DevSecOps Project Cheat Sheet

Project Summary

This project simulates a secure CI/CD pipeline for a Python Flask app using GitHub, Docker, GitHub Actions, and placeholder integration for SonarQube, Kubernetes, and Grafana.

Key Goals:

- Containerize a Python Flask app using best practices
- Use GitHub Actions to lint, scan, and build the app
- Simulate static code analysis with SonarQube
- Describe Kubernetes deployment and Grafana-based monitoring

Key Technologies & Roles

- GitHub: Source code and Dockerfile repository
- GitHub Actions: CI pipeline for linting, scanning, building
- Docker: Containerize the application using a slim base image
- SonarQube: Static code analysis (simulated)
- Kubernetes: Application deployment using YAML manifest
- Grafana: Application monitoring (simulated via metrics)

CI/CD Steps

1. Developer pushes code to GitHub
2. GitHub Actions triggers CI pipeline
3. Code is linted with flake8
4. Code is scanned by SonarQube (placeholder)
5. Docker image is built from Dockerfile

6. Image is deployed to Kubernetes using deployment.yaml

7. App is monitored using Grafana (simulated)

CI/CD Pipeline Diagram