Packt Mein Shop Das?

International PHP Conference 2017

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Hi, I’m Kore (@koredn)

Server Configuration

How to discover these?

- Load testing before
- Monitoring in production
  - Tideways, Blackfire, New Relic, AppDynamics, . . .

Simulate Real Load

Simulate Real Load

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

How?


Do Not Guess – Measure!

ab / siege

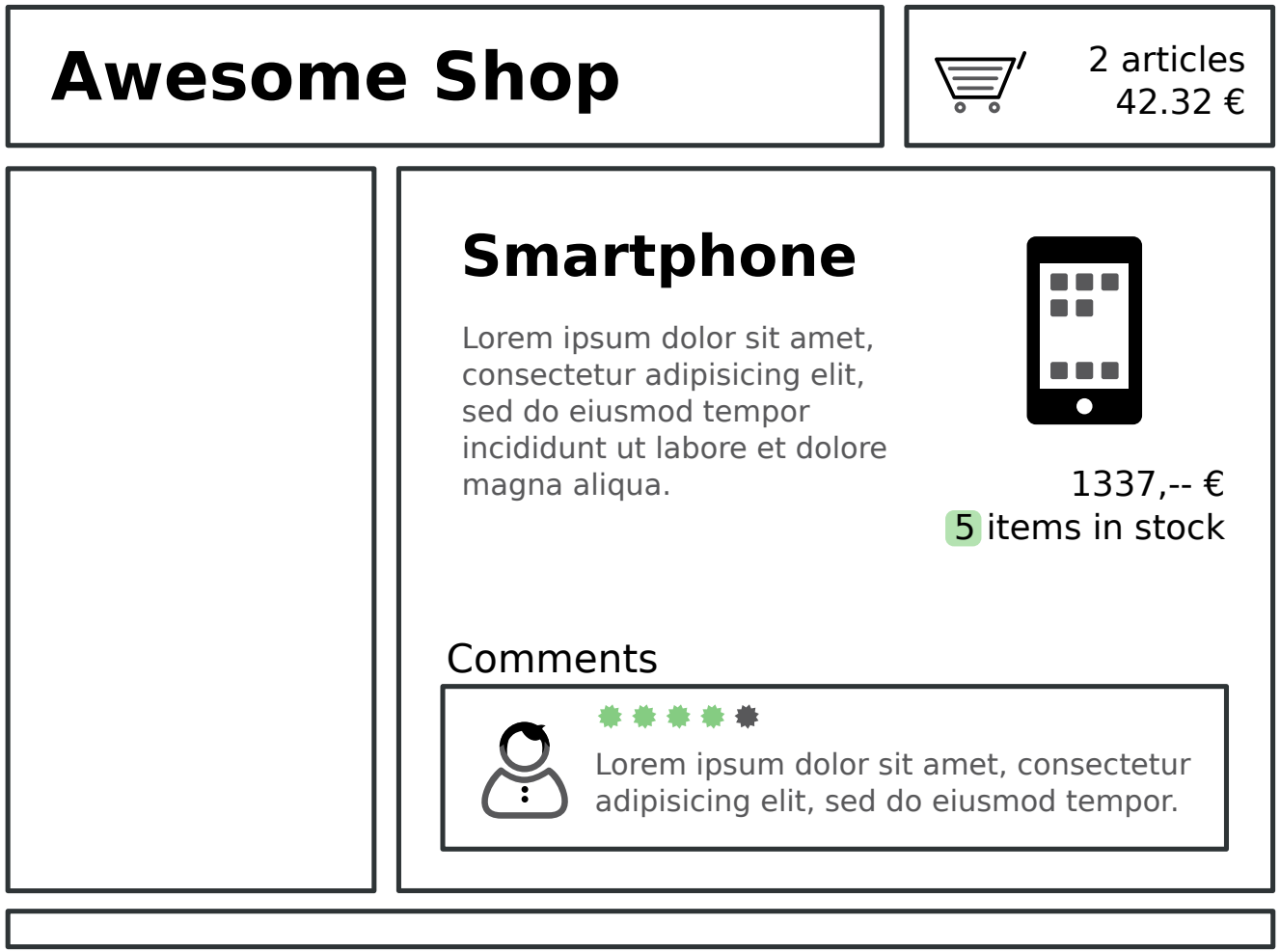

SANDWICHES
OUR FRESHLY
ROASTED COFFEES
SOUPS
jMeter

Outline

How To

Common Problems

Why Is It Complex?



