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15

Business Process Modeling

Notes:

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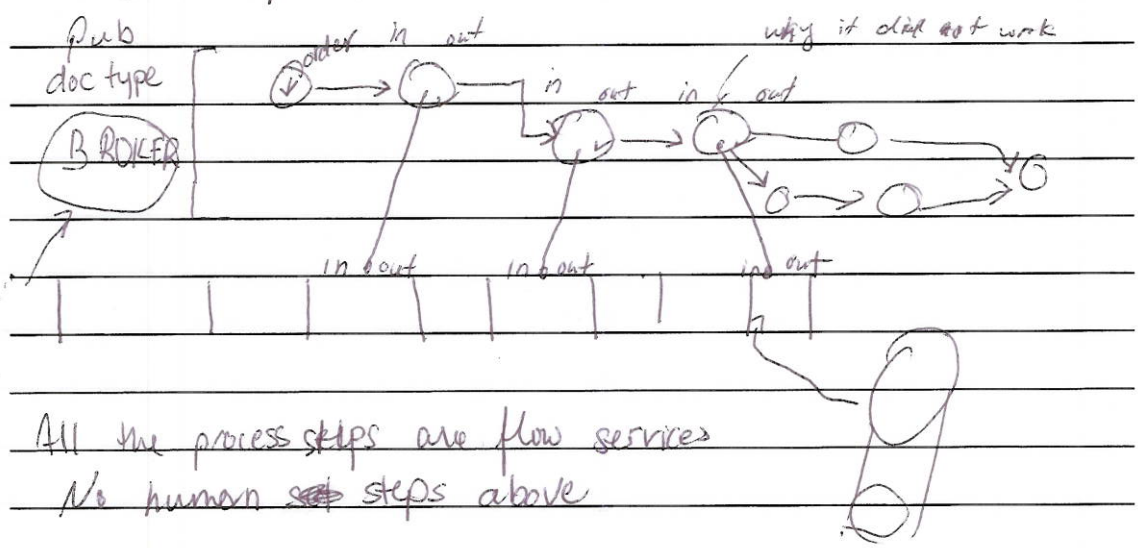
Objectives

- At the end of this section, you will be able to:
  - Understand Business Process Management in webMethods 8 Product Suite
  - Use the Designer to modify business processes
  - Generate business processes
  - Update generated services for execution

Notes: Now we use a new perspective which is Process Development.



All the process steps are flow services
No human steps above

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Business Process Management

- BPM: the ability to define, manage, analyze, and optimize interaction between systems, partners, and personnel.
  - Doing so gets the right information, approvals, responses at the right time to the right people.
- Business processes can represent any set of inter-related tasks in a corporation:
  - handling a new sales order
  - processing for a new employee
  - product lifecycle activities
  - etc.

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Business Process Management Suite

- As part of webMethods 8 Product Suite, webMethods provides Business Process Management via four primary components:
  - Process Engine (execution and coordination)
  - Task Engine (handling of human interaction)
  - My webMethods Server (administration, monitoring and optimization)
  - Broker (messaging in distributed process environments)
- At design-time, processes are created with the Eclipse-based Designer.

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Notes: Task Engine is lives in my webmethods server
Process Engine lives in IS

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Steps to Creating a Basic Business Process

- Add a Designer project.
- Add a business process.
- Add pools (internal and external as needed).
- Add swimlanes to define organizations or actors.
- Add a receive step.
- Add invoke and task steps.
- Connect the steps with transitions.
- Define input and outputs.
- Define process level properties.
- Save and build!

Details on all of these steps are covered in our "BPM for Developers" course.

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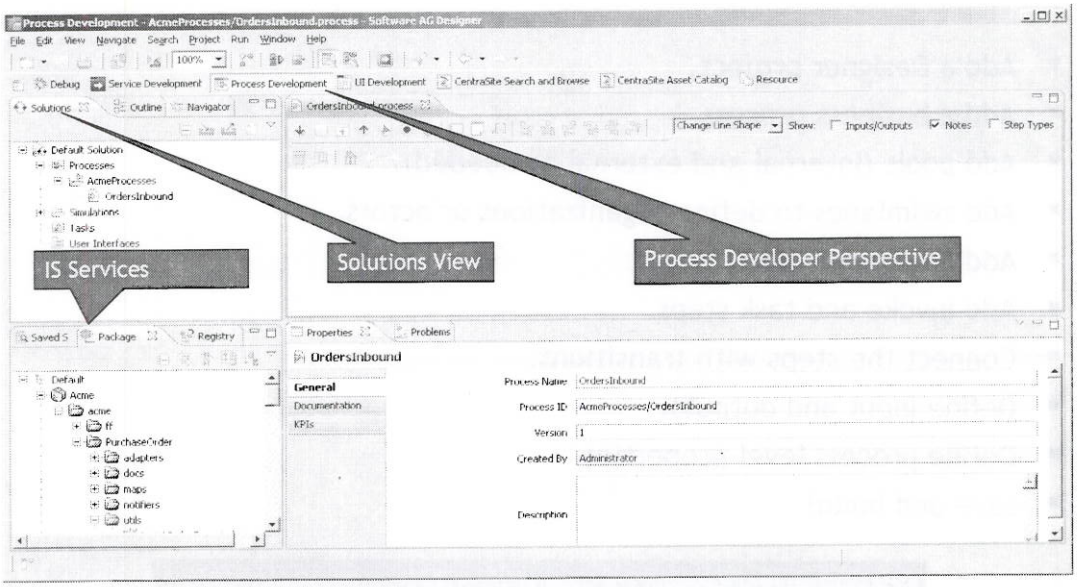
Designer Usage Tour: Main Screen



