



Непрерывная интеграция

Андрей Дзыня. Lohika Systems Kyiv

О чем будем говорить

- Что такое непрерывная интеграция ?
- Зачем нам непрерывная интеграция ?
- Как же это непрерывная интеграция ?
- А нужна ли нам непрерывная интеграция ?



Пример





Where's The Build?!

This is Gladys and she's a racecar in the red. You were supposed to have a build finished an hour ago. What's the hold up, sonny? Can't you even build the crap you wrote?

If you start using continuous integration, Gladys won't have to get medieval on ya!

www.WheresTheBuild.com

Бардак



Fishki.net

YOU BROKE THE BUILD!

This is Agnes and she's none too pleased with you, Bub. You broke the build. You should have known that you were making breaking changes, but you checked them in anyway.



If you start using continuous integration, Agnes won't have to come back.

www.YouBrokeTheBuild.com

Процесс интеграции

Итерации

Ночные
сборки

Непрерывно

Что для этого нужно?

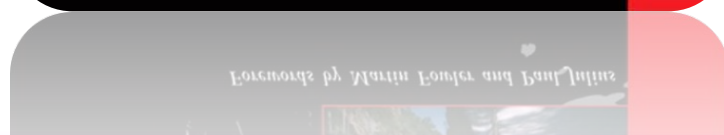
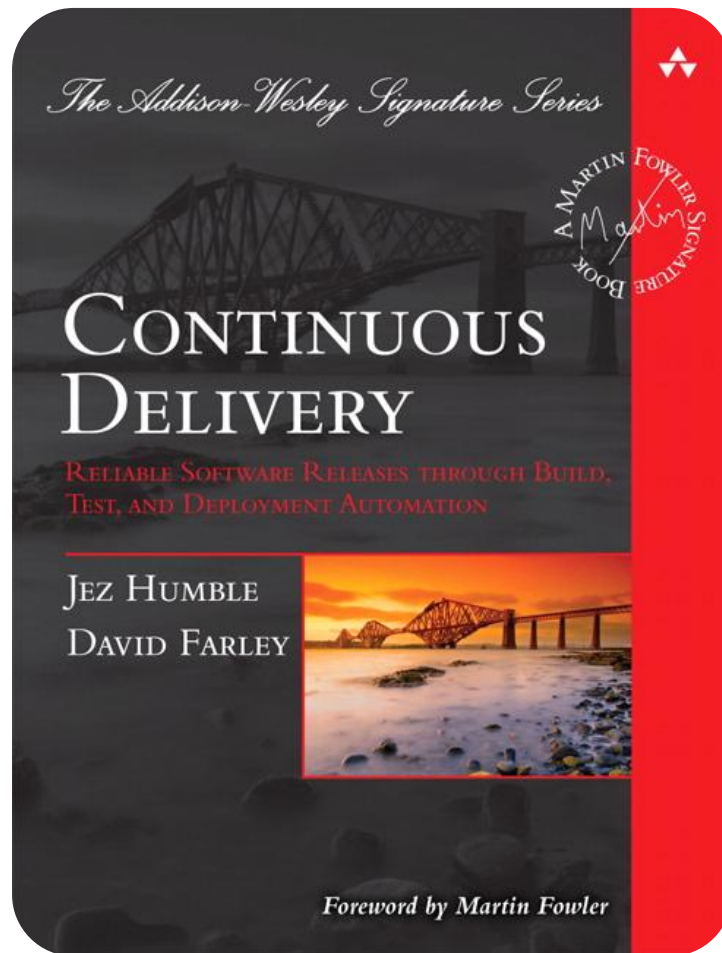
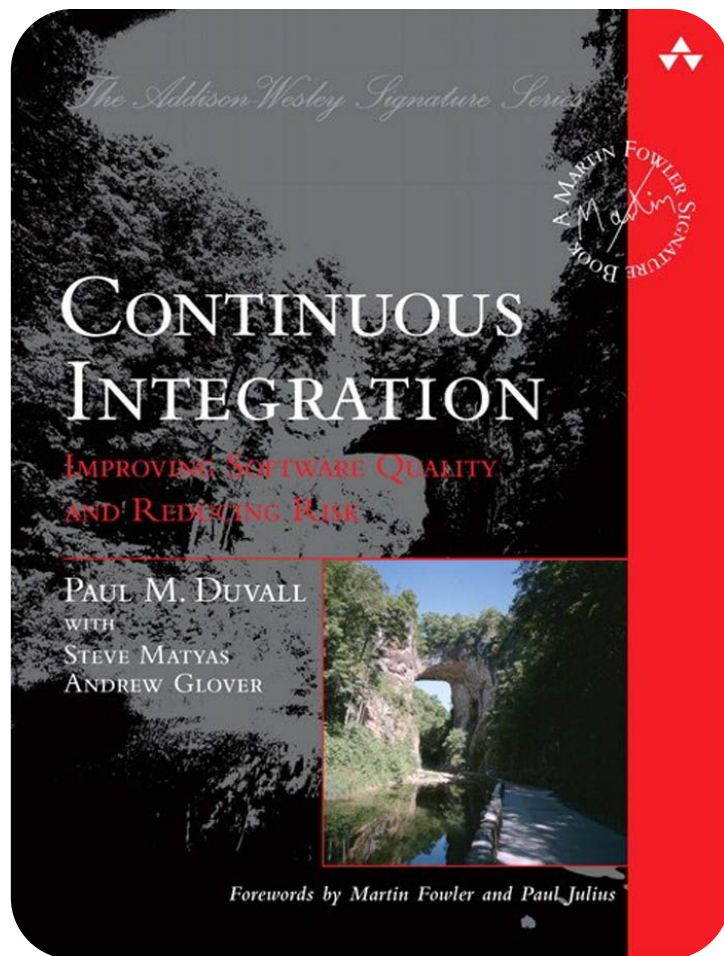


