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[\[Script\] Backup to external disk\(rsync\).](#)

by [kingj](#) » Fri Feb 06, 2009 11:39 pm

First of all, apologies if this is in the wrong section. This seemed to be the most relevant forum for my query.

I run FreeNAS as a small home storage server. While the drives are in RAID1, this does not provide a true backup solution. I have a 500 GB FireWire drive installed and mounted within FreeNAS and I would like to backup selected directories to it every night via a cron script.

My NIX/BSD experience is limited and I am looking for functionality similar to what robocopy with the MIR switch would give me on windows - only adding new/changed files and deleting ones that no longer exist in the source. How could I go about doing this? Would it also be possible to send an email on completion (e.g Backup Completed, Remove Drive).

Many thanks.

FreeNAS Version: 0.69 Kwisatz Haderach (revision 4276)

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [danmero](#) » Fri Feb 06, 2009 11:52 pm

kingj wrote:... I have a 500 GB FireWire drive installed and mounted within FreeNAS

Permanent mounted(From WebGUI) ?

kingj wrote: ...and I would like to backup selected directories to it every night via a cron script.

Do you know how to make the script? If Yes the answer is Yes.

*kingj wrote:*My NIX/BSD experience is limited and I am looking for functionality similar to what robocopy with the MIR switch would give me on windows - only adding new/changed files and deleting ones that no longer exist in the source.

You can use rsync-local on FreeNAS

*kingj wrote:*How could I go about doing this? Would it also be possible to send an email on completion (e.g Backup Completed, Remove Drive).

See my second answer.

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [kingj](#) » Sat Feb 07, 2009 12:14 pm

Yes, the drive is permanent mounted via the WebGUI but will be removed once the backup has completed. I will take a look into rsync-local, thank you.

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [danmero](#) » Sat Feb 07, 2009 12:46 pm

Or you can take a look at [KnowledgeBase > 854. Taking data offsite\(USB drive\)](#)

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [kingj](#) » Sat Feb 07, 2009 3:17 pm

I just tried the script listed, and after editing the ORG and USB variables to their correct locations (/mnt/FILESTORAGE3 and /dev/da1p1 respectively) got the following error upon running

```
storage:/mnt/FILESTORAGE3/Scripts# sh ./ExternalBackup.sh
Sat Feb 7 15:14:12 UTC 2009
```

```
1. Mounting first USB drive.
/dev/da1p1
512 # sectorsize
500107827712 # mediasize in bytes (466G)
976773101 # mediasize in sectors
60801 # Cylinders according to firmware.
255 # Heads according to firmware.
63 # Sectors according to firmware.
```

```
Error: Cant mount FS from /dev/da1p1
```

The drive is not mounted within FreeNAS's GUI and I have tried it both added to Disks > Management and not added.

Every time the script runs, the following message appears on the server console (Not my SSH session):

```
GEOM_LABEL: Label for provider da1p1 is ufs/ExternalBackup
GEOM_LABEL: Label ufs/ExternalBackup removed.
```

It does mount the drive in /sync without issue, and I have to umount /sync before I can run the script again.

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [danmero](#) » Sat Feb 07, 2009 3:34 pm

Code: [Select all](#)

```
if [ ! -d ${DEST}/.snap ]; then
echo "Error: Cant mount FS from $USB";read X;exit 1;fi
```

What filesystem you have on disk?

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [kingj](#) » Sat Feb 07, 2009 4:35 pm

danmero wrote:

Code: [Select all](#)

```
if [ ! -d ${DEST}/.snap ]; then
echo "Error: Cant mount FS from $USB";read X;exit 1;fi
```

What filesystem you have on disk?

