

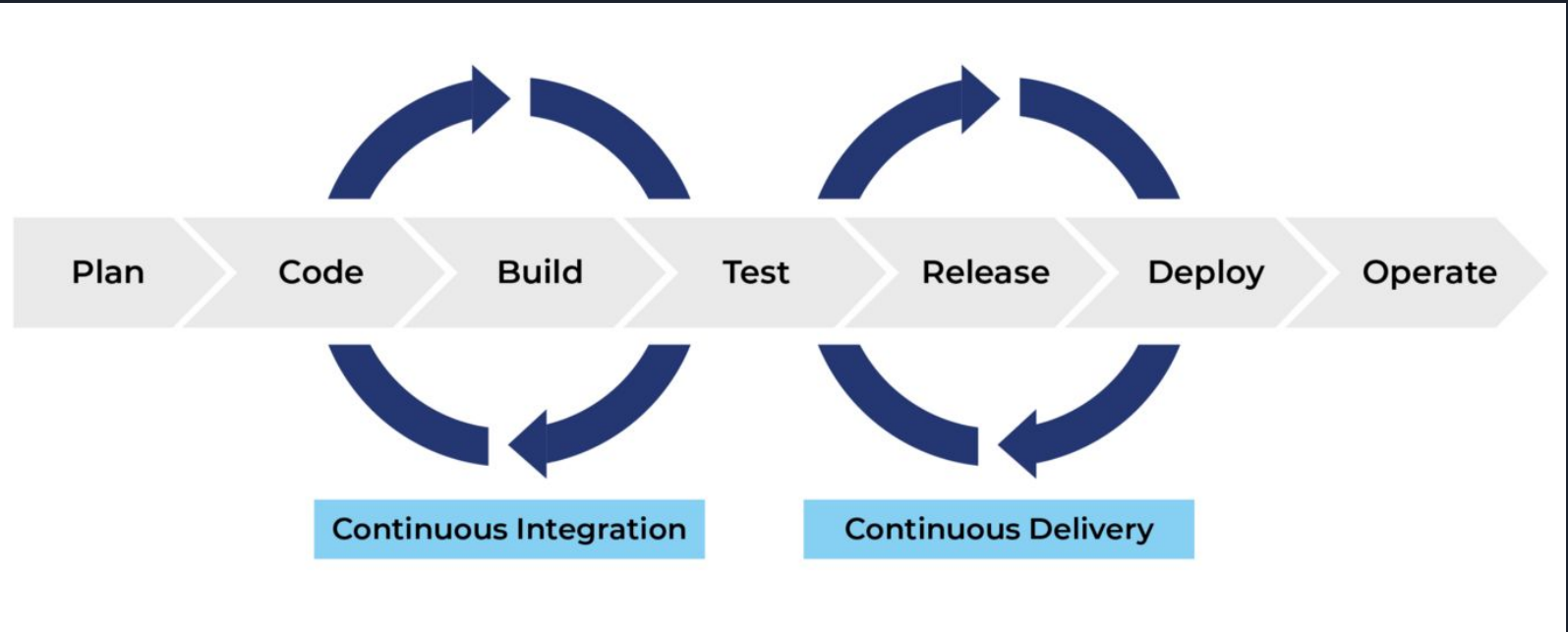


CI/CD

Ship software faster with less cost

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Automating Software Building & Deployment Process





Continuous Integration

The continuous integration process covers the flow of converting code into a usable software ready for shipping to different environments.

The process consist of (but not limited to) the following stages:

- Running static code analysis
- Code dependencies security checks
- Building the code (Validate code before merging to the mainstream code)
- Running Unit Tests

Benefits

- Saves time on code reviews, early detection of possible performance & security issues
- Early detection of build issues & conflicts, and testing for breaking feature before merging new feature code into the mainstream code.
- Free time for engineers to focus on developing new business features



Continuous Deployment

The continuous deployment process covers the flow of shipping a software to the target environments.

The process consist of (but not limited to) the following stages:

- Provisioning infrastructure
- Configuring infrastructure
- Automated deployment
- Smoke testing

Benefits

- Avoid human mistakes
- Avoid the dependency problem, where only one/few engineer(s) has the knowledge to do a correct deployment
- Minimal down time for shipping the software
- Now we can do frequent deployments without much worrying (faster shipping for new features)



CI/CD benefits for the business

- **Avoid Cost**
 - Less bugs in production and less time in testing.
 - Prevent embarrassing or costly security holes.
 - Less human error, Faster deployments.
- **Reduce Cost**
 - Less infrastructure costs from unused resources.
- **Increase Revenue**
 - New value-generating features released more quickly.
 - Less time to market.
- **Protect Revenue**
 - Reduced downtime from a deploy-related crash or major bug.
 - Quick undo to return production to working state.



References

- <https://aws.amazon.com/devops/continuous-integration/>
- <https://aws.amazon.com/devops/continuous-delivery/>
- <https://www.udacity.com/course/intro-to-devops--ud611>
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