Informatica PC Training

Day-7

Agenda:

- Workflows, Worklets, Tasks
- Repository Manager
  - Folders, Deployment Groups, User Access
- Demo –
  Creating Folders, Deployment Groups, User Access, Workflows, Worklets and Tasks

Debadatta Mohanty

HCL

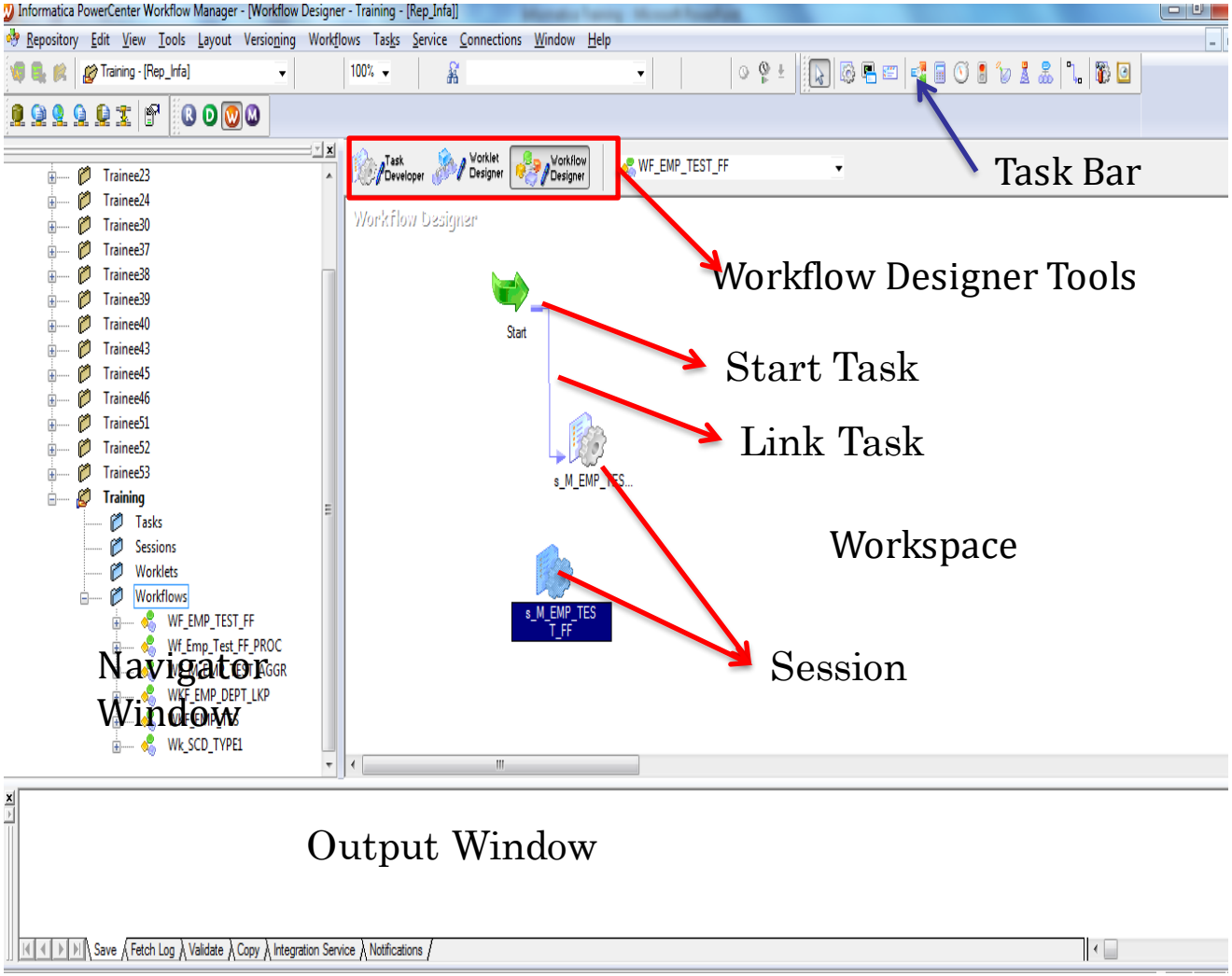
Housekeeping Tips

- **Please mute your phone during the presentation.**
- **If there is too much noise, participants will be put on auto-mute.**
- **We shall open up the table for Q&A at the end of the session.**
- **Please feel free to post your questions over Chat as well.**
- **This session will be recorded and an email will be sent with links to the recordings after the session.**
- **At the end of the course, TEX will request you to provide feedback on the training.**

Workflow Manager

Workflow Manager Interface

- A ***Workflow*** is set of instructions for the Informatica Server to perform data transformation and load
- The Workflow Manager provides other tasks such as Assignment, Decision, and Events. You can also create branches with conditional links. In addition, you can batch workflows by creating worklets in the Workflow Manager.
- The simplest Workflow is composed of a Start Task, a Link and one other Task.
- A ***session*** is now one of the many tasks you can execute in the Workflow Manager.



Workflow Manager Tools

- Workflow Designer

  - Maps the execution order and dependencies of Sessions, Tasks and Worklets, for the Informatica Server

- Task Developer

  - Create Session, Shell Command and Email tasks
  - Tasks created in the Task Developer are reusable

- Worklet Designer

  - Creates objects that represent a set of tasks
  - Worklet objects are reusable

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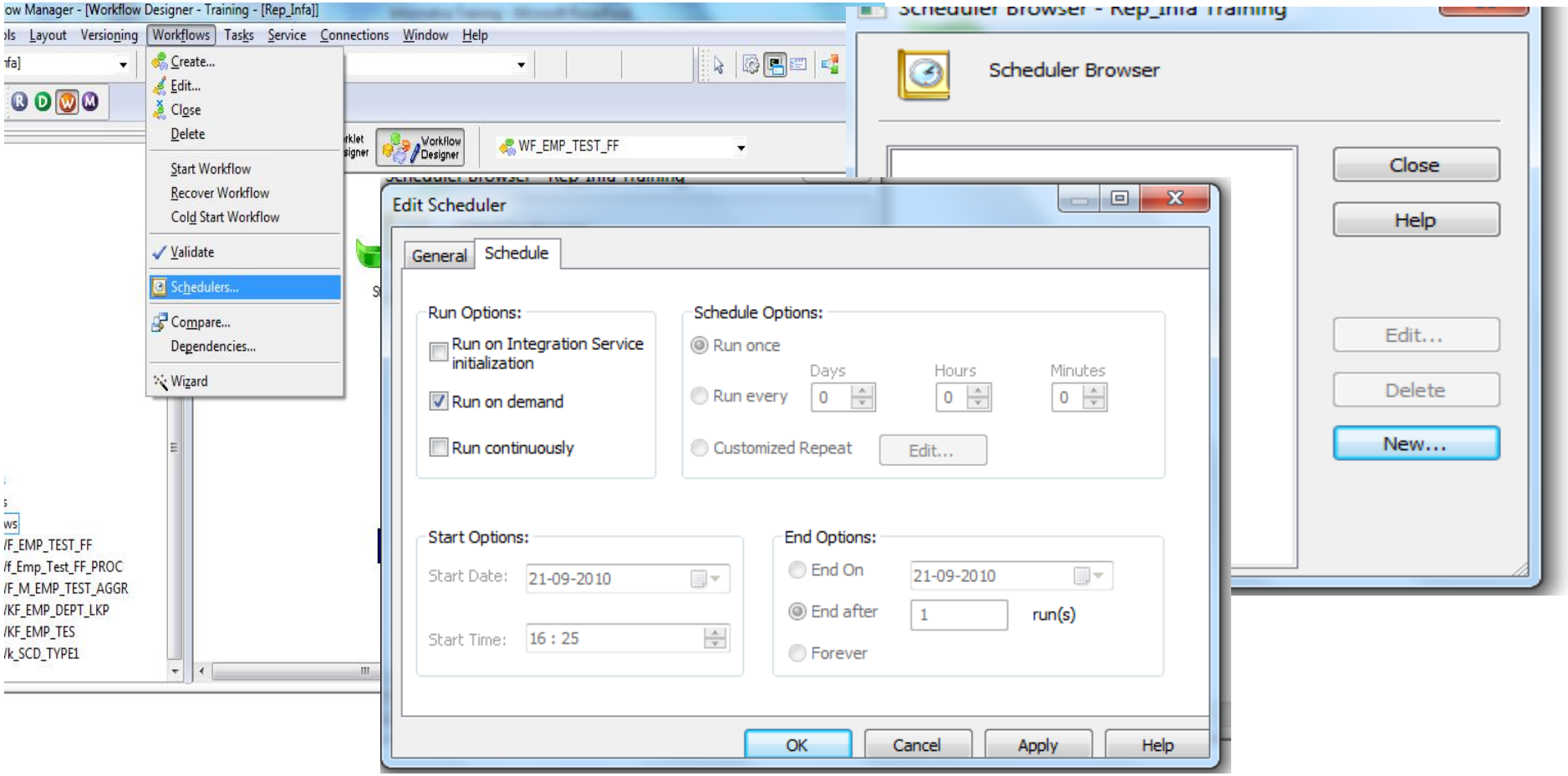
Workflow Tasks

- ***Command***. Specifies a shell command run during the workflow.
- ***Control.*** Stops or aborts the workflow.
- ***Decision.*** Specifies a condition to evaluate.
- ***Email.*** Sends email during the workflow.
- ***Event-Raise.*** Notifies the Event-Wait task that an event has occurred.
- ***Event-Wait.*** Waits for an event to occur before executing the next task.
- ***Session.*** Runs a mapping you create in the Designer.
- ***Assignment***. Assigns a value to a workflow variable.
- ***Timer***. Waits for a timed event to trigger.

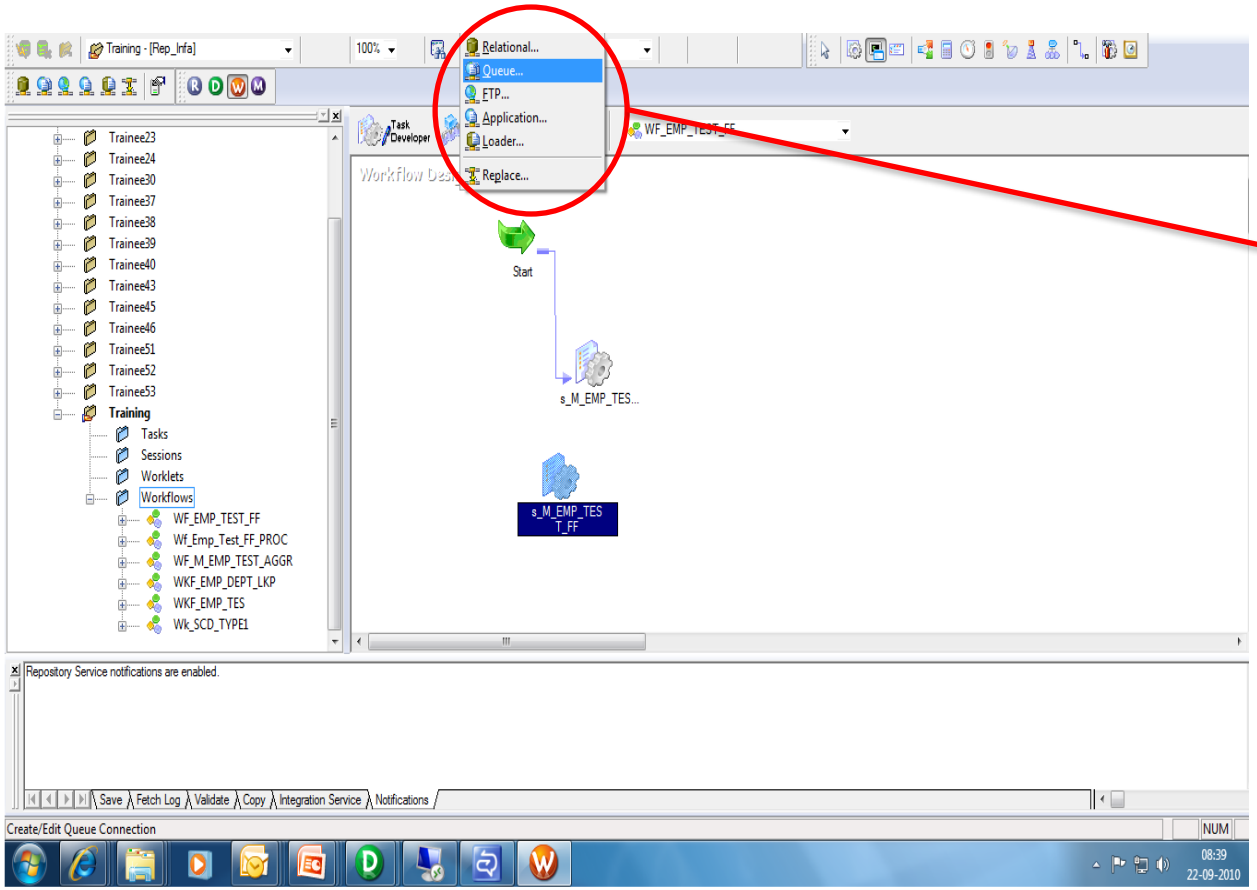
Workflow Scheduler Objects

- Setup reusable schedules to associate with multiple Workflows
  - Used in Workflows and Session Tasks



