

# New and notable in Drools 5

Michael Neale

[michael@michaelneale.net](mailto:michael@michaelneale.net)

[www.jboss.org/drools](http://www.jboss.org/drools)

# New web tools:


The screenshot displays a web-based interface for Business Rule Management System (BRMS). On the left is a navigation pane titled "Navigate BRMS" with a search icon and a minus sign. It contains a "Rules" section with a "Create New" dropdown and a tree view. The tree view shows a hierarchy: "Rules" (expanded) contains "Find", "States", and "Categories". "Categories" is further expanded to show "HR", "Leave", "Training", "Sales", "Manufacturing", and "Finance". Below the tree are buttons for "Packages", "Deployment", "Administration", and "QA".

On the right is a main content area with two tabs: "Find" and "State: Draft". Below the tabs is a status bar that says "Showing item #1 to 3 of 3 items. Refresh". A table lists three items, all in "Draft" status and last modified on "Feb 21, 2008".

Name	Last modified	Status
<b>DomainModel</b> This is the business object model	Feb 21, 2008	Draft
<b>Fibreglass supplier selection</b> This defines XXX.	Feb 21, 2008	Draft
<b>Recommended wax</b> This defines XXX.	Feb 21, 2008	Draft


# Integrated testing


Find × Scenarios for com.billasurf.manufacturing.plant ×

 **Scenarios for package:** com.billasurf.manufacturing.plant  
[Run all scenarios](#)

---




Overall result: **FAILURE**

Results:  66% 1 failures out of 3 expectations.

Rules covered:  100% 100% of the rules were tested.

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**Scenarios**


testt:	 100%	[0 failures out of 1]	<a href="#">Open</a>
test2:	 100%	[1 failures out of 1]	<a href="#">Open</a>
test3:	 100%	[0 failures out of 1]	<a href="#">Open</a>

Run scenario

Results: 66%

 [p] field [age] was [42].

Summary:  [p] field [name] was [bob].

 [b] field [name] was [boogie] expected [booger].

+ GIVEN

insert [Board] 

[b]

name:



insert [Person] 

[p]



name:



age:



+ EXPECT

 Use real date and time 

1 rules fired in 0ms.

Board [b] has values: 

Person [p] has values: 

 age:  

 name:  

+ GIVEN



insert [Board] 

[b2]

cost:



+ EXPECT

 Use real date and time 

0 rules fired in 0ms.

Board [b] has values: 

 name:    (Actual: boogie)

More...

(configuration)

All rules may fire 

+ (globals)

# Logic Analysis

No Errors

[-]  **Warnings** (11 items).

[-] Rule 'Redundant restrictions' has no RHS.

**Reason:** Rule 'Redundant restrictions'

+ Rule base covers == 1, but it is missing != 1

+ Rule base covers == 1, but it is missing != 1

+ Rule base covers == 1, but it is missing != 1

+ Rule base covers == 1, but it is missing != 1

+ Rule base covers == 1, but it is missing != 1

+ Rule base covers == 1, but it is missing != 1

[-] Rules are redundant.

**Reason:** Redundancy between: (RulePossibility from rule: Redundant rule 1, rules, amount of items:2) and (RulePossibility from rule: Redundant rule 2, rules, amount of items:2).

[-] **Cause:**

RulePossibility from rule: Redundant rule 1, rules, amount of items:2

RulePossibility from rule: Redundant rule 2, rules, amount of items:2

+ Rules are redundant.

+ Field 'a' from class 'RedundancyPattern' has one or more gaps.

+ Field 'a' from class 'RedundancyPattern2' has one or more gaps.

[-]  **Notes** (1 items).

+ Same restriction exists twice.

