README

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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 `HTTPPORT`s.

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:
  - fzf
  - iproute2
  - iputils-arping
  - iputils-ping
  - python3-minimal

- tmux
- 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 "bhrtr01"
```

Create a management macvlan interface.

```
sudo ip link add "bhrtr01" link "eth0" type macvlan mode bridge
sudo ip link set "bhrtr01" 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 "bhrtr01"
sudo ip route add "169.254.255.240/28" dev "bhrtr01"
```

1.5 Sample `docker run` command

```
docker run -dit \
    --name "bhrtr01" \
    --network "bhrtr01" \
    --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

```yaml
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: "bhrtr01"
        external: true
```