

Butler und Baumeister

**Kontinuierliche Integration
mit Hudson**

















Dr. Simon Wiest

Java Forum Stuttgart 2009
02.07.2009, Stuttgart



Continuous Integration Builds for NetBeans Projects [\(machine\)](#)

All Community ML Builds Push To main-silver builds

| S | W | Job ↓ | Letzter Erfolg |
|---|---|----------------------------------|---|
|  |  | analytics-server | 1 Monat 6 Tage (#1049) |
|  |  | apitest | 2 Stunden 4 Minuten (#410) |
|  |  | javascript-tests | 3 Monate 18 Tage (#242) |
|  |  | karelnb | 21 Stunden (#154) |
|  |  | NB-Core-Build | 3 Stunden 3 Minuten (#2832) |
|  |  | nb-javac | 3 Stunden 42 Minuten (#118) |
|  |  | l10nkit | 8 Monate 3 Tage (#471) |
|  |  | latex | 9 Stunden 56 Minuten (#100) |



Build #805 (06.05.2009 12:52:45)



Revision: 1759

Changes

1. BUGFIX: Now all Attachments are at least listed. #4030 ([detail](#))

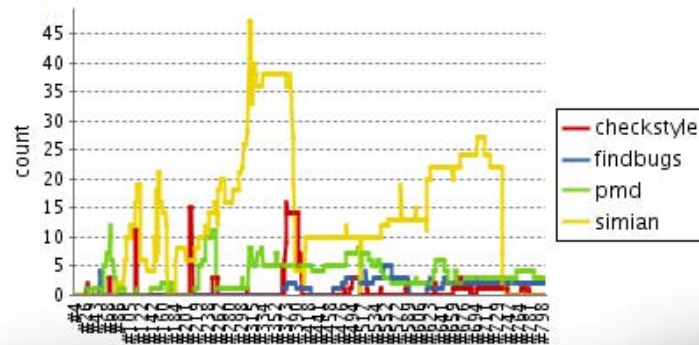


[Testergebnis](#) (1 fehlgeschlagener Test / +1)

[facade.impl.DownloadServiceTest.testGetProductFileList](#)



☀ checkstyle 0 ☀ findbugs 2 ☀ pmd 3 ☀ simian 0



Testergebnis : org.netbeans.modules.javascript.editing

Fehlschläge (-1)

Tests (±0)

Alle fehlgeschlagenen Tests

| Testname | Dauer | Alter |
|--|--------|-------|
| org.netbeans.modules.javascript.editing.JsCodeCompletionTest.testAutoQuery2 | 0.0020 | 1 |
| org.netbeans.modules.javascript.editing.HtmlCompletionTest.test1 | 3.131 | 28 |
| org.netbeans.modules.javascript.editing.HtmlCompletionTest.test6 | 0.118 | 28 |
| org.netbeans.modules.javascript.editing.JsTypeAnalyzerTest.testGetType | 2.797 | 43 |
| org.netbeans.modules.javascript.editing.JsTypeAnalyzerTest.testGetType2 | 0.106 | 43 |
| org.netbeans.modules.javascript.editing.JsKeystrokeHandlerTest.testDeleteContComment | 0.018 | 44 |
| org.netbeans.modules.javascript.editing.JsKeystrokeHandlerTest.testNoDeleteContComment | 0.024 | 44 |
| org.netbeans.modules.javascript.editing.JsKeystrokeHandlerTest.testNoMatchInComments | 0.11 | 44 |
| org.netbeans.modules.javascript.editing.JsKeystrokeHandlerTest.testdeleteWord2 | 0.019 | 44 |
| org.netbeans.modules.javascript.editing.JsIndexerTest.testIndexPrototypeNew | 0.565 | 104 |
| org.netbeans.modules.javascript.editing.JsIndexerTest.testWindow | 0.707 | 104 |


Alle Tests

| Klasse | Dauer | Fehlgeschlagen | (Veränderung) | Summe | (Veränderung) |
|--|--------------|----------------|---------------|-------|---------------|
| AstOffsetTest | 4.1 Sekunden | 0 | | 25 | |
| AstUtilitiesTest | 5.7 Sekunden | 0 | | 1 | |
| ElementUtilitiesTest | 2.5 Sekunden | 0 | | 1 | |
| EmbeddedFormatterTest | 4.7 Sekunden | 0 | | 4 | |
| HtmlCompletionTest | 4.2 Sekunden | 2 | | 10 | |
| JsAnalyzerTest | 4.7 Sekunden | 0 | | 17 | |
| JsCodeCompletionTest | 2 ms | 1 | | 1 | |
| JsCommentFormatterTest | 2.4 Sekunden | 0 | | 3 | |



checkout/src/main/java/controller/impl/AbstractProductFeaturesController.java

findbugs 1 violation

296  instanceof will always return true

simian 1 violation

309  Duplication of 9 lines from [line 692 in ShoppingCartActionsController.java](#).

File: AbstractProductFeaturesController.java Lines 287 to 319

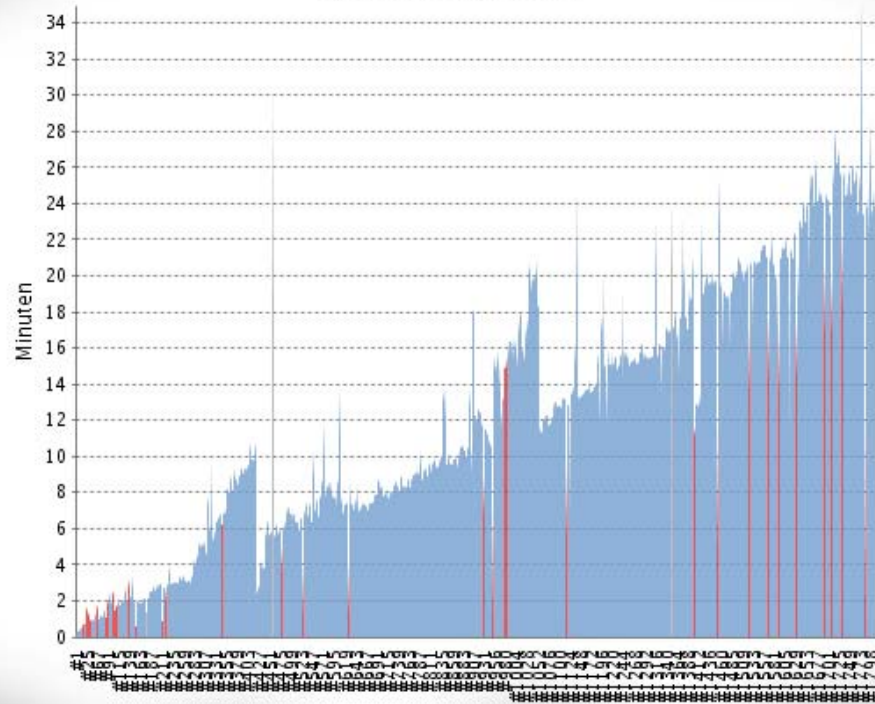
```
287     List<FeatureGroupDto> result = new ArrayList<FeatureGroupDto>();
288     IPimLocale locale = pbLocaleService.getByIsoCodeWithFallback(deeplinkView.getLocale());
289
290     //Build List of excluded IPimFeature.
291     List<IPimFeature> excludedFeatures = getCFGExcludedPimFeatures();
292
293     //Iterate over the FGs in the list.
294     for (IPimObject fgFsSNOobject : fgFsSnList) {
295         //Ignoring Objects which are not: IPimFeatureGroupFeatureSetStructureNode.
296         if (!(fgFsSNOobject instanceof IPimFeatureGroupFeatureSetStructureNode)) {
297             continue;
298         }
299         IPimFeatureGroupFeatureSetStructureNode fgFsSN = (IPimFeatureGroupFeatureSetStructureNode) fgFsSNOobject;
300         IPimFeatureGroup featureGroup = fgFsSN.getSource();
301         FeatureGroupDto featureGroupDto = null;
302         String fgName = this.localizedTextService.getLocalizedName(featureGroup);
303         if (lifecycleService.isLifecycleFeatureGroup(featureGroup)) {
304             //Generate lifecycle feature group dto.
305             featureGroupDto = getFeatureGroupDtoLifecycle(pimObject);
306         } else {
307             //Generate normal feature group dto.
308             featureGroupDto = getFeatureGroupDtoNormal(featureGroup);
309         }
310         result.add(featureGroupDto);
311     }
312     return result;
```

**Build-Verlauf****(Trend)**

-  #10 [28.10.2008 15:01:33](#)
-  #9 [28.10.2008 14:37:55](#)
-  #8 [28.10.2008 14:31:34](#)
-  #7 [28.10.2008 14:01:33](#)
-  #6 [28.10.2008 12:02:51](#)
-  #5 [28.10.2008 12:01:34](#)
-  #4 [27.10.2008 16:10:35](#)
-  #3 [27.10.2008 16:08:15](#)
-  #2 [27.10.2008 15:55:44](#)
-  #1 [27.10.2008 15:52:09](#)

[Alle Builds](#)[Nur Fehlschläge](#)

Build-Zeit (Trend)



Übersicht [Hudson] - Mozilla Firefox

http://deadlock.netbeans.org/hudson/

Hudson

Benutzer
Build-Verlauf
Projektbeziehungen
Fingerabdruck überprüfen

Geplante Builds
[rubytests](#)
[PHP-build](#)
[nb6.1_web-l10n](#)
[validate-project-xmls](#)

Build-Prozessor Status

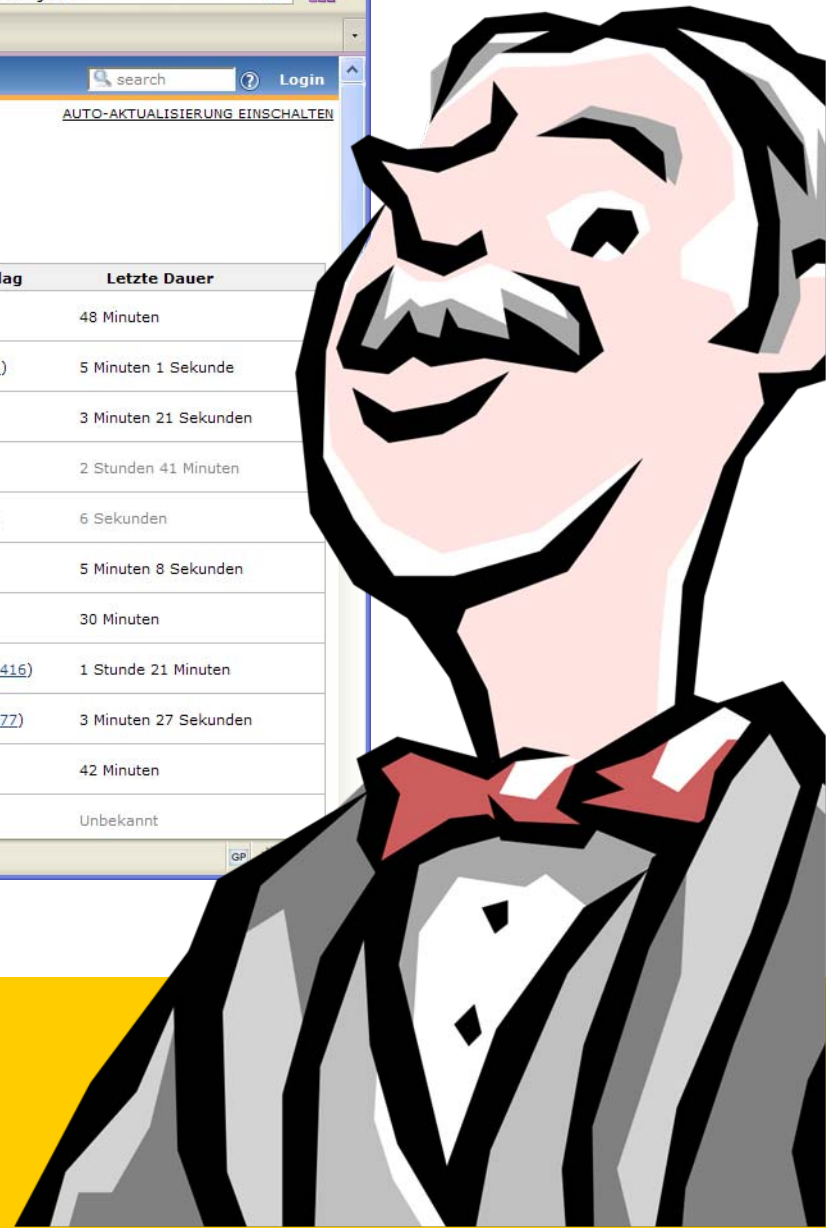
| No. | Status |
|-----|--------------------------|
| 1 | Baue NB-Core-Build #1345 |
| 2 | Baue trunk #3750 |
| 3 | Baue profiler-main #153 |

Continuous Integration Builds for NetBeans Projects

Services on this machine are described at: [DeadlockMachine](#)