UFS GPT, formatted via the WebGUI

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [danmero](#) » Sat Feb 07, 2009 8:13 pm

Try this script:

Code: [Select all](#)

```

#!/bin/sh
# filename:   backup2usb.sh
# author:    Dan Merschi
# date:      2009-02-07 (0.69 rev.4292)
# purpose:   Mount partition, rsync backup and umount partition.
# Set Colors
RED='\e[1;31m'; GREEN='\e[1;32m' ; YELLOW='\e[1;33m'; WHITE='\e[1;37m';
# Check arguments
[ $# -ne 2 ] && \
    { echo -e "${YELLOW}Usage: ${WHITE}$0 ${RED}partition ${GREEN}directory"; exit 1; };
# Fail if device not found
[ ! -e /dev/${1} ] && \
    { echo -e "${YELLOW}Error 1 : ${WHITE}Partition $1 don't exist. ${RED}Exit 1"; exit 1; };
# Fail if local directory don't exist
[ ! -d "${2}" ] && \
    { echo -e "${YELLOW}Error 2 : ${WHITE}Directory ${2} don't exist. ${RED}Exit 1"; exit 1; };
# Check if partition is mounted
[ `mount | grep -c /dev/${1}` -ne 0 ] && \
    { echo -e "${YELLOW}Error 3 : ${WHITE}Partition $1 is mounted. ${RED}Exit 1"; exit 1; };
# Fail if can't create directory
[ ! -d "/tmp/${1}" ] && mkdir -p "/tmp/${1}";
# Mount device
mount /dev/${1} /tmp/${1} && \
    { echo -e "${GREEN}1.${WHITE} Mounting device /dev/${1} on /tmp/${1}"; } || \
    { echo -e "${YELLOW}Error 5 : ${WHITE}Mount fail. ${RED}Exit 1"; exit 1; };
echo -e "${GREEN}2.${WHITE} Start synchronization"
# Start rsync
rsync -a -del --progress --log-file=/tmp/${1}/rsync.log "${2}/" "/tmp/${1}";
# End rsync
echo -e "${GREEN}3.${WHITE} End synchronization"; sleep 1 && sync /dev/${1};
# Umount device & remove directory
umount -f /dev/${1} && [ -d /tmp/${1} ] && rm -r /tmp/${1};
# Send final message
echo -e "${GREEN}4.${WHITE} Device ( ${GREEN}${1}${WHITE} ) umounted successfully."; sleep .5;
echo -e "${GREEN}5.${WHITE} You can safely remove your device ( ${GREEN}${1}${WHITE} )now."; sleep .5;
echo -e "${GREEN}6.${WHITE} To exit press ${GREEN}Enter${WHITE} or close the window."; sleep .5;
# Read user input & exit.
read X && exit 0

```

In the same time I move this thread to scripts.

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [kingj](#) » Sat Feb 07, 2009 8:42 pm

Works great! Thanks for all your help danmero.

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [danmero](#) » Sun Feb 08, 2009 2:15 am

I update the script.

- Fix bug "if dir exist"
-

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [micro23](#) » Fri Feb 13, 2009 9:44 pm

So let me see if I understand this....

This script mounts any drives that are not mounted (by finding things that are plugged in but not mounted... the firewire one in this case), then backs up any data on any drives that are already mounted (my raids and torrent drive) directly to it?

What would I change to use it?

Am I right?

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [danmero](#) » Fri Feb 13, 2009 10:52 pm

*micro23 wrote:*This script mounts any drives that are not mounted (by finding things that are plugged in but not mounted... the firewire one in this case),

Not just any drive, you have to specify the partition(on disk) and the local directory to sysnc.

Code: [Select all](#)

```
Usage: script partition directory
```

*micro23 wrote:*then backs up any data on any drives that are already mounted (my raids and torrent drive) directly to it?

Not any data, the second argument should be the path to directory and rsync will sync your directory and the partition (on removable device).

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [micro23](#) » Sat Feb 14, 2009 6:28 am

Thanks for the help this is a great script. Works perfect!

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [xiKFcTJT](#) » Sun Mar 22, 2009 8:18 pm

I am having some problems:

Code: [Select all](#)

```
./bk2usb.sh /dev/da1p1 /mnt/Backup-Audio-Visual/Backup
Error 1 : Partition /dev/da1p1 dont exist.

# ls -l /dev/da???
crw-r----- 1 root operator  0, 96 Mar 22 12:51 /dev/da1p1
```

I've used the WebGUI to mount /dev/da1p1 to test it and it works (UFS format).

Any suggestions?

