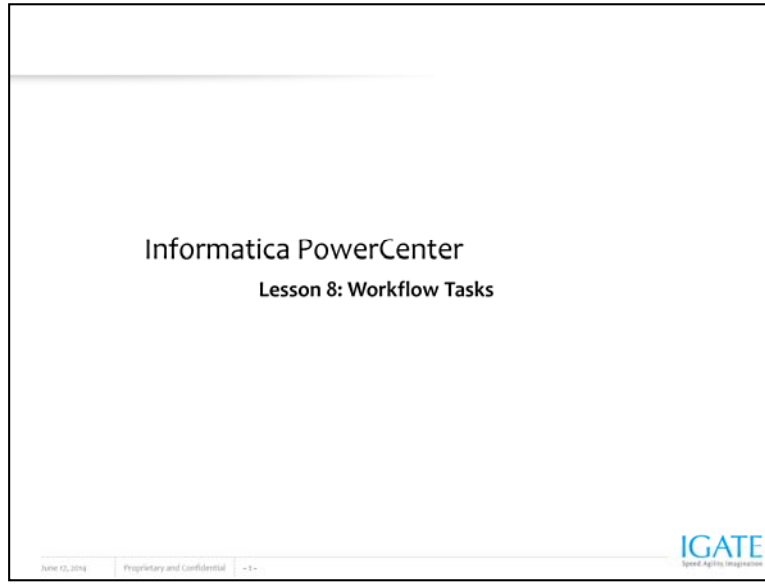
Informatica PowerCenter
Lesson 8: Workflow Tasks
IGATE

Lesson Objectives

- **In this lesson you will learn about:**
  - Command Task
  - Email Task
  - Timer Task
  - Event Tasks
  - Decision Task
  - Worklets

