

How to Backup your Unifi Controller to Dropbox, OneDrive, or other Cloud location

LAST UPDATED ON OCTOBER 12, 2020 BY RUDY MENS

Making backups of your data is import, and the same goes for your Unifi Controller. If an update fails and bricks your controller, you will need to reset every Unifi device to adopt it again. The controller self does make backups, but they are stored on the controller self.

You won't be able to access your backups if your Cloudkey or Raspberry Pi doesn't work anymore. So it's a good idea to store/sync your backups to an offsite location, the cloud. This can be pretty much any cloud provider, more than [40 are supported](#), among the popular ones like Dropbox, OneDrive, and Amazon S3.

There are two ways to set this up, manually, using Rclone or through a free service called [BackiFi](#). In this article, we will discuss both solutions. I will walk you through the set up of both options. It will take you around 5 minutes to set up.

Backify vs Rclone

So before we start with the how-to's, first a quick comparison between the two solutions. With Backify and Rclone you can basically achieve the same result. The advantage of Backify is that it makes it really easy to set up your Unifi Controller Backup. You can simply add one or more cloud storage providers and set up the backup schedule.

But for Backify you need a static IP Address (or you could use a [DDNS service](#)) or domain that points to your controller and create an account for them in your controller.

There is one downside that I need to mention first. For BackiFi to work you will need to create a super admin account in your Unifi Controller. Only users with the role of super admin can access the backups in the controller. This comes with a risk, you give someone else basically full access to your network controller. The super admin requirement is by design from Ubiquiti, at this point you simply can't limit the API access.

They store the login details encrypted in their database, but BackiFi need to decrypt the password to access your controller to copy the backup out of it. You should always be careful with this because you can't be 100% sure what they are doing. I have talked to them, they sound legit, but keep this in mind.

BackiFi is a free service, created as a side project by a couple of developers. I really like their solution and good intentions, but always be careful with giving someone access to your network.

Go straight to the [BackiFi review](#) or start with the Rclone method:

How to use Rclone to backup your Unifi Controller

So we start with the manual way to backup our Unifi Controller to the cloud (or other location). Rclone is a command-line program that helps you with managing files in cloud storage locations.

With Rclone we will make the connection to the storage of our choice and set up the sync between the backups created by our Unifi Controller and our cloud storage. Rclone is completely opensource and free to use.

This how-to will work for pretty much any Unifi Controller, so it doesn't matter if you are running it on a [Raspberry PI](#), Cloud key Gen2 or UDM, only the location of the backups can be different.

1. Get SSH access to your Controller

Login to your controller over SSH. You can use either Putty, [Windows Terminal](#), or any other SSH Client for this. Use the IP Address of your controller and the login credentials to connect.

2. Install Rclone

Installing Rclone is pretty simple, just run the following command

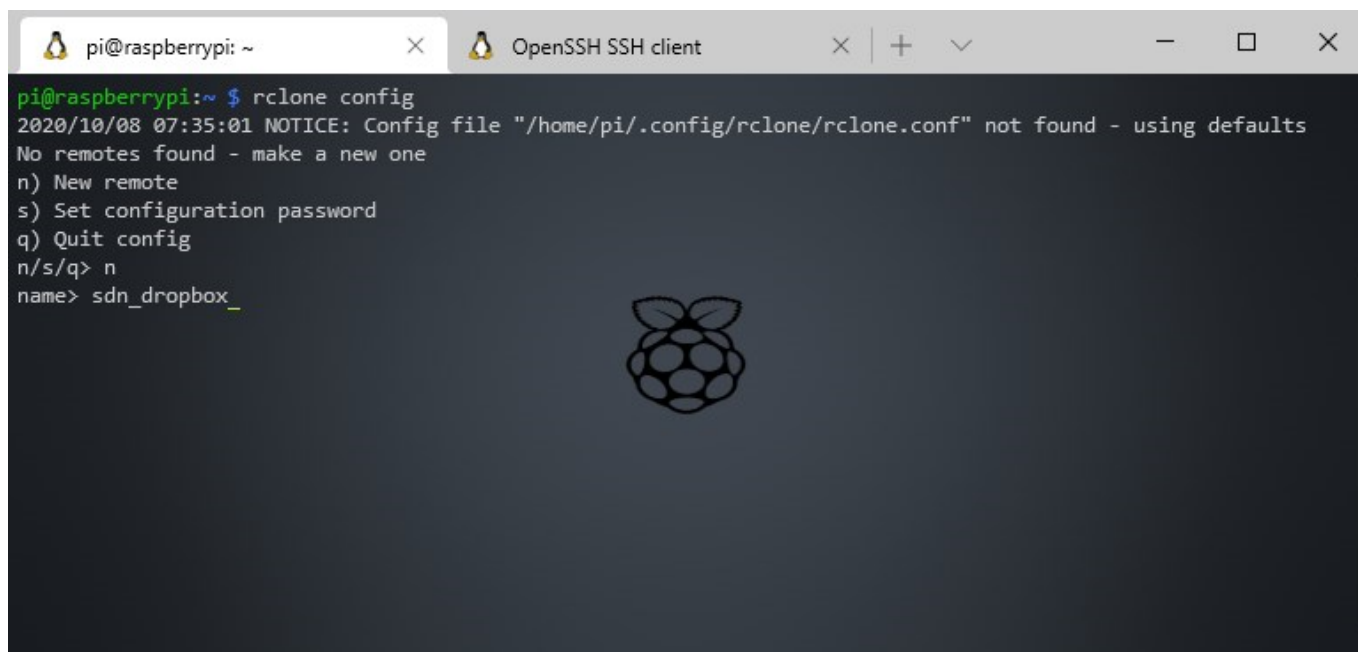
```
1. curl https://rclone.org/install.sh | sudo bash
```

Wait until you see `rclone v1.53.1` has successfully installed .

