Full Deployment Guide: React Frontend + Node.js Backend + Route 53 + SSL

Step 1: Prepare EC2 Instances

- Launch 2 EC2 Ubuntu instances: one for frontend, one for backend

- Allow ports 22, 80, 443, and 3000 (backend only) in Security Groups

Step 2: Create and Link Domain Using Route 53

- Create a Public Hosted Zone for ahilyanagarrakshak.in

- Add two A records:

  - @ (blank) -> Frontend EC2 Public IP

  - api -> Backend EC2 Public IP

- Update your domain registrar's nameservers to use AWS Route 53

Step 3: Backend Setup on EC2 (api.ahilyanagarrakshak.in)

- Install Node.js and Git

  sudo apt update && sudo apt install nodejs npm git -y

- Clone repo and set .env

  git clone <backend-repo-url> ahilyanagar-backend

  cd ahilyanagar-backend

  nano .env

- Start with PM2

  sudo npm install pm2 -g

  npm install

  pm2 start index.js --name "backend"

  pm2 startup

  pm2 save

- Install Nginx and Certbot

```
sudo apt install nginx certbot python3-certbot-nginx -y
```

- Configure Nginx

```
sudo nano /etc/nginx/sites-available/default
```

(Add proxy_pass config for backend)

- Enable HTTPS

```
sudo certbot --nginx -d api.ahilyanagarrakshak.in
```


Step 4: Frontend Setup on EC2 (ahilyanagarrakshak.in)

- Install Node.js and Git

```
sudo apt update && sudo apt install nodejs npm git -y
```

- Clone repo

```
git clone <frontend-repo-url> ahilyanagarfeedback

cd ahilyanagarfeedback/client
```

- Set .env with:

```
REACT_APP_API_URL=https://api.ahilyanagarrakshak.in
```

- Build React App

```
npm install

npm run build
```


Step 5: Nginx + SSL for Frontend

- Install Nginx + Certbot

```
sudo apt install nginx certbot python3-certbot-nginx -y
```

- Configure Nginx for React app

```
sudo nano /etc/nginx/sites-available/default
```

(Set root to client/build, add try_files)

- Enable HTTPS

```
sudo certbot --nginx -d ahilyanagarrakshak.in
```

To Update Frontend:

cd ~/ahilyanagarfeedback/client

rm -rf build

npm install

npm run build

sudo rm -rf /var/www/html/*

sudo cp -r build/* /var/www/html/

sudo nginx -t

sudo systemctl reload nginx

Final Verification:

- https://ahilyanagarrakshak.in -> React App

- https://api.ahilyanagarrakshak.in -> Node API

- SSL with HTTPS active on both

- DNS via Route 53

Nginx Configuration for Frontend (React App):

```
server {
    listen 80;
    server_name ahilyanagarrakshak.in;

    root /home/ubuntu/ahilyanagarfeedback/client/build;
    index index.html index.htm;
```

```
    location / {

        try_files $uri /index.html;

    }

}
```

Nginx Configuration for Backend (Node.js API):

```
server {

    listen 80;

    server_name api.ahilyanagarrakshak.in;


    location / {

        proxy_pass http://localhost:3000;

        proxy_http_version 1.1;

        proxy_set_header Upgrade $http_upgrade;

        proxy_set_header Connection 'upgrade';

        proxy_set_header Host $host;

        proxy_cache_bypass $http_upgrade;

    }

}
```