

Using Docker Compose for a Private Docker Registry

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1 Introduction

In this guide, we will explain how to set up a private Docker registry using Docker Compose. The provided Docker Compose configuration defines a service for running a Docker registry on your local machine.

The following Docker Compose configuration sets up a private Docker registry:

```
services:
  registry:
    image: registry:2
    container_name: docker-registry
    ports:
      - "5000:5000"
    volumes:
      - ./registry:/var/lib/registry
```

2 Explanation of the Configuration

The configuration defines a single service, **registry**, which uses the official Docker registry image (version 2). Below is a detailed explanation of the configuration options used:

- **image: registry:2**: This specifies the Docker image to use for the service. Here, we are using the official Docker registry image, version 2.
- **container_name: docker-registry**: This assigns a custom name (**docker-registry**) to the container running the registry. This name is used for container management.
- **ports: - "5000:5000"**: This option binds port 5000 on the host machine to port 5000 inside the container. The Docker registry will be accessible on port 5000 on the host machine.

- **volumes:** - `./registry:/var/lib/registry`: This option mounts a local directory (`./registry`) into the container at `/var/lib/registry`. This allows the registry to persist data (such as images) between container restarts.

3 Steps to Set Up the Docker Registry

Follow these steps to set up the Docker registry using Docker Compose:

1. Run the following command to start the Docker registry service:

```
docker-compose up -d
```

This command will pull the `registry:2` image, create the container, and start the service in detached mode.

2. The Docker registry will now be accessible at `localhost:5000`. You can test this by pushing and pulling images to and from your private registry.

4 Using the Private Registry

Once the Docker registry is running, you can push and pull Docker images to and from it. Here are some common commands for working with the private registry:

- To tag an image for the private registry:

```
docker tag my-image localhost:5000/my-image
```

- To push an image to the private registry:

```
docker push localhost:5000/my-image
```

- To pull an image from the private registry:

```
docker pull localhost:5000/my-image
```

5 Conclusion

Using Docker Compose to run a private Docker registry is a simple and efficient way to host your own registry for local development or testing. By configuring the registry with persistent volumes and exposing the necessary ports, you can easily push and pull images to your private registry.