Определение

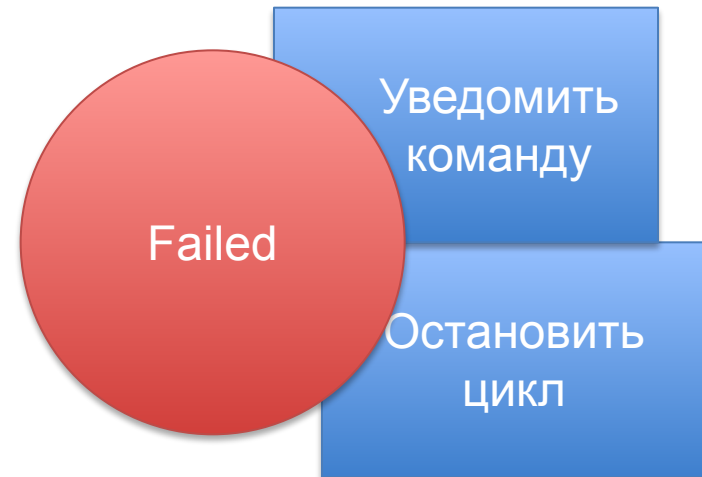
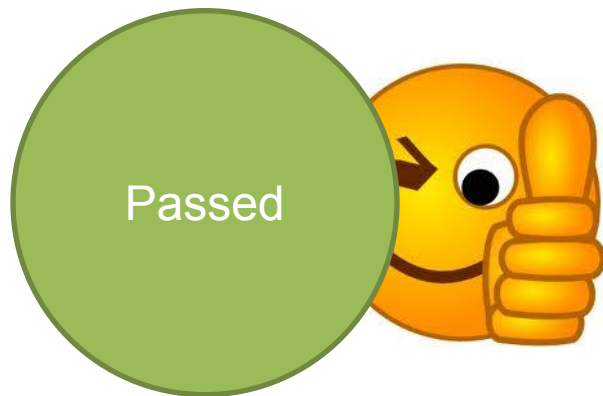
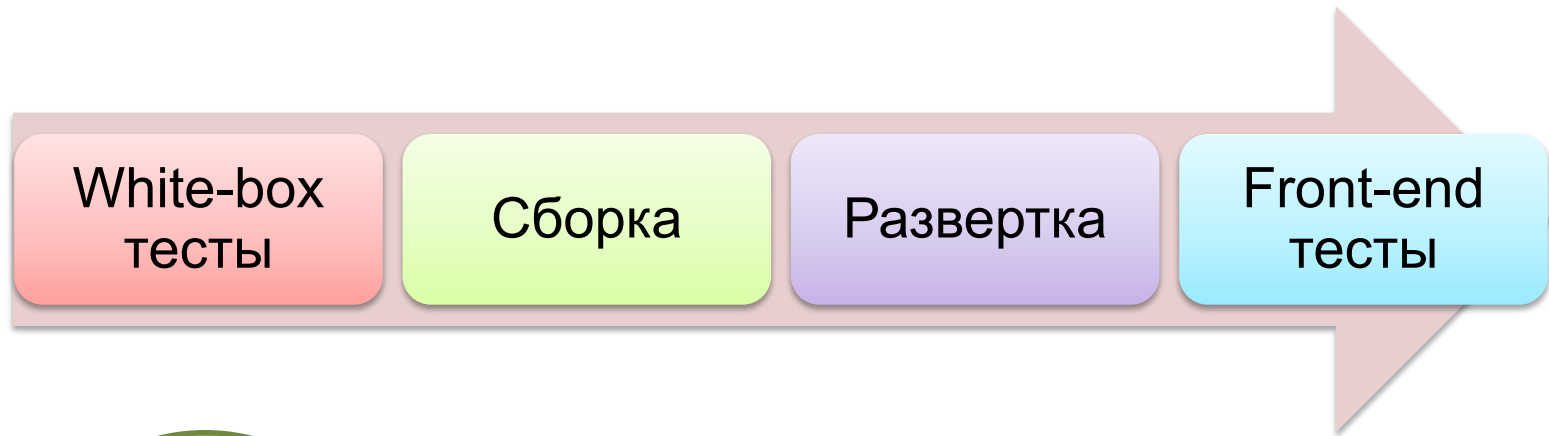


- Непрерывная интеграция, как практика частой интеграции изменений в проекте или изменений в существующем хранилище кода, должна происходить как можно чаще. Чтобы ошибки, возникшие на этапах проверки, были обнаружены и переданы разработчикам как можно быстрее.

