



# Great User Experience Starts with Continuous Testing

April 19, 2016

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# Hosted By



Mark Herbert  
HPE Software Education SIG Leader  
Arizona Chapter Leader  
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# Today's Speakers



Antoine Aymer  
Global Mobile Lead  
Hewlett Packard Enterprise



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Solution Architect  
Hewlett Packard Enterprise



# Housekeeping

- This “LIVE” session is being recorded  
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Please type questions in the Questions Pane



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Toggle View Window between  
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Questions





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# Great UX starts with continuous testing







***“Our busiest branch in 2014 was the 7:01 from Reading to Paddington – over 167,000 of our customers use our Mobile Banking app between 7am and 8am on their commute to work every day.”***

–Ross McEwan, CEO, Royal Bank of Scotland



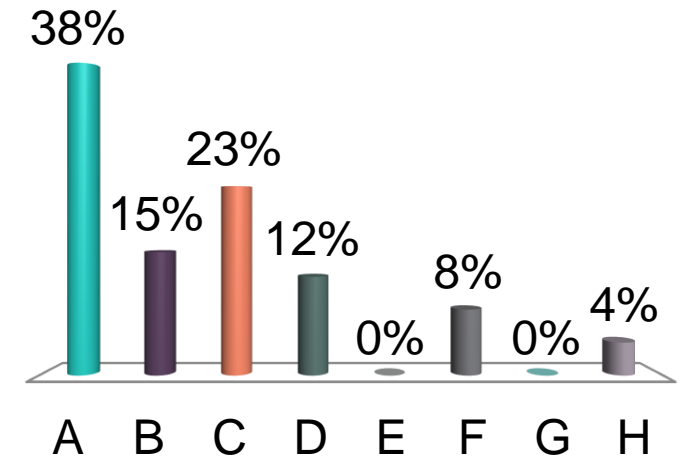
# The user experience is everything



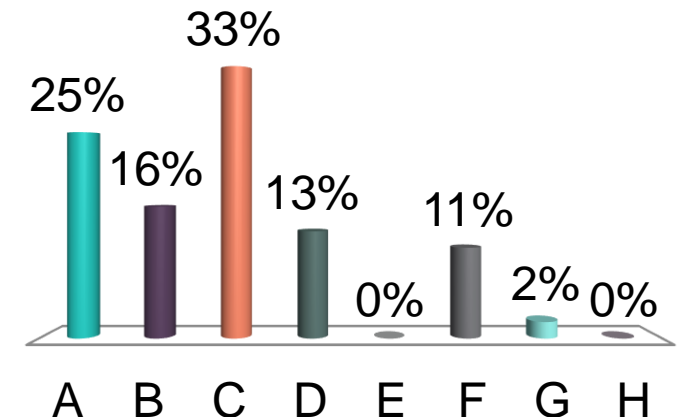
# What are the top characteristics essential to a quality UX?

A	Functionality	E	Creativity/Originality
B	Speed	F	Interactivity
C	Simplicity	G	Defect rate
D	Practicality	H	Share-ability

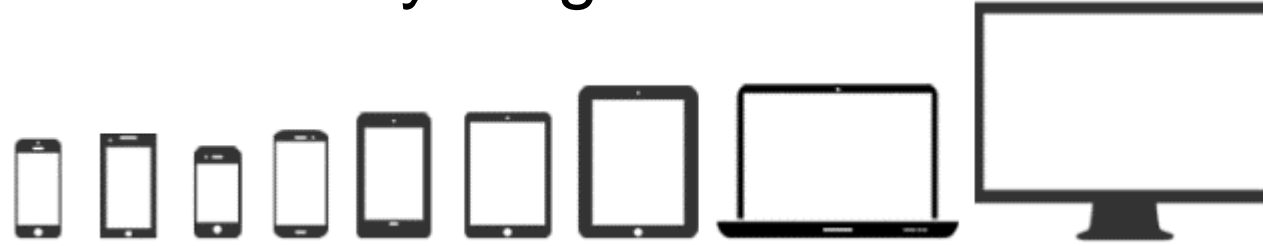
Chicago 04.2016 workshop



Toronto 04.2016 workshop



# The fragmentation of everything



**Device characteristics**

**Platform diversities**

**Users choices, settings and usage patterns**

**Users context**

**Fragmentation of your own apps**

# Measuring quality so it can be improved

## **ISO/IEC 25010:2011 framework**

Functional suitability, performance efficiency,  
usability, accessibility, security, reliability,  
portability, maintainability, compatibility

Any missing qualities?

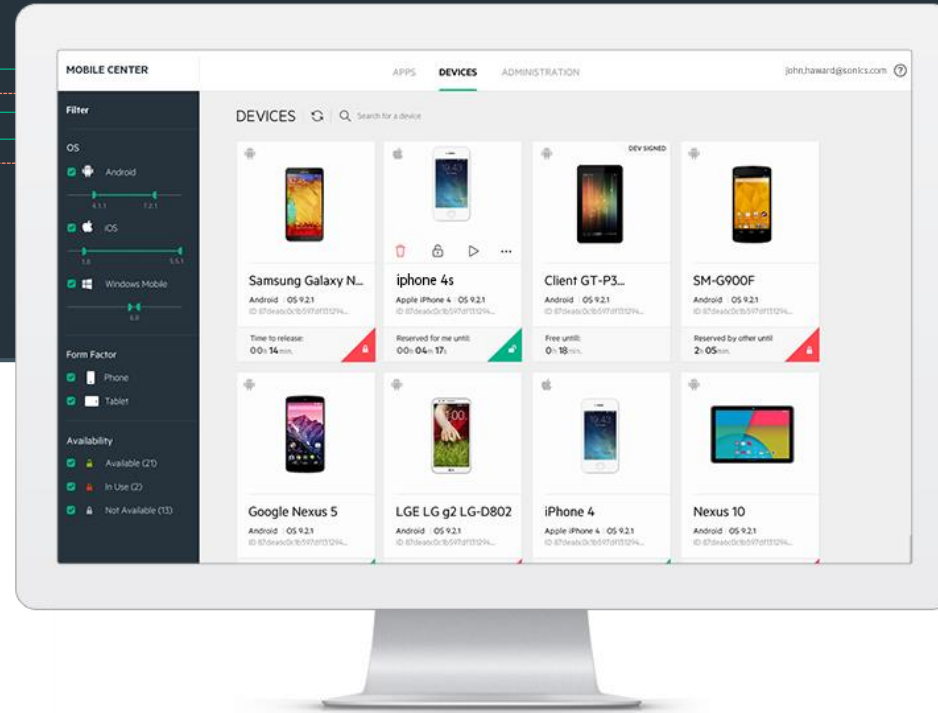
## **Heuristics**

I SLICED UP FUN (Jonathan Kohl)  
COP FLUNG GUN (Moolya)  
FISH TANK

# HPE MOBILE CENTER



Android, iOS, **Windows\***  
Private cloud of devices  
**Amazon device farm\***  
Google and Genymotion emulators



