

Steps for automatically saving pfSense configuration backups to google drive

Step 1: Install Cron in pfSense

System > Package Manager > Intsall packages > cron

Step 2: Open Shell in pfSense

```
└─ login as: admin
└─ Keyboard-interactive authentication prompts from server:
| Password for admin@pfSense.home.arp:
└─ End of keyboard-interactive prompts from server
VMware Virtual Machine - Netgate Device ID: afea32dd75ca6d6de1cc

*** Welcome to pfSense 2.7.2-RELEASE (amd64) on pfSense ***

WAN (wan)      -> em0      -> v4
LAN (lan)      -> em1      -> v4

0) Logout (SSH only)          9) pfTop
1) Assign Interfaces          10) Filter Logs
2) Set interface(s) IP address 11) Restart webConfigurator
3) Reset webConfigurator password 12) PHP shell + pfSense tools
4) Reset to factory defaults   13) Update from console
5) Reboot system               14) Disable Secure Shell (sshd)
6) Halt system                 15) Restore recent configuration
7) Ping host                   16) Restart PHP-FPM
8) Shell

Enter an option: 8
```

Step 3: Install rclone manually

- In shell type this command to download rclone:

```
fetch https://downloads.rclone.org/rclone-current-freebsd-amd64.zip
```

- Unzip the downloaded file:

```
unzip rclone-current-freebsd-amd64.zip
```

- Move the binary to /usr/local/bin/ so it can be used system-wide:

```
mv rclone-* /usr/local/bin/  
chmod +x /usr/local/bin/rclone
```

- Verify installation:

rclone version

Step 4: Google drive setup

- Navigate to google cloud console

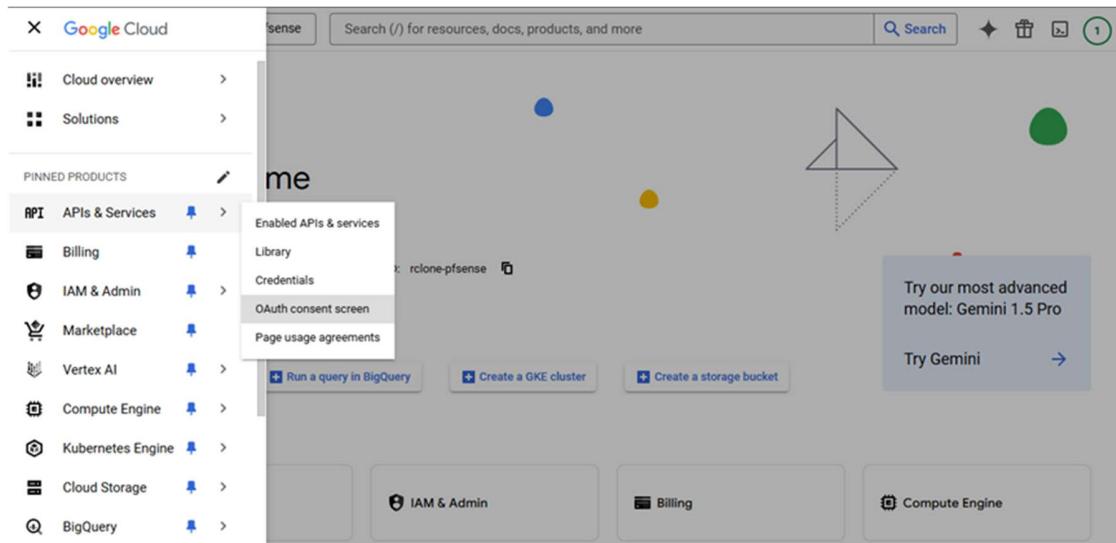
The screenshot shows the Google Cloud Welcome page. At the top, there's a navigation bar with the Google Cloud logo, a search bar containing 'rclone-pfsense', and various icons. Below the bar, the word 'Welcome' is displayed next to a colorful cloud icon. It says 'You're working in rclone-pfsense'. Underneath, it shows 'Project number: 948711058768' and 'Project ID: rclone-pfsense'. There are buttons for 'Dashboard', 'Recommendations', and 'Copy to clipboard'. A 'Create a VM' button is highlighted with a red box. Below these, there's a 'Quick access' section with four boxes: 'API & Services', 'IAM & Admin', 'Billing', and 'Compute Engine'. To the right, there's a callout for 'Try our most advanced model: Gemini 1.5 Pro' and a 'Try Gemini' button.