Workflow Server Connection

- Configure Server data access connections
  - Used in Session Tasks

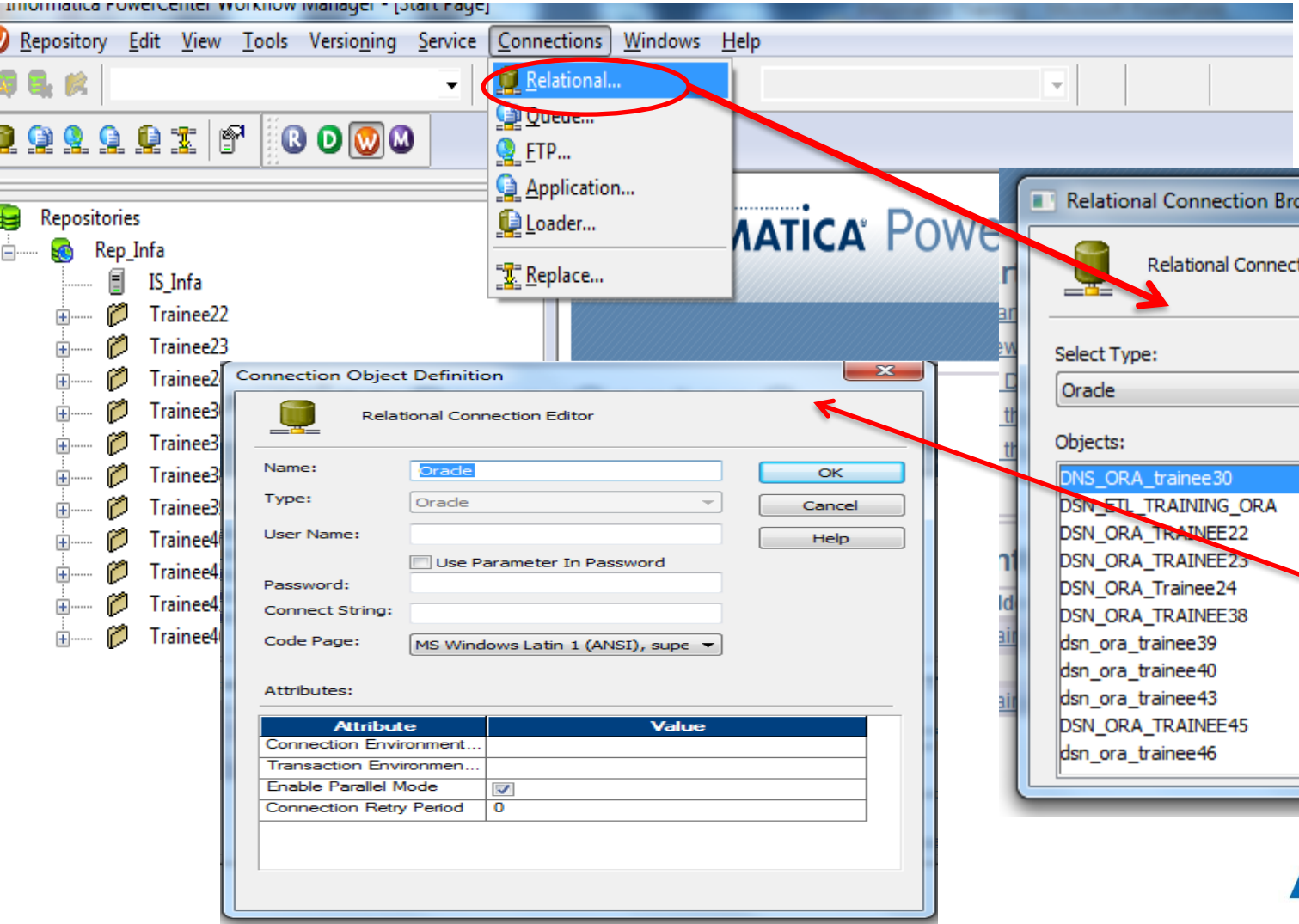


Configure:

1. Relational
2. Queue
3. FTP
4. Application
5. Loader

Relational Connection (Native)

- Create a relational (database) connection
  - Instructions to the Server to locate relational tables
  - Used in Session Tasks



Relational Connection Properties

- Define native relational (database) connection

Name of Connection

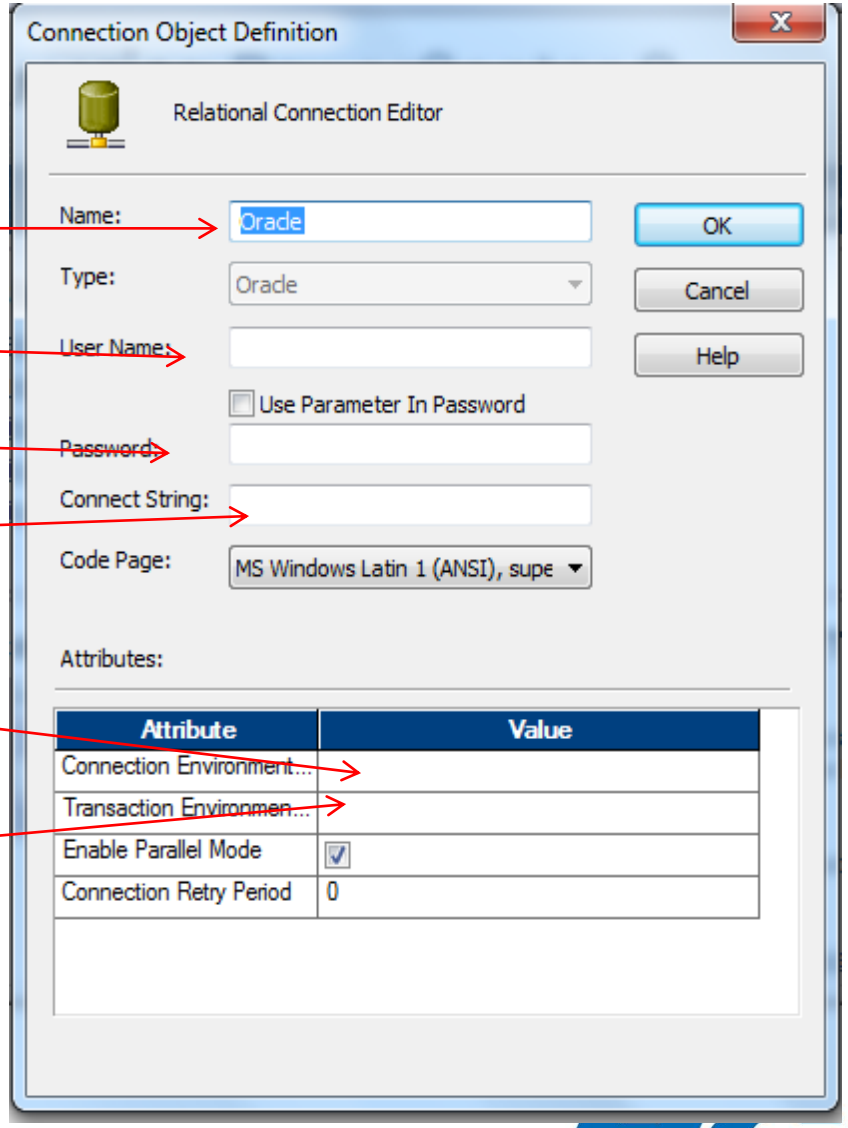
Database User Name

Database Password

Database Connecting String

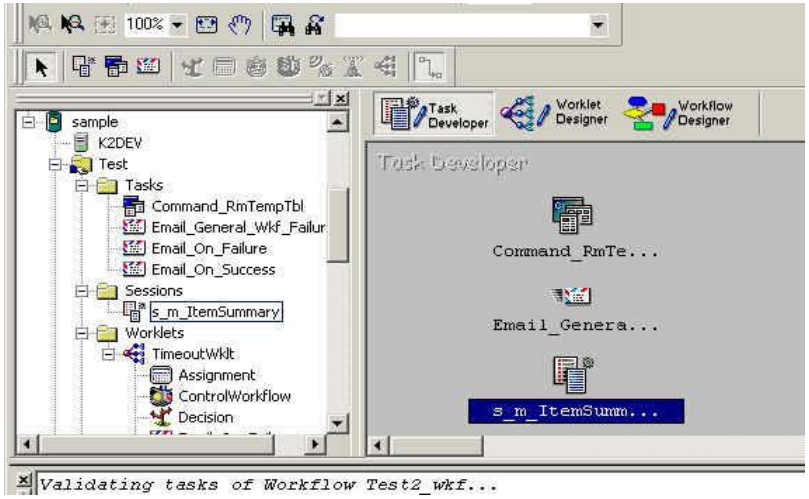
Runs an SQL command with each database connection

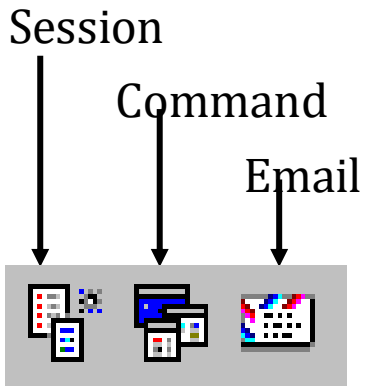
Runs an SQL command before the initiation of each transaction



Task Developer

- Create basic Reusable "building blocks" – to use in any Workflow
- Reusable Tasks
  - Session — Set of instructions to execute Mapping logic
  - Command — Specify OS shell / script command(s) to run during the Workflow
  - Email — Send email at any point in the Workflow



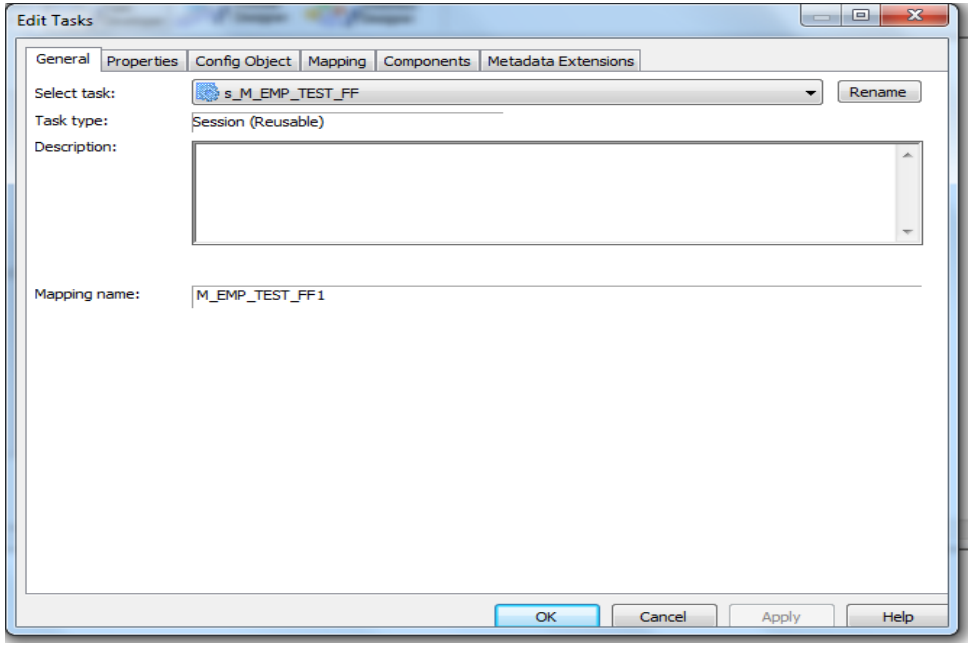


Session Task

- Server instructions to runs the logic of ONE specific Mapping

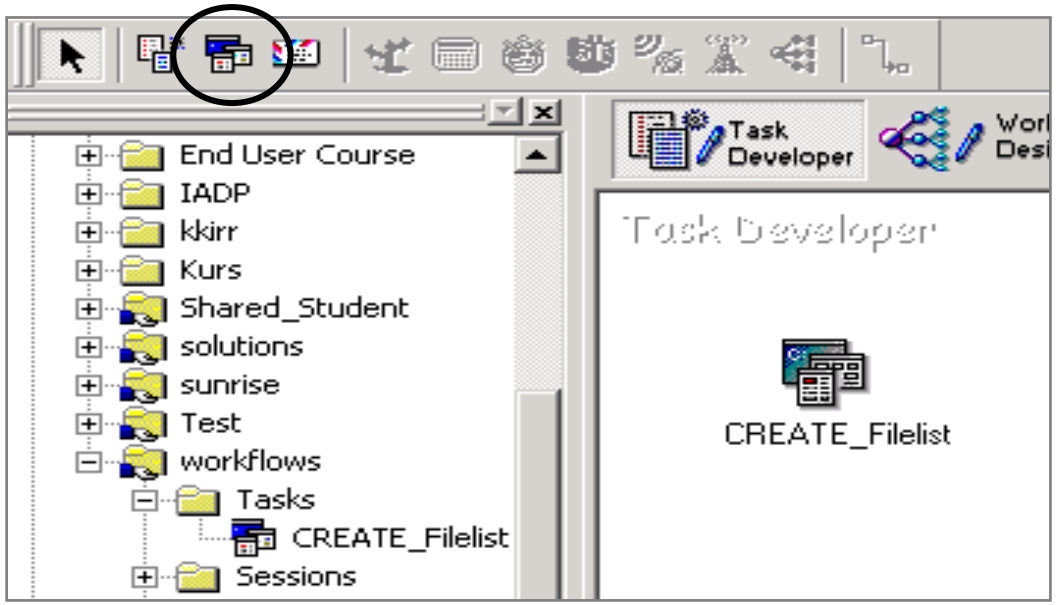
  e.g. - source and target data location specifications, memory allocation, optional Mapping overrides, scheduling, processing and load instructions

- Becomes a component of a Workflow (or Worklet)
- If configured in the Task Developer, the Session Task is reusable (optional)



