King Fahd University of Petroleum & Minerals

SWE455-01

Cloud Applications Engineerin(

Homework #1

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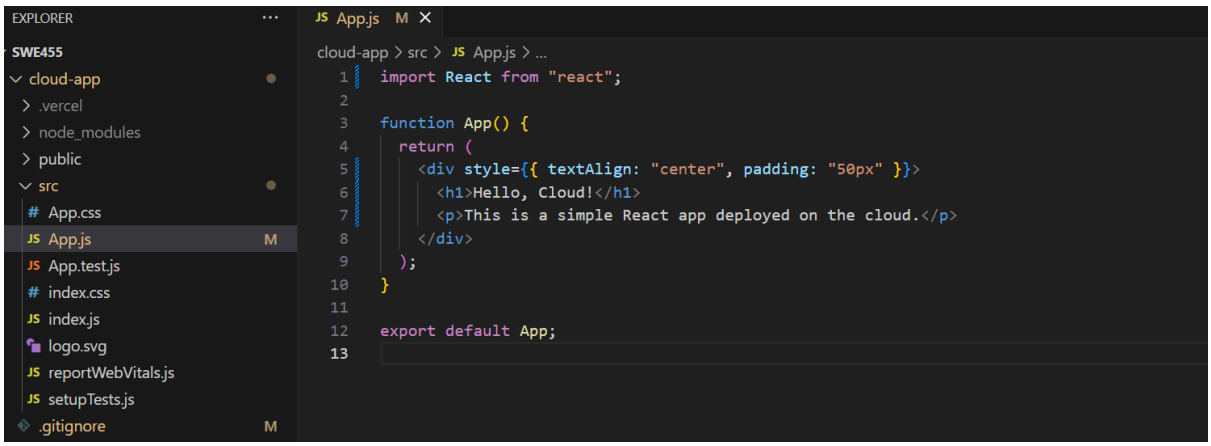
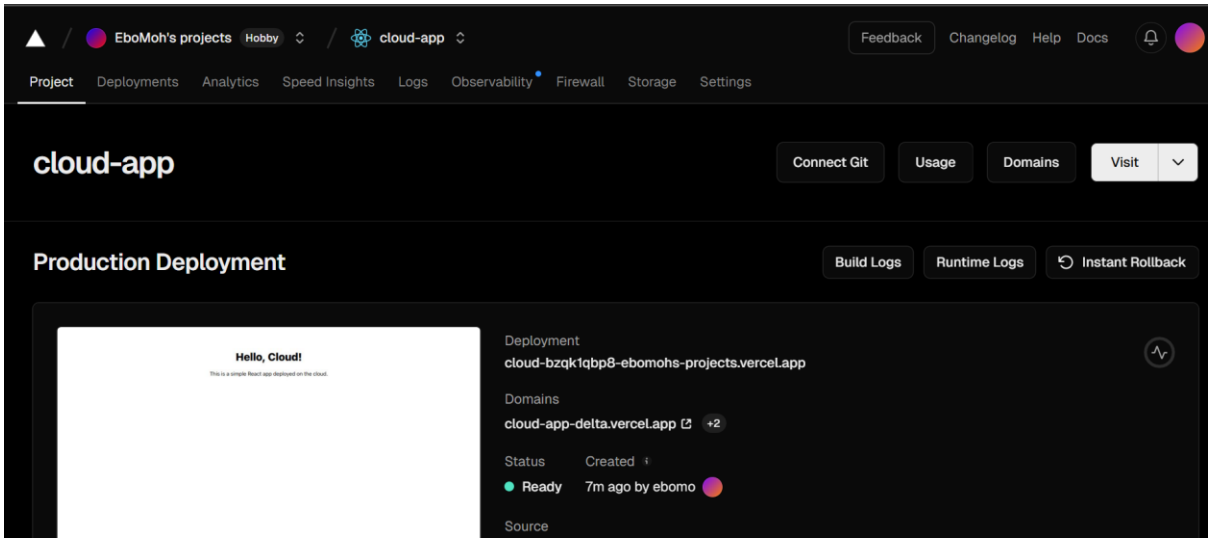
Task 1:

Made a simple web application using React,



Task 2:

A: As a cloud service I chose **Vercel** since it is easy to compile and to integrate it.