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Speed Agility Imagination

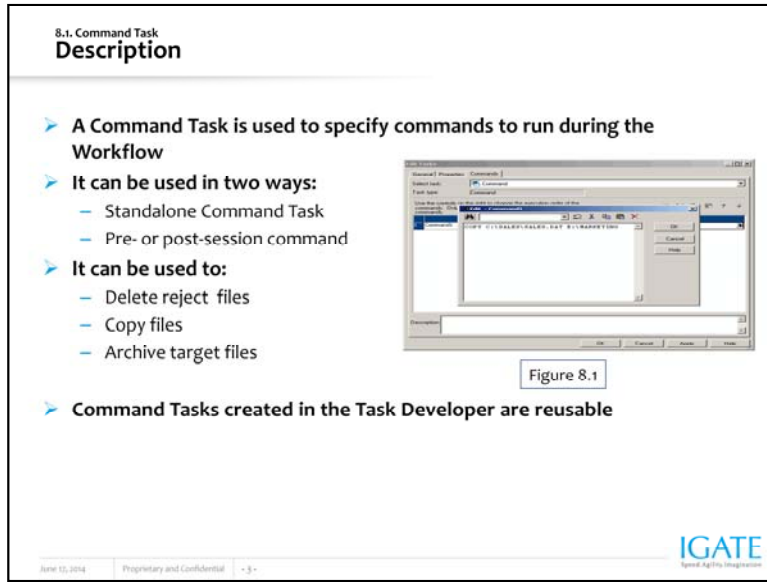


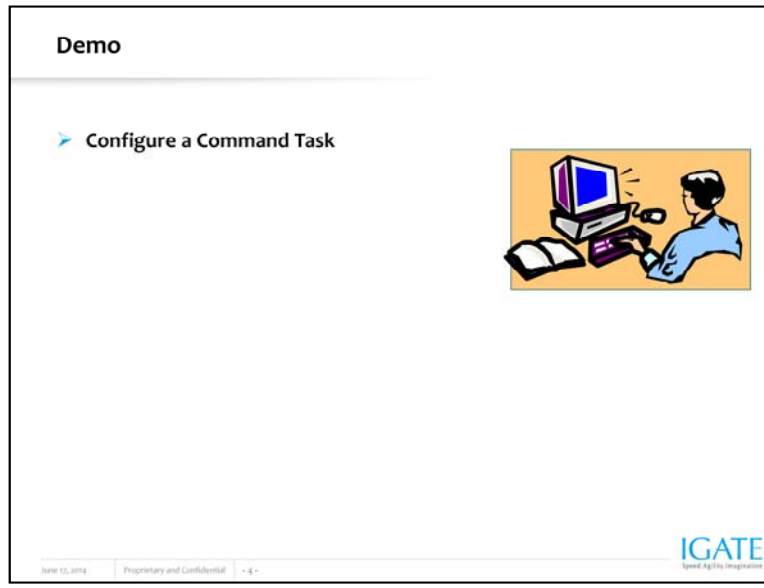
Figure 8.1

The *Command Task* can be used in two ways:

- **Standalone Command Task** – Command Task can be used anywhere in the Workflow or Worklet to run shell commands
- **Pre- and post-session shell command** – Command Task can be called as the pre- or post- session shell command for a Session Task

Any valid UNIX command or shell script can be used for UNIX servers, or any valid DOS command or batch file for Windows servers.
The status of the command (success or failure) is stored in the pre-defined variable @command_Task_name.STATUS.

For example, a command Task may be used to copy a file from one directory to another. For a Windows Server the following DOS command will be used to copy a file SALES.DAT from the source directory, C:\SALES to the target directory E:\MARKETING
COPY C:\SALES\SALES.DAT E:\MARKETING
For a UNIX server, the following command will be used to perform a similar operation:
Cp sales/sales.dat /marketing
Each command runs in the same environment (UNIX or Windows) as the Integration service.



Steps to create a Command Task:

1. In the Workflow Designer or the Task Developer, click the ***Command Task*** icon on the Tasks toolbar.
   -or-
   Choose ***Task*** | ***Create***. Select ***Command Task*** for the Task type.
2. Enter a name for the Command Task. Click ***Create***. Then click ***Done***.
3. Double-click the Command Task in the workspace to open the Edit Tasks dialog box.
4. In the Commands tab, click the ***Add*** button to add a command.
5. In the Name field, enter a name for the new command.
6. In the Command field, click the ***Edit*** button to open the Command Editor.
7. Enter the command which has to be performed. Enter only one command in the Command Editor.
8. Click ***OK*** to close the Command Editor.
9. Repeat steps 3-8 to add more Commands in the Task.
10. Click ***OK***.

8.2. Email Task

Description

- **An Email Task is used to send an email to designated recipients when the Integration service runs a Workflow**
- **An Email Task can be configured for:**
  - Post Session, to send the success or failure status of the session
  - Suspension, to send the suspension status of the Workflow
- **Email Tasks created in the Task Developer are reusable**

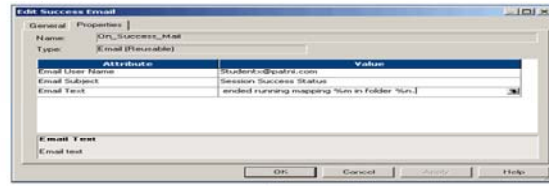


Figure 8.2

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The Workflow Manager provides an Email Task to send an email during a Workflow. Re-usable Email Tasks can be created in the Task Developer for any type of email. Email Tasks created in the Workflow and Worklet Designer are non-reusable.

When a Workflow or Worklet is created the following types of email can be included:

- Post-session email. The session can be configured to send an email when the session completes or fails.
- Suspension email. The Workflow can be configured to send an email when the Workflow suspends.

For example, if the time taken for a session to complete has to be tracked, the session can be configured to send an email containing the time and date the session starts and completes.

An Email Task can also be used anywhere in a Workflow or Worklet. For example, it can be included in a Workflow after a Command Task that executes a shell script. The Workflow links can be configured for the Integration service to send an email if the Command Task fails.

