software AG

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User Task Management and Administration

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Objectives

- At the end of this section, you will be able to
  - Define and maintain User Task permissions
  - Manage individual User Task instances
  - Administer User Task types

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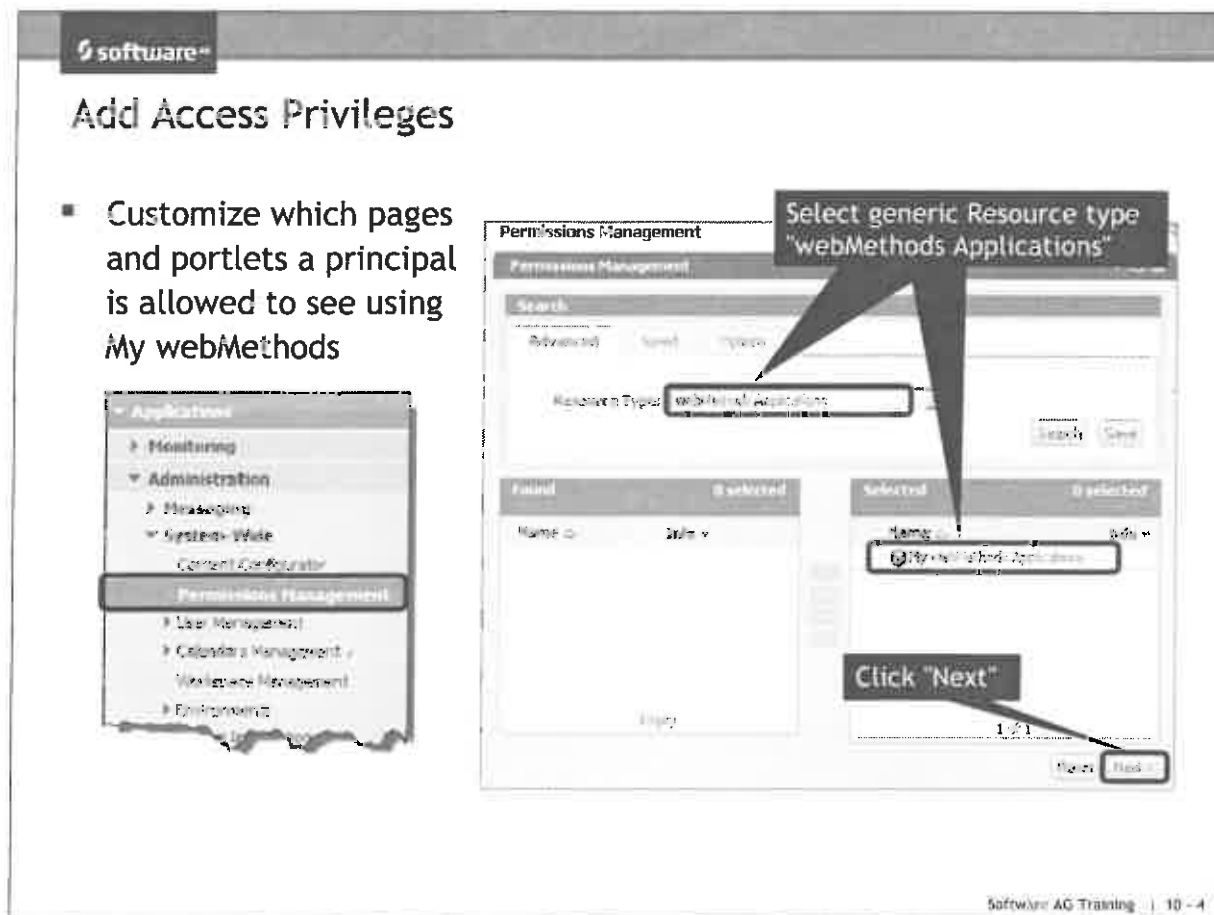_____

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Permissions Management

- Permissions in MWS is configured through Permissions Management

- Grant/revoke permissions for **Resource** types
  - webMethods Applications
  - (User) Tasks
  - Workspaces

  to **Principals of** types
  - Users
  - Groups
  - Roles

| webMethods Applications |
| Tasks |
| Workspaces |

C Users   C Groups   ⦿ Roles

- Permissions are organized into two main categories:
  - Access Privileges - "which menu items and pages can I see and reach within MWS console"
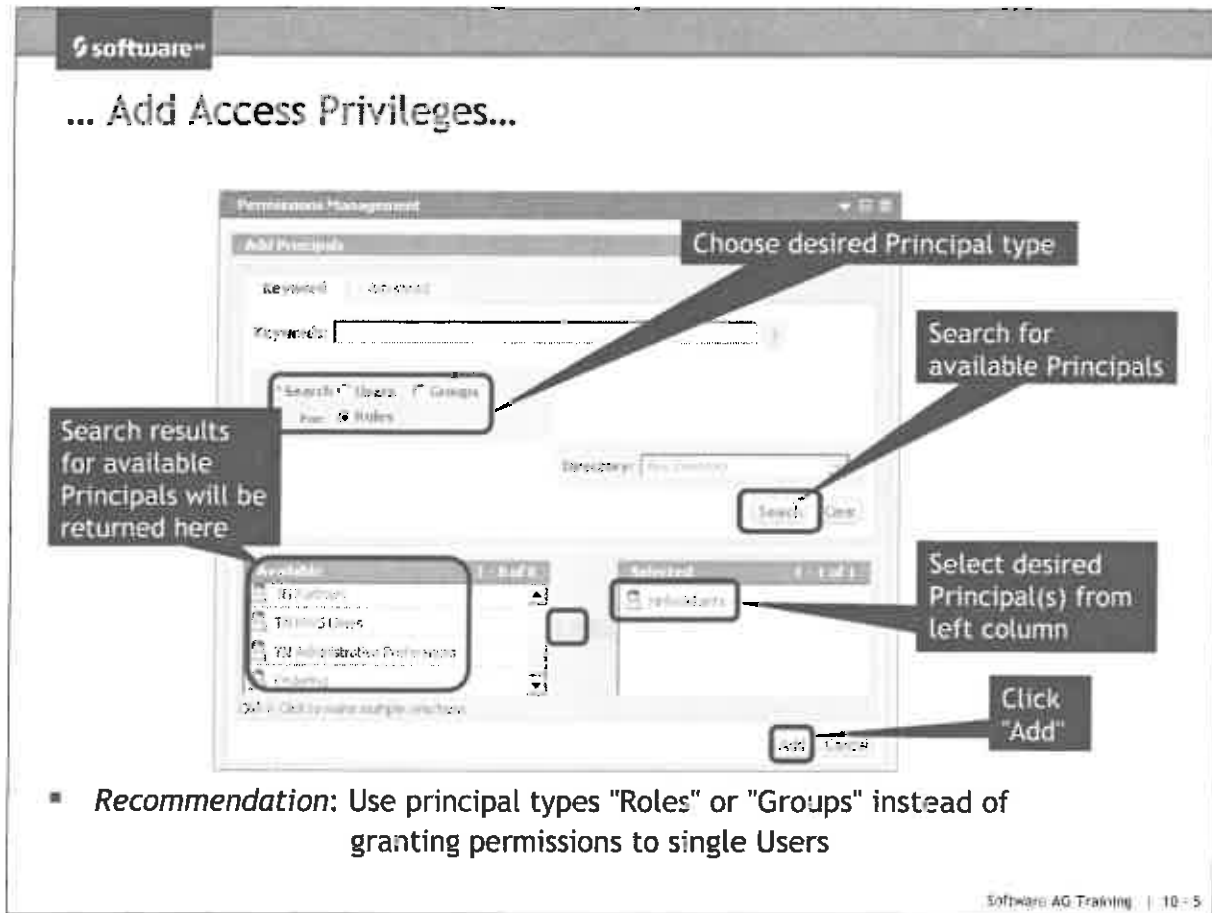 - Functional Privileges - "what actions am I allowed to execute"

Software AG Training | 10 - 3

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Add Access Privileges

- Customize which pages and portlets a principal is allowed to see using My webMethods

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... Add Access Privileges...

- *Recommendation*: Use principal types "Roles" or "Groups" instead of granting permissions to single Users

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10 - 5

... Add Access Privileges

Granting these privileges enables this Principal to see User Task pages and portlets

Be sure to apply changes before leaving this administration screen

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Add Functional User Task Privileges...
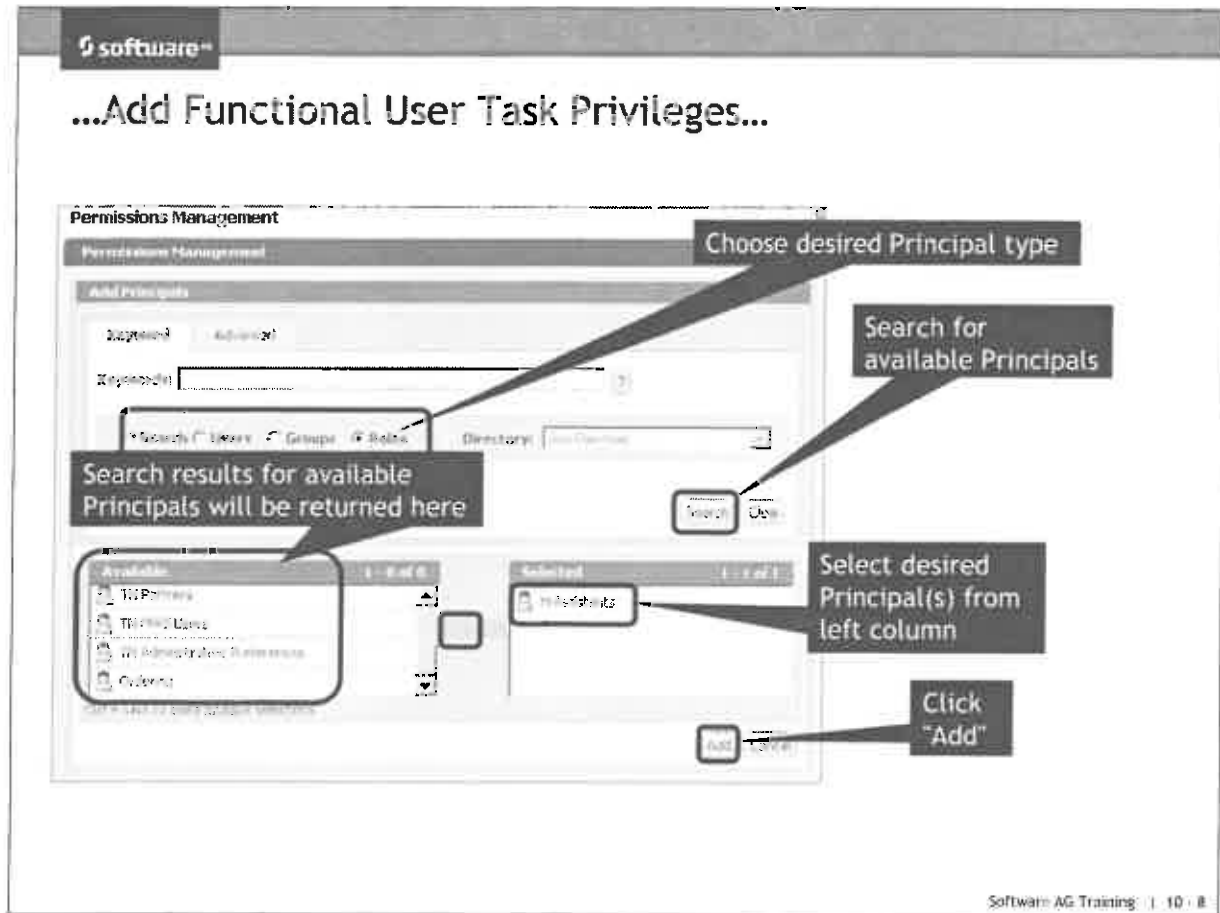

- Grant functional permissions on User Task type level

- *Recommendation*: Grant permissions for multiple User Task types together

Notes: _____

...Add Functional User Task Privileges...

