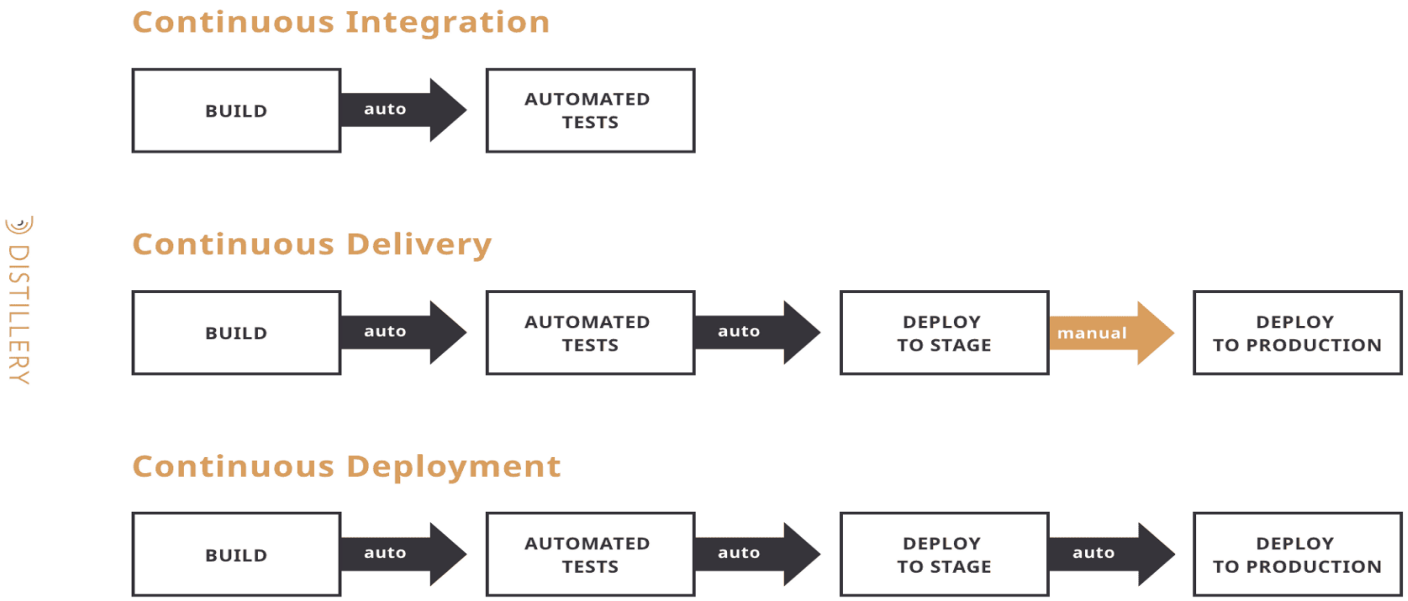
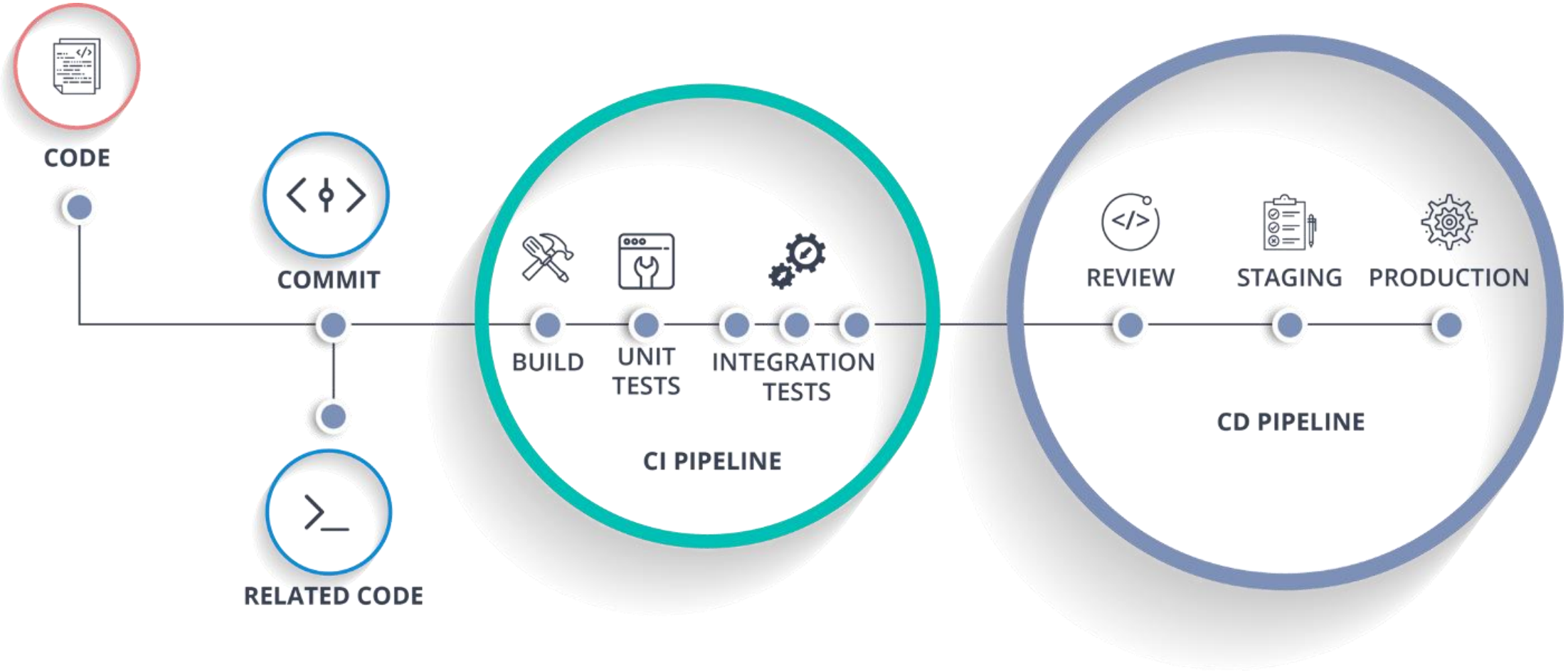
What is CI / CD ?

