

Installation and configuration guide

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Basic concepts and requirements

Docker NextCloud module **WHMCS**

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Before you start, it is important to read and familiarize yourself with the following articles at this link:

<https://doc.puq.info/books/docker-modules>

The **WHMCS Docker NextCloud module** is part of the **WHMCS Docker module series** developed by **PUQcloud**. This module enables service providers to offer **NextCloud** and **NextCloud Office Docker containers** as a service to their clients, supporting seamless automation and integration.

The system consists of three core components:

WHMCS Module

The **core component**, installed in WHMCS, handles service provisioning and automation directly within WHMCS, providing an intuitive interface for managing NextCloud instances.

Debian 12 Server

A dedicated server running **Debian 12**, equipped with:

 **Docker** – For efficient container management

Detailed instructions for installing and configuring Docker are available here:

<https://doc.puq.info/books/docker-modules/page/installing-docker-for-puqcloud-modules>

n8n Server

This component bridges communication between the WHMCS module and the Docker server, ensuring seamless workflow automation and efficient service provisioning.

To learn more about n8n's powerful capabilities, visit the [official n8n website](#) for extensive documentation, tutorials, and community support.

Key Features & Concepts

Workflow Automation

Using n8n's **visual workflow builder**, automate numerous critical tasks, such as:

- ✓ **Automated provisioning of NextCloud and NextCloud Office**
- ✓ **Sending notifications to users and administrators**
- ✓ **Configuring firewall and security settings**
- ✓ **Managing DNS and domain configurations**
- ✓ **Custom automations** tailored specifically to your business needs

Flexibility & Customization

The NextCloud module offers extensive **personalization** and **elastic automation**, empowering you to fully customize n8n workflows and seamlessly integrate NextCloud into your existing infrastructure.

WHMCS setup (install/update)

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Module is coded ionCube v13

Supported php version:

- php 7.4 WHMCS 8.11.0 -
- php 8.1 WHMCS 8.11.0 +
- php 8.2 WHMCS 8.11.0 +

To install and update a module, you must perform the same actions.

1. Download the latest version of the module.

PHP 8.2

```
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Docker-NextCloud/php82/PUQ_WHMCS-Docker-NextCloud-latest.zip
```

PHP 8.1

```
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Docker-NextCloud/php81/PUQ_WHMCS-Docker-NextCloud-latest.zip
```

PHP 7.4

```
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Docker-NextCloud/php74/PUQ_WHMCS-Docker-NextCloud-latest.zip
```

All versions are available via link:

https://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Docker-NextCloud/

2. Unzip the archive with the module.

```
unzip PUQ_WHMCS-Docker-NextCloud-latest.zip
```

3. Copy and Replace "puqDockerNextCloud" from "PUQ_WHMCS-Docker-NextCloud" to "WHMCS_WEB_DIR/modules/servers/"

Preparing Docker Server

Docker NextCloud module **WHMCS**

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To install the Docker server for this module, please follow the instructions at the following link:

<https://doc.puq.info/books/docker-modules/page/installing-docker-for-puqcloud-modules>

Setting up n8n workflow

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Overview

The **Docker NextCloud WHMCS module** leverages a sophisticated workflow for **n8n**, designed to automate the comprehensive deployment, configuration, and management processes for NextCloud and NextCloud Office services. Through its intuitive API interface, the workflow securely receives commands and orchestrates predefined tasks via SSH on your Docker-hosted server, ensuring streamlined operations and efficient management.

Prerequisites

- You must deploy your own dedicated **n8n** server to manage workflows effectively.
- Alternatively, you may opt for the official **n8n** cloud-based solutions accessible via: [n8n Official Site](#)
- Your Docker server must be accessible via SSH with necessary permissions.

Installation Steps

Install the Required Workflow on n8n

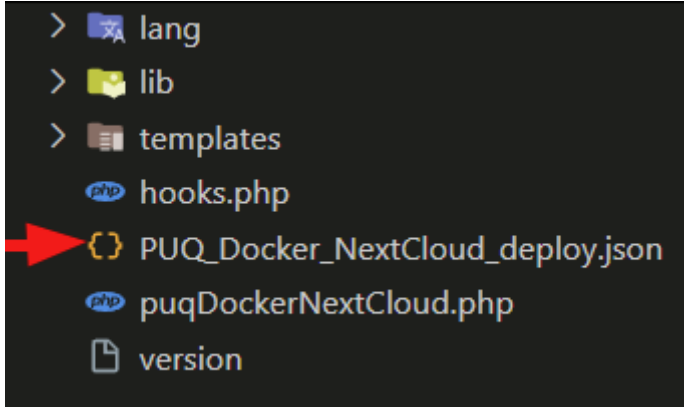
You can select from two convenient installation options:

Option 1: Use the Latest Version from the n8n Marketplace

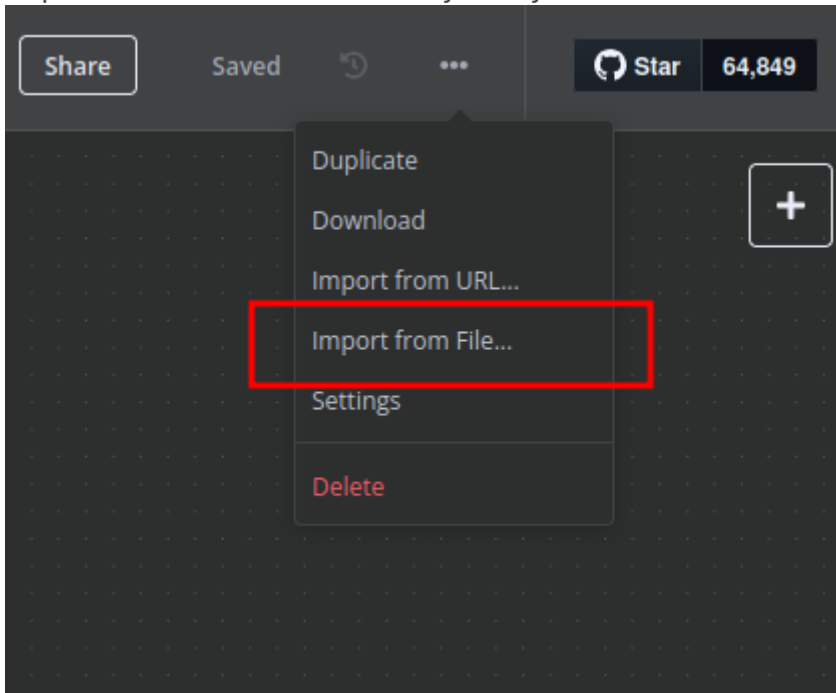
- The latest workflow templates are continuously updated and available on the n8n marketplace.
- Explore all templates provided by PUQcloud directly here: [PUQcloud on n8n](#)

Option 2: Manual Installation

- Each module version includes a bundled workflow template file.



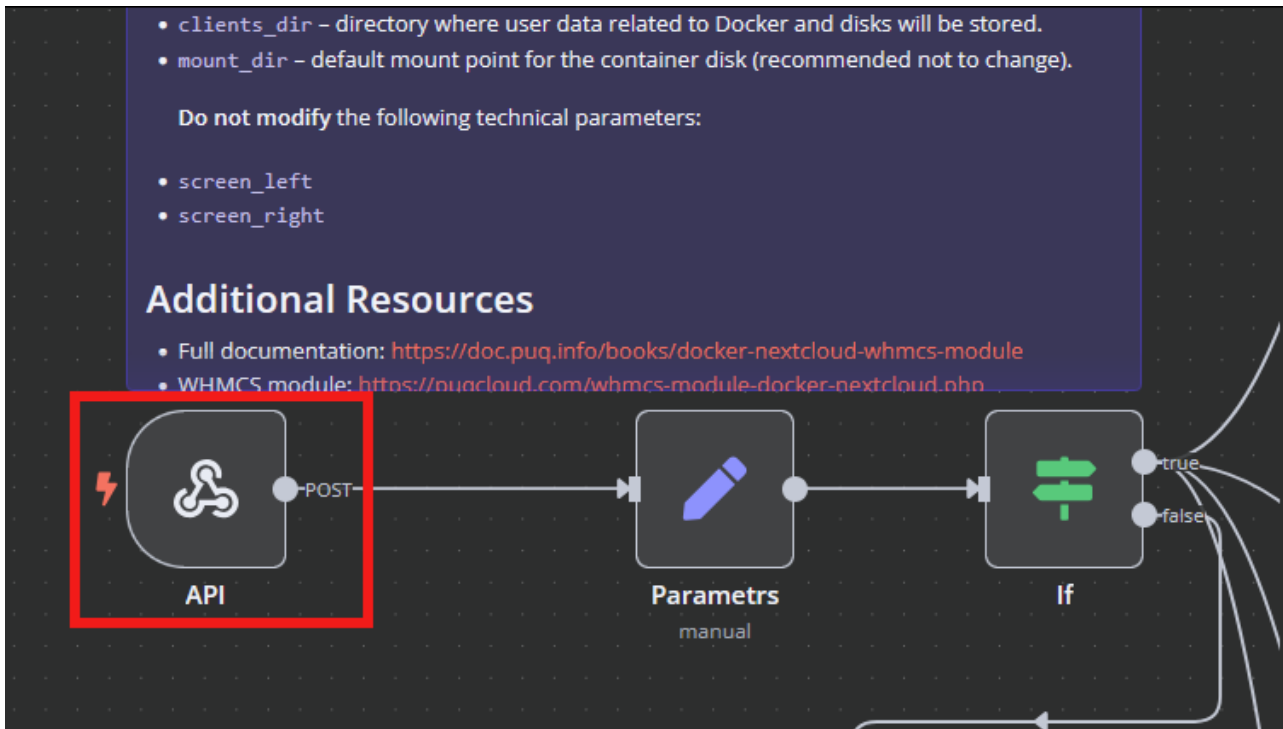
- Import this workflow file directly into your n8n server manually.



