Docker Apps

Bookstack

Bookstack installation

Change port to **6975**

Add in docker-compose: **restart: unless-stopped**

$docker directory = /home/docker .... etc

Docker-Compose file reference

https://github.com/solidnerd/docker-bookstack/blob/master/docker-compose.yml

```
version: '2'
services:
  mysql:
    image: mysql:8.0
    environment:
    - MYSQL_ROOT_PASSWORD=secret
    - MYSQL_DATABASE=bookstack
    - MYSQL_USER=bookstack
    - MYSQL_PASSWORD=secret
    volumes:
    - mysql-data:/var/lib/mysql
    restart: unless-stopped

  bookstack:
    image: solidnerd/bookstack:22.10.2
    depends_on:
    - mysql
    environment:
    - DB_HOST=mysql:3306
    - DB_DATABASE=bookstack
    - DB_USERNAME=bookstack
    - DB_PASSWORD=secret
    #set the APP_ to the URL of bookstack without without a trailing slash
APP_URL=https://example.com
```

```
    - APP_URL=http://xxx.xxxmydomainxxx.duckdns.org
    volumes:
    - $docker/public-uploads:/var/www/bookstack/public/uploads
    - $docker/storage-uploads:/var/www/bookstack/storage/uploads
    ports:
    - "6975:8080"
    restart: unless-stopped
```

Notice: The default password for bookstack is

admin@admin.com

password

Permissions: remember the set write permission on public-uploads folder so users can upload photos.

Backup and Restore

Files Backup:

```
tar -czvf bookstack-files-backup.tar.gz public-uploads storage-uploads
```

Restore:

```
tar -xvzf bookstack-files-backup.tar.gz
```

Database backup:

```
sudo docker exec bookstack_mysql_1 /usr/bin/mysqldump -u root --password=secret bookstack >
./bookstack/bookstack_db.sql
```

Restore:

```
sudo docker exec -i bookstack_mysql_1 mysql -u root --password=secret bookstack <
/$docker/bookstack/bookstack_db.sql
```

- bookstack_mysql1 is the container name
- password is secret or the database password

Reverse Proxy

Use subdomain in proxy manager.

Backing Up and Restoring with LinuxServer.io container

Due to limits or Oracle Cloud free tier. The only arm image is from linuxserver io container, and it is different than solidnerd image.

Docker-Compose file

```
version: "2"
services:
  bookstack:
    image: lscr.io/linuxserver/bookstack
    container_name: bookstack
    environment:
      - PUID=1001
      - PGID=1001
      - APP_URL=https://wiki.xxx.duckdns.org
      - DB_HOST=bookstack_db
      - DB_USER=bookstack
      - DB_PASS=secret
      - DB_DATABASE=bookstackapp
    volumes:
      - /home/ubuntu/bookstack:/config
    ports:
      - 6975:80
    restart: unless-stopped
    depends_on:
      - bookstack_db

  bookstack_db:
    image: lscr.io/linuxserver/mariadb
    container_name: bookstack_db
    environment:
      - PUID=1001
      - PGID=1001
      - MYSQL_ROOT_PASSWORD=secret
      - TZ=Europe/London
      - MYSQL_DATABASE=bookstackapp
      - MYSQL_USER=bookstack
      - MYSQL_PASSWORD=secret
    volumes:
      - /home/ubuntu/bookstack:/config
```

```
    restart: unless-stopped
```

Notice: In Oracle cloud free tier, the default ubuntu user is 1001, not 1000. For database name, it it bookstackapp, keep in mind when executing restore command. The folder structure is also different. In the solidnerd container, the images are stored at /public-uploads while in LSIO container it is stored at /www/uploads

Backing Up (from home PC)

Images

cd into /public-uploads and make a tar archive

```
tar -czvf images.tar.gz images
```

Backup the database

```
sudo docker exec bookstack_mysql_1 /usr/bin/mysqldump -u root --password=secret bookstack > ./bookstack_db.sql
```

Transfer to Oracle Cloud Server

```
scp -i oracle-arm-2.key images.tar.gz bookstack_db.sql ubuntu@$IPADDR:/home/ubuntu/bookstack/www/uploads
```

Take in consideration the location where LSIO image stores the images.

