

Day 04
Project 01

Create Docker Volumes

```
einfochips@AHMLPT1707: ~  
einfochips@AHMLPT1707:~$ sudo docker volume create wordpress_data  
[sudo] password for einfochips:  
wordpress_data  
einfochips@AHMLPT1707:~$ sudo docker create mysql_data  
Unable to find image 'mysql_data:latest' locally  
Error response from daemon: pull access denied for mysql_data, repository does not exist or may require 'docker login': denied: requested access to the resource is denied  
einfochips@AHMLPT1707:~$ sudo docker volume create mysql_data  
mysql_data  
einfochips@AHMLPT1707:~$
```

Create a docker network

docker network create wordpress_network

```
einfochips@AHMLPT1707: ~  
einfochips@AHMLPT1707:~$ sudo docker volume create wordpress_data  
[sudo] password for einfochips:  
wordpress_data  
einfochips@AHMLPT1707:~$ sudo docker create mysql_data  
Unable to find image 'mysql_data:latest' locally  
Error response from daemon: pull access denied for mysql_data, repository does not exist or may require 'docker login': denied: requested access to the resource is denied  
einfochips@AHMLPT1707:~$ sudo docker volume create mysql_data  
mysql_data  
einfochips@AHMLPT1707:~$ sudo docker network create wordpress_network  
9f2a4b2dd18092238ef4199611c9c63de8a34e561e2a230a77ac6bcda452539a  
einfochips@AHMLPT1707:~$
```

Writing a docker compose file using .yaml

```
einfochips@AHMLPT1707: ~
GNU nano 6.2 docker-compose.yml
Version: '3.3'

services:
  db:
    image: mysql:5.7
    volumes:
      - mysql_data:/var/lib/mysql
    networks:
      - wordpress_network
    environment:
      MYSQL_ROOT_PASSWORD: example
      MYSQL_DATABASE: wordpress
      MYSQL_USER: wordpress
      MYSQL_PASSWORD: wordpress

  wordpress:
    image: wordpress:latest
    volumes:
      - wordpress_data:/var/www/html
    networks:

[ Read 36 lines ]
^G Help      ^O Write Out ^W Where Is  ^K Cut      ^T Execute  ^C Location
^X Exit      ^R Read File ^_ Replace   ^U Paste     ^J Justify  ^_ Go To Line
```

Deploy the application with docker compose

```
einfochips@AHMLPT1707: ~$ nano docker-compose.yml
einfochips@AHMLPT1707:~$ sudo docker-compose up -d
[sudo] password for einfochips:
[+] Running 34/2
 ✓ db 11 layers [████████████████████] 0B/0B Pulled 570.8s
 ✓ wordpress 21 layers [████████████████████] 0B/0B Pulled 1064.0s
[+] Running 5/5
 ✓ Network einfochips_wordpress_network Created 0.1s
 ✓ Volume "einfochips_wordpress_data" Created 0.0s
 ✓ Volume "einfochips_mysql_data" Created 0.0s
 ✓ Container einfochips-db-1 St... 0.3s
 ✓ Container einfochips-wordpress-1 Started 0.3s
einfochips@AHMLPT1707:~$ sudo docker-compose --version
[sudo] password for einfochips:
Docker Compose version v2.20.3
einfochips@AHMLPT1707:~$ sudo docker-compose ps
NAME                IMAGE                COMMAND                SERVICE
einfochips-db-1     mysql:5.7            "docker-entrypoint.s..." db
                  2 minutes ago       Up 2 minutes          3306/tcp, 33060/tcp
einfochips-wordpress-1 wordpress:latest      "docker-entrypoint.s..." wordpress
                  2 minutes ago       Up 2 minutes          0.0.0.0:8000->80/tcp, :::8000->80/tcp
einfochips@AHMLPT1707:~$
```

Viewing logs for specific services

```
einfochips@AHMLPT1707: ~  
einfochips@AHMLPT1707:~$ sudo docker-compose logs wordpress  
einfochips-wordpress-1 | WordPress not found in /var/www/html - copying now...  
einfochips-wordpress-1 | Complete! WordPress has been successfully copied to /var/www/html  
einfochips-wordpress-1 | No 'wp-config.php' found in /var/www/html, but 'WORDPRESS_...' variables supplied; copying 'wp-config-docker.php' (WORDPRESS_DB_HOST WORDPRESS_DB_NAME WORDPRESS_DB_PASSWORD WORDPRESS_DB_USER)  
einfochips-wordpress-1 | AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.19.0.3. Set the 'ServerName' directive globally to suppress this message  
einfochips-wordpress-1 | AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.19.0.3. Set the 'ServerName' directive globally to suppress this message  
einfochips-wordpress-1 | [Fri Jul 12 05:06:54.323011 2024] [mpm_prefork:notice] [pid 1] AH00163: Apache/2.4.59 (Debian) PHP/8.2.21 configured -- resuming normal operations  
einfochips-wordpress-1 | [Fri Jul 12 05:06:54.323040 2024] [core:notice] [pid 1] AH00094: Command line: 'apache2 -D FOREGROUND'  
einfochips-wordpress-1 | 172.19.0.1 - - [12/Jul/2024:05:12:50 +0000] "GET / HTTP/1.1" 302 405 "-" "Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:127.0) Gecko/20100101 Firefox/127.0"  
einfochips-wordpress-1 | 172.19.0.1 - - [12/Jul/2024:05:12:50 +0000] "GET /wp-admin/install.php HTTP/1.1" 200 4656 "-" "Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:127.0) Gecko/20100101 Firefox/127.0"
```

Deploy and verifying the application using docker swarm

```
einfochips@AHMLPT1707: ~  
einfochips@AHMLPT1707:~$ touch docker-stack.yml  
einfochips@AHMLPT1707:~$ nano docker-stack.yml  
einfochips@AHMLPT1707:~$ sudo docker stack deploy -c docker-stack.yml wordpress_stack  
networks must be a mapping  
einfochips@AHMLPT1707:~$ nano docker-stack.yml  
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einfochips@AHMLPT1707:~$ nano docker-stack.yml  
einfochips@AHMLPT1707:~$ sudo docker stack deploy -c docker-stack.yml wordpress_stack  
Creating network wordpress_stack_wordpress_network  
Creating service wordpress_stack_db  
Creating service wordpress_stack_wordpress  
einfochips@AHMLPT1707:~$ sudo docker stack services wordpress_stack  
ID                NAME                                MODE                REPLICAS    IMAGE  
ryqjjvc2ec0u      wordpress_stack_db                 replicated          0/1          mysql:5.7  
xzz98kipuszt      wordpress_stack_wordpress          replicated          0/1          wordpress:latest  
est *:8000->80/tcp  
einfochips@AHMLPT1707:~$
```