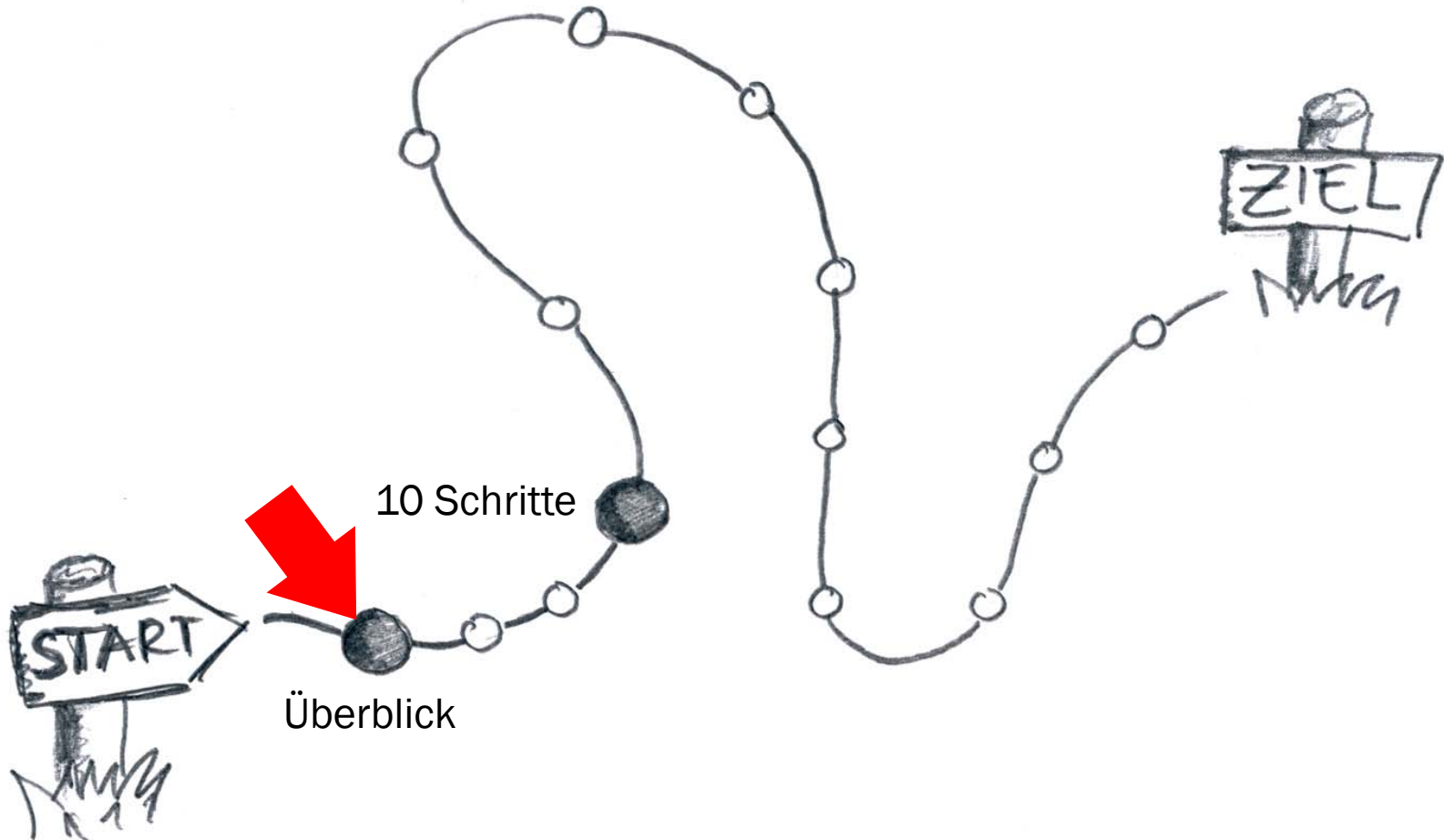
| S | W | Job ↓ | Letzter Erfolg | Letzter Fehlschlag | Letzte Dauer |
|---|---|----------------------------------|-----------------------------|--------------------------|-----------------------|
| ☐ | ☀ | analytics-server | 4 Tage 9 Stunden (#789) | Unbekannt | 48 Minuten |
| ☐ | ☀ | apitest | 1 Stunde 24 Minuten (#118) | 3 Monate 12 Tage (#1) | 5 Minuten 1 Sekunde |
| ☐ | ☀ | fagsuck | 6 Stunden 33 Minuten (#432) | Unbekannt | 3 Minuten 21 Sekunden |
| ☐ | ☀ | FindBugs | 10 Monate (#35) | Unbekannt | 2 Stunden 41 Minuten |
| ☐ | ☁ | javadoc-nbms | 2 Monate 4 Tage (#3) | 2 Monate 4 Tage (#2) | 6 Sekunden |
| ☐ | ☀ | JavaFX_NB_daily | 10 Stunden (#159) | Unbekannt | 5 Minuten 8 Sekunden |
| ☐ | ☀ | javascript-tests | 7 Stunden 3 Minuten (#54) | Unbekannt | 30 Minuten |
| ☐ | ☀ | l10nkit | 16 Stunden (#422) | 6 Tage 15 Stunden (#416) | 1 Stunde 21 Minuten |
| ☐ | ☁ | latex | 8 Stunden 32 Minuten (#280) | 2 Tage 8 Stunden (#277) | 3 Minuten 27 Sekunden |
| ☐ | ☀ | laziness | 1 Stunde 33 Minuten (#131) | Unbekannt | 42 Minuten |
| ☐ | ☐ | macpkg | Unbekannt | Unbekannt | Unbekannt |

Fertig



Gestatten, Hudson.

Agenda



Über den Referenten: Dr. Simon Wiest

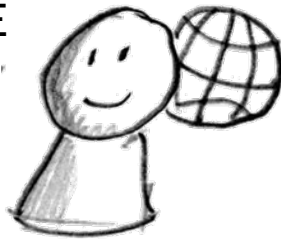
Privat: Hudson-Committer



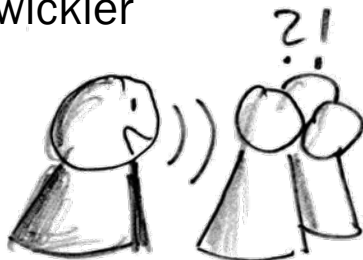
Lokalisierung DE



Plug-In Entwickler



Internationalisierung

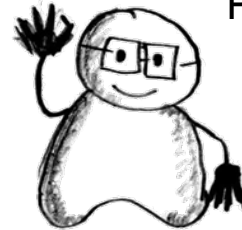


Support (Mailing Listen)

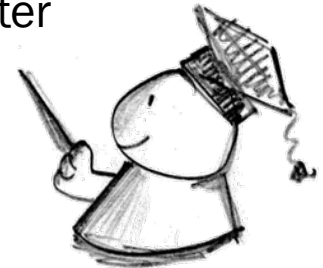
Beruflich: Hudson-Anwender



Projektleiter



Java Architekt

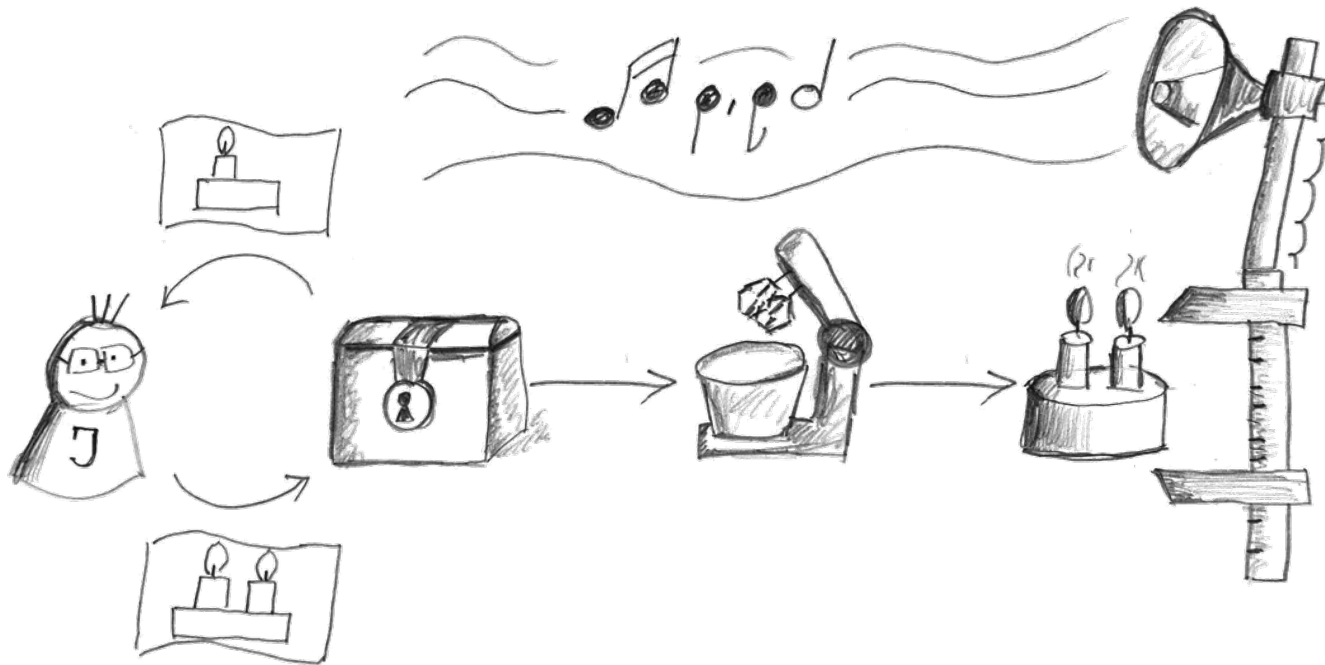


Coach



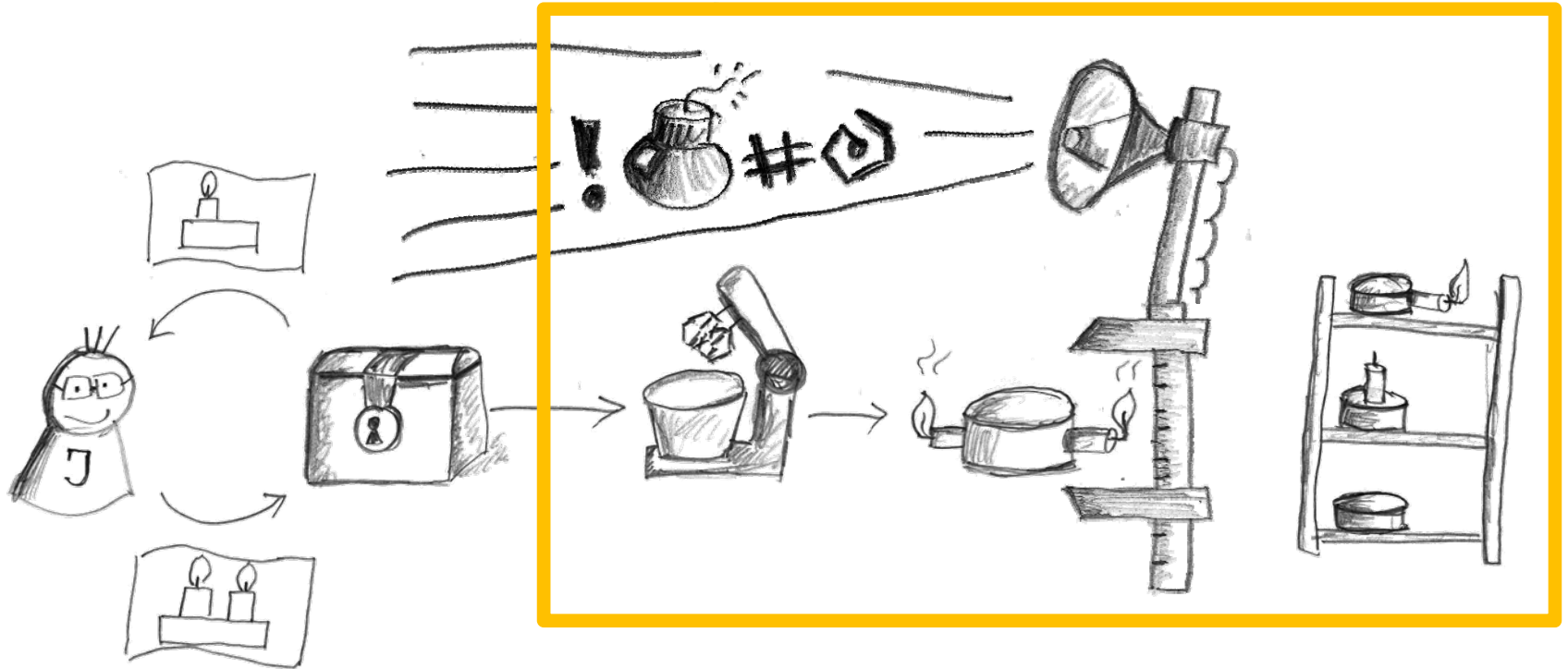
Alles zusammen

Was ist kontinuierliche Integration (CI)?

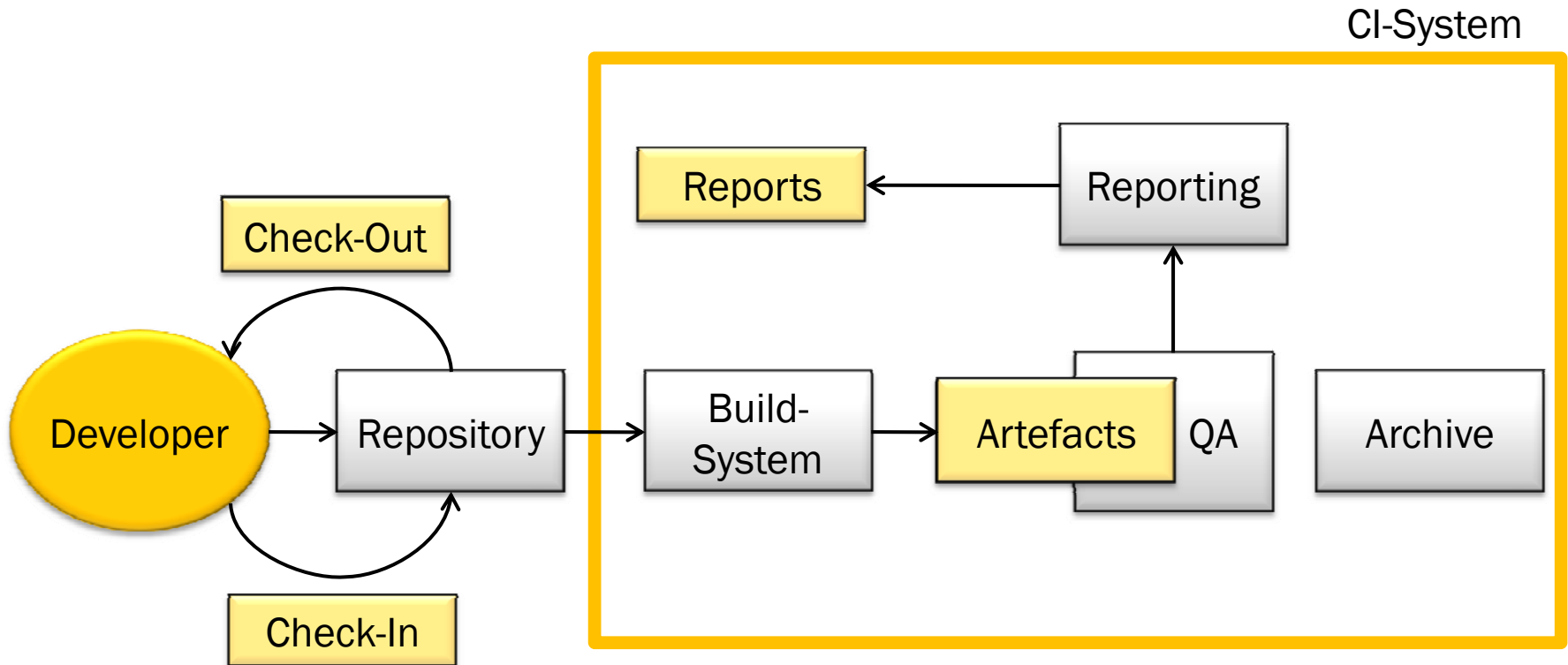


Was ist kontinuierliche Integration (CI)?

orchestriert durch CI-System



Was ist kontinuierliche Integration (CI)?



