

# Open Source Process Automation

## GETTING STARTED

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# AGENDA

- ❑ What is jBPM?
- ❑ BPM Labs Intro
- ❑ Business automation
- ❑ Architecture
- ❑ New project in Business Central
- ❑ Business assets
  - ❑ Data objects
  - ❑ Business processes
  - ❑ Forms
- ❑ Process administration
- ❑ Team collaboration

 **Process  
Automation  
Red Hat Manager**

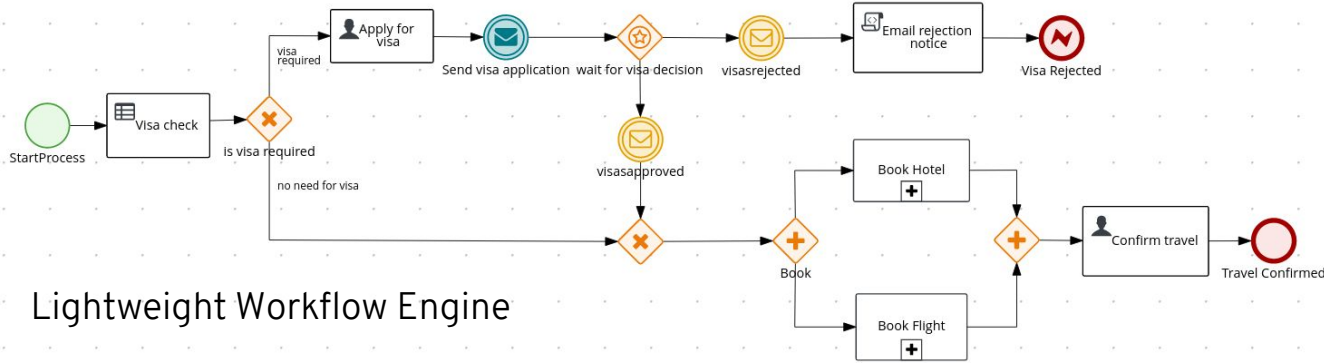


Business Central



OptaPlanner 

# WHAT IS jBPM?



Lightweight Workflow Engine

Modeling

Monitoring

Execution

Management



Properties

Process

Name  
travels

Documentation

ID  
travels

Package  
org.acme.travels

ProcessType  
Public

Version  
1.0

Ad-Hoc

Process Instance Description

Imports  
 No imports