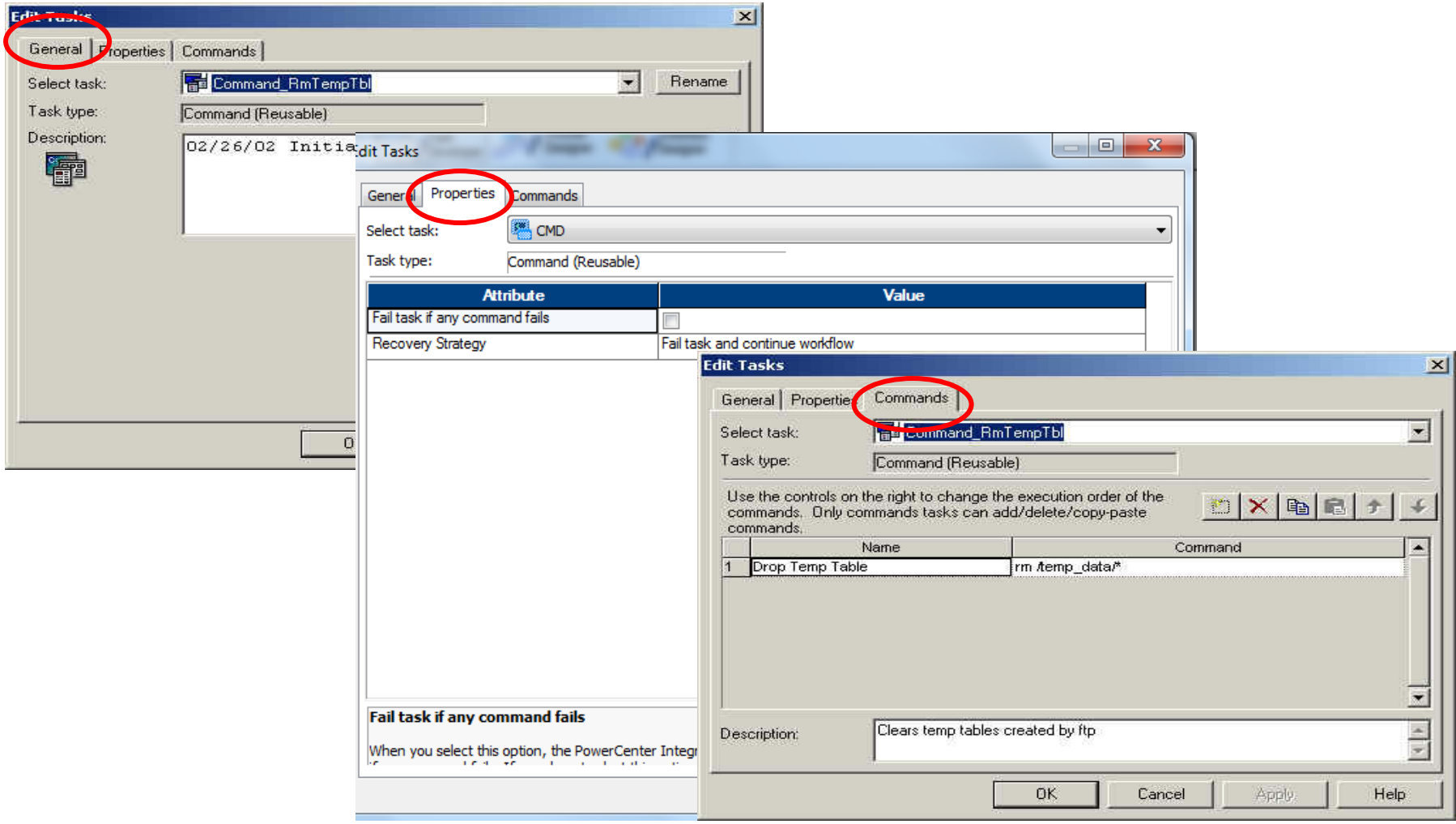
Command Task

- Specify one (or more) Unix shell or DOS (NT, Win2000) commands to run at a specific point in the Workflow
- Becomes a component of a Workflow (or Worklet)
- If configured in the Task Developer, the Command Task is reusable (optional)



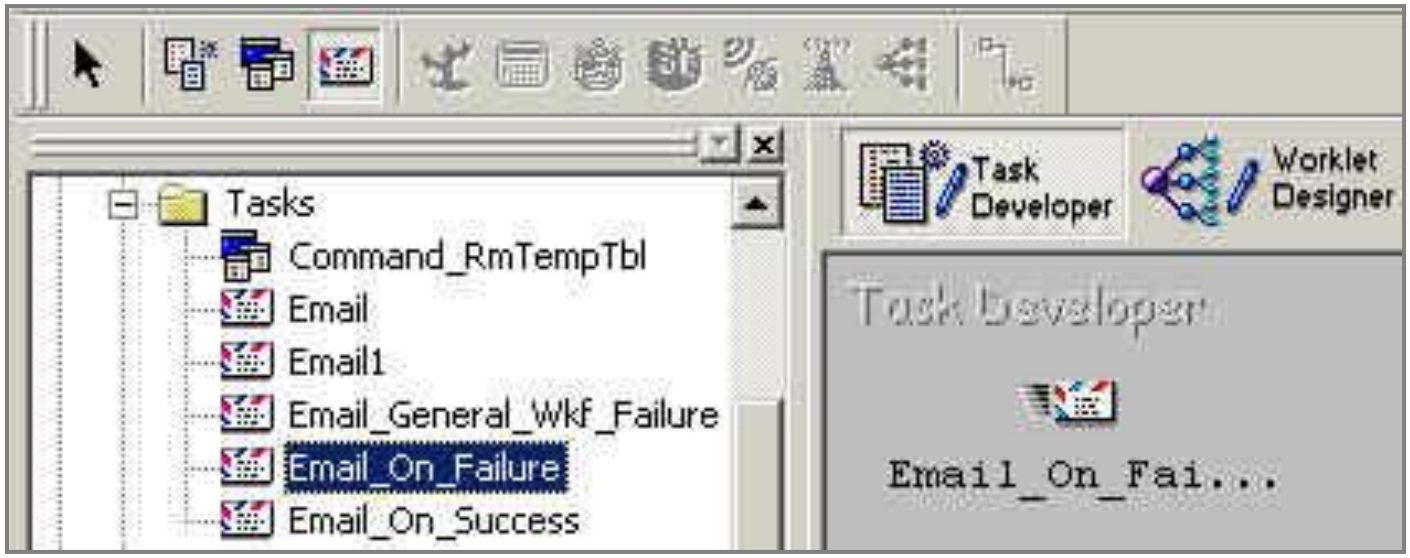
Commands can also be referenced in a Session through the Session "Components" tab as Pre- or Post-Session commands

Command Task



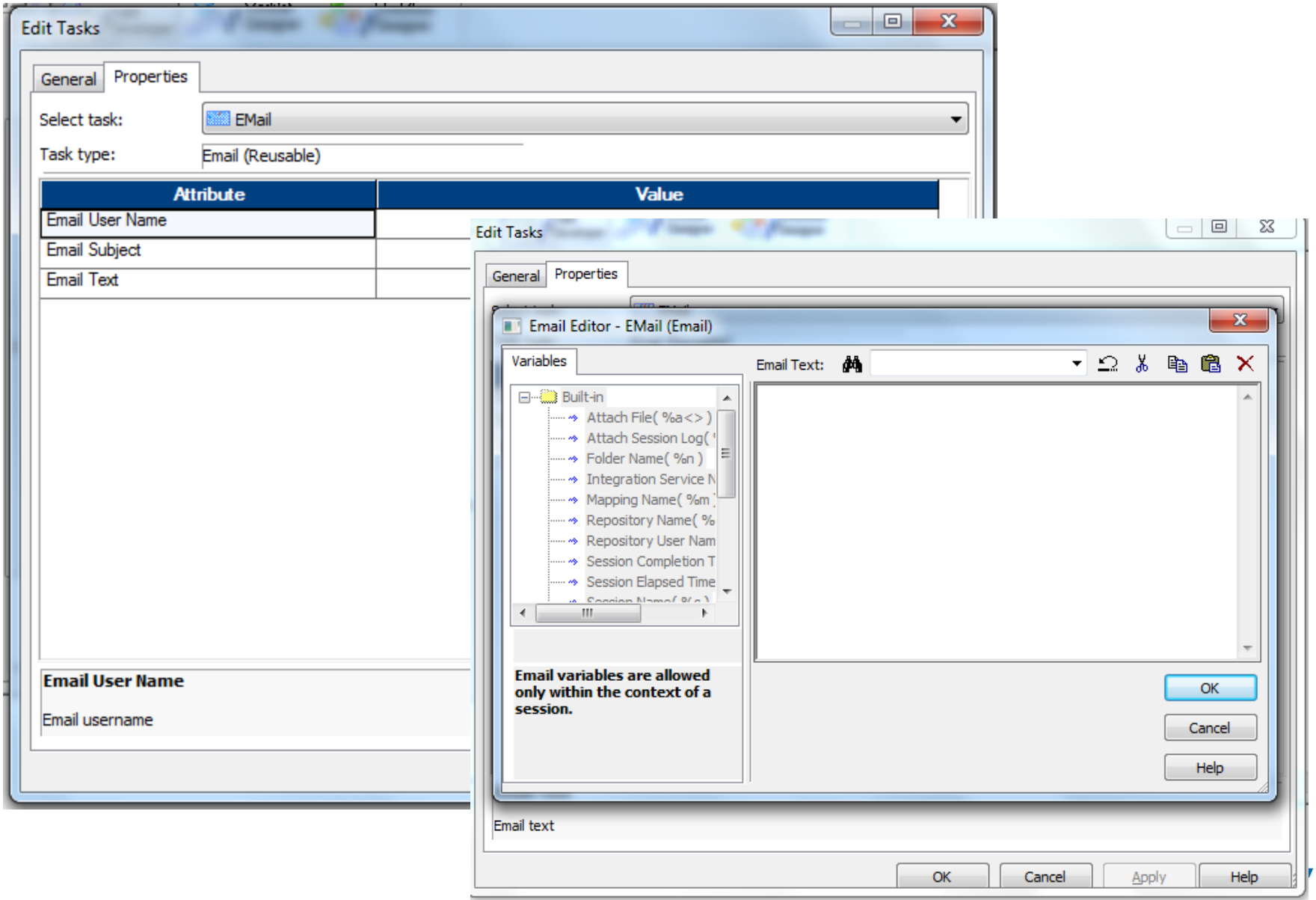
Email Task

- Configure to have the Informatica Server to send email at any point in the Workflow
- Becomes a component in a Workflow (or Worklet)
- If configured in the Task Developer, the Email Task is reusable (optional)



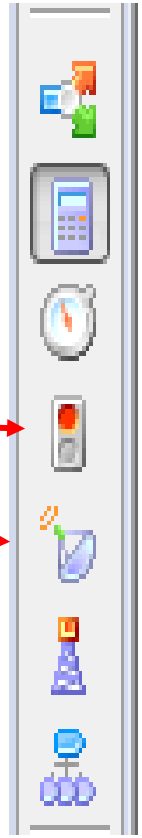
Email can also be configured in a Session, to be sent (only) at the completion of the Session

Email Task

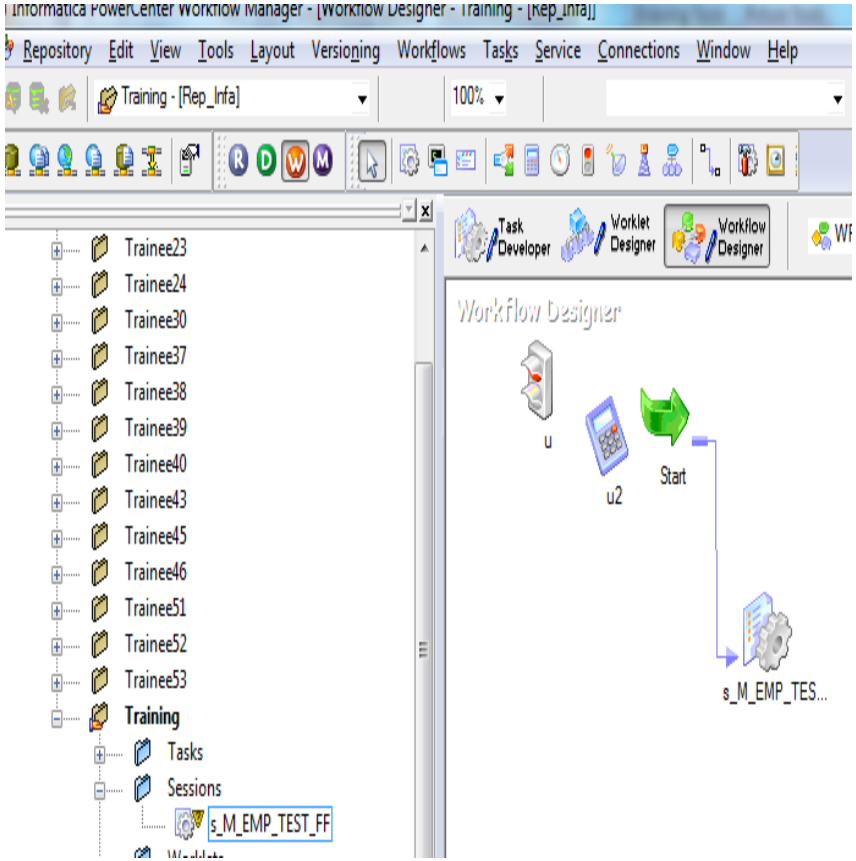

Edit Tasks
General
Properties
Select task:
EMail
Task type:
Email (Reusable)
Attribute
Value
Email User Name
Email Subject
Email Text
Email User Name
Email username
Edit Tasks
General
Properties
Email Editor - EMail (Email)
Variables
Email Text:
Built-in
Attach File(%a<>)
Attach Session Log(
Folder Name(%n)
Integration Service N
Mapping Name(%m
Repository Name(%
Repository User Nam
Session Completion T
Session Elapsed Time
Email variables are allowed only within the context of a session.
OK
Cancel
Help
Email text
OK
Cancel
Apply
Help

