

# How We Automated Code Review Process

# who?



**@gozali**

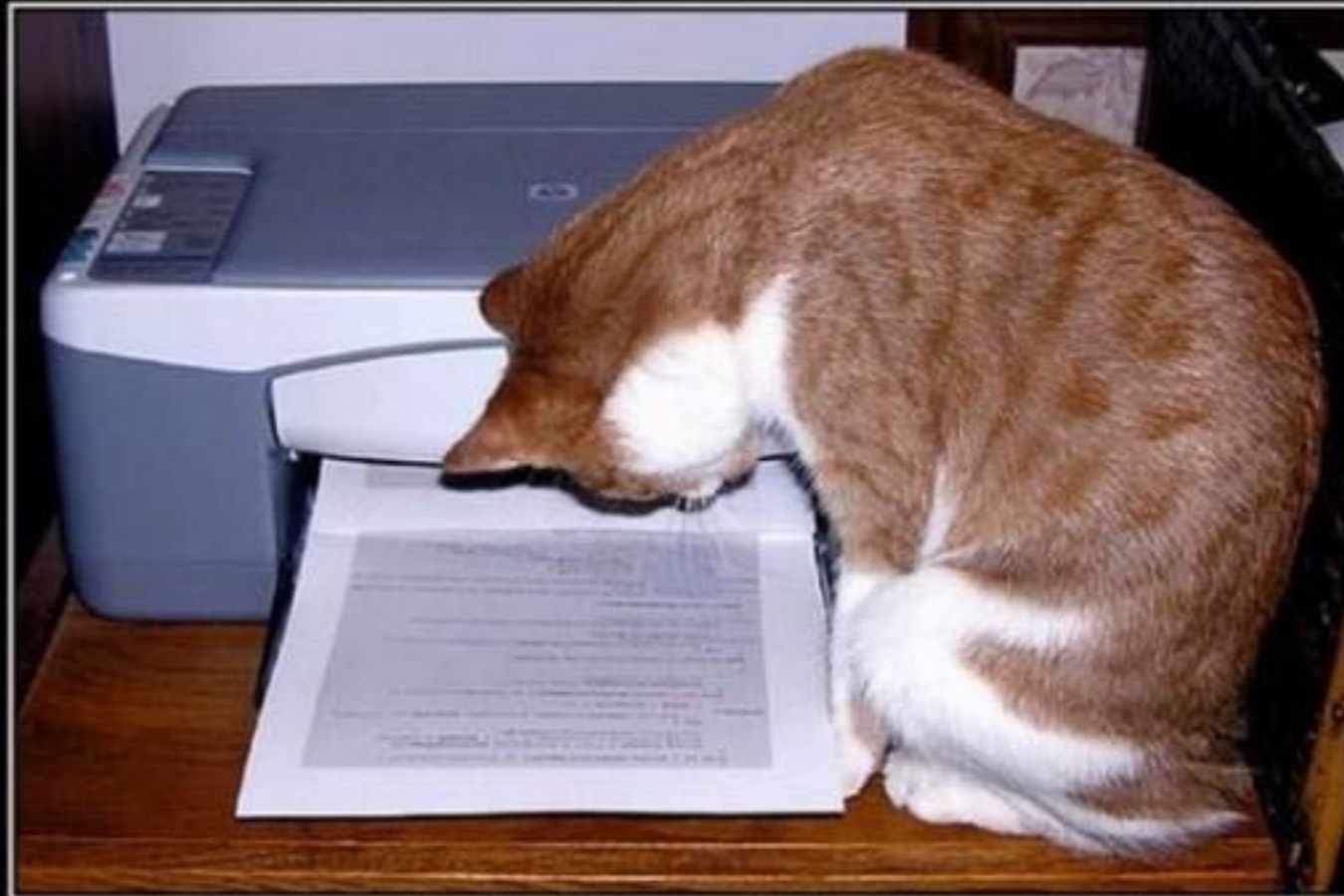
**<https://github.com/gozali>**

**[gozali@gmail.com](mailto:gozali@gmail.com)**



Inaugurual Indonesian  
RubyConf Oct 6-7th  
<https://ruby.id/cfp>

**What is code  
review?**



# CODE REVIEWS

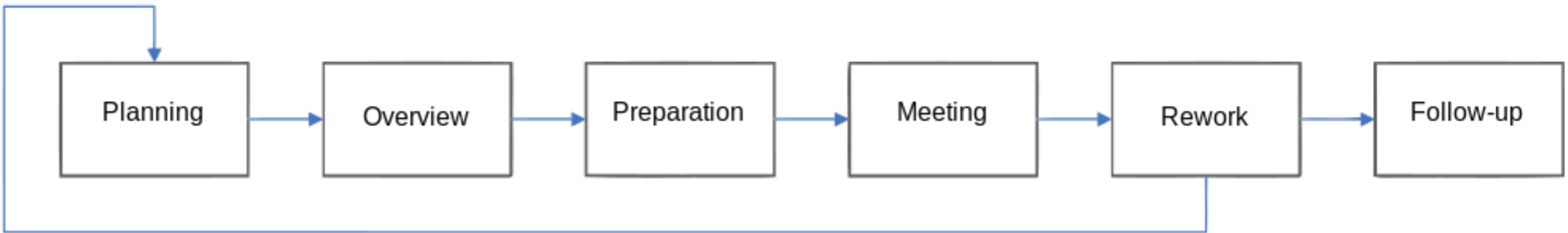
An essential step to ensure code quality.

**Code review is  
systematic examination  
of computer source  
code**

[https://en.wikipedia.org/wiki/Code\\_review](https://en.wikipedia.org/wiki/Code_review)

