

IBM SOA PoT

C2040 Business Rules







Business Rules - Externalize Business Logic for Business Flexibility

- Most-Requested Business Rule Functionality
 - "Ruleset" If-then statements
 - "Decision Table" Compact form for complex nested rules
 - Generally provides 80% of customer needs
- Ease of Use
 - Adjust business rules on the fly through web interface
 - NLS enabled free text representation for rules
 - Rule change audit
 - Staged development: Import/Export of Business Rules from staging to production server
- 3rd party rules engine plug-in
 - ILOG







Business Rules

Rule Group

E General	▼Active Destinations	+ ×	
•Interfaces 🔶 🕂 💥	Default Destination getDailyRat	teNormal	
▼ ① GetDailyRate	Start Date	End Date	Destination
left getDailyRate	Dec 23, 2005 8:00 PM	Jan 8, 2006 8:00 PM	getDailyRateHolidays
•References 🛉 💥	Nov 23, 2005 8:00 PM	Nov 28, 2005 8:00 PM	getDailyRateHolidays
	Selection Criteria Current date		
	▼Available Destinations	÷ ×	
	IIII getDailyRateNormal		

Decision Table

= applyDiscount 🗙						
Pecision Table						
Detailed properties	for this (decision table.				
applyDisc						
■Interface						
		Name			Туре	
Input(s)		input1			Order	
Output(s)		output1			Order	
▼Initialize Name	Rule1	* 4				
Presentation	Rulei					
Action	outout	1 = copyBO(input1)				
	- acpac					
▼ Table	\square	F R F F 🖗 🕐				
Conditions						
input1.custStatu	IS	"gold"	"silver"	Otherwise		🕜 Decision Table Example 🔀
output1.orderTo	otal	input1.orderTotal * 0.85	input1.orderTotal * 0.90	input1.ord	lerTotal * 1	
				Actions		

Rule Set

▼Rule Set

Detailed properties for this rule set.

🧮 OrderDiscount

▼Interface

🗄 OrderDiscount 🗙

	Name	Туре
Input(s)	input1	Order
Output(s)	output1	Order

Variables	 - 30		
Name		Туре	
FreeGift		LineItem	

•Rules 🛛 🐺 🎥 🖉 🗶

Name	Rule1
Presentation	
Action	output1 =copyBO(input1)
Name	Rule2

Presentation	
IF	input1.custStatus == "gold"
Then	output1.orderTotal = input1.orderTotal * 0.85 output1.lineItems.add(FreeGift) return
Name	Rule3
Presentation	

Fresentation	
IF	input1.custStatus == "silver"
Then	output1.orderTotal = input1.orderTotal * 0.90 return

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Business Rule Group

- Group Rule Sets or Decision Tables with common business focus
- Rule Group aggregates rules with the same interface
- Rules may be defined as Rule
 Sets or Decision

- Date/time ranges determine when a business rule is going to be invoked
- Date\time may be specified
 - As the Current Date,
 - Supplied by Java snippet
 - From the input parameters

			Rule Group Editor
다. General	▼Active Destinations	+ ×	
▼Interfaces 🕂 💥	Default Destination Regular		
▼ 1 CalculateDiscount	Start Date	End Date	Destination
🍪 disc	Dec 25, 2005 7:00 PM	📰 Jan 15, 2006 7:00 PM	Boxing
▼References 🛉 💥	Mov 30, 2005 7:00 PM	E Dec 24, 2005 7:00 PM	Christmas
	Aug 31, 2005 7:00 PM	Ep 14, 2005 7:00 PM	School
	Selection Criteria Current date		



Rule Set Editor

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Rule Set and Decision Table

- Rule Set
 - A set of if/then rule statements
- Decision Table
 - Balanced binary tree format
- Templates
 - Determine which aspects of the rule can be modified at runtime
 - User interface to modify rules
 - Rule Set and Decision Table can both be templetized

