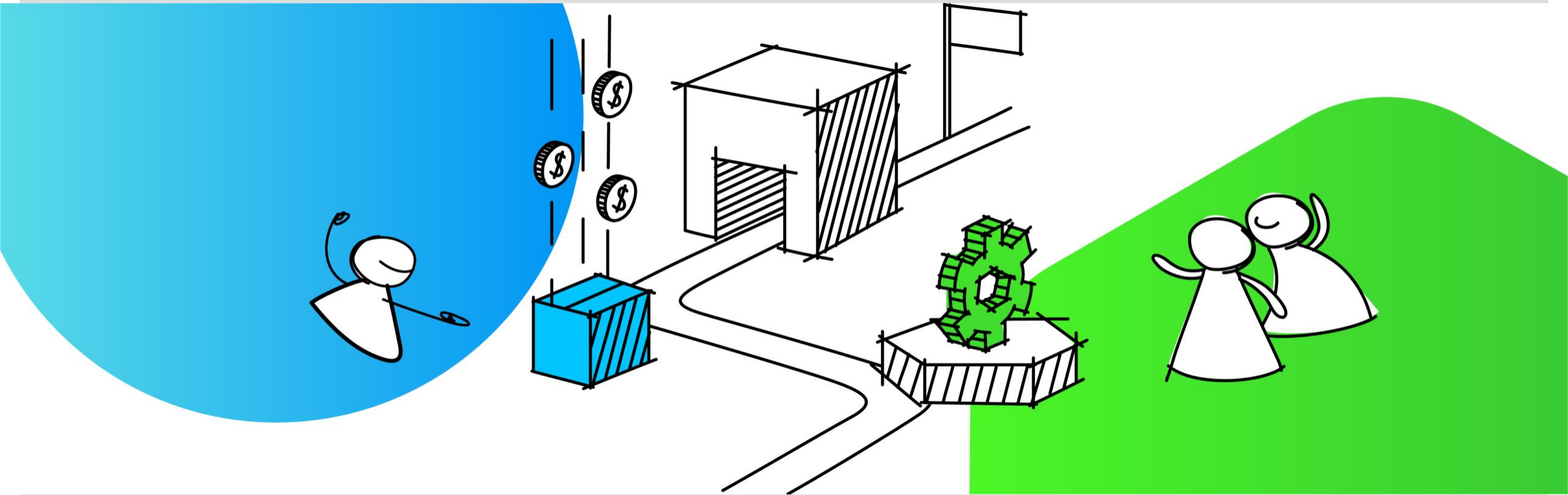
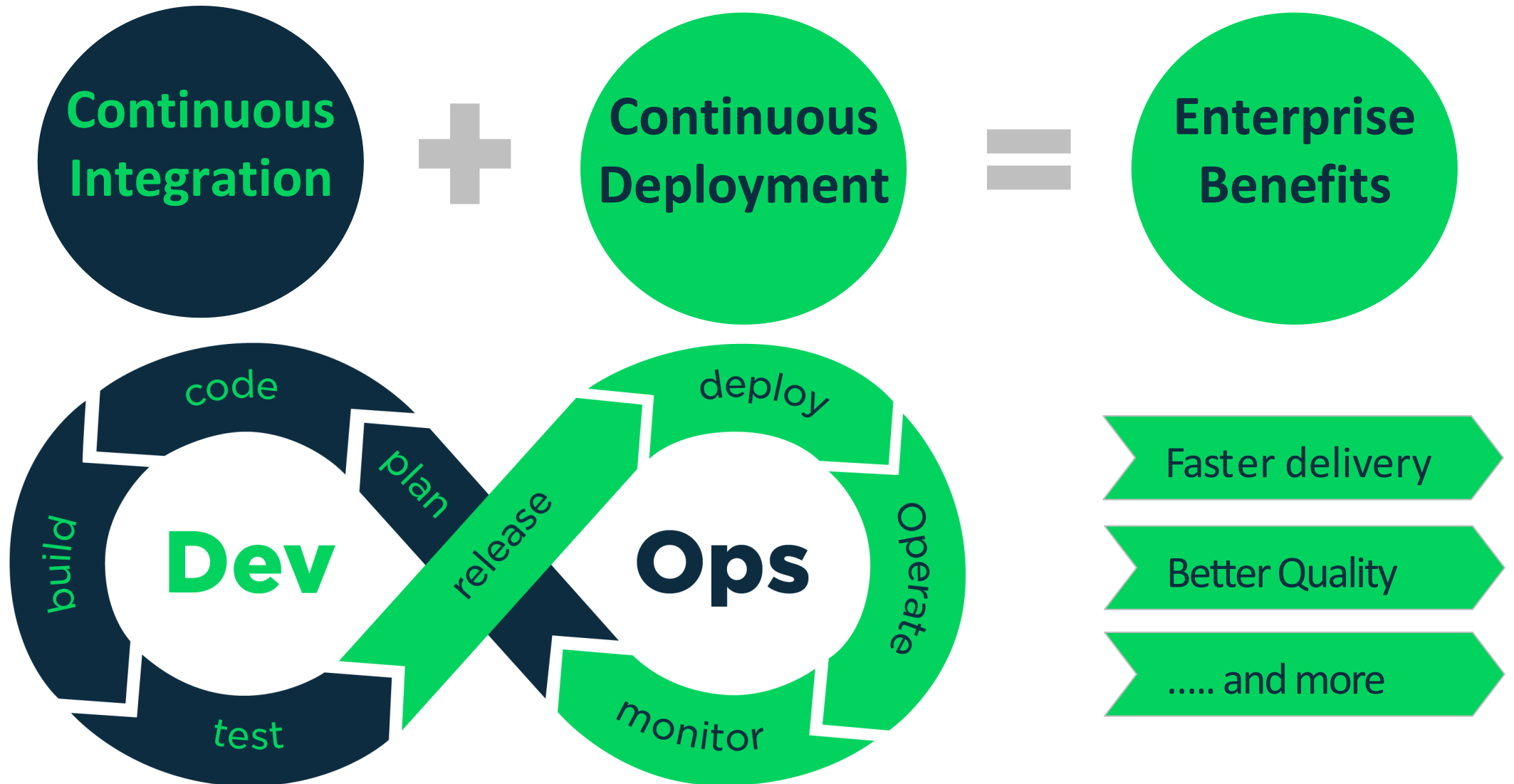