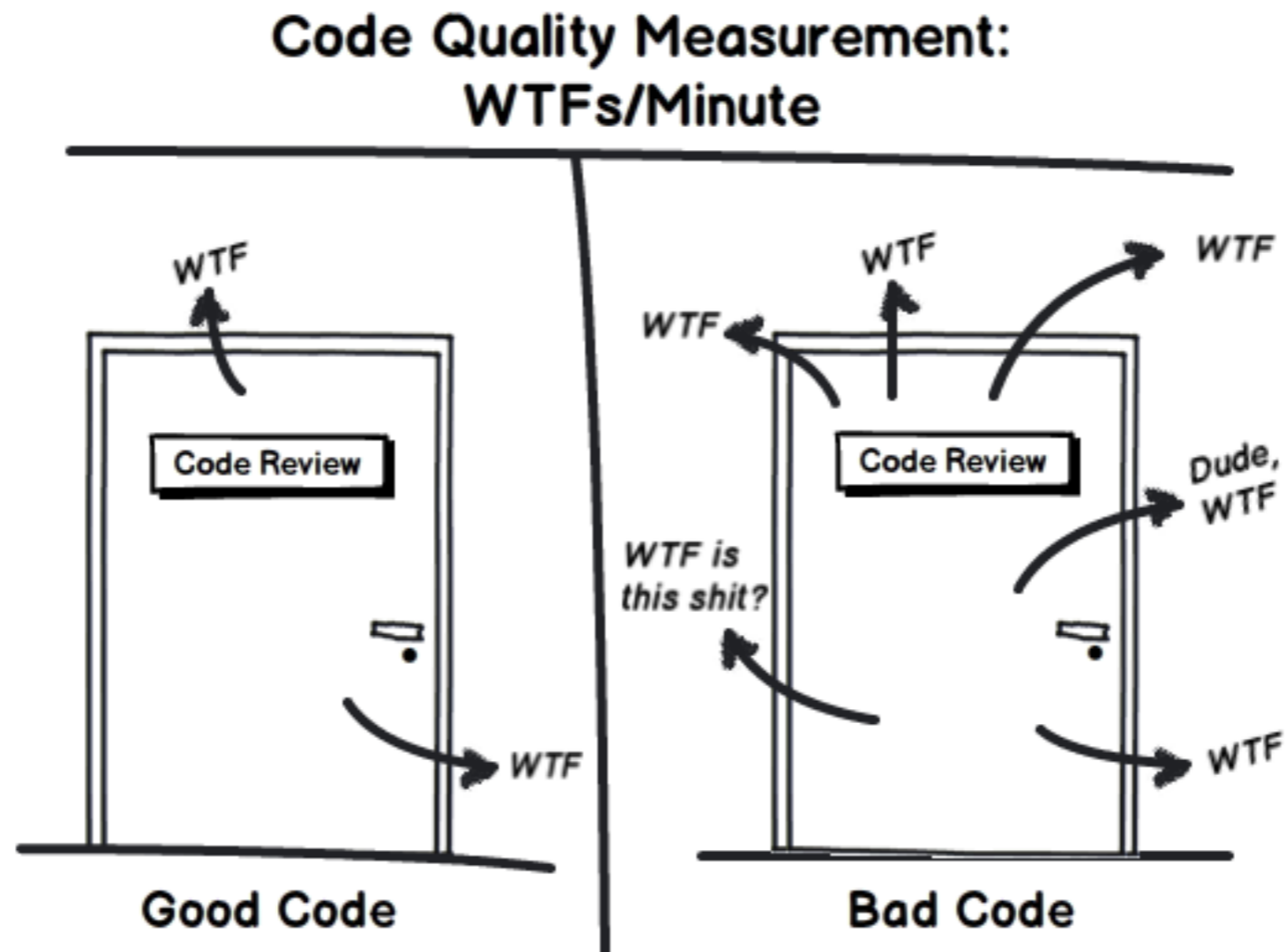
# Patterns

# Formal Inspections





# Formal Inspections



