Demystifying CI/CD

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Imagine you’re getting ready to ship something...

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You press the big red button

click

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silence

Do you...

a) Sweat and wait to see if it blows up

Do you...

a) Sweat and wait to see if it blows up

b) Pack up, go home & enjoy your weekend

It all boils down to automation.

Image source: Forbes

Image source: Horizon Zero Dawn

PEBKAC

Tech support can't help you when you're the problem.

Image source: Demotivational

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Director, DevRel & Community

circleci

Timeline.jerdog.me

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DEV jerdog

/in/jeremymeiss

“DEVOPS”

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The DevOps Lifecycle

- Plan

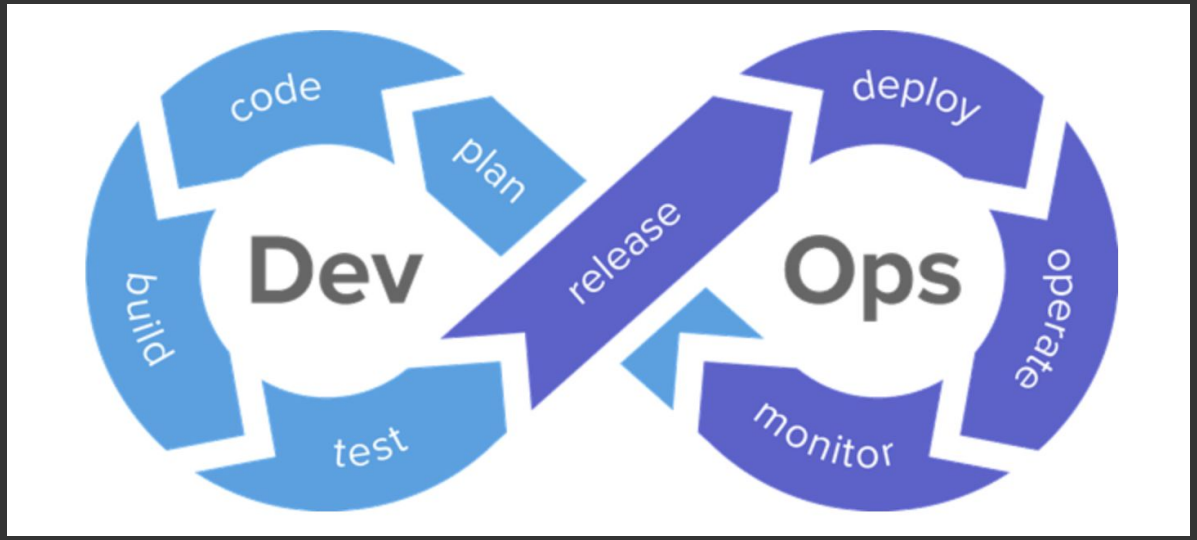
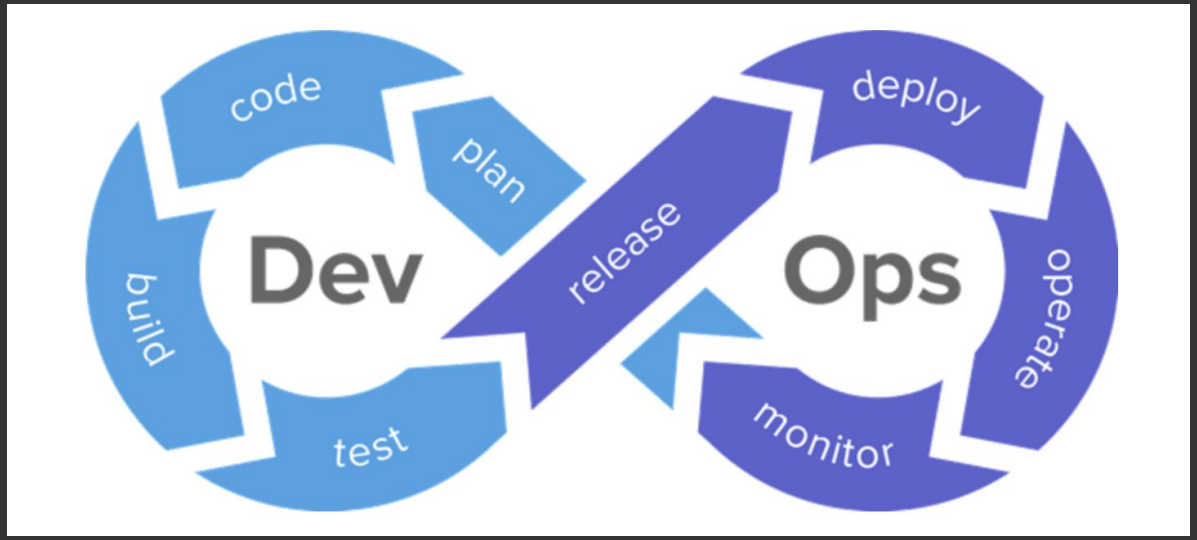


