

Minimalistic guide to build a Kernel (only)

Introduction

Brief guide to configure, compile and install a kernel. I do this all as root in /usr/src, others do all steps except install in /home/user/somewhere as user. If I'm going to use the Kernel to control my computer I might as well trust the build process. So this guide assumes as ROOT and /usr/src. It is mainly intended as my reference to other howto's that requires building a Kernel first.

This howto assumes kernel-6.6.3. Obviously you should use the newest appropriate version and use those version numbers.

summary:

```
cd /usr/src
tar -xvf linux-6.6.3.tar.xz
cd linux-6.6.3
make clean && make mrproper
cp ../config-custom ../.config
make menuconfig
make -j3
make modules && make modules_install
cp System.map /boot/System.map-6.6.3_acer-v5
cp .config /boot/config-6.6.3_acer-v5
cp arch/x86/boot/bzImage /boot/vmlinuz-6.6.3_acer-v5
```

Preparations

Download the latest Kernel stable from:

<https://kernel.org/>

Check the signature.

Optional: patch

```
cd /usr/src
tar -xvf linux-6.6.3.tar.xz
cd linux-6.6.3
make clean && make mrproper
cp ../config-custom ../.config
```

You don't need both mrproper and clean, probably chose one or the other depending on your need (mrproper also does clean), I just do both out of habit. Cp assumes you already have a useful config-custom file in /usr/src, or you could cp /boot/config-generic.

Configure

```
make menuconfig
```

Save the configuration.



If you don't have a good configuration file for the particular computer you're on, you could use `make localmodconfig` (DON'T) before `menuconfig` to make one from scratch. Or you could do the opposite and make (copy) one from `config-huge`, or if you intend to use `initrd`, `config-generic`. If you use `localmodconfig`, you have to ADD lots of stuff to the configuration (that you need or might need), alternatively you CAN remove alot of stuff (you don't need) from `config-generic` or `config-huge`. If you intend to not use an `initrd`, you need to build into the Kernel anything you need, and you can build into or as modules(preferably) things you might need.

Compile

```
make -j3
```

Where 3 is 3 cores. Use more or less by have/needs.

Modules

```
make modules && make modules_install
```

You don't need to do `make modules` (`make` basically does make "all" target), only `modules_install`, I just do out of old habits and precaution. Some targets however, do require `make modules`, like `make bzImage`. You also might want to make `headers_install` here once in awhile.

Install

```
cp System.map /boot/System.map-6.6.3_acer-v5  
cp .config /boot/config-6.6.3_acer-v5  
cp arch/x86/boot/bzImage /boot/vmlinuz-6.6.3_acer-v5
```

OR

```
make install
```

If you want to make and use **initrd**, this is the time.

Then add your custom entry to the bootloader. (If you need some assistance with Grub2 bootloader

look here: [lilo_to_grub_bios_mbr](#))

Further details

If you need further information or details regarding Linux kernel builds, there are several more detailed guides available on this page:

[Slackbook](#)

[Alienbob - detailed](#)

[Git related](#)

[Slackware Helper scripts](#)

Sources

* Originally written by [Zeebra](#)

[howtos](#), [general admin](#), [kernel](#), [author zeebra](#)

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