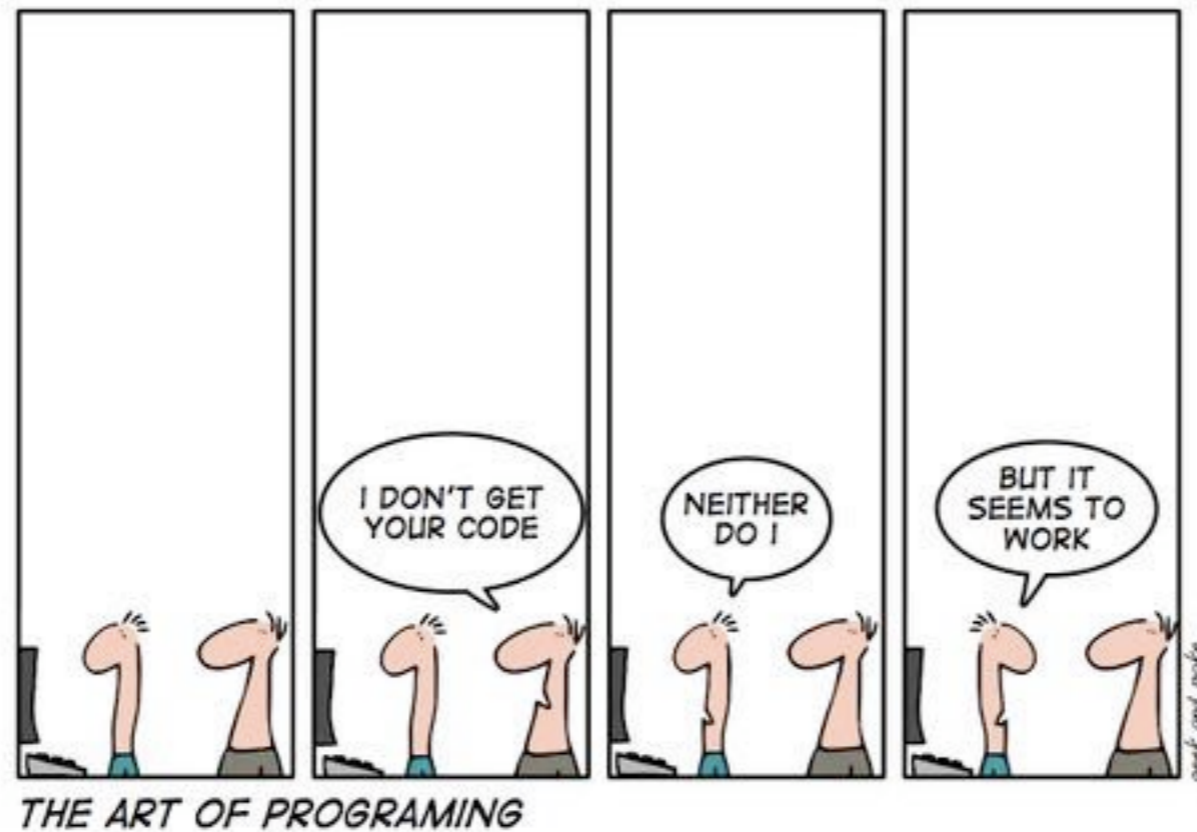
**Formal inspections is  
proven techniques but  
require large amounts  
of developer time**

