

A. What is Docker? Explain the components of Docker. Also write step-by-step instructions to containerize an application, convert it into a Docker image, execute the container, and stop the running container.

Ans.

Docker is a image convert to container to used Docker is code is seprate container

setp:1 Docker is open

setp:2 and command (cmd) open

step:3 docker pull hello-world

step:4 docker run hello-world

step:5 docker ps -a

step:6 docker pull n8nio/n8n

step:7 docker run -d -p 5678:5678 n8nio/n8n

sept :8 docker stop

2

URL: https://github.com/mosin-ali/0044_B.git

```
student@cs-u519:~/Desktop/202504104610044_Devops$ gh repo create 0044_B --public✓ Created repository mosin-ali/0044_B on GitHub
https://github.com/mosin-ali/0044_B
student@cs-u519:~/Desktop/202504104610044_Devops$ git init
Reinitialized existing Git repository in /home/student/Desktop/202504104610044_Devops/.git/
student@cs-u519:~/Desktop/202504104610044_Devops$ git add .
student@cs-u519:~/Desktop/202504104610044_Devops$ git commit -m "new project"
[master (root-commit) ca21e29] new project
 4 files changed, 268 insertions(+)
 create mode 100644 .~lock.202504104610044_Set_B.odt#
 create mode 100644 202504104610044_Set_B.odt
 create mode 100644 index.html
 create mode 100644 style.css
student@cs-u519:~/Desktop/202504104610044_Devops$ git push -u origin main
student@cs-u519:~/Desktop/202504104610044_Devops$ git branch -M main
student@cs-u519:~/Desktop/202504104610044_Devops$ git remote add origin https://github.com/mosin-ali/0044_B.git
student@cs-u519:~/Desktop/202504104610044_Devops$ git push -u origin main
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 4 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 18.67 KiB | 18.67 MiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/mosin-ali/0044_B.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
```

index.html

code.

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title>202504104610044_B - Faculty Application</title>
<link rel="stylesheet" href="style.css">
</head>
<body>

<div class="container" id="loginPage">
<div class="card">
<h2>Faculty Login</h2>
<form onsubmit="return login()">
<div class="input-group">
<label>Faculty ID</label>
<input type="text" placeholder="Enter Faculty ID" required>
</div>
```

```
<div class="input-group">
<label>Password</label>
<input type="password" placeholder="Enter Password" required>
</div>
```

```
<button type="submit" class="btn">Login</button>
</form>
</div>
</div>
```

```
<div class="dashboard" id="dashboardPage">
<header>
<h2>Faculty Dashboard</h2>
<button class="logout-btn" onclick="logout()">Logout</button>
</header>
```

```
<section class="form-section">
<h3>Add Elective Subject</h3>
<form>
<div class="grid">
<input type="text" placeholder="Course" required>
<input type="text" placeholder="Semester" required>
<input type="text" placeholder="Subject Code" required>
<input type="text" placeholder="Subject Name" required>
<input type="text" placeholder="Propose By" required>
</div>
<button class="btn">Add Subject</button>
</form>
</section>
```

```
<section class="table-section">
<h3>Available Subjects</h3>
<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
<th>Code</th>
<th>Subject Name</th>
<th>Proposed By</th>
<th>Students Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA</td>
<td>5</td>
<td>CS501</td>
<td>Artificial Intelligence</td>
```

```
<td>Dr. Hamza</td>
<td><span class="badge">45</span></td>
</tr>
<tr>
<td>BCA</td>
<td>5</td>
<td>CS502</td>
<td>Data Science</td>
<td>Prof. Mosinali</td>
<td><span class="badge">38</span></td>
</tr>
<tr>
<td>BCA</td>
<td>5</td>
<td>CS503</td>
<td>Cyber Security</td>
<td>Dr. Mujju</td>
<td><span class="badge">52</span></td>
</tr>
</tbody>
</table>
</section>
</div>
```

```
<script>
function login() {
document.getElementById("loginPage").style.display = "none";
document.getElementById("dashboardPage").style.display = "block";
return false;
}

function logout() {
document.getElementById("dashboardPage").style.display = "none";
document.getElementById("loginPage").style.display = "flex";
}
</script>

</body>
</html>
```

style.css

```
* {
margin: 0;
padding: 0;
box-sizing: border-box;
```

```
font-family: 'Segoe UI', sans-serif;
}

body {
background: linear-gradient(135deg, #1e3c72, #2a5298);
min-height: 100vh;
}

.container {
display: flex;
justify-content: center;
align-items: center;
height: 100vh;
}

.card {
background: white;
padding: 40px;
width: 350px;
border-radius: 10px;
box-shadow: 0 10px 25px rgba(0,0,0,0.2);
}

.card h2 {
text-align: center;
margin-bottom: 20px;
color: #2a5298;
}

.input-group {
margin-bottom: 15px;
}

.input-group label {
display: block;
margin-bottom: 5px;
font-weight: 600;
}

.input-group input {
width: 100%;
padding: 10px;
border-radius: 5px;
border: 1px solid #ccc;
}

.btn {
width: 100%;
padding: 10px;
```

```
border: none;
background: #2a5298;
color: white;
font-weight: bold;
border-radius: 5px;
cursor: pointer;
transition: 0.3s;
}
```

```
.btn:hover {
background: #1e3c72;
}
```

```
.dashboard {
display: none;
padding: 30px;
background: #f4f6f9;
min-height: 100vh;
}
```