3. Configure your Cloud Storage

We can now connect our cloud storage in Rclone. I am going to use Dropbox in the example. First we open the rclone config and then add a new `n` storage provider

```
1. # Open the config
2. rclone config
3.
4. # Create a new storage provider
5. n
6.
7. # Give the storage a name
8. sdn_dropbox
```



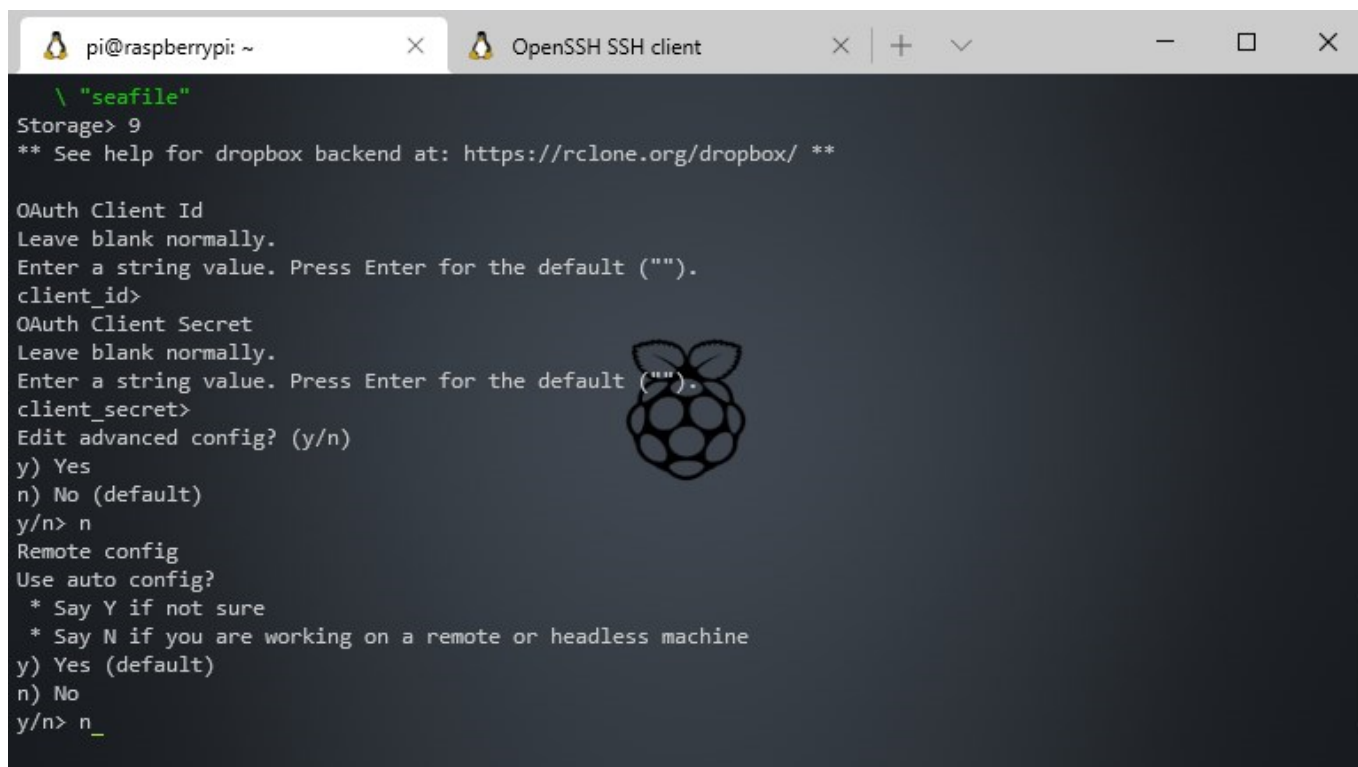
```
pi@raspberrypi: ~  
$ rclone config  
2020/10/08 07:35:01 NOTICE: Config file "/home/pi/.config/rclone/rclone.conf" not found - using defaults  
No remotes found - make a new one  
n) New remote  
s) Set configuration password  
q) Quit config  
n/s/q> n  
name> sdn_dropbox_
```

All supported storage providers are listed. Enter the number of the storage provider you like to add. For Dropbox it's 9.

We will need to do the authorization for Dropbox on our computer, because we can't open a webbrowser from the command line. So leave everything blank and skip the configs.

If you are using another storage provider, then check [these manuals](#) for the instructions to authenticate it.

1. # Enter the number for Dropbox
2. 9
- 3.
4. # Leave the Dropbox App Client Id blank
5. ENTER
- 6.
7. # Leave the Dropbox App Client Secret also blank
8. ENTER
- 9.
10. # Skip the advanced config
11. N
- 12.
13. # Skip the auto-config
14. N



```
\ "seafdrive"
Storage> 9
** See help for dropbox backend at: https://rclone.org/dropbox/ **

OAuth Client Id
Leave blank normally.
Enter a string value. Press Enter for the default ("").
client_id>
OAuth Client Secret
Leave blank normally.
Enter a string value. Press Enter for the default ("").
client_secret>
Edit advanced config? (y/n)
y) Yes
n) No (default)
y/n> n
Remote config
Use auto config?
  * Say Y if not sure
  * Say N if you are working on a remote or headless machine
y) Yes (default)
n) No
y/n> n_
```

