

# Installation and configuration guide

- [Basic concepts and requirements](#)
- [WHMCS setup \(install/update\)](#)
- [Preparing Docker Server](#)
- [Setting up n8n workflow](#)
- [Add server](#)
- [Product Configuration](#)
- [Metric Billing](#)
- [Email Template \(puqDockerGrafana Welcome Email\)](#)
- [Email Template \(puqDockerGrafana Update Email\)](#)
- [Email Template \(puqDockerGrafana Notification disk limit\)](#)

# Basic concepts and requirements

## Docker Grafana 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 Grafana module** is part of the **WHMCS Docker module series** developed by **PUQcloud**. This module enables service providers to offer **Grafana 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.

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# 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 Grafana 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-Grafana/php82/PUQ_WHMCS-Docker-Grafana-latest.zip
```

PHP 8.1

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

PHP 7.4

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

All versions are available via link:

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

## 2. Unzip the archive with the module.

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

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

# Preparing Docker Server

Docker Grafana 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 Grafana module **WHMCS**

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## Overview

The **Docker Grafana 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

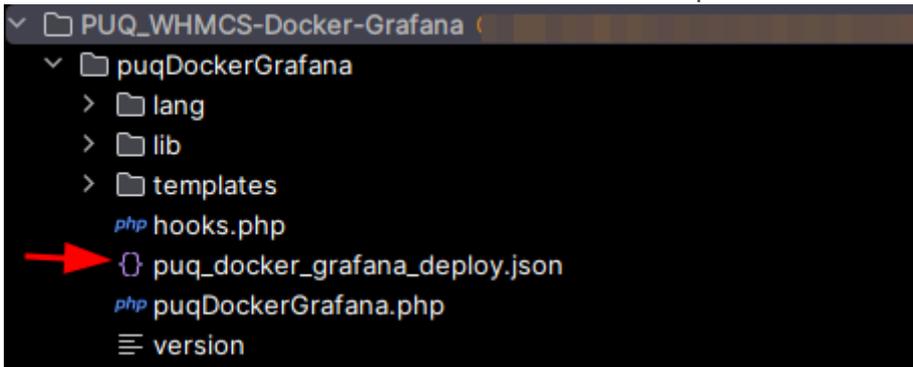
You have two options:

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

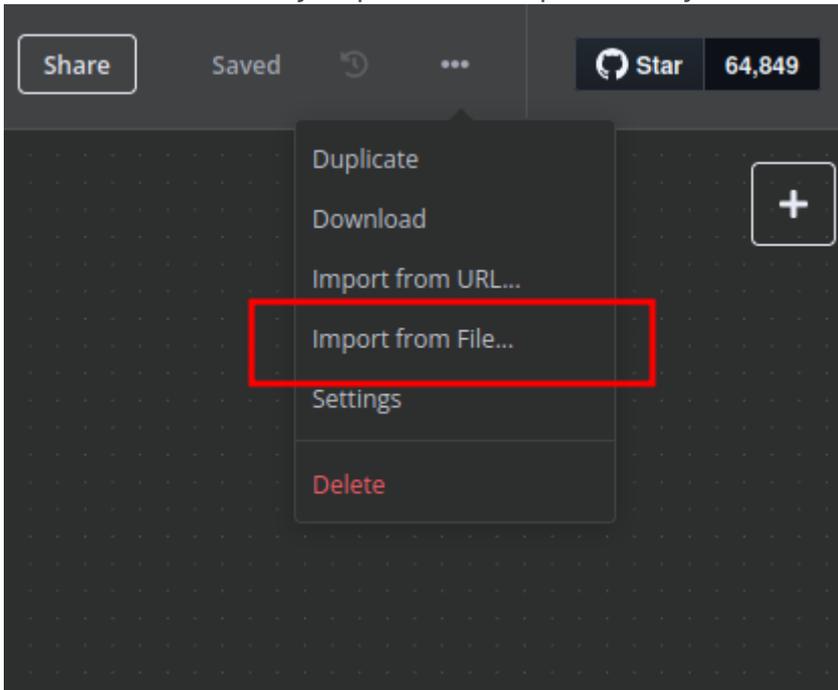
- The latest workflow templates for our modules are available on the official n8n marketplace.
- Visit our profile to access all available templates: [PUQcloud on n8n](#)

## Option 2: Manual Installation

- Each module version comes with a workflow template file.



