Installation and Configuration Guide

Step-by-step instructions for installing, configuring, and setting up the Nextcloud WHMCS module, including Nextcloud server preparation, WHMCS integration, email templates, and product configuration.

- WHMCS Installation and Update
- Setup guide: Nextcloud setup
- Setup guide: WHMCS setup
- Email Template (puqNextcloud notification disk limit)
- Add server (Nextcloud server)
- Product Configuration

WHMCS Installation and Update

Nextcloud module **WHMCS**

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System requirements

Requirement	Minimum
WHMCS	8.x+, 9.x+.
PHP	7.4, 8.1, 8.2, 8.3, 8.4
ionCube Loader	v15+

> **Note:** The module uses ionCube encoding. Make sure ionCube Loader is installed and active on your server.

Download

The module can be ordered and downloaded from PUQ Cloud:

- **Order / Download:** https://puqcloud.com/whmcs-module-nextcloud.php
- **Community:** https://community.puqcloud.com/
- **Direct download link for the latest version:**

```
wget https://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Nextcloud/PUQ_WHMCS-Nextcloud-latest.zip
```

> All versions can be found at this link:
> https://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Nextcloud/
>
> Older module versions for WHMCS 8 are available in the archive directory:
> https://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Nextcloud/archive/

After downloading, extract the archive:

```
unzip PUQ_WHMCS-Nextcloud-latest.zip
```

Installation

Upload files

Extract the module archive and copy the `puqNextcloud` directory to the WHMCS servers module directory:

```
WHMCS_WEB_DIR/modules/servers/puqNextcloud
```

Once the files are uploaded, proceed to the WHMCS Setup Guide to configure the server and product.

Update

The update procedure is the same as installation — replace the existing files with the new version:

1. Download the latest version as described in the Download section.
2. Unzip the archive.
3. Replace the existing `WHMCS_WEB_DIR/modules/servers/puqNextcloud` directory with the new one.
4. Verify the version number in the module interface matches the new release.

> **Important (v3.0):** Product reconfiguration is required after updating to version 3.0.

Setup guide: Nextcloud setup

Nextcloud module **WHMCS**

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Nextcloud including Nextcloud Office on Debian10 with nginx, MariaDB, PHP 8.1, Let's Encrypt, Redis, Fail2ban and ufw

This guide covers the complete installation and configuration of a Nextcloud server from scratch on Debian, including all required components.

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1. Preparation and installation of nginx web server

Install required packages:

```
apt-get install -y \
  curl wget git apt-transport-https gnupg2 \
  imagemagick libmagickcore-6.q16-6 libmagickwand-6.q16-6 \
```

```
  software-properties-common dirmngr lsb-release ca-certificates \
  unzip
```

Configure hostname

Edit `/etc/hosts` with server IP and FQDN:

```
127.0.0.1 localhost
YOUR_SERVER_IP your.domain.com
```

Edit `/etc/hostname`:

```
your.domain.com
```

Reboot the system:

```
reboot
```

Install nginx

Add the nginx repository and install:

```
apt-get install -y nginx
```

Remove conflicting web servers:

```
apt-get remove -y apache2
```

Enable and start nginx:

```
systemctl enable nginx
systemctl start nginx
```

Configure nginx

Backup the default configuration and create a custom one:

```
cp /etc/nginx/nginx.conf /etc/nginx/nginx.conf.bak
```

Key nginx.conf settings include:

- Worker processes and connections
- JSON-formatted logging
- Real IP handling
- File caching parameters
- Security headers

Create required directories:

```
mkdir -p /var/log/nextcloud /var/nc_data /var/www/letsencrypt/.well-known/acme-challenge
/etc/letsencrypt/rsa-certs /etc/letsencrypt/ecc-certs
```

---

2. Installation and configuration of PHP 8.1 (FPM)

Install PHP packages:

```
apt-get install -y \
  php-common php8.1-fpm php8.1-gd php8.1-curl php8.1-xml \
  php8.1-zip php8.1-intl php8.1-mbstring php8.1-bz2 \
  php8.1-ldap php8.1-apcu php8.1-bcmath php8.1-gmp \
  php8.1-imagick php8.1-igbinary php8.1-mysql php8.1-redis \
  php8.1-smbclient php8.1-cli php8.1-opcache php8.1-readline \
  imagemagick
```

Optional packages for LDAP/Samba:

```
apt-get install -y ldap-utils nfs-common cifs-utils
```

Configure timezone

```
timedatectl set-timezone Europe/Warsaw
```

Key PHP optimizations

Backup and configure PHP settings:

- **Memory limit:** 1G
- **Max execution time:** 3600 seconds
- **Upload max filesize:** 10G
- **Post max size:** 10G
- **OPCache enabled:** memory 256MB, max files 100000
- Session cookie security enabled
- ImageMagick policy permissions updated for PS, EPS, PDF, XPS files

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3. Installation and configuration of MariaDB 10.8

Database security hardening

```
mysql_secure_installation
```

- Set root password
- Remove anonymous users
- Disable remote root login
- Remove test database

Database configuration

Custom MariaDB configuration (`/etc/mysql/my.cnf`):

- Character set: utf8mb4
- Default storage engine: InnoDB
- Max connections: 200
- Binlog format: ROW
- Transaction isolation: READ-COMMITTED

Create Nextcloud database

```
CREATE DATABASE nextclouddb CHARACTER SET utf8mb4 COLLATE utf8mb4_general_ci;
CREATE USER nextclouddbuser@localhost identified by 'nextclouddbpassword';
GRANT ALL PRIVILEGES on nextclouddb.* to nextclouddbuser@localhost;
FLUSH privileges;
```

> **Important:** Replace `nextclouddbpassword` with a strong password.