UdaPeople Project

Continuous Delivery Automation



CI/CD a better way to build and ship
software to the market



Coordinate + Integrate + Test the Daily work of developers Towards Delivery of High Quality Deployable Artifacts.

Continuous Integration

it's all about code and "Dev" workflow

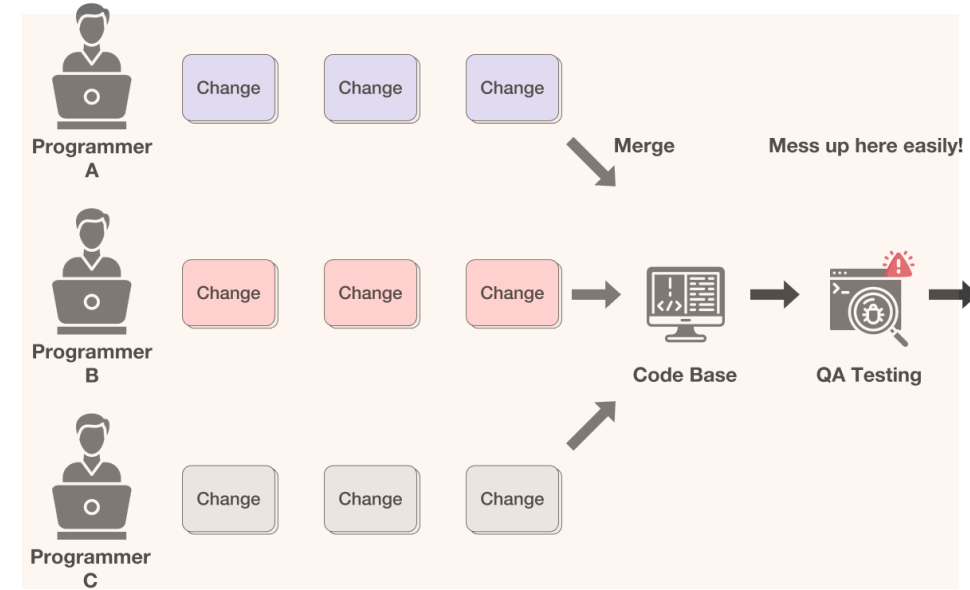
Develop with unit-test in consideration
Tools:

- Git repos management such as git.hub, gitlab.com, github
- CircleCi, Gitlab Runner
- Ansible

