

# Installation and configuration guide

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# Basic concepts and requirements

## Docker MinIO 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 MinIO module** is part of the **WHMCS Docker module series** developed by **PUQcloud**. This module enables service providers to offer **MinIO Docker containers** as a service to their clients, allowing for seamless automation and integration.

The system consists of three core components:

### **WHMCS Module**

The **core component**, installed in WHMCS, manages service provisioning and automation from the WHMCS side.

### **Debian 12 Server**

A server running **Debian 12** with the following pre-installed:

 **Docker** – For container management

We have prepared instructions for installing and configuring Docker

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

### **n8n Server**

This server facilitates communication between the WHMCS module and the Docker server, ensuring smooth workflow execution.

To explore n8n's full potential, visit the [official n8n website](#) for documentation, tutorials, and community support.

---

# Key Features & Concepts

## Workflow Automation

n8n provides a **graphical workflow builder**, allowing users to automate various tasks, such as:

- ✓ **Sending notifications**
- ✓ **Configuring firewalls** on external routers
- ✓ **Managing DNS settings**
- ✓ **Custom automation processes** tailored to specific needs

## Flexibility & Customization

The module offers **personalized settings** and supports **elastic automation**, giving clients full control over their n8n workflows.

# WHMCS setup (install/update)

## Docker MinIO module **WHMCS**

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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 one and the same action.

### 1. Download the latest version of the module.

PHP 8.2

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

PHP 8.1

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

PHP 7.4

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

All versions are available via link:

[https://download.puqcloud.com/WHMCS/servers/PUQ\\_WHMCS-Docker-MinIO/](https://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Docker-MinIO/)

## 2. Unzip the archive with the module.

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

## 3. Copy and Replace "puqDockerMinIO" from "PUQ\_WHMCS-Docker-MinIO" to "WHMCS\_WEB\_DIR/modules/servers/"

# Preparing Docker Server

Docker MinIO 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

## Docker MinIO module **WHMCS**

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## Overview

The **Docker MinIO WHMCS module** uses a specially designed workflow for **n8n** to automate deployment processes. The workflow provides an API interface for the module, receives specific commands, and connects via SSH to a server with Docker installed to perform predefined actions.

## Prerequisites

- You must have your own **n8n** server.
- Alternatively, you can use the official **n8n** cloud installations available at: [n8n Official Site](#)

## Installation Steps

### Install the Required Workflow on n8n

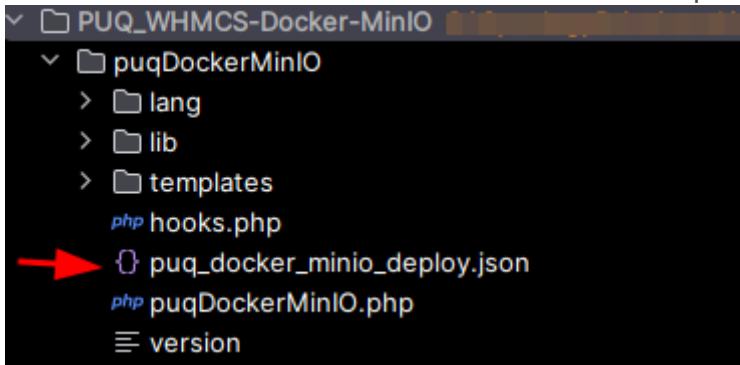
You have two options:

#### **Option 1: Use the Latest Version from the n8n Marketplace**

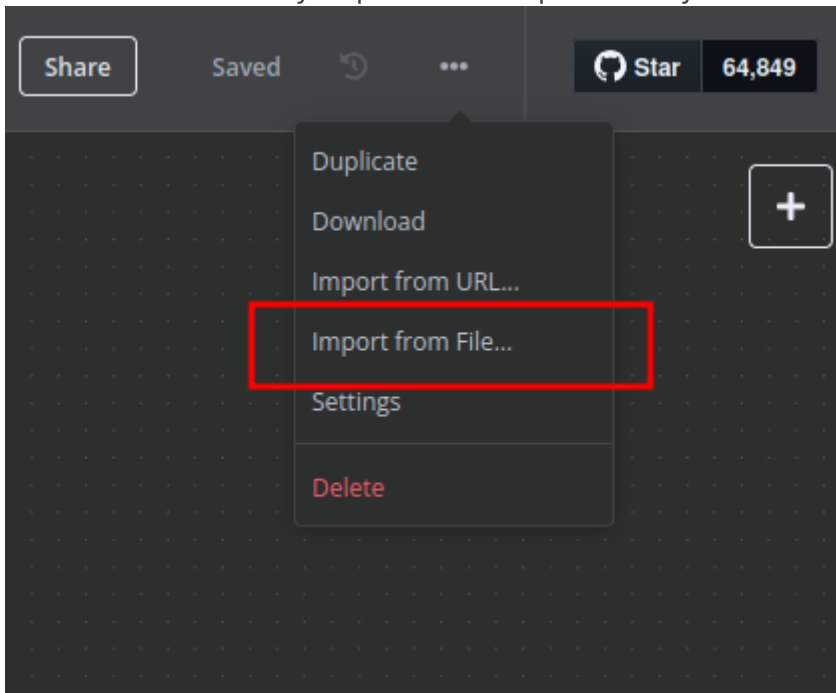
- The latest workflow templates for our modules are available on the official n8n marketplace.
- Visit our profile to access all available templates: [PUQcloud on n8n](#)

