

Perform these steps inside VM after booting into default kernel

===== To build kernel =====

- Open terminal
- Download linux kernel version 6.1.4
  - **\$ wget <https://cdn.kernel.org/pub/linux/kernel/v6.x/linux-6.1.4.tar.xz>**
- Extract kernel from tar file
  - **\$ tar -xvf linux-6.1.4.tar.xz**
- Install programs needed for kernel compilation (for ubuntu)
  - **\$ sudo apt-get update**
  - **\$ sudo apt-get install git fakeroot build-essential ncurses-dev xz-utils libssl-dev bc flex libelf-dev bison**
- Enter into linux source code directory
  - **\$ cd linux-6.1.4/**
- Generate configuration file
  - **\$ make defconfig**
- Initiate compilation (Takes around 30 min to 1 hour to finish)
  - **\$ make -j4**
- Install modules
  - **\$ sudo make modules\_install**
- Install kernel
  - **\$ sudo make install**

===== To show boot menu while booting=====

- If during booting, you want to pick a particular kernel to run, do the following operations.  
(Needs to be done only once)
- **\$ sudo vi /etc/default/grub** (Open grub file. You can use any editor to edit it. Needs sudo permission to edit)
  - **#GRUB\_TIMEOUT\_STYLE=hidden**      **//Comment this line by adding '#'**  
**//infront of it.**
  - **GRUB\_TIMEOUT=30**      **//Change timeout value from 0 to**  
**//30 secs. Let boot menu be**  
**//shown for 30 secs**

- Run following command to apply the above changes
  - **\$ sudo update-grub**
- **Reboot**

===== **verify the new kernel install**=====

**Note:** You can use the following command to know the kernel version that got booted.

**\$ uname -a**

===== **END** =====

**References:** <https://www.linux.com/topic/desktop/how-compile-linux-kernel-0/>