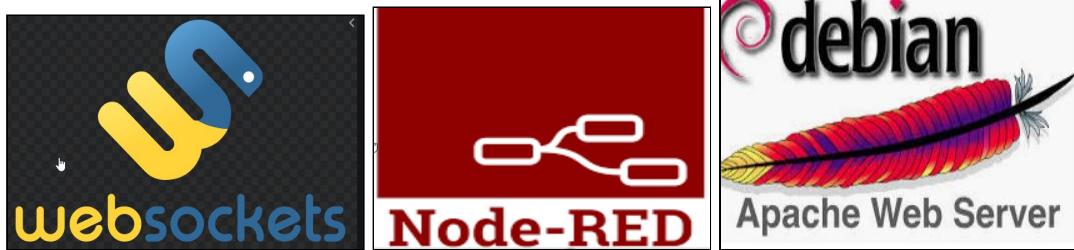


M015 Uf1 IoT

Web Sockets- Pràctica 28-02-2020



Curs: 2019-20

CFGS: DAM2

Alumne : Arnau Subirós Puigarnau

Data : 03-03-2020 -versió 3 (a partir de la pàgina 13)

EXTRA RASPBERRY PI (a partir de la pagina 23)

Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020

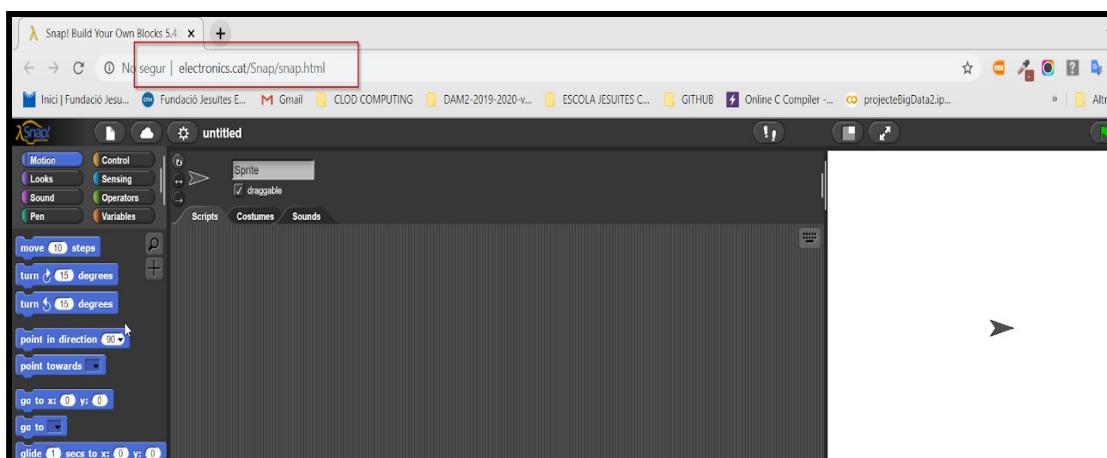
Sòcols Web-Pràctica 28-02-2020 -versio 2

Font consultada :

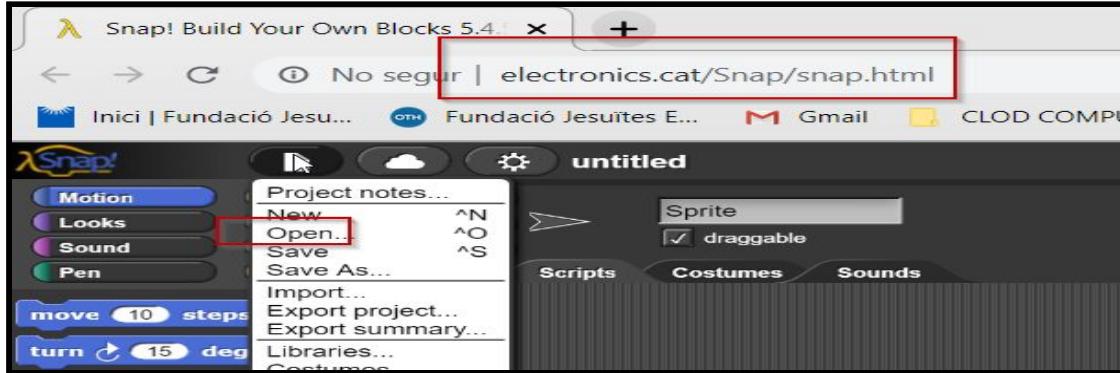
- <http://electronics.cat/Snap/snap.html>
- <https://test.mosquitto.org/>
- https://wiki.binefa.cat/index.php?title=MQTT_i_MOTTs
- <http://www.steves-internet-guide.com/mqtt-websockets/>
- <http://goochgooch.co.uk/2014/08/01/building-mosquitto-1-4/>
- <https://www.luisllamas.es/principales-broker-mqtt-open-source-para-proyectos-iot/>
- https://github.com/mqtt/mqtt.github.io/wiki/public_brokers

Fem proves desde l'entorn client , ja que hem accedit desde el navegador Chrome. El servidor no el tinc jo.

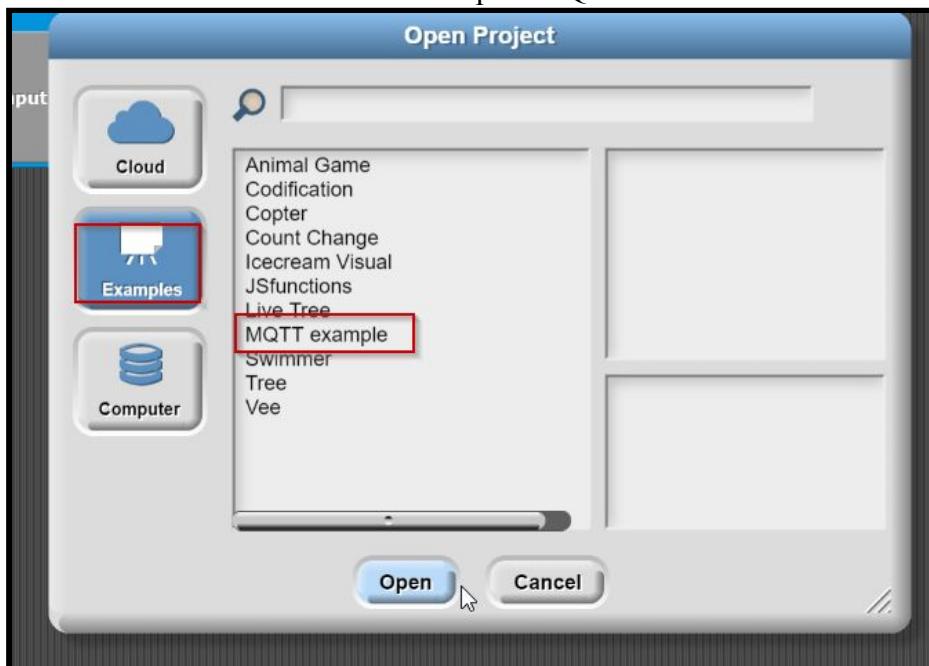
URL : <http://electronics.cat/Snap/snap.html>



Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020



- Accedim al directori de exemples MQTT

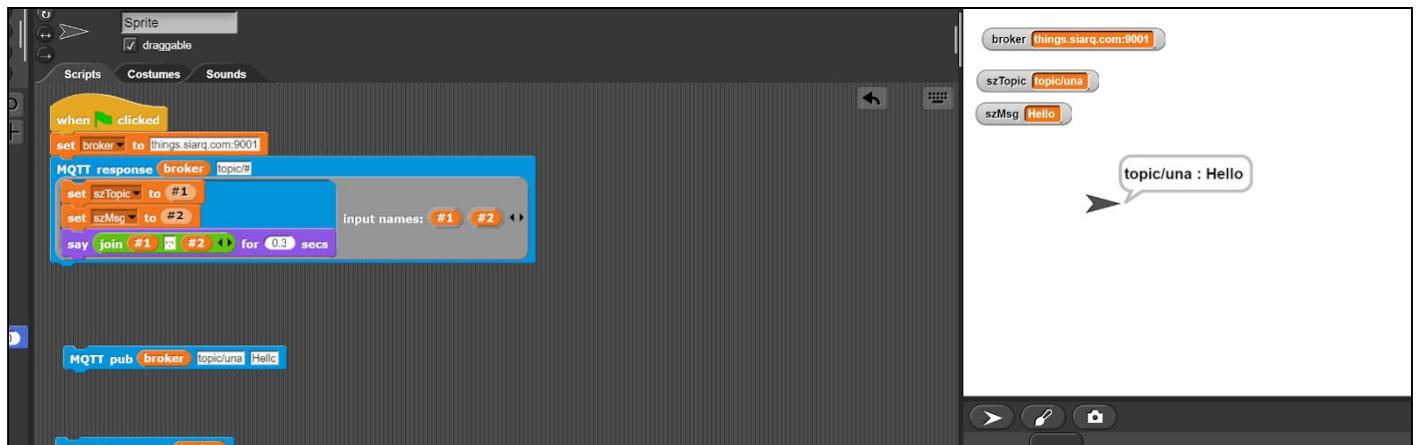
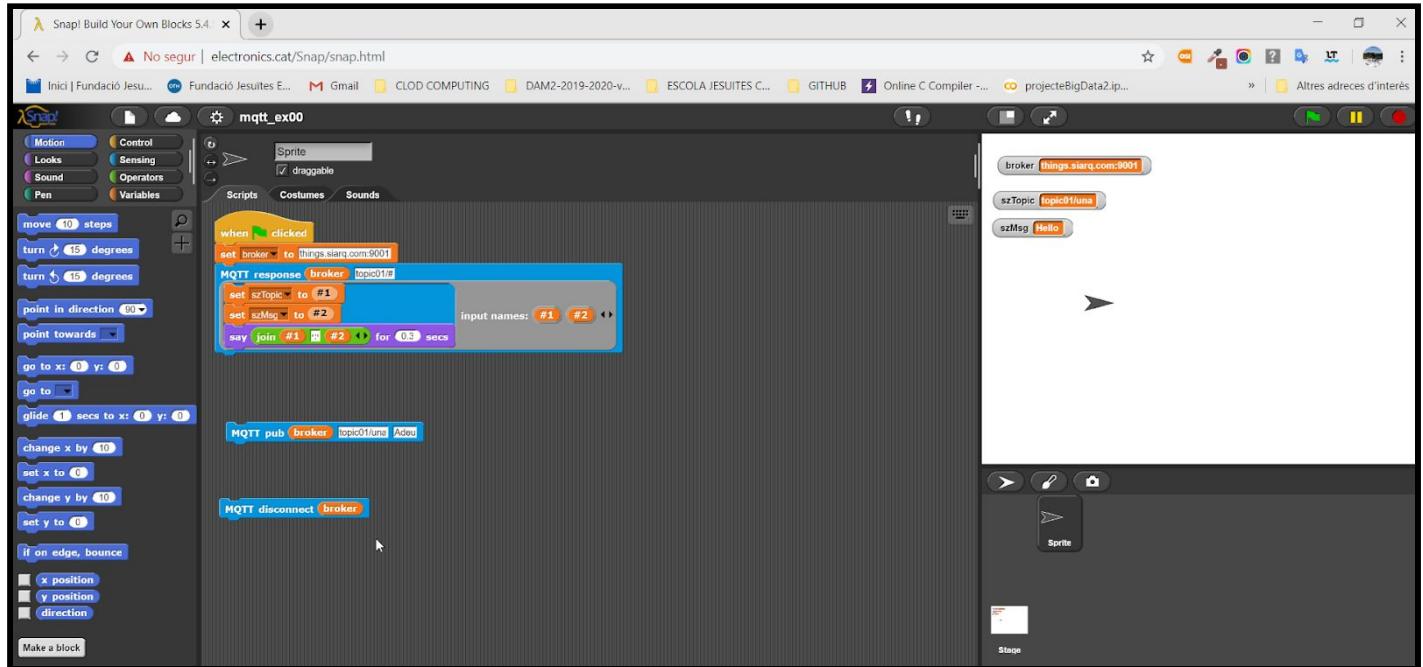


Nom i Cognoms

Arnau Subirós Puigarnau

Data

03-03-2020



- Revisem els ports per utilitzat MQTT sobre WebSockets en el broker :test.mosquitto.org/ (anteriorment utilitzàvem el port 1883)