---

4. Installing and configuring Redis

Install and configure Redis:

```
apt-get install -y redis-server
```

Configuration:

- Port: disabled (set to 0)
- Unix socket enabled with permissions 770
- Max clients: 10240

```
usermod -aG redis www-data
```

Set kernel parameter:

```
echo "vm.overcommit_memory = 1" >> /etc/sysctl.conf
```

> Reboot the system before Nextcloud installation.

---

5. Installation and optimization of

Nextcloud (incl. SSL)

Certbot and Let's Encrypt setup

```
apt-get install -y certbot python3-certbot-nginx
```

nginx vhost configuration

Create `/etc/nginx/conf.d/nextcloud.conf` with:

- Upstream handler: PHP-FPM socket
- HTTP to HTTPS redirect
- SSL certificates from Let's Encrypt
- TLS 1.2 and 1.3 protocols
- Client max body size: 10G
- GZIP compression
- Security headers (HSTS, X-Frame-Options, etc.)
- Nextcloud-specific location blocks

Generate SSL certificate

```
certbot --nginx -d yourdomain.com
```

Auto-renewal crontab:

```
0 12 * * * /usr/bin/certbot renew --quiet
```

Install Nextcloud

Download and verify:

```
cd /usr/local/src
wget https://download.nextcloud.com/server/releases/latest.zip
wget https://download.nextcloud.com/server/releases/latest.zip.md5
md5sum -c latest.zip.md5 < latest.zip
```

Extract and set permissions:

```
unzip latest.zip -d /var/www
chown -R www-data:www-data /var/www/nextcloud
```

Silent installation

```
sudo -u www-data php /var/www/nextcloud/occ maintenance:install \
  --database "mysql" \
  --database-name "nextclouddb" \
  --database-user "nextclouddbuser" \
  --database-pass "nextclouddbpassword" \
  --admin-user "YourNextcloudAdmin" \
  --admin-pass "YourNextcloudAdminPassword" \
  --data-dir "/var/nc_data"
```

Configure trusted domain

```
sudo -u www-data php /var/www/nextcloud/occ config:system:set trusted_domains 0 --
value=your.domain.com
```

CLI URL configuration

```
sudo -u www-data php /var/www/nextcloud/occ config:system:set overwrite.cli.url --
value=https://your.domain.com
```

Extended configuration

Create `/var/www/nextcloud/config/tweaks.config.php` with settings including:

- Activity expiration: 14 days
- Authentication bruteforce protection enabled
- Blacklisted files: .htaccess, Thumbs.db
- Default phone region
- Preview providers: PNG, JPEG, GIF, BMP, PDF, MP3, TXT, MarkDown
- Redis configuration with Unix socket
- Trashbin retention: auto, 7 days

- Logging: file at `/var/log/nextcloud/nextcloud.log`, level 2
- Log rotation: 100MB

App management

```
sudo -u www-data php /var/www/nextcloud/occ app:disable survey_client
sudo -u www-data php /var/www/nextcloud/occ app:disable firstrunwizard
sudo -u www-data php /var/www/nextcloud/occ app:enable admin_audit
sudo -u www-data php /var/www/nextcloud/occ app:enable files_pdfviewer
```

Optional Nextcloud Office installation:

```
sudo -u www-data php /var/www/nextcloud/occ app:install richdocuments
sudo -u www-data php /var/www/nextcloud/occ app:install richdocumentscode
```

Restart services

```
systemctl stop nginx php8.1-fpm
systemctl restart mysql php8.1-fpm redis nginx
```

Set up cron

As www-data user:

```
*/5 * * * * php -f /var/www/nextcloud/cron.php > /dev/null 2>&1
```

Reconfigure to cron mode:

```
sudo -u www-data php /var/www/nextcloud/occ background:cron
```

Pin packages

Prevent unwanted package updates:

```
apt-mark hold nginx* redis* mysql* galera* mariadb* php*
```



15-nextcloud-setup.png

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6. System hardening with Fail2ban and UFW

Fail2ban configuration

Install Fail2ban:

```
apt-get install -y fail2ban
```

Create Nextcloud filter (`/etc/fail2ban/filter.d/nextcloud.conf`):

- Regex patterns for login failures
- Trusted domain errors
- Date pattern for JSON log format

