

LOW CODE APPS WITH
PROCESS-DRIVEN APPLICATIONS

TRILHA - ARQUITETURA JAVA



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WHAT DO YOU SEE?



DIGITAL TRANSFORMATION IS EVERYWHERE

"Everyone like progress, but no one likes change.
That's why leadership is hard."

Geoffrey Garret

Dean, Wharton School of the university of pennsylvaniaa

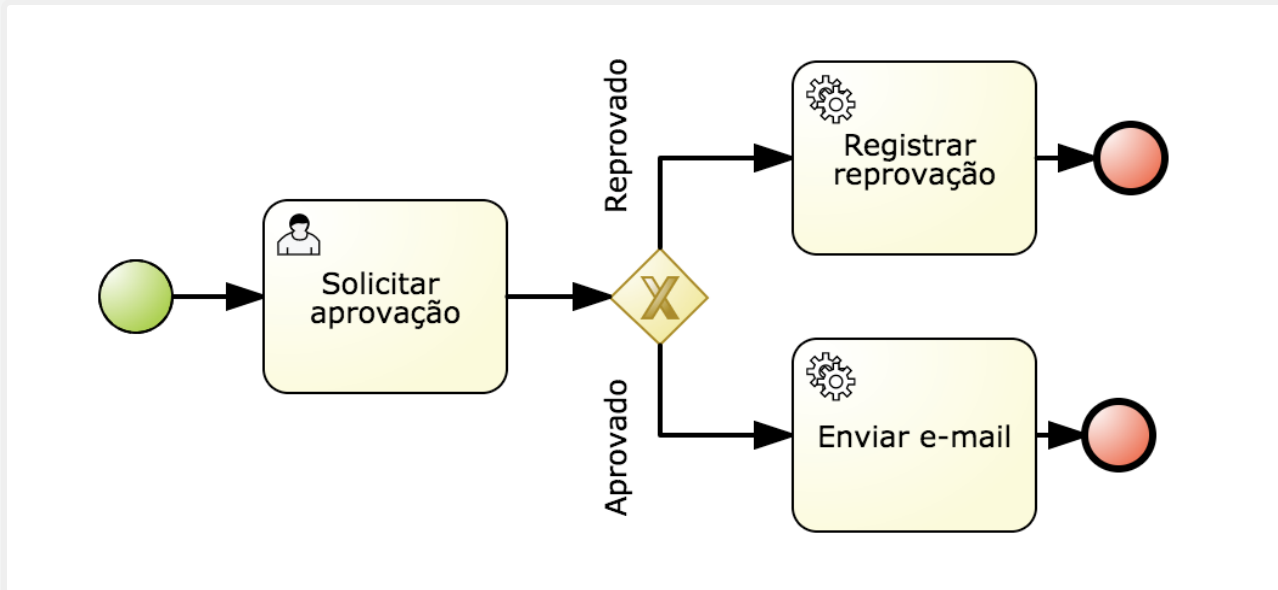


BUT...

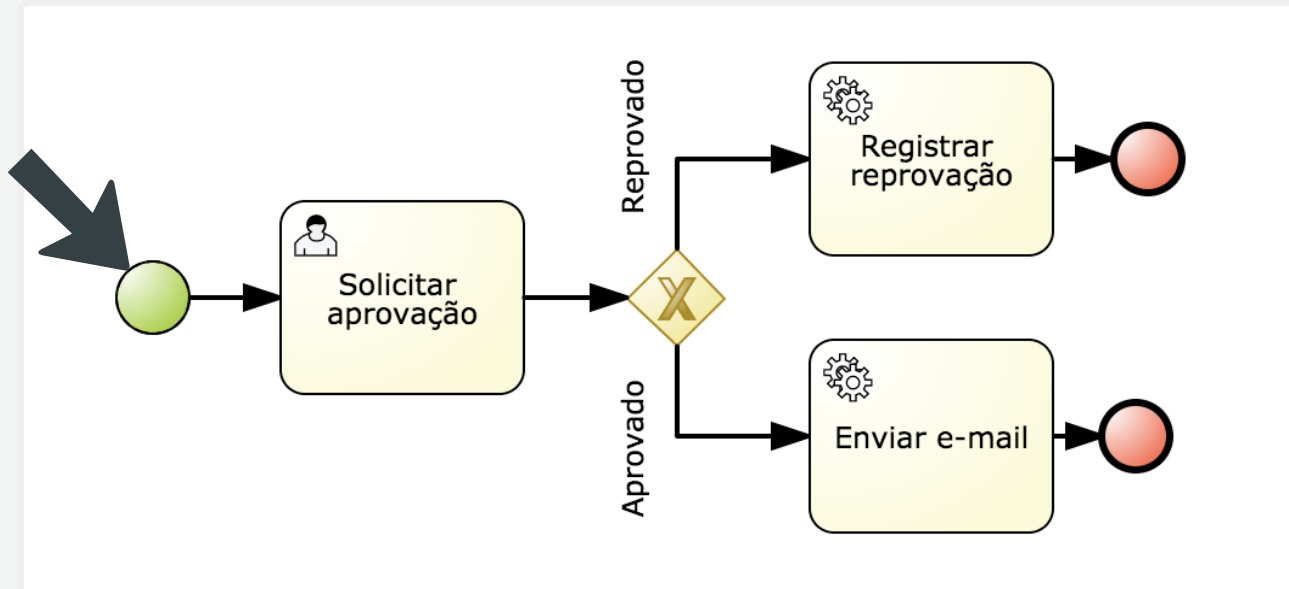
...WHAT IS A PROCESS?