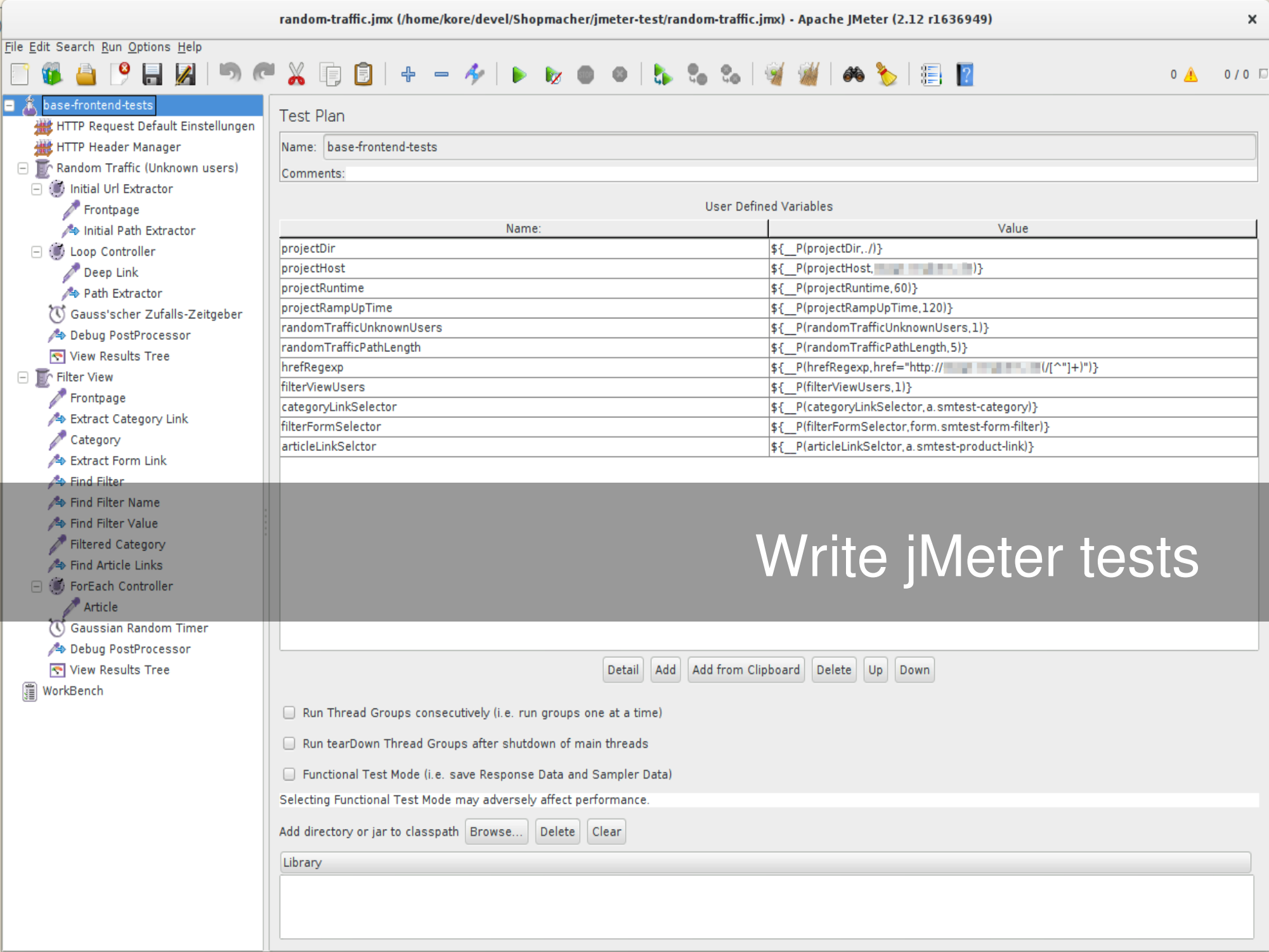
Analyze Scenarios

What happens on your website?