## Option 2: Manual Installation

- Each module version comes with a workflow template file.



- You need to manually import this template into your n8n server.



# n8n Workflow API Backend Setup for WHMCS/WISECP

## Configure API Webhook and SSH Access

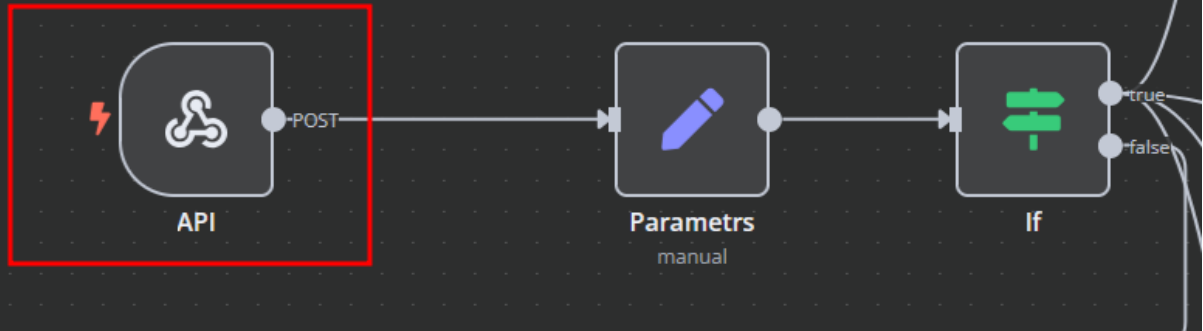
- Create a **Basic Auth Credential** for the Webhook API Block in n8n.



- screen\_right

## Additional Resources

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



API

Listen for test event

ParametersSettingsDocs

Webhook URLs

Test URLProduction URL

POSThttps://n8n.puqcloud.com/webhook-test/docker-minio

HTTP Methods

POST

Path

docker-minio

Authentication

Basic Auth

Credential for Basic Auth

Incom API User

Incom API UserBasic Auth

Unnamed credentialBasic Auth

+ Create new credential

No properties

Add option

Pull in events from Webhook

Listen for test event

Once you've finished building your workflow, run it without having to click this button by using the production webhook URL. [More info](#)

API credential  
Basic Auth

Save

Connection

Need help filling out these fields? [Open docs](#)