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Notes: Properties are base on the top level process flow

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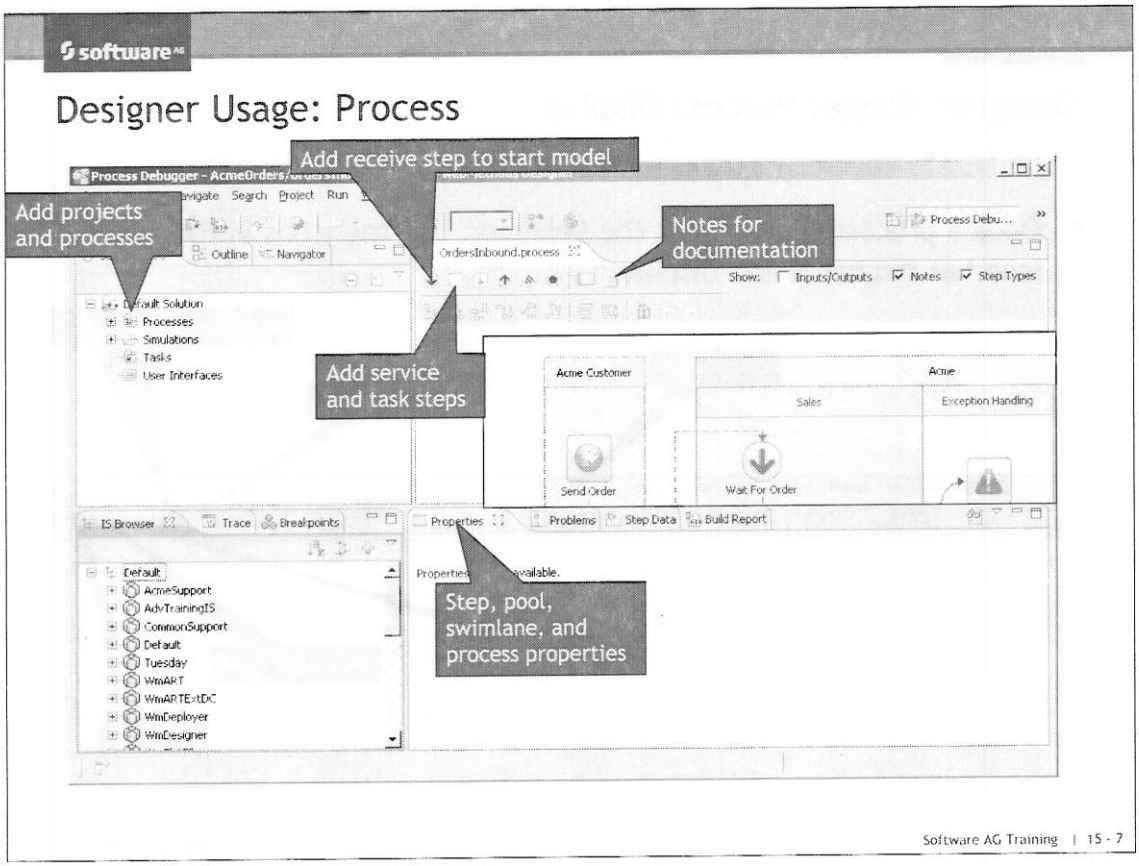

Notes: Swim lanes are created to show the area where a process is scope

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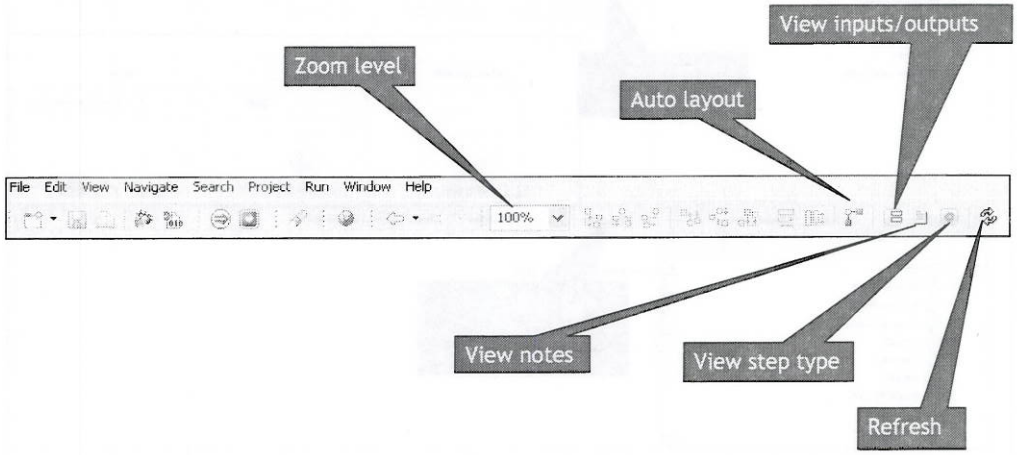
Designer Usage: Process Display

- Once a process is opened in the Designer, use the icons in the main icon bar to change the display.



