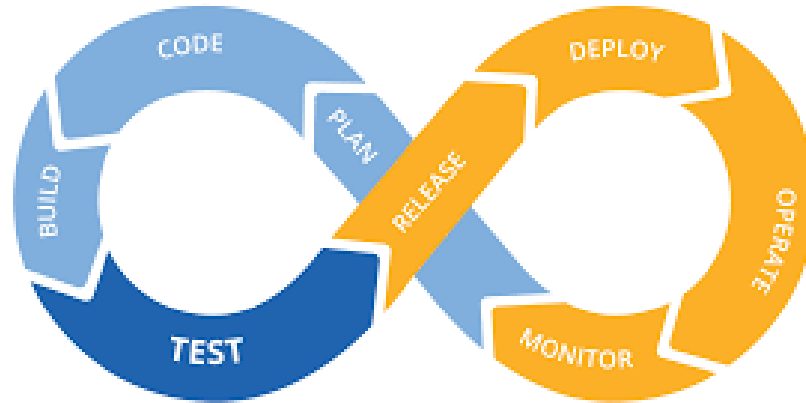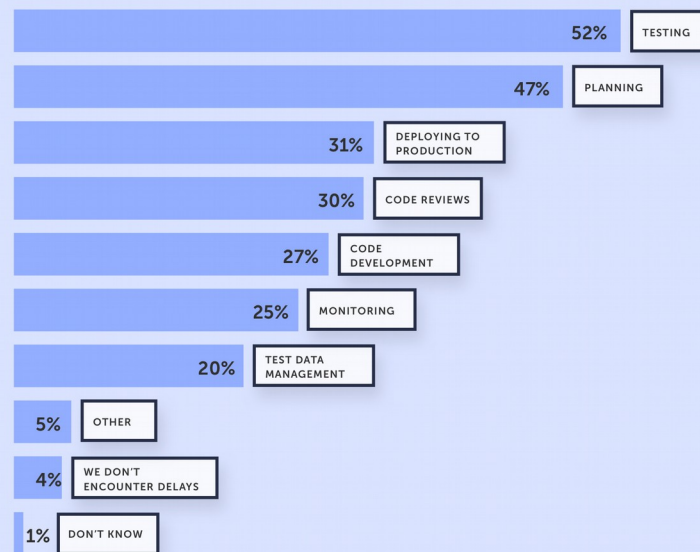# Fundamentals and Benefits of CI/CD

Fundamentals

- **CI/CD:**
  - This is a software development method in which software value is frequently released in a sustainable way. It consists of CI and CD.
- **Continuous Integration(CI)**:
  - This is a practice in which developers share their changes in the main code branch, from where the code is then tested for bugs. This process is carried on many times in a day.
- **Continuous Delivery(CD)**:
  - In this practice, code updates are continuously delivered manually. Whenever this process is done automatically, it is called **Continuous Deployment.**
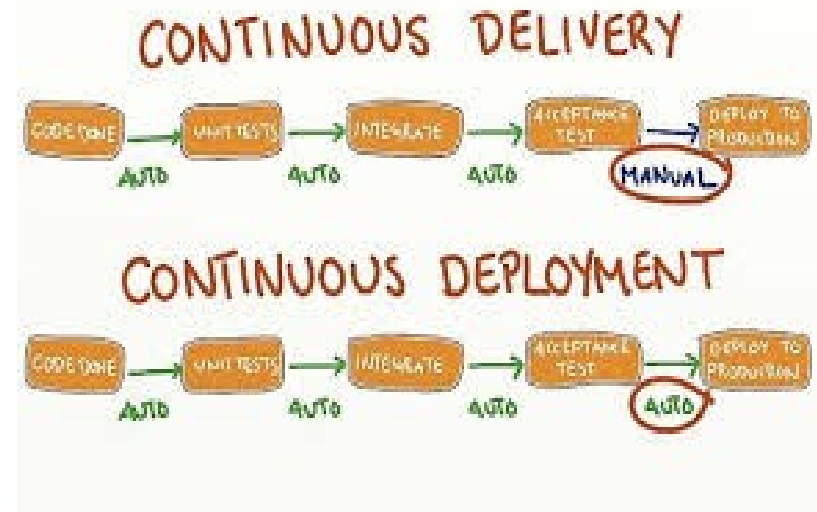
Benefits of CI/CD to UdaPeople

- Due to continuous Deployment, new features are being released more frequently, bringing about an early availability of the features in the market, thus increasing the Company's revenue.

- With continuous Deployment, Constant feedback is received from users thus releases become more user oriented and improves in usability which in turn causes an increase in revenue.

- Automated roll back cause the system to return to the previous working state after an update failure, this keeps the system in a constant working state, thus feeding the customers trust, which in turn protects revenue.

WHERE IN THE DEVELOPMENT PROCESS DO YOU ENCOUNTER THE MOST DELAYS?

52%	TESTING
47%	PLANNING
31%	DEPLOYING TO PRODUCTION
30%	CODE REVIEWS
27%	CODE DEVELOPMENT
25%	MONITORING
20%	TEST DATA MANAGEMENT
5%	OTHER
4%	WE DON'T ENCOUNTER DELAYS
1%	DON'T KNOW

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Benefits of CI/CD to UdaPeople

- Constant code merges to the main code branch causes simpler codes with fewer bugs, causing the developer to spend less time in debugging thus bringing about a reduction in cost .

- Smaller code changes are simpler and have fewer unintended consequences, thus making it less probable to have system failures in production and thus avoiding cost of repair.

- Overall automation increases the overall development and deployment speed thus causing a great reduction in cost.

Benefits of CI/CD to UdaPeople

- Continuous integration of code and testing automation also brings about a reduction of the cost of quality.

- Pipe-lining gives detailed information on the ongoing processes, thus bringing about a reduction of cost of translation from the Developers team to the operations team, marketing team or other stakeholders.

- Monitoring enables quick detection of errors or problems in production, thus the problems are solved faster and thus revenue is protected.

CI/CD: The Solution TO High-Cost Quality

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Thanks for listening