- Example: Online Shop:
  - Random browser
  - User registration
  - Logged in browser
  - Checkout process

Crunch The Numbers

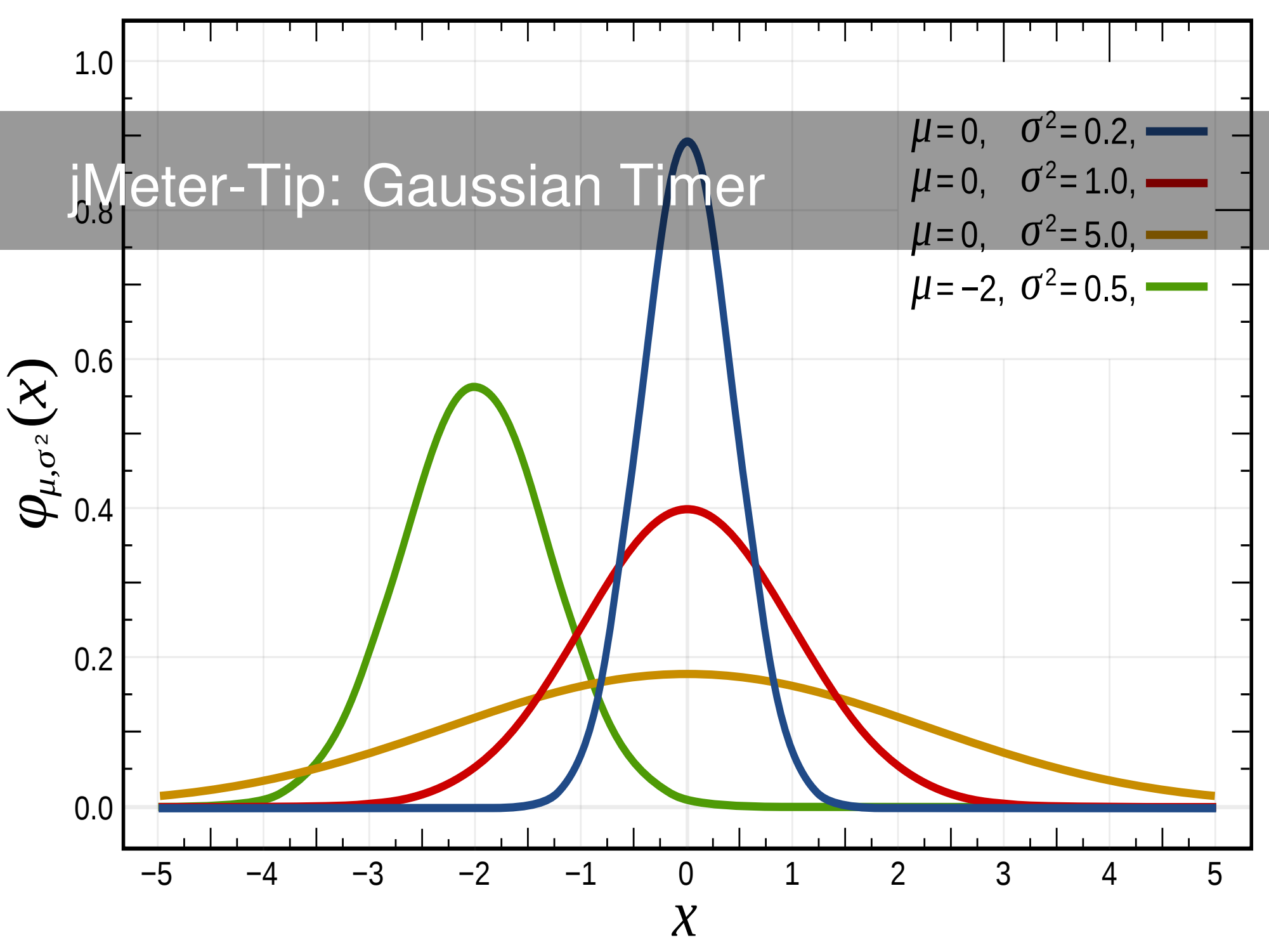
- How many checkouts per day?
- How many page impressions per day?
- How many checkouts / PIs during peak time?
  - 240.000 page impressions per day $\rightarrow$ 10.000PI/h?
  - Are you .de? $\rightarrow$ 30.000PI/h
  - Peak business hours? $\rightarrow$ 60.000$PI/h \rightarrow 20 req/s$


