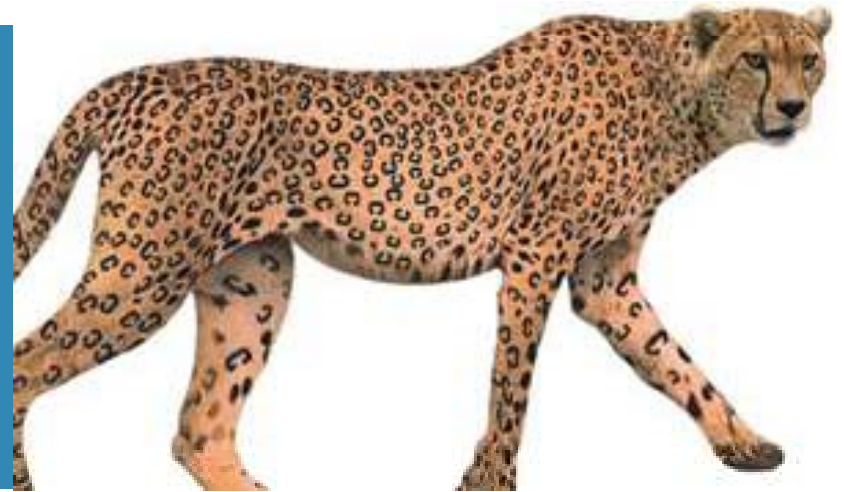


# Informatica 9x : Workflow Manager



## Session 6: Workflow Manager

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**Try it Out**



**A Welcome  
Break**



**Contacts**

# Workflow Manager : Overview

- **Introduction:**

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

# Workflow Manager : Objective

## ▪ Objective:

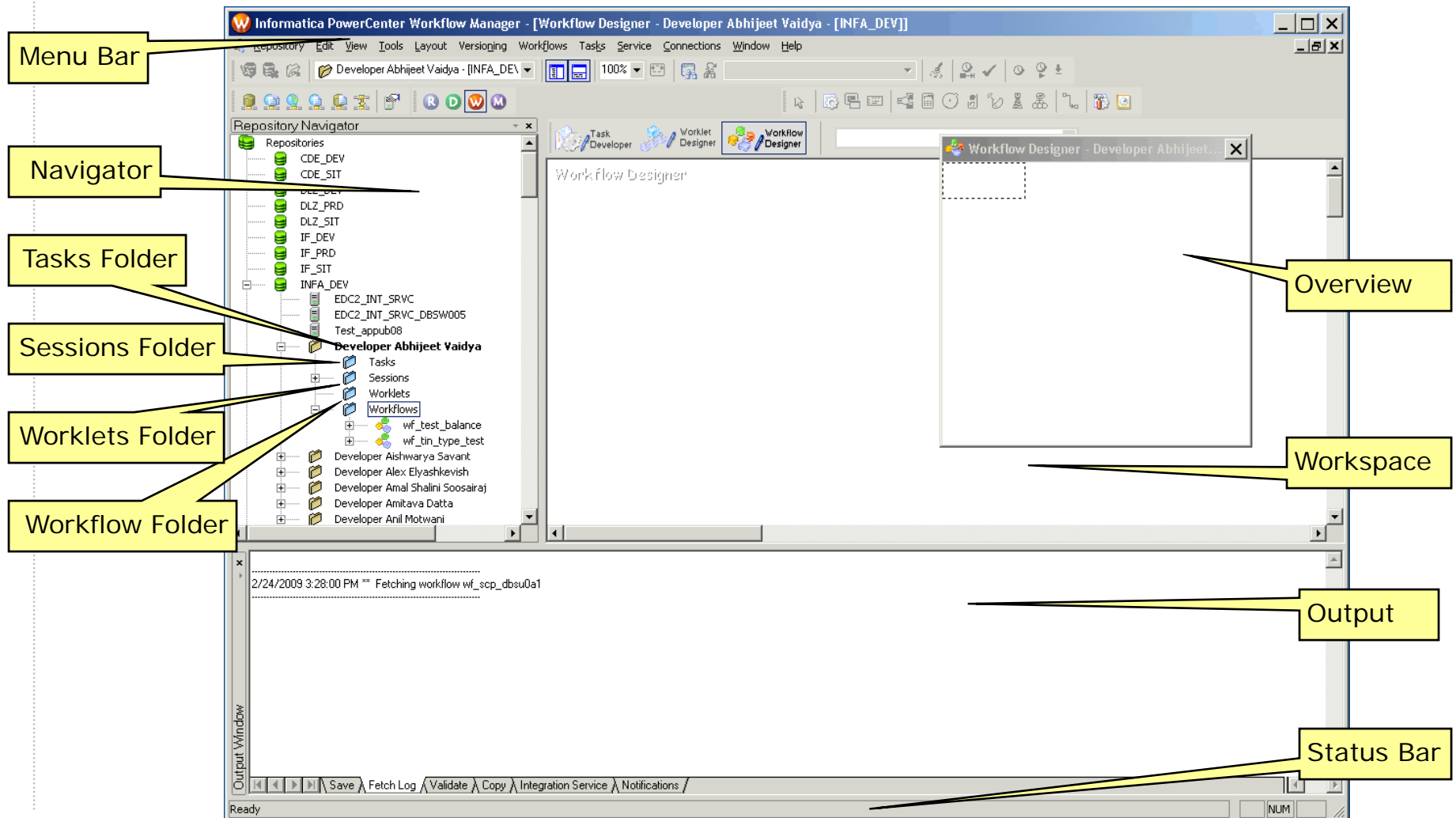
After completing this chapter, you will be able to

