

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
```

common

</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/distributi
ons/openhab-offline/target/apt-repo/ /
deb [trusted=yes]
https://openhab.ci.cloudbees.com/job/openHAB-Distribution/ws/distributi
ons/openhab-online/target/apt-repo/ /
EOF
```

```
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
usermod -a -G dialout openhab
```

```
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
config:property-set -p org.eclipse.smarthome.persistence default 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 continuous 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_wea
```

```
ther_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
```

z-wave

```
feature:install binding-zwave
```

Programming

items

items/cpu.items

```
// create an item from another channel item "items list"
Number Cpu "Cpu [%f]" (signal) {
  channel="systeminfo:computer:15819c96492:cpu#load" }

// fetch data from script every 2 seconds (install exec binding and
  regex transformation)
Number TestLoad "Test load [%f]" (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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