Introduction to DevOps

CLARUSWAY
WAY TO REINVENT YOURSELF

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1 DevOps Basics

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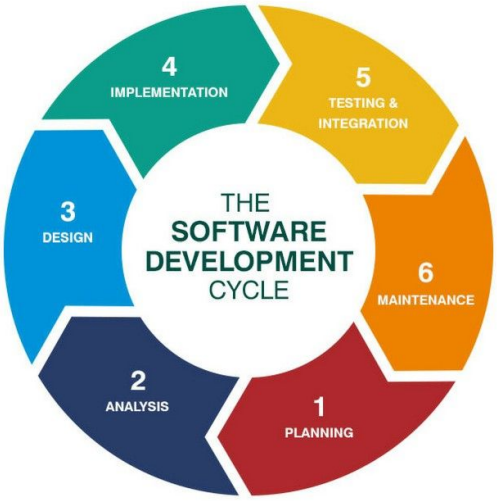
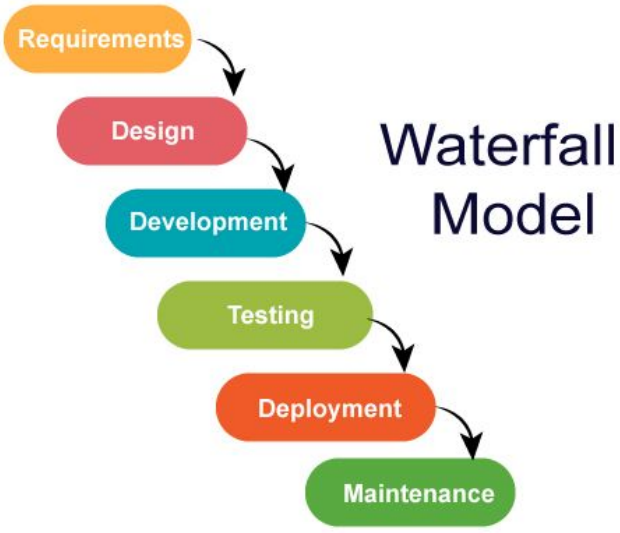
What is Devops?



What is Devops?

- Each phase completely wrapping up before the next phase begins
- If parameters change along the way, it's harder to change course



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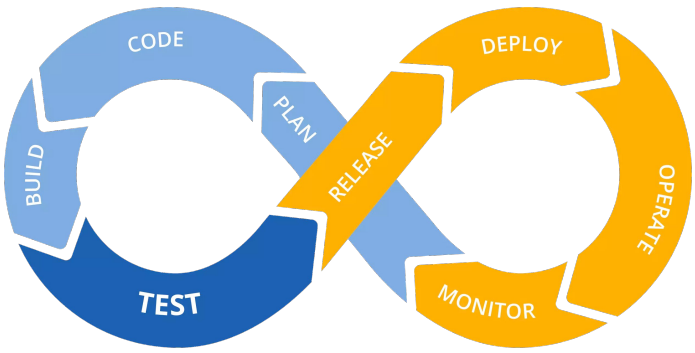
What is DevOps ?



DevOps is a software development approach which involves continuous development, continuous testing, continuous integration, continuous deployment, and continuous monitoring of the software throughout its development lifecycle