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Notes: We can add notes to add documentation

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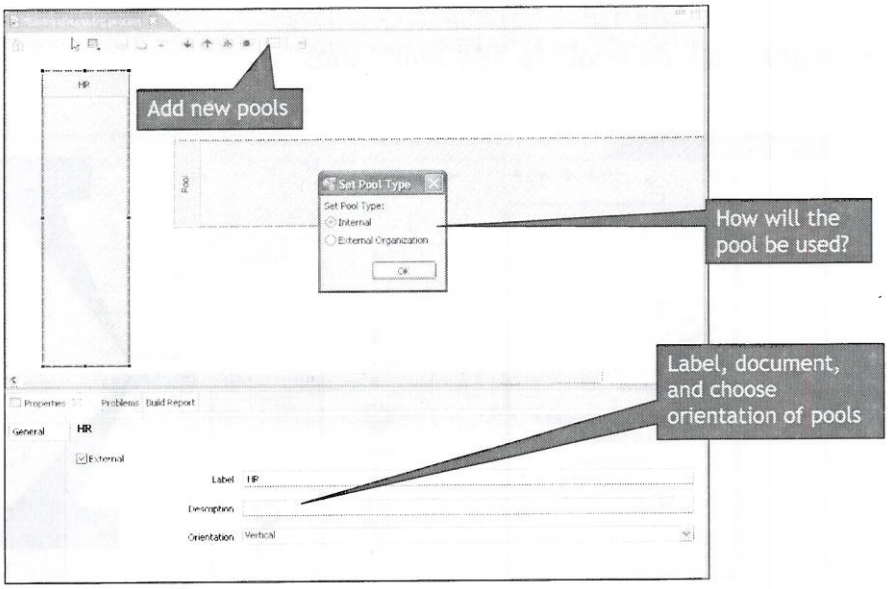
Designer Usage: Pools



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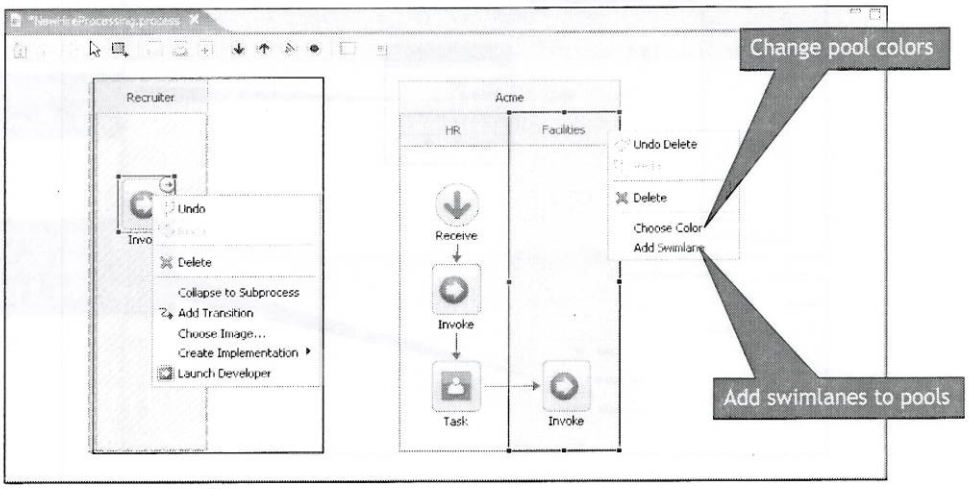
Designer Usage: Swimlanes

- Right-click on pools to add swimlanes.



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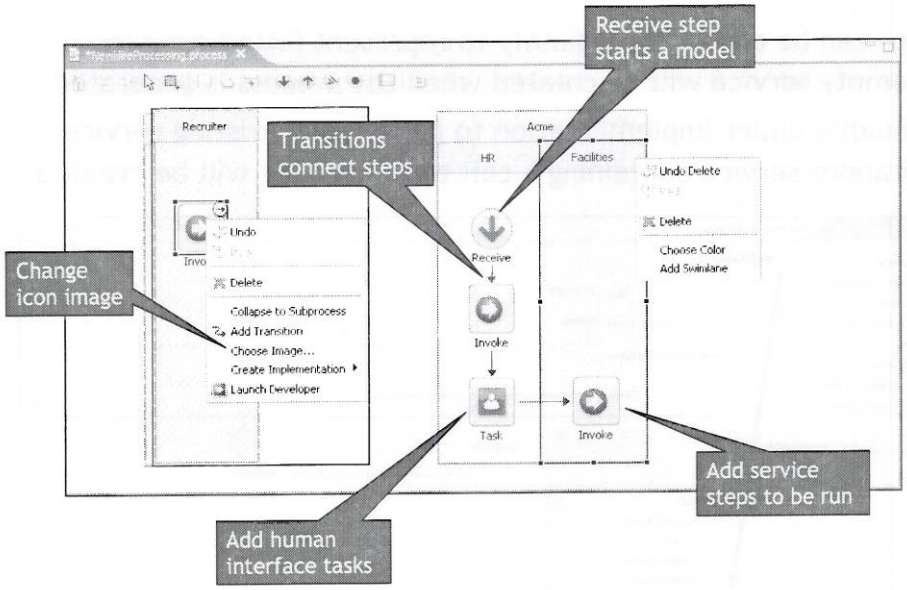
Designer Usage: Steps and Transitions



