

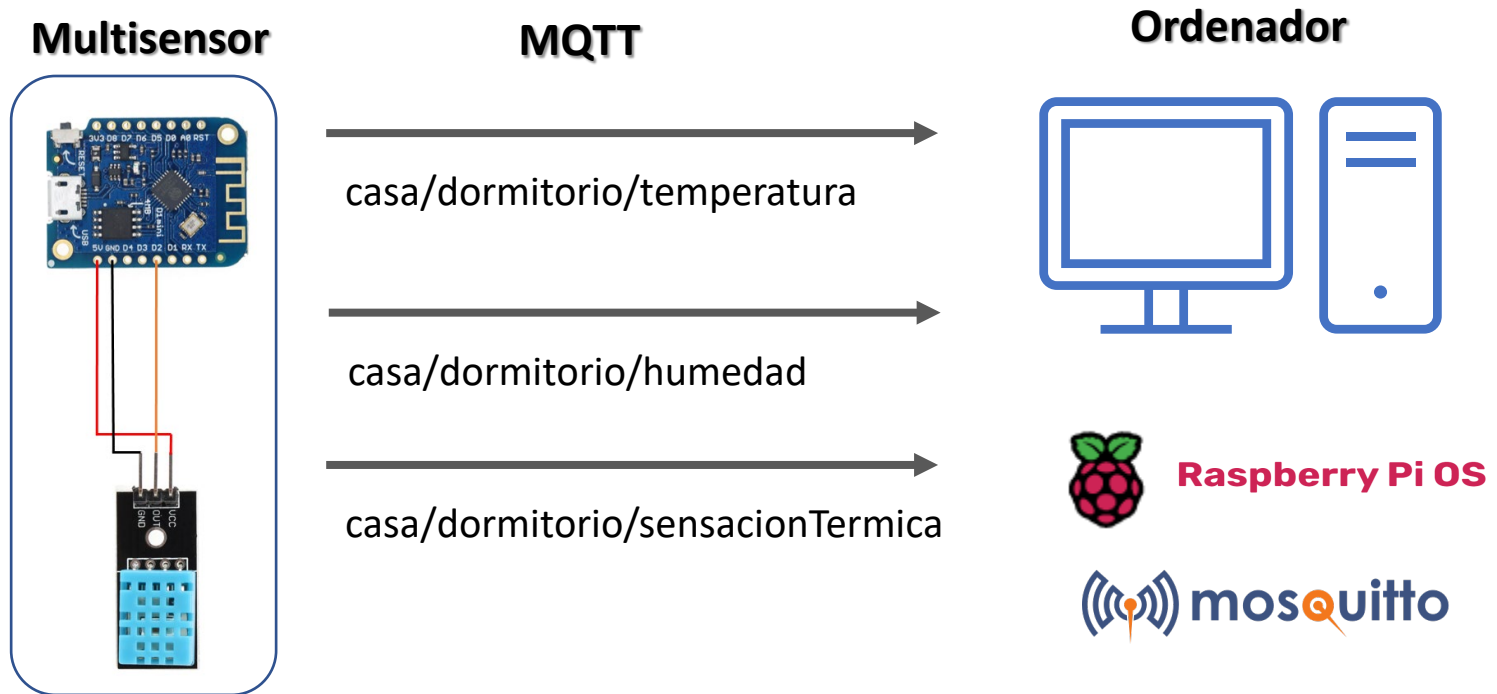
Universidad Politécnica de Madrid

Uso del IoT para construir tú mismo un hogar digital