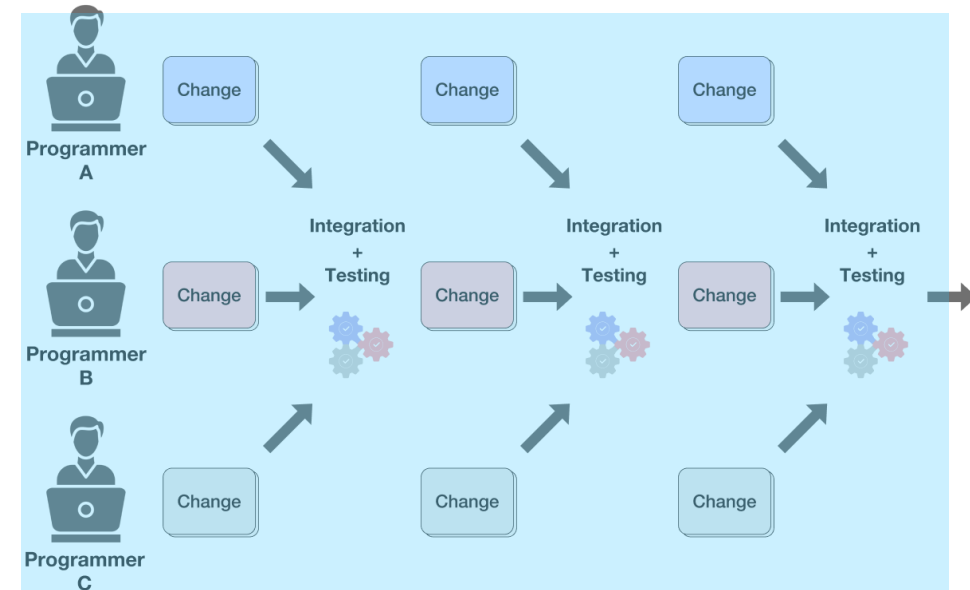
CI phases:

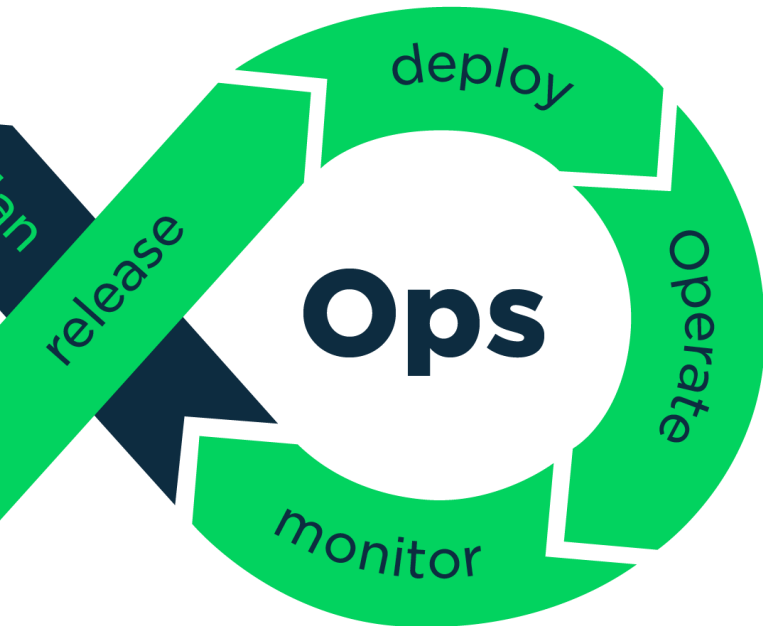
- Coding (system code, unit-tests, integrated test-scripts)
- Automate Code Building - alert on failure
- Automate Testing - alert on failure
- Static Analysis (Check Vulnerabilities) - alert on failure

Traditional Way



With CI (fail fast 🖐️ .. fix early 😊)





Deploy Software artifacts in automated way

it's like having a **Robot** to **pick** your **sold products from warehouse shelf** to the **customer**, this **reduces human factor** and **increase revenue**

