Project: - udapeople
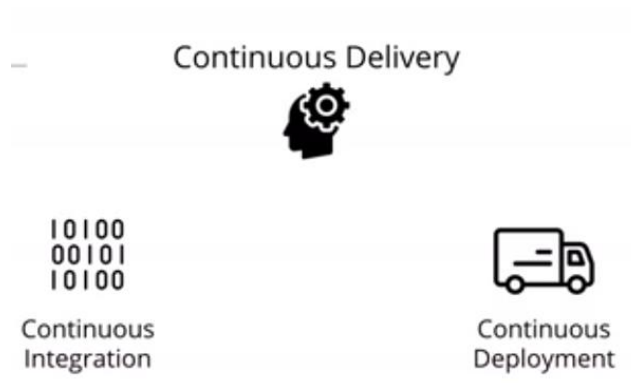
Topic: - Fundamentals and Benefits of CI/CD

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Fundamentals and Benefits of CI/CD

- **Continuous Delivery**: An engineering practice in which teams produce and release value in short cycles.

- **Continuous Integration**: The practice of merging all developers' working copies to a shared mainline several times a day.

- **Continuous Deployment**: A software engineering approach in which the value is delivered frequently through automated deployments.

Benefits of CI/CD

- **Fail Fast:** Set up your CI/CD pipeline to find and reveal failures as fast as possible. The faster you can bring your code failures to light, the faster you can fix them.

- **Measure Quality:** Measure your code quality so that you can see the positive effects of your improvement work (or the negative effects of technical debt).

- **Only Road to Production:** Once CI/CD is deploying to production on your behalf, it must be the only way to deploy. Any other person or process that meddles with production after CI/CD is running will inevitably cause CI/CD to become inconsistent and fail.

- **Maximum Automation:** If it can be automated, automate it. This will only improve your process.

- **Config in Code:** All configuration code must be in code and versioned alongside your production code. This includes the CI/CD configuration files.

Project Benefits

- **Project Cost Reduce By 30%:**
    - Team needs to spend less time on issue during our code merge.
    - Automated process will identify unused infrastructure allocated for our project and it can be released.

- **Project Avoid Cost by 20%:**
    - Automated testing will help in less bug in production and less time in performing testing.
    - Automated infrastructure will help in faster project deployment with less human errors or intervention.

- **Business Revenue Increase by 30%:**
    - Fast value creation is achieved by releasing the feature quickly, which will help the business to increase revenue.
    - Less time to market our product.

- **Business Protect Revenue by 15%:**
    - Automated smoke testing will help in reducing downtime from deployment related crash or any application bug.
    - Automated rollback will always make sure working state in running fine and not impacting customers.

Thank You