

WebSphere Education



# **Defining business rules**

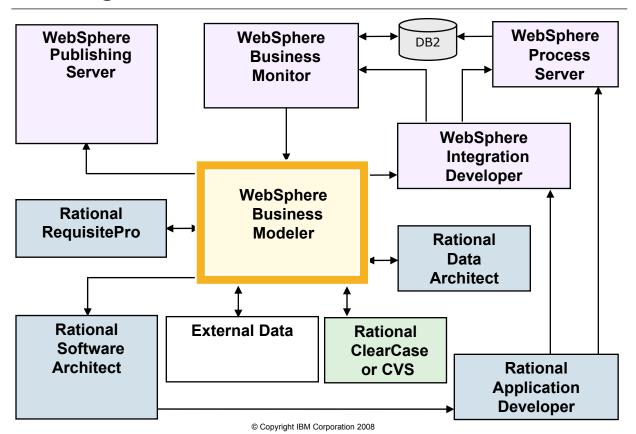
Unit 7

## **Unit objectives**

After completing this unit, you should be able to:

- Explain business rules and their purpose
- Describe business rules tasks
- Explain business rules templates and if-then rules
- Define conditions and actions

## Creating business rules in modeler



#### **Business rules**

- Business rules capture and implement business policies and practices
  - Dynamic response to changing business environment
- Allows you to capture business rules as separate elements and incorporate them into your process flow
  - Can be updated without changing process flows if used with business rules task
- A part of the business logic that may change frequently.
  - Usually does not require a programming change
  - Can be defined and managed by a business analyst
  - Does not change the nature of the application
  - The logic remains the same, but the values being applied may differ
- Example:
  - During customer loyalty appreciation month, if a customer has spent more than \$1000 in past 12 months and this purchase is greater than \$100, then apply 10% discount.
- Can be reused in other processes and projects

## Benefits of defining business rules

- Enforcing business policies and practices
- Showing regulatory compliance by documenting business rules in a transparent way
- Automating complex decisions so that you can reduce costs, improve customer service, and react quickly to changing marketplace conditions
- Ensuring that the business view of the business rules is implemented accurately in applications by defining the underlying rule logic, including which parameter values can be modified in an application at run time
- Reducing the time and cost of implementing decision logic in applications by importing the business rules and rule logic into WebSphere Integration Developer
- Capturing business logic in a format that can be modified after it is deployed so that you can quickly adapt your business process to changes in the business environment
- Improving the quality of your processes by capturing the business rules in the design phase

# **Business rules task (1 of 2)**

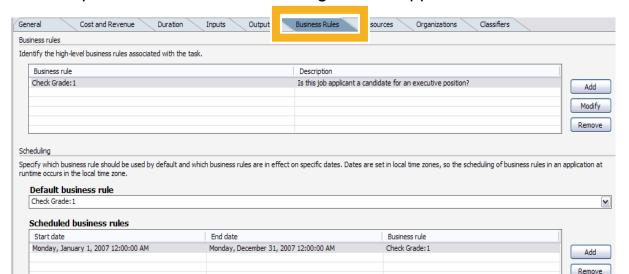


- Specialized task
- Represents activities to which business rules apply
- Can be global (reusable) or local (process-specific)
- Used to model complex decisions and to visually identify places in your process model where business policies and practices apply
- Simplifies modeling when a business decision takes the form of a series of if-then statements or a large number of unstructured sentences
- To define rule conditions and actions, use Intermediate, Advanced, or WebSphere Process Server modeling mode

# **Business rules task (2 of 2)**



- Business rule
  - Simple if-then logic
  - If a condition evaluates to true, then actions are invoked
- Business rule template
  - Create a rule template to reuse rule conditions and actions, or allow their parameter values to be changed in an application at run time



## **Creating business rules tasks**

- Associate business rules with activities by using business rules tasks
  - If business rules apply to several processes, create a global (reusable) business rules task
  - If business rules apply to a particular process only, create a local business rules task
- Add business rules to the task
- Each rule has a condition and actions
  - Condition and actions are specified based on task inputs, task outputs, and rule parameters

