

Buildroot & Embedded Linux OS

Downloading :

- Download Buildroot
- Extract the file *tar xf buildroot*
- Remove gz file *rm *.gz*

Creating Image file using Buildroot

Step 1 : Goto Buildroot Directory *cd buildroot*

Step 2 : Open Buildroot Configuration Menu *sudo make menuconfig*

Step 3 : Set target architecture, select Linux kernel, and use default kernel configuration.

Step 4 : Build the System. *sudo make*

Step 5 : Navigate to Output Images Directory *cd output/images*

Step 6 : Copy Kernel Image and Root Filesystem Archive *cp -r bzImage rootfs.tar*

Step 7 : Navigate to Home Directory *cd ~*

Step 8 : Create Distribution Directory *mkdir distro*

Step 9 : Move Files to Distribution Directory *mv bzImage rootfs.tar distro/*

Step 10 : Navigate to Distribution Directory *cd distro*

Step 11 : Extract Root Filesystem Archive *tar xf rootfs.tar*

Step 12 : Remove Root Filesystem Archive *rm rootfs.tar*

Step 13 : Navigate to Home Directory *cd ~*

Step 14 : Create Boot Image File *truncate -s 100MB boot.img*

Step 15 : Create Mount Directory *mkdir mounted*

Step 16 : Format Boot Image *mkfs boot.img*

Step 17 : Install extlinux Bootloader *sudo apt install extlinux*

Step 18 : Mount Boot Image *sudo mount boot.img mounted/*

Step 19 : Install extlinux on Boot Image *sudo extlinux --install mounted*

Step 21 : Copy Distribution Files to Boot Image *sudo cp -r distro/* mounted*

Step 22 : Unmount Boot Image *sudo umount mounted*

Run it on qemu:

```
qemu-system-x86_64 -hda boot.img
```

```
boot: /bzImage root=/dev/sda
```

```
password:root
```