Thanks

Edit:

Nevermind, this works:

Code: [Select all](#)

```
# sh ./bk2usb.sh da1p1 /mnt/Backup-Audio-Visual/Backup
```



[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [timoochmann](#) » Sun Aug 02, 2009 5:28 pm

Hi danmero,

This is a great script and I use it regularly to backup my shares. Although I've found that items on the destination don't get deleted, if they have been on the source, i.e. items in a folder on the source that have been deleted don't get deleted on the destination during the backup. This results in the destination to grow in size over time, until I run out of HD space. I've tried to replace -del with --force-delete, but that generates an error. Am I missing something?

Thanks

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [cappej](#) » Sat Oct 17, 2009 3:35 pm

Hi,

I find this post after many hours surfed on my PC... but... I'm a REAL noob with BASH and I didn't understand nothing! seems like hieroglyphics!

danmero wrote:

micro23 wrote: This script mounts any drives that are not mounted (by finding things that are plugged in but not mounted... the firewire one in this case),

Not just any drive, you have to specify the partition(on disk) and the local directory to rsync.

Code: [Select all](#)

Usage: script partition directory

micro23 wrote: then backs up any data on any drives that are already mounted (my raids and torrent drive) directly to it?

Not any data, the second argument should be the path to directory and rsync will sync your directory and the partition (on removable device).

I don't understand what variables I've to change and what are my variables I've to insert ...?

These are my parameters in: **Disk | mount point | management**

```
/dev/ad0s2 --- ufs --- mnt/Raid1TB --- Disco Raid 1TB --- OK  
/dev/da0p1--- ufs --- mnt/USBstick --- USB BackUp --- OK
```

Is there someone who can Help me?!

Many tanks

p.s. sorry for my English...

Marco

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [c0mputerking](#) » Sat Feb 27, 2010 5:46 am

Hello i am also trying to use the backup2usb script but i am getting some errors, and the files are not being transferred. I have looked through the forums but have not found anything. Also i cannot get rsync to work through the GUI either, gives me this error pid 4437 (rsync), uid 0 inumber 4376 on /: filesystem full even though df states that / capacity is only 80%

Please help as i am getting the dreaded errors about software raid listed here and would really like a backup in place!!!

[viewtopic.php?f=81&t=2318](#)

Anyways here is the errors from the script

```
Sat Feb 27 12:28:55 GMT-7 2010
1. Mounting device /dev/da0p1 on /tmp/da0p1
2. Start synchronization
sending incremental file list
drwxrwxrwx 512 2010/02/24 22:43:24 .
-rwxrw-rw- 460389 2009/12/01 06:36:31 Owner.wab
```

```
sent 60 bytes received 12 bytes 144.00 bytes/sec
total size is 460389 speedup is 6394.29
./backup2usp.sh: /tmp/da0p1: Permission denied
3. End synchronization
4. Device ( da0p1 ) unmounted successfully.
5. You can safely remove your device ( da0p1 )now.
```

I also get alot of these in my dmesg

```
GEOM_LABEL: Label for provider da0p1 is ufsid/4b853ea119739442.
GEOM_LABEL: Label for provider da0p1 is ufs/usbackup.
GEOM_LABEL: Label ufs/usbackup removed.
GEOM_LABEL: Label ufsid/4b853ea119739442 removed.
WARNING: /tmp/da0p1 was not properly dismounted
GEOM_LABEL: Label for provider da0p1 is ufsid/4b853ea119739442.
GEOM_LABEL: Label for provider da0p1 is ufs/usbackup.
```

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [mrwgt](#) » Sat Feb 27, 2010 12:20 pm

Hi...

*danmero wrote:*Try this script:...
In the same time I move this thread to scripts.

I thing there is an error in unmount (partition stays mounted):

Code: [Select all](#)

```
# Umount device & remove directory
umount -f /dev/${1} && [ -d /tmp/${1} ] && rm -r /tmp/${1};
```

i think it should be

Code: [Select all](#)

```
# Umount device & remove directory
umount -f /tmp/${1} && [ -d /tmp/${1} ] && rm -r /tmp/${1};
```

Kind regards

Gerd

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [danmero](#) » Sat Feb 27, 2010 1:58 pm

*cappej wrote:*I don't understand what variables I've to change and what are my variables I've to insert ...?