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

jMeter-Tip: Cookies: Compatibility

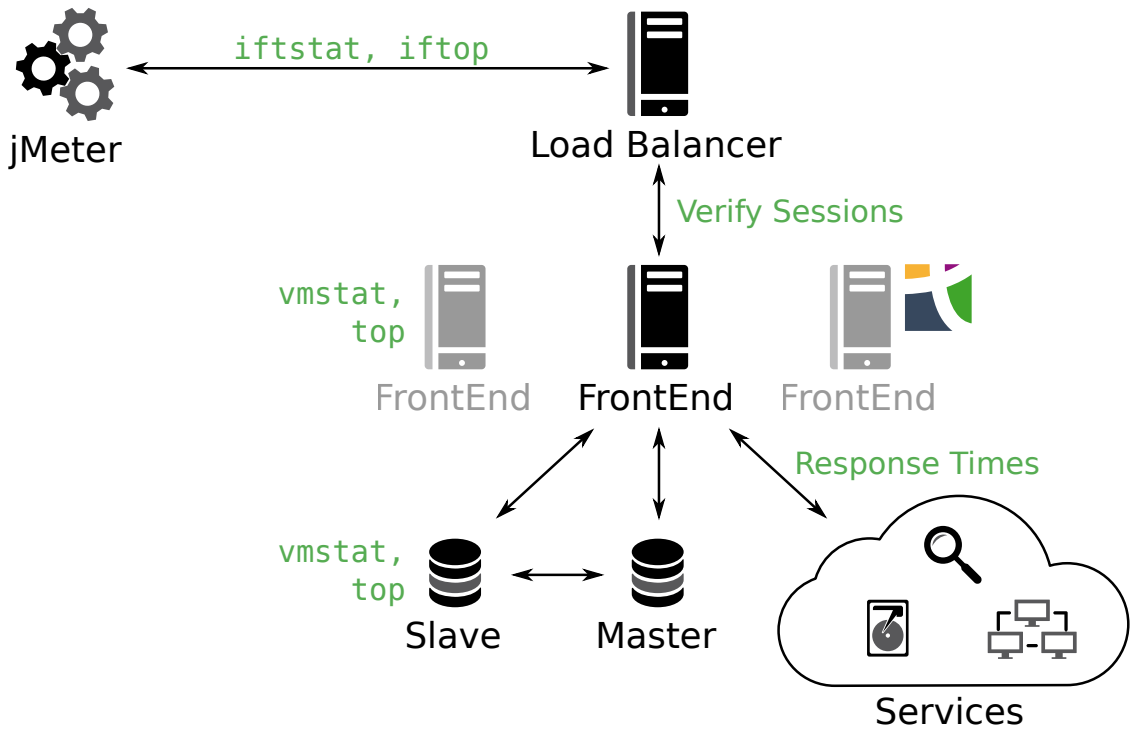

jMeter-Tip: Gaussian Timer
$\mu = 0, \quad \sigma^2 = 0.2,$
$\mu = 0, \quad \sigma^2 = 1.0,$
$\mu = 0, \quad \sigma^2 = 5.0,$
$\mu = -2, \quad \sigma^2 = 0.5,$
$\varphi_{\mu,\sigma^2}(x)$
x
1.0
0.8
0.6
0.4
0.2
0.0
−5
−4
−3
−2
−1
0
1
2
3
4
5

How to setup a load-test?