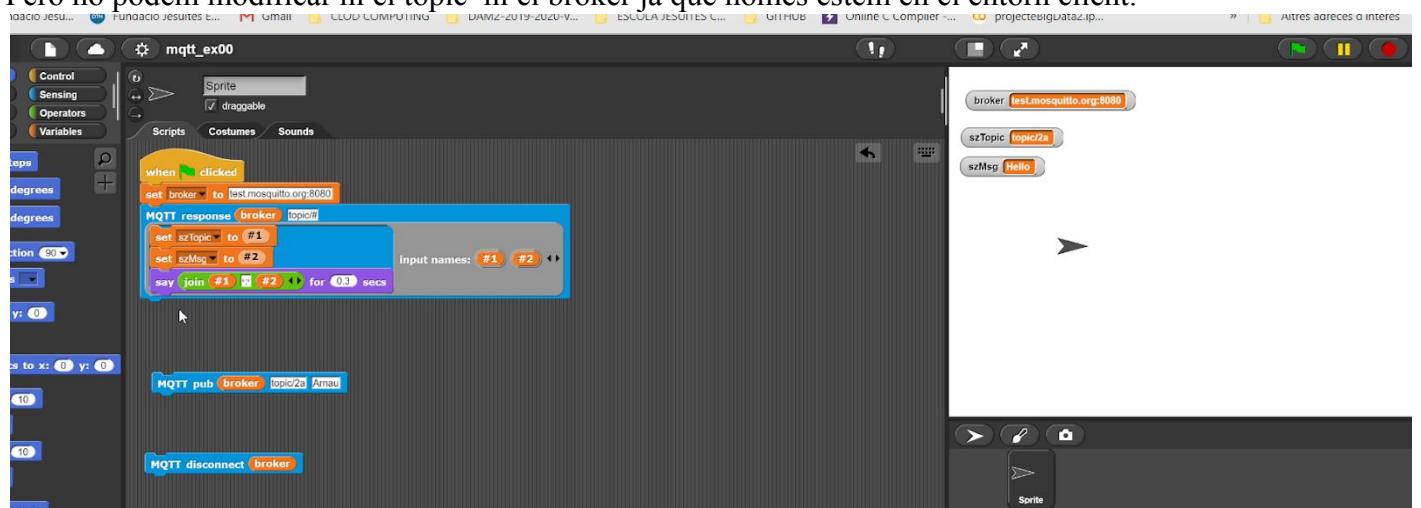
Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020

The server

The server listens on the following ports:

- 1883 : MQTT, unencrypted
- 8883 : MQTT, encrypted
- 8884 : MQTT, encrypted, client certificate required
- 8080 : MQTT over WebSockets, unencrypted
- 8081 : MQTT over WebSockets, encrypted

Pero no podem modificar ni el topic ni el broker ja que només estem en el entorn client.



Nom i Cognoms

Arnau Subirós Puigarnau

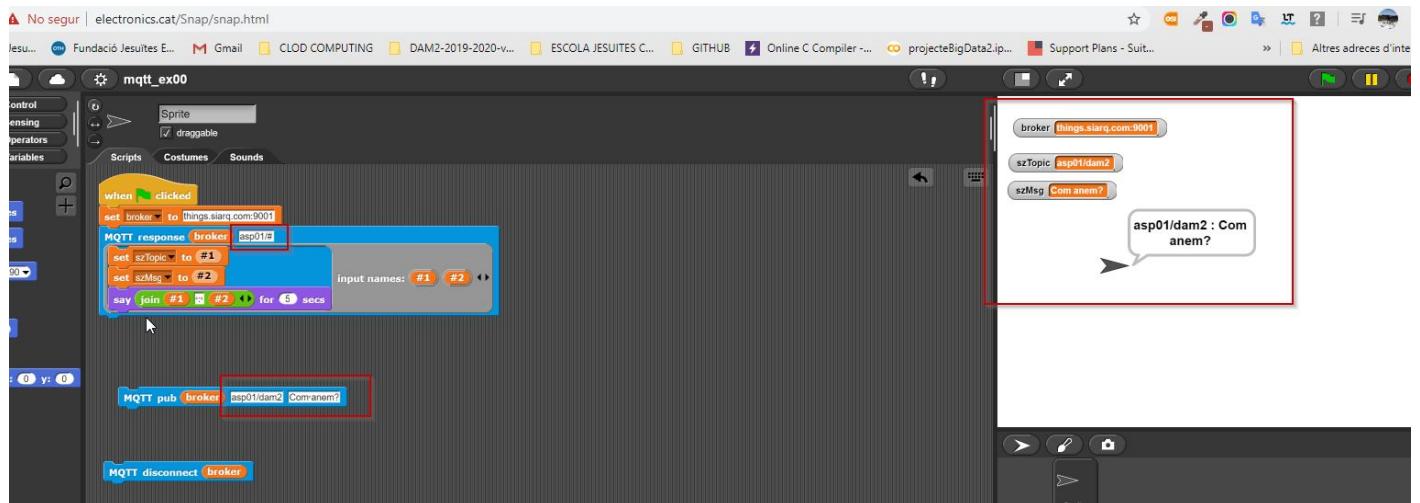
Data

03-03-2020

- Podem modificar el subtopic i el missatge

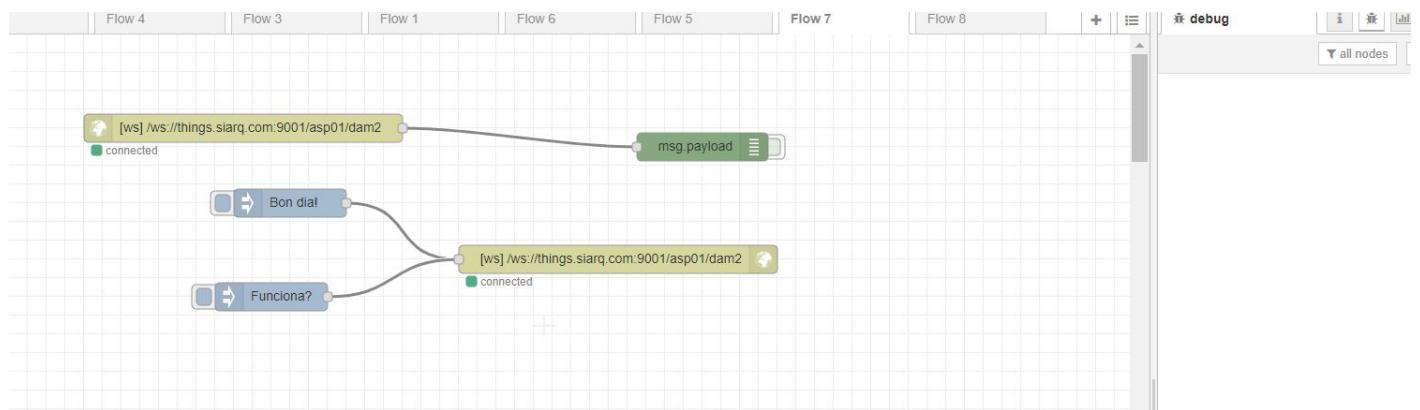


- Com que en intentar canviar el broker ,no s'actualitza els topics i no visualitzo el missatge en el Snap. De moment seguiré amb el mateix broker (només canviará el topic)



Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020

He creat un fluxe al Node-Red, confirmo que el estableix connexió amb el node de WS però per la pantalla de “debug no visualitzo cap missatge” I desde Snap tampoc revisant errors



Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020

VERSIO 2 - 03-03-2020

- Pel que heentès , s'ha de configurar el teu broker MQTT local per comunicar-te via WebSockets amb Snap (nosaltres només som el client). I desde Snap via MQTT ens comuniquem amb Node-Red, però encara no em funciona.



Debian-20191209-WebSockets-Clon (Captura 2- versio 02-3-2020 activar listener mosquitto.conf) [S'està executant] - Oracle VM VirtualBox

Fitxer Måquina Visualitzar Entrada Dispositius Ajuda

Aplicacions Llocs Sistema

Fitxer Edita Vista Cerca Terminal Ajuda

GNU nano 3.2

```
# Place your local configuration in /etc/mosquitto/conf.d/
#
# A full description of the configuration file is at
# /usr/share/doc/mosquitto/examples/mosquitto.conf.example

pid_file /var/run/mosquitto.pid
persistence true
persistence_location /var/lib/mosquitto/
log_dest file /var/log/mosquitto/mosquitto.log
include_dir /etc/mosquitto/conf.d

#####
### MQTT over Websockets#####
#####

#### Configuring Websockets on Mosquitto Broker

# MQTT over WEbsockets usually uses port 9001 but isn't fixed
listener 9001
protocol websockets

#####
```

Nom i Cognoms

Data

Arnau Subirós Puigarnau

03-03-2020

Debian-20191209-WebSockets-Clon (Captura 2- versio 02-3-2020 activar listener mosquitto.conf) [S'està executant] - Oracle VM VirtualBox

Fitxer Mànica Visualitza Entrada Dispositius Ajuda

Aplicacions Llocs Sistema

Fitxer Edita Vista Cerca Terminal Ajuda arsupu@asp-debian10: /etc/mosquitto

```
arsupu@asp-debian10:/etc/mosquitto$ sudo nano mosquitto.conf
[sudo] contrasenya per a arsupu:
arsupu@asp-debian10:/etc/mosquitto$ sudo nano mosquitto.conf
arsupu@asp-debian10:/etc/mosquitto$ sudo systemctl restart mosquitto.service
arsupu@asp-debian10:/etc/mosquitto$ sudo systemctl status mosquitto.service
● mosquitto.service - Mosquitto MQTT v3.1/v3.1.1 Broker
   Loaded: loaded (/lib/systemd/system/mosquitto.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2020-03-03 11:54:15 CET; 6s ago
     Docs: man:mosquitto.conf(5)
           man:mosquitto(8)
     Main PID: 17391 (mosquitto)
        Tasks: 1 (limit: 2347)
       Memory: 1.2M
      CGroup: /system.slice/mosquitto.service
              └─17391 /usr/sbin/mosquitto -c /etc/mosquitto/mosquitto.conf

de març 03 11:54:15 asp-debian10 systemd[1]: Starting Mosquitto MQTT v3.1/v3.1.1 Broker...
de març 03 11:54:15 asp-debian10 systemd[1]: Started Mosquitto MQTT v3.1/v3.1.1 Broker.
arsupu@asp-debian10:/etc/mosquitto$
```

Debian-20191209-WebSockets-Clon (Captura 2- versio 02-3-2020 activar listener mosquitto.conf) [S'està executant] - Oracle VM VirtualBox

Fitxer Mànica Visualitza Entrada Dispositius Ajuda

Aplicacions Llocs Sistema

Fitxer Edita Vista Cerca Terminal Ajuda arsupu@asp-debian10: /etc/mosquitto

```
arsupu@asp-debian10:/etc/mosquitto$ sudo netstat -atupn | grep mosquitto
tcp        0      0 0.0.0.0:9001          0.0.0.0:*                LISTEN      17391/mosquitto
arsupu@asp-debian10:/etc/mosquitto$
```

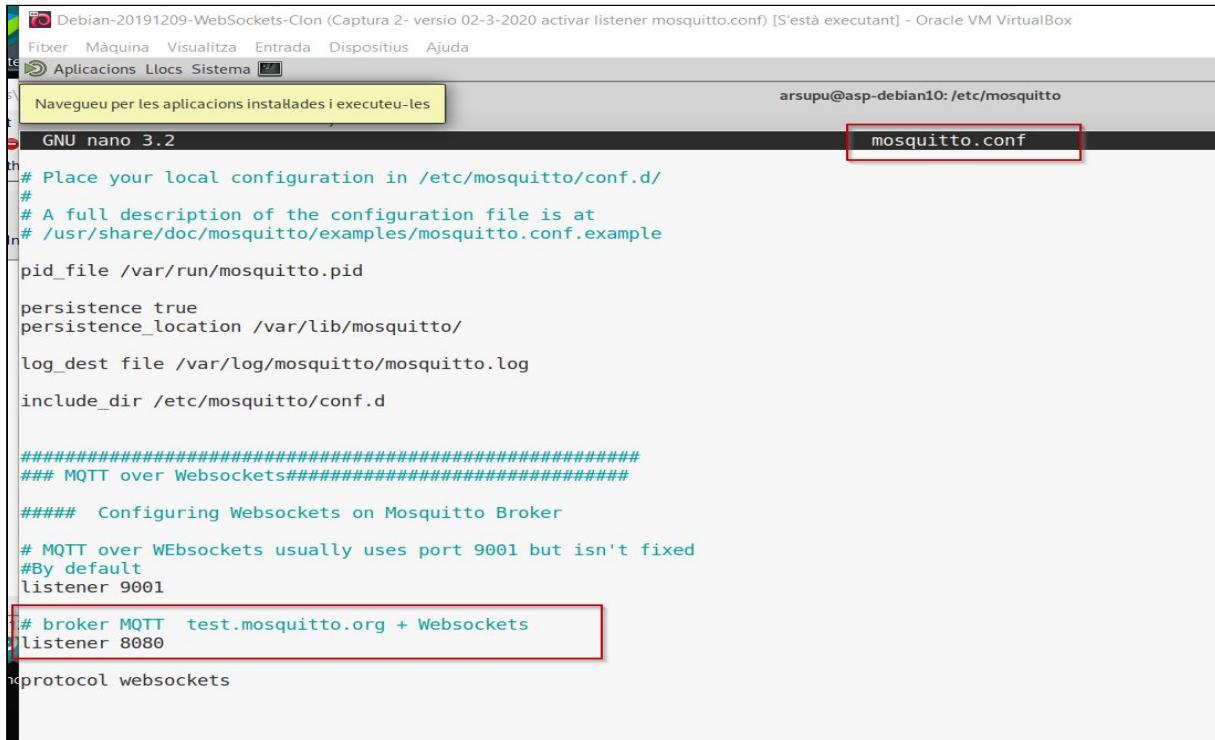
Nom i Cognoms

Arnau Subirós Puigarnau

Data

03-03-2020

field	value
address	test.mosquitto.org
port	1883 , 8883 (SSL), 8884 (SSL+Client certificate), 8080 (WebSockets), 8081 (WebSockets+SSL)
type	mosquitto
info	web page, topics and HTTP bridge



