

HOW TO ENFORCE READ-ONLY MODE ON EVERY CONNECTED USB STORAGE DEVICE

Today, I will show you how to put every connected USB storage device in read-only mode using **udev** dynamic device management, **blockdev** utility and additionally **systemd** service unit configuration.

udev

The simplest solution is to create *udev* rule to directly execute `blockdev` command, which will enforce read-only mode on every connected USB storage device. It will work on *Debian Wheezy* and *Debian Jessie* as well.

Create *udev* rule.

```
$ cat << EOF | sudo tee /etc/udev/rules.d/10-usb-ro.rules
SUBSYSTEMS=="usb",ACTION=="add",KERNEL=="sd*",RUN+="/sbin/blockdev --setro
/dev/%k"
EOF
```

Reload *udev* configuration files afterwards.

```
$ sudo udevadm control --reload
```

udev and systemd

This solution will use `systemd` service unit configuration to execute above-mentioned `blockdev` command. It will work on *Debian Jessie*.

Create *udev* rule.

```
$ cat << EOF | sudo tee /etc/udev/rules.d/10-usb-ro.rules  
  
SUBSYSTEMS=="usb",ACTION=="add",KERNEL=="sd*",ENV{SYSTEMD_WANTS}="enforce-usb-ro@%k"  
  
EOF
```

Create *systemd* template.

```
$ cat << EOF | sudo tee /etc/systemd/system/enforce-usb-ro@.service  
  
[Unit]  
  
Description=Enforce read-only mode on USB storage device  
  
BindsTo=dev-%i.device  
  
[Service]  
  
Type=simple  
  
ExecStart=/sbin/blockdev --setro /dev/%I  
  
EOF
```

Reload *udev* configuration files afterwards.

```
$ sudo udevadm control --reload
```

Reload *systemd* configuration files too.

```
$ sudo systemctl daemon-reload
```

Additional notes

Notice that created rules will be applied only to newly connected devices.

Use the following command to verify read-only mode on connected devices.

```
$ sudo blockdev --report
```

RO	RA	SSZ	BSZ	StartSec	Size	Device
rw	256	512	512	0	1073741312	/dev/sr0
rw	256	512	4096	0	8589934592	/dev/sda
rw	256	512	4096	2048	8185184256	/dev/sda1
rw	256	512	1024	15990782	1024	/dev/sda2
rw	256	512	4096	15990784	401604608	/dev/sda5
ro	256	512	4096	0	15518924800	/dev/sdb

Source: <https://blog.sleeplessbeastie.eu/2015/05/11/how-to-enforce-read-only-mode-on-every-connected-usb-storage-device/>