

Backup InfluxDB, restauració i manipulació de les dades:

Primer cal instal·lar el cron escrivint la següent comanda al terminal:

sudo apt-get install cron

```
iot@iot-i40:~$ sudo apt-get install cron
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following package was automatically installed and is no longer required:
  libuv1
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  exim4 exim4-base exim4-config exim4-daemon-light guile-2.0-libs libgsasl7 libkyotocabinet16v5 libmailutils5 libntlm0 mailutils
  mailutils-common
Suggested packages:
  checksecurity eximon4 exim4-doc-html | exim4-doc-info spf-tools-perl swaks mailutils-mh mailutils-doc
The following NEW packages will be installed:
  cron exim4 exim4-base exim4-config exim4-daemon-light guile-2.0-libs libgsasl7 libkyotocabinet16v5 libmailutils5 libntlm0 mailutils
  mailutils-common
0 upgraded, 12 newly installed, 0 to remove and 3 not upgraded.
Need to get 6,906 kB of archives.
After this operation, 22.5 MB of additional disk space will be used.
Do you want to continue? [Y/n]
Get:1 http://debian.grn.cat/debian stretch/main amd64 cron amd64 3.0pl1-128+deb9u1 [95.4 kB]
```

Un cop instal·lat obrim l'eina per a poder configurar el backup amb la següent comanda:

crontab -e

```
iot@iot-i40:~$ crontab -e
```

S'obrirà el següent document:

```
File Edit View Search Terminal Help
GNU nano 2.7.4 File: /tmp/crontab.pzqb2x/crontab

# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h dom mon dow command
```

Cal afegir a l'última línia el backup que volem fer amb el següent format:

```
min h dia mes diaSetmana influx backup -portable -database nomBaseDades -host
<ip>:8088 /rutaDesti
```

Encara que l'influxdb estigui al port 8086 per fer el backup s'utilitza el 8088. El dia de la setmana va de 0 diumenge a 6 dissabte.

En aquest cas indico que s'ha de fer un backup cada dilluns de cada mes a les 21:30 hores de la base de dades anomenada backupinfluxdb a la ruta home/iot/Documents/backup. L'asterisc indica que es farà per cada mes, cada dia de la setmana 1=dilluns.

```
30 21 * * 1 influxd backup -portable -database backupinfluxdb -host localhost:8088 /home/iot/Documents/backup
```

Com podem veure a la ruta establerta es fa el backup:

<

>

◀

Home

Documents

backup

▶

🔍

⛶

☰

✕

🕒 Recent

🏠 Home

📁 Documents

⬇️ Downloads

🎵 Music

📷 Pictures

📺 Videos

🗑️ Trash

+ Other Locations

Name	Size	Modified
📄 20200424T074751Z.manifest	305 bytes	Fri 04/24/2020 07:47
📄 20200424T074751Z.meta	334 bytes	Fri 04/24/2020 07:47
📁 20200424T074751Z.s15.tar.gz	58.2 kB	Fri 04/24/2020 07:47
📄 20200424T074820Z.manifest	305 bytes	Fri 04/24/2020 07:48
📄 20200424T074820Z.meta	334 bytes	Fri 04/24/2020 07:48
📁 20200424T074820Z.s15.tar.gz	58.2 kB	Fri 04/24/2020 07:48
📄 20200424T075601Z.manifest	305 bytes	Fri 04/24/2020 07:56
📄 20200424T075601Z.meta	334 bytes	Fri 04/24/2020 07:56
📁 20200424T075601Z.s15.tar.gz	58.2 kB	Fri 04/24/2020 07:56
📄 20200427T193001Z.manifest	305 bytes	Fri 04/27/2020 19:30
📄 20200427T193001Z.meta	364 bytes	Fri 04/27/2020 19:30
📁 20200427T193001Z.s15.tar.gz	58.2 kB	Fri 04/27/2020 19:30

Per a cada backup apareixen tres arxius:

AnyMesDiaTHMinSegonsZ.manifest → On trobem la configuració.

AnyMesDiaTHMinSegonsZ.meta → On trobem informació sobre les dades.

AnyMesDiaTHMinSegonsZ.s15.tar.gz → On trobem les dades.

Suposem que per algun motiu se'ns esborressin les dades: (Esborrem les dades de la base de dades)

Jo no tinc contrasenya ni usuari a l'influxdb, si en tenim cal posar:

influx -user nomUsuari -password contrasenya

```
iot@iot-i40:~$ influx
Connected to http://localhost:8086 version 1.8.0
InfluxDB shell version: 1.8.0
> use backupinfluxdb
Using database backupinfluxdb
> show measurements
name: measurements
name
----
prova
prova1
prova2
> drop measurement prova
> drop measurement prova1
> drop measurement prova2
> show measurements
> █
```

Les podríem recuperar de la següent manera des del terminal, carreguem les dades del backup a una base de dades temporal:

influxd restore -portable -db nomBaseDades -newdb nomBD_tmp /rutaBackup

```
iot@iot-i40:~$ influxd restore -portable -db backupinfluxdb -newdb backupinfluxd
b_temp /home/iot/Documents/backup
2020/04/27 21:45:23 Restoring shard 15 live from backup 20200427T193001Z.s15.tar
.gz
```