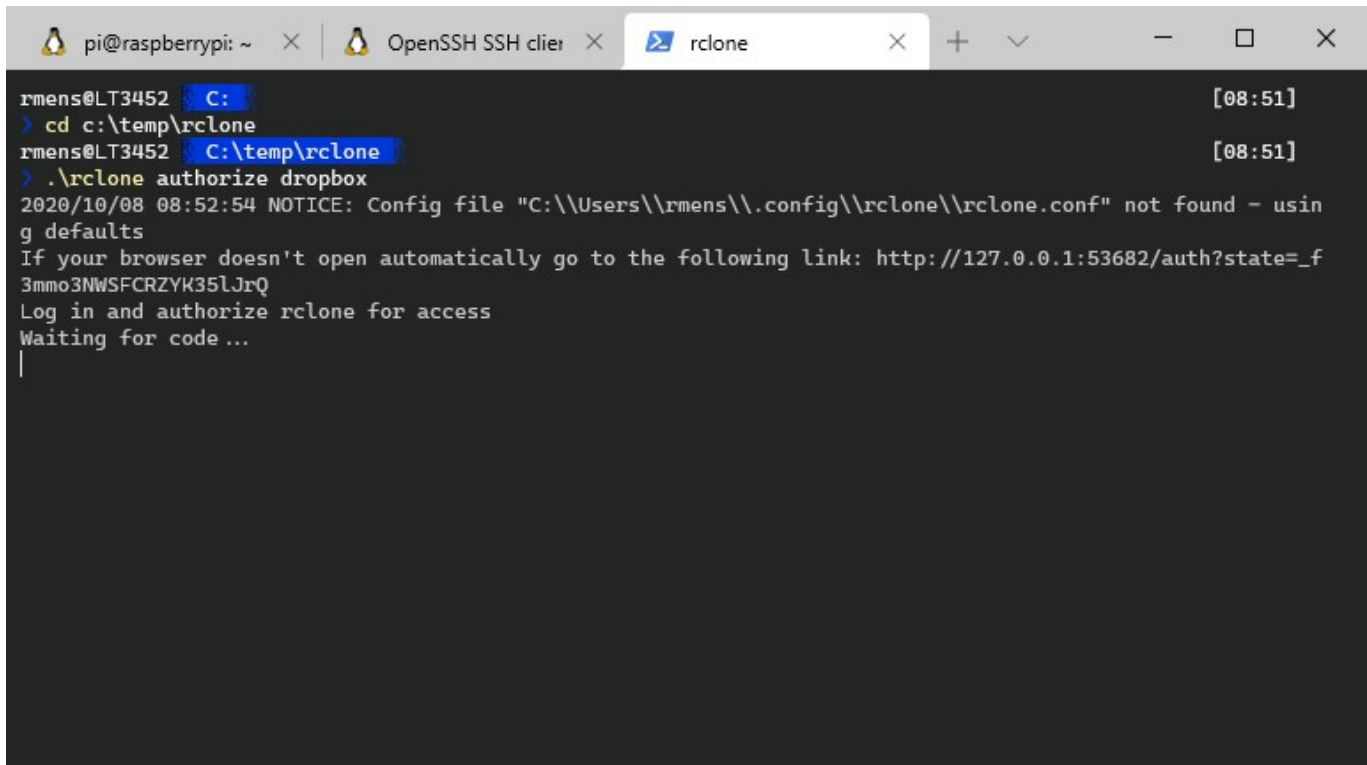
Completing authorization

We need to complete the Dropbox authorization on our computer. Download [Rclone](#) [here](#) for your PC.

Unzip the folder and extract the files. We need to open the directory in CMD or PowerShell, so I have extracted it to `c:\temp\rclone`.

Open CMD (Windows key + R > CMD) or PowerShell. Navigate to the extracted files. Next, we are going to authorize Dropbox.

1. `cd:\temp\rclone`
- 2.
3. `# Authorize Dropbox`
4. `.\rclone authorize dropbox`

A terminal window titled 'pi@raspberrypi: ~' with tabs for 'OpenSSH SSH client' and 'rclone'. The terminal shows the execution of 'cd c:\temp\rclone' and '.\rclone authorize dropbox'. It displays a notice about a missing config file and a URL for authorization: 'http://127.0.0.1:53682/auth?state=_f3mmo3NWSFCRZYK35lJrQ'. The prompt 'Waiting for code ...' is shown with a cursor.

```
rmens@LT3452 C: [08:51]
> cd c:\temp\rclone
rmens@LT3452 C:\temp\rclone [08:51]
> .\rclone authorize dropbox
2020/10/08 08:52:54 NOTICE: Config file "C:\\Users\\rmens\\.config\\rclone\\rclone.conf" not found - using defaults
If your browser doesn't open automatically go to the following link: http://127.0.0.1:53682/auth?state=_f3mmo3NWSFCRZYK35lJrQ
Log in and authorize rclone for access
Waiting for code ...
|
```

Your webbrowser wil open to authorize Dropbox.



Meld je aan bij Dropbox om rclone te koppelen

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_____ of _____

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[Wachtwoord vergeten?](#) **Aanmelden**

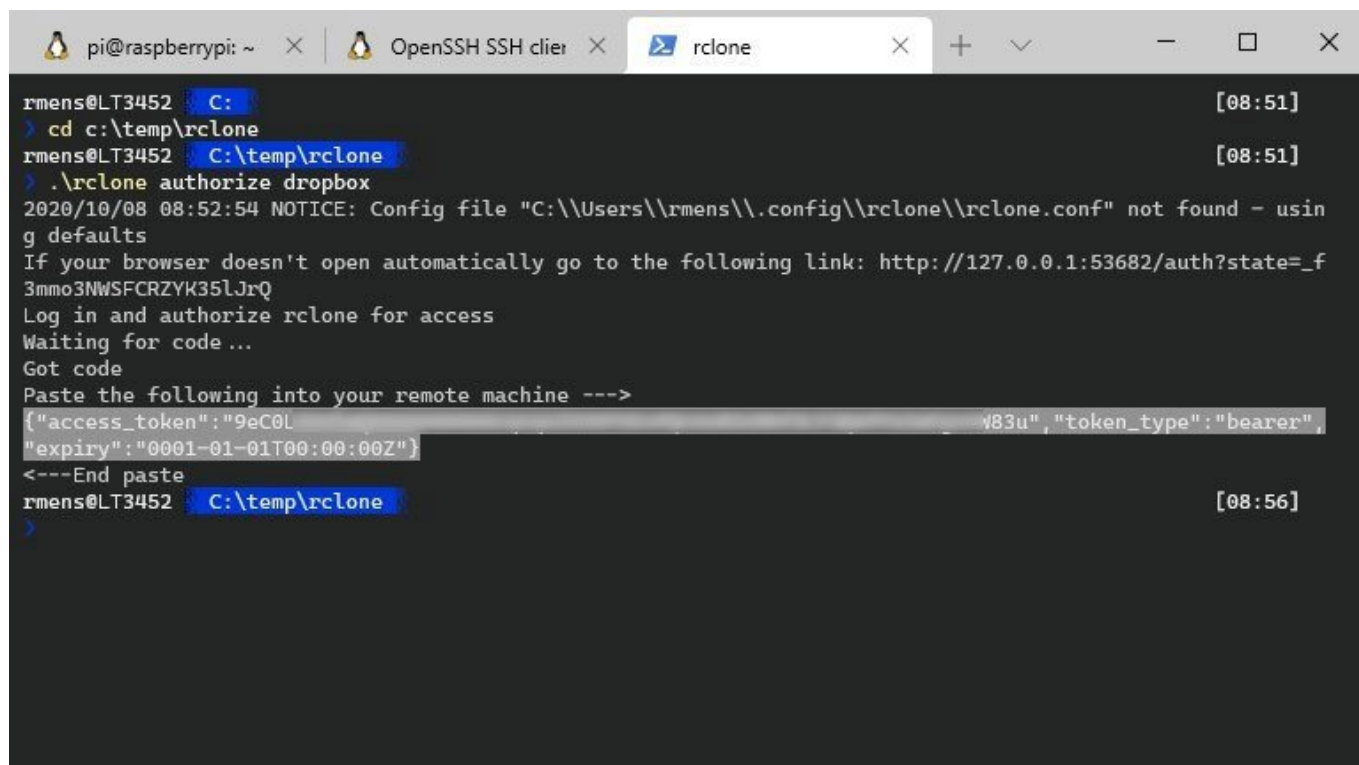
Click on **Sign-in** and **Allow** Rclone to access your files and folders. You will see a success screen, we can close the window and go back to our Rclone config on our computer.