Integración en openHAB de sensores y actuadores MQTT

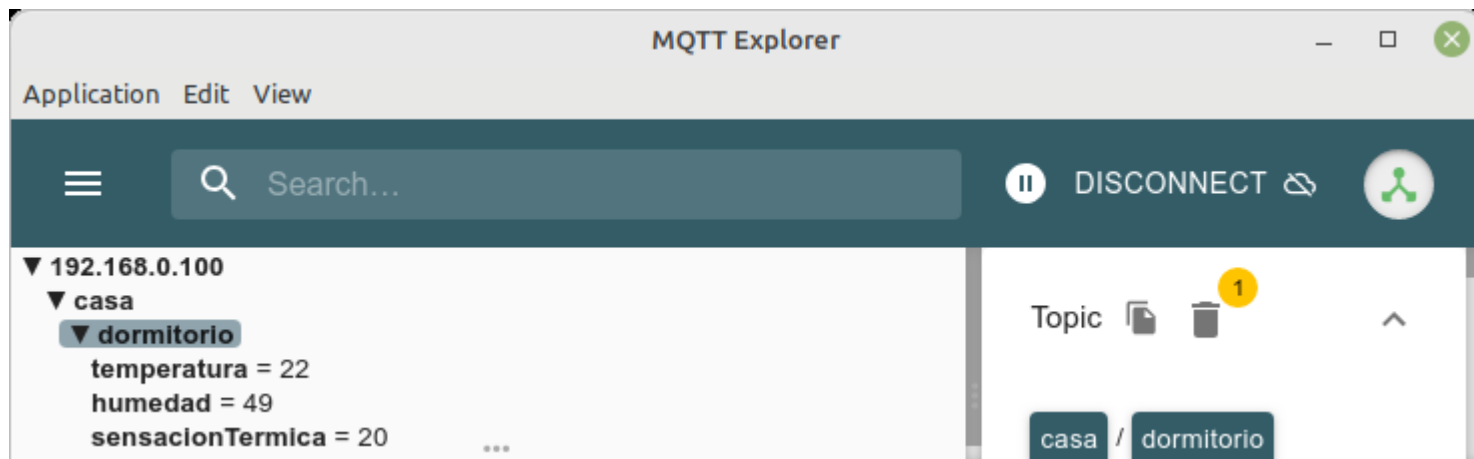
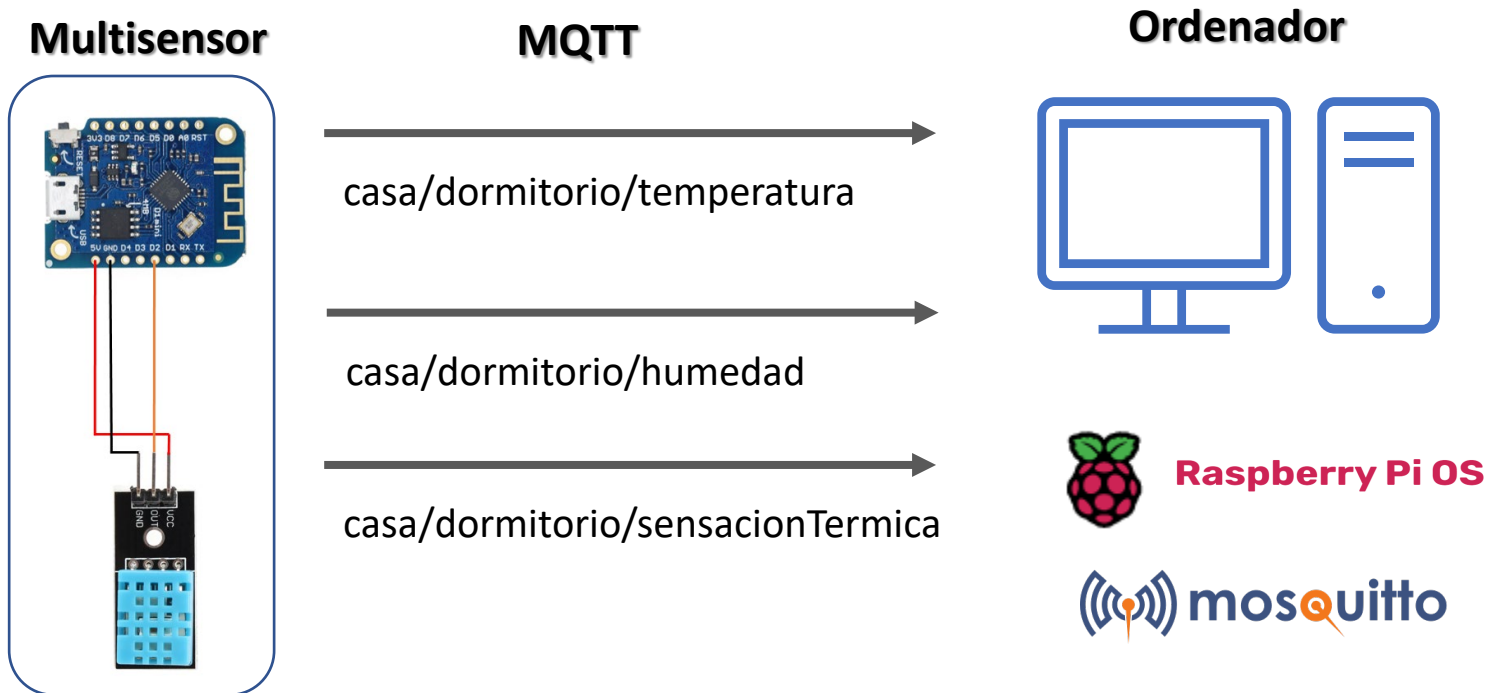
Javier Malagón