Notes:

...Add Functional User Task Privileges

User Task type-specific functional privileges include administrative, management, etc

Be sure to apply changes before leaving this administration screen

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Task List Management

- Task List Management page provides buttons to manage User Tasks:

- User Task Management may only be performed on tasks which are "Active" or "Suspended"
    - *Exception*: Delete allowed regardless of instance state

  > You cannot apply Task List Management actions to User Tasks with a status of Canceled, Completed, Error, or Expired

- Task Engine prevents further work on User Tasks with a status: Canceled, Completed, Error, Expired

Software AG Training |10 - 10

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Suspend a User Task

- Suspending a User Task prevents any work from being performed on it

- Useful when User Task completion or other interactions may momentarily conflict with other activities

- When a User Task is suspended:
  - It is removed from task inboxes
  - It remains in the Task List Management page with a status of "Suspended"
  - Any actions performed on the User Task are applied once the task returns to "Active" status

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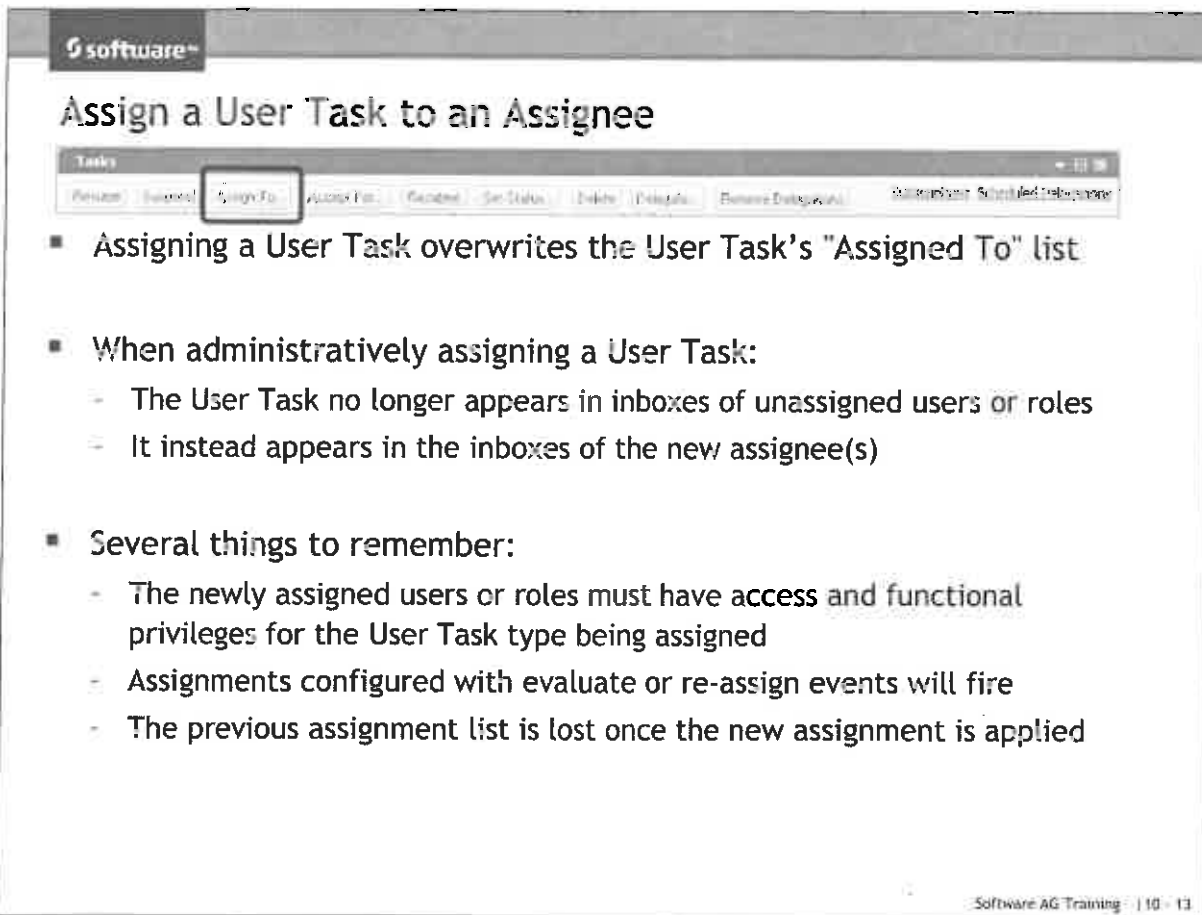
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Resume a User Task

- **Resuming a User Task returns it to the "Active" state**

- **When a User Task is resumed:**
  - Any pending actions that were applied during the suspended state are carried out in the order they were applied
  - It will appear in the task inboxes for all assigned users

Software AG Training |10 - 12

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Assign a User Task to an Assignee

- Assigning a User Task overwrites the User Task's "Assigned To" list

- When administratively assigning a User Task:
  - The User Task no longer appears in inboxes of unassigned users or roles
  - It instead appears in the inboxes of the new assignee(s)

- Several things to remember:
  - The newly assigned users or roles must have access and functional privileges for the User Task type being assigned
  - Assignments configured with evaluate or re-assign events will fire
  - The previous assignment list is lost once the new assignment is applied

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Accept a User Task on Behalf of a User
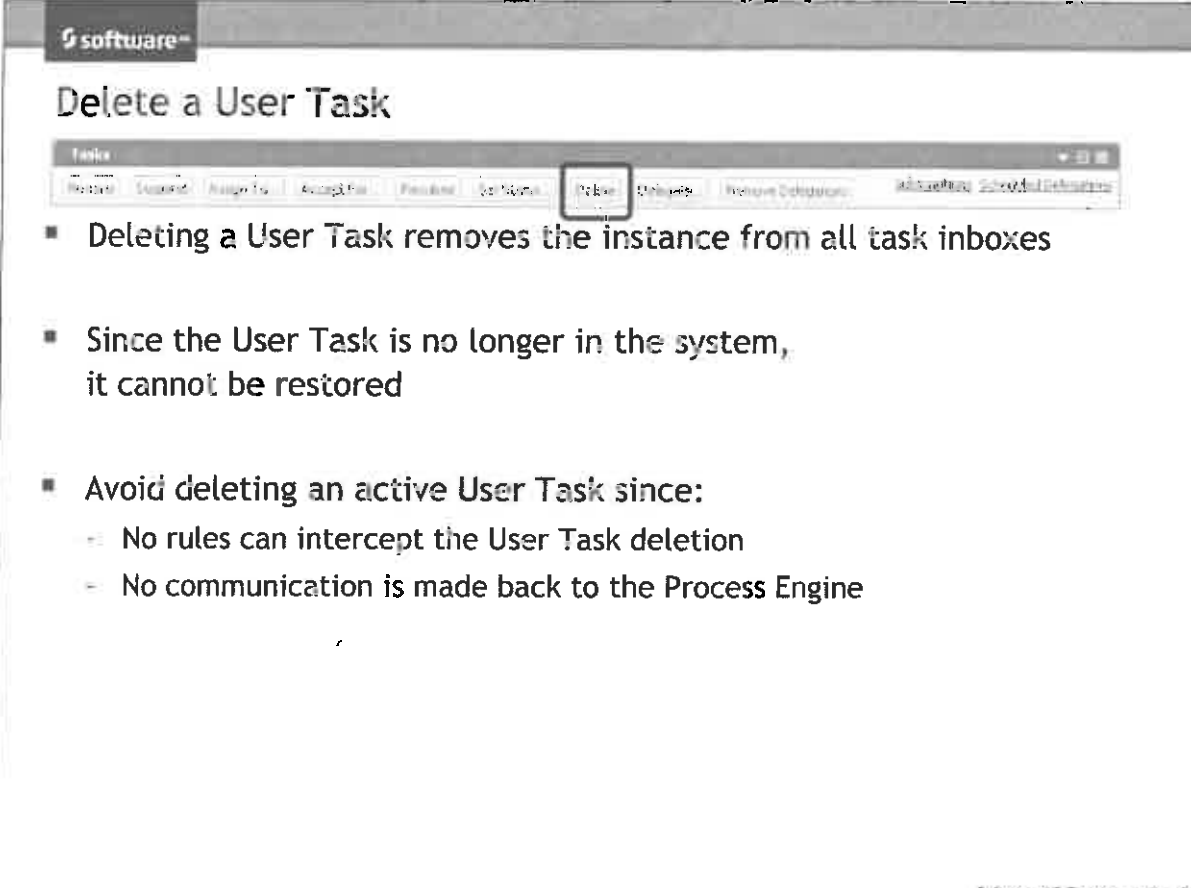
- A User Task may be accepted on behalf of a user:
  - Has the same effect as if the user accepted it directly
  - Like an administrative override

- All previous acceptances are overwritten by such an acceptance

Notes:

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Delete a User Task

- Deleting a User Task removes the instance from all task inboxes

- Since the User Task is no longer in the system,
  it cannot be restored

- Avoid deleting an active User Task since:
  - No rules can intercept the User Task deletion
  - No communication is made back to the Process Engine

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Delegate a User Task

Tasks
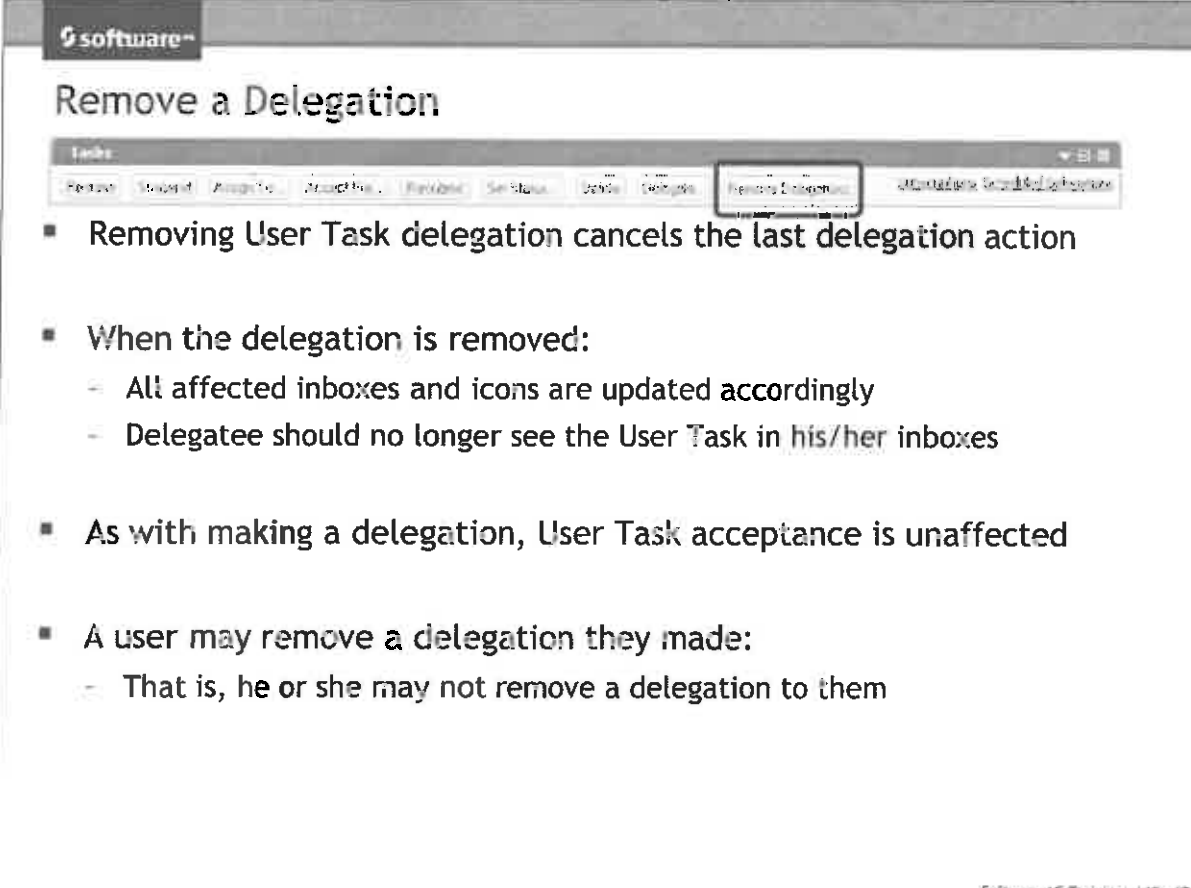
- Delegation involves two users:
  - Delegator
  - Delegatee

- A delegated User Task:
  - Appears in delegator's inbox with the "Delegated To" icon
  - Appears in delegatee's user inbox with the "Delegated From" icon
  - Is intended to be manipulated by the delegatee

- Delegation is similar to User Task assignment, however:
  - Delegations may be chained; the full chain is retained
  - Delegations may be removed, restoring the original assignment

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Remove a Delegation

- **Removing User Task delegation cancels the last delegation action**

- **When the delegation is removed:**
  - All affected inboxes and icons are updated accordingly
  - Delegatee should no longer see the User Task in his/her inboxes

- **As with making a delegation, User Task acceptance is unaffected**

- **A user may remove a delegation they made:**
  - That is, he or she may not remove a delegation to them

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Task Type Administration - Task Type Details Portlet

■ Task Type Details portlet allows to:

- enable/disable a Task Type for
  - execution
  - analysis
- tailor advanced behavior like
  - User Task Collaboration and Data Sharing
  - User Task Commenting
  - User Task Business Data Indexing

