

CI/CD

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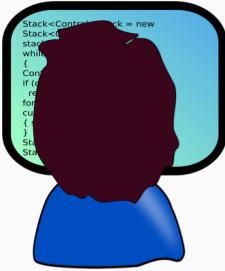
Jenkins

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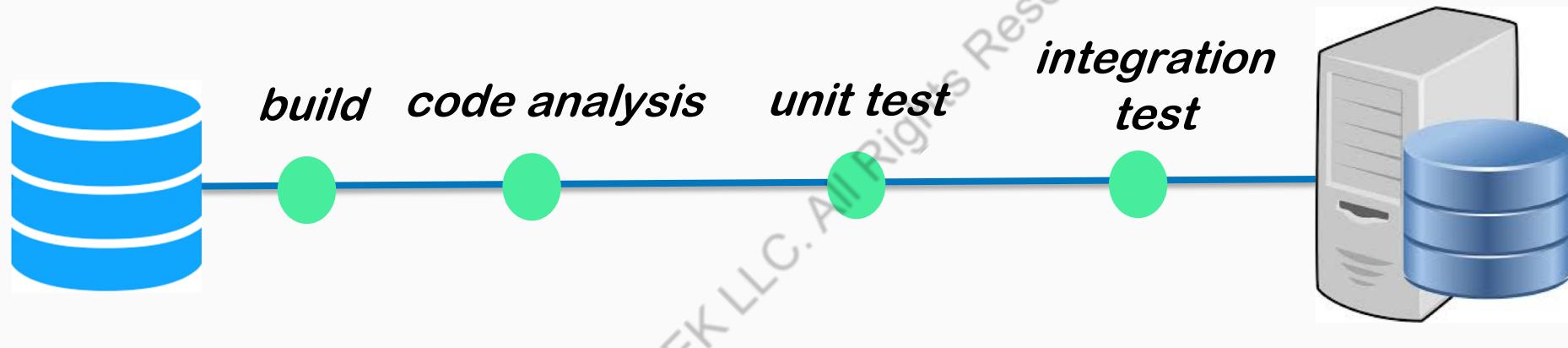


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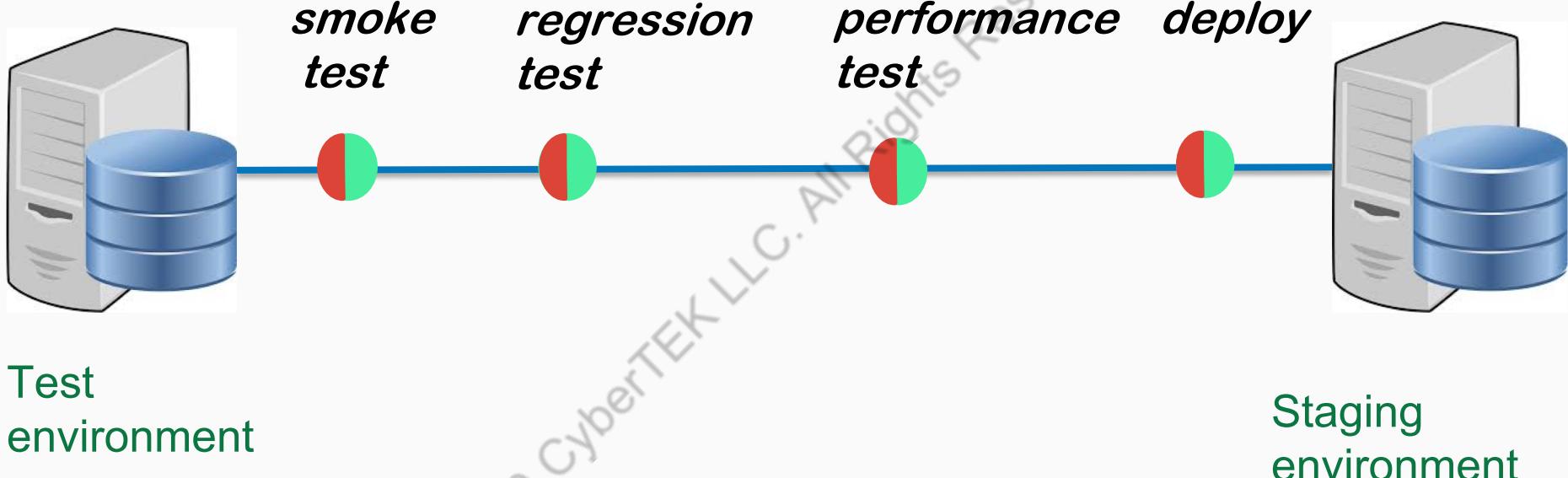