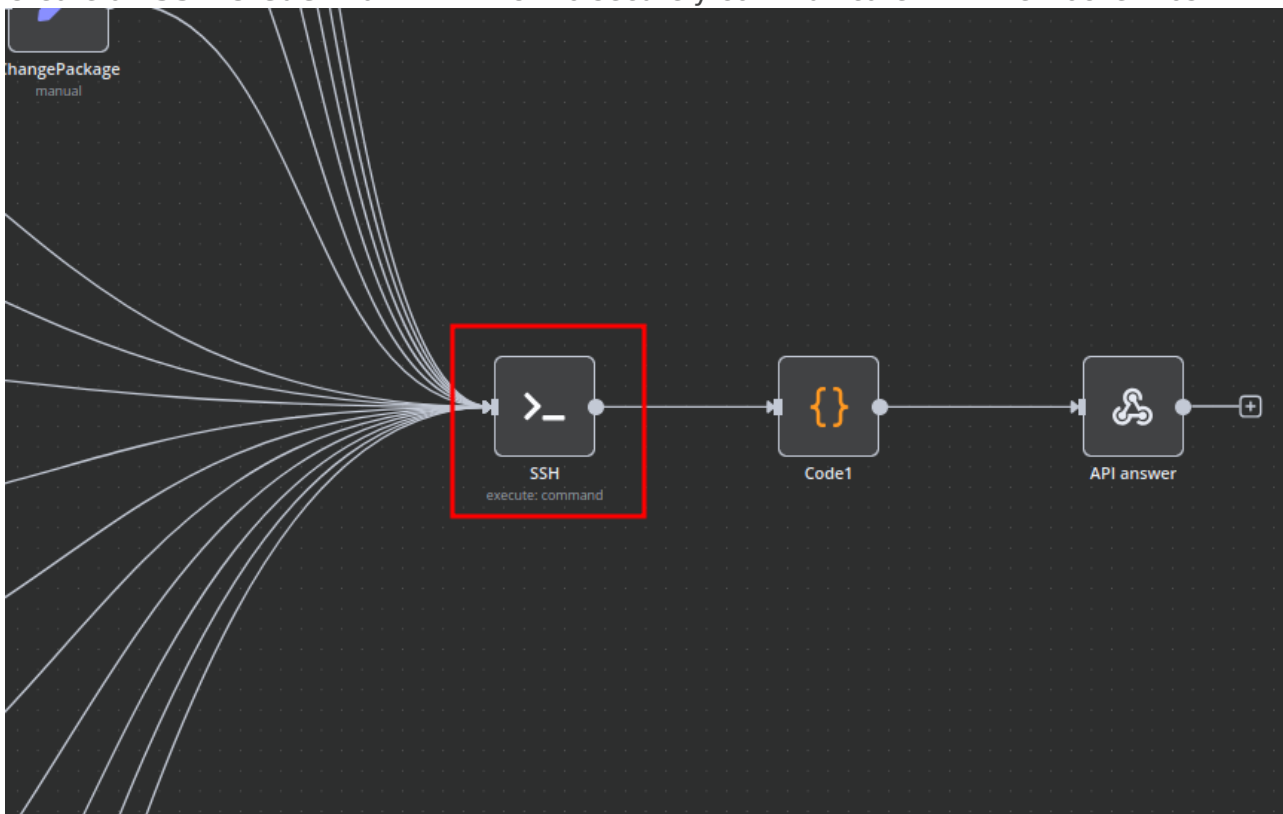
n8n Workflow API Backend Setup for WHMCS

Configure API Webhook and SSH Access

- Create a secure **Basic Auth Credential** for Webhook API interactions within n8n.



- Create an **SSH Credential** within n8n to securely communicate with the Docker host.



Modify Template Parameters

Adjust and update the following critical parameters to match your deployment specifics:

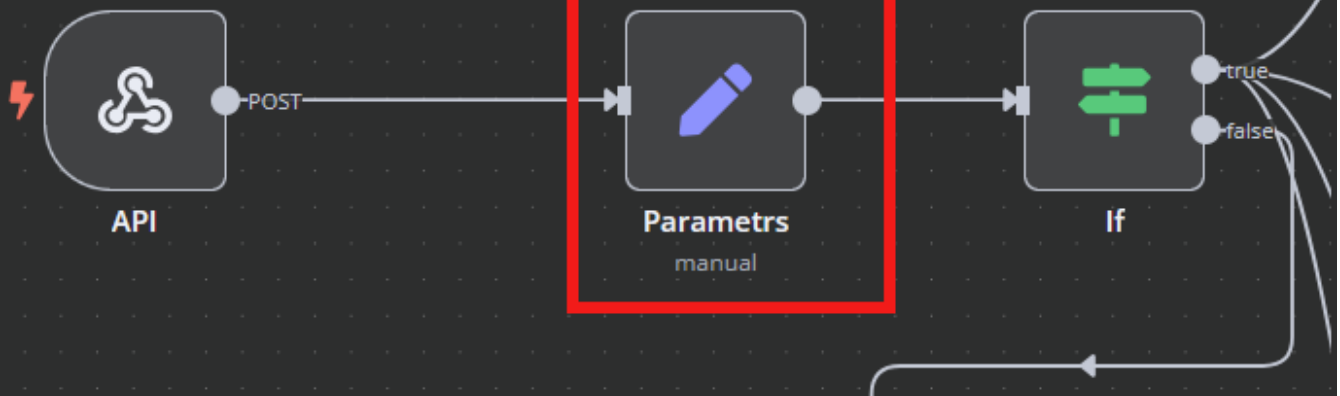
- `server_domain` – must match the domain of the WHMCS Docker server.
- `clients_dir` – directory where user data related to Docker and disks will be stored.
- `mount_dir` – default mount point for the container disk (recommended not to change).

Do not modify the following technical parameters:

- `screen_left`
- `screen_right`

Additional Resources

- Full documentation: <https://doc.puq.info/books/docker-nextcloud-whmcs-module>
- WHMCS module: <https://puqcloud.com/whmcs-module-docker-nextcloud.php>



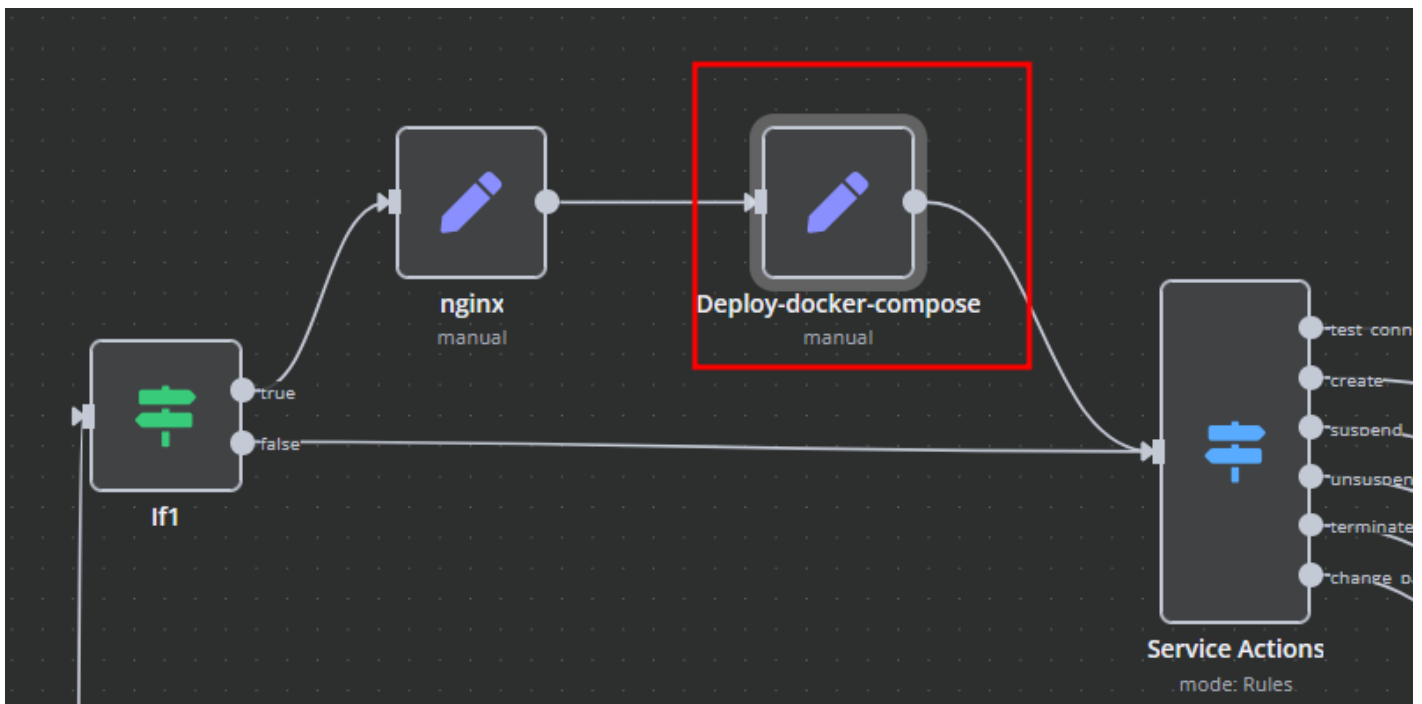
- `server_domain` – Set this to the domain of your WHMCS Docker server.
- `clients_dir` – Specify the directory where user data and related resources will be stored.
- `mount_dir` – The standard mount point for container storage (recommended to remain unchanged).