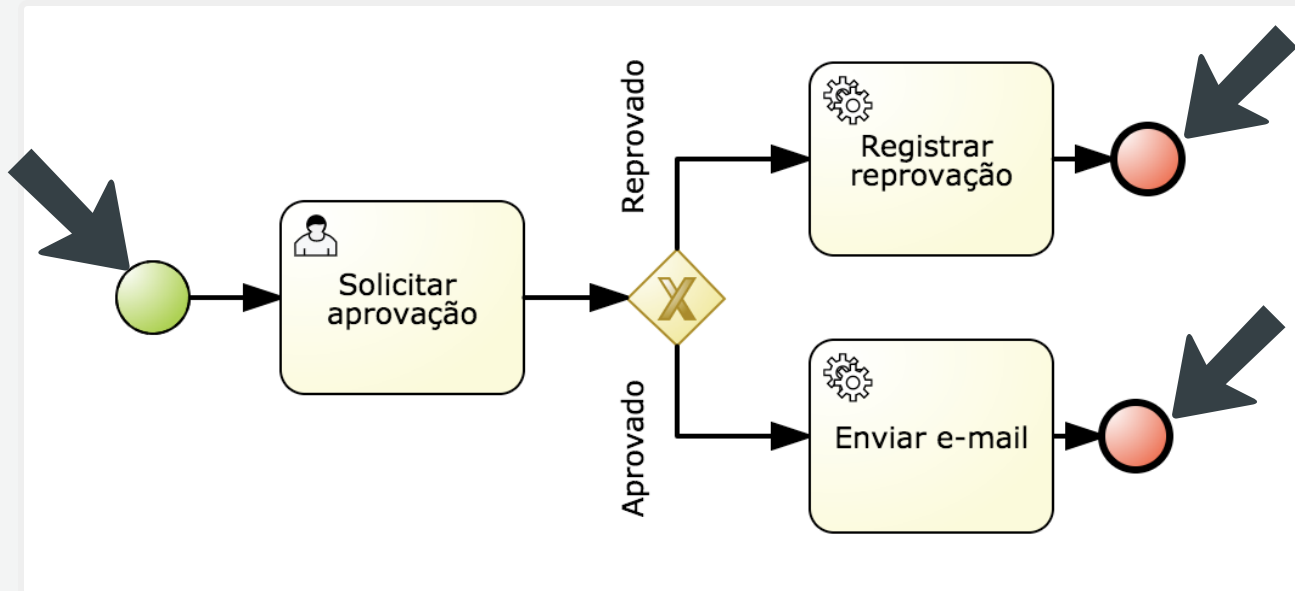
...THIS IS A PROCESS



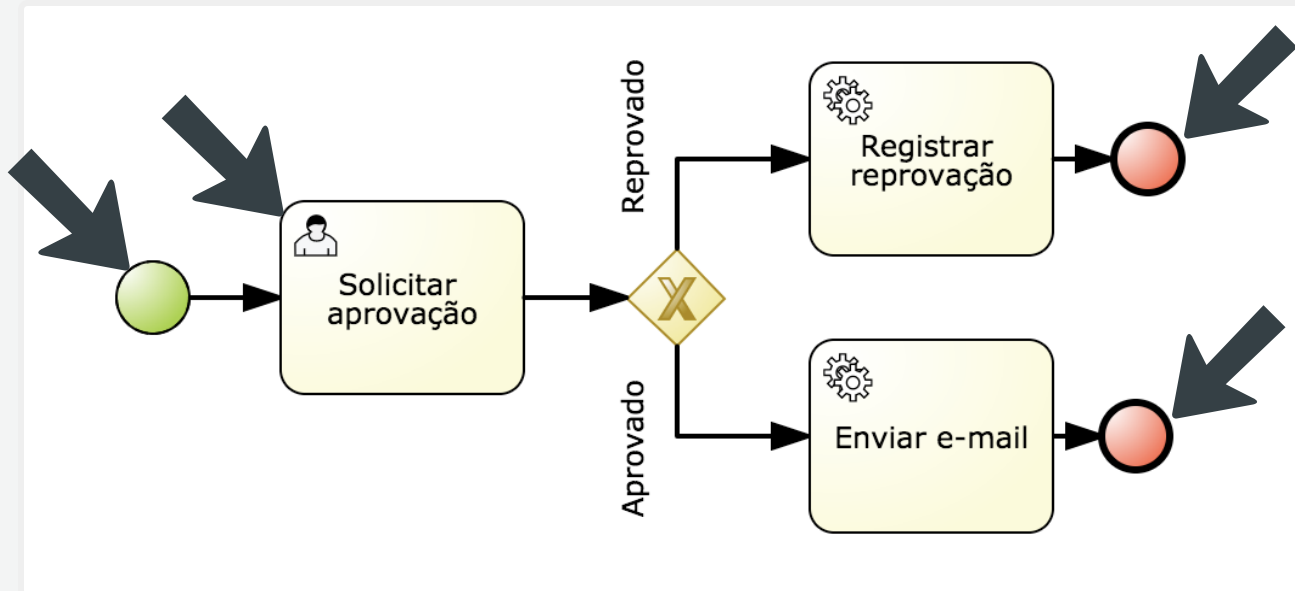
...THIS IS A PROCESS



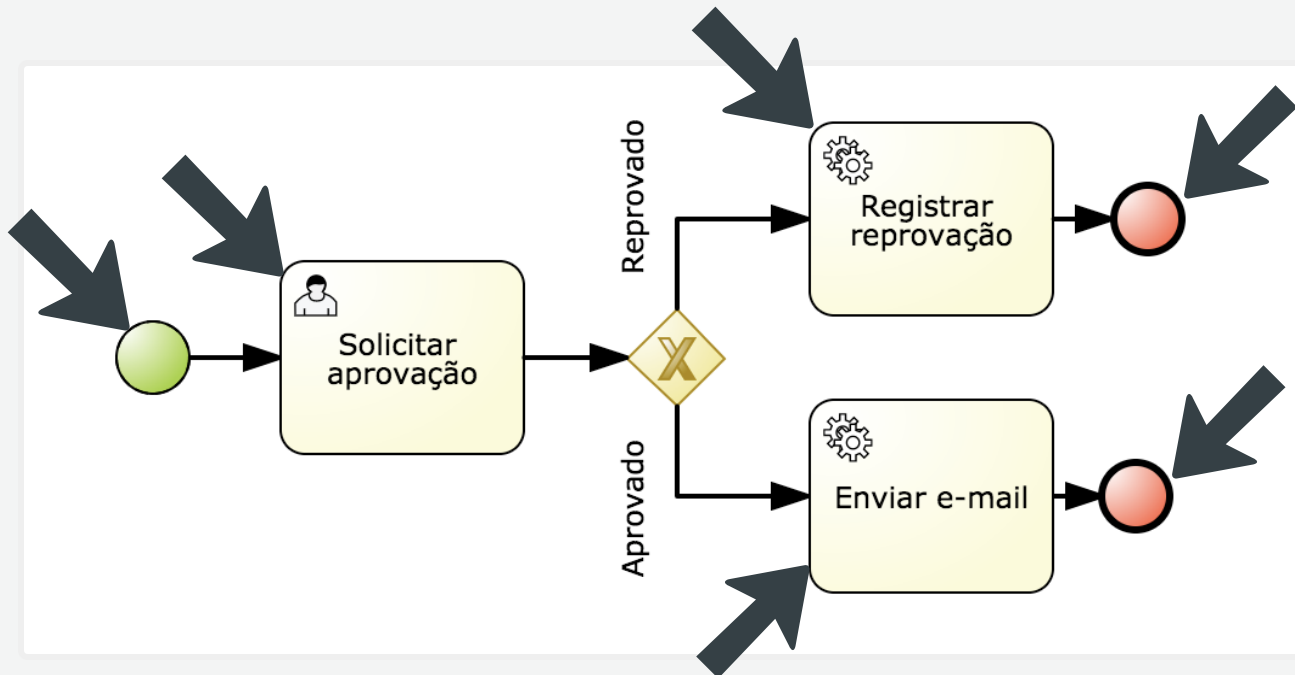
...THIS IS A PROCESS



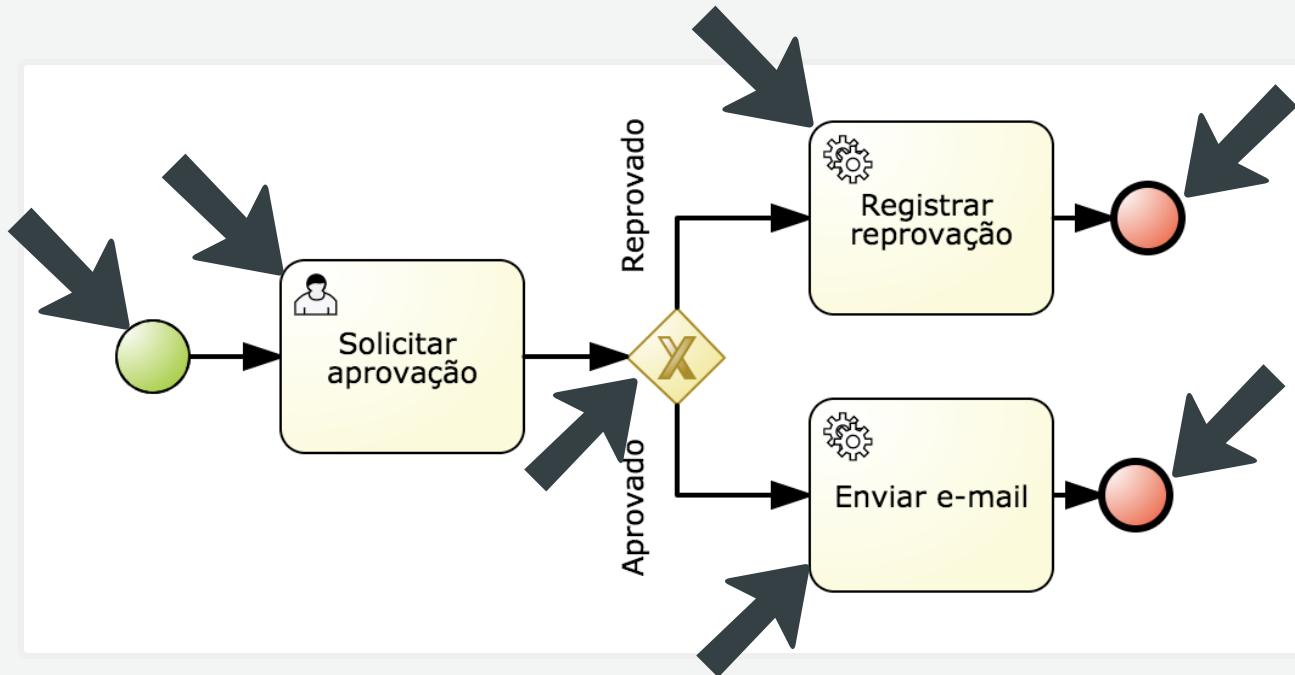
