June 15, 2021

Using the File Listener to Initiate a Cloud Date Integration TaskFlow

Janet Sitchin, Senior Principal Consultant, Informatica

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- Today's Webinar is scheduled for 1 hour
- The session will include a webcast and then your questions will be answered live at the end of the presentation
- All dial-in participants will be muted to enable the speakers to present without interruption
- Questions can be submitted to "All Panelists" via the Q&A option and we will respond at the end of the presentation
- The webinar is being recorded and will be available on our INFASupport YouTube channel and Success Portal - where you can download the slide deck for the presentation. The link to the recording will be emailed as well.
- Please take time to complete the post-webinar survey and provide your feedback and suggestions for upcoming topics.

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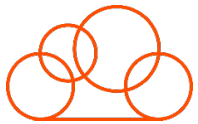

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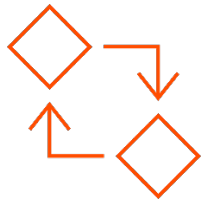

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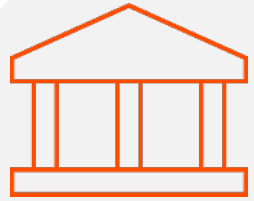

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Using the File Listener to Initiate a Cloud Data Integration TaskFlow

Janet Sitchin

Senior Principal Consultant, Informatica Professional Services

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Agenda

Introduction

Overview of the Steps

Demo

Questions

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Introduction

Process Files	Naming Pattern	Automated Process	How we'll do this
• This presentation will review using the Informatica Cloud Data Management platform's Cloud Data Integration solution to process files as they arrive	• Sometimes the files follow a naming pattern, but are unique files with unique names	• We want to automate the processing of the files and their data	• File Listener Feature • Parameterized Mapping • Taskflow and logic

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Steps to Build the Process

Start the Secure Agent	• On the host where the process will execute
Determine the data sources and targets	• Be sure you have defined data connections for them
Build your mapping	• Add Data Object Parameters for the Source and Target File Names • Build the mapping using actual files and then replace with the parameters
Configure the File Listener	• Do not Start it yet
Build and Configure the Task flow	• Define File Listener Event • Define Temp Variables • Perform the Initial Variable Assignments • Loop through processing all of the files with a Data Task, passing in the file name from the File Listener as a Parameter • Update the Variable values along the way
Start the File Listener	• Files will begin to be processed
Review the results	• Look at the target location results and the File Listener and Taskflow/Mapping Task logs

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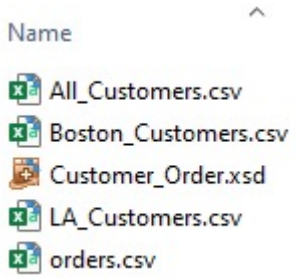
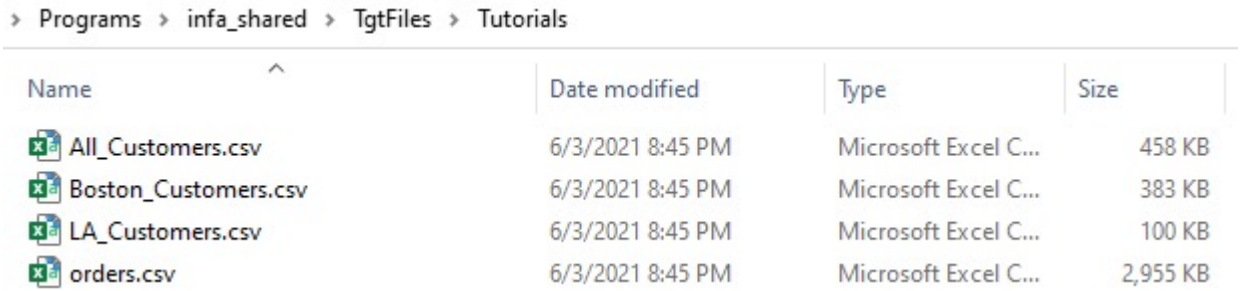
Data Sources

Data for the Demo is currently in the following local directories on the server where I have the Secure Agent running (note that this is my Informatica laptop)

- C:\Users\jsitchin\Documents\Programs\infa_shared\SrcFiles\Tutorials



- C:\Users\jsitchin\Documents\Programs\infa_shared\TgtFiles\Tutorials



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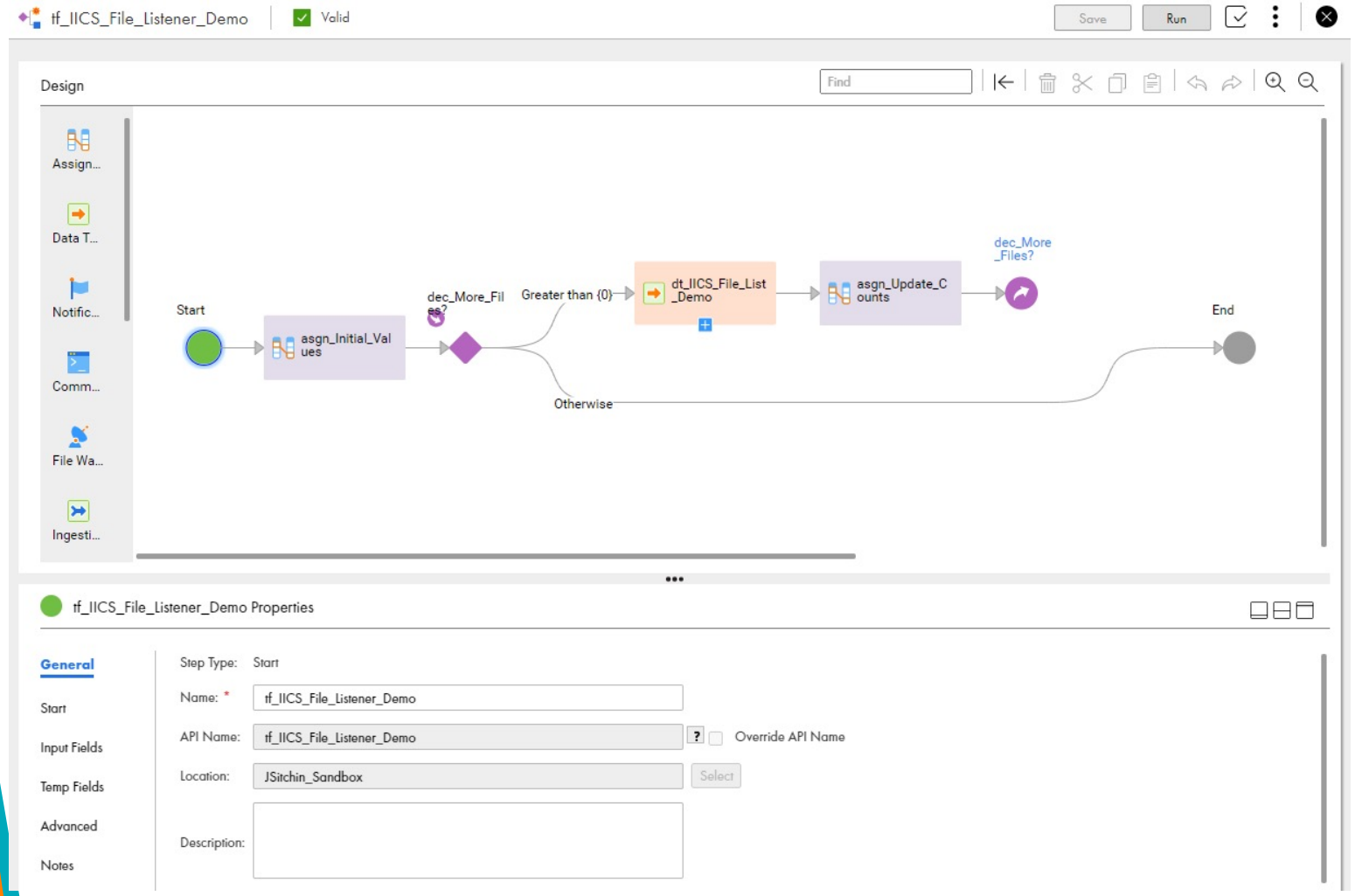
The Task Flow



The Task Flow includes a Data Task to run the mapping task and thus the mapping.

We have additional logic to allow it to be kicked off by the File Listener activity and to process more than one file if several arrive together.

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The Task Flow Does a Number of Things

- Sets the Start task to expect the File Listener Event to kick off the Task Flow
- Sets variables to store information like the number of files sent by the listener and the current count of the file being processed
- Sets the initial values for these variables
- Checks to see if all files have been processed and conditionally ends the Task Flow if they have
- Passes assigns the File Listener File Name to the Input Parameters for the Data Task
- Calls the Data Task to process the data
- Updates the variables to select the next file
- Repeats the process or ends the Task Flow, depending on if there are more files to process

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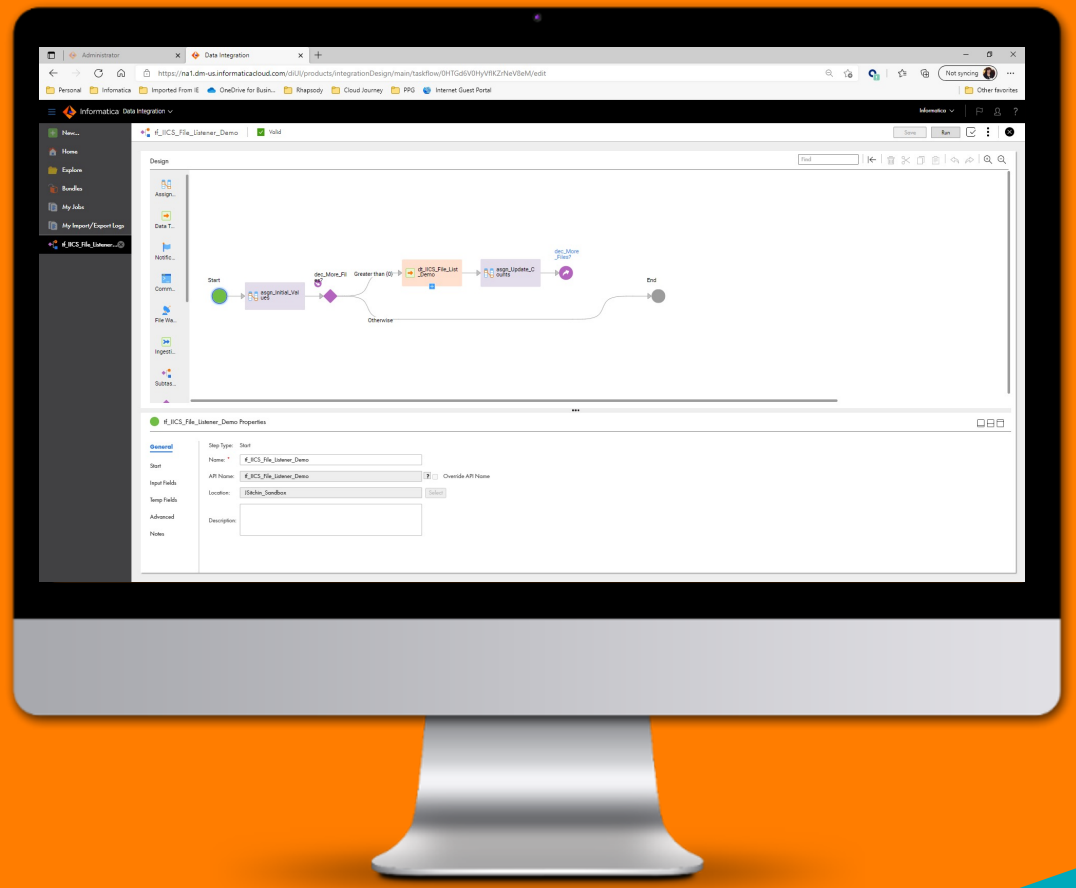
DEMO