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



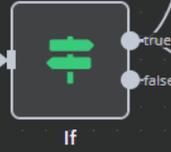
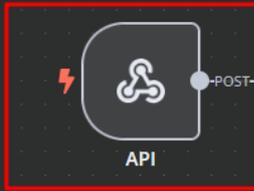
# n8n Workflow API Backend Setup for WHMCS/WISECP

## Configure API Webhook and SSH Access

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

## Additional Resources

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



Webhook URLs

Test URL

Production URL

POST

https://n8n.puqcloud.com/webhook-test/docker-grafana

HTTP Methods

POST

Path

docker-grafana

Authentication

Basic Auth

Credential for Basic Auth

Grafana

Basic Auth

Immich

Basic Auth

InfluxDB

Basic Auth

MinIO

Basic Auth

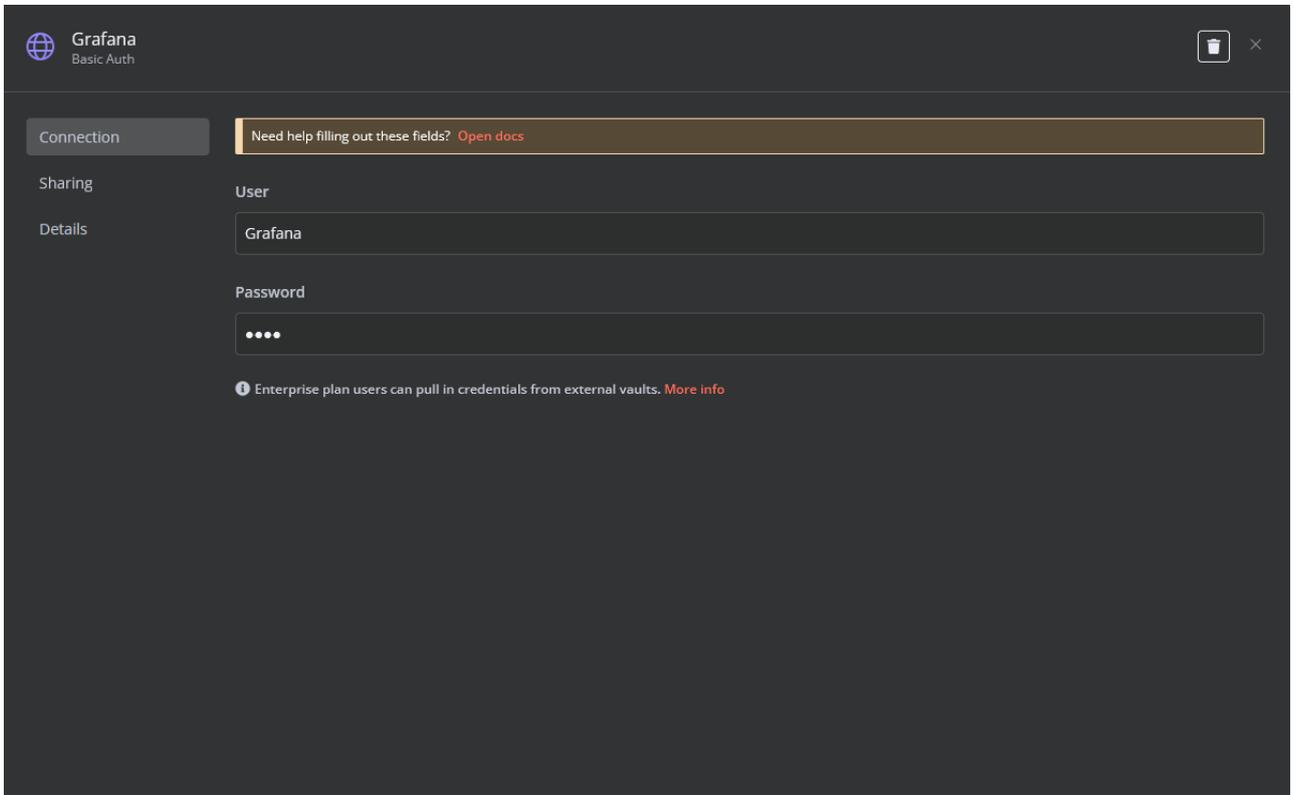
n8n

Basic Auth

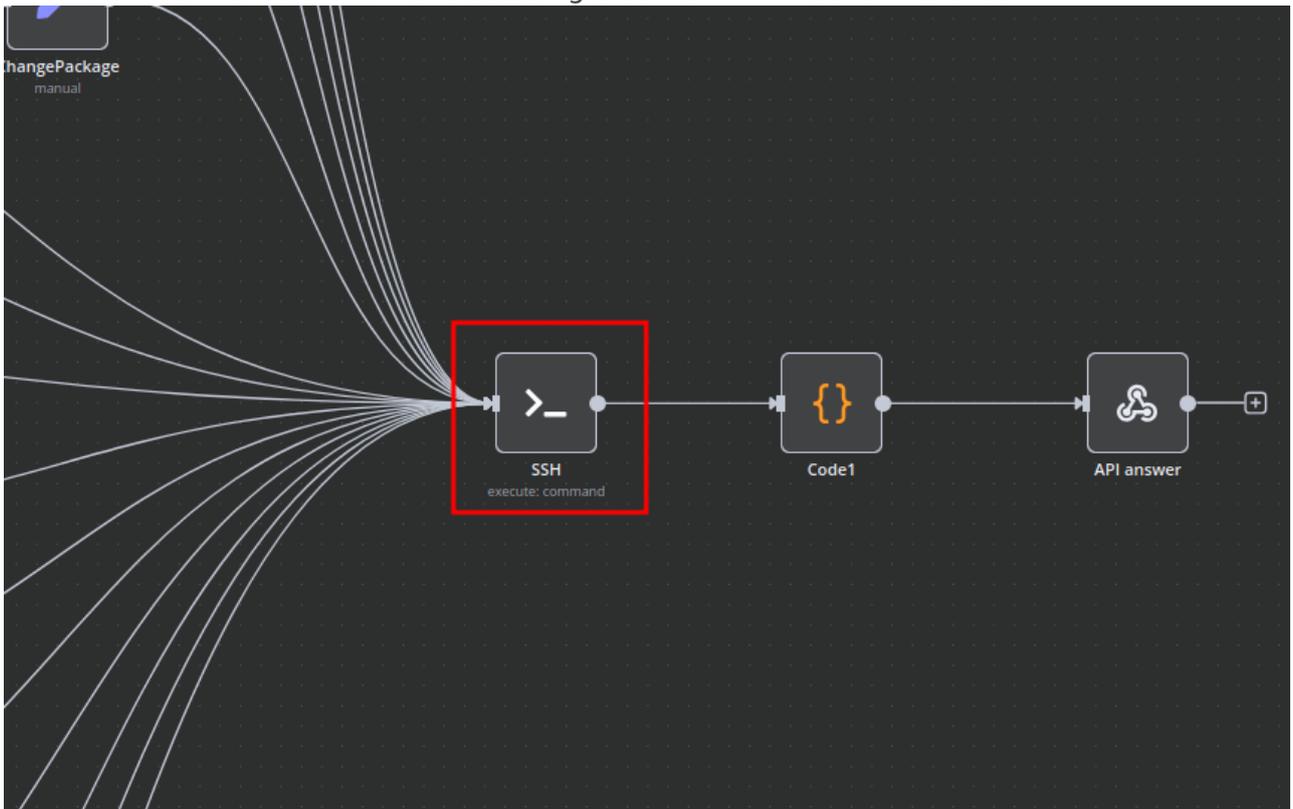
Vaultwarden

Basic Auth

+ Create new credential



- 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

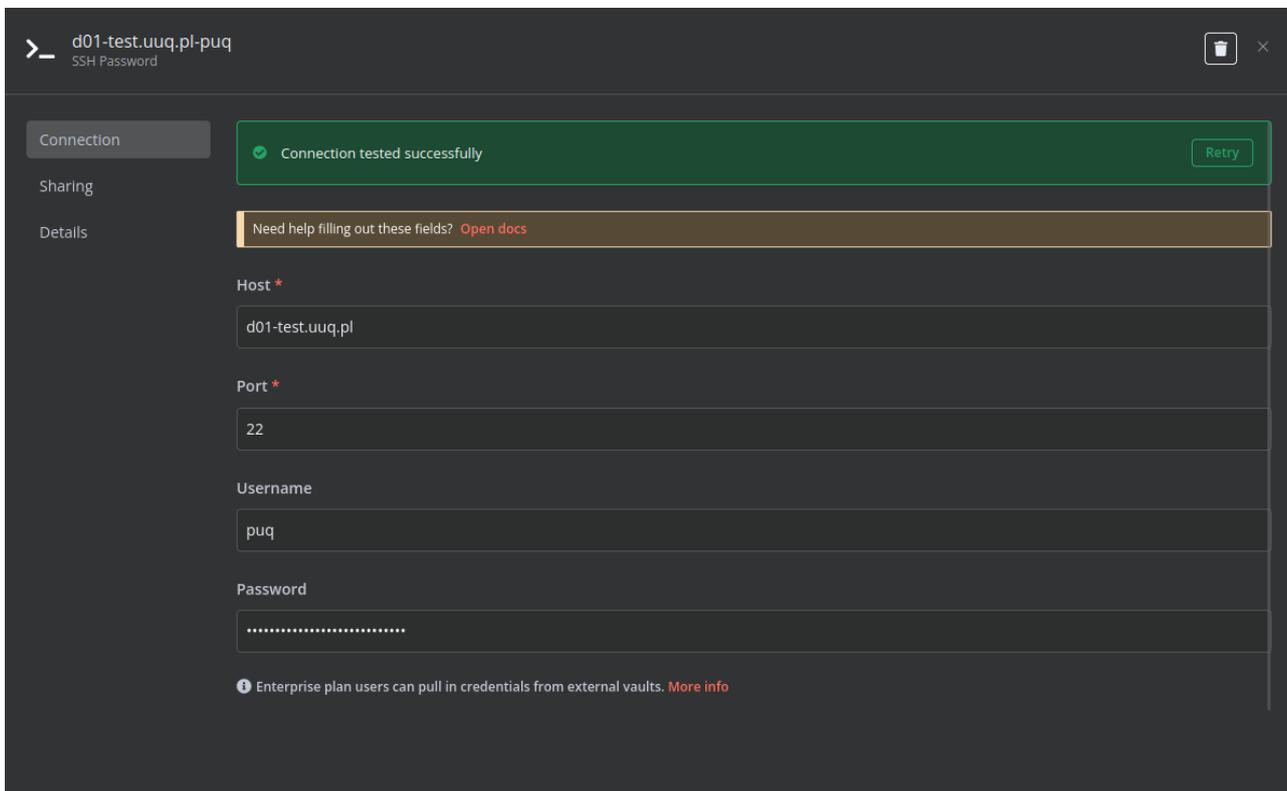
Execute

Command

fx {{ \$json.sh }}

Working Directory

fx /

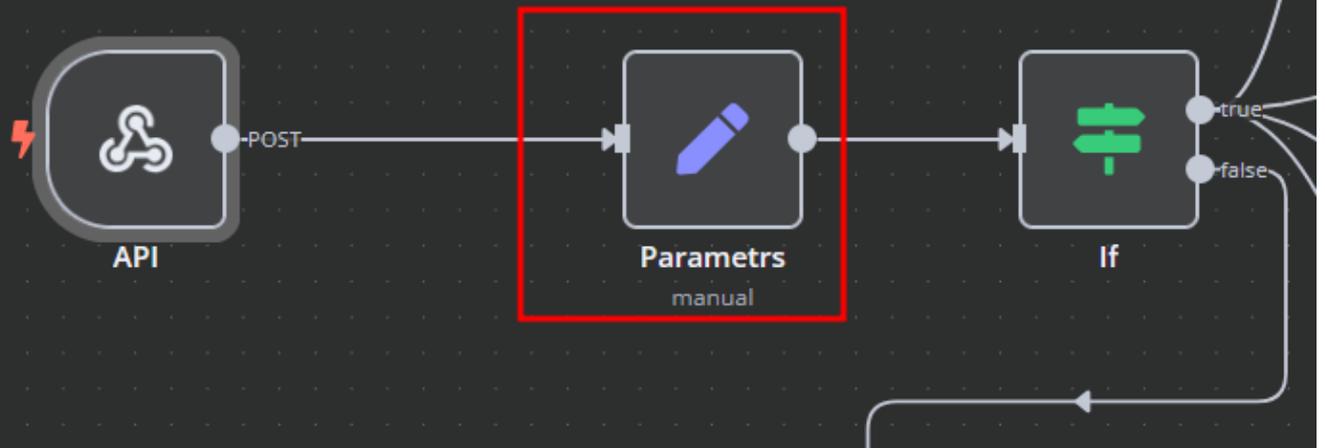


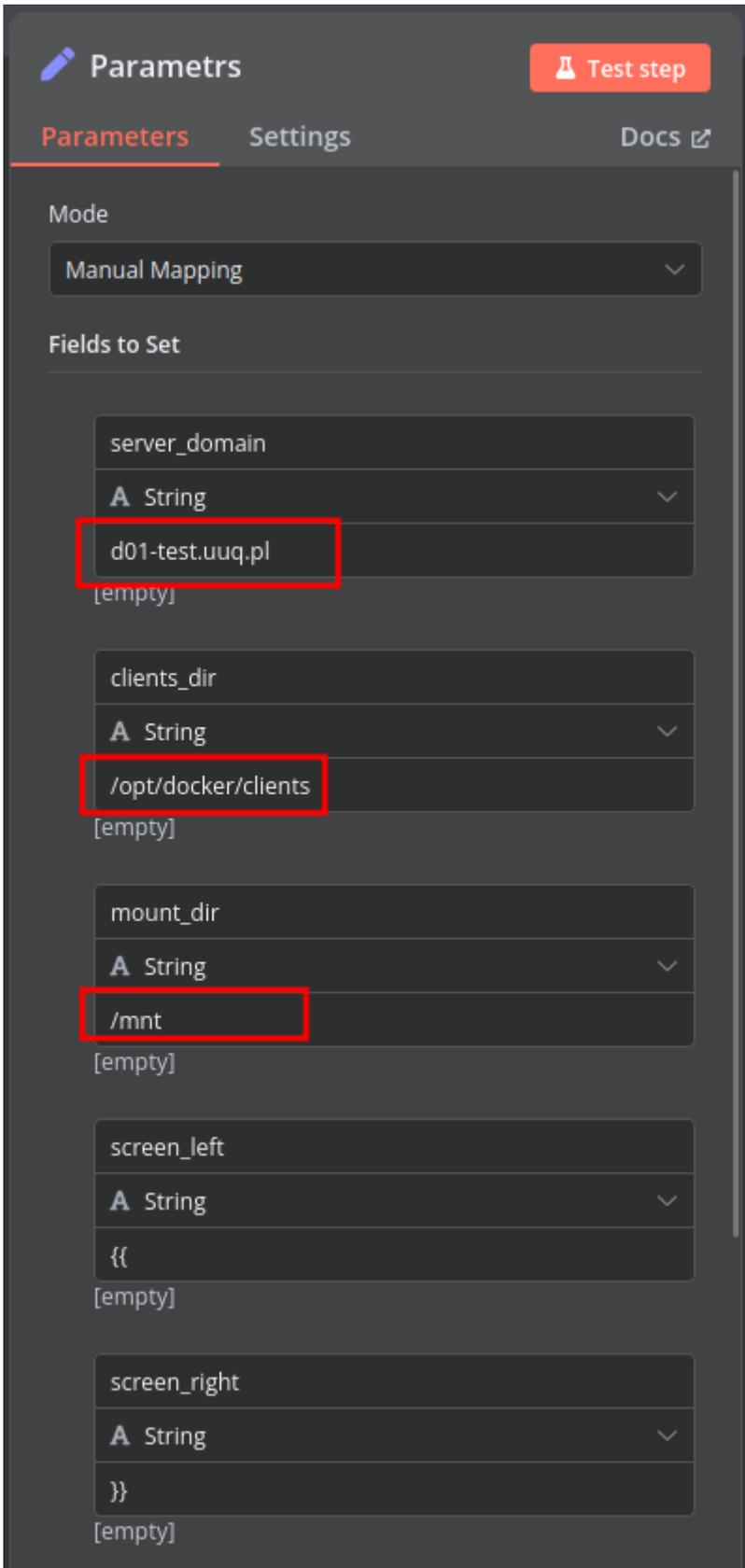