Sharing

Details

User

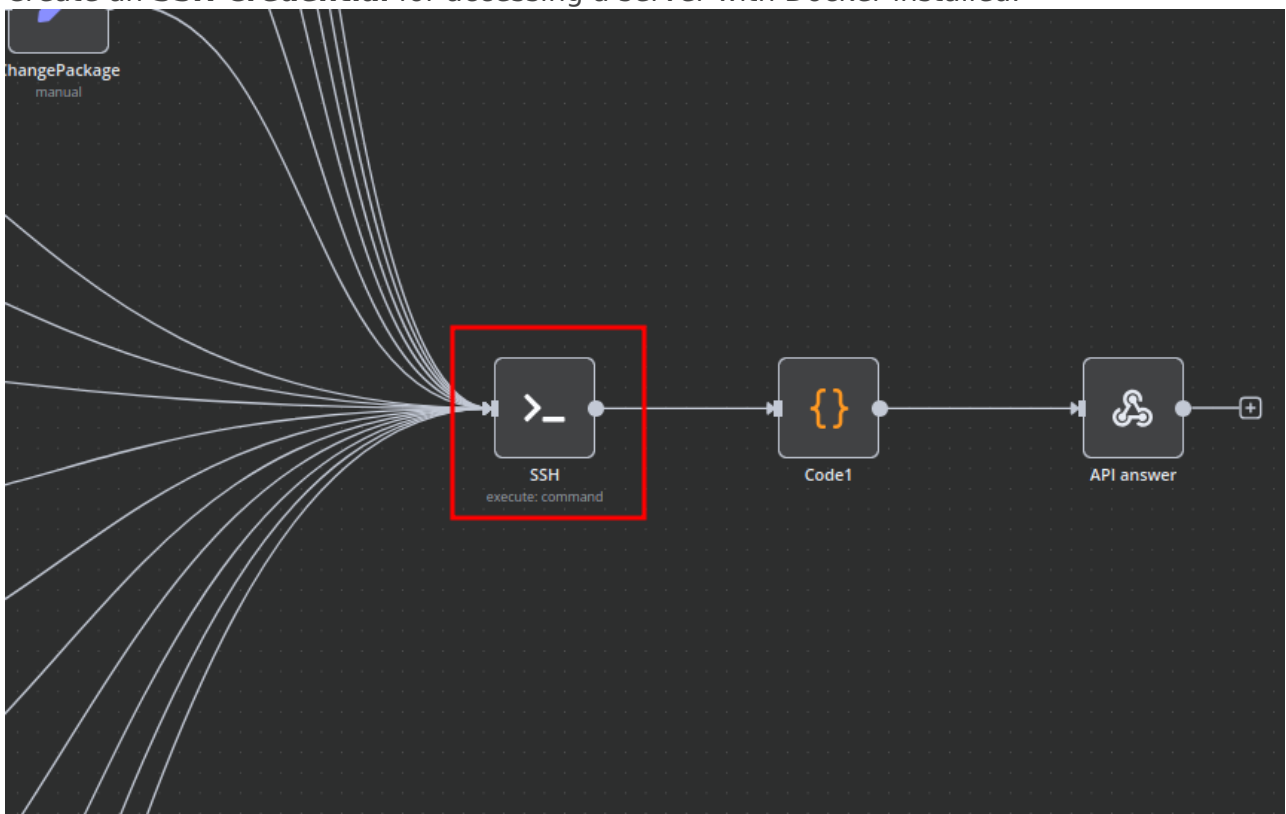
test

Password

.....

Enterprise plan users can pull in credentials from external vaults. [More info](#)

- Create an **SSH Credential** for accessing a server with Docker installed.



> SSH

Test step

Parameters

Settings

Docs

Credential to connect with

d01-test.uuq.pl-puq

d01-test.uuq.pl-puq  
SSH Password

+ Create new credential

Execute

Command

fx {{ \$json.sh }}

Working Directory

fx /

>\_

d01-test.uuq.pl-puq

SSH Password

×

Connection

Sharing

Details

✔ Connection tested successfully

Retry

Need help filling out these fields? [Open docs](#)

Host \*

d01-test.uuq.pl

Port \*

22

Username

puq

Password

.....

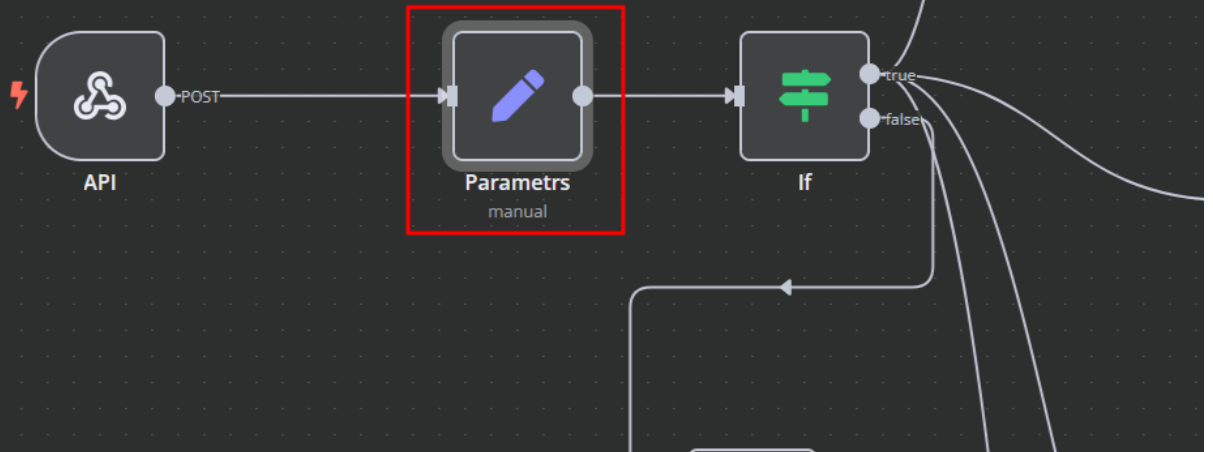
ⓘ Enterprise plan users can pull in credentials from external vaults. [More info](#)