Using the File Listener to Kick Off a Task Flow



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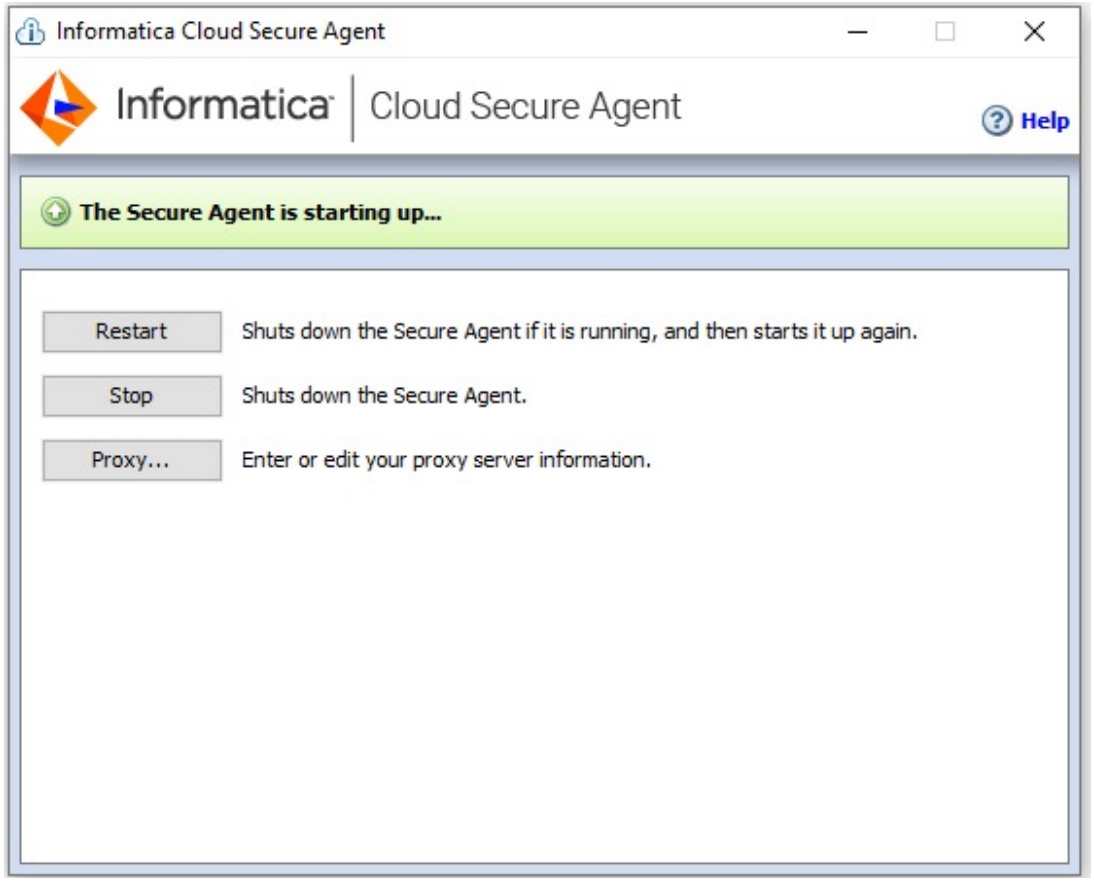
Start the Secure Agent

If the secure agent needs to be started, then start it.

My laptop is Windows and so I start the Secure Agent from the command line or from the location where it is installed



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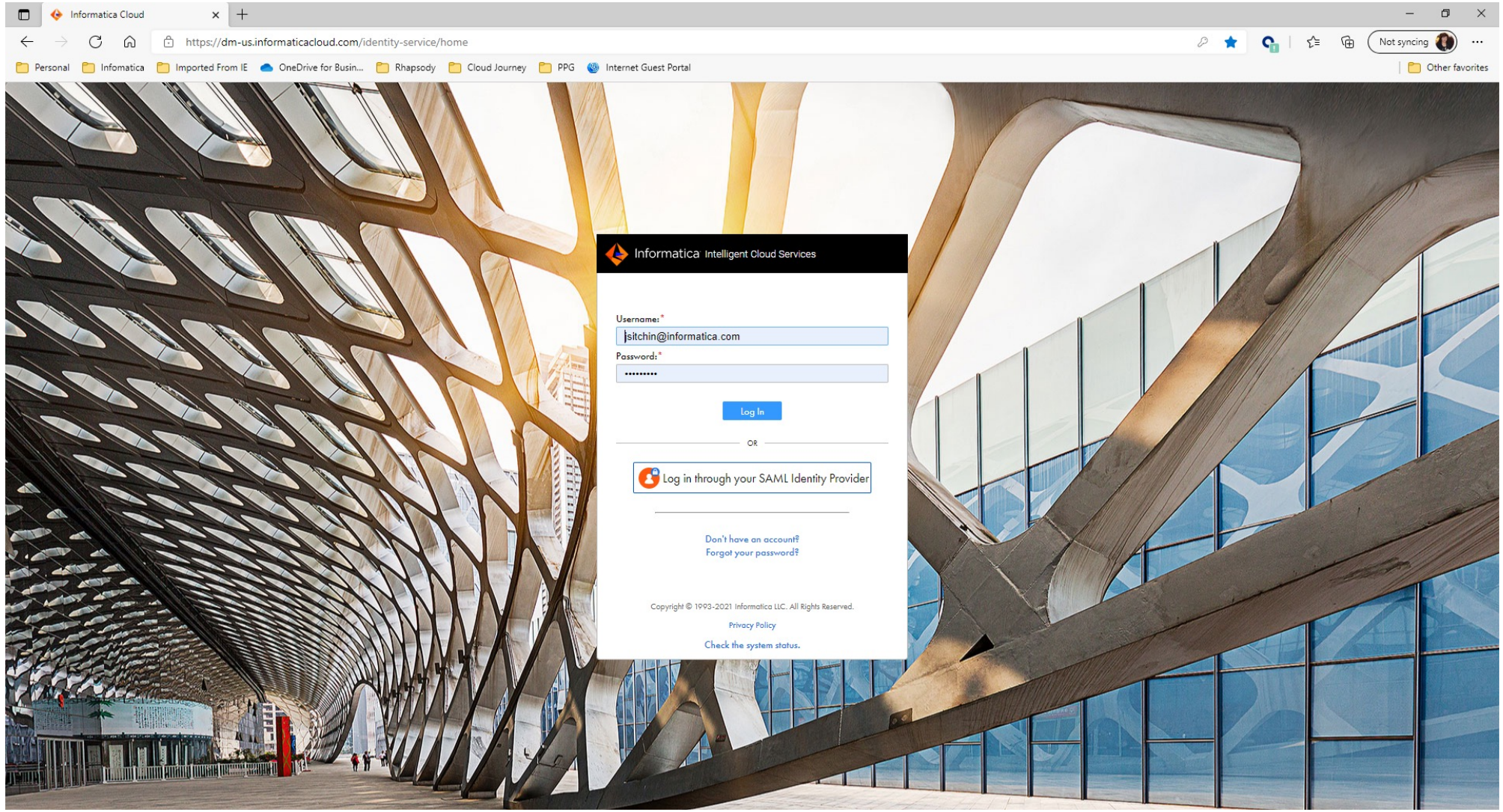
Log on to the Informatica Cloud



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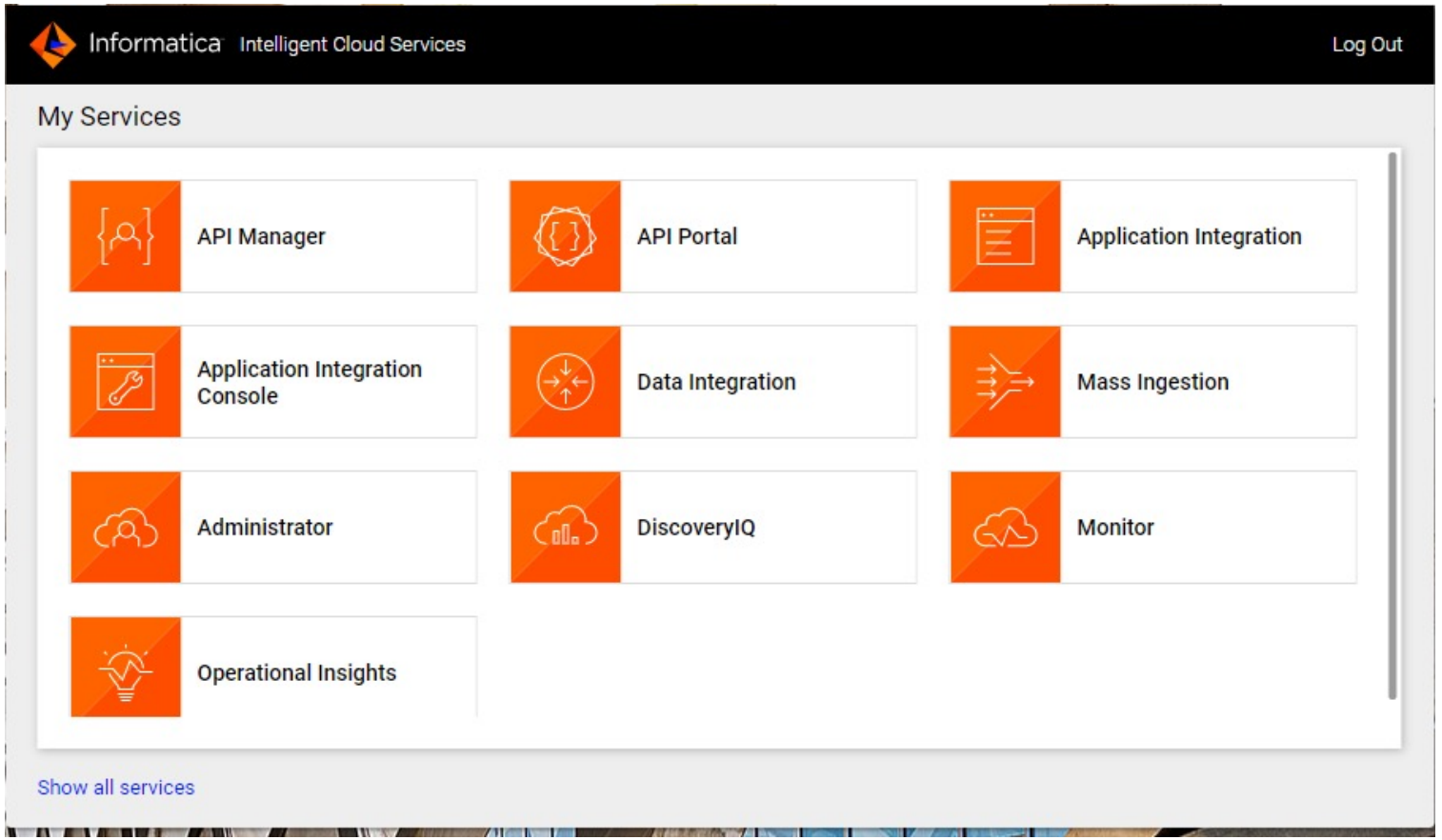