Ликбез



Build pipeline



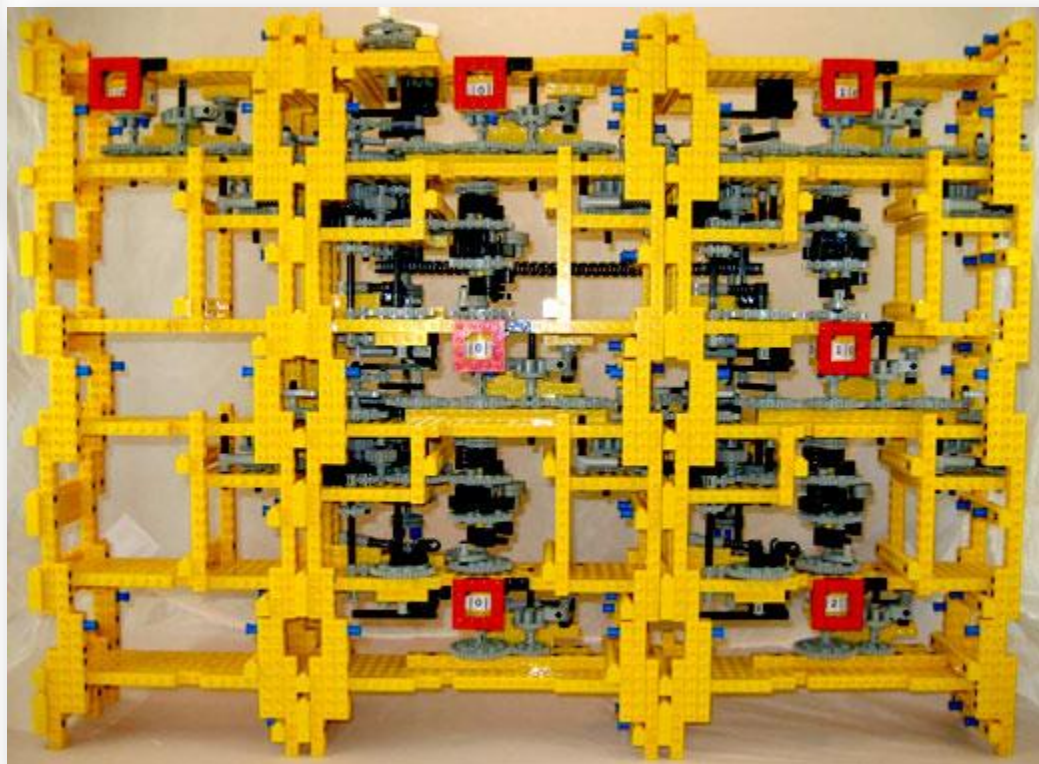
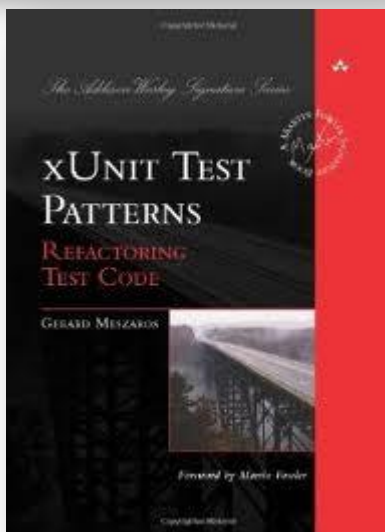
Триггеры



Статические анализаторы



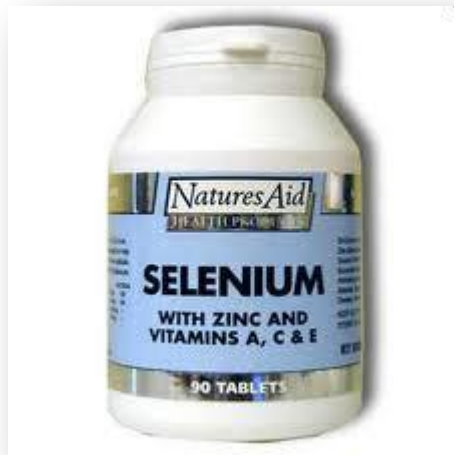
White-box тестирование



Сборка/Развертка



Функциональное тестирование



С чего начать?



Системы непрерывной интеграции



Hudson/J



Hudson/Jenkins



Team City



g
Agile



BAMBOO

The Zen of continuous integration.

Доска

S	W	Job ↓	Last Success	Last Failure
		Deploy to Integra	6 hr 56 min (#607)	9 hr 45 min (#604)
		Deploy to Integra with application data reset	3 hr 19 min (#112)	15 days (#89)
		Front-end-Tests-critical-Integra	7 days 5 hr (#2)	N/A
		Front-end-Tests-smoke-Integra	5 days 7 hr (#13)	5 days 8 hr (#9)
		Integrational Tests	2 hr 38 min (#1614)	N/A
		Package	3 hr 25 min (#906)	N/A
		Unit Tests	1 hr 52 min (#2085)	N/A

Icon: [S](#) [M](#) [L](#)