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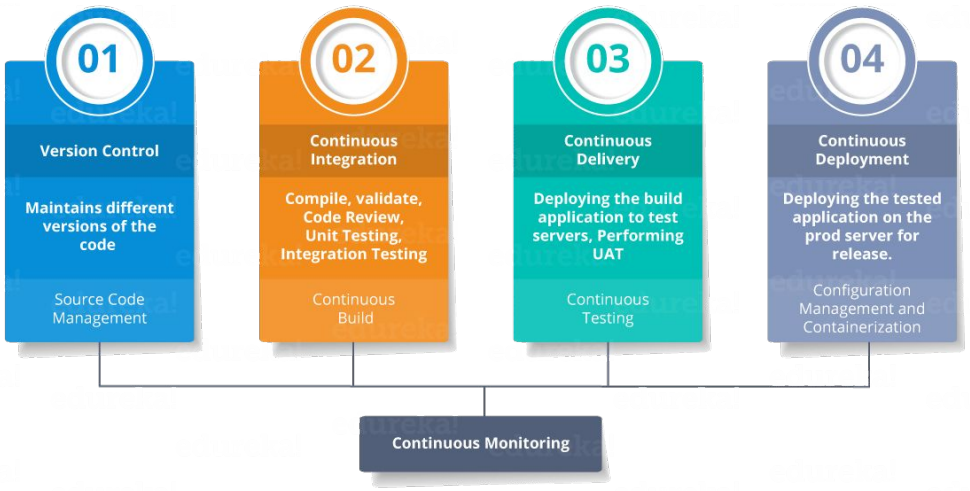

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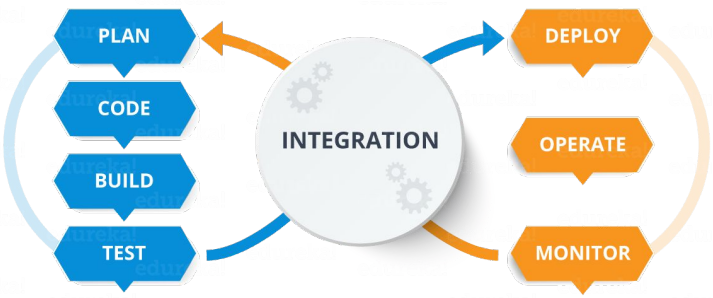
What is Continuous Integration ?



Continuous integration is a software development method where members of the team can integrate their work at least once a day. In this method, every integration is checked by an automated build to search for an error.

Introduction to DevOps

With CI vs Without CI

Development without CI	Development with CI
Lots of Bugs	Fewer bugs
Infrequent and slow releases	Regular working releases
Difficult integration	Easy and Effective Integration
Late bug finding (days,weeks)	Early bug finding (minutes,hours)
Issue raised are harder to fix	Find and fix problems faster and more efficiently.
Poor project visibility	Better project visibility

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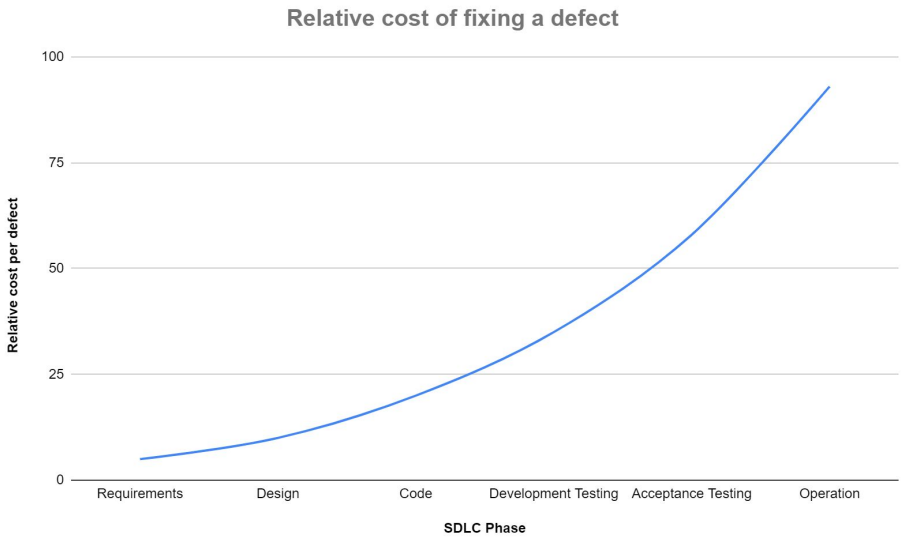

