jBPM Work Items and Timers

Mgr. Marián Macik, Senior Quality Engineer

April 2022

TOPICS COVERED
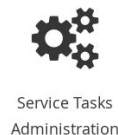
- ❏ Work Item Handlers
    - ❏ What is a Work Item (WI)?
    - ❏ Work Item Handler (WIH) installation
    - ❏ Example #1 - Email WIH configuration
    - ❏ Example #2 - REST WIH configuration

- ❏ 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 jBPM Work Items repository (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 enable access for less secure apps. - This will not work after May 30, 2022. Instead, turn on 2-factor authentication and use App Passwords as a password in your WIH configuration.
- ❏ 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
  - ❏ You can skip credentials creation, it's not needed
  - ❏ new org.jbpm.process.workitem.email.EmailWorkItemHandler(**"localhost"**, **"2500"**, **"user"**, **"password"**)

Red Hat

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 source code 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

Start   Catch intermediate   Boundary intermediate

THANK YOU

linkedin.com/company/red-hat

youtube.com/user/RedHatVideos

facebook.com/redhatinc

twitter.com/RedHat

Red Hat