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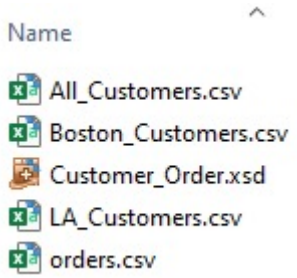
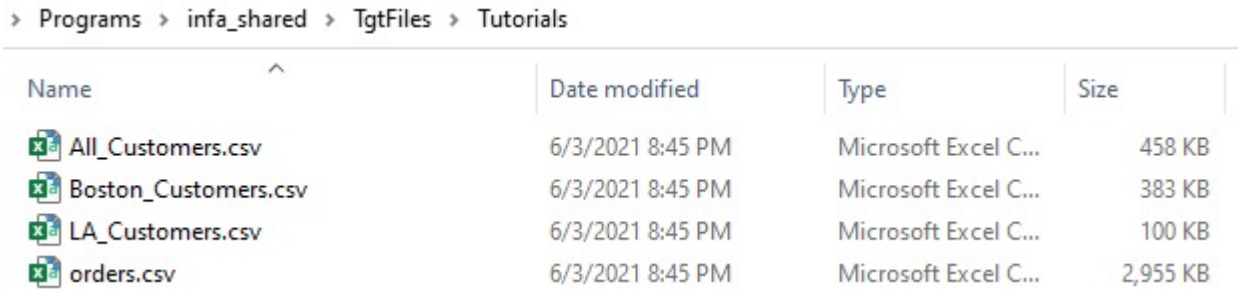


- C:\Users\jsitchin\Documents\Programs\infa_shared\TgtFiles\Tutorials



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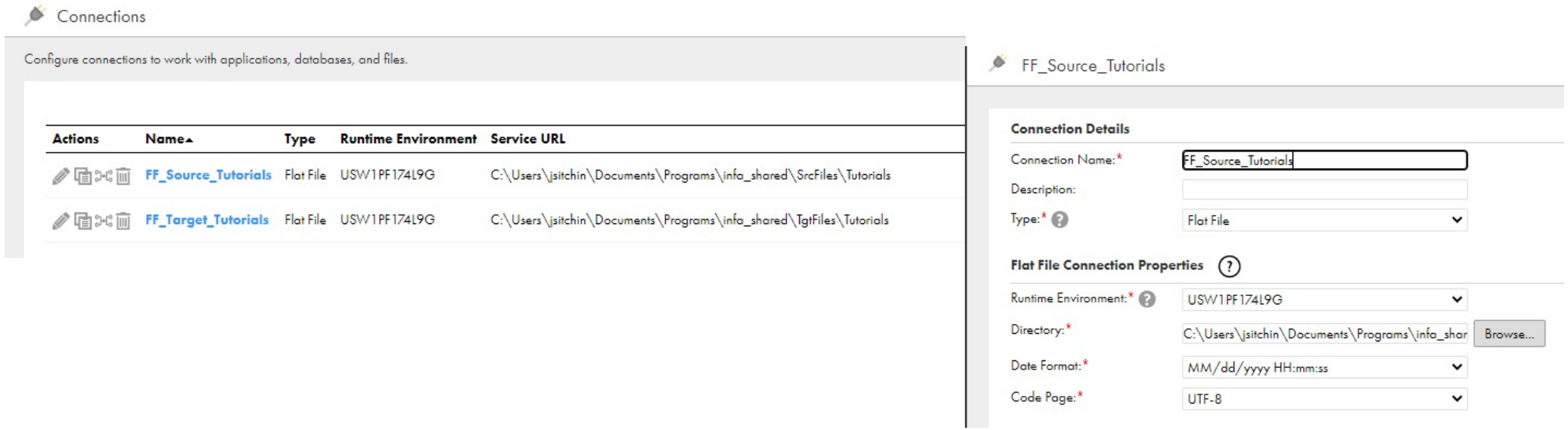
Create Data Connections in the Administrator/Connections tab

- Be sure you have data connections to your source and target locations
- Create the connections to point to the path for the files, although the sample is for Windows, you can similarly point to any file location that can be reached with the executing Secure Agent



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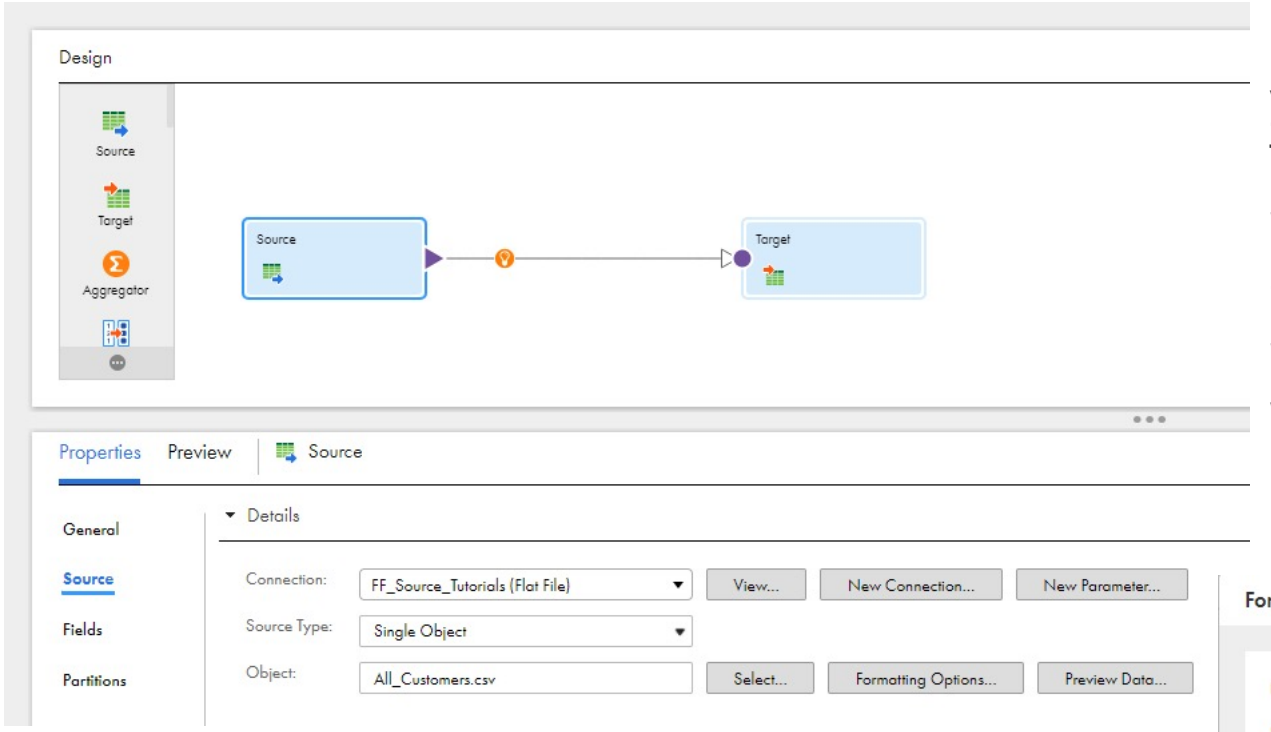
The Mapping

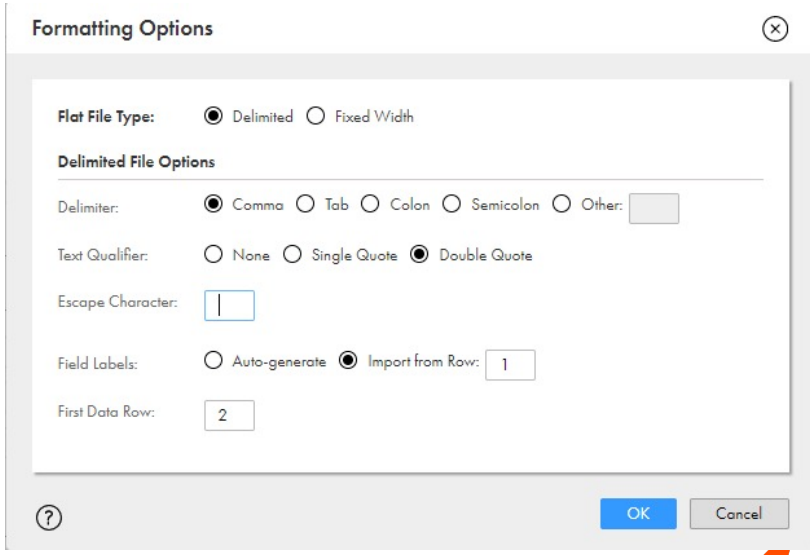


First, we create a mapping with a source and a target.

Obviously, you could have more logic in yours, but we just made this a pas-through process.

We used the FF_Source_Tutorials connection to point to the right directory.

We will select a file that is one of the ones we want to process. It is important to build the mapping with real data and then parameterize it.



Be sure to set the file formatting options

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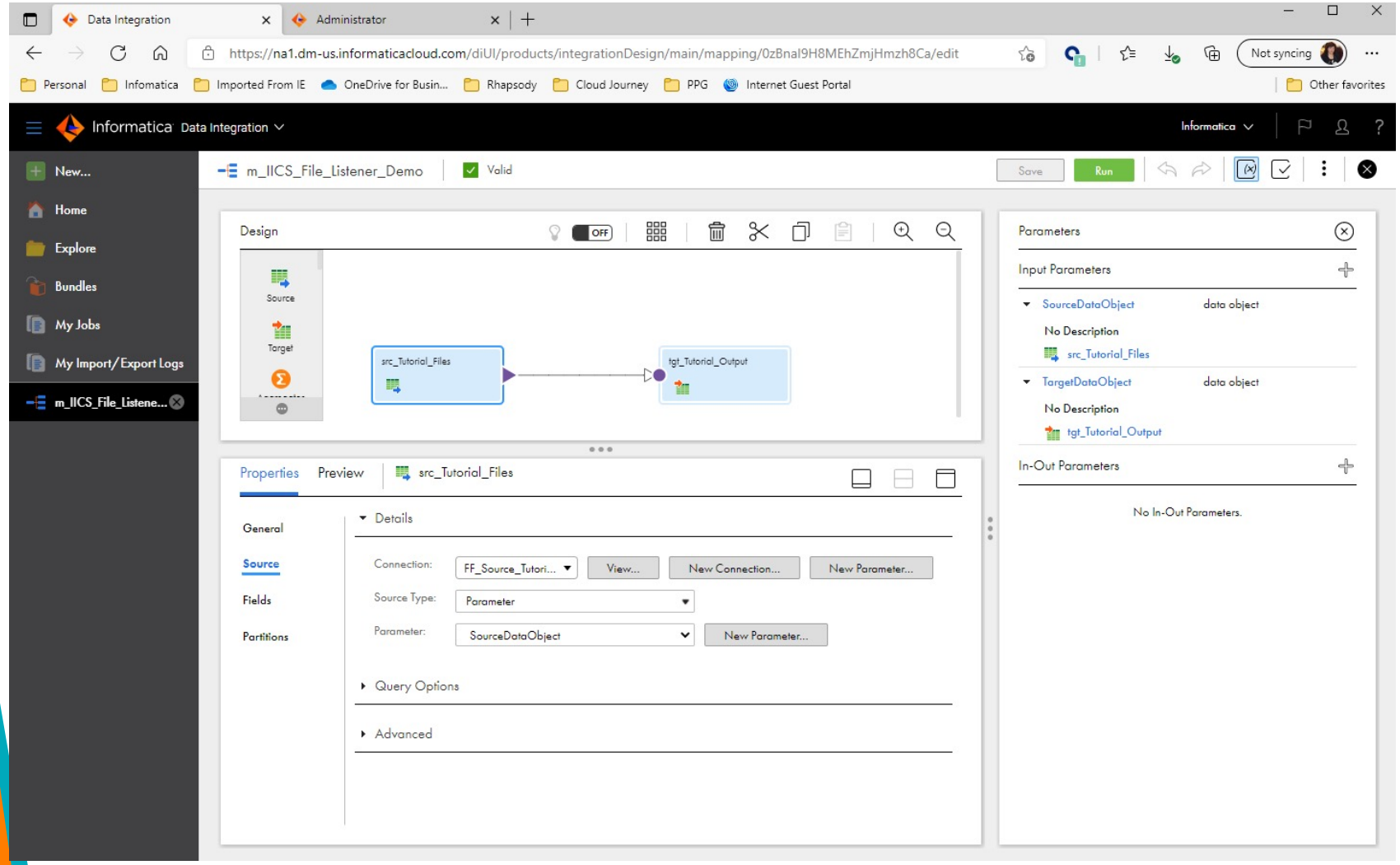
The Mapping



We created two Input Parameters that are Data Objects.