Image source: C-Sharp Corner

The DevOps Lifecycle



- Plan
- Code

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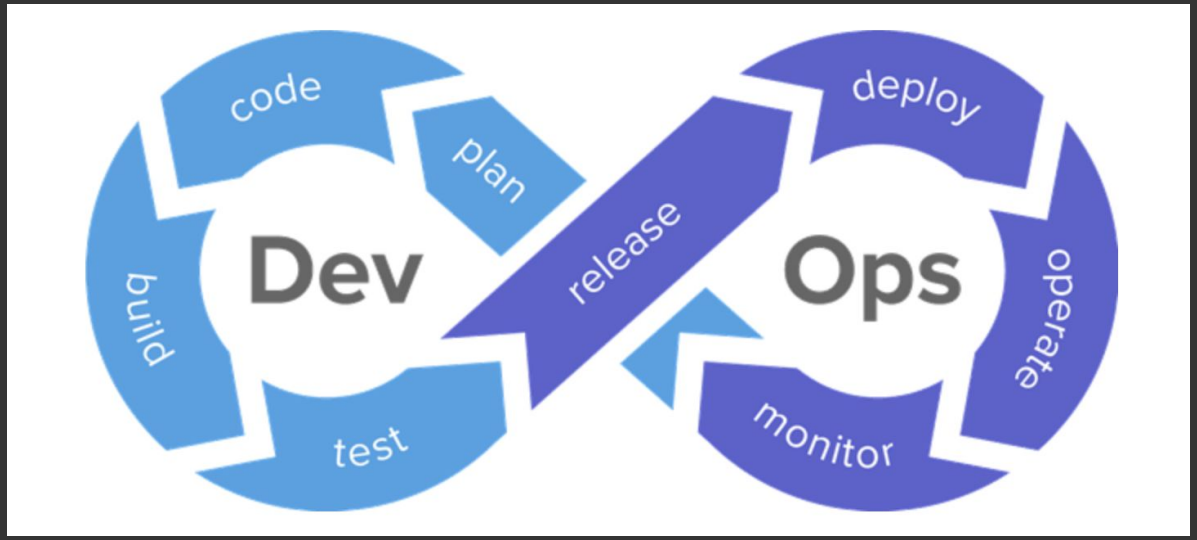
The DevOps Lifecycle



- Plan
- Code
- Build

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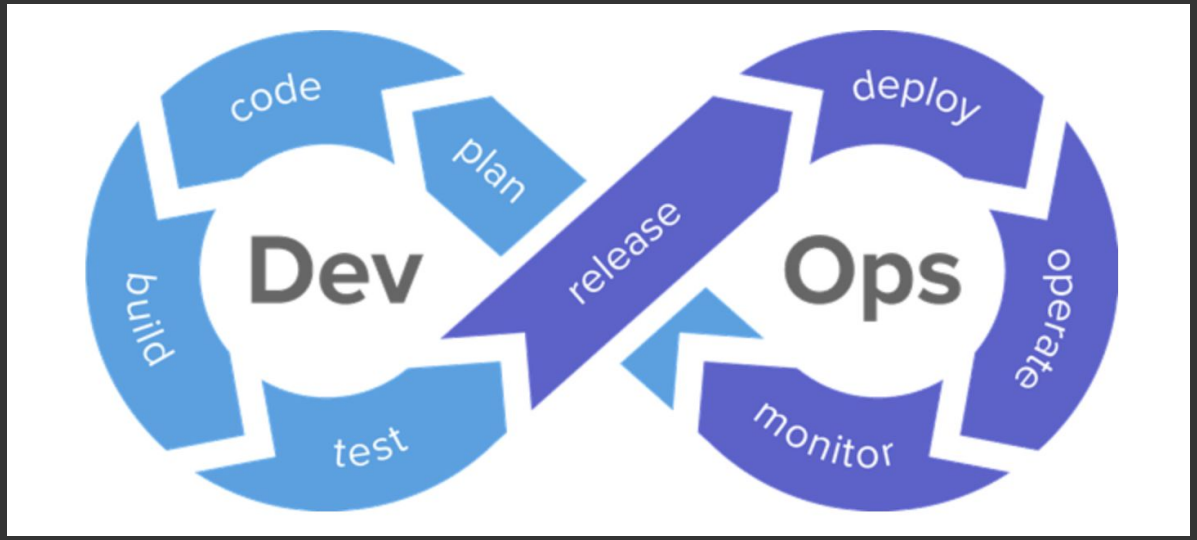
The DevOps Lifecycle



