

sadm_backup.sh

 sadmin.ca/backup/sadm-backup

May 24, 2021

8 minute read

\$SADMIN/bin/sadm_backup.sh - v3.29

Posted 2021-05-24 - Updated 2021-05-24

Supported on Linux

NAME

sadm_backup.sh - *Backup based on the content of the backup list & exclude file*

SYNOPSIS

sadm_backup.sh [-d 0-9] [-h] [-n] [-v]

Can be executed on a client and on the SADMIN Server.

DESCRIPTION

This script is use to create backups (tar or tgz) of directories and files you specify on the web interface.

To access the “Daily backup schedule” web page, click on “Daily Backup” in the located in the heading portion of the web site. You will then be presented with a list of your systems, just click on a server name and you’ll be redirected to “Daily backup schedule” page of the system.



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Daily backup schedule of 'yoda.maison.ca' - v2.0

Every day at 00:10

Activate Backup

☒ Yes ☐ No

Daily Backup Time

00 Hrs 10 Min

Backup List (Files & Dir.)

```
# v1.5 Initial Backup List - template
# Notes: Socket Files are automatically excluded
# One file or directory per line
# -----
#
$SADMIN
/home
/etc
/root
/var
/example/somefile
/somedir
#
```

Exclude List (Files & Dir.)

```
# v1.5 Initial Backup List - template
# Exclude these files & directories from Backup
#
*.iso
*.pyc
./sysmon.lock
./cache/*
./__pycache__
./tmp
./temp
./DS_Store
```

This backup script is automatically run by the backup crontab (/etc/cron.d/sadm_backup), if the “System Status” is set to “Active” on the system maintenance page and the “Activate Backup” is set to “yes” on the daily backup schedule web page. On the “Daily backup schedule” page, you also need to specify the time you want to do the backup. If the “Activate Backup” is set to “no”, obviously no backup will be schedule for the system. You can also run this script manually `"sadm_backup.sh"` whenever you want to create a new backup.

Activate Backup

☒ Yes ☐ No

Daily Backup Time

00 Hrs 10 Min

There are two text areas where you specify the files and directories you want to backup and the one you want to exclude. You may want to backup the “/home” directory, but not the “Downloads” directory of user “jacques”, then you would add a line like this one “./home/jacques/Downloads” in the exclude list text area.

The Backup List

The directories and files you specify in the “Backup List (Files & Dir.)” text-area are written to a file called the “backup list” (\$SADMIN/cfg/.backup_list.txt). If the backup list file is not present when the script is started, the default backup list file (\$SADMIN/cfg/.backup_list.txt) is use as a starting backup list. Specify the full path for each directories and files you want to backup. For every directory (or file) specified in the backup list, a backup file will be produced. For example, if you specify ‘/home’ and ‘/etc’ in the backup list, two backup files will be produced, one file the ‘home’ directory and one for the ‘etc’ directory (See directory structure below). When you modify the backup list for a system it is written locally to a temporary file “\$SADMIN/www/dat/HOSTNAME/cfg/backup_list.tmp” and it’s transferred to the proper system the next time “sadm_fetch_client.sh” script is run, so your change could take up to 5 minutes to get to the proper system.

Backup List (Files & Dir.)

```
# v1.5 Initial Backup List - template
# Notes: Socket Files are automatically excluded
# One file or directory per line
# -----
#
$SADMIN
/home
/etc
/root
/var
/example/somefile
/somedir
```

Directories and files specified in the backup list and that cannot be found during backup execution are skipped and identified as such in the log file and are not consider as an error. This give you the flexibility to use the same backup_list.txt file across multiple servers.

```
-----  
Current directory: [/var]  
tar -cvzf /mnt/backup/yoda/daily/2021_05_25/2021_05_25-10_07_28_var.tgz -X /tmp/exclude .  
Create Link to latest backup of /var in /mnt/backup/yoda/latest  
[SUCCESS] Creating Backup 2021_05_25-10_07_28_var.tgz  
  
-----  
Backup file: /example/somefile  
[ WARNING ] [/example/somefile] doesn't exist on yoda  
  
-----  
Backup file: /somedir  
[ WARNING ] [/somedir] doesn't exist on yoda  
  
-----  
  
Total error(s) while creating backup: 0.
```

The Exclude List

The directories and files you specify in the “Exclude List” text-area are written to a file called the backup exclude file (\$SADMIN/cfg/backup_exclude.txt) and are ignored by the backup. If the backup exclude file is not present when the script is started, the default exclude file (\$SADMIN/cfg/.backup_exclude.txt) is use as the exclude list. Please note that before issuing the “tar” command, the script do a “cd” in the directory to backup. So the backup content can be restore in a directory of your choice. So when specifying a file or a directory remember to include “./” in front of it (except for file extension like *.iso).

When you modify the backup exclude list for a system it is written to a local temporary file “\$SADMIN/www/dat/HOSTNAME/cfg/backup_exclude.tmp” and it’s transferred to the proper system the next time “sadm_fetch_client.sh” script is run, so your change could take up to 5 minutes to get to the proper system.

