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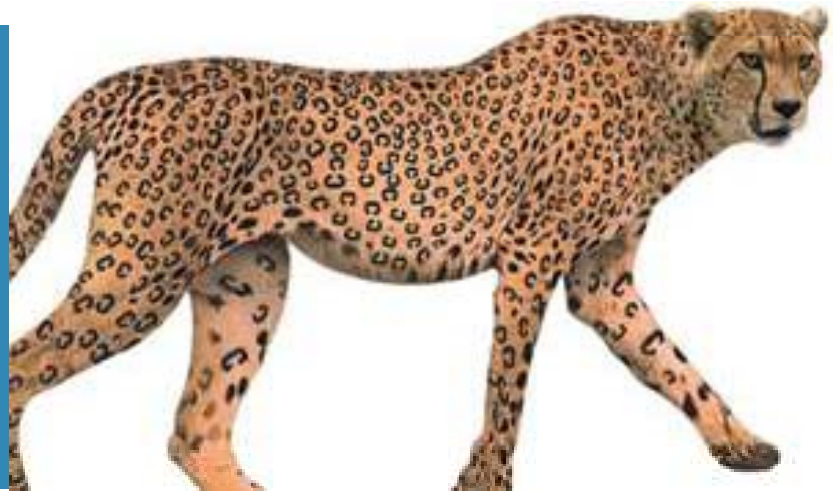
Informatica 9x : Workflow Manager



Session 6: Workflow Manager

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Created By:	Cognizant
Credential Information:	
Version and Date:	INFORMATICA9X/PPT/S6/0309/1.0

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Workflow Manager : Overview

- **Introduction:**

This module gives a brief overview about Workflow, Task, session and Workflow Manager in Informatica

Workflow Manager : Objective

- **Objective:**

After completing this chapter, you will be able to

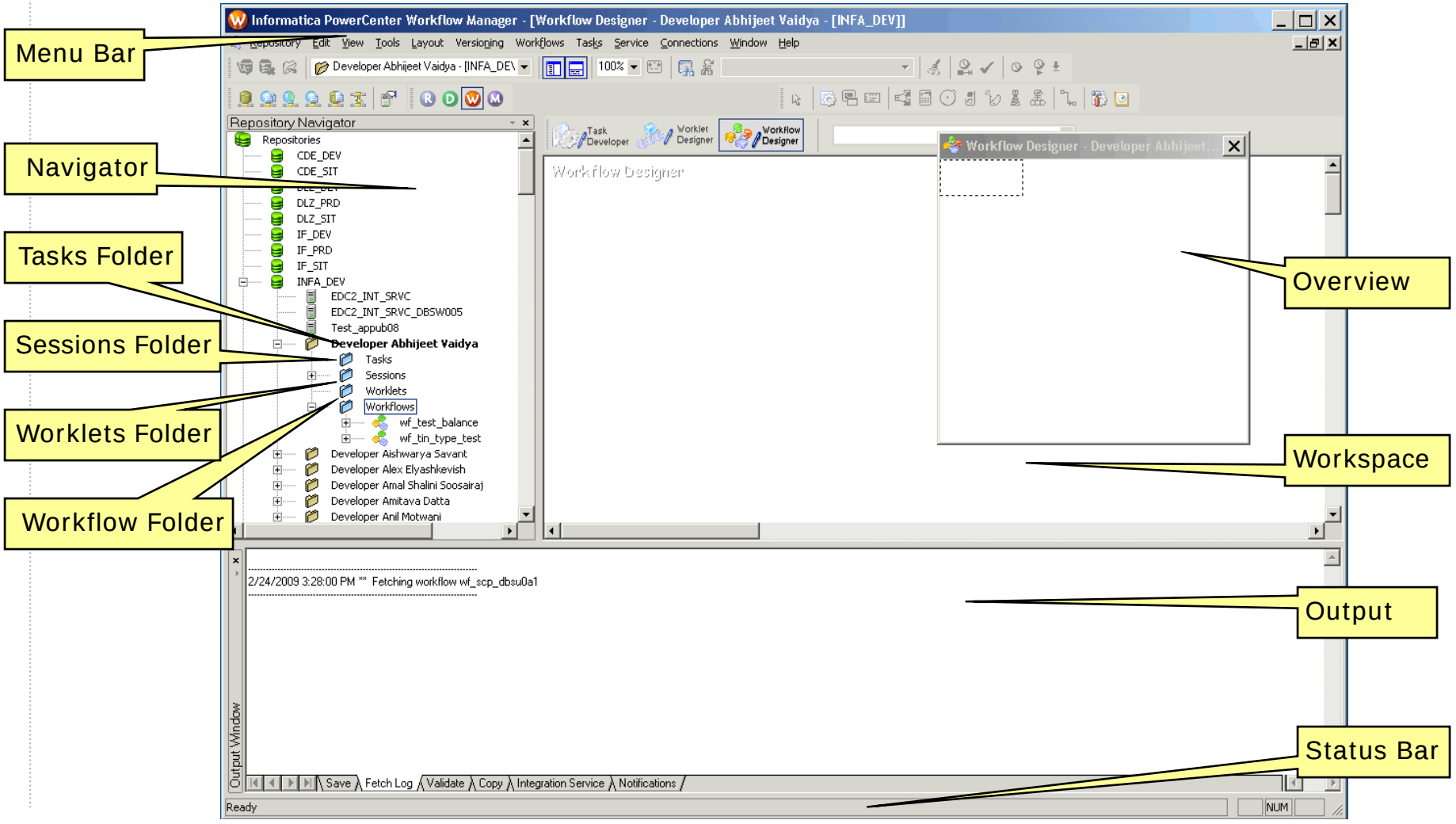
- Explain workflow, worklet, sessions and tasks
- Describe the components of Workflow Manager
- Create sessions, workflows, and worklets

Workflow Manager

- In the Workflow Manager, we define a set of instructions called a workflow to execute mappings we build in the Designer
- A workflow contains a session and any other task you may want to perform when you run a session
- Tasks can include a session, email notification, or scheduling information
- You connect each task with links in the workflow
- We can also create a worklet in the Workflow Manager. A worklet is an object that groups a set of tasks. A worklet is similar to a workflow, but without scheduling information

- Workflow Manager Tools
  - » Task Developer: To create reusable tasks we want to run in the workflow
  - » Workflow Designer: to create a workflow by connecting tasks with links. We can also create tasks in the Workflow Designer as we develop the workflow
  - » Worklet Designer: To create a worklet

Workflow Manager Workspace



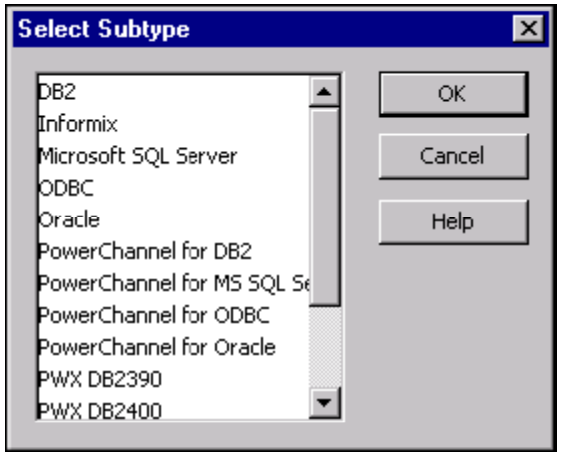
Connections

- A connection object is a global object that defines a connection in the repository
- Connections Types are
  - » Relational database connections
  - » FTP Connections
  - » External loader connections
  - » Queue connections
  - » Source and target application connections
- Using workflow manager we can create, assign permissions, edit, and delete for all connection objects
- For relational database connections, we can also copy and replace connection objects
- For creating connection in workflow manager click connection and select connection type and configure the connection

Configuring a Relational Database Connection

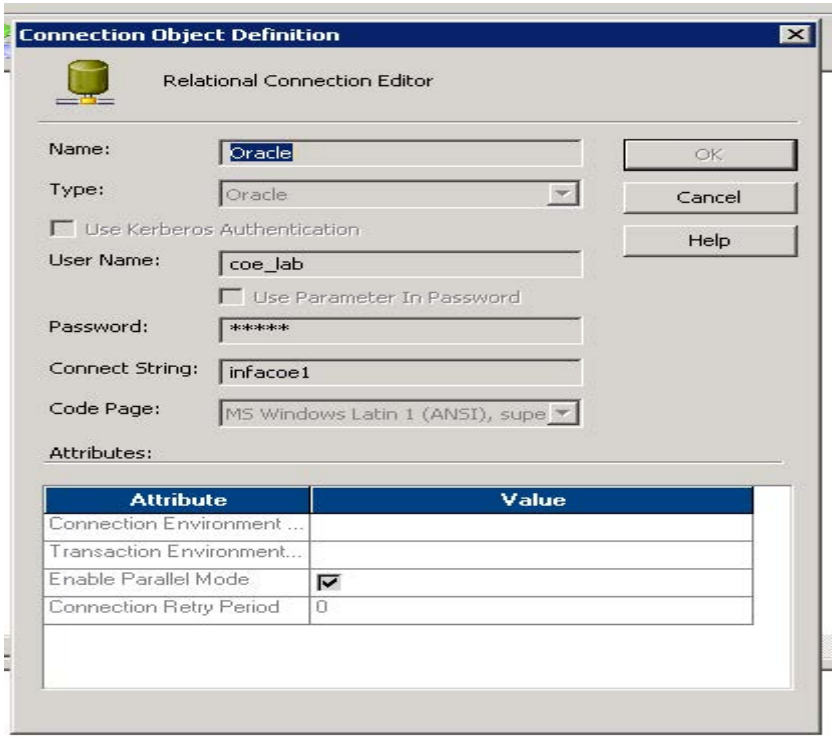
- To create a relational database connection
  1. In the Workflow Manager, connect to a repository
  2. Click Connections > Relational

