

Mission 4 : Backuppc

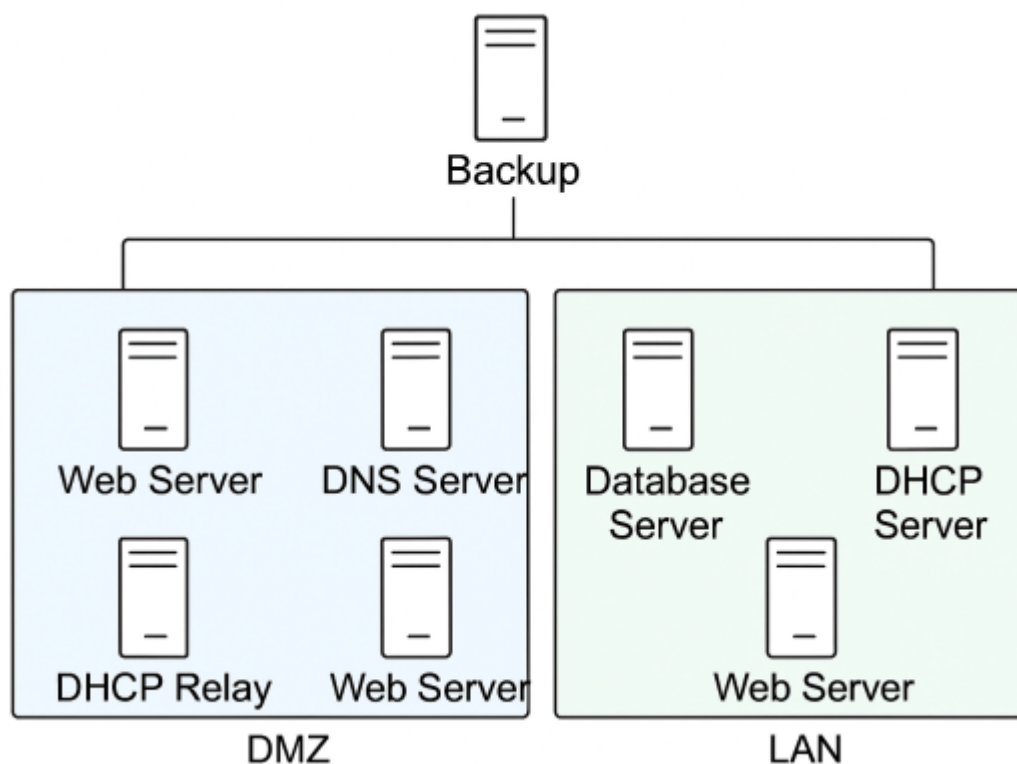
Pré-requis

Afin de pouvoir réaliser cette mission il faut :

- Un serveur sous Debian 13
- Un routeur sous Debian 13
- La configuration IP des deux machines,
- La configuration backup des deux machines,

Introduction

Nous allons mettre en place un système de sauvegarde de fichiers (Backup) de ses différents serveurs et des postes utilisateurs.



Avantage des sauvegardes backup :