- » 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



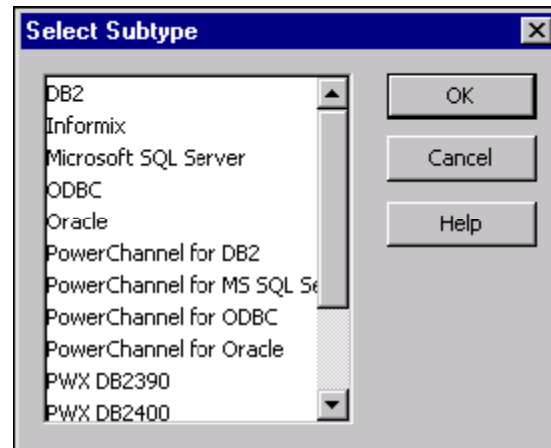
# Connections

- 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

Connection Object Definition

Relational Connection Editor

Name: Oracle

Type: Oracle

☐ Use Kerberos Authentication

User Name: coe\_lab

☐ Use Parameter In Password

Password: \*\*\*\*

Connect String: infacoe1

Code Page: MS Windows Latin 1 (ANSI), sup

Attributes:

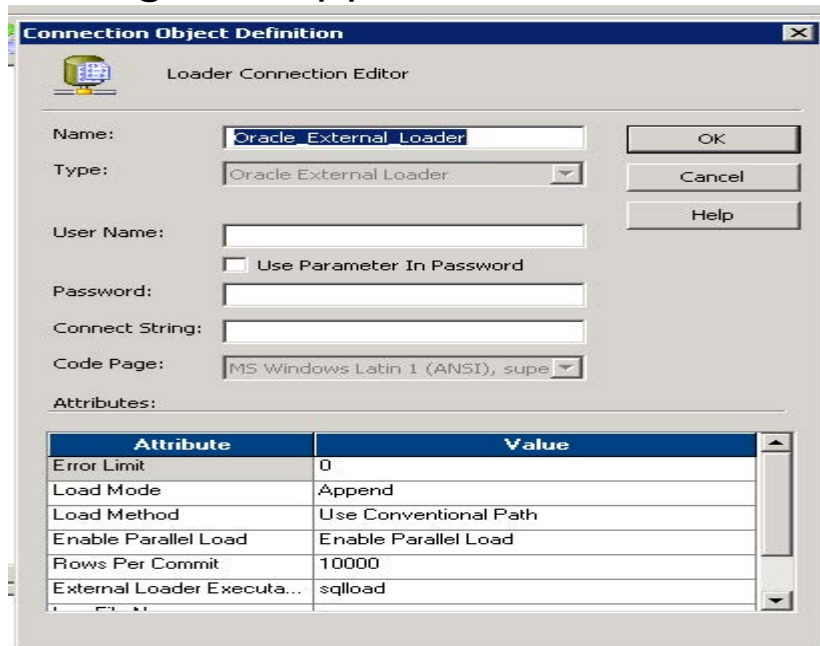
Attribute	Value
Connection Environment ...	
Transaction Environment...	
Enable Parallel Mode	<input checked="" type="checkbox"/>
Connection Retry Period	0

OK Cancel Help

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



Attribute	Value
Error Limit	0
Load Mode	Append
Load Method	Use Conventional Path
Enable Parallel Load	Enable Parallel Load
Rows Per Commit	10000
External Loader Executa...	sqlload

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

# Tasks

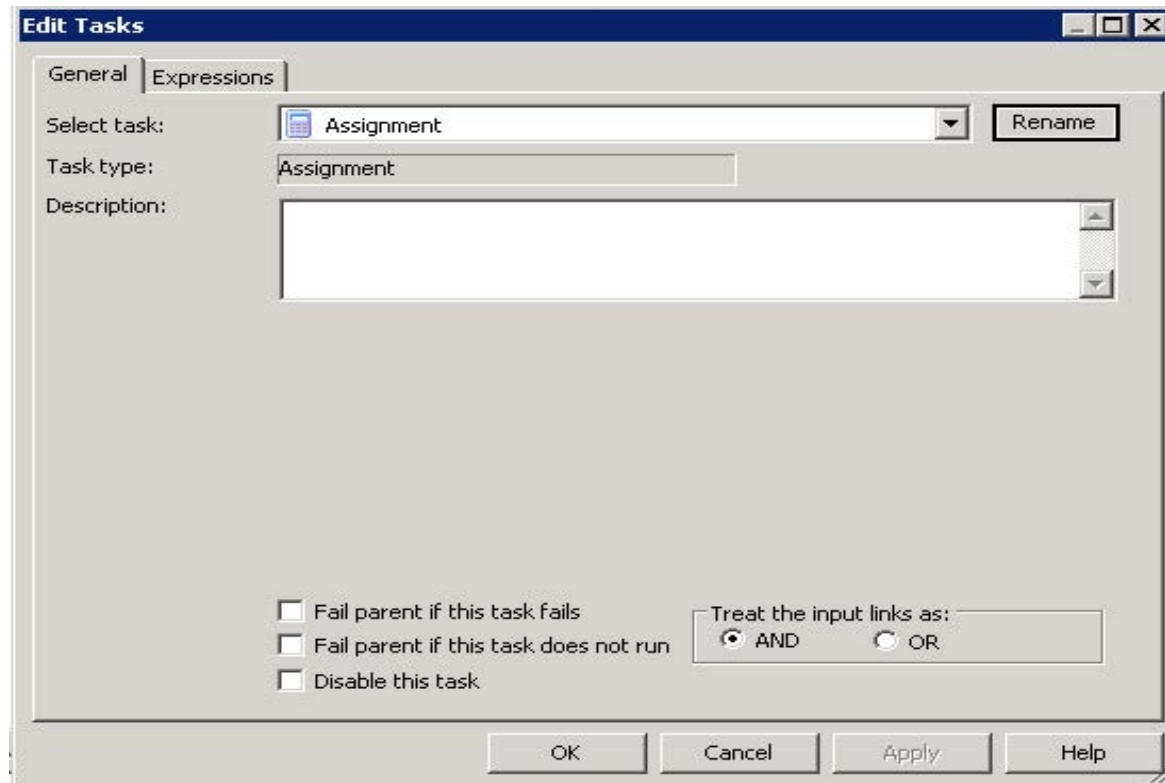
- The Workflow Manager contains many types of tasks to help you build workflows and worklets
- You can create tasks in the Task Developer, or you can create them in the Workflow Designer or the Worklet Designer as you develop the workflow or worklet
- Tasks you create in the Task Developer are reusable. 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