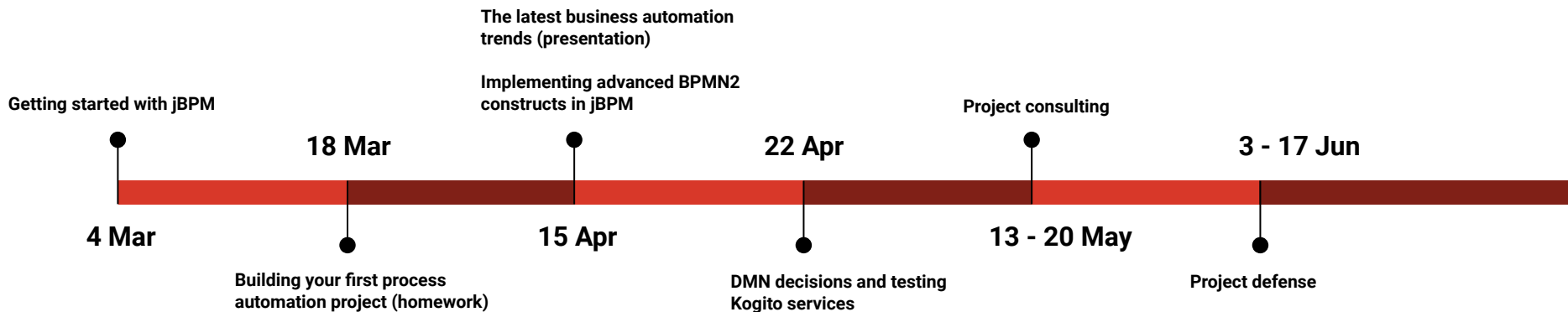
Executable

SLA Due Date

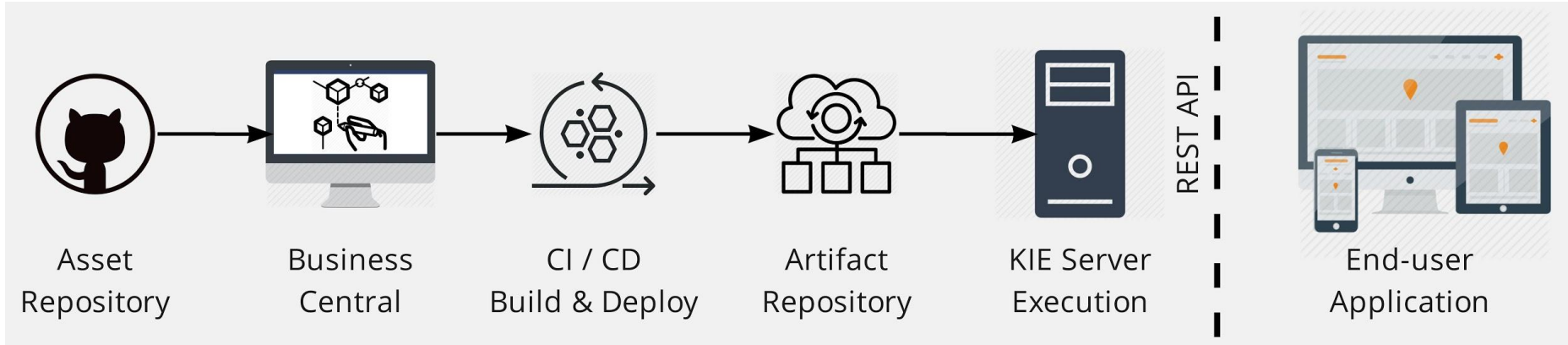
> Process Data

> Advanced

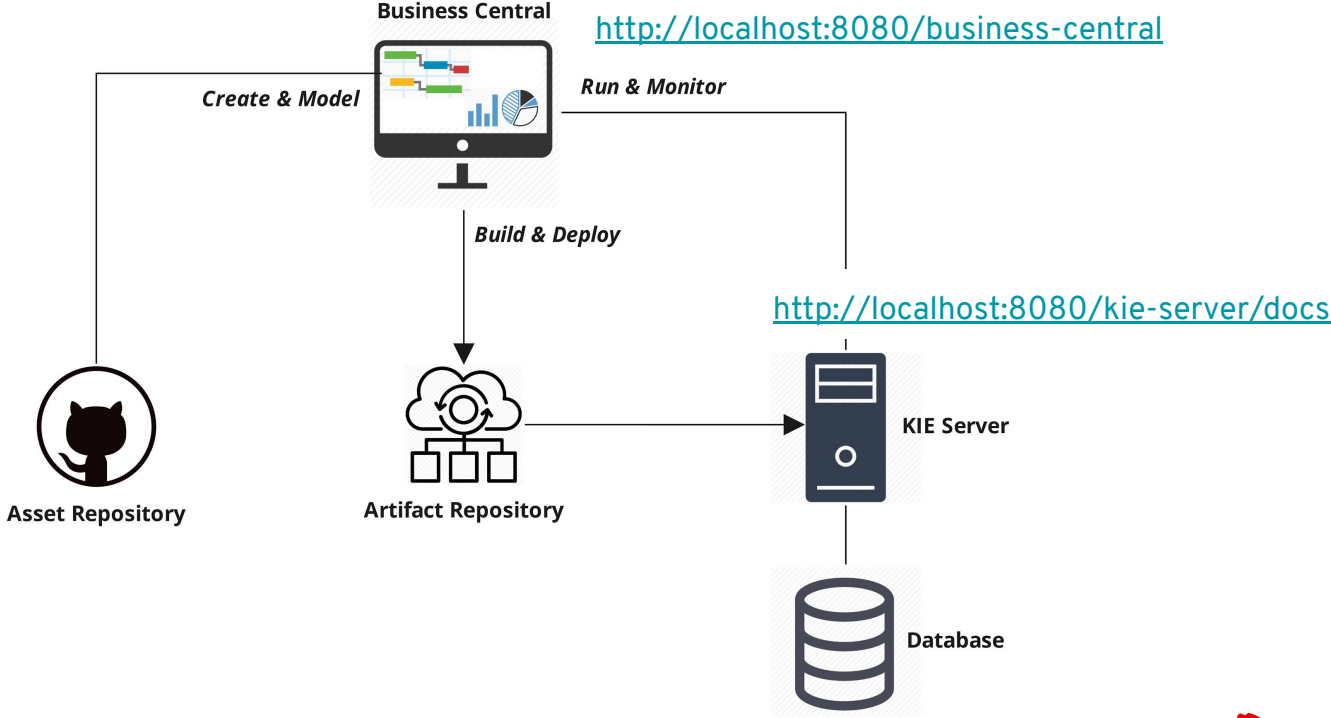
# jBPM LABS



# FROM A MODEL TO PRODUCTION



# MINIMAL VANILLA ARCHITECTURE



## SETUP - THE FIRST STEPS

- ❑ Download and install [OpenJDK 11](#) (*Oracle JDK 8 and 11 will work too if you have already installed them before*)
- ❑ Configure JAVA\_HOME environment variable
- ❑ Download and unzip the [single zip distribution](#)
- ❑ Run:

jbpm-server/bin/standalone.sh (Unix / Linux)

jbpm-server/bin/standalone.bat (Windows)

- ❑ Add users and groups
- ❑ Use H2/MySQL/PostgreSQL database (optional)
- ❑ More info in [Getting Started Guide](#)

# NEW PROJECT IN BUSINESS CENTRAL

- ❑ Based on Maven and stored in Asset repository (GIT)
- ❑ Try Samples
- ❑ SNAPSHOT development version
- ❑ Add assets
  - ❑ Data Object
  - ❑ Business Process
  - ❑ Form
  - ❑ DMN Model
  - ❑ Test Scenarios
- ❑ Build and Deploy

The screenshot shows the 'Add Project' dialog box in Business Central. The dialog has a title bar 'Add Project' with a close button 'x'. It contains a 'Name' field with the text 'MyFirstProject', a 'Description' field, and a 'Show Advanced Options' link. At the bottom right are 'Cancel' and 'Add' buttons. The background shows a 'Nothing Here' message and buttons for 'Add Project', 'Try Samples', and 'Import Project'.



# DATA MODELING

Spaces » myteam » MyFirstProject » Person

> Person.java - Data Objects Save Delete Rename Copy Validate Latest Version ▾ View Alerts ↕ ✕