```
header {
display: flex;
justify-content: space-between;
align-items: center;
margin-bottom: 30px;
}
```

```
header h2 {
color: #1e3c72;
}
```

```
.logout-btn {
padding: 8px 15px;
border: none;
background: crimson;
color: white;
border-radius: 5px;
cursor: pointer;
}
```

```
.form-section {
background: white;
padding: 20px;
border-radius: 8px;
margin-bottom: 30px;
box-shadow: 0 5px 15px rgba(0,0,0,0.1);
}
```

```
.form-section h3 {  
margin-bottom: 15px;  
color: #2a5298;  
}
```

```
.grid {  
display: grid;  
grid-template-columns: repeat(auto-fit, minmax(150px, 1fr));  
gap: 10px;  
margin-bottom: 15px;  
}
```

```
.grid input {  
padding: 8px;  
border-radius: 5px;  
border: 1px solid #ccc;  
}
```

```
.table-section {  
background: white;  
padding: 20px;  
border-radius: 8px;  
box-shadow: 0 5px 15px rgba(0,0,0,0.1);  
}
```

```
.table-section h3 {  
margin-bottom: 15px;  
color: #2a5298;  
}
```

```
table {  
width: 100%;  
border-collapse: collapse;  
}
```

```
table th {  
background: #2a5298;  
color: white;  
padding: 10px;  
}
```

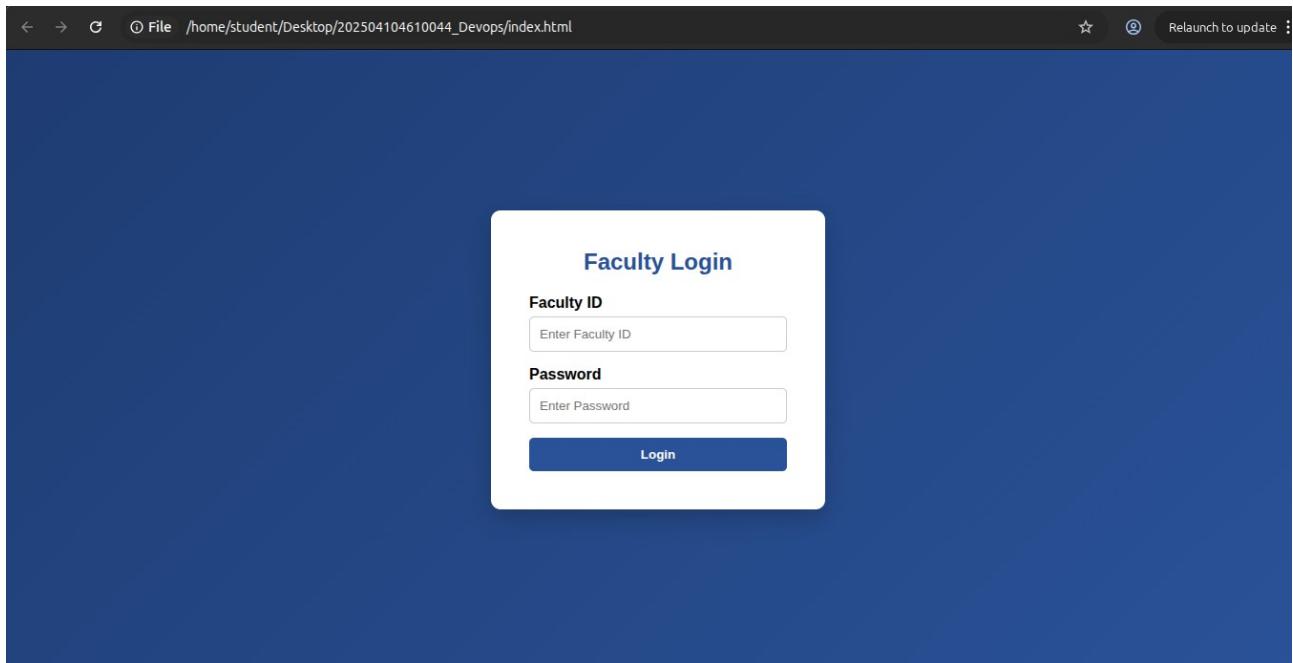
```
table td {  
padding: 10px;  
text-align: center;  
border-bottom: 1px solid #ddd;  
}
```

```
table tr:hover {  
background: #f1f1f1;
```

{}

```
.badge {  
background: #1e3c72;  
color: white;  
padding: 5px 10px;  
border-radius: 20px;  
}
```

Output



A screenshot of a web browser showing a Faculty Dashboard. The page has a light gray background. At the top, there's a header bar with the title "Faculty Dashboard" and a "Logout" button. Below the header is a section titled "Add Elective Subject" with five input fields: "Course", "Semester", "Subject Code", "Subject Name", and "Propose By". A large blue "Add Subject" button is positioned below these fields. Further down, there's a section titled "Available Subjects" with a table. The table has columns: Course, Semester, Code, Subject Name, Proposed By, and Students Selected. Three rows of data are shown:

Course	Semester	Code	Subject Name	Proposed By	Students Selected
BCA	5	CS501	Artificial Intelligence	Dr. Hamza	45
BCA	5	CS502	Data Science	Prof. Mosinali	38
BCA	5	CS503	Cyber Security	Dr. Mujju	52