

:::Assignment of run hello world application with nginx and mysql:::

Overview of Directory Structure

```
/root/docker-project/  
├── docker-compose.yml  
├── nginx  
│   ├── default.conf  
│   └── Dockerfile  
├── php  
│   └── Dockerfile  
└── www  
    ├── html  
    └── index.php
```

Created an Nginx default configuration file to run your PHP application:

```
# mkdir ~/docker-project/nginx  
# vi /docker-project/nginx/default.conf
```

```
root@ip-10-100-0-136:~/docker-project# cat nginx/default.conf
server {

    listen 80 default_server;
    root /var/www/html;
    index index.html index.php;

    charset utf-8;

    location / {
        try_files $uri $uri/ /index.php?$query_string;
    }

    location = /favicon.ico { access_log off; log_not_found off; }
    location = /robots.txt { access_log off; log_not_found off; }

    access_log off;
    error_log /var/log/nginx/error.log error;

    sendfile off;

    client_max_body_size 100m;

    location ~ .php$ {
        fastcgi_split_path_info ^(.+\.php)(/.+)$;
        fastcgi_pass php:9000;
        fastcgi_index index.php;
        include fastcgi_params;
        fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
        fastcgi_intercept_errors off;
        fastcgi_buffer_size 16k;
        fastcgi_buffers 4 16k;
    }

    location ~ /\.ht {
        deny all;
    }
}
```

Created a Dockerfile inside the nginx directory. This will copy the Nginx default config file to the Nginx container.

```
# vi ~/docker-project/nginx/Dockerfile
```

```
FROM nginx:latest
COPY ./default.conf /etc/nginx/conf.d/default.conf
```

Created a Dockerfile to install the PHP extension:

```
# mkdir ~/docker-project/php
# vi /docker-project/php/Dockerfile
FROM php:7.0-fpm
RUN docker-php-ext-install pdo_mysql
```

vi ~/docker-project/www/html/index.php

```
root@ip-10-100-0-136:~/docker-project# cat www/html/index.php
<!DOCTYPE html>
<head>
  <title>Hello World!</title>
</head>

<body>
  <h1>Hello World!</h1>
  <p><?php echo 'We are running PHP, version: ' . phpversion(); ?></p>
  <?
    $database = "mydb";
    $user = "root";
    $password = "secret";
    $host = "mysql";

    $connection = new PDO("mysql:host={$host};dbname={$database};charset=utf8", $user, $password);
    $query = $connection->query("SELECT TABLE_NAME FROM information_schema.TABLES WHERE TABLE_TYPE='BASE TABLE'");
    $tables = $query->fetchAll(PDO::FETCH_COLUMN);

    if (empty($tables)) {
      echo "<p>There are no tables in database \"{$database}\".</p>";
    } else {
      echo "<p>Database \"{$database}\" has the following tables:</p>";
      echo "<ul>";
      foreach ($tables as $table) {
        echo "<li>{$table}</li>";
      }
      echo "</ul>";
    }
  ?>
</body>
</html>
root@ip-10-100-0-136:~/docker-project#
```

Created a docker-compose to deeply the application:

vi ~/docker-project/docker-compose.yml

```
root@ip-10-100-0-136:~/docker-project# cat docker-compose.yml
nginx:
  build: ./nginx/
  container_name: nginx-container
  ports:
    - 80:80
  links:
    - php
  volumes_from:
    - app-data

php:
  build: ./php/
  container_name: php-container
  expose:
    - 9000
  links:
    - mysql
  volumes_from:
    - app-data

app-data:
  image: php:7.0-fpm
  container_name: app-data-container
  volumes:
    - ./www/html:/var/www/html/
  command: "true"

mysql:
  image: mysql:5.7
  container_name: mysql-container
  volumes_from:
    - mysql-data
  environment:
    MYSQL_ROOT_PASSWORD: secret
    MYSQL_DATABASE: mydb
    MYSQL_USER: myuser
    MYSQL_PASSWORD: password

mysql-data:
  image: mysql:5.7
  container_name: mysql-data-container
  volumes:
    - /var/lib/mysql
  command: "true"
root@ip-10-100-0-136:~/docker-project#
```

```
# cd ~/docker-project
# docker-compose up -d
```

Open your web browser and access the web page at <http://your-server-ip>.



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Hello World!

We are running PHP, version: 7.0.33

Database "mydb" has the following tables:

- columns_priv
- db
- engine_cost
- event
- func
- general_log
- gtid_executed
- help_category
- help_keyword
- help_relation
- help_topic
- innodb_index_stats
- innodb_table_stats
- ndb_binlog_index
- plugin
- proc
- procs_priv
- proxies_priv
- server_cost
- servers
- slave_master_info
- slave_relay_log_info
- slave_worker_info

End

Thanks & Regards:
Shailesh Sharma
Ph. 8826560895

