Simplifying Cloud Deployments with Ansible for React Next.js on AWS EC2

Rose Crisp

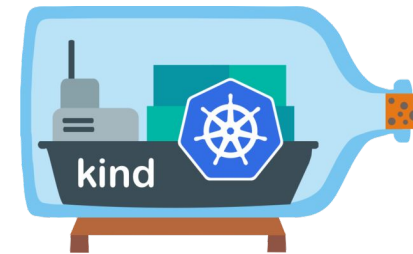Senior Software Engineer

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Overview

- Introduction

- React Next.js Web Application

- Containerization
  - Optimize image size
  - Container image registry

- Ansible
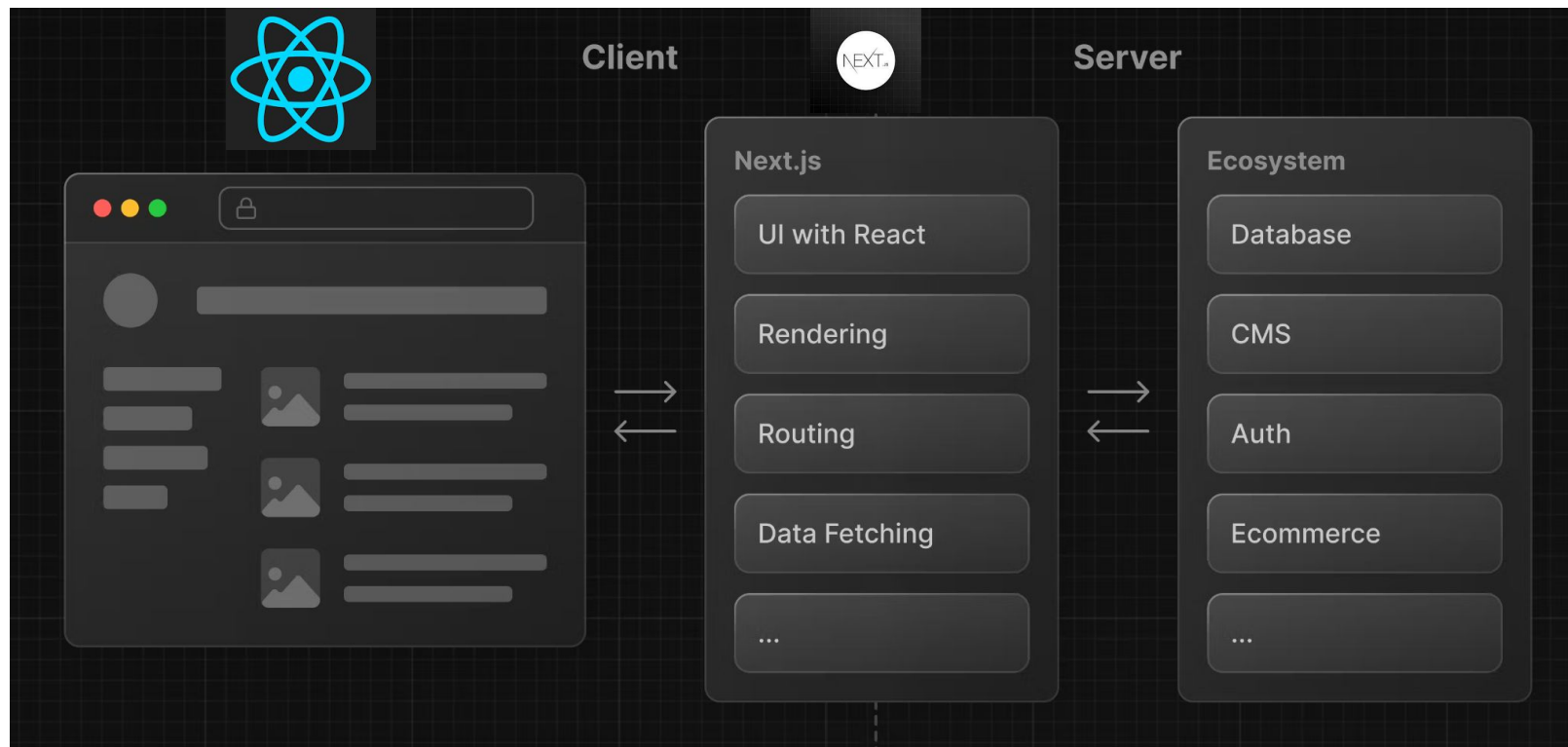 - Launch EC2 instance
  - Deploy React application

Who Am I

- **Mom**
- **System Admin**
- **Software Tester**
- **Software Engineer**
- **Perl**
- **Python**
- **Golang**
- **Kubernetes Operators**
- **Operator Framework**

Web Application

Web Application

- **React**:
  - A JavaScript library for creating interactive user interfaces (UIs).
- **Next.js**:
  - A framework built on top of React.
  - Provides tools and configurations necessary for React development.
  - Rendering, Routing, Data fetching, Caching

Containerization

- Isolated and self-contained
- Efficient
- Portable
- Lightweight
- Improved Security

Dockerfile

```
FROM node:16-alpine
RUN mkdir -p /app
WORKDIR /app
COPY . .
RUN npm install
RUN npm run build
EXPOSE 3000
CMD ["npm", "start"]
```

Dockerfile

Multi Stage Build

From node:18-alpine AS base …

From base AS deps…

From base AS builder…

From base AS runner…

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Container Image Registry

- quay.io
- Docker Hub
- Amazon
- Google
- Asure

Build,pull, push container images

- Podman
- Docker

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Ansible Automation Engine

- ansible - run tasks
- ansible-playbook run more than one task, or playbooks
- ansible-vault - encryption, decryption passwords
- ansible-...

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Ansible Automation Engine

View code https://github.com/opdev/cfgm

Live Demo

> ansible-playbook ansible/playbook/site.yml --ask-vault-pass

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