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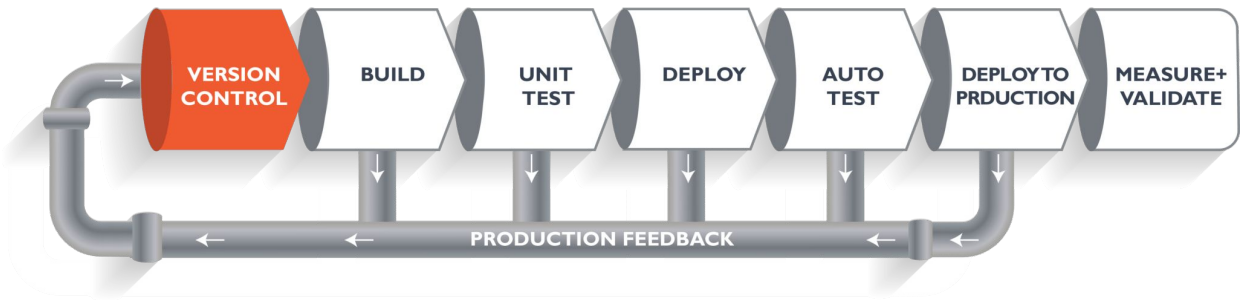

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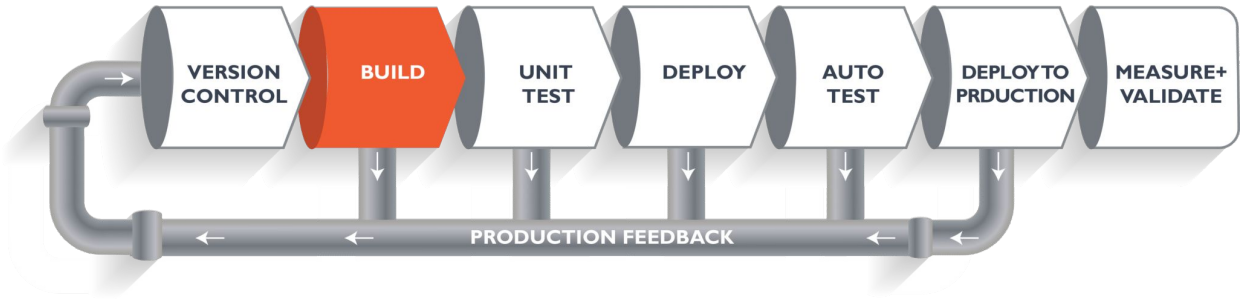

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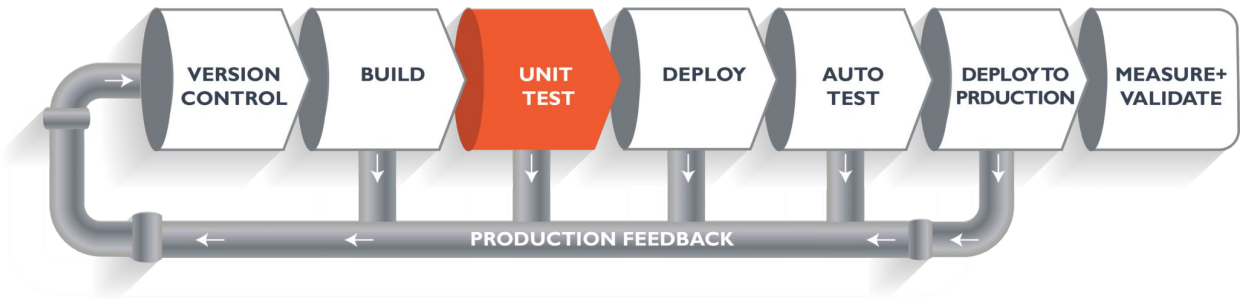