8.2. Email Task

Email Variables

Email Variable	Description
%a<>	Name of file attached
%g	Session log file attached
%n	Folder name
%m	Mapping name
%d	Repository name
%t	Target table details
%s	Session name
%e	Session status
%b	Session start time
%c	Session completion time
%i	Session elapsed time
%l	Total rows loaded
%r	Total rows rejected

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Email variables and format tags can be used in an email message for post-session emails.

Using email variables, important session information, such as:

- Number of rows loaded
- Session completion time
- Read and write statistics, etc.

Can be included in the email. The session log or other relevant files can also be attached to the email. Format tags for a tab (\t) and newline(\n) can be used in the body of the message to make the message easier to read.

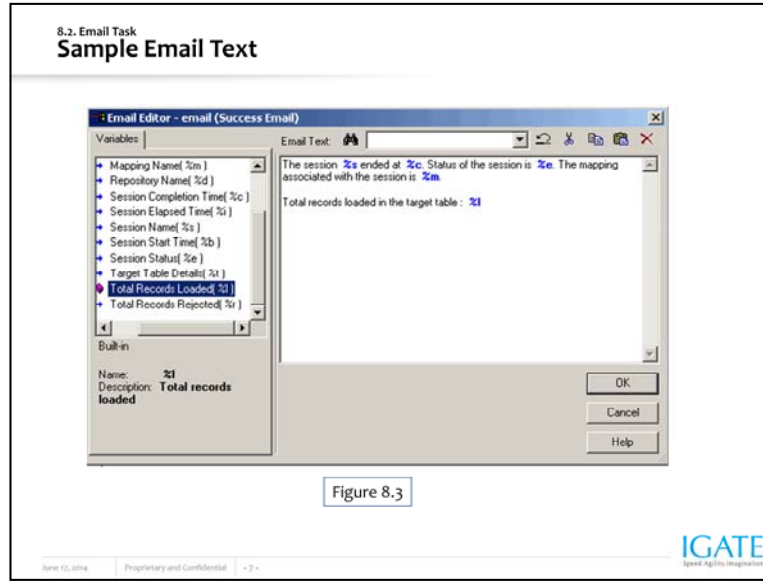
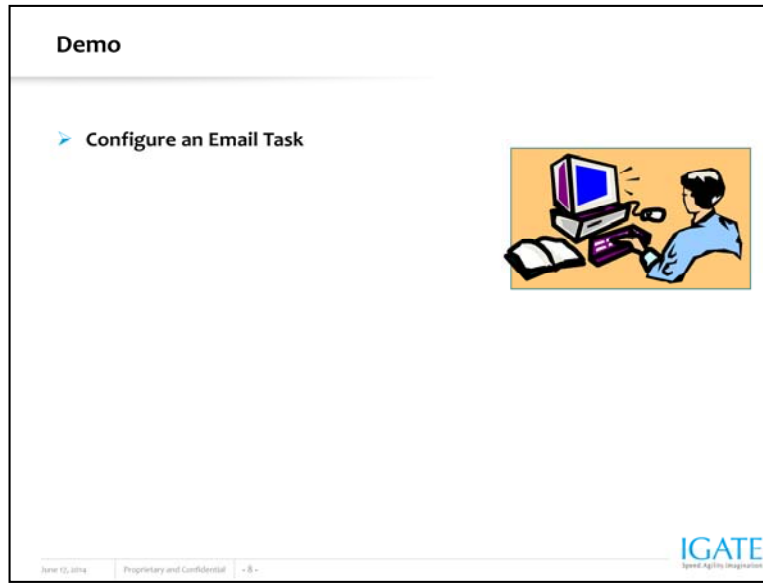


