

# OS Assignment 1

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**Kernel version : 4.9.8**

## **Steps followed :**

1. Download the latest stable version of kernel from kernel.org
2. Go to the folder where the tar file is downloaded. (In my case, it is Downloads)  
`cd Downloads`
3. Untar the kernel folder  
`tar -xvf linux-4.9.8.tar.gz`  
A folder named linux-4.9.8 is created in the same folder
4. Cd into this folder.  
`cd linux-4.9.8`
5. Install packages for make.  
`sudo apt-get install build-essential libssl-dev`
6. Now, we need to create the config file. There are several methods to do so, however I will be using the default configuration.  
`make defconfig`  
A .config will be created in the same folder which will be used by make to compile the kernel.
7. Compile the kernel using( I will assign two threads to the process since I have one core in VM's processor.)  
`make -j2`
8. Install the required modules.  
`sudo make modules_install install`  
*[The second install will make the new compiled kernel as default.]*
9. We need to change the grub configuration to log into the new compiled kernel. This can be done by editing the grub configuration file present /etc/default  
`sudo vi /etc/default/grub`  
Comment the following line :  
`#GRUB_HIDDEN_TIMEOUT=0`  
Change the grub timeout to 10 seconds to provide ample time to switch between the kernel options.  
`GRUB_TIMEOUT=10`  
Exit vi editor.  
Apply the changes using the following command :  
`sudo update_grub`
10. Now, reboot the system to log into the new compiled kernel. In the grub menu, go to the advanced options and select the kernel version 4.9.8.