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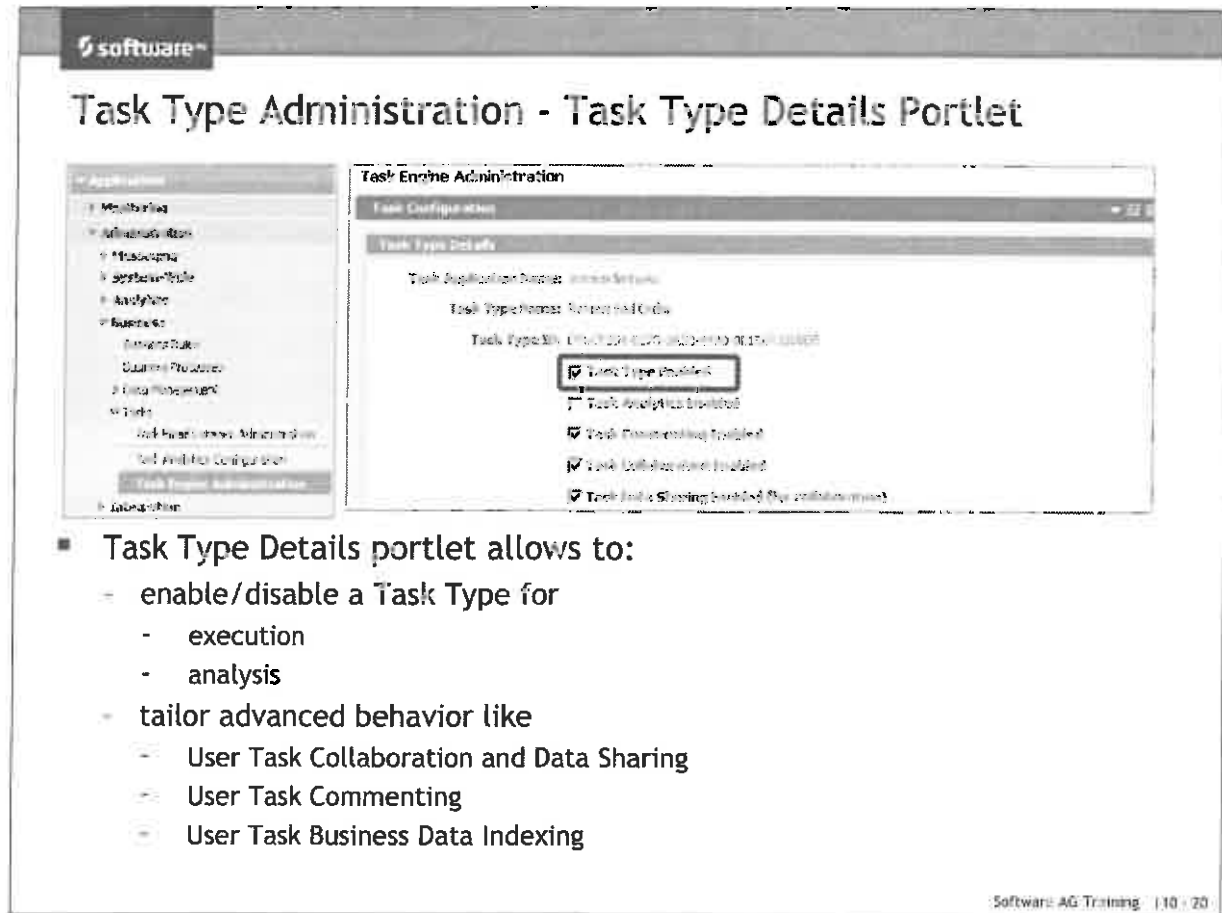
Task Type Administration - <*Task Type*> Start Portlet

- Enables you to initialize and start a User Task instance manually or remotely using the Task Engine API
- Portlet available from Task Configuration Portlet
- Requires for generated and published <*Task Type*> Start Portlet
- Default view can be customized in Designer
- If a User Task is only used within a process, you do not need to create a <*Task Type*> Start portlet

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© Software AG Training   10 - 22

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Robust Processes

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Objectives

- At the end of this section, you will be able to
  - Configure error, cancel, and timeout handling at process level
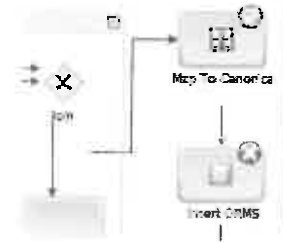 - Leverage error data and error handling at the process level
  - Use Boundary Events and exceptional transitions to configure exception handling at step level

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Process Robustness

- Robust Business process is a process that is modeled/ configured to handle exception and timeout conditions, in addition to the 'normal' flow of events

- It is recommended that your processes be modeled/configured to handle exceptions like:
    - Process timeouts, cancel, and errors
    - Step timeouts, errors, endless loops, unsatisfied joins,...

- Handling an error or timeout is dependent on business requirements

- Typical examples are:
    - Route instance data to an administrator
    - Retry with a delay

ERROR

Notes:

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Errors and Process Monitor

- Administrators will leverage the Process Monitor to determine the root cause of an error
  - Failed process steps will be flagged
  - Stack dumps are available for failed steps

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Process Robustness

- Robust Business process is a process that is modeled/ configured to handle exception and timeout conditions, in addition to the 'normal' flow of events

- It is recommended that your processes be modeled/configured to handle exceptions like:
  - Process timeouts, cancel, and errors
  - Step timeouts, errors, endless loops, unsatisfied joins,...

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- Typical examples are:
  - Route instance data to an administrator
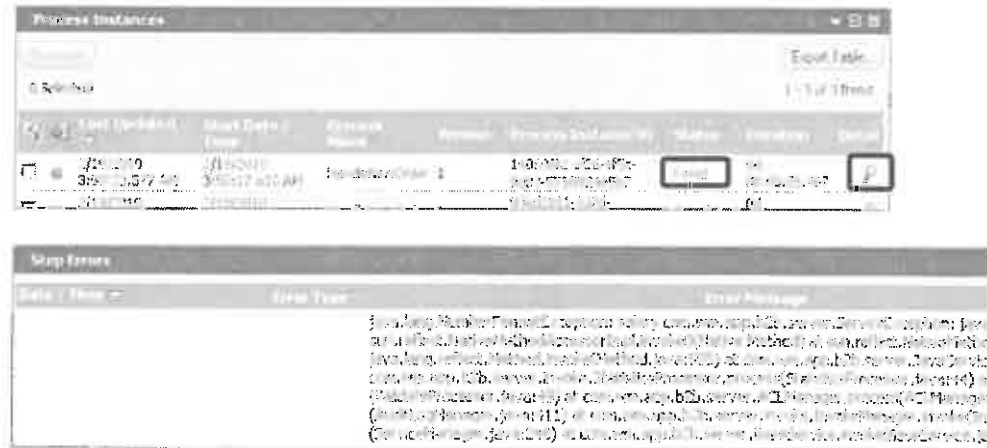 - Retry with a delay

ERROR

Notes:

Errors and Process Monitor

- Administrators will leverage the Process Monitor to determine the root cause of an error
    - Failed process steps will be flagged
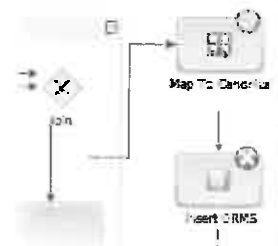   - Stack dumps are available for failed steps

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Process Errors - Process Error Handler Task

- Capture process errors by assigning a Process Error Handler Task
- Assigned Task Activity becomes decorated with marker

Click on canvas whitespace to see process properties

Select a Task Activity acting as Process Error Handler Task

Notes:

Process Error Handler Task - Passed Input

- In case of an uncaught process error, the Process Error Handler Task Activity is passed:
  - Process Business Data pipeline
  - Document of type `exceptionInfo` outlining the process error — *held in perror pipeline variable*
  - `ProcessData` document outlining process state — *held in ProcessData pipeline variable*

ProcessData
- time
- error
- localizedError
- errorType
- errorDump
- service
- user
- callStack (callstackItem)
- pipeline
- threadID
- ssnid
- errorMsgID
- errorDetails
- nestedErrorInfo (exceptionInfo)

Doctype ProcessData is declared in the pub.prt namespace

perror
- ProcessInstanceID
- ProcessIteration
- ProcessModelID
- ProcessModelVersion
- ProcessStepID
- LogicalServer
- TryCount
- AuditContext
- Roles

Doctype exceptionInfo is declared in the pub.event namespace

Notes:

Process Error Handling Process - Suggestion

Service Development perspective:

1. Implement an IS document acting as custom error document type
   * Make it publishable
   * Make it reusable (not necessarily attributed to one process, or one department)
2. Create and save an IS service containing a Map step to map the error data to your custom error document type

Process Development perspective:

3. Add error handling to your process:
   * Add an Service Task Activity to your process invoking the IS service from above
   * Assign the Service Task Activity as the Process Error Handler Task
   * Add a throwing Intermediate Message Event and a transition.
     Intermediate Message Event publishes the custom error document to the Broker.
4. Provide additional error catching process containing:
   * Start Message Event to receive to the custom error document from other process
   * User Task Activity passing the error to a User Task as input;
     an administrator can leverage data from the custom document to resolve the process issue

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Step 1: Implement a Custom Error Document Type

Service Development

- ProcessData (pub.prt:ProcessData)
  - ProcessInstanceID
  - ProcessIteration
  - ProcessModelID
  - ProcessModelVersion
  - ProcessStepID
  - LogicalServer
  - TryCount
  - AuditContext
  - + Roles
- exceptionInfo
  - time
  - error
  - errorType
  - errorDump
  - service
  - env (pub.publish:envelope)

custom **ProcessErrorDocument**

- Document contains a reference to `ProcessData`
- Document contains fields similar to `exceptionInfo`
- Document is publishable

Property	Value
General	
Model type	unordered
Permissions	
Comments	
Reuse	Private
Source URI	
Linked to source	False
Schema domain	Default
Registered	False
Schema type name	
Publication	
Publishable	True
Broker doc type	...PricessErrorDocument
Discard	False
Time to live	seconds

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Step 2: Create a Mapping IS Service

Service Development

Create a mapping IS service containing a Map step to map the error data to your custom error document type

Inputs to the custom mapping service match the data names and types put in the pipeline by the Process Engine

Map perror and ProcessData to the custom document definition

Notes:

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Step 3 : Add Error Handling to your Process

Invokes custom IS service as implementation

Step does not have any incoming transitions in this case
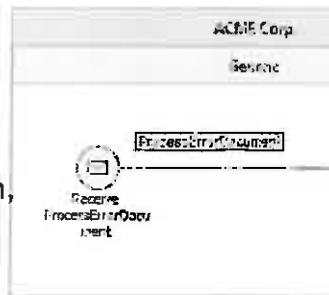
Intermediate Message Event publishes the custom error document

Process Properties: Click anywhere in the whitespace on the canvas to see this view

Assign Task Activity as Process Error Handler Task

Notes:

Step 4: Provide Additional Error Catching Process

- Error catching process: separate process that catches instances of `processErrorDocument` from all business processes
- Examples of implementation could be:
  - Assign a User Task to an administrator
  - Send an email to an administrator
  - Create a message and drop the message into a JMS queue or topic
- If problem was with back end application, administrator will typically:
  - Leverage the `exceptionInfo` data to rectify application problems
  - Resubmit the process instance using data from the `ProcessData` to identify process instances
- If problem was with business data, administrator typically:
  - Uses `ProcessData` to find offending process instance in MWS Monitor
  - Edits pipeline
  - Resubmits data
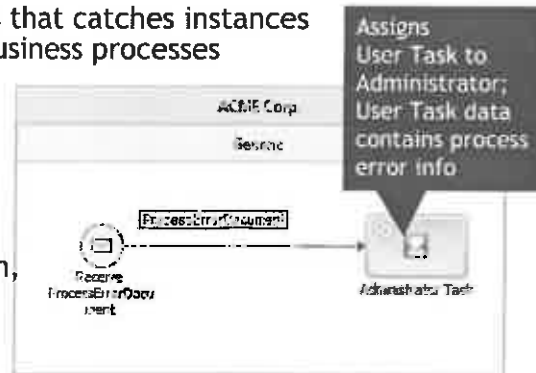
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Notes:

End Terminate Event within Error Handler Path
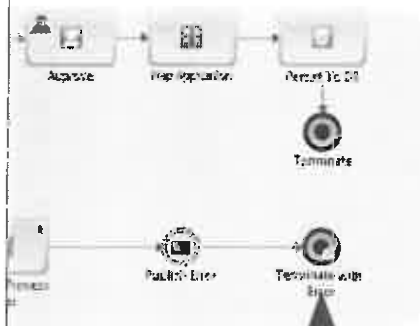
Usage of End Terminate Events recommended, but not mandatory.
If not used, then final process status would be "Completed".

- End Terminate Event sets final process status to "Completed" (default)

- End Terminate Event can also be configured to set a process status to "Failed"
  - Chosen status indicated by a decorator
  - Optional status escalation to parent

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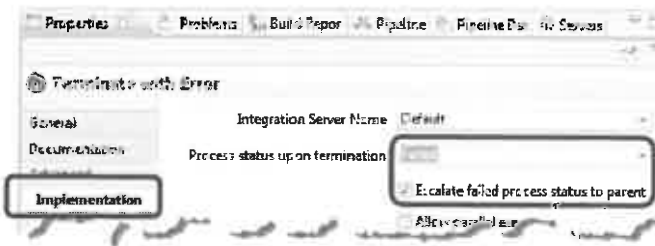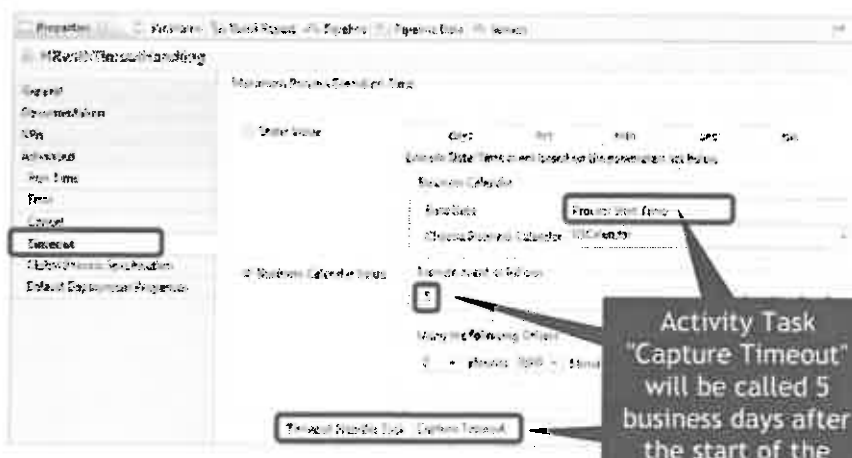
Process Timeouts

- Processes may have timeouts based on:
  - Static Value
  - Business Calendar Value

- Default:
  - no process timeout

> Activity Task "Capture Timeout" will be called 5 business days after the start of the process

- Assign Process Timeout Handler Task at the process level

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Process Timeouts - Timeout Handler Step

- Capture process timeouts by assigning a Process Timeout Handler Task
  - Similar to Process Error Handler Task
  - Assigned Task Activity decorated with $\bar{\underline{\mathbf{Z}}}$ marker
  - Task Activity does not need incoming transitions
  - Leverage data from the Process Engine to determine process state
    - ProcessData document instance is passed in pipeline with name ProcessData

Timeout Handler Task: | Capture Timeout

Select Task Activity acting as Process Timeout Handler Task

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End Terminate Event within Timeout Handler Path

Usage of End Terminate Events recommended, but not mandatory.
If not used, then final process status would be "Started".