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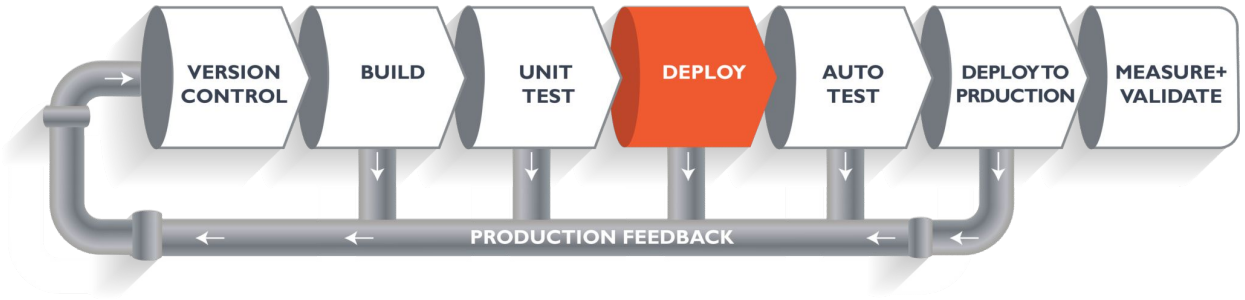

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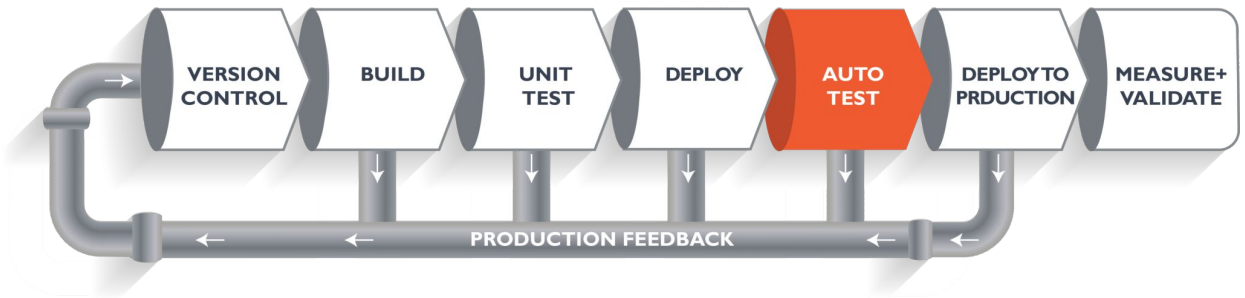

User Acceptance Tests

Functional Tests

Load Tests

Security Tests

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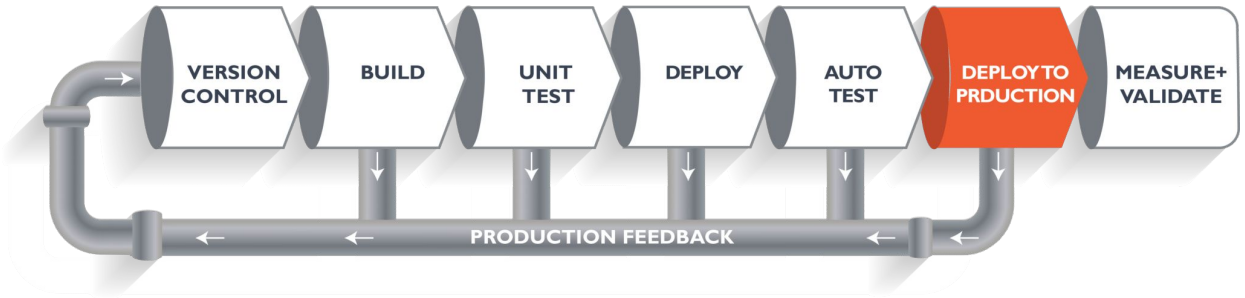
What is Continuous Delivery/Deployment ?