Success!

All done. Please go back to rclone.

So in our local CMD or PowerShell session we now have an authorization code. We need to copy this code to our Rclone config on the Unifi Controller.

Highlight the code and right click to copy it.

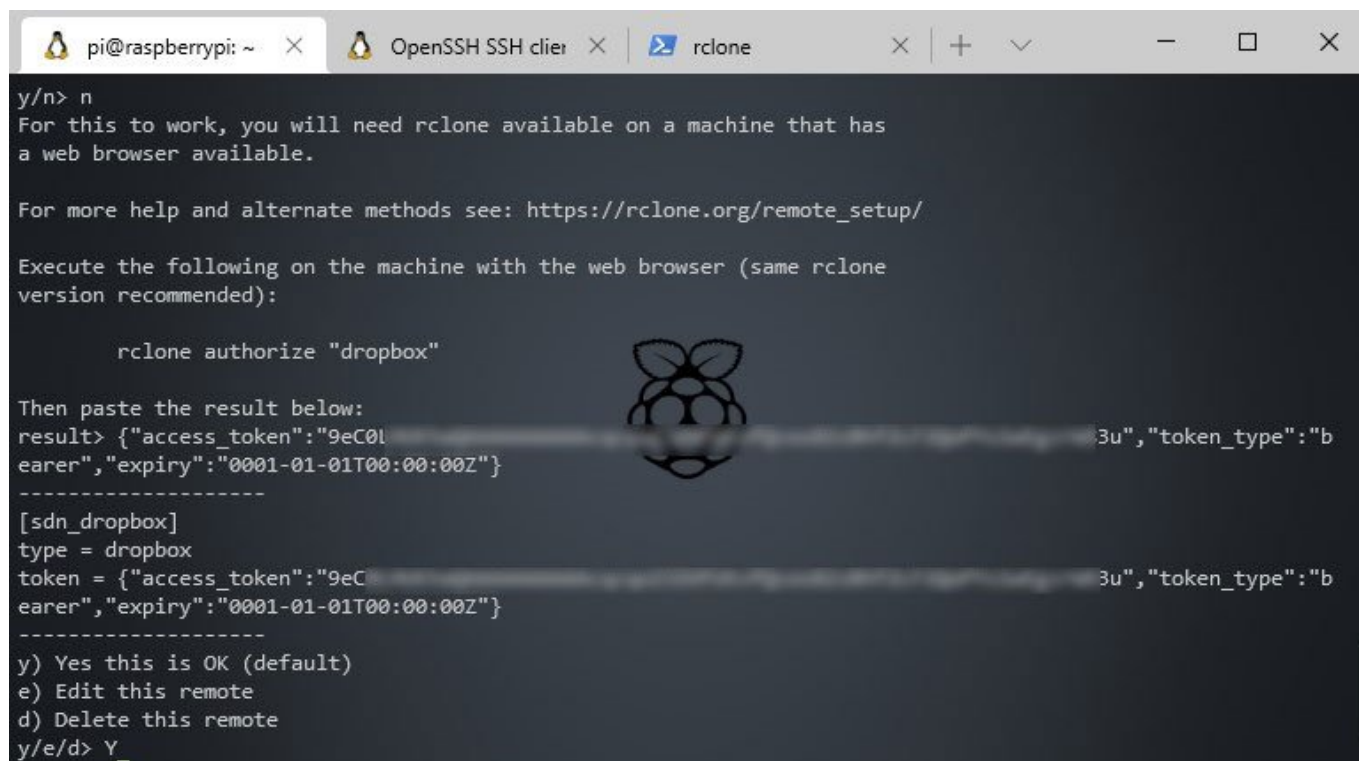


```

pi@raspberrypi: ~ x | OpenSSH SSH client x | rclone x | + v - □ x
rmens@LT3452 C: [08:51]
> cd c:\temp\rclone
rmens@LT3452 C:\temp\rclone [08:51]
> .\rclone authorize dropbox
2020/10/08 08:52:54 NOTICE: Config file "C:\\Users\\rmens\\.config\\rclone\\rclone.conf" not found - using defaults
If your browser doesn't open automatically go to the following link: http://127.0.0.1:53682/auth?state=_f3mmo3NWSFCRZYK35LJrQ
Log in and authorize rclone for access
Waiting for code ...
Got code
Paste the following into your remote machine --->
{"access_token":"9eC0L...v83u","token_type":"bearer",
"expiry":"0001-01-01T00:00:00Z"}
<---End paste
rmens@LT3452 C:\temp\rclone [08:56]
>