The screenshot shows the 'Edit Tasks' dialog box with the 'Commands' tab selected. The 'Select task:' dropdown is set to 'cmd\_ftp\_file'. The 'Task type:' is 'Command'. The 'Description:' field is empty. The 'Resources:' field is empty. The 'Make reusable' checkbox is unchecked. The 'Fail parent if this task fails' checkbox is unchecked. The 'Fail parent if this task does not run' checkbox is unchecked. The 'Disable this task' checkbox is unchecked. The 'Treat the input links as:' section has 'AND' selected. The 'Edit' button is visible next to the 'Resources:' field. The 'OK', 'Cancel', 'Apply', and 'Help' buttons are at the bottom.

Edit Tasks

General Properties Commands

Select task: cmd\_ftp\_file Rename

Task type: Command Make reusable

Description:

Resources: Edit

☐ Fail parent if this task fails

☐ Fail parent if this task does not run

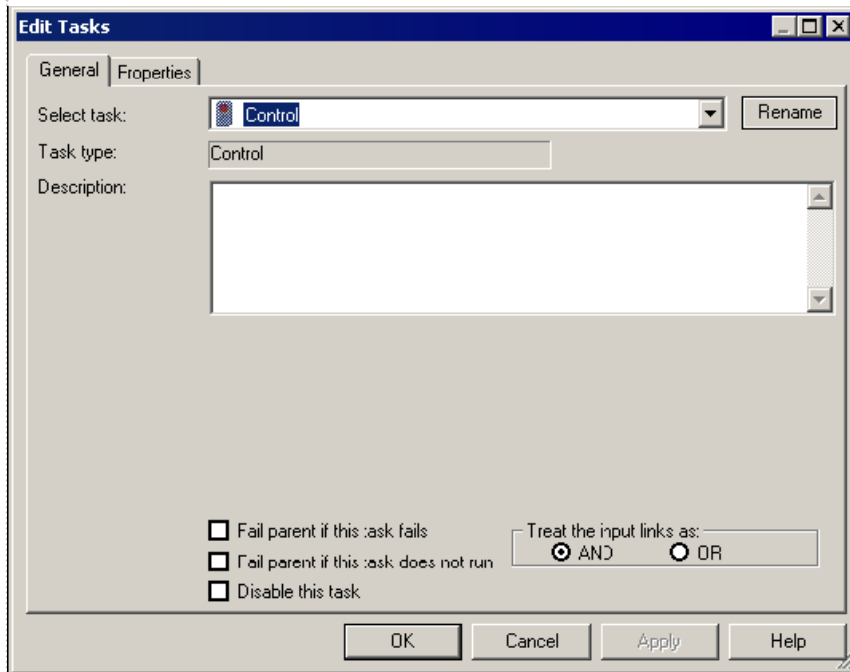
☐ Disable this task

Treat the input links as: AND OR

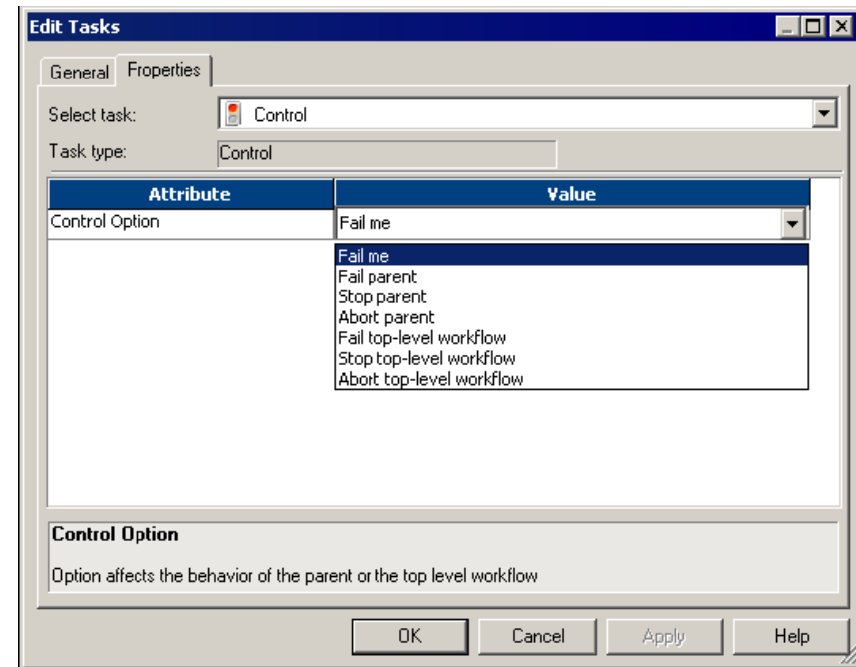
OK Cancel Apply Help

# 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



The 'Edit Tasks' dialog box for the Control task. It has two tabs: 'General' and 'Properties'. The 'General' tab is active. It contains a 'Select task:' dropdown menu with 'Control' selected, a 'Rename' button, a 'Task type:' text box with 'Control', and a 'Description:' text area. At the bottom, there are three checkboxes: 'Fail parent if this task fails', 'Fail parent if this task does not run', and 'Disable this task'. To the right of these is a 'Treat the input links as:' section with radio buttons for 'AND' (selected) and 'OR'. At the bottom are 'OK', 'Cancel', 'Apply', and 'Help' buttons.



