UNIVERSITÀ DI PARMA

DIPARTIMENTO DI SCIENZE MATEMATICHE, FISICHE ED INFORMATICHE
Corso di Laurea in Informatica

Docker 5 : IPv6

LABORATORIO DI RETI DI CALCOLATORI - a.a. 2023/2024

Roberto Alfieri

Docker IPv6

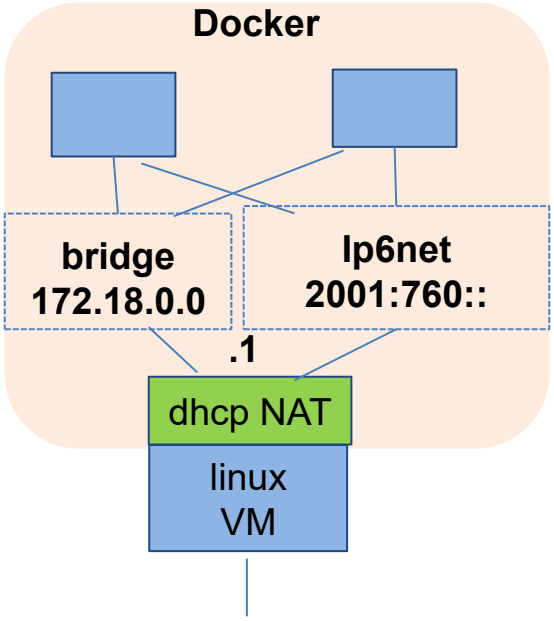
Riferimenti: https://docs.docker.com/config/daemon/ipv6/

Se la versione di Docker installata support IPv6 è possibile creare una network IPv6

Ad esempio:
docker network create --ipv6 --subnet 2001:760::/112 ip6net

docker network ls

NETWORK ID	NAME	DRIVER	SCOPE
7b7a668581b6	bridge	bridge	local
dfa3669c4d4a	ip6net	bridge	local



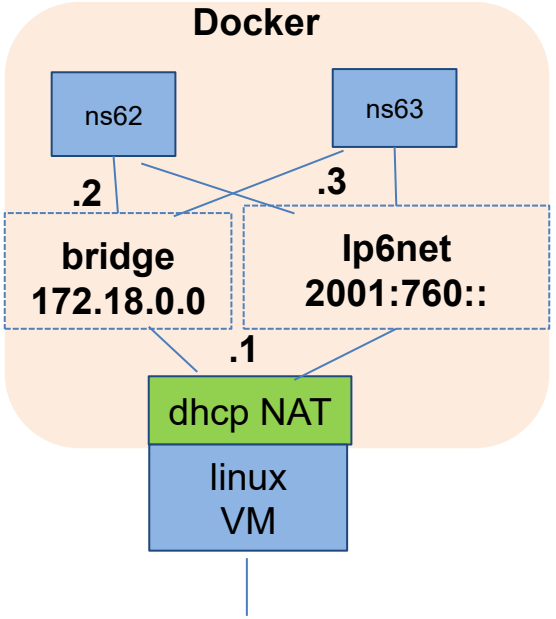
Docker IPv6 : comandi

La rete può essere associata ad un container, ad esempio:
docker run -d --name ns62 --network ip6net nginx-ssh
docker run -d --name ns63 --network ip6net nginx-ssh

In questo esempio gli indirizzi IPv4 e IPv6 sono forniti dinamicamente dal DHCP.

docker exec ns62 ip a
docker exec ns63 ip a
docker exec ns62 ping 172.18.0.3
docker exec ns62 ping6 2001:760::3
docker exec ns62 nmap -6 2001:760::/125

docker exec -it ns62 bash
#Nginx
curl [2001:760::3] /index.nginx-debian.html



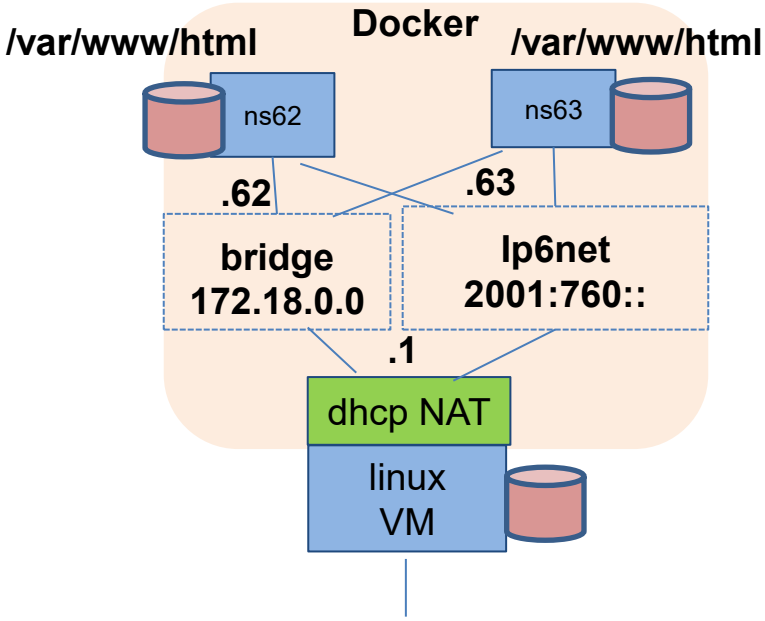
docker-compose.yaml

```
version: "3"

networks:
    ip6net:
      enable_ipv6: true
      driver: bridge
      ipam:
        config:
          - subnet: 2001:760::/112

services:
  ns62:
    container_name: ns62
    hostname: ns62
    image: nginx-ssh
    networks:
      ip6net:
       ipv6_address: 2001:760::62
    volumes:
      - /home/ubuntu/SHARE/:/var/www/html

  ns63:
    container_name: ns63
    hostname: ns63
    image: nginx-ssh
    networks:
      ip6net:
        ipv6_address: 2001:760::63
    volumes:
      - /home/ubuntu/SHARE/:/var/www/html
```



Docker IPv6 : comandi

docker-compose up -d
docker-compose ps

query http il IPv6
ns62> curl [2001:760::3] /prova.html

connessione ssh IPv6
ssh ubuntu@2001:760::63

IPv6 sniffing
ns62> tcpdump -nn ip6