Restore (into Oracle Cloud)

Images (/home/ubuntu/bookstack/www/uploads)

```
tar -xvzf images.tar.gz
```

Database

The image url in the database still refers to old server url, it needs to be changed. The following command replace the subdomain in the sq1 dump.

```
sed -i 's/wiki.$home.duckdns.org/wiki.$oracle.duckdns.org/g' bookstack_db.sql
```

Restore the database.

```
sudo docker exec -i bookstack_db mysql -u root --password=secret bookstackapp < /home/ubuntu/bookstack/www/uploads/bookstack_db.sql
```

Crontab

On Home PC

```
0 23 * * 2,5 /home/karis/bookstack.sh
```

```
#!/bin/bash

cd ~/docker/bookstack/public-uploads #location of bookstack public uploads
tar -czvf images.tar.gz images
sudo docker exec bookstack_mysql_1 /usr/bin/mysqldump -u root --password=secret bookstack >
./bookstack_db.sql
scp -i oracle-arm-2.key images.tar.gz bookstack_db.sql
ubuntu@$ORACLEIP:/home/ubuntu/bookstack/www/uploads
```

Make sure to copy the oracle-arm-2.key to the appropriate location (~/docker/bookstack/public-uploads)

Also make sure the permission of oracle-arm-2.key is in correct permission (600). Especially changing the permission of public-uploads folder to allow write access.

Do a backup sequence in crontab at 11pm every Tuesday and Friday.

Oracle Cloud Server

```
0 8 * * 3,6 /home/ubuntu/bookstack.sh
```

```
#!/bin/bash

cd ~/bookstack/www/uploads #directory where bookstack files scp from home are located
tar -xvzf images.tar.gz
sed -i 's/wiki.$homeip.duckdns.org/wiki.$oracle.duckdns.org/g' bookstack_db.sql
sudo docker exec -i bookstack_db mysql -u root --password=secret bookstackapp <
/home/ubuntu/bookstack/www/uploads/bookstack_db.sql
```

Restore the sequence after backup, every Wednesday and Saturday at 8am (need to consider the TZ between Vancouver, Edmonton and Toronto, or any the time zone of the remote server)

Media Apps

Media Apps

Rich Media

Hello Everyone

This is a demo consisting of medias.

Some Code

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

```
import os
import time

print("hello world")
if a=b:
  print(a)
elif b=c:
  try:
    print(c)
  except:
    print(c+a)
else:
  print("what is the meaning of life")
```

More sample media

Portainer is a software for managing docker containers.

Audiobookshelf

Audiobooks and podcasts.

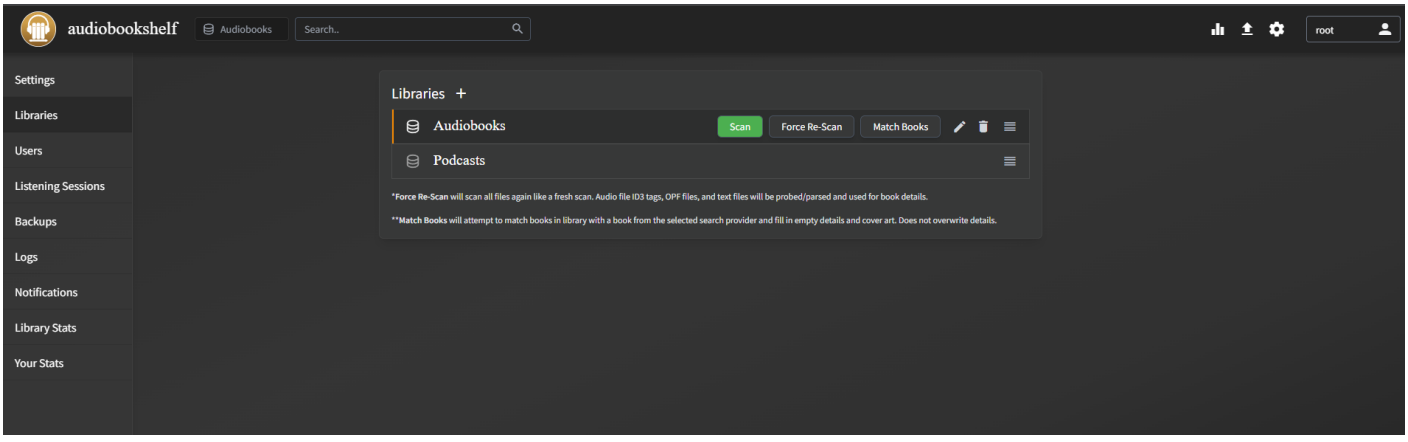
Docker-compose, place it in the media apps compose media.yml

```
version: "3.7"
services:
  audiobookshelf:
    image: ghcr.io/advplyr/audiobookshelf:latest
    environment:
      - AUDIOBOOKSHELF_UID=99
      - AUDIOBOOKSHELF_GID=100
    ports:
      - 13378:80
    volumes:
      - /mnt/m/Audios/audiobooks:/audiobooks # hard drive mount
      - /mnt/m/Audios/podcasts:/podcasts # hard drive mount
      - $HOME/audiobookshelf/config:/config
      - $HOME/audiobookshelf/metadata:/metadata
    restart: unless-stopped
```

