## jBPM Work Items and Timers

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## TOPICS COVERED

- Work Item Handlers
  - What is a Work Item (WI)?
  - Work Item Handler (WIH) installation
  - Example #1 Email WIH configuration
  - Example #2 REST WIH configuration
- ☐ Timer nodes
  - Start, Catch intermediate
  - Boundary intermediate
  - Example #3 Timer nodes



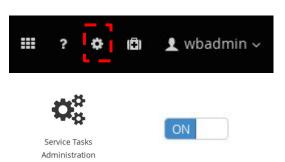
#### **WORK ITEM**

- Work Item is an implementation of a domain-specific service (REST call to an external service, email, integration with Google, Dropbox...).
- ☐ In other words it is "a piece of work that needs to be done" as a part of a business process.
- ☐ Work Items are executed using Work Item Handlers which are pluggable into the jBPM (Java classes implementing a Work Item Handler interface).
  - Anybody can implement its own WIH in case it doesn't yet exist.
- WIH "tells" the jBPM engine how to handle the process node with a particular work item, i.e. how to send an email, call a REST service, upload a file to Dropbox…
- ☐ Plenty of Work Items available in <u>iBPM Work Items repository</u> (already preinstalled in jBPM).



## WORK ITEMS INSTALLATION

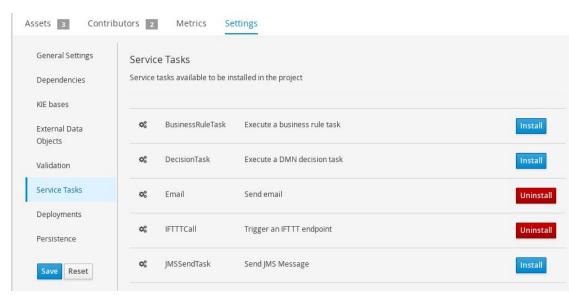
- ☐ First, you have to enable work item for whole Business Central.
  - ☐ Click on the wheel in the upper right corner.
  - □ Select Service Tasks Administration.
    - ☐ Enable the service task you want.
- Some work items are enabled and available by default:
  - BusinessRuleTask
  - DecisionTask
  - ☐ Email
  - ☐ JMSSendTask
  - □ Rest
  - ServiceTask
  - WebService





## **WORK ITEMS INSTALLATION**

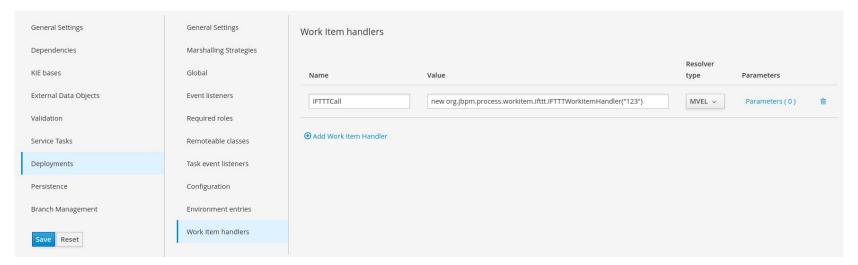
- Now you can install it to your project.
  - ☐ In project **Settings/Service Tasks**, click on Install button.
  - Fill in needed parameters, they vary with each work item.





## **WORK ITEMS INSTALLATION**

- ☐ You should see your work item handler declared in **Settings/Deployments/Work Item Handlers.** 
  - ☐ If it is not there, press the **Reset** button to refresh the user interface
  - Don't press the Save button before you can see Work Item Handler as on the picture





## Example #1: EMAIL WORK ITEM CONFIGURATION

- Configuration for GMail:
  new org.jbpm.process.workitem.email.EmailWorkItemHandler("smtp.gmail.com", "587", "testMail@gmail.com", "testPassword", "true")
  - Don't forget the last parameter "true". This will instruct Business Central to use secure TLS connection, which is needed for GMail.
  - In GMail account, don't forget to <u>enable access for less secure apps</u>.
- Configuration for MailSlurper:
  - ☐ Change **wwwPort** to **8180** in config.json (or any other available port on your system) so it doesn't clash with Business Central 8080 port
  - ☐ Create <u>credentials</u>
  - new org.jbpm.process.workitem.email.EmailWorkItemHandler("localhost", "2500", "user", "password")



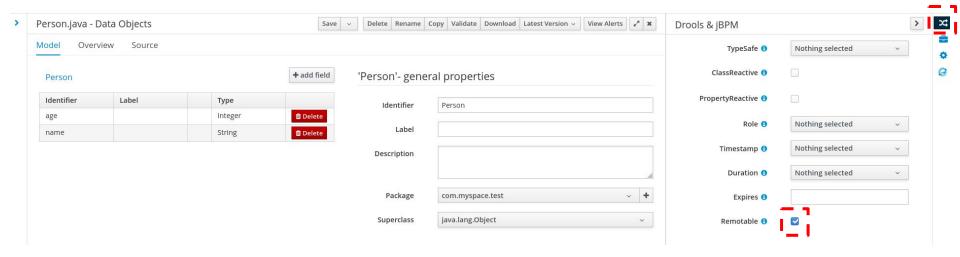
## Example #2: REST WORK ITEM CONFIGURATION

- Configuration:
  - new org.jbpm.process.workitem.rest.RESTWorkItemHandler("user", "password", classLoader)
  - User and password can be empty, i.e. "", if no authentication is needed
  - classLoader is a special variable needed for jBPM to see our domain object, i.e. Person
  - If you need other options, please have a look at the <u>source code</u> and choose the appropriate constructor for your needs



## Example #2: REST WORK ITEM CONFIGURATION

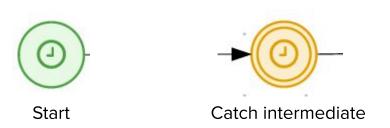
You need your domain object, i.e. Person, to be remotable - able to be marshalled/unmarshalled to/from JSON/XML

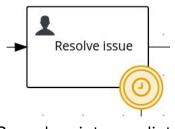




#### **TIMERS**

- Timer nodes are useful for situations when our domain relies on specific time events, durations or deadlines
  - ☐ We need to create a new process instance on a specific date or in specific intervals (Start)
  - A product is painted and paint needs to dry before moving onto another stage in a factory (Catch intermediate)
  - A task has to be completed in 24 hours, otherwise we need to escalate to a manager (Boundary intermediate)
- ☐ ISO8601 format for specifying time events





Boundary intermediate



# THANK YOU

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