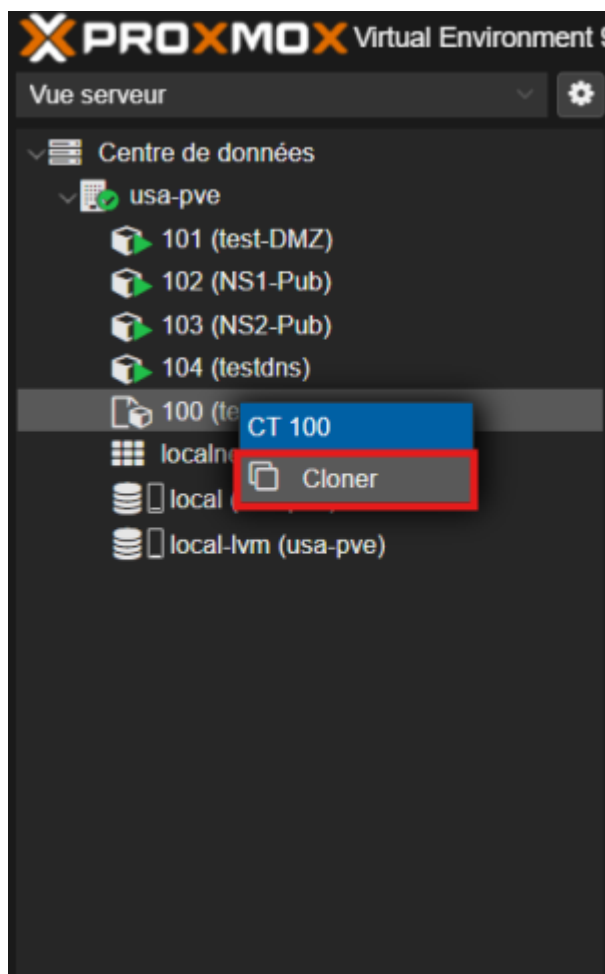
- *Sauvegarde tout les fichiers important des différents conteneur du Lan et DMZ.
- *En cas de chute de conteneur ou de perte de fichier nous pouvons alors les restaurés.
- *Restauration des répertoires et fichiers rapidement.

Backup_01

création et paramétrage du conteneur Backup-01

Création conteneur Backup

Pour commencer nous avons cloné le conteneur Template créé au préalable sur Proxmox pour l'appeler backup-01



Après avoir cloné notre Template il fallait modifier les paramètres IP.

Il faut mettre nos backup dans le LAN qui dans notre cas est l'adresse suivant 10.31.240.73 et 10.31.240.74

Je suis donc aller dans le répertoire etc/network pour remplir le fichier interfaces et ainsi mettre ma nouvelle adresse IP

```
nano /etc/network/interfaces
```

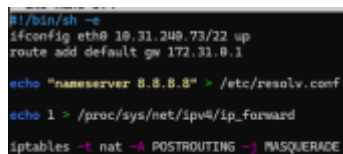
```
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet static
    address 10.31.240.73/22
    gateway 10.31.243.254
```

```
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet static
    address 10.31.240.73/22
    gateway 10.31.243.254
```

Pour finir la configuration réseau je suis retourner dans le répertoire etc mais cette fois-ci dans le dossier rc.local pour y implanter tout les paramètre réseau nécessaire au bon fonctionnement du centenaire



```
#!/bin/sh -e
ifconfig eth0 10.31.240.73/22 up
route add default gw 172.31.0.1

echo "nameserver 8.8.8.8" > /etc/resolv.conf

echo 1 > /proc/sys/net/ipv4/ip_forward

iptables -t nat -A POSTROUTING -j MASQUERADE
```

```
#!/bin/sh -e
ifconfig eth0 10.31.240.73/22 up
route add default gw 172.31.0.1

echo "nameserver 8.8.8.8" > /etc/resolv.conf

echo 1 > /proc/sys/net/ipv4/ip_forward

iptables -t nat -A POSTROUTING -j MASQUERADE
```

Important:



Faire un `systemctl restart networking` a fin de redémarrer le service pour que la machine prennent les nouvelle configuration réseau

Une fois la configuration fini il faut installer tout les services qui vont nous servir pour la mise en place du backup.

```
apt get install backuppc
```

Une fois les paquets installé,

```
cd /etc/apache2/conf.available/  
htpasswd /etc/backuppc/htpasswd backuppc
```

```
nano backuppc.conf
```

Cette ligne de commande permet de créer ou modifier un fichier de mots de passe pour

l'authentification HTTP

```
Alias /backuppc /usr/share/backuppc/cgi-bin/
```

```
Directory /etc/backuppc/cgi-bin/>
```

```
AllowOverride None
```

