# Introduction To Sensible Load Testing

## PHP Unconference Europe 2016

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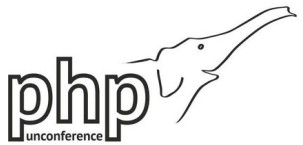
28th May 2016



# Hi, I’m Kore (@koredn)

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Simulate Real Load
London Travel Information
NatWest

# Simulate Real Load

- We did this several times
- No shop had performance issues when going live

How?


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ab / siege

jMeter

Do Not Guess – Measure!

# Outline

How To

Common Problems


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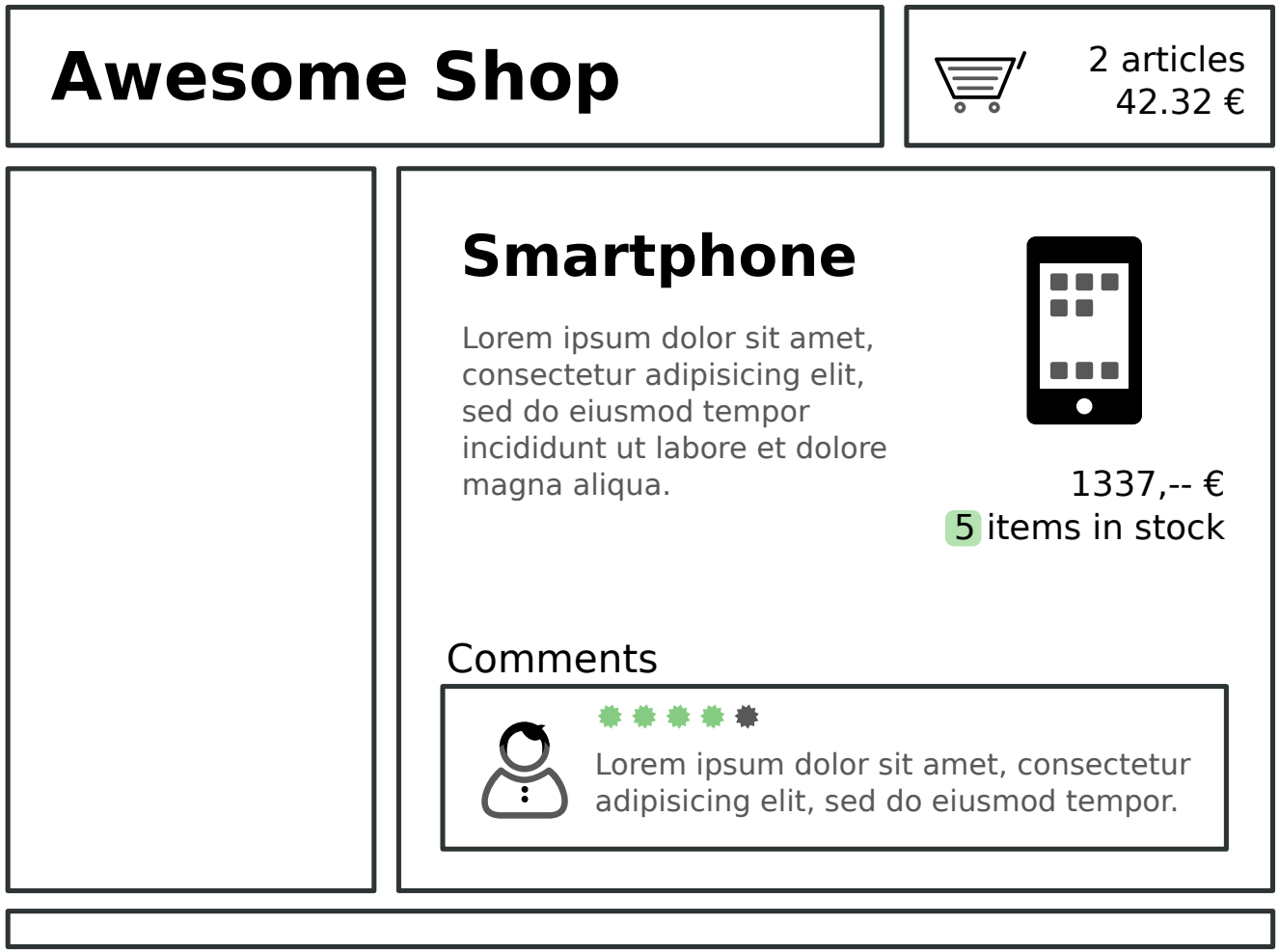
# Why Is It Complex?