Using the software

To add a library, go to settings, libraries and add the path as mounted in docker.

Go to Users, change the root password and create a new user. Note, the user cannot scan library, only the root can do that.



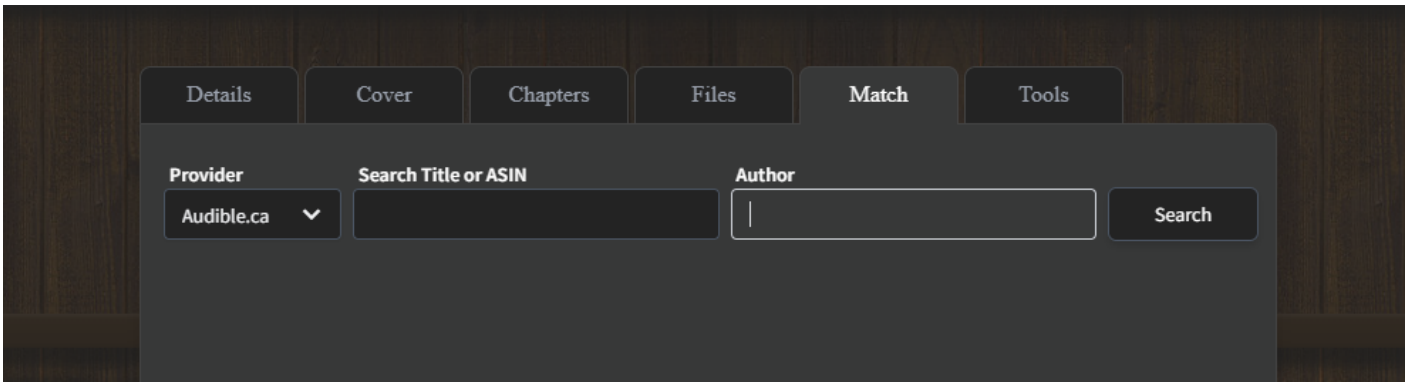
Adding Media

Make sure the contents are in a separate folder. Follow naming like this. A cover image can also be created. The best bitrate should be under 128 kbps for smooth playback.

```
/audiobooks
--- ./Author - Book
---  --- ./cover.jpg
---  --- ./book - 001 or book - chapter 1
---  --- ./book - 002
---  --- ./book - 003
```

In the WebUI, make sure logged in as root. Go to settings, library and scan. It will scan the newly added media.

If the media does not match or not have an image, go click the edit icon, go to Match, the best result is usually Audible.ca.



If the chapter does not match, chapters can be edited manually. Go to Chapter and Lookup.

Mobile App

https://play.google.com/store/apps/details?id=com.audiobookshelf.app

Mobile app also has download functionality, however, the directory cannot be changed, the default for download is /Internal Storage/Download/{Podcast or Audiobook}

The statistic of minutes listened is the actual minutes listened, not the minutes of audiobook progress listened (eg. playing at faster speed).

Scripting (Windows)

ffmpeg detect audio silence (for splitting a large audio file into multiple chapters)

```
ffmpeg -i input.mp3 -af silencedetect=n=-50dB:d=1.5 -f null -
```

```
ffmpeg -i input.mp3 -af silencedetect=n=-50dB:d=1.5 -f null -loglevel debug 2>&1 - | findstr "silence_duration" | find /c /v ""
```

This will find silence parts below -50dB and duration threshold of 1.5s.

The second code (windows cmd only) for linux use grep -c, finds how many silence parts can be detected, this should correlate to number of chapters.