Additional Workflow Tasks

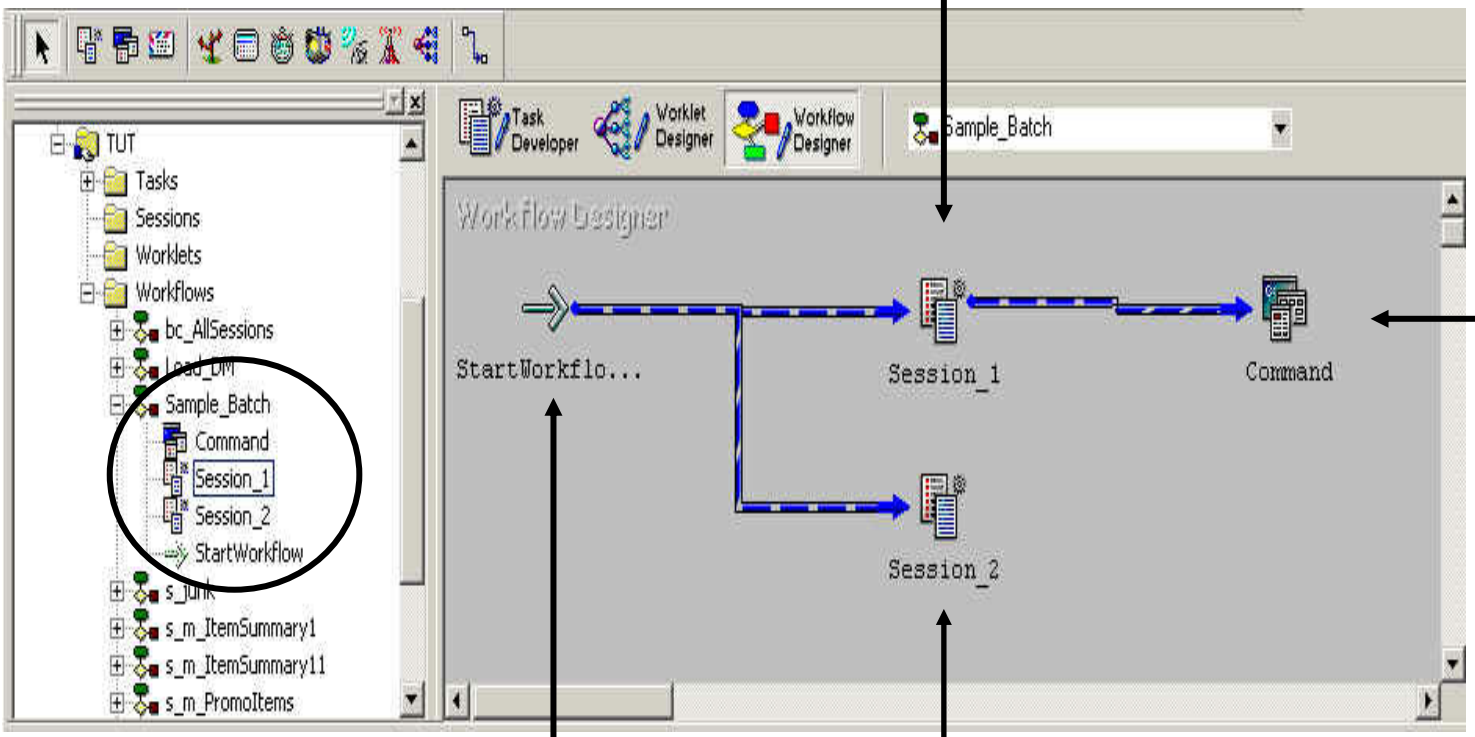
- Six additional Tasks are available in the Workflow Designer
  - All are Workflow-specific only