...THIS IS A PROCESS



...THIS IS A PROCESS

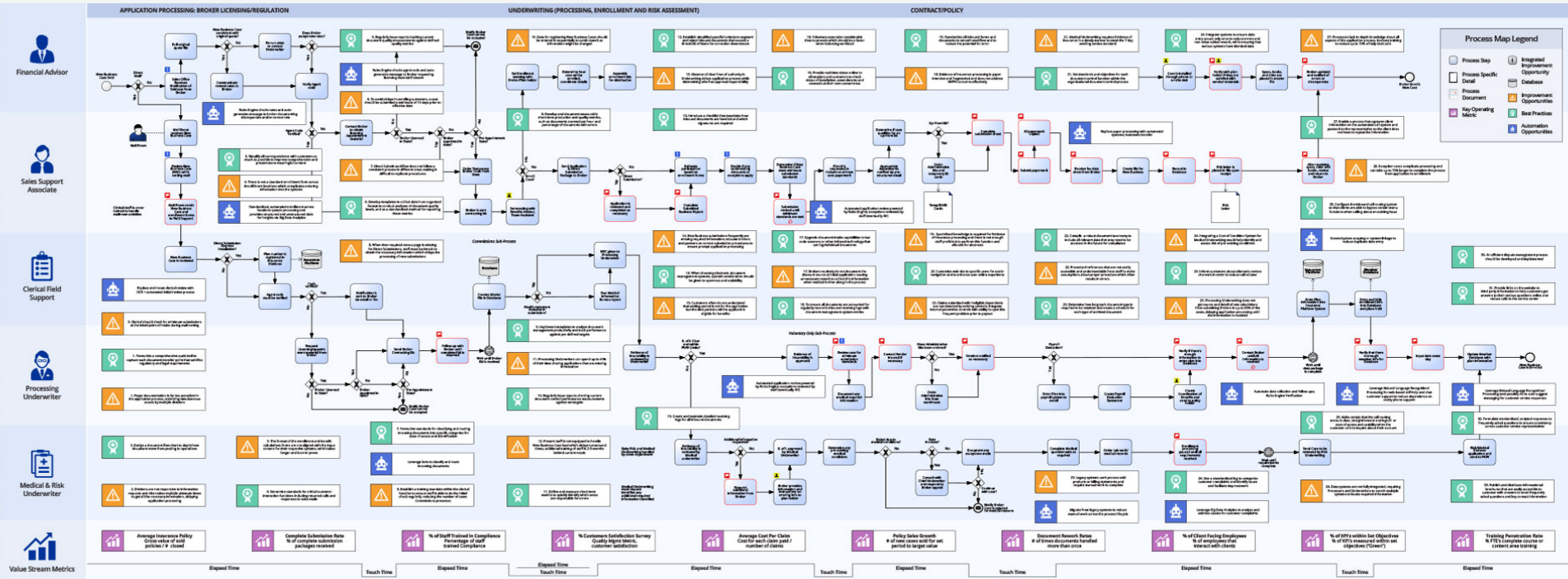


...THIS IS A PROCESS



... THIS IS ALSO A PROCESS

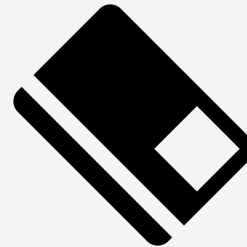
(Insurance process in BPMN2 Notation)



