



Cognizant

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# BDD in a DevOps Team

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# ABOUT THE SPEAKER



**Adonis Celestine**

Adonis has more than 11 years of industry experience in Software Testing. He has good expertise on Software Test automation and consultation.

Adonis is passionate about test innovations and making testing simpler and more interesting. You'll usually find Adonis talking about quality and how it affects the whole development process.



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Adonis Celestine

# AUTOMATION PROBLEMS – LET'S FACE IT

What are you testing

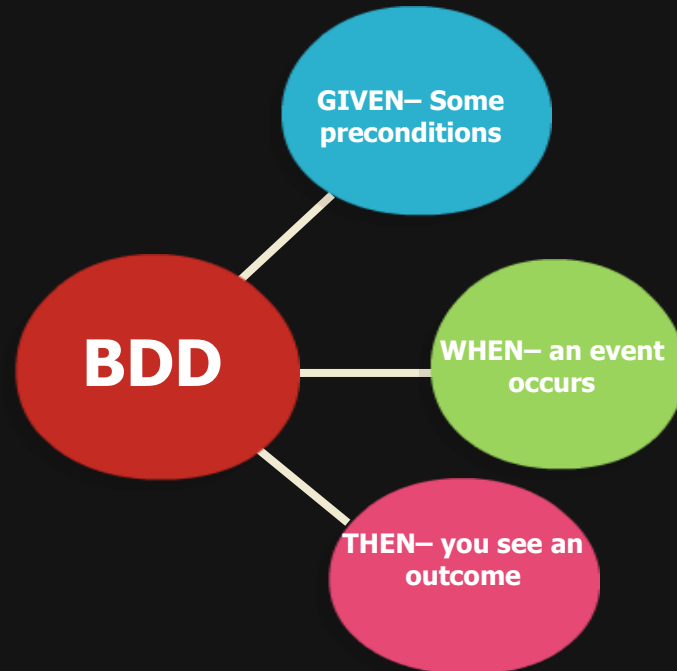
Technology changes & responsive design

Something light and free

Repeatable test cases

Test Reporting

# BEHAVIOUR DRIVEN DEVELOPMENT



## A programmers mind

```
Travel("market");  
If(isPresent("egg")){  
    buyMilk(6);  
} else {  
    buyMilk(1);  
}
```



## THE PROBLEM ABOUT BEING A PROGRAMMER

My mom said:

"Honey, please go to the market and buy 1 bottle of milk. If they have eggs, bring 6"

I came back with 6 bottles of milk.

She said: "Why the hell did you buy 6 bottles of milk?"

I said: "BECAUSE THEY HAD EGGS!!!!!"

