

Business Case

How integrating the concept of CI/CD into udapeople products for the company will generate increased revenue, brand awareness through customer satisfaction, sales and reduced costs.

Fundamentals of CI/CD

Continuous Integration(CI), Continuous Delivery and Deployment (CD).

CI/CD is basically a method to frequently deliver apps to customers by introducing automation into the stages of app development.

Continuous Integration

This is where the code for a software is continuously being written, tested to ensure there are no bugs, errors detected and corrected and then passed on to the other stages. This used to be done manually which leads to reduced time to market, human errors, late detection of bugs which causes later time to fix and incurs costs but with modern trend which is using automation, which is what my team is asking for to implement in Udapeople product all these will be eliminated.

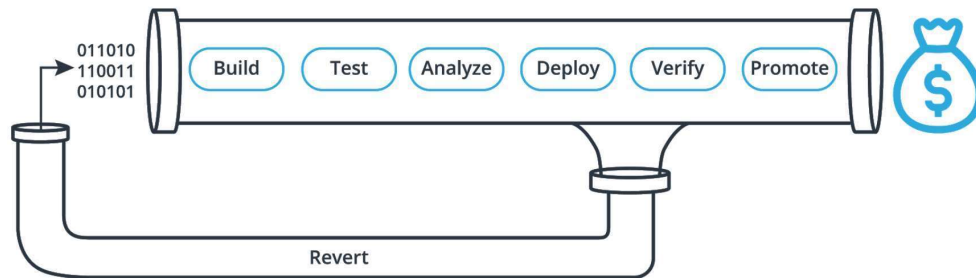
Continuous Delivery

This is where the tested code from Continuous Integration is now passed to. In this stage the code for the software is validated after which it is shipped to the final stage.

Continuous Deployment: This is the final stage where the software is deployed after having undergone successful checks is now sent into production and users now have access to the software and can give feedback regarding it.

This whole process is illustrated below:

The CI/CD Pipeline



BENEFITS OF CI/CD

| Technical Language | Value | Translation |
|----------------------------------|-------------|---|
| Catch Compile Errors After Merge | Reduce Cost | Less developer time on issues from new developer code |
| Catch Unit Test Failures | Avoid Cost | Less bugs in production and less time in testing |
| Detect Security Vulnerabilities | Avoid Cost | Prevent embarrassing or costly security holes |
| Automate Infrastructure Creation | Avoid Cost | Less human error, Faster deployments |