

CONTINUOUS INTEGRATION CONTINUOUS DEPLOYMENT (CI/CD)

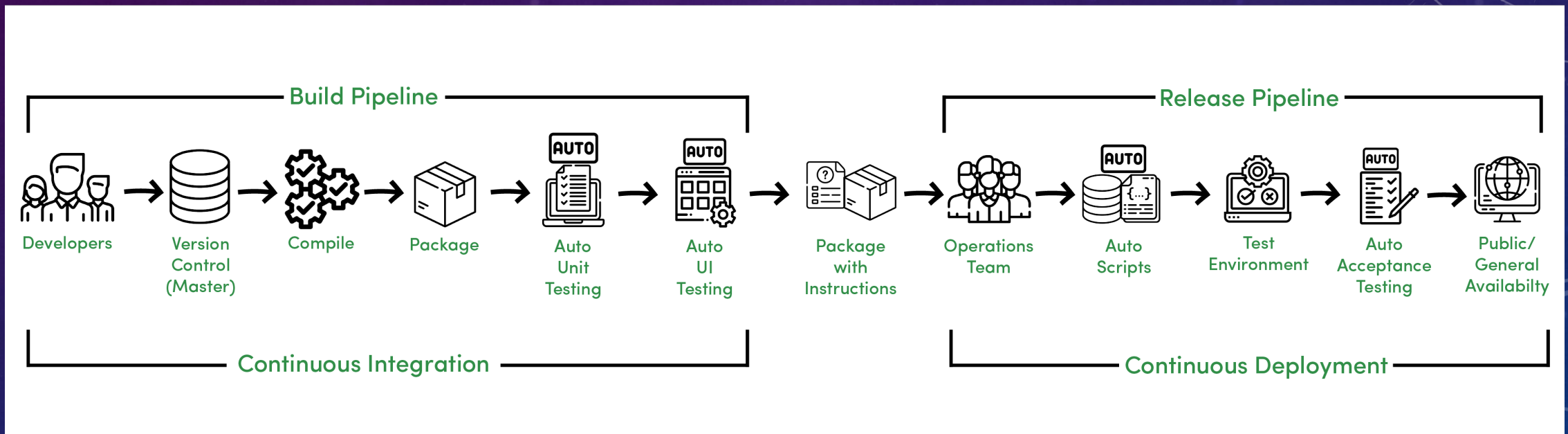
FUNDAMENTALS AND BENEFITS OF CI/CD TO ACHIEVE, BUILD, AND DEPLOY
AUTOMATION FOR CLOUD-BASED SOFTWARE PRODUCTS

GOKE ADEWUYI

WHAT IS CI/CD

NAME	MEANING
Continuous Integration	Continuous integration is a DevOps software development practice where developers regularly merge their code changes into a central repository, after which automated builds and tests are run.
Continuous Deployment	Continuous deployment is a strategy for software releases wherein any code commit that passes the automated testing phase is automatically released into the production environment, making changes that are visible to the software's users.

CI/CD PIPELINE



BENEFITS OF CI/CD

- Continuous Integration and Continuous Deployment is a feature of CI/CD that gives you the ability to coordinate small chunks of code at once.
- Rollbacks are automated by using CI/CD to restore the system to a functioning condition.
- After thorough testing, CI/CD continuously consolidates codes and consistently sends them to generation, maintaining the code in a release-ready form.
- Since the code changes are smaller and fault isolations are easier to discern, CI/CD shortens the time it takes to fix a problem.
- Using CI/CD, it easier to continuously merge changes in a shared branch, reducing the chances of merge conflicts.

REASONS FOR USING CI/CD

- Improved Mean Time To Resolution (MTTR):- The MTTR can be decreased by using CI/CD, which helps keep deployment failures to a minimum and speeds up failure recovery.
- Reducing Cost:- The time it takes to complete a project and releases new features and products to market is decreased when CI/CD is used. Hence, a reduction in cost.
- Returning and Happier Customers:- Including CI/CD in your business strengthens client loyalty. The use of this solution speeds up bug detection, decreases the amount of time needed to address code problems, and allows the company to advertise stylish, on-demand items using cutting-edge technology.
- Detection & Isolation:- When using CI/CD, you continuously synchronise small groups of code rather than the entire programme, which makes it simpler for engineers to find and fix problems. By containing bugs and vulnerabilities before they endanger the entire app, you may reduce the likelihood of breakdowns and other fundamental problems.
- Automated builds:- Automation is aided by CI/CD integration in your company, which also runs unit tests and other test types. The testing ensures that the code changes the programmers made did not break anything.

CI/CD DEEDS AND FIRM'S BENEFITS

DEED	BENEFIT
It takes less time to market new features.	Increased Revenue.
Automation reduces the cost.	Cost Reduction.
Fault isolation.	Improved Productivity
Improved mean time to resolution (MTTR)	Increased Revenue.
Catch Unit Test Failures Faster.	Cost Reduction.