

Task-1 : Write CI/CD Deployment Task Using GitHub Runner

(You can choose any of your own **react/express** project or some online projects)

1. Server setup (write bash script)
 - a. Set up **Docker** on a Linux machine.
 - b. If **Docker is already installed**, skip the installation if script run second time.
 - c. **Install Nginx** (if not already installed), configure it, and restart the service to apply changes.
2. Dependency setup (CI)
 - a. **Install** dependency for the project
 - b. **Build** docker images
 - c. **Push** images them to a container registry (e.g., **DockerHub or AWS ECR**).
3. Project setup (CD)
 - a. Pull the latest **Docker images** from the registry
 - b. Deploy the application to make it live.

Note: Dockerhub should be private

Task2 : Write an Ansible playbook to perform following tasks:

(You can host any website)

1. Launch an EC2 instance using any **AMI** of your desire
 - a. Updates the system packages
 - b. Install **nginx** and host website
 - c. Generate **nginx config** to host website and add two pages
 - i. First page accessible at path **/page1**
 - ii. Second page accessible at path **/page2**

Additional/Bonus Question

- keep /page1 at **/var/www/task1/index.html**
 - Keep /page2 at **/var/www/task2/index.html**
2. HTTPS configuration:
 - a. Generates **SSL certificates** automatically
 - b. Update **nginx configuration** to use these certificates
 3. Adds your **public SSH** key to the user account for authentication

Task-3 : Documentation for above Tasks

1. Create two separate GitHub repositories using *Markdown format*. The answer should be written in an **Answer.md** or **README.md** file. Additionally, include screenshots for all tasks performed in **pictures directory** of your repository. Documentation or repository should contain step-by-step tutorials how your solution is worked (attach relevant **command**, **images**, tutorials **website/video** reference) for each question and sub-question.
2. Prepare final summarized **docx or pdf** which consist URL of both repository and images of **successful results** and **error results** for each sub-question.

Note:

Git commit history will be also checked to analyze how did you resolve the issues and how much improvement has been done from your side.