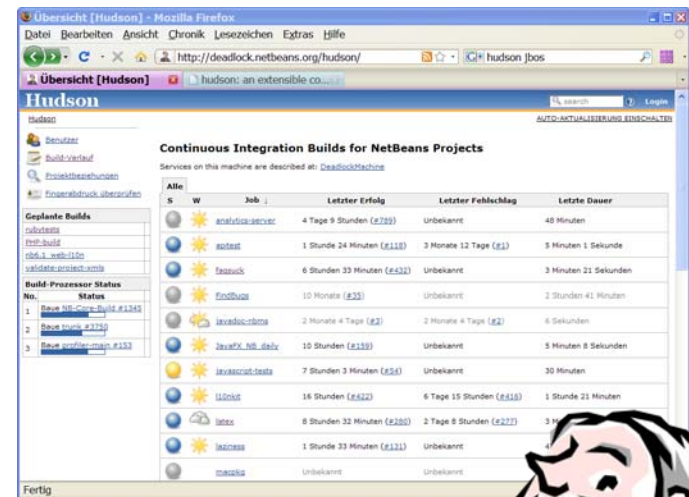
- Subversion
- CVS
- Perforce
- Git
- ...

- Ant
- Maven
- Shell-Skript
- Batch-Datei
- ...

- JUnit
- TestNG
- CheckStyle
- PMD
- ...

Hudson auf einen Blick

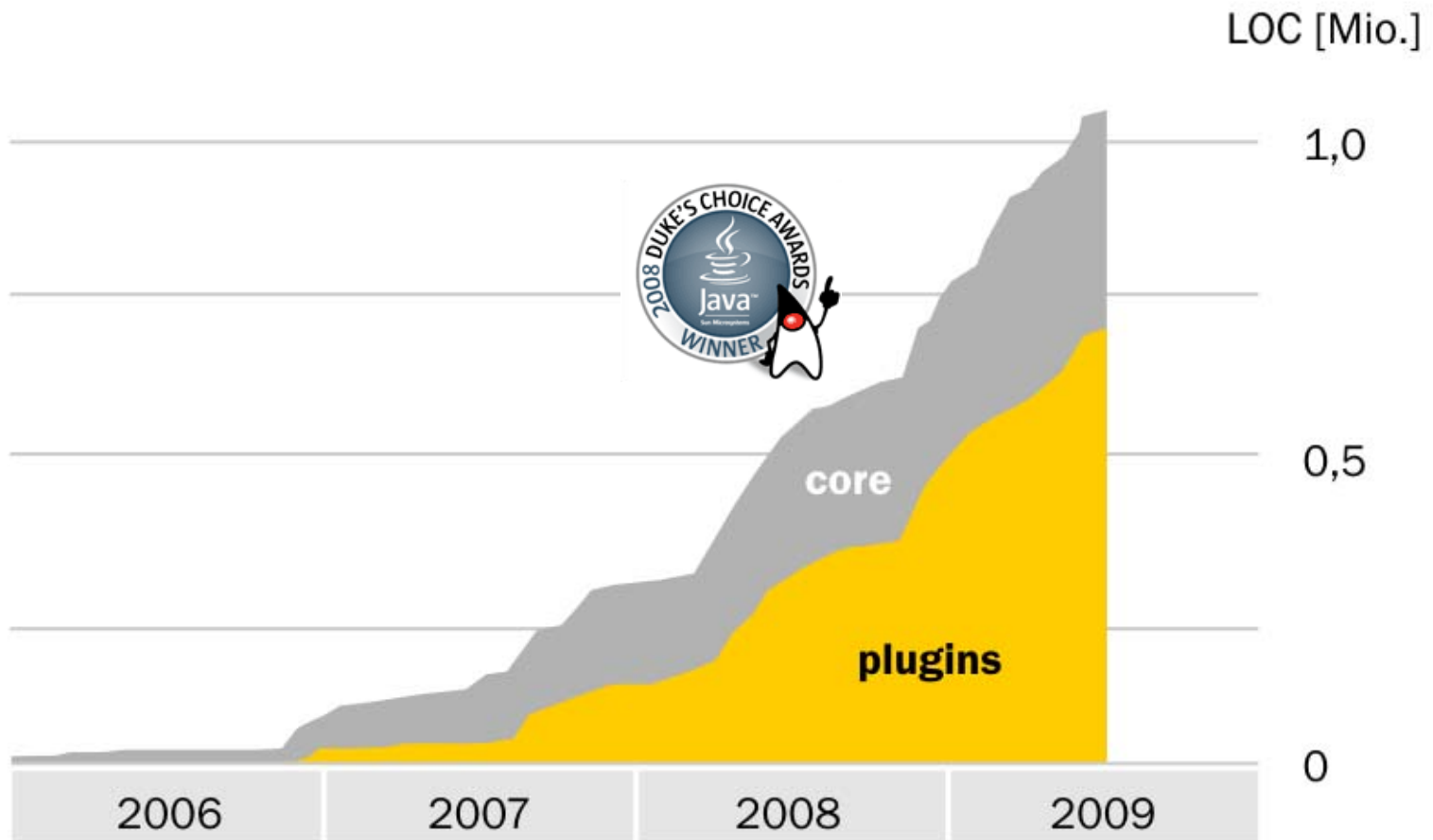
- Java-basierte Web-Anwendung
- Initiiert 2006/2007 von Kohsuke Kawaguchi (Sun)
- Teil des Projekts Glassfish
- Open Source (MIT Lizenz)
- 1,24 Mio. LOC (mit Plugins)
- Zur Zeit 180+ Plug-Ins
- 130+ Beitragende



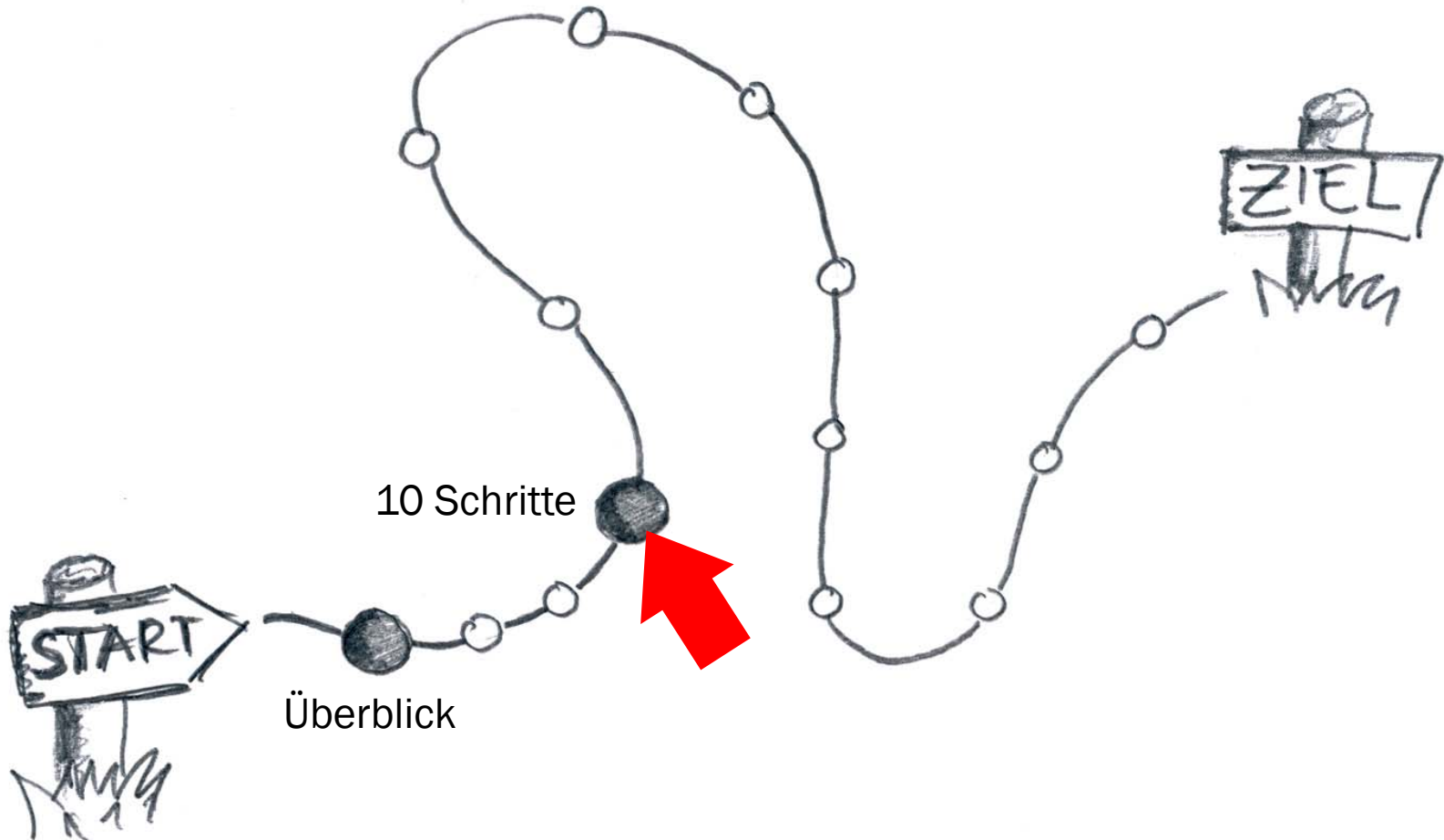
Wer verwendet Hudson (und darf es zugeben)?



Hudson: Ein Projekt in voller Fahrt.



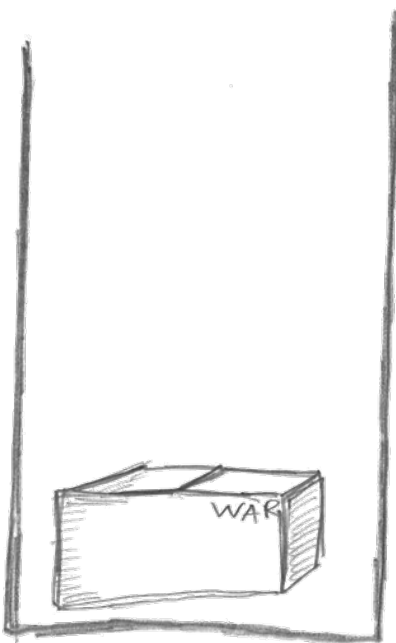
Agenda



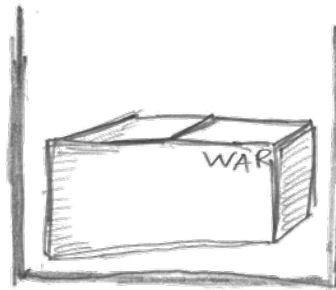
1. Installation: Denkbar einfach.



Download als
WAR-Datei
Ca. 26 MB



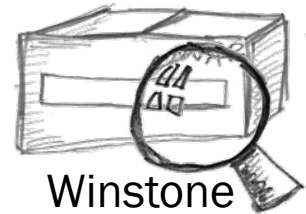
WebSphere



Tomcat



Jetty



Winstone
(Eingebettet)

2. Konfiguration: Komfortabel und übersichtlich.

The screenshot shows the Hudson web interface configuration page. It features a sidebar with navigation links like 'Neuen Job anlegen', 'Hudson verwalten', 'Benutzer', and 'Build-Verlauf'. The main content area is divided into sections: 'Geplante Builds' (showing no builds planned), 'Build-Prozessor Status' (a table with 2 ready builds), 'Globale Eigenschaften' (with checkboxes for environment variables and security), 'Maven' (with a table for installed versions, including 'Maven 2.1.0'), and 'JDK' (with a table for installed versions, including 'JDK 1.6.0_11'). Each input field has a help icon, and there are buttons for adding and removing installations.

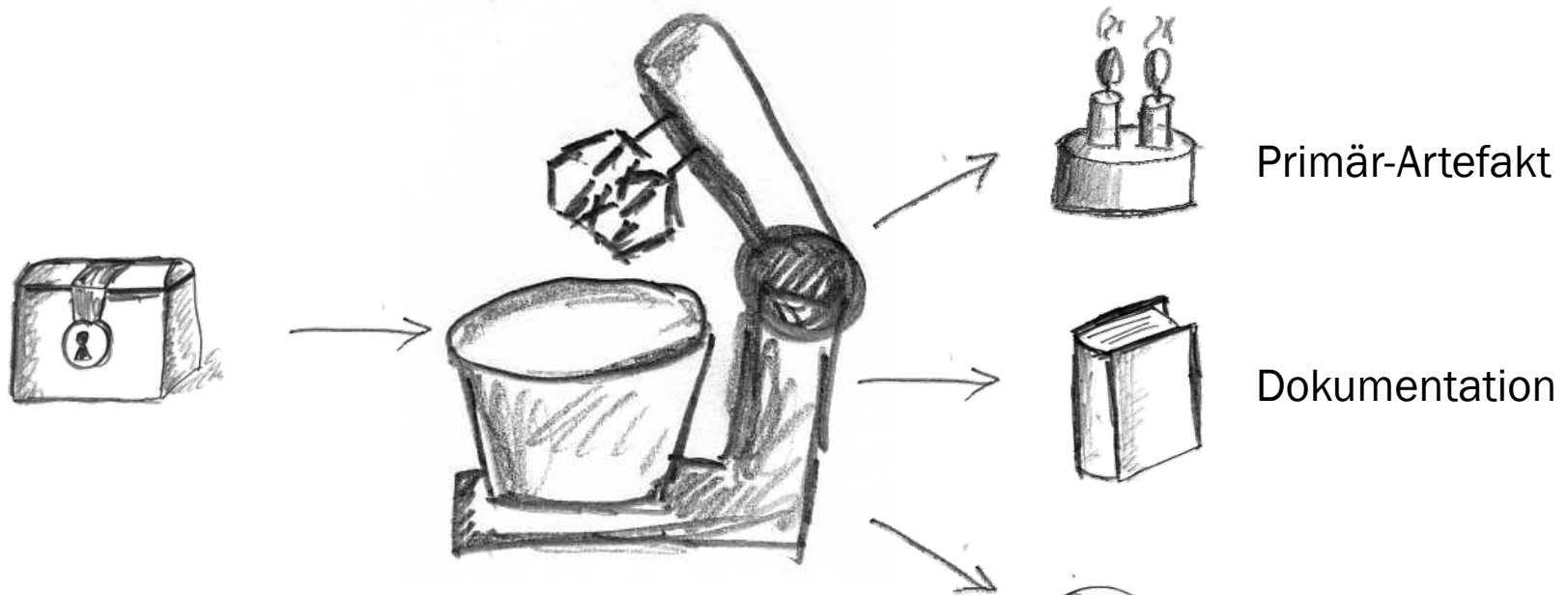
Web-Interface

```
1 <?xml version='1.0' encoding='UTF-8'?>
2 <hudson>
3   <version>1.313</version>
4   <numExecutors>2</numExecutors>
5   <mode>NORMAL</mode>
6   <authorizationStrategy class="hudson.security.AuthorizationStrategy$Unsecured">
7     <securityRealm class="hudson.security.SecurityRealm$None"/>
8   </authorizationStrategy>
9   <systemMessage>&lt;h1&gt; Willkommen auf dem JFS-Demo-Hudson-Server!&lt;/h1&gt;
10  &lt;a href="mailto://papierkorb@foobar.de"&gt;freundlichen Administrat
11  </systemMessage>
12  <jdks>
13    <jdk>
14      <name>JDK 1.6.0_11</name>
15      <home>C:\Programme\Java\jdk1.6.0_11</home>
16      <properties/>
17    </jdk>
18  </jdks>
19  <clauses/>
20  <slaves/>
21  <quietPeriod>5</quietPeriod>
22  <scmCheckoutRetryCount>0</scmCheckoutRetryCount>
23  <views>
24    <hudson.model.AllView>
25      <owner class="hudson" reference="../../../../"/>
26      <name>Alle</name>
27    </hudson.model.AllView>
28  </views>
29  <primaryView>Alle</primaryView>
30  <slaveAgentPort>0</slaveAgentPort>
31  <label></label>
32  <nodeProperties/>
33  <globalNodeProperties/>
34  <disabledAdministrativeMonitors/>
35 </hudson>
```

XML-Konfigurationsdateien

Wann immer möglich, werden Konventionen oder sinnvolle Vorgabewerte verwendet.