Do not alter the following technical parameters to avoid workflow disruption: `screen_left`, `screen_right`.

Deploy-docker-compose Configuration

Fine-tune Docker Compose configurations tailored specifically for these critical operational scenarios:

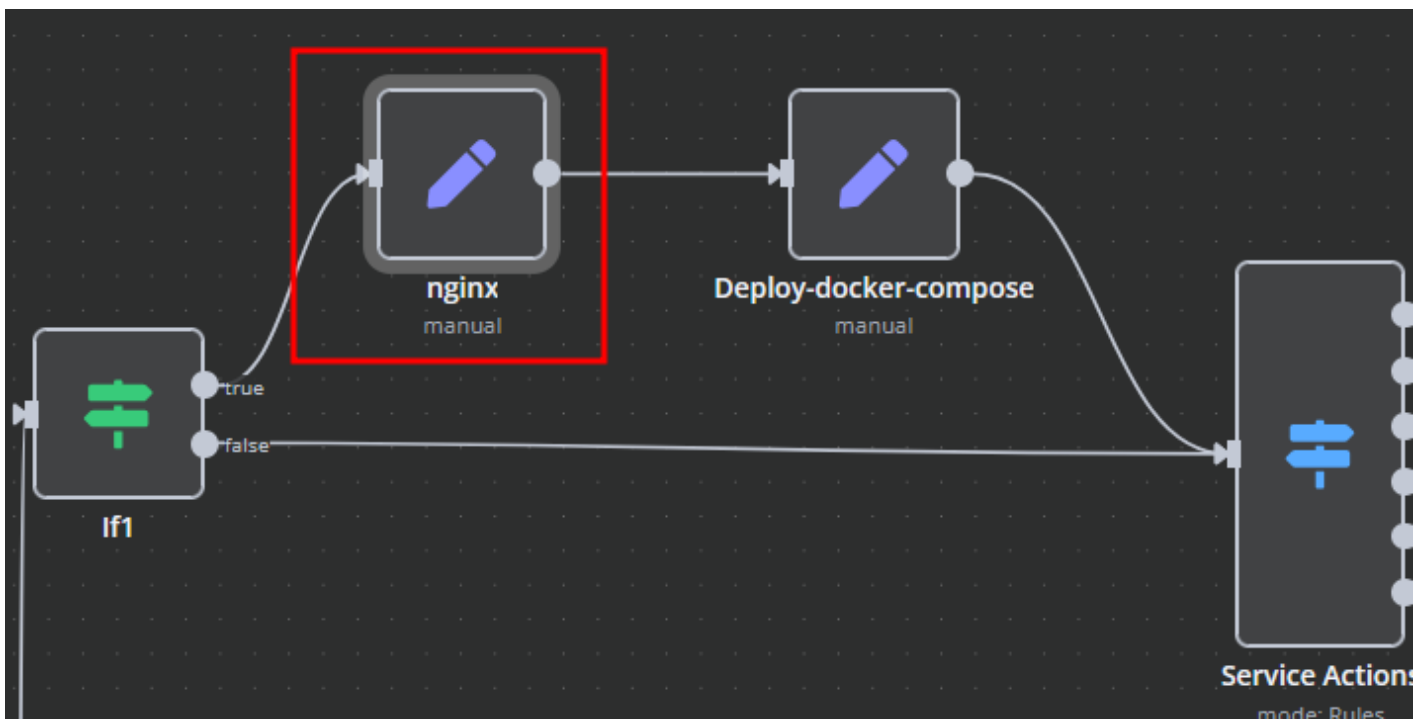
- Initial service provisioning and setup
- Service suspension and subsequent unlocking
- Service configuration updates
- Routine service maintenance tasks



nginx Configuration Management

Enhance and customize proxy server configurations using the dedicated nginx workflow element:

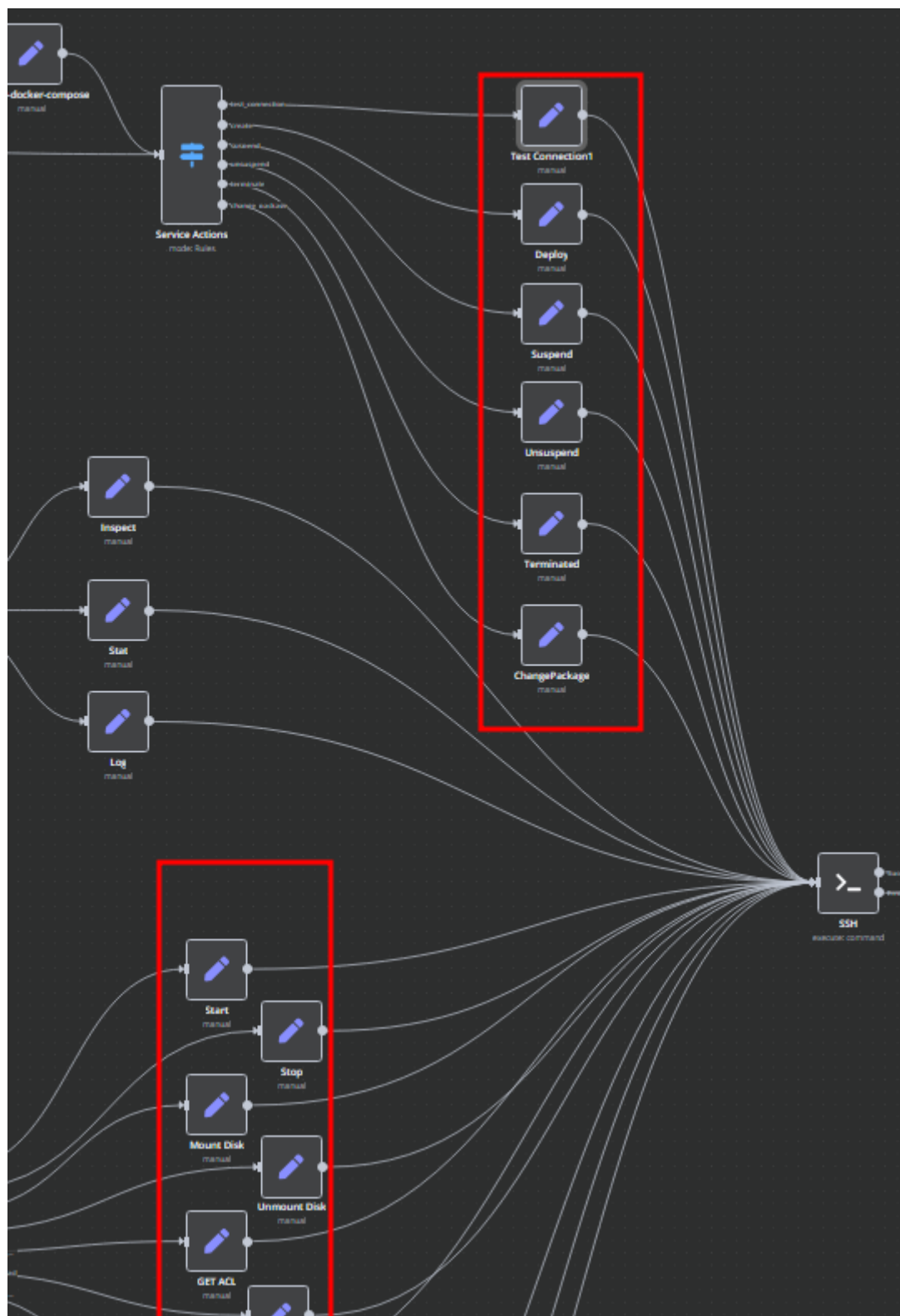
- **main:** Define specialized parameters within the server configuration block.
- **main_location:** Set custom headers, caching policies, and routing rules for the root location.



Bash Script Automation

Automate Docker container management and related server tasks through dynamically generated Bash scripts within n8n. Scripts execute securely via SSH and provide responses in JSON or plain text formats for easy parsing and logging.

- Scripts are conveniently linked directly to the SSH action elements.
- You retain complete flexibility to adapt or extend these scripts as necessary to meet your precise operational requirements.



Add server

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Add a new server to the WHMCS system.

System Settings->Servers->Add New Server

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

Name	<input type="text" value="d01-test.uuq.pl"/>
Hostname	<input type="text" value="d01-test.uuq.pl"/>
IP Address	<input type="text"/>
Assigned IP Addresses (One per line)	<div></div>
Monthly Cost	<input type="text" value="0.00"/>
Datacenter/NOC	<input type="text"/>
Maximum No. of Accounts	<input type="text" value="200"/>
Server Status Address	<div><input type="text"/> 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/</div>
Enable/Disable	<input type="checkbox"/> Check to disable this server

Attention: Important Information

The **hostname** field must precisely match the domain configured as **server_domain** in the **n8n workflow**. Misalignment between these parameters will disrupt the communication between WHMCS and Docker. Furthermore, ensure this domain is configured so that all subdomains point correctly to the Docker server's IP address.

The screenshot shows a configuration window titled "Parametrs" with a "Test step" button. It has tabs for "Parameters" (selected), "Settings", and "Docs". Under "Parameters", the "Mode" is set to "Manual Mapping". The "Fields to Set" section contains two entries:

Field Name	Type	Value
server_domain	String	d01-test.uuq.pl
clients_dir	String	/opt/docker/clients

In the **Server Details** section, choose the module **"PUQ Docker NextCloud"**. Enter the accurate **username** and **password** as configured for the **API endpoint** in the n8n workflow.