Once the optimal duration is set, use split.py.

ffmpeg that remove silence from audio

```
ffmpeg -i input.mp4 -af silenceremove=stop_periods=-1:stop_duration=4:stop_threshold=-50dB -b:a 96k output.mp3
```

- stop_duration (threshold duration for removing silence part)
- stop_periods = -1 (search for the entire audio track)

Use edge_reader.py to utilize Edge AI reader to read the audiobook if only the pdf book is provided.

After reading, put all the recorded files and pdf in the project folder and run processing.py twice.

Free Games Claimer

https://github.com/vogler/free-games-claimer

This is the Github repo for the new and advanced free games claimer. This is implemented after Epicgames FreeGames keeps failing.

Configuration

Using Docker-Compose

In the folder structure

```
server:  ~/docker/fgc$
docker-compose.yml
fgc.env
```

fgc.env is the environment file for all the password/keys to login to different game services, fill it in manually or use a backup.

```
EG_OTPKEY=
EG_EMAIL=
EG_PASSWORD=
NOTIFY=discord://123456/ABCD
PG_EMAIL=
PG_PASSWORD=
GOG_EMAIL=
GOG_PASSWORD=
TIMEOUT=300
```

`NOTIFY=discord://123456/ABCD` if the webhook looks like this `https://discord.com/api/webhooks/123456/ABCD`

`TIMEOUT=300` sets the timeout to 300s before the container skip and error out due to EpicGames captcha problems. However, the impact on prime gaming and GOG are not tested.

docker-compose.yml

```
services:
  free-games-claimer:
```

```
    container_name: FGC # is printed in front of every output line
    image: ghcr.io/vogler/free-games-claimer # otherwise image name will be free-games-
claimer-free-games-claimer
    build: .
    ports:
      - "5990:5900" # VNC server
      - "5890:6080" # noVNC (browser-based VNC client)
    volumes:
      - ~/docker/fgc:/fgc/data
      - ~/docker/fgc/epic-games.js:/fgc/epic-games.js
      - ~/docker/fgc/prime-gaming.js:/fgc/prime-gaming.js
      - ~/docker/fgc/gog.js:/fgc/gog.js
    command: bash -c "node epic-games; node prime-gaming; node gog; echo sleeping; sleep 1d"
    env_file:
      - fgc.env
    restart: unless-stopped
```

This docker-compose file use the environment file fgc.env as indicated above and runs once every day. It also contains VNC server/web based client.

Missing Captcha Session

This should no longer be needed. Edit the line to epicgames.js code and replace with the following message. When the captcha is missed, it will send a notification for manual claiming.

```
await notify(`epic-games: got captcha challenge right before claim. Use VNC to solve it
manually. Game link: \n ${url}`)
```

~~EpicGames require a captcha to claim free games. If the 5 minute timeout window for EpicGames is missed, it is no longer possible to claim the games unless waiting for the next day, which due to the nature of discord notifications, there is a slim to none chance of catching the captcha at next day. To continuing claiming after acknowledging the missed session, use portainer, ConnectBot Android to temporarily restart the container to restore VNC session.~~

~~In order to restore the default time of claiming the games. Eg. waking up on Thurs or Fri and a predictable time and claim games, use the linux at command.~~

```
at 9:20
> docker restart FGC
> <EOT>
```

~~This will run the command at 9:20 AM the next day. Ctrl-D to exit at prompt and verify the time is correct.~~

jlesage VNC Apps

VNC apps consists of desktop applications that have the GUI in a web browser, mostly from the creator jlesage.

At least for apps from jlesage, it supports an environment variable. Create an environment file called `vnc.env`

The environment file can be reference in many docker images from jlesage using docker-compose. The current environment variable specify U/GID, time zone and make every app dark mode. It is also possible to set VNC passwords. This is the full list of environment variables.

```
USER_ID=1000
GROUP_ID=1000
TZ=America/Vancouver
DARK_MODE=1
```

The jlesage apps have 2 ports, port 5800 for viewing the VNC app on a web browser on desktop; port 5900 is for VNC protocol that can be used in dedicated VNC viewer or mobile viewing.

General Bind Mounts

The appdata bind mount is located in the `~/docker/vnc`, as seen from the yml example, the vnc environment file `vnc.env` is placed in the appdata folder. For application requiring access to movie storage, the bind mount is on the corresponding hard drive or pool. As for applications requiring access to storage but not large media, it's best to put the files on a SSD.