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Notes: Receive step is required

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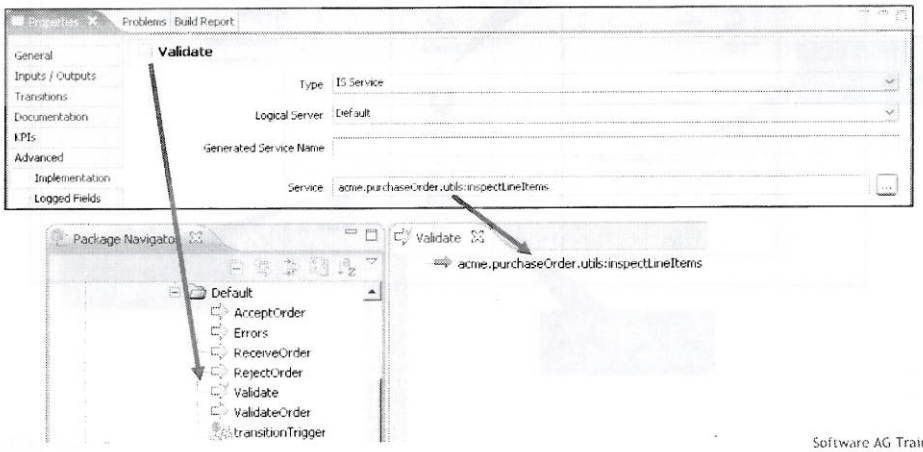
Step Details

- Steps can be added immediately to represent future services. An empty service will be created when the process is generated.
- Or modify under Implementation to point to an existing service. A wrapper service containing a call to the service will be created.



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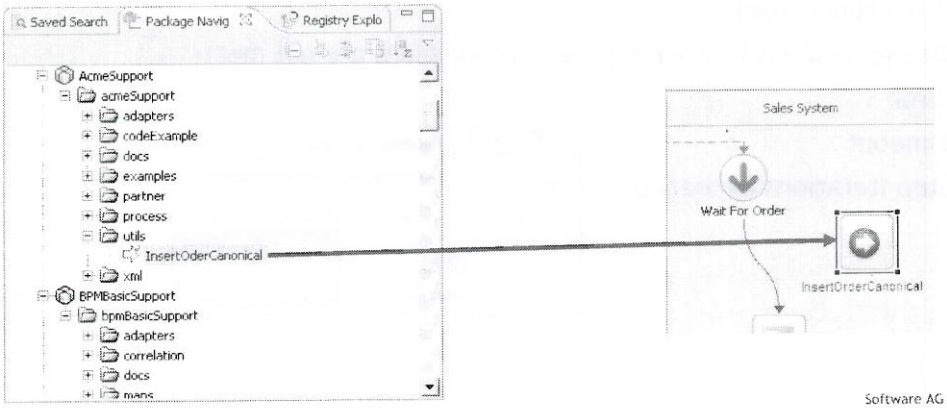
Drag and Drop to Add Steps

- Steps can be added by clicking on the Activity Step tool bar button.
- Service invoke steps can also be dragged from the IS browser:
  - select the desired server from the browser on the left
  - drag the item onto the appropriate area of the process canvas
  - change properties (step name, signature) as appropriate



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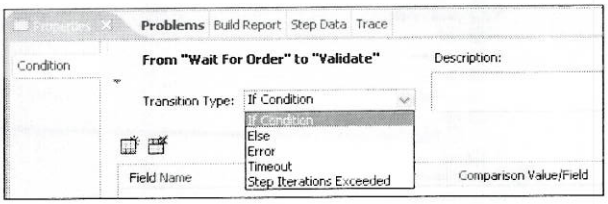
Transition Details

- A process may take different routes based on transition logic. Logic can be based on process data.
- For example, a single step may have two transitions leaving it. The transitions each have expressions that will be tested prior to execution.
  - If (isValid = true)
  - Else (execution if other expression conditions are not met)
  - Error
  - Timeout
  - Step iterations exceeded



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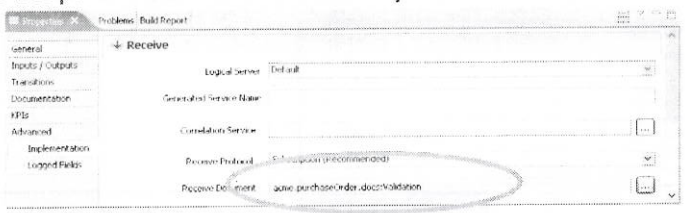
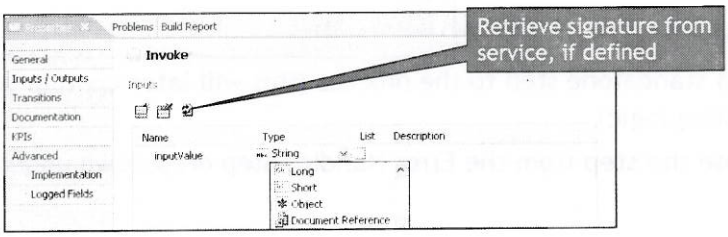
Designer Usage: Inputs and Outputs

- Receive steps should have a subscription.



