

# Installation and Configuration Guide

Step-by-step instructions for installing, configuring, and setting up the Docker n8n WHMCS module, including Docker server preparation, n8n workflow setup, WHMCS integration, email templates, and product configuration.

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# Basic concepts and requirements

## Docker n8n module **WHMCS**

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## Overview

The **Docker n8n WHMCS module** is part of the Docker module series by PUQcloud. It automates the deployment and management of n8n workflow automation instances using Docker containers.

## Core Components

The system consists of three main components:

1. **WHMCS Module** — The core provisioning component installed on your WHMCS server
2. **Debian 12 Server** — Hosts Docker containers with n8n instances
3. **n8n Server** — Facilitates communication between WHMCS and the Docker server

## Key Features

- **Workflow Automation** — Uses n8n workflows as an API interface for Docker operations
- **Flexibility & Customization** — All workflows and scripts are fully customizable

## Prerequisites

Before proceeding with installation, review the foundational Docker module documentation:

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

# WHMCS setup (install/update)

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## System requirements

The module uses ionCube encoding. Your server must meet the following requirements:

Requirement	Minimum
PHP	8.1 or 8.2
WHMCS	9+ or higher
ionCube Loader	v13 or newer (v14, v15)

“ **Note:** Module is coded with ionCube v13

“ To install and update a module, you must perform one and the same action.

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## Step 1 — Download the latest version of the module

```
wget http://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Docker-n8n/php82/PUQ_WHMCS-Docker-n8n-latest.zip
```

All versions are available via link: [https://download.puqcloud.com/WHMCS/servers/PUQ\\_WHMCS-Docker-n8n/](https://download.puqcloud.com/WHMCS/servers/PUQ_WHMCS-Docker-n8n/)

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## Step 2 — Unzip the archive with the module

```
unzip PUQ_WHMCS-Docker-n8n-latest.zip
```

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## Step 3 — Copy and Replace

Copy the `puqDockerN8N` directory from the extracted `PUQ_WHMCS-Docker-n8n` archive to your WHMCS installation:

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

“ **Note:** To install and update a module, you must perform one and the same action — download and copy the latest version over the existing files.

# Preparing Docker server

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## Docker Installation

For detailed instructions on installing and configuring Docker for PUQcloud modules, please refer to the dedicated documentation:

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

# Setting up n8n workflow

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## Overview

The n8n workflow serves as the API interface between WHMCS and the Docker server. It receives commands from the WHMCS module and executes corresponding Docker actions via SSH.

## Prerequisites

- Self-hosted n8n instance or n8n cloud account
- SSH access to the Docker server

## Installation Options

### Option 1: n8n Marketplace

Use the latest n8n Marketplace templates from the PUQcloud creator profile.

### Option 2: Manual Import

Each module version includes a workflow template file (`|puq_docker_n8n_deploy.json|`) for manual import into n8n.

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# n8n Workflow Configuration

## 1. Create Credentials

- **Basic Auth Credential** — For the Webhook API block (used by WHMCS to authenticate)
- **SSH Credential** — For Docker server access

## 2. Configure Template Parameters

In the **Parameters** block, modify the following:

Parameter	Description
server_domain	Must match the <b>hostname</b> in WHMCS server settings
clients_dir	Storage location for user Docker data
mount_dir	Container disk mount point (typically unchanged)

“ **Important:** Do not modify |screen\_left| and |screen\_right| — these are technical parameters.

## 3. Docker Compose Configuration

The **deploy-docker-compose** element contains the Docker Compose configuration used for service creation, unlock, and update operations. This can be customized to match your requirements.

## 4. Nginx Configuration

The **nginx** element contains proxy server settings. Key sections:

- |main| — Primary server block
- |main\_location| — Location rules for the main block

# 5. Bash Scripts

All bash scripts are generated within n8n and connected to the SSH element. They are fully controllable and return JSON or string responses.

# Add server

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# Add a new server to the system WHMCS

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

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

“ **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.

## Module settings

In the **Server Details** section, select the "**PUQ Docker n8n**" 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.

# Product Configuration

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## Add new product to WHMCS

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

In the **Module Settings** section, select the "**PUQ Docker n8n**" module.