3. Build-Systeme: Java – und darüber hinaus!



Eingebaut

- Ant
- Maven
- Shell Skript
- Windows Batch

Über Plug-Ins

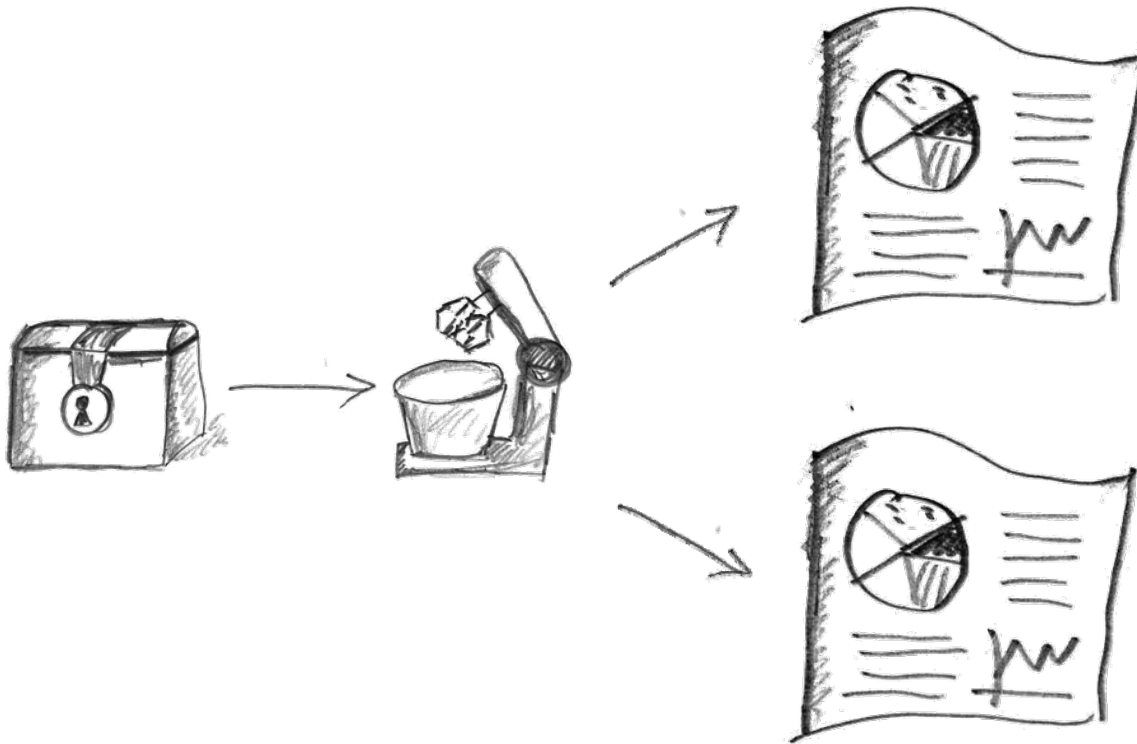
- Gant, Groovy
- MSBuild, Nant
- Rake, Ruby
- und viele mehr!

Primär-Artefakt

Dokumentation

Testergebnisse

4. Berichten: Grenzenlos durch Plugins.



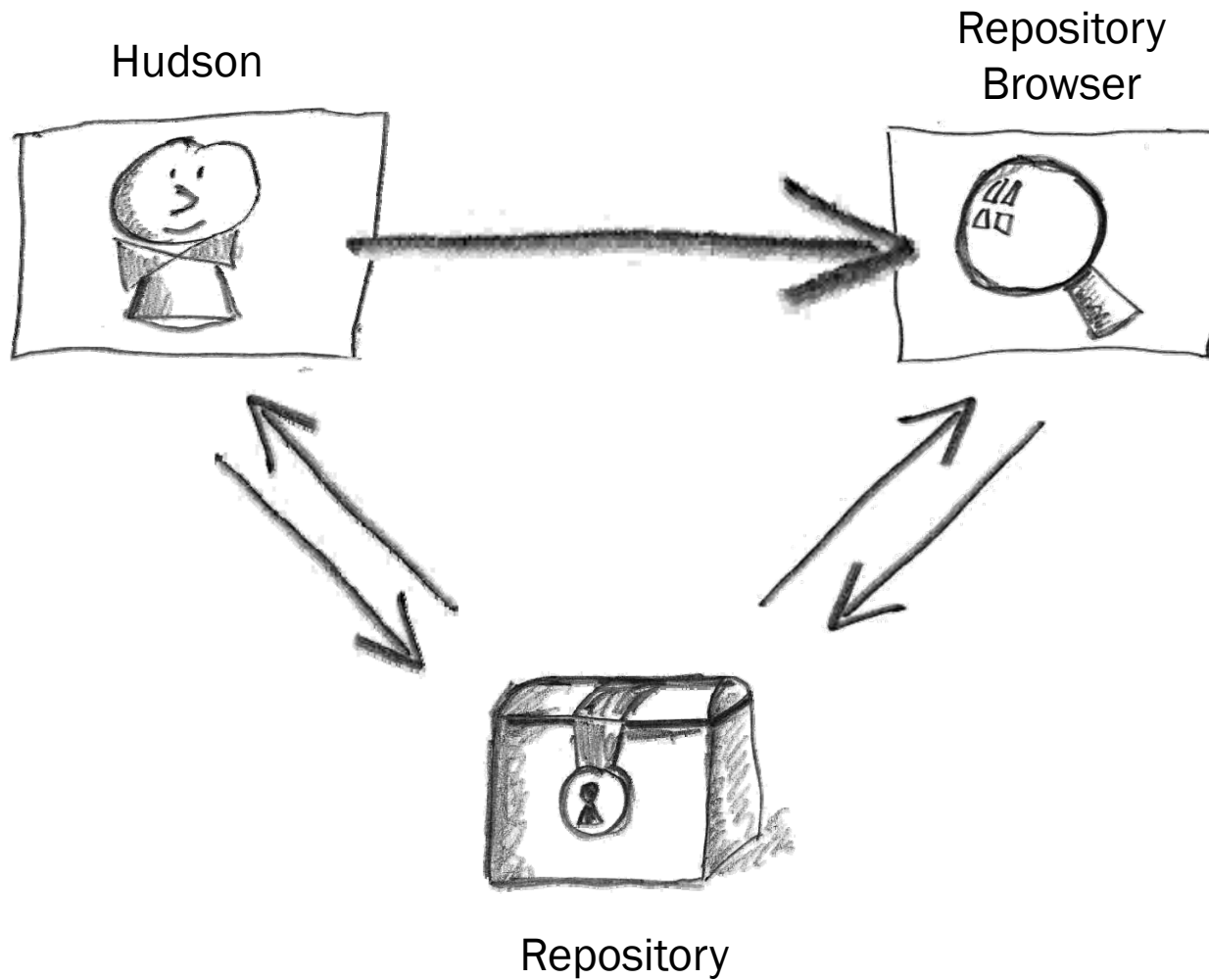
Eingebaut

- JUnit
- TestNG

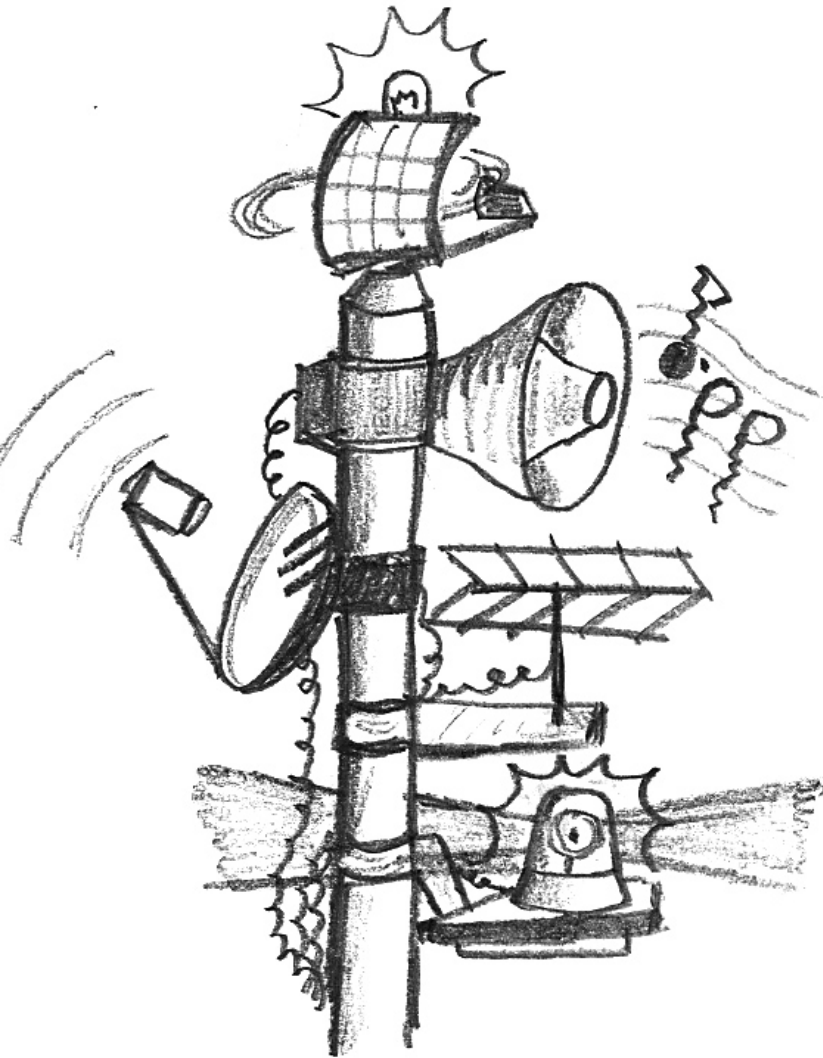
Über Plug-Ins

- CheckStyle
- PMD
- FindBugs
- Simian
- u.v.m.

5. Source Code Repositories: Mehr als nur „Auschecken“.

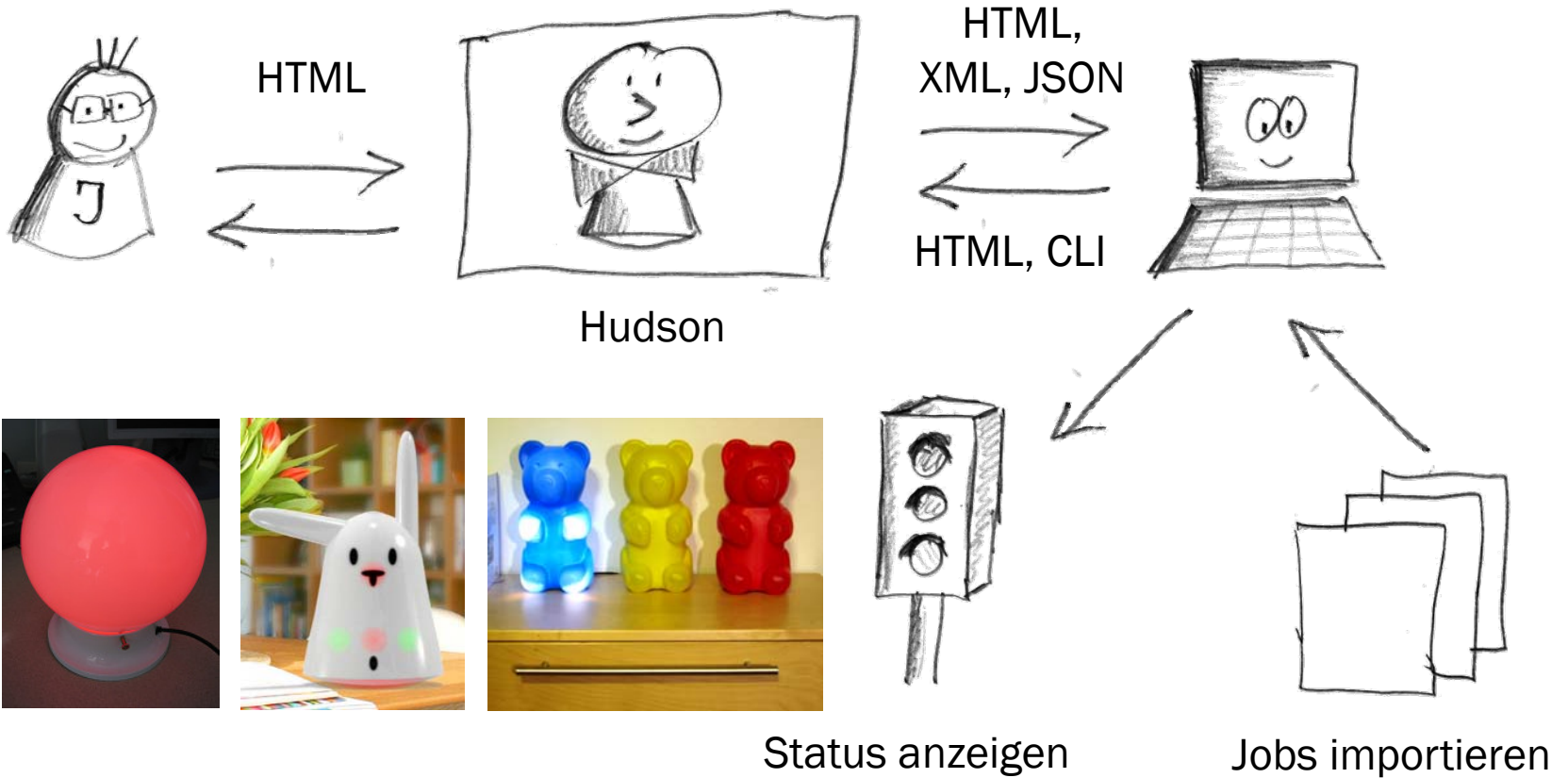


6. Benachrichtigungen: Viele Kanäle stehen offen.

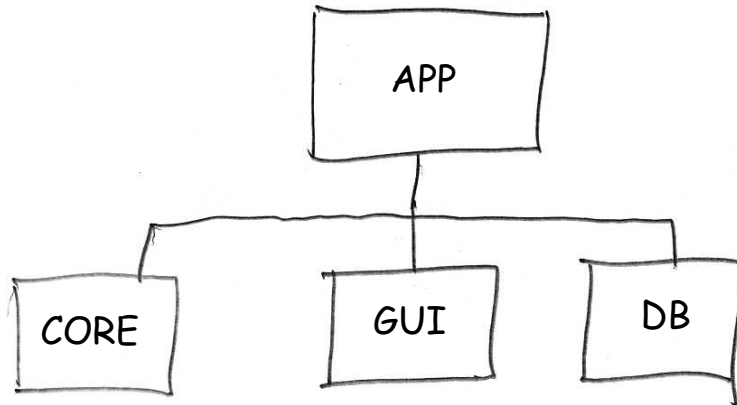


- E-Mail
- RSS-Feeds
- Instant Messenger
- Twitter
- Plugins für IDEs & Browser
- Desktop-Gadgets