Free security scans  
**HPE Fortify**



Mobile analytics  
**HPE AppPulse  
Mobile**



Sentiment analysis  
**HPE Haven  
on demand**

## Application Delivery

Manual Testing  
**Sprinter**

Functional Testing  
**UFT LeafFT  
Selenium Appium**

Performance Testing  
**Load Runner StormRunner  
Performance Center**

Network Virtualization and Analytics

## Operations Management

Mobile Monitoring  
**AppPulse Active  
Application Performance Management**

  
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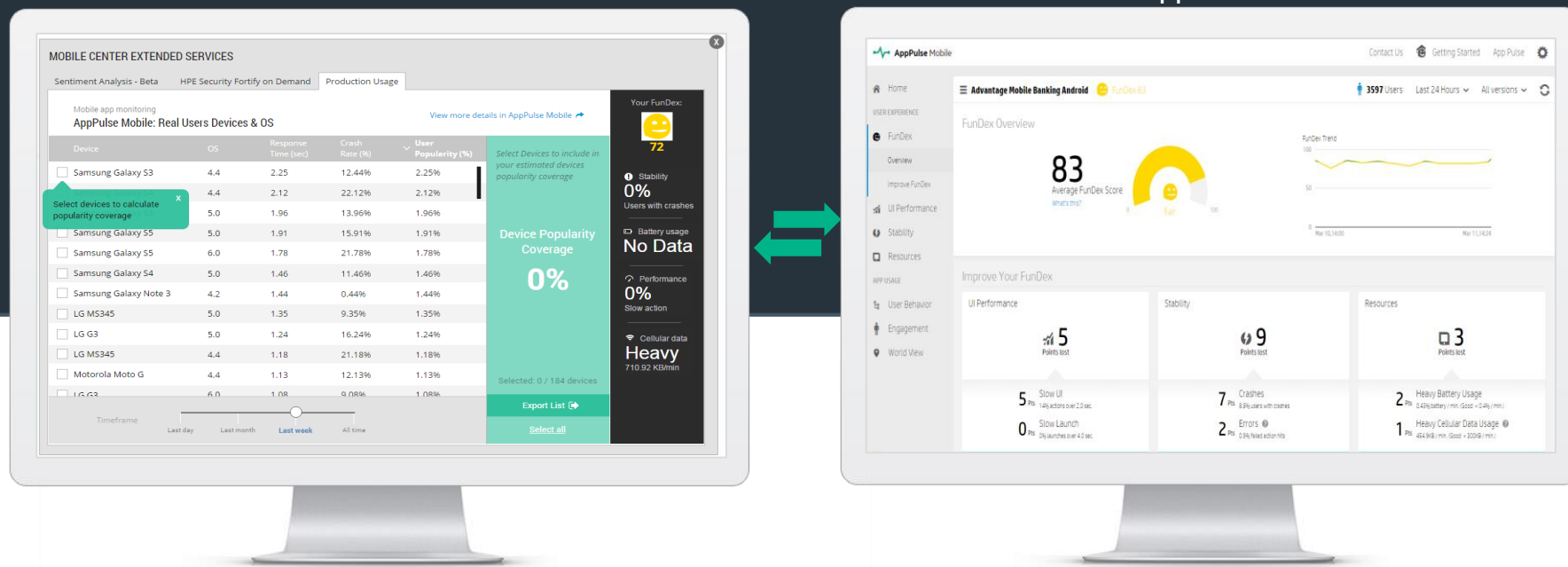
\* HPE Mobile Center 2.0 features to be released in June 2016 (date might change)



# STEP 1-a: Shift mobile analytics left

HPE Mobile Center\*

HPE AppPulse Mobile



Select the devices to test the app on

Test with an end user's mindset

Test under the right conditions

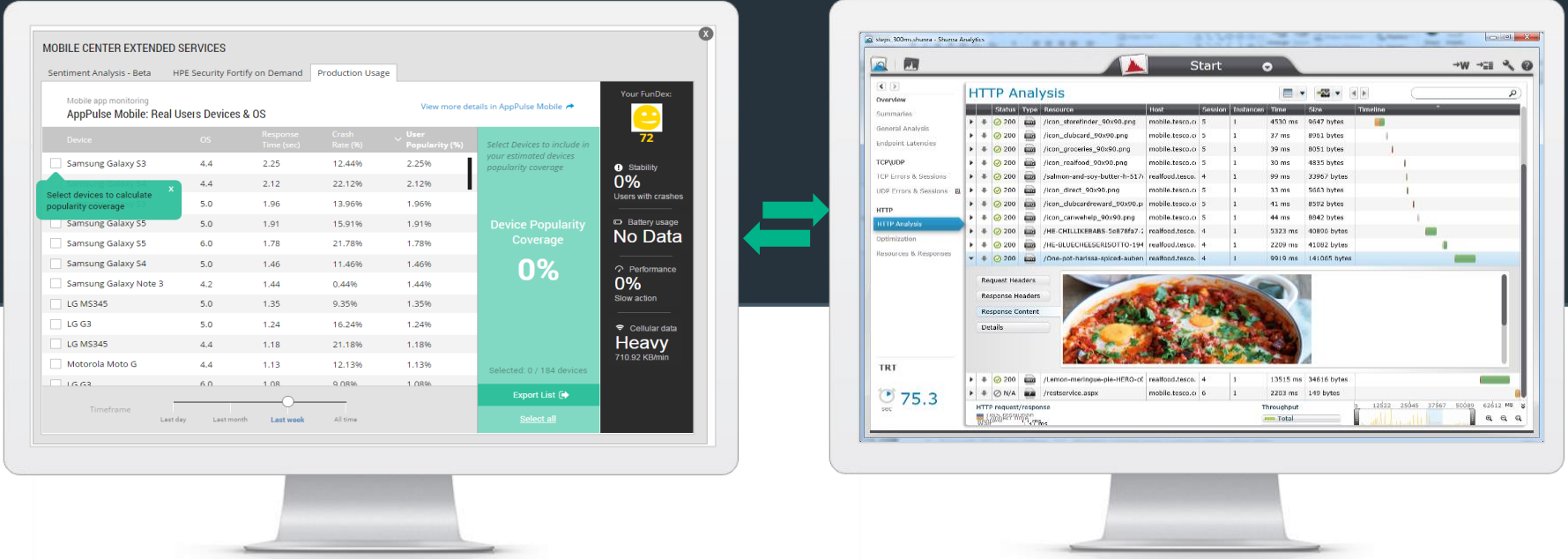
Measure the impact of mobile analytics



# STEP 1-b: Identify performance offenders early

HPE Mobile Center\*

HPE Network Virtualization for Mobile



Web, Hybrid and Native apps

Get automated code-level recommendations

Mitigate risk of production incidents

\* Screenshot of HPE Mobile Center 2.0 to be released in May 2016 (date might change)

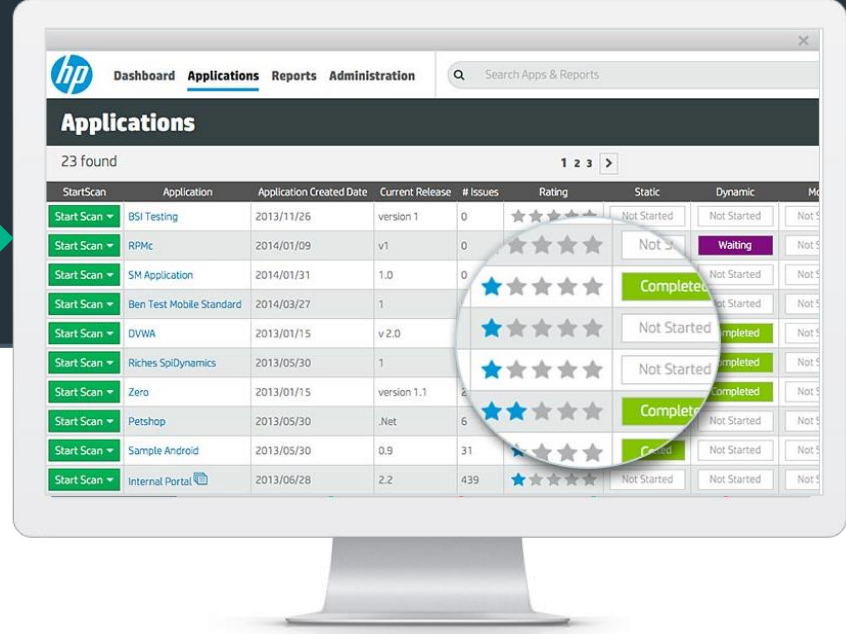
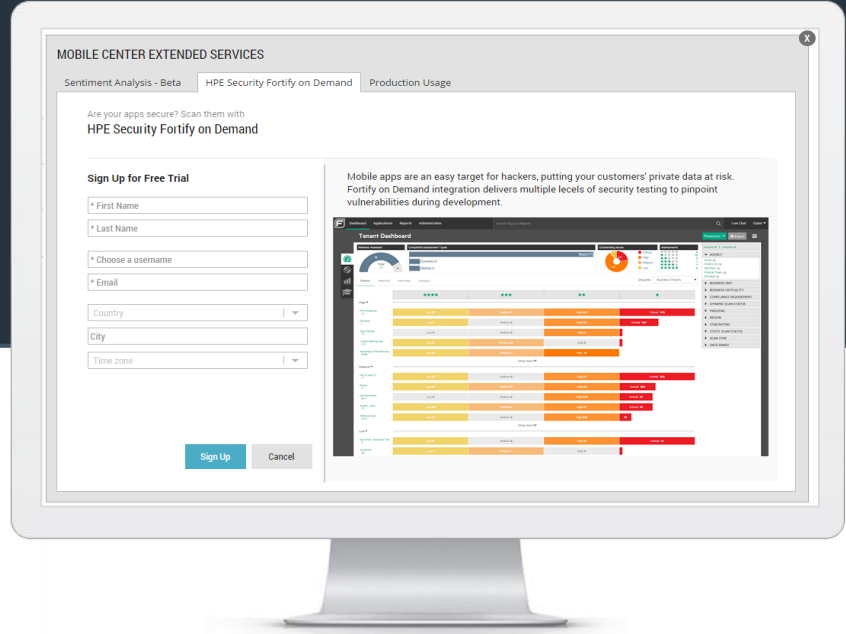