# Web based decision tables

Decision table ▼

Modify... ▼

	Description	Advertiser type	age is at least	Postcode gre...	Postcode les...	Set the value...	Set the rea...
<b>Advertiser type: Agency (3 Items)</b>							
1	Good suburbs	Agency	10	4000	4100	→ 42	Loyal
2	Good suburbs	Agency		2000	2100	→ 43	Good region
4	Good suburbs	Agency		2200	2300	→ 43	Good region
<b>Advertiser type: Partner (1 Item)</b>							
3	Partners	Partner	1			→ 49	Other

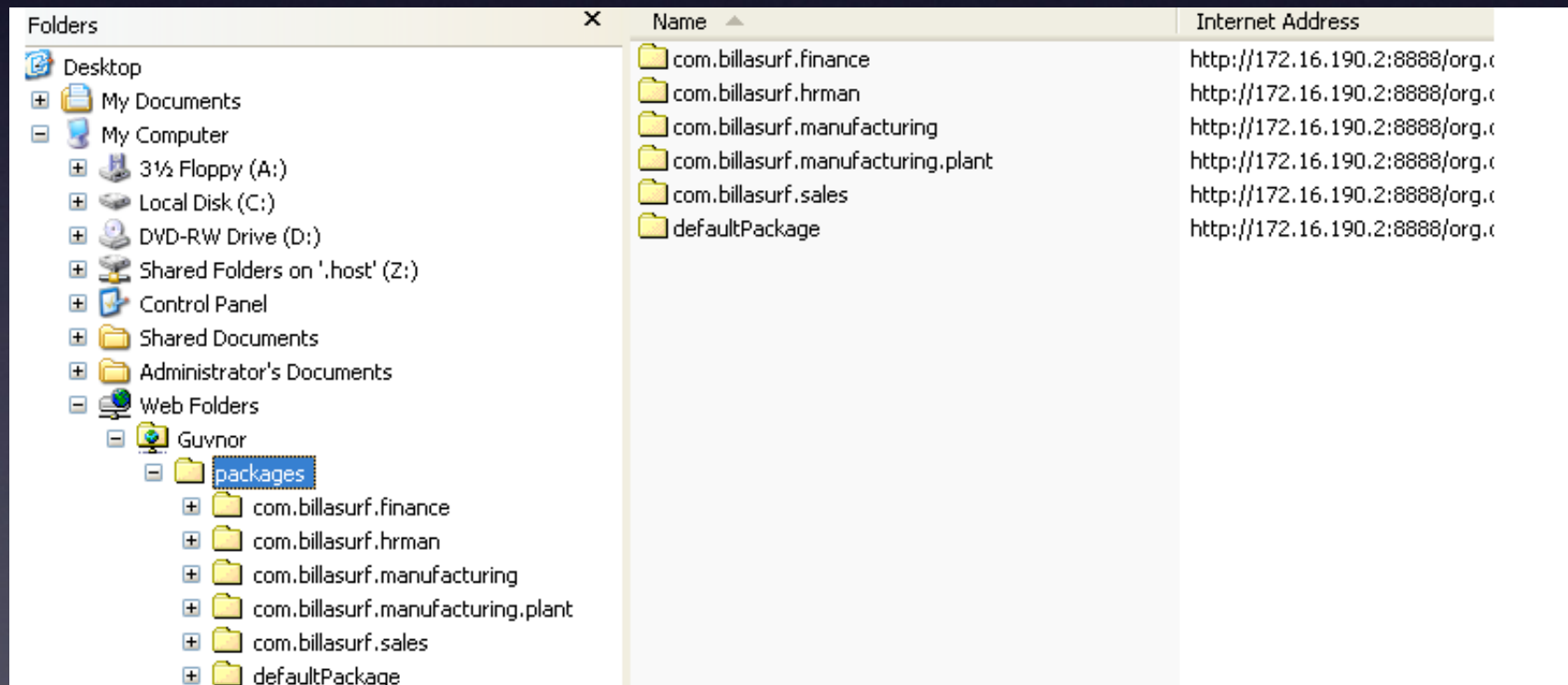
# Fine grained security

Role based, work with LDAP/AD  
Data driven: package or category based

Can have “analyst” users who can only view prescribed categories (read only or read/write)

# WebDAV

Access repository as file system  
Store any/all business rule assets (even non executable stuff)



# CEP

Complex event processing

Real time events (concurrent events – thread safe):

sliding windows:

```
Pattern(...) over window:time(3000) ↑
```

# Temporal operators

- \* coincides
- \* before
- \* after
- \* meets
- \* metby
- \* overlaps
- \* overlappedby
- \* during
- \* includes
- \* starts
- \* startedby
- \* finishes
- \* finishedby

