



Continuous Integration / Continuous Deployment

CI/CD

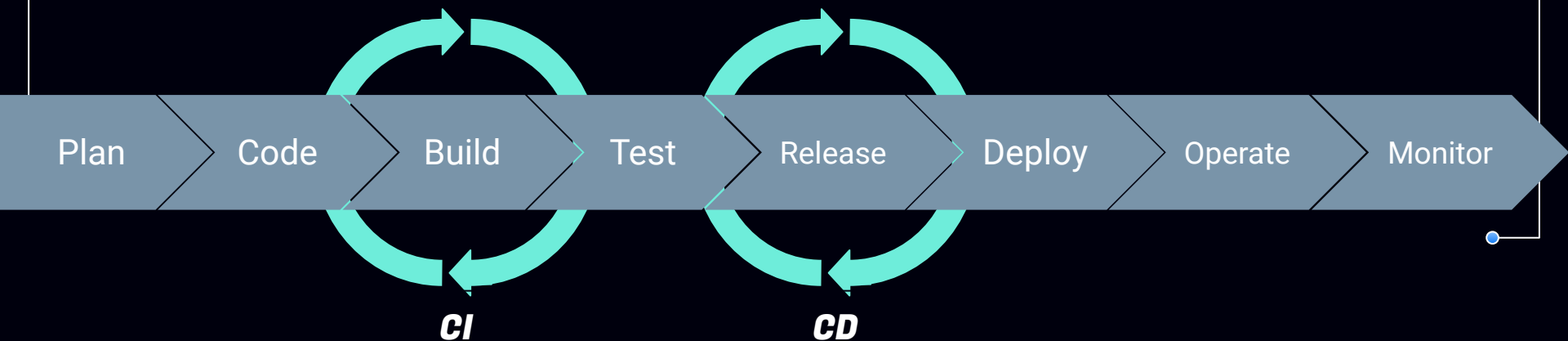
A better way to build and ship our products

Continuous Integration (CI)

- Continuous Integration (CI) is the process of integrating code changes from multiple contributors to create a single software project
- The first step of the DevOps coding philosophy and set of practices that streamline your application delivery
- Implementing and executing CI means that you merge your code changes into your project's main branch and the changes will be validated against different tests. It can also be a specific branch for the different environments: testing, acceptance, and production

Continuous Deployment (CD)

- Continuous Deployment (CD) goes one step further towards automation. Besides the automatic code build and the deployment from the build server into the staging environment(s), it automatically deploys the code to production, if all tests passed green
- Continuous Deployment happens along the whole deployment pipeline, including the deployment to production



Benefits of CI/CD

- **Automate Infrastructure Creation and clean up**
Eliminating human errors and avoid unnecessary cost of unused infrastructure
- **Faster and More Frequent Production Deployments**
By automating the pipeline to production features will be deployed as soon as created which will help increasing revenue
- **Automated Smoke Tests**
This would protect our revenue by reducing downtime caused by deploy-related crash or bugs

Benefits of CI/CD

- **Catch Unit Test Failures**

Unit tests are not neglected with CI/CD which will increase code quality and catch errors early before production which would decrease cost

- **Detect Security Vulnerabilities**

We can avoid extra cost by prevent embarrassing or costly security holes

- **Automated Rollback Triggered by Job Failure**

Automate the process of rolling back and cleaning any infrastructure left which would help in reducing cost and lower down time