

README

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1 toddwint/bhrtr

1.1 Info

`bhrtr` docker image for simple lab testing applications.

Docker Hub: <https://hub.docker.com/r/toddwint/bhrtr>

GitHub: <https://github.com/toddwint/bhrtr>

1.2 Overview

Docker image for a quick single physical interface router which will create /32 routes IPs specified.

Pull the docker image from Docker Hub or, optionally, build the docker image from the source files in the `build` directory.

Create and run the container using `docker run` commands, `docker compose` commands, or by downloading and using the files here on github in the directories `run` or `compose`.

NOTE: A volume named `upload` is created the first time the container is started. Modify the file in that directory. Add a name for the peer device, the IP of the peer device, the gateway of the peer device (`bhrtr`'s IP), and the network subnet mask. Then restart the container.

Manage the container using a web browser. Navigate to the IP address of the container and one of the HTTPPORTs.

NOTE: Network interface must be UP i.e. a cable plugged in.

Example `docker run` and `docker compose` commands as well as sample commands to create the `macvlan` are below.

1.3 Features

- Ubuntu base image
- Plus:
 - `iputils-arping`
 - `tmux`
 - `python3-minimal`
 - `iputils-ping`
 - `iproute2`

- tzdata
- `ttyd`
 - ◊ View the terminal in your browser
- `frontail`
 - ◊ View logs in your browser
 - ◊ Mark/Highlight logs
 - ◊ Pause logs
 - ◊ Filter logs
- `tailon`
 - ◊ View multiple logs and files in your browser
 - ◊ User selectable `tail`, `grep`, `sed`, and `awk` commands
 - ◊ Filter logs and files
 - ◊ Download logs to your computer

1.4 Sample commands to create the macvlan

Create the docker macvlan interface.

```
docker network create -d macvlan --subnet=169.254.255.240/28 --gateway=169.254.255.241 \
  --aux-address="mgmt_ip=169.254.255.253" -o parent="eth0" \
  --attachable "eth0-macvlan"
```

Create a management macvlan interface.

```
sudo ip link add "eth0-macvlan" link "eth0" type macvlan mode bridge
sudo ip link set "eth0-macvlan" up
```

Assign an IP on the management macvlan interface plus add routes to the docker container.

```
sudo ip addr add "169.254.255.253/32" dev "eth0-macvlan"
sudo ip route add "169.254.255.240/28" dev "eth0-macvlan"
```

1.5 Sample docker run command

```
docker run -dit \
  --name "bhrtr01" \
  --network "eth0-macvlan" \
  --ip "169.254.255.254" \
  -h "bhrtr01" \
  -v "${PWD}/upload:/opt/bhrtr/upload" \
  -p "169.254.255.254:8080:8080" \
  -p "169.254.255.254:8081:8081" \
  -p "169.254.255.254:8082:8082" \
  -p "169.254.255.254:8083:8083" \
  -e TZ="UTC" \
  -e MGMTIP="169.254.255.253" \
  -e GATEWAY="169.254.255.241" \
  -e HUID="1000" \
  -e HGID="1000" \
  -e HTTPPORT1="8080" \
  -e HTTPPORT2="8081" \
  -e HTTPPORT3="8082" \
  -e HTTPPORT4="8083" \
  -e HOSTNAME="bhrtr01" \
  -e APPNAME="bhrtr" \
  --cap-add=NET_ADMIN \
  "toddwint/bhrtr"
```

1.6 Sample docker compose (compose.yaml) file

```
name: bhrtr01

services:
  bhrtr:
    image: toddwint/bhrtr
    hostname: bhrtr01
    ports:
      - "169.254.255.254:8080:8080"
      - "169.254.255.254:8081:8081"
      - "169.254.255.254:8082:8082"
      - "169.254.255.254:8083:8083"
    networks:
      default:
        ipv4_address: 169.254.255.254
    environment:
      - MGMTIP=169.254.255.253
      - GATEWAY=169.254.255.241
      - HUID=1000
      - HGID=1000
      - HOSTNAME=bhrtr01
      - TZ=UTC
      - HTTPPORT1=8080
      - HTTPPORT2=8081
      - HTTPPORT3=8082
      - HTTPPORT4=8083
      - APPNAME=bhrtr
    privileged: true
    cap_add:
      - NET_ADMIN
    volumes:
      - "${PWD}/upload:/opt/bhrtr/upload"
    tty: true

networks:
  default:
    name: "eth0-macvlan"
    external: true
```