- End Terminate Event can also be used to terminate an process-wide Timeout Handler path
  - Chosen status indicated by a decorator
  - Optional status escalation to parent
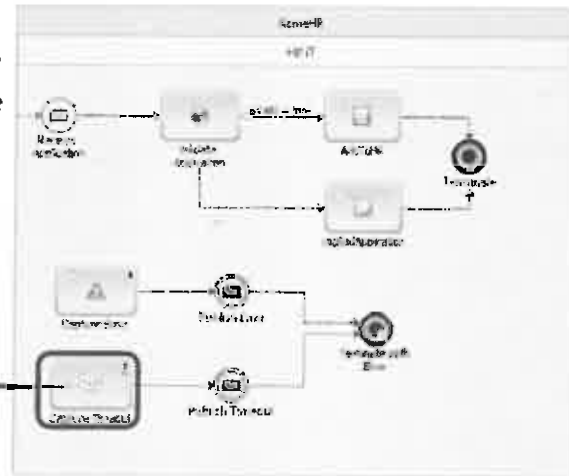
Software AG Training 11 - 15
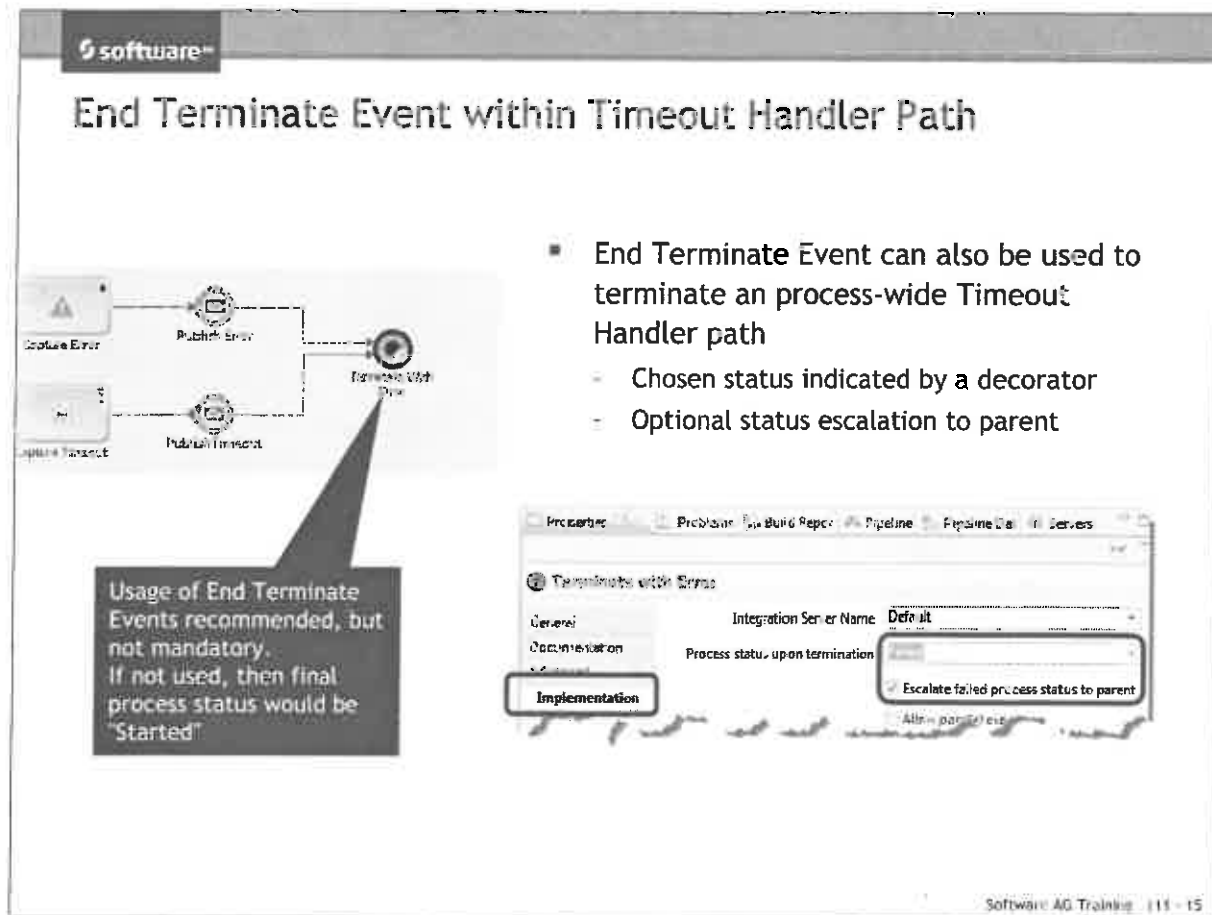
Notes:

Change Process Timeout at Runtime

- Built-in Services available to manage process instance timeout
- Invoked by the IS Service that is configured on a Service Task Activity
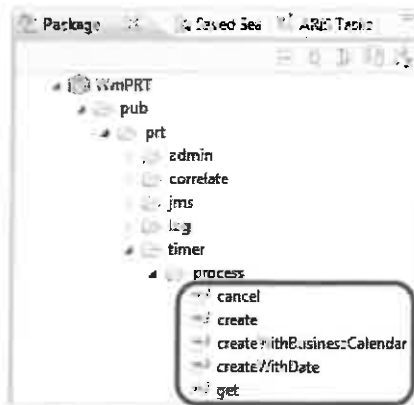
- `create:`
  Set new timer related to a base date/time
- `createWithBusinessCalendar:`
  Same as create, but related to B.C.
- `createWithDate:`
  Defines fixed date/time when the timer should expire
- `get:`
  Retrieve timestamp, when timer will expire
- `cancel:`
  Cancel existing timestamp

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Notes:

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Handle Process Stopping...

- Process instances can be stopped/canceled from Process Monitor
- Cancel can be handled using an optional Cancel Handler Task
    - Enables you to execute additional logic when the process is stopped/canceled, e.g. to run cleanup logic
- Configure the Cancel Handler Task in the Cancel tab in Process Properties
    - Assigned Task Activity and all downstream steps are executed after process is stopped/canceled
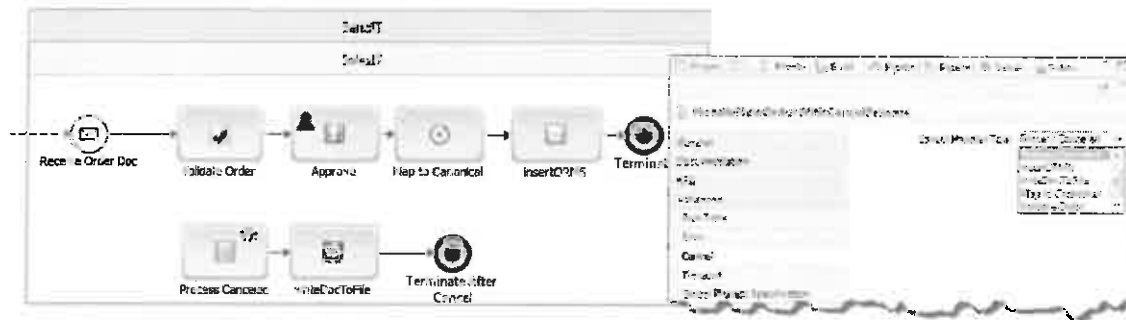
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...Handle Process Stopping

Cancel Handler step and all downstream steps are executed after process is stopped

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End Terminate Event within Cancel Handler Path

- End Terminate Event can also be used to terminate a process-wide Cancel Handler path
  - Chosen status indicated by a decorator

Usage of End Terminate Events recommended, but not mandatory.
Final process status is "Stopped" regardless of the setting in an End Terminate Event.

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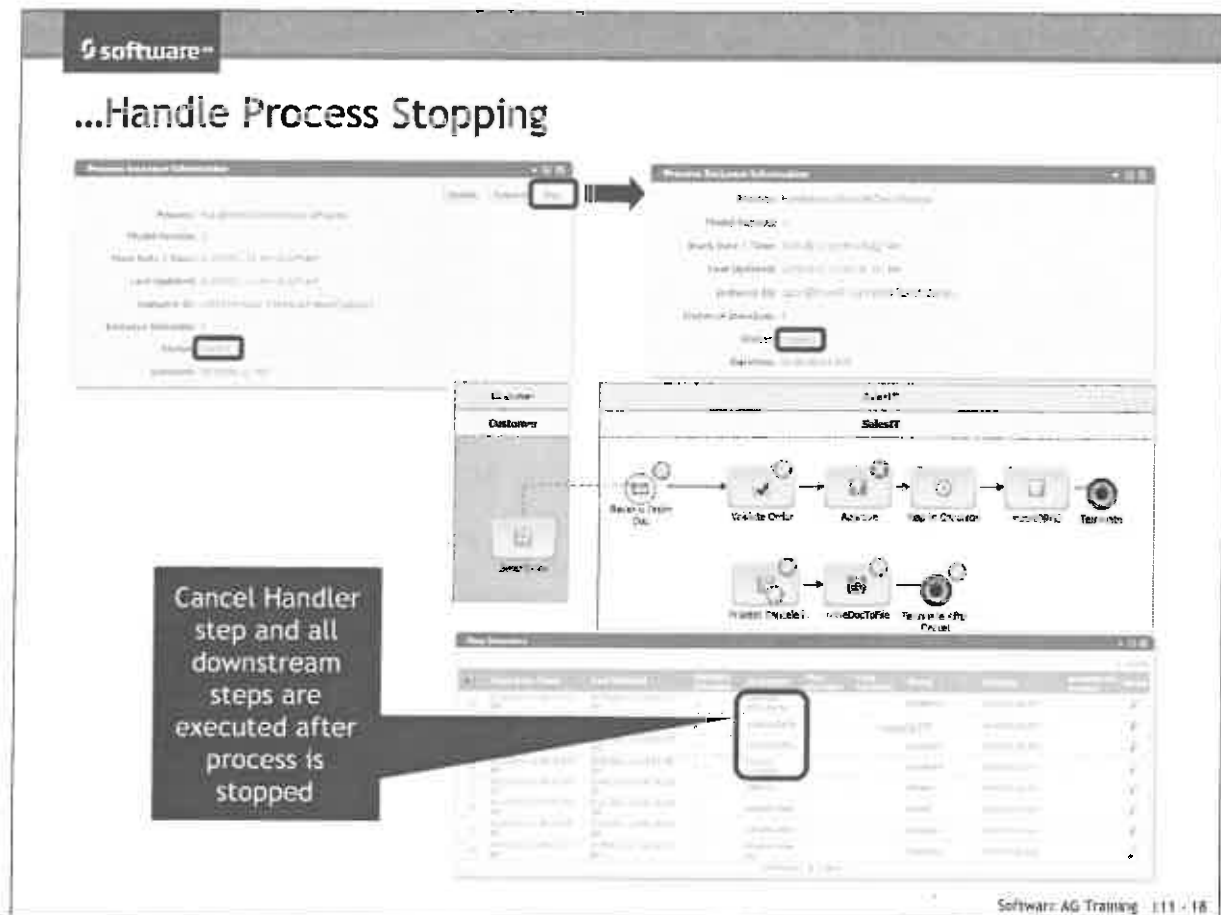
Notes:
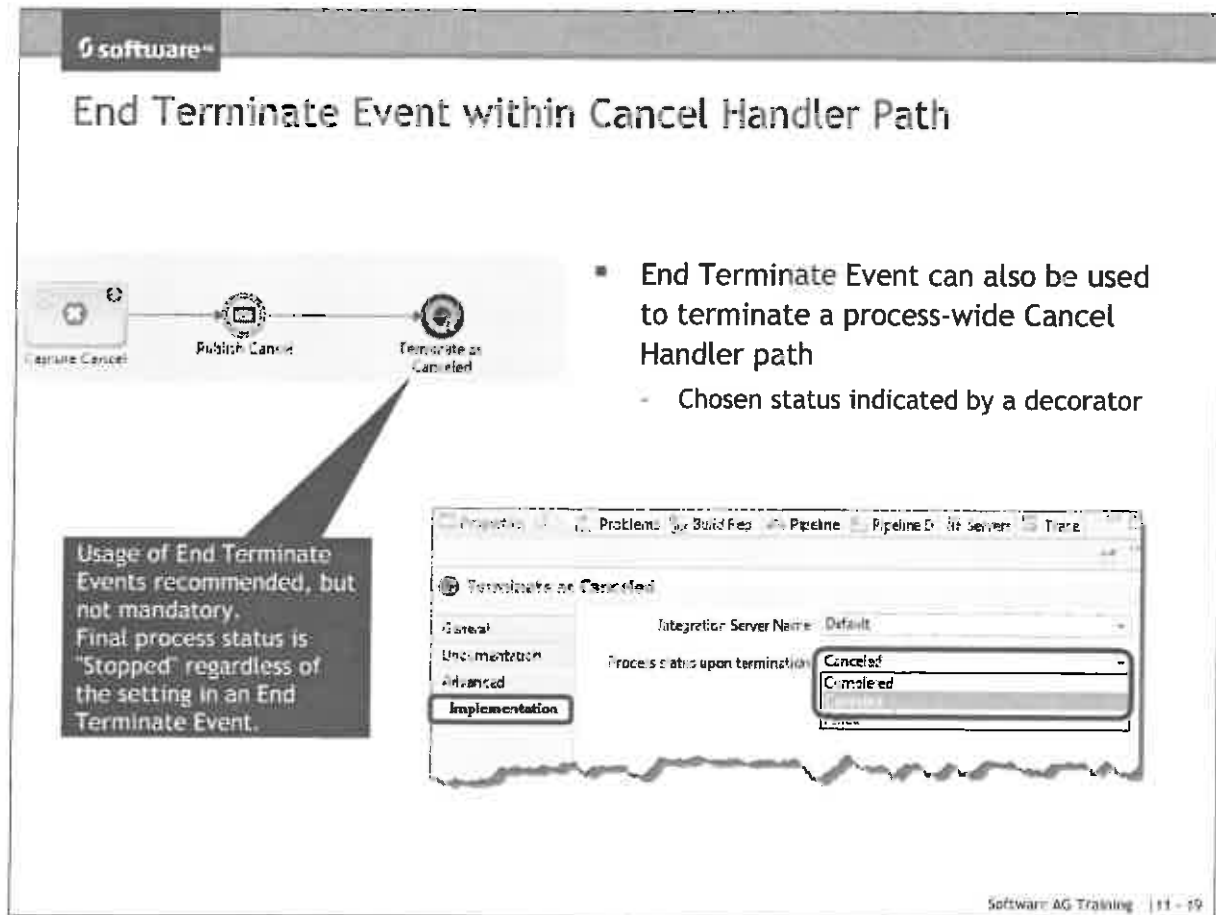
Change Process Status at Runtime