EXPLICATION FICHIER DE CONF

```
# Uncomment the line below to ensure that nobody can sniff important  
# info from network traffic during editing of the BackupPC config or  
# when browsing/restoring backups.  
# Requires that you have your webserver set up for SSL (https)  
access.  
#SSLRequireSSL
```

```
Options ExecCGI FollowSymlinks
```

```
AddHandler cgi-script .cgi
```

```
DirectoryIndex index.cgi
```

```
AuthUserFile /etc/backuppc/htpasswd
```

```
AuthType basic
```

```
AuthName "BackupPC admin"
```

```
<RequireAll>
```

```
    # Comment out this line once you have setup HTTPS and  
uncommented SSLRequireSSL
```

```
    Require all granted
```

```
    # This line ensures that only authenticated users may access  
your backups
```

```
    Require valid-user
```

```
</RequireAll>
```

```
</Directory>
```



il sert à stocker des fichiers de configuration optionnels d'Apache.

/etc/sudoers

```
nano /etc/sudoers
```

```
# User privilege specification
root    ALL=(ALL:ALL) ALL
backuppc ALL= NOPASSWD: /usr/bin/rsync
backuppc ALL= NOPASSWD: /usr/bin/ping
# Allow members of group sudo to execute any command
%sudo   ALL=(ALL:ALL) ALL
ssh-keygen -t rsa -b 4096
# See sudoers(5) for more information on "@include"
```

il définit qui a le droit
le système.



Ce qui permet de créer les clés id_rsa.pub et id_rsa qui se trouve dans le répertoire .ssh. Ainsi copier la clé public et la mettre dans tout les utilisateurs de tout les autres conteneurs.

MISE EN PLACE DES CLÉS

Ainsi mettre la clé id_rsa.pub dans le fichier suivant :

EXPLICATION

```
su - backuppc
mkdir .ssh
cd .ssh
nano authorized_keys
```

Important:

\



Faire les commande précédentes pour mettre les clés dans les utilisateurs des conteneurs!

Dans le conteneur du backup , il faut tout d'abord créer un compte backuppc si il est pas déjà fait.

=== Création de compte utilisateur===

```
adduser backuppc
```

Ainsi créer la clé dedans :

```
ssh-keygen -t rsa -b 4096
```



Ce qui permet de créer les clés id_rsa.pub et id_rsa qui se trouve dans le répertoire .ssh. Ainsi copier la clé public et la mettre dans tout les utilisateurs de tout les autres conteneurs.

/etc/sudoers

Mettre les droits aux utilisateur de tout les conteneurs

```
nano etc/sudoers
```

```
# User privilege specification
root    ALL=(ALL:ALL) ALL
backuppc ALL=NOPASSWD: /usr/bin/rsync
# Allow members of group sudo to execute any command
```



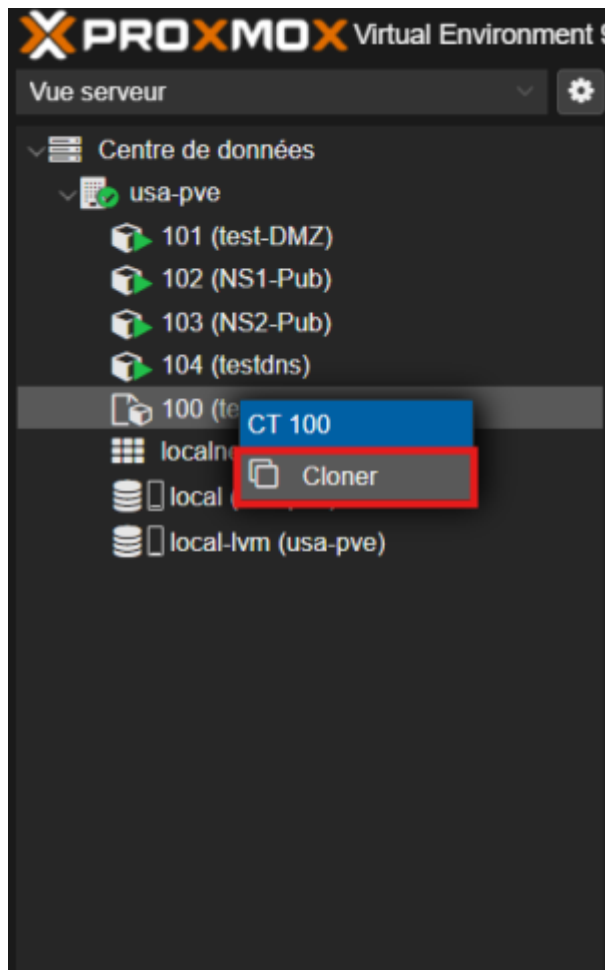
Ce qui permet aux utilisateurs des conteneurs d'utiliser rsync.

