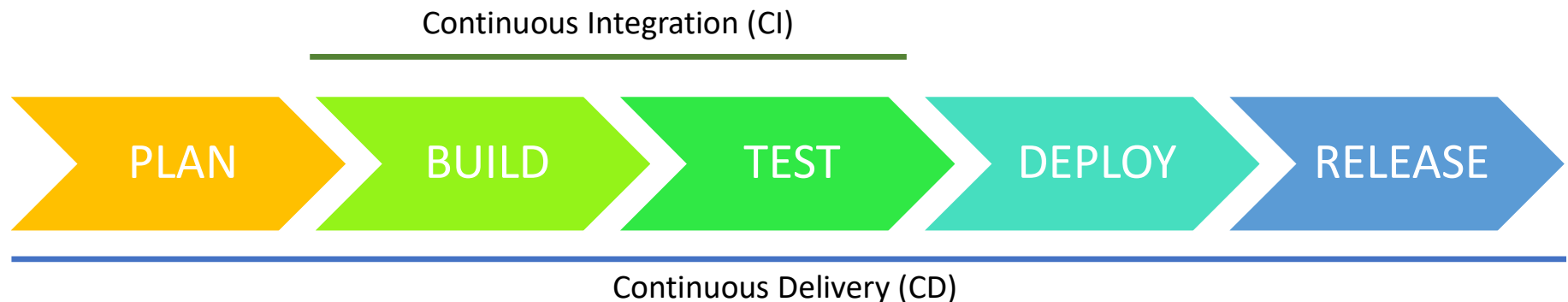


Project 3 Udacity

Explain the Fundamentals and Benefits of CI/CD to Achieve, Build, and Deploy Automation for Cloud-Based Software Products

Fundamentals of CI/CD

Continuous Integration (CI) is a software development practice where developers frequently merge their code changes into a central repository, and automated builds and tests are run on every change to ensure that the code is always in a working state. The goal of CI is to catch and fix bugs as early as possible in the development process, which helps to reduce the cost and time required to fix them later on.



Continuous Delivery (CD) is a software development practice where code changes are automatically built, tested, and deployed to production or staging environments. The goal of CD is to ensure that code changes are always in a deployable state and can be released to production at any time. By automating the deployment process, CD helps to reduce the risk of human error and makes it easier to release new features and bug fixes to users quickly and efficiently.

Benefits of CI/CD to Achieve, Build, and Deploy Automation

Faster Time-to-Market:

- With CI/CD, code changes are automatically built, tested, and deployed, which helps to reduce the time it takes to release new features and bug fixes to users.

Improved Quality:

- By catching and fixing bugs early in the development process, CI/CD helps to ensure that the code is always in a working state and that the quality of the software is high.

Increased Efficiency:

- By automating the build and deployment process, CI/CD helps to reduce the amount of time and effort required to release new features and bug fixes.

Benefits of CI/CD to Achieve, Build, and Deploy Automation

Better Collaboration:

- By integrating code changes frequently and automatically, CI/CD helps to promote better collaboration among developers and reduces the risk of conflicts and errors.

Cost Savings:

- By catching and fixing bugs early in the development process, CI/CD helps to reduce the cost of fixing them later on, which can save time and money in the long run.