This is an example of VNC container of MKVToolNix. The vnc.yml file is backed up elsewhere.

```
    mkvtoolnix:
        image: jlesage/mkvtoolnix
        env_file:
            - ./vnc/vnc.env
        volumes:
            - '/mnt/data/nzbget:/storage:rw'
            - '~/docker/vnc/mkvtoolnix:/config:rw'
        ports:
            - '5820:5800'
            - '5920:5900'
```

```
        container_name:  mkvtoolnix
```

Application Port Procedure

The application port start from 5800/5900 for its corresponding access and add 10 for each application.

JDownloader: 5800

Firefox: 5810

MKVToolNix: 5820

MKVCleaver: 5840

MegaBasterd: 5860 (no VNC viewer 59xx port)

There are also some application specific setup. For applications accessing hard drive or intensive apps, it is best to stop when not used. Lazytainer and ContainerNursery and possibly using DNS server can help automate this process.

JDownloader

JDownloader Setup

Tesla Homepage

This is a homepage that allows Tesla browser to enter full screen mode.

Docker-compose

```
services:
  homepage-for-tesla:
    image: jessewebdotcom/homepage-for-tesla:latest
    container_name: homepage-for-tesla
    environment:
      - DEFAULT_THEME=13
    volumes:
      - ~/docker/tesla/public/bookmarks.json:/app/public/bookmarks.json
      - ~/docker/tesla/public/images:/app/public/images
    ports:
      - "3000:3000"
```

Minecraft

This chapter is about Minecraft setup in Docker server.

Minecraft

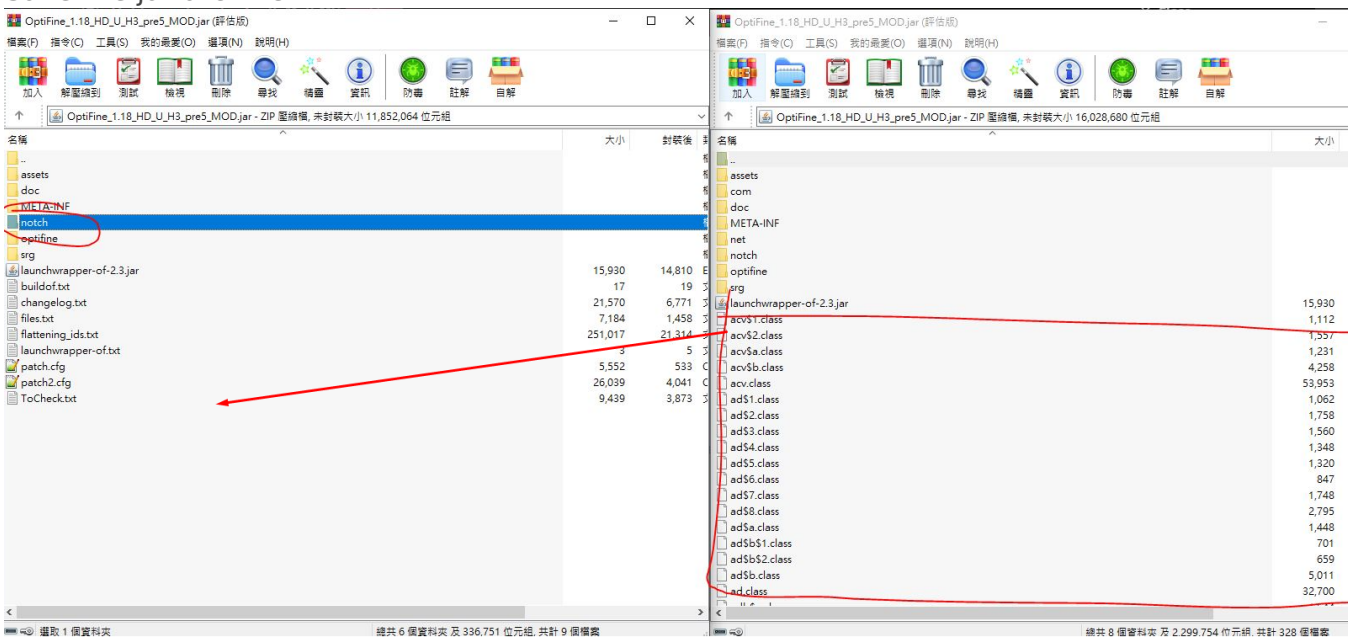
Minecraft Prep and Install

Client Setup (Java + Online)

1. Download Java
2. Download OptiFine the latest version.
3. On the official Minecraft client, go add a new installation and match the version with OptiFine.
4. Download and try the official version, then install OptiFine with Java.
5. Under Settings -> Keep the Launcher open while games are running

Client Setup (Java + Offline)

1. Use the client PolyMC to enable offline play.
2. Go to the right corner, manage accounts and create an offline account.
3. Click on add an instance and follow the guide.
4. To install OptiFine, need the official launcher first, then download OptiFine
5. Extract OptiFine, the extracted file should be ending in _MOD.jar
6. Open the jar file in WinRAR, then move the files from notch folder into the base folder. Save the jar archive.