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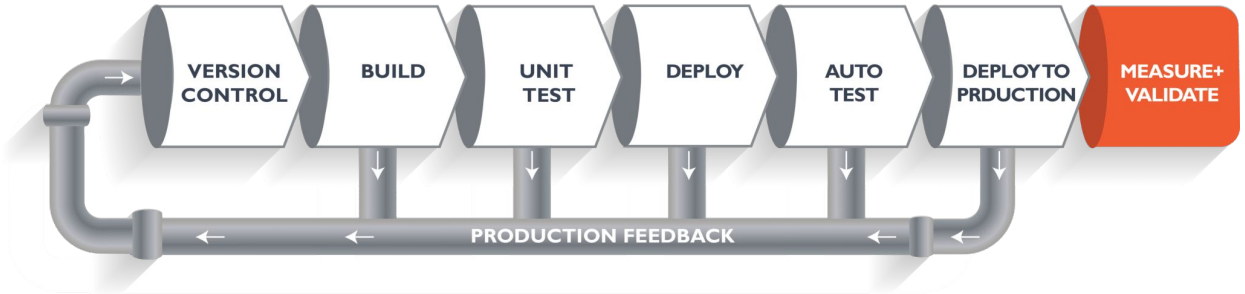

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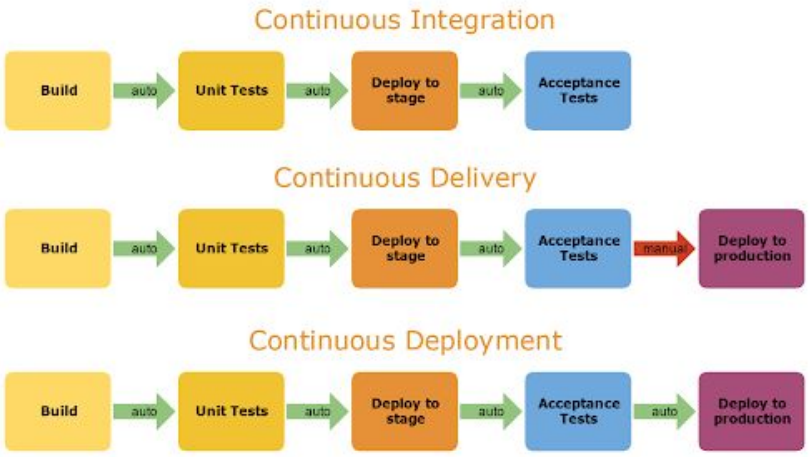
Continuous Delivery vs Continuous Deployment



2 DevOps Tools

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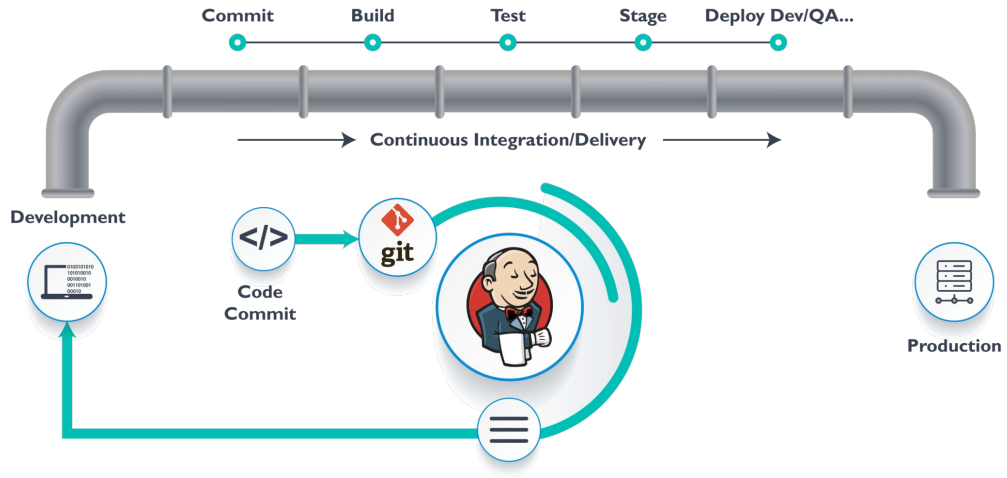
Continuous Integration Server