*source: https://processreopt.com/wp-content/uploads/2017/12/map_insnb_rpa1.jpg

IF CAN YOU **BREAK** IT INTO
SMALLER PIECES

...THEN IT IS A **PROCESS!**







THE SHIFT OF APPLICATION DEVELOPMENT

THEN:

(Monolithic)
Application



Code



IDE



Developer

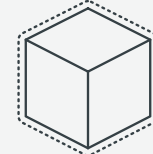


NOW:

Microservices
Application



Containers



Models



Business
modeling tool



Dev

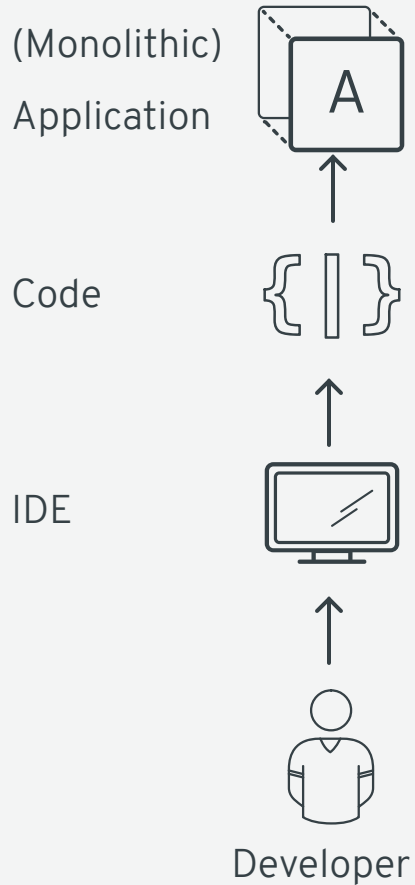


Ops



THE SHIFT OF APPLICATION DEVELOPMENT

THEN:



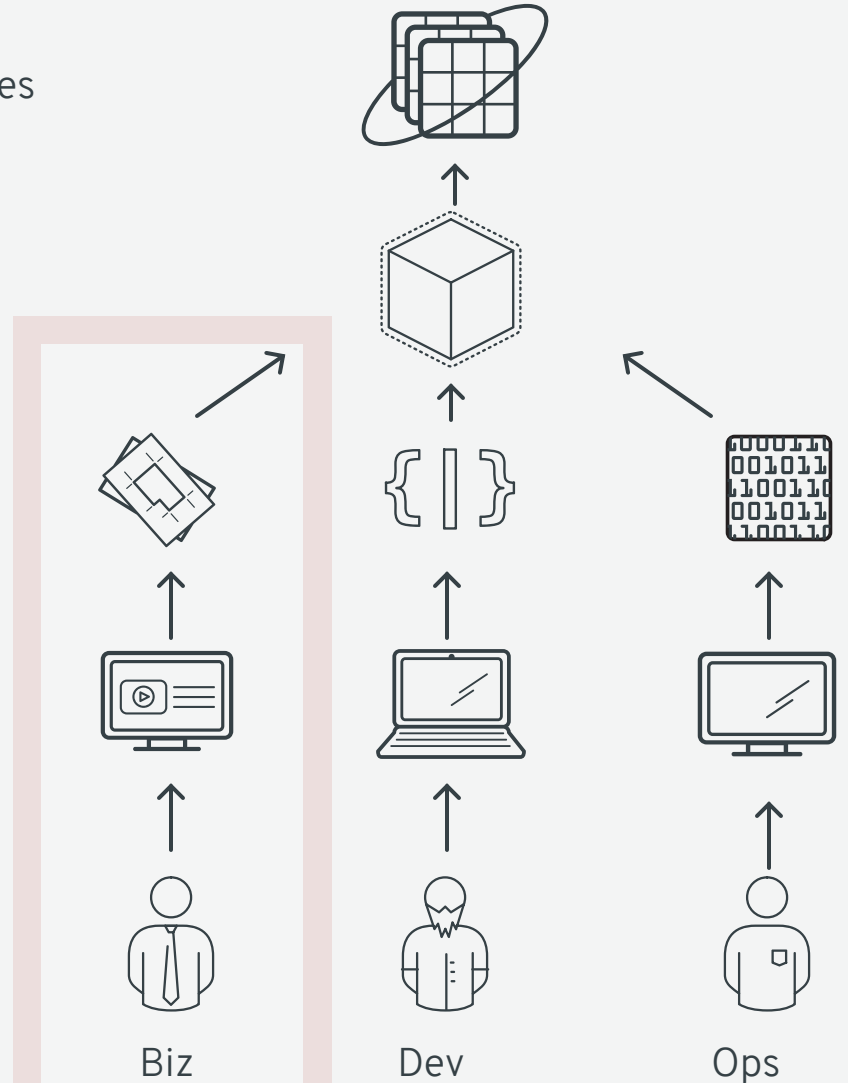
NOW:

Microservices Application

Containers

Models

Business modeling tool



**HOW DOES IT FIT OUR
REAL-WORLD
ARCHITECTURE?**

BPM is evolving

...from a **centralized**,
service **orchestration** and
state management platform