# Modify Template Parameters

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

## Additional Resources

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





- `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).

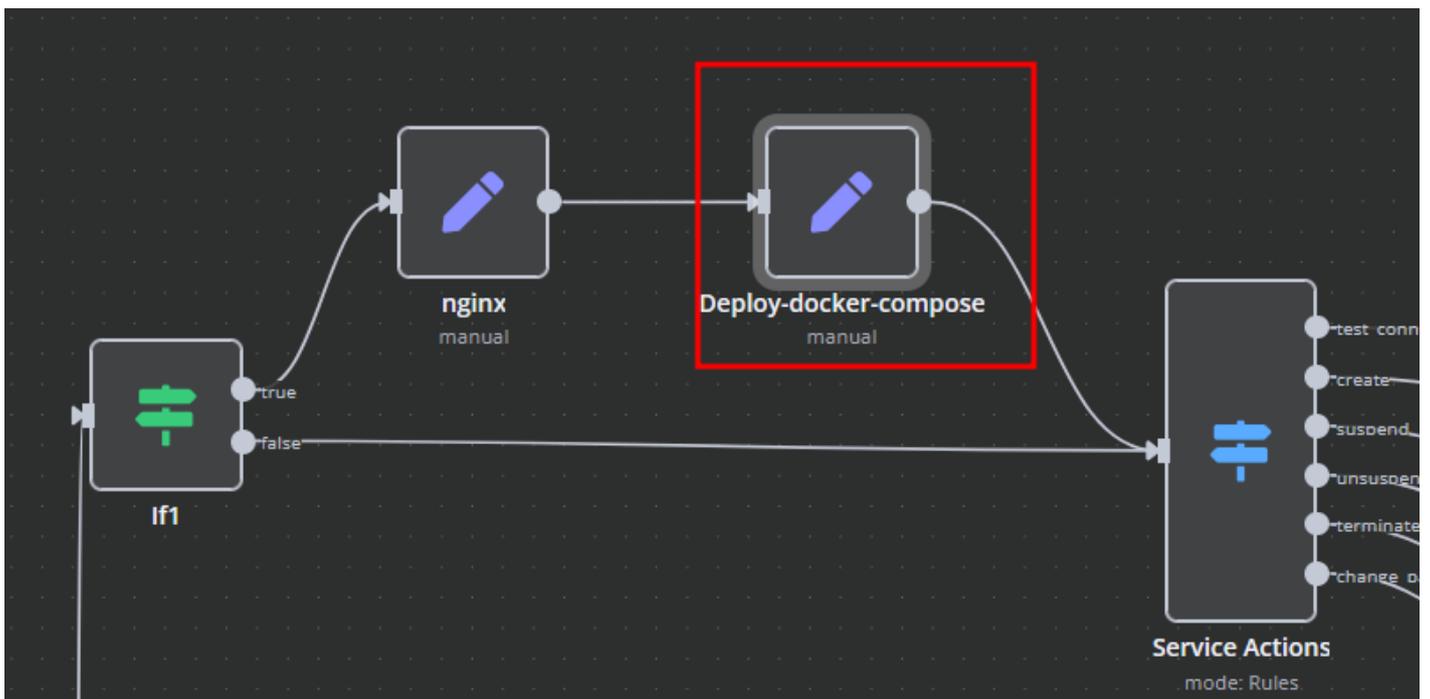
**Do not modify** the following technical parameters:

- `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](#)

```
name: "{{ $('API').item.json.body.domain }}"

services:
  {{ $('API').item.json.body.domain }}:
    container_name: {{ $('API').item.json.body.domain }}
    image: grafana/grafana:latest
    restart: unless-stopped
    volumes:
      - {{ $('Params').item.json.mount_dir }}/{{ $('API').item.json.body.domain }}/data:/var/
lib/grafana
      - {{ $('Params').item.json.mount_dir }}/{{ $('API').item.json.body.domain }}/logs:/var/
log/grafana
      - {{ $('Params').item.json.mount_dir }}/{{ $('API').item.json.body.domain }}/
provisioning:/etc/grafana/provisioning
    environment:
      - LETSENCRYPT_HOST={{ $('API').item.json.body.domain }}
      - VIRTUAL_HOST={{ $('API').item.json.body.domain }}
      - GF_SECURITY_ADMIN_USER={{ $('API').item.json.body.username }}
      - GF_SECURITY_ADMIN_PASSWORD={{ $('API').item.json.body.password }}
      - GF_PATHS_CONFIG=/etc/grafana/grafana.ini
    healthcheck:
      disable: false
    networks:
      - nginx-proxy_web
    mem_limit: "{{ $('API').item.json.body.ram }}"G
    cpus: "{{ $('API').item.json.body.cpu }}"

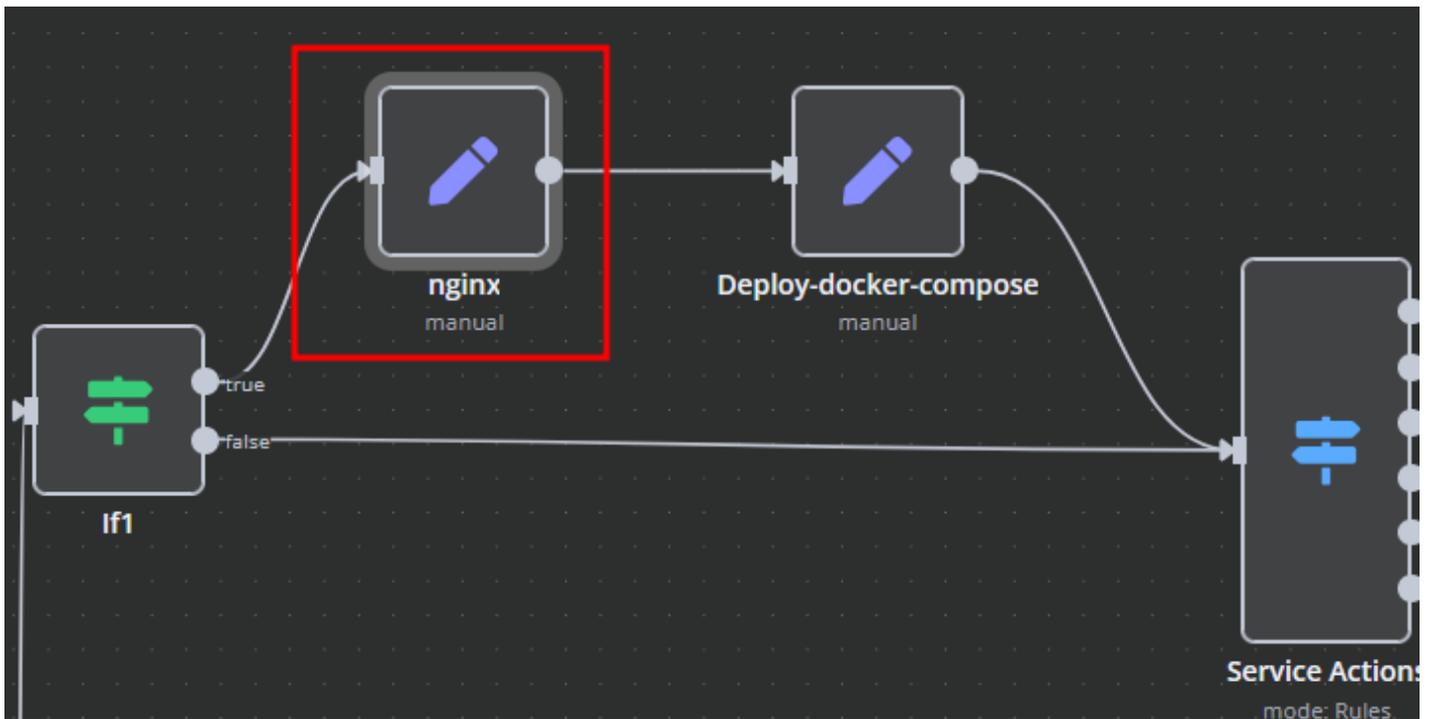
networks:
  nginx-proxy_web:
    external: true
```