# STEP 2: Submit your app for security scans

HPE Mobile Center

HPE Security Fortify



Get free security scans of your app

identify security vulnerabilities early in the app lifecycle



# STEP 3: Accelerate interactive testing

HPE Mobile Center\*

HPE Sprinter



Test the design, usability, accessibility, and localization

Automatically capture and annotate all aspects of your exploration

Generate smart defects for easier and faster remediation

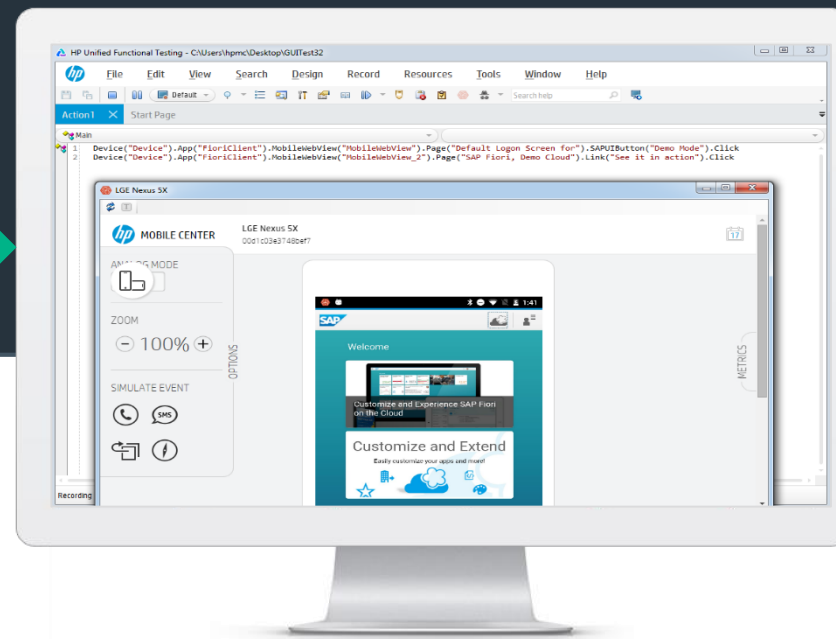
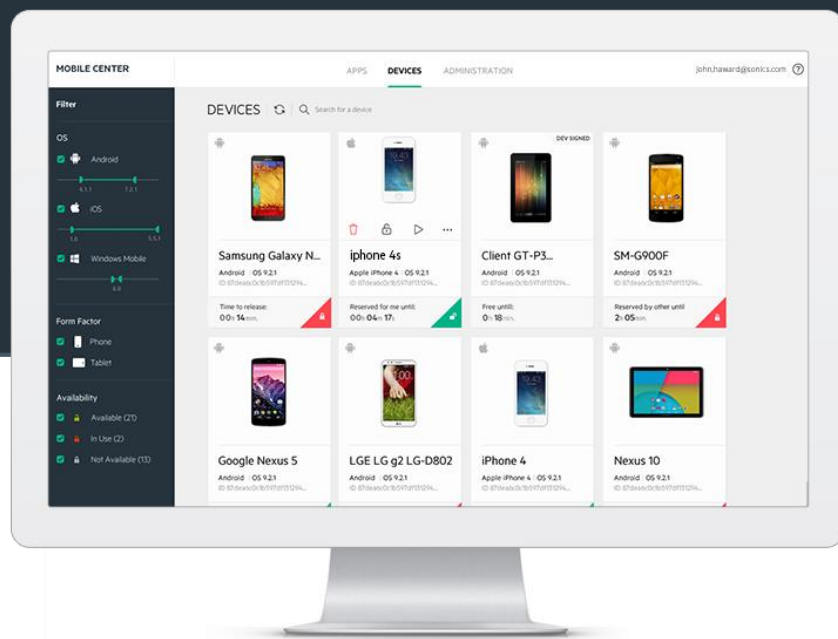
Turn manual tests into automated scripts