CENTRALIZED BPM

Omni-Channel App



Case Management App



Internal App



Business Central



Text



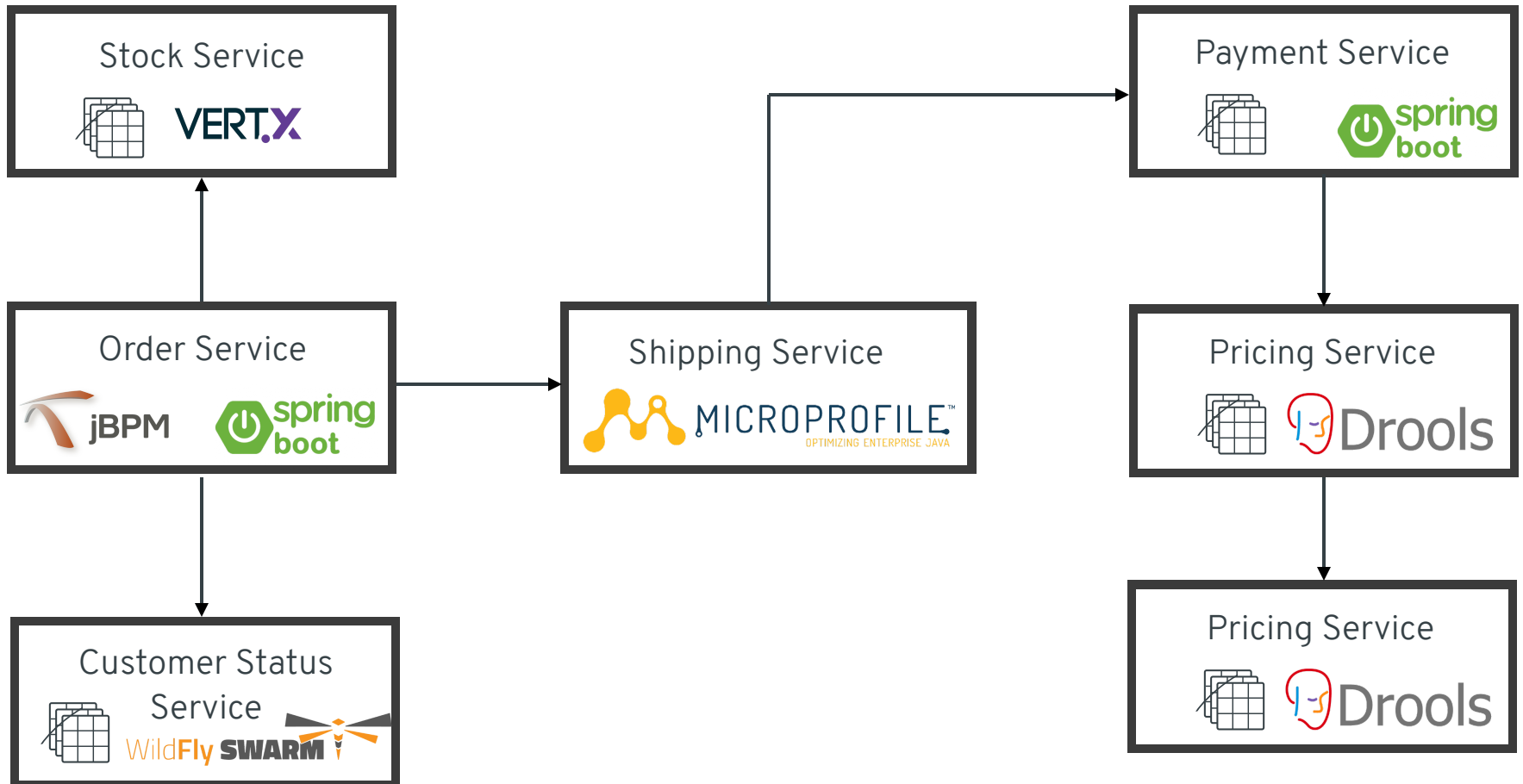
Controller



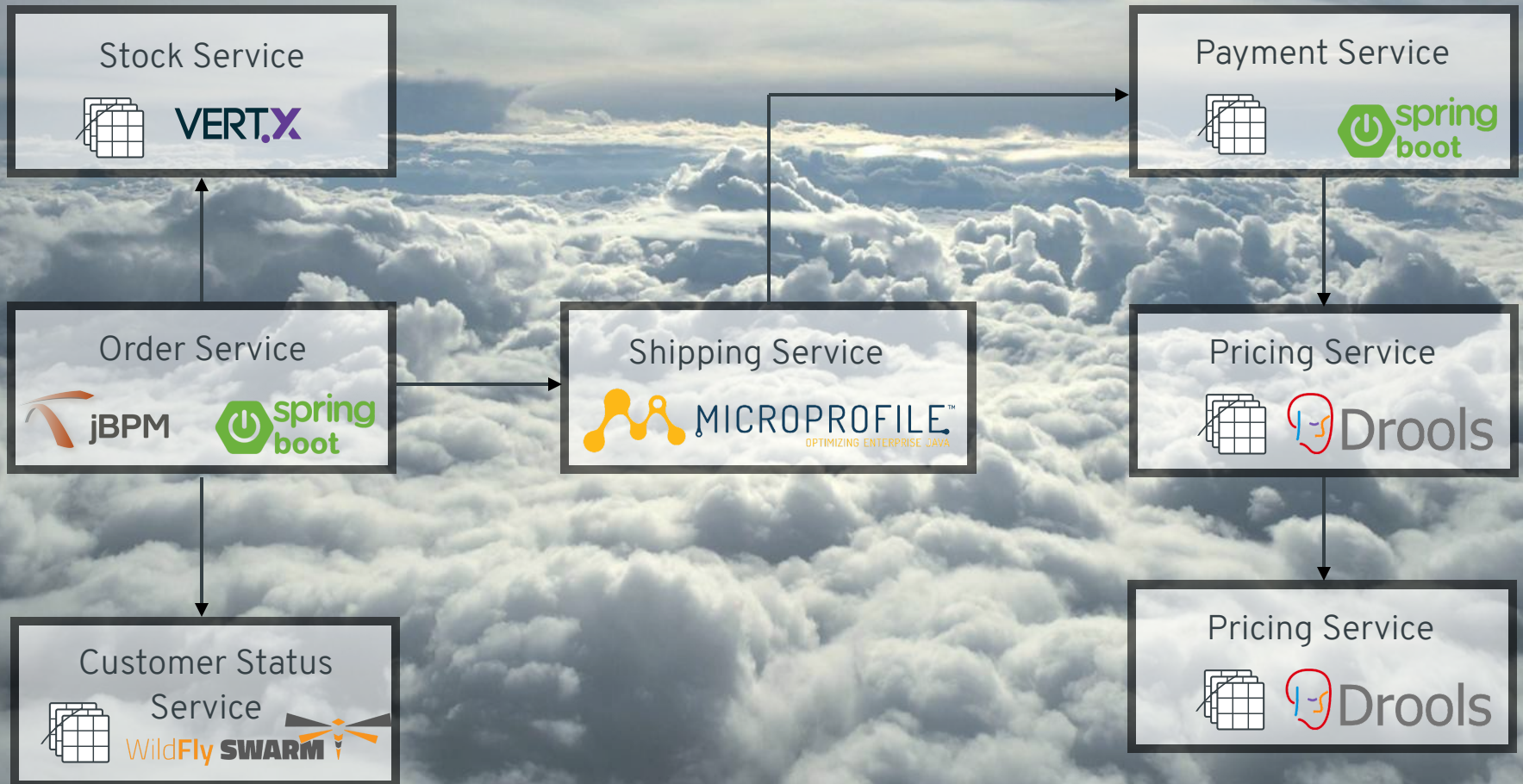
...to **decentralized,**
distributed model,

providing process automation capabilities as an
implicit feature of Microservices architectures.