More Collaboration



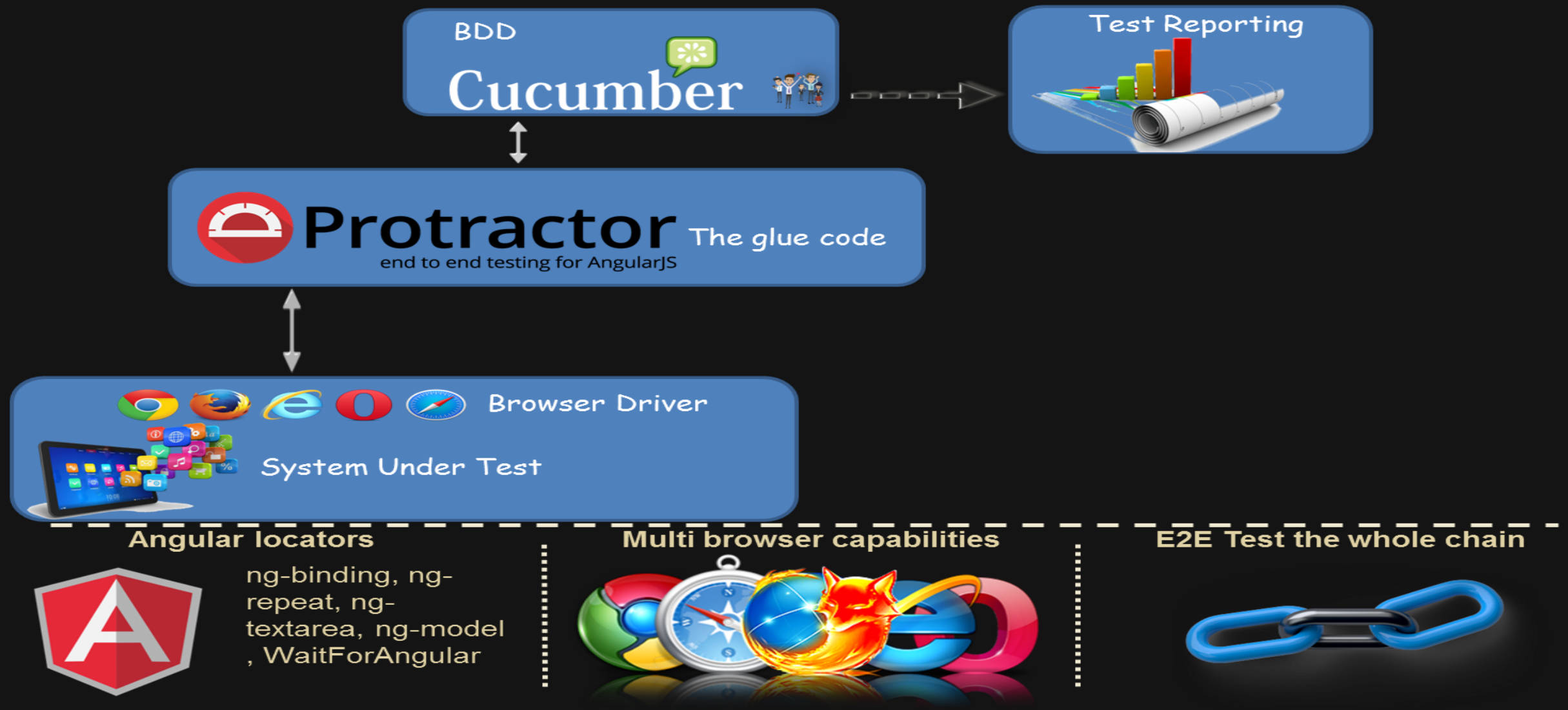
Automated Acceptance Tests



Faster & High Quality



# THE FRAMEWORK



# CUCUMBER & PROTRACTOR

## The Feature file

**Feature:** Check the weather

**Scenario Outline:** Check the weather of Amsterdam and Riga

**Given** I open weather.com

**When** I type <cityName> in the search box

**And** I click search

**Then** I must be able to see the weather <overview>

**Examples:**

|cityName|overview|

|Amsterdam,Netherlands|Hourly|

|Riga,Latvia|Hourly|

## The glue code

```
this.Given(/^I open weather\.com$/, function (callback) {  
    browser.get("http://www.weather.com").then(callback);  
});
```

```
this.When(/^I type (.*) in the search box$/, function (cityName,callback) {  
    browser.element(by.id("search")).sendKeys(cityName).then(callback);  
});
```

