

Laboratory 1: Setting up Minix3

Getting Minix3 Release

Step 1: Set up a VM

(The procedure has been tested on VirtualBox running on Ubuntu 16.04. Should work on other platforms as well.)

Let the VM have the following specifications: 1GB RAM and 20 GB hard disk.

Step 2: Set up Minix3 on the VM

Follow the instructions at: <https://wiki.minix3.org/doku.php?id=usersguide:runningonvirtualbox>

The iso is available at

ftp://ftp.iitdh.ac.in/os/minix/download.minix3.org/iso/minix_R3.3.0-588a35b.iso.bz2 .

Use 10 GB for /home

After installing,

- Poweroff
- Remove the iso from the list of storage media (look under “storage” in the VM settings)
- Set the network to “bridged adapter” (look under “network” in the VM settings)
- Reboot

Step 3: Post installation configuration

<https://wiki.minix3.org/doku.php?id=usersguide:postinstallation>

- Set the root password
- Set the timezone
- Setup openssh
- Update the packages, and run `pkgin_sets` to set up all typically useful packages
- Create a regular user
(<https://wiki.minix3.org/doku.php?id=usersguide:managinguseraccounts>)

Getting Minix3 Source and Setting Up Development Environment

Step 1: Get the Minix3 source code

- In the host machine, git clone the source code of Minix3. (`git clone git://git.minix3.org/minix <destination-directory>`)
- Switch to v3.3.0 : `commit 588a35b9293dcbcb89a45881940d00c2ae6d13801`
- Remember: Create a new branch for every project/ assignment given to you in this semester. Make the branch from this particular commit.

Step 2: Set up Eclipse

- Set up the Eclipse CDT (C and C++ Integrated Development Environment) in the host machine.
- Import the Minix3 source code into Eclipse as a new project.

Step 3: Set up the source code in the guest Minix3 machine

- Initiate a git repository in /usr/src
- scp / git push from host machine to guest machine at /usr/src

Modifying, building, and testing Minix3

- You can directly modify the source at /usr/src . Alternatively, you can modify in the host machine, and copy (git push) the code into the VM. Remember to use the power of version control!
- To build: <https://wiki.minix3.org/doku.php?id=developersguide:trackingcurrent>

Tip: \$>make build MKUPDATE=yes >log.txt 2>log.txt

This will ensure the output of the “make” command goes to the file “log.txt”, which you can then open and read.

- After a successful build, reboot the machine. By default, the operating system corresponding to the latest version is brought up. Alternatively, you can choose an older version from the boot menu.
- If the system doesn’t work as expected, modify the code, build, reboot, and repeat.

Useful link:

<https://wiki.minix3.org/doku.php?id=developersguide:usinggit>

Use Moodle and help each other out!