- Invoke steps can have manually added signatures, or they can be retrieved from the service defined in Implementation.



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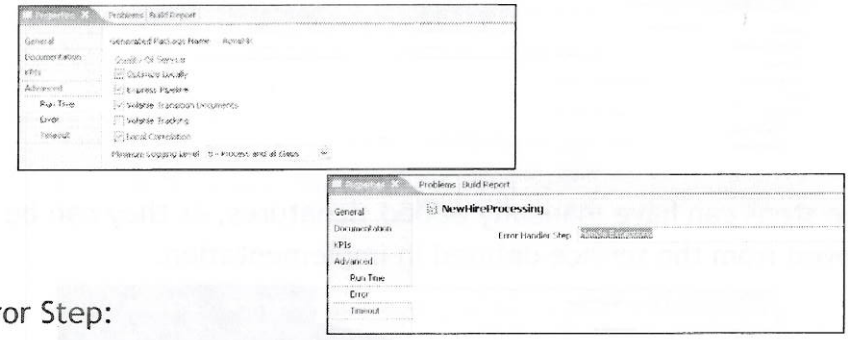
Designer Usage: Process Level Properties

- Click on the white space to see Process Level Properties.



- Error Step:
  - add a standalone step to the process (this will later contain error handling logic)
  - choose the step from the Error Handler Step drop down under Error

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Notes: We can have a process float out of swim lanes; that is used to handle any errors that occurs with in the process flow

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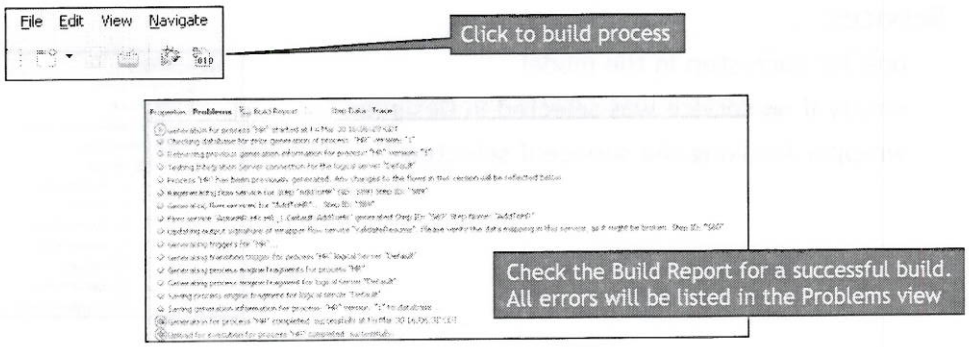
Saving and Building

- Once complete, the process must be saved and built.
- Building the process:
  - generates flow services and triggers
  - places process information in the database set by the Designer Process Audit Database preference



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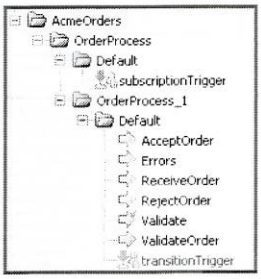
Results of Successful Build

- Building a process generates a set of IS services and triggers. These can be viewed in the Service Development Perspective - remember to refresh!
- Triggers subscribe to documents, such as the starting document in the receive step.
- Services:
  - one for each step in the model
  - empty if no service was selected in Designer
  - wrapper invoking the service if selected



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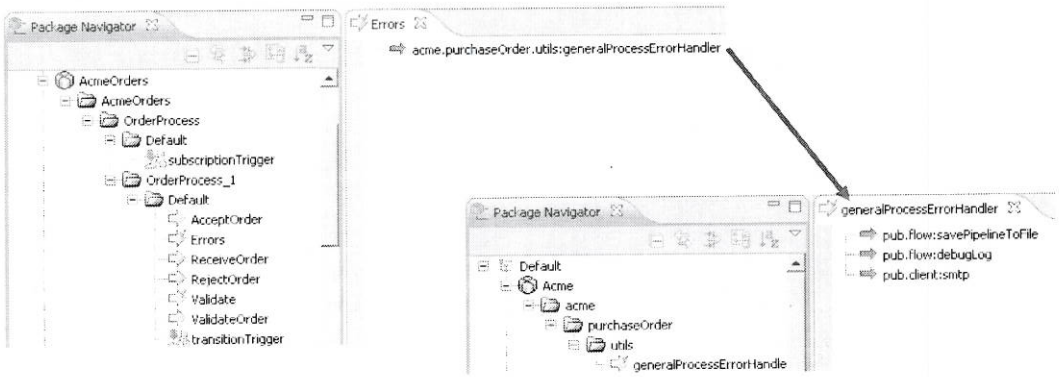
Add Logic to Generated Services

- Steps without selected Implementation services will be generated as empty services.
- Logic can be added directly to the generated 'wrapper' services however we recommend the wrapper invoke the business logic in another service. This separation is a best practice and will save you from losing your business logic if the step is deleted from the process.



