Ex. No.: 12
Date: 07.05.2024

CUSTOMIZATION OF LINUX KERNEL

Aim:

To download the vanilla Linux kernel from repository and customize to our requirements.

Customization Steps:

1. Download the vanilla kernel from www.kernel.org

2. Switch to root user using the command
   [root@localhost os]#su

3. Use dnf to install kernel-devel package
   [root@localhost os]#dnf install kernel-devel

4. Install gcc development tools
   [root@localhost os]#dnf group install "Development Tools"

5. Install additional software packages
   [root@localhost os]#dnf install ncurses-devel bison flex
   elfutils-libelf-devel openssl-devel

6. Copy the downloaded kernel source to /usr/src/kernels
   [root@localhost os]#cp linux-5.0.0.tar.xz /usr/src/kernels

7. Go to kernel source directory
   [root@localhost os]#cd /usr/src/kernels

8. Extract the downloaded vanilla kernel
   [root@localhost os]#unxz linux-5.0.2.tar.xz
   [root@localhost os]#tar xvf linux-5.0.2.tar
9. Remove all old configuration files
   [root@localhost os]#make mrproper

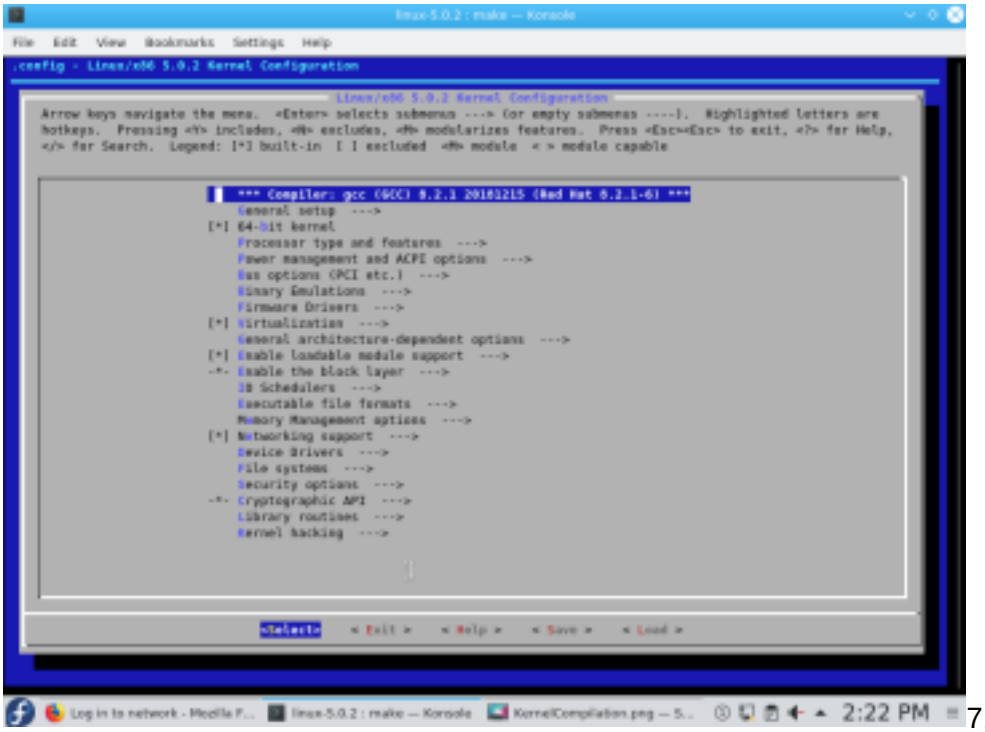
10. Configure the Kernel
    [root@localhost os]#make menuconfig

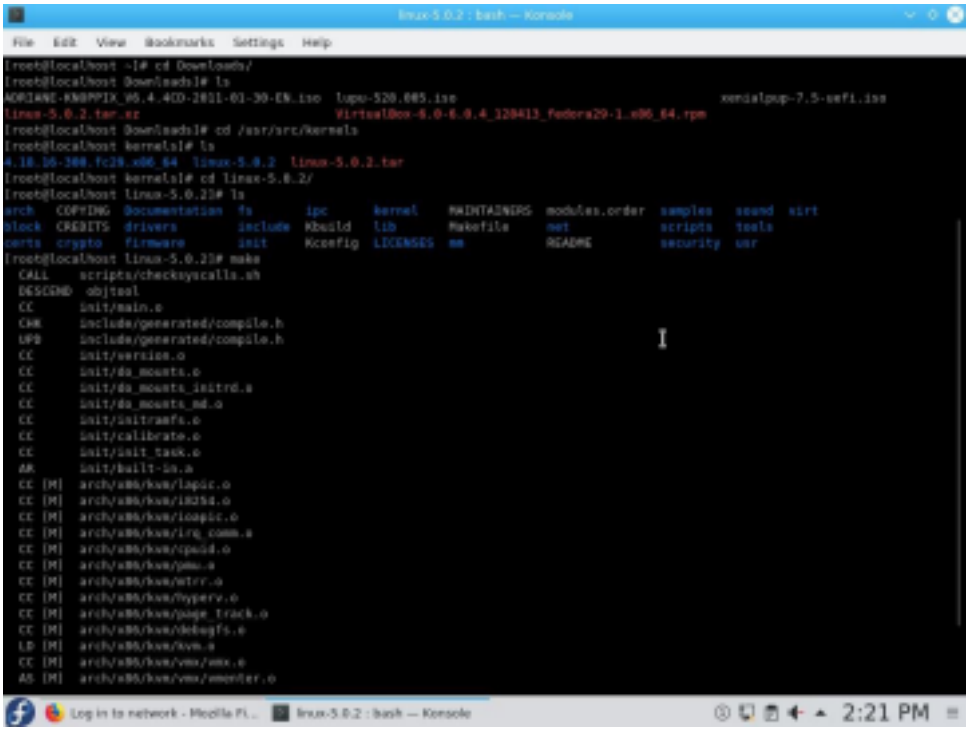
11. Build the Kernel(For faster build use –j 2 option)
    [root@localhost os]#make all

12. Remove all temporary files
    [root@localhost os]#make clean
13. Install Kernel and its modules
[root@localhost os]#make modules_install
[root@localhost os]#make install

14.Reboot the system

Output:





Result:

Customization of linux kernel has been executed successfully.