- Plan
- Code
- Build
- Test

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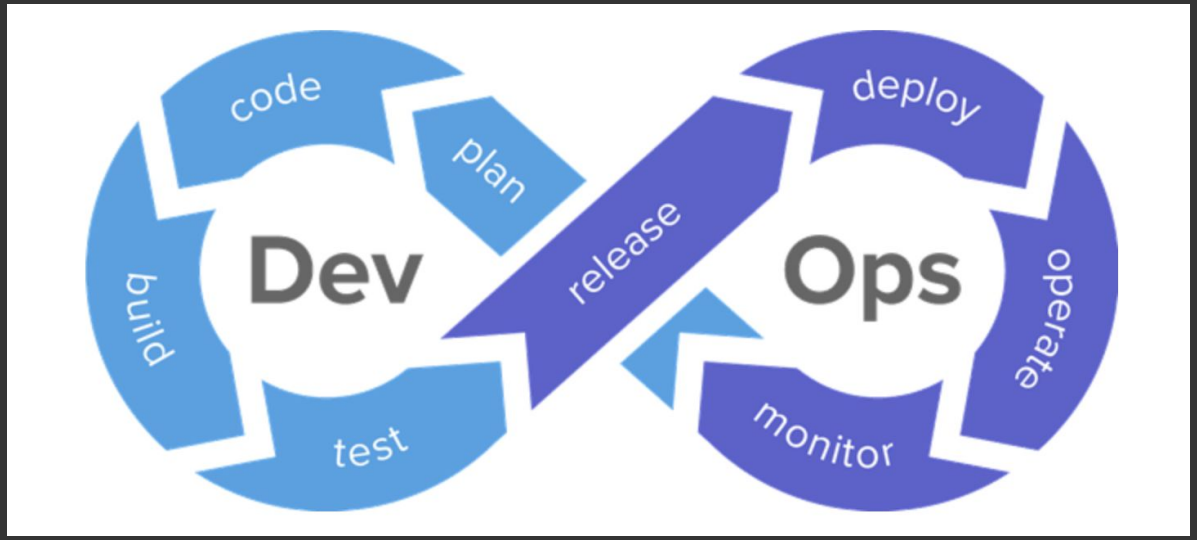
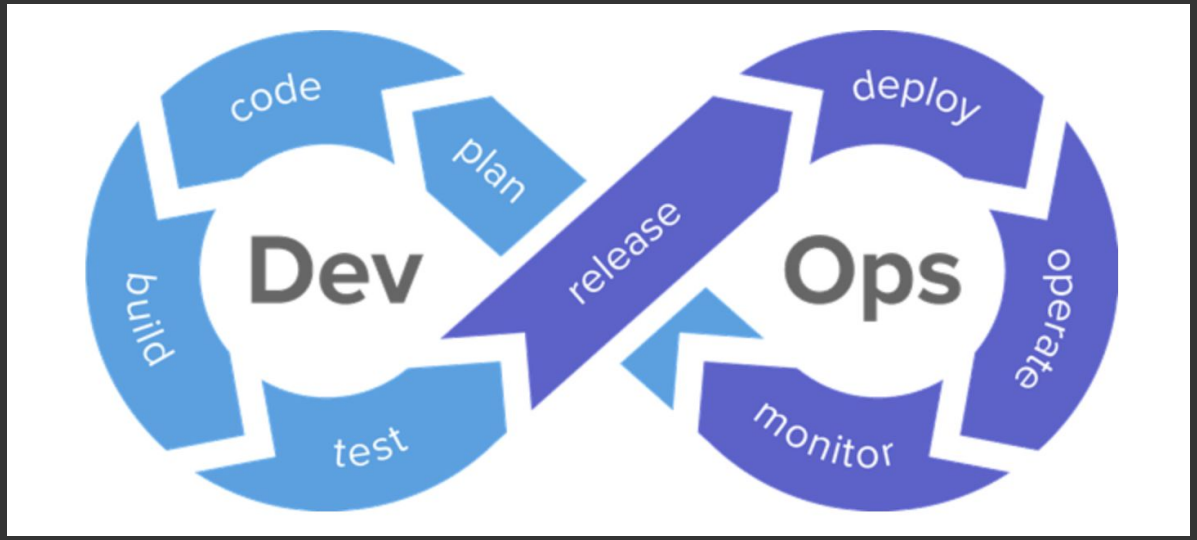


- Plan
- Code
- Build
- Test
- Release

Image source: C-Sharp Corner

The DevOps Lifecycle



- Plan
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- Build
- Test
- Release
- Deploy