# Over-the-shoulder



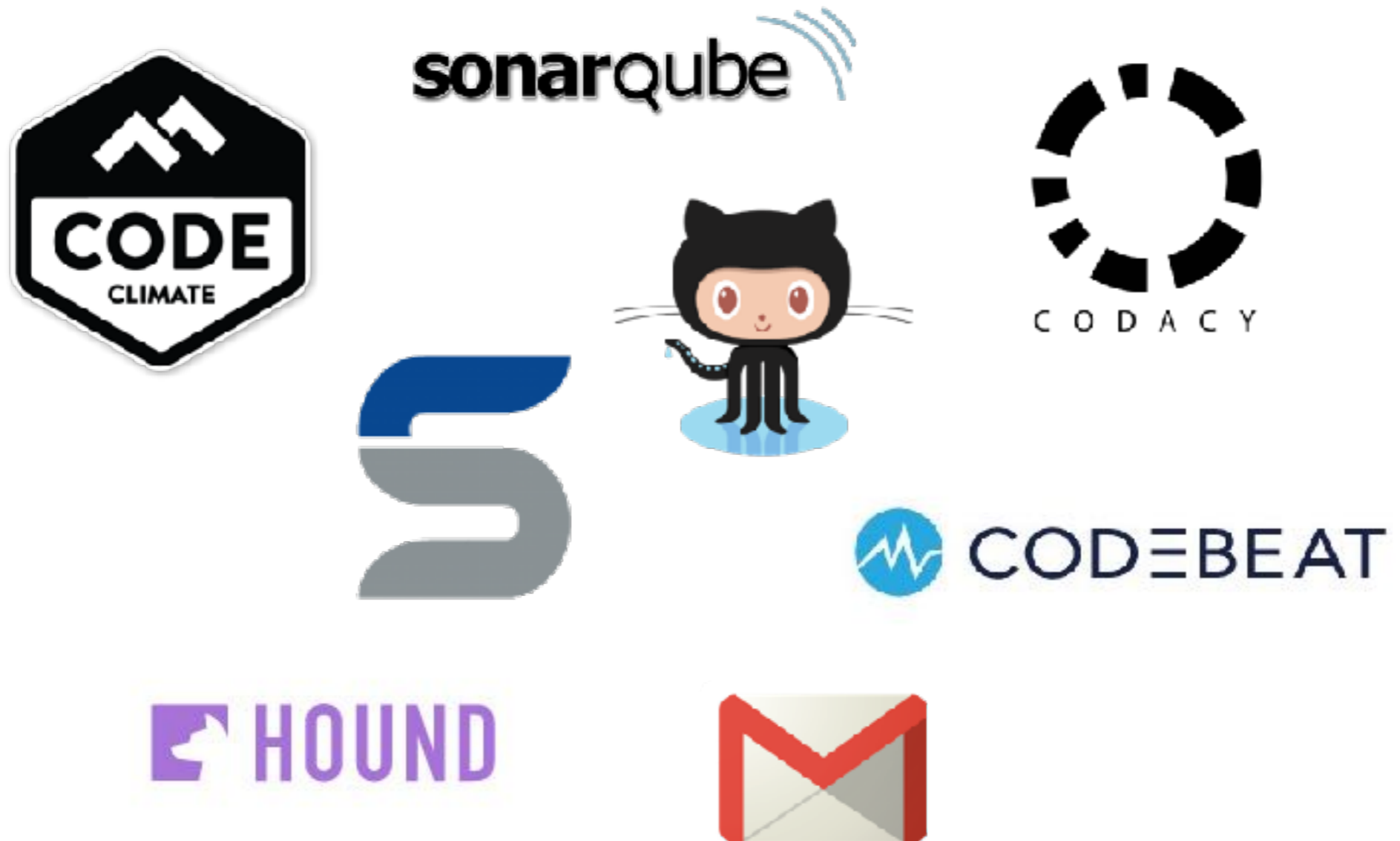
**Over-the-shoulder are  
easiest to implement  
but can't be  
instantiated as a  
controlled process**

