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Backing Up The FreeNAS Configuration File Nightly Using A Cron Job

This is entirely optional.

It is recommended that you have email notifications setup on the FreeNAS server before embarking on this subsection.

This is a guide for creating a Cron job to back-up the FreeNAS configuration file each night.

This file can be used for recovery purposes should your FreeNAS server encounter a problem of some sort (bloody ferrets!), so this is well worth doing.

Creating the Dataset

The first thing to do is to create a dataset within which we can store the nightly backup of the FreeNAS configuration file. This will keep things neat and tidy.

Go to the "Storage" page.

Account	System	0 Tasks	Network	Storage	Directory	Sharing	Services	Plugins	Jails	Reporting	T Wizard
System											
Information	General	Boot	Advanced	Email	System Data	aset Tunabl	es Update	CAs	Certificate	s Support	
System	Informatio	on									
Hostnam	e	Ec	dit								
Build	Free	IAS-9.10-RI	ELEASE (2def	9c8)							
Platform	Intel(R) Xeon(R)	CPU E5-2620	v3 @ 2.40	GHz						
Memory	1624	8MB									
System T	ime										
Uptime											
Load Ave	erage 0.00,	0.06, 0.13									

Select "Tank1" or whatever you called the volume (1) by clicking on it (it should turn blue when selected).

A series of buttons should appear on the bottom of the screen.

From these buttons click on one that creates a dataset (2).

Storage				
Volumes Periodic Snapshot Tas	ks Replication Tasks Scrubs Si	napshots VMware-Snapshot		
Volume Manager Import Disk	Import Volume View Disks			
Name	Used	Available		
⊿ Tank1 1	1.9 GiB (0%)	29.0 TiB		
⊿ Tank1	1.4 GiB (0%)	20.0 TiB		
Media	33.4 MiB (0%)	20.0 TiB		
TestShare	33.4 MiB (0%)	20.0 TiB		
⊿ jails	1013.3 MiB (0%)	20.0 TiB		
jails/.warden-template- pluginjail	605.6 MiB (0%)	20.0 TiB		
jails/plexmediaserver_1	407.4 MiB (0%)	20.0 TiB		
2 Crea	te Dataset			

A new smaller window will pop up for creating the dataset.

- In the "Dataset Name:" text box (1) give the share a name (because this is a backup dataset, Fester used **NightlyBackup**).
- Leave the "Compression level:" drop down selection box (2) set to Iz4.
- Set the "Share type:" to whatever suits the type of clients on your network (Fester has mainly Windows machines so I set this to **Windows**).
- Leave the "Case Sensitivity:" drop down selection box and "Enable atime:" at their default settings as shown (4).
- "ZFS Deduplication:" should be set to **off** in the drop down selection box (5) unless you understand this and you have plenty of memory.
- Now click the "Add Dataset" button (6).

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The dataset will now be created and you should see something like this.

Storage Volumes Periodic Snapshot Ta	sks Replication Tasks Scrubs S	napshots VMware-Snapshot		
Volume Manager Import Disk	Import Volume View Disks			
Name	Used	Available		
⊿ Tank1	1.9 GiB (0%)	29.0 TiB		
Tank1	1.4 GiB (0%)	20.0 TiB		
Media	33.4 MiB (0%)	20.0 TiB		
NightlyBackup	204.8 KiB (0%)	20.0 TiB		
TestShare	33.4 MiB (0%)	20.0 TiB		
⊿ jails	1013.3 MiB (0%)	20.0 TiB		
jails/.warden-template- pluginjail	605.6 MiB (0%)	20.0 TiB		
jails/plexmediaserver_1	407.5 MiB (0%)	20.0 TiB		

Remain on this screen and select the newly created dataset (1) if it is not selected already (in Fester's case this was NightlyBackup).

Now click on the change permissions button (2).

ne	Used	Available	
ank1	1.9 GiB (0%)	29.0 TiB	
Tank1	1.4 GiB (0%)	20.0 TiB	
Media 1	33.4 MiB (0%)	20.0 TiB	
NightlyBackup	204.8 KiB (0%)	20.0 TiB	
TestShare	33.4 MiB (0%)	20.0 TiB	
⊿ jails	1013.3 MiB (0%)	20.0 TiB	
jails/.warden-template- pluginjail	605.6 MiB (0%)	20.0 TiB	
jails/plexmediaserver_1	407.5 MiB (0%)	20.0 TiB	

A new window will pop up for changing the permissions of the new dataset.

I did not need to change any of the settings from their default value (1).

Now click the "Change" button (2).

Do not set the user and group to any of those you use for shares. This would be unwise. Only the **root** user and **wheel** group should be allowed to access this particular share.

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Change permission	alle de Alle de L	*
Change permission on /mnt/Ta	ank1/NightlyBackup to:	
Apply Owner (user):		
Owner (user):	root	
Apply Owner (group):		
Owner (group):	wheel	
Apply Mode:		
Mode:	Owner Group Other Read Write Execute	Ш
Permission Type:	 O Unix Mac Windows 	
Set permission recursively:		
Change Cancel		-

Creating the Script

We now need to create a file in the volume directory (in Fester's case this is Tank1).