- Go to projects > new project
- Create a new project

The screenshot shows a 'Select a project' dialog. At the top, it says 'Select a project' and has a 'NEW PROJECT' button with a gear icon. Below is a search bar with the placeholder 'Search projects and folders'. Underneath, there are tabs for 'RECENT', 'STARRED', and 'ALL'. The 'RECENT' tab is selected. It lists two projects: 'rclone-pfsense' (marked with a checkmark) and 'My Project 18127'. To the right of each project name is its 'ID'. The 'rclone-pfsense' entry has a question mark icon next to it.

Name	ID
rclone-pfsense ?	rclone-pfsense
My Project 18127 ?	cogent-splicer-452011-k2

- Then in the navigation menu go to APIs and service > OAuth consent screen



- Go to audience and add your user account

This screenshot shows the 'Google Auth Platform / Audience' page. The left sidebar has a navigation menu with 'Overview', 'Branding', 'Audience' (which is selected and highlighted in blue), 'Clients', 'Data Access', and 'Verification Center'. The main content area is titled 'Audience' and contains a section for 'OAuth user cap'. It states: 'While publishing status is set to "Testing", only test users are able to access the app. Allowed user cap prior to app verification is 100, and is counted over the entire lifetime of the app.' Below this, a progress bar shows '1 user (1 test, 0 other) / 100 user cap'. Under the 'Test users' section, there's a button '+ ADD USERS' and a table with one row: 'User information' and 'workuser090d@gmail.com'. There's also a 'Filter' input field with placeholder text 'Enter property name or value' and a 'SHOW LESS' link at the bottom.

- Now navigate to api's and services > credentials

The screenshot shows the Google Cloud Platform interface. In the left sidebar, under 'Google Auth Platform', the 'APIs & Services' section is selected. A sub-menu is open for 'Enabled APIs & services', which includes 'Library', 'Credentials', 'OAuth consent screen', and 'Page usage agreements'. The 'Credentials' option is highlighted. The main content area displays the 'Auth user cap' settings, indicating 1 user (1 test, 0 other) / 100 user cap.

- And copy your client id and client secret

The screenshot shows the 'Clients' page for an OAuth client named 'rclone'. The 'Name' field is set to 'rclone'. The 'Additional information' section shows the Client ID (948711058768-7ff0lj3hgbf16ika34snl0c6ksost24t.apps.googleusercontent.com) and Creation date (Feb 2024). The 'Client secrets' section shows the Client secret (GOeB1...), Creation date (Feb 2024), and Status (Active).

Client ID	948711058768-7ff0lj3hgbf16ika34snl0c6ksost24t.apps.googleusercontent.com
Creation date	Feb 2024
Status	Active

- Copy the client id and client secret

Step 5: Configure rclone for Google Drive

- Run the following command to start rclone setup:

rclone config

- **Type n and press Enter to create a new remote.**
- **Enter a name** for the remote (e.g., gdrive).
- **Choose the storage type:** Type 20 (Google Drive) and press **Enter**.
- **Client ID & Client Secret:** paste it here
- **Scope selection:** Type 1 (Full access) and press **Enter**.
- **Root Folder ID:** Press **Enter** to leave blank.
- **Service Account:** Press **Enter** to leave blank.
- **Advanced Config:** Type n and press **Enter**.
- **Auto Config?**
 - Type n and press **Enter**.
 - A URL will appear copy it

```
Name          Type
=====
gdrive       drive

e) Edit existing remote
n) New remote
d) Delete remote
r) Rename remote
c) Copy remote
s) Set configuration password
q) Quit config
e/n/d/r/c/s/q> e

Select remote.
Choose a number from below, or type in an existing value.
1 > gdrive
remote> 1

Editing existing "gdrive" remote with options:
- type: drive
- client_id: [REDACTED]
- client_secret: [REDACTED]
- scope: drive
- team_drive: [REDACTED]

Option client_id.
Google Application Client Id
Setting your own is recommended.
See https://rclone.org/drive/#making-your-own-client-id for how to create your own.
If you leave this blank, it will use an internal key which is low performance.
Enter a value of type string. Press Enter for the default [REDACTED]

client_id>

Option client_secret.
OAuth Client Secret.
Leave blank normally.
Enter a value of type string. Press Enter for the default [REDACTED]
hsbAJx_).
client_secret>

Option scope.
Comma separated list of scopes that rclone should use when requesting access from drive
```

```
Option config_token.
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):
[REDACTED]
```