We replace the Source Type and File Name with the parameter in the place of the file name

We'll do the same for the target.

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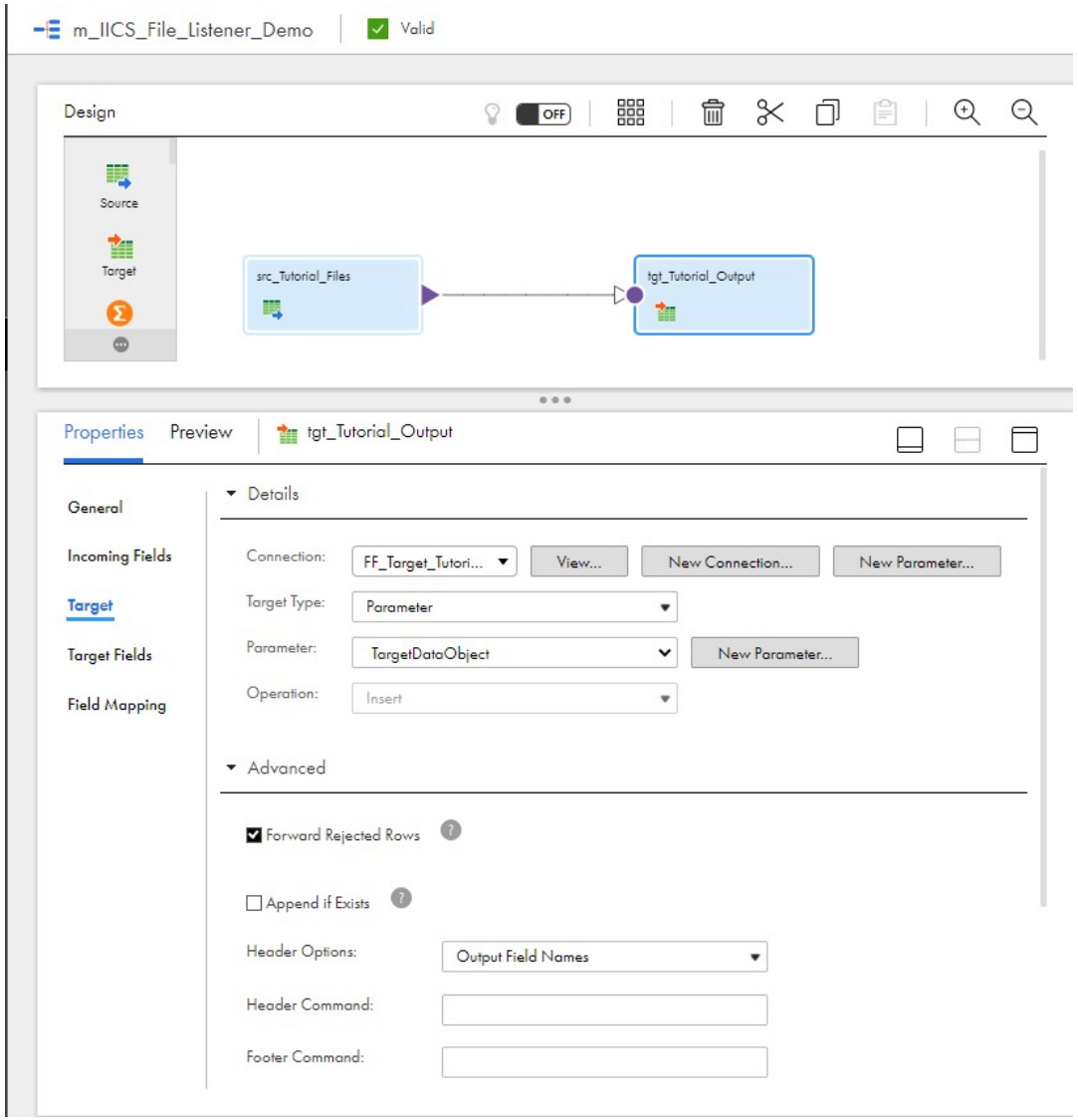
The Mapping



We similarly used the FF_Target_Tutorials for the target connection to point to the right directory and used the parameter in the place of the file name

We chose to add the Output Field Names to the first row of the target

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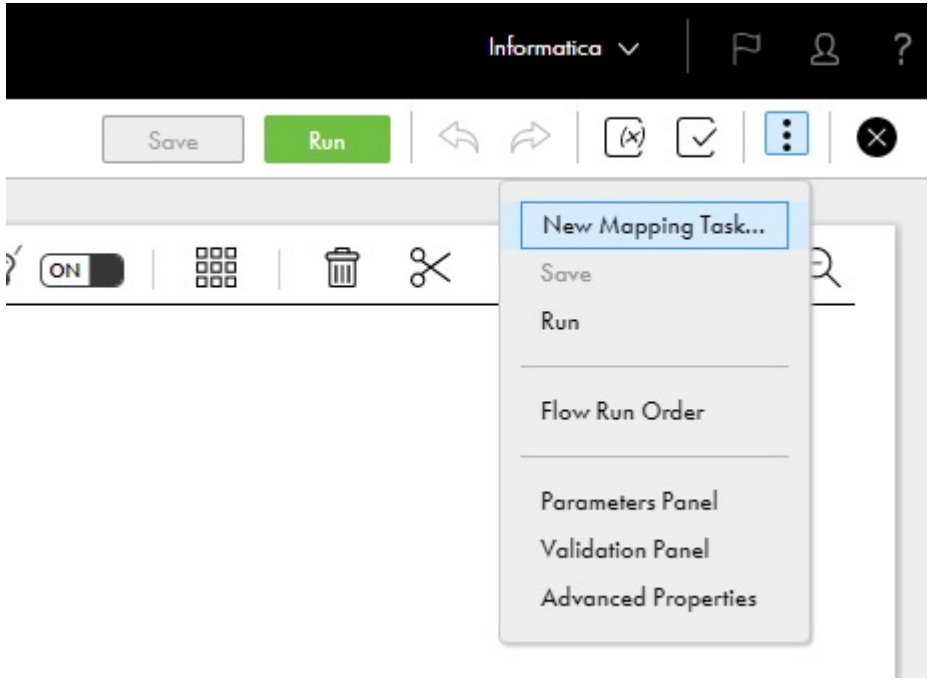
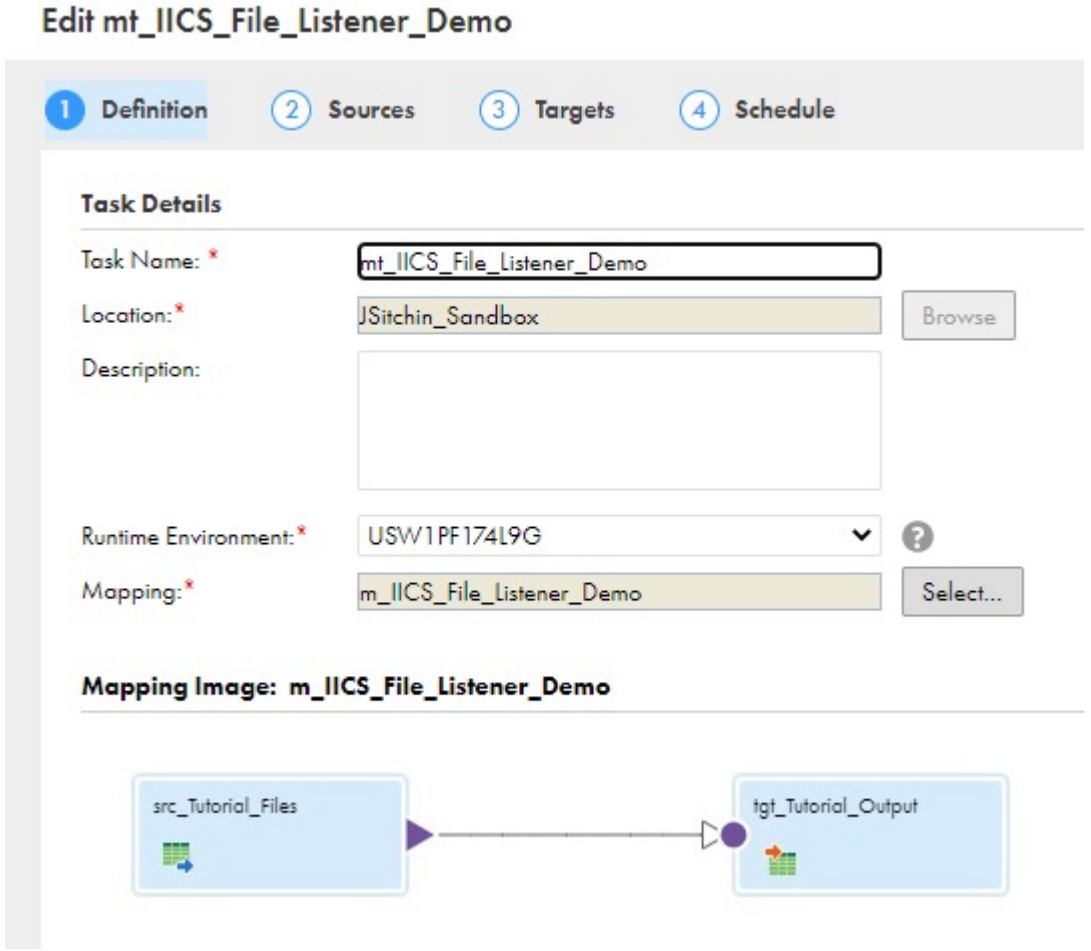
Mapping Task



In the mapping, press the symbol highlighted and create an associated mapping task