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Notes: Best practice is to have all the Business logic in the process not in the flow ~~[illegible]~~ services

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Mapping in Generated Services

- Steps with Implementation services will be generated as flow services that call the chosen service.
- Always verify the mapping the generated services have between the generated service and the implementation service they call.

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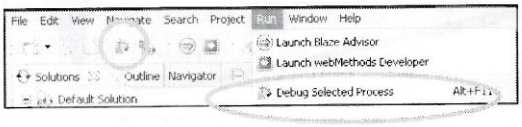
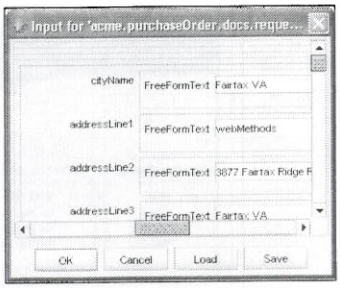
Ready to be Tested

- A completed process can be tested using the Designer debugging function:
  - processes must be saved and built before debugging
  - run -> debug Selected Process
  - provide data as needed for the starting Receive step
  - step through the process
  - run/resume to complete or cancel debugging





Notes: After you do a build, you will need to fill in the input document and step through the process just like you would do a flow services.

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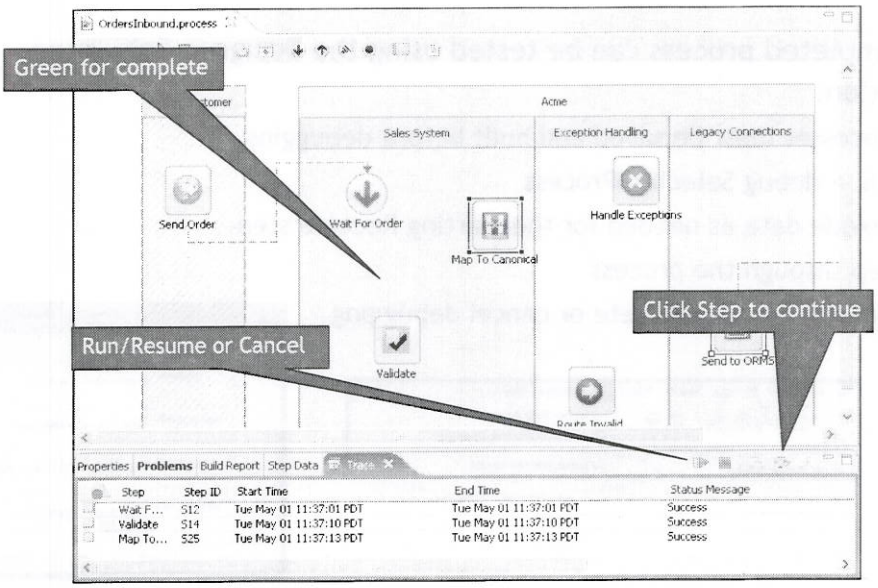
Testing a Built Process



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Ready to be Enabled

- Upon building a process, it is uploaded to the process database and ready to be enabled for execution.
- Changes to the logic of the underlying services do not require a rebuild/upload of the process, unless service signatures change and the process will utilize the change!
- If the model changes, the save and build step should be repeated.

Build of process "OrdersInbound" completed successfully at Mon Apr 30 09:22:04 PDT
Upload for execution of process "OrdersInbound" completed successfully.
Restoring Quality of Service settings from previous values for process: "OrdersInbound".

If the process has been debugged (tested), then it will already be enabled!

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Notes: When you run this process you have to enable in MWS