- Decision
- Assignment
- Timer
- Control
- Event Wait
- Event Raise

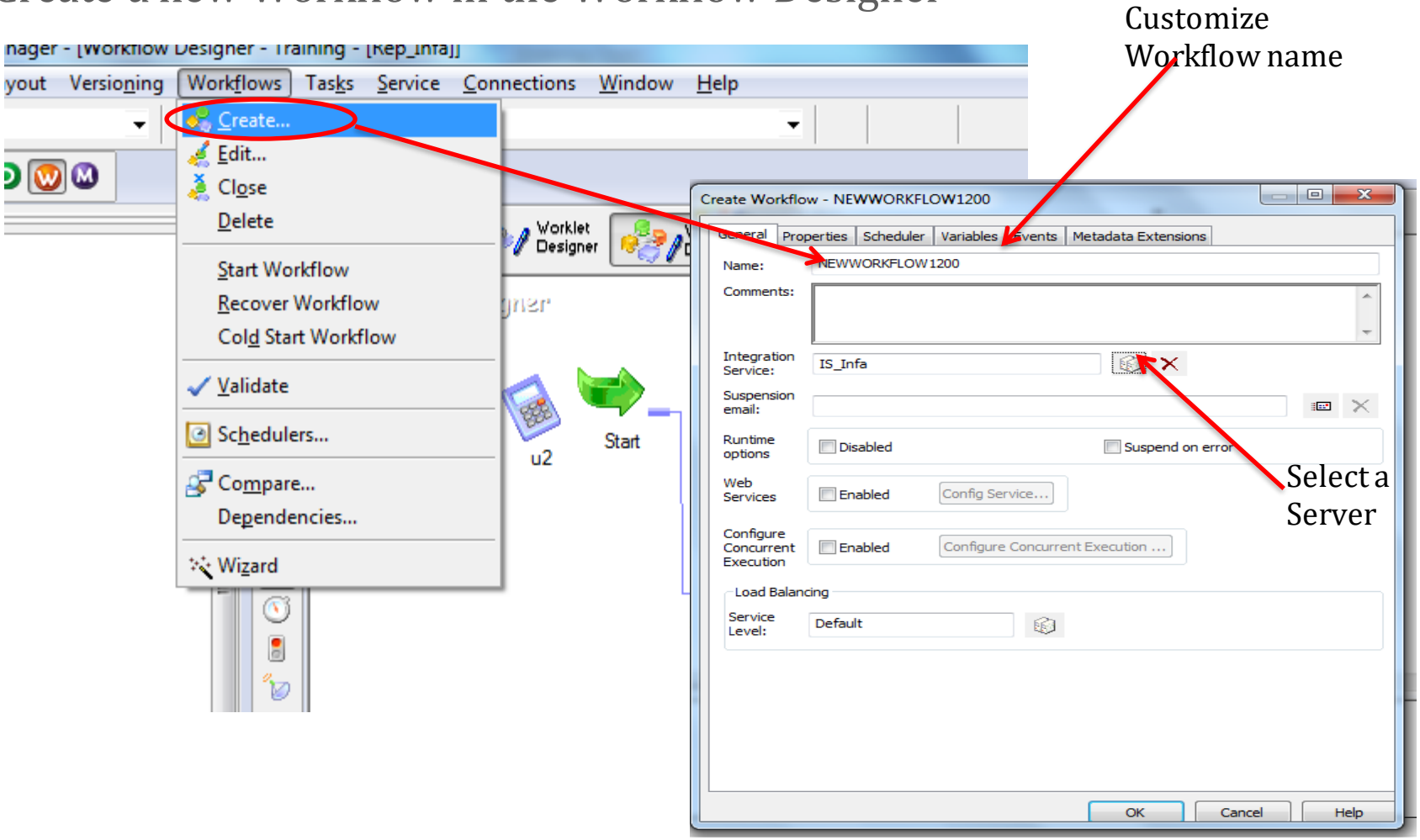


Sample Workflow

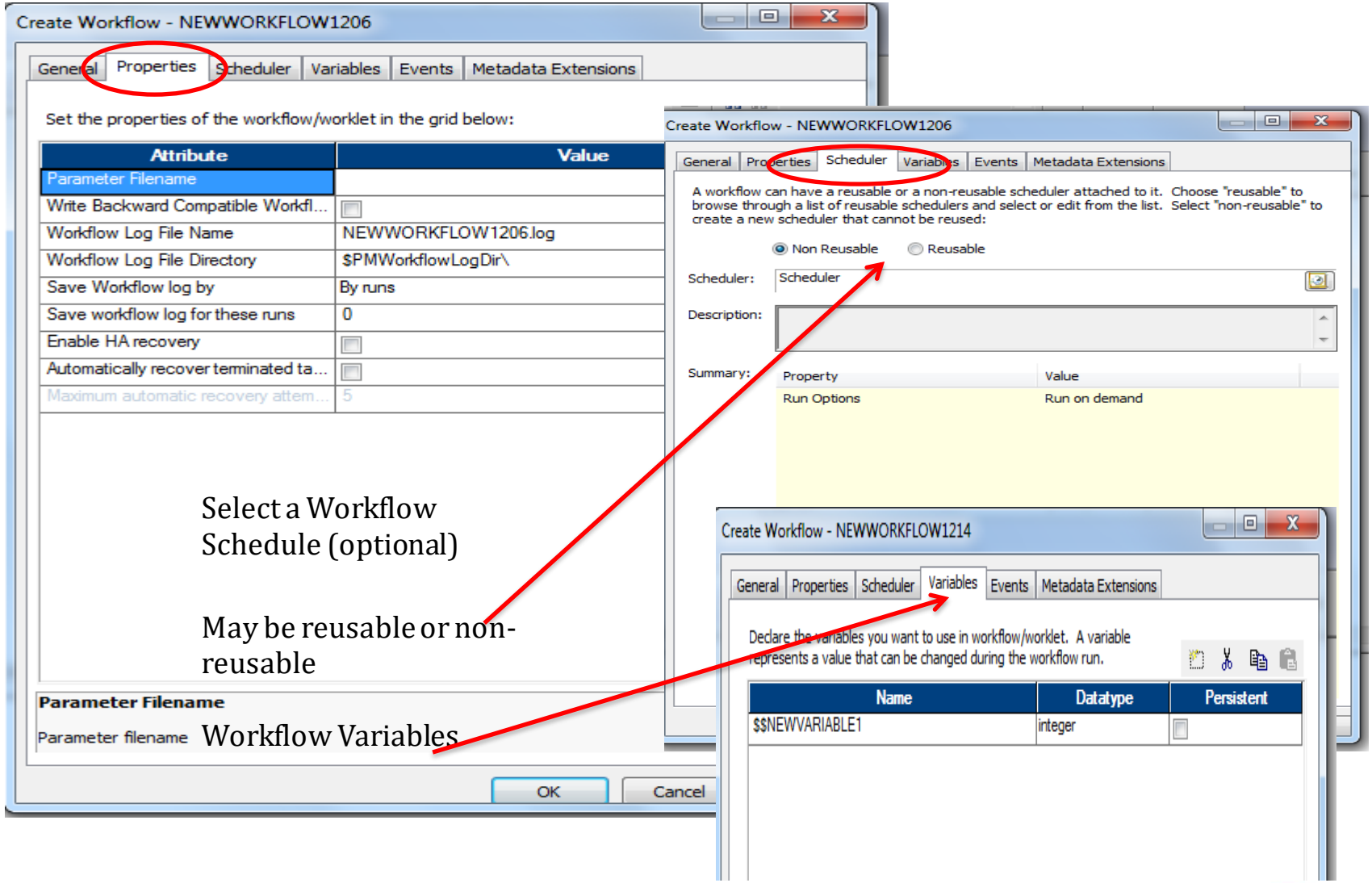


Developing Workflow

Create a new Workflow in the Workflow Designer



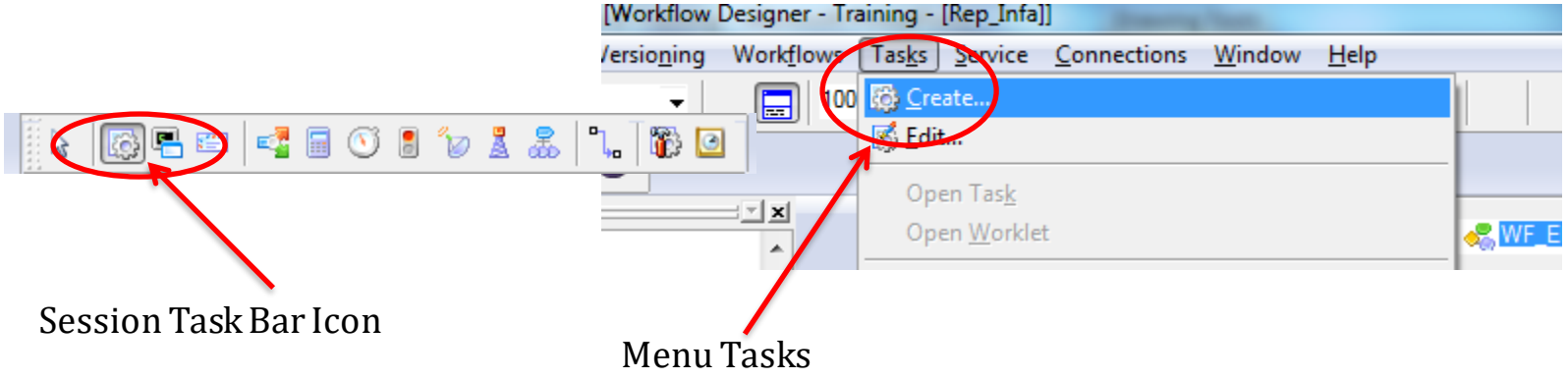
Workflow Properties



Session Task

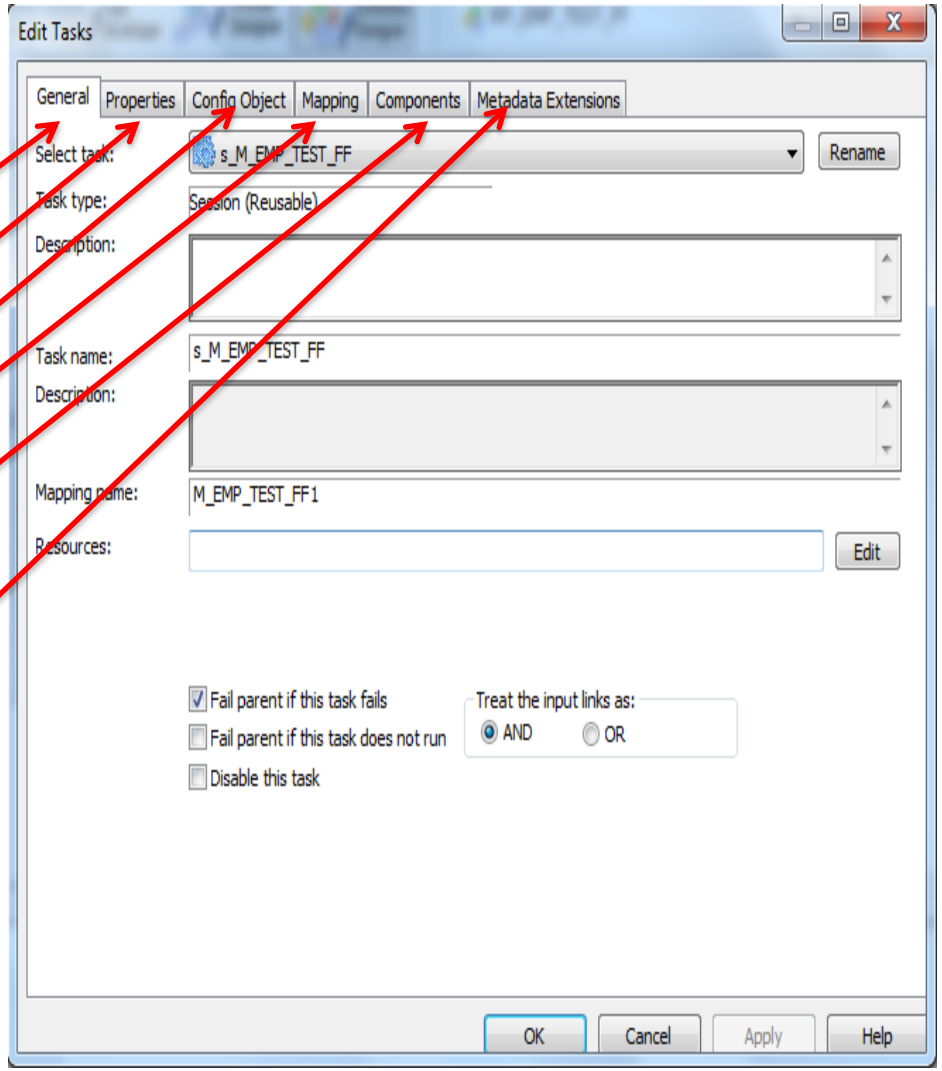
- Created to execute the logic of a mapping (one mapping only)
- Session Tasks can be created in the Task Developer (reusable) or Workflow Developer (Workflow-specific)

- Steps to create a Session Task
  - Select the Session button from the Task Toolbar or
  - Select menu Tasks | Create



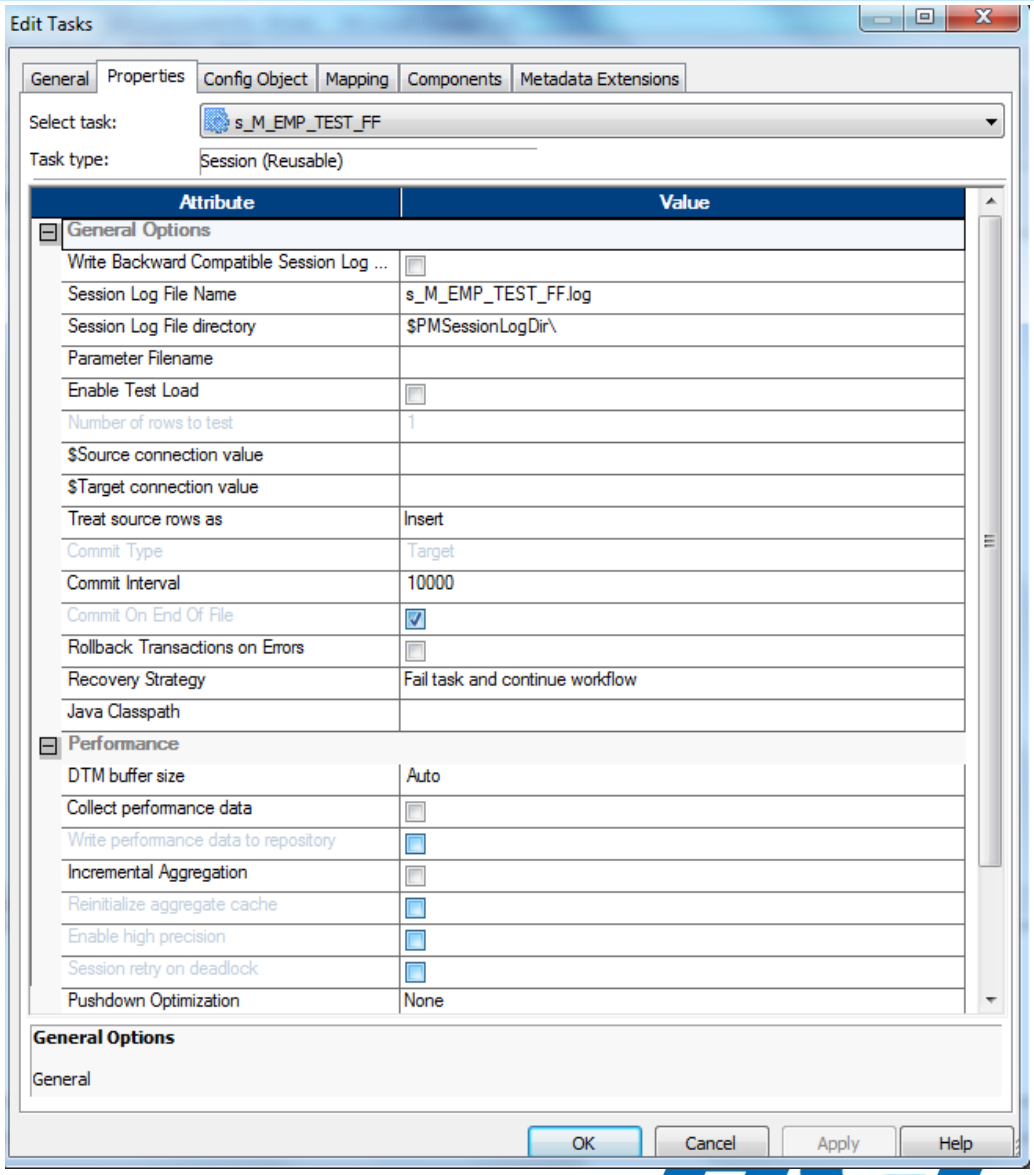
Session Task

- Steps to create a Session Task (continued)
  - Double click on the Session object
  - Valid Mappings are displayed in the dialog box
- Session Task tabs
  - General
  - Properties
  - Config Object
  - Mapping
  - Components
  - Metadata Extensions



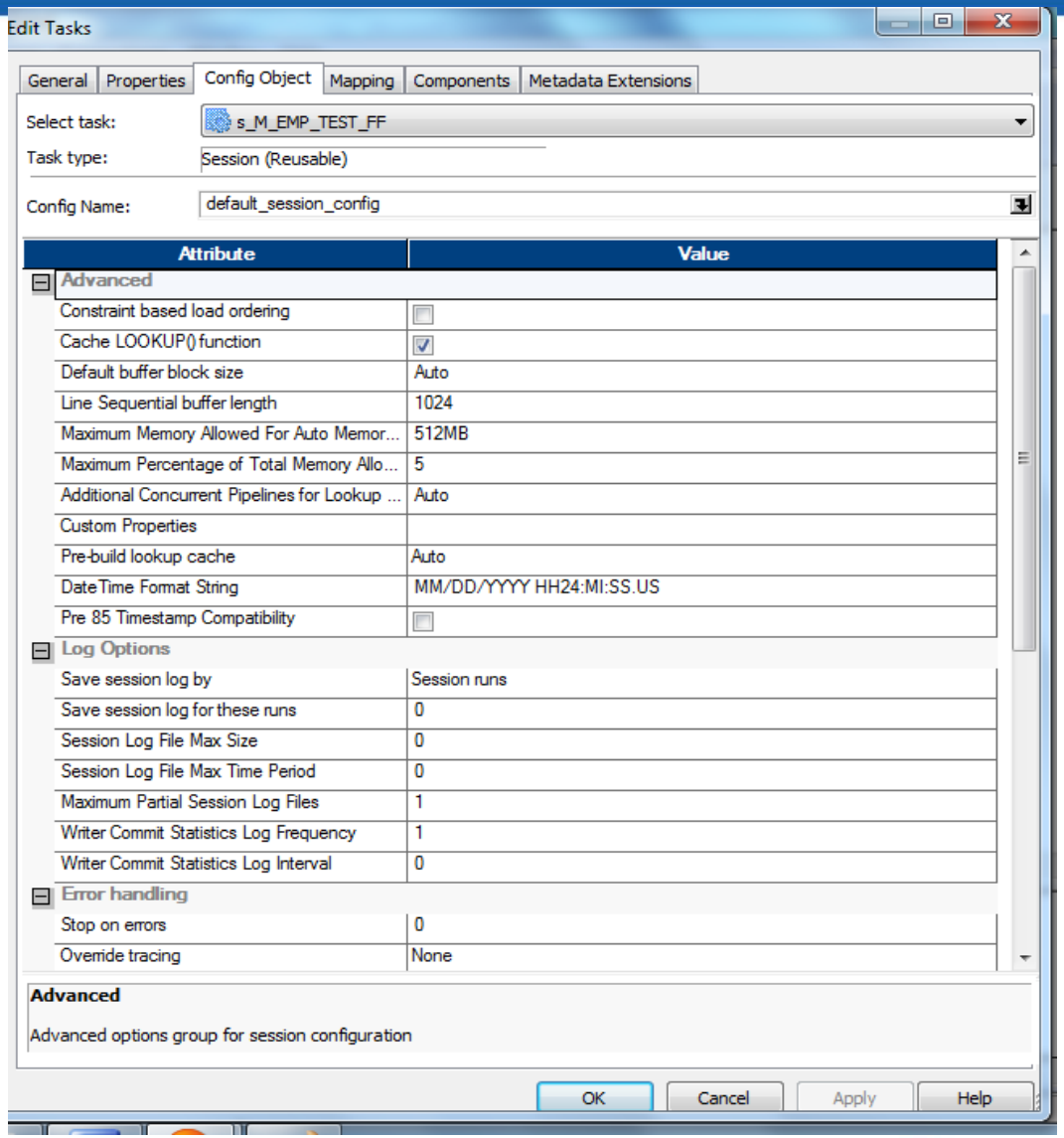
Session Task -- Properties

- SessonLog File Name
- Location of Session Log
- Parameter File Name and directory location.
- Enable Test Load: You can Configure the Session perform a test load.
- No of Rows to be Test load
- $Source and $Target Connection details and that can be used in anywhere in the Session.
- You can Declare source row as insert/update/delete/datadriven.
- Commit Type and Commit interval.
- Recovery Strategy
- Performance -- Collect The performance, Incremental Aggregation
- Push down Optimization.



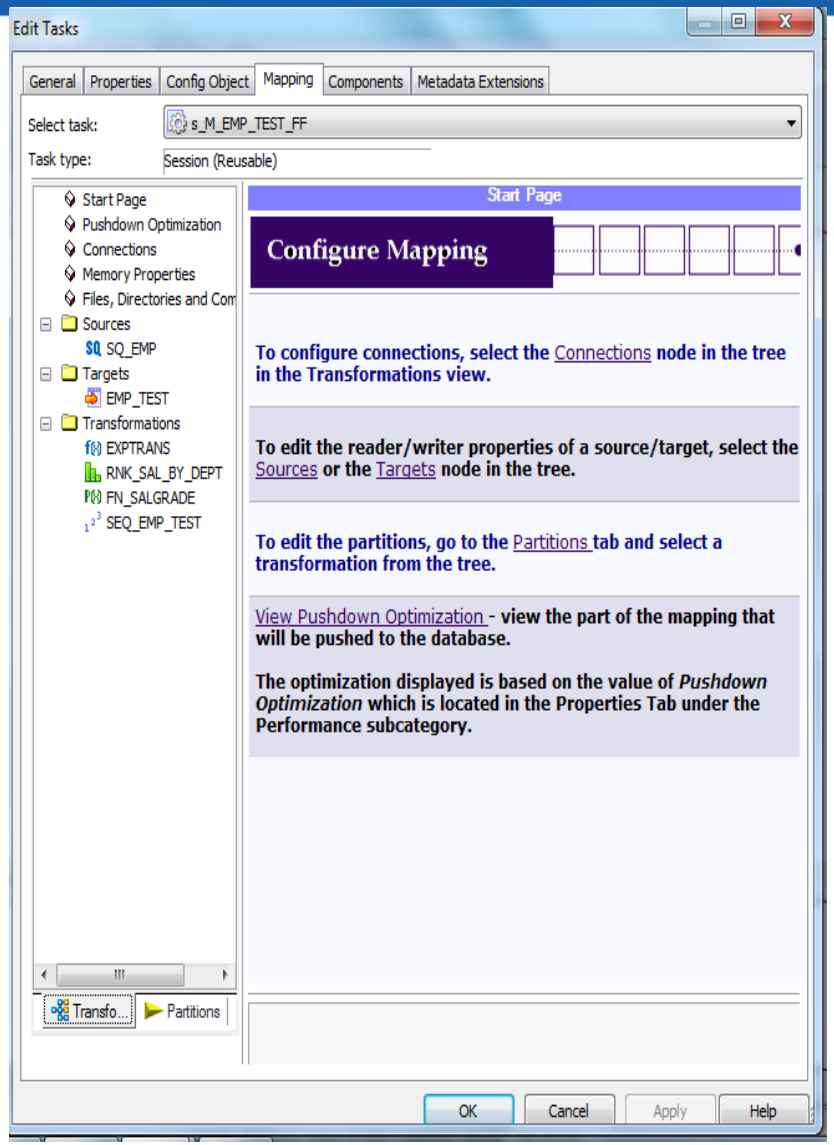
Session Task -- Config Object

- Constraint Based Loading
- Cache Look UP Function
- Memory allocation
- Pre build Lookup cache
- Session Log Options
- Error Handling.
- Stop on Errors
- Override Tracing
- Dynamic Partitions
- Session on Grid



