

# OpenHAB2

- <https://mysmarthomeweb.wordpress.com>
- <http://www.makeuseof.com/tag/getting-started-openhab-home-automation-raspberry-pi/>

## Install

### containers lxd

device USB container

```
lxc config device add openhab2 rfxcom unix-char path=/dev/ttyACM0
lxc config device set openhab2 rfxcom mode 666
```

### rasbian

```
apt install apt-transport-https
</apt>
```

```
==== common ====
```

```
<file txt /etc/apt/sources.list.d/openhab2.list>
cat > /etc/apt/sources.list.d/openhab2.list <<EOF
deb [trusted=yes]
https://openhab.ci.cloudbees.com/job/openHAB-Distribution/ws/distributions/o
penhab-offline/target/apt-repo/ /
deb [trusted=yes]
https://openhab.ci.cloudbees.com/job/openHAB-Distribution/ws/distributions/o
penhab-online/target/apt-repo/ /
EOF
</file>
```

```
<code bash>
wget -q0 - 'http://www.openhab.org/keys/public-key-snapshots.asc' | sudo
apt-key add -
sudo apt update
# apt install openjdk-8-jre
apt install oracle-java8-jdk # much better for openhab speed
```

```
apt install openhab2-online
```

```
sudo systemctl enable openhab2.service
sudo systemctl start openhab2.service
sudo systemctl status openhab2.service
```

## WEB GUI

- <http://localhost:8080>

## CLI

```
/usr/share/openhab2/runtime/karaf/bin/client
```

### Manage configuration

```
config:list "(service.pid=org.openhab.addons)"
```

change params

```
config:property-set -p org.openhab.addons legacy true
config:property-set -p org.openhab.addons remote true
config:property-set -p org.openhab.addons experimental true
```

### Install features

show features

```
feature:list | grep network
```

interesting features

```
feature:install openhab-runtime-compat1x

feature:install openhab-transformation-regex
feature:install openhab-binding-exec
feature:install openhab-persistence-rrd4j
config:property-set -p org.openhab.addons persistence rrd4j

feature:install openhab-ui-habmin
feature:install openhab-ui-habpanel

feature:install openhab-action-telegram

feature:install openhab-binding-network
# feature:install openhab-binding-lgtv
```

### Introspection

```
openhab> things list
```

```
yahooweather:weather:158197f6007 (Type=Thing, Status=ONLINE, Label=Weather Information, Bridge=null)

openhab> items list
yahooweather_weather_158197f6007_temperature (Type=NumberItem, State=2, Label=Temperature, Category=Temperature)
yahooweather_weather_158197f6007_humidity (Type=NumberItem, State=77, Label=Humidity, Category=Humidity)
yahooweather_weather_158197f6007_pressure (Type=NumberItem, State=30308.19, Label=Pressure, Category=Pressure)

openhab> links list
yahooweather_weather_158197f6007_temperature ->
yahooweather:weather:158197f6007:temperature
yahooweather_weather_158197f6007_humidity ->
yahooweather:weather:158197f6007:humidity
yahooweather_weather_158197f6007_pressure ->
yahooweather:weather:158197f6007:pressure
```

## Log

console

```
# change log level
log:set DEBUG

# clear
log:clear

# show continuos tail
log:tail
```

## Persistence

- <https://github.com/openhab/openhab/wiki/Persistence>

Enable rrd4j binding

[/etc/openhab2/services/rrd4j.cfg](#)

```
ctr5min.def=COUNTER,900,0,U,300
ctr5min.archives=AVERAGE,0.5,1,365:AVERAGE,0.5,7,300
#
ctr5min.items=systeminfo_computer_15819c96492_cpu_load,yahooweather_weather_158197f6007_temperature,yahooweather_weather_158197f6007_humidity,yahooweather_weather_158197f6007_pressure
```

[/etc/openhab2/persistence/rrd4j.persist](#)

```
// persistence strategies have a name and a definition and are referred
to in the "Items" section
Strategies {
    everyMinute : "0 * * * * ?"
    everyHour   : "0 0 * * * ?"
    everyDay    : "0 0 0 * * ?"

    // if no strategy is specified for an item entry below, the default
list will be used
    default = everyChange
}

/*
 * Each line in this section defines for which item(s) which
strategy(ies) should be applied.
 * You can list single items, use "*" for all items or "groupitem*" for
all members of a group
 * item (excl. the group item itself).
 */
Items {
    // persist all items once a day and on every change and restore
them from the db at startup
    * : strategy = everyChange, everyHour, restoreOnStartup

    // additionally, persist all temperature and weather values every
hour
    Temperature*, Weather* : strategy = everyHour
}
```

## demo mode

[/etc/openhab2/services/addons.cfg](#)

```
package = demo
```

## Programming

### items

[items/cpu.items](#)

```
// create an item from another channel item "items list"
```

```

Number Cpu "Cpu [%.0f]" (signal) {
channel="systeminfo:computer:15819c96492:cpu#load" }

// fetch data from script every 2 seconds (install exec binding and
regex transformation)
Number TestLoad "Test load [%.0f]" (signal) {
exec="<[/etc/openhab2/test.sh:1000:REGEX((.*?))]"

```

### rules/cpu.rules

```

import org.openhab.core.library.types.*
import org.openhab.core.persistence.*
import org.openhab.model.script.actions.*

val Timer timer = null
val Timer waitTimer = null
val int sleepMinutes = 1

rule "CPU too high"
when
    Item Cpu changed
then
    if (Cpu.state > 40) {
        if (timer == null) {
            // watch cpu for 5 seconds
            timer = createTimer(now.plusSeconds(5)) [|
                val message = "CPU troppo alta: " + Cpu.state.toString() + ".
Prossimo messaggio in "+ sleepMinutes.toString() + " minuti"
                sendTelegram("bot1", message)
                logWarn("home", message)

                waitTimer = createTimer(now.plusMinutes(sleepMinutes)) [|
                    timer = null
                    sleepMinutes = sleepMinutes*2
                ]
            ]
        }
    } else {
        if(timer != null) {
            timer.cancel
            timer = null
            sleepMinutes = 1
        }
    }
}
end

```

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