							Rule Set Eultor			
▼ Ru	iles		≉ 🎝	×						
	Name	Rule2	Rule2							
	Template	Templa	te 1							
	Presentation	If the a	issets are g	reater than 🖸	2000000	and the liabilities are less t	than 500000, then the rating is A.			
	Name	Rule 1								
	Template	Templa	te 1							
	Presentation	If the a	issets are g	reater than 2	2000000	and the liabilities are less t	than 1000000, then the rating is B.			
▼ Te	mplates		å ¥			Template				
	Name	Templa	te 1							
	Presentation	If the a	issets are g	reater than {	0} and the	e liabilities are less than {1	1}, then the rating is {2}.			
		Index	Name	Туре	Constrai	int				
	Parameters	{0}	var1	double	None					
	Parameters	{1}	var2	double	None					
		{2}	var3	string	None					
	If	all of the following are true info.assets > var1 info.liabilities < var2								
	Then	rating = var3								

▼Decision Table		8 F 🛱 🖑				
info.assets	> 500000 <= 500000					
info.liabilities	< 10000	>= 10000	< 10000	>= 10000		
rating	"A"	"В"	"C"	"D"		

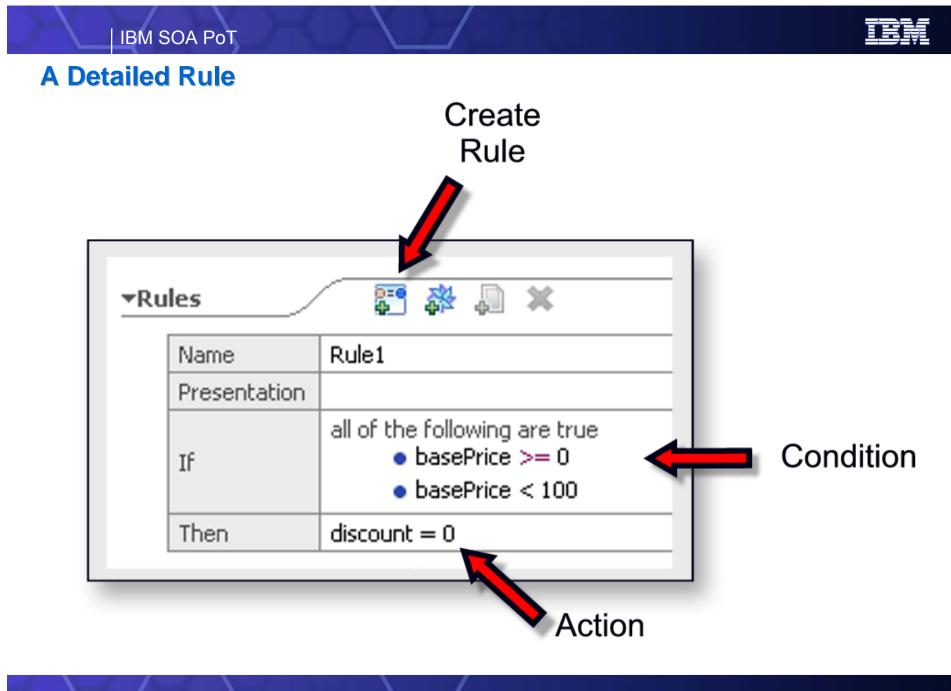
Decision Table Editor



Describing a Rule in WID

Call Parameters	myRuleSet X ✓ Pule Set Detailed properties for myRuleSet ✓ Interface	this rule set.		
		Name		Туре
	Input(s)	basePrice		double
	Output(s)	discount		double
Variables for local state	▼Variables Name	₩ X	Туре	Rules that will be defined
	▼Rules O ▼Templates			Templates (to be discussed)