Usando únicamente un bróker

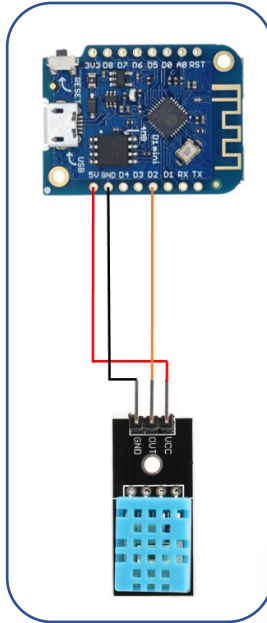


```
pi@raspberrypi:~$> mosquitto_sub -h localhost -t casa/dormitorio/temperatura  
22  
22.5  
23
```

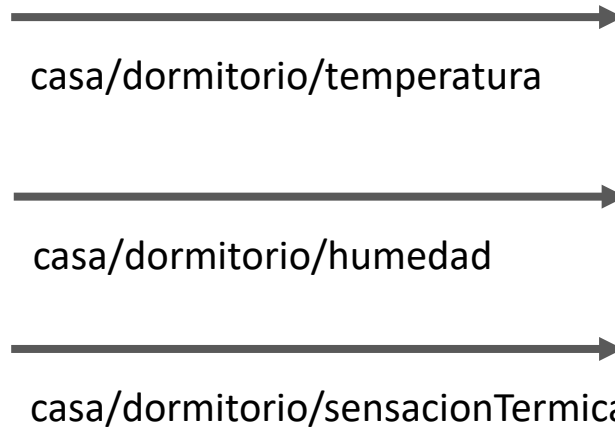
Usando únicamente un bróker



Multisensor



MQTT



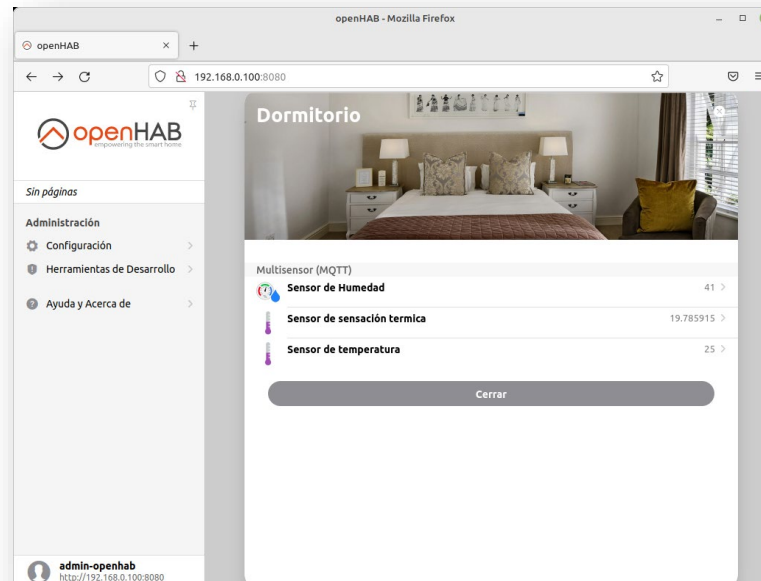
Raspberry Pi



Raspberry Pi OS




mosquitto

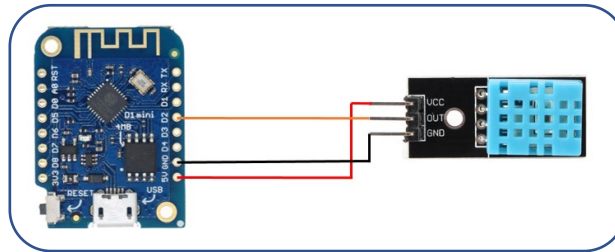


Instalar bróker mosquito

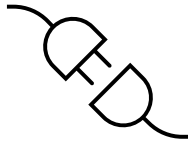
```
pi@openhab-device:~$ sudo apt install mosquito
pi@openhab-device:~$ sudo systemctl start mosquito
pi@openhab-device:~$ sudo systemctl status mosquito
pi@openhab-device:~$ sudo systemctl restart mosquito
pi@openhab-device:~$ sudo apt install mosquito-clients
```



Multisensor

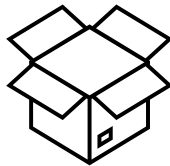


Binding



MQTT
binding

Things



MQTT
Broker

Multisensor (MQTT)

Canales



casa/salon/temperatura

casa/salon/humedad

casa/salon/sensacionTermica

Ítems



Temperatura

Humedad

Sensación térmica

openHAB - Mozilla Firefox

openHAB

192.168.0.100:8080/settings/model/

Settings Semantic Model

Search

- Dormitorio** Location
 - Multisensor (MQTT)** Sensor
 - Sensor de Humedad** Point (Humidity)
 - Sensor de sensación termica** Point (Temperature)
 - Sensor de temperatura** Point (Temperature)
 - Salon** Location