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Continuous Integration Server

Jenkins

Gitlab

Teamcity

circleci

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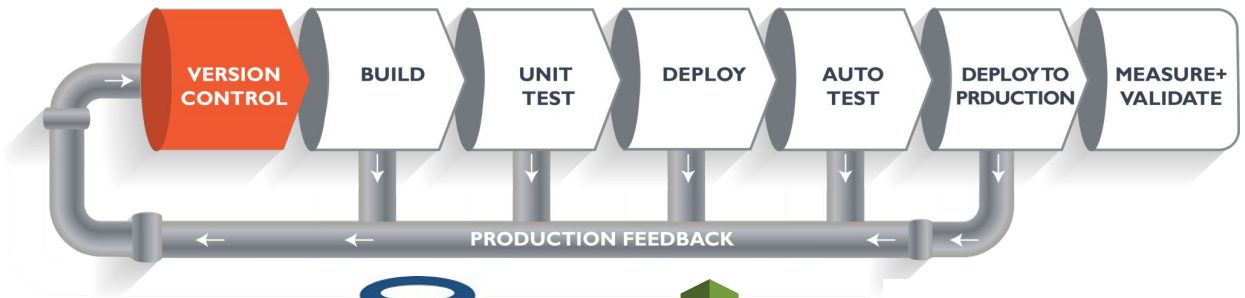
Version Control Stage

EC2
CodeCommit



GitHub

Bitbucket
Atlassian

Codecommit
AWS

Gitlab

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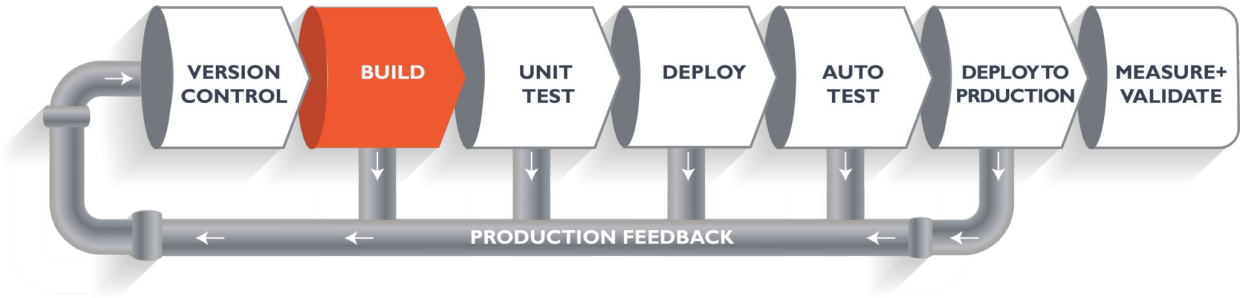
What is Continuous Integration ?

EC2
CodeCommit,CodeBuild
ECS(Elastic Container Service)



Maven
Gradle
npm
<APACHE ANT>
nuget
CMake
BASH
THE BOURNE-AGAIN SHELL
Xcode

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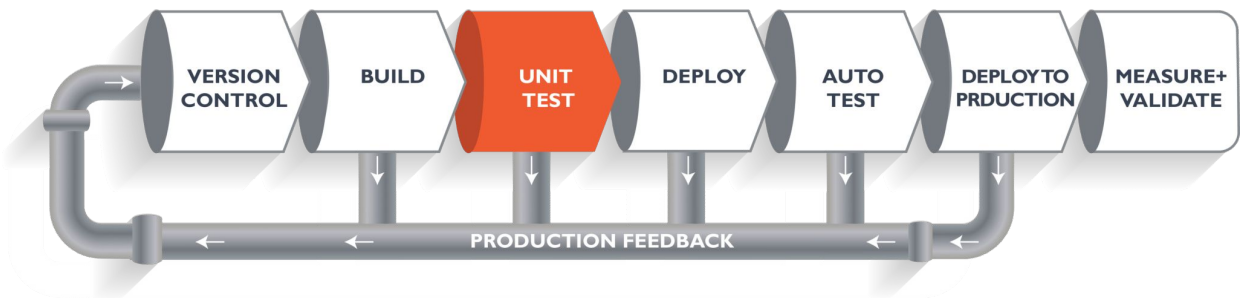
CodeCommit,CodeBuild
ECS(Elastic Container Service)