Create Nextcloud jail (`/etc/fail2ban/jail.d/nextcloud.local`):

```
[nextcloud]
backend = auto
enabled = true
port = 80,443
protocol = tcp
maxretry = 5
bantime = 3600
findtime = 36000
logpath = /var/log/nextcloud/nextcloud.log
```

UFW firewall configuration

```
ufw allow 80/tcp comment "LetsEncrypt(http)"
```

```
ufw allow 443/tcp comment "LetsEncrypt(https)"
ufw allow 22/tcp comment "SSH"
ufw enable
```

Setup guide: WHMCS setup

Nextcloud module **WHMCS**

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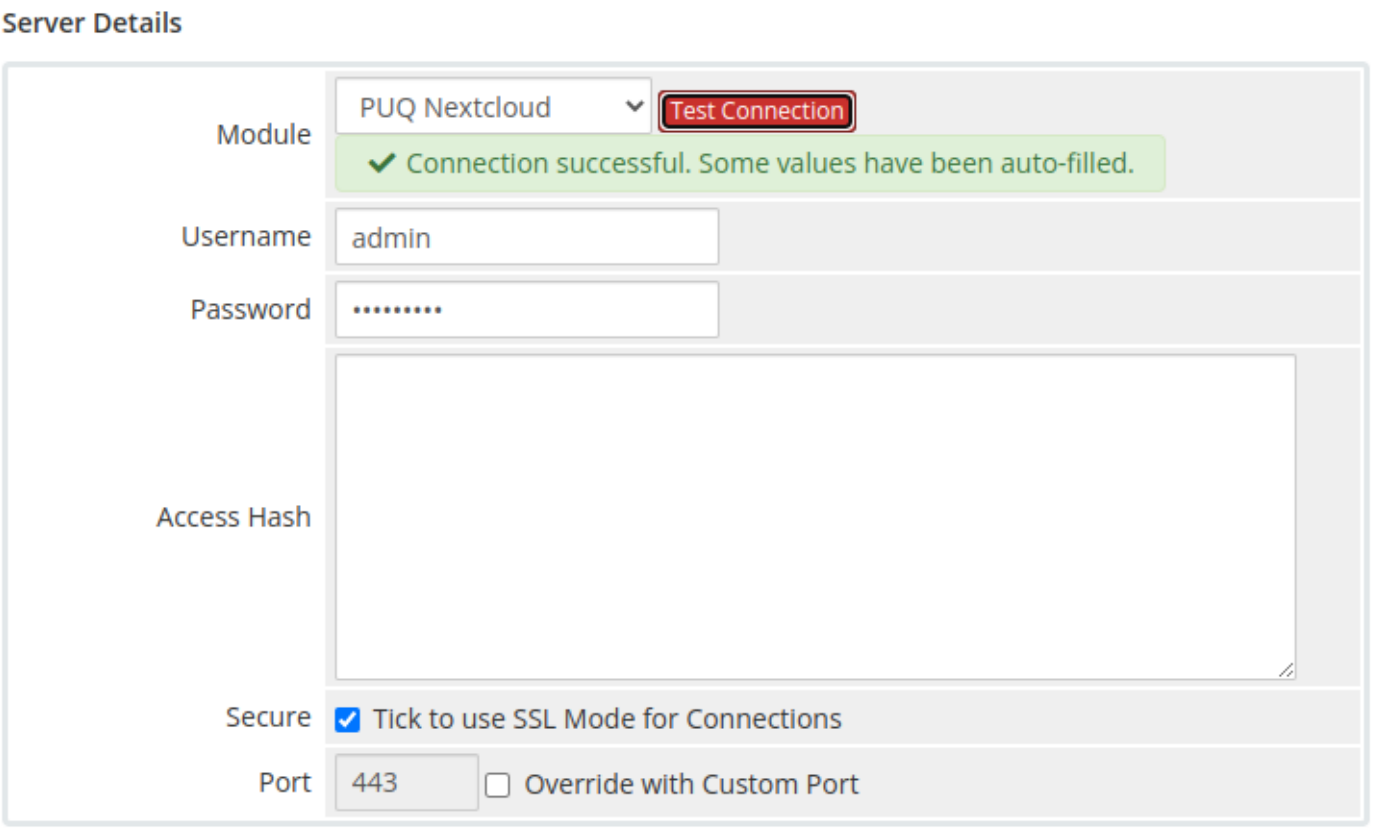
Step 1: Add server in WHMCS

Navigate to **System Settings** → **Servers** → **Add New Server**

1. Enter the correct **Name** and **Hostname**
2. In the Server Details section, select the **PUQ Nextcloud** module
3. Enter valid Nextcloud web interface credentials (username and password)
4. Click **Test connection** to verify the connection

Name	nextcloud-[redacted]com
Hostname	nextcloud-[redacted]com
IP Address	
Assigned IP Addresses (One per line)	
Monthly Cost	0.00
Datacenter/NOC	
Maximum No. of Accounts	200
Server Status Address	To display this server on the server status page, enter the full path to the server status folder (required to be uploaded to each server you want to monitor) - eg. https://www.example.com/status/
Enable/Disable	☐ Tick to disable this server