# STEP 4: Automate functional testing

HPE Mobile Center\*

HPE UFT and HPE LeanFT



Mobile, Web, Desktop

Integrate with CI and IDEs

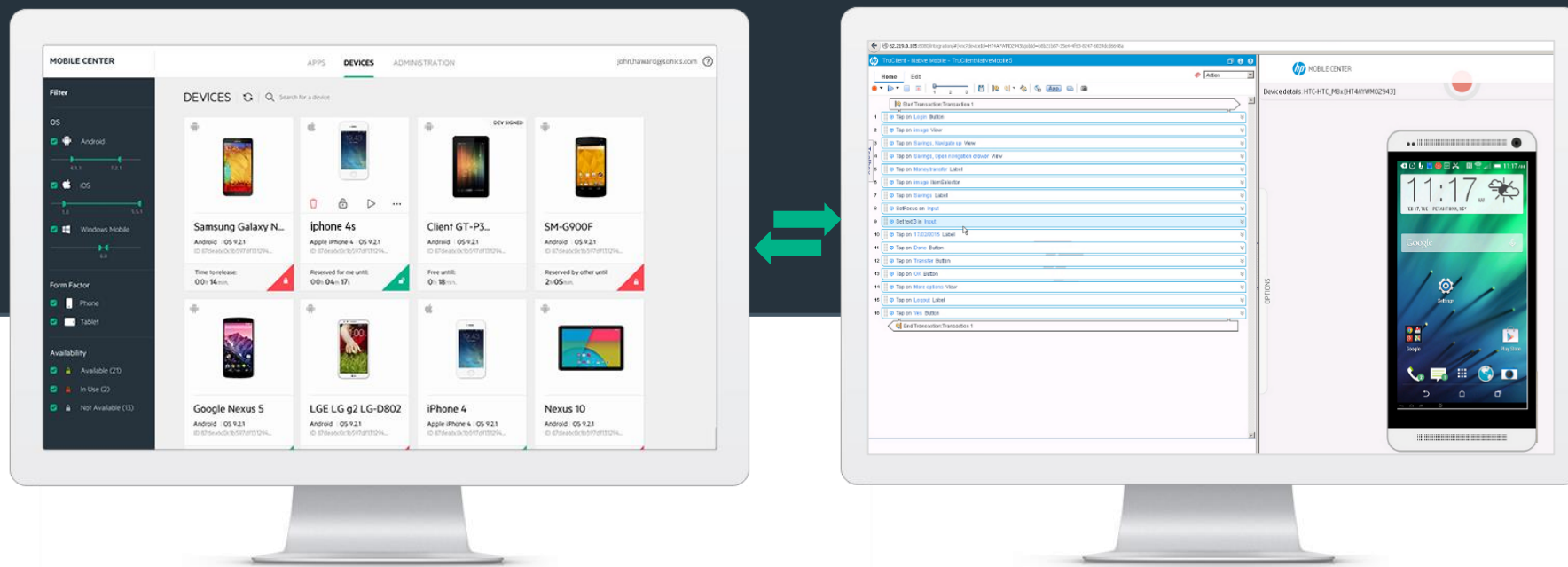
Record/Replay on multi-device and OS

Smart defects for easier and faster remediation

# STEP 5: Plan, run, and scale web and mobile performance testing

HPE Mobile Center\*

HPE Loadrunner, HPE StormRunner



Measure full mobile performance: device level, network and backend

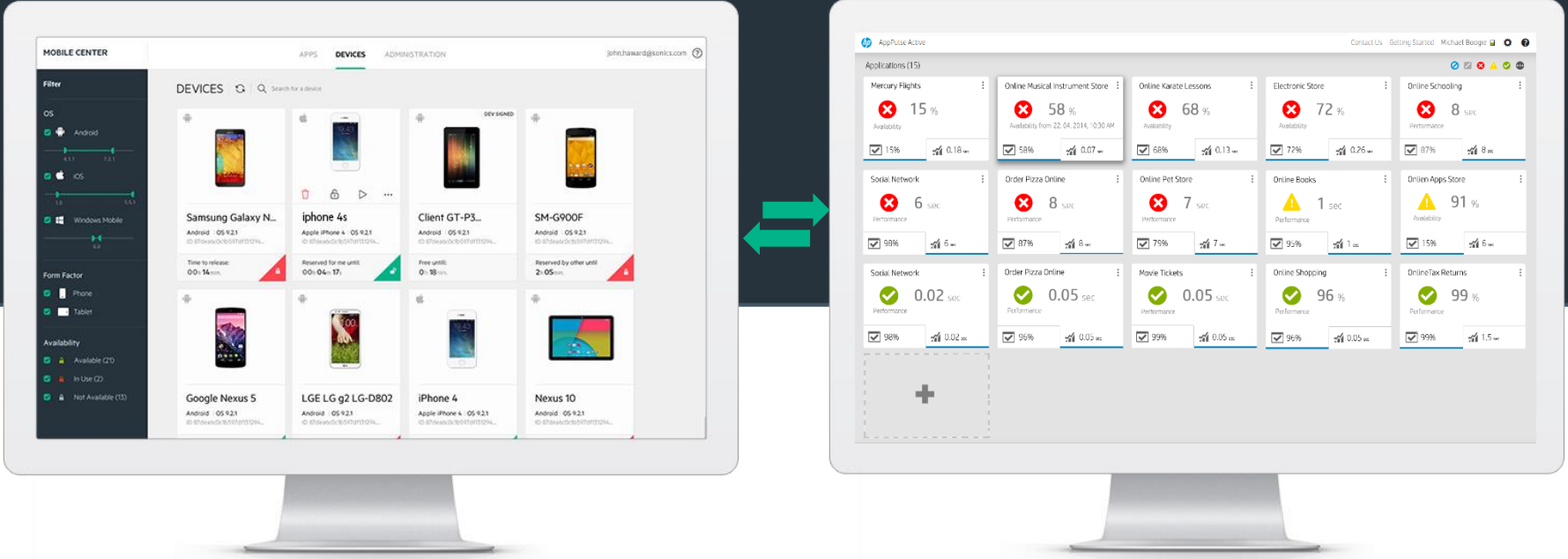
Integrate mobile performance testing into your development tools

Simulate user transactions in load testing

# STEP 6: Know how your applications perform - anywhere, anytime

HPE Mobile Center\*

HPE AppPulse Active



Active Monitoring

Fast Setup, Easy Interface

Predictive Analytics

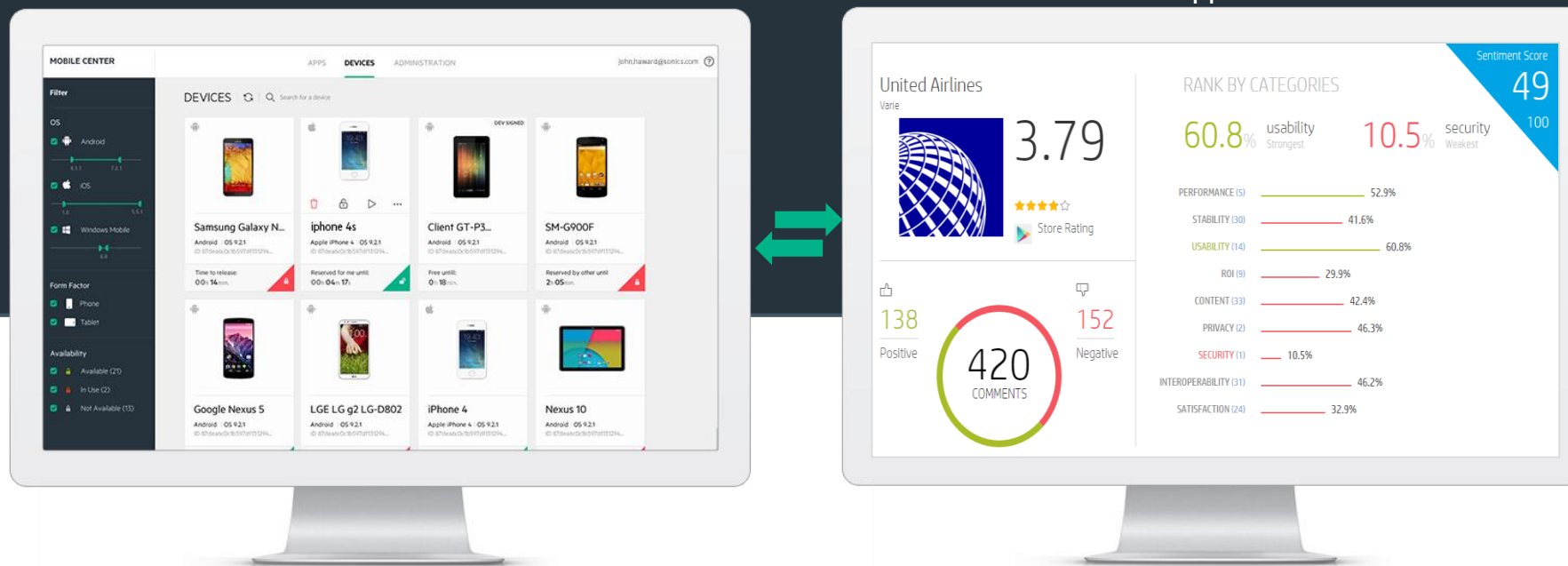
\* Screenshot of HPE Mobile Center 2.0 to be released in May 2016 (date might change)



# STEP 7: Gain insights into your users' feedback

HPE Mobile Center\*

HPE AppPulse.io



Scan and categorize end-user comments

Get a weighted score per each key attribute

Prioritize development and testing based on feedback



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# A day with HPE Mobile Center

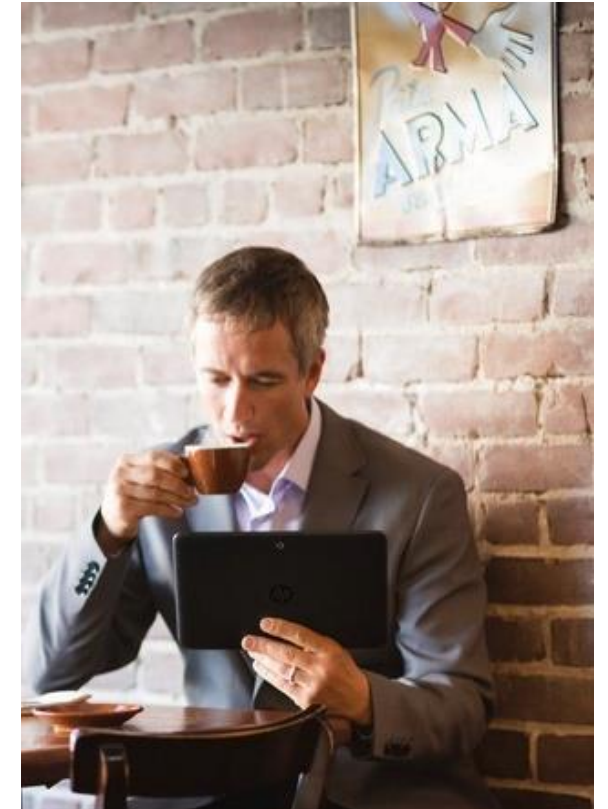
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# Today's task: Add a label to the app



