# Jailer

## TLDR

The goal of Jailer is to solve the same problems that Docker solved on Linux, but for FreeBSD. Imagine a project where next to your already existing `Dockerfile` you have a `Jailerfile`, which can be used to start a FreeBSD jail running your installed & configured application.

## Warning

> This software is in it's infancy. Use at your own risk. Have fun.

## Status

| License | Unit test | Coverage | Issues |
|---------|-----------|----------|--------|
| License BSD 2-Clause | build passing | codecov 44% | issues 0 open |

## Quick Start

### Jailerfile

A jail can be described in a `Jailerfile`. The goal is to keep the syntax as similar to a `Dockerfile` as possible.

**Example**:

```
FROM freebsd
RUN echo "Hello Jailer!"
```

### Supported commands

Not all commands are implemented yet. Most commands need to run as `root`:

```
Usage:
  jailer [flags]
  jailer [command]

Available Commands:
  build      Build an image from a Jailerfile
  config     Print current config
  dev        Subcommand for development only
  exec       Execute a command inside an existing jail
  fetch      Fetch base from FreeBSD mirror
  help       Help about any command
  info       Display system-wide information
  init       Init for jailer. Creates zfs datasets
  ps         List active jails
  restart    Restart one or more jails
  rm         Remove one or more jails
  run        Run a command in a new jail
  start      Start one or more stopped jails
```

```
    stop        Stop one or more running jails
    storage     Manages jail & image storage
    top         Run top inside a jail
    version     Print current version

 Flags:
   -c, --config string   Config file (default is $PWD/jailer.yaml)
   -h, --help            help for jailer
   -v, --verbose         Verbose output

 Use "jailer [command] --help" for more information about a command.
```

# Development

## Dependencies

- FreeBSD 12.1
  - ZFS
- Go (tested with 1.13)
  - Cobra
  - Viper
  - Logrus
- gmake

## Setup

```
cp jailer.example.yml jailer.yml
zfs create -o mountpoint=/jailer $ZROOT/jailer
```

## Resources

### Internal

- Jail from scratch

### External

- Reddit: FreeBSD 12 + VNET + ZFS
- Devin Teske - Jail Networking, MeetBSD 2016
- FreeBSD 12 Jail with IPv6, VNET and ZFS
- Stefan Grönke: Imprisoning software with libiocage -- BSDCan 2018