Image source: C-Sharp Corner

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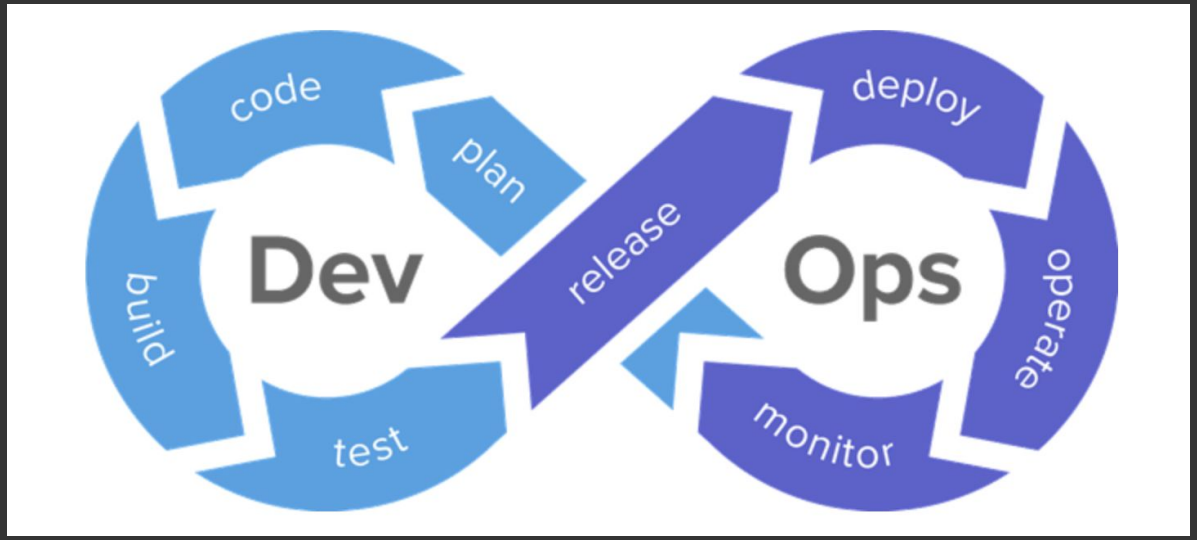
The DevOps Lifecycle



- Plan
- Code
- Build
- Test
- Release
- Deploy
- Operate

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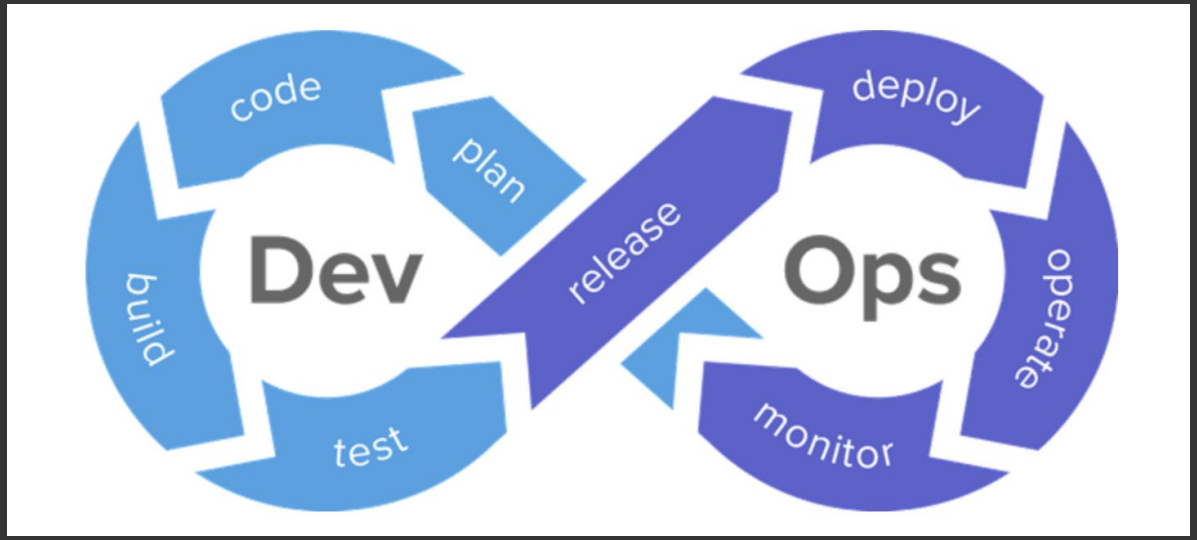
The DevOps Lifecycle



- Plan
- Code
- Build
- Test
- Release
- Deploy
- Operate
- Monitor

Image source: C-Sharp Corner

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Continuous {Integration|Deployment}