```

Then head back to the SSH session on your Unifi Controller and past the token. To past in SSH, simply **right click** again. Press **Y** to save it.



```

pi@raspberrypi: ~ x | OpenSSH SSH client x | rclone x | + v - □ x
y/n> n
For this to work, you will need rclone available on a machine that has
a web browser available.

For more help and alternate methods see: https://rclone.org/remote_setup/

Execute the following on the machine with the web browser (same rclone
version recommended):

    rclone authorize "dropbox"

Then paste the result below:
result> {"access_token":"9eC0L...v83u","token_type":"b
earer","expiry":"0001-01-01T00:00:00Z"}
-----
[sdn_dropbox]
type = dropbox
token = {"access_token":"9eC0L...v83u","token_type":"b
earer","expiry":"0001-01-01T00:00:00Z"}
-----
y) Yes this is OK (default)
e) Edit this remote
d) Delete this remote
y/e/d> Y_

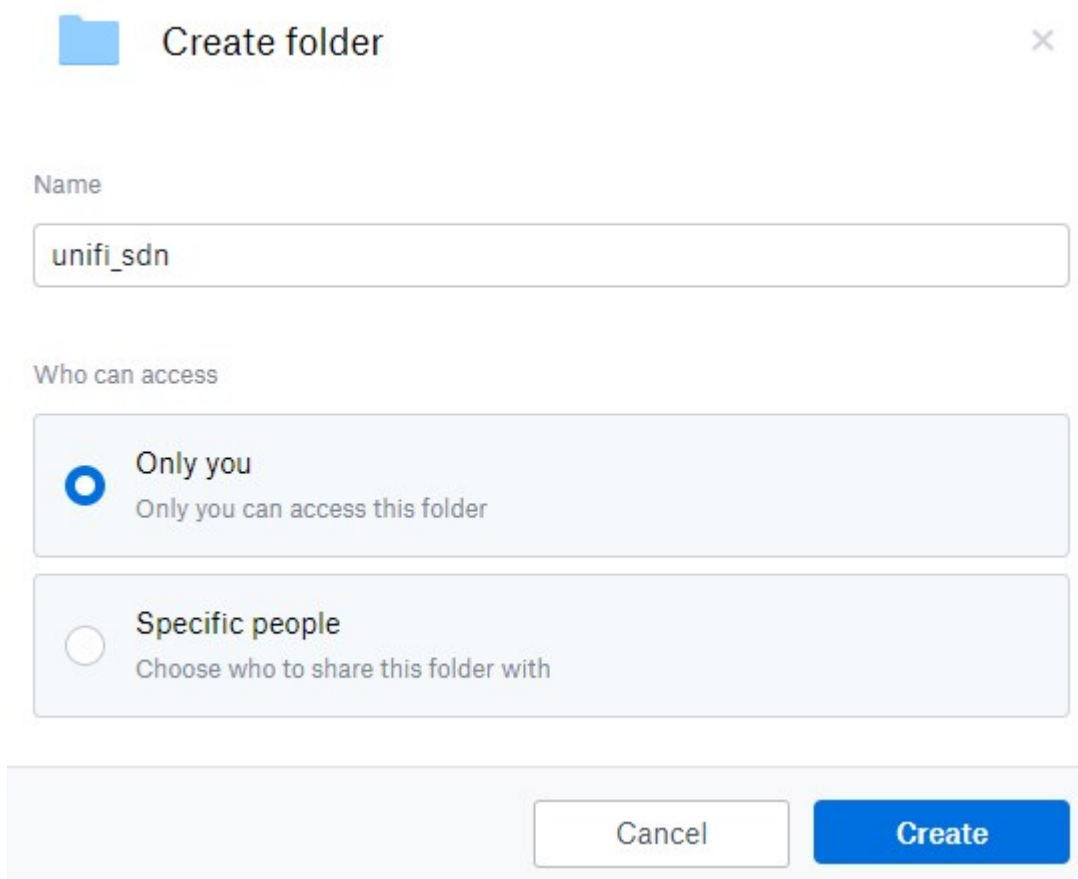
```


We can now quit (**q**) the configuration of our Dropbox storage.

4. Setting up Dropbox

So before we are going to sync our Unifi Controller backup files, we need to create a folder in Dropbox to store them.

Open your Dropbox and create a **new folder backups** with a **subfolder unifi_sdn**.



The image shows the 'Create folder' dialog box in Dropbox. At the top, there is a blue folder icon and the text 'Create folder' with a close button (X) on the right. Below this, the 'Name' field contains the text 'unifi_sdn'. Underneath the name field, the 'Who can access' section has two options: 'Only you' (selected with a blue radio button) and 'Specific people' (unselected with a white radio button). The 'Only you' option has the subtext 'Only you can access this folder', and the 'Specific people' option has the subtext 'Choose who to share this folder with'. At the bottom right, there are two buttons: 'Cancel' and 'Create'.

5. Syncing to Dropbox

We can now start the sync of our backup files. Go back to your SSH session on your Unifi Controller. Run the following command to sync the files.

We are using the **sync** function from Rclone and **not the copy**. If you would use copy, then your Dropbox will run full with backups, they will never get deleted.

Sync will also remove old files, it keeps the Dropbox folder in sync with the backups listed in your Unifi Controller. Keep in mind that Dropbox has 30-day file retention, so if something goes wrong you can always restore the files in Dropbox.

If you want to keep the files indefinitely use `rclone copy` instead of `rclone sync`.

If you are using a CloudKey Gen2, then use the following path to copy the files from:

`/srv/unifi/data/backup/autobackup`

1. # Replace `sdn_dropbox` with the storage name that you created in step 3
2. # Replace `unifi_sdn` with the dropbox folder name that you created in step 4
- 3.
4. `rclone sync /var/lib/unifi/backup/ sdn_dropbox:backups/unifi_sdn`
- 5.
6. # For a CloudKey Gen2 use the following cmd:
7. `rclone sync /srv/unifi/data/backup/autobackup/ sdn_dropbox:backups/unifi_sdn`

The files should now be synced to your Dropbox folder.

If you get a permission error, that for example can happen on a Raspberry PI, then we need to add your user to the Unifi group.

1. # Replace `pi` with the username that you are loggedin with.
2. `sudo usermod -a -G unifi pi`

6. Create a scheduled job

We don't want to run the Rclone command manually every time. So we need to create a Cronjob for this.

1. # Open Crontab - choose Nano (2) if you haven't open crontab before
2. # On the Cloudkey Vim will open, press INSERT to edit the file after you

```
opened it.  
3. crontab -e  
4.  
5. # Schedule the job, the same path as in step 5  
6. # We run it at 3 am, every day.  
7. 0 3 * * * rclone sync /var/lib/unifi/backup/ sdn_dropbox:backups/unifi_sdn  
8.  
9. # Press Ctrl + X to close and choose Y to save.  
10. # On the CloudKey press Ctrl + C twice and then type :wq to save and close
```

That is all. Your Unifi Controller backups will now be copied everynight to your Dropbox storage. You can always restore your controller from an backup.

Unifi Backup location CloudKey Gen2

The backup files on your CloudKey Gen2 are stored in a different location then in your Docker or on your PI. You can find the backup files in the following folder:

```
1. /srv/unifi/data/backup/autobackup
```

Unifi Protect Backup

We can also backup our Unifi Protect configuration. You can pretty much follow the same steps as above, only you need to use a different folder to pull the backups from.

The Unifi Protect Backup files on the CloudKey Gen2 are stored in the following location:

```
1. /etc/unifi-protect/backups
```

If you want to sync your Unifi Controller and Unifi Protect then you can simply create two Cronjobs for this. You don't need to add another cloud storage first, but I would recommend creating a new folder for the backup in your Dropbox.

