

# Installing Docker for PUQcloud modules

## Installing Docker on Debian 12

The **WHMCS Docker n8n module** requires a **Debian 12** server with **Docker** installed to function properly. This guide provides **step-by-step instructions** for setting up **Docker** and configuring the necessary environment.

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### Prerequisites

- ✓ A **physical** or **virtual machine** running **Debian 12**
- ✓ A **public IP address** for the server
- ✓ A **domain** for web applications managed by the module
- ✓ **DNS Configuration:** Create an **A record** pointing all subdomains to the server's IP:

```
*.your_domain A server_ip
```

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### Installation Steps

#### 1 Install Required Utilities

Before installing Docker, update the system and install essential tools:

```
sudo apt-get update
sudo apt-get install sudo sqlite3 apache2-utils jq -y
```

## 2▯ Configure Sudo Access

Allow passwordless **sudo access** for the user connecting to the Docker server:

Edit the **sudoers** file:

```
sudo nano /etc/sudoers
```

Add the following line (replace `[your_username]` with your actual username):

```
your_username ALL=( ALL: ALL) NOPASSWD: ALL
```

## 3▯ Install Docker

```
# Update package index
sudo apt update

# Install dependencies
sudo apt install apt-transport-https ca-certificates curl software-properties-common

# Add Docker's official GPG key
curl -fsSL https://download.docker.com/linux/debian/gpg | sudo gpg --dearmor -o
/usr/share/keyrings/docker-archive-keyring.gpg

# Add Docker repository
echo "deb [arch=amd64 signed-by=/usr/share/keyrings/docker-archive-keyring.gpg]
https://download.docker.com/linux/debian $(lsb_release -cs) stable" | sudo tee
/etc/apt/sources.list.d/docker.list > /dev/null

# Update package list
sudo apt update

# Install Docker
sudo apt install docker-ce
```

```
# Verify Docker status
sudo systemctl status docker

# Install Docker compose
sudo apt install docker-compose-plugin
```

## 4▣ Deploy Required Containers

Create a **Docker Compose** file for **nginx-proxy** and **Let's Encrypt companion**:

```
sudo mkdir -p /opt/docker/nginx-proxy
sudo mkdir -p /opt/docker/nginx-proxy/certs
sudo mkdir -p /opt/docker/nginx-proxy/nginx
sudo mkdir -p /opt/docker/nginx-proxy/html
sudo mkdir -p /opt/docker/nginx-proxy/vhost.d
cd /opt/docker/nginx-proxy
nano docker-compose.yml
```

Paste the following content:

```
version: "3"

services:
  nginx-proxy:
    image: jwilder/nginx-proxy
    container_name: nginx-proxy
    restart: always
    ports:
      - "80:80"
      - "443:443"
    volumes:
      - /opt/docker/nginx-proxy/certs:/etc/nginx/certs:ro
      - /opt/docker/nginx-proxy/nginx/vhost.d:/etc/nginx/vhost.d
      - /opt/docker/nginx-proxy/nginx/html:/usr/share/nginx/html
      - /var/run/docker.sock:/tmp/docker.sock:ro
    networks:
      - web

letsencrypt:
```

```
image: jrcs/letsencrypt-nginx-proxy-companion
restart: always
container_name: letsencrypt-nginx-proxy-companion
volumes:
  - /opt/docker/nginx-proxy/certs: /etc/nginx/certs:rw
  - /var/run/docker.sock: /var/run/docker.sock:ro
volumes_from:
  - nginx-proxy
networks:
  - web
```

```
networks:
  web:
    driver: bridge
```

Save and exit (`|CTRL + X|`, then `|Y|`, then `|ENTER|`).

Run the containers:

```
docker-compose up -d
```

This setup provides:

- ✓ **nginx-proxy** – Automatic HTTP/HTTPS proxy for container web interfaces
- ✓ **Let's Encrypt Companion** – Automatic SSL certificate generation for subdomains

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## □ Final Checks

### 1. Confirm Docker is running:

```
docker ps
```

### 2. Verify nginx-proxy logs:

```
docker logs nginx-proxy
```

### 3. Ensure Let's Encrypt certificates are being generated correctly:

```
docker logs letsencrypt-nginx-proxy-companion
```

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