

Applications

Tips and Tricks about some of my Docker Applications.

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Deployment Checklist

Here is a checklist to make sure to not forget anything when deploying a new container on my Docker.

- ☐ Create a CNAME record on Cloudflare
- ☐ Create a CNAME record on PiHole
- ☐ Write the `compose.yaml` and `.env` files
- ☐ Add the container to the `Caddyfile`
- ☐ Add the container port to Portall
- ☐ Add the application to homepage
- ☐ Add the container to Uptime Kuma
- ☐ Add the container to Guacamole

Apache Guacamole

Apache Guacamole is a clientless remote desktop gateway. It supports standard protocols like VNC, RDP, and SSH.

Docker Installation on ARM64

Apache Guacamole is a powerful tool for managing remote connections, and installing it on a Raspberry Pi 4 with Docker allows for easy, remote access from almost anywhere

Prerequisites

1. Raspberry Pi 4
2. Docker installed

Docker Compose Setup

For this installation, we will use a `compose.yaml` file with Docker Compose to manage the Guacamole installation.

I'm using the [flcontainers/guacamole](#) Docker image, which is compatible with the ARM64 architecture, unlike the official image.

Here's what the `compose.yaml` file should look like:

```
services:
  guacamole_app:
    container_name: guacamole_app
    image: flcontainers/guacamole:latest
    restart: unless-stopped
    ports:
      - 8094:8080
    volumes:
      - guacamole_app-config:/config
      - /etc/localtime:/etc/localtime:ro
    environment:
      TZ: 'Europe/Brussels'
    healthcheck:
      test: curl -f -k http://127.0.0.1:8080/ || exit 1
      interval: 15s
      timeout: 10s
      retries: 5

volumes:
  guacamole_app-config:
```

```
name: guacamole_app-config
```

Installation

Once you've created the `compose.yaml` file, navigate to the directory where it's stored and run the following command:

```
docker compose up -d
```

This command will pull the Guacamole image and install it on your Raspberry Pi.

Using Apache Guacamole

After the installation, you can access the Guacamole web interface by visiting `http://<YOUR_RPI_IP>:8094`

Username: guacadmin

Password: guacadmin

With this setup, you now have Apache Guacamole running on your Raspberry Pi 4, allowing easy remote desktop access and management.

Happy me! ☐☐

Bookstack

BookStack is a simple, open-source, self-hosted, easy-to-use platform for organising and storing information.

Changing the Base URL

Sometimes, you need to change the base URL of Bookstack, for example, when you switch from the localhost address to the internet exposed address.

Docker Compose

In your `compose.yaml`, modify the following environment variable:

```
APP_URL=<new_url>
```

Bookstack Container

Open a terminal and type:

```
docker exec -it <bookstack_container> php /app/www/artisan bookstack:update-url <old_url>  
<new_url>
```

Clear Cache

Open a terminal and type:

```
docker exec -it <bookstack_container> php /app/www/artisan cache:clear
```

Paperless-ngx

Paperless-ngx is a document management system that transforms your physical documents into a searchable online archive.

Backup & Restore

Here is the procedure to backup and restore the Paperless-NGX application and all of its data.

Backup

On a terminal, enter the following command:

```
docker compose exec -T <paperless_webserver> document_exporter -z ../export
```

Where:

- `-T` is used to suppress "The input device is not a TTY" error ;
- `-z` is used to zip the export ;
- `../export` is used because this path inside the container is automatically mounted on your host on the folder export.

Restore

You'll need to unzip the previous export!

On a terminal, enter the following command:

```
docker compose exec -T <paperless_webserver> document_importer ../export/<unzipped_directory>/
```

Where:

- `-T` is used to suppress "The device is not a TTY" error ;
- `../export/<unzipped_directory>/` is the path to your previous backup unzipped.



ntfy lets you send push notifications to your phone or desktop via scripts from any computer, using simple HTTP PUT or POST requests.

ntfy

? Low Space

Script

```
#!/bin/bash

mingigs=20
avail=$(df | awk '$6 == "/" && $4 < '$mingigs' * 1024*1024 { print $4/1024/1024 }')

if [ -n "$avail" ]; then
  curl \
    -H "Title: Low Disk Space" \
    -H "Priority: urgent" \
    -H "Tags: warning,cd" \
    -d "Hello TTBB! Only $avail GB available on the root disk. Better clean that up." \
    https://notify.boreux.work/raspberrypi?auth=<TOKEN>
fi
```

Cron

```
0 * * * * root /bin/bash /root/ntfy/low-disk-space.sh
```

ntfy

?? SSH Access

Script

```
#!/bin/bash
if [ "${PAM_TYPE}" = "open_session" ]; then
    curl \
        -H "Title: SSH Login" \
        -H "Priority: urgent" \
        -H "Tags: warning,door" \
        -d "Hello TTBB! There was an SSH login with user ${PAM_USER} from ${PAM_RHOST} host" \
        https://notify.boreux.work/pihole?auth=<TOKEN>
fi
```

/etc/pam.d/sshd

At the end of the file, add the following line:

```
session optional pam_exec.so /root/ntfy/ssh-login.sh
```

ntfy

? Useful Commands

Creating an Administrator

```
docker exec -it <NTFY_CONTAINER_NAME> ntfy user add --role=admin <USERNAME>
```