**LAB EXERCISE – 9**

**Exploring Containerization and Application Deployment with Docker**

**Experiment Steps:**

**Step 1: Install Docker**

Install Docker on your computer by following the instructions provided on the Docker website (https://docs.docker.com/get-docker/).

**Step 2: Create a Simple HTML Page**

Create a directory for your web server project.

Inside this directory, create a file named index.html with a simple "Hello, Docker!" message. This will be the content served by your Apache web server.

**Step 3: Create a Dockerfile**

Create a Dockerfile in the same directory as your web server project. The Dockerfile defines how your Apache web server application will be packaged into a Docker container.

**Dockerfile**

***Use an official Apache image as the base image***

***FROM httpd:2.4***

***# Copy your custom HTML page to the web server's document root***

***COPY index.html /usr/local/apache2/htdocs/***

**Step 4: Build the Docker Image**

Build the Docker image by running the following command in the same directory as

your Dockerfile:

***docker build -t my-apache-server .***

Replace my-apache-server with a suitable name for your image.

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**Step 5: Run the Docker Container**

Start a Docker container from the image you built:

***docker run -p 8080:80 -d my-apache-server***

This command maps port 80 in the container to port 8080 on your host machine and

runs the container in detached mode.

**Step 6: Access Your Apache Web Server**

Access your Apache web server by opening a web browser and navigating to

http://localhost:8080. You should see the "Hello, Docker!" message served by your Apache

web server running within the Docker container.

**Step 7: Cleanup**

Stop the running Docker container:

**docker stop <container\_id>**

Replace <container\_id> with the actual ID of your running container.

Optionally, remove the container and the Docker image:

***docker rm <container\_id>***

***docker rmi my-apache-server***