Software Development without CI/CD

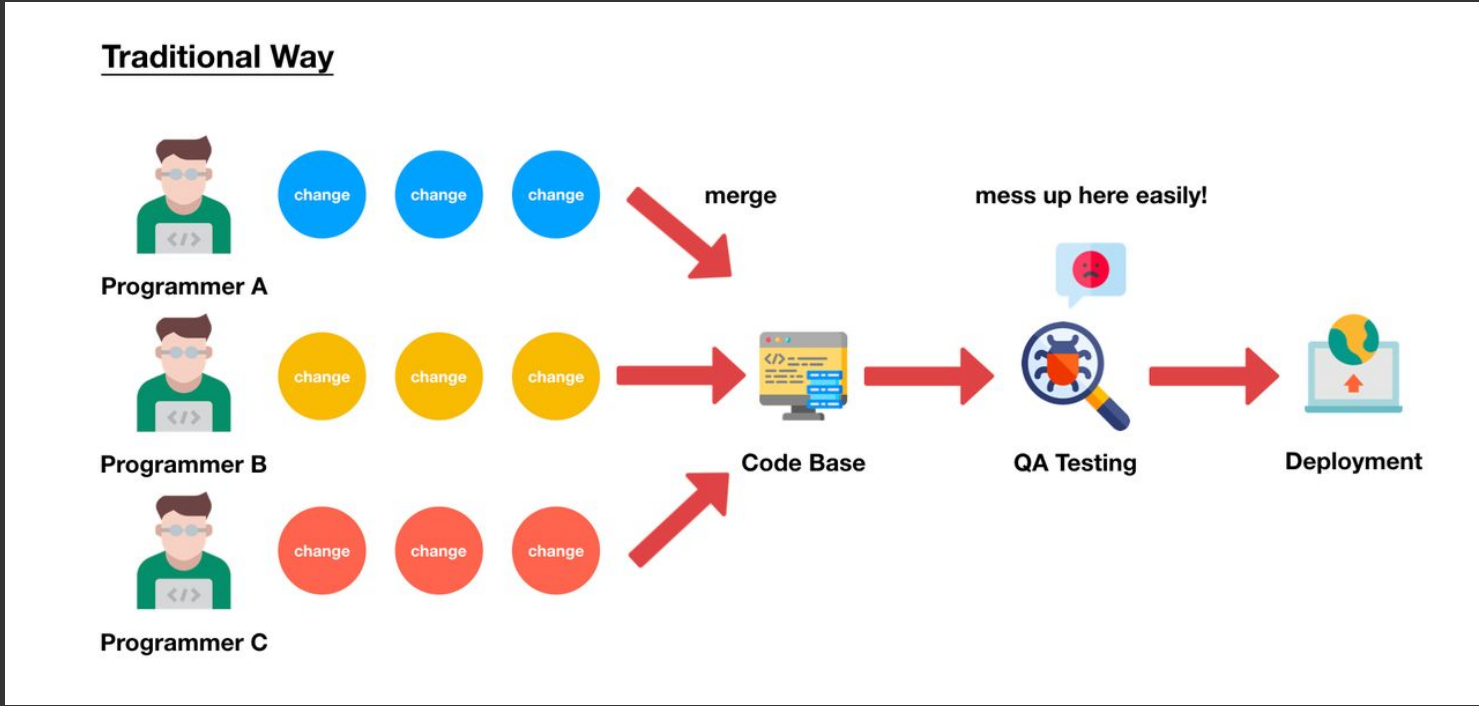

Image source: Oursky

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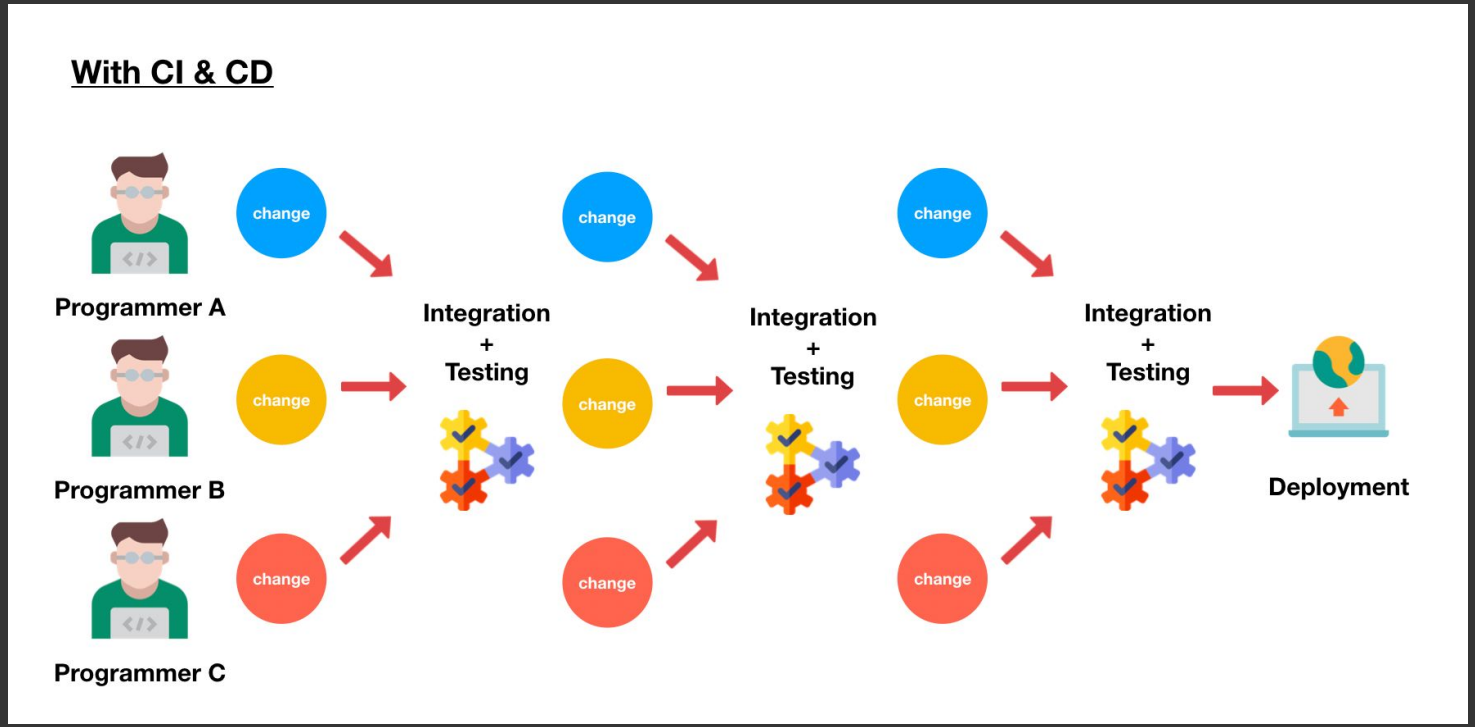
Software Development with CI/CD