Provide a name for the mapping task and select the runtime environment

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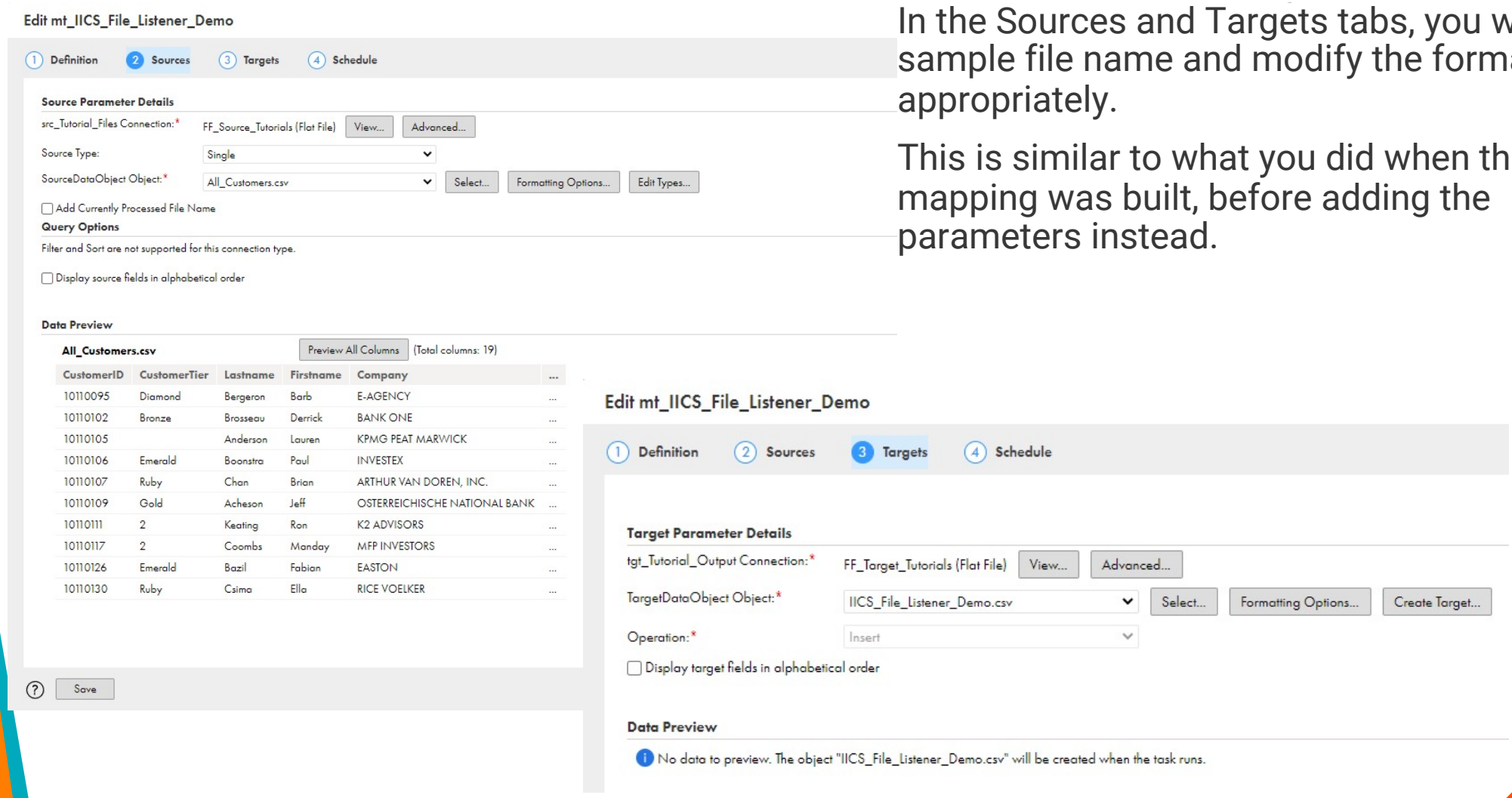
Mapping Task



In the Sources and Targets tabs, you will enter a sample file name and modify the formatting appropriately.

This is similar to what you did when the original mapping was built, before adding the parameters instead.

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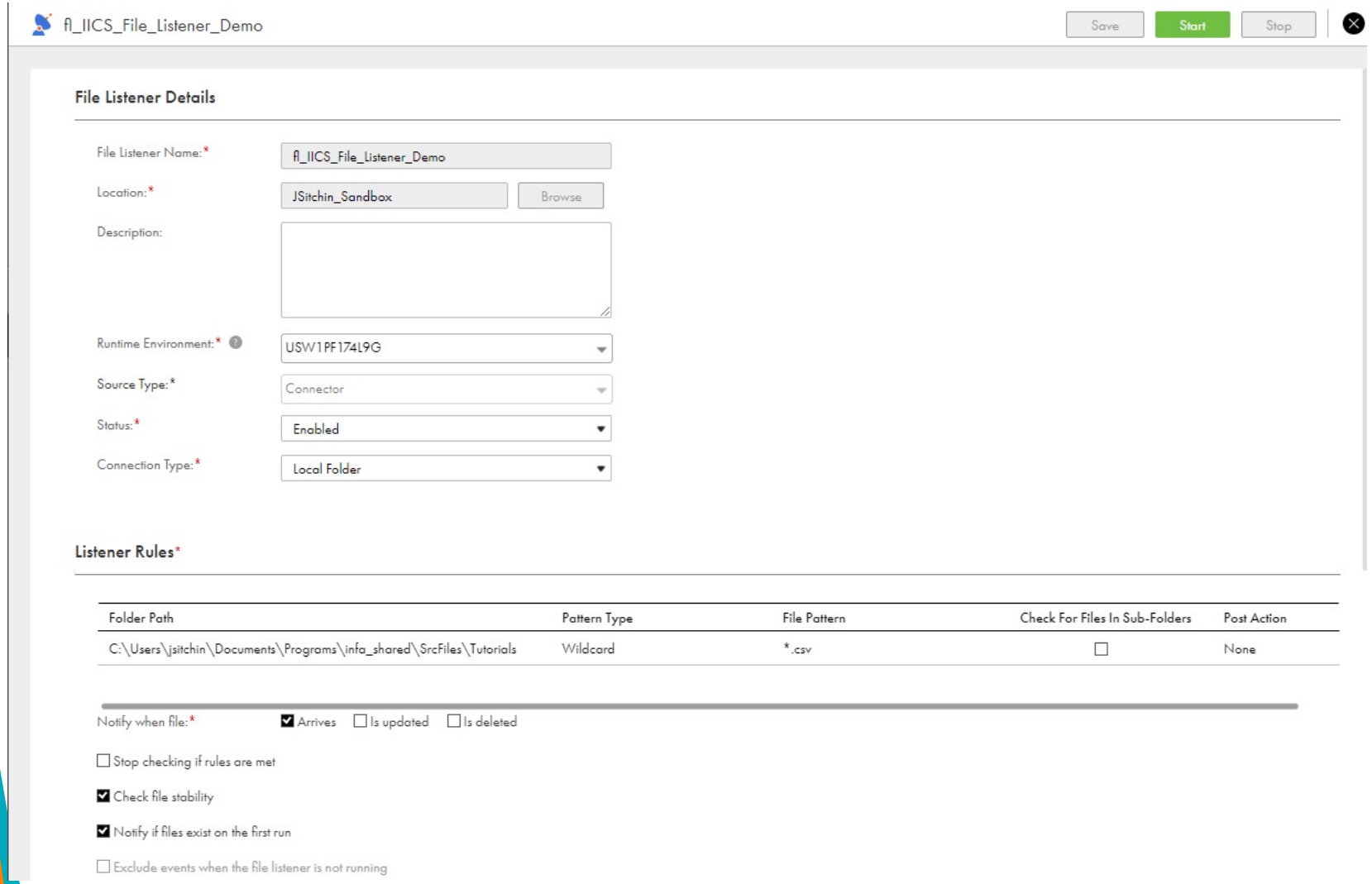
The File Listener



- Create a File Listener and assign the Runtime Environment
- Set the Connection Type to Local Folder
- Enter the path for the files, Wildcard, and provide a File Pattern
- Set “Check File Stability” so that only a complete file will be processed
- Set “Notify if files exist on the first run” to process files already in the path

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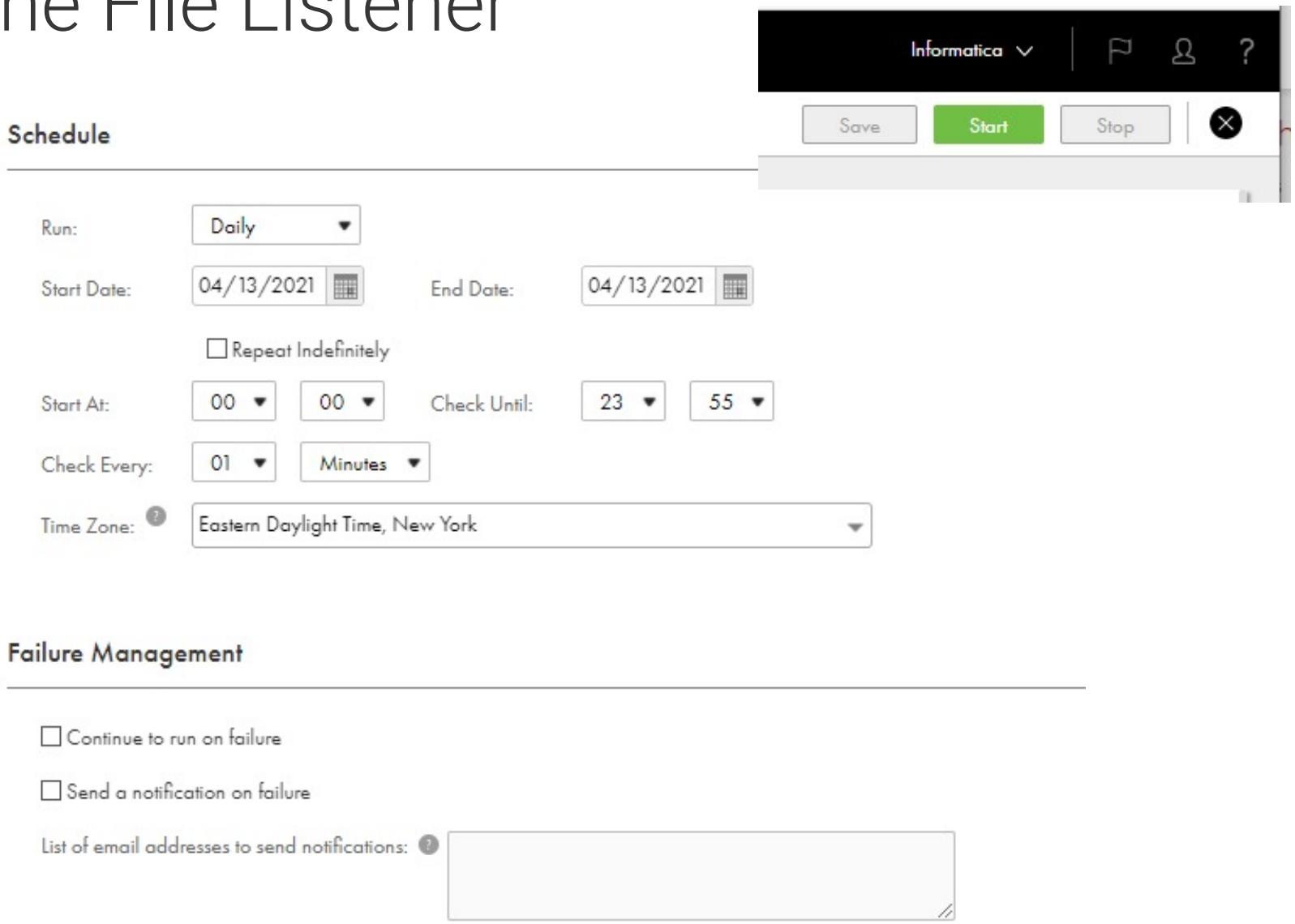
The File Listener



Scrolling down on the screen, there are options to set a schedule for the listener to run and how frequently to check for files.

You can also enter a list of notification emails if you choose.

Although there is a Start button at the top of the screen, you are not able to start the File Listener until it is associated with one or more Task Flows.

Be sure to save the File Listener configuration, but we'll come back to Start it.