Model Overview Source

Person + add field

Identifier	Label	Type	
name	Name	String	Delete
age	Age	Integer	Delete

'age'- general properties

Identifier

Label

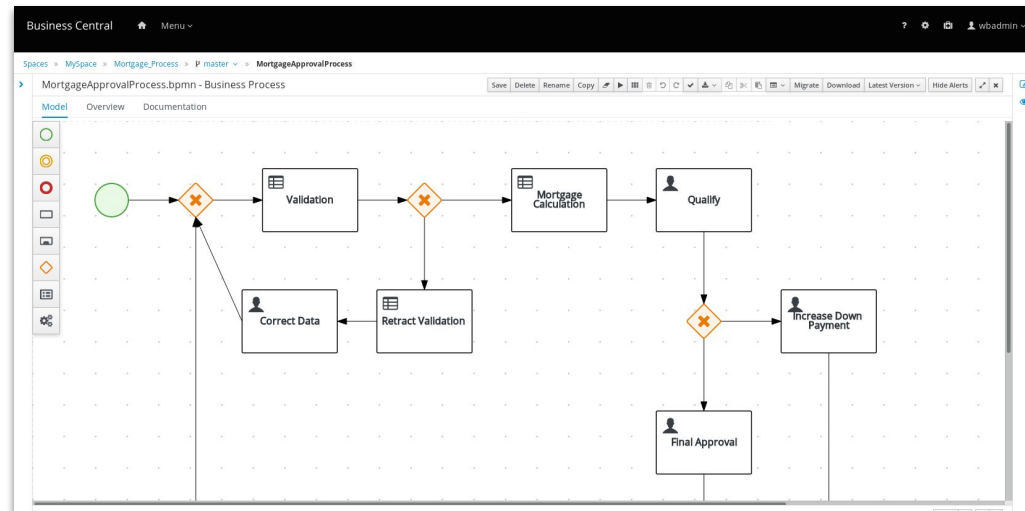
Description

Type

List

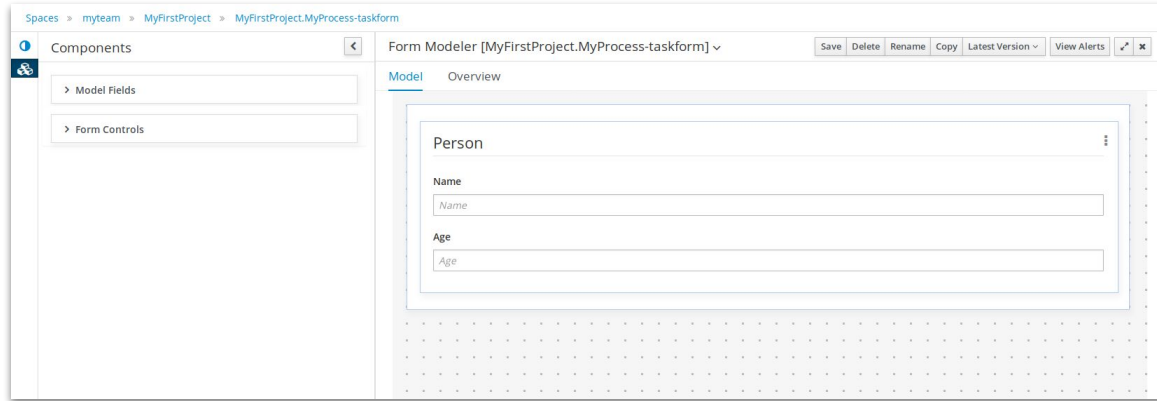
# PROCESS MODELING

- ❑ BPMN2 support
- ❑ Focus on execution semantics
- ❑ Data I/Os
- ❑ Human tasks
- ❑ Decisions and calculations
- ❑ External calls
- ❑ Catching and triggering events
- ❑ Form generating
- ❑ Export to PNG, PDF, SVG, BPMN2



# FORM MODELING

- ❑ Generate forms for
  - ❑ Data objects (reusable)
  - ❑ Process start form
  - ❑ Task form
- ❑ Widget library able to bind different types of data (TextBox, DatePickers, Checkboxes, ListBox, Nested Forms...)