Figure 8.3

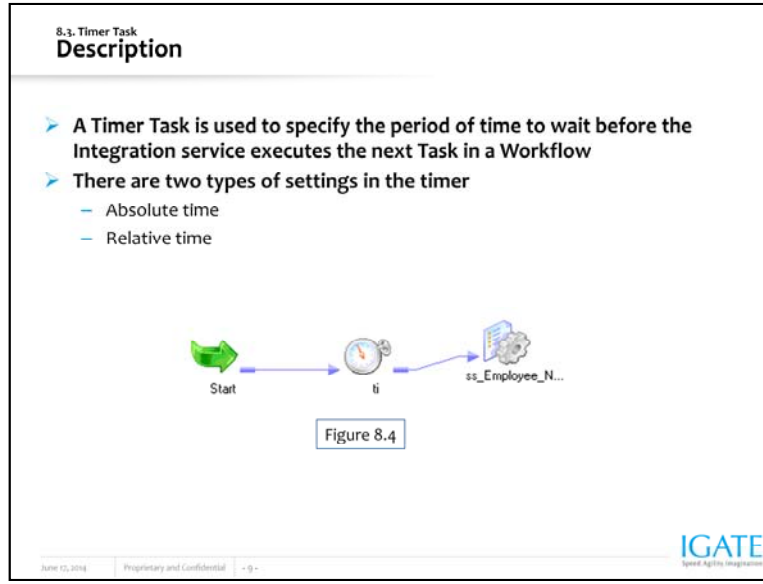
In the above figure you see a sample email text, which gives the following details

- Name of the session and mapping
- Session completion time
- Number of records loaded



Steps to create an Email Task in the Task Developer:

1. In the Task Developer, choose ***Tasks*** | ***Create***.
2. Select an ***Email*** Task and enter a name for the Task. Click ***Create***.
3. Click ***Done***.
4. Double-click the Email Task in the workspace. The Edit Tasks dialog box appears.
5. Click ***Rename*** to enter a name for the Task.
6. Optionally enter a description for the Task in the Description field.
7. Click the ***Properties*** tab.
8. Enter the fully qualified email address of the mail recipient in the Email User Name field.
9. Enter the subject of the email in the Email Subject field. Or, leave this field blank.
10. Click the ***Open*** button in the Email Text field to open the Email Editor.
11. Enter the text of the email message in the Email Editor.
12. When the Email Task is used for post-session email, incorporate variables and format tags in the message. Leave the Email Text field blank.
13. Click ***OK*** twice to save changes.

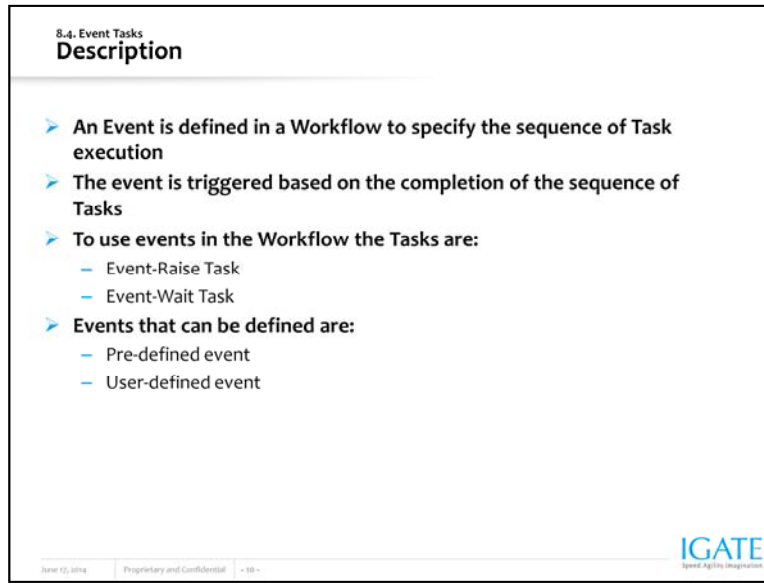


When a Timer Task is used in a Workflow, the next Task in the Workflow (after the timer Task) can be started at an exact time and date. After the start time of another Task, a wait period can be set in the Workflow, or Worklet before starting the next Task.

The Timer Task has two types of settings:

- **Absolute time -** The exact time that the Integration service starts executing the next Task in the Workflow is specified
- **Relative time -** The Integration service will wait for a specified period of time after the Timer Task, the parent Workflow, or the top-level Workflow starts

For example, if there are two sessions in a Workflow and the second session should start 1 minute after the first session completes; A Timer Task can be used after the first session.