## Creating a business rule

- Create a stand-alone rule, or
- Use a template to create a set of rules that are similar and can be updated at run time by the business analyst

#### Sample business rule

#### Specify the rule logic as set of if-then rules Create or modify one or more if-then rules that define the logic of the business rule. To create rule conditions and actions, the business rules task must have inputs and outputs defined. Name Check Grade: 1 Description Is this job applicant a candidate for an executive position? Important To reuse rule conditions and actions or allow their parameter values to be changed in an application at runtime, create a rule template. Rule Templates If-Then Rules Definition To specify rule conditions and actions, create any required rule parameters. Also ensure that the business rules task has inputs and outputs defined. Template name Rule action Template description ( 'Check Grade.Input.Job.Salary' is greater than or equal t'Check Grade.Output.Job.IsExecutive' is set to True Check the level of the de Add Check Grade Template AND ( 'Check Grade, Input, Job, Position' is equal to 'position' Remove Rule parameters To change parameter values at runtime or add parameters to either the rule condition or action, specify rule parameters. Add constraint information as a description. Parameter name Type Description Integer (long) How much do they expect to make salary Add position What kind of position are they looking for Remove Rule template presentation Determine how the rule template is presented to users at runtime for modification of the rule parameter values. Automatically generate the text for the rule template presentation O Customize the text for the rule template presentation If ('Check Grade.Input.Job.Salary' is greater than or equal to 'salary') AND ('Check Grade.Input.Job.Position' is equal to 'position'), then 'Check Grade, Output, Job, IsExecutive' is set to True

#### If-then rules

- If-then rules define business rules
- If-then rules have rule conditions and actions
  - Based on task inputs, task outputs, and rule parameters
- Rule condition must evaluate to a Boolean value (true or false)
  - If rule condition is true, then assigned rule action is implemented
- Use Expression Builder in Intermediate, Advanced, or WebSphere Process Server mode to create expressions for rule conditions
- No semantic validation is performed on if-then rules
  - Similar or conflicting if-then rules are not identified
- If-then rules can be based on a previously defined rule template

## **Business rule templates**

- Rule templates allow flexibility in managing business rules during run time
- Rule parameters can be added to rule templates without revising or redeploying the application in use
  - Create the rule parameters before creating the conditions or actions
  - They will be selectable when creating the rule conditions or actions
- Example: As interest rates change, update rule parameters in a business process management application at run time
- Rule templates simplify creation of similar if-then rules
  - You can base more than one if-then rule on a rule template and specify different parameter values for each if-then rule
- Presentation captures text displayed by a runtime client

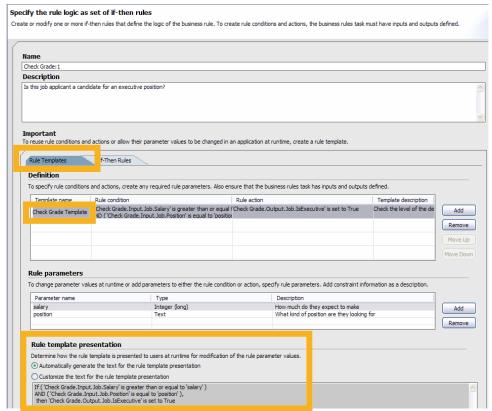
## Rule parameters

- Determine which aspects of rule template need rule parameters
  - Important because rule parameter values can be modified in an application at run time
- Can use only basic types (such as Integer type) to define rule parameters
- Can describe rule parameter constraints
  - Constraints on rule parameters can only be defined for implementation purposes using WebSphere Integration Developer

#### Rule presentation

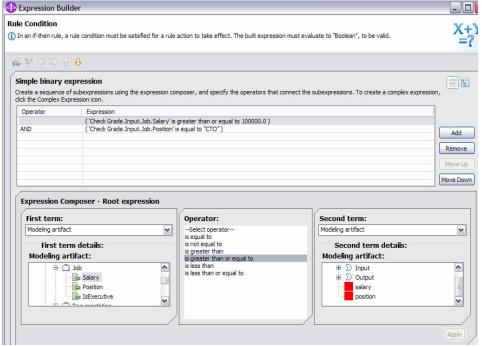
- Rule presentation allows you to summarize rule conditions and actions for users of business process management applications at run time
- Users can change parameter values of deployed business rules based on templates
- Can customize rule presentations to make them easier to understand