sonarqube

JUnit



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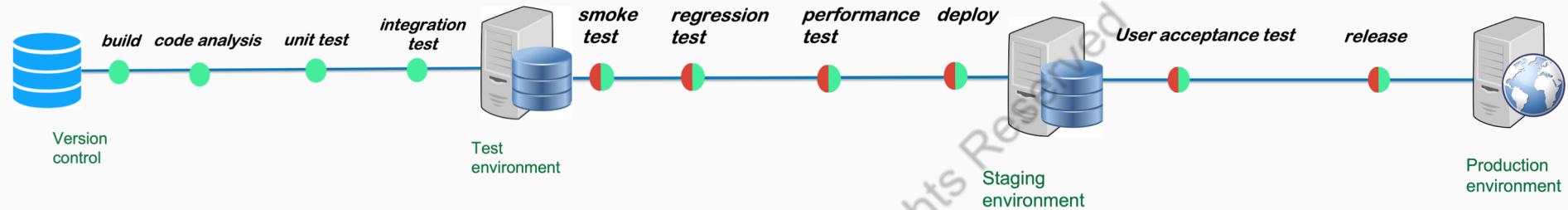
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environment

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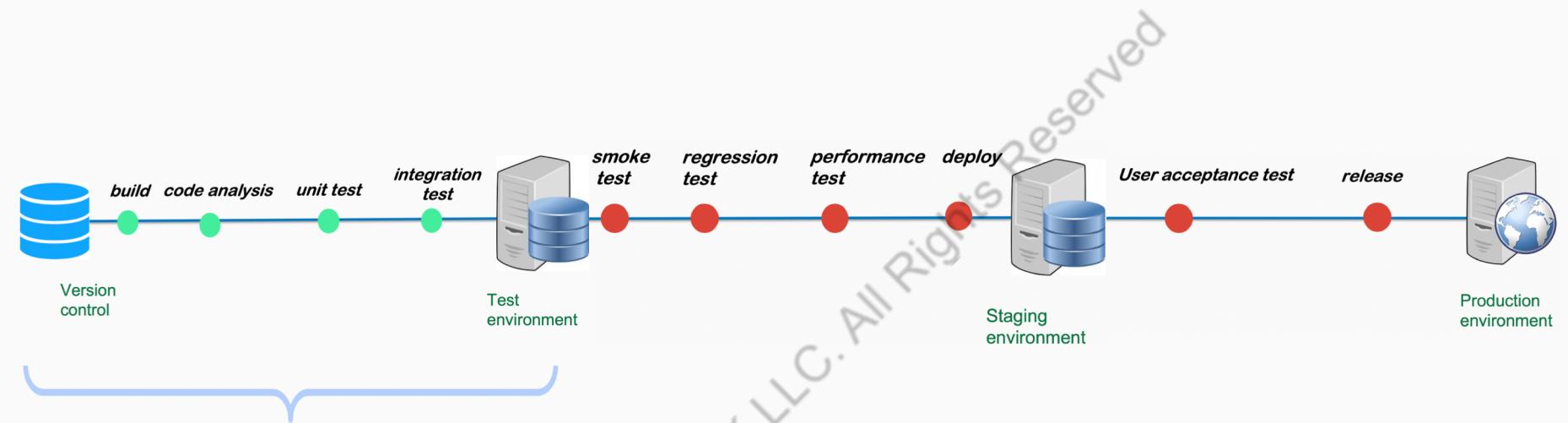


Production Pipeline

Pipeline

Pipeline is a set of processes that take the code from version control and compile, build, test and deploy to production in automated fashion.

The pipeline breaks down the software delivery process into stages. Each stage is made of different tasks which can be carried out in parallel. When all tasks in a stage passes, next stage is triggered.



Continuous Integration

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Continuous Integration

Continuous Integration is an automated build and execution of at unit and integration tests, performing code analysis.

The Continuous Integration process is comprised of automatic tools that assert the new code's correctness before integration. It reduces integration problems allowing to deliver software more rapidly by providing quick feedback every time new code is added to the source control. Usually Continuous Integration does not involve testing the functionality of the application.