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# Analyze Scenarios

- What happens in your shop?
  - Random browser
  - User registration
  - Logged in browser
  - Checkout process


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# Crunch The Numbers

- How many checkouts per day?
- How many page impressions per day?
- How many checkouts / PIs during peak time?
  - 240.000 page impressions per day $\rightarrow$ 10.000$PI/h$?
  - Are you .de? $\rightarrow$ 30.000$PI/h$
  - Peak business hours? $\rightarrow$ 60.000$PI/h \rightarrow 20 req/s$


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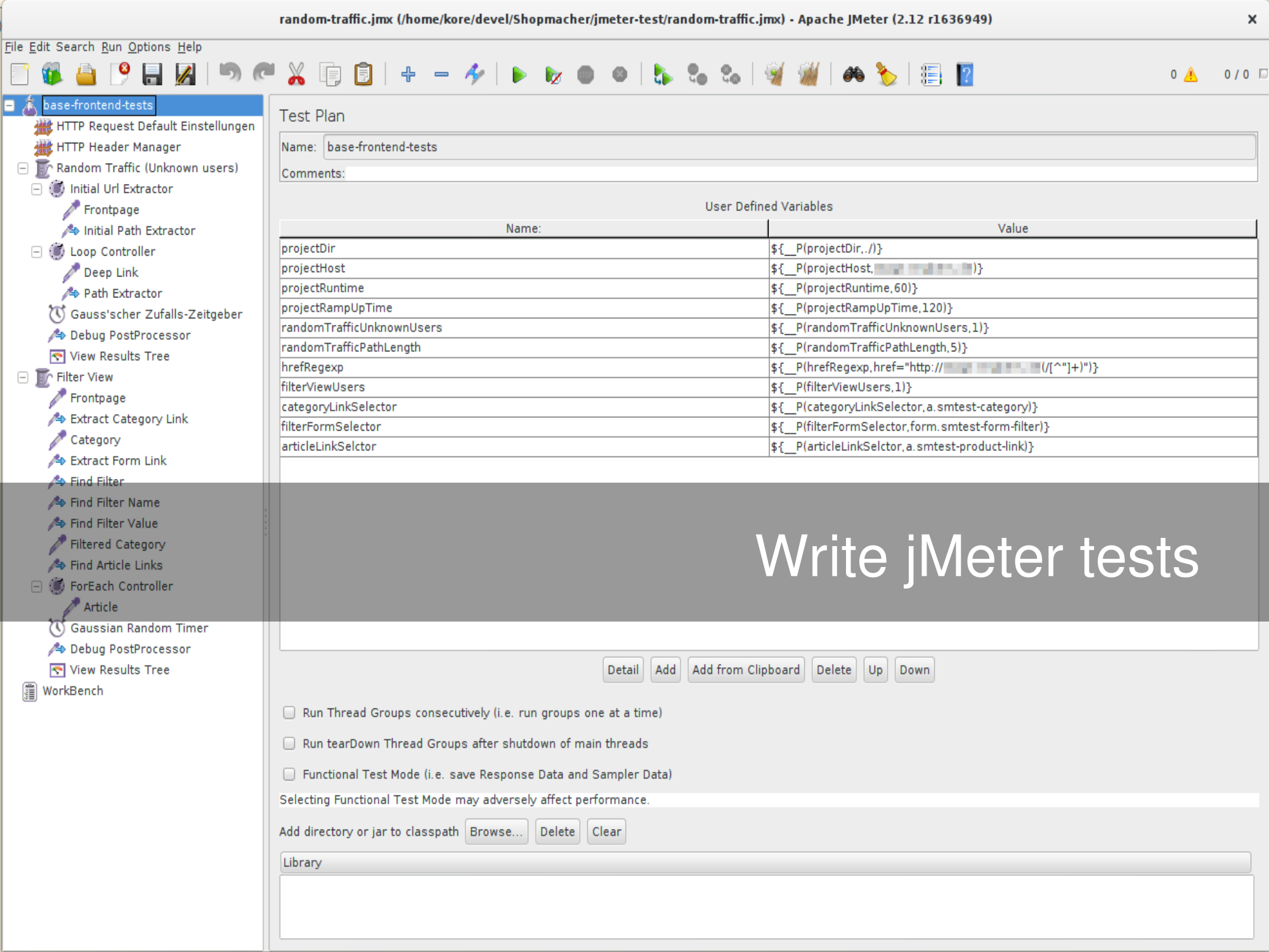
random-traffic.jmx (/home/kore/devel/Shopmacher/jmeter-test/random-traffic.jmx) - Apache JMeter (2.12 r1636949)
File Edit Search Run Options Help
base-frontend-tests
HTTP Request Default Einstellungen
HTTP Header Manager
Random Traffic (Unknown users)
Initial Url Extractor
Frontpage
Initial Path Extractor
Loop Controller
Deep Link
Path Extractor
Gauss'scher Zufalls-Zeitgeber
Debug PostProcessor
View Results Tree
Filter View
Frontpage
Extract Category Link
Category
Extract Form Link
Find Filter
Find Filter Name
Find Filter Value
Filtered Category
Find Article Links
ForEach Controller
Article
Gaussian Random Timer
Debug PostProcessor
View Results Tree
WorkBench
Test Plan
Name: base-frontend-tests
Comments:
User Defined Variables
Name:
Value
projectDir
${__P(projectDir,./)}
projectHost
${__P(projectHost,
projectRuntime
${__P(projectRuntime,60)}
projectRampUpTime
${__P(projectRampUpTime,120)}
randomTrafficUnknownUsers
${__P(randomTrafficUnknownUsers,1)}
randomTrafficPathLength
${__P(randomTrafficPathLength,5)}
hrefRegexp
${__P(hrefRegexp,href="http://
(/[^"]+)")}
filterViewUsers
${__P(filterViewUsers,1)}
categoryLinkSelector
${__P(categoryLinkSelector,a.smtest-category)}
filterFormSelector
${__P(filterFormSelector,form.smtest-form-filter)}
articleLinkSelctor
${__P(articleLinkSelctor,a.smtest-product-link)}
Write jMeter tests
Detail
Add
Add from Clipboard
Delete
Up
Down
Run Thread Groups consecutively (i.e. run groups one at a time)
Run tearDown Thread Groups after shutdown of main threads
Functional Test Mode (i.e. save Response Data and Sampler Data)
Selecting Functional Test Mode may adversely affect performance.
Add directory or jar to classpath
Browse...
Delete
Clear
Library