04-add-server-1.png

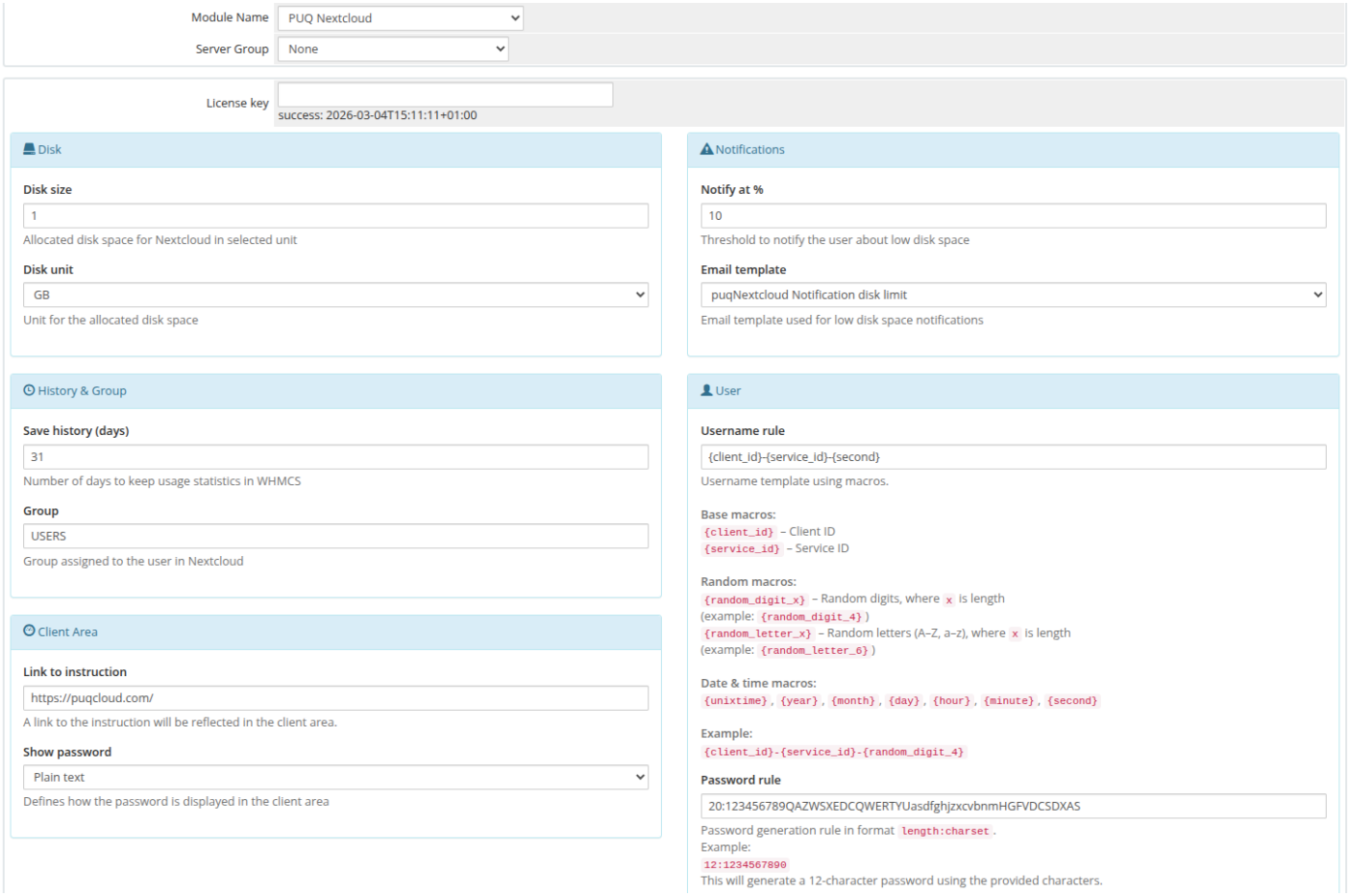


05-add-server-2.png

Step 2: Create product in WHMCS

Navigate to **System Settings → Products/Services → Create a New Product**

Select the **PUQ Nextcloud** module in the Module settings section.



06-whmcs-setup.png

Email Template (puqNextcloud notification disk limit)

Nextcloud module **WHMCS**

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Creating the email template

Navigate to **System Settings → Email Templates → Create New Email Template**

Template configuration

Parameter	Value
Email Type	Product/service
Unique Name	puqNextcloud Notification disk limit

Email subject

```
Disk space usage {$disk_used_percentage} % - {$username}
```

Email body

```
Dear {$client_name},

We would like to inform you that the disk space usage for your
product/service has reached the notification threshold.

Product/Service: {$service_product_name}
Due Date: {$service_next_due_date}
Username: {$username}

Disk Limit: {$disk_limit}
Disk Used: {$disk_used} ({$disk_used_percentage}%)
Disk Free: {$disk_free} ({$disk_free_percentage}%)

Please take the necessary actions to manage your disk space.

{$signature}
```