To coordinate the execution of the Workflow, the following types of events are specified for the Event-Wait and Event-Raise Tasks:

- **Pre-defined event -** A *pre-defined event* is a file-watch event. For pre-defined events, an Event-Wait Task is used to instruct the Integration service to wait for the specified indicator file to appear before continuing with the rest of the Workflow. When the Integration service locates the indicator file, it starts the next Task in the Workflow
- **User-defined event -** A *user-defined event* is a sequence of Tasks in the Workflow. An Event-Raise Task is used to specify the location of the user-defined event in the Workflow. A user-defined event is sequence of Tasks in the branch from the Start Task leading to the Event-Raise Task

When all the Tasks in the branch from the Start Task to the Event-Raise Task complete, the Event-Raise Task triggers the event. The Event-Wait Task waits for the Event-Raise Task to trigger the event before continuing with the rest of the Tasks in its branch.

Event Raise Task
The *Event-Raise* Task represents the location of a user-defined event. A user-defined event is the sequence of Tasks in the branch from the Start Task to the Event-Raise Task. When the Integration service executes the Event-Raise Task, the Event-Raise Task triggers the user-defined event.

To use an Event Raise Task, a user-defined event is declared first. Then, an Event-Raise Task is declared in the Workflow to represent the location of the user-defined event. In the Event-Raise Task properties, the name of a user-defined event is specified.

Event Wait Task
The *Event-Wait Task* waits for an event to occur. The event can be a user-defined or a pre-defined event. Once the event triggers, the Integration service continues executing the rest of the Workflow.

If the Event Wait Task has to wait for a user-defined event then, it has to be triggered by the Event-Raise Task. The user-defined event has to be specified in this Task.

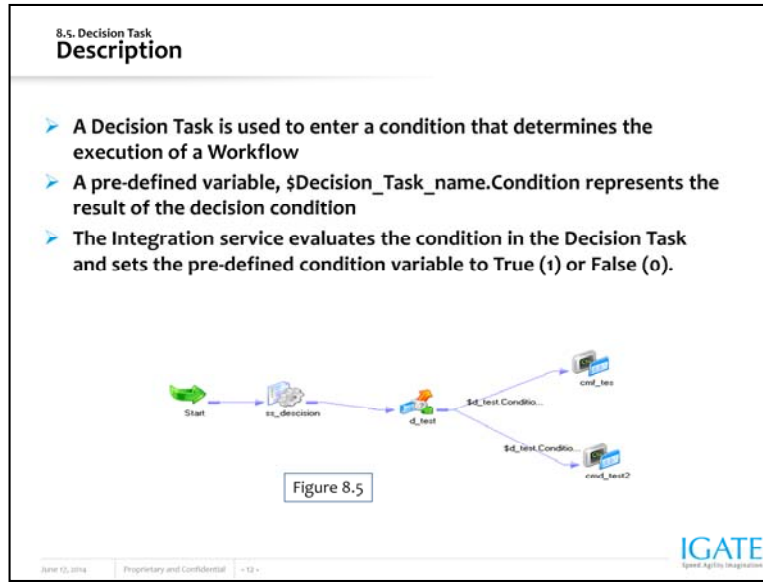


Figure 8.5

One decision condition can be specified per Decision Task. After the Integration service evaluates the Decision Task, the pre-defined condition variable can be used in other expressions in the Workflow to develop the Workflow.

You can use the Decision task instead of multiple link conditions in a workflow. Instead of specifying multiple link conditions, use the pre-defined Condition variable in a Decision task to simplify link conditions.

The Decision Task simplifies the Workflow. If a condition is not specified in the Decision Task, the Integration service evaluates the Decision Task to True.

