# Continuous Integration and Automated Code Review in Open Source Projects

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## Introduction



What is Continuous Integration?

What is Automated Code Review?

Where is it used and why?

How it works?

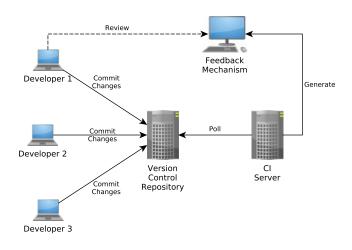
## Continuous Integration



- common part of fast software development
- adaptive development technique
- reduce integration problems
- integrations are verified via automated tests and builds
- popular in open source projects which are frequently developed by a group of people
- available CI services: Travis CI, Jenkins, TeamCity, ...

## Components of CI System



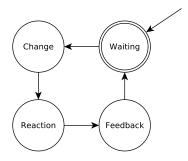


## Basics of Cl



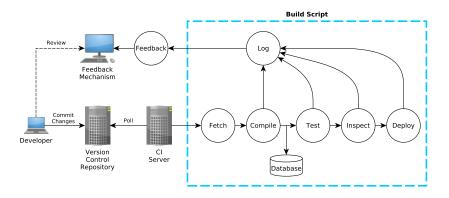
### Stages of CI:

- Change
- 2 Reaction
- 3 Feedback
- Waiting





#### How it works?



### Code Review



#### Types of code review:

- manual code review
  - collaborative inspection and discussion with project members
  - slow (nearly 100 lines of code per hour)
  - pair programming
- automated code review
  - o ...

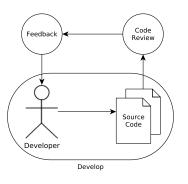
### Automated Code Review



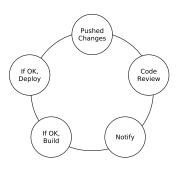
- inspection of code quality
  - coding standards
  - trailing spaces
  - code duplication
  - not enough / too many comments
  - o ...
- detection of basic mistakes and vulnerabilities
- matching set of rules providing static analysis
- Code Climate, RuboCop, SonarQube, RIPS, FlexeLint



### Manual



#### **Automated**



## Objectives



- Pronto<sup>1</sup> integration
- Webhooks<sup>2</sup> integration
- Request for review command implementation
- Gitter integration (yell if master is broken)
- Pull Request Processor<sup>3</sup> integration
- Github Status API<sup>4</sup> integration
- Track dependent pull requests (comment if merged)

<sup>&</sup>lt;sup>1</sup>github.com/prontolabs/pronto

<sup>&</sup>lt;sup>2</sup>developer.github.com/webhooks

<sup>&</sup>lt;sup>3</sup>github.com/theforeman/prprocessor

<sup>&</sup>lt;sup>4</sup>developer.github.com/v3/repos/statuses

Thank You For Your Attention!