

Guia Docker 1
Emilton Navas Palomino
Sistemas distribuidos 8vo semestre
Unicolombo

Creamos el proyecto haciendo una carpeta desde la terminal

```
C:\WINDOWS\system32\cmd. X + v
Microsoft Windows [Versión 10.0.26100.3775]
(c) Microsoft Corporation. Todos los derechos reservados.

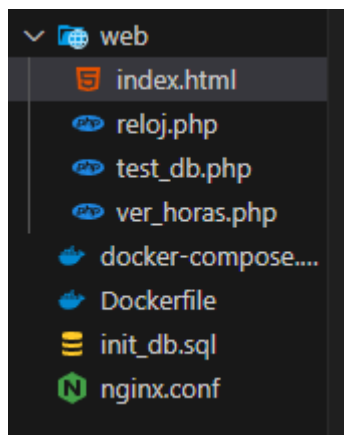
C:\Users\Emilton Navas>mkdir Guia_Docker1

C:\Users\Emilton Navas>cd Guia_Docker1

C:\Users\Emilton Navas\Guia_Docker1>|
```

Luego creamos una subcarpeta llamada web que contendrá el index.html, reloj.php, test_db.php, ver_horas.php

dentro de la carpeta raíz creamos los archivos docker-compose, nginx, dicker file, init_db.sql



```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width,
initial-scale=1.0" />
    <title>Reloj Digital</title>
    <style>
      body {
        font-family: Arial, sans-serif;
```

```

        display: flex;
        justify-content: center;
        align-items: center;
        height: 100vh;
        margin: 0;
        background-color: #282c34;
        color: #61dafb;
    }

    .clock {
        font-size: 4em;
    }
</style>
</head>
<body>
    <div class="clock" id="clock">Cargando...</div>

    <script>
        function fetchTime() {
            fetch("reloj.php")
                .then((response) => response.text())
                .then((time) => {
                    document.getElementById("clock").textContent = time;
                })
                .catch((error) => console.error("Error al obtener la hora:",
error));
        }

        setInterval(fetchTime, 1000);
        fetchTime(); // Llama inmediatamente para mostrar la hora inicial
    </script>
</body>
</html>

```

reloj.php

```

<?php
date_default_timezone_set('America/Bogota'); // Ajusta la zona horaria
a tu región
echo date('H:i:s');
?>

```

test_db.php

```
<?php
date_default_timezone_set('America/Bogota');

// Conexión a MySQL
$host = 'db';
$db = 'reloj_db';
$user = 'user';
$pass = 'password';

$conn = new mysqli($host, $user, $pass, $db);

if ($conn->connect_error) {
    die("Error de conexión: " . $conn->connect_error);
}

// Obtener hora y fecha actual
$hora = date('H:i:s');
$fecha = date('Y-m-d');

// Insertar en la tabla
$stmt = $conn->prepare("INSERT INTO horas (hora, fecha) VALUES (?,
?)" );
$stmt->bind_param("ss", $hora, $fecha);
$stmt->execute();
$stmt->close();

echo $hora;

$conn->close();
?>
```

ver_horas.php

```
<?php
$host = 'db';
$db = 'reloj_db';
$user = 'user';
$pass = 'password';

$conn = new mysqli($host, $user, $pass, $db);

if ($conn->connect_error) {
    die("Error de conexión: " . $conn->connect_error);
}

$result = $conn->query("SELECT * FROM horas ORDER BY id DESC LIMIT 10");

echo "<h2>Últimas horas registradas:</h2>";
echo "<table
border='1'><tr><th>ID</th><th>Hora</th><th>Fecha</th></tr>";
while ($row = $result->fetch_assoc()) {
    echo
    "<tr><td>{$row['id']}</td><td>{$row['hora']}</td><td>{$row['fecha']}</td></tr>";
}
echo "</table>";

$conn->close();
?>
```