7. Go to PolyMC, right click on the instance, click Edit -> Versions -> Add to minecraft.jar and select the modified OptiFine.

Docker Server Setup

Docker-compose for minecraft server

```
version: "3.9"
services:
  minecraft:
    image: marctv/minecraft-papermc-server:latest
    restart: unless-stopped
    container_name: mcserver
    environment:
      - MEMORYSIZE=4G
      - PAPERMC_FLAGS=""
      - PUID=1000
      - PGID=1000
    volumes:
      - ~/docker/minecraft:/data:rw
    ports:
      - 25565:25565
      - 19132:19132
    stdin_open: true
    tty: true
```

This downloads the latest version of Minecraft, to use another PaperMC version, need to build the image from scratch.

Warning: PaperMC cannot be downgraded, only newerversion of PaperMC can be installed after first run.

```
git clone https://github.com/mtoensing/Docker-Minecraft-PaperMC-Server
# go edit the "ARG version=1.xx.x" to the correct version
docker build -t marctv/mcserver:1.xx.x
```

Folders and Plugins

Plugins are located in folder `./plugins` some plugins have .yml files. To update or download plugins, use scp, wget on the server or VSCode.

The `world` folder consists of the save data. It is separated into world, nether, the_end.

Before starting the server, the `eula.txt` must have *eula=true*.

`bukkit` and `spigot.yml` in the root folder are configuration files for PaperMC.

Rcon Commands

To access the rcon-cli, use `docker attach mcserver`, to exit, use Ctrl-P and Q, if using VSCode may need to edit keyboard shortcut.

Editing VSCode Shortcut

Press `Ctrl-Shift-P` and search for keyboard shortcut json.

```
[
    {
        "key": "ctrl+p",
        "command": "ctrl+p",
        "when": "terminalFocus"
    },

    {
        "key": "ctrl+q",
        "command": "ctrl+q",
        "when": "terminalFocus"
    },

    {
        "key": "ctrl+e",
        "command": "ctrl+e",
        "when": "terminalFocus"
    }

]
```

Useful Plugins

WorldEdit

EssentialX

CoreProtect

ViaVersions - allow other similar version to join the server without conflict

Offline Mode/Mobile Bedrock

To allow offline play for PC version. Change `server.properties` and edit these lines

```
enforce-whitelist=false
online-mode=false
```

Refer to Minecraft Prep and Install to install offline client.

For bedrock compatibility, need the geyser plugin.

Geyser

To allows offline play for bedrock mobile version. Go to `./plugins/Geyser-Spigot/config.yml` and change these lines. Do not install the plugin floodgate, if it's installed, removed the plugin. ViaVersions is also needed for mobile play.

```
auth-type: offline
enable-proxy-connections: true
```

Now client can play without login to Xbox or Java.

WorldGuard

Filebrowser

Filebrowser app on a webbrowser, port 4455.

Docker-compose deployment

```
version: '3.9'
services:
    filebrowser:
        container_name: filebrowser
        image: filebrowser/filebrowser
        ports:
            - '4455:80'
        user: 1000:1000
        restart: unless-stopped
        volumes:
            - '~/docker/filebrowser/.filebrowser.json:/.filebrowser.json'
            - '~/docker/filebrowser/filebrowser.db:/database.db'
            - '~/docker/filebrowser/branding:/branding'
            - '~/docker:/srv/docker'
            - '/mnt/data:/srv/data'
            - '/mnt/nvme/share:/srv/nvme-share'
```

The first 3 bind mount are for configuration of filebrowser, eg. config, database and branding files. On first deployment, need to create an empty database.db file. The remaining bind mount are for the folders that need to be accessed, the folders should be bound under /srv.