Un cop fet això tornem a l'influxdb, per recuperar les dades a la base de dades on s'havien esborrat i esborrem la base de dades temporal:

use nomBD_temp

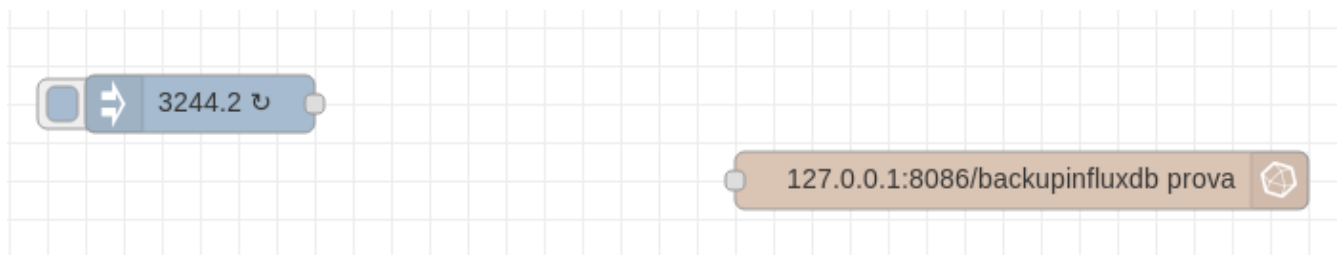
select * into nomBaseDades...:measurement from ././ group by *

drop database nomBD_temp

```
iot@iot-i40:~$ influx
Connected to http://localhost:8086 version 1.8.0
InfluxDB shell version: 1.8.0
> use backupinfluxdb_temp
Using database backupinfluxdb_temp
> select * INTO backupinfluxdb...:measurement from ././ group by *
name: result
time written
----
0      14028
> drop database backupinfluxdb_temp
> use backupinfluxdb
Using database backupinfluxdb
> show measurements
name: measurements
name
----
prova
prova1
prova2
```

Per fer el canvi d'un factor d'error de 100 sobre les dades:

S'ha de desconnectar un moment el node-red perquè no entrin més dades mentre es fa el canvi.

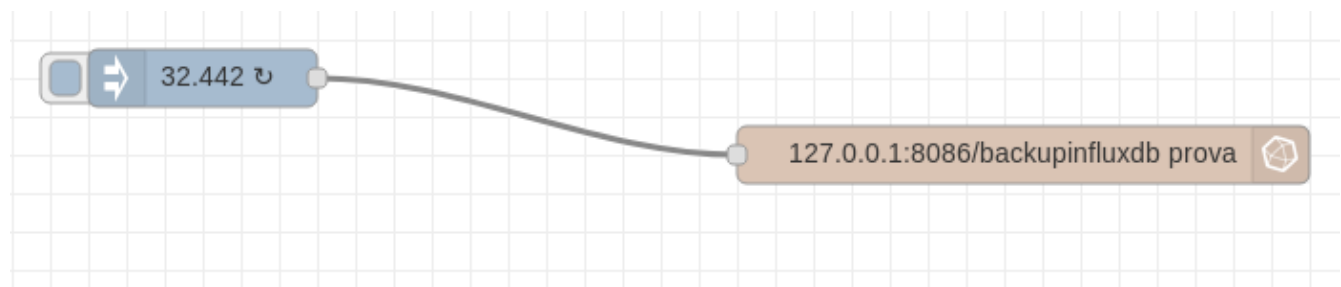


Aplicar la següent comanda:

select time,value/100 from prova into prova

```
iot@iot-i40:~$ influx
Connected to http://localhost:8086 version 1.8.0
InfluxDB shell version: 1.8.0
> use backupinfluxdb
Using database backupinfluxdb
> select * from prova
name: prova
time                value
----
1588017824467445308 3244.2
1588017828470948329 3244.2
1588017832470519983 3244.2
1588017836472337150 3244.2
1588017840472809456 3244.2
1588017844478588877 3244.2
> select time,value/100 into prova from prova
name: result
time written
----
0      6
> select * from prova
name: prova
time                value
----
1588017824467445308 32.442
1588017828470948329 32.442
1588017832470519983 32.442
1588017836472337150 32.442
1588017840472809456 32.442
1588017844478588877 32.442
```

Dividir al node-red per 100 i posar-lo novament en marxa:



I comprovem el canvi:

```
> select * from prova
name: prova
time          value
----
1588017824467445308 32.442
1588017828470948329 32.442
1588017832470519983 32.442
1588017836472337150 32.442
1588017840472809456 32.442
1588017844478588877 32.442
1588018090278839186 32.442
1588018094289844943 32.442
1588018098310082072 32.442
1588018102316326529 32.442
```

Comandes suggerides per al cas real:

```
select time, O3/100 into lora_2867FDBF713C from lora_2867FDBF713C
select time, O3/100 into wifi_2867FDBF713C from wifi_2867FDBF713C
```