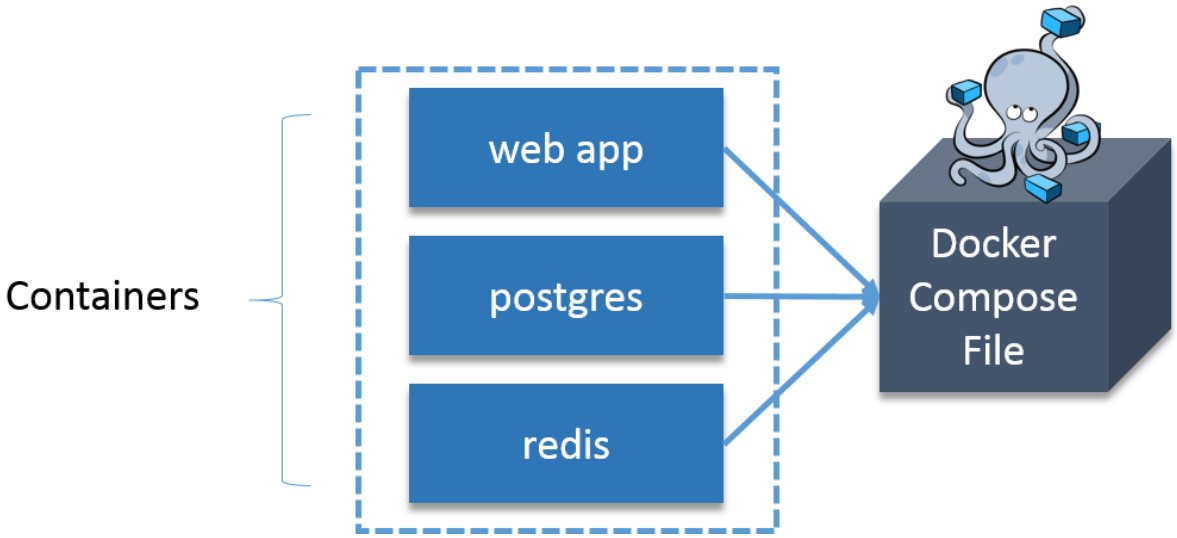
Docker Compose: It is a tool for defining and running multi-container Docker applications. With Docker Compose, you can use a Compose file to configure your application's services. Then, using a single command, you can create and start all the services from your configuration.

Suppose you have multiple applications in various containers and all those containers are linked together. So, you don't want to execute each of those containers one by one. But, you want to run those containers with a single command. That's where Docker Compose comes in to the picture. With it you can run multiple applications in various containers with a single command. i.e. docker-compose up.

Example: Imagine you have different containers, one running a web app, another running a postgres and another running redis, in a YAML file. That is called docker compose file, from there you can run these containers with a single command.



Suppose you want to publish a blog, for that you will use CMS (Content Management System), and wordpress is the most widely used CMS. Basically, you need one container for WordPress and you need one more container as MySQL for back end, that MySQL container should be linked to the wordpress container. We also need one more container for Php Myadmin that will be linked to MySQL database, basically, it is used to access MySQL database.

How about I execute the above stated example practically.

Steps involved:

1. **Install Docker Compose:**
2. **Install WordPress:** We'll be using the official WordPress and MariaDB Docker images.
3. **Install MariaDB:** It is one of the most popular database servers in the world. It's made by the original developers of MySQL. MariaDB is developed as open source software and as a relational database it provides an SQL interface for accessing data.
4. **Install PhpMyAdmin:** It is a free software tool written in PHP, intended to handle the administration of MySQL over the Web.
5. **Create The WordPress Site:**

Install Docker: snap install docker

Install Docker Compose:

Install Python Pip first:

```
sudo apt-get install python-pip
```

Install Docker Compose:

```
sudo pip install docker-compose
```

Install WordPress:

Create a wordpress directory:

```
mkdir wordpress
```

Enter this wordpress directory:

```
cd wordpress/
```

In this directory create a Docker Compose YAML file, then edit it using vim:

vim docker-compose.yml

Paste the below lines of code in that yaml file:

```
wordpress:

    image: wordpress

    links:

     - mariadb:mysql

    environment:

     - WORDPRESS_DB_PASSWORD=<password>

    ports:

     - "<server public IP>:80:80"

    volumes:

     - ./code:/code
```

```
      - ./html:/var/www/html

mariadb:

    image: mariadb

    environment:

      - MYSQL_ROOT_PASSWORD=<password>

      - MYSQL_DATABASE=wordpress

    volumes:

      - ./database:/var/lib/mysql
```

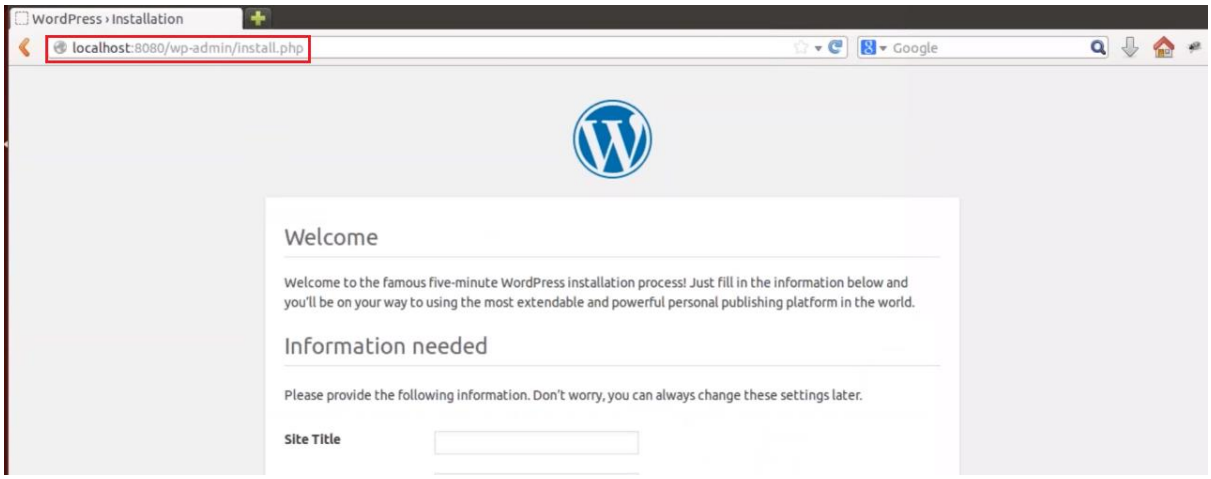
Now start the application group:

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

That’s all you have to do. You can add as many containers as you like this way, and link them all up in any way you please.

Now, in the browser go to port 8080, using your public IP or host name, as shown below:

```
localhost:8080
```



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