# Refactoring with Design Patterns

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## Motivation

Neglecting design leads to
<u>underengineering</u>

## Motivation

focusing on Design-Pattern leads to
overengineering

## Refactoring

- small changes to internal code structure
- Apply extract method and class again and again
- Commit every change to version control if possible
- Let IDEs help you automate (PHPStorm, Qafoo Refactoring Browser, ...)

## What about tests?

- Having tests for refactoring is very helpful
- .. but it works without

## Refactoring and Patterns

Refactoring towards Patterns to avoid both <u>under-</u> and <u>overengineering</u>.

## Code

http://qa.fo/dpc14

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## Factory

A factory creates an object for you.

- Getting control over object creation
- Most important issue for every code-base
- Actually 4 patterns
  - Factory
  - Factory Method
  - Abstract Factory
  - Builder

## Facade

A facade provides a simplified interface to a larger body of code.

- Make code reusable (business logic, ..)
- Integrate third party code (libraries)
- Avoid hard dependencies on technical details
- Strongly Related to the Adapter/Bridge patterns

## Strategy/Policy Pattern

Strategy allows to exchange algorithms at run time.

- Object-oriented `switch` statement
- When calculations are changing frequently
- Or when they change based on state
- Construction of strategies often combined with a factory

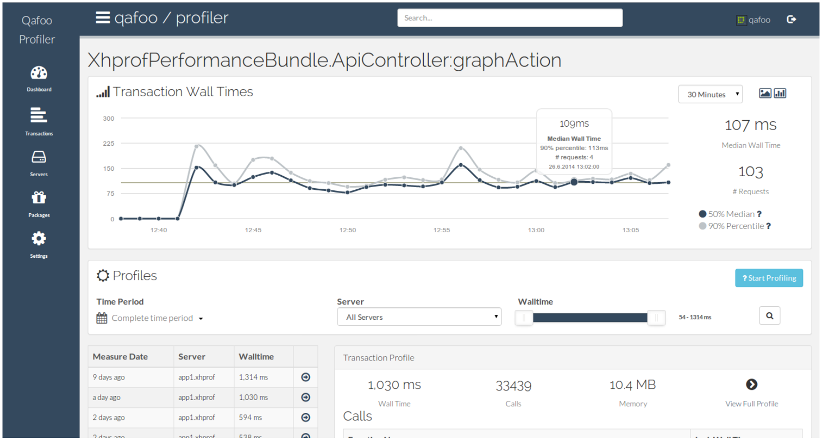
## Inhouse Trainings

**We promote high quality code with trainings and consulting**

`http://qafoo.com`

- Refactoring
- Object-Oriented-Design, Testing and many more
- Twitter `@beberlei` and `@qafoo`

# Qafoo Profiler Closed Beta



XhprofPerformanceBundle.ApiController:graphAction

Transaction Wall Times

109ms
Median Wall Time
90% percentile: 113ms
# requests: 4
26.6.2014 13:02:00

107 ms
Median Wall Time

103
# Requests

● 50% Median ?
● 90% Percentile ?

Profiles

**Time Period**
Complete time period

**Server**
All Servers

**Walltime**
54 - 1314 ms

| Measure Date | Server | Walltime |
|---|---|---|
| 9 days ago | app1.xhprof | 1,314 ms |
| a day ago | app1.xhprof | 1,030 ms |
| 2 days ago | app1.xhprof | 594 ms |
| 2 days ago | app1.xhprof | 538 ms |

Transaction Profile

| 1,030 ms | 33439 | 10.4 MB | |
|---|---|---|---|
| Wall Time | Calls | Memory | View Full Profile |

Calls

http://qa.fo/profiler

https://joind.in/10861

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## THANK YOU

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