# CI/CD

## A better way to build and ship our Applications

# Continuous Integration

- The practice of merging all developers' working copies to a shared mainline several times a day to avoid conflicts in the code. It's the first step towards ensuring that we have a high quality and deployable artifact. Some this stage steps are: compiling, testing, running static analysis, checking for vulnerabilities.

# Continuous Deployment

- It's the process where verified changes in codebase or system architecture are deployed to production as soon as they are ready and without human interference. Some steps in this stage include: setting up infrastructure, provisioning servers, copying files, smoke testing, promoting to production and roll back to previous versions if it's necessary

# Benefits of CI/CD

- Automated Smoke Tests: This would protect our revenue by reducing downtime caused by deploy-related crash or bugs.

- Catch Unit Test Failures: Having less bug in our live app and spending less time doing manual testing would help us to avoid cost.

- Faster and More Frequent Production Deployment: We would get more revenue by shipping value generating features more frequently to the customers, this would also help us to get feedback early and stay ahead.

# Benefits of CI/CD

- Detect Security Vulnerabilities: This would enable us to easily detect serious security flaws that would be embarrassing if it had made it to the public. This would save us money trying to win back the customers' trust and rebuilding our image.

- Deploy to Production Without Manual Checks: Less time to market would help us to increase our revenue.