Available template variables

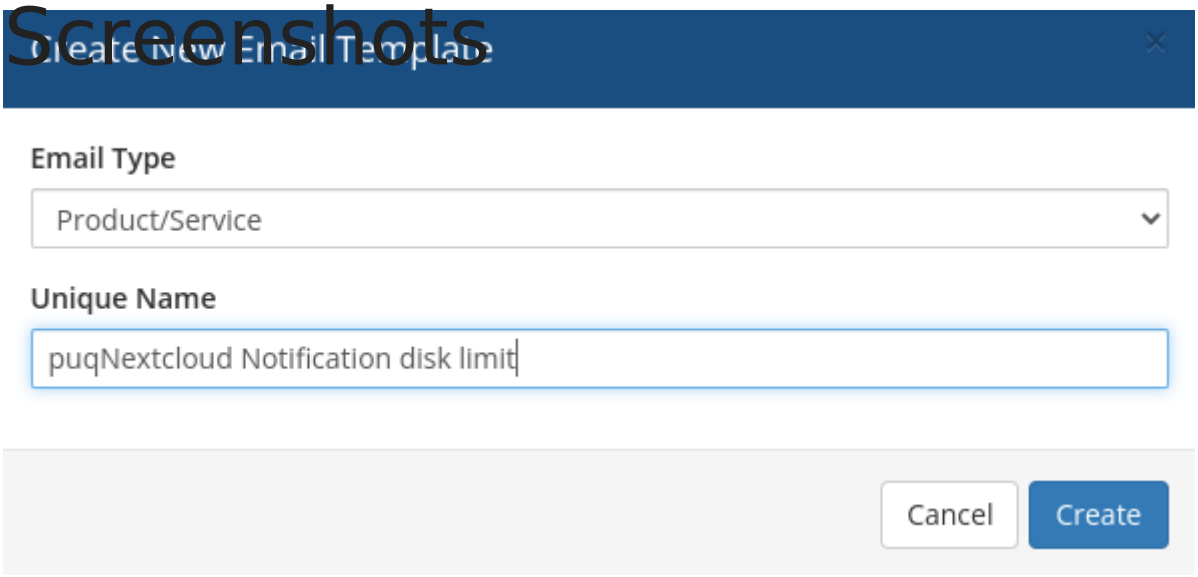
The following custom variables are passed to the email template by the module:

Variable	Description	Example
`{$username}`	Nextcloud username	john-42
`{$disk_limit}`	Total disk quota with unit	10 GB
`{$disk_used}`	Used disk space with unit	8.5 GB
`{$disk_free}`	Free disk space with unit	1.5 GB
`{$disk_used_percentage}`	Used space as percentage	85
`{$disk_free_percentage}`	Free space as percentage	15

In addition, all standard WHMCS product/service merge fields are available (e.g. `{$client_name}`, `{$service_product_name}`, `{$service_next_due_date}`, `{$signature}`).

> **Note:** Notifications are sent automatically during the WHMCS daily cron execution when disk usage reaches the threshold configured in the product settings ("Notify at %").

Screenshots



07-email-template-1.png

Subject:

Disk space usage {$disk_used_percentage} % - {$username}

File Edit View Insert Format Table Help

Paragraph Verdana 11pt

Dear {$client_name},

This letter informs you that the disk space usage limit is coming to an end.

Product/Service: **{$service_product_name}**
Due Date: **{$service_next_due_date}**

Username: **{$username}**

Disk limit: **{$disk_limit_bytes*$unit_coefficient} {$unit}**
Disk used: **{$disk_used_unit} {$unit} ({$disk_used_percentage} %)**
Disk free: **{$disk_free_unit} {$unit} ({$disk_free_percentage} %)**

{$signature}

55 WORDS POWERED BY TINYMCE

08-email-template-2.png

Add server (Nextcloud server)

Nextcloud module **WHMCS**

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Adding a Nextcloud server to WHMCS