These are my parameters in: **Disk | mount point | management**

```
/dev/ad0s2 --- ufs --- mnt/Raid1TB --- Disco Raid 1TB --- OK
/dev/da0p1--- ufs --- mnt/USBstick --- USB BackUp --- OK
```

You should check the previous answers

xiKFcTJT wrote:Edit:
Nevermind, this works:

Code: [Select all](#)

```
# sh ./bk2usb.sh da1p1 /mnt/Backup-Audio-Visual/Backup
```



In your case will be

Code: [Select all](#)

```
# sh ./bk2usb.sh da0p1 mnt/Raid1TB
```

If you want to keep a full backup of your Raid1TB.

c0mputerking wrote:

Code: [Select all](#)

```
GEOM_LABEL: Label for provider da0p1 is ufsid/4b853ea119739442.  
GEOM_LABEL: Label for provider da0p1 is ufs/usbackup.  
GEOM_LABEL: Label ufs/usbackup removed.  
GEOM_LABEL: Label ufsid/4b853ea119739442 removed.  
WARNING: /tmp/da0p1 was not properly dismounted  
GEOM_LABEL: Label for provider da0p1 is ufsid/4b853ea119739442.  
GEOM_LABEL: Label for provider da0p1 is ufs/usbackup.
```

You should manually mount your USB disk and fsck_ufs the filesystem until is clean.

mrwgt wrote:I thing there is an error in unmount (partition stays mounted):

The question is why and thats for you to find out.
On my side the script work both ways, unmounting the device or the filesystem.

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [c0mputerking](#) » Sun Feb 28, 2010 2:30 am

Darn i moved on to this post as it seemed like a better/different solution, [viewtopic.php?f=12&t=2073](#). and now cannot seem to mount my drive guessing it has to do with the disk encryption.

Code: [Select all](#)

```
fsck_ufs /dev/da0  
** /dev/da0 (NO WRITE)  
Cannot find file system superblock  
ioctl (GCINFO): Inappropriate ioctl for device  
fsck_ufs: /dev/da0: can't read disk label  
classicgiga:/mnt# fsck_ufs /dev/da0s1  
Can't stat /dev/da0s1: No such file or directory
```

looks like i have really made a mess here the data on the disk is not important so i could wipe it and start again, but it has been awhile since using FreeBSD my first choice for an OS

Could you give me some hints heehee 😊

I think i would like to use the automount backup method in the other thread please seem my post there too.

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by **[danmero](#)** » Sun Feb 28, 2010 3:10 pm

*c0mputerking wrote:*https://sourceforge.net/apps/phpbb/freenas/viewtopic.php?f=12&t=2073. and now cannot seem to mount my drive guessing it has to do with the disk encryption.

For encrypted disks you have to attach the disk first(see [geli](#)), and after fsck_ufs the filesystem on encrypted volume.

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by **[c0mputerking](#)** » Sun Feb 28, 2010 8:12 pm

```
classicgiga:/mnt# fsck_ufs /dev/da0
** /dev/da0 (NO WRITE)
Cannot find file system superblock
ioctl (GCINFO): Inappropriate ioctl for device
fsck_ufs: /dev/da0: can't read disk label
classicgiga:/mnt#
```

There is defintly something strange going on with this disk did you read my other post too it explains some more about how my old data still remains and gets mounted even though i have encrypted the disk and ran the newfs program to set up the disk as encrypted.

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by **[danmero](#)** » Sun Feb 28, 2010 10:29 pm

You have to understand the logic.

*c0mputerking wrote:*classicgiga:/mnt# fsck_ufs /dev/da0

You will not see anything until you attach the volume !
Once you attach the volume you'll have to:

Code: [Select all](#)
fsck_ufs /dev/da0.eli

.eli is the extension for encrypted volume.