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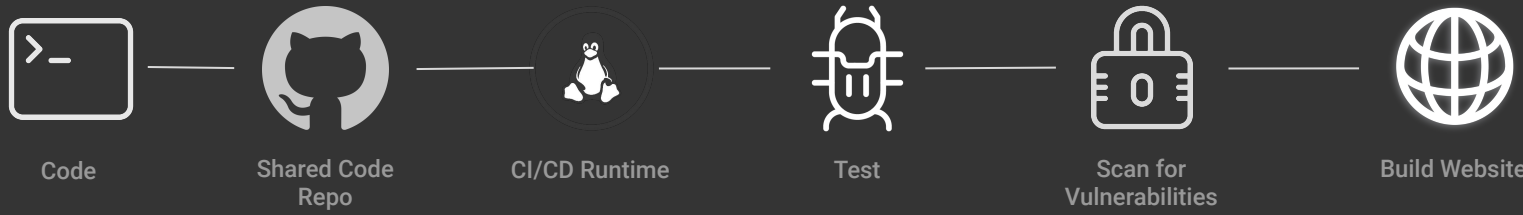
CI == Continuous Integration

the **practice** of merging all developers' working copies to a **shared** code repository



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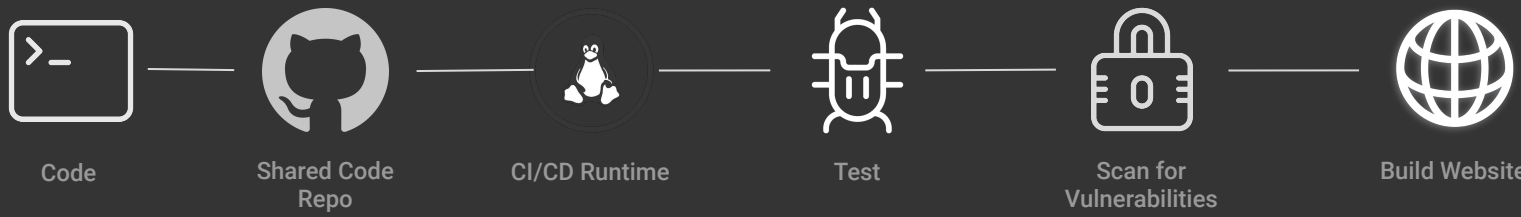
CI == Continuous Integration

- Merge code changes often



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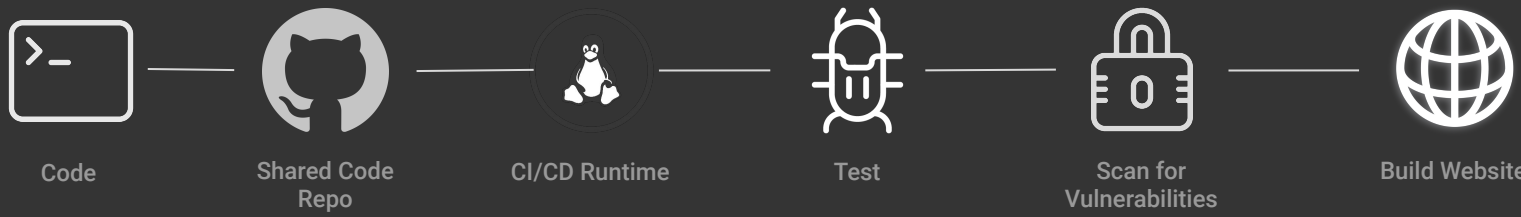
CI == Continuous Integration