# JMeter 101

- User types / execution plans
  - Thread groups
- Action timing
  - Timers
- Organize and combine logic (loops, etc.)
  - Controllers
- Example data, cookie manager, . . .
  - Configuration elements
- Actual work (HTTP, SOAP, . . . requests)
  - Samplers


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# How to setup a load-test?

1. Provision server
2. Reset server
3. Prime server
4. *Run test*
5. Analyze data

Reproducible automated tests on real-world servers


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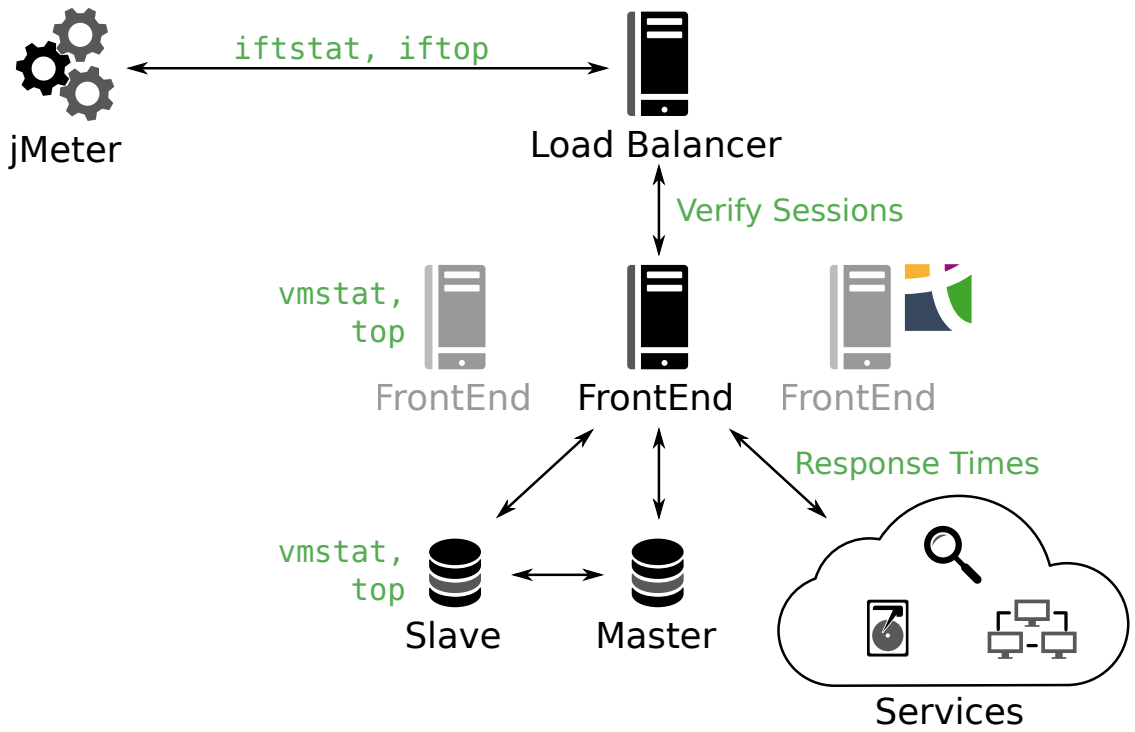
# Collect Data