[Legend](#)  [for all](#)

Unit тесты



Revision: 3085
Changes

1. ADM-834: added buffering ([detail/WebSVN2](#))



[Started by an SCM change](#)



[Test Result](#) (no failures)



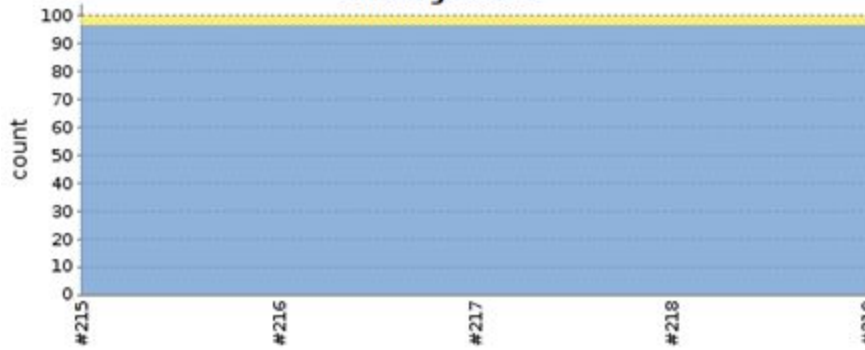
The only pattern Chuck Norris knows is God Object.

Module Builds

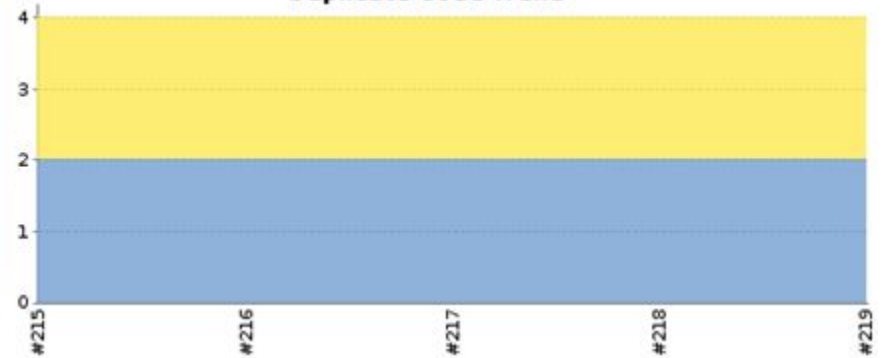
Build 1	4.7 se
Build 2	8 sec
Build 3	9.2 se