The 'Edit Tasks' dialog box for the Control task, showing the 'Properties' tab. It has a 'Select task:' dropdown menu with 'Control' selected and a 'Task type:' text box with 'Control'. Below this is a table with two columns: 'Attribute' and 'Value'. The table has one row with 'Control Option' in the 'Attribute' column and a dropdown menu in the 'Value' column. The dropdown menu is open, showing a list of options: 'Fail me', 'Fail parent', 'Stop parent', 'Abort parent', 'Fail top-level workflow', 'Stop top-level workflow', and 'Abort top-level workflow'. Below the table is a 'Control Option' section with a text box containing the text 'Option affects the behavior of the parent or the top level workflow'. At the bottom are 'OK', 'Cancel', 'Apply', and 'Help' buttons.

Attribute	Value
Control Option	Fail me

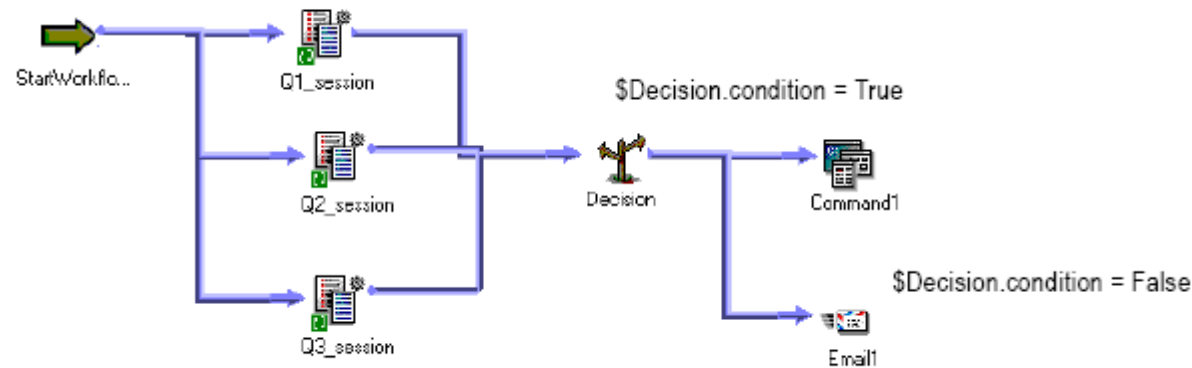
Control Option

Option affects the behavior of the parent or the top level workflow



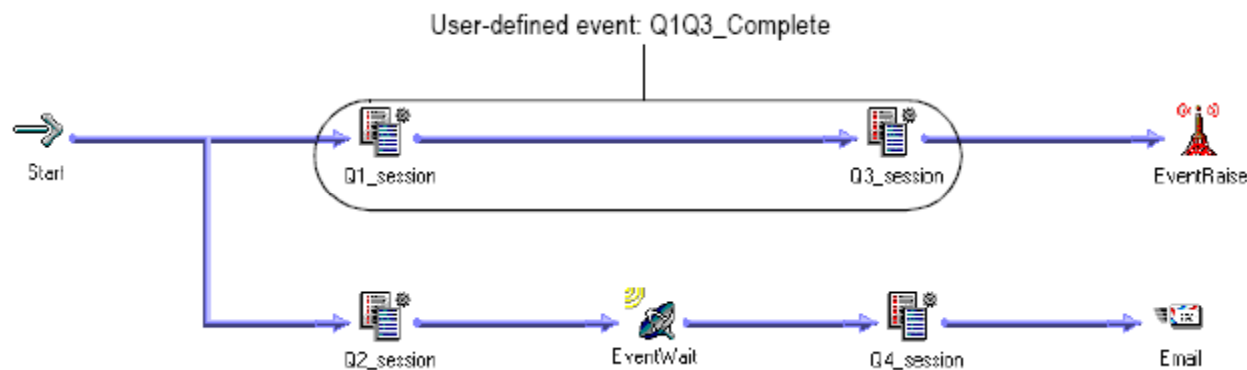
# Decision Task

- 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*)

The left screenshot shows the 'Edit Tasks' dialog box with the 'Events' tab selected. The 'Select task:' dropdown is set to 'EventWait'. The 'Predefined' radio button is selected, and the 'Please enter the name of the file to watch:' text box contains 'd:\indicator\results.txt'.