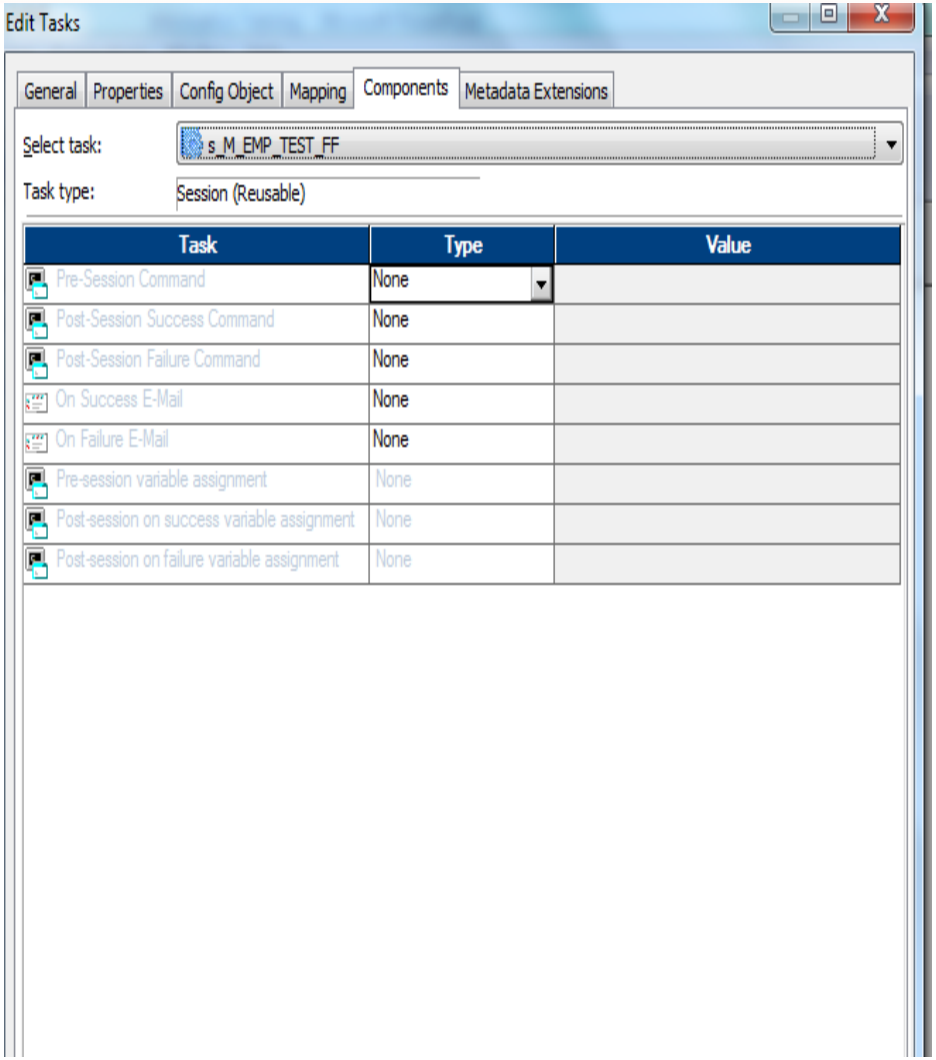
Session Task -- Mapping

- **Start Page.** Describes the nodes on the Mapping tab.
- **Pushdown Optimization.** Displays the Pushdown Optimization Viewer where you can view and configure pushdown groups.
- **Connections.** Displays the source, target, lookup, stored procedure, FTP, external loader, and queue connections. You can choose connection types and connection values. You can also edit connection object values.
- **Memory Properties.** Displays memory attributes that you configured on other tabs in the session properties. Configure memory attributes such as DTM buffer size, cache sizes, and default buffer block size.
- **Files, Directories, and Commands.** Displays file names and directories for the session. This includes session logs reject file, and target file names and directories.
- **Sources.** Displays the mapping sources and settings that you can configure in the session.
- **Targets.** Displays the mapping target and settings that you can configure in the session.
- **Transformations.** Displays the mapping transformations and settings that you can configure in the session.



Session Task -- Components

- **Task:** Configure pre- or post-session shell commands, success or failure email messages, and variable assignments.
- **Type :** Select None if you do not want to configure commands and emails in the Components tab.
- **Value:** Use to configure commands, emails, or variable assignments.
- Pre, Post Session Success and Failure Command.
- On Success Email and On Failure Email.
- Pre , Post Session Success or on Failure variable Assignments.



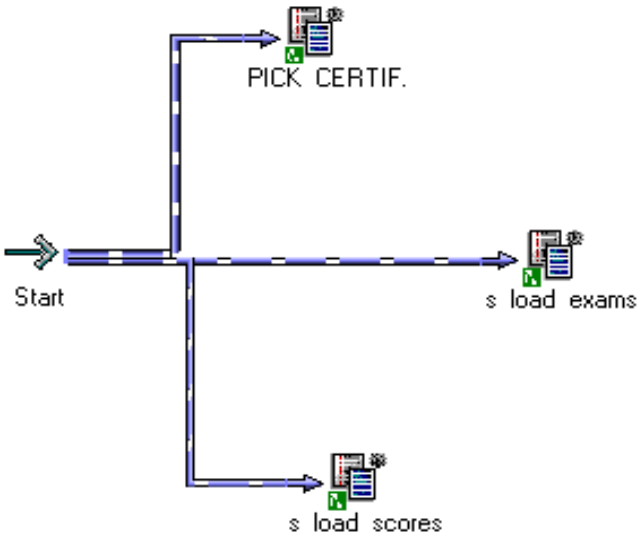
Multi-Task Workflows - Sequential

Tasks can be run sequentially:

Tasks shows are all Sessions, but they can also be other Tasks, such as Commands, Timer or Email Tasks

Multi-Task Workflows - Concurrent

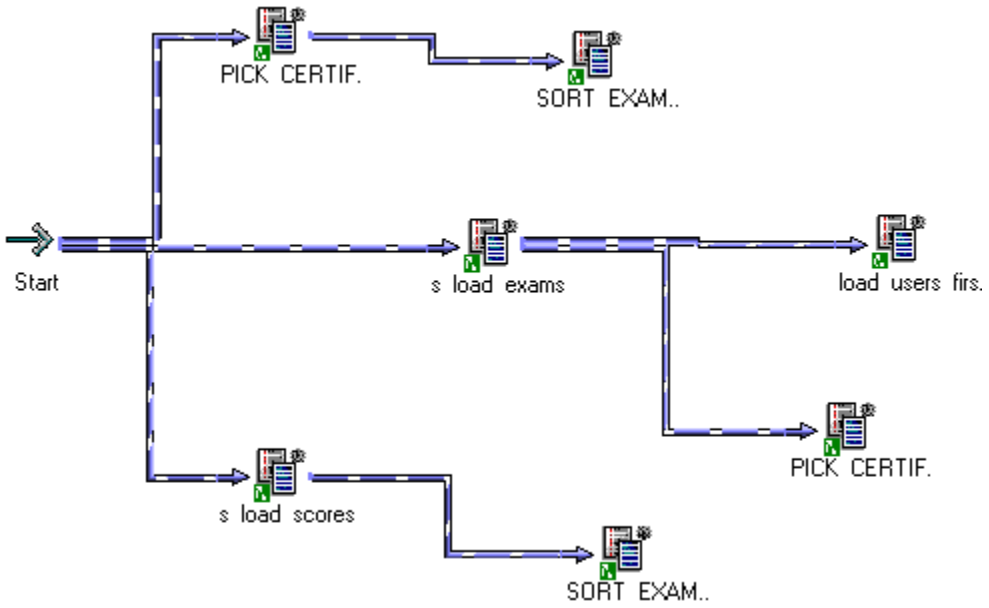
Tasks can be run concurrently:



Tasks shows are all Sessions, but they can also be other Tasks such as Commands, Timer or Email Tasks.

Multi-Task Workflows - Combined

- Tasks can be run in a combination concurrent and sequential pattern within one Workflow:

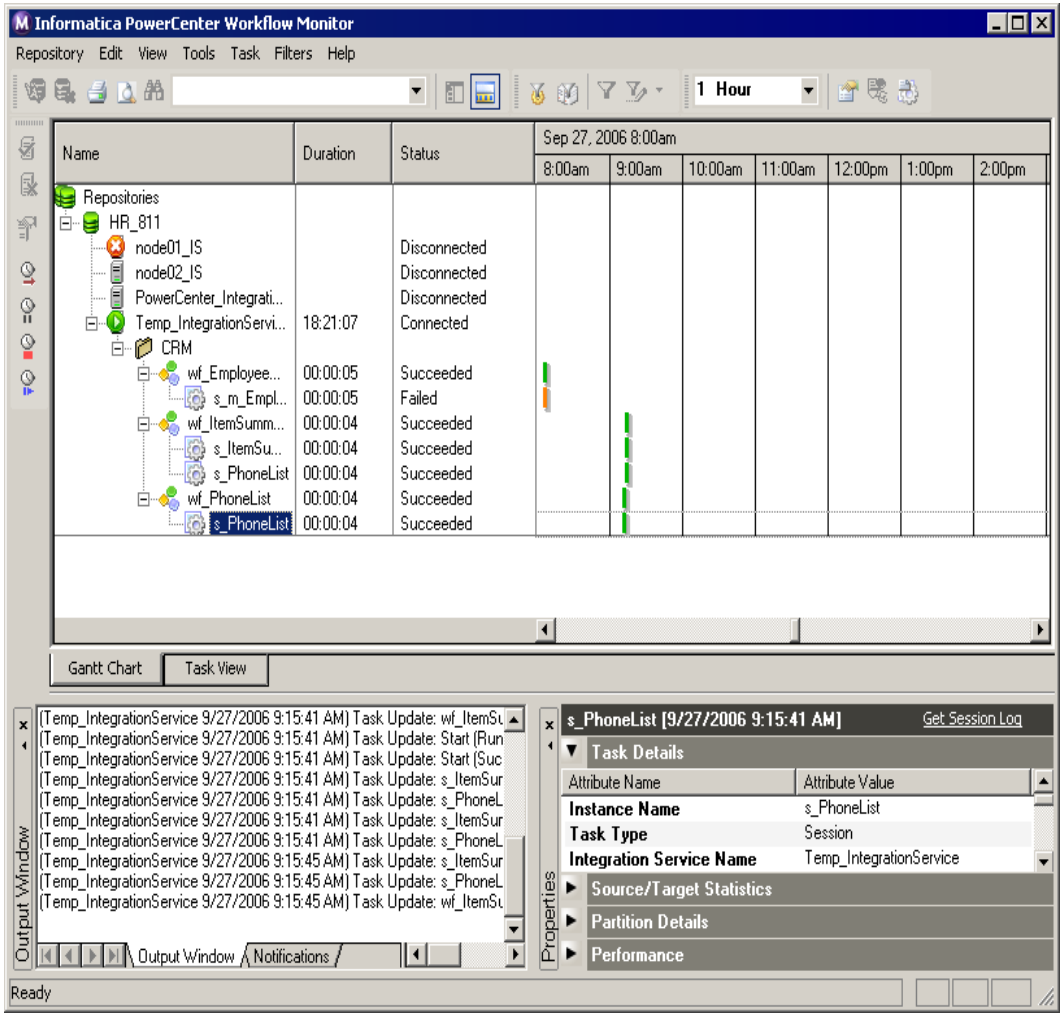


- Tasks shows are all Sessions, but they can also be other Tasks such as Commands, Timer or Email Tasks

Workflow Monitor

Workflow Monitor

- **Navigator window**. Displays monitored repositories, Integration Services, and repository objects.
- **Output window**. Displays messages from the Integration Service and the Repository Service.
- **Properties window**. Displays details about services, workflows, worklets, and tasks.
- **Time window.** Displays progress of workflow runs.
- **Gantt Chart view**. Displays details about workflow runs in chronological (Gantt Chart) format.
- **Task view.** Displays details about workflow runs in a report format, organized by workflow run..



Workflow Monitor

You can view the following details in the Workflow Monitor:

- **Repository Service details.** View information about repositories, such as the number of connected Integration Services
- **Integration Service properties.** View information about the Integration Service, such as the Integration Service Version. You can also view system resources that running workflows consume, such as the system swap usage at the time of the running workflow.
- **Repository folder details.** View information about a repository folder, such as the folder owner.
- **Workflow run properties.** View information about a workflow, such as the start and end time.
- **Worklet run properties**. View information about a worklet, such as the execution nodes on which the worklet is run
- **Command task run properties**. View the information about Command tasks in a running workflow, such as the start and end time.
- **Session task run properties.** View information about Session tasks in a running workflow, such as details on session failures.
- **Performance details.** View counters that help you understand the session and mapping efficiency, such as information on the data cache size for an Aggregator transformation.