- End Terminate Event sets the final process status
  - {Completed, Failed, Stopped (Canceled)}

- Another way to change the process
  status at runtime is to configure a
  Service Task step to invoke IS service:
  `pub.prt.admin:changeProcessStatus`
  and set the `Action` parameter

Enter Input for 'changeProcessStatus'

Include empty values for String Type

Name	Value
ProcessInstanceID	
ProcessIteration	
ProcessModelID	
ProcessModelVersion	
Action	CANCEL
EscalateFailure	

CANCEL
SUSPEND
RESUME
FAIL
DONE

"Cancel"
will show up as
"Stopped" in Monitor

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More End Events

- End Events are always throwing and interrupting
- Must not have an outgoing transition
- No generated IS service for any End Event after Build &Upload

- End None Event

- End Message Event

- End Signal Event

Terminates path.
Does not affect process status.

- End Error Event

- End Terminate Event

Terminates the process and
affects the process status.

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Step Exception Handling - Overview

- Step exception handling allows finer grained exception handling as compared to setting Error, Timeout and Cancel Handler Tasks at the process level
- Step Exception handling could be implemented by:

  - Boundary Events with outgoing transitions (BPMN compliant)
    - Boundary Error Events
    - Boundary Timeout Events

  - Special conditional transitions (webMethods extensions to BPMN)
    - Join Timeout
    - Unsatisfied Join
    - Step Iterations Exceeded
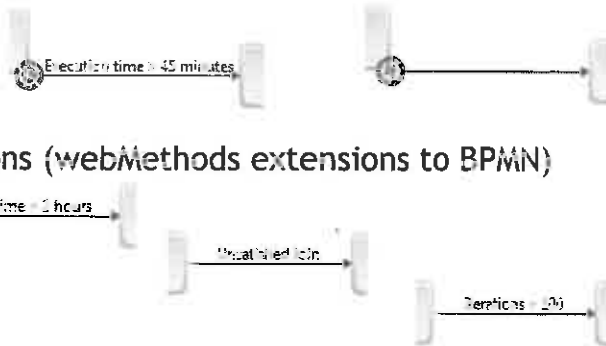
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Boundary Error Events

- Boundary Error Events enable you to catch errors that occur in a Task Activity, Call Activity or Subprocess Activity
  - Can be added from Palette or from Activities context menu
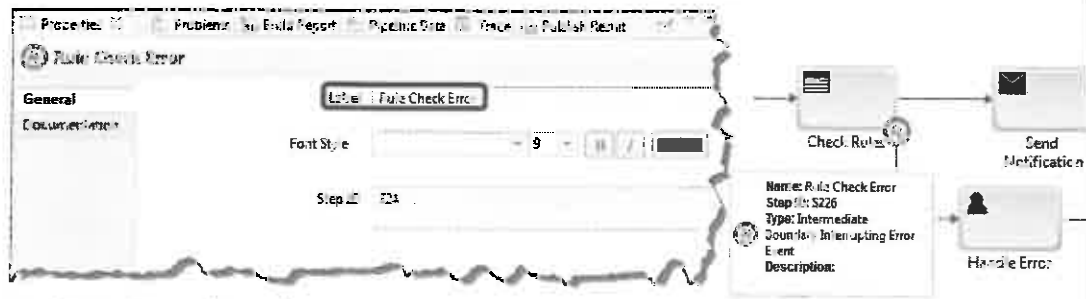
- Boundary Error Events...
  - ...are always interrupting*
  - ...may have its own label, only shown as tool tip
- In case of Error Event:
  - Modeled outgoing Event transition(s) used
  - Activity execution is stopped and it's outgoing transition(s) are not used

* Interrupting Boundary Events of type Error NOT implemented for Manual Tasks and Subprocesses; exceptional behavior for Subprocesses.

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Non-Interrupting Boundary Error Events at Subprocesses

- In webMethods BPMS, Boundary Error Events at a Subprocess are always non-interrupting*

Order Preprocessing

Check Availability — Order Validation — Double-Check Order — ✳ Merge — Customer Notification

Currency Conversions — Persist

Handle Exception

- Subprocess behavior when a Boundary Error Event is triggered:
  1. Path in the Subprocess that caused the error is terminated
  2. All other paths in the sub-process continue as normal
  3. Each outgoing transition from the Boundary Error Event will be executed
  4. Outbound transitions from the subprocess are taken as normal

- Boundary Error Event behavior is somehow "hybrid"
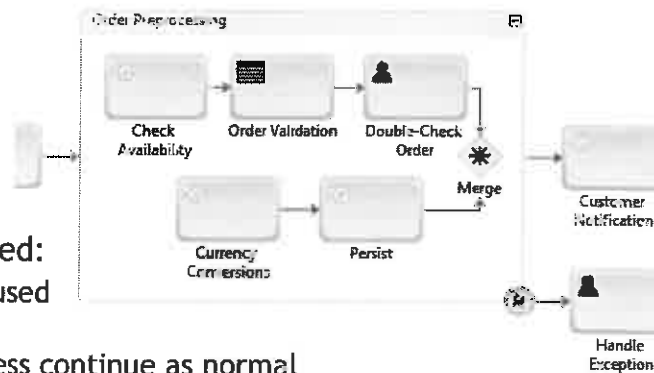
* BPMN specification only knows interrupting Boundary Error Events at a Subprocess Activity. They are not implemented in webMethods BPMS. webMethods BPMS offers non-interrupting Boundary Error Event at a Subprocess Activity instead (Extension to the BPMN specification).

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Boundary Error Event at Subprocess –
"Restore starting pipeline" property CHECKED

- **Non-interrupting Boundary Error Events at a Subprocess has an option to "Restore starting pipeline"**
  - **unchecked:**
    Error pipeline passed on transition leaving the Event
  - **checked**
    Pipeline data rolled back to how it looked before entering the subprocess and passed on transition leaving the Event
- **There is no automatic rollback or compensating transactions**
  - This will have to be implemented in the target step of the outgoing Event transition

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Boundary Timer Events...

- Boundary Timer Events enable you to catch timeouts that occur in an Task Activity, Call Activity or Subprocess Activity
  - Can be added from Palette or from Activities context menu
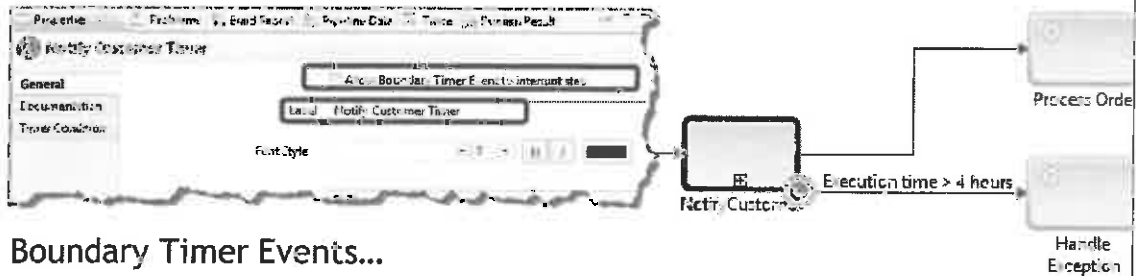
- Boundary Timer Events...
  - ...can be interrupting or non-interrupting*
  - ...may have its own label, only shown as tool tip
- Behavior of Boundary Timer Event:
  - Modeled outgoing Event transition(s) used
  - *Interrupting*: Activity execution is stopped and it's outgoing transition(s) are NOT used
  - *Non-interrupting*: Activity execution continues and it's outgoing transition(s) ARE used after the Activity completes successfully

interrupting: available at Service Tasks, Abstract Tasks, Send/Receive Tasks;
non-interrupting: available at Subprocesses, Call Activities, Rules Tasks

Notes:

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...Boundary Timer Events

- Timeout defined in Timer Condition based on:
    - Fixed value
    - Value derived from Process Metadata or Business Data
    - Business Calendar value
- Timeout condition appears as annotation on the transition leaving the Boundary Event

Software AG Training 11 - 27

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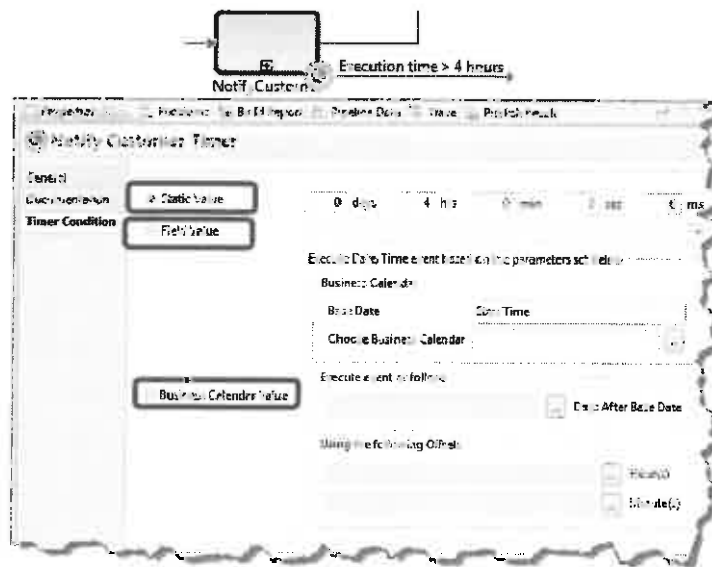
11 - 27

Special Conditional Transitions

Steps may have outgoing transitions of types:

If Condition ▼

- **If Condition**
  Transition only used if condition is true
- **Default**
  Transition only used if no other
  If Condition is true
- **Join Timeout:**
  Transition only used in case
  of a Join Timeout
- **Unsatisfied Join:**
  Transition only used if a synchronized
  Join becomes unsatisfied
- **Step Iterations Exceeded:**
  Transition only used if step is
  executed more often then specified

If Condition
Default
Join Timeout
Step Iterations Exceeded
Unsatisfied Join

BPMN standard

webMethods extensions to the BPMN specification

Software AG Training 11 - 28

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11 - 28
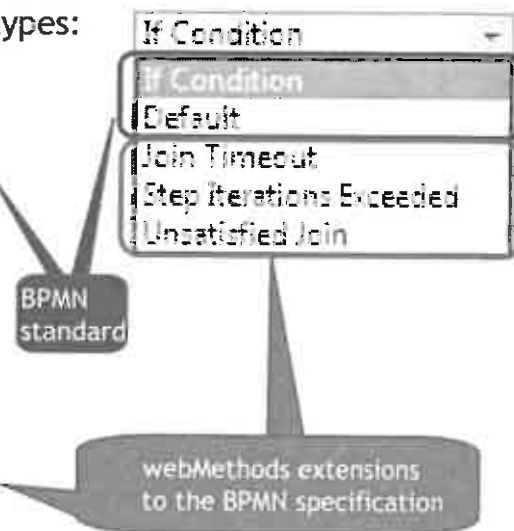
Join Timeout Transitions (Revisited)

- If a joining step has a configured Join Timeout this enables you to add an outgoing conditional transition of type "Join Timeout"*

- Only available for joining Activities, Events and Complex Gateways with Join types AND or COMPLEX

- Timeout condition displayed as annotation

- Helps to create robust processes
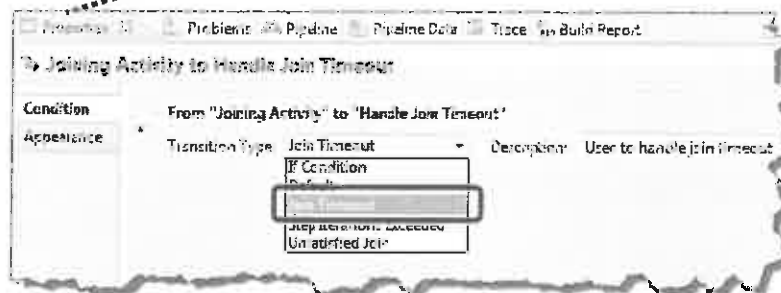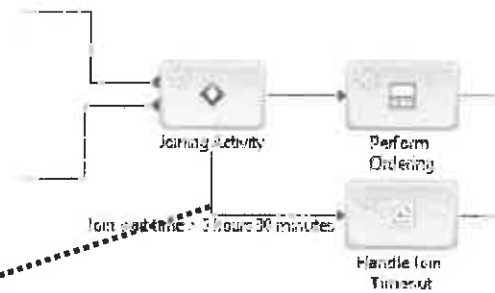
* webMethods extension to BPMN specification

