

# Docker Compose & Script Assessment

## Objective:

Your task is to set up a Docker environment using Docker Compose, integrate a shell script that prints Fibonacci numbers, and configure containers to run Apache, Nginx, and httpd on port 81. Additionally, you will push your images to Docker Hub.

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## Instructions:

### 1. Shell Script:

- Write a shell script that prints the first 10 Fibonacci numbers.

### 2. Docker Image Setup:

- Create a Docker image that runs Apache on port 81.
- Create a Docker image that runs Nginx on port 81.
- Create a Docker image that runs httpd on port 81.
- For each image, mount the shell script you created, so that the script can be accessed within the container.

### 3. Docker Compose Configuration:

- Write a docker-compose.yml file to orchestrate the containers.
- Ensure each service (Apache, Nginx, and httpd) is running on port 81 instead of the default port 80.
- Configure the Docker Compose file to mount the script into each container and ensure the output is available in the logs when the container runs.

### 4. Testing & Validation:

- When you run the containers, ensure that the Fibonacci script's output is displayed in the container logs.
- Test that Apache, Nginx, and httpd are properly running on port 81.

### 5. Push to Docker Hub:

- After successfully building the Docker images, **push them to Docker Hub.**
- Ensure the images are tagged correctly and confirm they are accessible via your Docker Hub repository.

## 6. Verification:

- Once you have pushed your images to Docker Hub, we will pull and run your images to verify that they work as expected.
- **Important:** If the images do not run properly, your submission will not be accepted. You will only be evaluated if the images are successfully pulled and executed without issues.

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### Deliverables:

- Shell script file (fibonacci.sh).
- Dockerfiles for Apache, Nginx, and httpd containers.
- docker-compose.yml file.
- The pushed images in **Docker Hub**.

### Note:

- Ensure proper versioning and tags when pushing the images to Docker Hub.
- Adhere to the port configurations and ensure the script is properly mounted into each container.