
OpenWISP Firmware Documentation

Release 1.3

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OpenWISP Firmware (OWF as short) is a set of scripts (shell and web cgi) that sits on top of [OpenWrt](#). It provides a daemon for retrieving an OpenWRT configuration of the following components from a [OpenWISP Manager](#) instance:

- wifi
- networking
- layer 2 traffic shaping
- openvpn (layer 2, tap)
- cronjobs
- custom shell script

OpenWISP Firmware also provides a web GUI for:

- configuring basic network parameters
- configuring basic OpenWISP server settings
- performing a set of test to spot and resolve most common problems that may prevent OWF to work correctly

OpenWISP Firmware currently works on the last OpenWrt release and we are working to keep it up to date with OpenWrt edge development.

CHAPTER 1

How to install

Please see the [\[\[Installation\]\]](#)

OpenWISP Firmware FAQ

17. Where access point configuration are stored?

1. Configuration are stored in “private” folder in your own installation as gzipped tarball

17. How firmware can recognize configuration changes?

1. Thanks to an MD5 sum between his tarball and the tarball stored in OWM

17. Which configuration handles OWF itself and which one will be pushed by OWM?

A. OWF handles all access point from the boot to the configuration and so on until poweroff, the only configuration that OWM will push into the access point are network related both wired or wireless.

17. And what about l2vpn_server?

A. A Layer 2 VPN Server is useful to encapsulate traffic between your device, connected to an access point, and public network, so we can provide an ad-hoc configuration for you all configuration will be stored in the “private/l2vpn_server” folder in your own installation.

17. How VPN certificates are renewed?

A. Setup VPN will never expire, but l2vpn will expire, when certificate will be renewed will be sent to the AP's through configuration service.

Contents:

Firmware build and installation

This page will drive you through the process needed for the build, the installation or the upgrade of OpenWisp firmware on your APs.

All the firmwares are based on the new feed structure that allow us to keep the solution independent from OpenWrt development, modular in packages and with clear dependencies to external utilities.

Build your own OpenWisp Firmware

In order to have a fully working OpenWisp Firmware you should compile it by yourself, here a link to the official OpenWrt about the setup of build enviroment wiki on this topic:

- <http://wiki.openwrt.org/doc/howto/build>

If you have a properly configured machine follow this steps inside the OpenWRT root directory.

1. Append the OWF git repository to OpenWrt feeds list

```
echo "src-git openwisp https://github.com/openwisp/OpenWISP-Firmware.git"  
>> feeds.conf
```

2. Enable the openwisp-fw metapackage inside the OpenWrt build system

```
./scripts/feeds update  
./scripts/feeds install openwisp-fw
```

3. Now you should setup e ENV variable and can setup any other Openwrt options included the target machine using `make menuconfig`, than you can finally compile the new firmware

```
export OPENWISP_CONF="http://myserver.com/config_file_example.tar.gz"  
make V=s
```

The OPENWISP_CONF var

TODO

Installing the new firmware

TODO

CHAPTER 3

Indices and tables

- `genindex`
- `modindex`
- `search`