

# Open Source World & Router's Firmware

Matúš Madzin

## What's Open Source?

## What's Open Source?

It's philosophy, the way of life ... to be able to choose

## What's Open Source?

It's philosophy, the way of life ... to be able to choose



## What is OpenWRT?

## What is OpenWRT?

Linux distribution targeted at routing on embedded devices

## What is OpenWRT?

Linux distribution targeted at routing on embedded devices

- IPv6 support
- traffic shaping/monitoring,
- USB device - 3G modem, file sharing, webcam streaming,
- ...

Is OpenWRT the only one alternative?



Is OpenWRT the only one alternative?

Other software choices:

- DD-WRT
- HyperWRT
- ...

What's charming about OpenWRT???

What's charming about OpenWRT???

Names of major versions:

- 1 White Russian
- 2 Kamikaze
- 3 Backfire (latest)



List of supported devices: <http://wiki.openwrt.org/toh/start>

List of supported devices: <http://wiki.openwrt.org/toh/start>

Books:

- Linksys WRT54G Ultimate Hacking
- Kismet Hacking
- Wardriving and Wireless Penetration Testing
- ...

List of supported devices: <http://wiki.openwrt.org/toh/start>

Books:

- Linksys WRT54G Ultimate Hacking
- Kismet Hacking
- Wardriving and Wireless Penetration Testing
- ...

Web interfaces:

- LuCI
- X-WRT
- Gargoyle

How to install OpenWRT:

- web interface
- TFTP Server
- JTAG (for recovery only)

More info about installation OpenWRT or original firmware is available at [OpenWRT wiki](#).



How to install OpenWRT:

- web interface
- TFTP Server
- JTAG (for recovery only)

More info about installation OpenWRT or original firmware is available at [OpenWRT wiki](#).

**Example:** Linksys WRT54GL firmware installation via TFTP

Create groups of two (I'll help)

Presentations during semester:

- IPv6 (introduction)
- firewall, MAC address filter, port forwarding, DMZ (policy)
- traffic shaping/monitoring
- Audio/Video streaming via DLNA/UPnP AV
- bricks & troubleshooting
- ...

## Hardware:

- D-Link DIR-825
- TP-Link TL-WR1043ND
- Linksys WRT54GL

## Content of the lesson/course:

- 1 choose one router (I'll help)
- 2 choose cables
  - check your cables properly
  - don't hesitate to use crimp tools
- 3 create your testbed
- 4 look at default firmware
- 5 find out how to install OpenWRT on your router

- IPv4, IPv6,
- DHCP, DDNS, QoS,
- WiFi - repeater, access point, bridge, AirCrack,
- firewall, MAC address filter,
- port forwarding (UPnP, NAT-PMP),
- traffic shaping/monitoring,
- USB device - 3G modem, file sharing, webcam streaming,
- Audio/Video streaming via DLNA/UPnP AV,
- bitTorrent client,
- ...

- IPv4, IPv6,
- DHCP, DDNS, QoS,
- WiFi - repeater, access point, bridge, AirCrack,
- firewall, MAC address filter,
- port forwarding (UPnP, NAT-PMP),
- traffic shaping/monitoring,
- USB device - 3G modem, file sharing, webcam streaming,
- Audio/Video streaming via DLNA/UPnP AV,
- bitTorrent client,
- ...

**Have Fun**

- [http://en.wikipedia.org/wiki/File:White\\_Russian.jpg](http://en.wikipedia.org/wiki/File:White_Russian.jpg)
- <http://en.wikipedia.org/wiki/File:Kamikaze.jpg>
- <http://www.foodenquirer.com/food-enquirer-channel/food-beverage-recipes/backfire.html>
- <http://en.wikipedia.org/wiki/File:Openwrt-login.svg>
- <http://www.linux-mag.com/>