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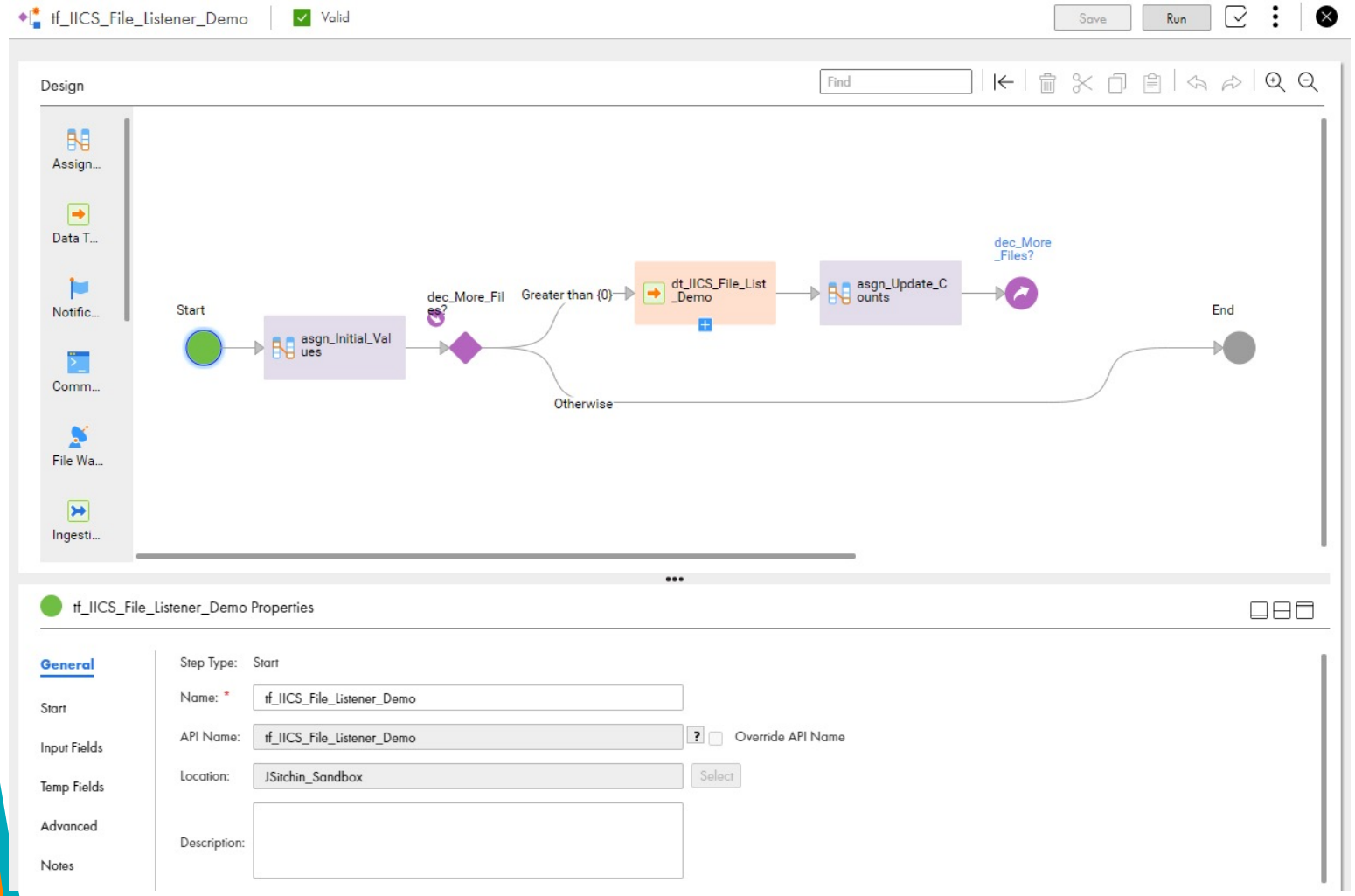
The Task Flow



The Task Flow includes a Data Task to run the mapping task and thus the mapping.

We have additional logic to allow it to be kicked off by the File Listener activity and to process more than one file if several arrive together.

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The Task Flow Does a Number of Things

- Sets the Start task to expect the File Listener Event to kick off the Task Flow
- Sets variables to store information like the number of files sent by the listener and the current count of the file being processed
- Sets the initial values for these variables
- Checks to see if all files have been processed and conditionally ends the Task Flow if they have
- Passes assigns the File Listener File Name to the Input Parameters for the Data Task
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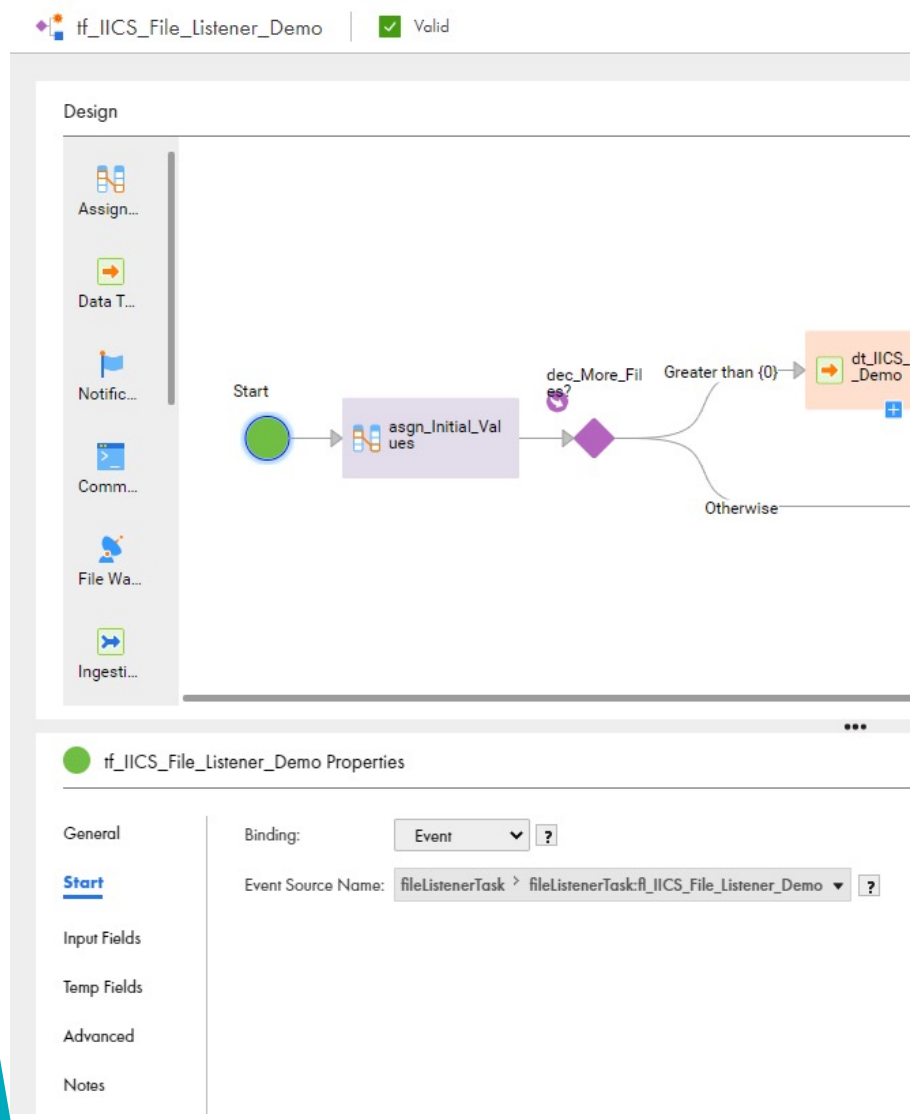
The Task Flow



The Start task's Start setting allows you to select a File Listener Task as a starting event

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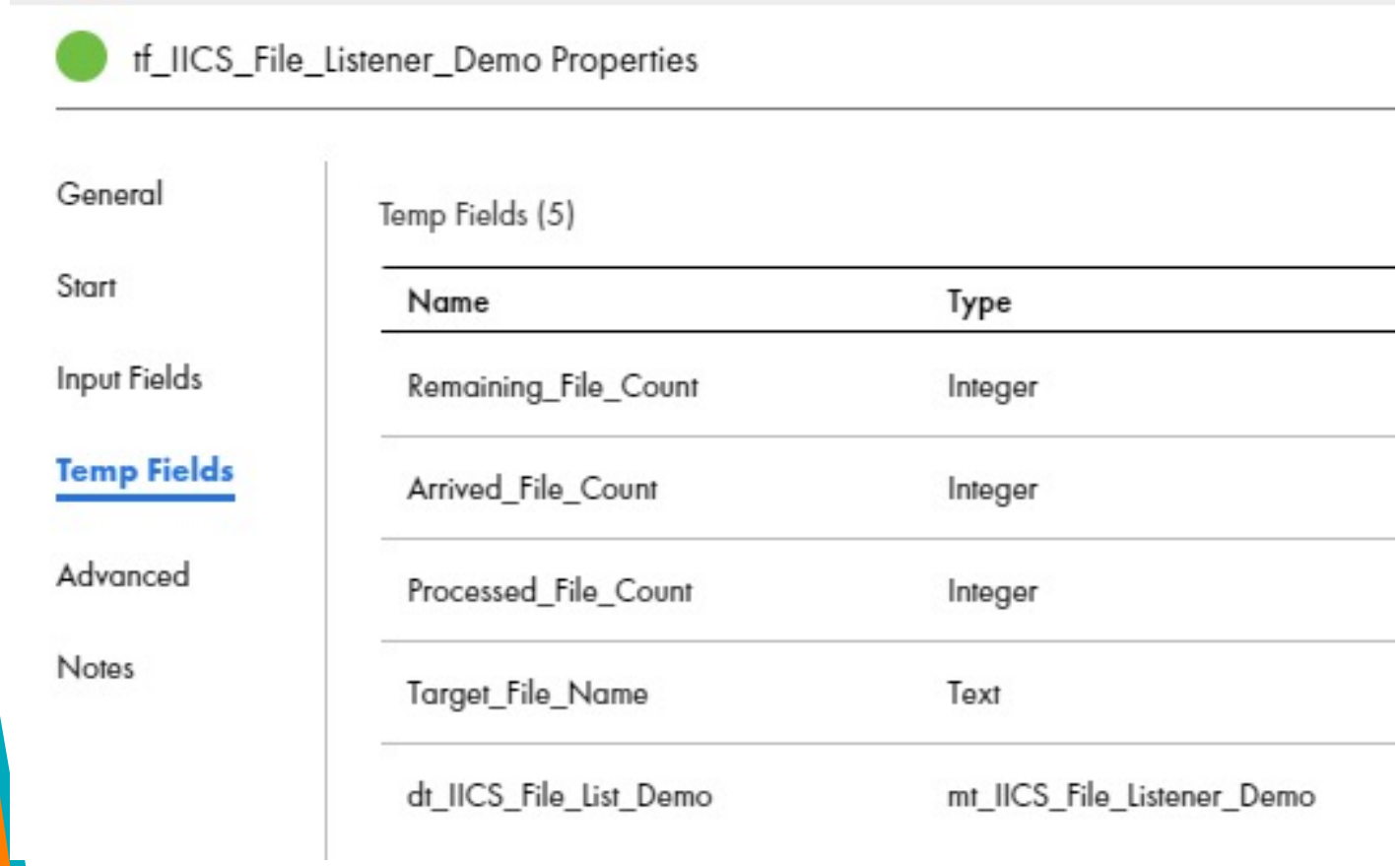
The Task Flow



The Temp Fields settings allow you to create temporary variables to hold data used in the Task Flow logic

We have set counters to know the number of files that arrived when the File Listener started the Task Flow. Multiple files can be received at once.