# PROCESS ADMINISTRATION

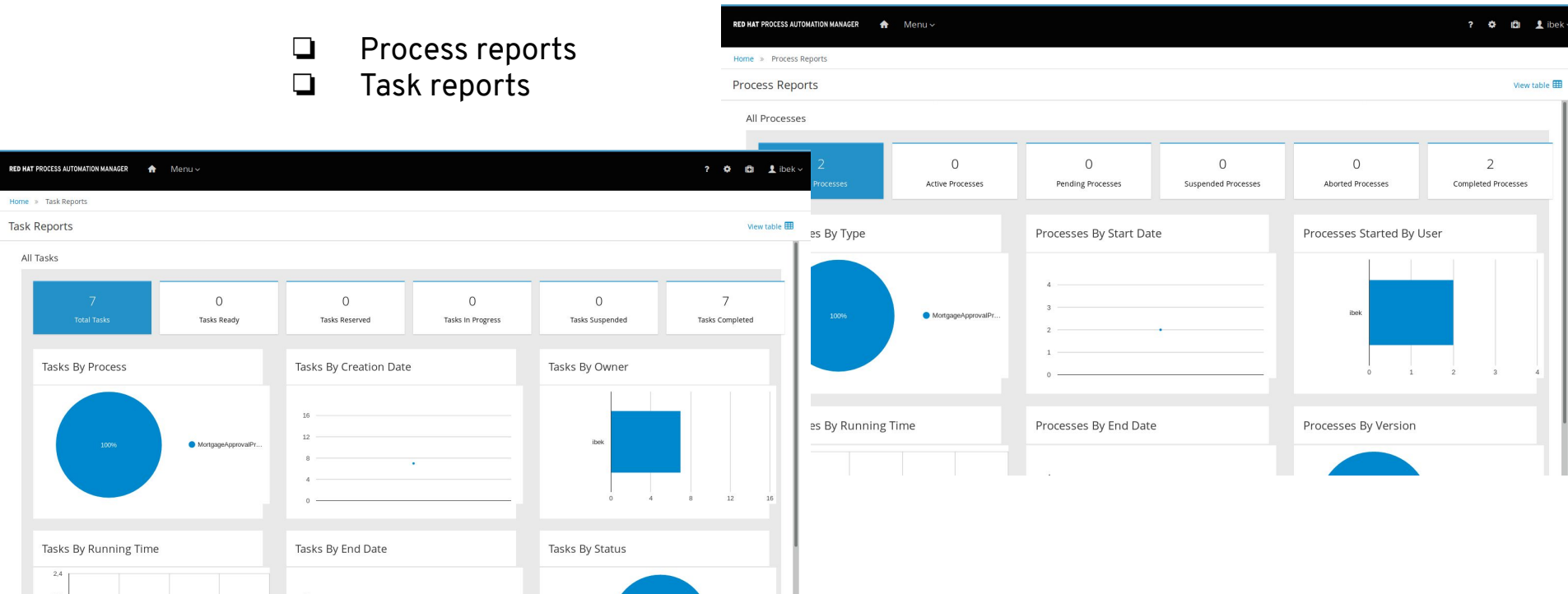
- Quick access to:
  - Process Definitions
  - Process Instances
  - Tasks
  - Execution errors
  - Jobs
- Filtering

The screenshot displays the 'Manage Process Instances' interface. On the left, a 'Filters' sidebar includes sections for 'State' (Active, Aborted, Completed, Pending, Suspended), 'Errors' (With errors, Without errors), and 'Filter By' (Id, Name, Start Date, Last update). The main area shows a table of process instances with columns for Id, Name, Description, Version, Last update, Errors, and Actions. The table contains two rows: one for 'Evaluation' (Id: 2) and one for 'Order for IT hardware' (Id: 1). The interface also includes a 'Bulk Actions' dropdown, a 'New Process Instance' button, and a pagination bar showing '10 Items' and '1-2 of 2'.

Id	Name	Description	Version	Last update	Errors	Actions
2	Evaluation	Evaluation	1	29-Mar-2018 12:58:57	0	⋮
1	Order for IT hardware	Order for IT hardware	1.0	29-Mar-2018 12:52:46	0	⋮

