GSX - Lab2. Boot i Serveis

Autor: Àngel Gascón Muria

1.

Servei sysV: actualizadoV

```
#!/bin/bash
### BEGIN INIT INFO
# Provides:       actualizadoV
# Required-Start: $local_fs $remote_fs $network
# Required-Stop:  $local_fs $remote_fs $network
# Default-Start:  2 3
# Default-Stop:
# Short-Description: Ejecuta el script actualizado.sh si existe /root/paquets
# Description:     Ejecuta el script actualizado.sh si existe /root/paquets
### END INIT INFO



# Verificar si existe el archivo /root/paquets
if [ -f "/root/paquets" ]
then
    # Leer los parametros desde el archivo
    parametros=$(cat /root/paquets)
    # Ejecutar el script actualizado.sh con los parametros leidos
    home/milax/Escriptori/GSX/LAB1/actualitzat.sh $parametros
else
    # Indicar en el archivo de log correspondiente que el archivo no existe - > fitxer
de log a /var/log/daemon.log
    echo "El archivo /root/paquets no existe" >> /var/log/daemon.log
fi
```

- S'ha de copiar el servei al directori /etc/init.d i donar-li permissos d'execució:
  sudo cp actualizadoV /etc/init.d
  sudo chmod +x /etc/init.d/actualizadoV
- També s'ha d'agregar a la llista de serveis a executar quan s'inicia el sistema:
  sudo update-rc.d /etc/init.d/actualizadoV defaults
  A partir del Default-Start especificat (2 i 3) es crearàn els softlinks dins els directoris rc.d

Soft-Links creats:

```
milax@casa:~/Escriptori/GSX/LAB2$ ls -l /etc/rc[2-3].d/ | grep S01actualizadoV
lrwxrwxrwx 1 root root 22 de febr. 23 21:38 S01actualizadoV -> ../init.d/actualizadoV
lrwxrwxrwx 1 root root 22 de febr. 23 21:38 S01actualizadoV -> ../init.d/actualizadoV
```

Estat daemon.log després de l'inici:

```
milax@casa:~$ sudo cat /var/log/daemon.log | tail -10
Feb 23 19:39:11 casa systemd[1]: Started Clean php session files.
Feb 23 21:19:11 casa systemd[1]: Starting Clean php session files...
Feb 23 21:19:11 casa systemd[1]: phpsessionclean.service: Succeeded.
Feb 23 21:19:11 casa systemd[1]: Started Clean php session files.
Feb 23 21:38:55 casa systemd[1]: Reloading.
Feb 23 21:38:55 casa systemd[1]: getty@tty1.service: Current command vanished from the unit file, execution of the command list won't be resumed.
Feb 23 21:39:01 casa systemd[1]: Starting Clean php session files...
Feb 23 21:39:02 casa systemd[1]: phpsessionclean.service: Succeeded.
Feb 23 21:39:02 casa systemd[1]: Started Clean php session files.
El archivo /root/paquets no existe
```

Funcionament esperat, ja que root/paquets no existeix.

2.

Script copia backup: test_service.sh

```
#!/bin/bash
# Àngel Gascon Muria
# path absolut: /home/milax/Escriptori/GSX/LAB2
# permissos: chmod 755

# init copia & back
if [ -d "/tmp/copia/" ]; then
  rm -rf "/tmp/copia/"
  mkdir "/tmp/copia/"
else
  mkdir "/tmp/copia/"
fi

if [ ! -d "/back" ]; then
  mkdir "/back"
  chown root:root /back
  chmod 700 /back
fi

# Current date
DATE=$(date +%y%m%d%H%M)

# Get directories for users with a shell of /bin/bash
dirs=$(cat /etc/passwd | grep "/bin/bash" | cut -d ':' -f 6)

# Loop over directories and process files
for dir in $dirs; do
  echo "$dir"
    # Check if the aguardar.txt file exists in the directory
    if [ -f "$dir/aguardar.txt" ]; then
      # Create backup file with timestamp and username in /back directory
      user=$(basename "$dir")
      b_file="/back/$DATE-$user.tgz"

      f_paths=$(cat /home/milax/aguardar.txt)

      # Copy files
      cp -r $f_paths /tmp/copia/

      # Create backup tar
      tar czf "$b_file" /tmp/copia/

      # Change owner and permissions of backup file
      chown "$user" "$b_file"
```

```
      chmod 400 "$b_file"
    fi
done
```

Es demana un servey estil systemd, per tant, aquest script s'ha de executar a partir d'un .service estil: myservice.service

[Unit]

Description=Example systemd service.

