

# Steps for automatically saving pfsense configuration backups to google drive

## Step 1: Install Cron in pfsense

System > Package Manger > Intsall packages > cron

## Step 2: Open Shell in pfsense

```
login as: admin
Keyboard-interactive authentication prompts from server:
| Password for admin@pfSense.home.arpa:
| 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:

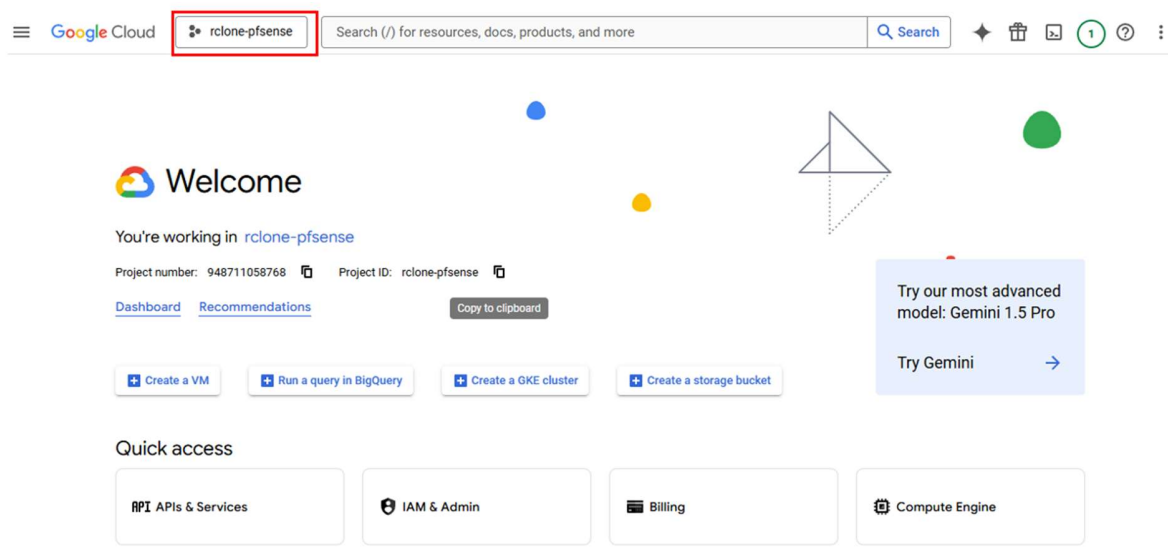
```
mv rclone-*/rclone /usr/local/bin/  
chmod +x /usr/local/bin/rclone
```

- **Verify installation:**

*rclone version*

## Step 4: Google drive setup

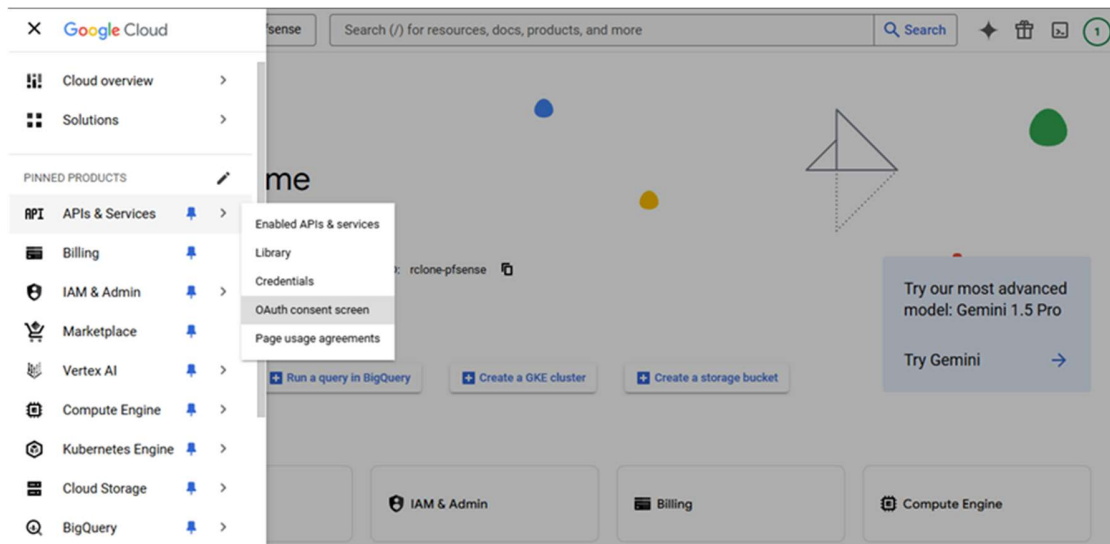
- Navigate to google cloud console



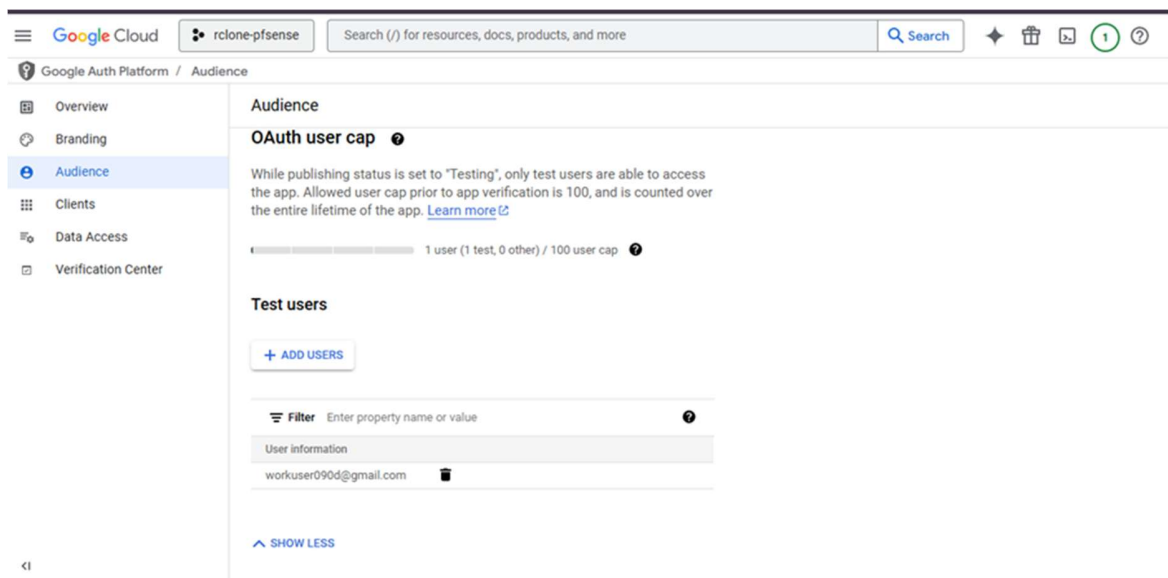
- Go to projects > new project
- Create a new project



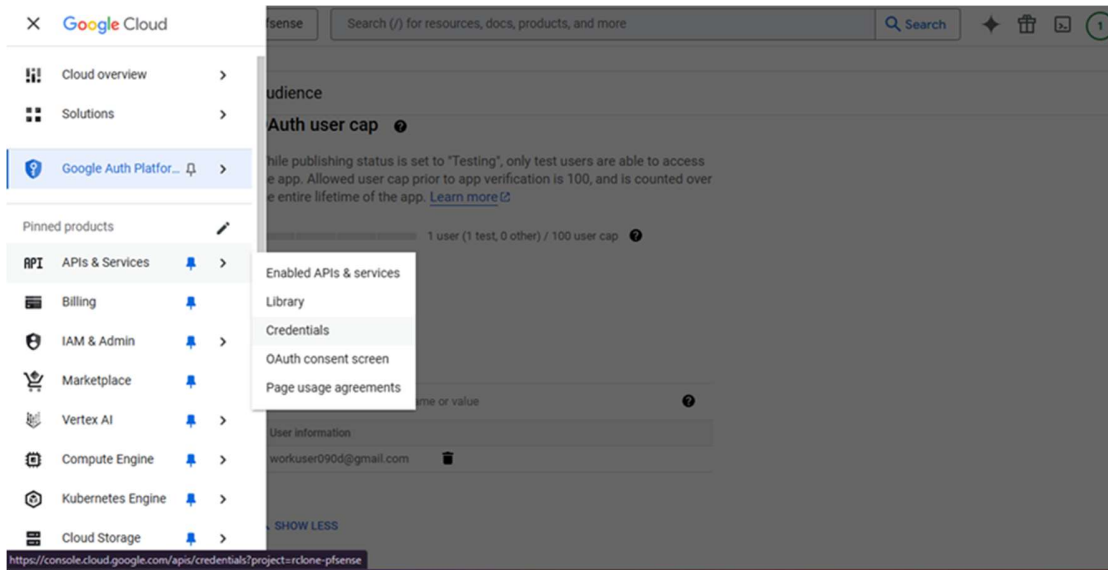