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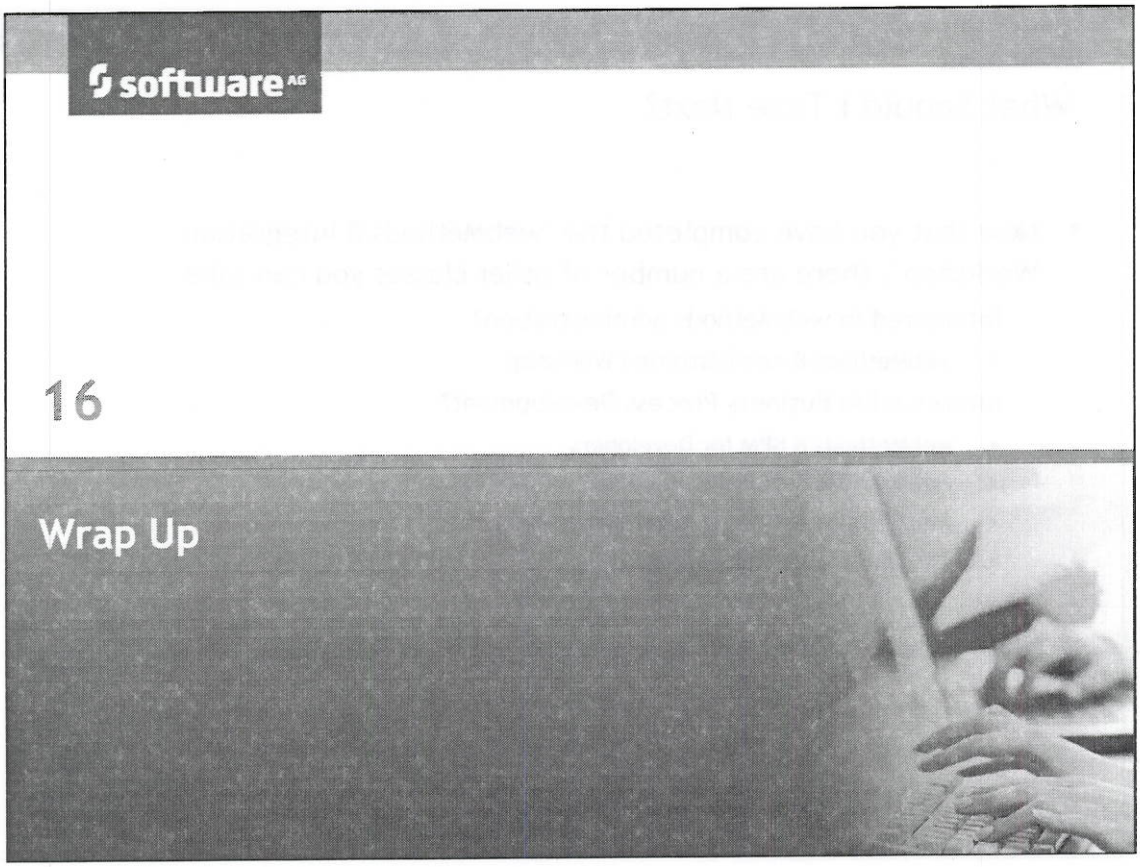

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What Should I Take Next?

- Now that you have completed the "webMethods 8 Integration Workshop", there are a number of other classes you can take:
  - Interested in webMethods administration?
    - webMethods 8 Administration Workshop
  - Interested in Business Process Development?
    - webMethods 8 BPM for Developers
    - webMethods 8 Optimize for Process
    - webMethods 8 Trading Networks Workshop
    - CAF UI & Portlet development

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- Find our Developer Communities at

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- Contact our Support web site at

  http://empower.softwareag.com

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Thank you

Questions and Comments

Thank you!

Please don't forget to complete a course evaluation.

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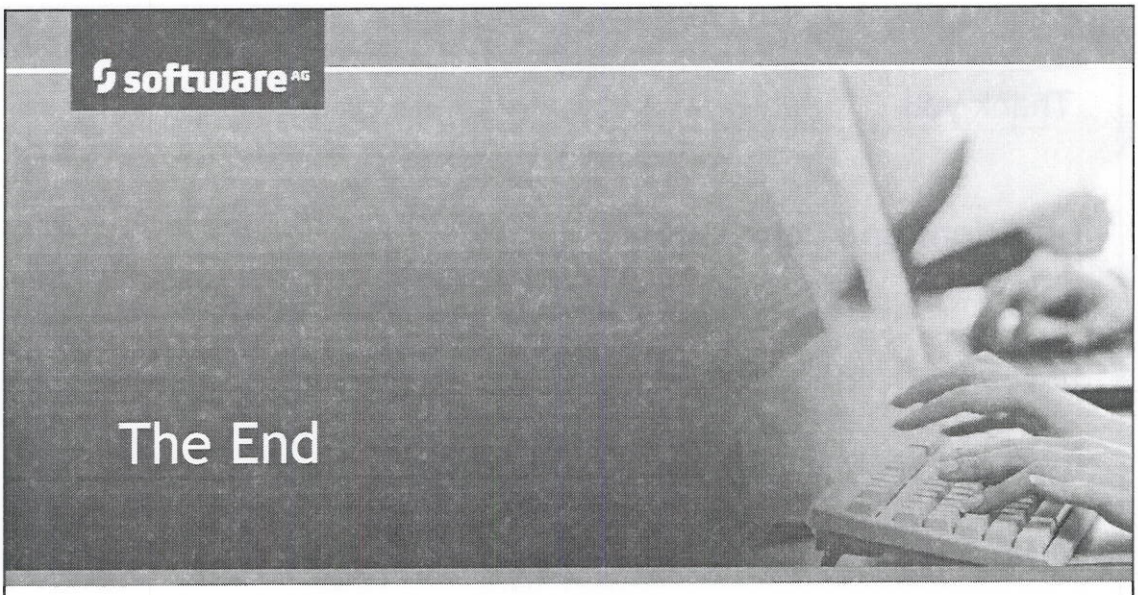