[Service]

Type=simple

ExecStart=/bin/bash /home/milax/Escriptori/GSX/LAB2/test_service.sh

[Install]

WantedBy=multi-user.target

Per a iniciar el servei s'ha creat un petit script anomenat initService.sh:

```
#!/bin/bash
sudo chmod +x test_service.sh
sudo cp myservice.service /etc/systemd/system/myservice.service
sudo chmod 644 /etc/systemd/system/myservice.service
sudo systemctl start myservice
sudo systemctl status myservice
```

```
milax@casa:~/Escriptori/GSX/LAB2$ ./initService.sh
[sudo] contrasenya per a milax:
● myservice.service - Example systemd service.
   Loaded: loaded (/etc/systemd/system/myservice.service; disabled; vendor preset: enabled)
   Active: active (running) since Fri 2023-02-24 13:54:07 CET; 52ms ago
 Main PID: 5028 (bash)
    Tasks: 1 (limit: 4699)
   Memory: 1.1M
   CGroup: /system.slice/myservice.service
           ├─5028 /bin/bash /home/milax/Escriptori/GSX/LAB2/test_service.sh
           └─5042 tar czf /back/2302241354-milax.tgz /tmp/copia/

de febr. 24 13:54:07 casa systemd[1]: Started Example systemd service..
de febr. 24 13:54:07 casa bash[5028]: /root
de febr. 24 13:54:07 casa bash[5028]: /var/lib/postgresql
de febr. 24 13:54:07 casa bash[5028]: /home/milax
```

Prèviament s'ha creat un fitxer aguardar.txt al directori /home/milax/, el contingut d'aquest es el patha absolut a la carpeta de GSX (/home/milax/Escriptori/GSX)

El resultat al finalitzar l'execució del backup és:

```
milax@casa:/$ sudo -s
[sudo] contrasenya per a milax:
root@casa:/# cd /back/
root@casa:/back# ls -l
total 312
-r-------- 1 milax root 104210 de febr. 24 13:08 2302241308-milax.tgz
-r-------- 1 milax root 104257 de febr. 24 13:54 2302241354-milax.tgz
-r-------- 1 milax root 104258 de febr. 24 14:01 2302241401-milax.tgz
root@casa:/back# tar -xvzf 2302241401-milax.tgz
tmp/copia/
tmp/copia/GSX/
tmp/copia/GSX/LAB0.tgz
tmp/copia/GSX/LAB1.pdf
tmp/copia/GSX/LAB2/
tmp/copia/GSX/LAB2/myservice.service
tmp/copia/GSX/LAB2/initService.sh
tmp/copia/GSX/LAB2/actualizadoV
tmp/copia/GSX/LAB2/actualizado.sh
tmp/copia/GSX/LAB2/test_service.sh
tmp/copia/GSX/JP0/
tmp/copia/GSX/JP0/Jp0.sh
tmp/copia/GSX/LAB0/
tmp/copia/GSX/LAB0/alumne.txt
tmp/copia/GSX/LAB0/GSX/
tmp/copia/GSX/LAB0/GSX/JP0/
tmp/copia/GSX/LAB0/GSX/LAB0/
tmp/copia/GSX/LAB0/GSX/LAB0/alumne.txt
tmp/copia/GSX/LAB0/entorn.sh
tmp/copia/GSX/LAB1/
tmp/copia/GSX/LAB1/actualitzat.sh
tmp/copia/GSX/LAB1/glances.sh
tmp/copia/GSX/LAB1.odt
tmp/copia/GSX/comandesImportants.txt
tmp/copia/GSX/LAB1.tgz
root@casa:/back#

root@casa:/back/tmp/copia/GSX# ls -l
total 140
-rw-r--r-- 1 root root     93 de febr. 24 14:01 comandesImportants.txt
drwxr-xr-x 2 root root   4096 de febr. 24 14:01 JP0
drwxr-xr-x 3 root root   4096 de febr. 24 14:01 LAB0
-rw-r--r-- 1 root root     45 de febr. 24 14:01 LAB0.tgz
drwxr-xr-x 2 root root   4096 de febr. 24 14:01 LAB1
-rw-r--r-- 1 root root  10061 de febr. 24 14:01 LAB1.odt
-rw-r--r-- 1 root root 100388 de febr. 24 14:01 LAB1.pdf
-rw-r--r-- 1 root root    800 de febr. 24 14:01 LAB1.tgz
drwxr-xr-x 2 root root   4096 de febr. 24 14:01 LAB2
```