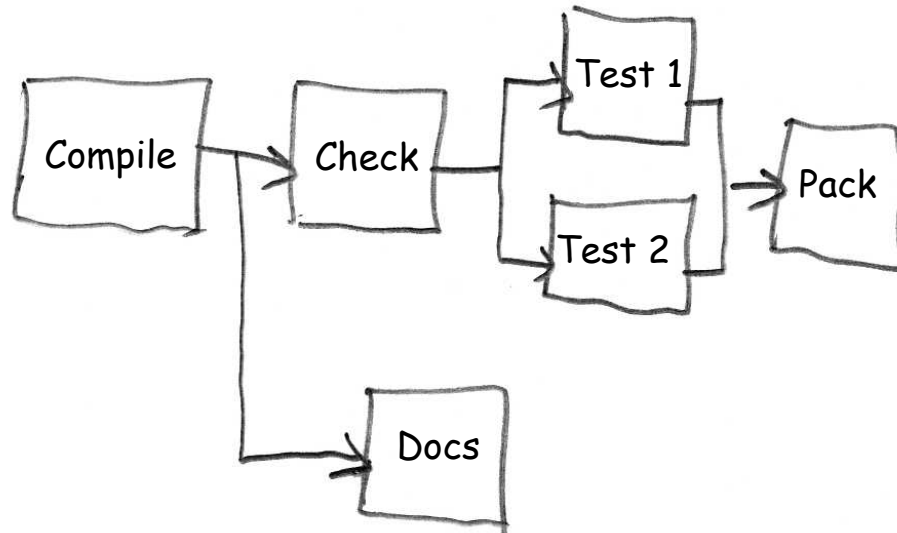
7. Remote API: Hudson lässt sich einfach automatisieren.



8. Abhängigkeiten zwischen Jobs: Intelligentes Bauen.

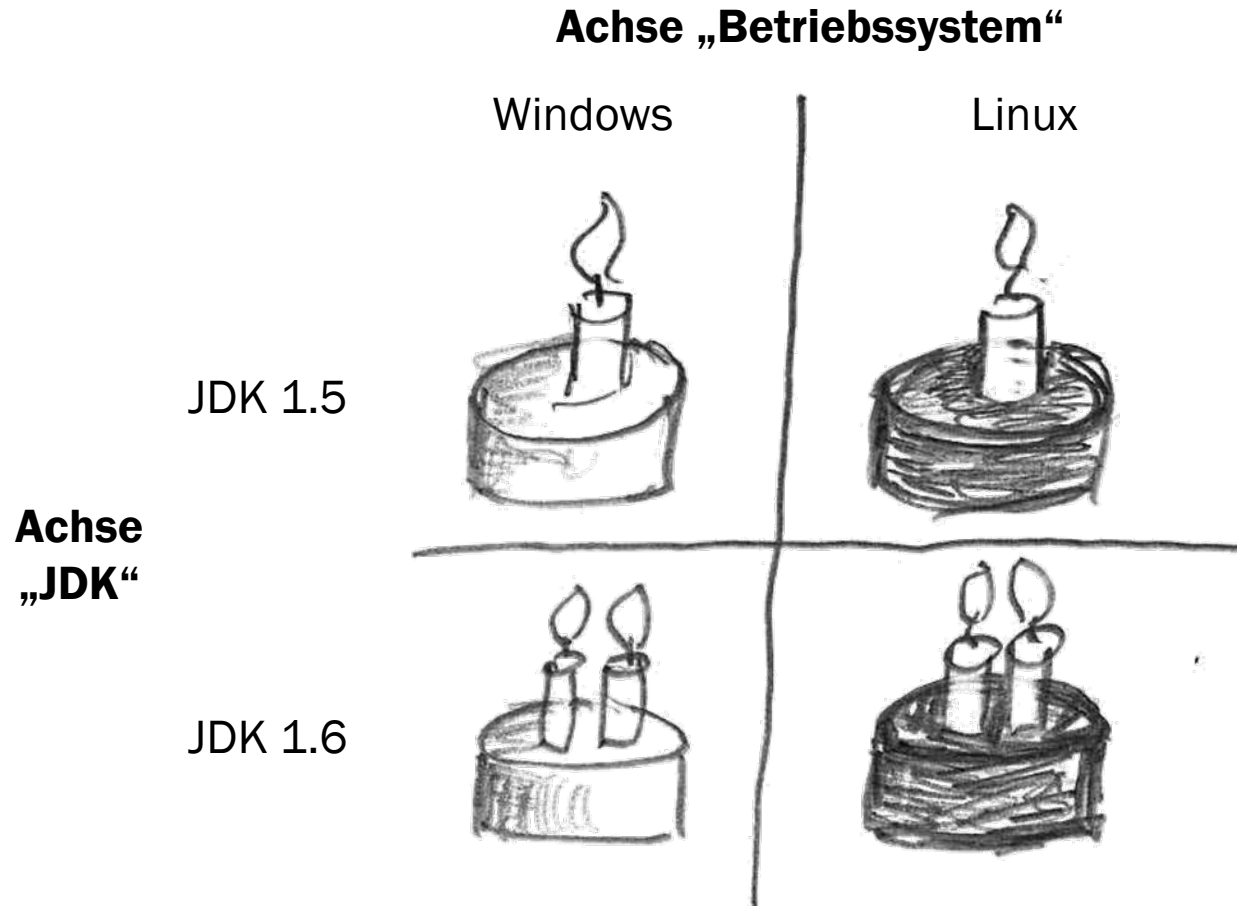


Abhängigkeiten
zwischen
Komponenten

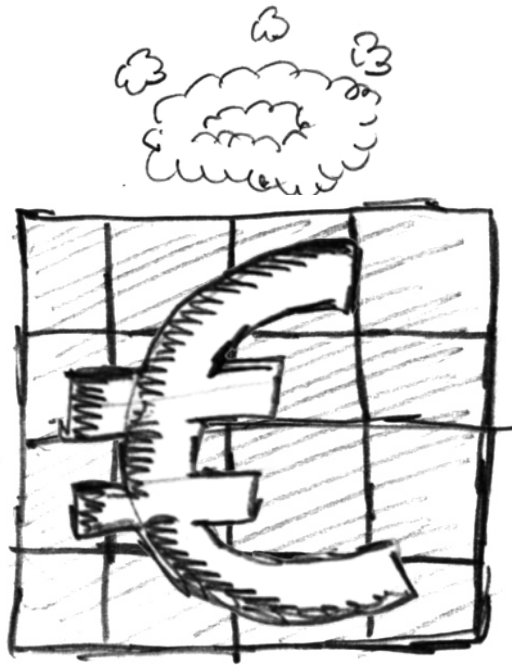


Abhängigkeiten
zwischen
Build-Schritten

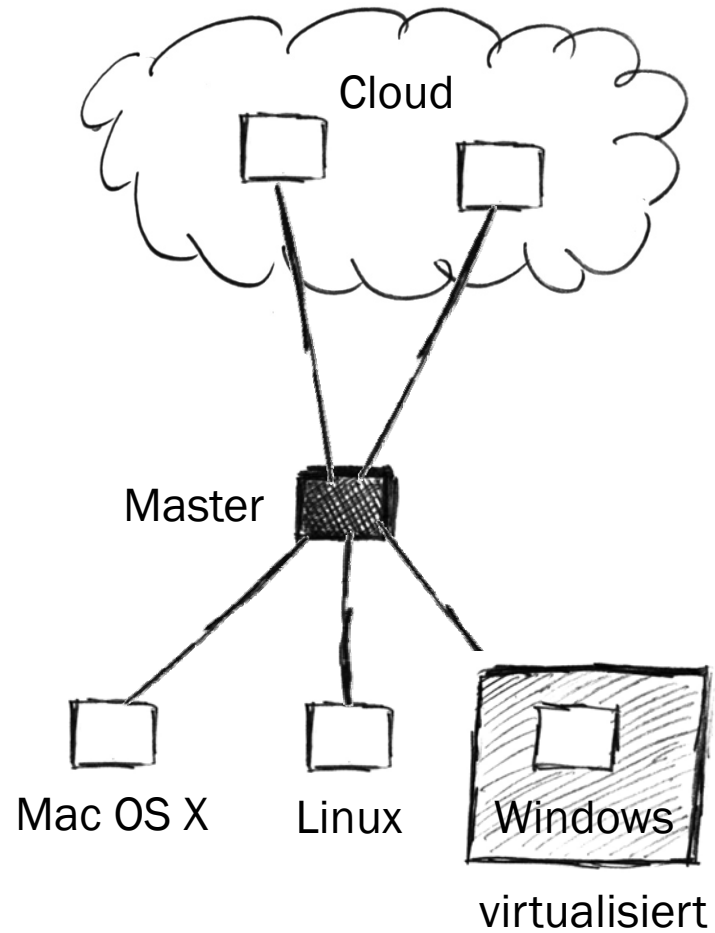
9. Matrix-Builds: Hudson übernimmt die Fleißarbeit.