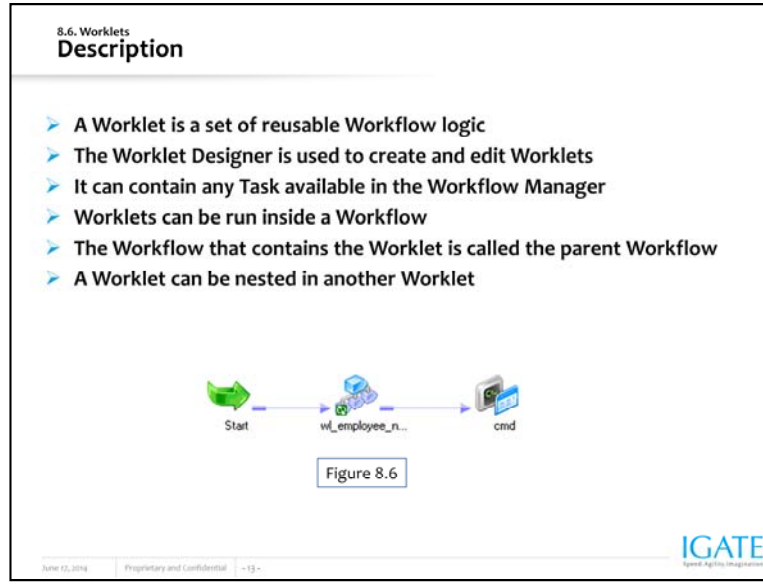
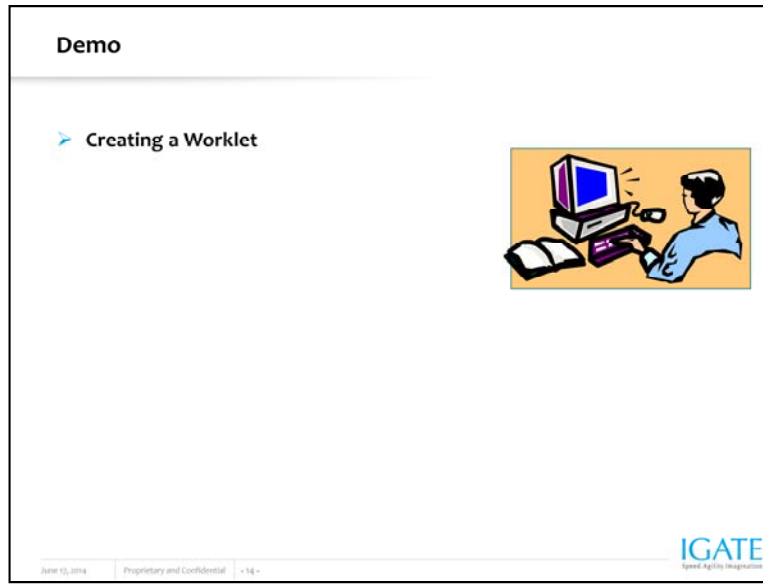


Figure 8.6

A *Worklet* is an object that represents a set of Tasks. When the Integration service executes a Worklet, it expands the Worklet. The Integration service then runs the Worklet as it would run any other Workflow, executing Tasks and evaluating links in the Worklet.

The Worklet does not contain any scheduling or server information. To execute a Worklet, it has to be included in a Workflow. The Workflow Manager does not provide a parameter file or log file for Worklets. The Integration service writes information about Worklet execution in the Workflow log.



Steps to create a Worklet:

1. In the Worklet Designer, choose ***Worklets | Create***. The *Create Worklets* dialog box appears.
2. Enter a name for the Worklet.
3. Click ***OK***.
4. The Worklet Designer creates a Start Task in the Worklet.
5. Now, drag the required Tasks in the designer space as per the Worklet logic.

Summary

- After completing this lesson you now:
  - Command Task
  - Email Task
  - Timer Task
  - Decision Task
  - Event Tasks
  - Worklet

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Review Question

- Question 1: In a Workflow, an email is used to send _____ information
- Question 2: There are two kinds of events _____ and _____
- Question 3: A _____ Task is used to enter a condition that determines the execution of a Workflow
- Question 4: Worklets can be run independently.
  - True/False