Статические анализаторы

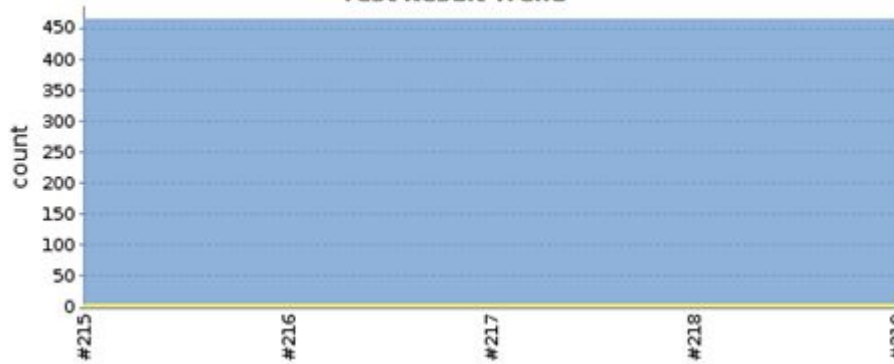
FindBugs Trend



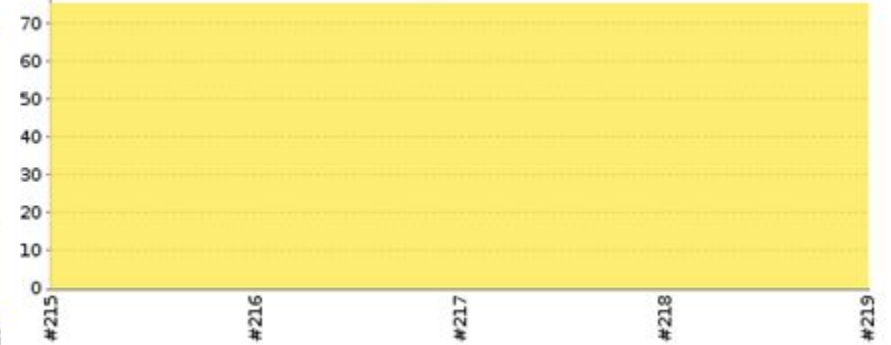
Duplicate Code Trend



Test Result Trend



Checkstyle Trend



Сборка

Build

Root POM

`pom.xml`

Goals and options

`clean install -Dmaven.test.skip -Denv=integra -Drelease=trunk -DgenerateReleaseInfo`

Развертка

Build

Execute shell

Command

```
ARTIFACTS_PATH=LastPackageArtifacts

ABSOLUTE_ARTIFACTS_PATH=$HOME/$ARTIFACTS_PATH
if [ `ls $ABSOLUTE_ARTIFACTS_PATH | wc -w` -eq "1" ]; then
  BRANCH=`ls $ABSOLUTE_ARTIFACTS_PATH`

  cd $ABSOLUTE_ARTIFACTS_PATH

  #make flat structure for artifacts and each node's property files inside separate folder
  if [ -e "$BRANCH" ]; then
    find ./ \(\ -iname '*.war' -or -iname '*.tar' -or -iname '*.sql' -or -iname '*.sh' \) -exec mv {} ./ \;
    mv ./$BRANCH/deployment/properties/* ./
    rm -rf $BRANCH
  fi
fi
cd $ABSOLUTE_ARTIFACTS_PATH

chmod +x ./deployToDevIntegra.sh
./deployToDevIntegra.sh
```

Функциональное тестирование

```
2
3+ import org.testng.annotations.Test;
9
10 @SeleniumBrowseContext(app = App.TESTAPP)
11 public class LoginPositiveTest extends FrontEndTestCase {
12
13     private LoginPageObject loginPage;
14     private TestPageObject testPage;
15
16- @Test(groups = { "smoke", "critical" })
17     public void loginLogoutSuccess() {
18         loginPage = new LoginPageObject(selenium);
19         open(loginPage);
20         loginPage.loginAsAdmin();
21         testPage = new TestPageObject(selenium);
22         loginPage = testPage.logout();
23         loginPage.assertLoginTitle();
24     }
25 }
26
```


Результаты тестов

Test Result

3 failures (+1)

All Failed Tests

Test Name
>>>automatedtests.testcase.leapspot.HomepageSubscriberTest.homepageConnectTabLayout
>>>automatedtests.testcase.leapspot.IndividualShowTest.individualShowAddRemoveCard
>>>automatedtests.testcase.leapspot.IndividualShowTest.individualShowPageLayout

All Tests

Package	Duration
..... .automatedtests.testcase.cms.device	36 sec
..... .automatedtests.testcase.cms.format	33 sec
..... .automatedtests.testcase.cms.graphics	55 sec
..... .automatedtests.testcase.cms.login	11 sec
..... .automatedtests.testcase.cms.metadata	1 min 13 sec

Логи теста

Regression

`com.andamanosystems.automatedtests.testcase.leapspot.HomepageSubscriberTest.homepageConnectTabLayout` (from Home

Error Message

All Shows button is absent on the menu expected:<true> but was:<false>

Stacktrace

```
java.lang.AssertionError: All Shows button is absent on the menu expected:<true> but was:<false>
    at org.testng.Assert.fail(Assert.java:89)
    at org.testng.Assert.failNotEquals(Assert.java:443)
    at org.testng.Assert.assertTrue(Assert.java:37)
    at com.andamanosystems.automatedtests.ExtendedSelenium.assertElementPresent(ExtendedSelenium.java:52)
    at com.andamanosystems.automatedtests.pageobjects.leapspot.LeapSpotPageObject.assertHomepageMenuSubscribed
    at com.andamanosystems.automatedtests.testcase.leapspot.HomepageSubscriberTest.homepageConnectTabLayout (Hom
```

Standard Error

Screenshot Path `/home/andaman/selenium/workspace/Front-end-Tests-critical-Test-Integra/automated-front-end-tests/`
`/com.andamanosystems.automatedtests.testcase.leapspot.HomepageSubscriberTest.homepageConnectTabLayout.png`

Pipeline

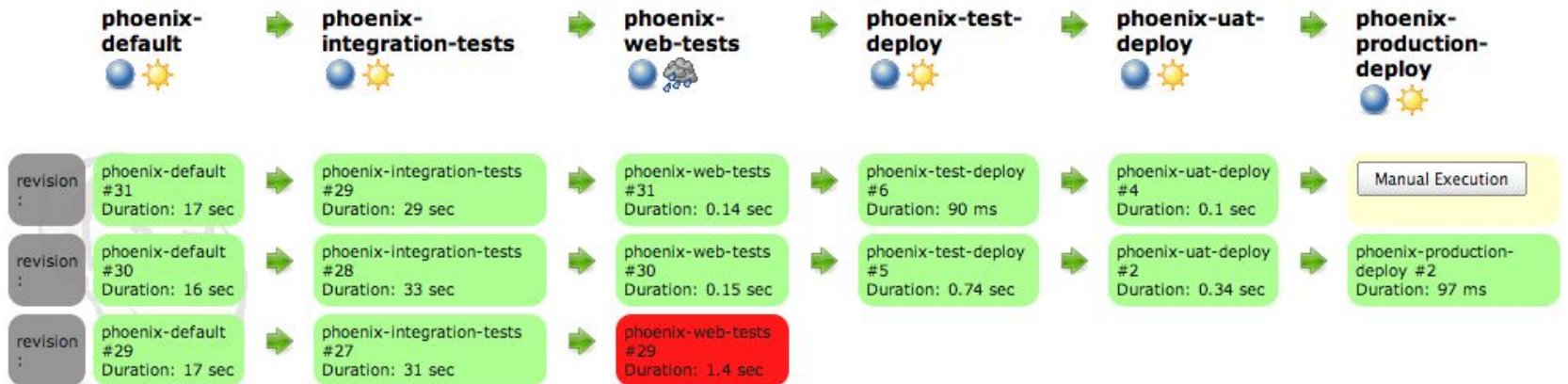
Jenkins

[log in](#) | [sign up](#)
[DISABLE AUTO REFRESH](#)

Jenkins » phoenix-build-pipeline

View/Hide Build Pipeline Icon Legend

Project Status	Build Stability	Build Status
Success	More than 80%	SUCCESS
Unstable	60-79%	UNSTABLE
Failure	40-59%	FAILURE
Abort	20-39%	ABORT
Building	Less than 20%	BUILDING



Непрерывные улучшения



Выводы

Плюсы:	Минусы:
Снижает риски	Трудозатраты на настройку системы
Меньше рутины	Преждевременный рефакторинг
Стабильная версия в любое время	Цена оборудования
Больше доверия команде разработки	Новые активности
Сбор метрик	

"Works on my machine"?!

This is Phyllis and she doesn't care if the build works on your machine. As you can see, she's a busy woman with a jam-packed social calendar. She doesn't have time for brittle builds from the likes of you; she needs a build that just plain works. You hear?!



If you start using continuous integration, Phyllis can get back to gettin' her groove-thing on.

www.BuildsOnMyMachine.com





Контакты



Senior Automation Test Engineer



andrii.dzynia@gmail.com