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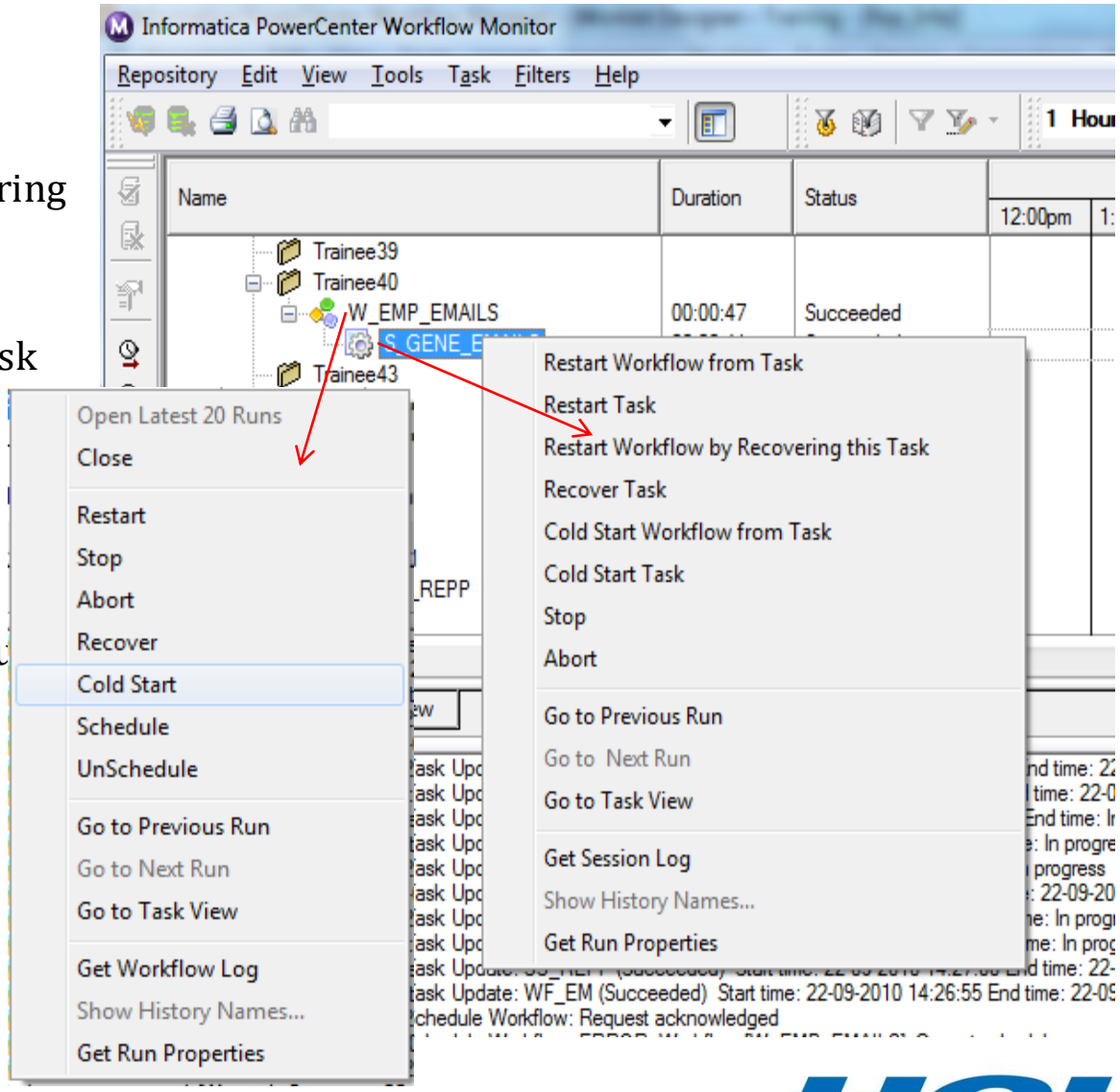
Workflow Monitor - Operations

- Restart Workflow from Task
- Restart Task
- Restart Workflow by Recovering this Task
- Recover/Recover Task
- Cold start Workflow from Task
- Cold Start
- Stop
- Abort
- Schedule / Unscheduled
- Switch to Previous or Next Ru
  Tak view
- Get Workflow log
- Get Session Log
- Get Run Properties.

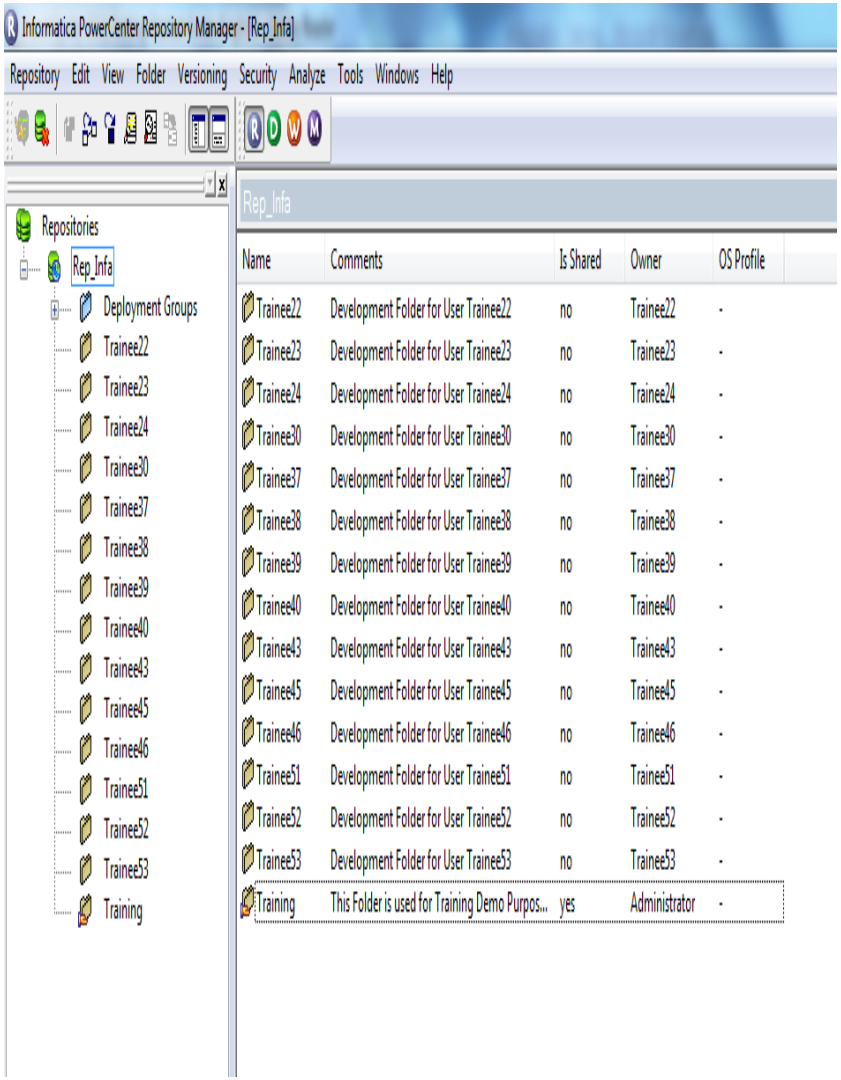


Repository Manager

Repository Manager

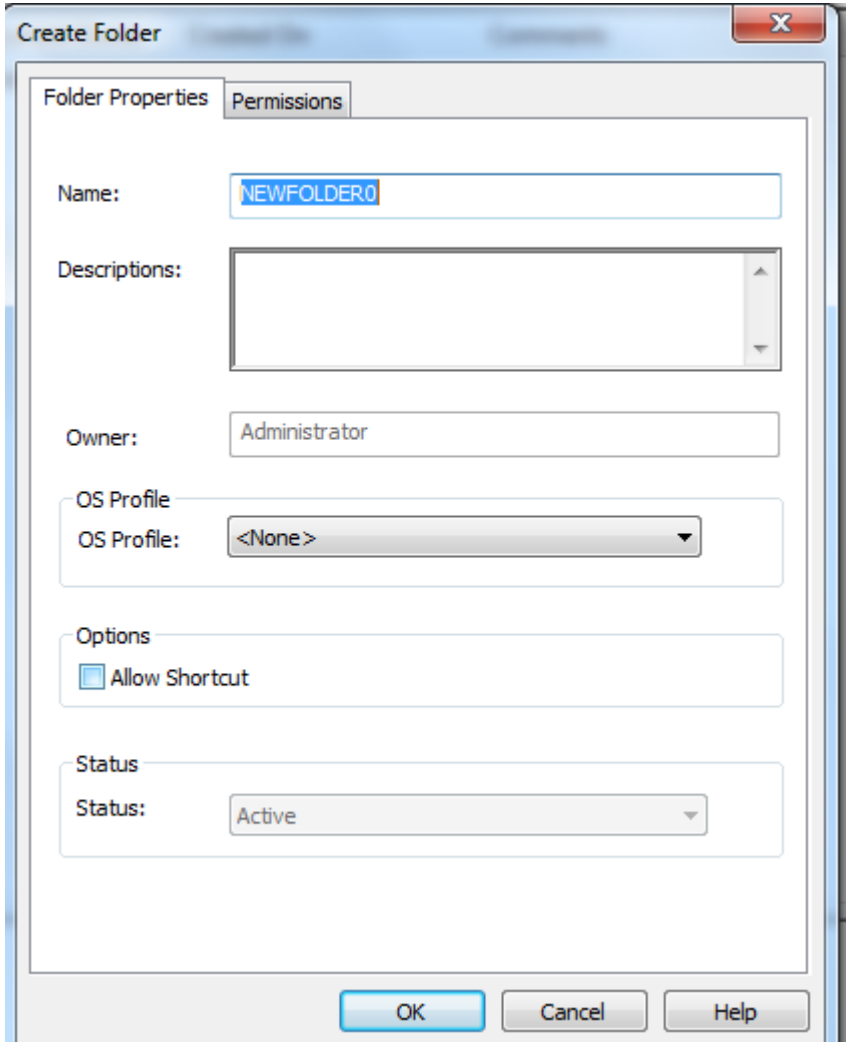
Repository Manager used to administer repositories. You can navigate through multiple folders and repositories, and complete the following tasks:

- *Add domain connection information.*
- *Add and connect to a repository*
- *Change your password.*
- ***Manage user and group permissions***.
  - Assign and revoke folder and global object permissions.
- ***Perform folder functions***.
  - Create, edit, copy, and delete folders.
  - Compare folders within a repository or in different repositories..
- ***Import and export repository connection information in the registry***
- ***View metadata.*** Analyze sources, targets, mappings, and shortcut dependencies, search by keyword, and view the properties of repository objects.
- Exchange metadata with other business intelligence tools.
- Object Version: we can see the history of Versions of Objects.



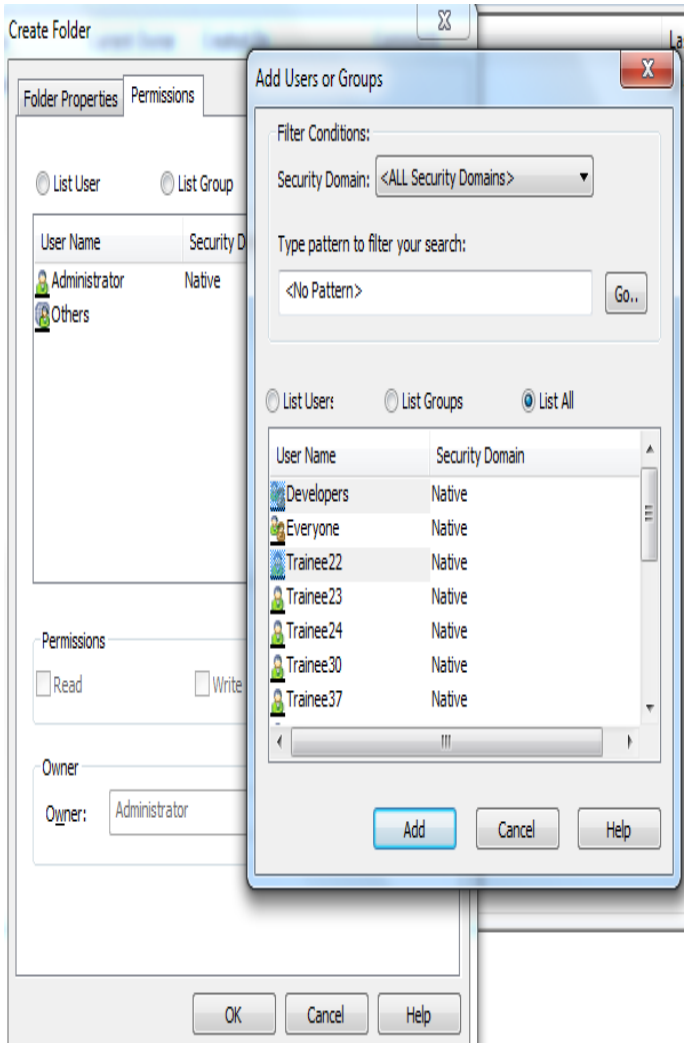
Folders

- Folders provide a way to organize and store all metadata in the repository, including mappings and sessions.
- They are used to store sources, transformations, cubes, dimensions, Mapplets, business components, targets, mappings, sessions and batches
- Can copy objects from one folder to another and across repositories.
- The Designer allows you to create multiple versions within a folder
- When a new version is created, the Designer creates a copy of all existing mapping metadata in the folder and places it into the new version
- Can copy a session within a folder, but you cannot copy an individual session to a different folder.
- To copy all sessions within a folder to a different location, you can copy the entire folder.