This is the content of .filebrowser.json

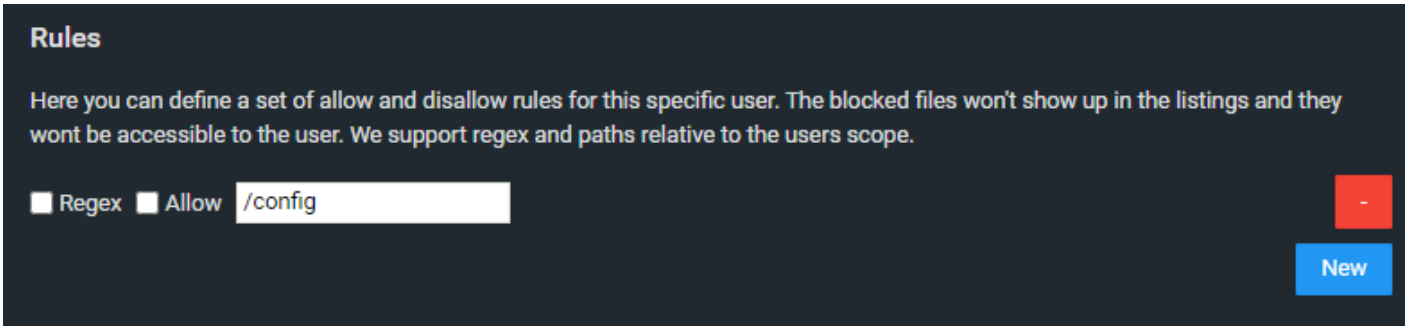
```
{
    "port": 80,
    "baseURL": "",
    "address": "",
    "log": "stdout",
    "database": "/database.db",
    "root": "/srv"
  }
```

User and Share Management

The user and share management in filebrowser is simple. The shares have a expiring time, and can optionally have a password. The recipient can view and download files in the share but cannot upload.

To create a new user, it's under settings -> User Management, and add a user and password accordingly, and give appropriate permission. The scope is where the root folder where the user have access to, since the docker data folder is bound at /srv/docker and /srv is defined as root folder in config, the folder name to put in scopes would be `/docker`. Only one scope is allowed.

It is also possible to add rules to prevent user access of files within a scope. Under rules, enter the path that is relative to the scope, for example /docker/minecraft/config would be `/config`

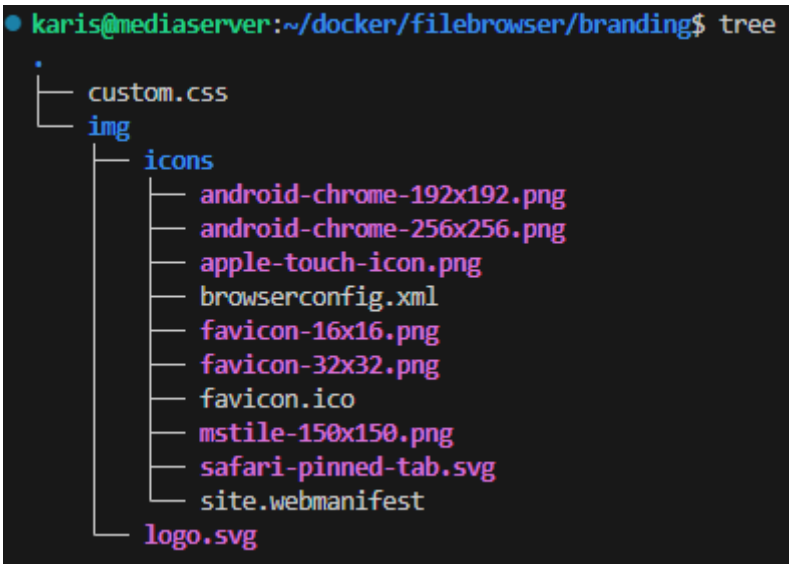


Personalization

Enable dark theme - Setting -> Global Settings -> Branding

- also change the branding directory path to /branding which is bind mount in docker

Under the branding folder, create a file `custom.css` which is used for css customization. Then create a folder img and place logo.svg in it for custom icon. The icon is the same as egow entertainment and stored in OliveTin icon PSD file. Under the folder img, create a folder icons and use favicon generator site to create an icon archive and put all the content of that archive in the icons folder, the result should look like this.



Reverse Proxy/Homepage

Reverse proxy is normal procedure using NPM. To add bookmark to a file location, use browser/homepages bookmark function.