The default text editor on the CloudKey Gen2 is Vim, so the commands are a little bit different when it comes to editing and closing the file:

1. # Open crontab
2. `crontab -e`
- 3.
4. # Scroll down the end of the file with your arrow keys and press INSERT to edit the Cron file
5. `0 2 * * * rclone sync /etc/unifi-protect/backups sdn_dropbox:backups/unifi_protect`
- 6.
7. # Press Ctrl + C twice
8. # Type :wq (shorthand for Write and Quit)

BackiFi Review

BackiFi makes back-upping to the Cloud a lot easier, but it does require that you have a static IP Address or domain name pointing to your Unifi Controller.

Now, most household internet connection don't have an static IP, but a dynamic one. That means that your IP address can change after rebooting your router (which sometimes happens in the middle of the night for an update, without you knowing it)

A solution for this is to set up a DDNS record, this is a free domain that automatically updates with your public IP Address. I have written an article on how to setup DDNS, you can [find it here](#).

Also, BackiFi needs a super admin account. I have written [my concerns about it](#) at the beginning of this article. To keep things a bit secure, we are going to set up an event notification, so we can keep track of when the account is used to login (this should always match our backup schedule).

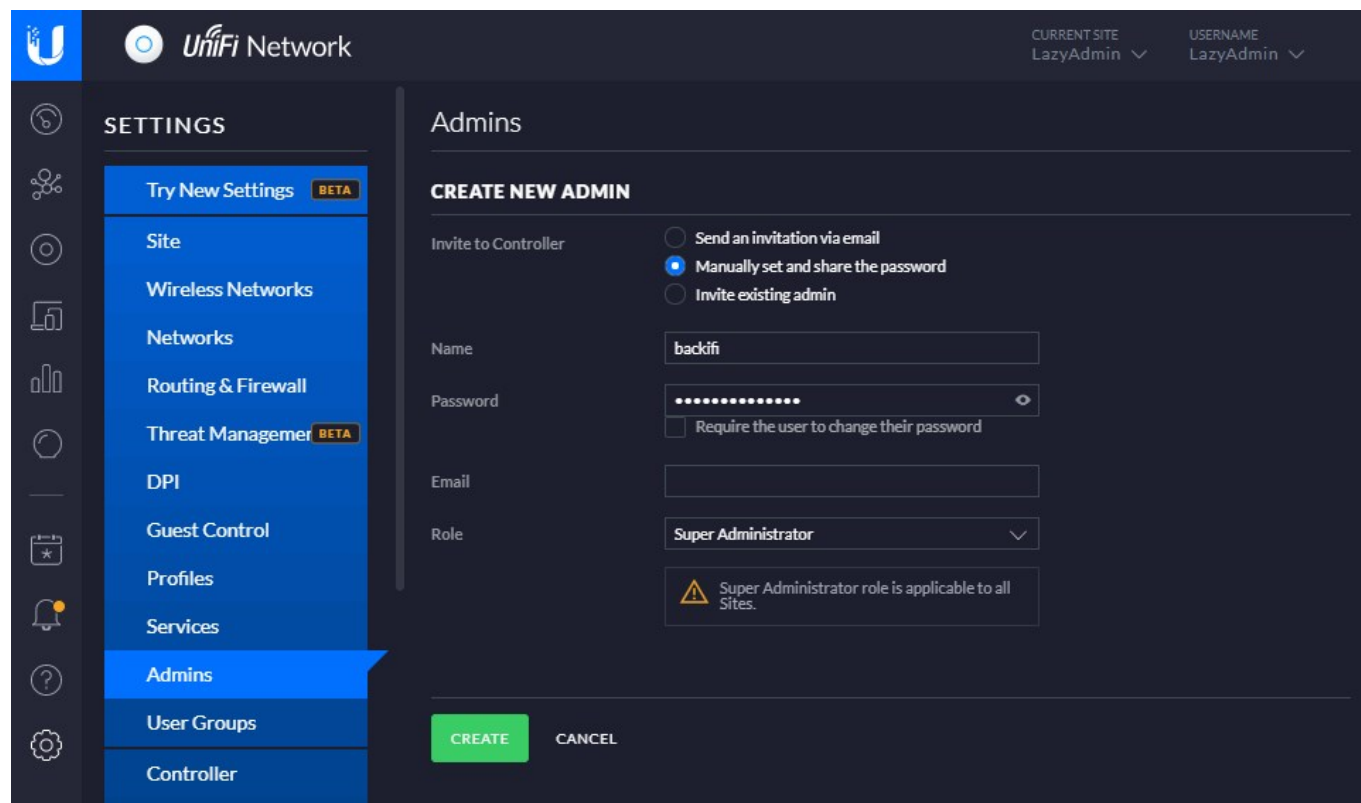
1. Accessing your Unifi Controller from the internet

So before we can start with BackiFi we first need to make sure our Unifi Controller is accessible from the internet. I have written a [detailed guide about this](#) before, so if

your controller isn't accessible from the internet, then follow the [steps here](#).

2. Create a super admin account for BackiFi

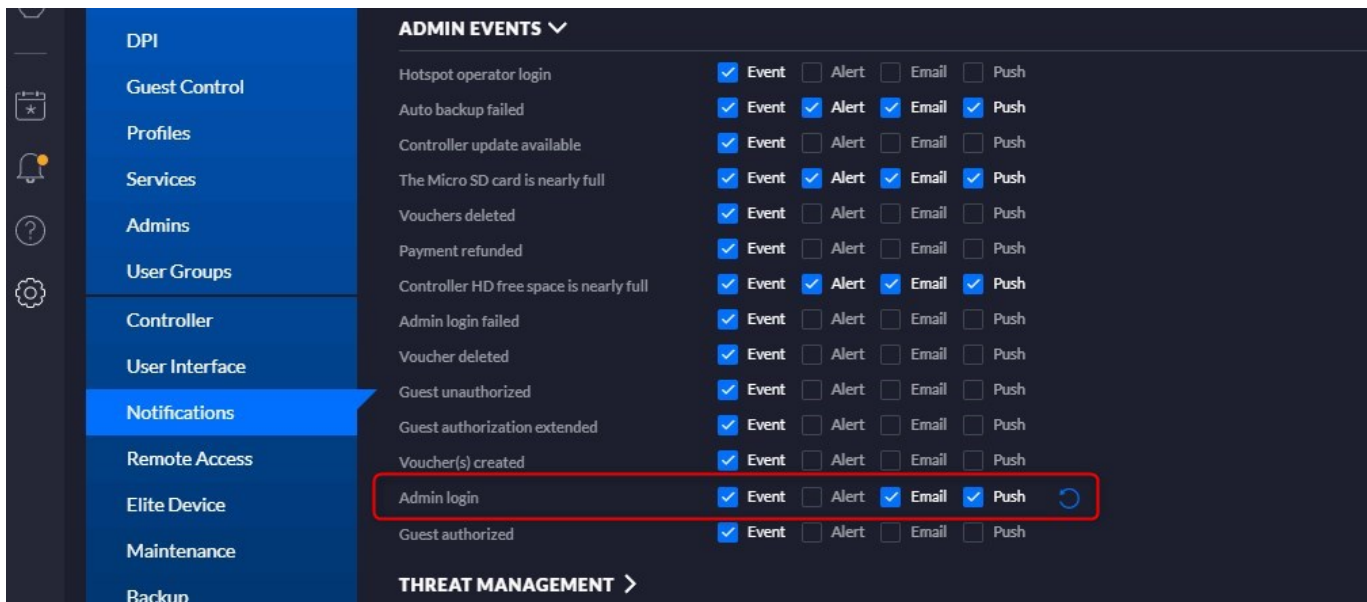
Open your controller and go to **Settings > Admins**. Create a new user and make sure you manually set the password and tick of the "Require the user to change their password" box.