docker-compose.yml

```
version: '3.8'

services:
  web:
    image: nginx:latest
    ports:
      - "8080:80"
    volumes:
      - ./web:/usr/share/nginx/html
      - ./nginx.conf:/etc/nginx/conf.d/default.conf
    depends_on:
      - php
```

```

php:
  build:
    context: .
    dockerfile: Dockerfile
  volumes:
    - ./web:/usr/share/nginx/html
  depends_on:
    - db

db:
  image: mysql:5.7
  restart: always
  environment:
    MYSQL_ROOT_PASSWORD: root
    MYSQL_DATABASE: reloj_db
    MYSQL_USER: user
    MYSQL_PASSWORD: password
  ports:
    - "3306:3306"
  volumes:
    - db_data:/var/lib/mysql
    - ./init_db.sql:/docker-entrypoint-initdb.d/init_db.sql

volumes:
  db_data:

```

Dockerfile

```

FROM php:8.1-fpm
RUN docker-php-ext-install mysqli

```

Init_db.sql

```

CREATE TABLE IF NOT EXISTS horas (
id INT AUTO_INCREMENT PRIMARY KEY,
hora TIME NOT NULL,
fecha DATE NOT NULL
);

```

nginx.conf

```
server {  
    listen 80;  
    server_name localhost;  
  
    root /usr/share/nginx/html;  
    index index.php index.html;  
  
    location / {  
        try_files $uri $uri/ =404;  
    }  
  
    location ~ \.php$ {  
        include fastcgi_params;  
        fastcgi_pass php:9000;  
        fastcgi_index index.php;  
        fastcgi_param SCRIPT_FILENAME  
$document_root$fastcgi_script_name;  
    }  
}
```