Debian-20191209-WebSockets-Clon (Captura 2- versio 02-3-2020 activar listener mosquitto.conf) [S'està executant] - Oracle VM VirtualBox

Fitxer Màquina Visualitzar Entrada Dispositius Ajuda

Aplicacions Llocs Sistema

Navegueu per les aplicacions instal·lades i executeu-les

arsupu@asp-debian10: /etc/mosquitto

GNU nano 3.2 mosquitto.conf

```
# Place your local configuration in /etc/mosquitto/conf.d/
#
# A full description of the configuration file is at
# /usr/share/doc/mosquitto/examples/mosquitto.conf.example

pid_file /var/run/mosquitto.pid
persistence true
persistence_location /var/lib/mosquitto/
log_dest file /var/log/mosquitto/mosquitto.log
include_dir /etc/mosquitto/conf.d

#####
### MQTT over Websockets#####

##### Configuring Websockets on Mosquitto Broker

# MQTT over WEbsockets usually uses port 9001 but isn't fixed
#By default
listener 9001

# broker MQTT test.mosquitto.org + Websockets
listener 8080

protocol websockets
```

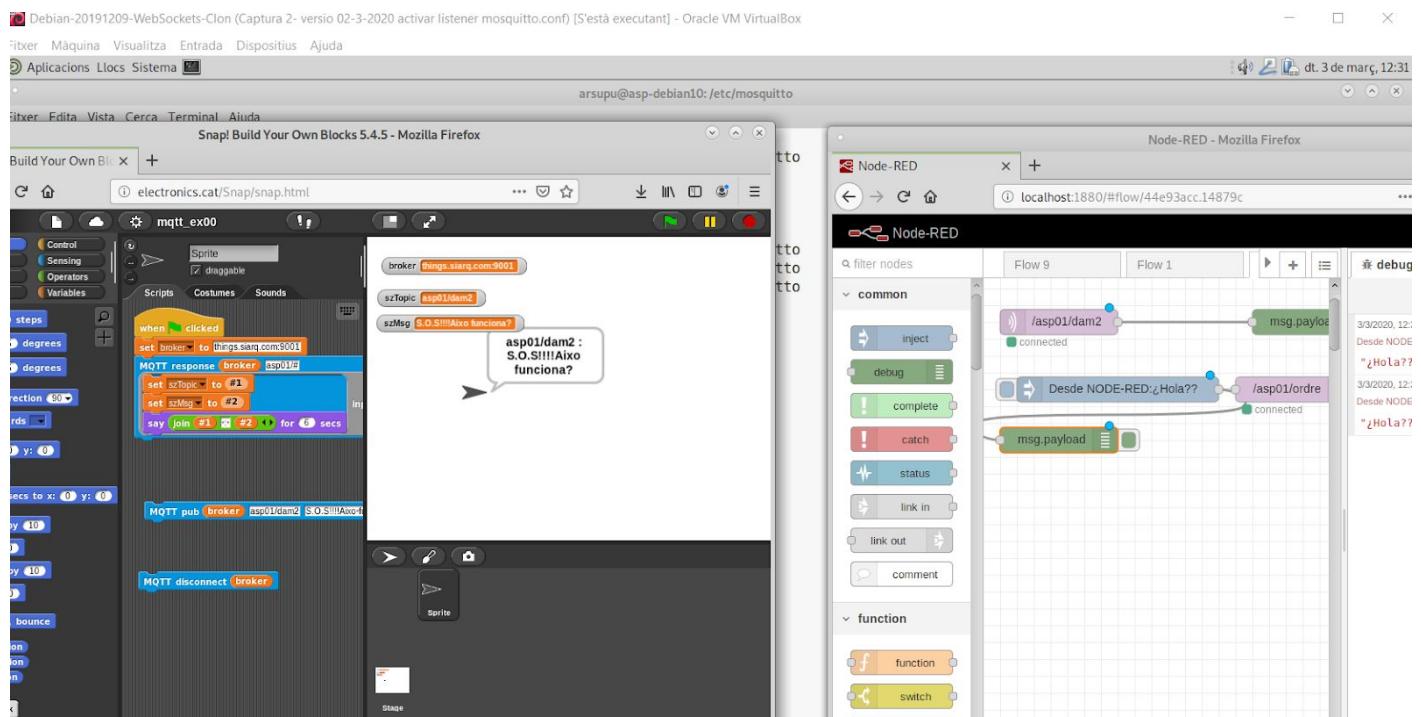
Nom i Cognoms

Arnau Subirós Puigarnau

Data

03-03-2020

```
Debian-20191209-WebSockets-Clon (Captura 2- versio 02-3-2020 activar listener mosquitto.conf) [S'està executant] - Oracle VM VirtualBox
Fitxer Måquina Visualitza Entrada Dispositius Ajuda
Aplicacions Llocs Sistema
Fitxer Edita Vista Cerca Terminal Ajuda
arsupu@asp-debian10:/etc/mosquitto
arsupu@asp-debian10:/etc/mosquitto$ sudo netstat -atupn | grep mosquitto
tcp        0      0 0.0.0.0:9001          0.0.0.0:*          LISTEN      17391/mosquitto
arsupu@asp-debian10:/etc/mosquitto$ sudo nano mosquitto.conf
[sudo] contrasenya per a arsupu:
arsupu@asp-debian10:/etc/mosquitto$ sudo systemctl restart mosquitto.service
arsupu@asp-debian10:/etc/mosquitto$ sudo netstat -atupn | grep mosquitto
tcp        0      0 0.0.0.0:9001          0.0.0.0:*          LISTEN      17639/mosquitto
tcp        0      0 0.0.0.0:8080          0.0.0.0:*          LISTEN      17639/mosquitto
tcp6       0      0 ::1:9001           ::*:*              LISTEN      17639/mosquitto
arsupu@asp-debian10:/etc/mosquitto$
```



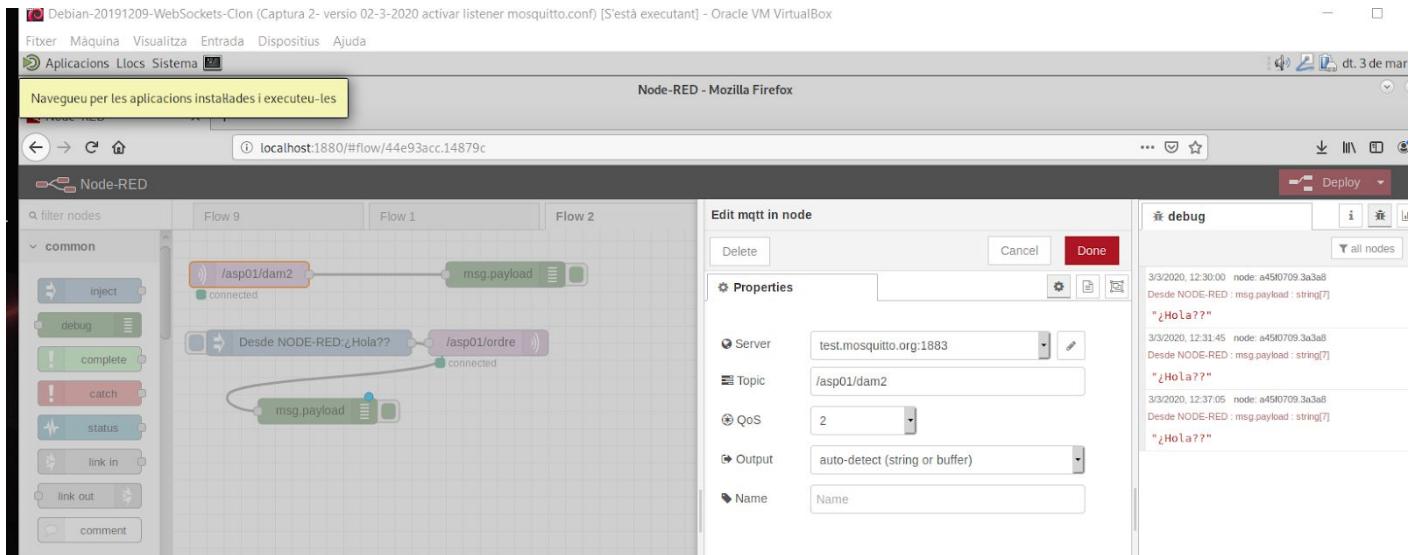
The screenshot displays two parallel projects. On the left, in a Mozilla Firefox window, is the 'Snap! Build Your Own Blocks' environment. A script titled 'mqtt_ex00' is running on a sprite named 'dam2'. The script starts with a 'when green flag clicked' hat, followed by a 'set broker to things.iotify.com:9001' block, an 'MQTT response broker' block, and a 'say' block with the message 'S.O.S!!!Aixo funciona?'. Below this, an 'MQTT pub' block sends a message to the topic '/asp01/dam2' with the payload 'S.O.S!!!Aixo funciona?'. Finally, an 'MQTT disconnect' block is present. On the right, in another Mozilla Firefox window, is the 'Node-RED' application. It shows a flow starting with an 'inject' node connected to a 'common' node. This is followed by a 'debug' node which logs the message 'msg.payload'. The flow then continues through a 'complete' node, a 'catch' node, a 'status' node, and ends with a 'link out' node. The Node-RED interface also includes a sidebar with various nodes like 'function' and 'switch'.

Nom i Cognoms

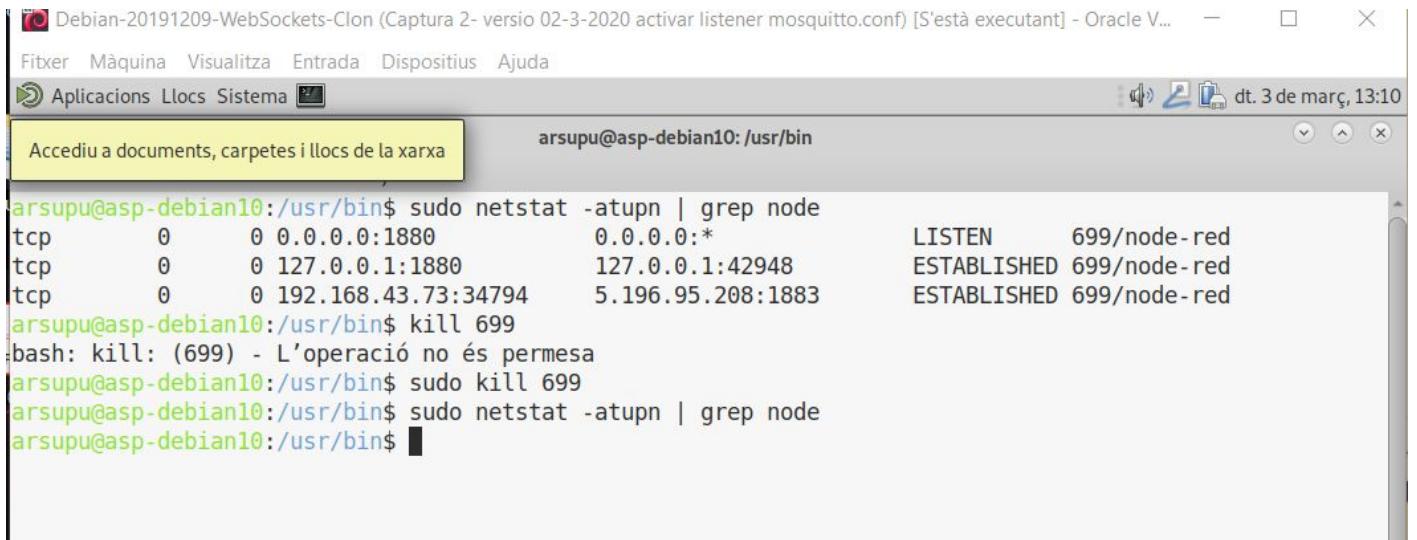
Arnau Subirós Puigarnau

Data

03-03-2020



- Com que el servidor Node-Red em dóna algun problema, reviso el PID eliminant els serveis i torno a revisar-ho, sense exit