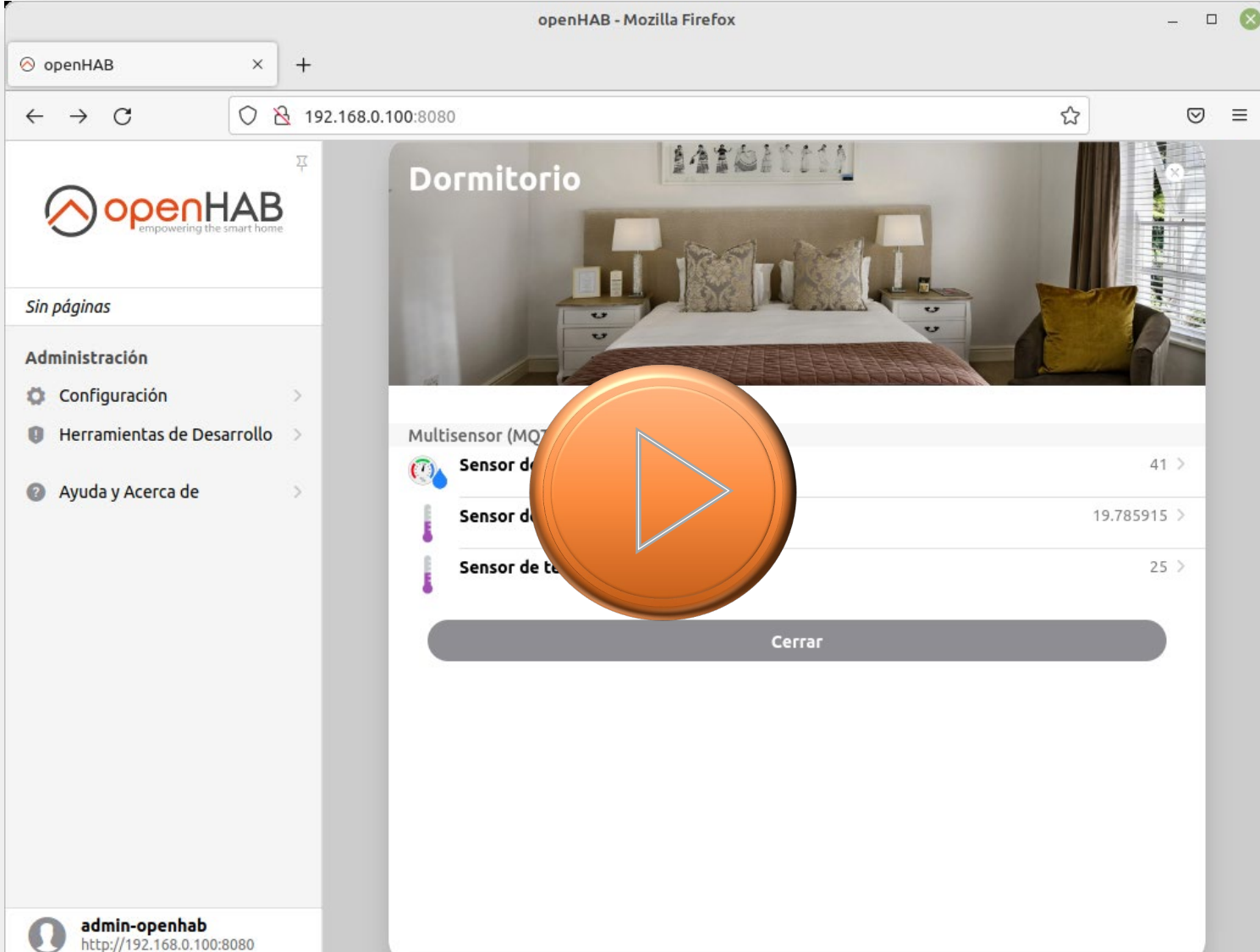
Nothing selected

Add to Model

- Add Location
- Create Equipment from Thing
- Create Points from Thing
- Add Equipment
- Add Point

admin-openhab
http://192.168.0.100:8080

Clear Show non-semantic



openHAB - Mozilla Firefox

openHAB

192.168.0.100:8080

openHAB
empowering the smart home




Sin páginas

Administración

- Configuración >
- Herramientas de Desarrollo >
- Ayuda y Acerca de >

Dormitorio

