

**WELCOME BACK  
&  
THANK YOU**

**<Creative Devs.  
Software/>**

**Docker  
Bitty Byte**

# MEET YOUR BITTY BYTE TEAM



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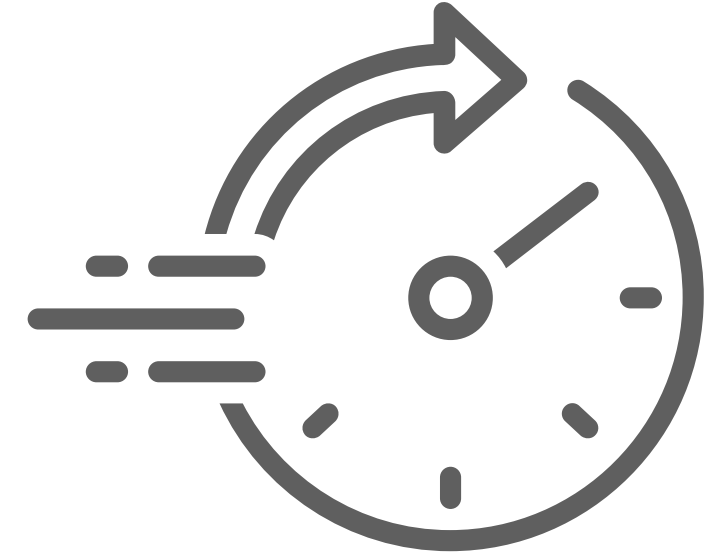
# TRAINING DAY 4

## TODAY'S AGENDA

- 1 Rapid Review
- 2 Volumes
- 3 Trivia \* Hands On Exercise



# Rapid **TRIVIA**



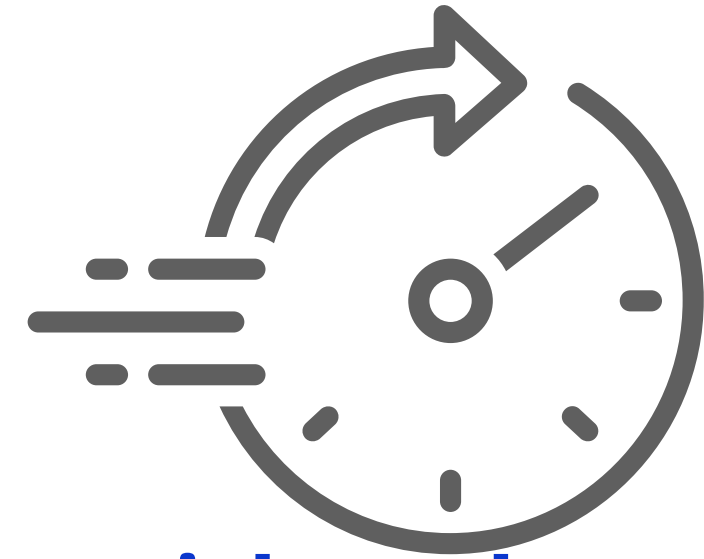
## Rapid Trivia

**What is the key difference between Docker containers and virtual machines in terms of resource utilization and overhead?**