The terminal window shows the user arsupu@asp-debian10 executing netstat -atupn | grep node to list network connections. It shows three connections to port 1880. The user then runs kill 699 to terminate a process with PID 699, receiving a permission denied message. Finally, netstat is run again to show the connection is no longer listed.

```

arsupu@asp-debian10:/usr/bin$ sudo netstat -atupn | grep node
tcp        0      0 0.0.0.0:1880          0.0.0.0:*              LISTEN      699/node-red
tcp        0      0 127.0.0.1:1880         127.0.0.1:42948       ESTABLISHED 699/node-red
tcp        0      0 192.168.43.73:34794   5.196.95.208:1883     ESTABLISHED 699/node-red
arsupu@asp-debian10:/usr/bin$ kill 699
bash: kill: (699) - L'operació no és permesa
arsupu@asp-debian10:/usr/bin$ sudo kill 699
arsupu@asp-debian10:/usr/bin$ sudo netstat -atupn | grep node
arsupu@asp-debian10:/usr/bin$ 

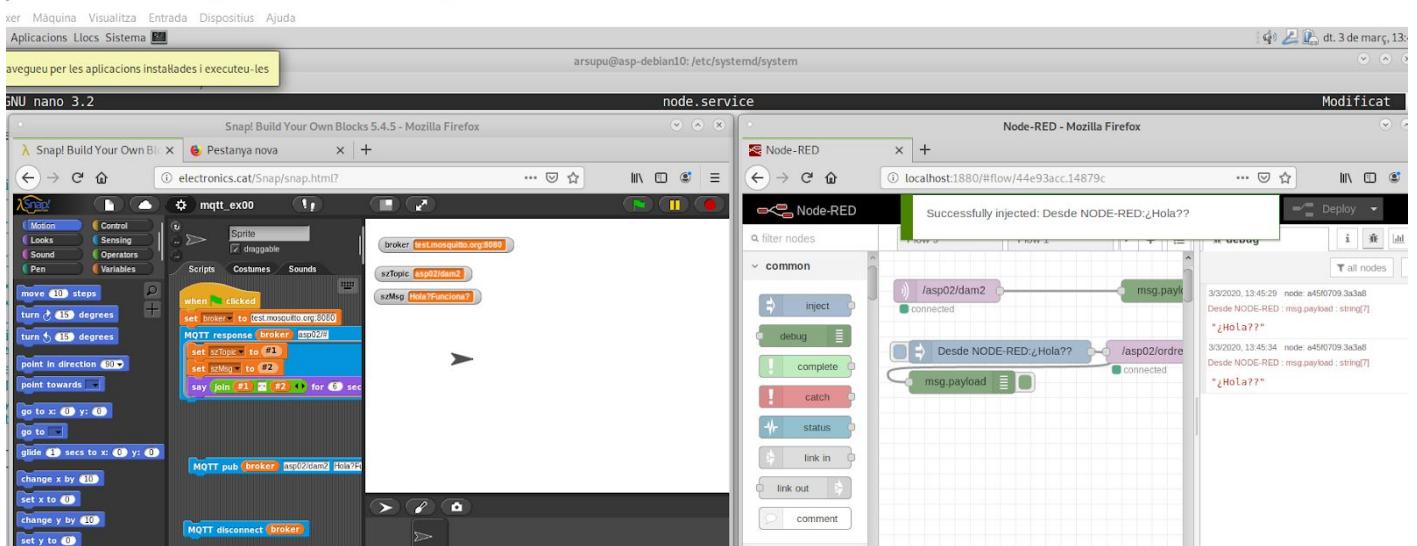
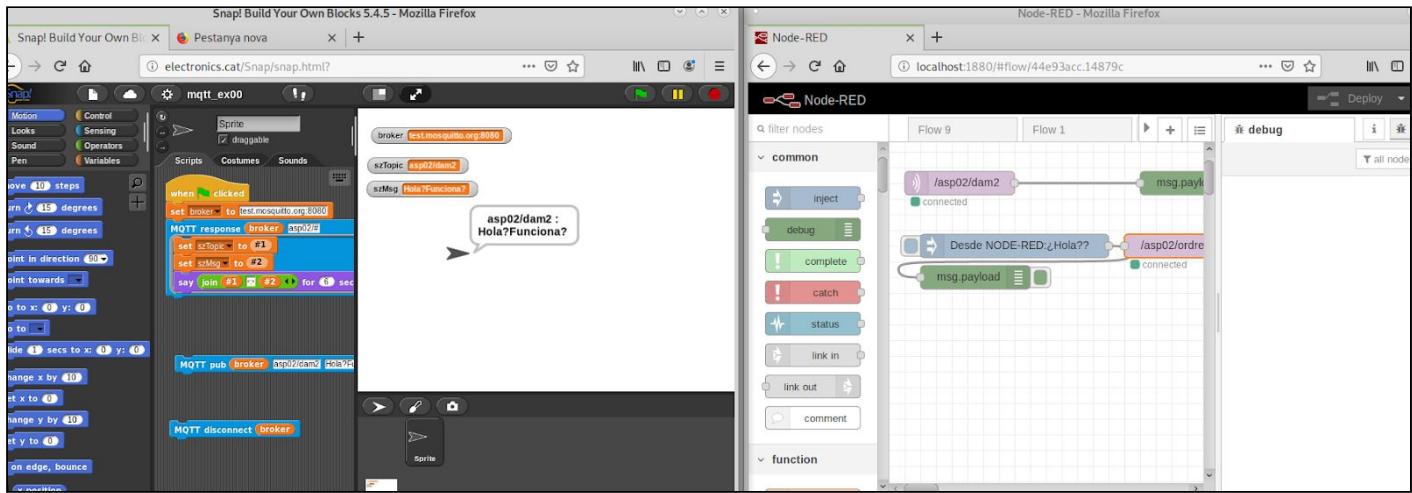
```

Nom i Cognoms

Arnau Subirós Puigarnau

Data

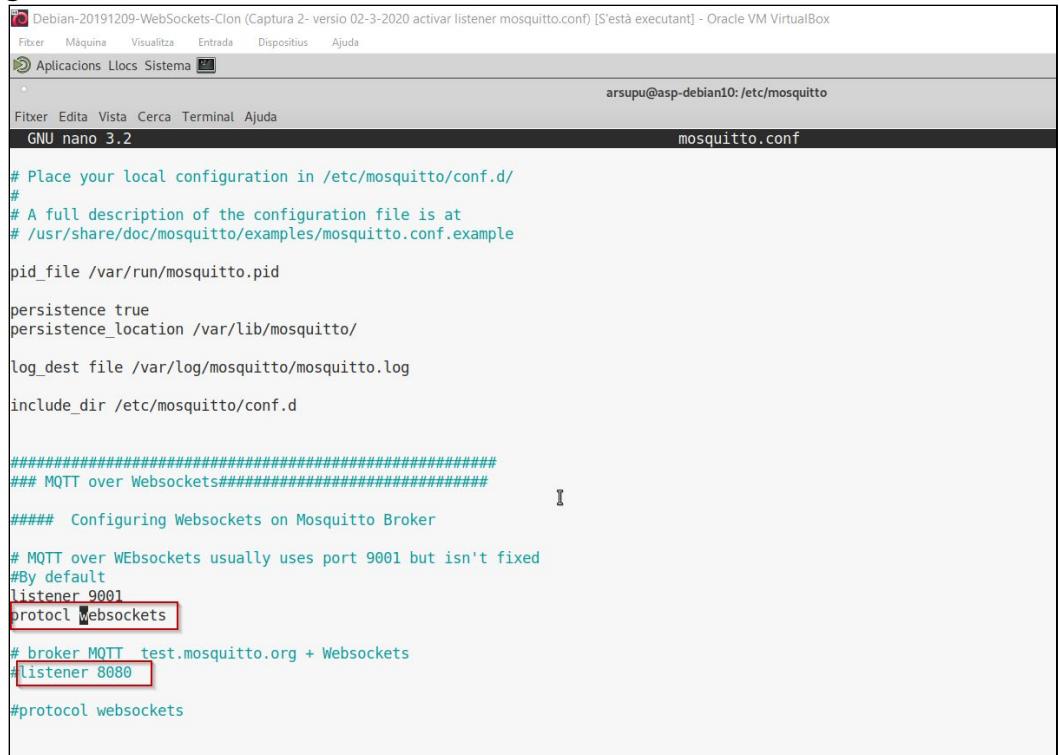
03-03-2020



Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020

VERSIO 3 - 03-03-2020

- Com que no em funciona torno a revisar els errors.
- Torno a l'arxiu de configuració del broker Mosquitto “mosquitto.conf”
 - com que havia afegit 2 listeners per provar, comentar el 8080 i faré servir el per defecte
 - guardo canvis i reinicio servidor



```

Debian-20191209-WebSockets-Clon (Captura 2- versio 02-3-2020 activar listener mosquitto.conf) [S'està executant] - Oracle VM VirtualBox
Fitxer M quina Visualitzar Entrada Dispositius Ajuda
Aplicacions Llocs Sistema
Fitxer Edita Vista Cerca Terminal Ajuda
GNU nano 3.2 mosquitto.conf
# Place your local configuration in /etc/mosquitto/conf.d/
#
# A full description of the configuration file is at
# /usr/share/doc/mosquitto/examples/mosquitto.conf.example
pid_file /var/run/mosquitto.pid
persistence true
persistence_location /var/lib/mosquitto/
log_dest file /var/log/mosquitto/mosquitto.log
include_dir /etc/mosquitto/conf.d

#####
### MQTT over Websockets#####
#####
##### Configuring Websockets on Mosquitto Broker
#####
# MQTT over WEbsockets usually uses port 9001 but isn't fixed
#By default
listener 9001
protocol Websockets
# broker MQTT test.mosquitto.org + Websockets
#listener 8080
#protocol websockets

```

Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020

Debian-20191209-WebSockets-Clon (Captura 2- versio 02-3-2020 activar listener mosquitto.conf) [S'està executant] - Oracle VM VirtualBox

Fitxer Màquina Visualitza Entrada Dispositius Ajuda

Aplicacions Llocs Sistema

Fitxer Edita Vista Cerca Terminal Ajuda arsupu@asp-debian10: /etc/mosquitto

```
arsupu@asp-debian10:~/etc/mosquitto$ sudo nano mosquitto.conf
arsupu@asp-debian10:~/etc/mosquitto$ sudo systemctl restart mosquitto.service
Job for mosquitto.service failed because the control process exited with error code.
See "systemctl status mosquitto.service" and "journalctl -xe" for details.
arsupu@asp-debian10:~/etc/mosquitto$
```

Debian-20191209-WebSockets-Clon (Captura 2- versio 02-3-2020 activar listener mosquitto.conf) [S'està executant] - Oracle VM VirtualBox