Multisensor (MQ7)

 Sensor de	41 >
 Sensor de	19.785915 >
 Sensor de te	25 >

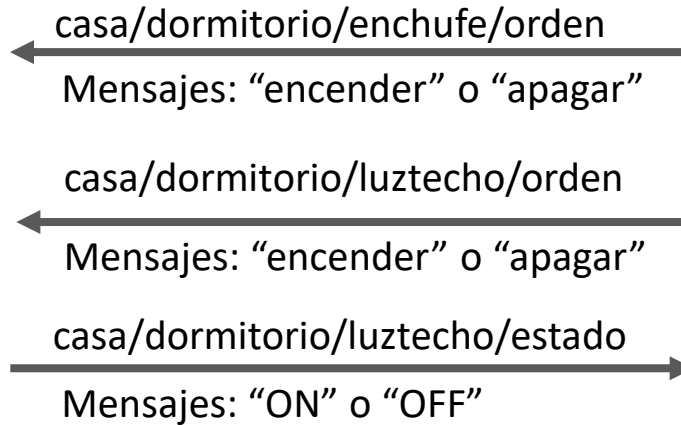
Cerrar

admin-openhab
http://192.168.0.100:8080

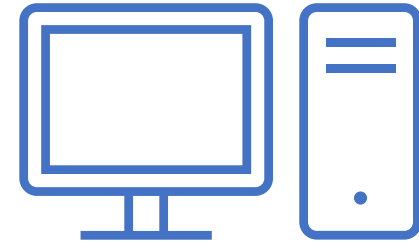
Multiactuador



MQTT



Ordenador



Raspberry Pi OS



```
pi@raspberrypi:~$> mosquitto_pub -h localhost -t casa/dormitorio/luztecho/orden -m encender
pi@raspberrypi:~$> mosquitto_sub -h localhost -t casa/dormitorio/luztecho/estado
ON
ON
```

