

## Aim: Manage Multiple Containers Using Docker Compose Setup:

### Step 1: Clone the project:

git clone <https://github.com/saquibmansuri/react-rust-postgres-sample-project>

```
C:\Users\admin\Documents\compose-demo>git clone https://github.com/saquibmansuri/react-rust-postgres-sample-project
Cloning into 'react-rust-postgres-sample-project'...
remote: Enumerating objects: 51, done.
remote: Counting objects: 100% (51/51), done.
remote: Compressing objects: 100% (41/41), done.
remote: Total 51 (delta 4), reused 51 (delta 4), pack-reused 0 (from 0)
Receiving objects: 100% (51/51), 290.79 KiB | 1.63 MiB/s, done.
Resolving deltas: 100% (4/4), done.
C:\Users\admin\Documents\compose-demo>
```

### Step 2: Deploy with Docker Compose:

docker compose up -d

```
C:\Users\admin\Documents\compose-demo\react-rust-postgres-sample-project>docker compose up -d
[+] Running 1/1
  ✓ db Pulled
[+] Building 0.0s (0/0)  docker:desktop-linux
[+] Building 217.3s (31/31) FINISHED
=> [frontend internal] load build definition from Dockerfile
=> => transferring dockerfile: 735B
=> [backend internal] load build definition from Dockerfile
=> => transferring dockerfile: 938B
=> [backend] resolve image config for docker-image://docker.io/docker/dockerfile:1.4
=> [frontend auth] docker/dockerfile:pull token for registry-1.docker.io
```

```
[+] Running 9/9
  ✓ backend Built
  ✓ frontend Built
  ✓ Network react-rust-postgres-sample-project_client-side Created
  ✓ Network react-rust-postgres-sample-project_server-side Created
  ✓ Volume "react-rust-postgres-sample-project_db-data" Created
  ✓ Volume "react-rust-postgres-sample-project_backend-cache" Created
  ✓ Container react-rust-postgres-sample-project-frontend-1 Started
  ✓ Container react-rust-postgres-sample-project-db-1 Started
  ✓ Container react-rust-postgres-sample-project-backend-1 Started
```

### Step 3: Verify the Deployment:

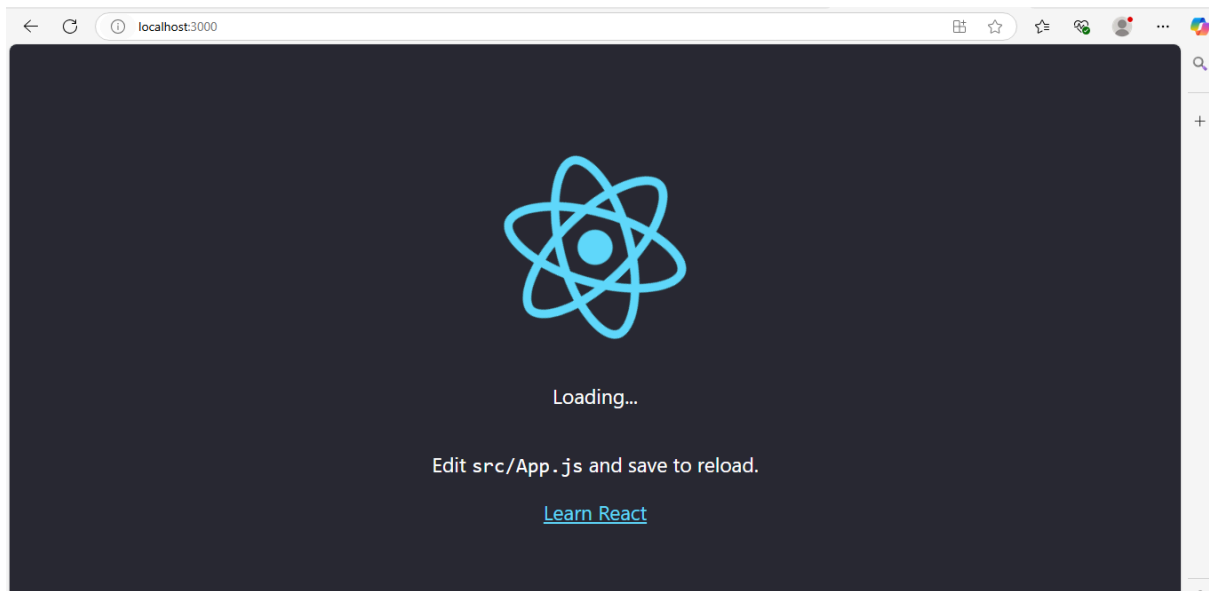
docker ps

```
C:\Users\admin\Documents\compose-demo\react-rust-postgres-sample-project>docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
0a5caa88183b	react-rust-postgres-sample-project-backend	"cargo run --offline"	2 minutes ago	Restarting (101) 9 seconds ago	
2107169be8ce	postgres:17-alpine	"docker-entrypoint.s..."	2 minutes ago	Up 2 minutes	0.0.0
6a115f983978	react-rust-postgres-sample-project-frontend	"docker-entrypoint.s..."	2 minutes ago	Up 2 minutes	0.0.0

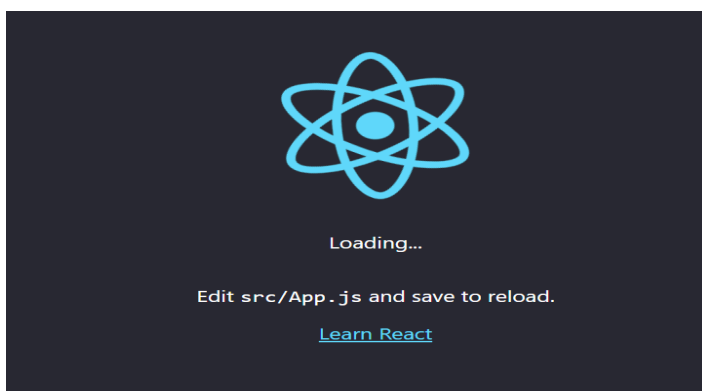
```
C:\Users\admin\Documents\compose-demo\react-rust-postgres-sample-project>
```

### Step 4: Access the Application:



### Step 5: Modify App and rebuild particular service:

Before Modifying the Frontend:



After Modifying:

`docker compose up -d --force-recreate --no-deps --build frontend`