## Configuration parameters

Parameter	Description
<b>License key</b>	A pre-purchased license key for the PUQ Docker n8n module. For the module to work correctly, the key must be active
<b>Disk space (GB)</b>	Allocated disk space for the Docker container in GB
<b>CPU</b>	CPU cores allocated for the Docker container (e.g., 0.1, 1, 2)
<b>RAM (GB)</b>	RAM allocated to the Docker container in GB (e.g., 0.1, 1, 2)
<b>Main domain</b>	The primary domain for the web interface of the application. If not set, the main domain will be taken from the <b>hostname</b> parameter in the server settings
<b>Subdomain</b>	A personal subdomain assigned to each service. If left empty or if the subdomain is already taken, it will be automatically generated
<b>Link to instruction</b>	URL to a guide that will be displayed in the client panel if provided
<b>Notification at %</b>	The percentage threshold for disk space usage that triggers a notification to the client. Set 0 to disable

Parameter	Description
Notification email template	The email template for the notification that will be sent when the threshold is reached

# Supported Macros for Subdomain

Macro	Description
{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}	Year
{month}	Month
{day}	Day
{hour}	Hour
{minute}	Minute
{second}	Second

Default subdomain template: {user\_id}-{service\_id}-{second}

License key

XXXXXXXX-XXXXXX-XXXXXX-XXXXXX-XXXXXX  
success: 2027-04-04T20:28:37+02:00

#### Docker

##### Disk space (GB)

Allocated disk space in GB. Example: 1

##### CPU

CPU cores allocation. Example: 0.1

##### RAM (GB)

RAM allocation in GB. Example: 0.1

#### Client Area

##### Link to instruction

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

#### Domain

##### Main domain

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

##### Subdomain

Subdomain template using macros.

##### Base macros:

`{user_id}` - User ID  
`{service_id}` - Service ID

##### Random macros:

`{random_digit_x}` - Random digits, where `x` is length  
`{random_letter_x}` - Random letters (a-z), where `x` is length

##### Date & time macros:

`{unixtime}`, `{year}`, `{month}`, `{day}`, `{hour}`, `{minute}`, `{second}`

##### Example:

`{user_id}-{service_id}`

#### Notifications

##### Notify at %

Threshold to notify the user about low disk space

##### Email template

Email template used for low disk space notifications

# Metric Billing

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## Overview

The Docker n8n WHMCS module supports metric billing through the standard WHMCS usage-based billing mechanism.

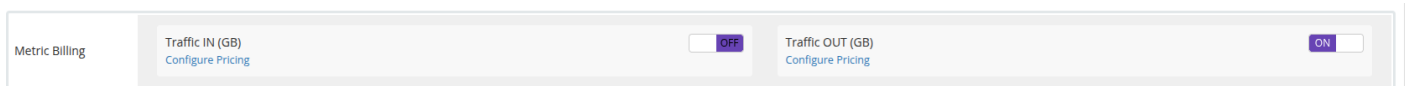
## Available Metrics

Metric	Description
<b>Traffic IN (GB)</b>	Incoming network traffic in gigabytes
<b>Traffic OUT (GB)</b>	Outgoing network traffic in gigabytes

## Configuration

To set up metric billing, follow the standard WHMCS usage-based billing configuration:

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



# Email Template — Welcome Email

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## Template Details

Parameter	Value
Email Type	Product/service
Unique Name	puqDockerN8N Welcome Email

## Subject

n8n Order Information

## Body

Dear {\$client\_name},

Thank you for your order!

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 n8n instance is in progress.

Within the next 4 minutes, you will be able to use your n8n instance.

Your n8n instance: [https://{\\$service\\_domain}/](https://{$service_domain}/)

Note: When you log in for the first time, you will need to create an account.

Thank you for choosing our services!

{\$signature}

# Email Template — Update Email

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## Template Details

Parameter	Value
Email Type	Product/service
Unique Name	puqDockerN8N Update Email

## Subject

n8n Update Information

## Body

Dear {\$client\_name},

Your instance is currently being updated.

You will be able to use your n8n server again within 3 minutes.

Your n8n instance: [https://{\\$service\\_domain}/](https://{$service_domain}/)

Thank you for choosing our services!

{signature}

# Email Template — Disk Limit Notification

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## Template Details

Parameter	Value
Email Type	Product/service
Unique Name	puqDockerN8N Notification disk limit

## Subject

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

## Body

Dear {\$client\_name},

We would like to inform you that your n8n service ({\$service\_product\_name}) has reached a high disk space usage level.

Service domain: {\$service\_domain}

Total disk space: {\$disk\_total}

Used disk space: {\$disk\_used}

Usage percentage: {\$disk\_used\_percentage}%

We recommend reviewing your data or upgrading your plan to ensure uninterrupted service.

Thank you for choosing our services!

{\$signature}