Qemu + Linux + RISCV

To emulate a full system, a further step is necessary. A whole system needs a boot and system image to start up. You can download pre-baked images from DQIB. Download the file for riscv64-virt and extract the file. There is helpful information in a readme.txt. However, you should be able to emulate the system by typing this command:

qemu-system-riscv64 -machine virt -cpu rv64 -m 1G -device virtio-blk-device,drive=hd -drive file=image.qcow2,if=none,id=hd -device virtio-net-device,netdev=net -netdev user,id=net,hostfwd=tcp::2222-:22 -bios /usr/lib/riscv64-linux-gnu/opensbi/generic/fw_jump.elf -kernel /usr/lib/u-boot/qemu-riscv64_smode/uboot.elf -object rng-random,filename=/dev/urandom,id=rng -device virtio-rng-device,rng=rng -nographic -append "root=LABEL=rootfs console=ttyS0"

You can quit Qemu with **Ctrl-A X** and switch between its monitor and the simulation with **Ctrl-A C**.

Further, install a debugger for RISC-V. Depending on your Debian system, you may need to change to unstable packages.

Then the gdb-multiarch can be installed with RISC-V support:

sudo apt install gdb-multiarch