Fitxer Màquina Visualitza Entrada Dispositius Ajuda

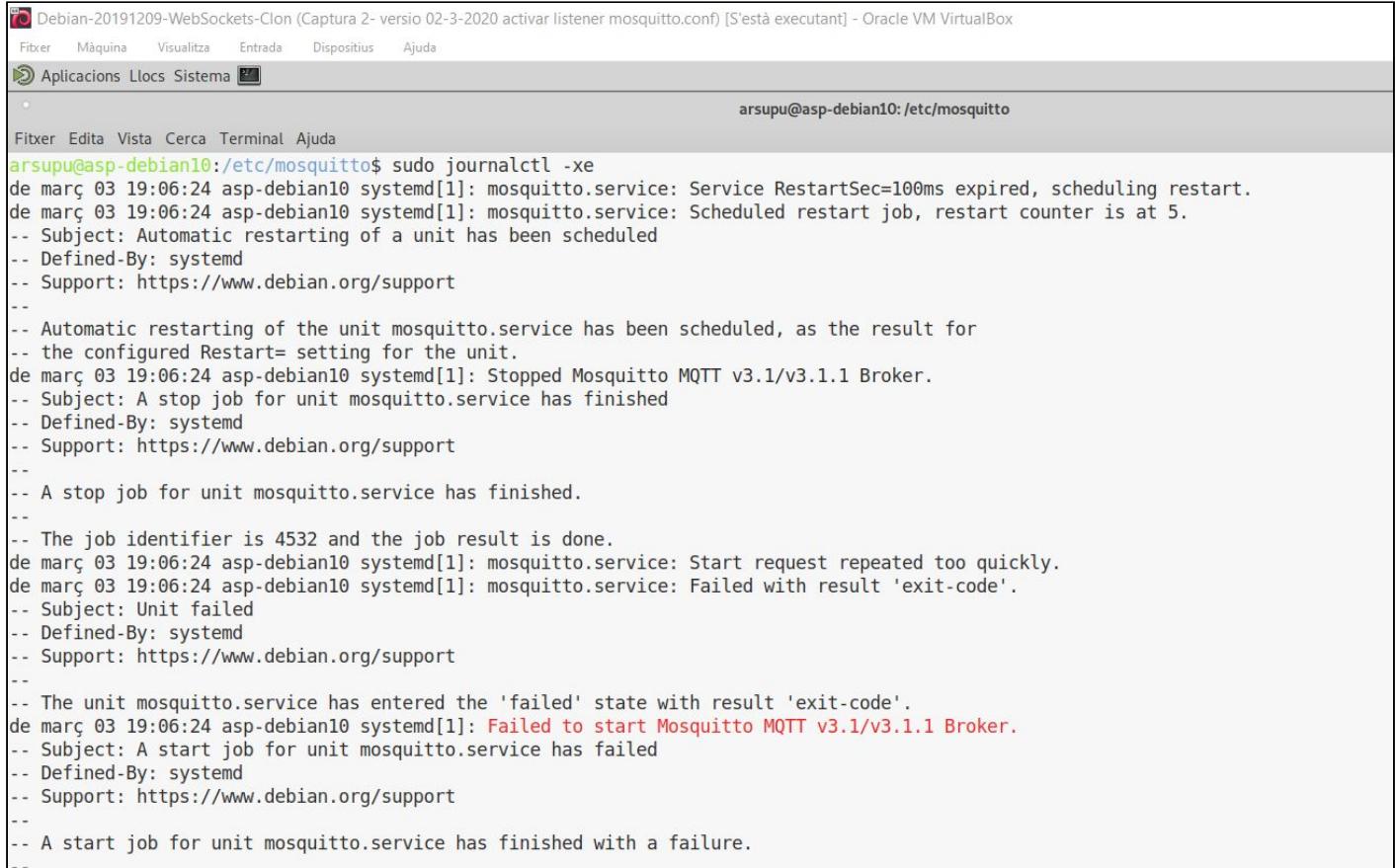
Aplicacions Llocs Sistema

Fitxer Edita Vista Cerca Terminal Ajuda arsupu@asp-debian10: /etc/mosquitto

```
arsupu@asp-debian10:~/etc/mosquitto$ sudo nano mosquitto.conf
arsupu@asp-debian10:~/etc/mosquitto$ sudo systemctl restart mosquitto.service
Job for mosquitto.service failed because the control process exited with error code.
See "systemctl status mosquitto.service" and "journalctl -xe" for details.
arsupu@asp-debian10:~/etc/mosquitto$ sudo systemctl status mosquitto.service
● mosquitto.service - Mosquitto MQTT v3.1/v3.1.1 Broker
  Loaded: loaded (/lib/systemd/system/mosquitto.service; enabled; vendor preset: enabled)
  Active: failed (Result: exit-code) since Tue 2020-03-03 19:06:24 CET; 31s ago
    Docs: man:mosquitto.conf(5)
           man:mosquitto(8)
   Process: 2539 ExecStart=/usr/sbin/mosquitto -c /etc/mosquitto/mosquitto.conf (code=exited, status=3)
 Main PID: 2539 (code=exited, status=3)

de març 03 19:06:24 asp-debian10 systemd[1]: mosquitto.service: Main process exited, code=exited, status=3/NOTIMPLEMENTED
de març 03 19:06:24 asp-debian10 systemd[1]: mosquitto.service: Failed with result 'exit-code'.
de març 03 19:06:24 asp-debian10 systemd[1]: Failed to start Mosquitto MQTT v3.1/v3.1.1 Broker.
de març 03 19:06:24 asp-debian10 systemd[1]: mosquitto.service: Service RestartSec=100ms expired, scheduling restart.
de març 03 19:06:24 asp-debian10 systemd[1]: mosquitto.service: Scheduled restart job, restart counter is at 5.
de març 03 19:06:24 asp-debian10 systemd[1]: Stopped Mosquitto MQTT v3.1/v3.1.1 Broker.
de març 03 19:06:24 asp-debian10 systemd[1]: mosquitto.service: Start request repeated too quickly.
de març 03 19:06:24 asp-debian10 systemd[1]: mosquitto.service: Failed with result 'exit-code'.
de març 03 19:06:24 asp-debian10 systemd[1]: Failed to start Mosquitto MQTT v3.1/v3.1.1 Broker.
arsupu@asp-debian10:~/etc/mosquitto$
```

Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020

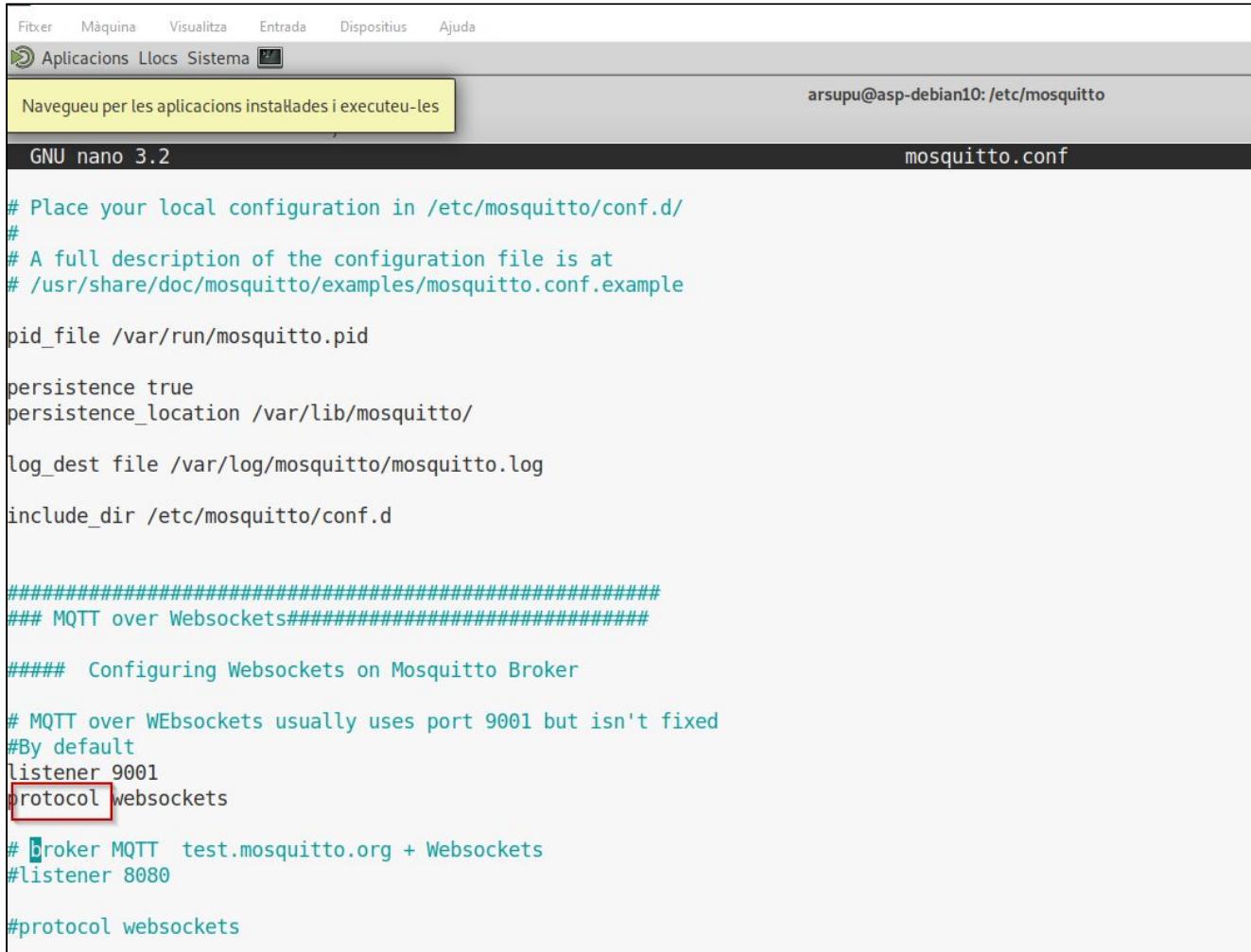


```

Debian-20191209-WebSockets-Clon (Captura 2- versio 02-3-2020 activar listener mosquitto.conf) [S'està executant] - Oracle VM VirtualBox
Fitxer MÀquina Visualitzar Entrada Dispositius Ajuda
Aplicacions Llocs Sistema
Fitxer Edita Vista Cerca Terminal Ajuda
arsupu@asp-debian10:/etc/mosquitto
arsupu@asp-debian10:/etc/mosquitto$ sudo journalctl -xe
de març 03 19:06:24 asp-debian10 systemd[1]: mosquitto.service: Service RestartSec=100ms expired, scheduling restart.
de març 03 19:06:24 asp-debian10 systemd[1]: mosquitto.service: Scheduled restart job, restart counter is at 5.
-- Subject: Automatic restarting of a unit has been scheduled
-- Defined-By: systemd
-- Support: https://www.debian.org/support
--
-- Automatic restarting of the unit mosquitto.service has been scheduled, as the result for
-- the configured Restart= setting for the unit.
de març 03 19:06:24 asp-debian10 systemd[1]: Stopped Mosquitto MQTT v3.1/v3.1.1 Broker.
-- Subject: A stop job for unit mosquitto.service has finished
-- Defined-By: systemd
-- Support: https://www.debian.org/support
--
-- A stop job for unit mosquitto.service has finished.
--
-- The job identifier is 4532 and the job result is done.
de març 03 19:06:24 asp-debian10 systemd[1]: mosquitto.service: Start request repeated too quickly.
de març 03 19:06:24 asp-debian10 systemd[1]: mosquitto.service: Failed with result 'exit-code'.
-- Subject: Unit failed
-- Defined-By: systemd
-- Support: https://www.debian.org/support
--
-- The unit mosquitto.service has entered the 'failed' state with result 'exit-code'.
de març 03 19:06:24 asp-debian10 systemd[1]: Failed to start Mosquitto MQTT v3.1/v3.1.1 Broker.
-- Subject: A start job for unit mosquitto.service has failed
-- Defined-By: systemd
-- Support: https://www.debian.org/support
--
-- A start job for unit mosquitto.service has finished with a failure.
--
```

- Com que abans em funcionava i no m'especifica cap línia concreta, torno a l'arxiu de configuració i reviso les línies que he modificat i m'adono que hi havia un error tipogràfic.
- Guardo els canvis, reinicio el servidor i torno a revisar el seu estat

Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020



```

Fitxer Màquina Visualitza Entrada Dispositius Ajuda
Aplicacions Llocs Sistema
Navegueu per les aplicacions instal·lades i executeu-les arsupu@asp-debian10: /etc/mosquitto
GNU nano 3.2 mosquito.conf

# Place your local configuration in /etc/mosquitto/conf.d/
#
# A full description of the configuration file is at
# /usr/share/doc/mosquitto/examples/mosquitto.conf.example

pid_file /var/run/mosquitto.pid

persistence true
persistence_location /var/lib/mosquitto/

log_dest file /var/log/mosquitto/mosquitto.log

include_dir /etc/mosquitto/conf.d

#####
### MQTT over Websockets#####

##### Configuring Websockets on Mosquitto Broker

# MQTT over WEbsockets usually uses port 9001 but isn't fixed
#By default
listener 9001
protocol websockets

# broker MQTT test.mosquitto.org + Websockets
#listener 8080

#protocol websockets

```

Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020

Debian-20191209-WebSockets-Clon (Captura 2- versio 02-3-2020 activar listener mosquitto.conf) [S'està executant] - Oracle VM VirtualBox

Fitxer Mànquina Visualitza Entrada Dispositius Ajuda

Aplicacions Llocs Sistema

Fitxer Edita Vista Cerca Terminal Ajuda arsupu@asp-debian10: /etc/mosquitto

```
arsupu@asp-debian10:~/etc/mosquitto$ sudo nano mosquitto.conf
arsupu@asp-debian10:~/etc/mosquitto$ sudo systemctl restart mosquitto.service
arsupu@asp-debian10:~/etc/mosquitto$ sudo systemctl status mosquitto.service
● mosquitto.service - Mosquitto MQTT v3.1/v3.1.1 Broker
   Loaded: loaded (/lib/systemd/system/mosquitto.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2020-03-03 19:10:57 CET; 3s ago
     Docs: man:mosquitto.conf(5)
           man:mosquitto(8)
     Main PID: 2571 (mosquitto)
        Tasks: 1 (limit: 2347)
       Memory: 1.1M
      CGroup: /system.slice/mosquitto.service
              └─2571 /usr/sbin/mosquitto -c /etc/mosquitto/mosquitto.conf

març 03 19:10:57 asp-debian10 systemd[1]: Starting Mosquitto MQTT v3.1/v3.1.1 Broker...
març 03 19:10:57 asp-debian10 systemd[1]: Started Mosquitto MQTT v3.1/v3.1.1 Broker.
arsupu@asp-debian10:~/etc/mosquitto$
```