DECENTRALIZED BPM



DECENTRALIZED BPM



KEY CHARACTERISTICS OF PROCESS-DRIVEN APPLICATIONS

Business Characteristics



Customer-centric



Intelligent



Omni-channel

Technology Characteristics



Distributed



Integrated



Cloud native

**LET'S ORDER A
PIZZA**



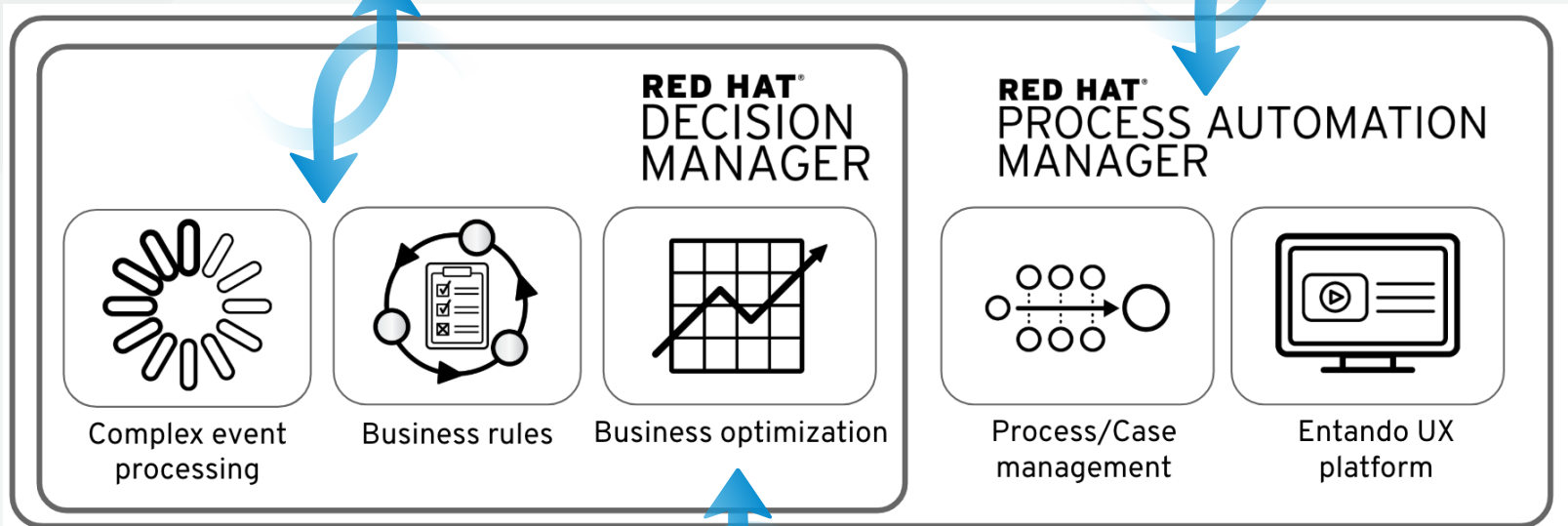
LET'S ORDER A PIZZA

Process: <https://github.com/kmacedovarela/jbpm-processes-pizzapizza>

Rules: <https://github.com/kmacedovarela/jbpm-rules-pizzapizza>

Scripts: <https://github.com/kmacedovarela/dialogflow-nodejs-pizzapizza>

RUNNING PROCESS-DRIVEN APPLICATIONS



UNDER THE COVERS



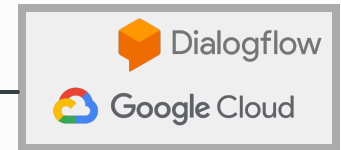
code repo



Business Central
(authoring & monitoring)

Order Service API

Order Service



google action

maven package
(kjar)

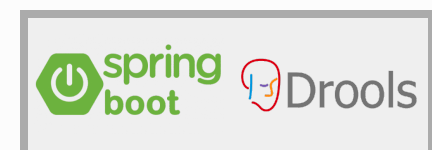
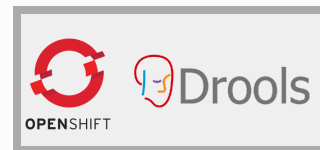
REST

Kie Controller

Process Server

Decision Server

Decision Server



Execution Servers

Deploy & Manage





**HOW CAN I DO
SOMETHING LIKE IT?**



DISCOVER



ARCHITECT

```
static function day_List() {
    $return = array();
    $result = mysql::query("SELECT * FROM image_date ORDER BY shot_date DESC");
    while( $day = mysql::fetch($result)) {
        $shots_result = array();
        $shots_result = mysql::query("SELECT DISTINCT(studio) as studio, COUNT(*) as count FROM image WHERE day_id = '$day->id' AND enabled='y' GROUP BY studio");
        while($studio_list = mysql::fetch($shots_result)) {
            $day_info = metadata::day_info($day->shot_date, $studio_list->studio, "quick");
            $tmp_studio_list[] = array("studio" => $studio_list->studio, "count" => $studio_list->count, "title" => $day_info->title);
        }
        $day->studio_list = $tmp_studio_list;
        $return[$day->shot_date] = $day;
    }
}

return $return;
}
```

```
static function day_images_list($date, $studio) {
    global $global_studio_list;
    if(!in_array($studio, $global_studio_list)) die("error studio");
    $date = mysql::escape($date);
    if(mysql::count("image_date", "shot_date = '$date' AND studio = '$studio'") < 1) die("date not found");
    $studio = intval($studio);

    $return = array();

    $result = mysql::query("SELECT image.id as image_id FROM image, image_date WHERE image_date.id=image.day_id AND image_date.shot_date='$date' AND image.enabled='y' AND image.studio='$studio'");
    while($image = mysql::fetch($result)) {
        $image->copyright = metadata::get_copyright($image->image_id);
        $image->models = metadata::get_models($image->image_id);
        $return[$image->image_id] = $image;
    }
}
```