     The Relational Connection Browser dialog box appears, listing all the source and target database connections
  3. Click New. The Select Subtype dialog box appears
  4. In the Select Subtype dialog box, select the type of database connection you want to create. Click OK



Relational Database Connection

5. The Connection Object Definition dialog box appears

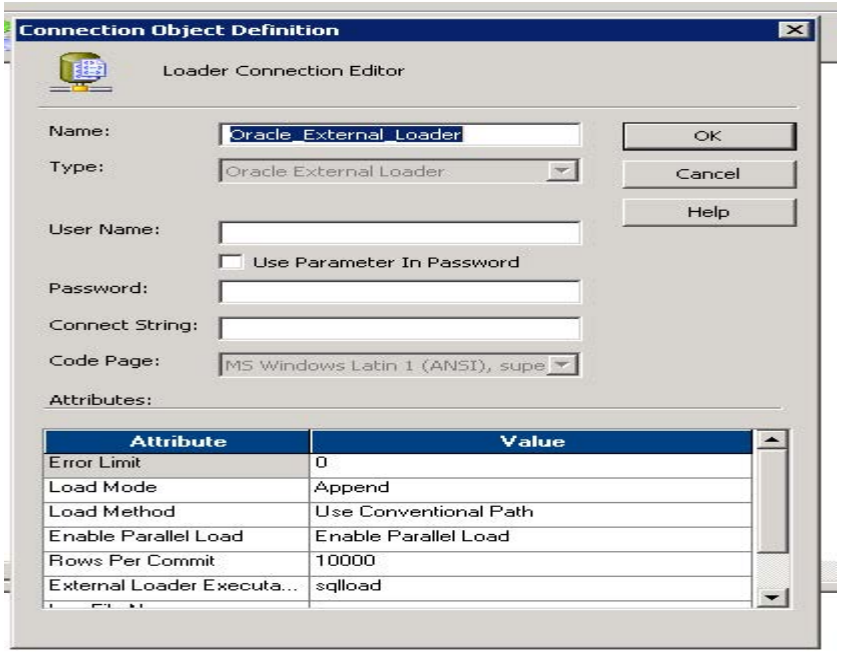


6. Specify Connection name, User name, password, connection string and code page. Click ok

   The new database connection appears in the Connection Browser list

External Loader Connections

1. Click Connections > Loader in the Workflow Manager. The Loader Connection Browser dialog box appears. Click New
2. Select an external loader type, and then click OK. The Loader Connection Editor dialog box appears



3. Enter a name for the external loader connection, database user name, password, and connect string
4. Enter the loader properties. Click ok

Tasks

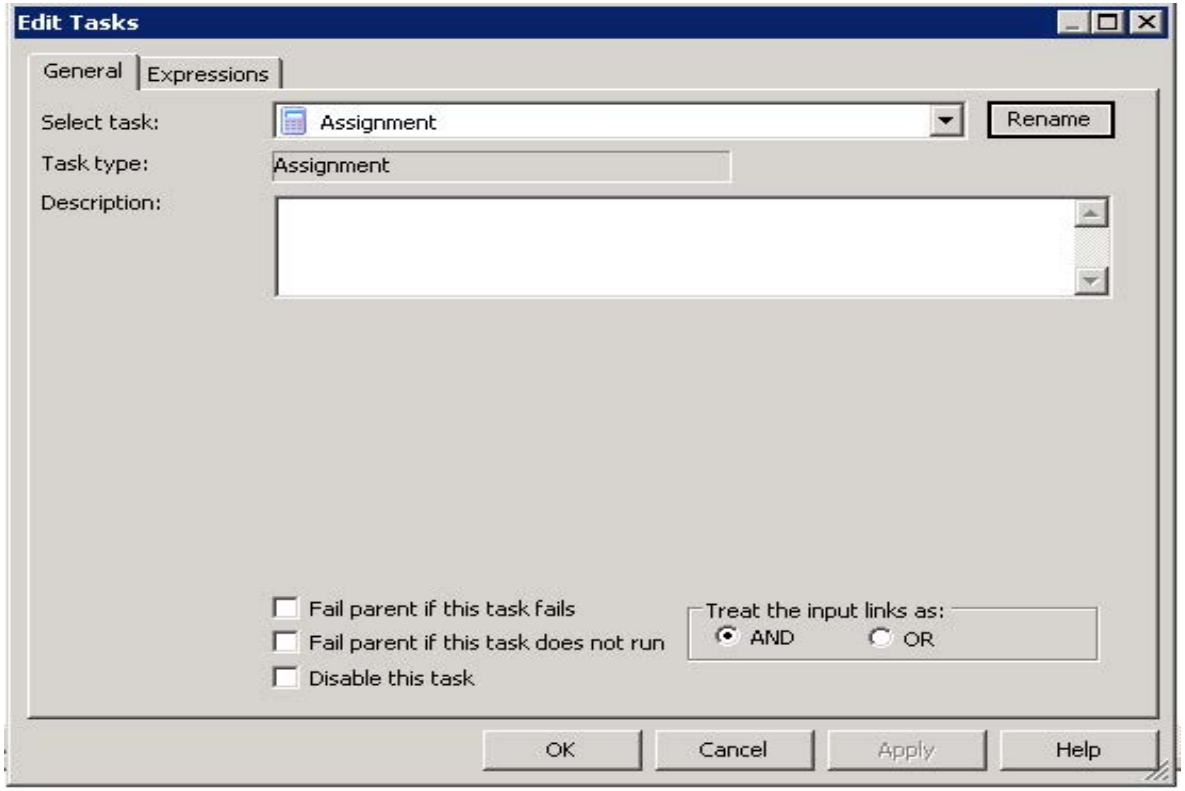
- The Workflow Manager contains many types of tasks to help you build workflows and worklets
- You can create tasks in the Task Developer, or you can create them in the Workflow Designer or the Worklet Designer as you develop the workflow or worklet
- Tasks you create in the Task Developer are reusable. Tasks you create in the Workflow Designer and Worklet Designer are non-reusable by default
- The Workflow Manager validates tasks attributes and links. If a task is invalid, the workflow becomes invalid. Workflows containing invalid sessions may still be valid (This sentence is contradictory with the first sentence)

Various Tasks

Task Name	Short Description	Reusable
Assignment	Assigns a value to a workflow variable	No
Command	Specifies shell commands to run during the workflow	Yes
Control	Stops or aborts workflow	No
Decision	Specifies a condition to evaluate in the workflow	No
Email	Sends email during the workflow	Yes
Event Raise	Represents the location of the user defined event	No
Event Wait	Waits for a pre/user defined event to occur	No
Session	Set of instructions to run a mapping	Yes
Timer	Waits for a specified period of time to run next task	No

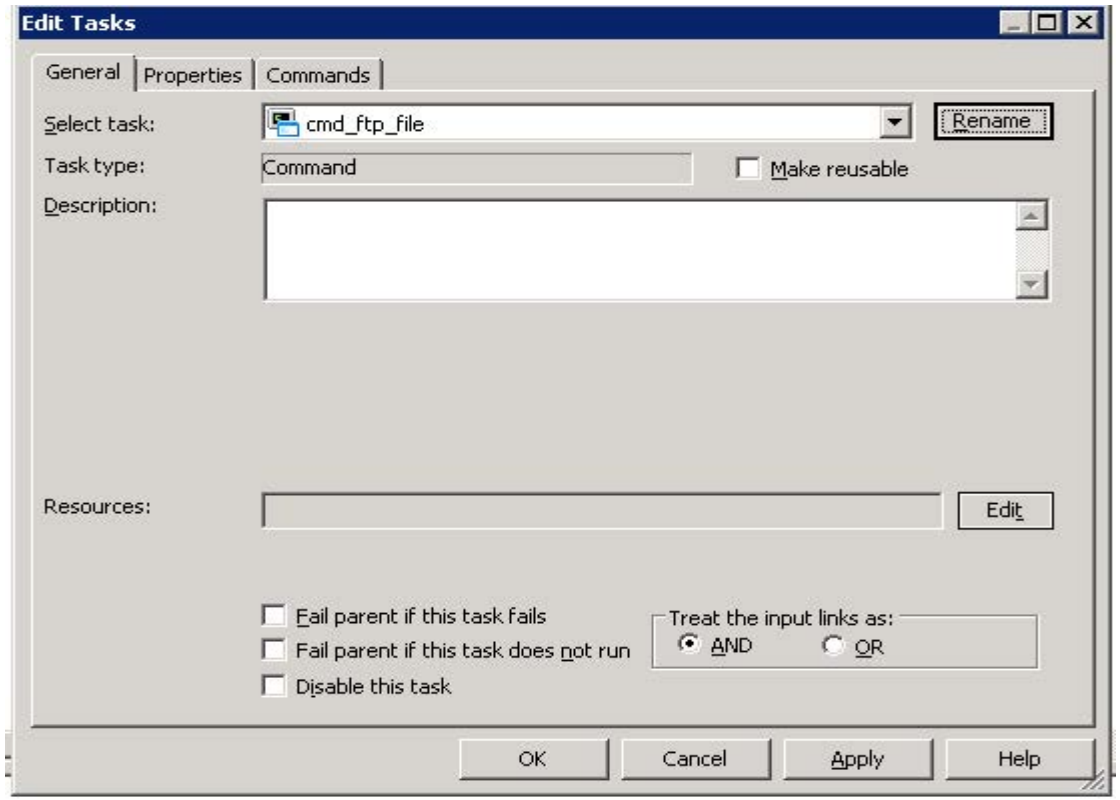
Assignment Task

- We can assign a value to a user-defined workflow variable with the Assignment task
- We must create a variable before you can assign values to it
- We cannot assign values to predefined workflow variables