Backup-02

création et paramétrage du conteneur backup-02

Création conteneur backup-02

Pour créer le conteneur, même principe que pour NS1 donc clonage du conteneur Template puis paramétrage IP



Après avoir cloné notre Template il fallait modifier les paramètres IP.

Il faut mettre nos backup dans le LAN qui dans notre cas est l'adresse suivant 10.31.240.73 et 10.31.240.74

Je suis donc aller dans le répertoire etc/network pour remplir le fichier interfaces et ainsi mettre ma nouvelle adresse IP

```
nano /etc/network/interfaces
```

```
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet static
    address 10.31.240.74/22
    gateway 10.31.243.254
```

```
auto lo iface lo inet loopback
```

```
auto eth0 iface eth0 inet static
```

```
cd /etc/apache2/conf.available/
address 10.31.248.74/22
gateway 10.31.243.254
nano backuppc.conf
```

Pour finir la configuration réseau je suis retourner dans le répertoire etc mais cette fois-ci dans le dossier rc.local pour y implanter tout les paramètre réseau nécessaire au bon fonctionnement du centenaire

```
<Directory /usr/share/backuppc/cgi-bin/>
    AllowOverride None

#!/bin/sh -e
ifconfig # Uncomment the line below to ensure that nobody can sniff important
eth0 10.31.248.74/22 up
route add default gw 172.31.0.1
# info from network traffic during editing of the BackupPC config or
# when browsing/restoring backups.

echo "nameserver 8.8.8.8" > /etc/resolv.conf
access.

echo 1 > #SSLRequireSSL
proc/sys/net/ipv4/ip_forward

iptables -t nat -A POSTROUTING -j MASQUERADE
AddHandler cgi-script .cgi
DirectoryIndex index.cgi
```

Une fois la configuration fini il faut installer tout les services qui vont nous servir pour la mise en place du backup.

```
AuthUserFile /etc/backuppc/htpasswd
AuthType basic
apt get install backuppc
AuthName "BackupPC admin"
```

```
<RequireAll>
# Comment out this line once you have setup HTTPS and
uncommented SSLRequireSSL
htpasswd /etc/backuppc/htpasswd backuppc
Require all granted
```

Cette ligne de commande permet de créer ou modifier un fichier de mots de passe pour l'authentification HTTP your backups

```
# This line ensures that only authenticated users may access
Require valid-user
```

FICHER DE CONFIGURATION

```
</Directory>
```

EXPLIQUATION FICHER DE CONF



il sert à stocker des fichiers de configuration optionnels d'Apache.

/etc/sudoers

```
nano /etc/sudoers
```



```
# User privilege specification
root    ALL=(ALL:ALL) ALL
backuppc ALL=NOPASSWD: /usr/bin/rsync
backuppc ALL=NOPASSWD: /usr/bin/ping
# Allow members of group sudo to execute any command
%sudo   ALL=(ALL:ALL) ALL
ssh-keygen -t rsa -b 4096
# See sudoers(5) for more information on "@include"
```

il définit qui a le droit d'exécuter quelles commandes en mode administrateur (root) sur le système.



Ce qui permet de créer les clés id_rsa.pub et id_rsa qui se trouve dans le répertoire .ssh. Ainsi copier la clé public et la mettre dans tout les utilisateurs de tout les autres conteneurs.

MISE EN PLACE DES CLÉS

Ainsi mettre la clé id_rsa.pub dans le fichier suivant :

EXPLICATION

```
su - backuppc
mkdir .ssh
cd .ssh
nano authorized_keys
```

Important:

\



Faire les commande précédentes pour mettre les clés dans les utilisateurs des conteneurs!

