Application Deployment Project

This document outlines the requirements and steps for deploying a React application into a production-ready environment.
The deployment involves Docker, Jenkins, AWS, Bash scripting, version control, and monitoring setup.

Project Requirements

Application:
Clone the below mentioned repo and deploy the application. (Run the application on port 80 [HTTP])
Repo URL: https://github.com/sriram-R-krishnan/devops-build

Docker

• Dockerize the application by creating a Dockerfile
• Create a docker-compose file to use the above image

Bash Scripting

Write 2 scripts:
• build.sh - for building docker images
• deploy.sh - for deploying the image to server

Version Control

• Push the code to GitHub to dev branch (use dockerignore & gitignore files)
• Note: Use only CLI for related git commands

Docker Hub

• Create 2 repos 'dev' and 'prod' to push images.
• 'Prod' repo must be private and 'dev' repo can be public

Jenkins

• Install and configure Jenkins build step as per needs to build, push & deploy the application.
• Connect Jenkins to the GitHub repo with auto build trigger from both dev & master branch.
• If code pushed to dev branch, docker image must build and pushed to dev repo in Docker Hub.
• If dev merged to master, then docker image must be pushed to prod repo in Docker Hub.

AWS Deployment

• Launch t2.micro instance and deploy the created application.
• Configure Security Groups (SG) as below:
  - Whoever has the IP address can access the application
  - Login to server should be allowed only from your IP address

Monitoring

• Setup a monitoring system to check the health of the application.
• Alerting when the application goes down is highly appreciable.

Submission Requirements

• GitHub repo URL, deployed site URL, docker images name must be added in the submission.
• Upload the screenshots of the following to GitHub repo:
  - Jenkins (login page, configuration settings, execute step commands)
  - AWS (EC2-Console, SG configs)
  - Docker Hub repo with image tags
  - Deployed site page
  - Monitoring health check status