10. Verteilte Builds: Skalierbare Leistung mit OS-Vielfalt.



lokale Builds

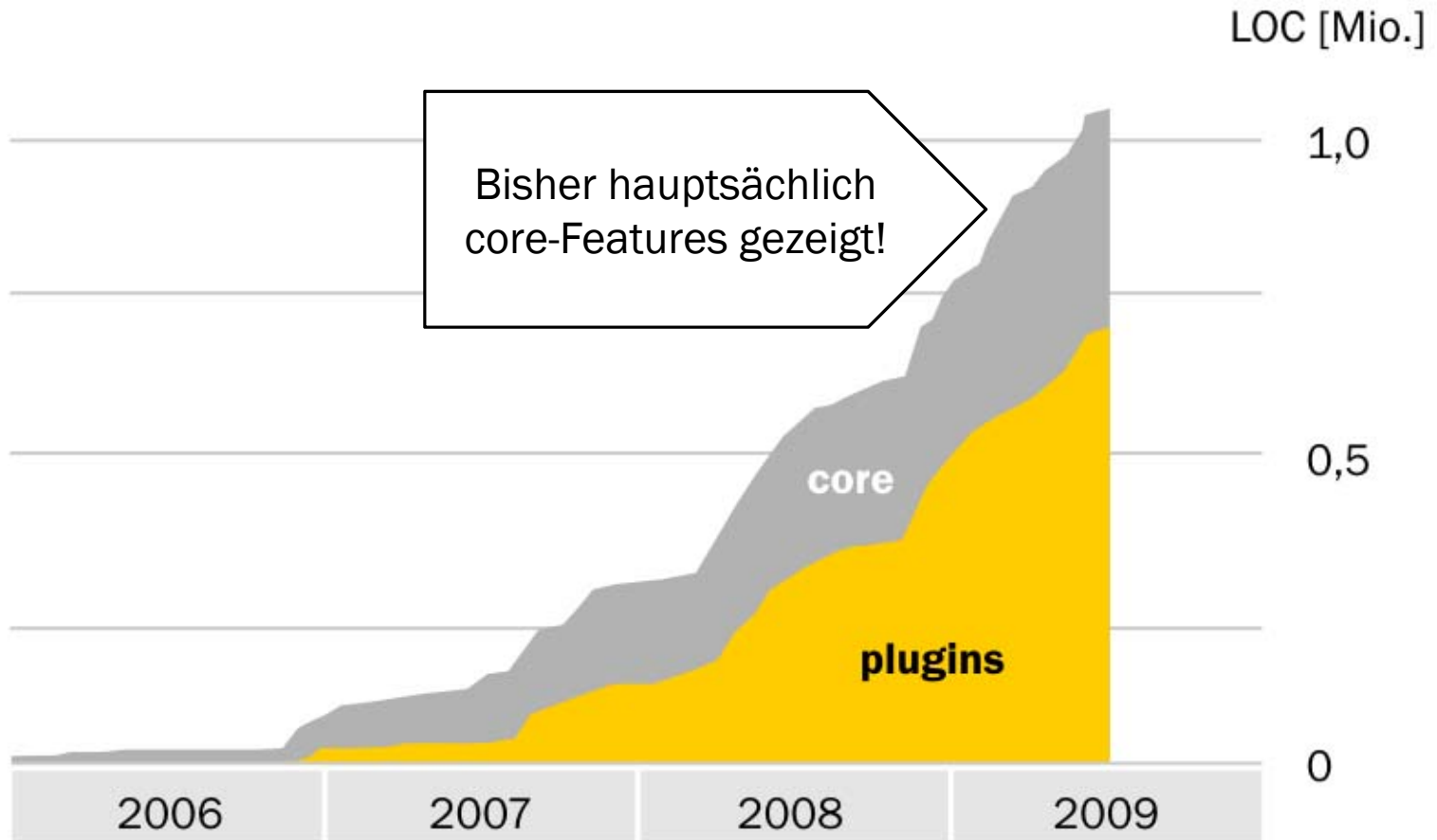


verteilte Builds

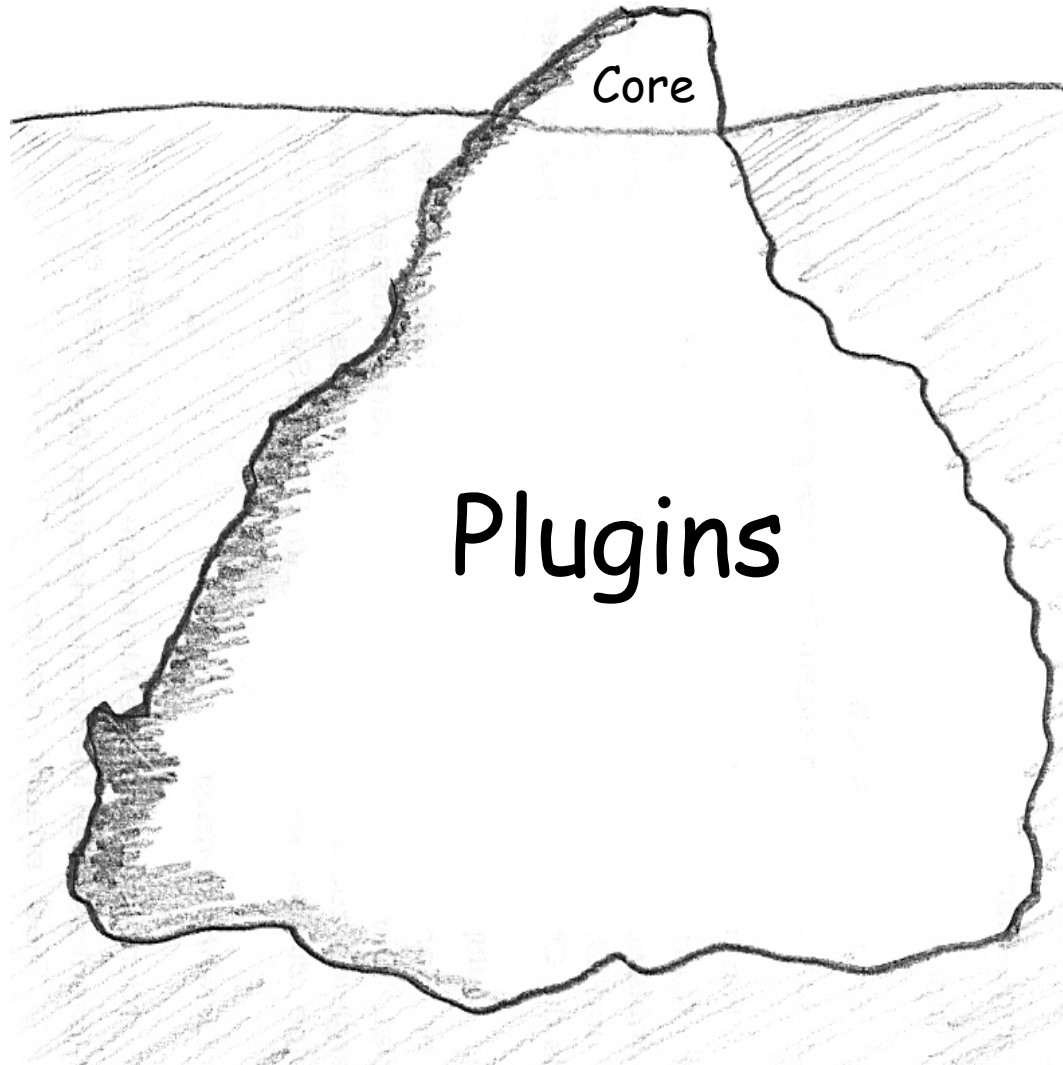
Zusammenfassung: Alle 10 Schritte auf einen Blick

- Installation
- Kommunikation
- Konfiguration
- Remote-API/CLI
- Build-Support
- Abhängige Jobs
- Berichte
- Matrix-Builds
- SCM-Integration
- Verteilte Builds

Haben wir da nicht etwas vergessen?

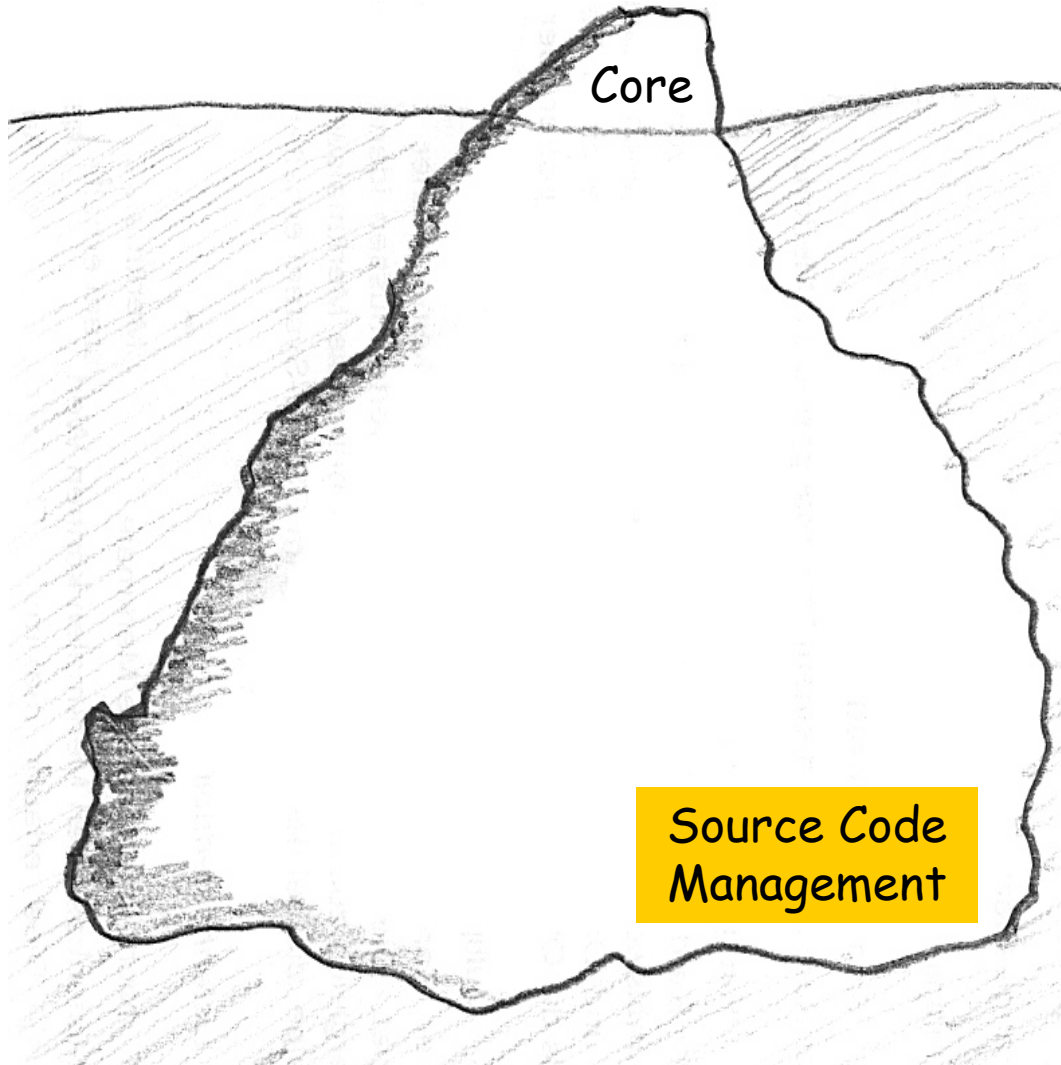


Über 180 Plugins erweitern den Core!



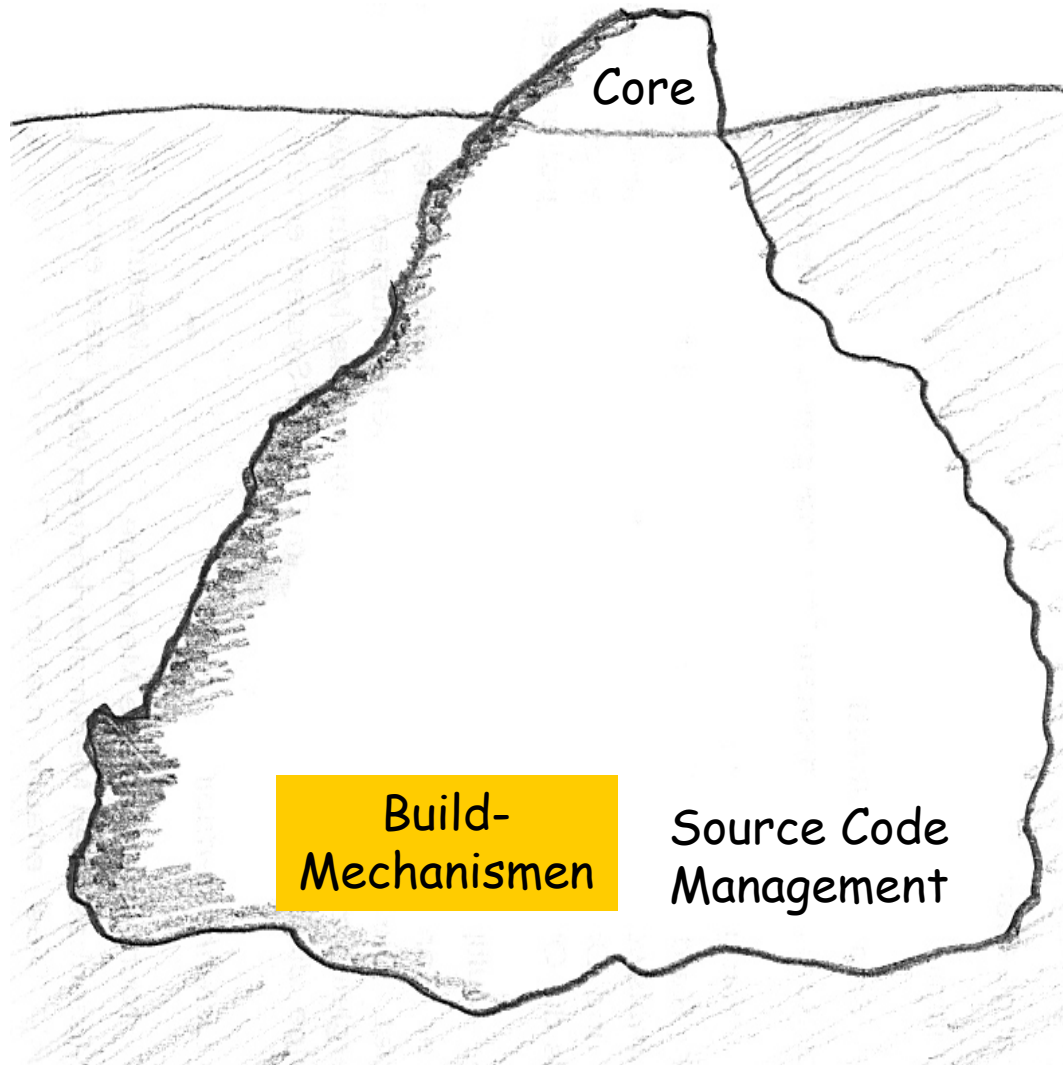
- Update-Center für einfache Installation und Aktualisierung
- 1-2 neue Plugins pro Woche(!)
- Maven-Tools für Plugin-Entwicklung
- Gute Unterstützung durch Developer-Mailingliste

Über 180 Plugins erweitern den Core!



Accurev
Bazaar
BitKeeper
ClearCase
CMVC
CVS
File System SCM
Git
Harvest
Mercurial
Perforce
PVCS
Subversion
Synergy
Team Foundation Server
Template Project
URL
Visual SourceSafe

Über 180 Plugins erweitern den Core!