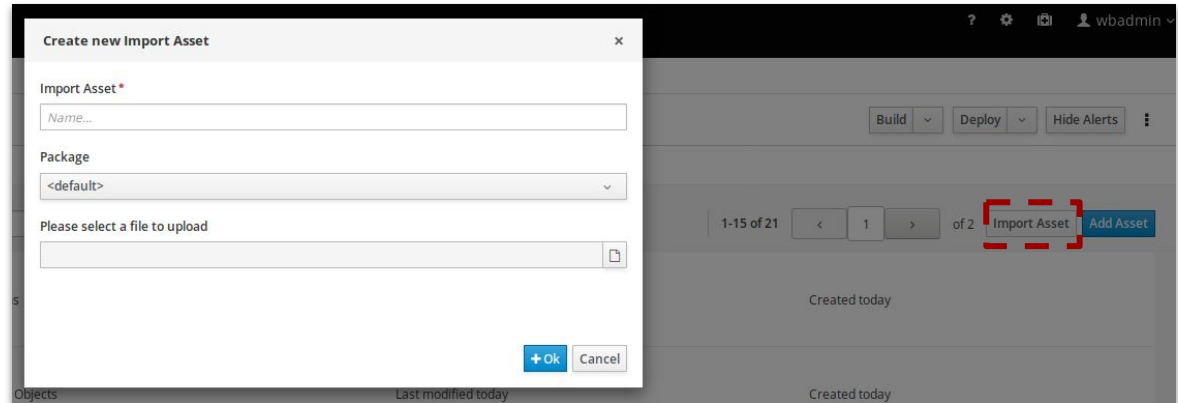
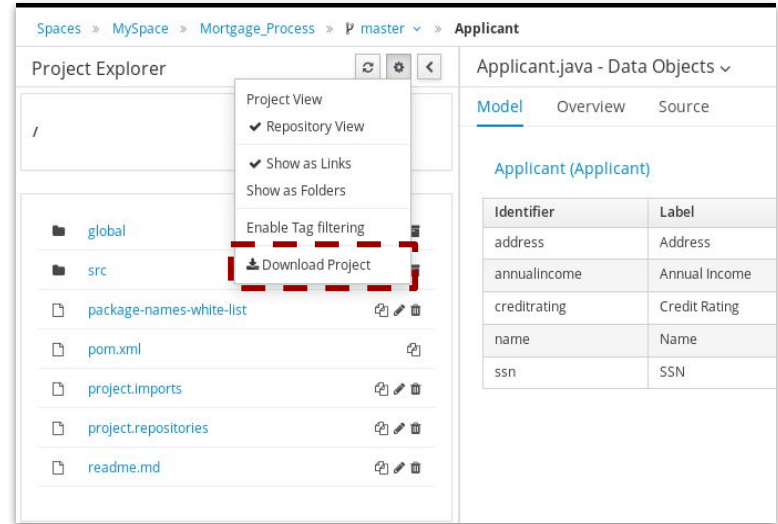
# PROCESS MONITORING

- Process reports
- Task reports



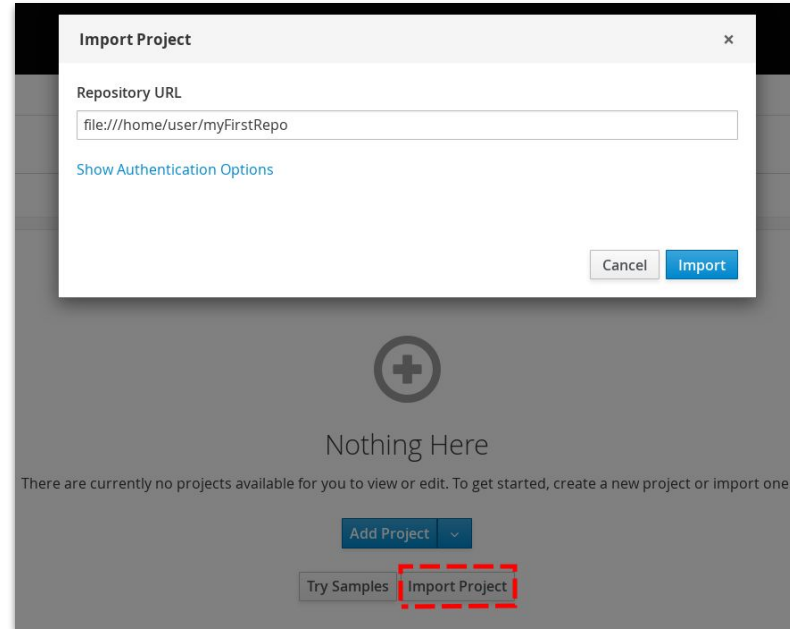
# TEAM COLLABORATION

- How to work on a project as a team without any complex setup of the infrastructure (git hooks, central git repository, ...)
- 1. Split the work between the team members
- 2. Export project
- 3. Share your assets with your team
- 4. Import assets to your local instance



# TEAM COLLABORATION VIA GIT

- ❑ Requires only basic Git skills
- ❑ Pull your business assets from Business Central
  1. `git remote add business-central ssh://wbadmin@localhost:8001/MySpace/<projectName>`
  2. `git pull business-central master`
  3. `password wbadmin`
- ❑ Push your business assets for example to GitHub
  1. `git push github master`
- ❑ Import your business assets to another Business Central either by pushing to it or by cloning whole repository from UI