Open up an SSH session in PuTTY and log in as the root user. You should see a screen something like this.

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We now need to navigate to the volume directory by typing in the following command into the command prompt. Don't forget to hit the "Return/Enter" key to execute the command.

cd /

You should now see a screen something like this.



Now type into the command prompt the following command.

cd mnt

You should see a screen something like this.

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Now type in the following command at the command prompt to see your volume's name.

ls

You should see a screen that looks something like this.

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The name of the volume will be revealed at this point (in Fester's case it is the blue text "Tank1").

Now type into the command prompt the following command with your volume name. The volume name is case sensitive so make sure you observe this when typing in the command.

cd YourVolumeNameHere

In Fester's case the command would look like this:

cd Tank1

You should see a screen like this.



We now need create an empty file in this directory. You can call this file anything you like but remember its name as you will need it later.

At the command prompt type the following command (1).

touch YourFileNameHere.sh

In Fester's case the command looked like this.

touch bkpconfig.sh

Now type in the following command to confirm the file was created (2).

ls

If all has gone well you should see the file listed in the SSH window (3).

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We now need to edit the file. At the command prompt type in the following command.

edit YourFileNameHere.sh

In Fester's case this command would look like this.

edit bkpconfig.sh

If all goes well you should see a screen like this.

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We now need to put in the text line that will run each evening when the Cron Job is activated.

Type into the edit window the following line of text (this is all one line).

cp /data/freenas-v1.db /mnt/YourVolumeNameHere/YourDatasetNameHere/`date
+%Y%m%d`.db

So in Fester's case this command would look like this.

cp /data/freenas-v1.db /mnt/Tank1/NightlyBackup/`date +%Y%m%d`.db

If you want the FreeNAS version tagged on to the backup file names then use this command instead. This is all one one line; do not press the Enter key to insert a line break:

```
cp /data/freenas-v1.db /mnt/YourVolumeNameHere/YourDatasetNameHere
/.scripts/ConfigBackups/`date %Y%m%d`_`cat /etc/version | cut -d'-' -f2`_`cat
/etc/version | cut -d'-' -f4`.db
```

(Please note the "`" character is not an apostrophe. This character on my keyboard is found at the top left hand side under the "Esc" key. Your keyboard may be different.)

When you are done the edit screen should look something like this.

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fester:additional_configbackup https://familybrown.org/dokuwiki/doku.php?id=fester:additional_configbackup&rev=1498321165

Proot@TestNAS1:/mnt/Tank1	
<pre>^[(escape) menu ^y search prompt ^k delete line ^p prev li ^g prev page ^o ascii code ^x search ^l undelete line ^n next li ^v next page ^u end of file ^a begin of line ^w delete word ^b back 1 char ^z next word ^t top of text ^e end of line ^r restore word ^f forward char ^c command ^d delete char ^j undelete char ESC-Enter: exit ====line 1 col 65 lines from top 1 ===================================</pre>	
	4

Now hit the "Esc" key.

You should be presented with a series of options at this point.

Press the "c" key or navigate to the c option using the " $\uparrow \downarrow$ " keys and press the "Return/Enter" key.



Now press the "c" key again or navigate to the c option using the " $\uparrow \downarrow$ " keys and press the "Return/Enter" key.

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Proot@TestNAS1:/mnt/Tank1
<pre>^[(escape) menu ^y search prompt ^k delete line ^p prev li ^g prev page ^o ascii code ^x search ^l undelete line ^n next li ^v next page ^u end of file ^a begin of line ^w delete word ^b back 1 char ^z next word ^t top of text ^e end of line ^r restore word ^f forward char ^c command ^d delete ESC-Enter: exit =====line 1 col 65 lines cp /data/freenas-v1.db /m +</pre>
<pre>a) read a file b) write a file c) save file a) print editor contents press Esc to cancel ++</pre>

The text line in the editor will now be saved to the file.

Press the "Esc" key again.

Now press the "a" key or navigate to the a option and press the "Return/Enter" key.

2025/07/02 03:45

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Backing Up The FreeNAS Configuration File Nightly Using A Cron Job

Proot@TestNAS1:/mnt/Tank1	
<pre>root@TestNAS1:/mnt/Tank1 ^[(escape) menu ^y search prompt ^k delete line ^o ascii code ^x search</pre>	<pre>^p prev li ^g prev page ^n next li ^v next page ^b back 1 char ^z next word ^f forward char ESC-Enter: exit e +%Y%m%d`.db</pre>
f) search g) miscellaneous press Esc to cancel	

This will take you out of the editor and return the command prompt.

You should see a screen something like this.

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Proot@TestNAS1:/mnt/Tank1	
<pre>^o ascii code ^x search</pre>	<pre>^n next li ^v next page ^b back 1 char ^z next word ^f forward char ESC-Enter: exit</pre>
[root@TestNAS1] /mnt/Tank1#	4 III

Now type the following command to leave the SSH console.

exit

Testing the Cron Job

Now go to the FreeNAS GUI and log in if needed.