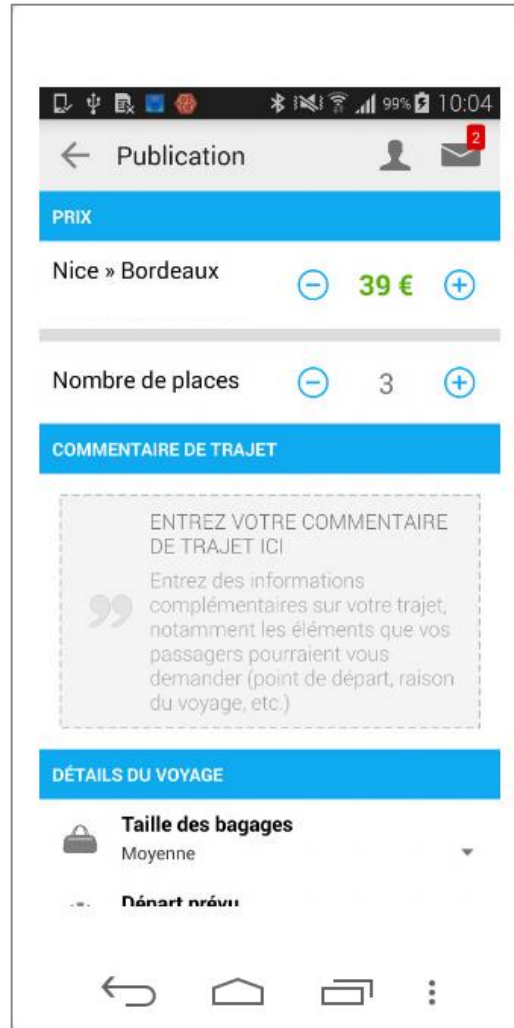
# A day in the life of an app developer

9:00	Fix a UI defect in the Advantage Travel mobile app
10:00	Update the associated unit test
10:30	Commit updated source code back into GIT
10:45	Take a coffee break! Jenkins has noticed a change
11:00	Check Jenkins result
11:30	