# Modify Template Parameters

In the **Parameters** block of the template, update the following settings:

## Additional Resources


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




 **Parameters**

Parameters

Settings


Docs 

Mode

Manual Mapping 

Fields to Set


server\_domain

A String 

d01-test.uuq.pl

[empty]


clients\_dir

A String 

/opt/docker/clients

[empty]


mount\_dir

A String 

/mnt

[empty]


screen\_left

A String 

{{

[empty]

screen\_right

A String 

}}

[empty]

- `server_domain` – Must match the domain of the WHMCS/WISECP 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).

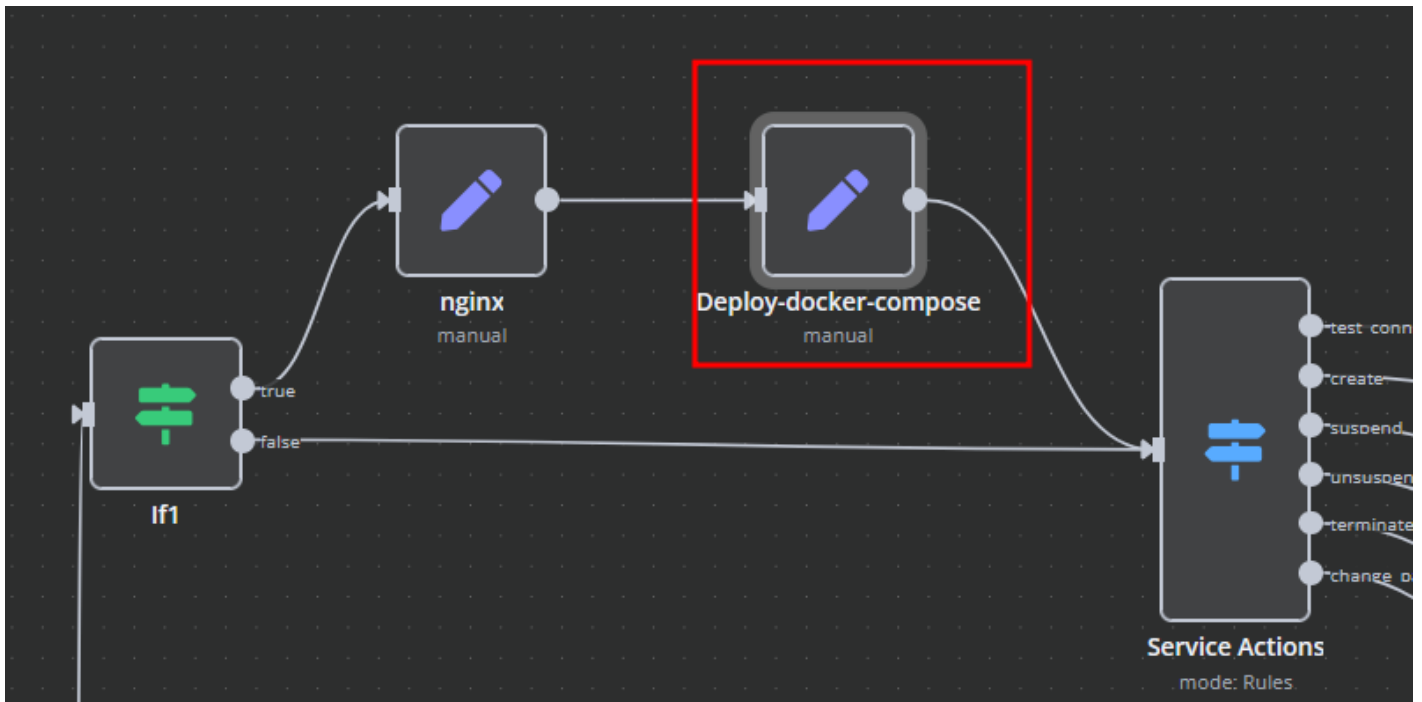
**Do not modify** the following technical parameters:

- `screen_left`
- `screen_right`

# Deploy-docker-compose

In the **Deploy-docker-compose** element, you have the ability to modify the Docker Compose configuration, which will be generated in the following scenarios:

