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Lab Exercise 4- Working with Docker Networking

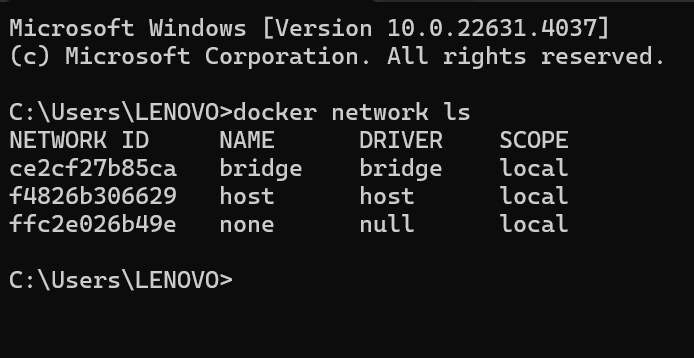
# Step 1: Understanding Docker Default Networks

Docker provides three default networks:

* bridge: The default network when a container starts.
* host: Bypasses Docker’s network isolation and attaches the container directly to the host network.
* none: No networking is available for the container.

# Inspect Default Networks

Check Docker's default networks using:



# Inspect the Bridge Network



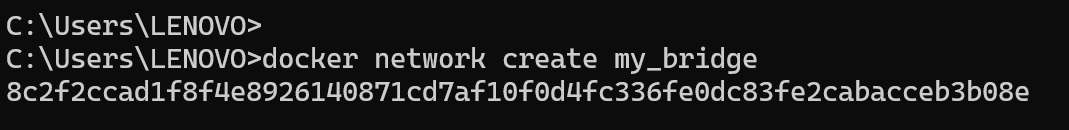


This command will show detailed information about the bridge network, including the connected containers and IP address ranges.

# Step 2: Create and Use a Bridge Network

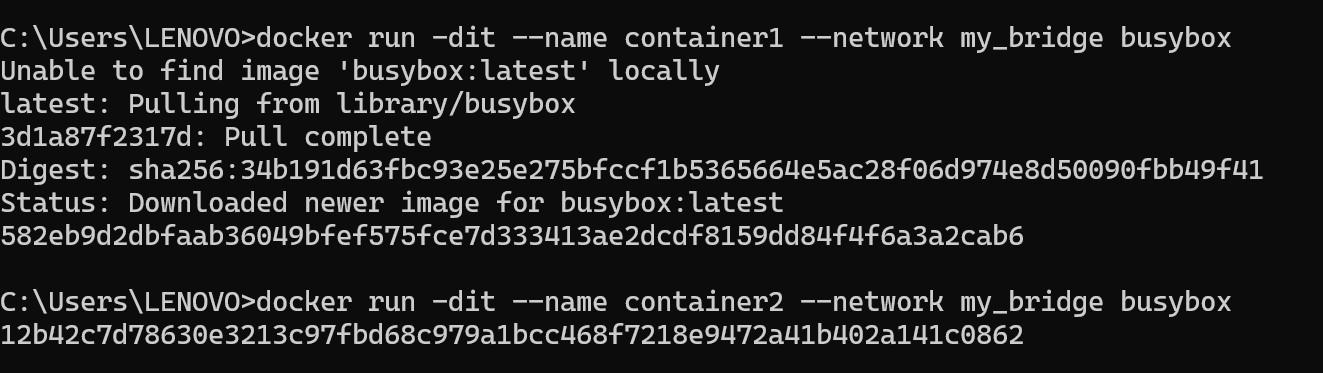
* 1. **Create a User-Defined Bridge Network**

A user-defined bridge network allows containers to communicate by name instead of IP.