Multiactuador



MQTT

- ← casa/dormitorio/enchufe/orden
- Mensajes: "encender" o "apagar"
- ← casa/dormitorio/luztecho/orden
- Mensajes: "encender" o "apagar"
- ← casa/dormitorio/luztecho/estado
- Mensajes: "ON" o "OFF"

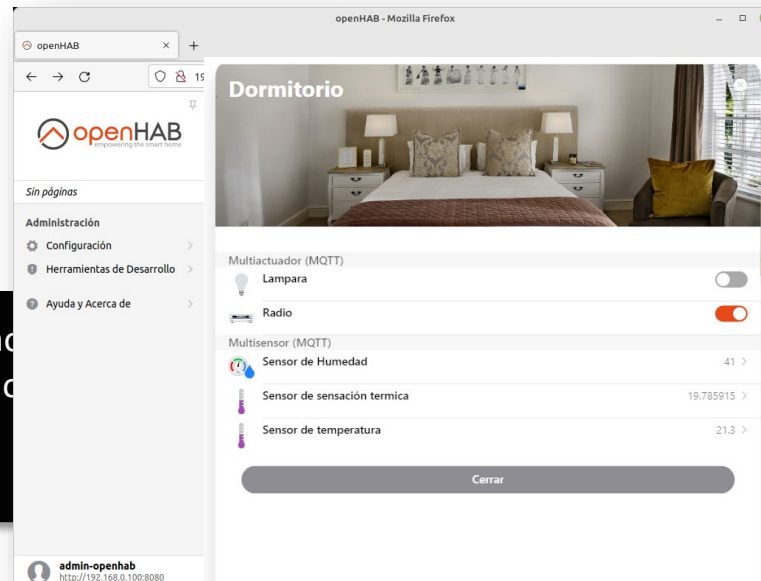
Raspberry Pi



Raspberry Pi OS



```
pi@raspberrypi:~$> m
pi@raspberrypi:~$> m
ON
ON
```



```
ho/orden -m encender
ho/estado
```

Multiactuador

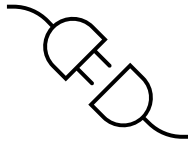


Actuador de Enchufe



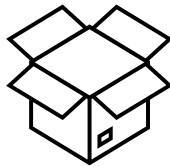
Actuador de interruptor

Binding



MQTT
binding

Things



MQTT
Broker

Multiactuador (MQTT)

Canales



Ítems



Radio

Lámpara

casa/dormitorio/enchufe/orden

casa/dormitorio/luztecho/orden
casa/dormitorio/luztecho/estado

Modelo semántico

openHAB - Mozilla Firefox

openHAB

192.168.0.100:8080/settings/model/

Settings Semantic Model

Search

- Dormitorio**
Location
 - Multiactuador (MQTT)**
PowerOutlet
 - Lampara**
Point (Light)
 - Radio**
Point (Power)
 - Multisensor (MQTT)**
Sensor
- Salon**
Location