Go to the "Tasks" page.

2	025/07/02 03:45		19/24				Backing	Up The Free	NAS Configu	iration File Ni	ghtly Using	A Cron Job
	Account Sys	Stem (Difference of the second secon	Network	Storage	Directory	(interview) Sharing	Services	Plugins	Jails	Reporting	S Wizard
	System											
	Information	Seneral	Boot	Advanced	Email	System Datas	set Tunab	les Update	e CAs	Certificates	s Support	
	System Info	ormatio	on Ed	lit								
	Build	Free	NAS-9.10-RE	ELEASE (2def	f9c8)							
	Platform	Intel((R) Xeon(R)	CPU E5-2620	0 v3 @ 2.40	GHz						
	Memory	1624	8MB									
	System Time											
	Uptime	2										
	Load Averag	e 0.00,	, 0.06, 0.13									

Click on the "Cron Jobs" button (1) if it is not selected already.

Now click on the "Add Cron Job" button (2).

Shutdown Scripts	Rsvnc Tasks S.M.A.R.	T Tests
		I. IESIS
2		
-		
Command	Short description	Minute
1	2	2

A new window will pop up that should allow you to configure the Cron job.

In the "User:" drop down selection box (1) chose root as the user.

In the "Command:" text box (2) type in the following command.

sh /mnt/YourVolumeNameHere/bkpconfig.sh

So in Fester's case this would look like this.

sh /mnt/Tank1/bkpconfig.sh

In the "Short description:" text box (3) give the Cron job a meaningful name.

Fester wants this Cron job to run every day, of every month at midnight (if you run this Cron job at midnight while repeating a special incantation that only certain SysAdmin's know it will give your FreeNAS system the ability emulate a Sinclair ZX Spectrum when there is a full moon!).

To run the Cron job every day at midnight set the "Each selected minute" setting of the "Minute:" section to 00 (4).

Set the "Each selected hour" of the "Hour:" section to 00 (5).

User:	root	*				
Command:	sh /mnt/Tank1/bkpconfig.sh					
Short description:	Nightly backup of config file.	III				
Minute:	Every N minute Each selected minute 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 = 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 T					
Hour:	Image: Text of the selected hour Each selected hour 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 23	4				

Now scroll down.

In the "Every N day of month" setting of the "Day of month:" section set this to 1 (6).

Put a tick next to every month in the "Month:" section (7).



Now scroll down.

Put a tick next to every day in the "Day of week:" section (8).

Fester leaves the "Redirect Stdout:" and "Redirect Stderr:" at their default values as I don't know what they do. The "Enabled:" tick box needs to be ticked (9).

Now click the "OK" button (10).



If all goes well you should see an entry for the newly created Cron job. It should look something like this.

Tasks										
Cron Jobs Init/S	Tron Jobs Init/Shutdown Scripts Rsync Tasks S.M.A.R.T. Tests									
Add Cron Job										
User	Command	Short description	Minute	Hour	Day of month	Month	Day of week			
root	sh /mnt/Tank1 /bkpconfig.sh	Nightly backup of config file.	00	00	Everyday	Every month	Everyday			

Testing the Cron Job

We now need to test that the Cron job actually works.

Select the newly created Cron job by clicking on it (it will turn blue when selected) (1).

Now click the "Run Now" button (2).

If this worked then a file should have been created in the dataset you made for this (in Fester's case this was the "NightlyBackup" data set). We now need to go and check the file was created.

Open up an SSH session in PuTTY and log in as the root user. You should see a screen something like this.

We now need to navigate to the dataset you created to hold the nightly backups by typing in the following command into the command prompt. Don't forget to hit the "Return/Enter" key to execute the command.

cd /

You should now see a screen something like this.

Now type into the command prompt the following command.

cd mnt

You should see a screen something like this.

Now type in the following command at the command prompt to see your volume's name.

ls

You should see a screen that looks something like this.

The name of the volume will be revealed at this point (in Fester's case it is the blue text "Tank1").

Now type into the command prompt the following command with your volume name. The volume name is case sensitive so make sure you observe this when typing in the command.

cd YourVolumeNameHere

In Fester's case the command would look like this.

cd Tank1

You should see a screen like this.

Now type in the following command at the command prompt to see your dataset's name.

ls

You should see a screen that looks something like this.

The name of the dataset will be revealed at this point (in Fester's case it is the blue text "NightlyBackup").

Now type into the command prompt the following command with your dataset name. The dataset name is case sensitive so make sure you observe this when typing in the command.

cd YourDatasetNameHere

In Fester's case the command would look like this.

cd NightlyBackup

You should see a screen like this.

Now type in the following command at the command prompt.

ls

You should see a screen showing a file with the date for its name starting with the year, then the month and then the day. If you get something that resembles the following then it has worked.

So the "20160517.db" file in the screen shot was created on the 17/05/2016.

That's the nightly backup of the FreeNAS configuration file done.

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