

Integrating Docker with Django

What is Docker?

- Docker is a platform that uses OS-level virtualization to deliver software in containers. It simplifies the development, deployment, and running of applications.
- Images
- Containers
- Dockerfile
- Docker Compose

Steps to Integrate Docker with Django

1. Install Docker.
2. Create a Django Project.
3. Create a Dockerfile.
4. Create a *docker-compose.yml* file.
5. Build and Run the Containers.
6. Connecting Django with PostgreSQL (Optional).

```
db:
  image: postgres:12-alpine
  environment:
    POSTGRES_USER: myuser
    POSTGRES_PASSWORD: mypassword
  volumes:
    - postgres_data:/var/lib/postgresql/data/
```

7. Run Migrations and Create a Superuser.

Dockerfile Example

```
FROM python:3.8-slim

ENV PYTHONDONTWRITEBYTECODE 1
ENV PYTHONUNBUFFERED 1

WORKDIR /usr/src/app

COPY requirements.txt .
RUN pip install --no-cache-dir -r requirements.txt

COPY . .

EXPOSE 8000
CMD ["python", "manage.py", "runserver", "0.0.0.0:8000"]
```

docker-compose.yml Example

```
version: '3'
services:
  web:
    build: .
    command: python manage.py runserver 0.0.0.0:8000
    volumes:
      - ./usr/src/app
    ports:
      - "8000:8000"
```

