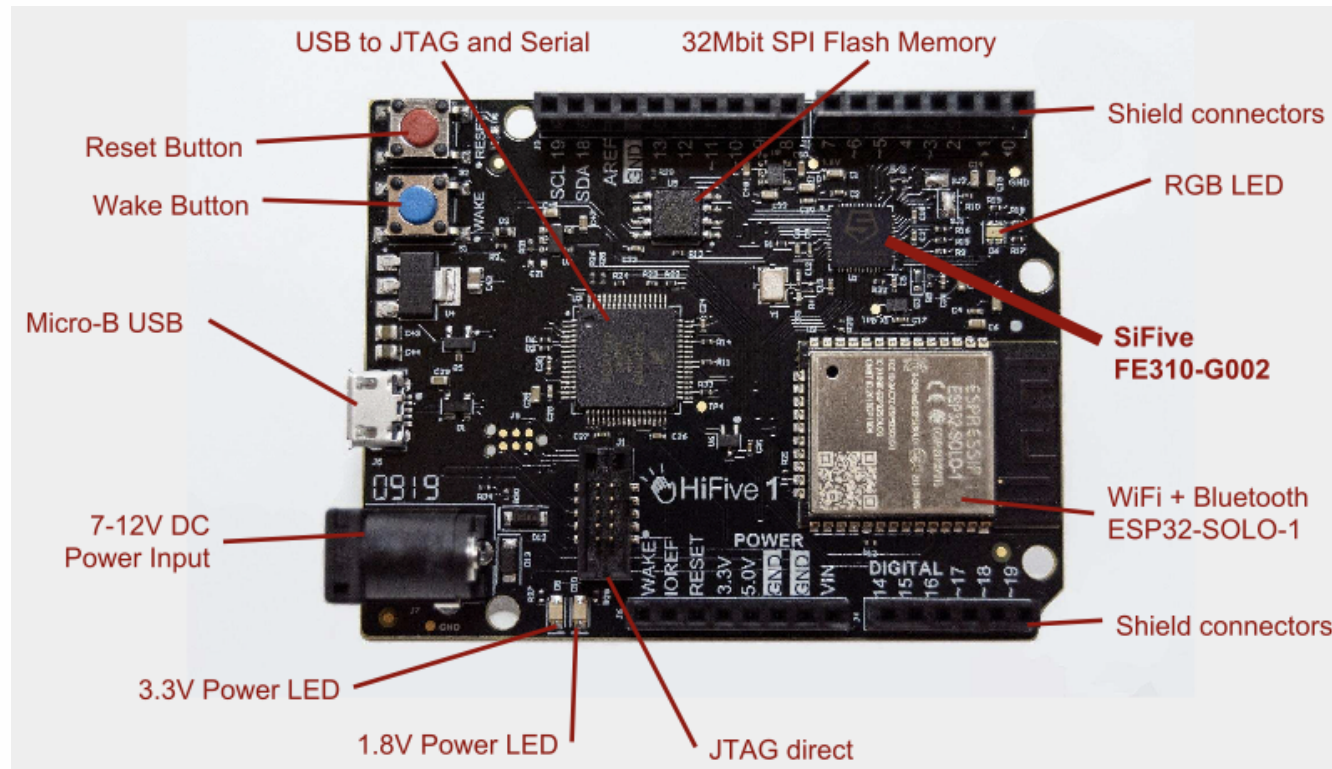
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Freedom IDE

Emulate on QEMU

>>>> Run on HiFive1b board

Run on HiFive1b board

- HiFive1-revb board
  - Latest HiFive1 board with FE310

@DEMO: sifive-hifive1-revb-sifive-welcome

감사합니다 Natick

Grazie Danke Ευχαριστίες Dalu Obrigado

Thank You Köszönöm

Tack

Спасибо Dank Gracias

谢谢 Merci Seé

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