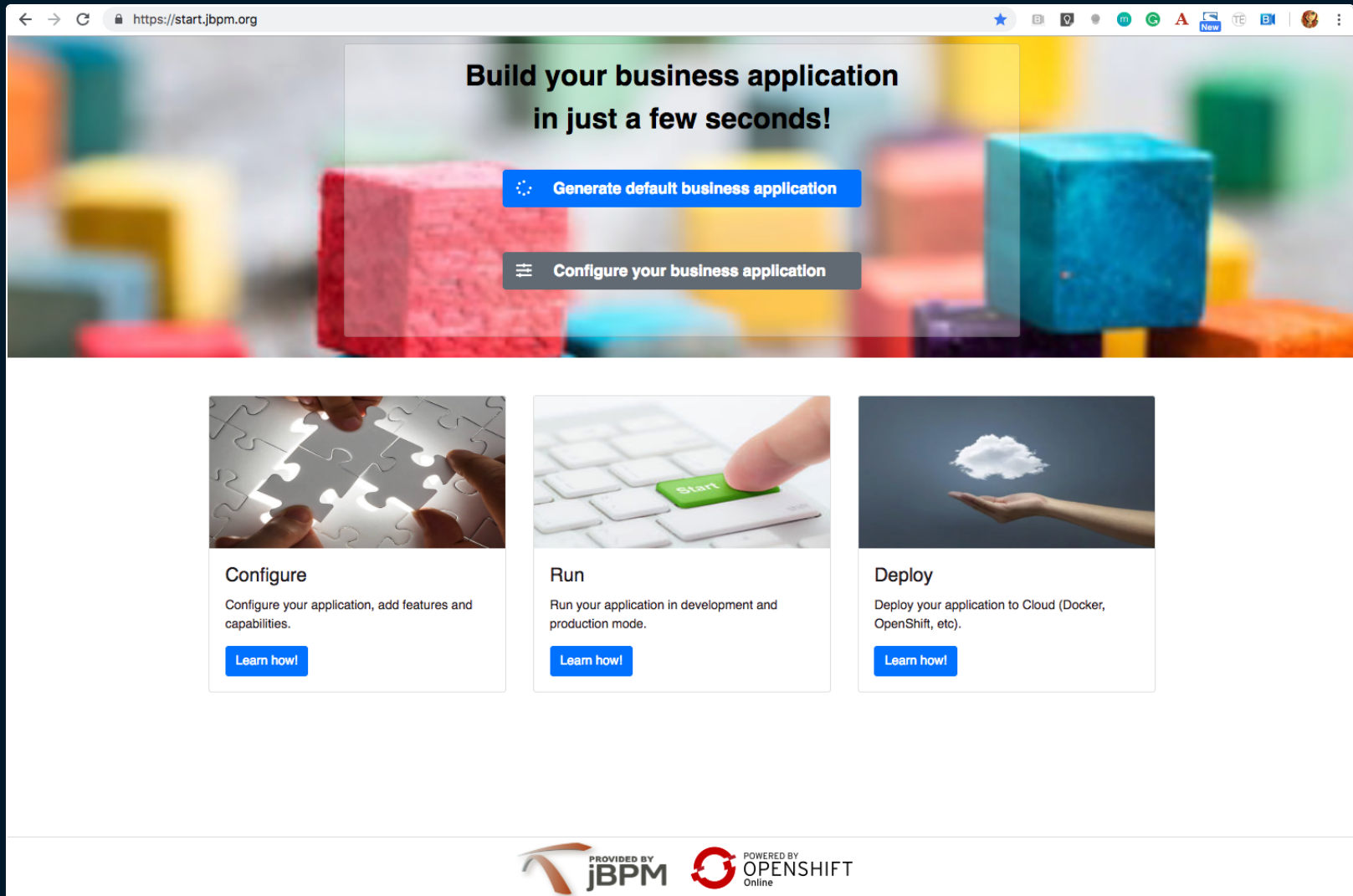
{ | } CODE!

1273
1274
1275
1276
1277
1278
1279



A STARTING POINT...

HTTP://START.JBPM.ORG



The screenshot shows a web browser window with the URL <https://start.jbpm.org>. The main heading reads "Build your business application in just a few seconds!". Below this are two primary buttons: "Generate default business application" (with a circular refresh icon) and "Configure your business application" (with a hamburger menu icon). The page is divided into three columns, each representing a step in the process:

- Configure:** Accompanied by an image of hands placing puzzle pieces. Description: "Configure your application, add features and capabilities." Includes a "Learn how!" button.
- Run:** Accompanied by an image of a finger pressing a green "Start" button on a keyboard. Description: "Run your application in development and production mode." Includes a "Learn how!" button.
- Deploy:** Accompanied by an image of a hand holding a cloud. Description: "Deploy your application to Cloud (Docker, OpenShift, etc)." Includes a "Learn how!" button.

At the bottom, the page is powered by **jbpm** (Provided by) and **OPENSIFT Online** (Powered by).

A STARTING POINT...

HTTP://START.JBPM.ORG

The screenshot shows a web browser window at <https://start.jbpm.org>. The main heading reads "Build your business application in just a few seconds!". Below this, there are two primary actions: "Generate default business application" (a blue button with a refresh icon) and "Configure your business application" (a grey button with a menu icon). The configuration section includes three input fields: "Package Name" (containing "com.kvarela"), "Application Name" (containing "tdc-business-application"), and "Version" (a dropdown menu set to "7.14.0.Final"). A "Next" button is positioned below these fields. At the bottom, a progress bar shows four steps: "Step 1: Application Type" (active, green), "Step 2: Application Info" (current step, blue), "Step 3: Application Components" (grey), and "Step 4: Launch your Application" (grey). The footer contains logos for "jBPM" (provided by) and "OPENSIFT Online" (powered by).

Build your business application
in just a few seconds!

Generate default business application

Configure your business application

Package Name
com.kvarela

Application Name
tdc-business-application

Version
7.14.0.Final

Next

Step 1: Application Type

Step 2: Application Info

Step 3: Application Components

Step 4: Launch your Application

PROVIDED BY jBPM

POWERED BY OPENSIFT Online

A STARTING POINT...

HTTP://START.JBPM.ORG

Build your business application
in just a few seconds!