Software AG Training 11 - 29

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Unsatisfied Join Transitions (Revisited)

- Joining step with join type AND, OR or COMPLEX enables you to add an outgoing conditional transition of type "Unsatisfied Join"*

- Transition only used if joining step is unsatisfied

- Not used in case of a Join timeout

- If the transition Description property is defined it will be displayed as annotation on the transition, otherwise "Unsatisfied Join" will appear
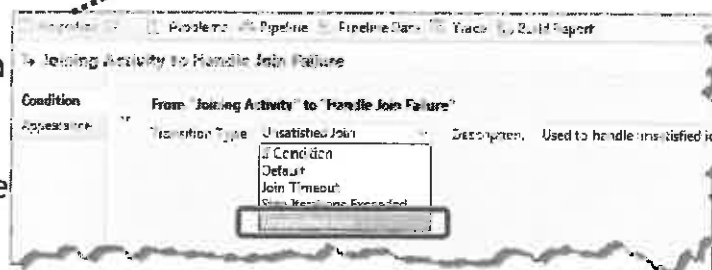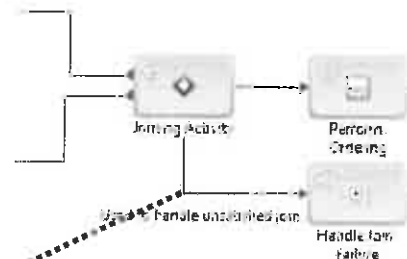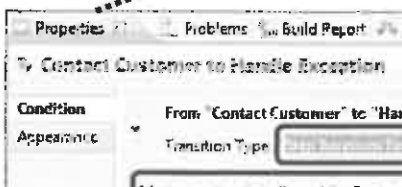
* webMethods extension to BPMN specification

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Step Iterations Exceeded Transitions

- Number of step iterations can be limited for each
  - Activity
  - Gateway
  - Start and Intermediate Event
- Transition of type "Step Iterations Exceeded"* enables you to specify the maximum number of step iterations (0 = unlimited)
- Limit appears as an annotation on the transition
- Avoids endless loops at process execution
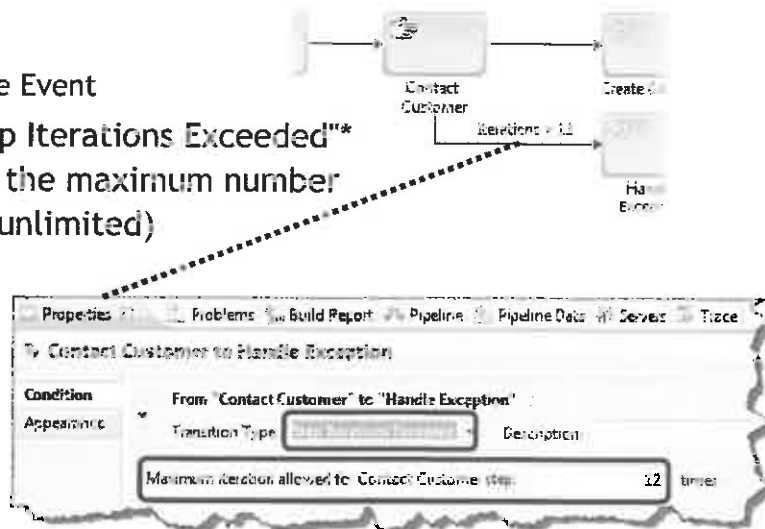
* webMethods extension to BPMN specification

Notes:

Enhanced Pipeline Data in Case of Exceptional Transitions

- In case of
  - triggered Boundary Error/Timeout Events with outgoing transitions
  - used special conditional transitions of type Join Timeout, Unsatisfied Join, or Step Iterations exceeded

  target step wants to know:
  - Why did I get here?
  - Where did I come from?

- In these cases pipeline contains a document of type
  `pub.prt.ExceptionTransitionInfo`

- Helps to investigate the exception

Software AG Training | 11 - 32

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Retry IS Service Invocation

- Service Task Activities enable you to configure the re-invocation of an
  - IS Service
  - IS Web service
- Parameter Step Retry Count specifies number of times the Process Engine will retry the invocation (Default: 0)
  - Only re-invoked when a service returns an `ISRuntimeException` error
  - Any other exception will cause the step to fail
- Parameter Step Retry Interval specifies number of milliseconds the Process Engine will wait between retry attempts (Default: 60000 ms)

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12a

webMethods Business Rules

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Objectives

- At the end of this section you will be able to
  - Understand the webMethods Business Rules architecture in a webMethods environment
  - Create and test simple Business Rules in Designer
  - Deploy Business Rules to an Integration Server
  - Invoke Business Rules from a process Rule Task Activity
  - Deploy a Rules Management Console (RMC) to MWS
  - Perform instant Business Rule modifications using an RMC

Software AG Training | 12a - 2

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Flexible Business Demands
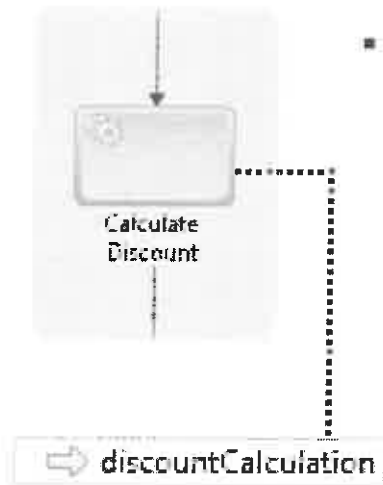
- Business computations often rely on complex decision chains
- Decisions may change because of altered business demands and conditions
- Using IS services to implement these business decisions results in
  - business logic hardcoded in service(s) (tight coupling to process activity)
  - IT developer is required any time business logic service(s) has to change
  - rule changes require reprogramming service(s) and sometimes reverse engineering is required to figure out existing rule
  - possible development / deployment delays due to resource availability issues
  - re-testing and re-deployment delays
  - less flexibility for the business

Calculate
Discount

discountCalculation

Notes:

Business Rules - Decision Making Flexibility

Business Rules

Previous purchases	Price of item	Discount	D1
>10	>50	20%	
Between 5 - 10	>50	15%	
Between 1 - 5	>50	10%	
N/A	<=50	2%	

Rules reorganized and changed

Previous purchases	Price of item	Discount Tier	D2
>10	>50	Tier1	
Between 5 - 10	>50	Tier2	
Between 1 - 5	>50	Tier3	
N/A	<=50	Tier4	

Customer Status	Discount Tier	Discount	D3
Gold	Tier1	20%	
Gold	Tier2	20%	
Gold	Tier3	15%	
Gold	Tier4	10%	
Silver	Tier1	15%	
Silver	Tier2	10%	
Silver	Tier3	5%	
Silver	Tier4	2%	
Regular	N/A	1%	

- Uncouple business decisions from your process by invoking a Rule Engine
- Process asks for WHAT you want - no more need to specify HOW to get it
- Rule engine figures out, based on the data you pass to it, which rules to invoke

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webMethods 8.2 BPM for Developers

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Rules in webMethods - Don't get Confused

- **Business Rules** `this chapter` `see chapter 12b`
    - Implemented by webMethods Business Rules and/or Blaze Business Rules
    - webMethods Business Rules:
        - Created in a webMethods Business Rules Project in Designer
        - Deployed to an IS

- CAF Rules
    - used to assign start pages, shells and skins to groups in MWS

- Optimize Rules
    - BAM Asset
    - Abnormal KPI Reading

- Trading Networks Processing Rules

Ruler

Rule of Thumb

Not covered in this class.

Software AG Training | 12a - 5

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Business Process Invokes webMethods Business Rules

- webMethods Business Rules can be executed from a Business Process by a Rule Task Activity of type webMethods Business Rule

- Activity invokes
  - single Decision Table
  - entire Rule Set
  contained in a Rule Project

- Rule project must be deployed to a Rule Engine in an Integration Server

- Decision entities can be developed, tested and deployed in Designer using Rules Development perspective

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webMethods Business Rules and BPMS - The Big Picture

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webMethods Business Rules

* Some Definitions:
    - Rule is a like an IF-THEN statement contained in webMethods Business Rules decision entity, e.g. a Decision Table.
    - If a Rule "fires", defined assignment(s) and/or action(s) are performed.
    - A Decision Table contains one or multiple rules of the same structure and belongs to a Rule Project.
    - Decision entities within one project can be grouped to a Rule Set.
    - Decision entities have named parameters based on Data Models; Data Models are derived from IS documents.
    - Decision Entities or Rule Sets can be tested within Designer or executed by a Rule Engine hosted in an Integration Server.

* Some Features:
    - Tight integration between webMethods Business Rules and webMethods BPMS
    - Common IS document structures used in both products; fully integrated into Designer
    - Bi-directional interoperability:
        * Decision entities or Rule Sets can be invoked from a Business Process.
        * Actions in a Rule can be configured to start, cancel, suspend or resume processes
        * Actions in Rule can be configured to queue a User Task
        * User Tasks can be configured to invoke webMethods Business Rules decision entities to determine User Task assignee(s)

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Rules Development Perspective in Designer
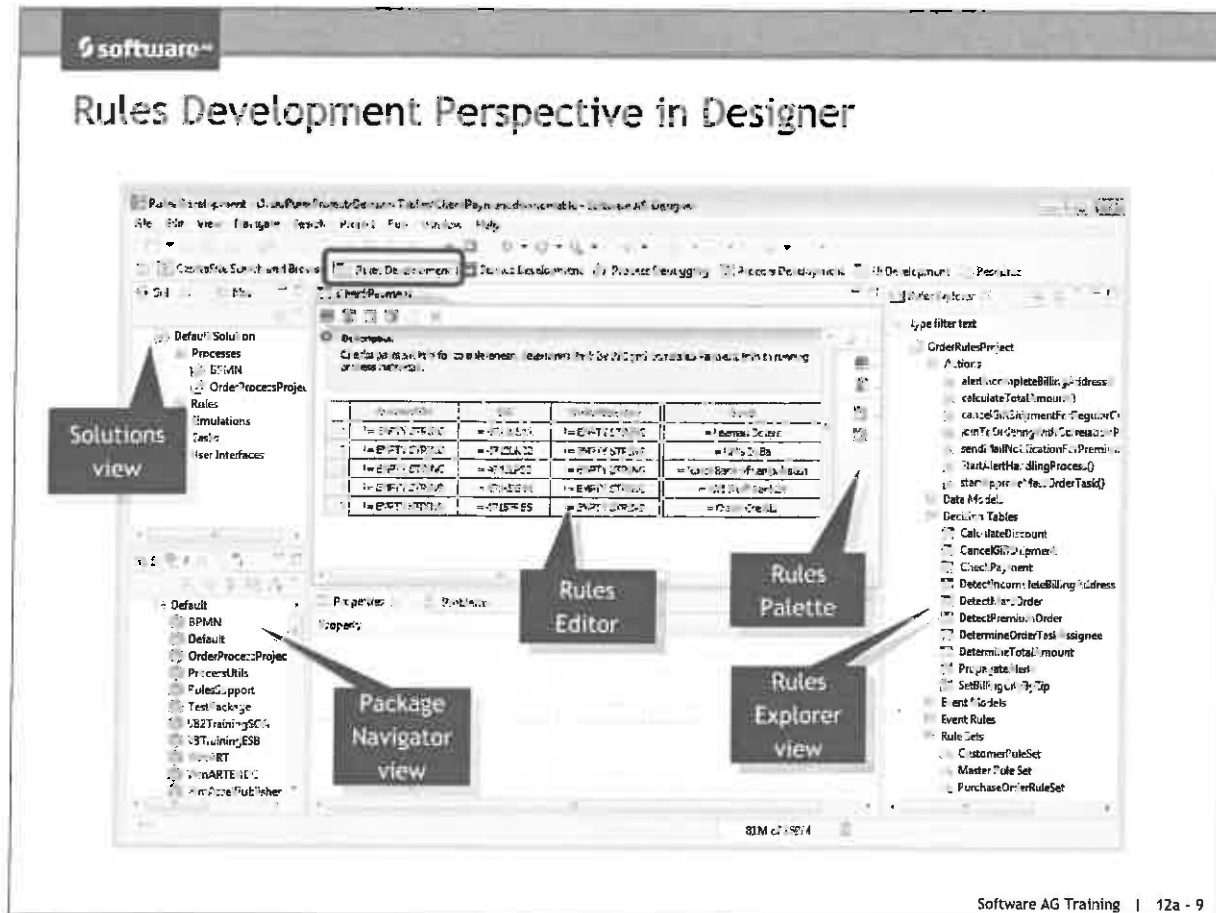
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Create a Decision Entity

1. Create Rule project

2. Create Data Models from IS documents

3. Create Decision Entity of type Decision Table
   a. Name and description
   b. Parameters with type and direction
   c. Input parameter elements for conditions
   d. Output parameter elements for results
   e. *Optional*: Result actions
   f. Add Rules

4. Save and test in Designer

structure

content

Notes:

1. Create Rule Project

- Add Rules Project from Rules Explorer or Solutions view:

Rule project stored in Designer workspace (default) or VCS

Rule project used as container for decision entities, data models, actions, rule sets,... . Content only shown in Rules Explorer view.