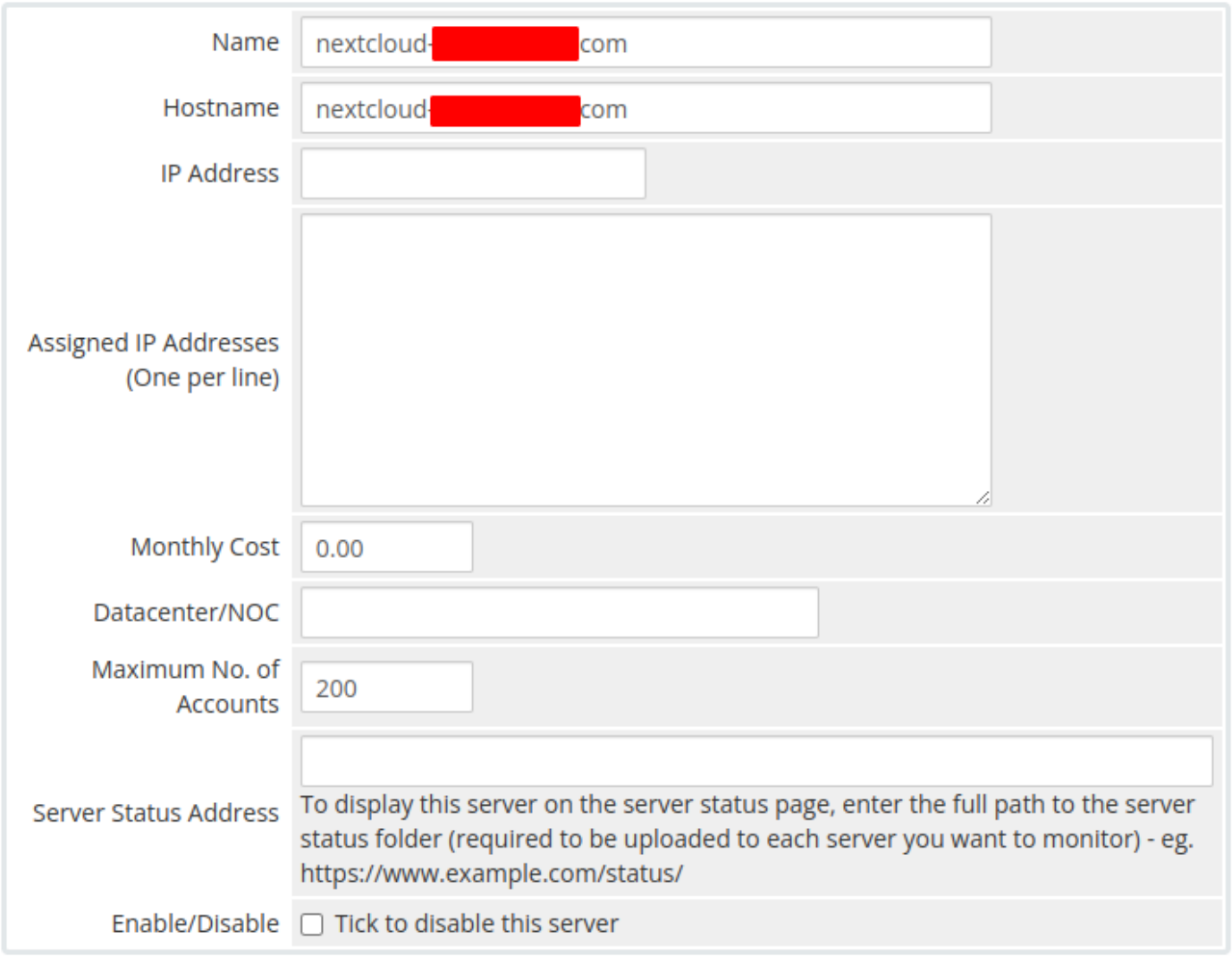
Navigate to **System Settings → Servers → Add New Server**

Step 1: General settings

Enter the correct **Name** and **Hostname** for your Nextcloud server.

- **Name** — a descriptive name for the server (e.g. "Nextcloud Production")
- **Hostname** — the domain name or IP address of your Nextcloud installation (e.g. `cloud.example.com`)

If your Nextcloud uses a non-standard port, enter it in the **Port** field. Check the **Secure** checkbox if your server uses HTTPS (recommended).