- Then in the navigation menu go to APIs and service > OAuth consent screen



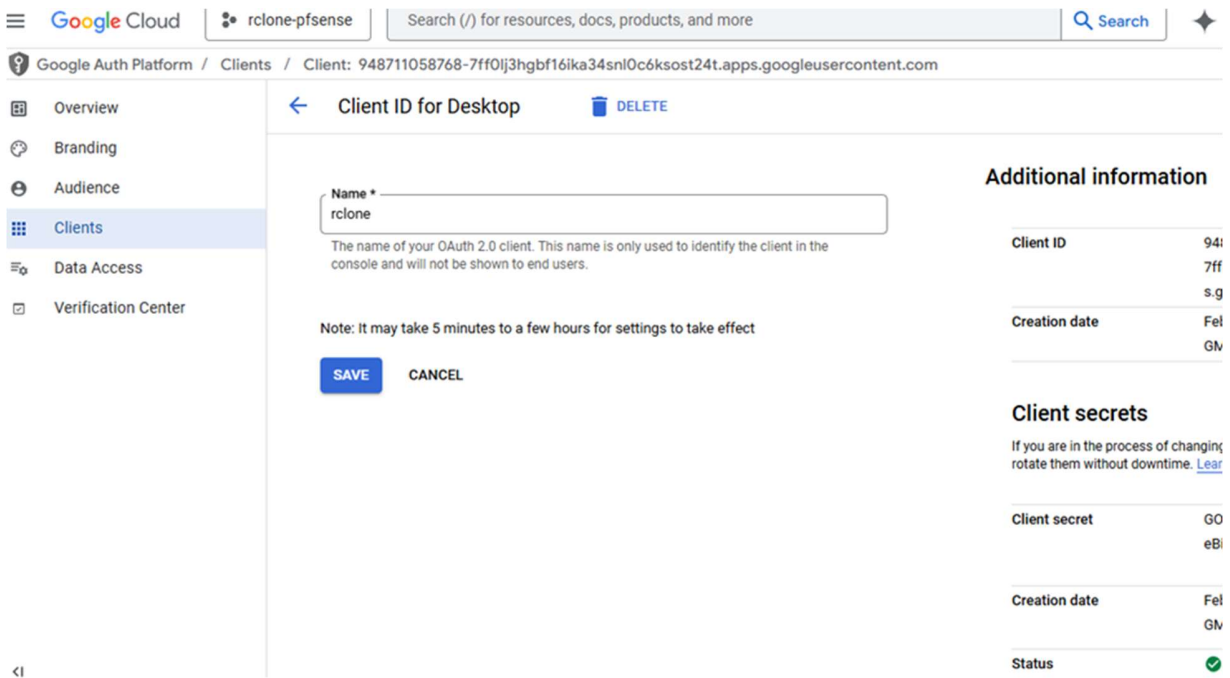
- Go to audience and add your user account



- Now navigate to api's and services > credentials



- And copy your client id and client secret



- 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:
- client_secret:
- scope: drive
- team_drive:
```