Ant

Batch File

Buckminster

Gant

Gradle

Grails

Groovy

Kundo

Maven

MSBuild

Nant

PowerShell

Rake

Ruby

SCons

SCTMExecutor

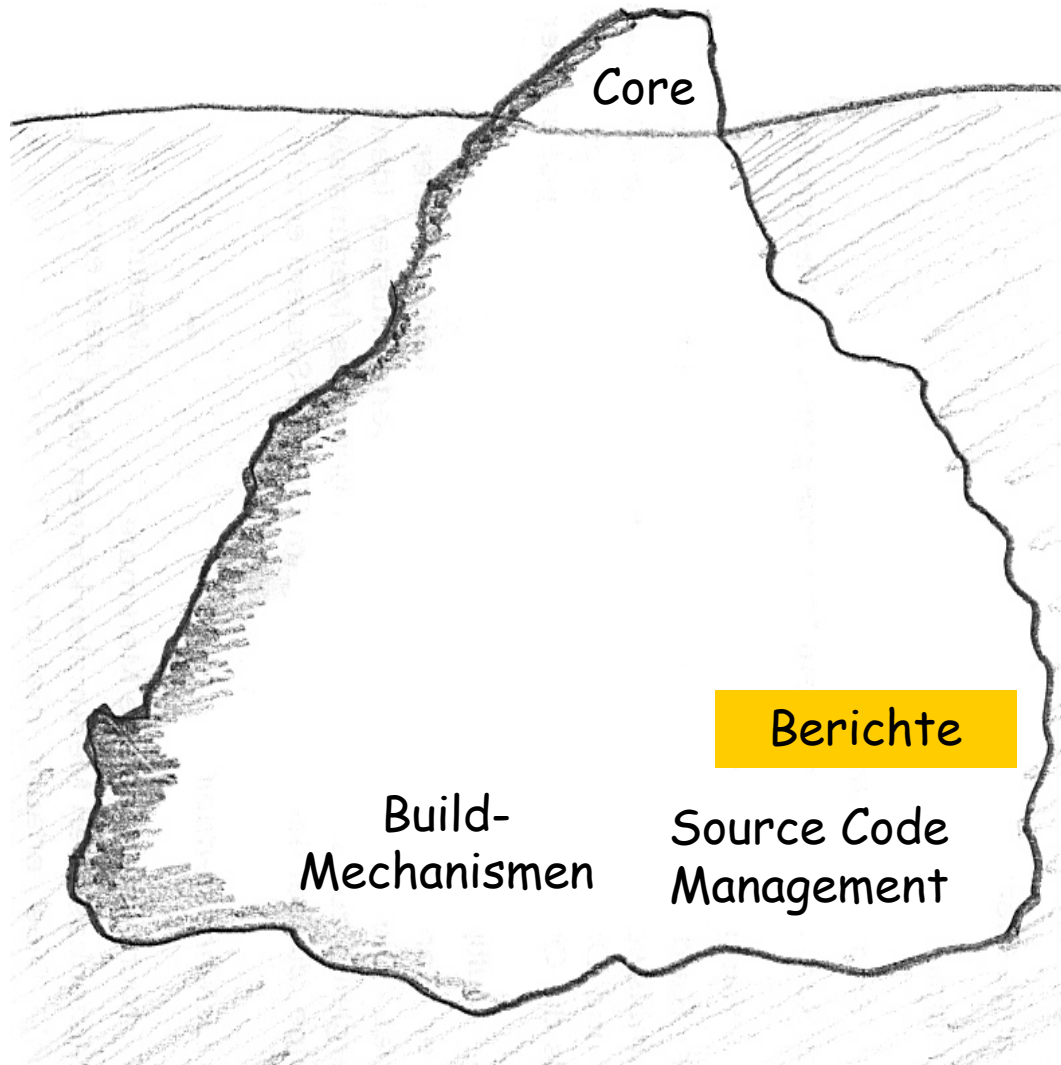
Shell script

Selenium AES

Seleniumhq

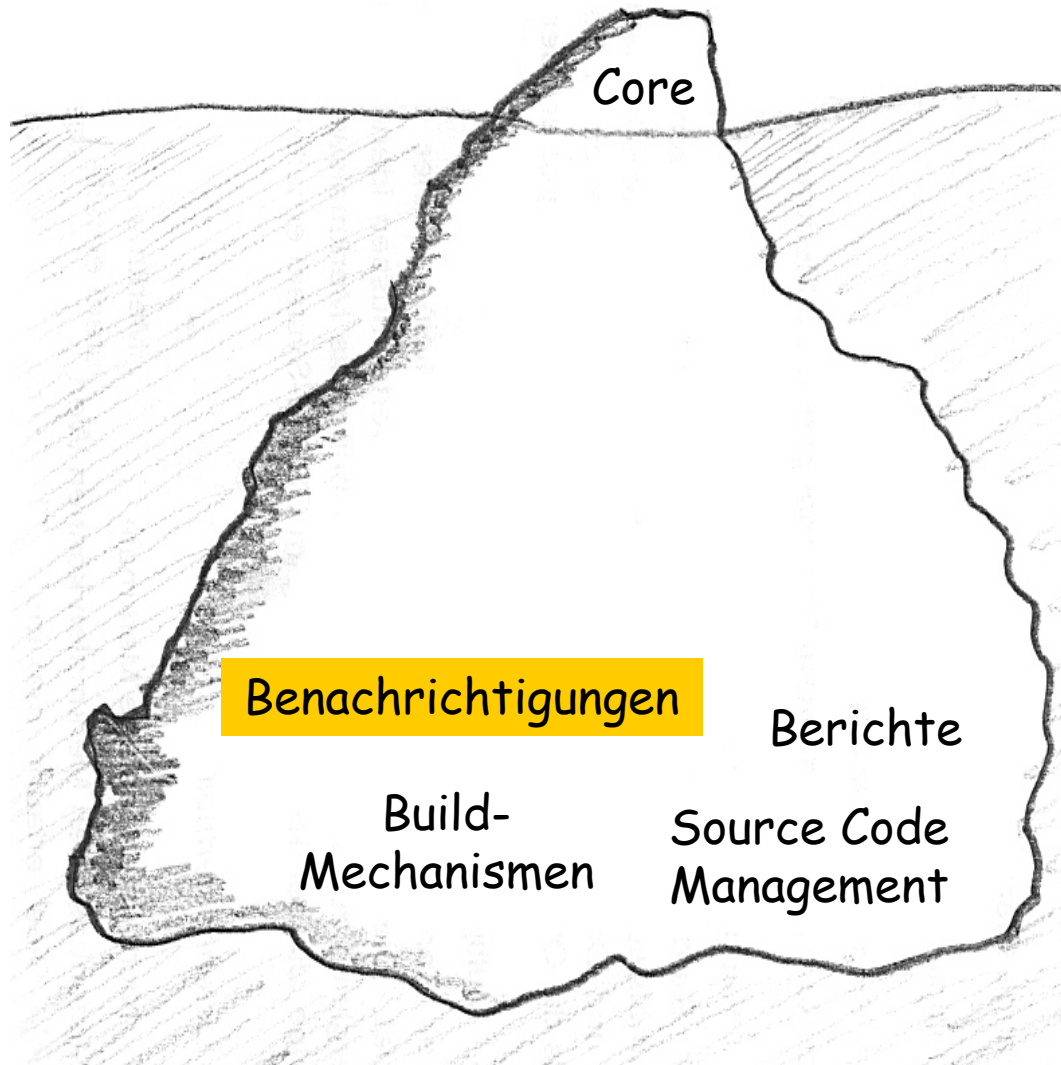
(und weitere)

Über 180 Plugins erweitern den Core!



| | |
|----------------|--------------|
| CCCC | NCover |
| Checkstyle | NUnit |
| Clover | Plot |
| Cobertura | PMD Plugin |
| CppUnit | PureCoverage |
| Crap4J | Ruby metrics |
| Doxygen | Selenium AES |
| DRY | Seleniumhq |
| Emma | Serenitec |
| FindBugs | SLOCCount |
| Gallio | Task Scanner |
| Gnat | Testability |
| Grinder | Explorer |
| Japex | Violations |
| Javadoc | Warnings |
| JavaNCSS+ | WebTest |
| JavaTest Rprt. | Presenter |
| JUnit | |
| MSTest | |

Über 180 Plugins erweitern den Core!



Campfire

Email

Google Calendar

hudsonTracker

IRC

Jabber

Nabaztag

SameTime

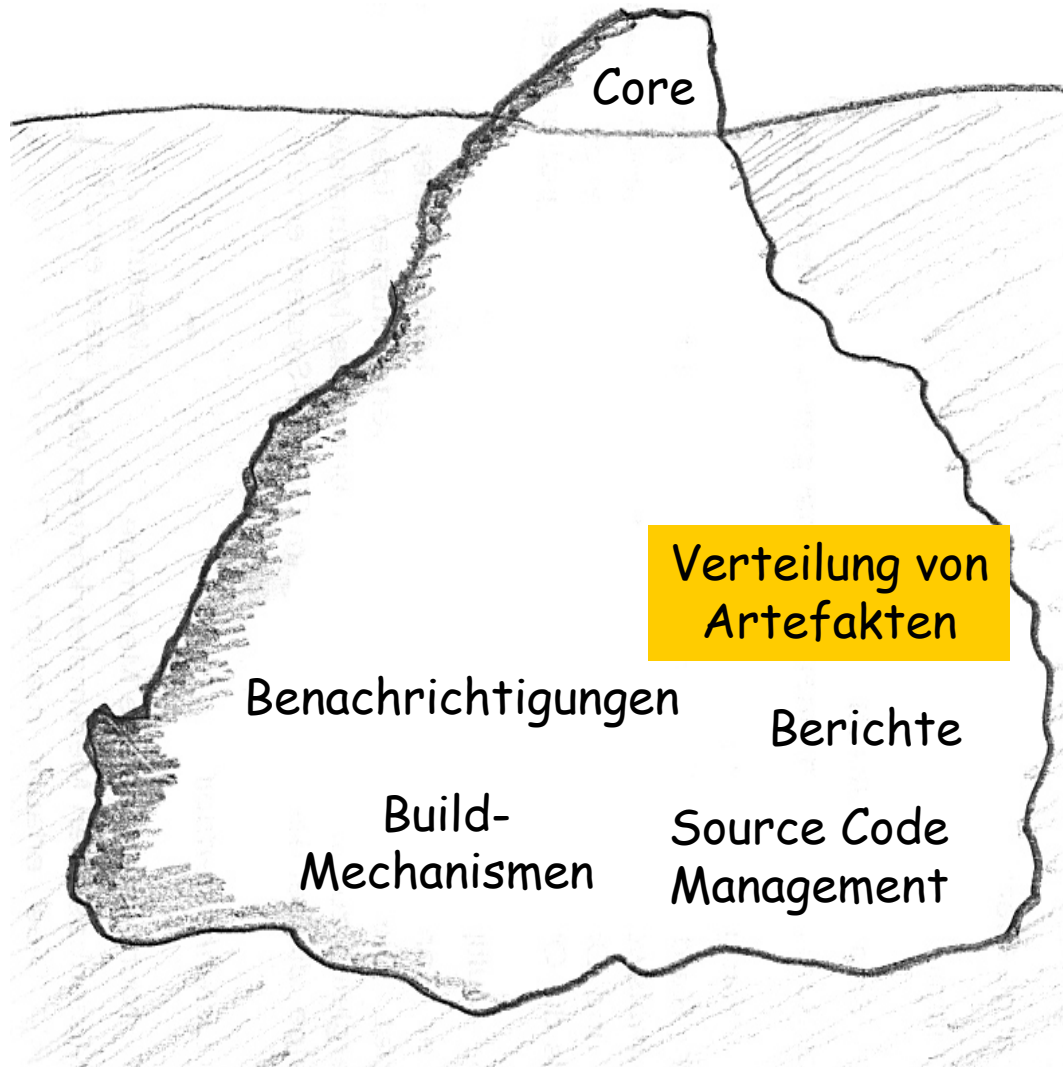
Status Monitor

RSS

TuxDroid

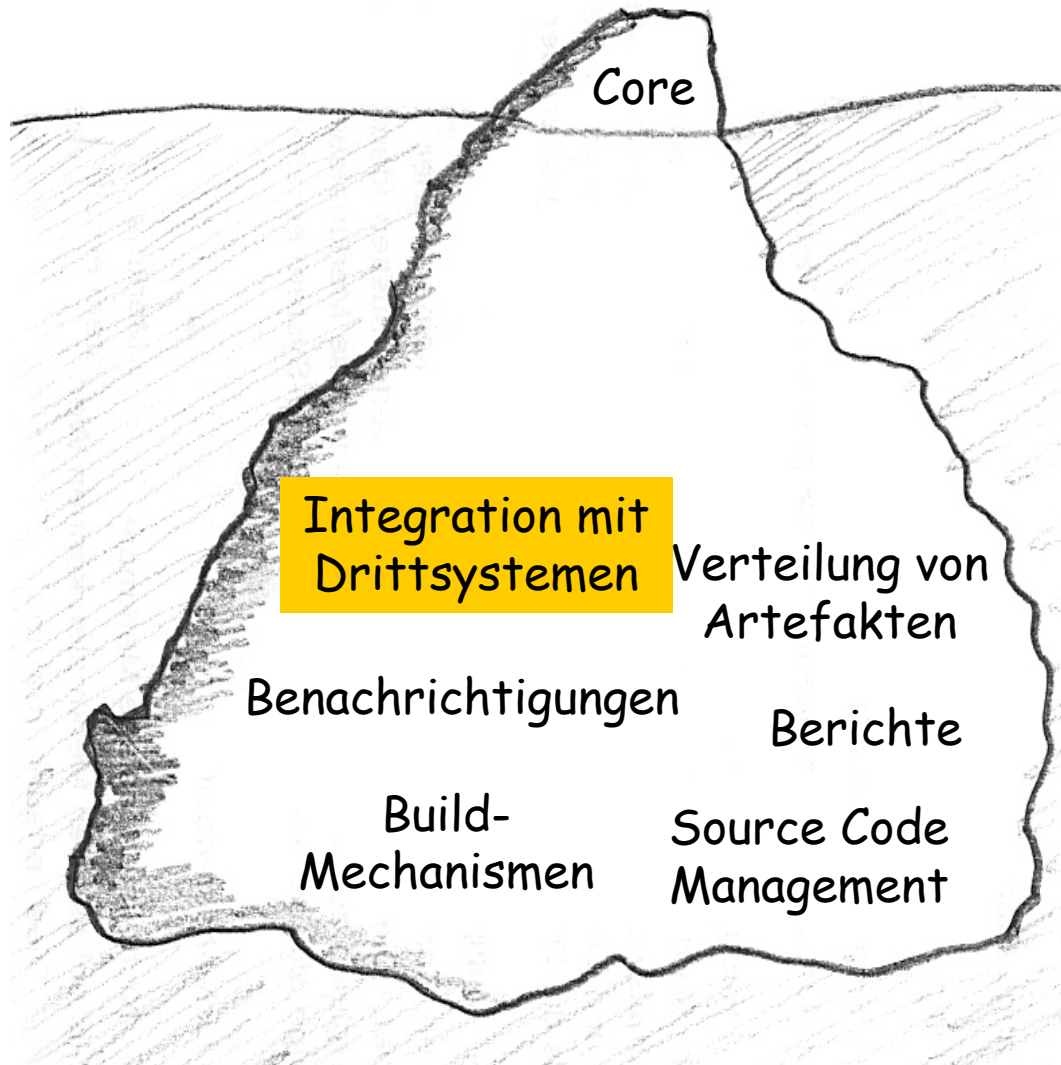
Twitter

Über 180 Plugins erweitern den Core!



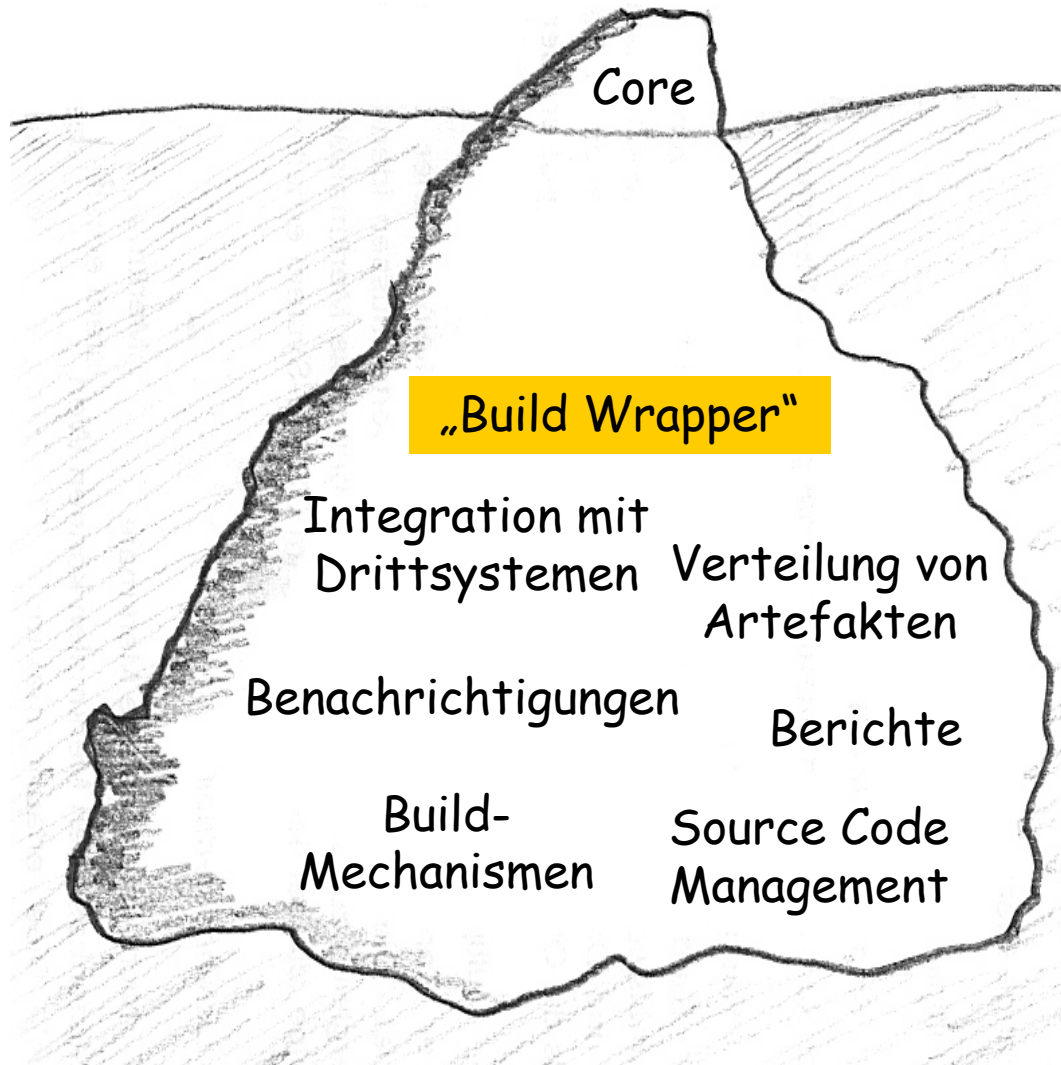
FTP Publisher
java.net Uploader
SCP
SFEE
SVN

Über 180 Plugins erweitern den Core!