- When the service is created
- When the service is unlocked
- When the service is updated





## Expression

Anything inside `{{ }}` is JavaScript. [Learn more](#)

```
version: "3"

services:
  {{ $('API').item.json.body.domain }}:
    image: minio/minio
    restart: unless-stopped
    container_name: {{ $('API').item.json.body.domain }}
    command: server /data --console-address ":9001"
    environment:
      MINIO_ROOT_USER: {{ $('API').item.json.body.username }}
      MINIO_ROOT_PASSWORD: {{ $('API').item.json.body.password }}
      MINIO_BROWSER_REDIRECT_URL: https://console.{{ $('API').item.json.body.domain }}
      LETSENCRYPT_HOST: {{ $('API').item.json.body.domain }},console.{{
$('API').item.json.body.domain }}
      VIRTUAL_HOST_MULTIPORTS: |-
        {{ $('API').item.json.body.domain }}:
          "/":
            port: 9000
        console.{{ $('API').item.json.body.domain }}:
          "/":
            port: 9001
    volumes:
      - "{{ $('Parameters').item.json.mount_dir }}/{{ $('API').item.json.body.domain }}/data:/
data"
    networks:
      - nginx-proxy_web
    mem_limit: "{{ $('API').item.json.body.ram }}"G"
    cpus: "{{ $('API').item.json.body.cpu }}"

networks:
  nginx-proxy_web:
    external: true
```

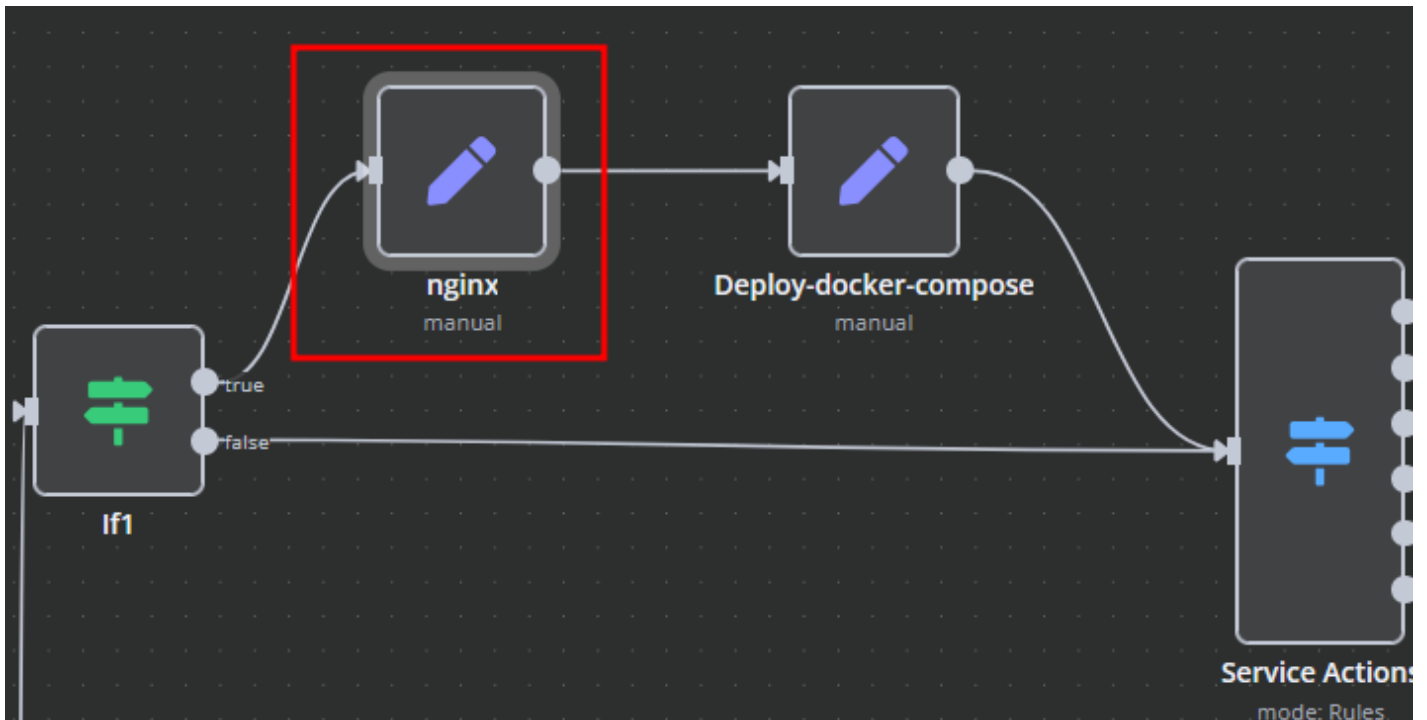
## nginx

In the **nginx** element, you can modify the configuration parameters of the web interface proxy server.