#### Creating a business rule template

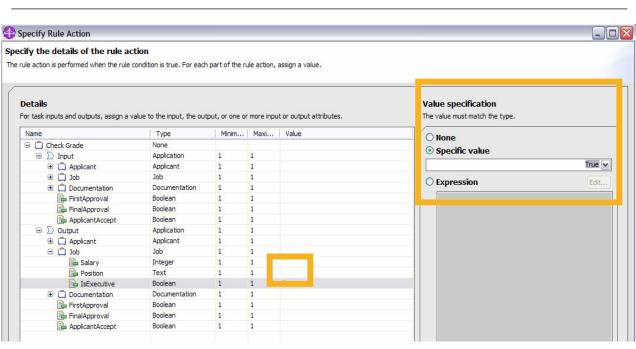


#### **Condition expression builder**

 Template parameters are available when creating expressions for business rules



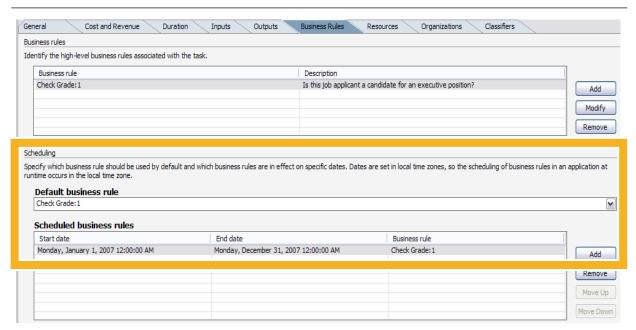
#### Rule actions



# Scheduling of business rules (1 of 2)

- Scheduling business rules makes them active
- Define how the business rules for a particular activity relate to each other by scheduling when each business rule applies
- Can design business rules in advance to go into effect when required
- To make a business rule active when no other business rules are scheduled, make it the default business rule
- If there are several business rules for a business rules task, schedule when these business rules should become active
  - If business rule has no starting point, leave start date blank
  - If business rule has no definite end point, leave end date blank
- Setting overlapping dates for business rules generates a scheduling conflict error message

# Scheduling of business rules (2 of 2)



## Modeling considerations

- If there are rules specified for business items used as input to a business rules task, there is no interaction between:
  - The business item rules
  - The business rules defined for the business rules task
- Simulation does not evaluate business rules to:
  - Determine the outcome of a business rules task
  - Update the state of tokens flowing through the business process
- Predefined documentation reports for business rules tasks provide information about process modeling details and global business rules tasks
  - Reports do not provide information about individual business rules

## Importing business rules

- Business rules from WebSphere Business Modeler can be imported into WebSphere Integration Developer for inclusion in an application
- However, business rules cannot be exported from WebSphere Integration Developer into WebSphere Business Modeler
  - Cannot update process model so that it stays in synch with applications under development

## **Checkpoint: Defining business rules**

Your instructor will review these questions with you as a group. If time permits, the instructor may provide you time to answer the questions on your own before the group discussion.

- 1. What is a business rule?
- 2. What is a business rules task?
- 3. What is the purpose of scheduling business rules tasks?

# **Checkpoint solutions: Defining business rules**

- A representation of how business policies or practices apply to a business activity
- 2. A specialized task that represents activities to which business rules apply
- 3. Scheduling allows you to specify which business rule should be used by default and which are in effect on specific dates.

## **Unit summary**

Having completed this unit, you should be able to:

- Explain business rules and their purpose
- Describe business rules tasks
- Explain business rules templates and if-then rules
- Define conditions and actions

#### **Exercise overview**

#### In this exercise, you will:

- Create and define business rules tasks
- Define business rules
- Define conditions and actions