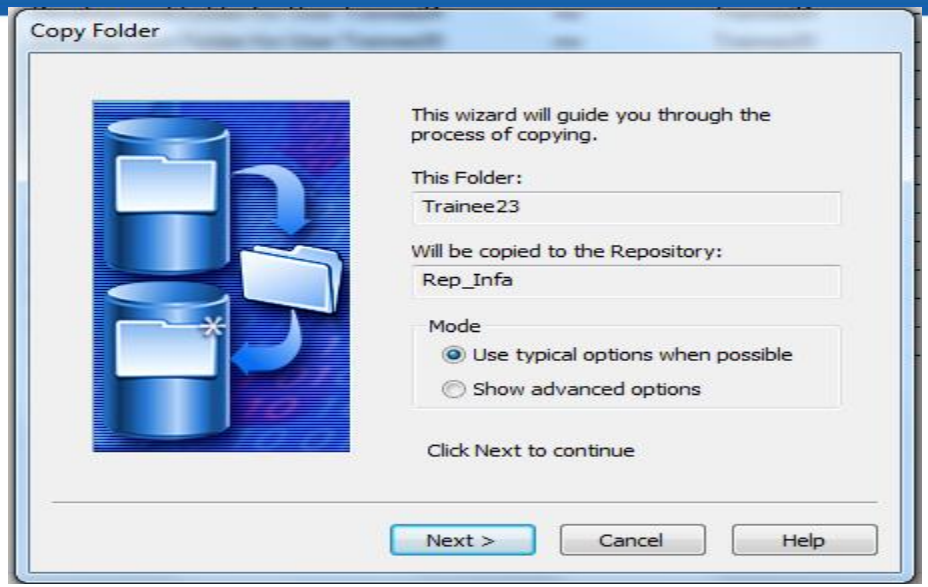
Folders

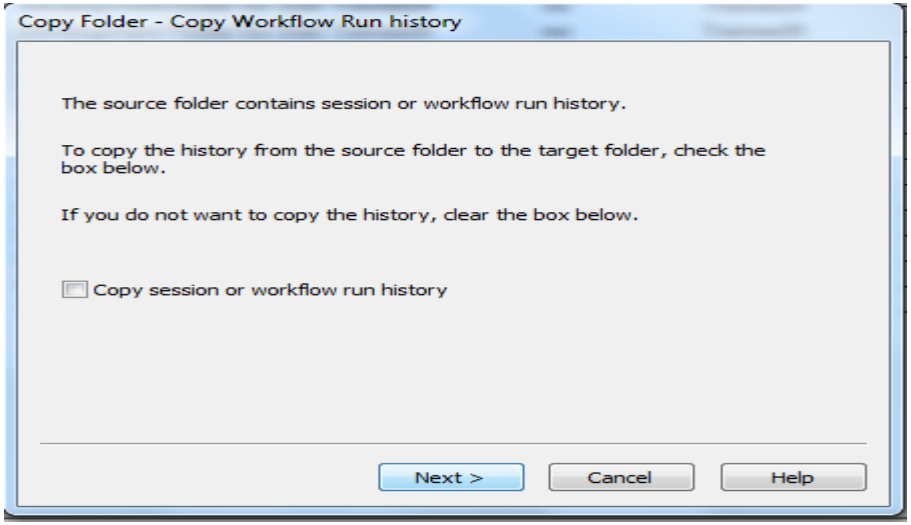
- Any mapping in a folder can use only those source and target definitions or reusable transformations that are stored:
  - in the same folder
  - in a shared folder and accessed through a shortcut
- The configurable folder properties are:
  - Folder permissions
  - Folder owner
  - Owner's group
  - Shared or not shared
- Folders have the following permission types:
  - Read permission
  - Write permission
  - Execute permission
- Shared folders allow users to create shortcuts to objects in the folder.
- Shortcuts inherit changes to their shared object.
- Once you make a folder shared, you cannot reverse it.



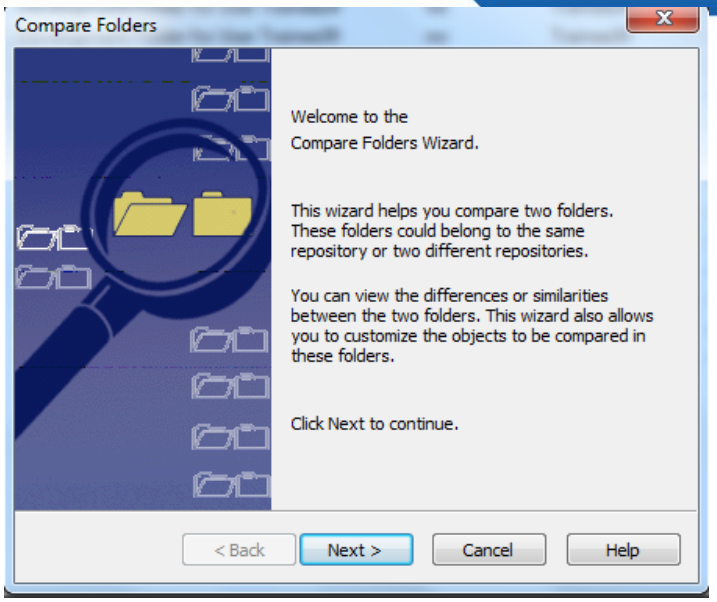
Copy Folders

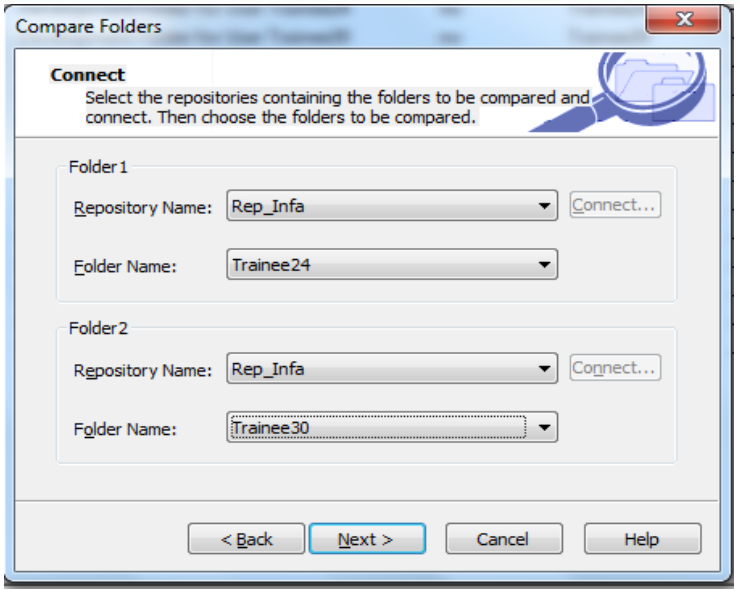
- Each time you copy a folder, the Repository Manager copies the following:
  - Sources, transformations, Mapplets, targets, mappings, and business components
  - Sessions and batches
  - Folder versions
- When you copy a folder, the Repository Manager allows to:
  - Re-establish shortcuts
  - Choose an Integration Service
  - Copy connections
  - Copy persisted values
  - Compare folders
  - Replace folders





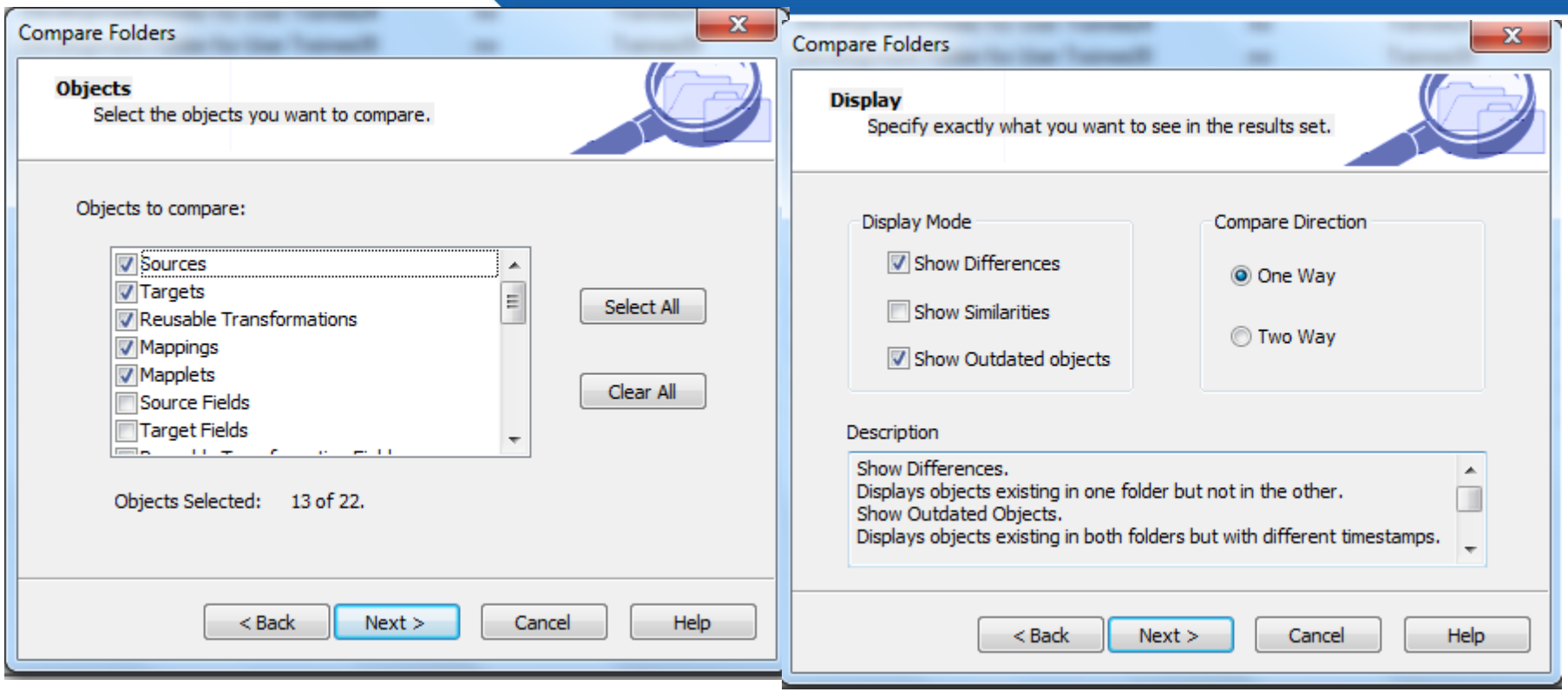
Compare Folders





- The Compare Folders Wizard allows to perform the following comparisons:
  - Compare objects between two folders in the same repository
  - Compare objects between two folders in different repositories
  - Compare objects between two folder versions in the same folder
- Each comparison also allows to specify the following comparison criteria:
  - Versions to compare
  - Object types to compare
  - Direction of comparison

Compare Folders



- Whether or not the Repository Manger notes a similarity or difference between two folders depends on the direction of the comparison
- One-way comparisons check the selected objects of Folder1 against the objects in Folder2
- Two-way comparisons check objects in Folder1 against those in Folder2 and also check objects in Folder2 against those in Folder1

Compare Folders

- The comparison wizard displays the following user-customized information:
  - Similarities between objects
  - Differences between objects
  - Outdated objects
- Can edit and save the result of the comparison
- The Repository Manager does not compare the field attributes of the objects in the folders when performing the comparison
- A two-way comparison can sometimes reveal information a one-way comparison cannot
- A one-way comparison does not note a difference if an object is present in the target folder but not in the source folder

Exporting and Importing Objects

- You can export repository objects to an XML file and then import repository objects from the XML file . Use the following client applications to export and import repository objects.
  - **Repository Manager.** You can export and import both Designer and Workflow Manager objects.
  - **Designer.** You can export and import Designer objects.
  - **Workflow Manager**. You can export and import Workflow Manager objects.
  - ***pmrep.*** You can export and import both Designer and Workflow Manager objects. You might use pmrep to automate exporting objects on a daily or weekly basis.
- Can share objects by exporting and importing objects between repositories with the same version.
- For Deployment you can use export and import option to migrate the repository objects to different stages like dev to Test , test to Prod.
- Following Metadata operation can be done
  - Deploy metadata into production ,
  - Archive metadata.
  - Share metadata.
  - Copy metadata between repositories.

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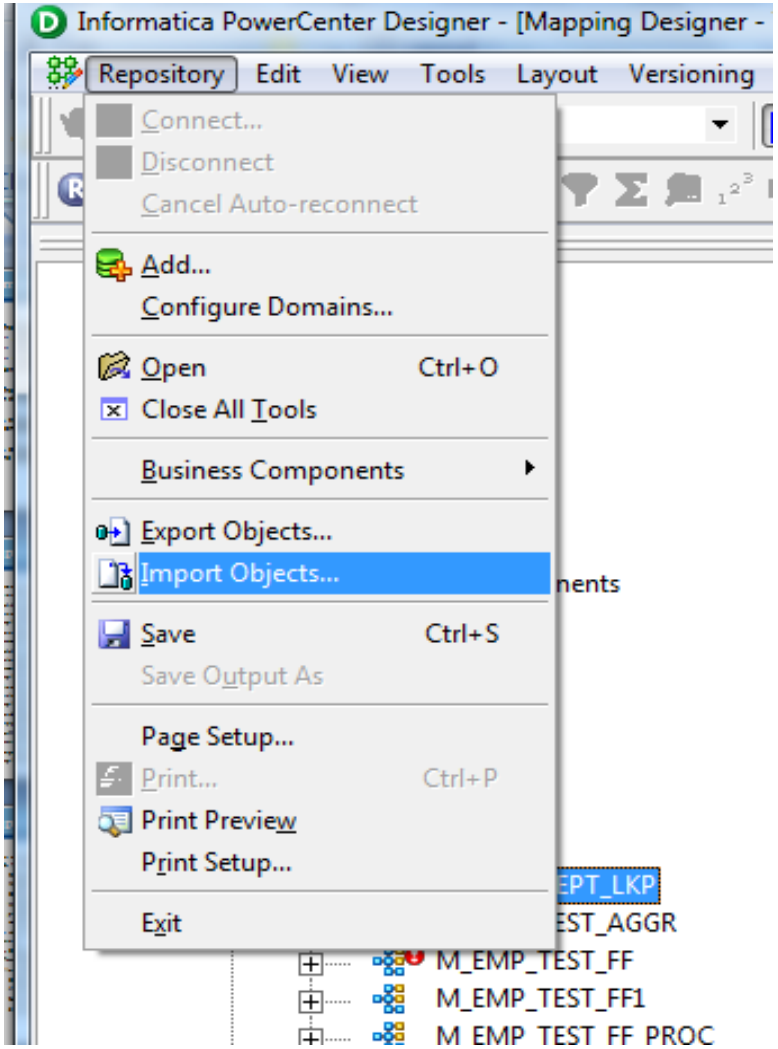
Exporting and Importing Objects

You can export and import the following repository objects:

- **Sources**
- **Targets**
- **Transformations**
- **Mapplets**
- **Mappings**
- **User-defined functions**
- **Tasks**
- **Sessions**
- **Schedulers**
- **Session configurations**
- **Worklets**
- **Workflows**



Demo and Q&A

- Demo
- Creating Folders, Deployment Groups, User Access, Workflows, Worklets and Tasks

Thank You