- The **main** section allows you to add custom parameters to the **server** block in the proxy server configuration file.
- The **main\_location** section contains settings that will be added to the **location /** block of

the proxy server configuration. Here, you can define custom headers and other parameters specific to the root location.

- The **console** section allows you to add custom parameters to the **server** block in the WEB console proxy server configuration file.
- The **console\_location** section contains settings that will be added to the **location** / block of the WEB console proxy server configuration. Here, you can define custom headers and other parameters specific to the root location of WEB console.



Mode

Manual Mapping

Fields to Set

main

A String

```
= ignore_invalid_headers off;
  client_max_body_size 0;
  proxy_buffering off;
  proxy_request_buffering off;
```

```
ignore_invalid_headers off; client_max_body_size 0; proxy_buffering off; proxy_request_buffering off;
```

main\_location

A String

```
= # Custom header
  proxy_set_header Host $http_host;
  proxy_set_header X-Real-IP $remote_addr;
  proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
  proxy_set_header X-Forwarded-Proto $scheme;
```

```
# Custom header proxy_set_header Host $http_host; proxy_set_header X-Real-IP $remote_addr; proxy_set_head...
```

console

A String

```
= ignore_invalid_headers off;
  client_max_body_size 0;
  proxy_buffering off;
  proxy_request_buffering off;
```

```
ignore_invalid_headers off; client_max_body_size 0; proxy_buffering off; proxy_request_buffering off;
```

console\_location

A String

```
= # Custom header
  proxy_set_header Host $http_host;
  proxy_set_header X-Real-IP $remote_addr;
  proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
  proxy_set_header X-Forwarded-Proto $scheme;
  proxy_set_header X-Main-Proxy true;
```

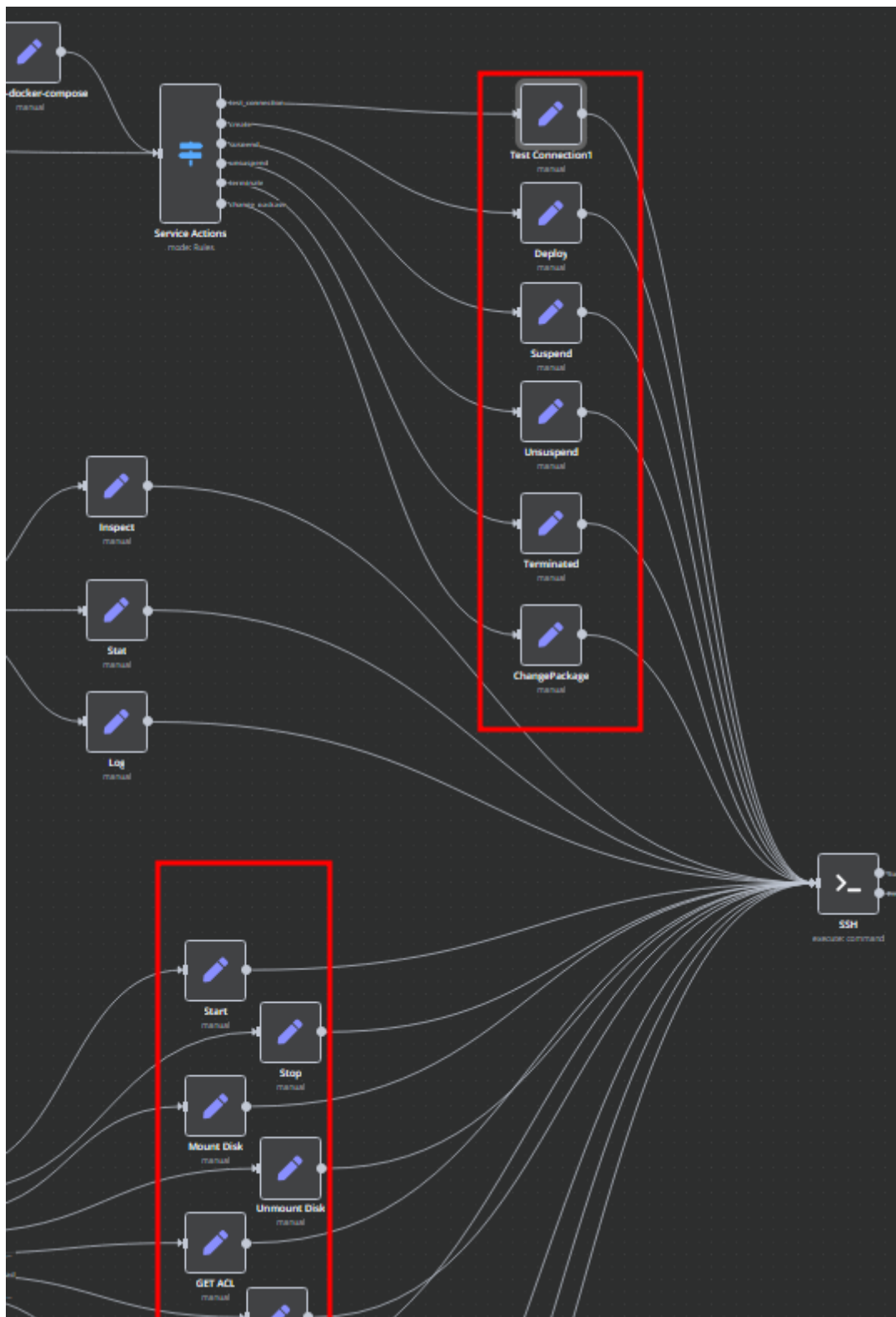
```
# Custom header proxy_set_header Host $http_host; proxy_set_header X-Real-IP $remote_addr; proxy_set_head...
```

