

# Dockerized WordPress with SSL Certificate Generation

In this tutorial, we'll walk through the process of enhancing a Dockerized WordPress setup with SSL certificate generation. This will ensure secure communication between servers and clients, bolstering the security of your WordPress deployment.

## Prerequisites:

1. Docker installed on your system.
2. Basic understanding of Docker Compose.

## Step 1: Update Docker Compose Configuration

Open your `docker-compose.yml` file and make the following modifications:

```
version: '3.1'

services:
  wordpress:
    image: wordpress:php7.2-apache
    ports:
      - "8001:80"
    environment:
      WORDPRESS_DB_HOST: mysql
      WORDPRESS_DB_USER: root
      WORDPRESS_DB_PASSWORD:
      WORDPRESS_DB_NAME: wordpress_db
    volumes:
      - ./website:/var/www/html
      - ./ssl:/etc/apache2/ssl # Mount SSL directory
    depends_on:
      - mysql
```

```
networks:
  - my_network

mysql:
  image: mysql:5.7
  environment:
    MYSQL_DATABASE: wordpress_db
    MYSQL_ROOT_PASSWORD:
  ports:
    - "3306:3306"
  volumes:
    - ./data:/var/lib/mysql
  networks:
    - my_network

phpmyadmin:
  image: phpmyadmin/phpmyadmin
  links:
    - mysql
  ports:
    - "8081:80"
  environment:
    PMA_HOST: mysql
    MYSQL_ROOT_PASSWORD:
  networks:
    - my_network

networks:
  my_network:
    driver: bridge
```

## Step 2: Create SSL Certificate Generation Script

Generate a bash script named `generate_ssl.sh` with the following content:

```
#!/bin/bash
```

```
SSL_DIR="/ssl"
```

```
PRIVATE_KEY="$SSL_DIR/private.key"
```

```
CERTIFICATE="$SSL_DIR/certificate.crt"
```

```
# Create SSL directory if it doesn't exist
```

```
mkdir -p $SSL_DIR
```

```
# Generate SSL certificate if not already present
```

```
if [ ! -f "$PRIVATE_KEY" ] || [ ! -f "$CERTIFICATE" ]; then
```

```
    openssl req -x509 -nodes -days 365 -newkey rsa:2048 -keyout "$PRIVATE_KEY" -out "$CERTIFICATE"
```

```
fi
```

## Step 3: Implement SSL Certificate Generation

Execute the following commands in your terminal:

```
chmod +x generate_ssl.sh
```

```
./generate_ssl.sh
```

## Step 4: Start Docker Containers

Run the following command to initiate your Docker containers:

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

## Conclusion

Congratulations! You've successfully enhanced your Dockerized WordPress setup with SSL certificate generation. Your WordPress deployment now benefits from improved security through encrypted communication.

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