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

```
client_id>
```

Option client\_secret.

OAuth Client Secret.

Leave blank normally.

Enter a value of type string. Press Enter for the default

```
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/](https://rclone.org/remote_setup/)

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

## Step 6: Config token

- Download rclone from [rclone.org/downloads](https://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=Cr0RA56UsECZveAYYG1WTQ
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"
```



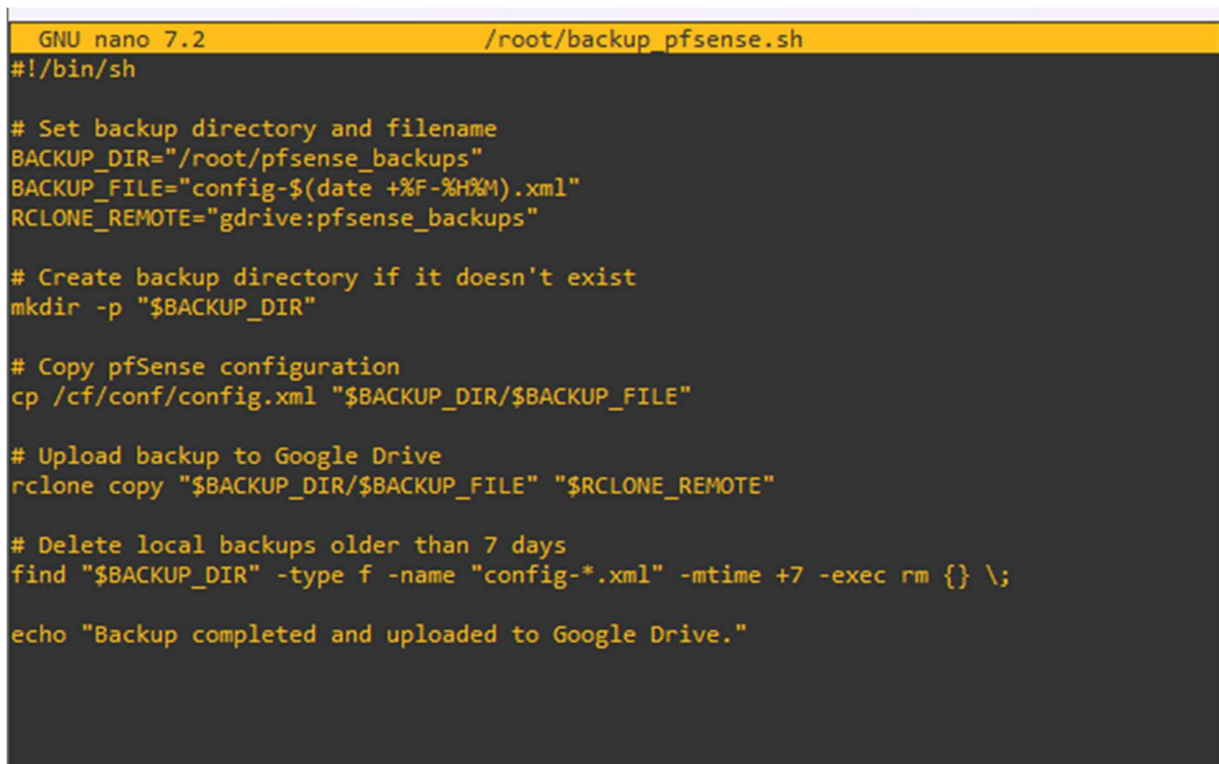
# Delete local backups older than 7 days

```
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.

A screenshot of a terminal window with a yellow title bar that reads "GNU nano 7.2" and "/root/backup\_pfsense.sh". The terminal background is dark grey. The script content is displayed in yellow text. It starts with a shebang line, followed by variable assignments for backup directory, filename, and remote location. Then it includes commands to create the directory, copy the configuration file, upload it to Google Drive using rclone, delete old local backups, and finally print a completion message.

```
#!/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.**