Additionally, input the **URL of the API entry point** from the n8n workflow into the **Access Hash** field.

Server Details

Module	<div>PUQ Docker NextCloud</div> <div>Test Connection</div> <div>✓ Connection successful. Some values have been auto-filled.</div>
Username	<div>nextcloud</div>
Password	<div>●●●●●●●●●●●●●●●●</div> <div>👁</div>
Access Hash	<div>https://n8n.puqcloud.com/webhook/docker-nextcloud</div>
Secure	<div><input checked="" type="checkbox"/> Check to use SSL Mode for Connections</div>

Webhook URLs

Test URL

Production URL

POST

<https://n8n.puqcloud.com/webhook-test/docker-nextcloud>

HTTP Methods

POST ×

Path

docker-nextcloud

Authentication

Basic Auth



Credential for Basic Auth

nextcloud



Respond

Using 'Respond to Webhook' Node



Insert a 'Respond to Webhook' node to control when and how you respond. [More details](#)

Options

No properties

Add option



Product Configuration

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Add new product to WHMCS

System Settings->Products/Services->Create a New Product

In the **Module settings** section, select the "**PUQ Docker NextCloud**" module.

- **License key** - A pre-purchased, active license key for the "**PUQ Docker NextCloud**" module is required for proper operation.
- **Disk space** - Specifies the disk space allocated to the NextCloud Docker container.
- **CPU** - Sets the CPU usage limit for the Docker container.
- **RAM** - Determines the amount of RAM allocated to the Docker container.
- **Link to instruction** - URL to documentation or instructions that will appear in the client's service management panel, if provided.
- **Main domain** - The primary domain for accessing NextCloud's web interface. If left empty, the domain specified in the server's **hostname** setting will be used.
- **Subdomain** - Assigns an individual subdomain for each service. If left blank or if the subdomain already exists, it will automatically generate using the format **{user_id}-{service_id}**.
-

Supported Macros for **App Subdomain**:

- **{user_id}** - Client ID
- **{service_id}** - Service ID
- **{random_digit_x}** - Generates random digits (x specifies length)
- **{random_letter_x}** - Generates random letters (x specifies length)
- **{unixtime}** - Current Unix timestamp
- **{year}, {month}, {day}, {hour}, {minute}, {second}** - Date and time values
- **Notification, used disk space X %** - Defines the percentage threshold of disk usage at which the client receives a notification alert.
- **Notification disk limit email template** - Select an email template that will be sent

automatically when the disk usage threshold is reached.

Edit Product

Details

Pricing

Module Settings

Custom Fields

Configurable Options

Upgrades

Free Domain

Cross-sells

Other

Links

Module Name

PUQ Docker NextCloud

Server Group

Docker NextCloud

License key

success: 2025-04-26T20:47:41+02:00

Disk space

2

GB Ex: 1

CPU

2

Ex: 0,1

RAM

1

GB Ex: 0,1

Link to instruction

https://puqcloud.com/

A link to the instruction will be reflected in the client area.

Docker

Client Area

Main domain

app.d01-test.uuq.pl

The main domain to which the container subdomain will be added
If not filled in, the server domain will be used

Subdomain

nextcloud-{user_id}-{service_id}

The app subdomain
{user_id}, {service_id}, {random_digit_x}, {random_letter_x}
Unix time: {unixtime} Year: {year}, Month: {month}, Day: {day}, Hour: {hour}, Minute: {minute}, Second: {second}

Notification, used disk space X %

95

Notification disk limit email template

puqDockerNextCloud Notification disk limit

Domain

Service

Metric Billing

Traffic IN (GB)

Configure Pricing

ON

Traffic OUT (GB)

Configure Pricing

ON

Automatically setup the product as soon as an order is placed

Automatically setup the product as soon as the first payment is received

Automatically setup the product when you manually accept a pending order

Do not automatically setup this product

Metric Billing

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To bill specific metrics individually, you can utilize the standard WHMCS Metric Billing mechanism integrated with the Docker NextCloud module.

To configure Metric Billing, you must activate the relevant metrics and define the desired pricing. Metrics billing utilizes the default WHMCS functionality. For detailed documentation on how WHMCS Metric Billing operates, visit:

<https://docs.whmcs.com/products/configuration-options/usage-billing/>

Products/Services

[Edit Product](#)[illegible]

Configure Pricing



Traffic IN (GB)

Metric Type: Monthly

Metric Unit: GigaBytes

Pricing

Quantity Included

Scheme:

0.00

☒ Per Unit ⓘ ☐ Total Volume ⓘ ☐ Graduated ⓘ

Price Per GB			
PLN	EUR	UAH	USD
1.00	1.00	1.00	1.00

Close

Save

Email Template

(puqDockerNextCloud Welcome Email)

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Create an email template for customer notifications.