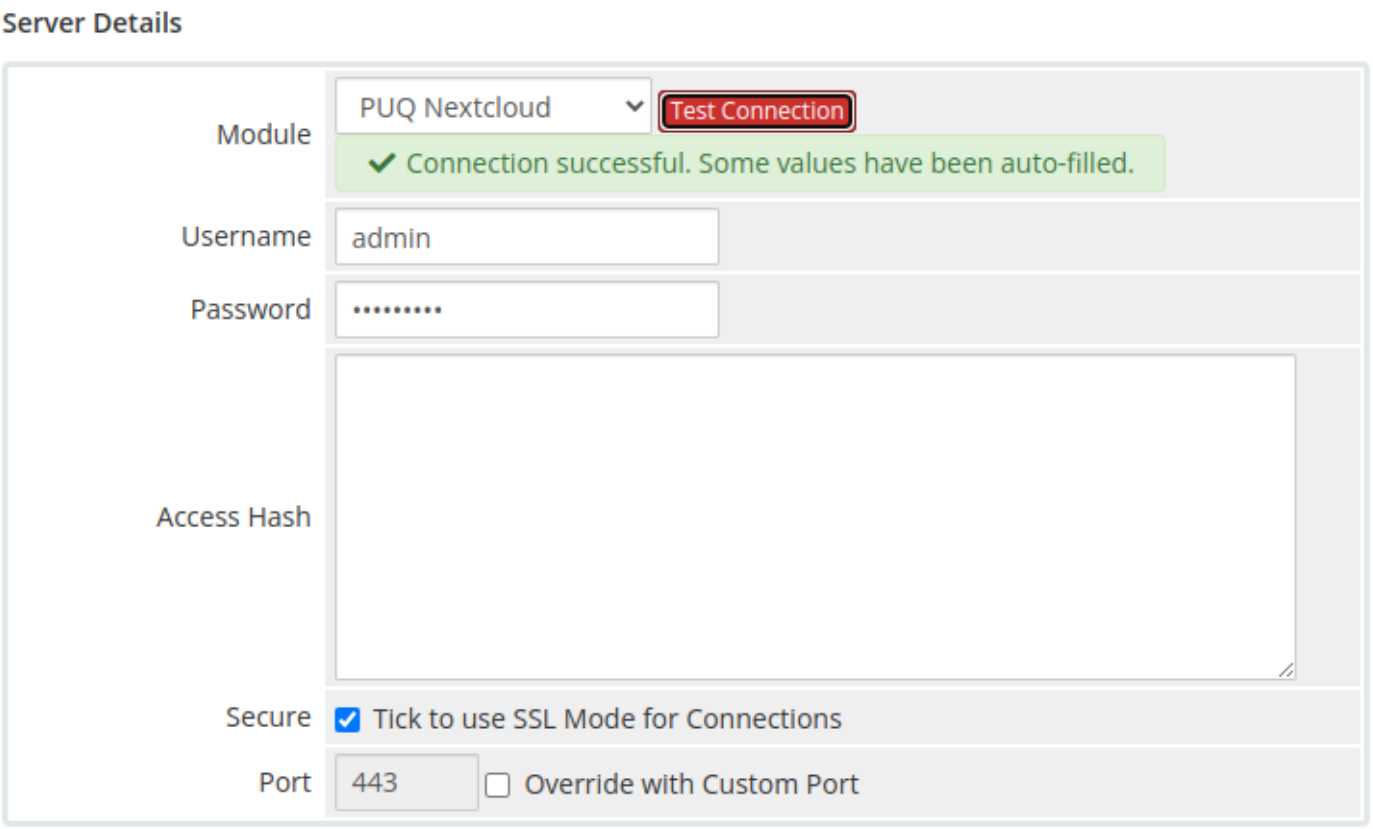


04-add-server-1.png

Step 2: Module settings

1. In the Server Details section, select the **PUQ Nextcloud** module from the dropdown
2. Enter valid credentials for the Nextcloud web interface:
   - **Username** — Nextcloud administrator username
   - **Password** — Nextcloud administrator password
3. Click **Test connection** to verify the connection is working correctly

The test connection verifies that the module can reach the Nextcloud OCS API (`/ocs/v1.php/cloud/users/`) and authenticate with the provided credentials.



05-add-server-2.png

> **Important:** The Nextcloud user must have **administrator privileges** to manage users via the API. The module uses the Nextcloud OCS API v1 with HTTP Basic Authentication to create, modify, suspend, and delete user accounts.

Product Configuration

Nextcloud module **WHMCS**

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Add new product to WHMCS

Navigate to **System Settings → Products/Services → Create a New Product**

Select the **PUQ Nextcloud** module in the Module settings section.

Configuration parameters

Parameter	Description
License key	A pre-purchased license key for the PUQ Nextcloud module. The license must be active for correct operation. After saving, the verification status is displayed below the field.
Disk size	Allocated disk space for the Nextcloud user. Set to **0** for unlimited quota. Minimum value: 0.
Disk unit	Unit used for the allocated disk space. Available options: **MB**, **GB**, **TB**, **PB**.
Notify at %	Disk usage threshold in percent (1–100). A notification email is sent when usage reaches this value. Default: **90**. Set to **0** to disable notifications.
Email template	Email template used for low disk space notifications. Select from available Product/service type email templates. The template must be created manually in WHMCS (see Email Template page).
Save history (days)	Number of days to store disk usage statistics in WHMCS. Older records are automatically deleted during cron execution.

Parameter	Description
Group	Nextcloud group assigned to the user on the server side. The group is created automatically if it does not exist. When changing packages, the user is removed from all groups and added to the new group.
Username rule	Rule for automatic username generation using macros (see below). Default: `{client_id}-{service_id}`.
Password rule	Password generation rule in `length:charset` format (see below). Default: `12:123456789QAZWSXEDCRFVTGBYHNUJMIKqazwsxedcrfvtgbyhnujmikol` .
Link to instruction	URL to instructions displayed as a button in the client area. Leave empty to hide the button.
Show password	Defines how the password is shown in the client area. Options: **Show button** (hidden by default, revealed on click), **Plain text** (always visible), **No** (hidden, no option to reveal).

Username rule — available macros

The username is generated automatically when a new account is created. You can use the following macros:

Macro	Description	Example
`{client_id}`	WHMCS client ID	123
`{service_id}`	WHMCS service ID	456
`{unixtime}`	Current Unix timestamp	1707638400
`{year}`	Current year	2026
`{month}`	Current month (01–12)	02
`{day}`	Current day (01–31)	12
`{hour}`	Current hour (00–23)	14
`{minute}`	Current minute (00–59)	30
`{second}`	Current second (00–59)	45
`{random_digit_x}`	x random digits (0–9)	`{random_digit_4}` → 7394
`{random_letter_x}`	x random letters (A–Z, a–z)	`{random_letter_6}` → aBcDeF

Examples:

- `{client_id}-{service_id}` → `123-456`
- `nc-{random_digit_6}` → `nc-384729`
- `user-{client_id}-{random_letter_4}` → `user-123-aBcD`

> **Note:** If the generated username already exists on the Nextcloud server, the module automatically appends a counter: `username-1`, `username-2`, etc.

