

The Plan:

- Applications without rebooting
- Overview of the boot process
- CD to USB: Case study with SystemRescueCd
(Download from [here](#)).
- Read only file systems
- Rolling your own

Applications without rebooting

- Cygwin [link](#).
- VNC [link](#).
- Xming [link](#).
- QEMU [link](#).

Simplified boot sequence

- BIOS
 - Find hardware
 - Determine boot order
- Stage 1: Master Boot Record (MBR)
 - Load partition table
 - Load and jump to Stage 2
- Stage 2: Secondary bootloader
 - Lilo, GRUB (with Stage 1.5), isolinux, syslinux
 - Load kernel
- Init ...

Bootable CD to USB

- iso file system on the CD
- isolinux.cfg → syslinux.cfg
- USB stick setup **steps**

Bootable CD to USB

- `echo ",,6,*" | sfdisk -q /dev/sda`
- `mkdosfs /dev/sda1`
- copy files to usbstick
- `vmlinuz` and `initrd.gz` in root directory
- install `syslinux.cfg`
- `dd if=../../mbr.bin of=/dev/sda`
- `syslinux /dev/sda1`

Rolling your own

- CLOOP
- SquashFS
 - Kernel hooks and patches
 - `mount -t squashfs /dev/...`
 - `mksquashfs` source destination

Read only file systems

- CLOOP
- SquashFS