- Merge code changes often
- Run automated tests to validate builds



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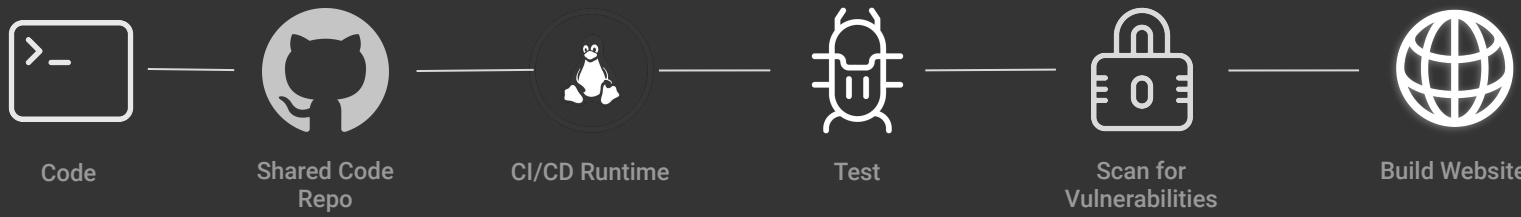
CI == Continuous Integration

- Merge code changes often
- Run automated tests to validate builds
- Only integrate tested code into code base



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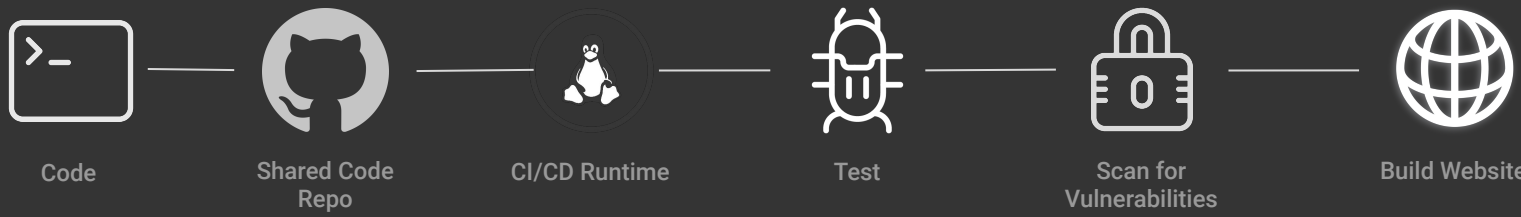
CI == Continuous Integration

- Merge code changes often
- Run automated tests to validate builds
- Only integrate tested code into code base
- Changes frequently merged into release branches



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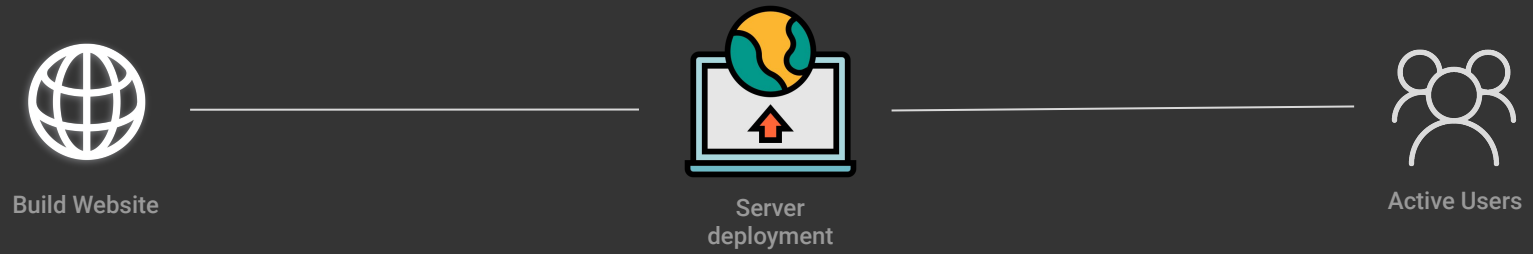
CD == Continuous Deployment

the **practice** of automatically deploying new software releases to **target environments**



Continuous Deployment

- Faster release cycles

Build Website

Server
Deployment

Active Users

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Continuous Deployment

- Faster release cycles
- Low-risk releases

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Deployment

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Continuous Deployment

- Faster release cycles
- Low-risk releases
- Higher quality

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Continuous Deployment

- Faster release cycles
- Low-risk releases
- Higher quality
- Lower costs

Build Website

Server
Deployment

Active Users

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Is CI/CD a TOOL?

Are there benefits to CI/CD?

CI/CD Benefits

- Improve team productivity & efficiency
- Accelerate speed to market
- Identify product/market fit
- Release higher quality, more stable products
- Increase customer satisfaction
- Keep devs happy and shipping code

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I feel the need... the need for SPEED!

