**Docker Basics Exercises**

**Module 1: Introduction to Docker**

**Objective**: Understand Docker, installation, and basic CLI commands.

**Exercise 1.1: Check Docker Installation**

**Problem**: Verify Docker is installed and running.

**Task**:

1. Run the Docker version command.
2. Start the Docker service if it’s not running.

**Solution**:

docker --version

sudo systemctl start docker # Linux

**Exercise 1.2: Hello World Container**

**Problem**: Run your first container.

**Task**:

* Use Docker to run the hello-world container.

**Solution**:

docker run hello-world

**Module 2: Working with Images and Containers**

**Exercise 2.1: Pull an Image**

**Problem**: Pull the latest Ubuntu image from Docker Hub.

**Solution**:

docker pull ubuntu:latest

**Exercise 2.2: Run Ubuntu Container and Execute Commands**

**Problem**: Run an Ubuntu container and execute basic commands like ls and pwd.

**Solution**:

docker run -it ubuntu /bin/bash

# Inside container

ls

pwd

exit

**Exercise 2.3: List Containers and Images**

**Problem**: View all running/stopped containers and all downloaded images.

**Solution**:

docker ps -a # All containers

docker images # List images

**Module 4: Managing Containers**

**Exercise 4.1: Start, Stop, and Remove Container**

**Problem**: Create a container from nginx, stop it, then remove it.

**Solution**:

docker run -d --name web nginx

docker stop web

docker rm web