# Run Containers on the User-Defined Network

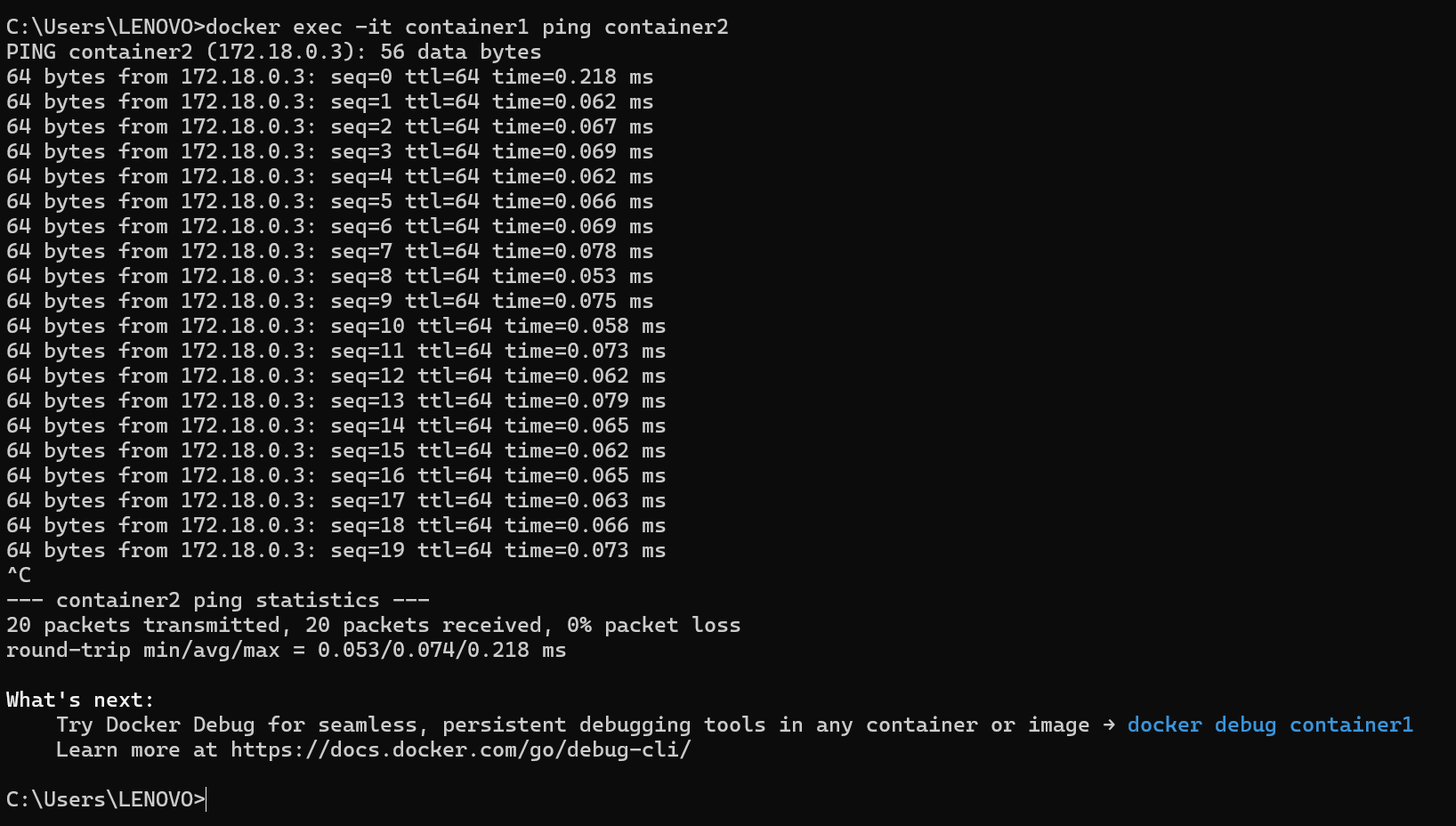
Start two containers on the newly created my\_bridge network:



# Test Container Communication

Execute a ping command from container1 to container2 using container names:





The containers should be able to communicate since they are on the same network.