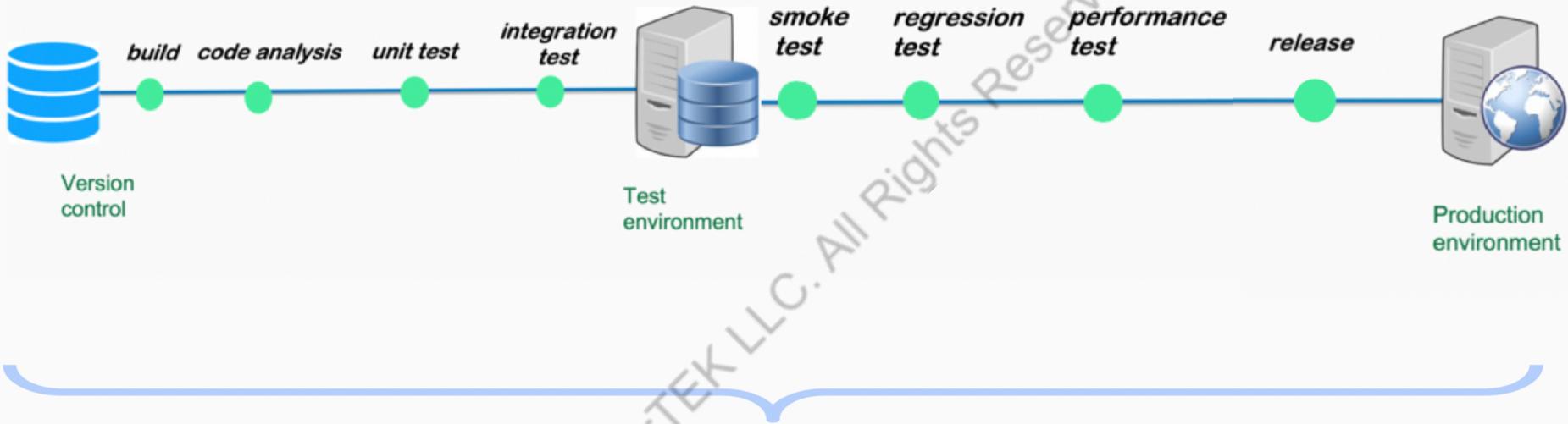
Continuous Delivery

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Continuous Delivery

Continuous Delivery is an automated build and execution of unit and integration tests, performing code analysis, functional tests and also deploying to any supported platform any time. Each time a build or a set of code passes the tests, it's automatically deployed out to a staging environment.

In Continuous Delivery releasing to end users is a manual process. Continuous delivery involves human decision-making when it comes to deciding when to release the software to the customers.



Continuous Deployment

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Continuous Deployment

Continuous Deployment

Continuous deployment means that every change that you make, goes through the pipeline, and if it passes all the tests, it automatically gets deployed into production.

When a developer checks in code, the automated processes take the code and move it through the entire lifecycle and if it passes each gate, it gets deployed directly to production. The delivery speeds are notably faster due to elimination of manual steps.

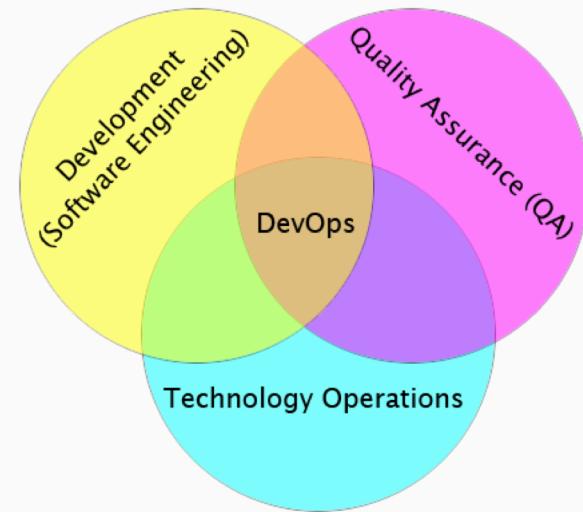
DevOps

Methodology (like agile, waterfall)

DevOps merges developer, tester and operations roles together. whoever writes the software is also responsible and deploying and maintaining it.

DevOps organizations break down the barriers between Operations and Engineering by cross-training each team in the other's skills.

DevOps focuses on culture highlighting roles that emphasize responsiveness and breaking down barriers between developers and operations teams.



Jenkins



1. CI/CD tool
2. Travis, TeamCity, Bamboo
3. Open source
4. Automates building, testing, packaging, staging, deploying the application

Integrates with different tools using plugins

Jenkins job



In Jenkins everything is done by creating a job

1. a task that Jenkins performs based its schedule
2. be made of several steps
3. can have a schedule or a trigger which determines when it runs
4. reports the results of the run automatically