## BONUS: EASY ACCESS TO BPMN EDITORS

- ❑ [Red Hat Business Automation Bundle](#) Visual Studio Code extension
- ❑ [bpmn.new](#) website



# THANK YOU



[linkedin.com/company/red-hat](https://www.linkedin.com/company/red-hat)



[youtube.com/user/RedHatVideos](https://www.youtube.com/user/RedHatVideos)



[facebook.com/redhatinc](https://www.facebook.com/redhatinc)



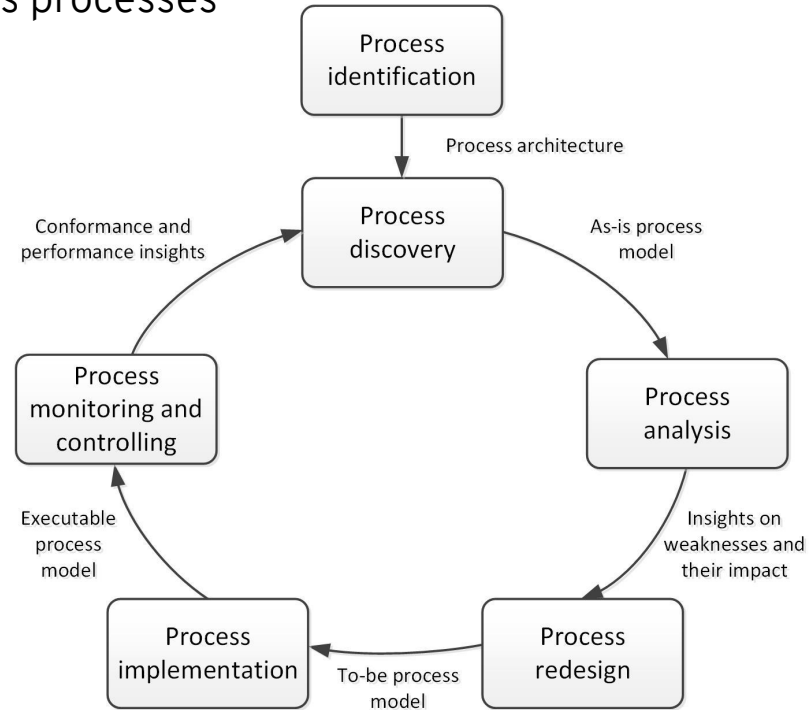
[twitter.com/RedHat](https://twitter.com/RedHat)

# BUSINESS PROCESS MANAGEMENT

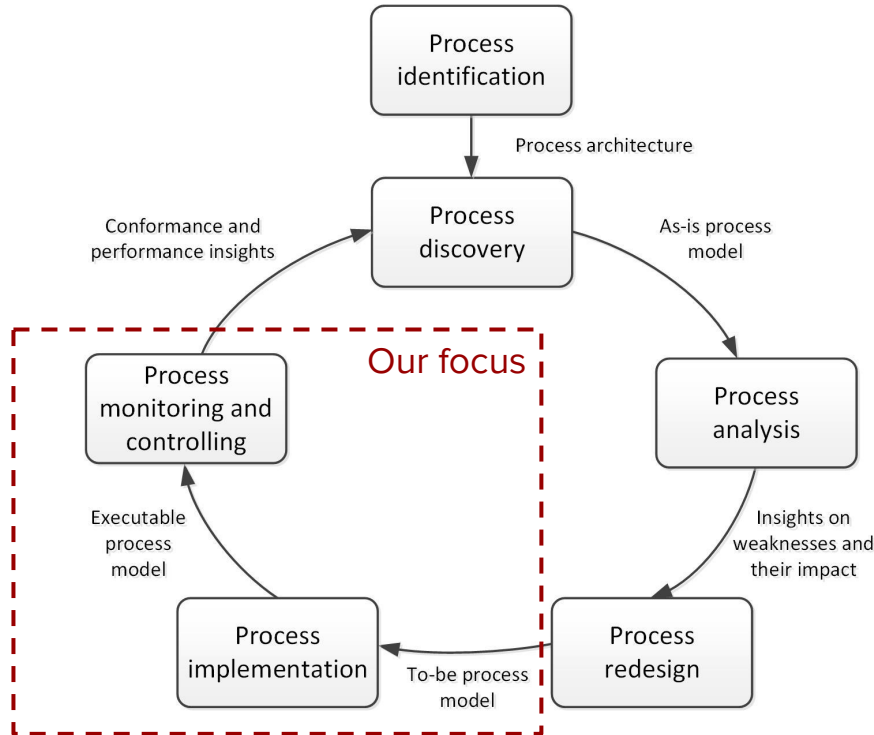
the way a company manages and improves business processes