# 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.



**nginx** Test step

Parameters Settings Docs

Mode  
Manual Mapping

Fields to Set

main	A String	=	[empty]
main_location	A String	=	proxy_pass_header Server; proxy_set_header X-Real-IP \$remote_addr; proxy_set_header X-Forwarded-For \$proxy_add_x_forwarded_for; proxy_set_header X-Scheme \$scheme; proxy_set_header Host \$http_host;

Drag input fields here or [Add Field](#)

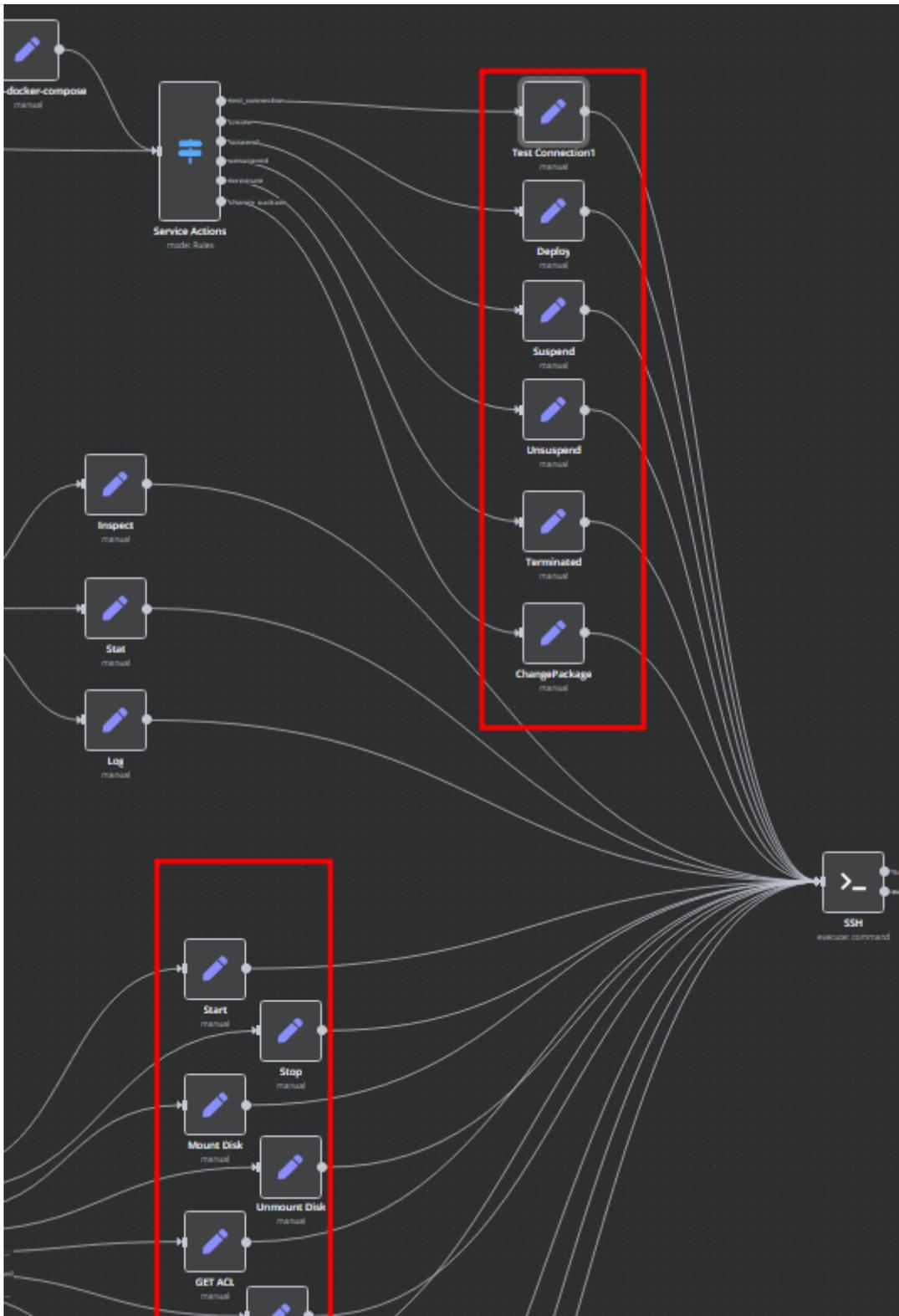
Include Other Input Fields

Options  
No properties  
[Add option](#)

# 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 Grafana 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)	<input type="text"/>
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	<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>
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.