JUnit
JACOCO
Java Code Coverage
sonarqube

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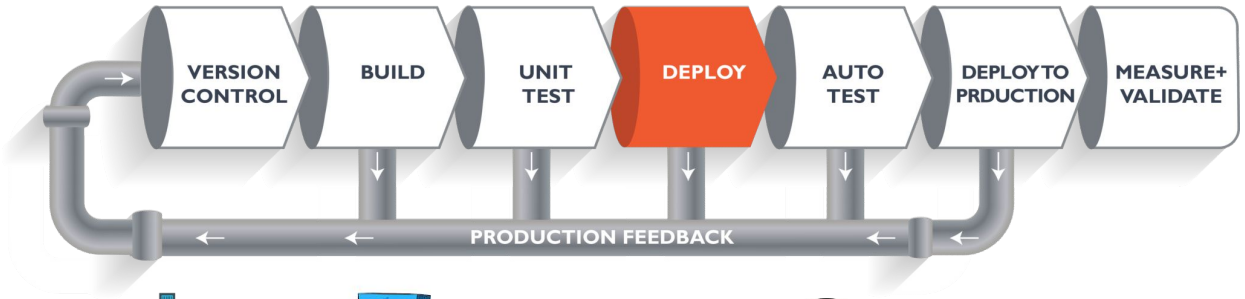
What is Continuous Integration ?

EC2
CodeCommit,CodeBuild, CodeDeploy
ECS(Elastic Container Service)
ECR,S3,RDS,DynamoDB
Cloudformation,Beanstalk
ELB, AutoScaling



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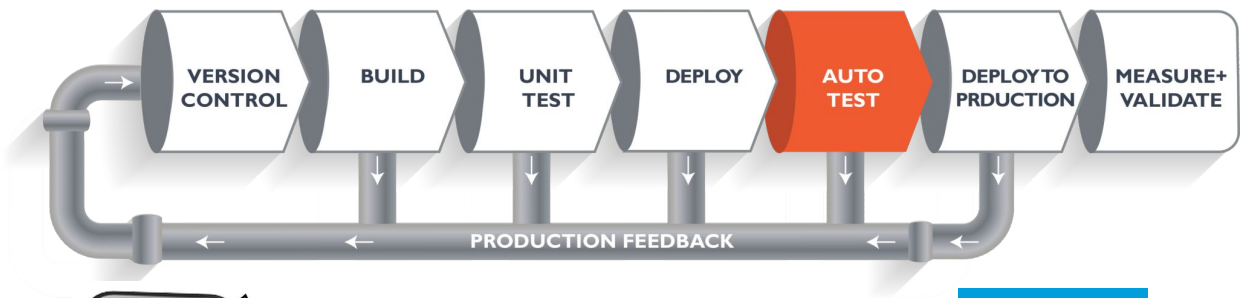

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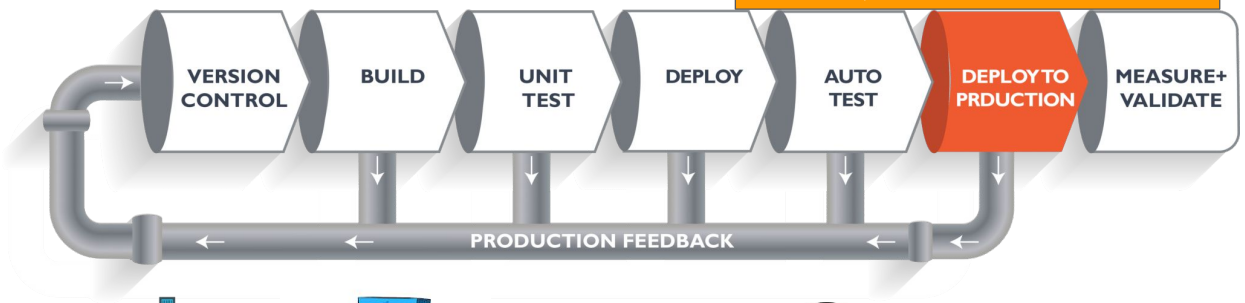
Continuous Delivery/Deployment ?