Step 6: Config token

- Download rclone from rclone.org/downloads in your host machine
 - A zip file will download. Unzip the file.
 - Inside the folder type cmd in the folder's path
 - Command prompt will open paste the url in it
 - It will automatically open the sign in page in the browser
 - Login in into you account (you will get a success message)
 - In the command prompt you will find the client token. Copy it

```
C:\Users\User\Downloads\rclone-v1.69.1-windows-amd64\rclone-v1.69.1-windows-amd64>
C:\Users\User\Downloads\rclone-v1.69.1-windows-amd64\rclone-v1.69.1-windows-amd64>rclone authorize "drive" "eyJjbGllbnRf

2025/02/25 16:49:56 NOTICE: Config file "C:\\Users\\User\\AppData\\Roaming\\rclone\\rclone.conf" not found - using defau
lts
2025/02/25 16:49:56 NOTICE: Make sure your Redirect URL is set to "http://127.0.0.1:53682/" in your custom config.
2025/02/25 16:49:56 NOTICE: If your browser doesn't open automatically go to the following link: http://127.0.0.1:53682/
auth?state=Cx0RA56UsECZveAYYGLWTQ
2025/02/25 16:49:56 NOTICE: Log in and authorize rclone for access
2025/02/25 16:49:56 NOTICE: Waiting for code...
2025/02/25 16:50:28 NOTICE: Got code
Paste the following into your remote machine --->

<---End paste

C:\Users\User\Downloads\rclone-v1.69.1-windows-amd64\rclone-v1.69.1-windows-amd64>
```

- Paste the token in the pfSense console

```
Option config_token.  
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):  
  
Then paste the result.  
Enter a value.  
config_token>  
  
Configure this as a Shared Drive (Team Drive)?  
y) Yes  
n) No (default)  
y/n> n
```

- **After setup, list your remotes to confirm:**

```
rclone listremotes
```

- **You should see:**

gdrive:

Step 7: Create the Backup Script in /root/

- **Navigate to root directory:**

```
cd /root/
```

- **Create and edit the script using nano:**

```
nano /root/backup_pfsense.sh
```

- **Copy and paste the script inside the file:**

```
#!/bin/sh

# Set backup directory and filename

BACKUP_DIR="/root/pfsense_backups"

BACKUP_FILE="config-$(date +%F-%H%M).xml"

RCLONE_REMOTE="gdrive:pfsense_backups"

# Create backup directory if it doesn't exist

mkdir -p "$BACKUP_DIR"

# Copy pfSense configuration

cp /cf/conf/config.xml "$BACKUP_DIR/$BACKUP_FILE"

# Upload backup to Google Drive

rclone copy "$BACKUP_DIR/$BACKUP_FILE" "$RCLONE_REMOTE"
```

```
# Delete local backups older than 7 days  
find "$BACKUP_DIR" -type f -name "config-*\.xml" -mtime +7 -exec rm {} \;  
echo "Backup completed and uploaded to Google Drive."
```

- **Save and exit:**

Press CTRL + X, then Y, then Enter.

```
GNU nano 7.2                               /root/backup_pfsense.sh  
#!/bin/sh  
  
# Set backup directory and filename  
BACKUP_DIR="/root/pfsense_backups"  
BACKUP_FILE="config-$(date +%F-%H%M).xml"  
RCLONE_REMOTE="gdrive:pfsense_backups"  
  
# Create backup directory if it doesn't exist  
mkdir -p "$BACKUP_DIR"  
  
# Copy pfSense configuration  
cp /cf/conf/config.xml "$BACKUP_DIR/$BACKUP_FILE"  
  
# Upload backup to Google Drive  
rclone copy "$BACKUP_DIR/$BACKUP_FILE" "$RCLONE_REMOTE"  
  
# Delete local backups older than 7 days  
find "$BACKUP_DIR" -type f -name "config-*\.xml" -mtime +7 -exec rm {} \;  
echo "Backup completed and uploaded to Google Drive."
```

- **Make the Script Executable**

chmod +x /root/backup_pfsense.sh

- **Test the Script**

/root/backup_pfsense.sh

Check if the backup is uploaded to Google Drive.

Step 8: Automate the Backup with Cron

- **Open the cron job editor:**

crontab -e

- **Add this line at the end to run the backup every night at midnight:**

0 0 * * * /root/backup_pfsense.sh >> /root/backup.log 2>&1

- **Save and exit.**

Press Esc then :wq to save and exit

- **Verify the Scheduled Job**

crontab -l

You should see:

0 0 * * * /root/backup_pfsense.sh >> /root/backup.log 2>&1

Now, pfSense will automatically back up the configuration to Google Drive every night at 12:00 AM.