Dans le conteneur du backup , il faut tout d'abord créer un compte backuppc si il est pas déjà fait. Ainsi créer la clé dedans :

```
ssh-keygen -t rsa -b 4096
```



Ce qui permet de créer les clés id_rsa.pub et id_rsa qui se trouve dans le répertoire .ssh. Ainsi copier la clé public et la mettre dans tout les utilisateurs de tout les autres conteneurs.

/etc/sudoers

Mettre les droits aux utilisateur de tout les conteneurs

nano etc/sudoers

==Access to site web==

10.31.248.73/backuppc/

user privilege specification

root ALL=(ALL:ALL) ALL

BackupPC Server Status

Currently Running Jobs

Host	Type	User	Start Time	Command	PID	Xfer PID	Status	Count
------	------	------	------------	---------	-----	----------	--------	-------

General Server Information

- The servers PID is 125, on host backup-01, version 4.4.0, started at 2025-10-03 14:02.
- This status was generated at 2025-10-17 09:12.
- The configuration was last loaded at 2025-10-03 14:02.
- PCs will be next queued at 2025-10-17 10:00.
- Other info:
 - 0 pending backup requests from last scheduled wakeup,
 - 0 pending user backup requests,
 - 0 pending command requests,
 - Pool is 0.01GiB comprising 1164 files and 12438 directories (as of 2025-10-17 01:00),
 - Pool hashing gives 0 repeated files with longest chain 0,
 - Nightly cleanup removed 12 files of size 0.00GiB (around 2025-10-17 01:00),
 - Pool file system was recently at 13% (2025-10-17 09:12), today's max is 13% (2025-10-17 01:00) and yesterday's max was 13%.
 - Pool file system inode usage was recently at 9% (2025-10-17 09:12), today's max is 9% (2025-10-17 01:00) and yesterday's max was 9%.

BackupPC Pool Size (4 weeks)

BackupPC Pool Size (52 weeks)

Configuration du site web

Mettre tout les hosts avec leurs adresses pour pouvoir les afficher sur le site :

BackupPC

Main Configuration Editor

Save

Backup SettingsCGIEmailHostsScheduleServerXfer

Hosts

	host	dhcp	user	moreUsers
Delete	10.31.240.33	☐	backuppc	
Delete	10.31.240.34	☐	backuppc	
Delete	10.31.240.80	☐	backuppc	
Delete	10.31.248.33	☐	backuppc	
Delete	10.31.248.34	☐	backuppc	
Delete	10.31.248.80	☐	backuppc	
Delete	localhost	☐	backuppc	
Add				

Hosts

To add a new host, select Add and then enter the name. To start with the per-host configuration from another host, enter the host name as NEWHOST=COPIRHOST. This will overwrite any existing per-host configuration for NEWHOST. You can also do this for an existing host. To delete a host, hit the Delete button. For Add, Delete, and configuration copy, changes don't take effect until you select Save. None of the deleted host's backups will be removed, so if you accidentally delete a host, simply re-add it. To completely remove a host's backups, you need to manually remove the files below /var/lib/backuppc/pc/HOST

Sélectionner le host et le configuré ainsi :

BackupPC

10.31.240.33

10.31.240.33 Home

Browse backups

LOG file

LOG files

Edit Config

Hosts

10.31.240.33

Go

Server

Status

Host Summary

Edit Config

Host 10.31.240.33 Configuration Editor

Note: Check Override if you want to modify a value specific to this host.

Save

Backup Settings

Email

Schedule

Xfer

Xfer Settings

XferMethod

Override

XferLogLevel

Override

ClientCharset

Override

ClientCharsetLegacy

Override

ClientShareName2Path

Override

RefCntFack

Override

Rsync Settings

New ShareName or **:

Add

New ShareName or **:

Add

Rsync Paths/Commands/Args

RsyncBackupPCPath

Override

RsyncClientPath

Override

RsyncSshArgs

Override

/usr/libexec/backuppc-rsync/rsync_bpc

sudo /usr/bin/rsync

Insert Delete

-e

Insert Delete

SshPath -l backuppc

Insert Delete

--super

Insert Delete

--recursive

Insert Delete

--protect-args

Insert Delete

--numeric-ids

Insert Delete

--perms

Insert Delete

--owner

Insert Delete

--group

Insert Delete

-D



Ce qui permet aux backup de sauvegarder tout les conteneurs.