- **Project added to Rules Explorer and Solutions view**

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2. Create Data Models from IS Documents

- Add Data Model to Rules Project:

- Select desired IS document as source type
- Requires an active IS connection

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Resulting Data Model

- Data Model added to Rules Explorer view (NOT Solutions view)

- Embedded doctypes generated as additional Data Models on the fly

- Origin is kept in Data Model

- Rename, if desired

- Sync Data Model enables you to synchronize the underlying IS document type with the data model
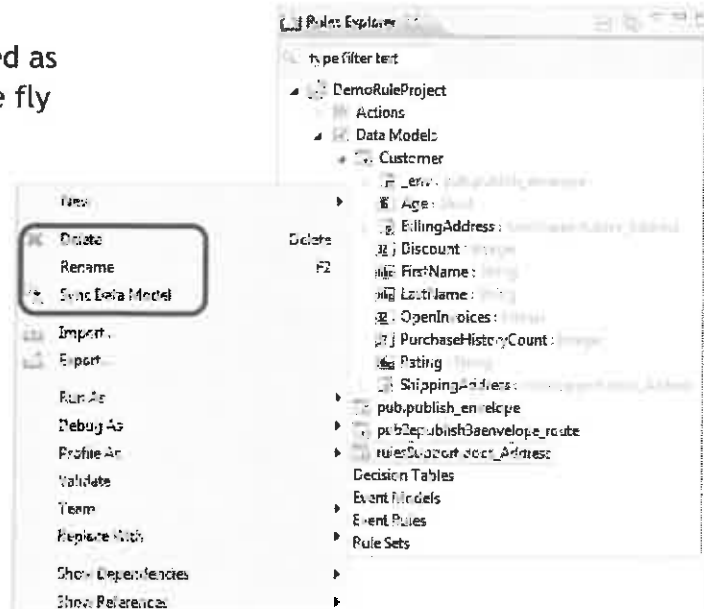
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3.a-e: Create Decision Entity of type Decision Table ...

- Provide name, Rule Set and description (optional)
- Master Rule Set is mandatory

Named instance of a Data Model with I/O direction, must be later in the pipeline of invoking business process

- Select Data Model for parameter
- Choose direction
- Adapt name (if desired)

Notes:

...3.a-e: Create Decision Entity of type Decision Table

- Select Parameter Elements for Rule conditions
- Rename label, if desired

- Select Parameter Elements used as Rule results
- Rename label, if desired

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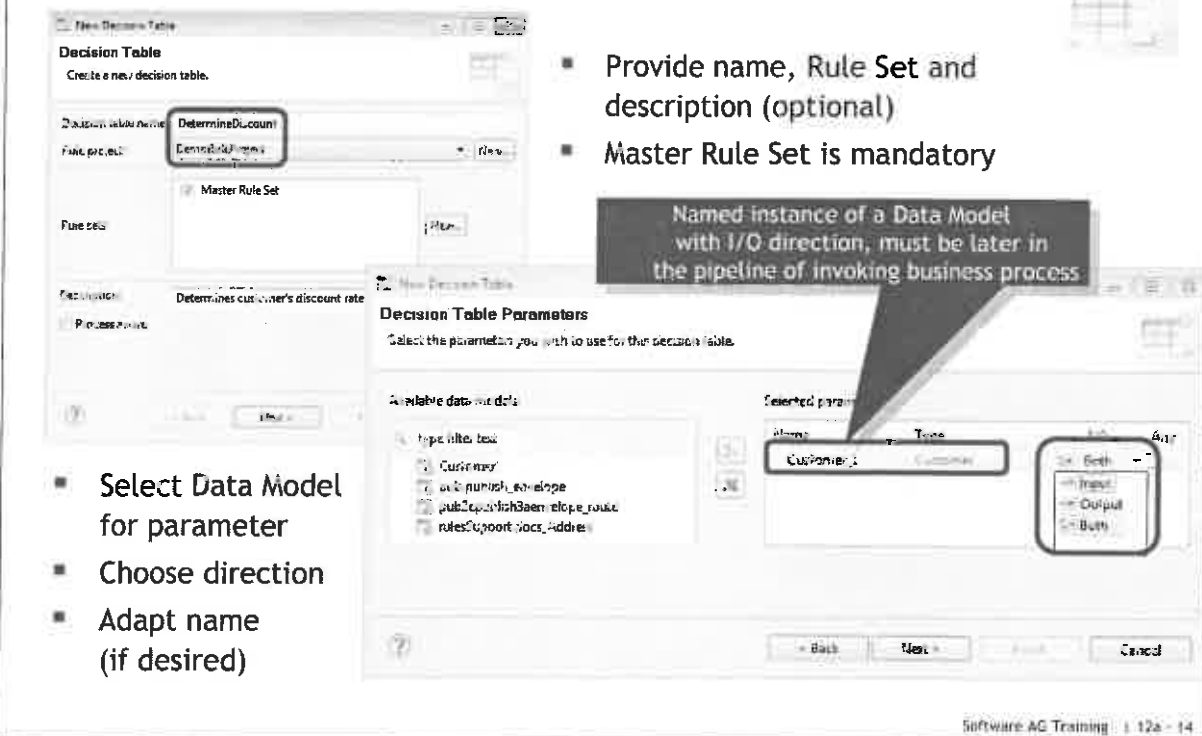
Resulting Decision Table Structure

- Empty Decision Table opened in Rule Editor and added to Rules Explorer view:

Parameter direction
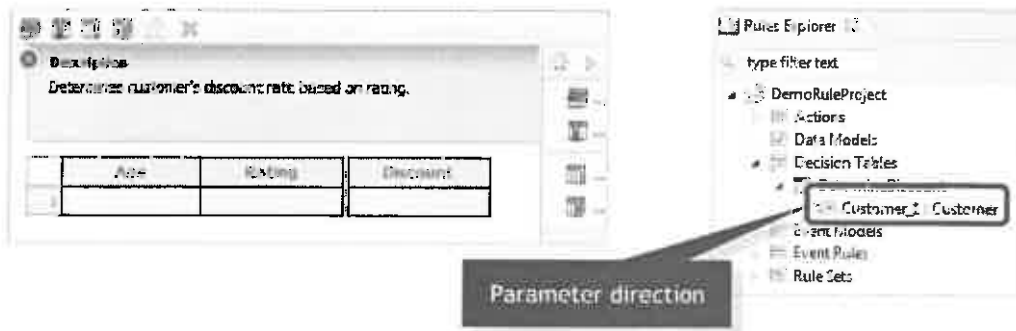
- Add/modify Rules in Rules Editor

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3f. Adding Rules to Decision Table – Rules Editor and Palette

Add a new condition to the end

Add a new assignment to the end

Add a new action to the end

Add new rule to the bottom

Delete selected elements

Rule – Add a new Rule

Collapse/Show description

Description
Determines customer's discount rate based on rating.

Condition – Add a new Condition

Assignment – Add a new Assignment

Clear selected elements

Age	Rating	Discount

Action – Add a new Action

Rules Editor   Palette

- Use appropriate icons in Rules Editor panel or use icons from Palette to customize Decision Table:
  - Add/modify Rules (rows)
  - Add/remove/rename columns (conditions, assignment results, action results)

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Format Cell

- To create simple condition/ assignments right-click cell and select appropriate comparison operator

- Operator data type-sensitive

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Extended Cell Editing

- Pencil opens extended cell editor
- Allows literals, parameters, actions, constants to be used in conditions & assignments

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    12a - 19

4. Save and Test Decision Table in Designer...

- Saved Decision Entities like Decision Tables can be tested standalone in Designer - no IS connection required
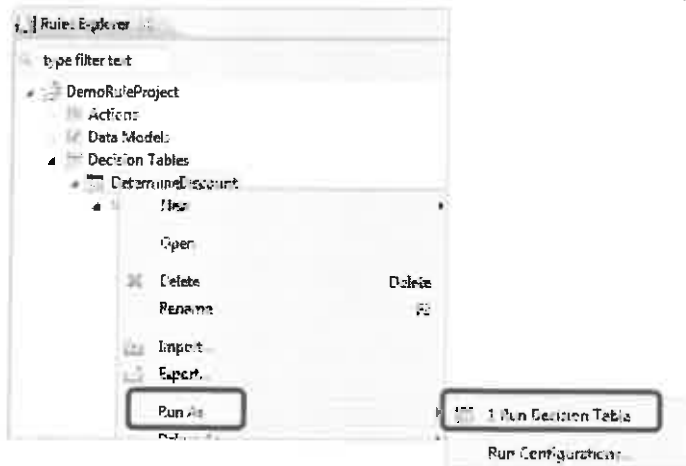
- If you have unsaved changes, you will be prompted to save them

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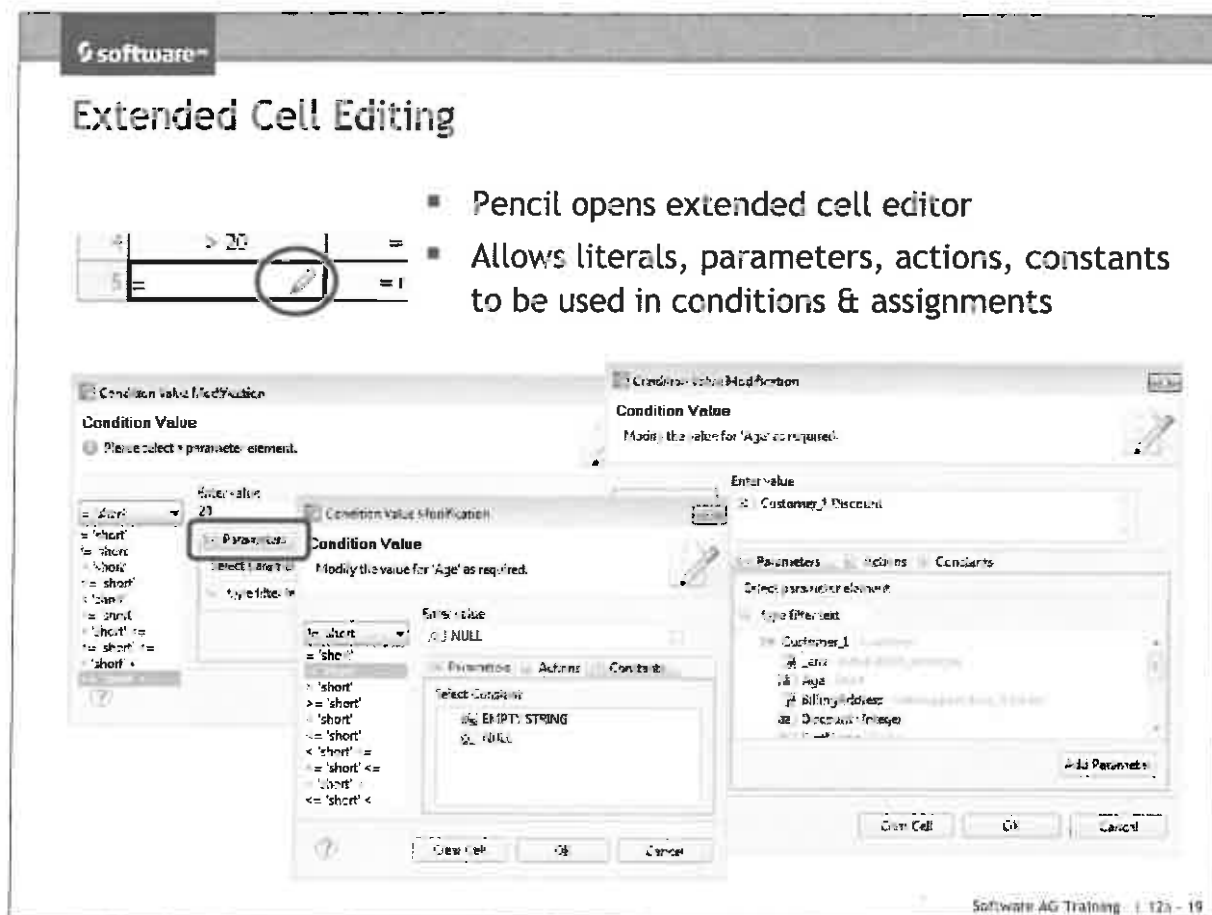
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...4. Save and Test Decision Table in Designer

- Provide inputs on appearing panel.
- Check "Include empty values for String Types" if necessary.

- Results are shown in Results view:
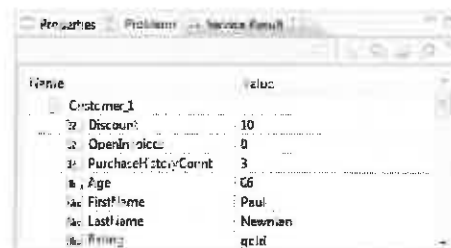
- Use Save/Load Inputs for repeating tests.

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Deployment to Rule Engine in IS

- To invoke a decision entity from a process, the corresponding Rule Project has be deployed to an IS
  - from Rules Explorer view
  - from Solutions view

- Requires a configured IS connection in Designer

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Rule Engine in Integration Server

- Rule Engine pre-started inside IS
- Implemented by package WmBusinessRules

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Invoke webMethods Business Rules from a Business Process...