B/C: Following the instructions from Vercel to be able to deploy and create an active URL. And sat the required environments.

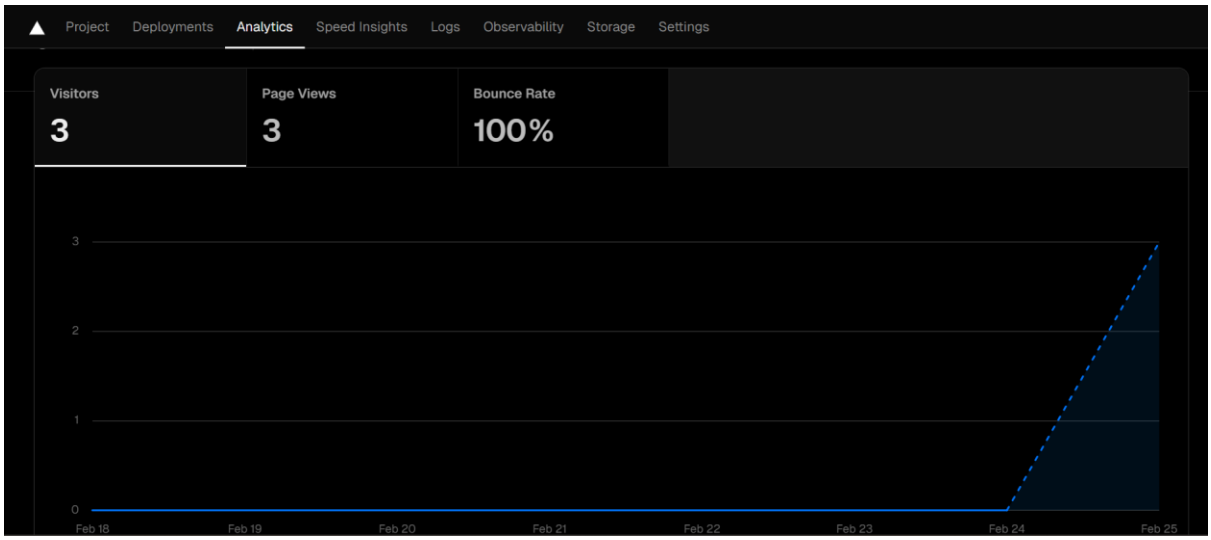
cloud-app-delta.vercel.app

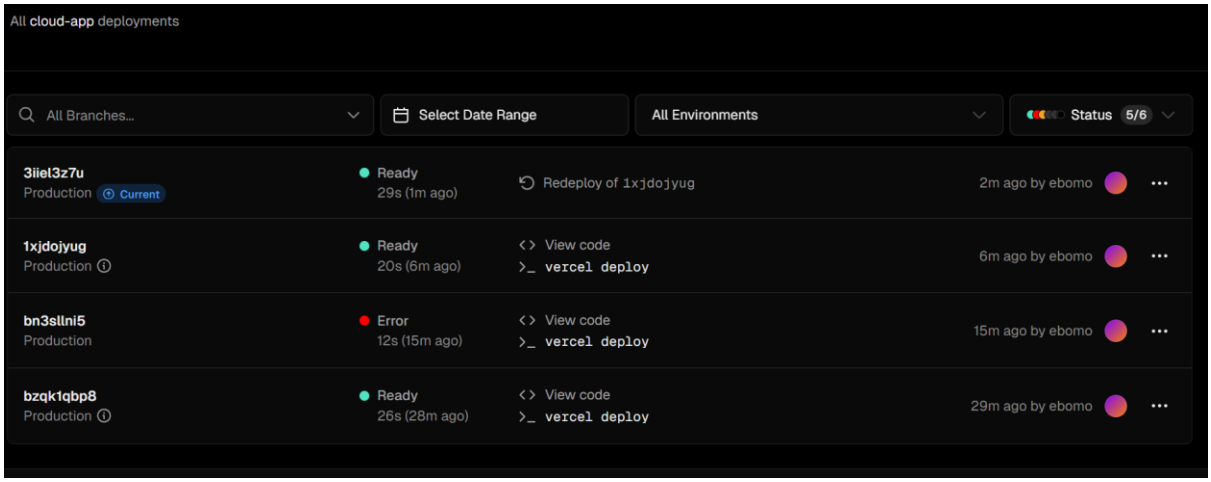
Hello, Cloud!