**Feature:** Descriptive text of what is desired

**Scenario Outline:** Some determinable business situation

**Given** some precondition

And some other precondition

**When** some action by the actor

And some other action

**Then** some testable outcome is achieved

And something else we can check happens too

**Examples:**

Test Data

# OUR PIPELINE



Jenkins CI Orchestration



XL RELEASE

XL Release CD/D Orchestration

Requirements

User Stories

Feature Branch

Feature Branch

Feature Branch

Merged Feature



Build Release

Fortify

Sonar

Nexus

Sys Test

Start

Check

Deploy

Test

Report

Chain

Start

Check

Deploy

Test

Report

Accept

Start

Check

Deploy

Test

Report

Prod

Start

Check

Deploy

Test

Report

Jenkins

Docker

Selenium  
Grid

Feature Branch Testing

Change Process Management

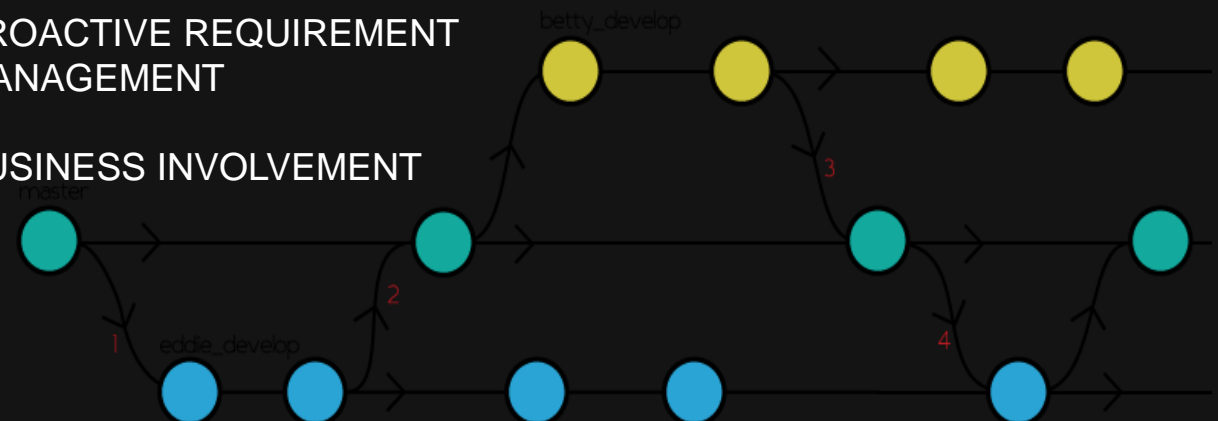


Monitoring & Dashboard Reporting

# FEATURE BASED DEVELOPMENT



- POTENTIALLY SHIPPABLE PRODUCT
- CUSTOMER NEEDS
- PROACTIVE REQUIREMENT MANAGEMENT
- BUSINESS INVOLVEMENT




# WHAT IS A PULL REQUEST ?

- Code Review Done
- Feature Accepted by Product Owner
- Feature is Production Ready

“None of us is as smart as all of us”



# RELEASE ORCHESTRATION

RELEASE  
by Xebia Labs™

TasksReleasesCalendarReportsSettings

Logged in as chankmkHelp

## Releases - Demo release pipeline

OverviewPipelineTemplatesDemo relea...Standard pi...

ShowRelease flowAdd PhaseAbort ReleaseRestart Phase...Export to Excel

### Prepare release

Create change ticket  
Ronny Chan3 min

Create item in DevOps Delivery sheet on sharepoint  
In progress

Add task

### I want to go to system test

Notify via email (pipeline starts now for ST)  
Communication: Send Mail

Distribute REST endpoints to system test  
Picoma appservers: Picoma Appservers: Distribute Service Endpoints

Deploy to system test  
Jenkins: Build

Execute smoke test  
Jenkins: Build

Execute regression tests  
Jenkins: Build

Notify via email (system test succesful)  
Communication: Send Mail

Add task

### I want to go to chain

Check and wait for CRMi service unlocks, Siebel changes, IRMA changes, Tridion changes, Picoma configuration changes etc.

Distribute REST endpoints to chain  
Picoma appservers: Picoma Appservers: Distribute Service Endpoints

Deploy application to chain  
Picoma applications: Picoma Applications: Deploy

Deploy static content to chain  
Picoma staticdeployments: Picoma Staticdeployments: Deploy

Check after deployment

Execute chain tests  
Jenkins: Build

### I want to go to acceptance

Check before deployment

Check voor CRMi services

Check voor Test akkoord

Check voor benodigde releases

Automated precheck on acceptance  
Jenkins: Build

Add task

Automatic start nul meting script PAT  
Jenkins: Build

Automatic email that deploy is available on

### I want to go to deployment

Check voor CRMi services

Check voor Test akkoord

Update change implementation  
Change: Update

Go/no-go decision

Notify via email (AM)  
Communication

Update actual status  
Change: Update

## Feature Result for Build: 2

Below are the results for this feature:

**Feature:** Account Holder withdraws cash  
*As an Account Holder*  
*I want to withdraw cash from an ATM*  
*So that I can get money when the bank is closed*