Exclude List (Files & Dir.)

```
# v1.5 Initial Backup List - template
# Exclude these files & directories from Backup
#
*.iso
*.pyc
./sysmon.lock
./cache/*
./__pycache__
./tmp
./temp
./DS_Store
```

Backup preservation policies

The backup files are stored on the NFS server specified in `$SADMIN/cfg/sadmin.cfg` (see example below). In the example below, the backup is stored on the NFS server name “batnas.maison.ca” in the directory “/volume1/backup_linux”. By default, 4 copies of the daily backup will be kept, but you can modify this choice by changing the field “SADM_DAILY_BACKUP_TO_KEEP” in SADMIN configuration file “`$SADMIN/cfg/samin.cfg`”. The remaining parameters, I think are self explanatory. Extra backup are deleted at the end of each backup.

```
#-----  
# Backup Script (sadm_backup.sh) to NFS or Local mount point  
#-----  
SADM_BACKUP_NFS_SERVER      = batnas.maison.ca  
SADM_BACKUP_NFS_MOUNT_POINT = /volume1/backup_linux  
  
# Backup to keep per type of backup  
SADM_DAILY_BACKUP_TO_KEEP   = 4  
SADM_WEEKLY_BACKUP_TO_KEEP  = 4  
SADM_MONTHLY_BACKUP_TO_KEEP = 3  
SADM_YEARLY_BACKUP_TO_KEEP  = 2  
  
# Day to do a weekly backup (1=Mon,2=Tue,3=Wed,4=Thu,5=Fri,6=Sat,7=Sun)  
SADM_WEEKLY_BACKUP_DAY      = 5  
  
# Date in the month to do a Monthly Backup Date (1-28)  
SADM_MONTHLY_BACKUP_DATE    = 1  
  
# Month and Date When to do a Yearly Backup Month  
SADM_YEARLY_BACKUP_MONTH    = 12  
SADM_YEARLY_BACKUP_DATE     = 31
```

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EXAMPLE

This is an example of the output you get when you run the `sadm_backup.sh` manually. This script must be run by the 'root' user to have access to all directory to backup and mount the NFS drive.

```
rroot@yoda:~ # sadm_backup.sh
```

```
=====
Tue May 25 10:06:12 AM EDT 2021 - sadm_backup.sh V3.30 - SADM Lib. V3.70
Server Name: yoda.maison.ca - Type: LINUX
FEDORA 34 Kernel 5.11.11-200.fc33.x86_64
=====
```

```
Mounting NFS Drive on batnas.maison.ca.
mount batnas.maison.ca:/volume1/backup_linux /mnt/backup
[SUCCESS] NFS Mount Succeeded.
```

```
Setup Backup Environment ...
Removing previous backup links in /mnt/backup/yoda/latest
Making today backup directory /mnt/backup/yoda/daily/2021_05_25
```

```
Today Tue May 25 10:06:12 AM EDT 2021 we are starting a [Daily] backup ...
```

```
Base on SADMIN configuration file, you have chosen to:
```

- Keep 4 daily backups
- Keep 4 weekly backups
- Keep 3 monthly backups
- Keep 2 yearly backups
- Do the weekly backup on Friday
- Do the monthly backup on the 1 of every month
- Do the yearly backup on the 31 of December every year
- Backup directory is /mnt/backup/yoda/daily/2021_05_25
- Using backup list file /opt/sadmin/cfg/backup_list.txt
- Using backup exclude list file /opt/sadmin/cfg/backup_exclude.txt

```
-----
Current directory: [/opt/sadmin]
tar -cvzf /mnt/backup/yoda/daily/2021_05_25/2021_05_25-10_06_13_opt_sadmin.tgz -X /tmp/exclude .
Create Link to latest backup of /opt/sadmin in /mnt/backup/yoda/latest
[SUCCESS] Creating Backup 2021_05_25-10_06_13_opt_sadmin.tgz
```

```
-----
Current directory: [/home]
tar -cvzf /mnt/backup/yoda/daily/2021_05_25/2021_05_25-10_06_30_home.tgz -X /tmp/exclude .
Create Link to latest backup of /home in /mnt/backup/yoda/latest
[SUCCESS] Creating Backup 2021_05_25-10_06_30_home.tgz
```

```
-----
Current directory: [/etc]
tar -cvzf /mnt/backup/yoda/daily/2021_05_25/2021_05_25-10_07_24_etc.tgz -X /tmp/exclude .
Create Link to latest backup of /etc in /mnt/backup/yoda/latest
[SUCCESS] Creating Backup 2021_05_25-10_07_24_etc.tgz
```

```
-----
Current directory: [/root]
tar -cvzf /mnt/backup/yoda/daily/2021_05_25/2021_05_25-10_07_27_root.tgz -X /tmp/exclude .
Create Link to latest backup of /root in /mnt/backup/yoda/latest
[SUCCESS] Creating Backup 2021_05_25-10_07_27_root.tgz
-----
```

```
Current directory: [/var]
tar -cvzf /mnt/backup/yoda/daily/2021_05_25/2021_05_25-10_07_28_var.tgz -X /tmp/exclude .
Create Link to latest backup of /var in /mnt/backup/yoda/latest
[SUCCESS] Creating Backup 2021_05_25-10_07_28_var.tgz
```

```
-----
Backup file: /example/somefile
[ WARNING ] [/example/somefile] doesn't exist on yoda
```

```
-----
Backup file: /somedir
[ WARNING ] [/somedir] doesn't exist on yoda
```

```
-----
```