Password rule — format

The password rule uses the format `length:charset`, where:

- **length** — number of characters to generate
- **charset** — set of characters to use

Examples:

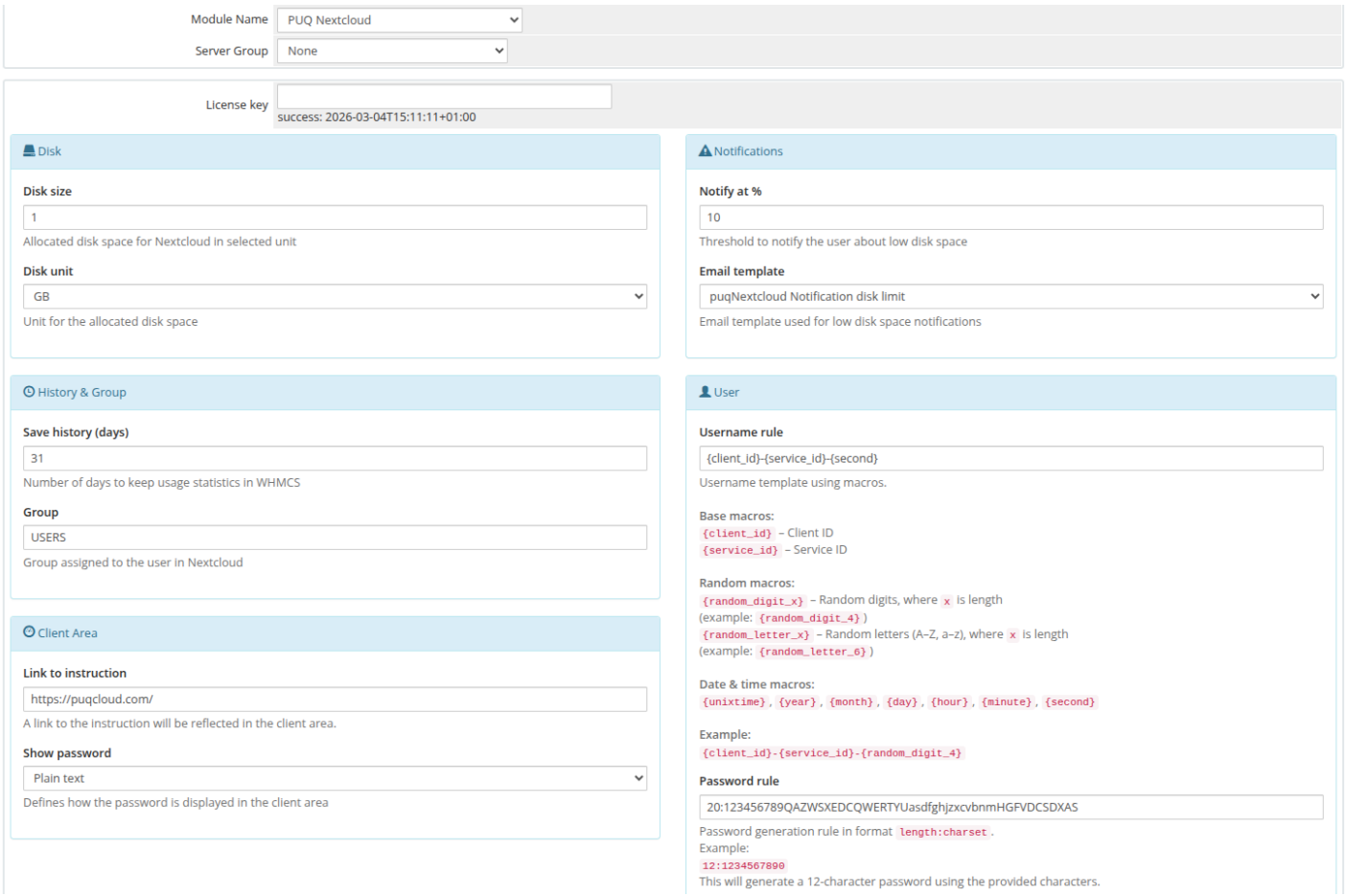
- `12:abcdefghijklmnopqrstuvwxyz0123456789` — 12 lowercase alphanumeric characters
- `16:ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789` — 16 mixed-case alphanumeric
- `20:0123456789` — 20 digits only

> If no rule is specified, a 12-character password is generated from a default character set.

Important notes

> **Warning:** This module works only as a **server module** (Products/Services). It cannot be used as an addon product. Attempting to use it with addon products will result in an error.

Screenshot



09-product-configuration.png