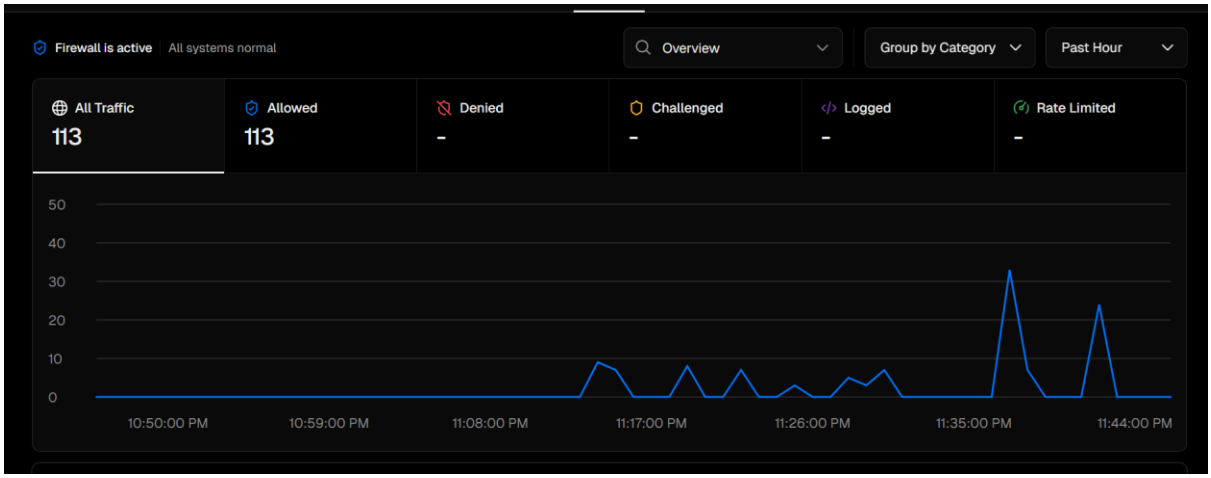
This is a simple React app deployed on the cloud.

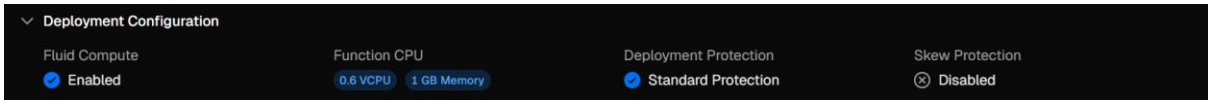
Task 3:

For the first task, usually Vercel automatically change the instances, so I could not change it.









Task 4:

1. Deployment Steps

1. **Created the App:**
    - **Built a simple React app using create-react-app.**
    - **Edited App.js to display "Hello, Cloud!".**
2. **Deployed to Vercel:**
    - **Installed Vercel CLI and logged in.**
    - **Ran vercel to deploy the app.**
    - **Received a live URL for public access.**
3. **Configured Scaling & Monitoring:**
    - **Verified that Vercel auto-scales based on traffic.**
    - **Enabled Vercel Analytics to track CPU, memory, and requests.**
    - **Monitored logs and errors through the Vercel dashboard.**

2. Challenges & Solutions

1. **Issue: "npm run build" failed on deployment**
    - **Problem:** Missing @vercel/analytics/react package.
      Solution: Installed it manually using npm install @vercel/analytics.
2. **Issue: TypeScript version conflict**
    - **Problem:** TypeScript 4.9.5 was conflicting with Vercel dependencies.
      Solution: Upgraded TypeScript with npm install typescript@latest.
3. **Issue: PowerShell blocked running Vercel CLI**
    - **Problem:** Execution policies prevented script execution.
      Solution: Temporarily bypassed it using Set-ExecutionPolicy -Scope Process -ExecutionPolicy Bypass.