Generate default business application

Configure your business application

Business Assets

Dynamic Assets

Data model

Service

Generate business application

Step 1: Application Type

Step 2: Application Info

Step 3: Application Components

Step 4: Launch your Application

PROVIDED BY jBPM

POWERED BY OPENSIFT Online

A STARTING POINT...

```
$ unzip tdc-business-application.zip | tdc-business-application-kjar  
                                     tdc-business-application-model  
                                     tdc-business-application-service  
  
$ cd tdc-business-application-service  
  
$ launch.sh clean install
```

```
[INFO] -----  
[INFO] BUILD SUCCESS  
[INFO] -----  
[INFO] Total time: 15,515 s  
[INFO] Finished at: 2018-11-18T19:55:45-02:00  
[INFO] Final Memory: 117M/707M  
[INFO] -----  
  
Total build time: 45s  
Launching the application locally...  
  
tdc-business-application-service :: v.1.0-SNAPSHOT
```

A STARTING POINT...

```
$ unzip tdc-business-application.zip | tdc-business-application-kjar  
                                     tdc-business-application-model  
                                     tdc-business-application-service  
  
$ cd tdc-business-application-service  
  
$ launch.sh clean install
```

```
[INFO] -----  
[INFO] BUILD SUCCESS  
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Total build time: 45s  
Launching the application locally...  
  
tdc-business-application-service :: v.1.0-SNAPSHOT
```

EXAMPLES

[HTTPS://GITHUB.COM/BUSINESS-APPLICATIONS](https://github.com/business-applications)

The screenshot shows the GitHub repository page for 'Business Applications by jBPM'. The repository description states: 'Set of example business applications build with jBPM. Get started with your business application at <http://start.jbpm.org>'. The repository URL is <https://start.jbpm.org>. The page displays 12 repositories, 0 people, and 0 projects. A search bar is available with filters for 'Type: All' and 'Language: All'. The repository list includes:

- 07-tutorial-dynamic-assets-business-application**: Tutorial source code for Business Application with Dynamic Assets (Cases). Language: Shell. Updated 19 days ago.
- 06-jms-business-application**: Tutorial source code for Business Application with JMS. Language: Shell. Updated 21 days ago.
- sample-websocket-terminal**: This is a demo business application built with <https://start.jbpm.org> and expanded to create a process-driven websocket terminal. Language: Java. 1 fork. Updated 23 days ago.
- 05-tutorial-elasticsearch-business-application**: Tutorial source code for Business Application with ElasticSearch.

On the right side, the 'Top languages' section shows: Shell, Java, Visual Basic, HTML, and JavaScript. The 'People' section states: 'This organization has no public members. You must be a member to see who is part of this organization.'

IMPLEMENT YOUR RULES AND PROCESSES

RED HAT JBOSS BPM SUITE

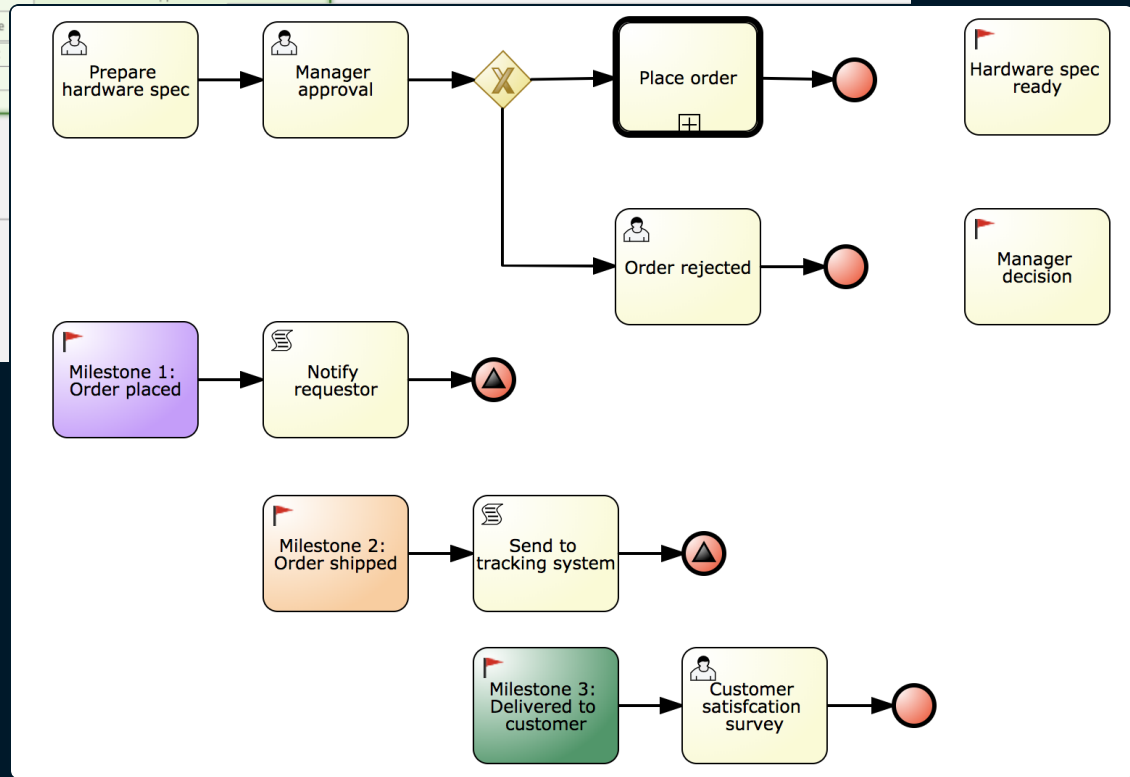
Teams > myteam > mortgages > Pricing loans

Pricing loans.gdst - Guided Decision Tables

Editor Overview Source Data Objects

Add Column Edit Columns

#	Description	application : LoanApplication			ome : IncomeSou	application
		amount min	amount max	period	deposit max	Income
1		131000	200000		20000	Asset
2		10000	100000	20	2000	job
3		100001	130000	20	3000	job



CODE CLIENT APPLICATIONS



RED HAT® JBOSS®
FUSE
For OpenShift

RED HAT® JBOSS®
DATA GRID
for xPaaS



RED HAT® JBOSS®
ENTERPRISE
APPLICATION PLATFORM



...



DEPLOY

THINGS TO REMEMBER





QUESTIONS?

GET IN TOUCH



@kahn_macedo



karina@redhat.com



#jbpm on chat.freenode.net



2078-4944-4519



redhat.®

THANK YOU!