**Scenario Outline:** Account has sufficient funds  
Given the account balance is 100  
And the card is valid  
And the machine contains 100  
When the Account Holder requests 20  
Then the ATM should dispense 20  
And the account balance should be 80  
And the card should be returned

## Feature Statistics

Feature	Scenarios	Steps	Passed	Failed	Skipped	Status
Feature: Account Holder withdraws cash	1	7	7	0	0	passed

# DEVOPS DASHBOARD - HYGIEIA

## Feature JIRA

SPRINT: TETRIS PSI ... 6 DAYS

31

TOTAL

22

WIP

9

DONE

FEATURES IN PROGRESS

- Authenticate customer7
- Canadian French Language (In T&D ...6
- Canadian French Language in all "ot...5
- ATDD Refactoring | All Feature Teams 2

## CODE REPOSITORY

### Code Repo38s ago

COMMITTS PER DAY



SUMMARY

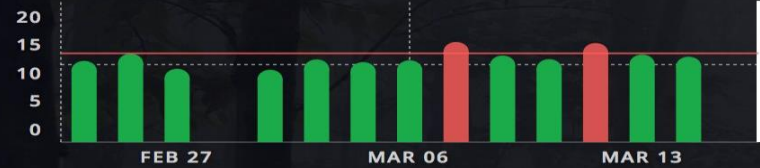
TOTAL COMMITTS	0	268	530
CONTRIBUTORS	0	55	78
	TODAY	LAST 7 DAYS	LAST 14 DAYS

## Build JENKINS

BUILDS PER DAY



AVERAGE BUILD DURATION



## SONAR CODE QUALITY

### Quality

STATIC ANALYSIS

Blocker0  
Critical0  
Major0  
Issues43

VERSION 2.4.38495.8999

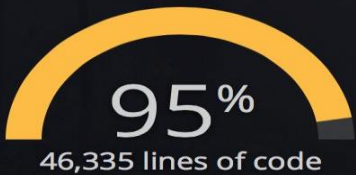
100.0%  
RULES  
COMPLIANCE

3d  
TECHNICAL  
DEBT

CODE COVERAGE

UNIT TESTS

Success100.0%  
Failures0  
Errors0  
Tests3,272



## LATEST BUILDS1m ago

LATEST BUILDS

✓	8999	2h ago	>
✓	8998	5h ago	>
!	8997	5h ago	>
!	8996	5h ago	>
!	8995	6h ago	>

TOTAL BUILDS

0162323  
TODAYLAST 7 DAYSLAST 14 DAYS

## Monitor1s ago

No services configured

## DEPLOYMENT STATUS

### Deploy12m ago

✓	DEV6	6d ago	38	↑	0	↓
!	DEV7	6h ago	73	↑	0	↓
!	QA3	16h ago	180	↑	0	↓
!	DEV2	5h ago	691	↑	0	↓
✓	QA4-A	5h ago	80	↑	0	↓
✓	QA4-B	Feb 23	30	↑	0	↓
✓	QA1	Feb 23	36	↑	0	↓
✓	QA2	8h ago	48	↑	0	↓
✓	DEV3	3d ago	8	↑	0	↓
✓	DEV4	Feb 7	2	↑	0	↓
✓	DEV5	5h ago	16	↑	0	↓
✓	DEV8	Feb 25	4	↑	0	↓
✓	DEV9	1d ago	12	↑	0	↓
✓	PERF1	1d ago	72	↑	0	↓
✓	PERF2	Jan 16	8	↑	0	↓
✓	PERF3	Jan 16	24	↑	0	↓
✓	PERF4	Jan 16	8	↑	0	↓
!	PERF-A	Dec 12	36	↑	0	↓
!	PERF-B	Nov 3	32	↑	0	↓
✓	PROD-A	5h ago	320	↑	0	↓

# CHALLENGES

*BDD is a mindset*

*Huge learning curve*

*Documenting requirements*

*Large scenarios with multiple steps*



# THANK YOU!

## For Your Attention



IT IS NOT THE STRONGEST  
OF THE SPECIES THAT SURVIVE  
NOR THE MOST INTELLIGENT  
BUT THE ONE  
MOST RESPONSIVE TO CHANGE

Charles Darwin (1809 – 1882)