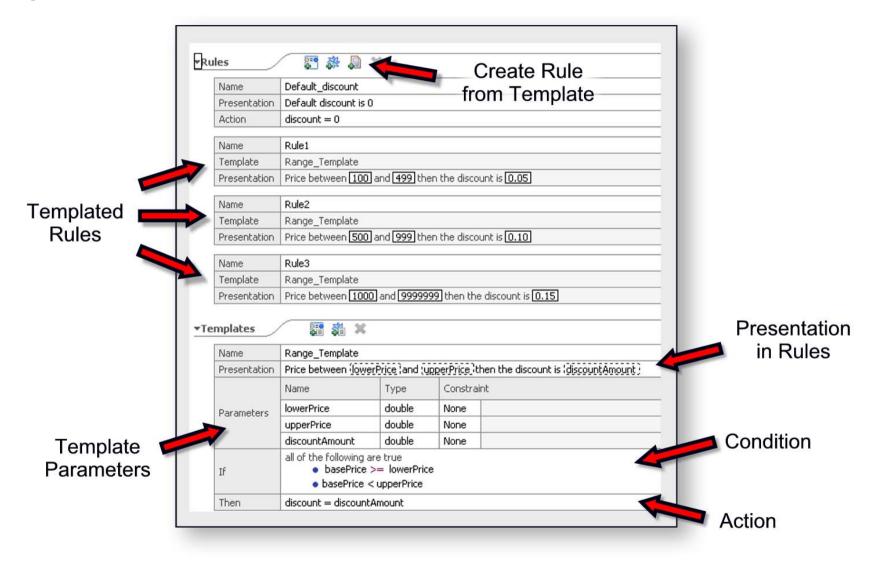
Multiple Rules ...

Name	Rule1		
Presentation			
Action	discount = 0		
Name	Rule2		
Presentation			2
	all of the following are true	Name	Rule4
IF	• basePrice >= 0	Presentation	
	• basePrice < 100		all of the following are true
Then	discount = 0	IF	• basePrice >= 500
	Rule3		basePrice < 1000
Name	Rules	Then	discount = 0.10
Presentation			
	all of the following are true • basePrice >= 100	Name	Rule5
If	 basePrice >= 100 basePrice < 500 	Presentation	
			all of the following are true
Then	discount = 0.05	IF	• basePrice >= 1000
			 basePrice < 9999999
		Then	discount = 0.15

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Templates ...







Dynamicity with Business Rules

▼Rules 🐺 🐉 💭 💥			
	Name	Rule2	
	Template	Template 1	
	Presentation	if 330 abd 589 then HIGH	
	Name	Rule3	
	Template	Template 1	
	Presentation	if 590 abd 749 then MED	
	Name	Rule4	
	Template	Template 1	
	Presentation	if 750 abd 830 then LOW	

- Programmer defines rules from templates
- Templates expose rule parameters to *Business Rules Manager*

Tools WebSphere Integration Developer

Runtime WebSphere Process Server

- Using *Business Rules Manager*, the Business Analyst changes rules at runtime
- No need to restart the application
- Users are authenticated using standard WAS authentication / security
- Changes may be exported back to WID

Welcome Logout Help > CreditRiskAssessmentBusinessRule_206424068 > InputCriterion Edit Mode:InputCriterion - Ruleset				
Save Cano	Cel Messages:			
General Information				
Last Published	Nov 22, 2005 13:51 (Local Time)	Status		
Description				
Rules New Rule from Template				
Name	Rule	Action		
Rule2	if 300 abd 340 then HIGH	🕂 Delete		
Rule3	if 341 abd 400 then MED	🕀 分 Delete		
Rule4	if 401 abd 830 then LOW	分 Delete		



Lab Objectives

Achieve business agility

- Allow changes to business rules at runtime
 - No recoding, retesting, and redeploying

Role: Integration Developer





What are we going to do in the Lab?

- Change the CreditRiskAssessment Task to a
 Business Rule
- Define a Rule Set
- Save and Verify the Business Rule
- Re-test the SimpleAccountVerification process
- Modify the Business Rule at Runtime
- Re-test the Business Rule again



Lab 8 30 Minutes

SOA Proof of Technology





Thank You