# Pair Programming



**Pair-programming has a lot of advantages but require large amounts of developer time**

# Tool-assisted



<https://github.com/marketplace/category/code-review>

<https://github.com/marketplace/category/code-quality>

**Tool-assisted strike a  
balance between time  
invested and ease of  
implementation**



# Rules

- **Reviewing code before or after deployment?**
- Who should review the code?
- Should the code reviews be blocking?
- How strict should the code reviews be?

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**Automated Code  
Reviews? How can  
this work?**

**Code reviews are mostly  
about enforcing best  
practices, code style, and  
common security issues**

**Most of those issues  
can be found by static  
analysis and linting  
tools**



# **Why Automated Code Reviews?**

**1000 LoC - Looks fine**

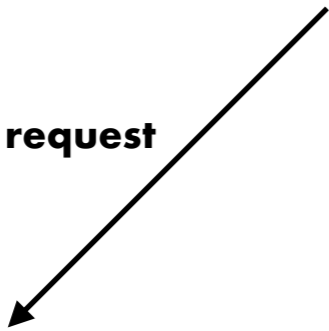
**10 LoC - 9 issues**

**@mikhailgarber**

# **Our Setup**



**pull request**





akangaziz requested review from **gozali** and **listianpratomo** 3 days ago



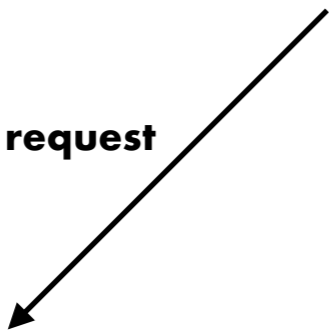
gozali commented 3 days ago



Jenkins



**pull request**



**webhook**



## Webhooks

Add webhook

Webhooks allow external services to be notified when certain events happen within your repository. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our [Webhooks Guide](#).

We will also send events from this repository to your [organization webhooks](#).

✓ [https://\[redacted\]/ghprbhook/](#) (*issue\_comment, pull\_re...*)