- CI/CD is a method to frequently deliver apps to customers by introducing automation into the stages of app development. The main concepts attributed to CI/CD are continuous integration, continuous delivery, and continuous deployment. CI/CD is a solution to the problems integrating new code can cause for development and operations teams.
- CI/CD is a DevOps tactic, which makes use of the right automated testing tools to implement agile development.



CI/CD Pipeline

A CI/CD pipeline introduces monitoring and automation to improve the application development workflow, particularly at the integration and testing phases, as well as during delivery and deployment.

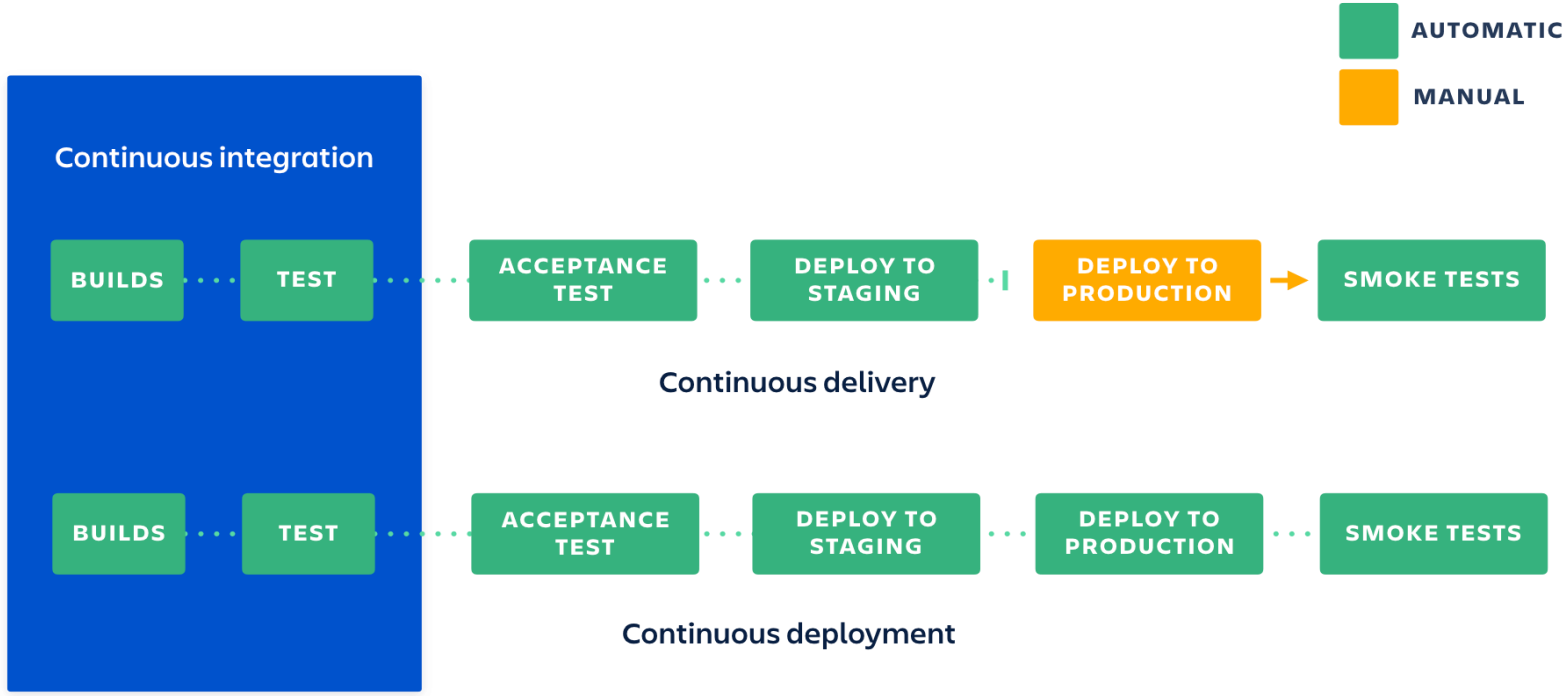


- CI Components

- **Continuous Integration Server** (Jenkins,TeamCity, and others)
- **Source Control Tool** (SVN, GIT, and others)
- **Build tool** (ANT, Maven, Gradle, and others)
- **Automation testing framework** (Selenium, Appium, Jmeter and others)

What is Continuous Delivery and Continuous Deployment ?

Continuous delivery is an extension of continuous integration since it automatically deploys all code changes to a testing and/or production environment after the build stage.
Continuous deployment goes one step further than continuous delivery. With this practice, every change that passes all stages of your production pipeline is released to your customers. There's no human intervention, and only a failed test will prevent a new change to be deployed to production.



BENEFITS OF CI/CD :-

REDUCE COST :-
- Catch Compile Errors After Merge
- Automate Infrastructure Cleanup

Avoid Cost :-
- Prevent embarrassing or costly security holes.
- Less human error, Faster deployments.
- Less bugs in production and less time in testing.

INCREASE REVENUE :-
- Faster Time to market
- Deploy to Production Without Manual Checks

PROTECT REVENUE :-
- Reduce Downtime
- Automated Rollback Triggered by Job Failure