Nom i Cognoms

Arnau Subirós Puigarnau

Data

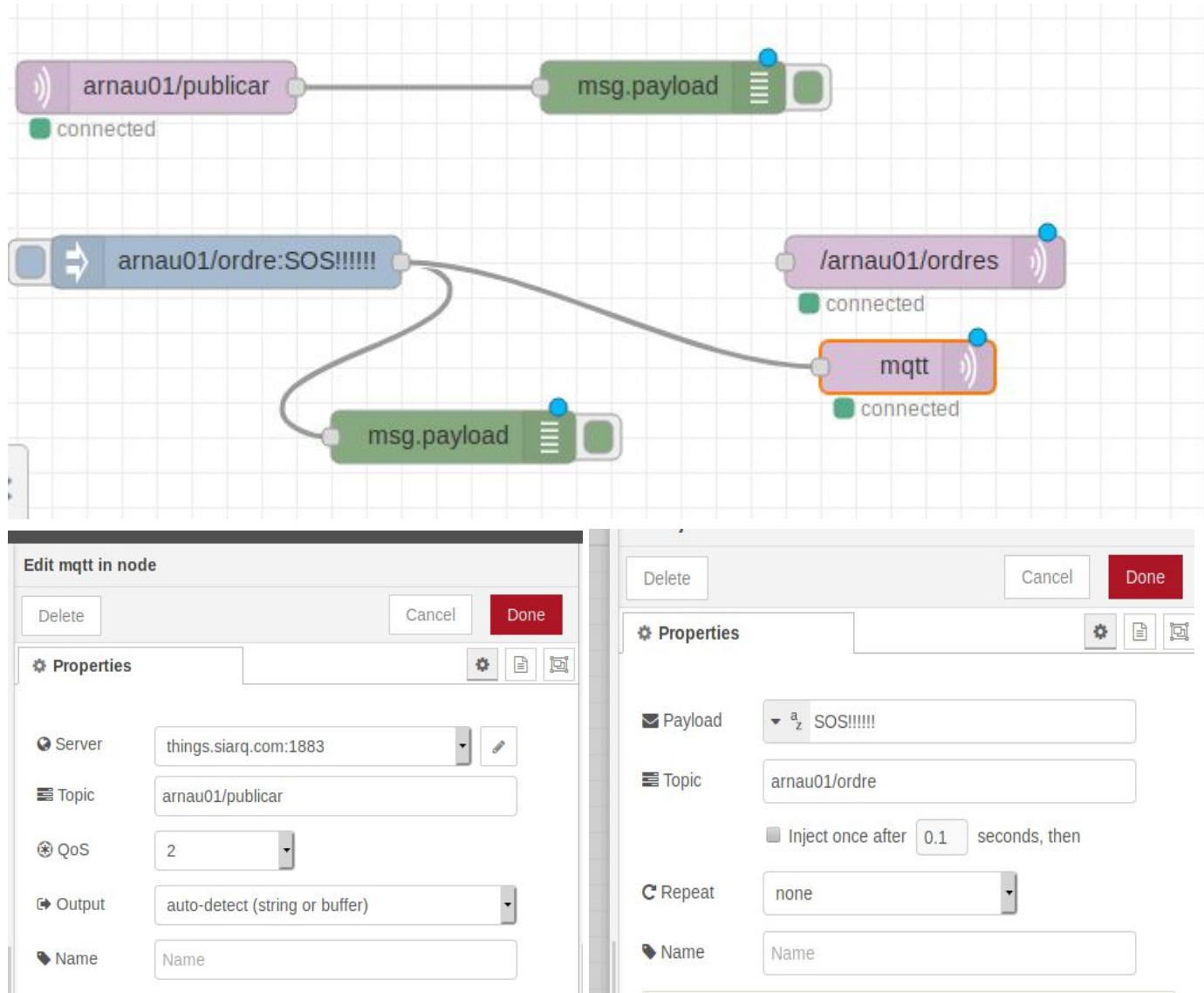
03-03-2020

- Tornem accedir a <http://electronics.cat/Snap>
- Farem servir el broker MQTT : things.siarq.com:9001
- MQTT Topic : arnau01/#
- MQTT Publicador : **arnau01/publicar**
- Missatge: Hola?



Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020

- Desde el Node-RED fem modificaciones del fluxe anterior

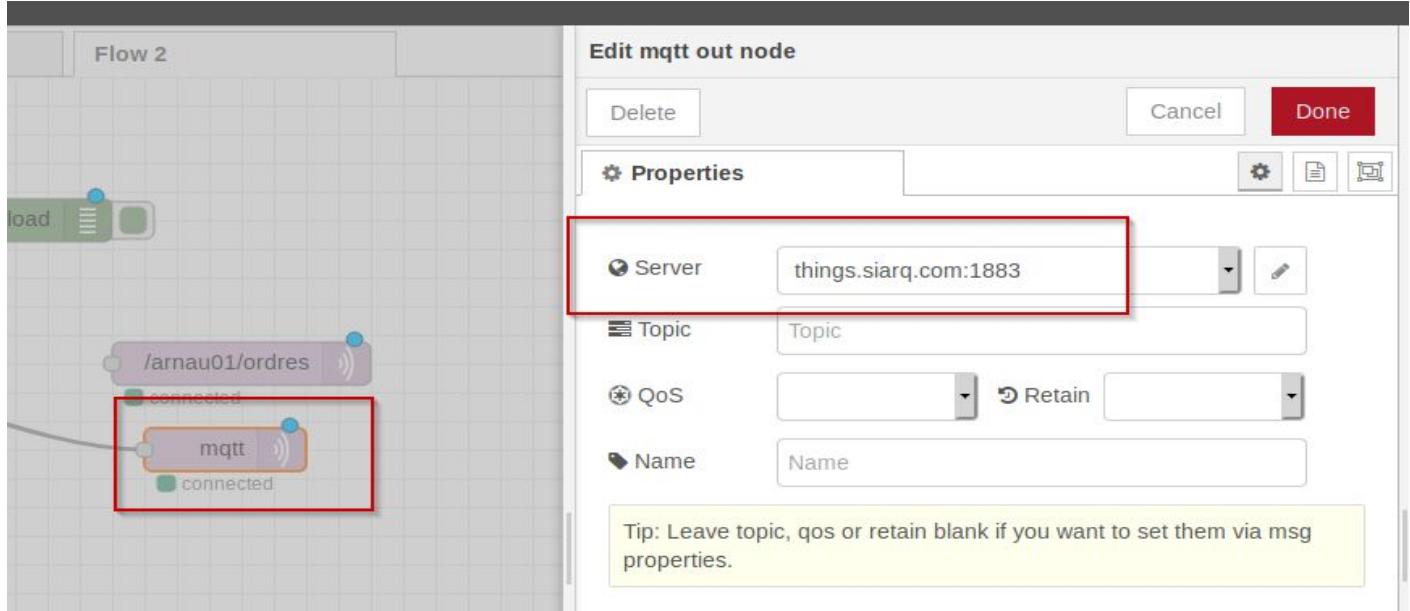


Nom i Cognoms

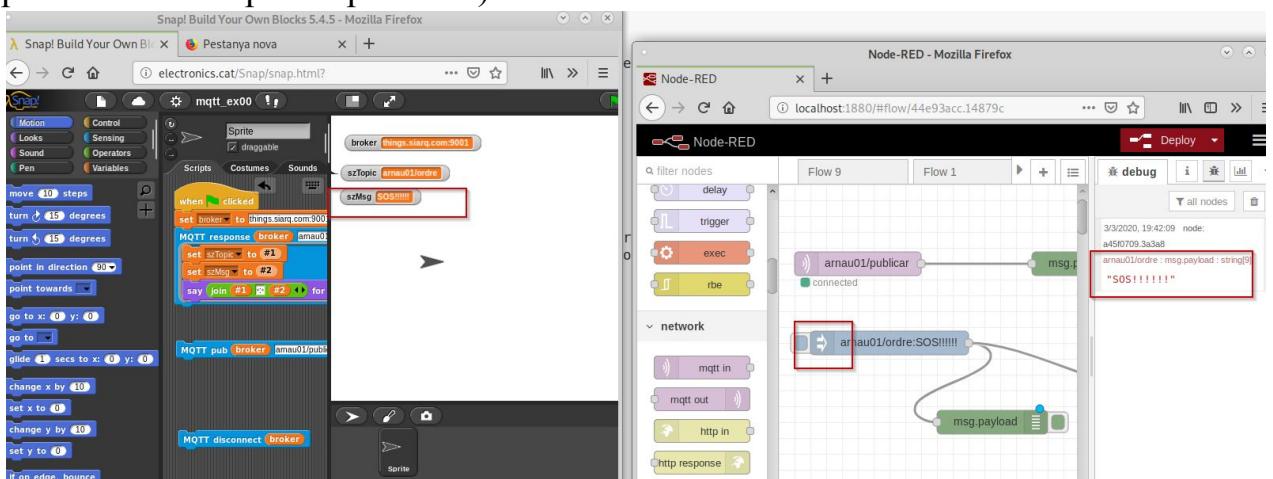
Arnau Subirós Puigarnau

Data

03-03-2020



- Injecto el string SOS desde Node-RED i ho visualitzo desde Snap (el missatge es veu pero no tinc temps a capturar-lo)



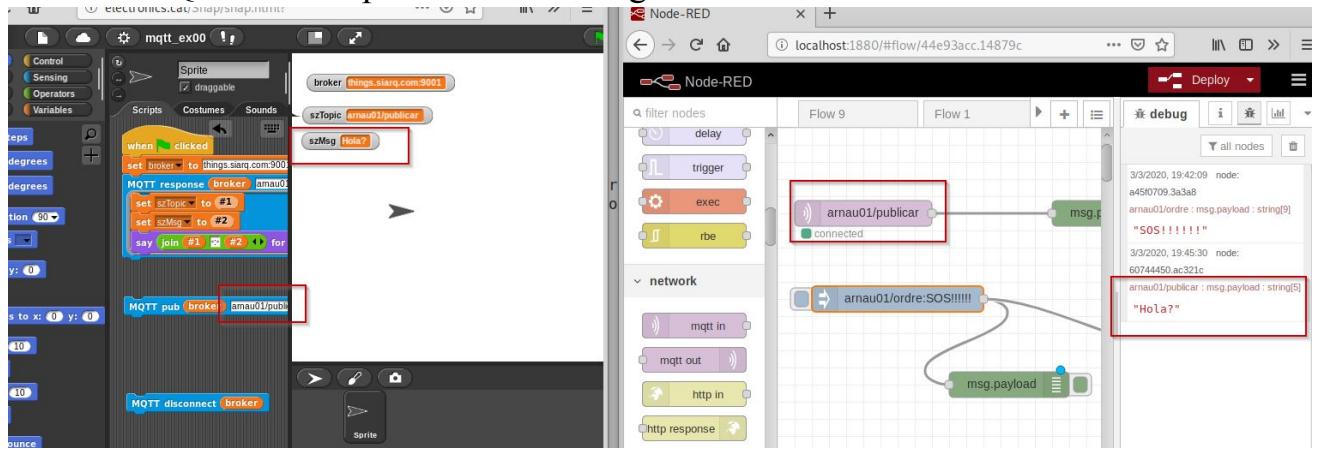
Nom i Cognoms

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Data

03-03-2020

- Ara desde Snap utilitzant MQT publicador envio el missatge Hola? i desde Node-Red utiitzant MQTT Subscriptor rebo el missatge



Nom i Cognoms

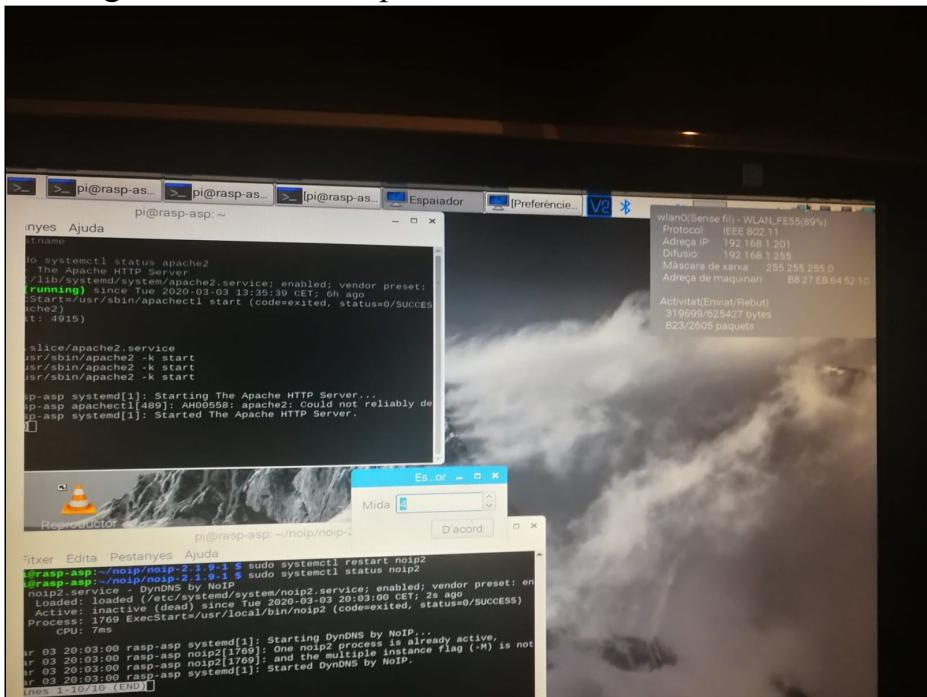
Arnau Subirós Puigarnau

Data

03-03-2020

EXTRA - RASPBERRY PI

- Encenc la Raspberry-Pi pero reviso que la IP estàtica s'ha modificat (192.168.1.200), ho reviso i la actualitzo a 192.168.1.201.
 - M'obliga a modificar els paràmetres al router



MIS PUERTOS

Modifica o elimina tus puertos.