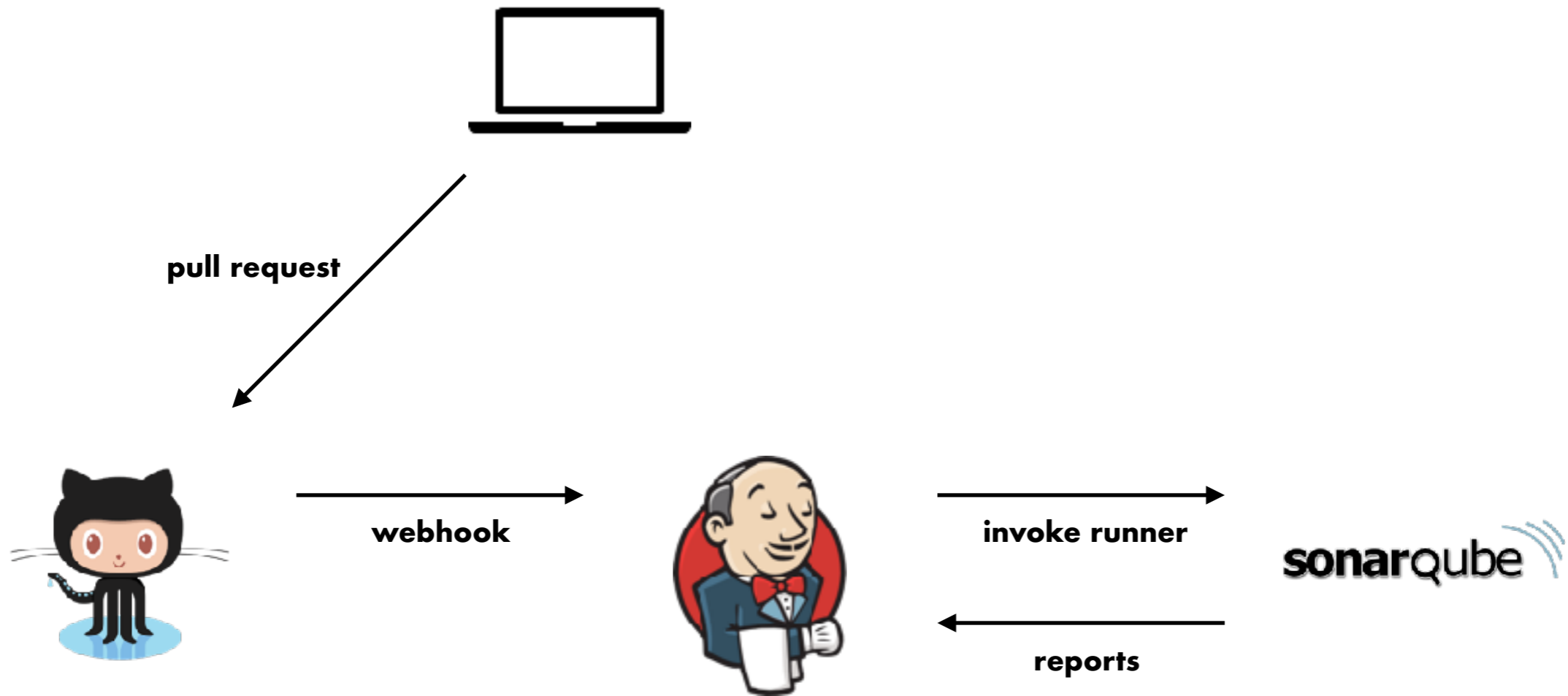
Edit

Delete

✓ [https://\[redacted\]/github-webhook/](#) (*push*)

