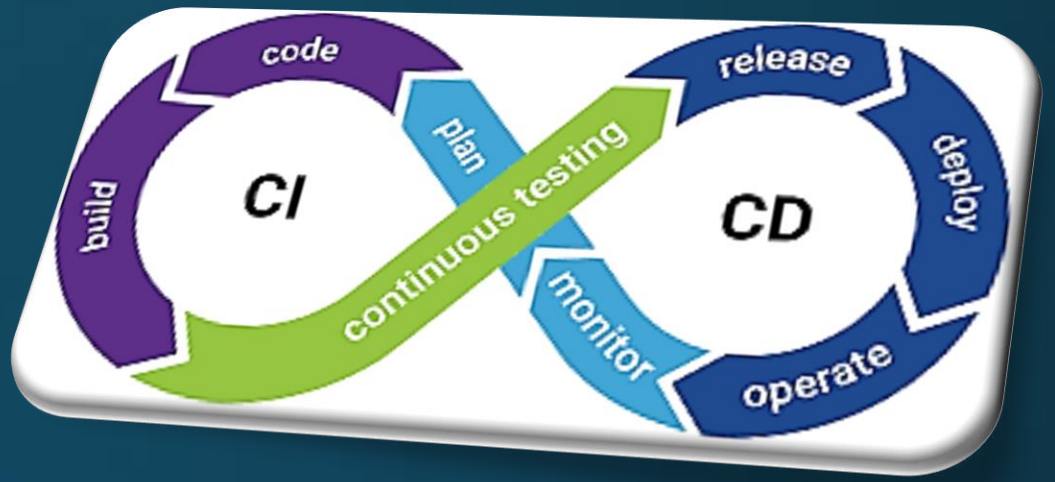
CI/CD



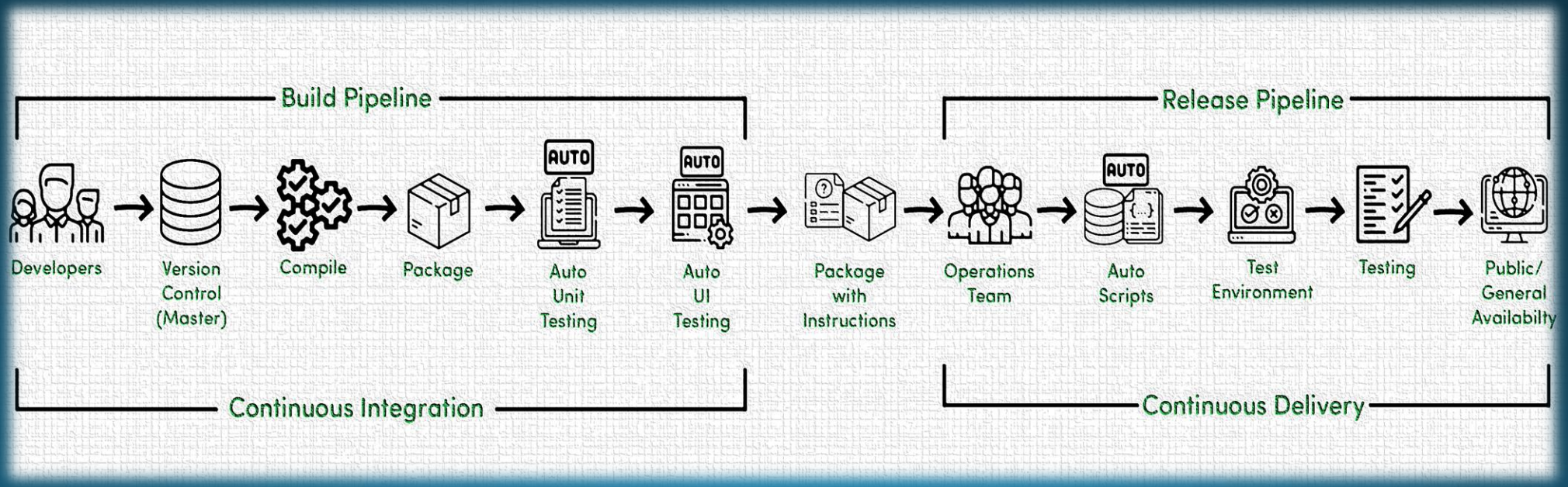
CI/CD A better way to build and ship products to market

What is CI/CD ?

- Continuous integration
  - A development practice of code integration into a shared repository
  - Each integration is verified by an automated build and automated tests

- Continuous Deployment
  - An extension of Continuous integration
  - Aims to reduce the time the development teams between writing one line of code and using it in production

HOW IT WORKS ?



Continuous Integration & Continuous Deployment

- Reduce code conflicts.
- Faster Code merge
- Catch Code Error After merge

- More frequent production deployme
- Avoid manual intervention
- Automatic Rollbacks in case of failure

For my Organization .....

- Protect & Increase Revenue
- Cost Reduction
- Cost Avoidance at Some Cases.

Why the hassle ???

- Increase in market share
- Faster feature delivery for customers

WHY CI/CD ?

- **Smaller Code Changes**
  - Allows you to integrate small pieces of code at one time These code changes are simpler and easier to handle than huge chunks of code.
- **Faster Mean Time To Resolution (MTTR)**
  - MTTR measures the maintainability of repairable features and sets the average time to repair a broken feature.
  - it helps you track the amount of time spent to recover from a failure.
- **More Test Reliability**
  - Improves due to the bite-size and specific changes introduced to the system, allowing for more accurate positive and negative tests to be conducted.
- **Faster Release Rate**
  - Failures are detected faster and as such, can be repaired faster, leading to increasing release rates.
- **Smaller Backlog**
  - Incorporating CI/CD into your organization's development process reduces the number of non-critical defects in your backlog. These small defects are detected prior to production and fixed before being released to end-users.
- **Customer Satisfaction**
  - Buggy Software ca harm your brand reputation. Utilizing a CI/CD approach also keeps your product up-to-date with the latest technology and allows you to gain new customers.
- **Reduce Costs**
  - Automation in the CI/CD pipeline reduces the number of errors that can take place in the many repetitive steps of CI and CD .

WHY CI/CD ?

- **Increase Team Transparency and Accountability**
  - CI/CD is a amazing way to get continuous feedback not only from customers but also from your team.
  - This increases the transparency of any problems in the team and encourages responsible accountability.
- **Fault Isolations**
  - when an error occurs, the negative outcomes are limited in scope. Limiting the scope of problems reduces the potential for damage and makes systems easier to maintain.
  - Fault isolations combine monitoring the system, identifying when the fault occurred, and triggering its location.
- **Easy Maintenance and Updates**
  - it's important to note within a CI/CD process to perform maintenance during downtime periods, also known as the non-critical hour.
  - Don't take the system down during peak traffic times to update code changes.

Action	Value
Generating features release more quickly	Increase Revenue
Less Time to Market	Increase Revenue
Less Human error Faster Deployment	Cost Avoidance
Quick undo to return Production to Working State	Protect Revenue