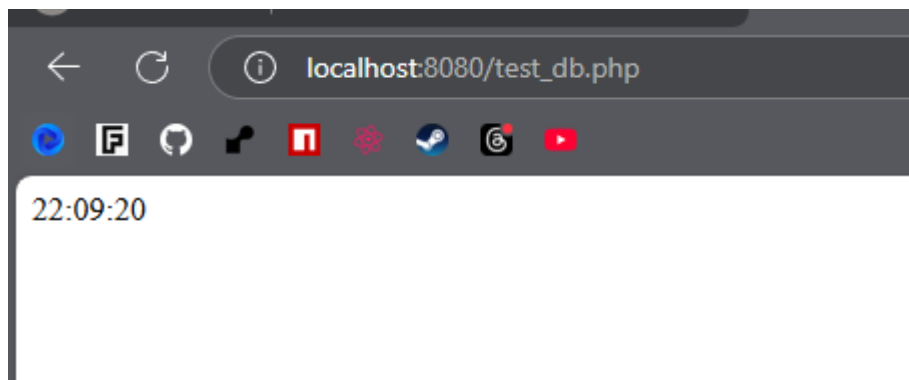
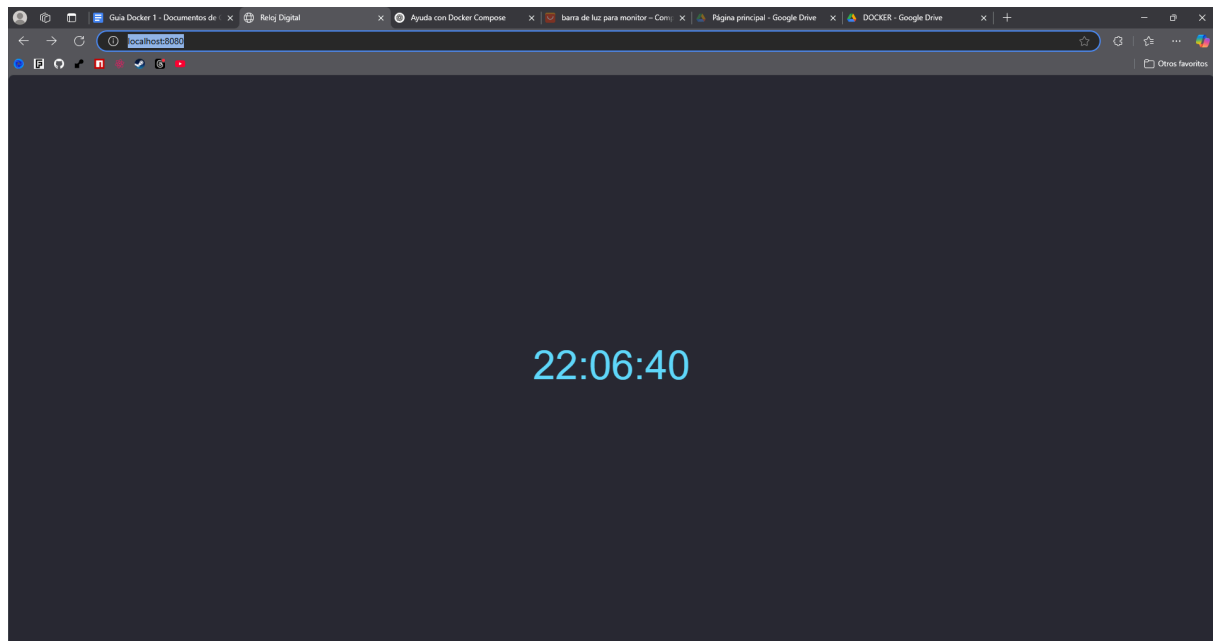
iniciamos los contenedores con el comando

```
docker-compose up -d
```

```
✓web Pulled 1.7  
✓db Pulled 1.7  
compose now can delegate build to bake for better performances  
just set COMPOSE_BAKE=true  
[+] Building 1.3s (8/8) FINISHED docker:desktop-linux  
=> [php internal] load build definition from Dockerfile 0.6  
=> => transferring dockerfile: 90B 0.6  
=> [php internal] load metadata for docker.io/library/php:8.1-fpm 0.6  
=> [php internal] load .dockerignore 0.6  
=> => transferring context: 2B 0.6  
=> [php 1/2] FROM docker.io/library/php:8.1-fpm@sha256:6ec1c68263bf77aebd2d7c282a71346e04b6dc0299507b3ba 0.8  
=> => resolve docker.io/library/php:8.1-fpm@sha256:6ec1c68263bf77aebd2d7c282a71346e04b6dc0299507b3ba05c4 0.8  
=> [php auth] library/php:pull token for registry-1.docker.io 0.6  
=> CACHED [php 2/2] RUN docker-php-ext-install mysqli 0.6  
=> [php] exporting to image 0.2  
=> => exporting layers 0.6  
=> => exporting manifest sha256:3f6ff3f527bd9db64e6c740031885781c6780951c805a983da049462fb011765 0.6  
=> => exporting config sha256:29ec93f25e7b1d103bbf6e6858778622daa2a0a8367d9c0c7dd0bb96cc938c4a 0.6  
=> => exporting attestation manifest sha256:3d1caa193d5b714d1a9dd1162f3e1725b2f5163d73a6c2054cfb53b9bbce 0.6  
=> => exporting manifest list sha256:749aadc7f7cbf974ab739c96b5e13693e6bd72595662cfebc02b0d01fdcdcf5a1 0.6  
=> => naming to docker.io/library/guia_docker1-php:latest 0.6  
=> => unpacking to docker.io/library/guia_docker1-php:latest 0.6  
=> [php] resolving provenance for metadata file 0.6  
[+] Running 6/6  
✓php Built 0.6  
✓Network guia_docker1_default Created 0.1  
✓Volume "guia_docker1_db_data" Created 0.6  
✓Container guia_docker1-db-1 Started 0.9  
✓Container guia_docker1-php-1 Started 1.1  
✓Container guia_docker1-web-1 Started 1.3  
S C:\Users\Emilton Navas\Desktop\Guia_Docker1> |
```

y vamos a las siguiente Url

<http://localhost:8080/>



cada que recargue la página se registran las horas

localhost:8080/ver_horas.php

Últimas horas registradas:

ID	Hora	Fecha
16	22:09:51	2025-04-24
15	22:09:50	2025-04-24
14	22:09:50	2025-04-24
13	22:09:50	2025-04-24
12	22:09:50	2025-04-24
11	22:09:50	2025-04-24
10	22:09:50	2025-04-24
9	22:09:50	2025-04-24
8	22:09:49	2025-04-24
7	22:09:49	2025-04-24