# Language enhancements

More of what people love  
(navigating complex object graphs)  
(DSL improvements -

<http://blog.athico.com/2008/06/allowing-variable-masks-in-dsl-grammar.html>)

# Guided editor enhancements


Support many more features, nested fact models,  
data driven drop downs (can use external DBs)



# Declarative fact types



Alternative to pojos:

The image shows a user interface for defining declarative fact types. It features two main sections: 'Vehicle' and 'Person'. Each section has an 'Add field' button with a pencil icon. The 'Vehicle' section lists two fields: 'type: String' and 'cost: Integer', each with a pencil icon and a small square icon. The 'Person' section lists two fields: 'age: Integer' and 'name: String', each with a pencil icon and a small square icon. At the bottom of the interface is a button labeled 'Add new fact type'.


Vehicle



Add field 



**type:** String  

**cost:** Integer  

Person

Add field 

**age:** Integer  

**name:** String  

Add new fact type

# Declared types...

```
declare Driver
  age: int
  name: String
end
```

```
ruleBase.getFactType(...) ↗
```

```
(no jar files needed) ↗
```

# Execution server

Stand alone war that can be invoked via:

XML

JSON

(for stateless sessions)

(can have N servers with 1 repository)

No runtime library dependencies required

(works nicely with declared facts)

Client apps can be non JVM (blog has ruby demo)

# Workflow support

The screenshot shows the Eclipse IDE interface for Drools. The main editor displays a ruleflow diagram with the following structure:

```
graph LR; Start((Start)) --> HumanTask[Human Task]; HumanTask --> End((End));
```

The Properties view shows the configuration for the selected Human Task:

Property	Value
ActorId	1
Comment	This is a comment.
id	4
Name	Human Task
On Entry Actions	
On Exit Actions	
Parameter Mapping	{}
Priority	10
Result Mapping	{}
Swimlane	
TaskName	Urgent Task
Wait for completion	true

The Task View shows a table of task instances:

Name	Status	Owner	Expiration
Urgent Task	InProgress	Luke Cage	This is a comment.
Urgent Task	Reserved	Luke Cage	This is a comment.

The Preferences dialog is open, showing the Drools Task Preferences section:

- IP address: 127.0.0.1
- Port: 9123
- Language: en-UK

The Task View includes a table with columns for Name, Status, Owner, and Expiration, and a set of control buttons: Claim, Start, Stop, Release, Suspend, Resume, Skip, Complete, Fail.

# Workflow support

jPDL (like jBPM)

WSHT

BPEL support (limited in v5)

Unified engine is aim (long term roadmap)