3.

Backup programat amb el daemon del cron:

Cal executar la comanda “crontab -e”.

Un cop dins el fitxer de tasques cron s’ha d’afegir la següent línia de codi:

```
milax@casa:~/Escriptori/GSX/LAB2$ sudo crontab -e
no crontab for root - using an empty one

Select an editor.  To change later, run 'select-editor'.
  1. /usr/bin/vim.gtk
  2. /bin/nano        <---- easiest
  3. /usr/bin/vim.basic
  4. /usr/bin/vim.tiny
  5. /usr/bin/code

Choose 1-5 [2]: 2
crontab: installing new crontab
milax@casa:~/Escriptori/GSX/LAB2$ sudo crontab -l
# 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
0 22 * * 1-5 /home/milax/Escriptori/GSX/LAB2/test service.sh
```

Cal destacar que si el script del backup a executar fos a un altre lloc aquest path seria incorrecte.

Backup programat usant els timers del systemd:

Per a utilitzar els timers de systemd, s'ha de crear un fitxer servei i el seu respectiu timer:

Fitxer backup.service:

[Unit]

Description=Backup Service

[Service]

Type=simple

ExecStart=/bin/bash /home/milax/Escriptori/GSX/LAB2/test_service.sh

[Install]

WantedBy=multi-user.target

Fitxer backupTimer.timer:

[Unit]

Description=Backup Timer

[Timer]

OnCalendar=Sat,Sun *-*-* 22:00:00

Unit=backup.service

[Install]

WantedBy=timers.target

Aquests dos fitxers s'han d'incloure al directori /etc/systemd/system per a ser accessibles amb l'eina systemctl, s'ha realitzat un script per a facilitar aquest procés:

```
#!/bin/bash
# Àngel Gascon Muria
cp backup.service /etc/systemd/system
cp backupTimer.timer /etc/systemd/system
systemctl enable backupTimer.timer
systemctl start backupTimer.timer
systemctl list-timers
```

```
NEXT                         LEFT          LAST                         PASSED       UNIT                         ACTIVATES
Fri 2023-02-24 17:39:00 CET  7min left     Fri 2023-02-24 17:09:01 CET  22min ago    phpsessionclean.timer        phpsessionclean.service
Fri 2023-02-24 21:47:33 CET  4h 15min left Fri 2023-02-24 13:47:12 CET  3h 44min ago apt-daily.timer              apt-daily.service
Sat 2023-02-25 00:00:00 CET  6h left       Fri 2023-02-24 11:25:35 CET  6h ago       logrotate.timer              logrotate.service
Sat 2023-02-25 00:00:00 CET  6h left       Fri 2023-02-24 11:25:35 CET  6h ago       man-db.timer                 man-db.service
Sat 2023-02-25 06:56:49 CET  13h left      Fri 2023-02-24 11:25:35 CET  6h ago       apt-daily-upgrade.timer      apt-daily-upgrade.service
Sat 2023-02-25 12:10:17 CET  18h left      Thu 2023-02-23 18:48:25 CET  22h ago      systemd-tmpfiles-clean.timer systemd-tmpfiles-clean.service
Sat 2023-02-25 22:00:00 CET  1 day 4h left n/a                          n/a          backupTimer.timer            backup.service

7 timers listed.
Pass --all to see loaded but inactive timers, too.
```