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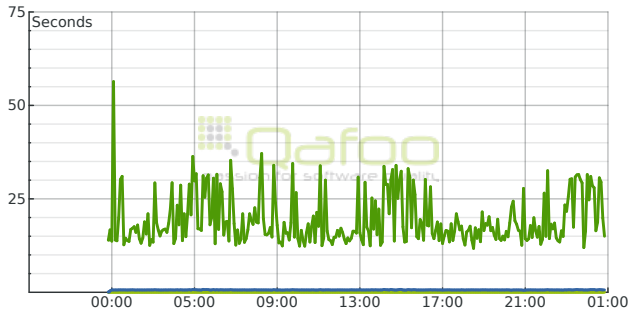
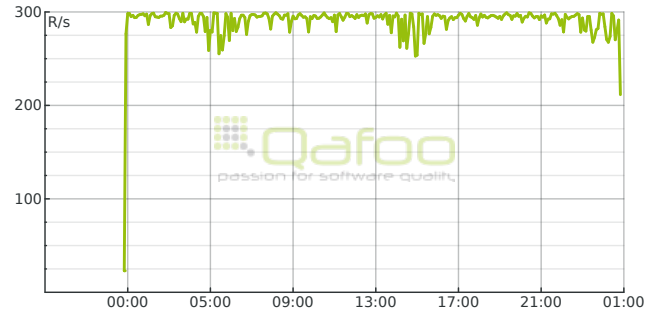
# Analyze Data

## Response time



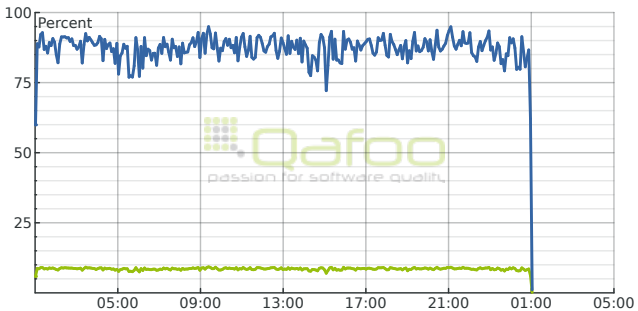

Minimum Average Maximum

## Requests per second



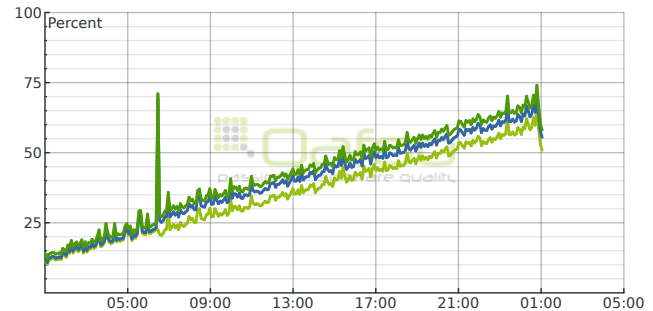

Average

## CPU usage




System User

## Memory usage




Used Memory Shared Cached

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# Outline

How To

Common Problems


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Varnish / Edge Side Includes

# NFS

# Server Configuration

# Opcode Caches

# Summary

## Test Before

- Investment
- Sleep well
- Tests can be run again – requires servers

## Test Live

- Pray. . .


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# Simulate Real Load

- We did this several times
- No shop had performance issues when going live
- Hardware proved almost everytime sufficient after problems with the stack were fixed
- No shop would have made it without the improvements


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# THANK YOU

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