# Rule templates

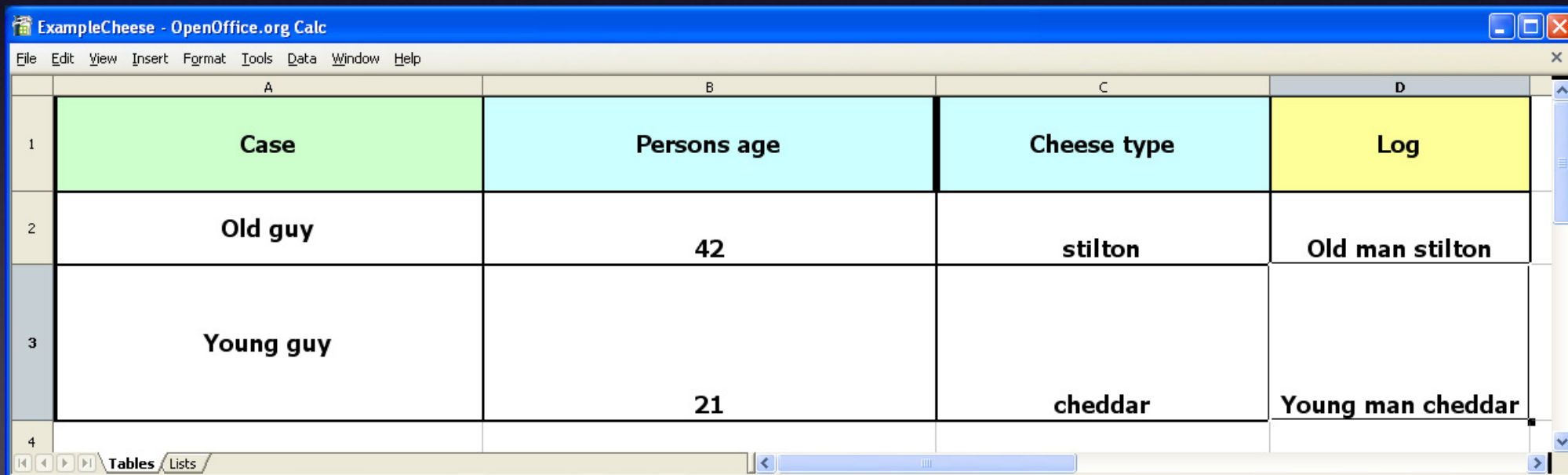
Data driven rule generation

Data can come from any tabular data source:  
(XLS is most obvious, but could be JBDC)

Classic example:

Data from legacy (or existing app with own GUI)  
can be used to generate rules.

# Rule templates



The screenshot shows a spreadsheet window titled "ExampleCheese - OpenOffice.org Calc". The spreadsheet contains a table with 4 columns (A, B, C, D) and 4 rows. The first row is a header with colored cells: A (green), B (cyan), C (cyan), and D (yellow). The second row contains "Old guy", "42", "stilton", and "Old man stilton". The third row contains "Young guy", "21", "cheddar", and "Young man cheddar". The fourth row is empty. The spreadsheet interface includes a menu bar (File, Edit, View, Insert, Format, Tools, Data, Window, Help) and a status bar at the bottom with "Tables" and "Lists" tabs.

	A	B	C	D
1	Case	Persons age	Cheese type	Log
2	Old guy	42	stilton	Old man stilton
3	Young guy	21	cheddar	Young man cheddar
4				

# Rule templates...

```
1  template header
2  age
3  type
4  log
5
6  package org.drools.examples.templates;
7
8  global java.util.List list;
9
10 template "cheesefans"
11
12 rule "Cheese fans_{row.rowNumber}"
13 when
14     Person(age == @{age}) ^
15     Cheese(type == "{type}") ^
16 then
17     list.add("{log}");
18 end
19
20 end template
```

# BRMS/IDE integration

(builds on web dav)

Allows business rule assets to be in repository AS WELL AS IDE/SVN (if needed).

Developers can author technical rules in IDE (or can be read only based on snapshots)

Tracks changes from BRMS side as well as Guvnor side  
(can manage conflicts, if they happen)

Guvnor Repository Exploring Resource

Guvnor Repositories

- http://localhost:8080/drools-guvnor/org.drools.guvnor.Guvnor/webdav/packages/
- http://localhost:8080/drools-guvnor/org.drools.guvnor.Guvnor/webdav/packages/anotherPackage/
- defaultPackage/
  - addFromWebDav.txt
  - derby.log
  - drools.package
  - guvnor-listing.xml
  - listing.html
  - newFileAdded.txt
  - simpleRule.drl
  - test.xml
  - versionHistoryTest.txt
- http://localhost/cal
- http://localhost/cal/

```
simpleRule.drl
#declare any global variables here

rule "Your First Rule"
when
    #conditions
then
    #actions
end

rule "Your Second Rule"
#include attributes such as "salience" here...
when
    #conditions
then
    #actions
end
```