Test

Sauvegarde du conteneur BDD 1

BackupPC

10.31.240.33

10.31.240.33 Home

Browse backups

LOG file

LOG files

Edit Config

Hosts

10.31.240.33

Go

Server

Status

Host Summary

Host 10.31.240.33 Backup Summary

- This PC is used by backuppc.
- Last status is state "idle" (done) as of 2025-10-17 09:39.
- Pings to 10.31.240.33 have succeeded 23 consecutive times.
- Because 10.31.240.33 has been on the network at least 7 consecutive times, it will not be backed up from 7:00 to 19:30 on Mon, Tue, Wed, Thu, Fri.

User Actions

Start Incr Backup

Start Full Backup

Stop/Dequeue Backup

Backup Summary

Click on the backup number to browse and restore backup files.

Backup#	Type	Filled	Level	Start Date	Duration/mims	Age/days	Keep		Comment
22	Full	yes	0	2025-10-17 09:39	0.0	0.0	☐	Delete	
21	Incr	no	1	2025-10-16 20:00	0.0	0.6		Delete	
20	Incr	no	1	2025-10-15 20:00	0.0	1.6		Delete	
19	Incr	no	1	2025-10-14 20:00	0.1	2.6		Delete	

Sauvegarde du conteneur BDD 2

BackupPC

10.31.240.34

10.31.240.34 Home

Browse backups

LOG file

LOG files

Edit Config

Hosts

10.31.240.34

Go

Server

Status

Host Summary

Edit Config

Edit Hosts

Admin Overview

Host 10.31.240.34 Backup Summary

- This PC is used by backuppc.
- Last status is state "idle" (done) as of 2025-10-17 09:40.
- Pings to 10.31.240.34 have succeeded 22 consecutive times.
- Because 10.31.240.34 has been on the network at least 7 consecutive times, it will not be backed up from 7:00 to 19:30 on Mon, Tue, Wed, Thu, Fri.

User Actions

Start Incr BackupStart Full BackupStop/Dequeue Backup

Backup Summary

Click on the backup number to browse and restore backup files.

Backup#	Type	Filled	Level	Start Date	Duration/mins	Age/days	Keep		Comment
21	full	yes	0	2025-10-17 09:40	0.0	0.0	☐	Delete	
20	incr	no	1	2025-10-16 20:00	0.0	0.6		Delete	
19	incr	no	1	2025-10-15 20:00	0.0	1.6		Delete	
18	incr	no	1	2025-10-14 20:00	0.0	2.6		Delete	
17	full	yes	0	2025-10-13 12:23	0.0	3.9	☐	Delete	
16	incr	no	1	2025-10-12 20:00	0.0	4.6		Delete	

Sauvegarde du conteneur web1

BackupPC

10.31.240.80

10.31.240.80 Home

Browse backups

LOG file

LOG files

Edit Config

Hosts

10.31.240.80

Go

Server

Status

Host Summary

Edit Config

Edit Hosts

Admin Overview

Host 10.31.240.80 Backup Summary

- This PC is used by backuppc.
- Last status is state "idle" (done) as of 2025-10-17 09:41.
- Pings to 10.31.240.80 have succeeded 45 consecutive times.
- Because 10.31.240.80 has been on the network at least 7 consecutive times, it will not be backed up from 7:00 to 19:30 on Mon, Tue, Wed, Thu, Fri.

User Actions

Start Incr BackupStart Full BackupStop/Dequeue Backup

Backup Summary

Click on the backup number to browse and restore backup files.