- Customers get access to new features faster
- Company gets a faster ROI from new features

Implementing CI/CD

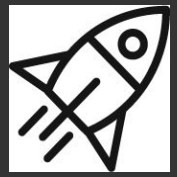
Make sure everyone is on the same page

Always start small

Do what works for you

Always measure

CI/CD Benchmarks for high performance



Throughput

At will

Duration

<10 minutes

Success Rate

> 90%

Mean Time to Recovery

<1 hour

Better CI/CD Practices

- Make testing an integral part of the dev process

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- Ensure testing environment mirrors production

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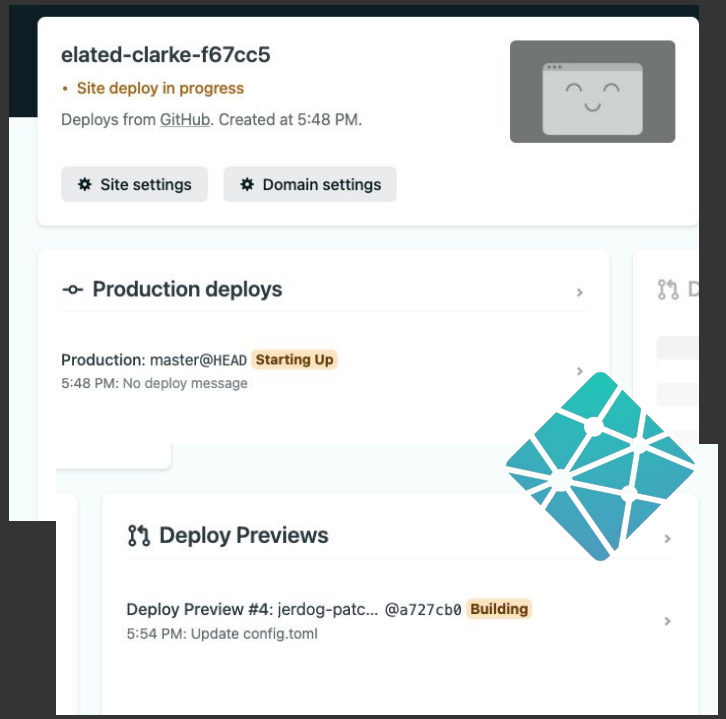
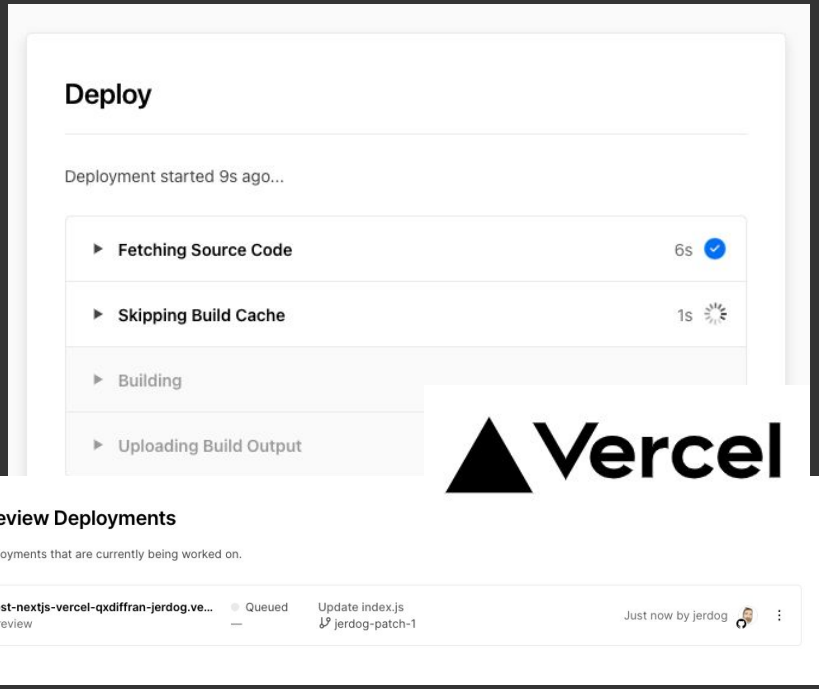
Better CI/CD Practices

- Make testing an integral part of the dev process
- Ensure testing environment mirrors production
- Use coding better practices, i.e. pair programming
- Automate the deploy workflow

Streamline deploy





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2019
State of DevOps Report
puppet
circleci
splunk>
2017
State of DevOps Report
Presented by:
puppet + DORA
DEVOPS RESEARCH & ASSESSMENT
Sponsored by:
Hewlett Packard Enterprise
splunk>
amazon web services
Atlassian
WAVEFRONT by vmware
Electric Cloud
Deloitte.
2018
State of DevOps Report
puppet · splunk>
aws
CYBERARK
Cognizant
2016
State of DevOps Report
2015
STATE
REPORT

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Full Report

https://circle.ci/ssd2020

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Do not try to automate everything

Proof of concept

- A rigorous testing practice
- Consistent software environments
- Training on continuous integration practices.
- Reports to measure key metrics.

Thank you.

For feedback and swag: **circle.ci/jeremy**


Timeline.jerdog.me


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