# Bash Scripts

Management of Docker containers and all related procedures on the server is carried out by

executing Bash scripts generated in **n8n**. These scripts return either a JSON response or a string.

- All scripts are located in elements directly connected to the **SSH** element.
- You have full control over any script and can modify or execute it as needed.





# Add server

## Docker MinIO module **WHMCS**

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Add a new server to the system WHMCS.

System Settings->Servers->Add New Server

- Enter the correct **Name** and **Hostname**

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. <a href="https://www.example.com/status/">https://www.example.com/status/</a></div>
Enable/Disable	<input type="checkbox"/> Check to disable this server

**Attention: Important Information**

The **hostname** field represents the actual domain of the server running Docker and must match the **server\_domain** parameter in the **n8n workflow**. If they do not match, communication will not function correctly.

Additionally, this domain must be configured so that all its subdomains resolve to the IP address of the server running Docker.

**Parameters** Test step

**Parameters** Settings Docs

Mode

Manual Mapping

Fields to Set

server\_domain

A String

d01-test.uuq.pl

[empty]

clients\_dir

A String

/opt/docker/clients

[empty]

In the **Server Details** section, select the **"PUQ Docker MinIO"** module and enter the correct **username** and **password** for the **API endpoint** in the n8n workflow.

Additionally, in the **Access Hash** field, insert the **URL of the API entry point** for the n8n workflow.

Server Details

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





API

Listen for test event

Parameters

Settings

Docs

▼ Webhook URLs

Test URL

Production URL

POST

https://n8n.puqcloud.com/webhook/docker-minio

HTTP Methods

POST



Path

docker-minio

Authentication

Basic Auth

Credential for Basic Auth

Incom API User



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

## Docker MinIO module **WHMCS**

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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 MinIO"** module

Edit Product

Details Pricing **Module Settings** Custom Fields Configurable Options Upgrades Free Domain Cross-sells Other Links

Module Name: PUQ Docker MinIO

Server Group: None

License key:  success: 2025-04-09T17:58:30+02:00

Disk space:  1 GB Ex: 1

CPU:  1 Ex: 0.1

RAM:  1 GB Ex: 0.1

Link to instruction:  https://puq.info/ A link to the instruction will be reflected in the client area.

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

Subdomain:  {unixtime} 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 %:  60

Notification disk limit email template:  puqDockerMinIO Notification disk limit

Metric Billing: Traffic IN (GB) ☒ ON Configure Pricing Traffic OUT (GB) ☒ ON Configure Pricing

- **License key** - A pre-purchased license key for the **"PUQ Docker MinIO"** module. For the module to work correctly, the key must be active
- **Disk space** - defines the allocated disk size for the Docker container.
- **CPU** - sets the CPU usage limit for the Docker container.
- **RAM** - specifies the amount of RAM allocated to the Docker container.
- **Link to instruction** - URL to a guide that will be displayed in the client panel if provided.
- **Main domain** - defines the primary domain for the web interface of the application. If not set, the main domain will be taken from the **hostname** parameter in the server

settings.