The screenshot shows the 'Parameters' configuration page in n8n. At the top, there is a 'Test step' button. Below it, there are tabs for 'Parameters', 'Settings', and 'Docs'. The 'Mode' is set to 'Manual Mapping'. Under the 'Fields to Set' section, there are two fields: 'server\_domain' with a value of 'd01-test.uuq.pl' and 'clients\_dir' with a value of '/opt/docker/clients'. Both fields are of type 'String'.

In the **Server Details** section, select the "**PUQ Docker Grafana**" 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	PUQ Docker Grafana <input type="button" value="Test Connection"/>
	✓ Connection successful. Some values have been auto-filled.
Username	Grafana
Password	....
Access Hash	<pre>https://n8n.puqcloud.com/webhook/docker-grafana</pre>
Secure	<input checked="" type="checkbox"/> Check to use SSL Mode for Connections

Webhook URLs

Test URL

Production URL

POST

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

HTTP Methods

POST

Path

docker-grafana

Authentication

Basic Auth

Credential for Basic Auth

Grafana

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 Grafana 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 Grafana**" module

- **License key** - A pre-purchased license key for the "**PUQ Docker Grafana**" 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.

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

Module Name: PUQ Docker Grafana  
Server Group: None

License key: [REDACTED]  
success: 2025-04-22T02:08:14+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**  
[REDACTED]  
The main domain to which the container subdomain will be added  
If not filled in, the server domain will be used

**Subdomain**  
[REDACTED]  
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**  
puqDockerGrafana Notification disk limit

Client Area  
Service

Switch to Advanced Mode

Metric Billing

Traffic IN (GB) [Configure Pricing](#)

Traffic OUT (GB) [Configure Pricing](#)

# Metric Billing

## Docker Grafana 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

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

The screenshot shows the WHMCS product configuration interface. At the top, there are several tabs: Details, Pricing, Module Settings, Custom Fields, Configurable Options, Upgrades, Free Domain, Cross-sells, Other, and Links. The 'Module Settings' tab is active. Below the tabs, there are several sections for configuring the product, including fields for name, description, and various options. At the bottom of the interface, there is a 'Metric Billing' section with two toggle switches: 'Traffic IN (GB) Configure Pricing' and 'Traffic OUT (GB) Configure Pricing', both of which are currently turned ON.

Switch to Advanced Mode

Metric Billing

Traffic IN (GB)  
Configure Pricing

ON

Traffic OUT (GB)  
Configure Pricing

ON

## 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 (puqDockerGrafana Welcome Email)

Docker Grafana 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:** puqDockerGrafana Welcome Email

## Create New Email Template ×

Email Type

Product/Service ▾

Unique Name

puqDockerGrafana Welcome Email

Cancel

Create

**Subject:**

Grafana 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 Grafana instance is in progress.

Within the next 4-5 minutes, you will be able to use your Grafana instance.

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

Here is the link to your Grafana server.

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

Thank you for choosing us.

{\$signature}

Subject: Grafana Order Information

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

Paragraph ▾ Verdana ▾ 11pt ▾ **B** *I* ~~S~~ U A ▾ **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 Grafana instance is in progress.  
Within the next 4-5 minutes, you will be able to use your Grafana instance.

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

Here is the link to your Grafana server.

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

Thank you for choosing us.

{ \$signature }

P 82 WORDS POWERED BY TINYMCE 

# Email Template (puqDockerGrafana Update Email)

Docker Grafana 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:** puqDockerGrafana Update Email

### Create New Email Template ×

**Email Type**

**Unique Name**

**Subject:**

Grafana Update Information

## Body:

Dear {\$client\_name},

Your instance is currently being updated.

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

Here is the link to your Grafana server.

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

Thank you for choosing us.

{\$signature}

Subject:

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

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

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

Your instance is currently being updated.  
You will be able to use your Grafana server again within 3 minutes.

Here is the link to your Grafana server.

[https://{\\$service\\_domain}/](https://{$service_domain}/)  
Thank you for choosing us.

{\$signature}

P 38 WORDS POWERED BY TINYMCE 



# Email Template (puqDockerGrafana Notification disk limit)

Docker Grafana 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:** puqDockerGrafana Notification disk limit

### Create New Email Template

Email Type  
Product/Service

Unique Name  
puqDockerGrafana Notification disk limit

Cancel Create

**Subject:**

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

## Body:

Dear {\$client\_name},

We want to inform you that your Grafana 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 Grafana 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 