1. Provision server
2. Reset server
3. Prime caches (slowly increase traffic)
4. *Run test*
5. Analyze data

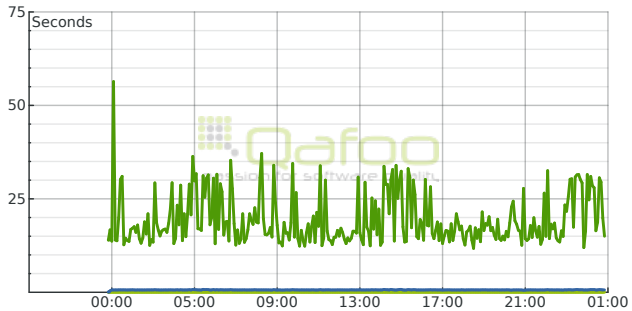
Reproducible automated tests on real-world servers

Collect Data



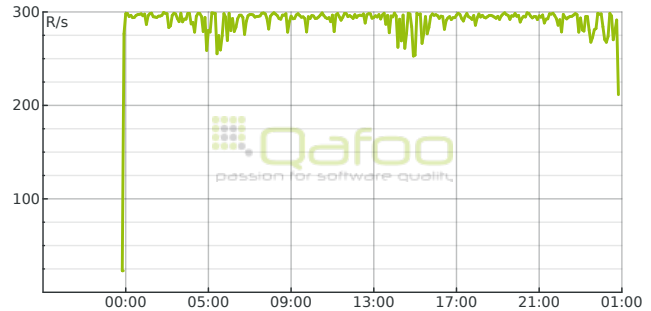
Analyze Data

Response time



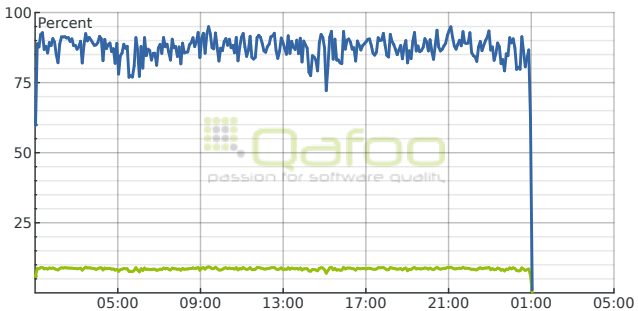
Minimum Average Maximum

Requests per second



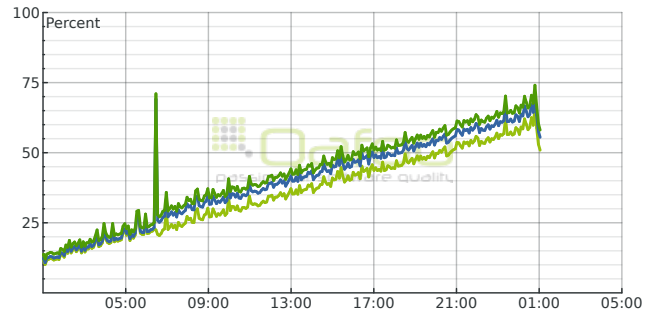
Average

CPU usage



System User

Memory usage



Used Memory Shared Cached

Tideways

Outline

How To

Common Problems


Varnish / Edge Side Includes

NFS

Opcode Caches

Summary

Test Before

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

Test Live

- Pray. . .

Simplified Load Test Checklist

- Dedicated hardware for the load test runner
- Test the production cluster
- Mind external services
  - Make sure they are not the ones which fail first
  - Be sure to use removabletest data
- Invest into realistic user scenarios

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
- Just one single website would have made it without the improvements

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