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by **[c0mputerking](#)** » Mon Mar 01, 2010 10:26 am

Ok i get the logic now heehee thanks got fsck run a couple of times did not find anything wrong that i could see. Got a error during attach command but think i was already attached.

```
classicgiga:/mnt# geli attach -p -k /temp/ukey.key /dev/da0
geli: Cannot access da0 (error=1).
classicgiga:/mnt# fsck_ufs /dev/da0.eli
** /dev/da0.eli
** Last Mounted on /tmp/da0.eli
** Phase 1 - Check Blocks and Sizes
** Phase 2 - Check Pathnames
** Phase 3 - Check Connectivity
** Phase 4 - Check Reference Counts
** Phase 5 - Check Cyl groups
18 files, 21 used, 240303814 free (0 frags, 240303814 blocks, 0.0% fragmentation)
```

get this output from the script


```
classicgiga:/# /temp/scripts/usb2backupdif.sh da0.eli /temp/scripts
/temp/scripts/usb2backupdif.sh: !/bin/sh: not found
1. Mounting device /dev/da0.eli on /tmp/da0.eli
2. Start synchronization
   sending incremental file list

sent 161 bytes received 13 bytes 348.00 bytes/sec
total size is 11806 speedup is 67.85
3. End synchronization
4. Device ( da0.eli ) umounted successfully.
5. You can safely remove your device ( da0.eli ) now.
6. To exit press Enter or close the window.
```

When I manually mount Yippee my rsync data is there however freenas still seems to be mounting a /mnt/usbackup partition from the same disk i am confused as to how or why this is happening...also now that i got this working i think i like the code on your other thread better heehee have you seen my post there?

[viewtopic.php?f=12&t=2073](#)

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [juergen-h](#) » Wed Mar 31, 2010 12:21 pm

*timoochmann wrote:*Although I've found that items on the destination don't get deleted, if they have been on the source, i.e. items in a folder on the source that have been deleted don't get deleted on the destination during the backup. This results in the destination to grow in size over time, until I run out of HD space. I've tried to replace -del with --force-delete, but that generates an error.

This question is a couple of months old, but I got the same problem yesterday when I tested the script. Try --del with two times the minus. That worked for me.

The script is very good. I like it. Thanks to the publisher 😊

Regards, Juergen

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by [stormadvisor](#) » Thu Mar 03, 2011 8:44 pm

danmero,
I hope your still monitoring this post.

I am building a server with the latest stable freenas install on 1 drive and using 2 250g drives in a raid 1 configuration for files. I have 3 USB ext. hdd's for an off site rotation.

I have been going over this post, this one <https://sourceforge.net/apps/phpbb/freenas/viewtopic.php?f=12&t=2073> and some places on the web. I have a couple questions. I am new to scripts and I may just have things confused so please bear with me.

Are the colors just a way of identifying the drives?

Code: [Select all](#)

```
# Set Colors
RED='\e[1;31m'; GREEN='\e[1;32m' ; YELLOW='\e[1;33m'; WHITE='\e[1;37m';
```

Over on this site http://www.mikerubel.org/computers/rsync_snapshots/#Incremental he talks about doing an incremental backup. How can this be integrated into your script or is it already there?

I forgot that If I cannot do increment the backups then I need it to delete older ones as space demands.

Thanks,
stormadvisor

[Re: \[Script\] Backup to external disk\(rsync\).](#)

by **danmero** » Thu Mar 10, 2011 11:54 am

*stormadvisor wrote:*I hope your still monitoring this post.

I do monitor my old posts when I have time 😊

*stormadvisor wrote:*I have been going over this post, this one <https://sourceforge.net/apps/phpbb/freenas/viewtopic.php?f=12&t=2073> and some places on the web. I have a couple questions. I am new to scripts and I may just have things confused so please bear with me.

Are the colors just a way of identifying the drives?

Code: [Select all](#)

```
# Set Colors
RED='\e[1;31m'; GREEN='\e[1;32m' ; YELLOW='\e[1;33m'; WHITE='\e[1;37m';
```

No, the colors are irrelevant for the script operation, just a fancy way to format the script output when run from terminal.

*stormadvisor wrote:*Over on this site http://www.mikerubel.org/computers/rsync_snapshots/#Incremental he talks about doing an incremental backup. How can this be integrated into your script or is it already there?

I already make a script around Mike Rubel original script , see [FreeNAS Knowledgebase / 862. Easy Automated Snapshot-Style Backups with FreeNAS and Rsync](#) not yet implemented on this script. Both ideas can be implemented on this script, when I made my script the FreeNAS/FreeBSD version of **cp**(copy) didn't support -a argument but that's history now since FreeBSD 7.x/ FreeNAS 7.x

Try to merge the 2 scripts and if you encounter difficulty let me know.
Open a new thread for your new problem on [Scripts and shell tips](#)