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.

- Basic concepts and requirements
- WHMCS setup (install/update)
- Preparing Docker server
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Basic concepts and requirements

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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.

Step 1 — Download the latest version of the module

PHP 8.2

```
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/

Step 2 — Unzip the archive with the module

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

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 **hostname** 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
License key	A pre-purchased license key for the PUQ Docker n8n module. For the module to work correctly, the key must be active
Disk space (GB)	Allocated disk space for the Docker container in GB
CPU	CPU cores allocated for the Docker container (e.g., 0.1, 1, 2)
RAM (GB)	RAM allocated to the Docker container in GB (e.g., 0.1, 1, 2)
Main domain	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
Link to instruction	URL to a guide that will be displayed in the client panel if provided
Notification at %	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: XXXXXX-XXXXXX-XXXXXX-XXXXXX-XXXXXX

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

Docker

Disk space (GB)

1

Allocated disk space in GB. Example: 1

CPU

1

CPU cores allocation. Example: 0.1

RAM (GB)

1

RAM allocation in GB. Example: 0.1

Client Area

Link to instruction

https://puq.info

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

{user_id}-{service_id}

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 %

95

Threshold to notify the user about low disk space

Email template

None

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.

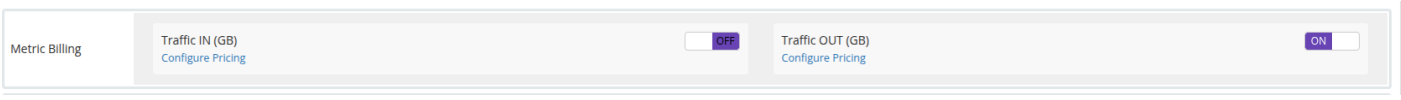
Available Metrics

Metric	Description
Traffic IN (GB)	Incoming network traffic in gigabytes
Traffic OUT (GB)	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}/

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}/
```

```
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}
```