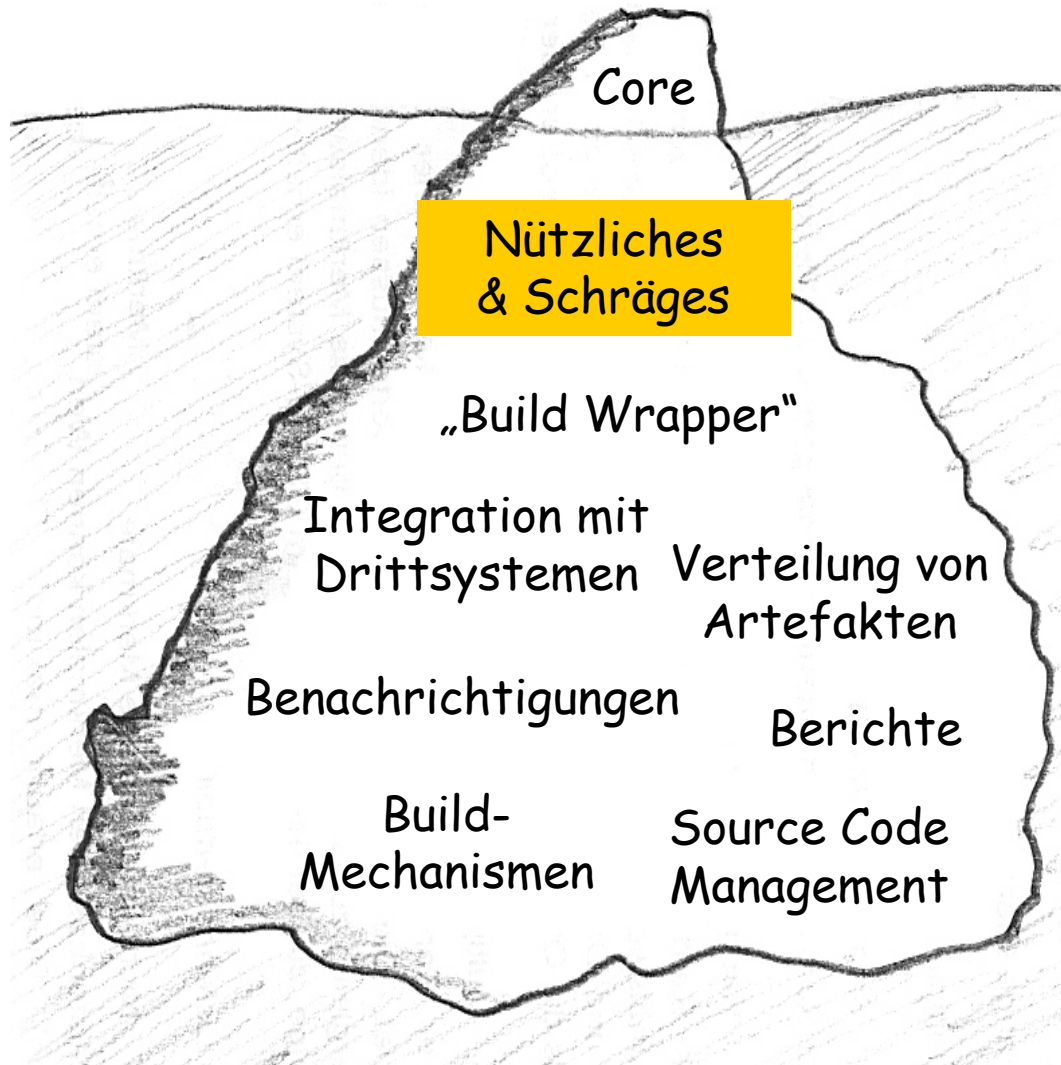
Active Directory Mantis
Android App PXE
Audit Trail Polarion
Backlog Redmine
Bugzilla RegEx Email
Cluster mgmt. SFEE
Crowd Selenium
Firefox Add-on Sonar
Github Swarm
Google Calend. Trac
Google Code Windows Tray
Google Desktop
HGCA
Hadoop
iPhone App
JIRA
Java.net
Kagemai
LDAP Email

Über 180 Plugins erweitern den Core!



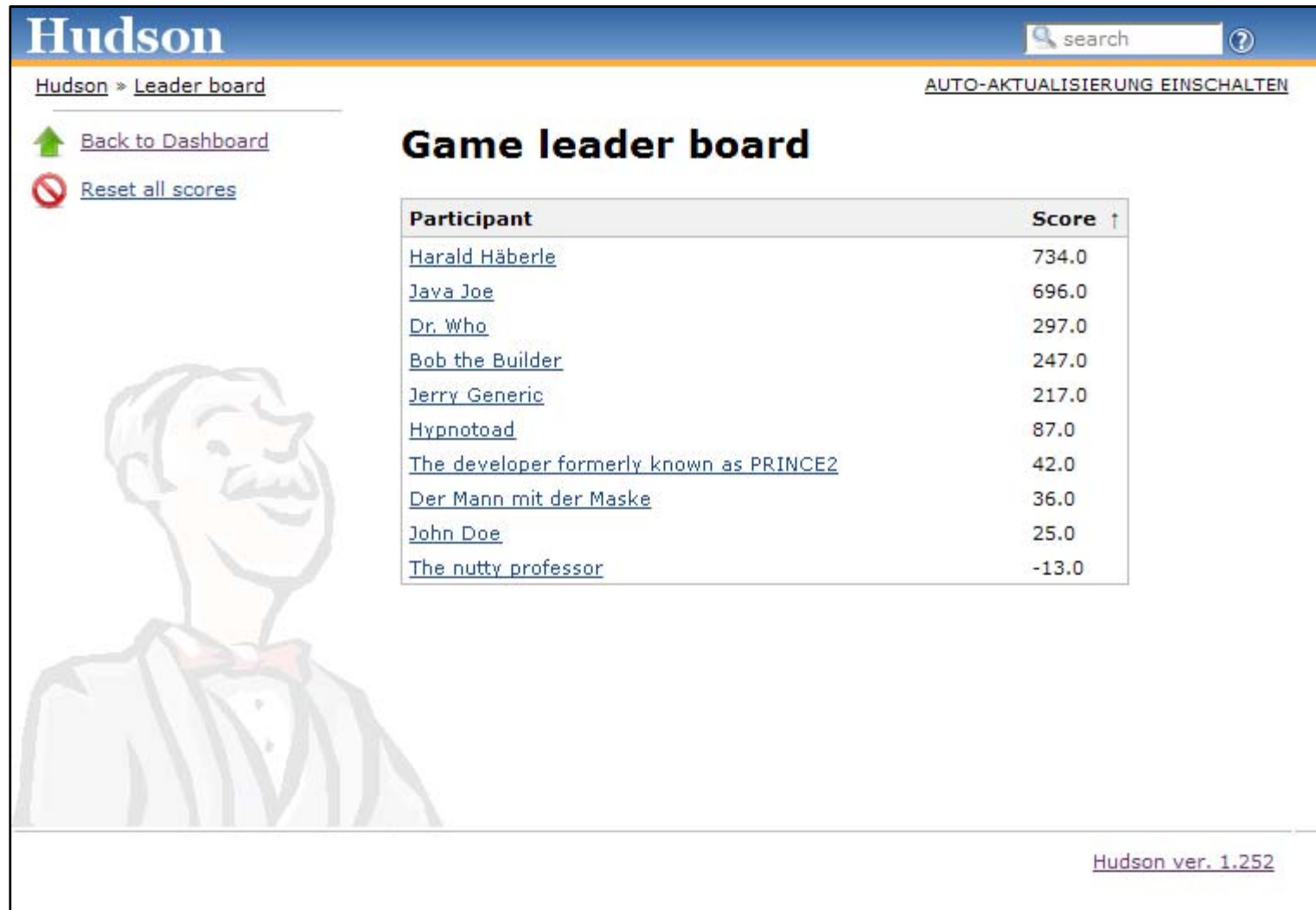
Hudson Central. Job(Re)Action
Hudson Distr. Workspace Clean
Locks and Latches
M2 Extra Steps
M2 Release
Release
Template Project
VMware
Xvnc
ZenTimestamp

Über 180 Plugins erweitern den Core!



- Build-timeout
- Change Log History
- Claim
- Configuration Slicing
- Cygnus
- Emotional Hudson
- Google Analytics
- Green Balls
- JBPM
- Locale
- Port Allocator
- Promoted Builds
- Radiator View
- Retry Failed Builds
- Sectioned View
- Sidebar-Link
- Slave-status
- Continuous Integration Game

Plugin „Continuous Integration Game“



The screenshot shows the Hudson CI Game Leaderboard interface. At the top left, the word "Hudson" is displayed in a large blue font. To its right is a search bar with the text "search" and a question mark icon. Below the search bar, the breadcrumb "Hudson > Leader board" is visible. On the right side of the header, there is a link "AUTO-AKTUALISIERUNG EINSCHALTEN".

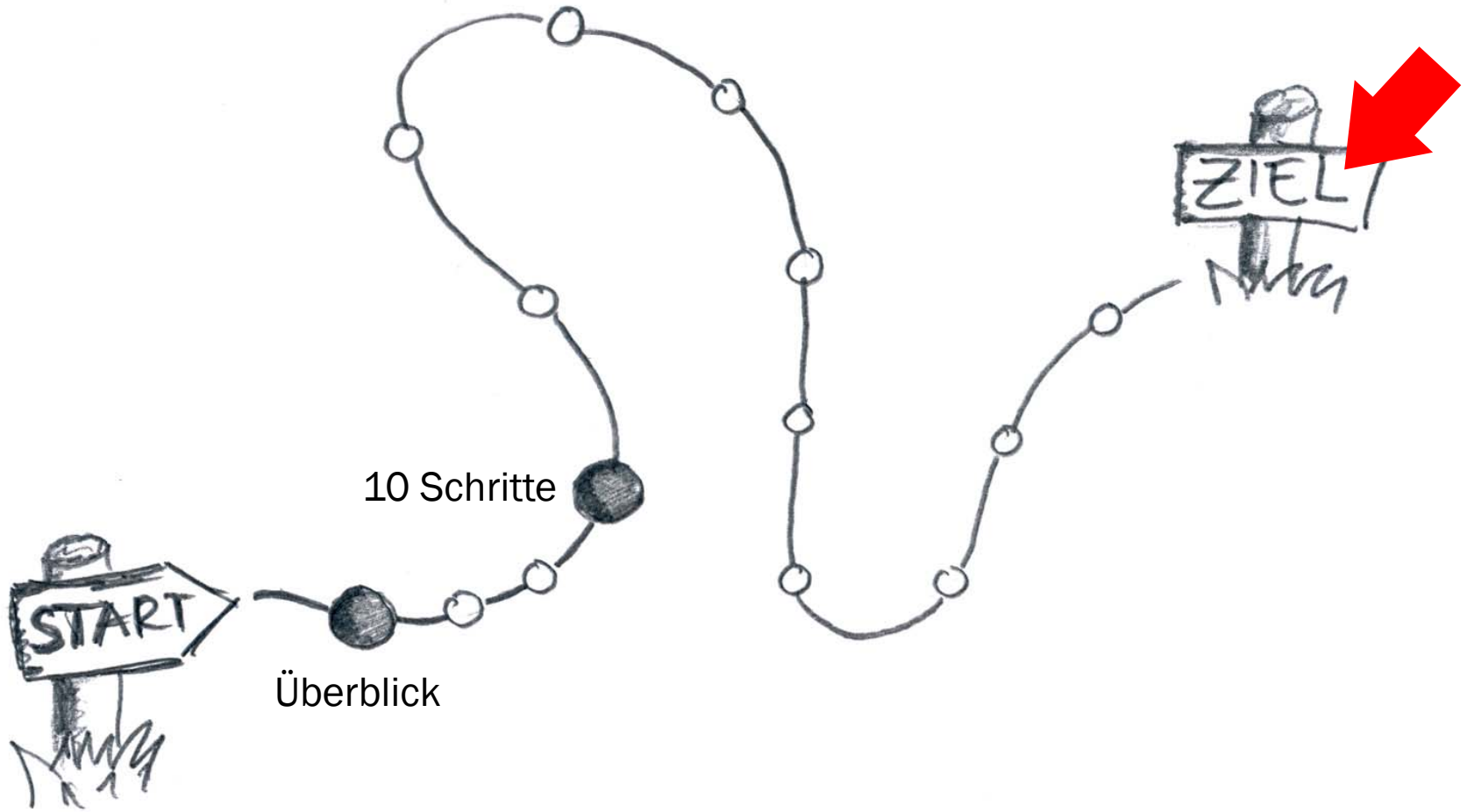
On the left side of the main content area, there are two links: "Back to Dashboard" with a green upward arrow icon, and "Reset all scores" with a red prohibition sign icon.

The main content area is titled "Game leader board" in a large, bold, black font. Below the title is a table with two columns: "Participant" and "Score". The table lists ten participants with their respective scores, sorted in descending order. The scores range from 734.0 to -13.0.

In the bottom right corner of the interface, the version number "Hudson ver. 1.252" is displayed.

| Participant | Score ↑ |
|---|---------|
| Harald Häberle | 734.0 |
| Java Joe | 696.0 |
| Dr. Who | 297.0 |
| Bob the Builder | 247.0 |
| Jerry Generic | 217.0 |
| Hypnotoad | 87.0 |
| The developer formerly known as PRINCE2 | 42.0 |
| Der Mann mit der Maske | 36.0 |
| John Doe | 25.0 |
| The nutty professor | -13.0 |

Agenda



HERUNTERLADEN

EINSETZEN

WEITERSAGEN

MITMACHEN

hudson.dev.java.net

Vielen Dank fürs Zuhören.

Dr. Simon Wiest

simon.wiest@simonwiest.de

Ingenieurbüro Dr. Wiest
Wiesfleckenstrasse 13
72810 Gomaringen

www.simonwiest.de



BACKUP

Empfohlene Nachlese

■ Hudson

- Projektseite. hudson.dev.java.net
- JBoss Hudson CI Server. hudson.jboss.org/hudson
- Interview mit Hudson-Initiator Kohsuke Kawaguchi
blogs.sun.com/glassfishpodcast (Episode #007)

■ Continuous Integration

- White Paper von Martin Fowler. www.martinfowler.com
- CI Feature Matrix. confluence.public.thoughtworks.org

■ Projektautomatisierung (allgemein)

- Mike Clark: Pragmatic Project Automation. 2004.
- J. F. Smart: Java Power Tools. 2008.
- M. Hüttermann: Agile Java-Entwicklung in der Praxis. 2007

Wie funktionieren die Bären?

Mehr dazu im Hudson Wiki
wiki.hudson-ci.org//x/AQA1AQ