# Step 3: Create and Use a Host Network

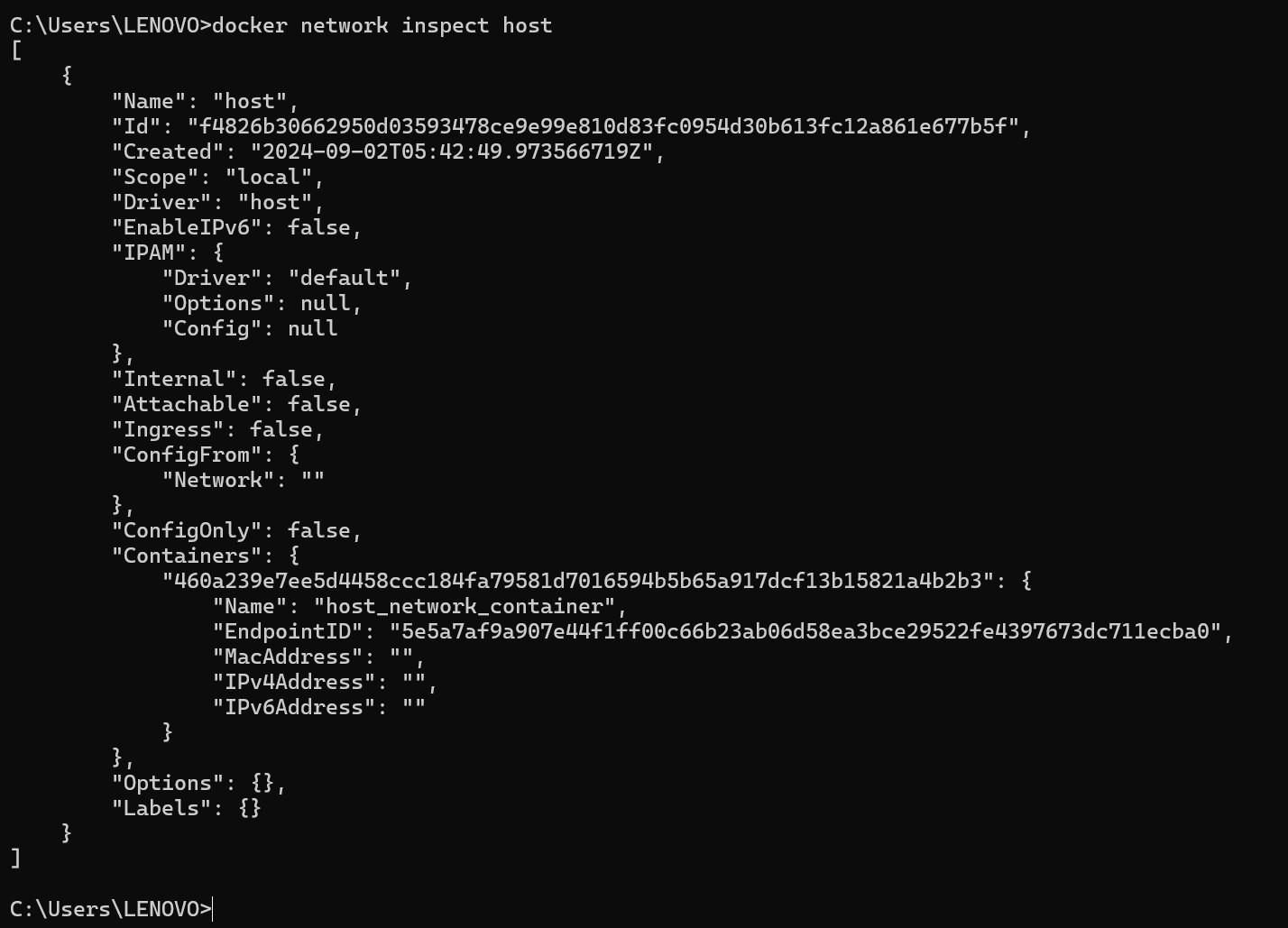
* 1. **Run a Container Using the Host Network**

The host network allows the container to use the host machine’s networking stack:



Access the NGINX server via localhost:80 in your browser to verify the container is using the host network.