Setting up Notifications

Every login event is already logged in your Unifi Controller. You can see all the logins under **Events > Admins**. But you can also set up an email or push notification if you like to keep track of the logins.

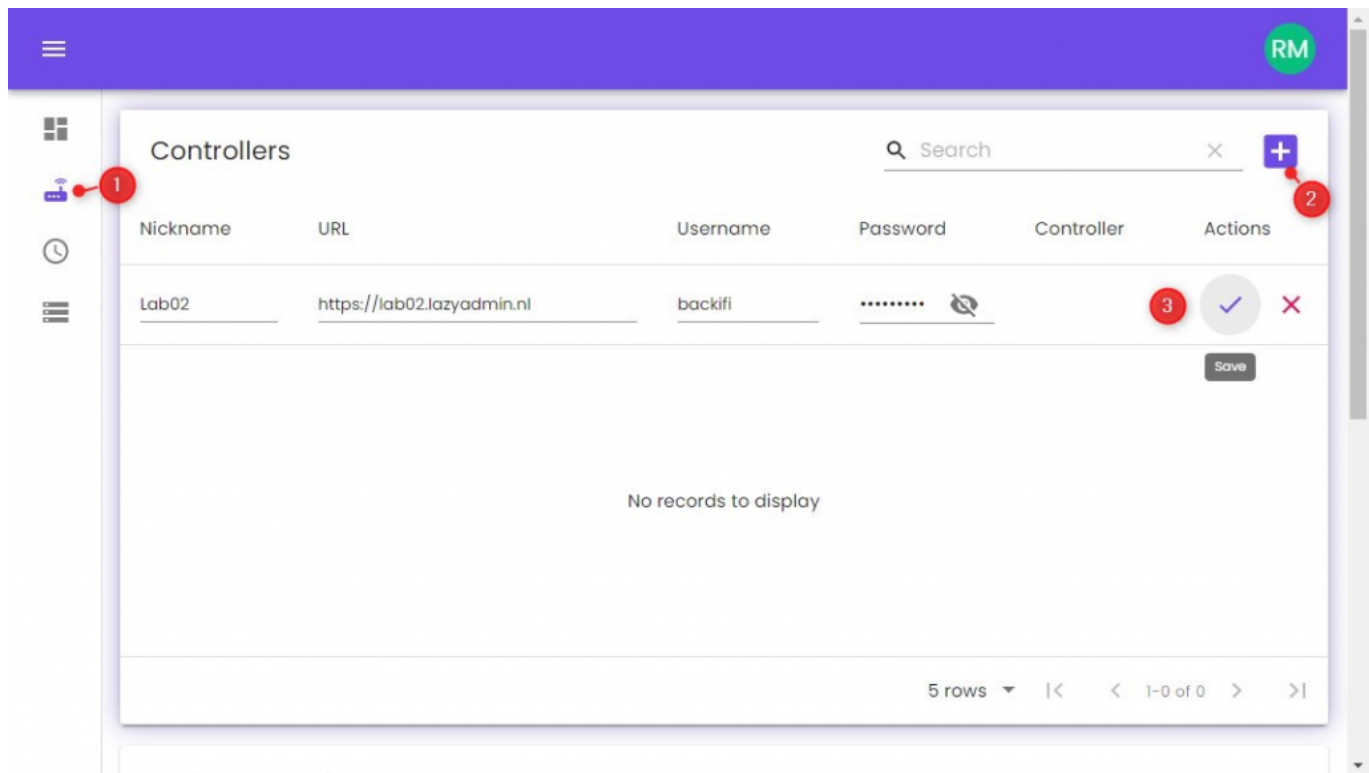
1. Open **Settings > Notifications**
2. Expand **Admin Events**
3. Enable **Email and/or Push**



3. Configure BackiFi

Create an account at [BackiFi](#) and login.

1. Click on **Controllers** on the left side
2. **Add** a new controller
3. Enter the **details** and click on **save** (make sure you add the port number :8443 behind the URL)



4. Click on **Storage**

5. elect **Dropbox** from the dropdown menu and authorize BackiFi to access your Dropbox files and folders

6. Make sure you edit the name afterward, otherwise you can't use it later in the configuration.

Storages

Type	Nickname	Identifier	Secret	Location	FTP/SFTP Host
Dropbox	Edit Name		https://www.dropbox.com/home/Apps/Backifi	

5 rows |< < 1-1 of 1 > >|

FAQ

Guide for storage types and required fields. All storage types will generate a test.text file when setting up for the