# Rapid TRIVIA



## Rapid Trivia

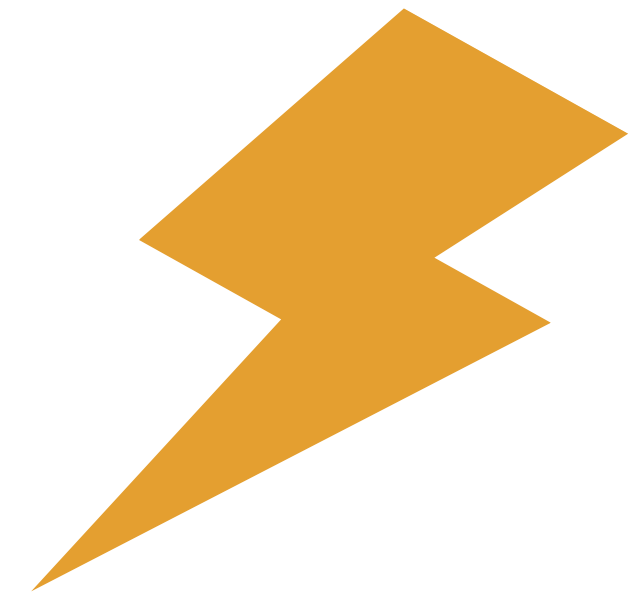


**Docker containers are more lightweight and efficient.**

**In Docker containers, multiple containers can run on a single host operating system and share the same kernel, which reduces the overhead compared to VMs.**

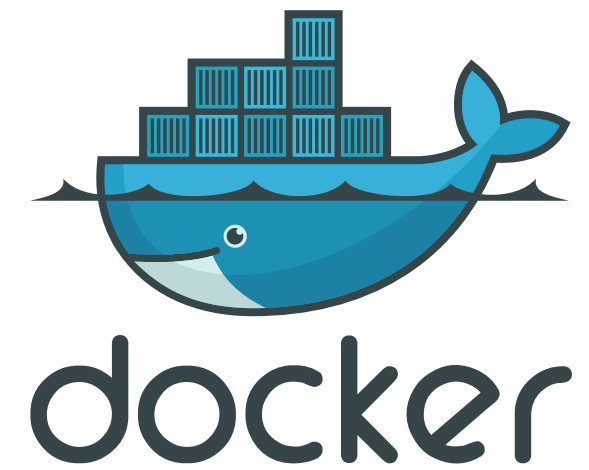
**VMs, on the other hand, require a hypervisor to emulate an entire operating system, which consumes more resources and has higher overhead.**

**DAY 4**



# Rapid Review Docker Compose

# DOCKER VOLUMES

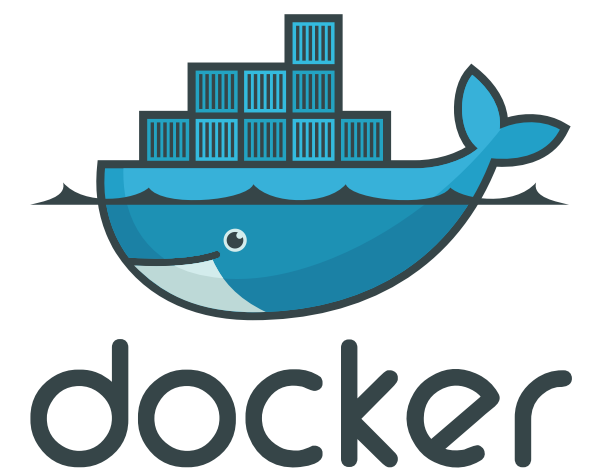


## Manage Data in Docker

### Problem:

- ❌ **The data doesn't persist when that container no longer exists**
- ❌ **It can be difficult to get the data out of the container if another process needs it.**
- ❌ **A container's writable layer is tightly coupled to the host machine where the container is running**

# DOCKER VOLUMES

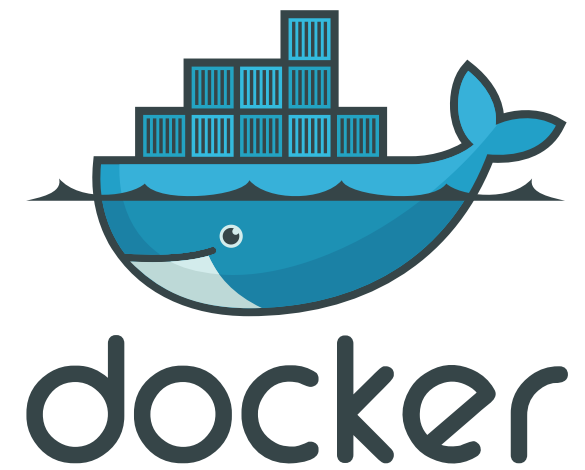


## Manage Data Persistence

- ✓ **Volumes:** They are managed by Docker and exist independently of containers. Associated with containers and not directly with the host
- ✓ **Bind Mounts:** Bind mounts allow you to map a directory or file on the host system directly into a container.
- ✓ **Tmpfs Mounts:** Create an in-memory filesystem within a container, useful for temporary data storage but not for persistence.