The right screenshot shows the 'Edit Tasks' dialog box with the 'Events' tab selected. The 'Select task:' dropdown is set to 'EventWait'. The 'Task type:' dropdown is set to 'Event Wait'. A table with two columns, 'Attribute' and 'Value', is displayed. The table contains the following rows:

Attribute	Value
User Defined Event	<input type="checkbox"/>
Event Name	
Enable Post Events	<input type="checkbox"/>
Filewatch name	d:\indicator\results.txt
Delete Filewatch file	<input type="checkbox"/> ← Delete Filewatch File

Below the table, there is a section titled 'User Defined Event' with the text 'Is this a user defined event?' and a checkbox.

# 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

The screenshot shows the 'Edit Tasks' dialog box with the 'Properties' tab selected. The task 's\_EMP\_STG\_MRT' is chosen, and its type is 'Session'. Below, a table lists various attributes and their values, categorized into 'General Options' and 'Performance'.

Attribute	Value
<b>General Options</b>	
Write Backward Compatible Session Log File	<input type="checkbox"/>
Session Log File Name	s_m_Employee_Stg_Mrt.log
Session Log File directory	\$PMSessionLogDir\
Parameter Filename	
Enable Test Load	<input type="checkbox"/>
Number of rows to test	1
\$Source connection value	
\$Target connection value	
Treat source rows as	Insert
Commit Type	Target
Commit Interval	10000
Commit On End Of File	<input checked="" type="checkbox"/>
Rollback Transactions on Errors	<input type="checkbox"/>
Recovery Strategy	Fail task and continue workflow
Java Classpath	
<b>Performance</b>	
DTM buffer size	Auto
Collect performance data	<input type="checkbox"/>
Write performance data to repository	<input type="checkbox"/>
Incremental Aggregation	<input type="checkbox"/>
Reinitialize aggregate cache	<input type="checkbox"/>

At the bottom, there is a 'General Options' section with a 'General' sub-section. The dialog concludes with 'OK', 'Cancel', 'Apply', and 'Help' buttons.



# Session : Config Objects Tab

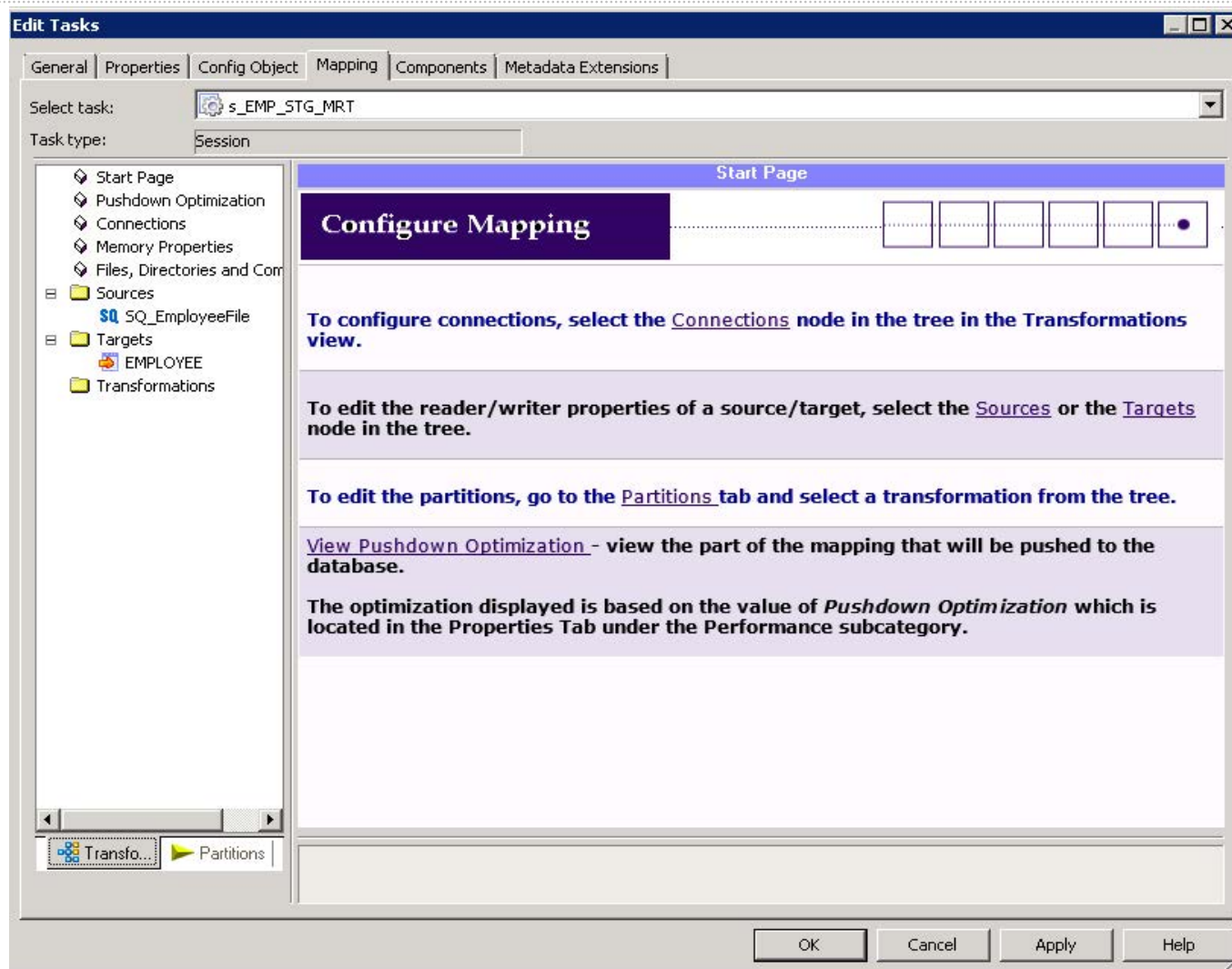
The screenshot shows the 'Edit Tasks' dialog box with the 'Config Object' tab selected. The 'Select task:' dropdown is set to 's\_EMP\_STG\_MRT', the 'Task type:' is 'Session', and the 'Config Name:' is 'default\_session\_config'. The main area contains a table of configuration attributes and values, organized into two expandable sections: 'Advanced' and 'Log Options'.

Attribute	Value
<b>Advanced</b>	
Constraint based load ordering	<input type="checkbox"/>
Cache LOOKUP() function	<input checked="" type="checkbox"/>
Default buffer block size	Auto
Line Sequential buffer length	1024
Maximum Memory Allowed For Auto Memory Attributes	512MB
Maximum Percentage of Total Memory Allowed For Auto...	5
Additional Concurrent Pipelines for Lookup Cache Creati...	Auto
Custom Properties	
Pre-build lookup cache	Auto
DateTime Format String	MM/DD/YYYY HH24:MI:SS.US
Pre 85 Timestamp Compatibility	<input type="checkbox"/>
<b>Log Options</b>	
Save session log by	Session runs
Save session log for these runs	0
Session Log File Max Size	0
Session Log File Max Time Period	0
Maximum Partial Session Log Files	1
Writer Commit Statistics Log Frequency	1
Writer Commit Statistics Log Interval	0

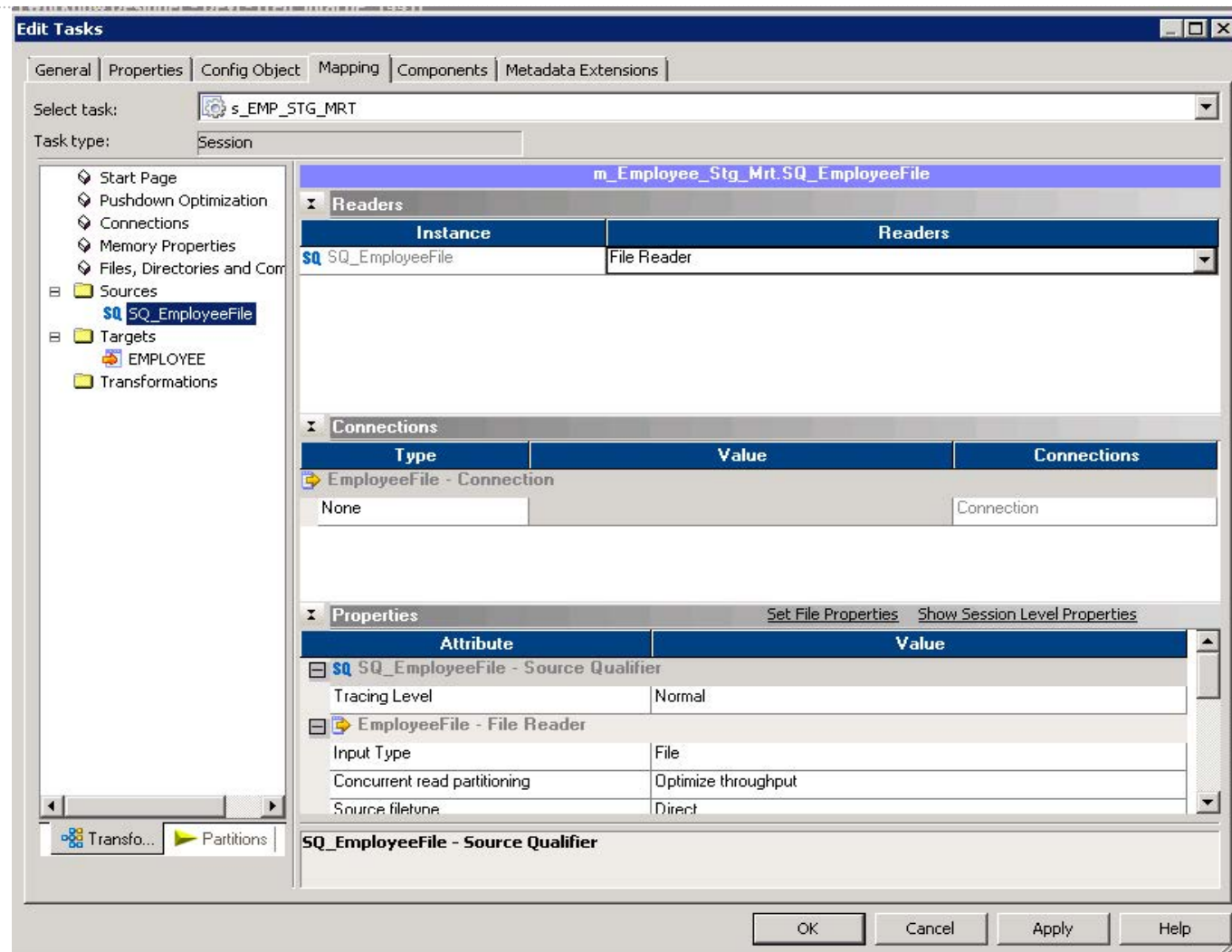
**Advanced**  
Advanced options group for session configuration

OK Cancel Apply Help

# Session : Mapping Tab 1



# Session : Mapping Tab 2



# Session : Mapping Tab 3

**Edit Tasks**

General | Properties | Config Object | **Mapping** | Components | Metadata Extensions

Select task: **s\_EMP\_STG\_MRT**

Task type: **Session**

**Writers**

Instance	Writers
EMPLOYEE	Relational Writer

**Connections**

Type	Value	Connections
Relational	AVER	DB Connection

**Properties** [Show Session Level Properties](#)

Attribute	Value
<b>EMPLOYEE - Relational Writer</b>	
Target load type	Bulk
Insert	<input checked="" type="checkbox"/>
Update as Update	<input checked="" type="checkbox"/>
Update as Insert	<input type="checkbox"/>
Update else Insert	<input type="checkbox"/>

**EMPLOYEE - Relational Writer**

OK Cancel Apply Help

# Session : Components Tab

**Edit Tasks**

General | Properties | Config Object | Mapping | **Components** | Metadata Extensions

Select task: **s\_EMP\_STG\_MRT**

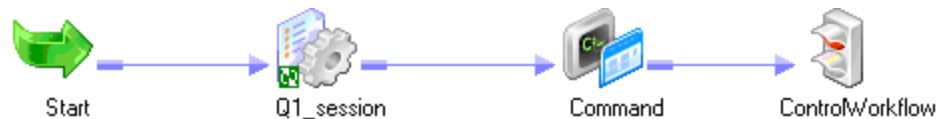
Task type: **Session**

Task	Type	Value
Pre-Session Command	None	
Post-Session Success Command	None	
Post-Session Failure Command	None	
On Success E-Mail	None	
On Failure E-Mail	None	
Pre-session variable assignment	Non-reusable	presession_variable_assignment
Post-session on success variable assignment	Non-reusable	postsession_success_variable_assignment
Post-session on failure variable assignment	Non-reusable	postsession_failure_variable_assignment

OK Cancel Apply Help

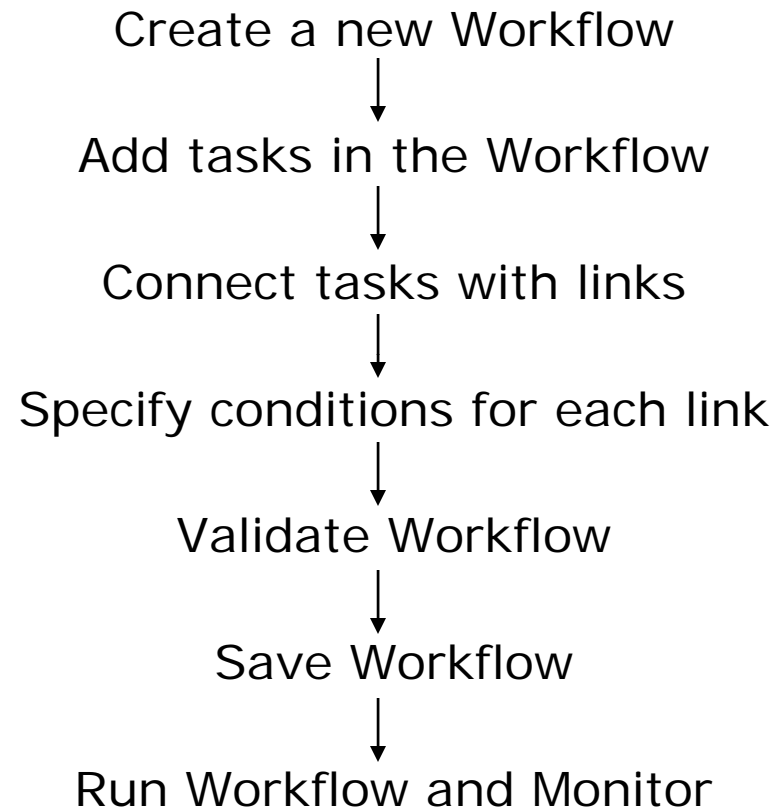
# Workflow

- 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

The screenshot shows a Windows-style dialog box titled "Edit Workflow - wf\_ACD\_STG\_MRT". It has several tabs: "General", "Properties", "Scheduler", "Variables", "Events", and "Metadata Extensions". The "Properties" tab is selected. The "Name:" field contains "wf\_ACD\_STG\_MRT" and is circled in yellow. Below it is a "Comments:" text area. The "Integration Service:" dropdown is set to "int\_infacoe\_144". The "Suspension email:" field is empty. Under "Runtime options", both "Disabled" and "Suspend on error" checkboxes are unchecked. Under "Web Services", the "Enabled" checkbox is unchecked, and there is a "Config Service..." button. Under "Configure Concurrent Execution", the "Enabled" checkbox is unchecked, and there is a "Configure Concurrent Execution ..." button. At the bottom, there is a "Load Balancing" section with a "Service Level:" dropdown set to "Default". The bottom of the dialog has "OK", "Cancel", "Apply", and "Help" buttons.

Dialog Box: Edit Workflow - wf\_ACD\_STG\_MRT

Tabs: General | **Properties** | Scheduler | Variables | Events | Metadata Extensions

Name: wf\_ACD\_STG\_MRT

Comments:

Integration Service: int\_infacoe\_144

Suspension email:

Runtime options: ☐ Disabled ☐ Suspend on error

Web Services: ☐ Enabled [Config Service...](#)

Configure Concurrent Execution: ☐ Enabled [Configure Concurrent Execution ...](#)

Load Balancing

Service Level: Default

Buttons: OK Cancel Apply Help



# Assigning an Integration Service

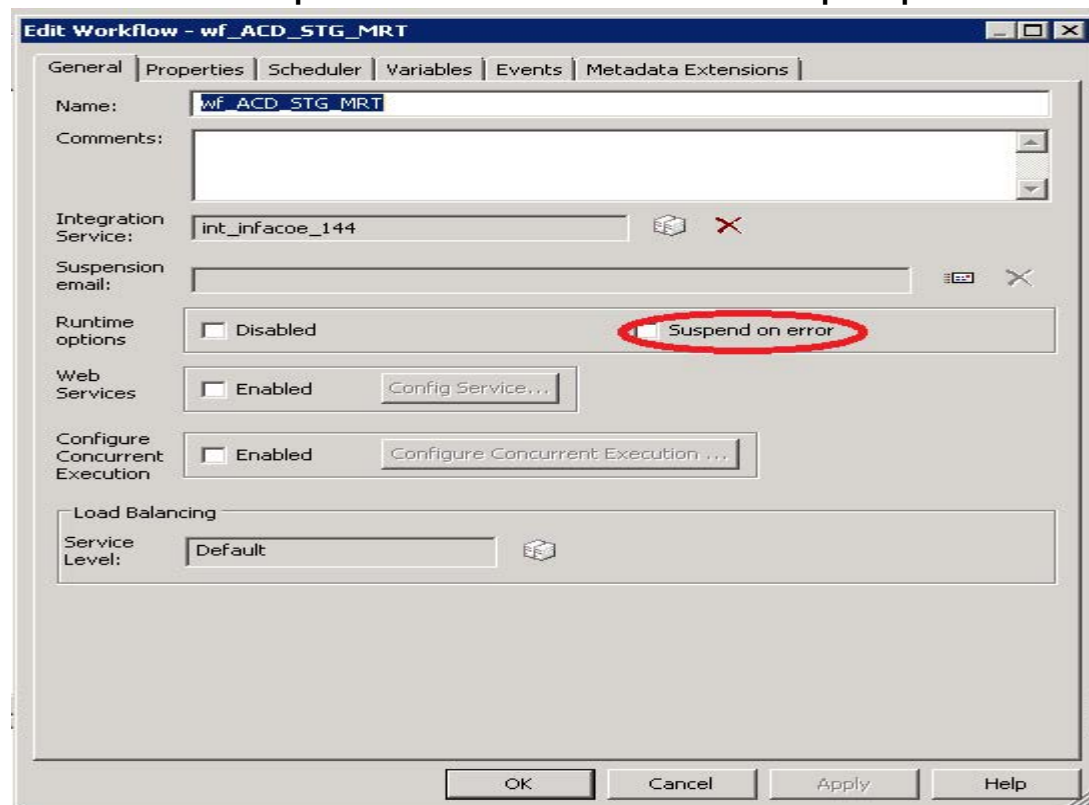
The screenshot shows a Windows-style dialog box titled "Edit Workflow - wf\_ACD\_STG\_MRT". It has several tabs: "General", "Properties", "Scheduler", "Variables", "Events", and "Metadata Extensions". The "General" tab is active. Inside the dialog, there are several fields and options:

- Name:** A text box containing "wf\_ACD\_STG\_MRT".
- Comments:** A large empty text area.
- Integration Service:** A dropdown menu showing "int\_infacoe\_144", which is highlighted with a yellow circle. To its right are a cube icon and a red 'X' icon.
- Suspension email:** A text box with a list icon and a red 'X' icon to its right.
- Runtime options:** Two checkboxes: "Disabled" (unchecked) and "Suspend on error" (unchecked).
- Web Services:** A checkbox "Enabled" (unchecked) and a "Config Service..." button.
- Configure Concurrent Execution:** A checkbox "Enabled" (unchecked) and a "Configure Concurrent Execution ..." button.
- Load Balancing:** A section containing a "Service Level:" dropdown menu showing "Default" and a cube icon to its right.

At the bottom of the dialog are four buttons: "OK", "Cancel", "Apply", and "Help".

# 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](http://www.informatica.com)

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You have completed  
the Session “Workflow  
Manager” of  
Informatica 9x