7. Click on **Schedule**

8. Create a **new Schedule**

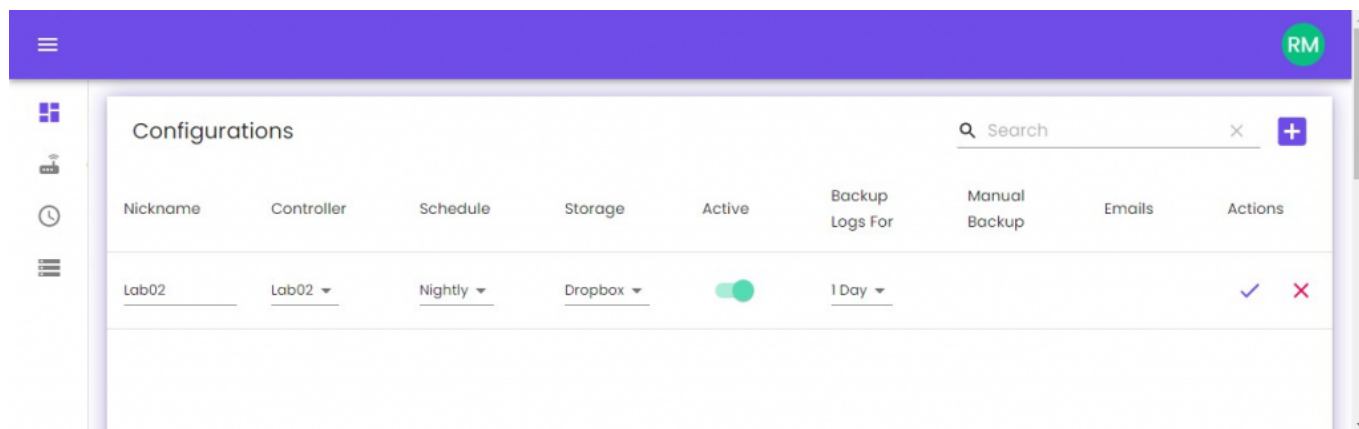
9. I have created a nightly schedule that runs at 4 am

Schedules

Nickname	Frequency	Day/Date	Time	Timezone	Actions
Nightly	Daily		4 am	Europe/Amsterdam	✓ ✗

No records to display

So with everything set up, we can now connect it all together. Open the configurations, and select your Controller, Schedule, and Storage.



You can manually run the backup to see if it works. It will take a couple of minutes before you will see the backup file in your Dropbox folder (under Apps > BackiFi).

The difference with the Rclone method is that BackiFi will generate a new backup in your Unifi Controller and copies it to your cloud storage. So it doesn't sync the backups that are listed in your controller under Settings > Backup.

Wrapping up

Coping the backups of your Unifi Controller to the cloud is pretty easy with both solutions. I like the simplicity of BackiFi, but it would be better if we could create API users in our Unifi Controller with the correct permissions. How BackiFi is set up now they simply have too much access to your controller, they can not only pull the backup out of it but also all the stats, connected clients, etc. I don't say they do that, we simply don't know it / can't see or control it now.

If you have any question, just drop a comment below.

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15 thoughts on “How to Backup your Unifi Controller to Dropbox, OneDrive, or other Cloud location”

Michael

FEBRUARY 3, 2021 AT 15:57 | [REPLY](#)

Hi,

Thanks for a great article. I just have to remember to reset it up after every CK 2+ firmware upgrade. I don't suppose you have any tricks to make it persistent? 😊

Thanks

Michael

Rudy Mens

FEBRUARY 4, 2021 AT 11:05 | [REPLY](#)

No, unfortunately not.

Mark

JANUARY 22, 2021 AT 21:15 | REPLY

Hi,

I have my unifi controller 6.0.43 on my raspberry Pi 4B, and I have the impression that the autobackup function does not perform any backups; I tried to set an automatic backup every hour (so for testing) but after several hours if I do it from the shell

`cd /var/lib/unifi/backup` and then `ls -la` I get this:

total 12

`dr-xr-xr-x 3 unifi unifi 4096 Jan 13 10:15.`

`dr-xr-xr-x 4 unifi unifi 4096 Jan 16 20:59 ..`

`dr-xr-xr-x 2 unifi unifi 4096 Jan 13 10:15 autobackup`

If I enter the autobackup folder it is empty as well.

Some idea? Or is it a known problem with this version of the Unifi controller?

Thanks for a possible answer.

Rudy Mens

JANUARY 23, 2021 AT 11:19 | REPLY

Are they also not listed in the controller?

Mark

JANUARY 23, 2021 AT 11:45 | REPLY

Hi Rudy, exact do not even appear in the controller's web interface; another thing if I try for example to press the blue button "Download File" you can see the animation of the circle that continues to run indefinitely without ever generating any file

Seth

DECEMBER 31, 2020 AT 11:45 | REPLY

Is Backblaze B2 an option? As I have only been using AWS S3 for fiddling I am not amused at the costs compared to B2

Rudy Mens

JANUARY 2, 2021 AT 09:22 | REPLY

Yes, that is also possible.

Martin

DECEMBER 27, 2020 AT 00:32 | REPLY

Hey, Ruud, thanks for article. I am running Controller on my QNAP and was wondering if there is another solution – like just to sync some QNAP folder, where backup is stored with e.g. Dropbox?

I am going to try that Rclone version, but this just cross my mind.

Rudy Mens

DECEMBER 27, 2020 AT 11:37 | REPLY

You can use rclone inside the docker container and copy the data to dropbox indeed. The problem with syncing folders from within QNAP is that the data is stored inside the container. So you will probably need to mount the backup folder first.

Daniel

NOVEMBER 23, 2020 AT 00:21 | REPLY

@Sjefsbamsemumsen

I had the same issue and solved with a small change to the suggested command.

Type this one:

```
sudo usermod -aG unifi pi
```

Everything is going well.

@Ruud, excellent tutorial, thanks!

Sjefsbamsemumsen

NOVEMBER 7, 2020 AT 12:14 | REPLY

Thanks a lot for the tutorial. Like Nathan I am stuck at getting the first sync running. My controller is running on a PI 3 and even after running
sudo usermod -a -G unifi pi
my user does not have access to the unifi folder:
cd: unifi/: Permission denied
Any idea how I can fix this?
Thanks! 😊

Nathan

OCTOBER 31, 2020 AT 19:03 | REPLY

Hey Ruud, thank you so much for these tutorials. I had great success yesterday porting my unifi controller software from my PC onto an RPi already running PiHole thanks to your guidance.
I worked through this tutorial for backups as well, and got stuck on one of the last steps. Was unable to get rclone to read the unifi backup folder on the RPi, it comes back saying the folder is unavailable. Tried the permissions trick as well, and it didn't resolve the problem. Any suggestions?

Rudy Mens

NOVEMBER 2, 2020 AT 09:41 | REPLY

And if you navigate on the PI to this folder: /var/lib/unifi/backup/ and then do LS to see the contents of the folder

Some Pi GuyNOVEMBER 19, 2020 AT 17:28 | [REPLY](#)

the following chmod change fixed this for me, use need the r and x bit set to access the unifi folder

```
cd /var/lib/  
sudo chmod -R 555 unifi/
```

piotrOCTOBER 12, 2020 AT 21:26 | [REPLY](#)

Thank-you Ruud – this is great advices.

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