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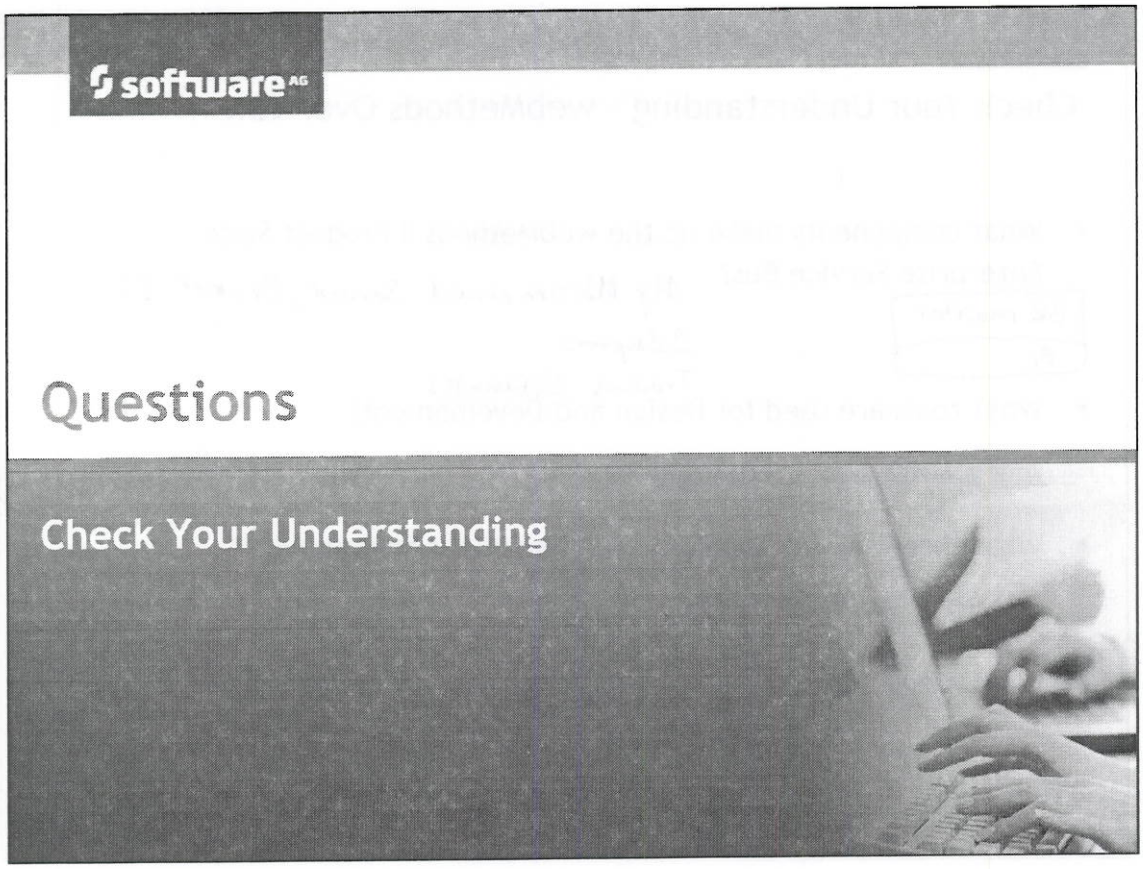

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Check Your Understanding - webMethods Overview

- What components make up the webMethods 8 Product Suite Enterprise Service Bus?

  My Webmethod Server, Broker, IS
  ~~Adapters~~
  Trading Networks

  BR monitor
  Br

- What tools are used for Design and Development?

  Developer + Designer

- What three servers should be running in our environment?

  IS, MWS, Broker

- What are the two common switches to use when starting IS?

  logging level + port number

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Check Your Understanding - Service Deleopment

- What are packages used for in webMethods?

  deployment: grouping of ~~or~~ related assets

- What is the name of the package that contains built-in Services?

  Wm Public

  watch out with na

- What is the Namespace?

  full qualifier

- Is this Namespace correct?
  MyPackage.myFolder.mySubFolder/myService

  no, can not have e

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Check Your Understanding - Introduction to Services

- What is the Pipeline?

  Key value pair that always in put is output previous step to the current value for a Setup and out is the input for the next step

- List 7 Pipeline data types

  ?

  String, String List, document, document List, Object, Ob.

- When should you create the Pipeline?

  It automatic create

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Check Your Understanding - Document Types

- What is the difference between a document and document type?

  document is actual data

- What are the ways a document type can be created?

  eform xml
  screen none-manual
  DTD

- How does one place a constraint on a field?

  select wizapp java type
  content ty

- When are constraints used?

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Check Your Understanding - Monitoring Services

- Which file contains the setting: **auditLog=** ?
- Why do you need a remote server alias?

  Need to put out of ~~mwS~~ mwS, mwS instruction IS to ~~rest~~ resubmitt a service

- How do you connect the IS to the audit database?

  JDBC pools in setting, connecting IS Core Audit

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Check Your Understanding - Invoking Services

- What are the different protocols the Integration Server can use?

  All standard protocols

- When would **queryXMLNode** be used?

  ~~put~~ pull ~~attach~~ attributes from a XML document

- Which built-in Service would you use to convert a document type to a XML string?

  documentToXmlString

- Where can you find the services to send data from the IS?

  wm.pub.client.ftp .http } the client protocols

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Check Your Understanding - Flat File Handling

- What is the difference between a flat file schema and a flat file dictionary?

- What are the four types of Validators?

  Length
  btye
  code
  conditional

- What are the two services used for converting to and from flat files?

  convertTO values
  convertTO String

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