System Settings->Email Templates->Create New Email Template

- **Email Type:** Product/service
- **Unique Name:** puqDockerNextCloud Welcome Email

Create New Email Template ✕

Email Type

Product/Service ▼

Unique Name

puqDockerNextCloud Welcome Email

Cancel

Create

Subject:

Body:

Dear {\$client_name},

We are pleased to inform you that your NextCloud service order has been successfully accepted.

Product/Service: {\$service_product_name}

Payment Method: {\$service_payment_method}

Amount: {\$service_recurring_amount}

Billing Cycle: {\$service_billing_cycle}

Next Due Date: {\$service_next_due_date}

Your NextCloud instance is currently being installed and configured. It will be ready for use within approximately 5 minutes.

You can access your NextCloud instance using the following link:

[https://{\\$service_domain}/](https://{$service_domain}/)

On your first login, please use the provided credentials or set up your account if prompted.

Thank you for choosing our services. We look forward to providing you with a secure and powerful NextCloud experience.

Warm regards,

{\$signature}

Subject:

FileEditViewInsertFormatTableHelp

ParagraphVerdana11ptBBIUAA

LinkImageListTableUndoRedoCopyPastePrintAlignJustifyIndentOutdentHelpCodeI

Dear {client_name},

We are pleased to inform you that your NextCloud service order has been successfully accepted.

Product/Service: {service_product_name}
Payment Method: {service_payment_method}
Amount: {service_recurring_amount}
Billing Cycle: {service_billing_cycle}
Next Due Date: {service_next_due_date}

Your NextCloud instance is currently being installed and configured. It will be ready for use within approximately 5 minutes.

You can access your NextCloud instance using the following link:

https://{service_domain}/

On your first login, please use the provided credentials or set up your account if prompted.

Thank you for choosing our services. We look forward to providing you with a secure and powerful NextCloud experience.

Warm regards,
{signature}

P

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Email Template (puqDockerNextCloud Update Email)

Docker NextCloud module **WHMCS**

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Create an email template for customer notifications.

System Settings->Email Templates->Create New Email Template

- **Email Type:** Product/service
- **Unique Name:** puqDockerNextCloud Update Email

Create New Email Template

Email Type

Product/Service

Unique Name

puqDockerNextCloud Update Email

Cancel

Create

Subject:

NextCloud Service Update Notification

Body:

Dear {\$client_name},

Your NextCloud instance is currently undergoing a routine update to enhance performance and security.

You will be able to access your NextCloud service again within approximately 3 minutes.

Access your NextCloud server here:

[https://{\\$service_domain}/](https://{$service_domain}/)

Thank you for your patience and for choosing our NextCloud services.

Best regards,





{\$signature}






















Subject:

NextCloud Service Update Notification

File ▾ Edit ▾ View ▾ Insert ▾ Format ▾ Table ▾ Help ▾

Paragraph ▾ Verdana ▾ 11pt ▾

B *I* ~~S~~ U A ▾ **A** ▾    ▾  ▾

         ▾            

Dear { \$client_name },

Your NextCloud instance is currently undergoing a routine update to enhance performance and security.

You will be able to access your NextCloud service again within approximately 3 minutes.


Access your NextCloud server here:

[https://{ \\$service_domain }/](https://{ $service_domain }/)

Thank you for your patience and for choosing our NextCloud services.

Best regards,
{ \$signature }

P

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Email Template (puqDockerNextCloud Notification disk limit)

Docker NextCloud module **WHMCS**

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Create an email template for customer notifications.

System Settings->Email Templates->Create New Email Template

- **Email Type:** Product/service
- **Unique Name:** puqDockerNextCloud Notification disk limit

Create New Email Template

Email Type

Product/Service

Unique Name

puqDockerNextCloud Notification disk limit

Cancel

Create

Subject:

NextCloud Disk Usage Alert: {{disk_used_percentage}}% Used

Body:

Dear {{client_name}},

We would like to inform you that your NextCloud service is approaching its disk space limit. Please take immediate action to avoid any potential interruptions to your service.

Service Details:

Product/Service: {{service_product_name}}

Domain: {{service_domain}}

Total Disk Space: {{disk_total}}

Used Disk Space: {{disk_used}} ({{disk_used_percentage}}%)

Consider removing unnecessary files, or contact us to upgrade your disk space plan.

Thank you for your attention.

Best regards,

{{signature}}

Subject: Disk space usage { \$disk_used_percentage}%

FileEditViewInsertFormatTableHelp

ParagraphVerdana11ptBBIUAA

LinkImageListTableText

Dear { \$client_name },

We want to inform you that your **NectCloud** service is running low on disk space. Please take action to prevent service interruptions.

Service Details:

- **Product/Service:** { \$service_product_name }
- **Domain:** { \$service_domain }
- **Total Disk Space:** { \$disk_total }
- **Used Disk Space:** { \$disk_used } ({ \$disk_used_percentage } %)

Consider freeing up space or upgrading your plan if needed.

{ \$signature }

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