

## **1. Create a basic web app using AWS:**

These are the steps for this:

[https://drive.google.com/file/d/1r8L1nYb5LG\\_B2pykd9a3x32MCQHa-KfB/view?usp=sharing](https://drive.google.com/file/d/1r8L1nYb5LG_B2pykd9a3x32MCQHa-KfB/view?usp=sharing)

## **2. Use any suitable build CI/CD tool (such as Jenkins, Gitbucket, GitHub Actions etc.) or cloud-based services to create build pipeline having steps code build, test, code quality check:**

Youtube Link: <https://www.youtube.com/watch?v=mk2FBuTMwDc>

## **3. How to use cloud service for user authentication flow, allowing users to sign up, sign in, and reset their password:**

Youtube Link: check my youtube channel

## **4. Demonstrate Containerization using Docker: Check my youtube channel, little bit of change is there, here we will be showing demo using react (BMI Calculator)**

**Here is the docker file and the bmi calculator app code:**

Docker file:

```
# Step 1: Build the app
FROM node:18 AS build
WORKDIR /app
COPY package*.json .
RUN npm install
COPY .
RUN npm run build

# Step 2: Serve with nginx
FROM nginx:alpine
COPY --from=build /app/build /usr/share/nginx/html
EXPOSE 80
CMD ["nginx", "-g", "daemon off;"]
```

Source code of BMI Calculator:

```
import { useState } from "react";

function App() {
  const [weight, setWeight] = useState("");
  const [height, setHeight] = useState("");
  const [bmi, setBmi] = useState(null);

  function calculateBMI() {
    const h = height / 100; // convert cm to meters
    const result = (weight / (h * h)).toFixed(2);
```

```
        setBmi(result);
    }

    return (
        <div style={{ textAlign: "center", marginTop: "50px" }}>
            <h1>BMI Calculator</h1>
            <input
                type="number"
                placeholder="Weight (kg)"
                value={weight}
                onChange={(e) => setWeight(e.target.value)}>
            />
            <br /><br />
            <input
                type="number"
                placeholder="Height (cm)"
                value={height}
                onChange={(e) => setHeight(e.target.value)}>
            />
            <br /><br />
            <button onClick={calculateBMI}>Calculate BMI</button>
            <br /><br />
            {bmi && <h2>Your BMI is {bmi}</h2>}
        </div>
    );
}

export default App;
```