# Check Network

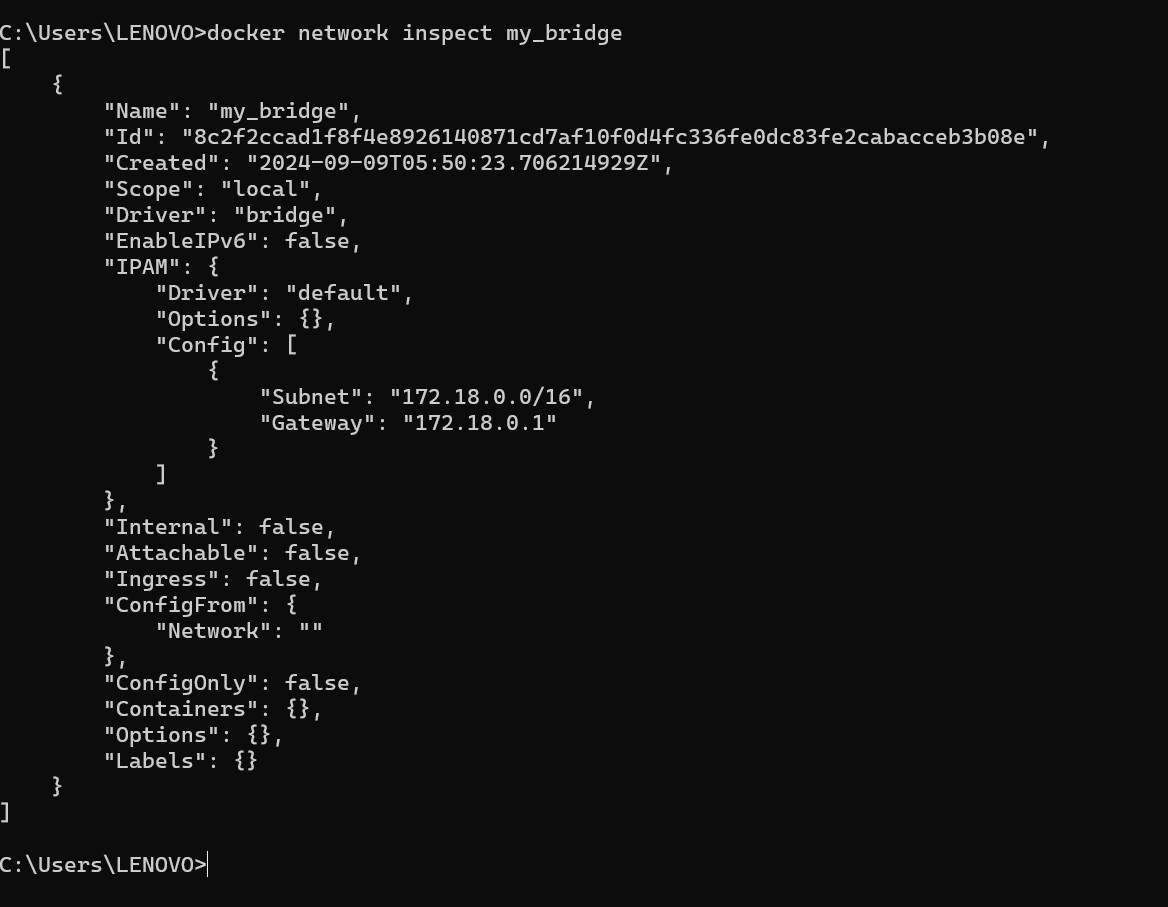


**Step 4: Disconnect and Remove Networks**

# Disconnect Containers from Networks

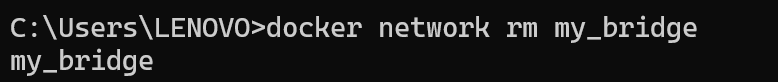
To disconnect container1 from my\_bridge:





# Remove Networks

To remove the user-defined network:



# Step 5: Clean Up

Stop and remove all containers created during this exercise:



