

# Cloud DevOps Engineer Nanodegree Program

## Selling CI/CD Presentation

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

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### Challenges in software projects

- Sloppy development practices lead to customer churn
- High cost for software testing and deployment
- Low revenue due to poor coordination between developers on task dependencies and communication among users, managers and developers

### CI/CD coming to rescue

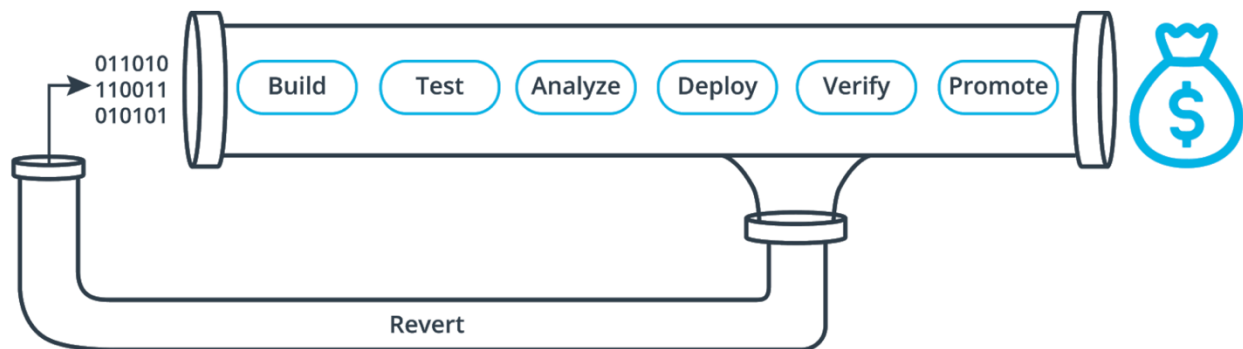
- CI is the practice of merging all developers' working copies to a shared mainline several times a day
- CD is an engineering approach in which teams produce and release value in short cycles and frequently through automated deployments

Top business benefits of CI/ CD: Improve velocity, productivity and sustainability of software dev teams:

- catch compile errors after merge and automate infrastructure cleanup to save developer's time and reduce infrastructure costs from unused resources;
- faster, more frequent, and easier production deployments will increase revenue because new value-generating features are released more quickly to market;
- detecting security vulnerabilities is helpful to avoid cost to prevent embarrassing or costly security holes;
- automated smoke tests and rollback triggered by job failure ensures revenue to be protected by quick undo to return production to working state.

Therefore, CI/CD should be adopted as an essential piece of workflow, and include the following pipeline building blocks.

## The CI/CD Pipeline



Reference:

- [https://en.wikipedia.org/wiki/Continuous\\_integration](https://en.wikipedia.org/wiki/Continuous_integration)
- <https://www.udacity.com/course/cloud-dev-ops-nanodegree-nd9991>