

### 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;

```