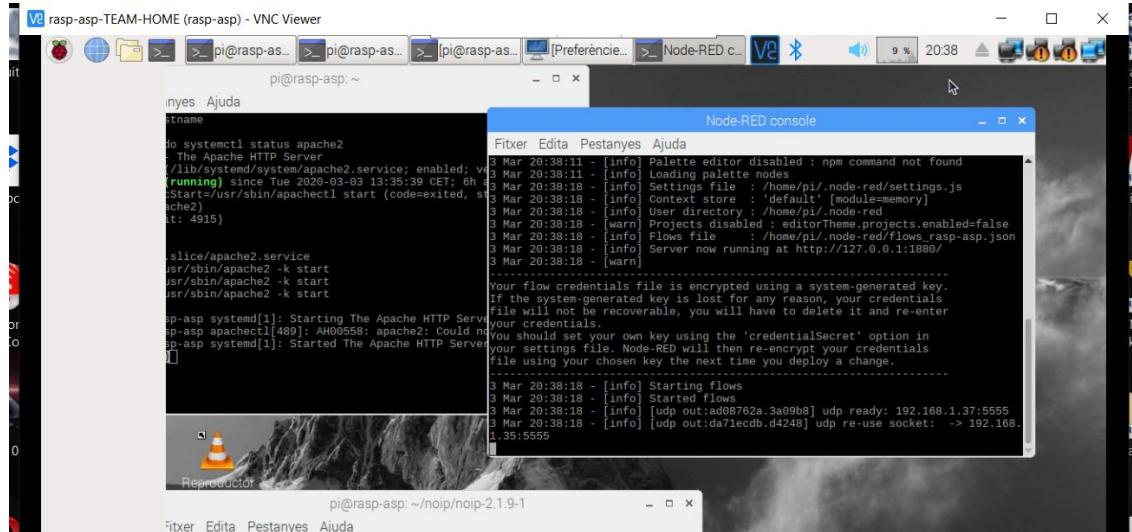
	Nombre	Dirección IP	Protocolo	Interno Inicio	Interno Fin	Externo Inicio	Externo Fin
<input type="checkbox"/>	Puerto 3	192.168.1.201	TCP	3000	3000	3000	3000
<input type="checkbox"/>	Puerto 4	192.168.1.201	TCP	80	80	80	80
<input type="checkbox"/>	Puerto 5	192.168.1.201	TCP+UDP	1880	1880	1880	1880
<input type="checkbox"/>	Puerto 6	192.168.1.201	TCP	1883	1883	1883	1883
<input type="checkbox"/>	Puerto 7	192.168.1.201	TCP	9000	9000	9000	9000

Nom i Cognoms

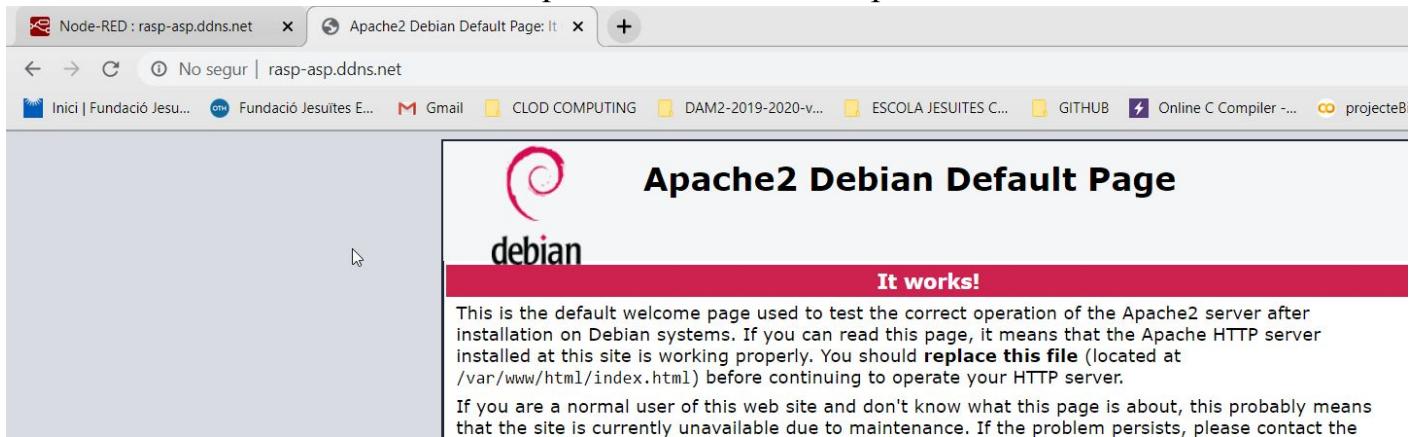
Arnau Subirós Puigarnau

Data

03-03-2020

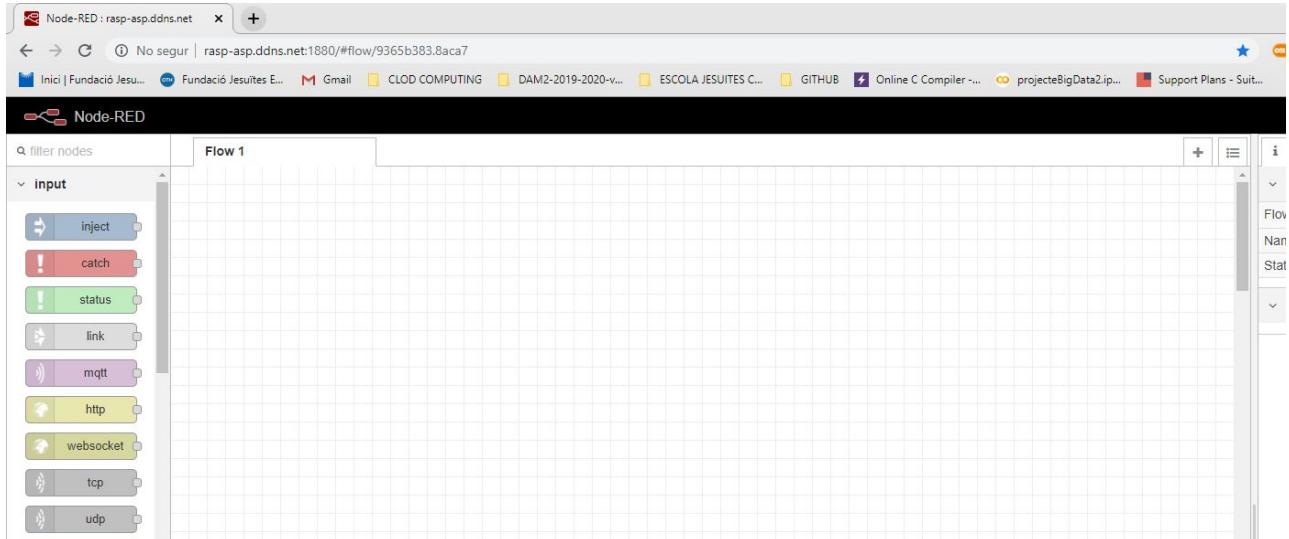


- Ara estic a casa però utilitzant DDNS dinàmic (em funcionaria igual si estiges a qualsevol lloc, amb una xarxa diferent) escric el hostname complet de la Raspberry Pi (rasp-asp.ddns.net) i confirmo que el servidor web Apache funciona



- Accedim al Node-Red (port 1880)
 - Cambiarem els topics de publicar i subscriure

Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020



NOTA : Per evitar confusions. Estic executant Snap desde la Maquina Virtual(Debian 10) i desde Windows 10 utilitzo el navegador per accedir al Node-Red de la Raspberry-Pi (hostname complet i els ports oberts)

 Debian-20191209-WebSockets-Clon (Captura 2- versio 02-3-2020 activar listener mc

Fitxer MÀquina Visualitza Entrada Dispositius Ajuda

Aplicacions Llocs Sistema

Navegueu per les aplicacions instal·lades i executeu-les

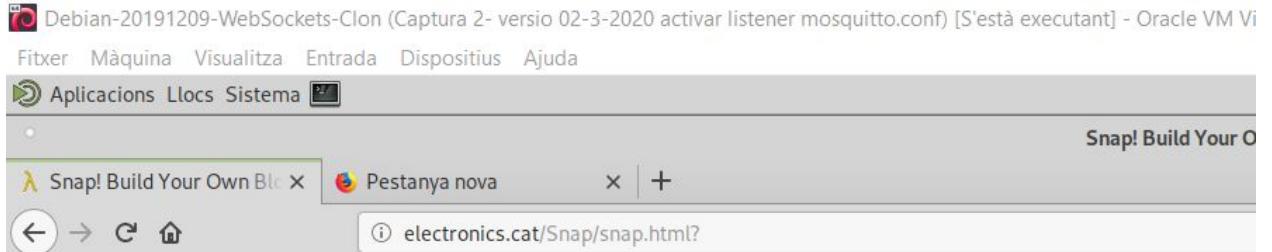
```
arsupu@asp-debian10:~$ lsb_release -a
No LSB modules are available.
Distributor ID: Debian
Description:    Debian GNU/Linux 10 (buster)
Release:        10
Codename:      buster
arsupu@asp-debian10:~$
```

Nom i Cognoms

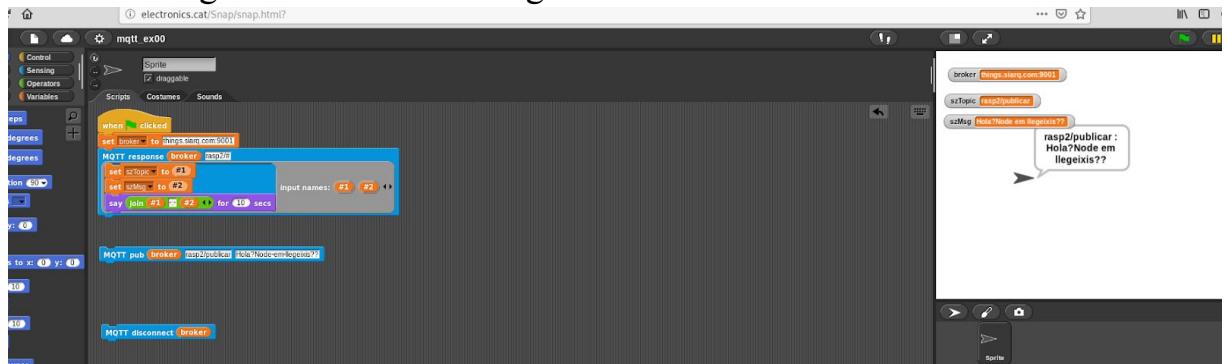
Arnau Subirós Puigarnau

Data

03-03-2020



- Tornem accedir a <http://electronics.cat/Snap>
- Farem servir el broker MQTT : things.siarq.com:9001
- MQTT Topic : rasp2/#
 - MQTT Publicador : **rasp2/publicar**
 - Missatge: Hola?Node em llegeixis?



Nom i Cognoms	Data
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- Desde el navegador Chrome de Windows estic accedint a rasp-asp.ddns.net:1880 . (Realment posant la IP accediria ja que ara estic a la mateixa xarxa, pero realment si ens imaginem que estic a un altre lloc(xarxa diferent) podria accedir igual (ja que els ports que m'interessen estan oberts per aquesta IP concreta). Com es pot observar fent un ping , m'està donant la IP publica (no la IP privada)

```

Indicador d'ordres
Microsoft Windows [Versión 10.0.18363.657]
(c) 2019 Microsoft Corporation. Todos los derechos reservados.

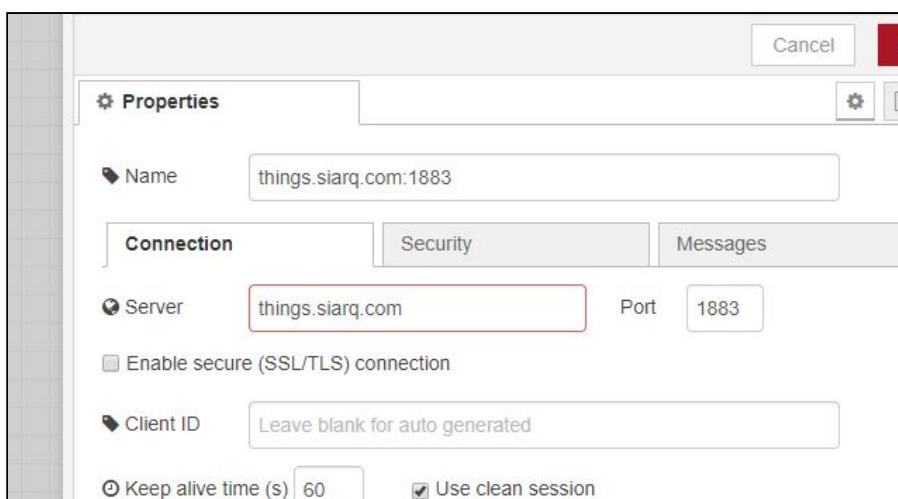
C:\Users\arnau>ping rasp-asp.ddns.net

Haciendo ping a rasp-asp.ddns.net [79.158.149.178] con 32 bytes de datos:
Respuesta desde 79.158.149.178: bytes=32 tiempo=2ms TTL=64
Respuesta desde 79.158.149.178: bytes=32 tiempo=1ms TTL=64
Respuesta desde 79.158.149.178: bytes=32 tiempo=1ms TTL=64
Respuesta desde 79.158.149.178: bytes=32 tiempo=1ms TTL=64

Estadísticas de ping para 79.158.149.178:
    Paquetes: enviados = 4, recibidos = 4, perdidos = 0
              (0% perdidos),
    Tiempos aproximados de ida y vuelta en milisegundos:
        Mínimo = 1ms, Máximo = 2ms, Media = 1ms

C:\Users\arnau>