```
C:\Users\admin\Documents\compose-demo\react-rust-postgres-sample-project>docker compose up -d --force-recreate --no-deps --build frontend
[+] Building 11.7s (16/16) FINISHED
=> [frontend internal] load build definition from Dockerfile
=> => transferring dockerfile: 735B
=> [frontend] resolve image config for docker-image://docker.io/docker/dockerfile:1.4
=> [frontend auth] docker/dockerfile:pull token for registry-1.docker.io
=> CACHED [frontend] docker-image://docker.io/docker/dockerfile:1.4@sha256:9ba7531bd80fb0a858632727cf7a112fbfd19b17e94c4e84ced81e24ef1a0dbc
=> => resolve docker.io/docker/dockerfile:1.4@sha256:9ba7531bd80fb0a858632727cf7a112fbfd19b17e94c4e84ced81e24ef1a0dbc
=> [frontend internal] load .dockerignore
❯ Not Committed Yet Ln 42, Col 37 Spaces: 2 UTF-8 C
```

Step 6: Stop and Remove the Containers:

```
C:\Users\admin\Documents\compose-demo\react-rust-postgres-sample-project>docker compose down
[+] Running 5/5
✓ Container react-rust-postgres-sample-project-backend-1 Removed
✓ Container react-rust-postgres-sample-project-frontend-1 Removed
✓ Container react-rust-postgres-sample-project-db-1 Removed
✓ Network react-rust-postgres-sample-project_client-side Removed
✓ Network react-rust-postgres-sample-project_server-side Removed

C:\Users\admin\Documents\compose-demo\react-rust-postgres-sample-project>
```

```
C:\Users\admin\Documents\compose-demo\react-rust-postgres-sample-project>docker system prune -af --volumes
Deleted Containers:
e108d03539b5511882781ea6f01186283896f527d28fee6f4780a94e462ed69e
351efdf6eb8dfdb720ba1b4f749112c7437aa1343d81473a5aff182e92acbdbbc
77f92f8bdaccdcb4bfd4b9d97abf49dfbec40b4de012d91e8e5ae31fe27564f4
33999f190732ef52fe9e22510684cf9fcd5aae3321d9a53e70d22e4c31d79444
bc60f4728caeca572b422125d1572f70a6056cf6df5908c3fdf97963ea35e6c8
cfc39bfb0bd6ec3d983cbcd5729458f75e25ab81ee5743bcff2ab97827b16fa
69375f89e07b44e603e2e705e95caefcc4279e79d3a13139116c8059d3355260
cc8d38a65d4ed8e2a05e2fce86a17698bb2976857d2c31b1a56da1e3d6ed1da1
78f80ef455aa0b8cb9eb3bf796463008f47da9b3ab5ebbd1cc860b22c03d871b
```