Edit

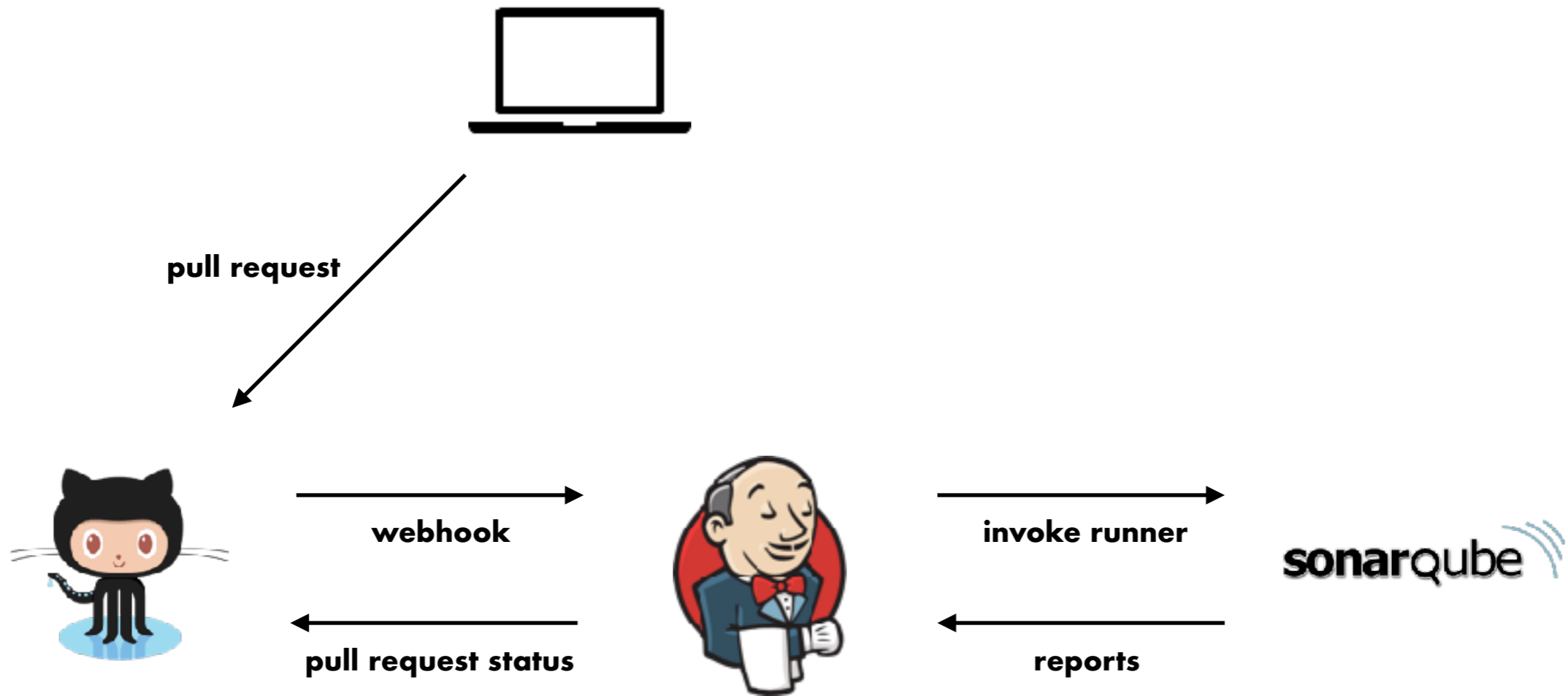
Delete





```
sonar.projectBaseDir=$WORKSPACE/src/github.com/mataharimall/orders  
sonar.projectKey=microservices:orders  
sonar.sources=./  
sonar.inclusions=**/*.go  
sonar.exclusions=vendor/**  
sonar.coverage.exclusions=vendor/**  
sonar.test.exclusions=vendor/**  
sonar.golint.reportPath=src/github.com/mataharimall/orders/report.xml  
sonar.analysis.mode=preview  
sonar.github.oauth=<oauth-token>  
sonar.github.repository=mataharimall/orders  
sonar.github.pullRequest=$ghprbPullId
```

```
INFO: ANALYSIS SUCCESSFUL
INFO: Executing post-job GitHub Pull Request Issue Publisher
INFO: Task total time: 19.313 s
INFO: -----
INFO: EXECUTION SUCCESS
INFO: -----
INFO: Total time: 21.711s
INFO: Final Memory: 45M/319M
INFO: -----
Adding one-line test results to commit status...
Setting status of 45c664aac4f06cff239e096285c0d245c1198b74 to SUCCESS with url
```





MoMoBot reviewed 10 minutes ago

[View changes](#)

src/handler/cart\_handler.go

```
20 +  
21 +func SampleErrorHandler(w http.ResponseWriter, r *http.Request, ps httprou  
22 +  
23 +     err := errors.New("you got error! congrats!")
```



MoMoBot 10 minutes ago

🔺 error strings should not be capitalized or end with punctuation or a newline ...



Reply...

# **Conclusions & Future Work**

- **Automation improve our code review process**
- With code review improvement we improved our code quality
- Review the code not the developer

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**Questions?**