

LAB ASSIGNMENTS

ADVANCE PYTHON PROGRAMMING

Name: Harshini Supriya J

Reg no: 22mid0278

Q) web application using docker

Code:

```
# Create project directory
mkdir -p ~/demo-docker-website/site/static && cd ~/demo-docker-website

# Create index.html
cat > site/index.html <<'EOF'
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Docker Web App</title>
<link rel="stylesheet" href="static/style.css">
</head>
<body>
<div class="container">
<h1>Welcome to the Docker Web App!</h1>
<p>This page is served by Nginx inside a Docker container.</p>
<button id="btn">Click Me</button>
```

```
<p id="count">You've clicked 0 times.</p>
</div>
<script src="static/script.js"></script>
</body>
</html>
EOF
```

```
# Create style.css
cat > site/static/style.css <<'EOF'
body {
    font-family: Arial, sans-serif;
    background: linear-gradient(120deg, #4facfe, #00f2fe);
    color: #fff;
    text-align: center;
    margin: 0;
    height: 100vh;
    display: flex;
    justify-content: center;
    align-items: center;
}
.container {
    background: rgba(0,0,0,0.3);
    padding: 40px;
    border-radius: 20px;
    box-shadow: 0 0 20px rgba(0,0,0,0.5);
}
```

```
button {  
    padding: 10px 20px;  
    font-size: 16px;  
    border: none;  
    border-radius: 8px;  
    cursor: pointer;  
    background-color: #fff;  
    color: #333;  
}  
  
button:hover {  
    background-color: #f2f2f2;  
}  
EOF
```

```
# Create script.js  
cat > site/static/script.js <<'EOF'  
  
let count = 0;  
  
const btn = document.getElementById('btn');  
  
const display = document.getElementById('count');  
  
btn.addEventListener('click', () => {  
  
    count++;  
  
    display.textContent = `You've clicked ${count} times.`;  
});  
EOF
```

```
# Create nginx.conf
```

```
cat > nginx.conf <<'EOF'
events {}

http {
    include    mime.types;
    default_type application/octet-stream;

    server {
        listen 80;
        server_name localhost;

        location / {
            root /usr/share/nginx/html;
            index index.html;
        }

        location /static/ {
            root /usr/share/nginx/html;
        }
    }

    error_page 404 /index.html;
}

EOF
```

```
# Create Dockerfile
```

```
cat > Dockerfile <<'EOF'
```

FROM nginx:alpine

```
COPY nginx.conf /etc/nginx/nginx.conf
```

```
COPY site/ /usr/share/nginx/html/
```

EXPOSE 80

EOF

```
# Build Docker image
```

```
docker build -t docker-web-app .
```

```
# Run container
```

```
docker run -d -p 8080:80 docker-web-app
```

output:



The screenshot shows the VS Code interface with the terminal tab selected. The terminal output is as follows:

```
adv-python-22mid0278 [Codespaces: humble space fishstick]
bash - demo-docker-website + ... | x

● @harshu2215 → /workspaces/adv-python-22mid0278 [main] $ mkdir ~/demo-docker-website
cd ~/demo-docker-website
mkdir: cannot create directory '/home/codespace/demo-docker-website': File exists
● @harshu2215 → ~/demo-docker-website $ cd ~/demo-docker-website
● @harshu2215 → ~/demo-docker-website $ mkdir -p site/static site
touch site/index.html site/static/style.css site/static/script.js nginx.conf Dockerfile
● @harshu2215 → ~/demo-docker-website $ cat > site/index.html <<'EOF'
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Docker Web App</title>
  <link rel="stylesheet" href="static/style.css">
</head>
<body>
  <div class="container">
    <script>document.write('Docker container.'*</script>
  </div>
</body>
</html>
● @harshu2215 → ~/demo-docker-website $ cat > site/static/style.css <<'EOF'
body {
  font-family: Arial, sans-serif;
  background: linear-gradient(120deg, #4facfe, #00f2fe);
  color: #fff;
  text-align: center;
  margin: 0;
  height: 100vh;
  display: flex;
  justify-content: center;
  align-items: center;
  &::background-color: #f2f2f2;0,0,0,0.5;
}
● @harshu2215 → ~/demo-docker-website $ cat > site/static/script.js <<'EOF'
let count = 0;
const btn = document.getElementById('btn');
const display = document.getElementById('count');

btn.addEventListener('click', () => {
  btn.innerHTML = count++;
  display.innerHTML = count;
})
```

The screenshot shows a Microsoft Visual Studio Code interface with a terminal window open. The terminal output is as follows:

```
adv-python-22mid0278 [Codespaces: humble space fishstick] bash - demo-docker-website
```

```
@harshu2215 ~/demo-docker-website $ cat > site/static/script.js <<'EOF'  
let count = 0;  
const btn = document.getElementById('btn');  
const display = document.getElementById('count');  
  
btn.addEventListener('click', () => {  
    count++;  
    display.textContent = `You've clicked ${count} times.`;  
});  
EOF  
@harshu2215 ~/demo-docker-website $ cat > nginx.conf <<'EOF'  
events {}  
  
http {  
    include mime.types;  
    default_type application/octet-stream;  
  
    server {  
        listen 80;  
        server_name localhost;  
    }  
}  
EOF  
error_page 404 /index.html;l;l;  
@harshu2215 ~/demo-docker-website $ docker build -t docker-web-app .  
docker run -d -p 8080:80 docker-web-app  
[+] Building 1.6s (9/9) FINISHED  
=> [internal] load build definition from Dockerfile  
=> transferring dockerfile: 137B  
=> [internal] load metadata for docker.io/library/nginx:alpine  
=> [auth] library/nginx:pull token for registry-1.docker.io  
=> [internal] load .dockerignore  
=> transferring context: 2B  
=> [1/3] FROM docker.io/library/nginx:alpine@sha256:b3c656d55d7ad751196f21b7fd2e8d4da9cb430e32f646adcf92441b72f82b14 0.05  
=> [internal] load build context  
=> transferring context: 1.88kB  
=> CACHED [2/3] COPY nginx.conf /etc/nginx/nginx.conf 0.05  
=> [3/3] COPY site/ /usr/share/nginx/html/ 0.05
```