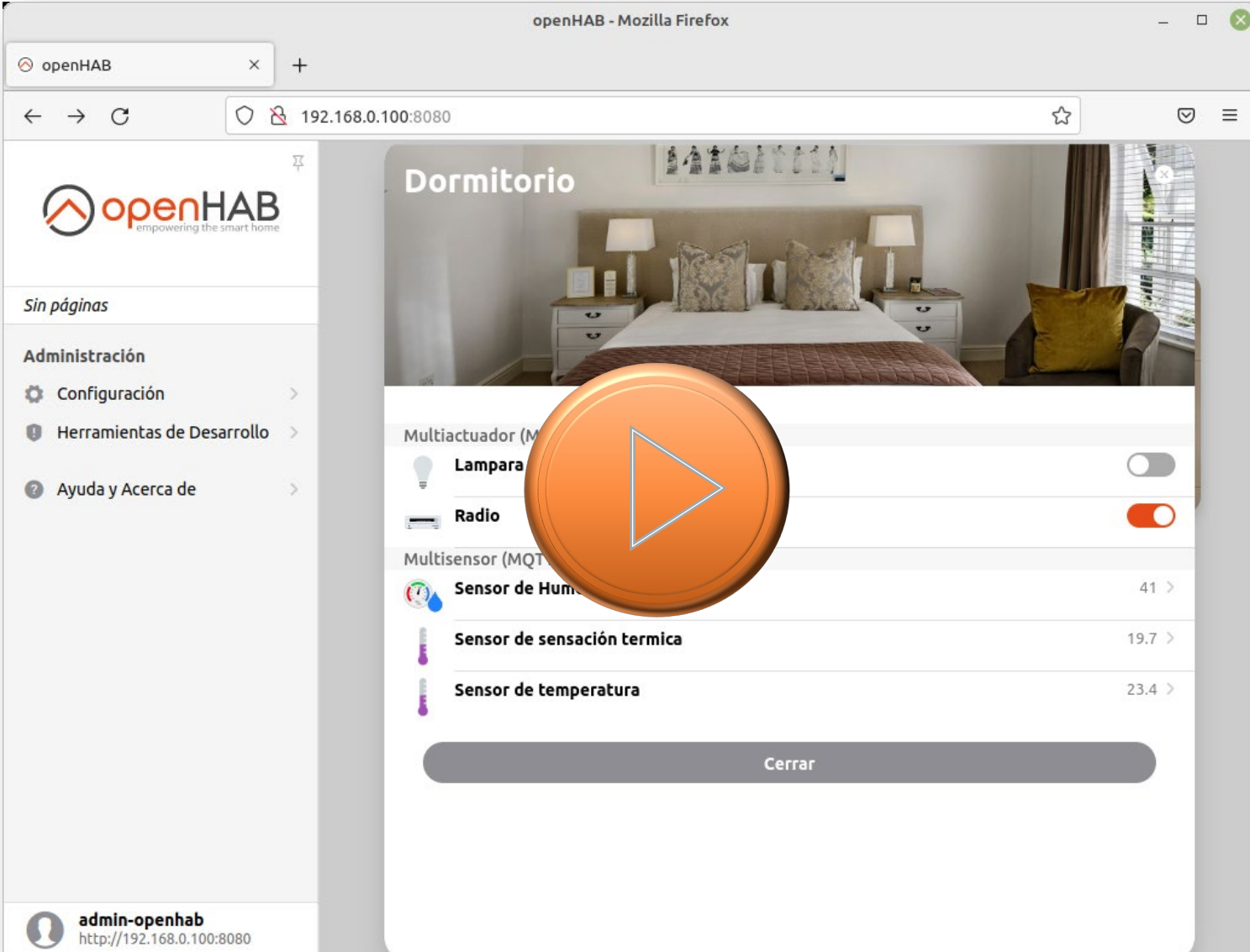
Nothing selected

Add to Model

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- Add Equipment
- Add Point

admin-openhab
http://192.168.0.100:8080

Clear Show non-semantic



openHAB - Mozilla Firefox

openHAB

192.168.0.100:8080

openHAB
empowering the smart home

Sin páginas

Administración

- Configuración >
- Herramientas de Desarrollo >
- Ayuda y Acerca de >

Dormitorio

Multiactuador (M...

Lampara

Radio

Multisensor (MQT...

Sensor de Hum... 41 >

Sensor de sensación termica 19.7 >

Sensor de temperatura 23.4 >

Cerrar

admin-openhab
http://192.168.0.100:8080



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