EC2
CodeCommit,CodeBuild, CodeDeploy
ECS(Elastic Container Service)
ECR,S3,RDS,DynamoDB
Cloudformation,Beanstalk
ELB, AutoScaling
Cloudfront,Route53



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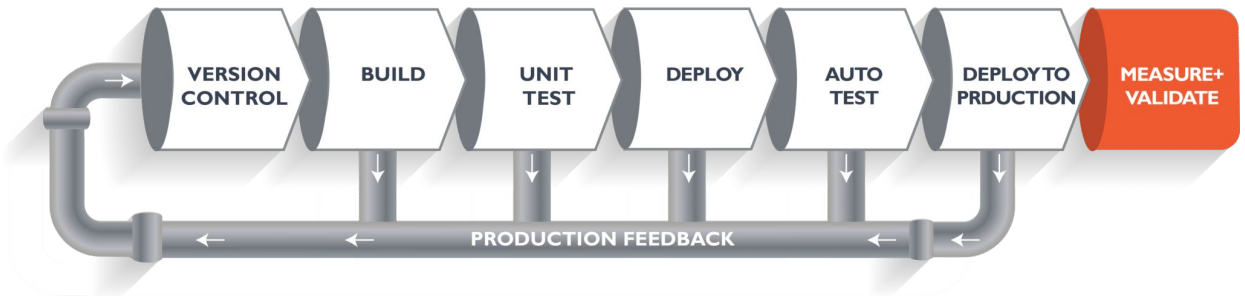
Continuous Delivery/Deployment ?

Cloudwatch
SNS
SQS
SES



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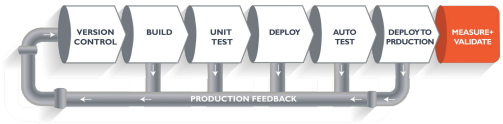
Continuous Delivery/Deployment ?



Capacity (Disk space, CPU, Bandwidth, and memory).

Uptime

Performance

Throughput (Cache, Database, network, app stack)

SLAs (Service Level Agreements)

Contractual obligations with financial repercussions on your product performance, reliability, and security.

Key Performance Indicators (KPIs)

Example: concurrent users or the average processing time.

User Metrics

Compliance

Logging

3 DevOps Related Careers

Introduction to DevOps

Job Titles:

DevOps Engineer
Cloud Operations Engineer
CloudDevOps Engineer
Cloud Engineer, Cloud System Engineer
Solutions Architect, Cloud Architect, DevOps Architect
DevSecOps Engineer
Cloud Security Engineer
Site Reliability Engineer
Platform (Infrastructure) Engineer
Cloud Automation Engineer
Cloud Developer
Cloud Native Engineer
Cloud Network Engineer, Network automation Engineer

4 DevOps Background Knowledge

Introduction to DevOps

Dev in DevOps ?

How much of coding/scripting do you need to know as a DevOps Engineer?

How much of system engineering do I need to know as a DevOps Engineer?

How much of SysAdmin skills do I need to know as a DevOps Engineer?

How much of Networking skills do I need to know as a DevOps Engineer?

2 DevOps Nontechnical Skills

Introduction to DevOps

Nontechnical DevOps skills ?

Self-directed learning

Teamwork, collaboration, leadership

Communication (written and verbal)

Resilience, Persistence

See the big picture

Know how and when to prioritize

Thank you

Q & A