“A business process is a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer. A business process has a goal and is affected by events occurring in the external world or in other processes.” Hammer, M. and Champy, J.

- approval process
- payment process
- employee onboarding
- loan/mortgage application
- Manufacturing / assembly line
- service requests
- rent car process
- vacation approval
- media publish process



# RETURN ON INVESTMENTS (ROI)

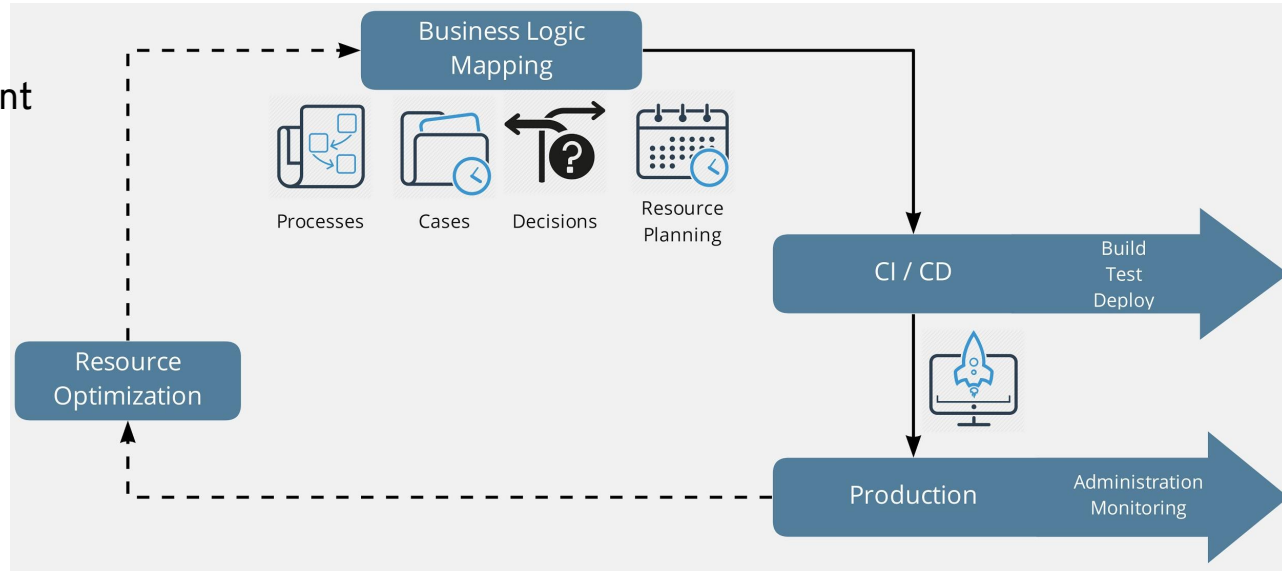


Frequency  
Size and complexity  
Diversity (actors, systems, rules)  
Speed (SLAs)

Time (spent on a single manual task) x  
Frequency (of performing a task per month) x  
Cost (per hour) x 12 (months) = **Yearly Savings**

# BUSINESS AUTOMATION

- ❑ BPM
- ❑ Decision Management
- ❑ Case Management
- ❑ Resource Planning
- ❑ Robotic Process Automation (RPA)
- ❑ AI, XAI, and Machine Learning



See BPM in context