Total error(s) while creating backup: 0.

```
Content of today backup directory (/mnt/backup/yoda/daily/2021_05_25):
total 961960
-rw-rw-r--. 1 nobody users      21549 May 25 10:06 2021_05_25-10_06_13_opt_sadmin.log
-rw-rw-r--. 1 nobody users 162715212 May 25 10:06 2021_05_25-10_06_13_opt_sadmin.tgz
-rw-rw-r--. 1 nobody users   2476587 May 25 10:07 2021_05_25-10_06_30_home.log
-rw-rw-r--. 1 nobody users 397883167 May 25 10:07 2021_05_25-10_06_30_home.tgz
-rw-rw-r--. 1 nobody users    89741 May 25 10:07 2021_05_25-10_07_24_etc.log
-rw-rw-r--. 1 nobody users   6190273 May 25 10:07 2021_05_25-10_07_24_etc.tgz
-rw-rw-r--. 1 nobody users    2165 May 25 10:07 2021_05_25-10_07_27_root.log
-rw-rw-r--. 1 nobody users   801965 May 25 10:07 2021_05_25-10_07_27_root.tgz
-rw-rw-r--. 1 nobody users   184918 May 25 10:09 2021_05_25-10_07_28_var.log
-rw-rw-r--. 1 nobody users 414648217 May 25 10:09 2021_05_25-10_07_28_var.tgz
```

```
Applying chosen retention policy to /mnt/backup/yoda/daily directory
List of backup currently on disk:
2021_05_25
2021_05_23
2021_05_22
2021_05_20
```

Keep only the last 4 days of each backup.
We now have 4 days of backup(s).
No clean up needed

```
Unmounting NFS mount directory /mnt/backup.
[SUCCESS] Unmounting NFS Dir. /mnt/backup
```

```
=====
Script exit code is 0 (Success) and execution time is 00:03:52
History (/opt/sadmin/dat/rch/yoda_sadm_backup.rch) trim to 35 lines ($SADM_MAX_RCLINE=35).
Script will send an alert only when it terminate with error ($SADM_ALERT_TYPE=1).
Script succeeded, no alert will be send to 'default' alert group.
New log (/opt/sadmin/log/yoda_sadm_backup.log) created ($SADM_LOG_APPEND='N').
End of sadm_backup.sh - Tue May 25 10:09:54 AM EDT 2021
=====
```


Backup directory structure

Directory structure in which the backup are stored offer the flexibility needed to quickly access to your backup in case you need them. Each system have a dedicated directory, named by its hostname. In each host directory there is a 'daily', 'weekly', 'monthly', 'yearly' and a 'latest' directory. When a backup is done, a new sub-directory is created with the current date. So it is easy to find the backup you need. If you are looking for the latest backup of a server, go in the host sub-directory and then in the 'latest' sub-directory, the more recent backup will always be there. After a couple of months, the backup directories structure should look similar to the one below.

For example, let's look at the backup structure :

```
# pwd
/volume1/backup_linux/yoda
# find . -type d
.
./daily
./daily/2021_05_22
./daily/2021_05_23
./daily/2021_05_24
./daily/2021_05_20
./weekly
./weekly/2021_05_21
./weekly/2021_05_14
./weekly/2021_04_23
./weekly/2021_05_07
./monthly
./monthly/2021_02_01
./monthly/2021_03_01
./monthly/2021_04_01
./monthly/2021_01_01
./yearly
./yearly/2020_12_31
./latest
#
```

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OPTIONS

Options	Description
---------	-------------

-d [0-9]	Set debug level from 0 to 9 (Default is 0)
-----------------	--

-h	Display this help and exit.
-----------	-----------------------------

-v	Output version information and exit.
-----------	--------------------------------------

-n	Do NOT compress backup
-----------	------------------------

ENVIRONMENT

- The “**\$SADMIN**” environment variable must be defined and contains the root directory of the SADMIN tools (normally /opt/sadmin). It should be already done, the setup script have updated the ‘/etc/profile.d/sadmin.sh’ and the ‘/etc/environment’ files.
- The SADMIN configuration file, is needed and loaded in memory at the beginning of every scripts. This file should already exist and contains your SADMIN configuration and preference setting.
- For Shell script the Shell Library is used and for Python script the Python Library is used.

EXIT STATUS

Exit Code	Description
-----------	-------------

0	An exit status of zero indicates success.
---	---

1	Failure is indicated by a nonzero value, typically ‘1’.
---	---

AUTHOR

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Any suggestions or bug report can be submitted at the support page

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