

# Crash Course Notes

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DevOps is a software development approach that emphasizes collaboration, communication, and integration between development and operations teams, with the goal of shortening the development cycle, increasing software release frequency, and improving software delivery quality.

Agile is a set of values and principles:

- Individuals and Interactions > processes and tools
  - Working software > comprehensive documentation
  - Customer Collaboration > Contract Negotiation
  - Responding to change > Following a plan
- 1) Highest priority is to satisfy the customer through early and continuous delivery of valuable software
  - 2) Welcome changing requirements, even late in development. Agile processes harness change for customer's competitive advantage
  - 3) Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale
  - 4) Business people and developers must work together daily throughout the project
  - 5) Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done
  - 6) The most efficient and effective method of conveying information to and within a development team is face-to-face conversation
  - 7) Working software is the primary measure of progress
  - 8) Agile process promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely
  - 9) Continuous attention to technical excellence and good design enhances agility
  - 10) Simplicity - the art of maximizing the amount of work not done - is essential
  - 11) The best architectures, requirements, and designs emerge from self-organizing teams
  - 12) At regular intervals,, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly

Continuous integration (CI): Involves automatically building and testing code changes as they are made by developers to ensure that the new code integrates well with the existing codebase. This facilitates identifying and fixing issues early on, reducing the time and effort required to address them later.

Continuous deployment (CD), sometimes also called continuous delivery: Involves automatically deploying tested and approved code changes to the production environment. This enables faster and more frequent deployments, reducing the time needed to deliver new features and fixes to end users. Software application updates to our mobile phones are a classic example of continuous delivery.