**Project 3: Running Apache Inside a Docker Container**

**✅ Project Objective:**

To deploy and run an **Apache web server** inside a **Docker container**, making the web service lightweight, isolated, and portable across environments.

**🧰 Tools & Technologies Used:**

* **Docker**
* **Apache HTTP Server (httpd)**
* **Linux (Ubuntu/Debian/CentOS)**
* **Docker Hub**
* **Custom HTML content (optional)**

**⚙️ Project Flow & Steps:**

1. **Create a Dockerfile (Optional):**  
   You can either pull a ready-made Apache image or build your own.
2. **Run Apache Server in a Container:**  
   Use Docker commands to pull, run, and expose Apache.
3. **Access Apache via Browser:**  
   Expose port 80 and access it from http://localhost:8080

**🐳 Code Flow / Commands Used:**

**▶️ Pull Apache Image (from DockerHub):**

bash

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docker pull httpd

**▶️ Run Apache Container:**

bash

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docker run -dit --name apache\_server -p 8080:80 httpd

**▶️ View Running Containers:**

bash

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docker ps

**▶️ Copy Custom HTML Into Container (Optional):**

bash

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docker cp index.html apache\_server:/usr/local/apache2/htdocs/

**▶️ Stop & Remove Container:**

bash

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docker stop apache\_server

docker rm apache\_server

**✅ Output / Results:**

* Apache running successfully inside a Docker container
* Accessible via browser on localhost
* Optional: Custom web page served from container

**💡 Benefits:**

* Web service isolated from host OS
* Portable and repeatable setup
* No need to install Apache on your host OS
* Useful for quick testing and deployments