- **Subdomain** – a personal subdomain assigned to each service. If left empty or if the subdomain is already taken, it will be automatically generated in the format **{user\_id}-{service\_id}**.
- 

## Supported Macros for **App Subdomain**:

- **{user\_id}** – Client ID
- **{service\_id}** – Service ID
- **{random\_digit\_x}** – Random number (x defines the length)
- **{random\_letter\_x}** – Random letter (x defines the length)
- **{unixtime}** – Unix timestamp
- **{year}, {month}, {day}, {hour}, {minute}, {second}** – Date and time values
- **Notification, used disk space X %** – The percentage value that sets the threshold for the container's disk space usage will trigger a notification message to the client once the threshold is reached.
- **Notification disk limit email template** – The email template for the notification that will be sent when the threshold is reached.

# Metric Billing

# Docker MinIO module **WHMCS**

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To bill certain metrics separately, you can use the standard WHMCS Metric Billing mechanism.

To configure it, you need to enable the required metrics and set the desired prices. Metrics work based on the standard WHMCS mechanism, the description of which can be found [here](#):

<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

## (puqDockerMinIO Welcome Email)

Docker MinIO 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:** puqDockerMinIO Welcome Email

Create New Email Template

Email Type

Product/Service

Unique Name

puqDockerMinIO Welcome Email

Cancel

Create

Subject:

MinIO Order Information

**Body:**

Dear {{\$client\_name}},

Your order has been accepted for implementation.

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}}

The installation and setup of your MinIO instance is in progress.

Within the next 4 minutes, you will be able to use your MinIO instance.

Upon your first login, you will need to create an account.

Here is the link to your MinIO server.

[https://console.{{\\$service\\_domain}}/](https://console.{{$service_domain}}/)

Thank you for choosing us.

{{\$signature}}

Subject: 





MinIO Order Information





















FileEditViewInsertFormatTableHelp

ParagraphVerdana11pt

**B***I*~~S~~UA

A





Dear **{ \$client\_name }**,

Your order has been accepted for implementation.

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 }**

The installation and setup of your **MinIO** instance is in progress.  
Within the next 4 minutes, you will be able to use your **MinIO** instance.

Upon your first login, you will need to create an account.

Here is the link to your **MinIO** server.

**[https://console.{ \\$service\\_domain }/](https://console.{ $service_domain }/)**

Thank you for choosing us.

{ \$signature }

P

82 WORDS POWERED BY TINYMCE



# Email Template

## (puqDockerMinIO Update Email)

Docker MinIO module **WHMCS**

[Order now](#) | [Download](#) | [FAQ](#) | [n8n](#)

Create an email template for customer notifications.

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

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

Create New Email Template

Email Type

Product/Service

Unique Name

puqDockerMinIO Update Email

Cancel

Create

**Subject:**

MinIO Update Information

## Body:

Dear {\$client\_name},

Your instance is currently being updated.

You will be able to use your MinIO server again within 3 minutes.

Here is the link to your MinIO server.






[https://console.{\\$service\\_domain}/](https://console.{$service_domain}/)





















Thank you for choosing us.

{\$signature}

Subject: MinIO Update Information

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

Paragraph ▾ Verdana ▾ 11pt ▾ **B** *I* ~~S~~ U A ▾  ▾   " ' ▾  ▾  ▾

         ▾           

Dear **{\$client\_name}**,

Your instance is currently being updated.


You will be able to use your **MinIO** server again within 3 minutes.

Here is the link to your **MinIO** server.

**[https://console.{\\$service\\_domain}/](https://console.{$service_domain}/)**

Thank you for choosing us.

{\$signature}

P 38 WORDS POWERED BY TINYMCE 



# Email Template (puqDockerMinIO Notification disk limit)

Docker MinIO module **WHMCS**

[Order now](#) | [Download](#) | [FAQ](#) | [n8n](#)

Create an email template for customer notifications.

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

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

## Create New Email Template

Email Type

Product/Service

Unique Name

puqDockerMinIO Notification disk limit

Cancel

Create

**Subject:**

Disk space usage {\$disk\_used\_percentage}%

Body:

Dear {\$client\_name},

We want to inform you that your MinIO 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}

Subject:

File Edit View Insert Format Table Help

Paragraph Verdana 11pt

**B** *I* ~~S~~ U A **A**

Dear **{\$client\_name}**,

We want to inform you that your **MinIO** 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}

P

58 WORDS POWERED BY TINYMCE