```

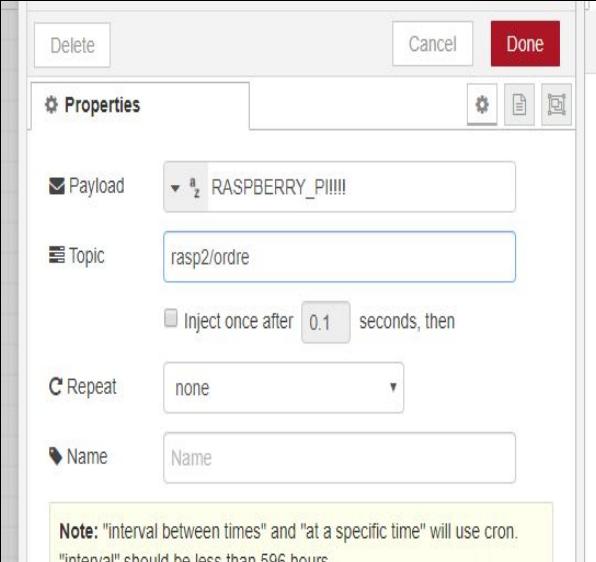


Nom i Cognoms

Arnau Subirós Puigarnau

Data

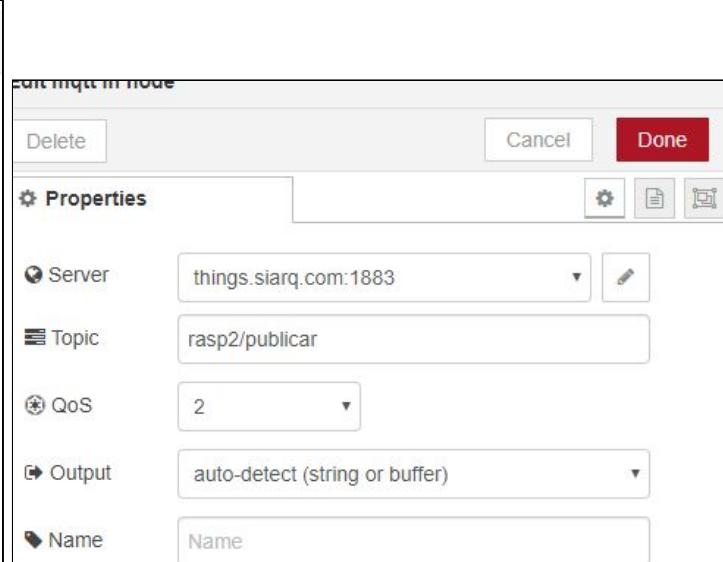
03-03-2020



Properties

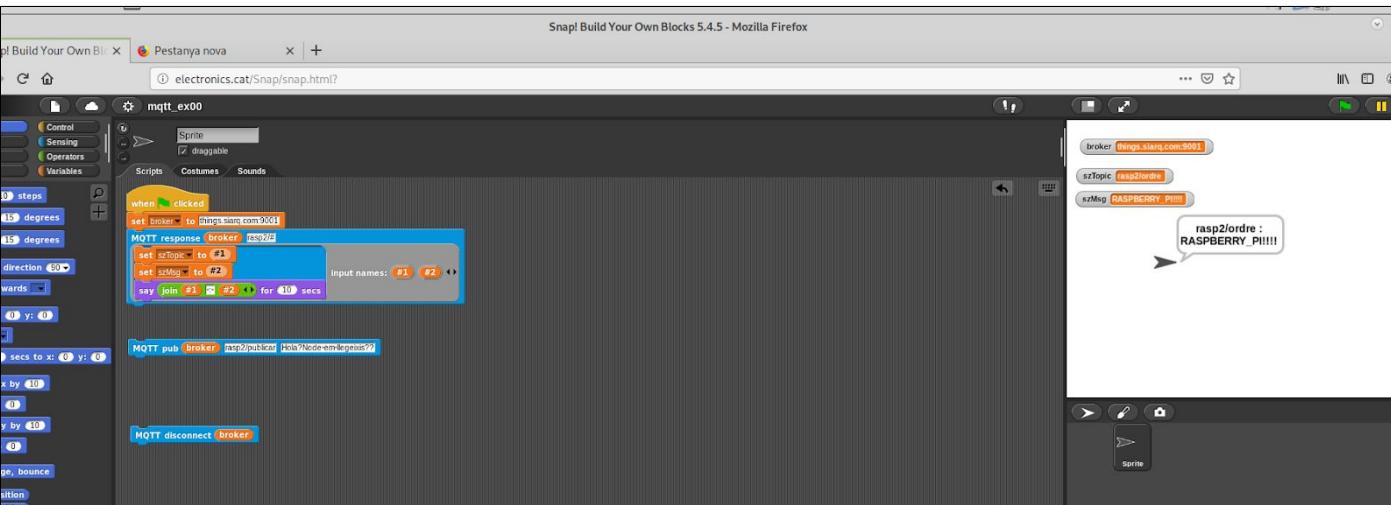
- Payload**: RASPBERRY_PI!!!!
- Topic**: rasp2/ordre
- Inject once after**: 0.1 seconds, then
- Repeat**: none
- Name**: Name

Note: "Interval between times" and "at a specific time" will use cron.
"interval" should be less than 596 hours.



Properties

- Server**: things.siarq.com:1883
- Topic**: rasp2/publicar
- QoS**: 2
- Output**: auto-detect (string or buffer)
- Name**: Name



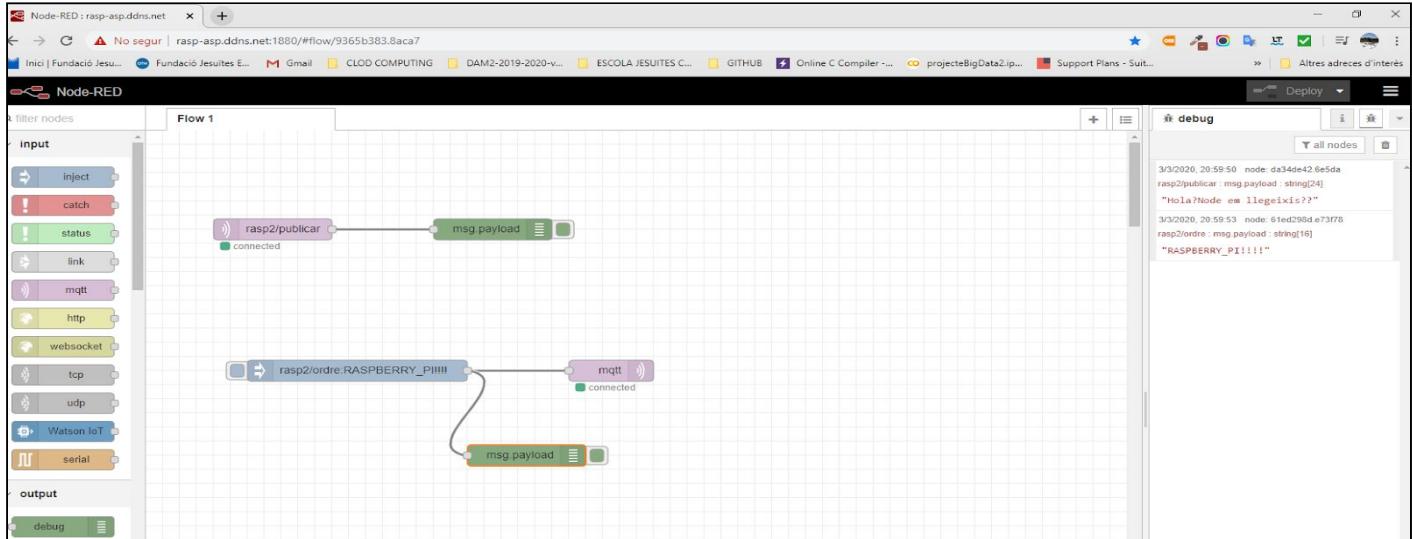
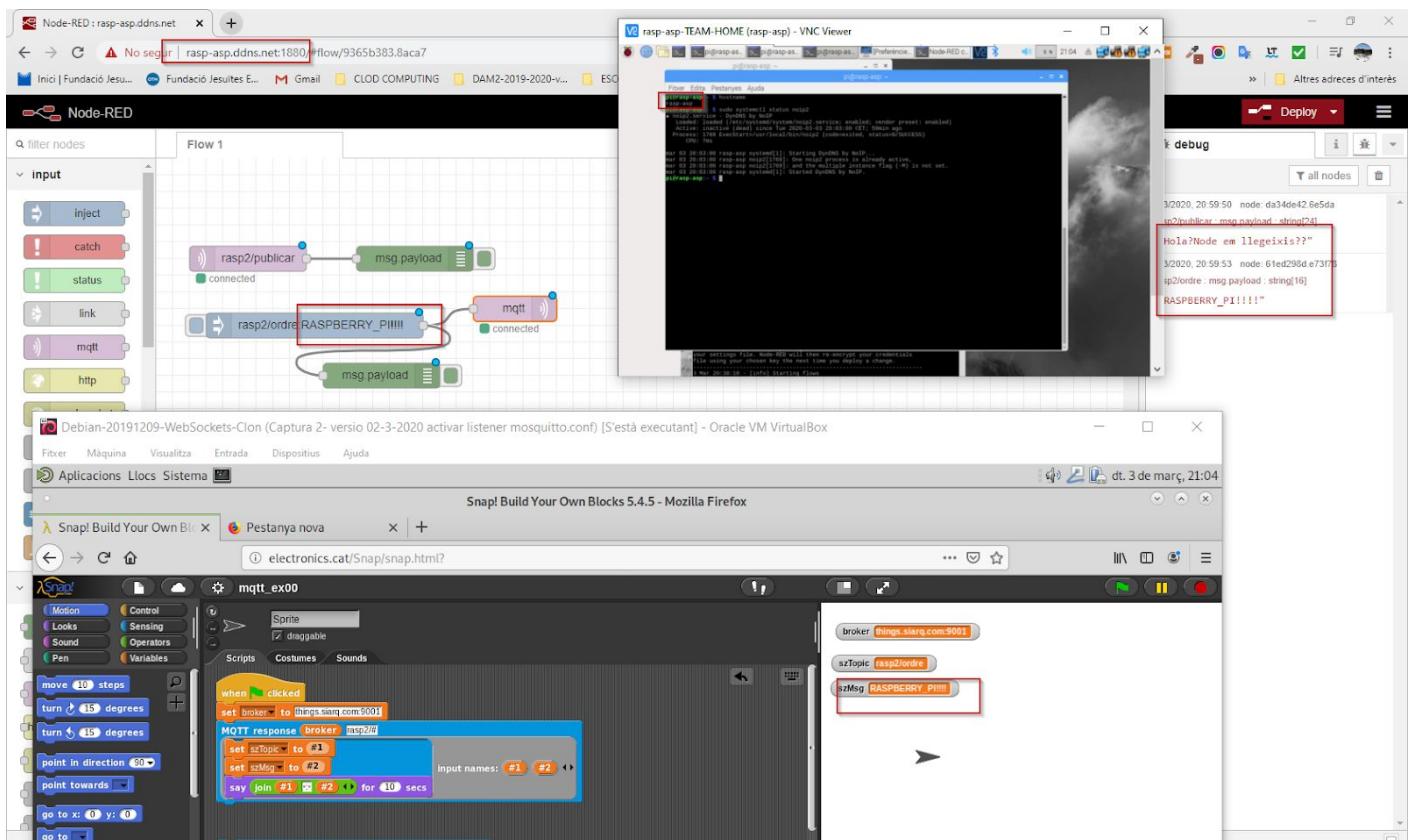
The screenshot shows a Scratch script titled "mqtt_ex00" running in a browser-based environment. The script uses the "when green flag clicked" event. It connects to a broker at "things.siarq.com:9001", subscribes to the topic "rasp2/ordre", and publishes the message "RASPBERRY_PI!!!!" to the topic "rasp2/publicar". A speech bubble from the script displays the message "rasp2/ordre : RASPBERRY_PI!!!!".

Nom i Cognoms

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03-03-2020

The screenshot displays several windows illustrating the communication setup:

- Node-RED:** Shows the same flow as the first screenshot, with the "rasp2/ordre:RASPBERRY_P!!!!" node highlighted.
- VNC Viewer:** A terminal window titled "rasp-asp-TEAM-HOME (rasp-asp)" showing the command "raspberry" being run.
- Debian-20191209-WebSockets-Clon:** A terminal window showing the configuration of a MQTT listener with the command "activar listener mosquito.conf".
- Snap! Build Your Own Blocks:** A Scratch-like environment where a script for a "Sprite" is being programmed. The script uses MQTT blocks to publish messages to a broker and receive responses from a topic "rasp2/ordre".
- Terminal Log:** A window showing the log output from the Raspberry Pi terminal, matching the entries in the Node-RED debug panel.

Nom i Cognoms	Data
Arnau Subirós Puigarnau	03-03-2020