Application Autodeploy with Monitoring

Presenter: Chiazam Ochiegbu

Github: https://github.com/Tekhunt/cdond-c3-projectstarter

What is CICD?

The acronym CICD stands for Continuous Integration and Continuous Deployment/Delivery, both are methods used to frequently deliver applications to customers by automating the processes from when a developer checks in a code to a repository and code reviews, to building the code and running all sorts of tests such as unit, functional and integration test, to validating those codes are good production candidates and standing up infrastructures for the deployment. These processes are carried in an automated and repeated fashion, with less human intervention.

The ultimate aim is to get bug free applications into the hands of customers, as well as updates.
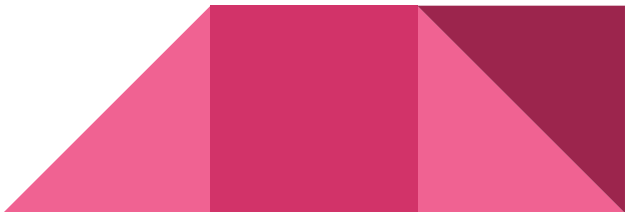
Benefits

- **Smaller code changes and hence fewer bugs thus reducing cost associated**
- **Fault isolation and faster mean time to resolution thus improving developer productivity and avoiding costs.**
- **More testable and reliable codes which reduced costs due to bad codes, and also guarantees customer retention, thus sustain or increase revenue**
- **Faster release rates leading to high operation efficiency and reduced cost**
- **Easy maintenance and updates.**
- **Good customer satisfaction and improved customer experience which improve or secure revenue**

CI/CD Tools that Could be Adopted

Jenkins: This tool works on Windows, Linux and Mac servers and has a handy installer to make setup very easy. One of Jenkins biggest strengths is its list of over 1,700 utility plug-ins that make customization and integration very straightforward. It also gives Jenkins the ability to adapt to almost any requirement.

Gitlab: This is an open source but freemium-based CI/CD management tool that offers complete DevOps support including important built-in features such as issue tracking and version control.GitLab only runs on Linux based servers, although it can be run on some Windows systems with extended work-arounds. GitLab also has slightly higher prerequisites than Jenkins and a suitable server will need to have node.js, Git, Ruby and Redis instead of simply JRE.

Microsoft Azure: This is a platform to build serverless applications on Azure functions. Azure Pipeline is used for testing, building, managing, and deploying applications. It is a cloud service that is readily available for you to build and test your code project.

Benefits Udapeople will enjoy if CI/CD is adopted

- ➢ Speed of deployment
- ➢ Faster testing and analysis
- ➢ Smaller code changes
- ➢ Better and faster fault isolation
- ➢ Increased code coverage
- ➢ Automatic deploy to production
- ➢ Never ship broken code
- ➢ Process is repeatable
- ➢ Faster mean time to resolution
- ➢ Smaller backlog
- ➢ Improved customer satisfaction
- ➢ Tons of open source tools available