- webMethods Business Rules can be executed from a Business Process by a Rule Task Activity of type webMethods Business Rule

- Activity invokes
  - single Decision Table
  - entire Rule Set

  contained in a deployed Rule Project

- Configure Rule Task Activity to invoke webMethods Business Rules Decision Table
  - Support for drag & drop from Rules Explorer view

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...invoke webMethods Business Rules from a Business Process

- Ensure that Inputs/Outputs of the Rule Task Activities match Decision Tables parameter type and name

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Rules Management Console (RMC)

- Intended for Business Users to perform dynamic rule modifications in My webMethods

- Requires for an additional deployment from Designer

Notes: _____

Prerequisites for using the RMC - Overview

1. MWS security setup for target Rule Projects folder in MWS Content Repository
2. MWS security setup for accessing the RMC and the Rule Projects in My WebMethods
3. Configure MWS Repository Connection in Designer Preferences
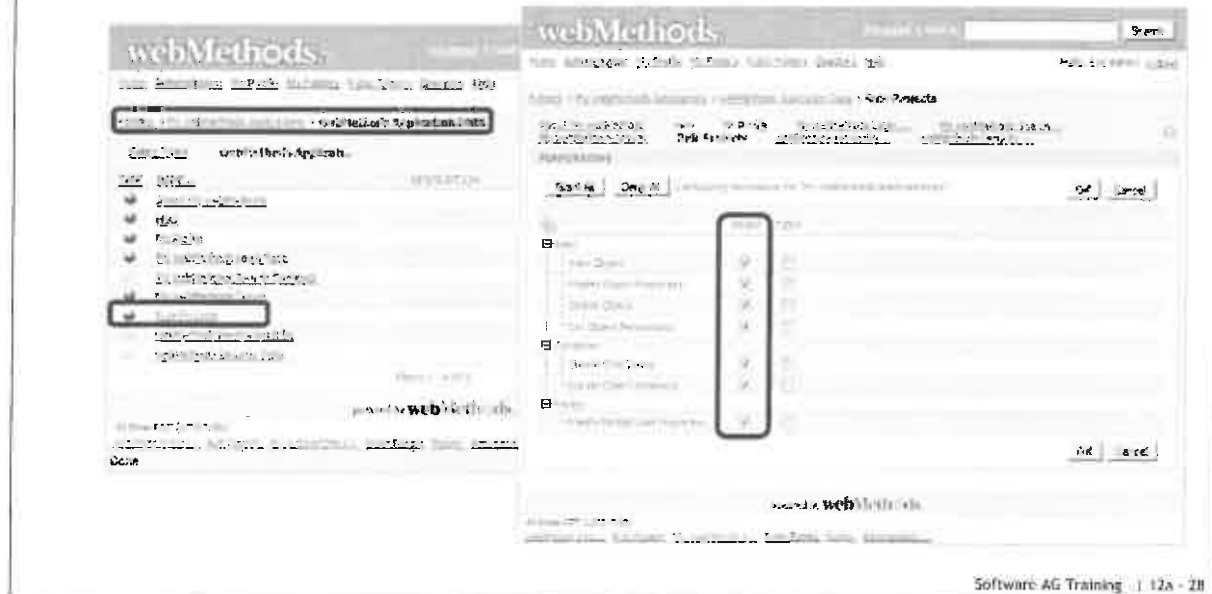4. Deployment of Rule Project from Designer to MWS Content Repository

- For more details refer to the document
  "*Working with Business Rules in My webMethods*"

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1. MWS Security Setup for Target Rule Projects Folder

- Grant Permissions to Rule Projects folder in MWS Content Repository for the deploying user in Designer

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2. MWS Security Setup for Accessing the RMC

- Grant Permissions for accessing the RMC and the Rule Projects in the RMC within My webMethods for Business Rule users
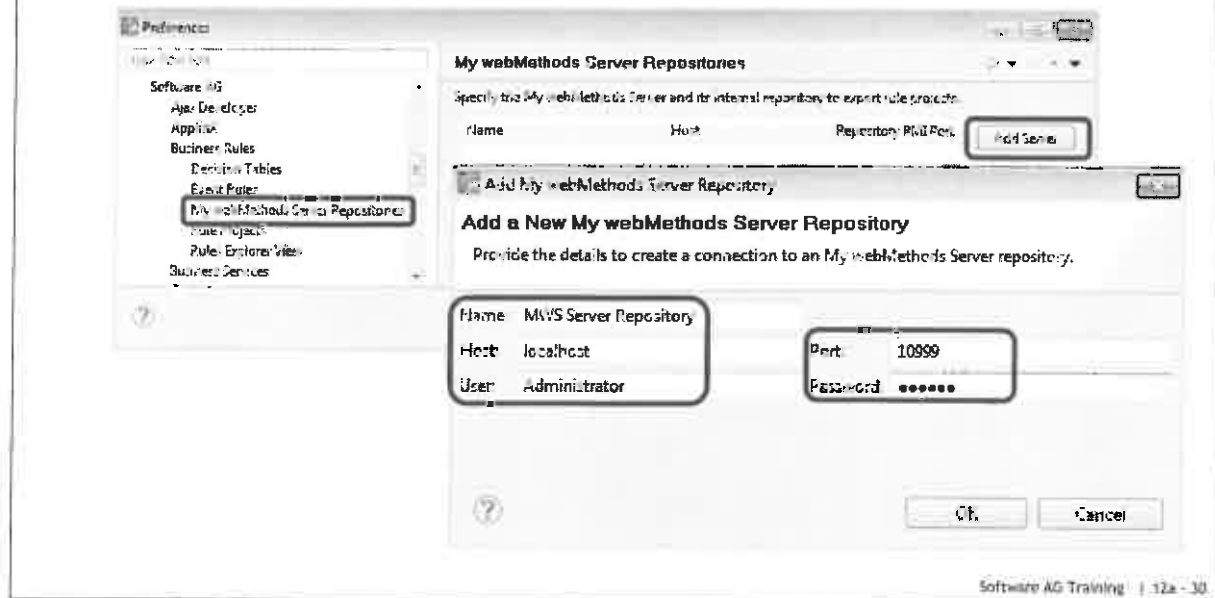
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3. MWS Repository Connection in Designer

- RMC deployment requires a configured My webMethods Server Content Repository Connection in Designer Preferences
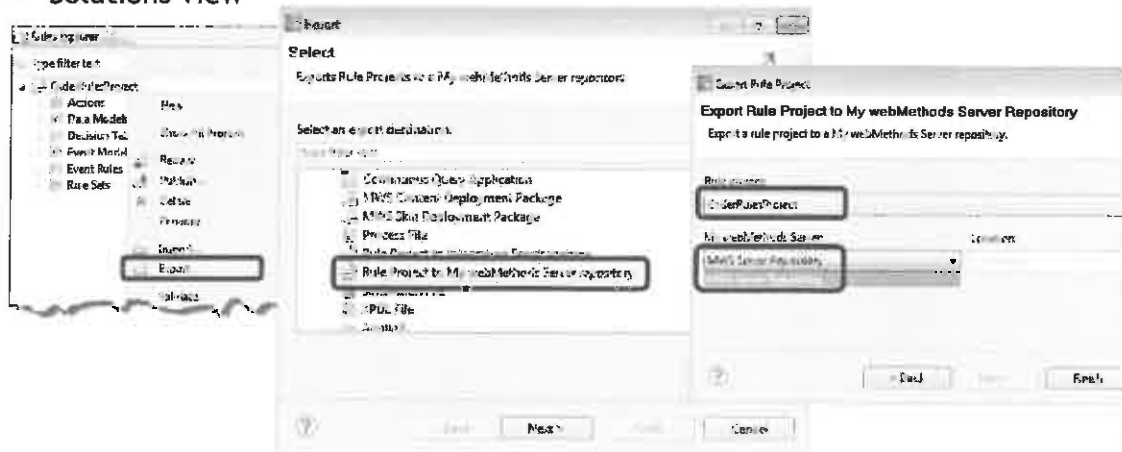

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4. Deployment of Rule Project to MWS Content Repository

- Rules Projects could be deployed to an MWS Content Repository from
    - Rules Explorer view
    - Solutions view

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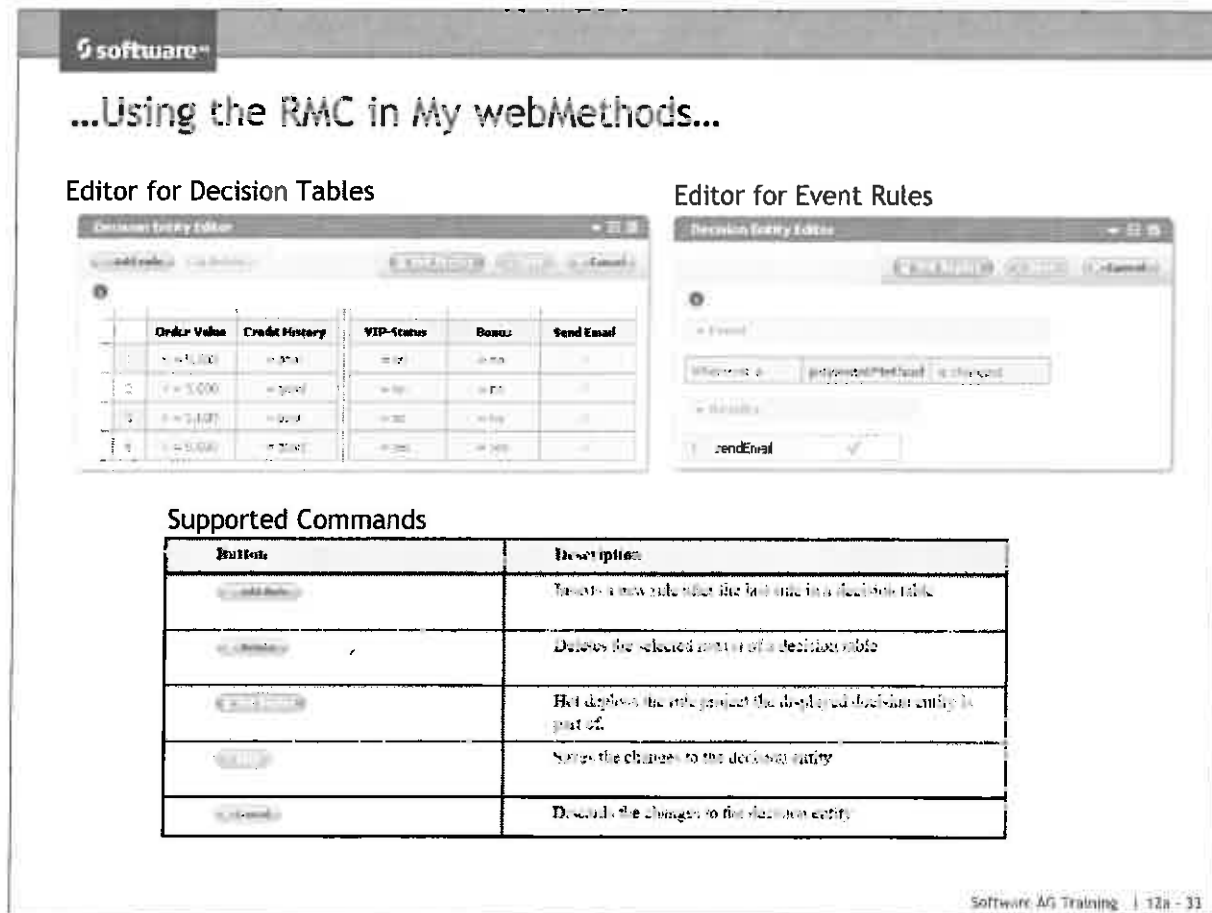_____

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Using the RMC in My webMethods...

- Business Rules User can logon to Rule Management Console
- Have to click "Update Entries in Navigation Pane" first
  ➡ Deployed Rule projects become visible in RMC

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...Using the RMC in My webMethods...

Editor for Decision Tables

	Order Value	Credit History	VIP-Status	Bonus	Send Email
1					
2					
3					
4					

Editor for Event Rules

sendEmail ✓

Supported Commands

Button	Description
add rule	Inserts a new rule after the last rule in a decision table
	Deletes the selected rows of a decision table
	Hot deploys the rule project the displayed decision entity is part of.
	Saves the changes to the decision entity
	Discards the changes to the decision entity

Notes:

...Using the RMC in My webMethods

- **Save:** Persists changes to Content Repository in MWS
  - Sync with Designer workspace/VCS requires for additional import from Designer

- **Hot Deploy:** Syncs with Rule Project from RMC to one or multiple IS
  - IS connections have to be pre-configured for RMC:

Notes: _____

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More Information

- webMethods Business Rules:
  More Information at class *webMethods 8.2 Business Rules*

- Blaze:
  A Blaze Business Rules tutorial available at the Software AG
  Developer Community:
  http://communities.softwareag.com/ecosystem/communities/public/Developer/
  webmethods/products/bpm_suite/tutorials/blazebusiness/index.html

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webMethods Business Rules vs. Blaze Business Rules

- webMethods BPMS supports webMethods Business Rules and FICO Blaze Business Rules.
- webMethods Business Rules was designed complement webMethods BPMS to fully support use cases that webMethods BPMS requires.
- webMethods Business Rules is not intended to have all of a Business Rules Management System (BRMS) capabilities that FICO offers.

	webMethods Business Rules	FICO Blaze Business Rules
Rules interact with Business Processes	Yes. BPMS processes can be started, stopped, suspended, failed, resumed, and canceled. Manual decisions (tasks) are also supported.	Custom coding required
Rule execution of IS Services	IS services can be invoked using Rule actions.	Custom coding required
Integrated with Designer	Rules are designed and tested in Designer. Rule decision tables can be dragged and dropped into business processes.	No

Notes: _____