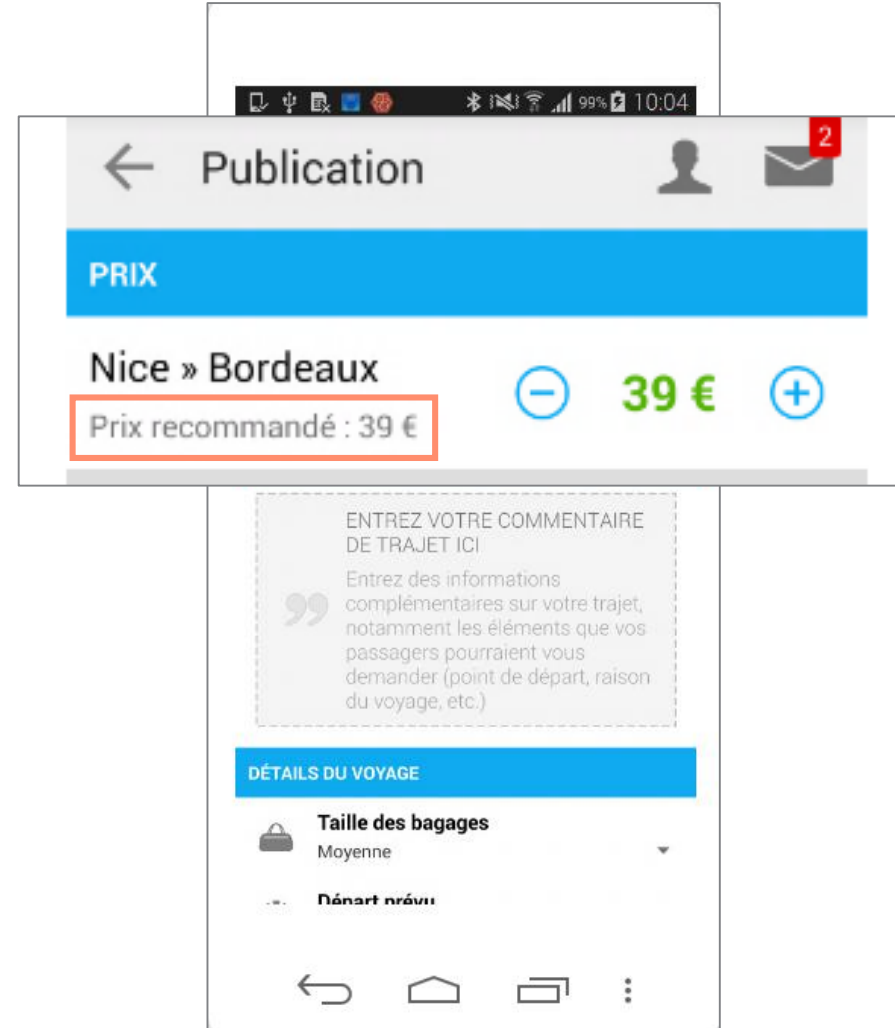


# Add a price recommendation

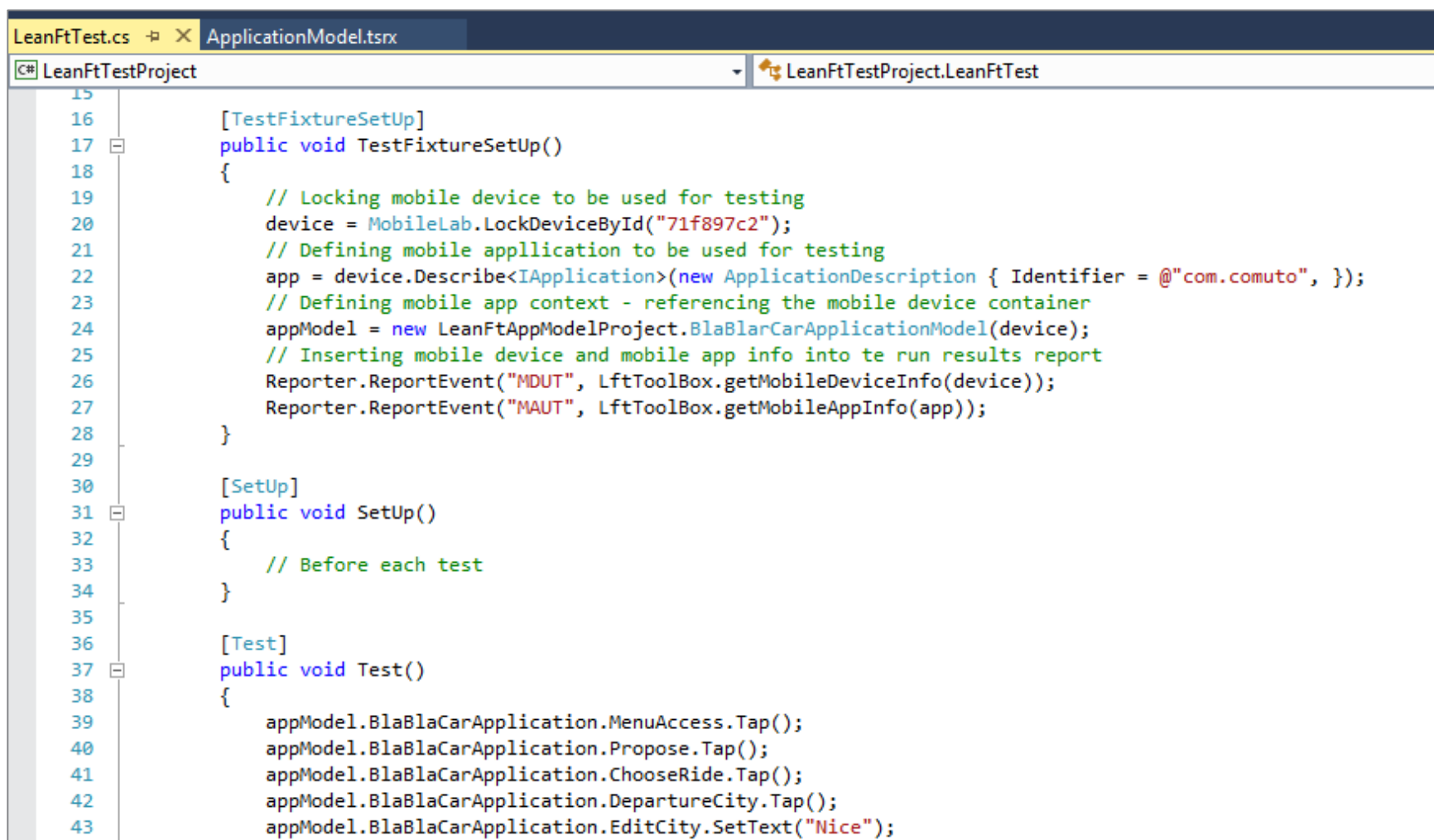
VERSION 1.4



VERSION 1.5



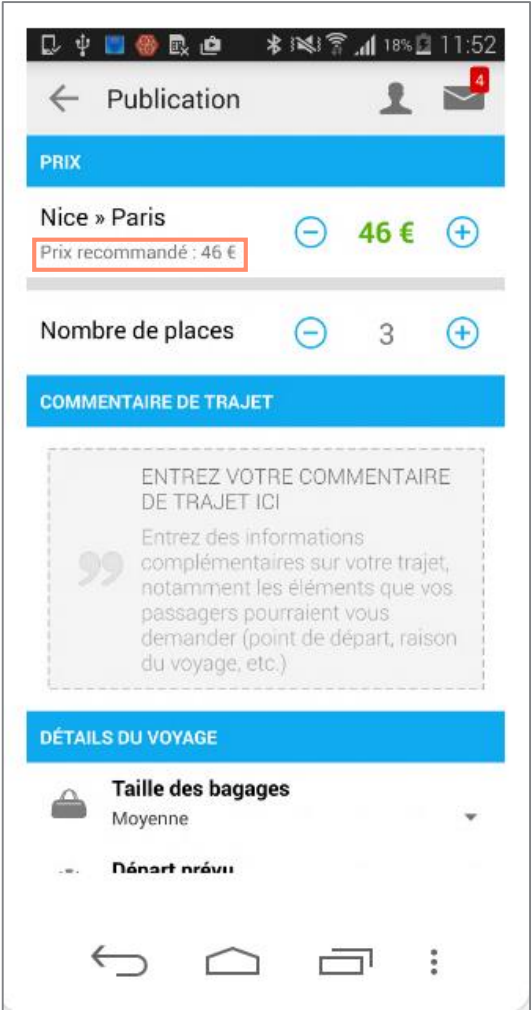
# Update a unit test



```
LeanFtTest.cs ApplicationModel.tsrx
LeanFtTestProject LeanFtTestProject.LeanFtTest

15
16 [TestFixtureSetup]
17 public void TestFixtureSetup()
18 {
19     // Locking mobile device to be used for testing
20     device = MobileLab.LockDeviceById("71f897c2");
21     // Defining mobile application to be used for testing
22     app = device.Describe<IApplication>(new ApplicationDescription { Identifier = @"com.comuto", });
23     // Defining mobile app context - referencing the mobile device container
24     appModel = new LeanFtAppModelProject.BlaBlarCarApplicationModel(device);
25     // Inserting mobile device and mobile app info into the run results report
26     Reporter.ReportEvent("MDUT", LftToolBox.getMobileDeviceInfo(device));
27     Reporter.ReportEvent("MAUT", LftToolBox.getMobileAppInfo(app));
28 }
29
30 [Setup]
31 public void Setup()
32 {
33     // Before each test
34 }
35
36 [Test]
37 public void Test()
38 {
39     appModel.BlaBlaCarApplication.MenuAccess.Tap();
40     appModel.BlaBlaCarApplication.Propose.Tap();
41     appModel.BlaBlaCarApplication.ChooseRide.Tap();
42     appModel.BlaBlaCarApplication.DepartureCity.Tap();
43     appModel.BlaBlaCarApplication.EditCity.SetText("Nice");
44 }
```

# Object identification



Mobile.Label: Prix recommandé : 46 €

- Mobile.View: MobileView
  - Mobile.UIObject: MobileObject
    - Mobile.UIObject: fragment\_offer\_step2\_por
      - Mobile.UIObject: MobileObject
        - Mobile.UIObject: MobileObject

★ Mobile.Label: Prix recommandé : 46 €

Sort by:	Name	Recommended
★	ClassName	Label
★	MobileCenterIndex	29
★	ResourceId	item_plus_minus_description
★	Text	Prix recommandé : 46 €
	AccessibilityId	
	Container	
	DisplayName	Prix recommandé : 46 €


# Add a checkpoint

```
appModel.BlaBlaCarApplication.EditDepartureMonth.SetText("nov.");
appModel.BlaBlaCarApplication.EditDepartureYear.SetText("2015");
appModel.BlaBlaCarApplication.EditDepartureTime.SetValue("18:00", "HH:mm");
appModel.BlaBlaCarApplication.Apply.Tap();
appModel.BlaBlaCarApplication.DepartureTime.Tap();
appModel.BlaBlaCarApplication.Apply.Tap();
appModel.BlaBlaCarApplication.Continue.Tap();
/*
 * Validate recommended price fonctionnality [To be done]
 */
if (appModel.BlaBlaCarApplication.RecommendedPrice.Exists())
{
    Reporter.ReportEvent("Capture recommended price", "This step should validate the new widget", HP.LFT.Report.Status.Passed, LftToolBox.getImage(device));
}
else
{
    Reporter.ReportEvent("Capture recommended price", "This step should validate the new widget", HP.LFT.Report.Status.Failed, LftToolBox.getImage(device));
}
```



# Commit and validate changes

[projets](#) / [BlaBlaCarNET.git](#) / résumé

langage : Français (fr\_FR) 

révision  rechercher:

résumé | [abrégé](#) | [journal](#) | [révision](#) | [diff révision](#) | [arbre](#)

description

propriétaire

dernière modification

Unnamed repository; edit this file 'description' to name the repository.

Tue, 24 Nov 2015 14:05:26 W. Europe Standard Time

[abrégé](#)

fa1e98f	il y a 84 secondes	hpswadm	unit test updated - checkpoint recommande price <span>master</span>	<a href="#">révision</a>   <a href="#">diff révision</a>   <a href="#">arbre</a>   <a href="#">aperçu</a>
656d4d2	il y a 2 heures	hpswadm	checkpoint recommended price update	<a href="#">révision</a>   <a href="#">diff révision</a>   <a href="#">arbre</a>   <a href="#">aperçu</a>
a4f703f	il y a 3 heures	hpswadm	test updated - price checkpoint inserted	<a href="#">révision</a>   <a href="#">diff révision</a>   <a href="#">arbre</a>   <a href="#">aperçu</a>
69be96f	il y a 4 heures	hpswadm	comment modified	<a href="#">révision</a>   <a href="#">diff révision</a>   <a href="#">arbre</a>   <a href="#">aperçu</a>
714fab9	il y a 40 heures	hpswadm	new ms test project	<a href="#">révision</a>   <a href="#">diff révision</a>   <a href="#">arbre</a>   <a href="#">aperçu</a>

