



King Fahd University of Petroleum & Minerals

SWE455-01

**Cloud Applications Engineerin(**

Homework #1

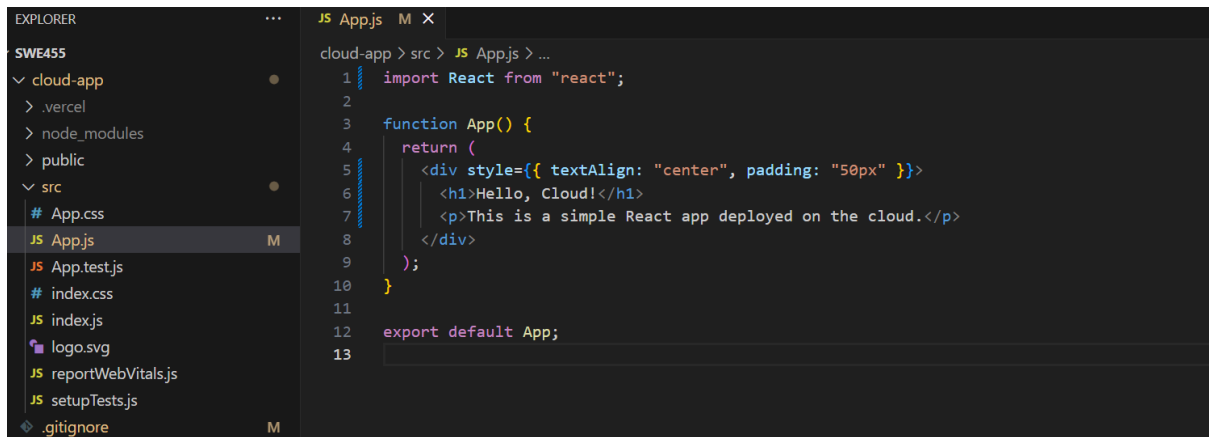
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## Task 1:

Made a simple web application using React,

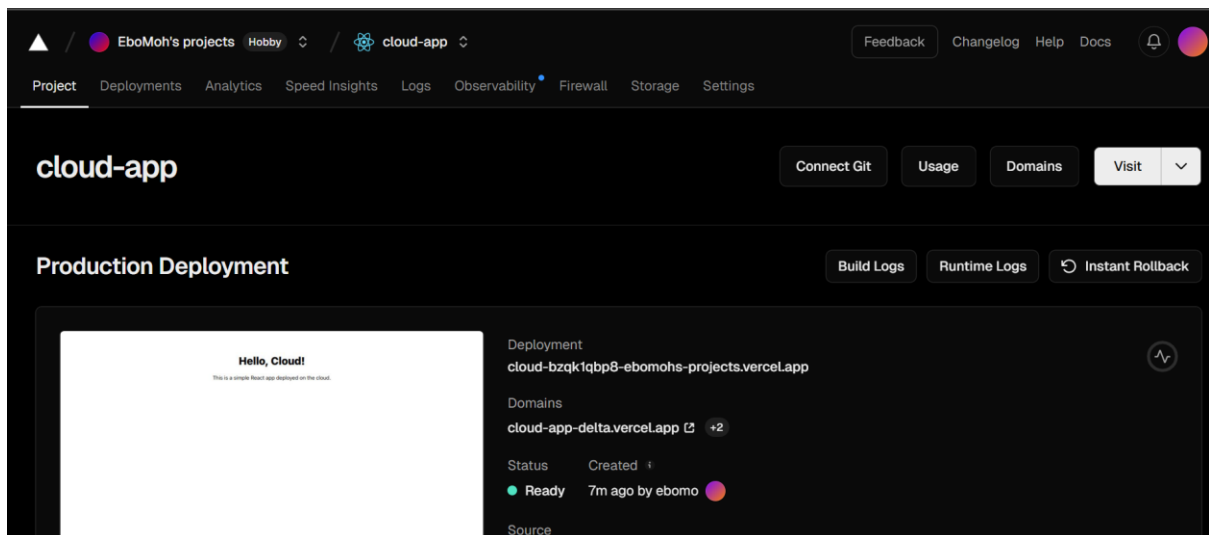


The screenshot shows a VS Code editor with a file explorer on the left and a code editor on the right. The file explorer shows a project named 'cloud-app' with files like 'App.css', 'App.js', 'App.test.js', 'index.css', 'index.js', 'logo.svg', 'reportWebVitals.js', 'setupTests.js', and '.gitignore'. The code editor shows the content of 'App.js'.

```
cloud-app > src > JS App.js > ...
1  import React from "react";
2
3  function App() {
4    return (
5      <div style={{ textAlign: "center", padding: "50px" }}>
6        <h1>Hello, Cloud!</h1>
7        <p>This is a simple React app deployed on the cloud.</p>
8      </div>
9    );
10 }
11
12 export default App;
13
```

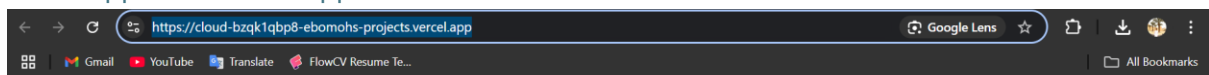
## Task 2:

**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](https://cloud-app-delta.vercel.app)

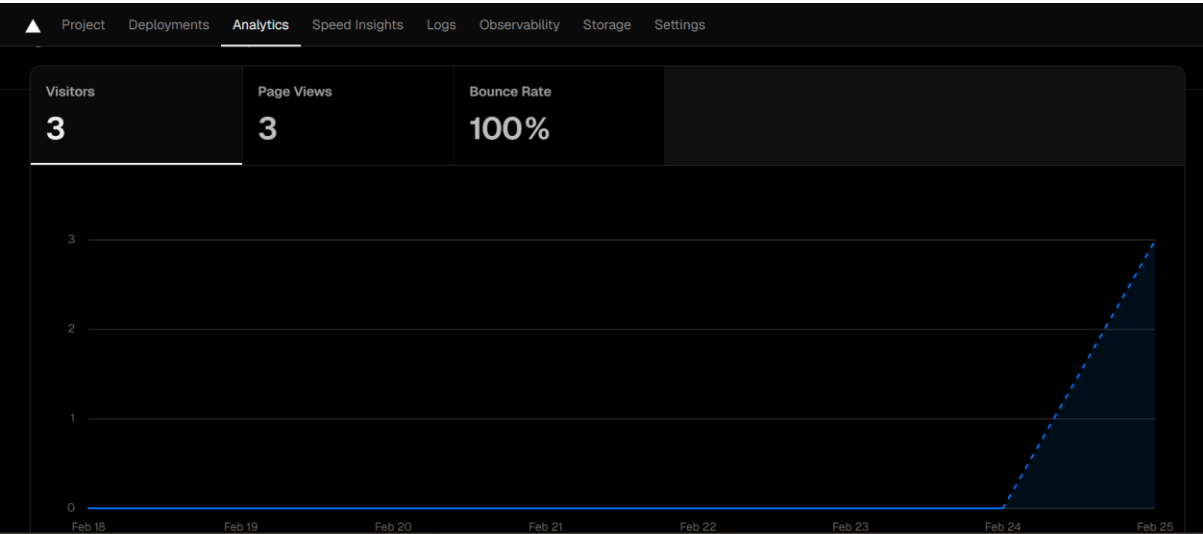


**Hello, Cloud!**

This is a simple React app deployed on the cloud.

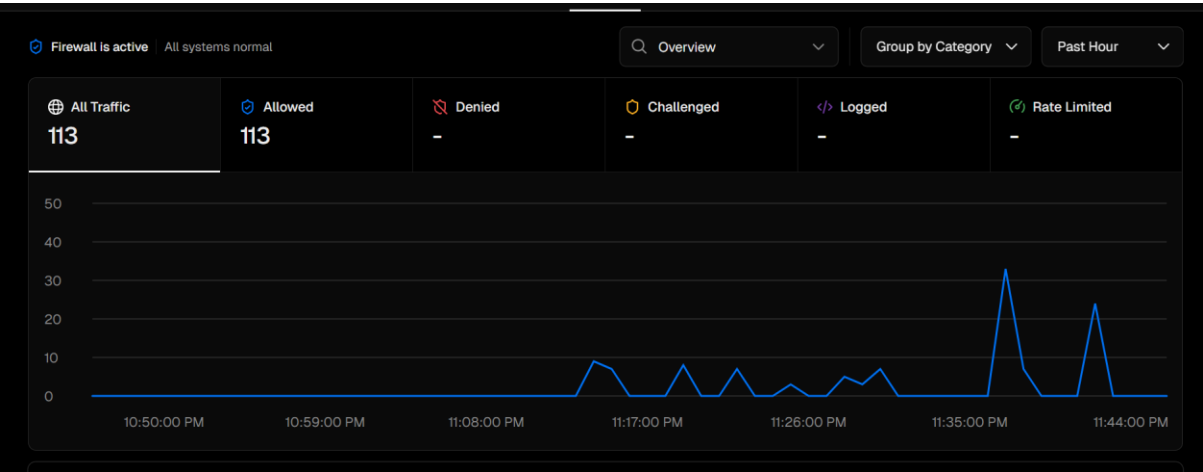
## Task 3:

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



All cloud-app deployments

<b>3liel3z7u</b> Production <span>Current</span>	<span>Ready</span> 29s (1m ago)	Redeploy of 1xjdojyug	2m ago by ebomo
<b>1xjdojyug</b> Production ⓘ	<span>Ready</span> 20s (6m ago)	<> View code >_ vercel deploy	6m ago by ebomo
<b>bn3slini5</b> Production	<span>Error</span> 12s (15m ago)	<> View code >_ vercel deploy	15m ago by ebomo
<b>bzqk1qbp8</b> Production ⓘ	<span>Ready</span> 26s (28m ago)	<> View code >_ vercel deploy	29m ago by ebomo



Deployment Configuration

Fluid Compute <span>Enabled</span>	Function CPU <span>0.6 VCPU</span> <span>1 GB Memory</span>	Deployment Protection <span>Standard Protection</span>	Skew Protection <span>Disabled</span>
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## 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.