Continuous Deployment

it's all about deployments and "Ops" workflow

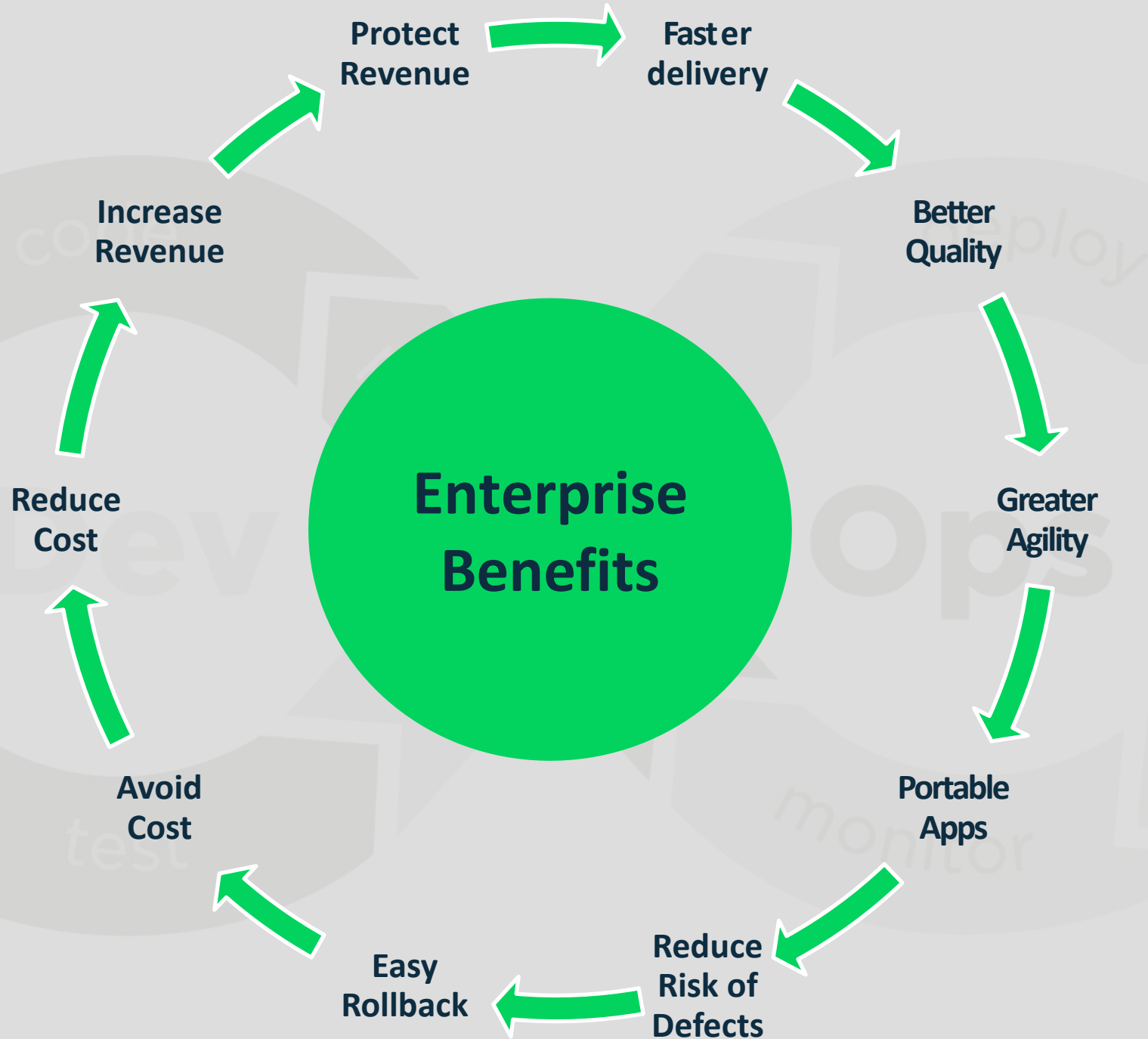
Automate Deploying software artifacts to different environments: SIT, Testing

Tools:

- CircleCi, Gitlab Runner
- Ansible
- Prometheus Monitoring & Alerting

CD phases:

- Provisioning Infrastructure
- Configuring Infrastructure
- Smoke Testing
- Promotions
- Cleaning
- Monitoring



CI/CD Captures Business Value

Code is easier to manage and of better quality

- ✓ smaller chunks of code , reduces
- ✓ easier and faster
- ✓ reduces the risk of unintended consequences in the production environment
- ✓ Automated tests can fix bugs immediately, reduce back-log and save time of QA team

Shortens time-to-market for new products and features

- ✓ achieve maximum business velocity without compromising quality
- ✓ Evolving end-user requirements can be addressed quickly
- ✓ accelerated time-to-value and the enhanced end-user satisfaction

Creates fast feedback/failure loops

- ✓ if something is going to fail, it should fail fast
- ✓ rapid A-B testing, feature toggles and blue-green deploys of new production features prior to full release
- ✓ If an update turns out to be problematic, it can be automatically rolled back with little to no downtime

Creates new communications channels within the organization

- ✓ CI/CD fosters a culture of agility and innovation throughout the entire organization.
- ✓ Provides a platform for communications among developers, product managers, testers and operations admins.
- ✓ These teams can now collaborate seamlessly, with a sense of shared responsibility and within an environment that values responsiveness and initiative.

Enhanced employee productivity and satisfaction

- ✓ Development, IT and operations teams welcome the automation of tedious repetitive tasks that often contribute to employee burnout.
- ✓ Thus, employees have more time for strategic initiatives that can move the business forward. Also, their enhanced productivity can reduce costs.

Data-driven business decisions

- ✓ CI/CD produces a lot of valuable metrics across the entire software development life cycle, including continuous monitoring and observability data from the production environment.
- ✓ These metrics support data-driven business decisions regarding product roadmaps, infrastructure requirements, team performance and more.