Navigator

- anotherproject
- Demo
  - simpleRule.drl 1, 2008-07-15T15:37:56
  - test

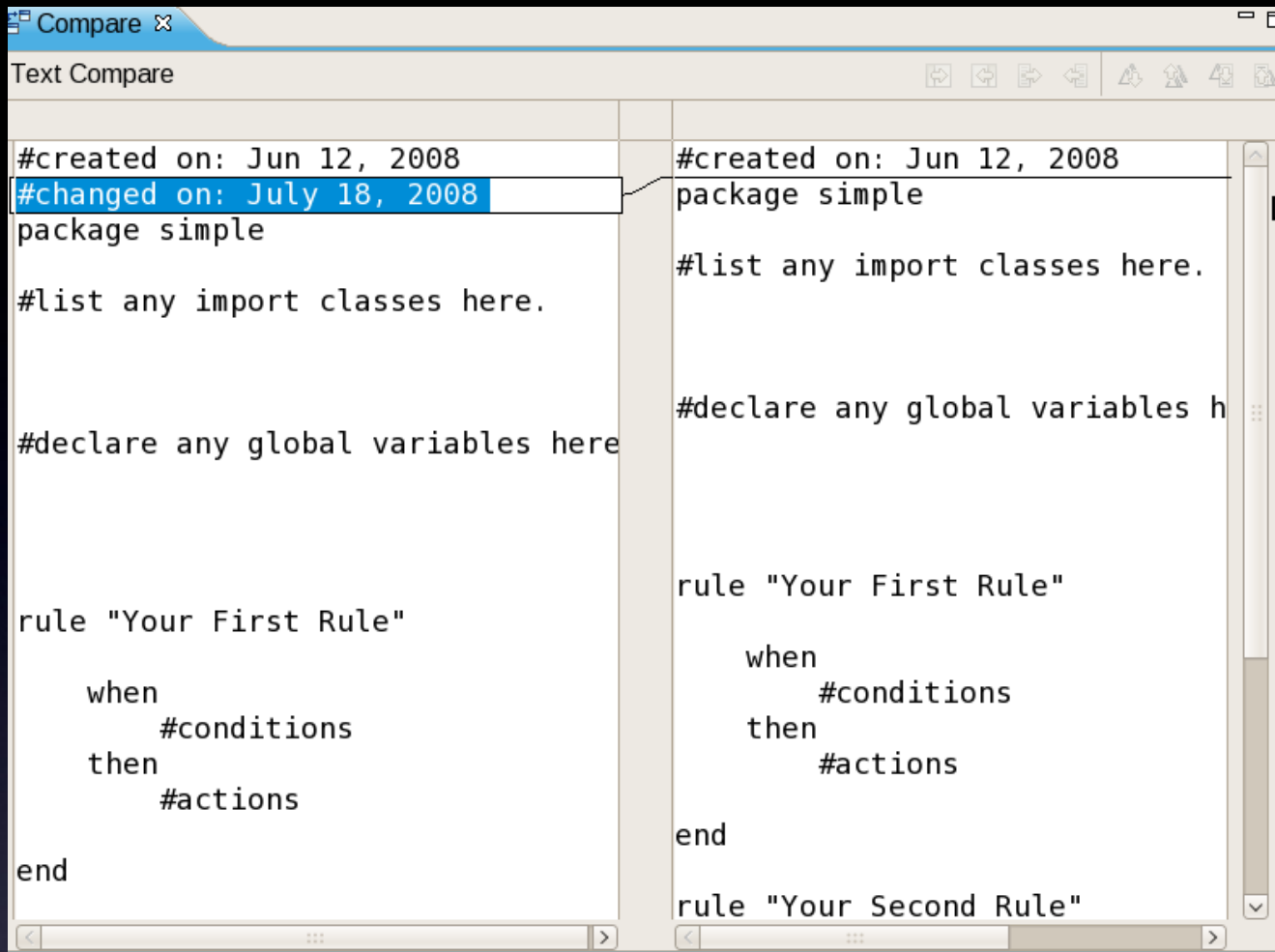
Properties

Property	Value
Created	2008-07-15T20:37:56Z
Last Modified	2008-07-15T15:37:56
Location	/defaultPackage/simpleRule.drl
Name	simpleRule.drl
Revision	1
Type	file

Guvnor Resource History

Repository: http://localhost:8080/drools-guvnor/org.drools.guvnor.Guvnor/webdav/packages  
Resource: /defaultPackage/simpleRule.drl

Revision	Date	Author	Comment
1	2008-07-15T15:37:56	john	<from webdav>



Compare..

Repository  
version history in  
eclipse..

Guvnor Resource History

Repository: <http://localhost:8080/drools-guvnor/gdrools/guvnor/Guvnor/webdev/packages>  
Resource: [/anotherPackage/simpleRule.drl](#)

Revision	Date	Author	Comment
3	2008-07-15T15:37:34	john	<from webdev>
2	2008-07-15T15:32:03	john	
1	2008-07-15T14:28:35	john	<from webdev>

# Relax...

Its backwards compatible  
All old popular features are still there...