Backup#	Type	Filled	Level	Start Date	Duration/mins	Age/days	Keep		Comment
21	full	yes	0	2025-10-17 09:41	0.0	0.0	☐	Delete	
20	incr	no	1	2025-10-16 20:00	0.0	0.6		Delete	
19	incr	no	1	2025-10-15 20:00	0.0	1.6		Delete	
18	incr	no	1	2025-10-14 20:00	0.0	2.6		Delete	
17	full	yes	0	2025-10-13 12:23	0.0	3.9	☐	Delete	

Sauvegarde du conteneur web2

BackupPC

10.31.248.80

10.31.248.80 Home

Browse backups

LOG file

LOG files

Edit Config

Hosts

10.31.248.80

Go

Server

Status

Host Summary

Edit Config

Edit Hosts

Admin Overview

Host 10.31.248.80 Backup Summary

- This PC is used by backuppc.
- Last status is state "idle" (done) as of 2025-10-17 09:44.
- Pings to 10.31.248.80 have succeeded 11 consecutive times.
- Because 10.31.248.80 has been on the network at least 7 consecutive times, it will not be backed up from 7:00 to 19:30 on Mon, Tue, Wed, Thu, Fri.

User Actions

Start Incr BackupStart Full BackupStop/Dequeue Backup

Backup Summary

Click on the backup number to browse and restore backup files.

Backup#	Type	Filled	Level	Start Date	Duration/mins	Age/days	Keep		Comment
17	full	yes	0	2025-10-17 09:44	0.0	0.0	☐	Delete	
16	incr	no	1	2025-10-16 20:00	0.0	0.6		Delete	
15	incr	no	1	2025-10-15 14:00	0.0	1.8		Delete	
14	incr	no	1	2025-10-14 14:00	0.0	2.8		Delete	
13	full	yes	0	2025-10-13 14:00	0.0	3.8	☐	Delete	
12	incr	no	1	2025-10-12 14:00	0.0	4.8		Delete	

Sauvegarde du conteneur NS1

BackupPC Host 10.31.248.53 Backup Summary

- This PC is used by backuppc.
- Last status is state "idle" (done) as of 2025-10-17 09:42.
- Pings to 10.31.248.53 have succeeded 5 consecutive times.

User Actions

Start Incr Backup Start Full Backup Stop/Dequeue Backup

Backup Summary

Click on the backup number to browse and restore backup files.

Backup#	Type	Filled	Level	Start Date	Duration/mins	Age/days	Keep		Comment
14	full	yes	0	2025-10-17 09:42	0.0	0.0	☐	Delete	
13	incr	no	1	2025-10-16 13:00	0.0	0.9		Delete	
12	incr	no	1	2025-10-15 13:00	0.0	1.9		Delete	
11	incr	no	1	2025-10-14 13:00	0.0	2.9		Delete	
10	full	yes	0	2025-10-13 13:09	0.0	3.9	☐	Delete	

Sauvegarde du conteneur NS2

BackupPC Host 10.31.248.54 Backup Summary

- This PC is used by backuppc.
- Last email sent to backuppc was at 2025-10-13 01:00, subject "BackupPC: no recent backups on 10.31.248.54".
- Last status is state "idle" (done) as of 2025-10-17 09:43.
- Pings to 10.31.248.54 have succeeded 5 consecutive times.

User Actions

Start Incr Backup Start Full Backup Stop/Dequeue Backup

Backup Summary

Click on the backup number to browse and restore backup files.

Backup#	Type	Filled	Level	Start Date	Duration/mins	Age/days	Keep		Comment
11	full	yes	0	2025-10-17 09:43	0.0	0.0	☐	Delete	
10	incr	no	1	2025-10-16 14:00	0.0	0.8		Delete	
9	incr	no	1	2025-10-15 14:00	0.0	1.8		Delete	
8	incr	no	1	2025-10-14 14:00	0.0	2.8		Delete	
7	full	yes	0	2025-10-13 14:00	0.0	3.8	☐	Delete	

From:

<https://sisr2.beaupeyrat.com/> - Documentations SIO2 option SISR

Permanent link:

<https://sisr2.beaupeyrat.com/doku.php?id=sisr2-usa:backuppc>

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