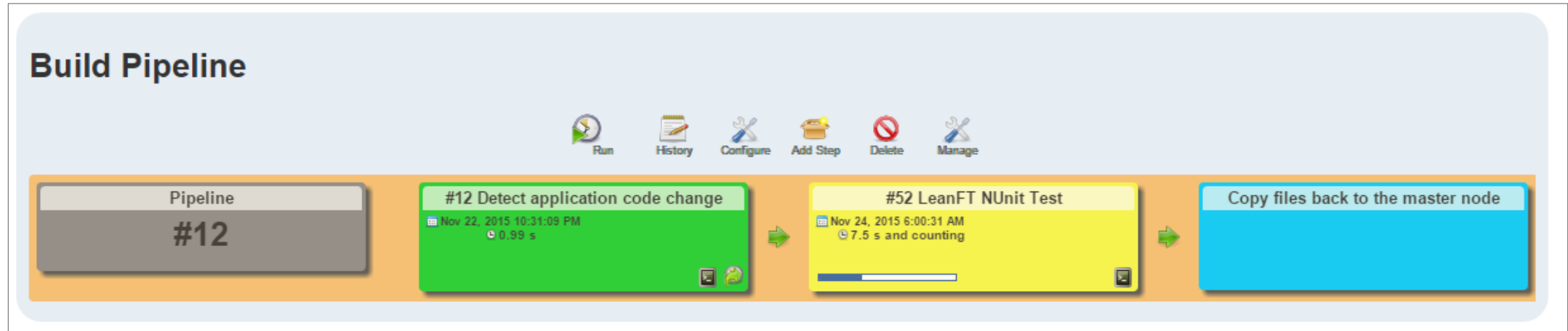
[heads](#)

il y a 84 secondes

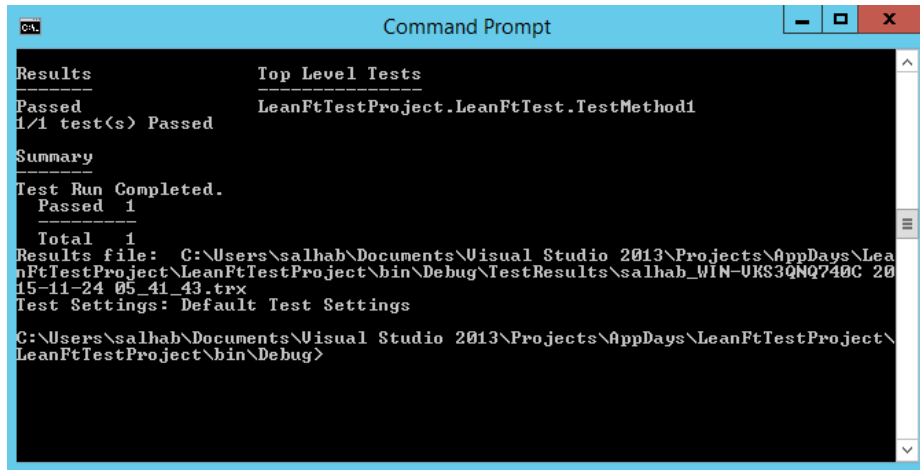
master

[abrégé](#) | [journal](#) | [arbre](#)

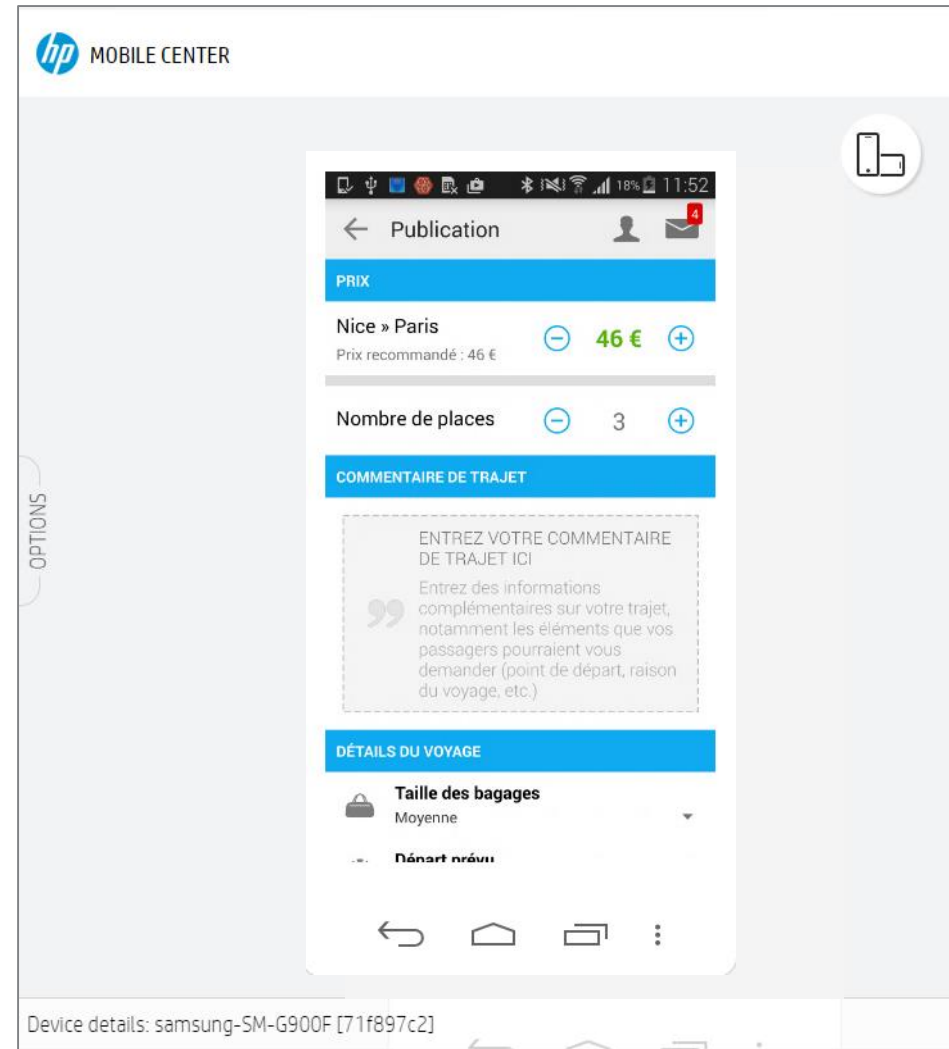
# Commit and validate changes



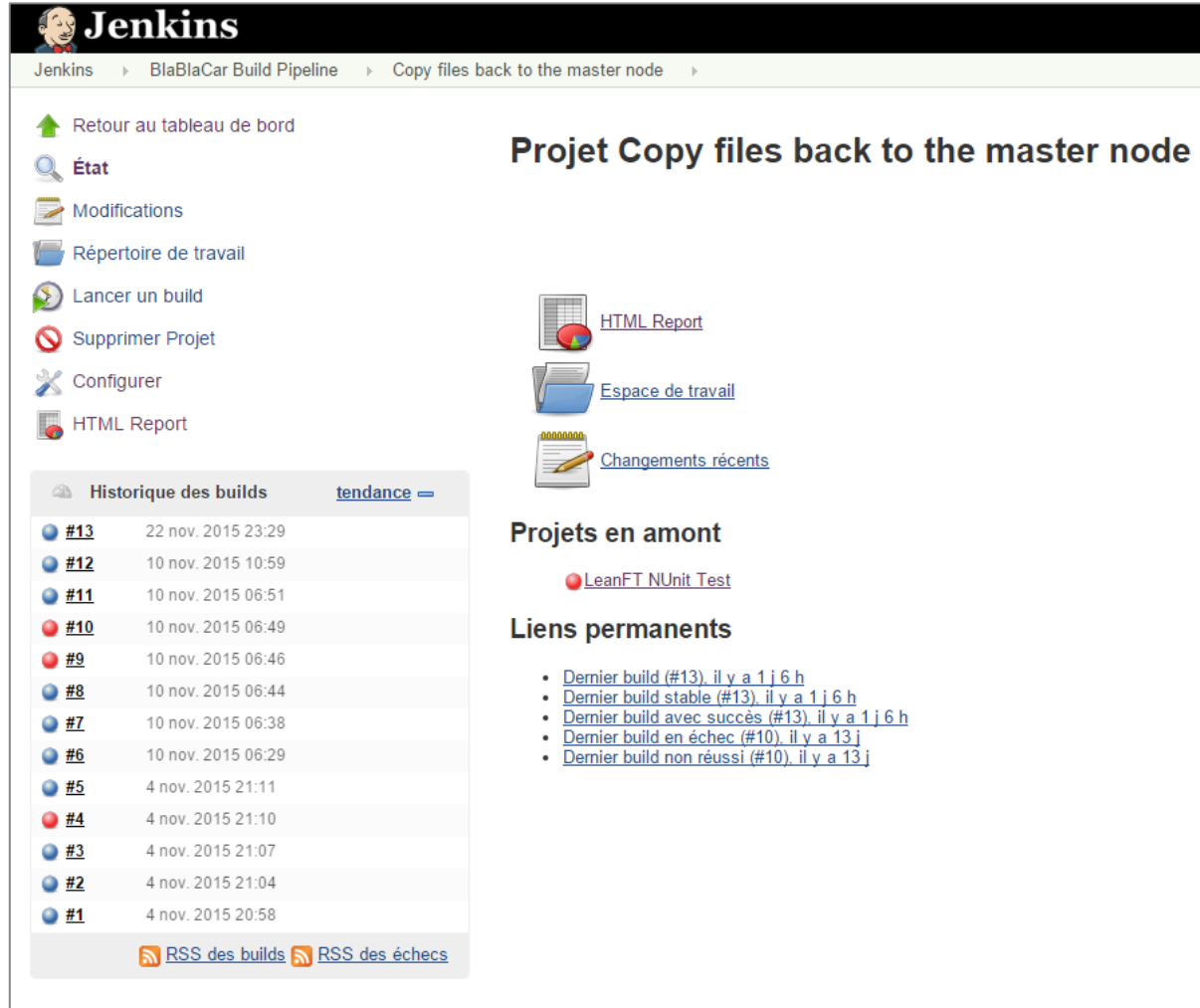
# Commit and validate changes



```
CA\ Command Prompt
Results
Passed
1/1 test(s) Passed
Summary
Test Run Completed.
Passed 1
Total 1
Results file: C:\Users\sahab\Documents\Visual Studio 2013\Projects\AppDays\LeanFtTestProject\bin\Debug\TestResults\sahab_WIN-UKS3QNQ740C_2015-11-24_05_41_43.trx
Test Settings: Default Test Settings
C:\Users\sahab\Documents\Visual Studio 2013\Projects\AppDays\LeanFtTestProject\bin\Debug>
```