The Arrived_File_Count will be the initial number of files arriving.

The Processed File Count will start as 0.

The Remaining_File_Count will start out with the same value as the Arrived_File_Count and will be decremented as the Task Flow runs.

The Target_File_Name provides a name for the Target File for the mapping.

These are all set in the next tasks.

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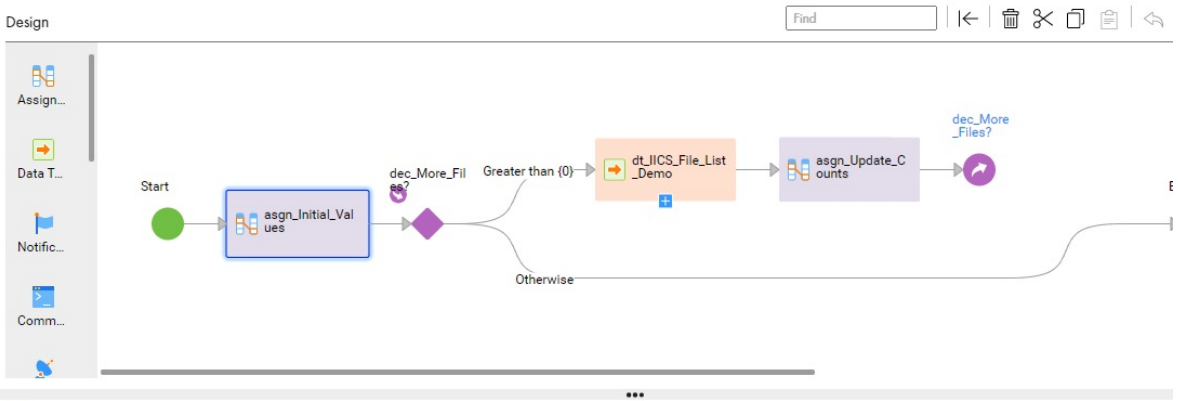
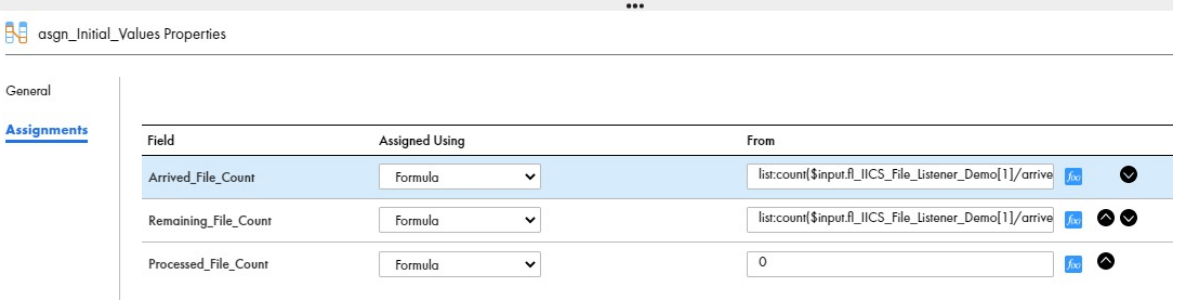
The Task Flow





The Assignment Task asgn_Initial_Values sets the counts just mentioned.

The information from the File Listener is available to be used to assign to a variable

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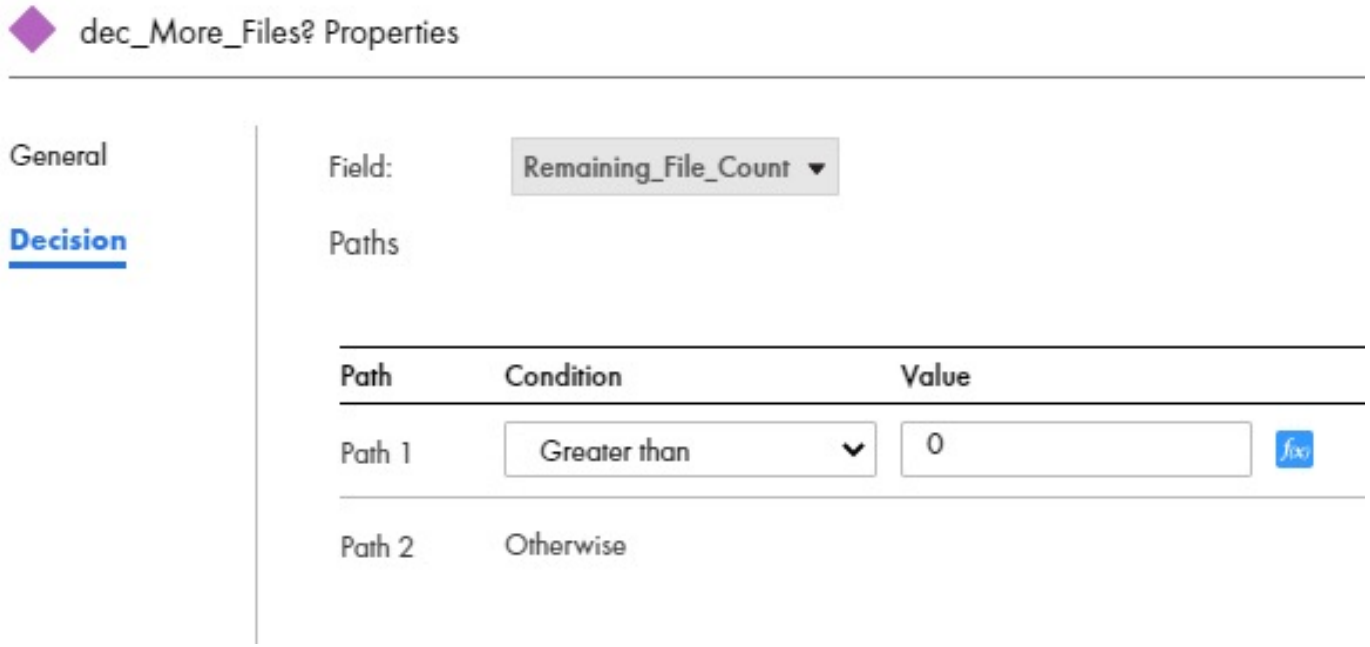
The Task Flow



The Decision Task checks the value of the Remaining File_Count and ends the Task Flow if there are no more files to process.

If there are files, then the path will continue to call the Data Task.

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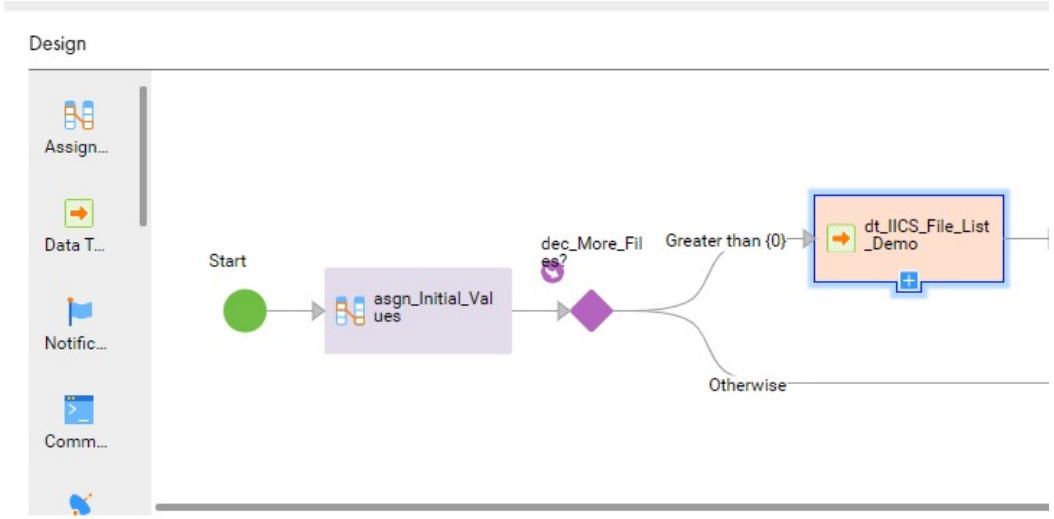
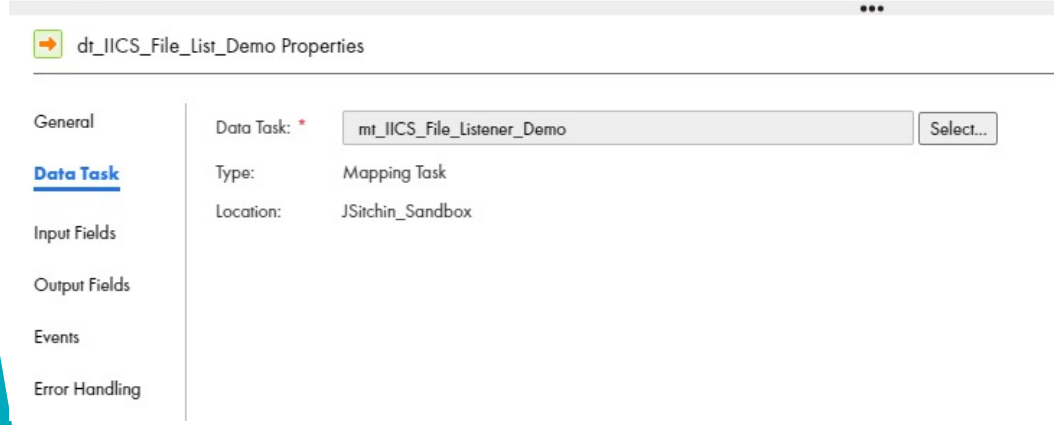
The Task Flow

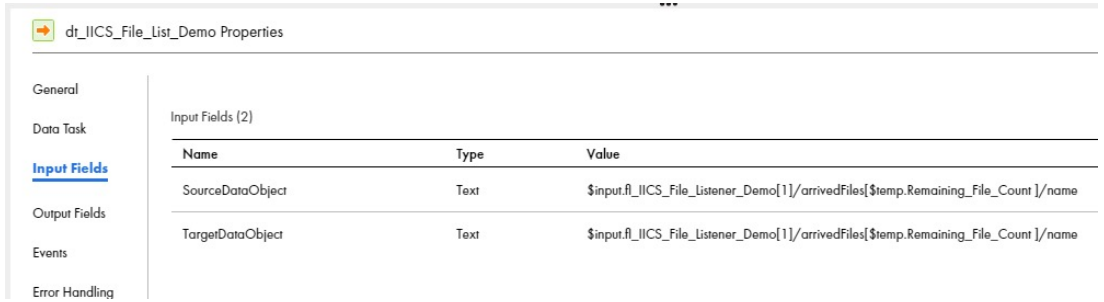




The Data Task is configured to call the Mapping Task we configured for the Mapping.

The Input Fields item is where the Parameters passed into the Data Task/Mapping are set.

Again, the File Listener values are used to get the File Name. Note that we are using the Remaining_File_Count to get the next value for the name from the list of files.