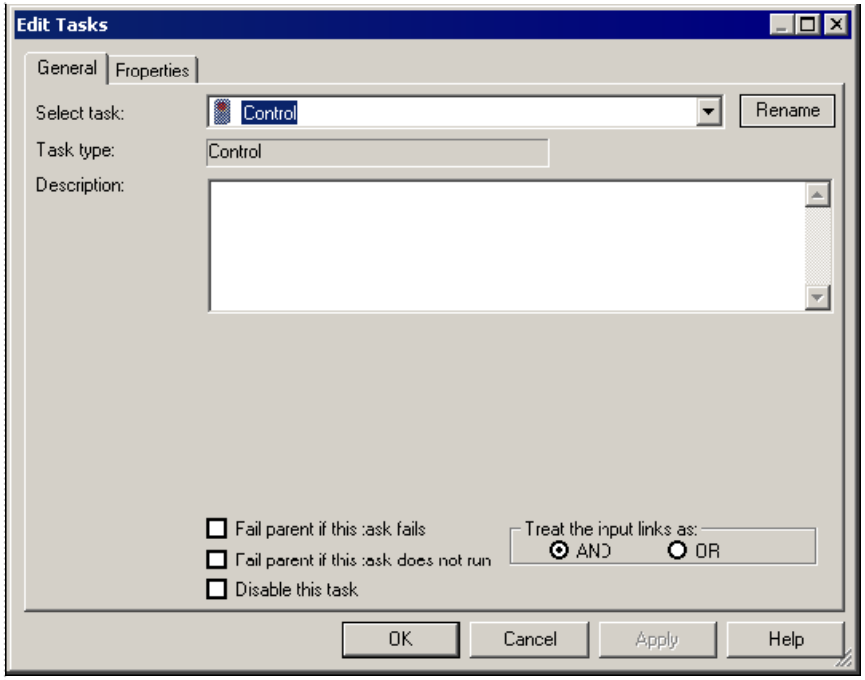
Command Task

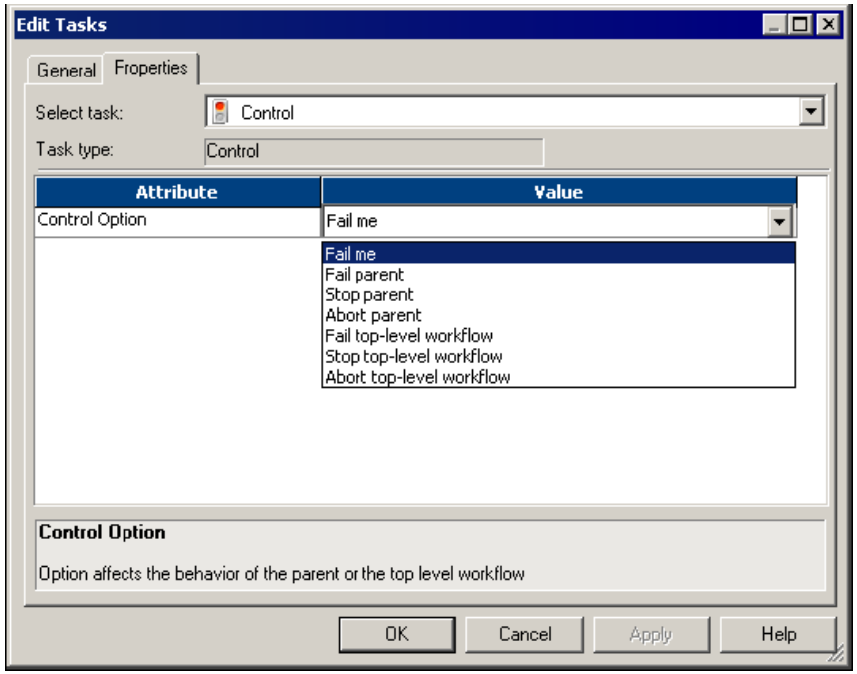
- The Command task allows you to specify one or more shell commands to run during the workflow. For example, you can specify shell commands in the Command task to delete reject files, copy a file, or archive target files



Control Task

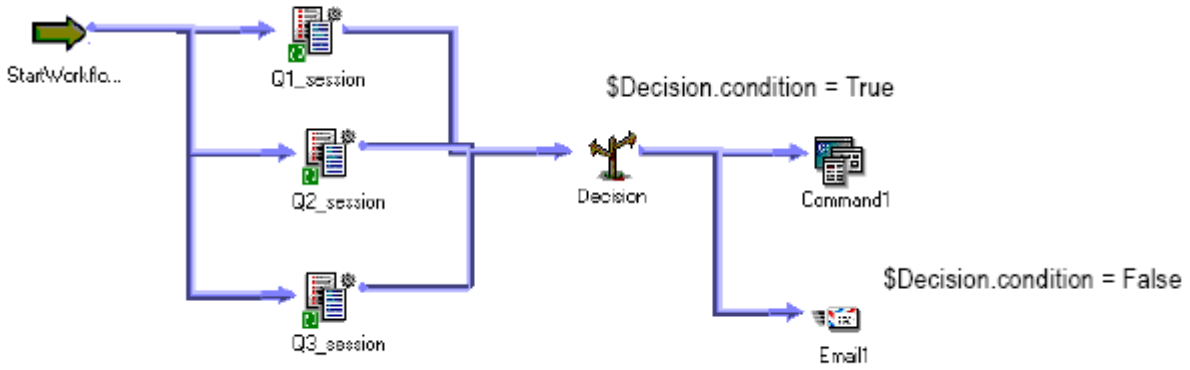
- Use the Control task to stop, abort, or fail the top-level workflow or the parent workflow based on an input link condition. A parent workflow or worklet is the workflow or worklet that contains the Control task





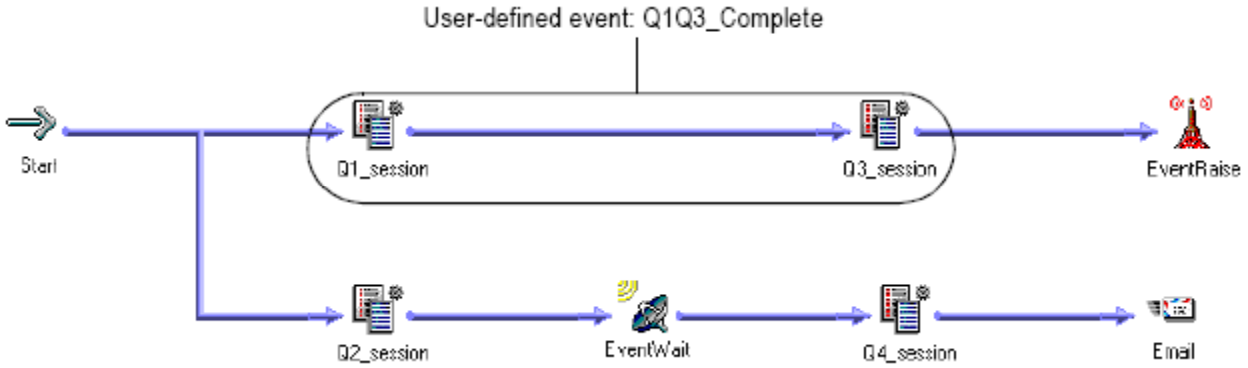
Decision Task

- It allows you to enter a condition that determines the execution of the workflow, similar to a link condition. You can use the Decision task instead of multiple link conditions
- The Decision task has a pre-defined variable called *$Decision_task_name.Condition* that represents the result of the decision condition
- The Informatica Server evaluates condition in Decision Task and sets the pre-defined condition variable to True(1) or False (0)



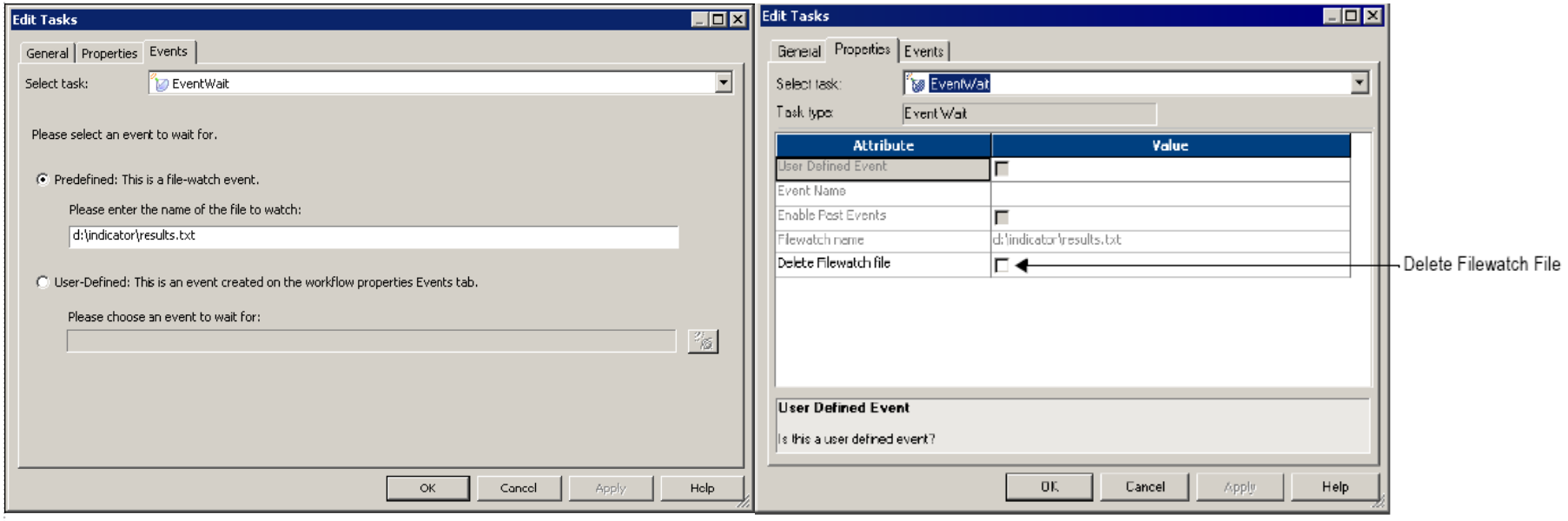
Event Task

- You can define events in the workflow to specify the sequence of task execution. The event is triggered based on the completion of the sequence of tasks
- **Event-Raise task** represents a user-defined event
- **Event-Wait task** waits for an event to occur. Once the event triggers, the Informatica Server continues executing the rest of the workflow
- User-defined event**:** A user-defined event is a sequence of tasks in the workflow



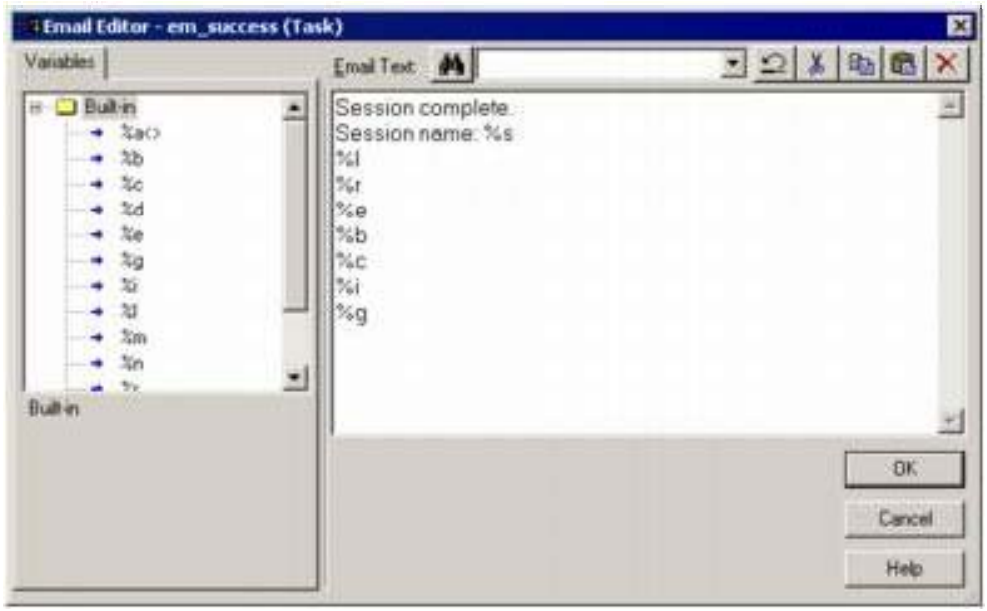
Event Task

- **Pre-defined event:** A pre-defined event is *a file-watch* event. For pre-defined events, use an Event-Wait task to instruct the Informatica (*Indicator File*)



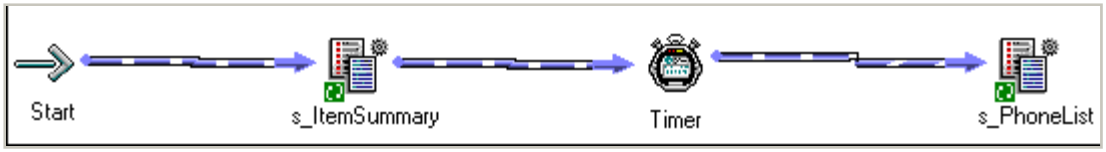
Email Task

- The Workflow Manager provides an Email task that allows us to send email during a workflow
- You can create reusable Email tasks in the Task Developer for any type of email or you can create non-reusable Email tasks in the Workflow and Worklet Designer



Timer Task

- We can specify the period of time to wait before the Integration Service runs the next task in the workflow with the Timer task. It has two types of settings
  - » Absolute time. You specify the time that the Integration Service starts running the next task in the workflow. You may specify the date and time, or you can choose a user-defined workflow variable to specify the time
  - » Relative time. We instruct the Integration Service to wait for a specified period of time after the Timer task, the parent workflow, or the top-level workflow starts



- Use a Timer task anywhere in the workflow after the Start task

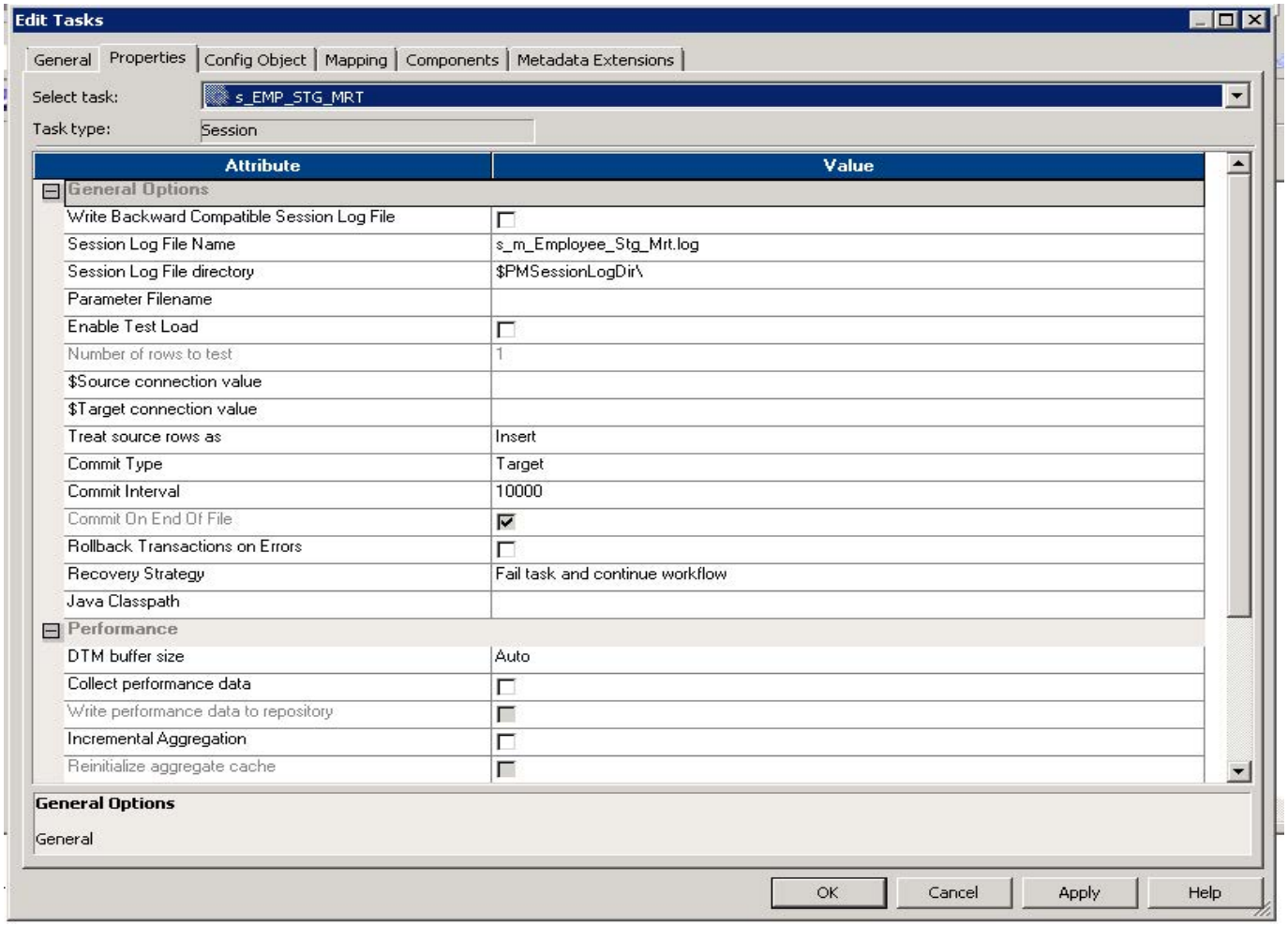
What is a Session?

- A session is a set of instructions that tells the PowerCenter Server how and when to move data from sources to targets
- A session is a type of task, similar to other tasks available in the Workflow Manager. In the Workflow Manager, you configure a session by creating a Session task
- When you create a Session task, you enter general information such as the session name, session schedule, and the PowerCenter Server to run the session
- Using session properties, you can also override parameters established in the mapping, such as source and target location, source and target type, error tracing levels, and transformation attributes
- You can run as many sessions in a workflow as you need. You can run the session tasks sequentially or concurrently, depending on your needs

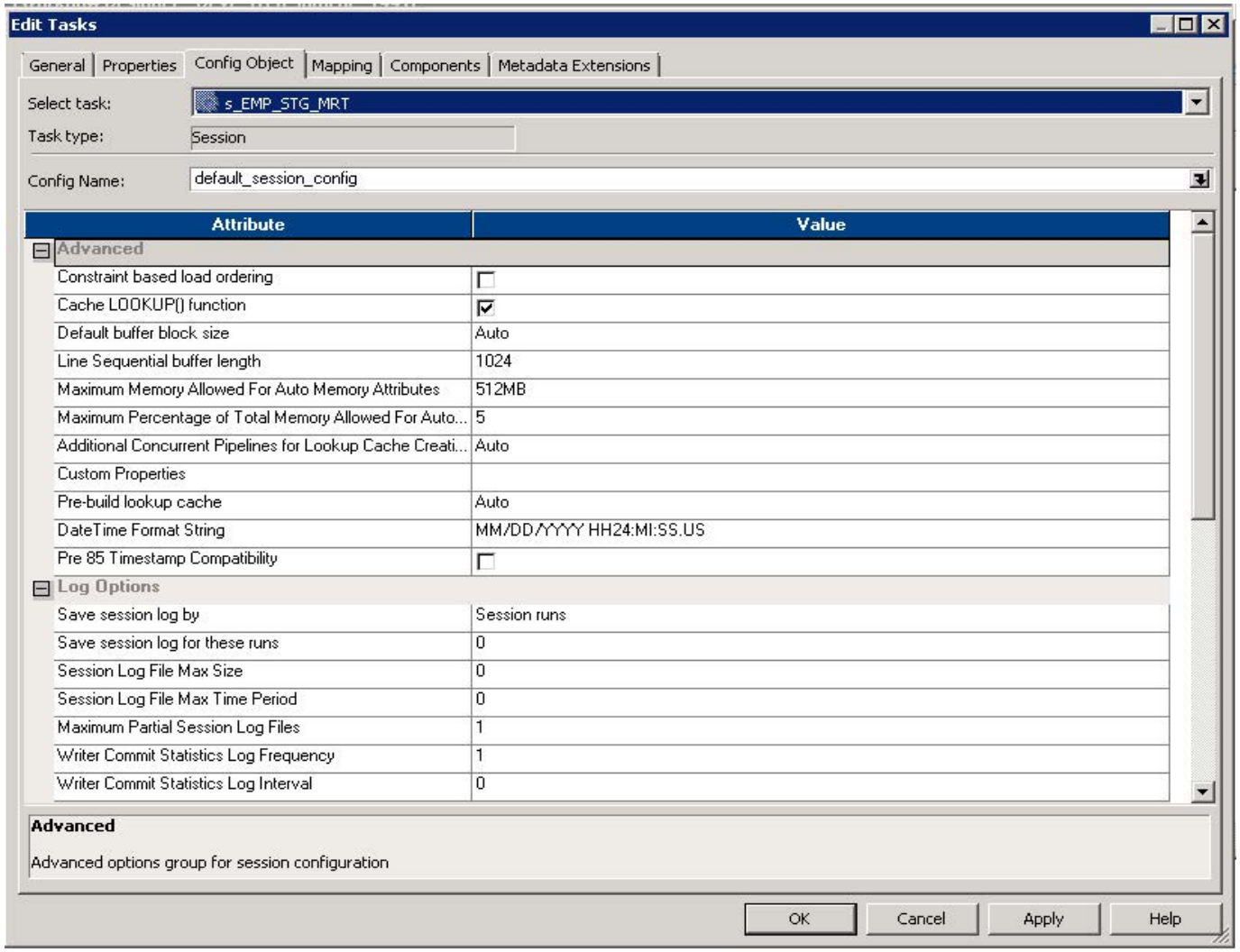
Session Properties

- General tab used to enter session name, mapping name, description for the session task, specify a server override, and configure additional task options
- Properties tab is used to enter session log information, test load settings, and performance configuration
- Config Object tab is used to enter advanced settings, log options, and error handling configuration
- Mapping tab is used to enter source and target information, override transformation properties, and configure the session for partitioning
- Components tab is used to configure pre/post session shell commands and emails
- Metadata Extension tab is used to configure metadata extension options

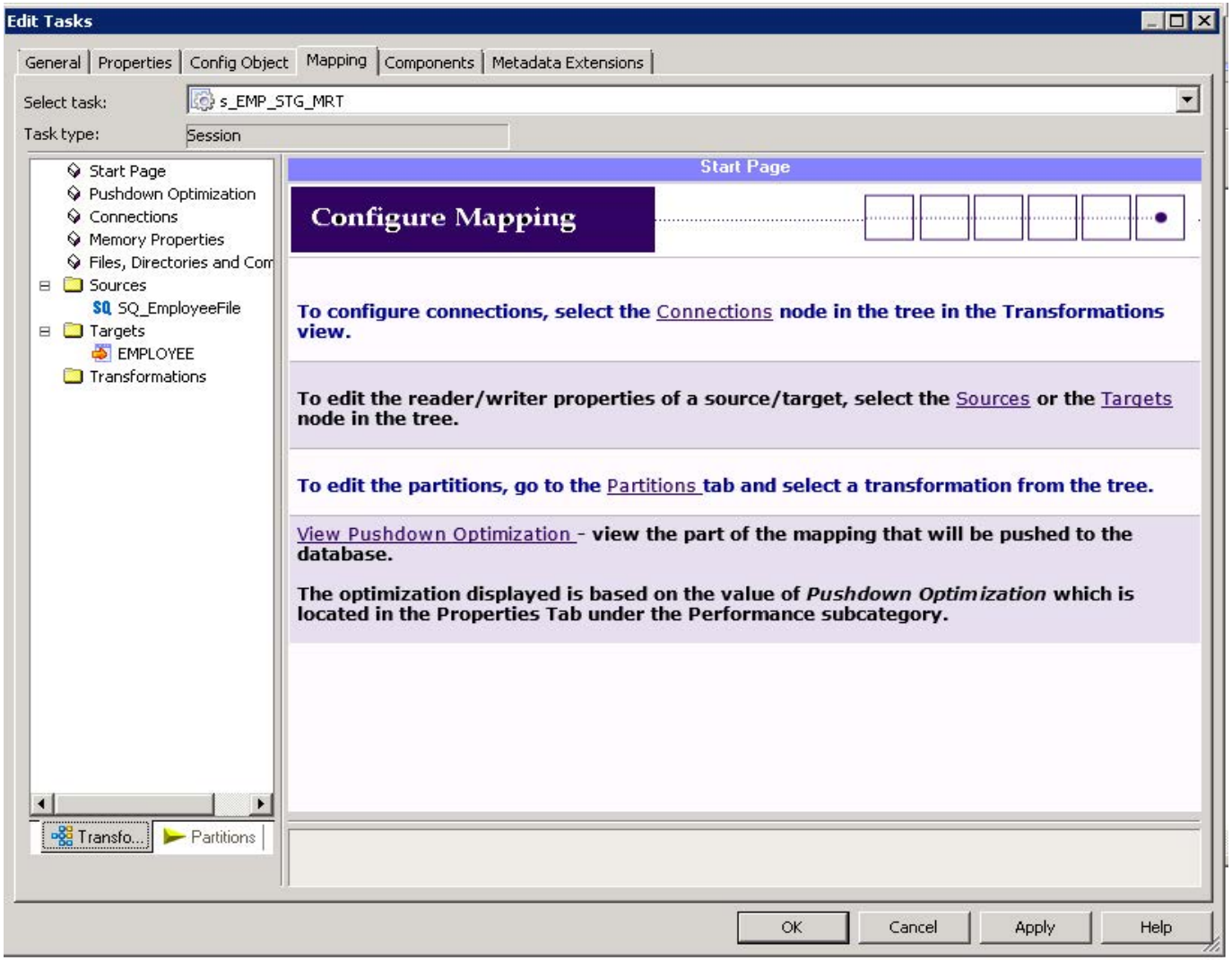
Session : Properties Tab



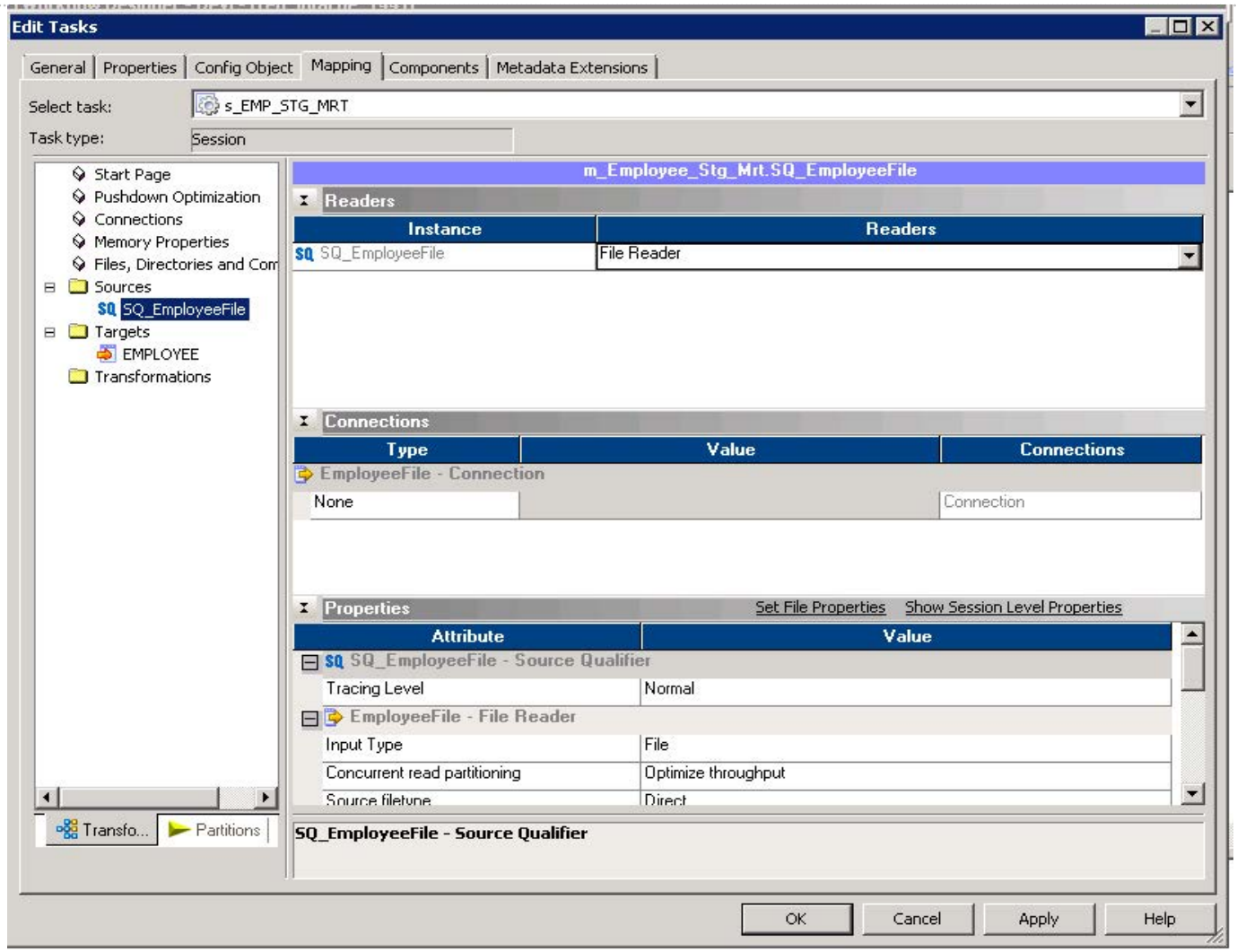
Session : Config Objects Tab



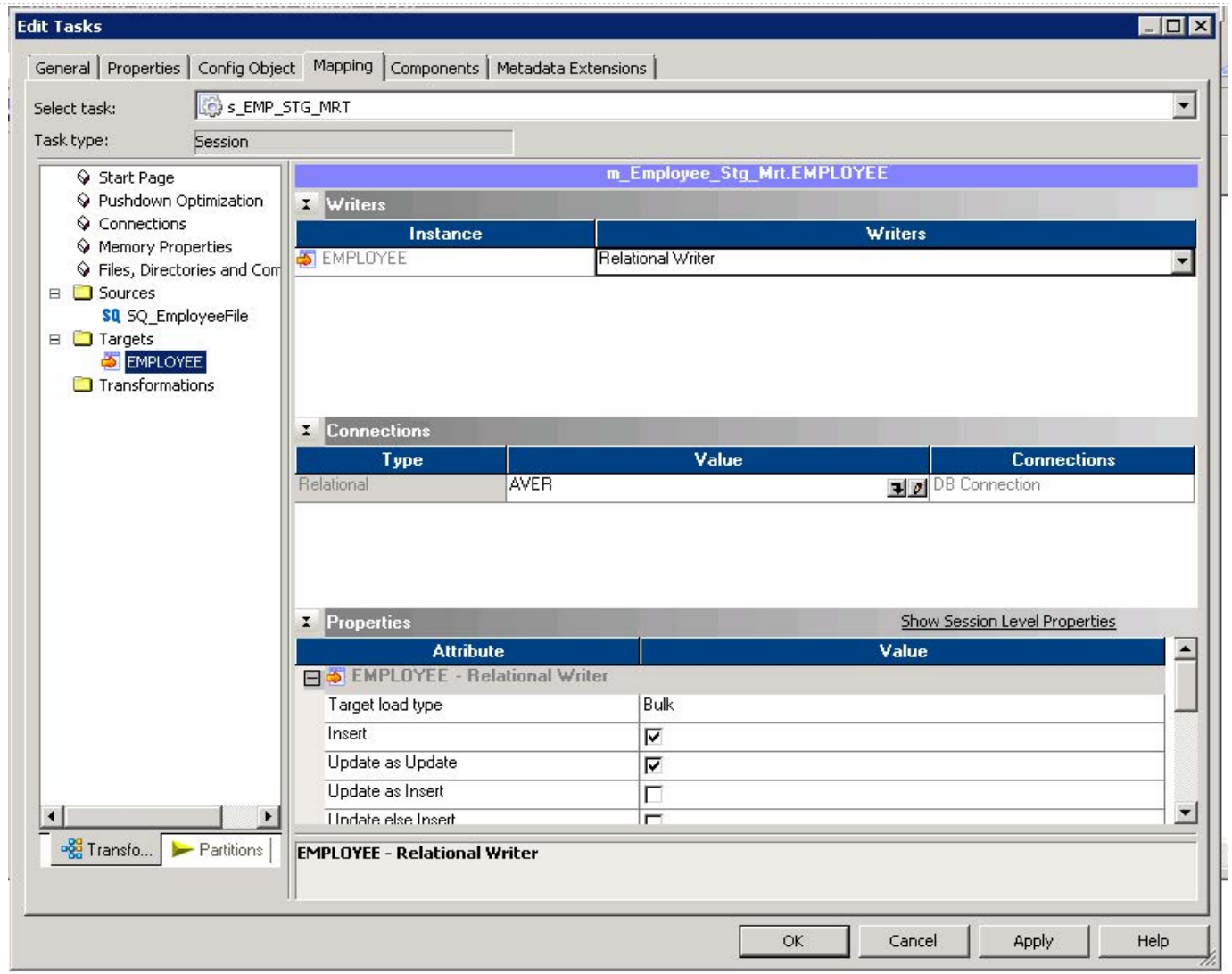
Session : Mapping Tab 1



Session : Mapping Tab 2



Session : Mapping Tab 3



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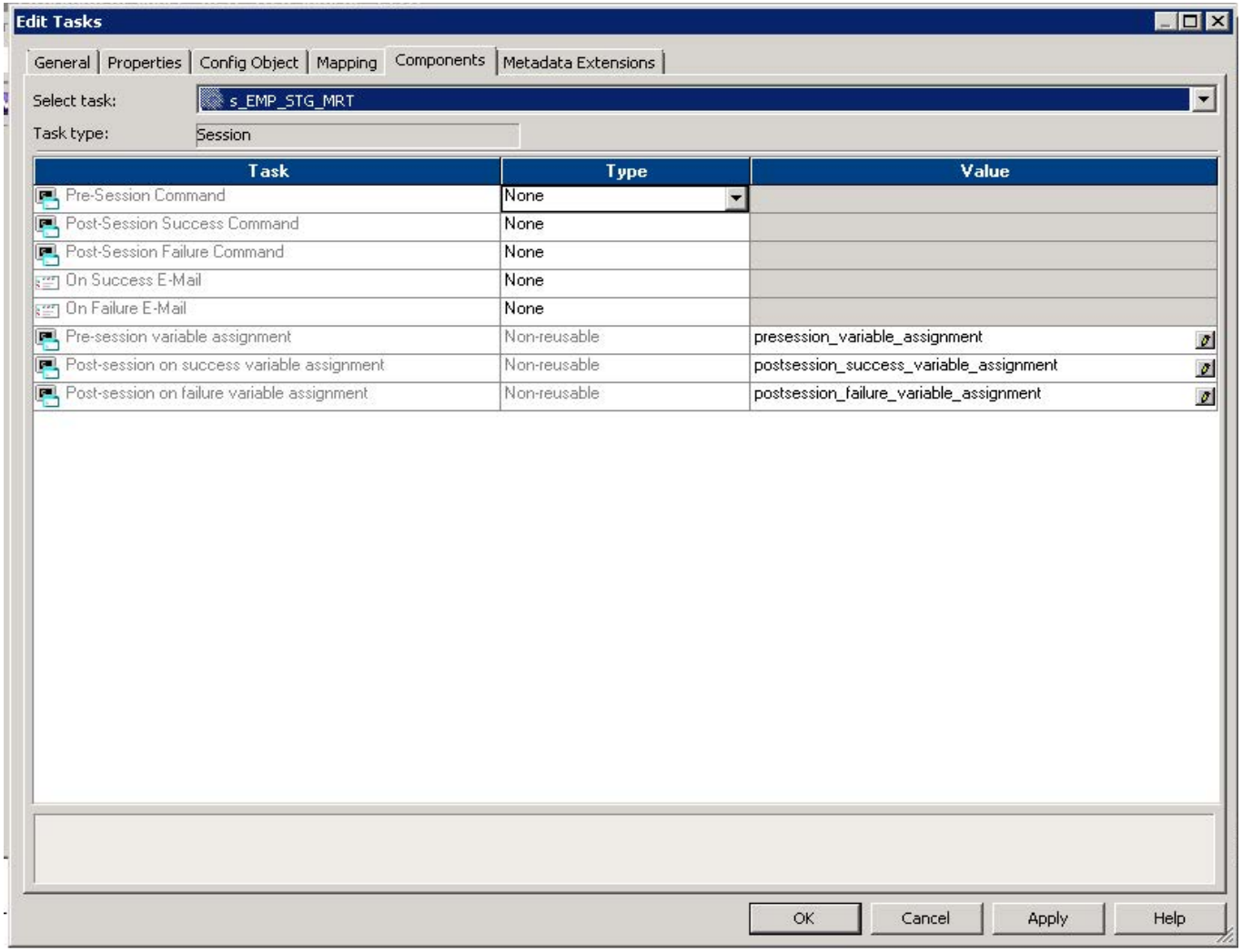
Session : Components Tab

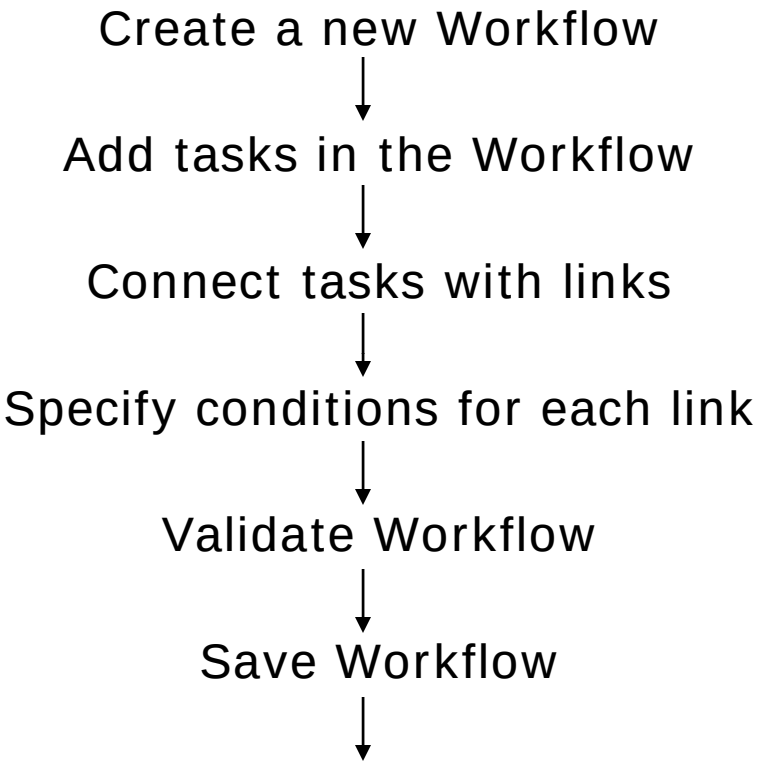


Workflow

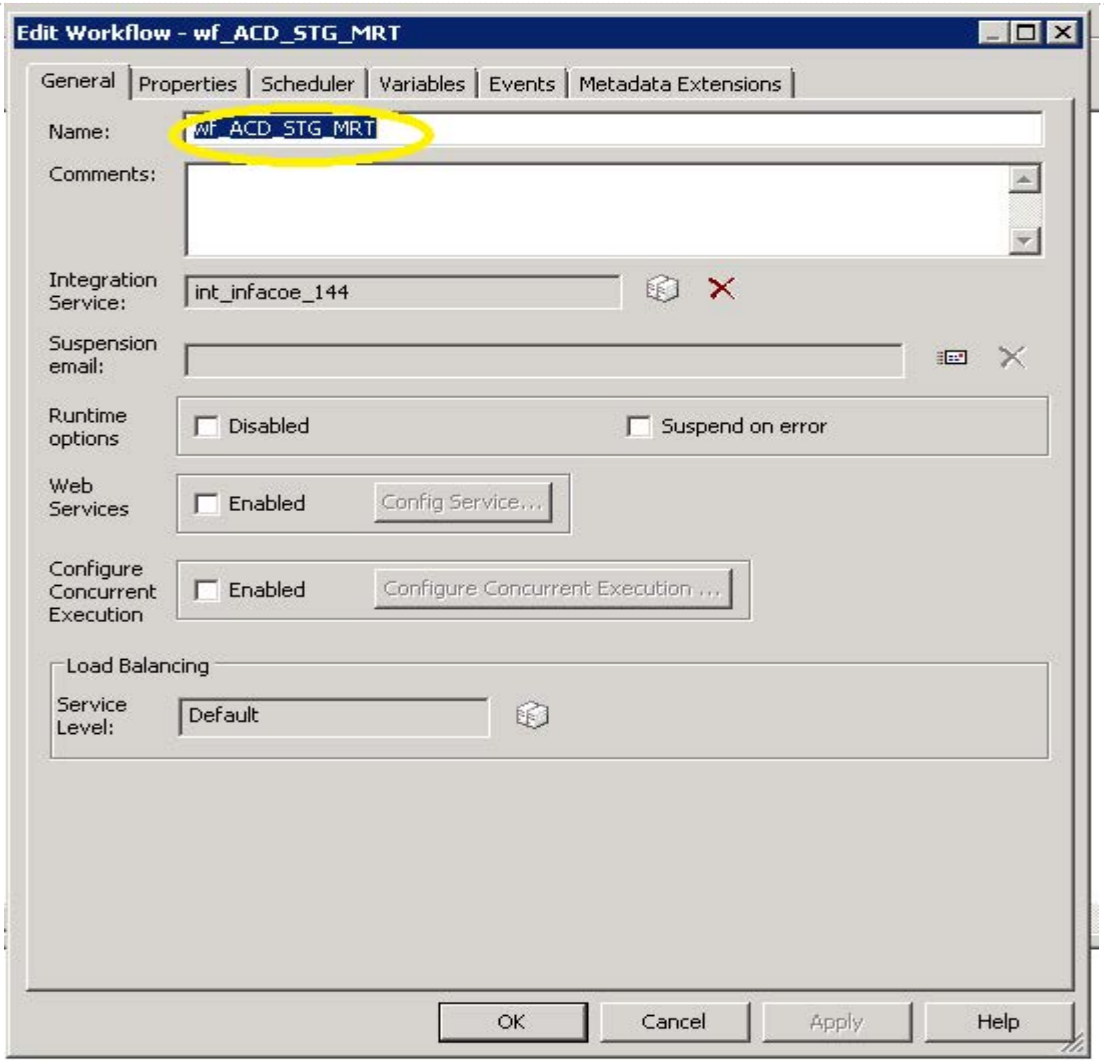
- A workflow is a set of instructions that describes how and when to run tasks related to extracting, transforming, and loading data
- A workflow contains a session and any other task you may want to perform when you execute a session

- Workflow Manager Tools
  - » Task Developer: To create tasks we want to run in the workflow
  - » Workflow Designer: to create a workflow by connecting tasks with links. We can also create tasks in the Workflow Designer as we develop the workflow
  - » Worklet Designer: To create a worklet

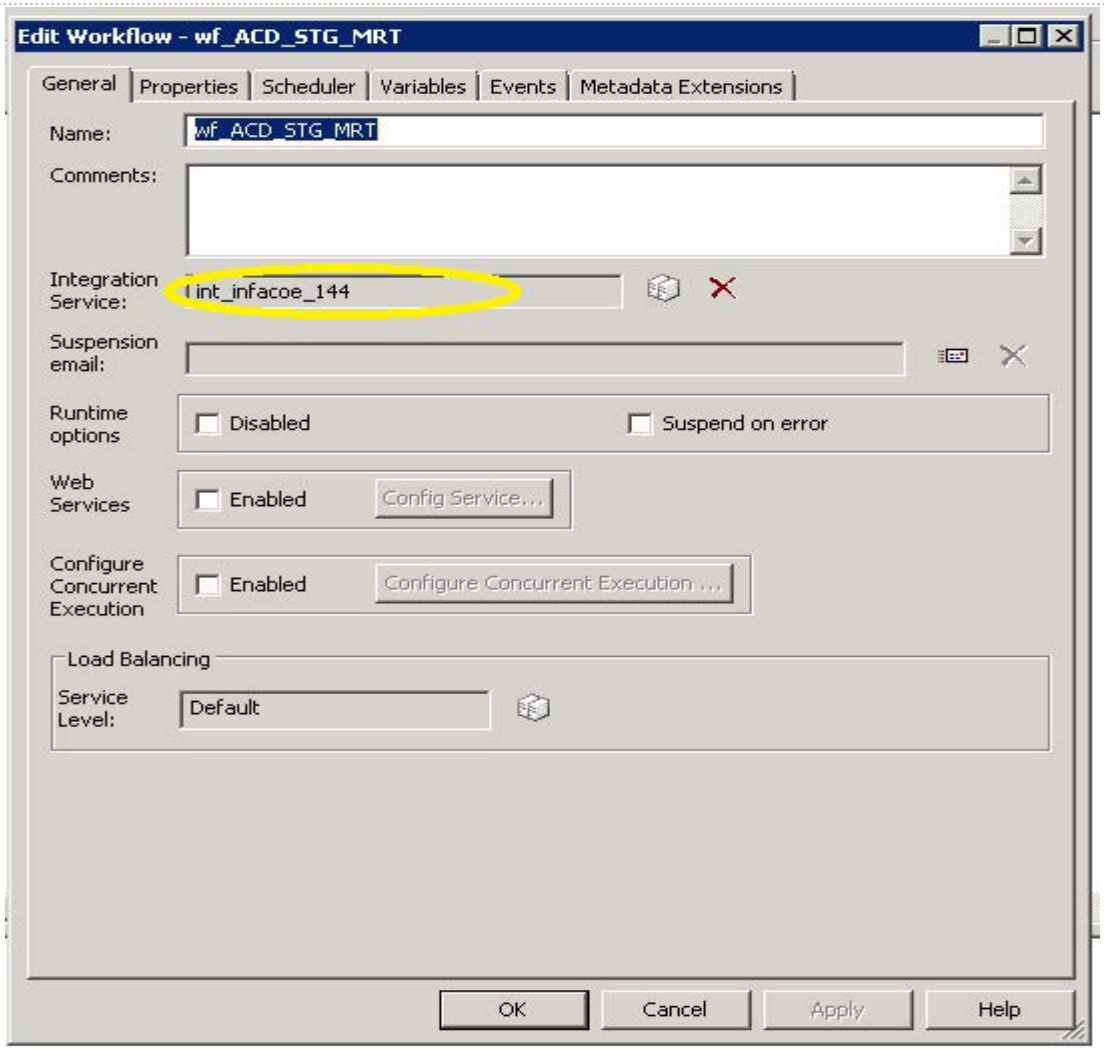
How to Create a New Workflow?



Workflow Properties

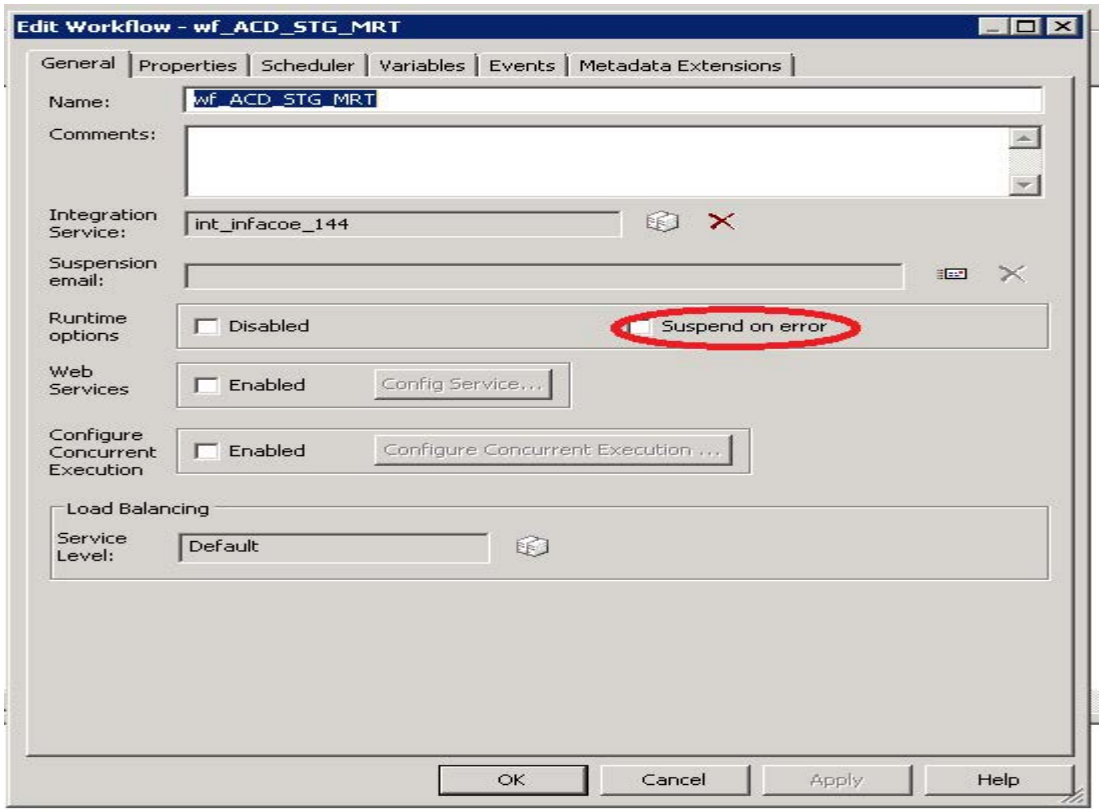


Assigning an Integration Service



Suspending a Workflow

- When a task in the workflow fails, you might want to suspend the workflow, fix the error, and resume the workflow. The Informatica Server suspends the workflow if you enable the Suspend On Error option in the workflow properties



Questions?

Try it Out

- Create a session for the existing mapping.
- Create a workflow, add the session and necessary tasks in the workflow.
- Validate and execute the workflow.

Test Your Understanding

1. What is a workflow, worklet, sessions and tasks?

2. What are the components of Workflow Manager?

3. How to create tasks, sessions, workflows, and worklets?

Workflow Manager : Summary

- A session is a set of instructions that tells the PowerCenter Server how and when to move data from sources to targets
- A workflow is a set of instructions that describes how and when to run tasks related to extracting, transforming, and loading data
- The tools in Workflow Manager are Task Developer, Workflow Designer, Worklet Designer
- Different types of tasks are Assignment, Command, Control, Decision, Email, Event Raise, Event Wait, Session and Timer

Workflow Manager : Source

- The PDF manuals (Informatica Power center 8.1.1 Docs) comes with Informatica Software
- www.informatica.com

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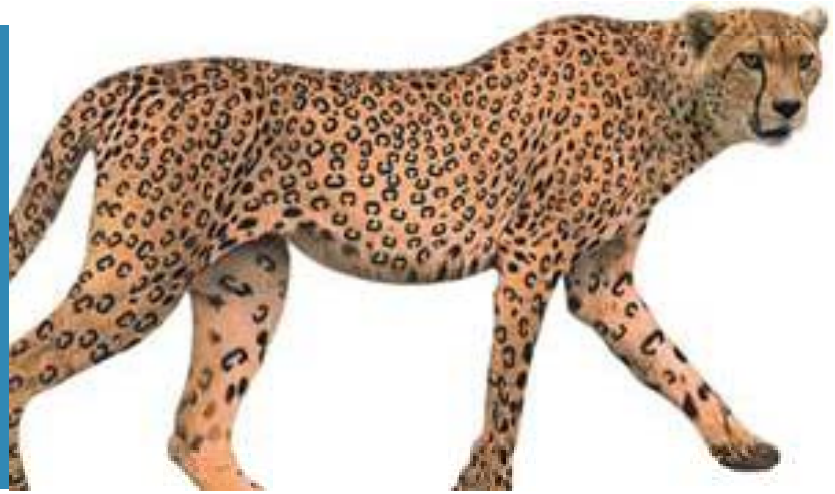

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