# DOCKER VOLUMES



## Docker Bind Mounts

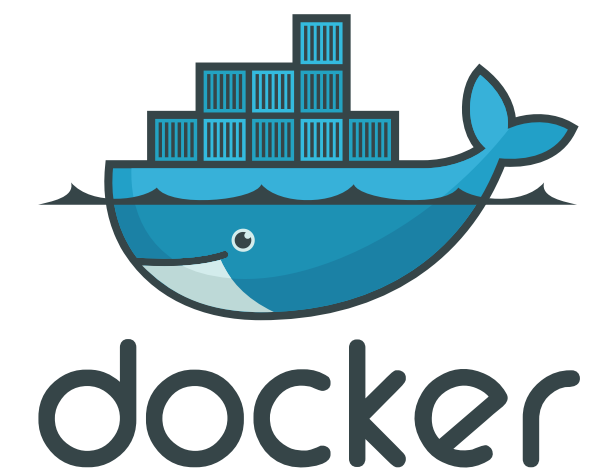
### Usage:

**flag: --mount type=bind,source=HOST\_DIR,target=CONTAINER\_DIR**

### Benefits:

- ✓ **Data Persistence**
- ✓ **Host-Scoped**
- ✓ **Mount Points**

# DOCKER VOLUMES



## Docker Volumes

### Usage:

**Usage: docker volume create VOLUME\_NAME**

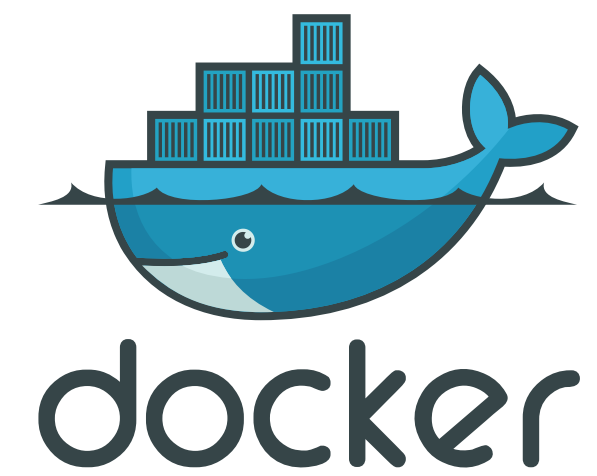
### Common Commands:

- **docker volume create**
- **docker volume ls**
- **docker volume inspect**

### Benefits:

- ✓ **Data Persistence**
- ✓ **Container-Scoped**
- ✓ **Mount Points**

# DOCKER VOLUMES

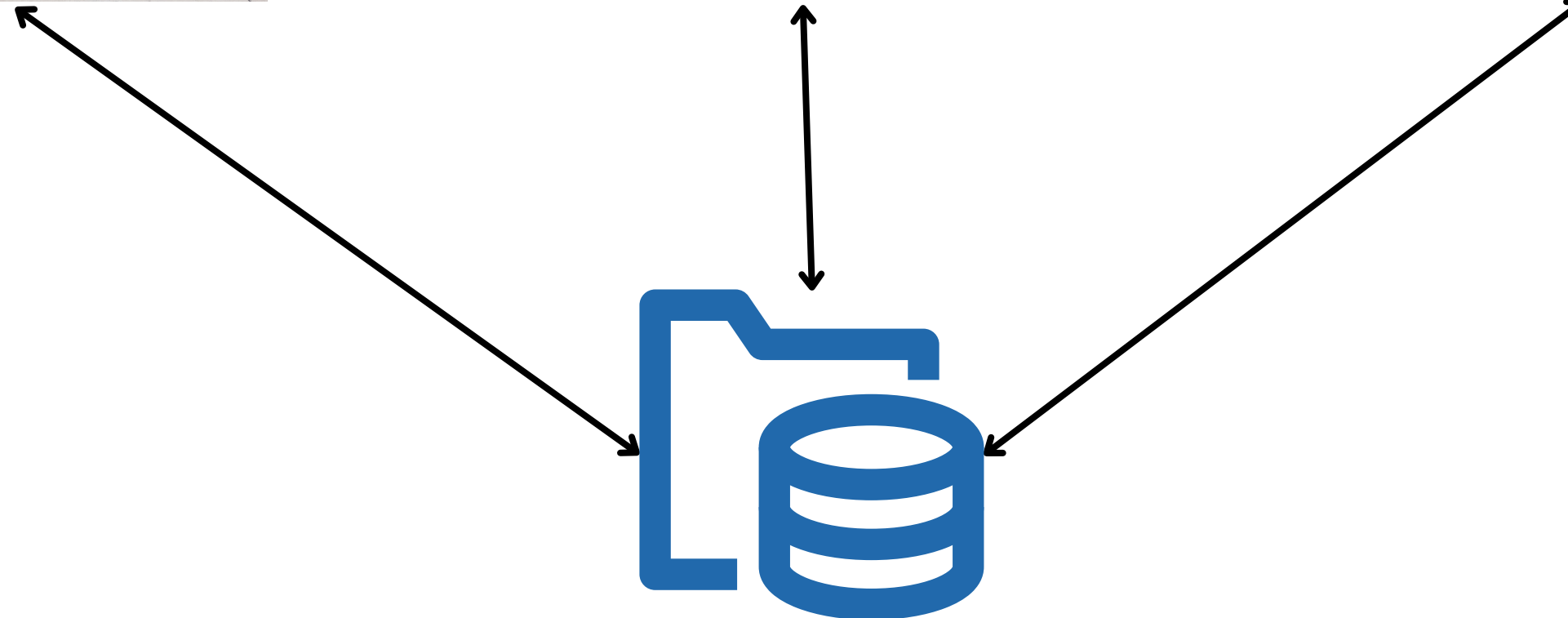


## Docker Volumes

container-1

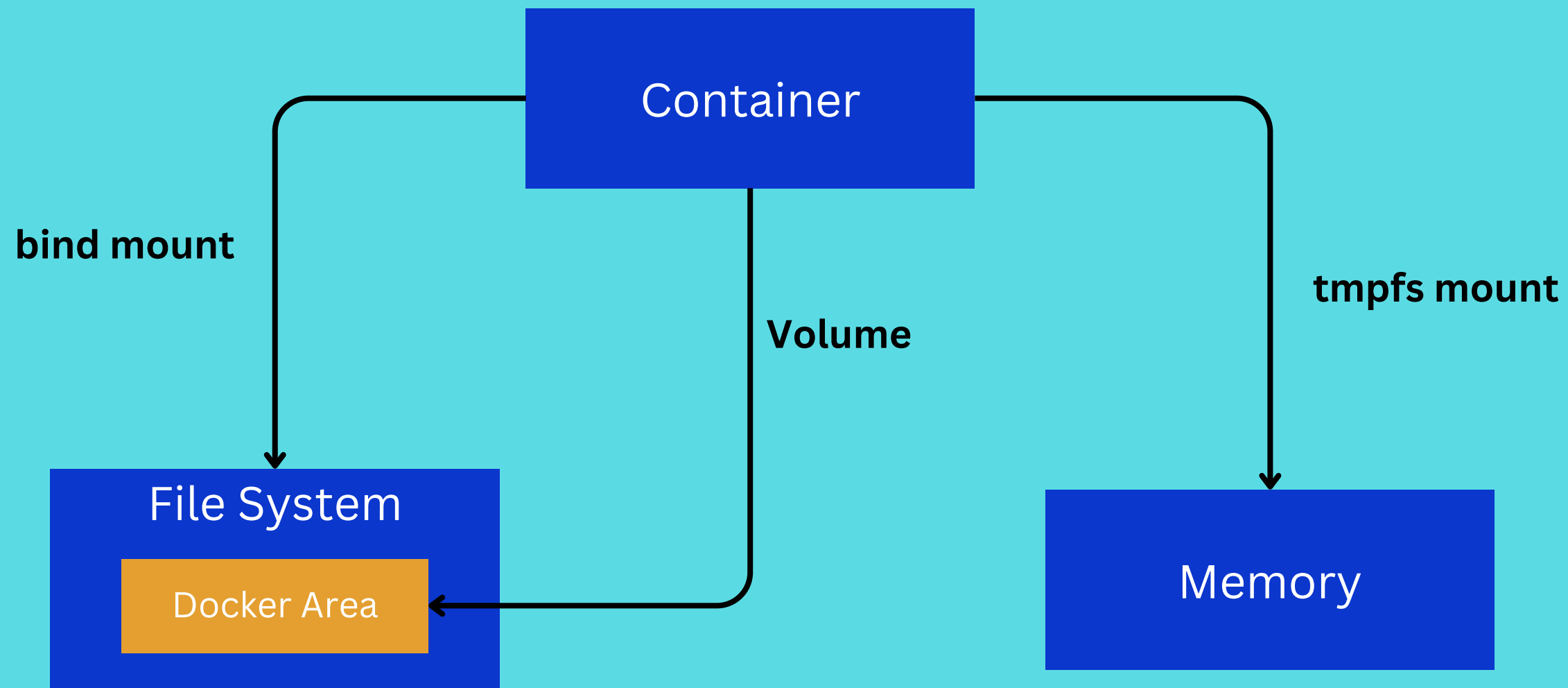
container-2

container-3



# DOCKER VOLUMES

Host



Let's see it running.

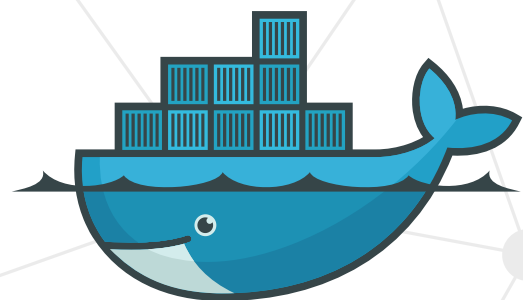


# CODING EXERCISE



**Create a volume within the docker-compose.yml along with your containers.**

**Hint: You create volumes in docker-compose.yml the same way you create networks(driver NOT needed ofcourse!)**

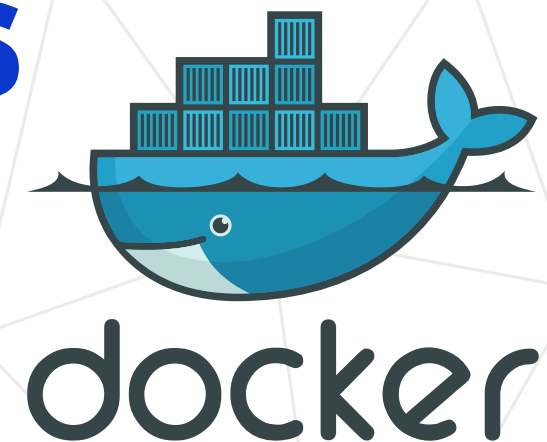


docker

# TRIVA QUESTION



- ✓ **Explain the difference between Docker volumes and bind mounts.**
- ✓ **When would you prefer to use a Docker volume over a bind mount, and vice versa?**
- ✓ **Provide examples of scenarios where each option is suitable**



# TRIVA QUESTION



- ✓ **The scope is the volume itself**
- ✓ **The scope is between the host and container**
- ✓ **Share an example...**





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**We will see you soon**