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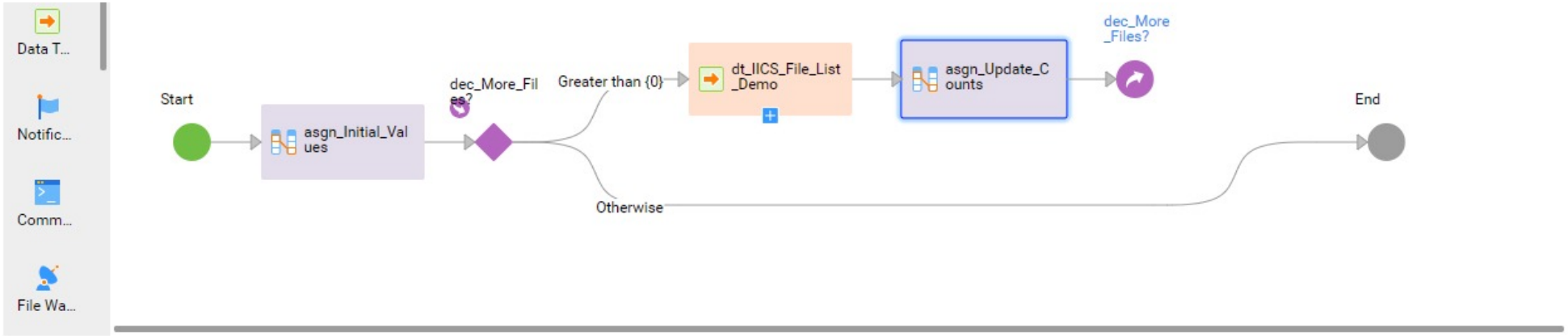
The Task Flow



asgn_Update_Counts Properties

General

Assignments

Field	Assigned Using	From
Processed_File_Count	Formula	$temp.Processed_File_Count + 1
Remaining_File_Count	Formula	$temp.Arrived_File_Count - $temp.Processed_File_Count

The Assignment task asgn_Update_Counts increments the Processed_File_Count and sets the Remaining_File_Count.

The Jump task will jump to the Decision task and then check if there are files left to process or not.

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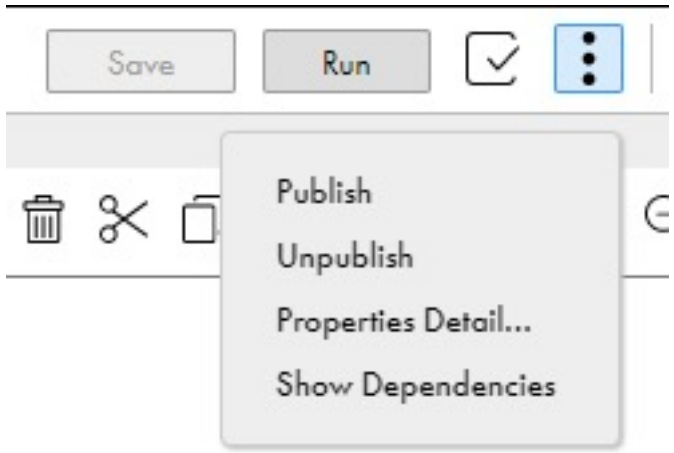
The Task Flow



Be sure to save the Task Flow, but also be sure to Publish it.

Once Published, you can start the File Listener.

If the File Listener schedule indicates that it can run right away, then it will begin to look for files and kick off the Task Flow.

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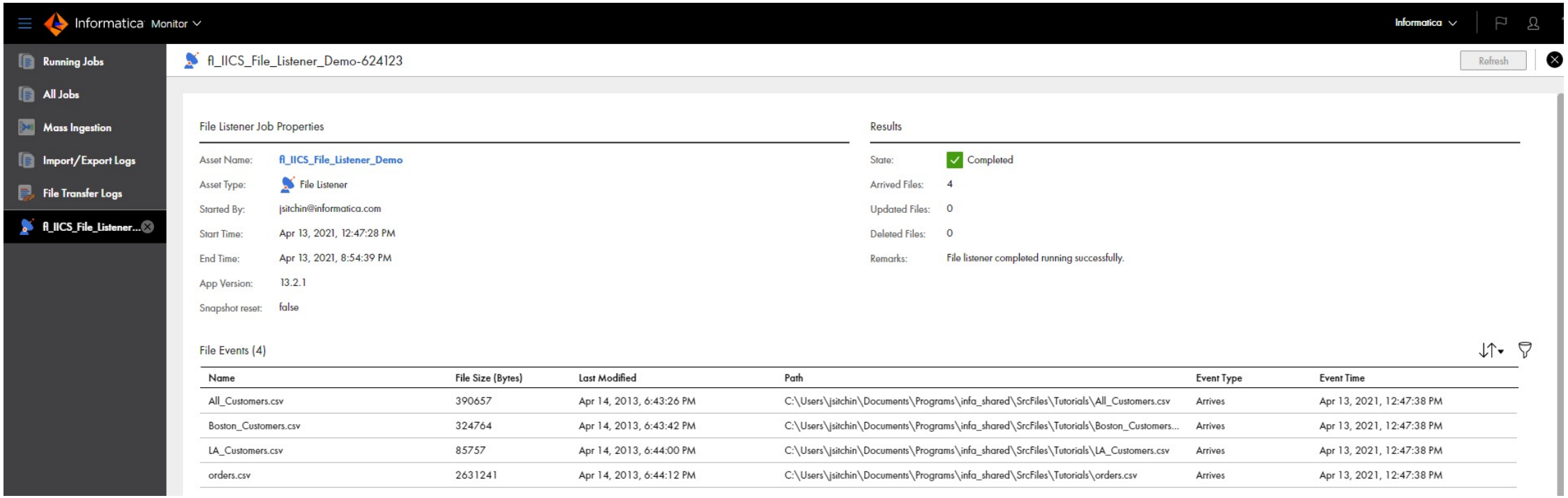
The Monitor Tool



In the Monitor tool, you can review the File Transfer Logs and see the files that have been processed by the File Listener.

You can view the file names, their Last Modified Date and Size, the Path, the Event Type and the Event Time.

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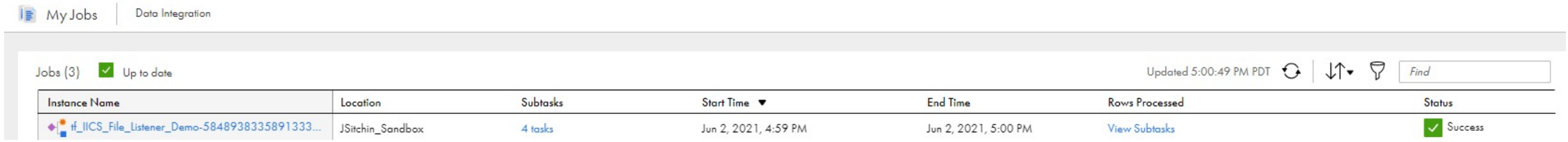
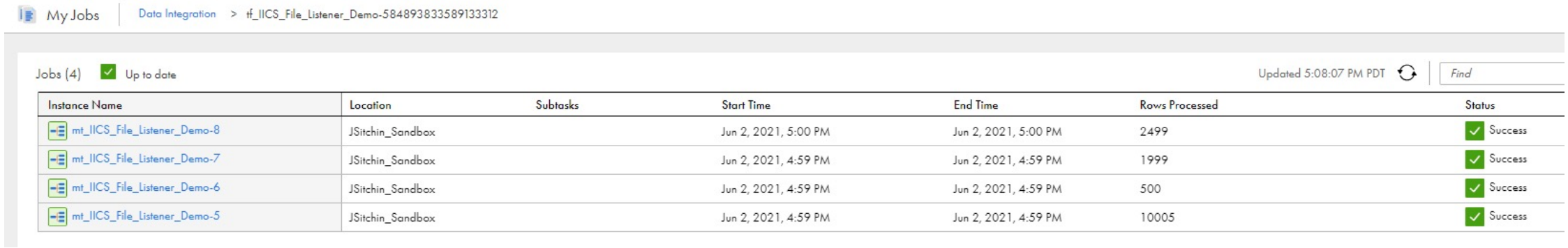
My Jobs

- Review the My Jobs tab or in the Monitor the All Jobs to see the Task Flow running when the files arrive.
- In this example, we will have 4 runs.



- You can select the View Subtasks to see the details of each run. Click on the mapping task to



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My Jobs

mt_IICS_File_Listener_Demo-8

Job Properties

Task Name:	mt_IICS_File_Listener_Demo
Instance ID:	8
Task Type:	Mapping Task
Started By:	jsitchin@informatica.com through API
Start Time:	Jun 2, 2021 5:00:06 PM
End Time:	Jun 2, 2021 5:00:17 PM
Duration:	11 seconds
Runtime Environment:	USW1PF174L9G
Secure Agent:	USW1PF174L9G

Results

Status:	Success
Success Rows:	2499
Errors:	0
Session Log:	Download Session Log

Individual Source/Target Results

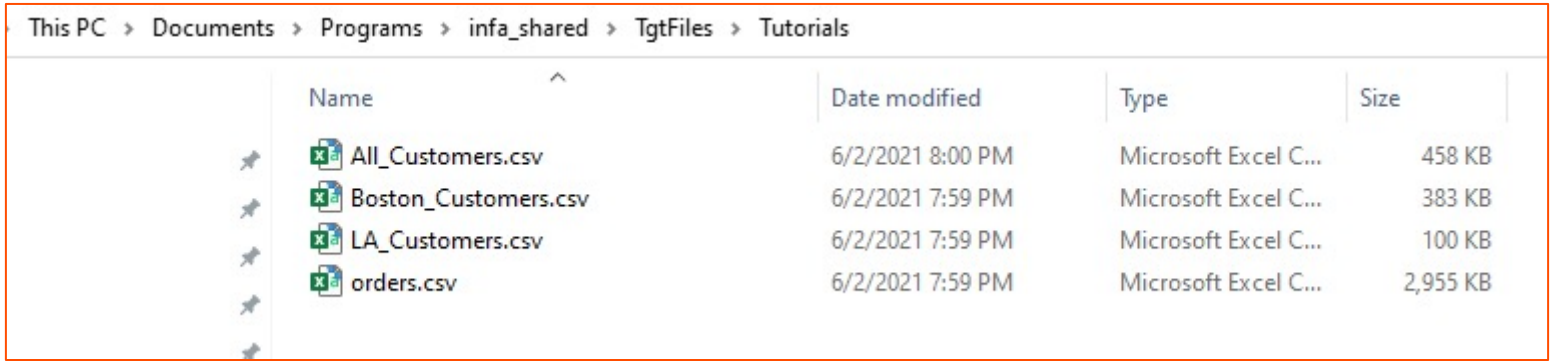
Name	Success Rows	Errors	Error Message
src_Tutorial_Files	2499	0	
All_Customers_csv	2499	0	

Job Payload


```
{
  "@type" : "mtTaskRuntime",
  "parameters" : [ {
    "extendedObject" : {
      "@type" : "extendedObject",
      "object" : {
        "@type" : "mObject",
        "name" : "All_Customers.csv"
      }
    },
    "@type" : "mtTaskParameter",
    "name" : "$src_Tutorial_Files$",
    "type" : "EXTENDED_SOURCE"
  }, {
    "targetObject" : "All_Customers.csv",
    "@type" : "mtTaskParameter",
    "name" : "$tgt_Tutorial_Output$",
    "type" : "TARGET",
    "newObjectName" : "All_Customers.csv"
  } ],
  "taskProperties" : [ ]
}
```


The details of the Mapping Task shows the rows processed and the file names passed into the parameters and used in the mapping.

If we look at the target directory, we see the new version of the target files. (Note that the cloud host time is set to Pacific Time, but my laptop is on Eastern Time).



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Questions?

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Thank you

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