# Verify the test results in Jenkins



The screenshot shows the Jenkins web interface for a project named 'Copy files back to the master node'. The interface includes a sidebar with navigation links, a main content area with project details and build history, and a right sidebar with links to reports and upstream projects.

**Jenkins**

Jenkins > BlaBlaCar Build Pipeline > Copy files back to the master node

[Retour au tableau de bord](#)

[État](#)

[Modifications](#)

[Répertoire de travail](#)

[Lancer un build](#)

[Supprimer Projet](#)

[Configurer](#)

[HTML Report](#)

**Projet Copy files back to the master node**

[HTML Report](#)

[Espace de travail](#)

[Changements récents](#)

**Historique des builds** [tendance](#)

#	Date
<a href="#">#13</a>	22 nov. 2015 23:29
<a href="#">#12</a>	10 nov. 2015 10:59
<a href="#">#11</a>	10 nov. 2015 06:51
<a href="#">#10</a>	10 nov. 2015 06:49
<a href="#">#9</a>	10 nov. 2015 06:46
<a href="#">#8</a>	10 nov. 2015 06:44
<a href="#">#7</a>	10 nov. 2015 06:38
<a href="#">#6</a>	10 nov. 2015 06:29
<a href="#">#5</a>	4 nov. 2015 21:11
<a href="#">#4</a>	4 nov. 2015 21:10
<a href="#">#3</a>	4 nov. 2015 21:07
<a href="#">#2</a>	4 nov. 2015 21:04
<a href="#">#1</a>	4 nov. 2015 20:58

[RSS des builds](#) [RSS des échecs](#)

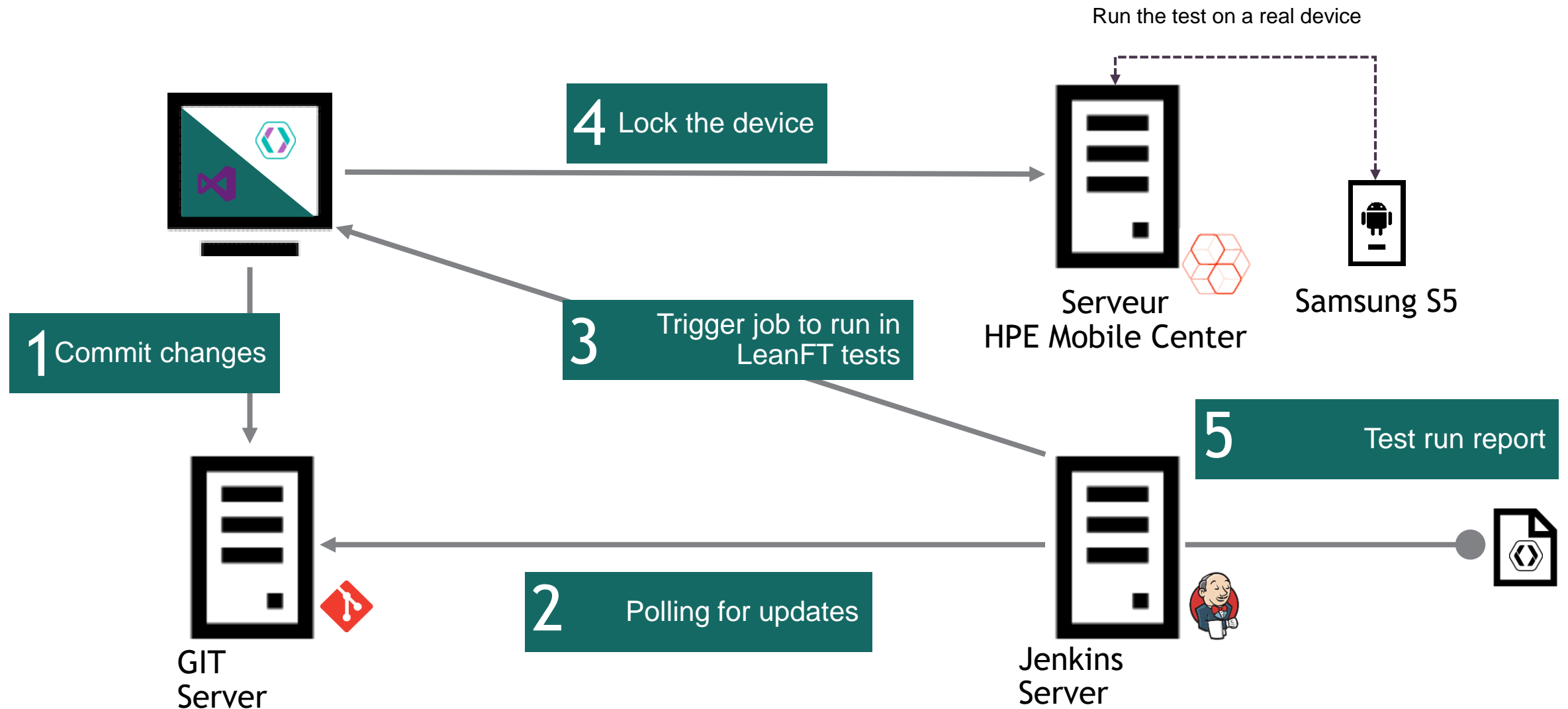
**Projets en amont**

[LeanFT NUnit Test](#)

**Liens permanents**

- [Dernier build \(#13\), il y a 1 j 6 h](#)
- [Dernier build stable \(#13\), il y a 1 j 6 h](#)
- [Dernier build avec succès \(#13\), il y a 1 j 6 h](#)
- [Dernier build en échec \(#10\), il y a 13 j](#)
- [Dernier build non réussi \(#10\), il y a 13 j](#)

# Demo reference architecture



# Gartner Magic Quadrant for Software Test Automation



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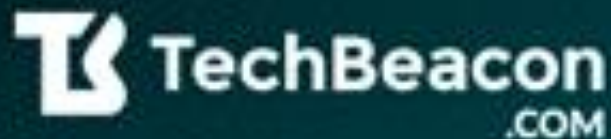


[www.themobileanalyticsplaybook.com](http://www.themobileanalyticsplaybook.com)

# The Mobile Analytics Playbook

Download 161-Page Book

Free!



Marcel Santilli, Editor-in-Chief





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