



Integración Salesforce & Talend

WEBINAR

Contenido Teórico

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1) QUÉ ES SALESFORCE

2) INTEGRACIÓN SALESFORCE & TALEND



SALESFORCE



SALESFORCE

Salesforce es una herramienta CRM, encargada de gestionar las relaciones comerciales con los clientes alojada en la nube. Dispone de cuatro versiones: *Salesforce Essentials*, *Lightning Professional*, *Lightning Enterprise* (necesaria para conectarse con Talend vía API) y *Lightning Unlimited*.

Salesforce Edition	API Calls Per License Type	Total Calls Per 24-hour Period
Developer Edition	N/A	15,000
Enterprise Edition Professional Edition with API access enabled	Salesforce: 1,000 Salesforce Platform: 1,000 Force.com - One App: 200 Customer Community: 0 Customer Community Login: 0 Customer Community Plus: 200 Customer Community Plus Login: 10 Partner Community: 200 Partner Community Login: 10 Lightning Platform Starter: 200 per member for Enterprise Edition orgs Lightning Platform Plus: 1000 per member for Enterprise Edition orgs	15,000 + (number of licenses X calls per license type), up to a maximum of 1,000,000
Unlimited Edition Performance Edition	Salesforce: 5,000 Salesforce Platform: 5,000 Force.com - One App: 200 Customer Community: 0 Customer Community Login: 0 Customer Community Plus: 200 Customer Community Plus Login: 10 Partner Community: 200 Partner Community Login: 10 Lightning Platform Starter: 200 per member for Unlimited and Performance Edition orgs Lightning Platform Plus: 5000 per member for Unlimited and Performance Edition orgs	15,000 + (number of licenses X calls per license type)

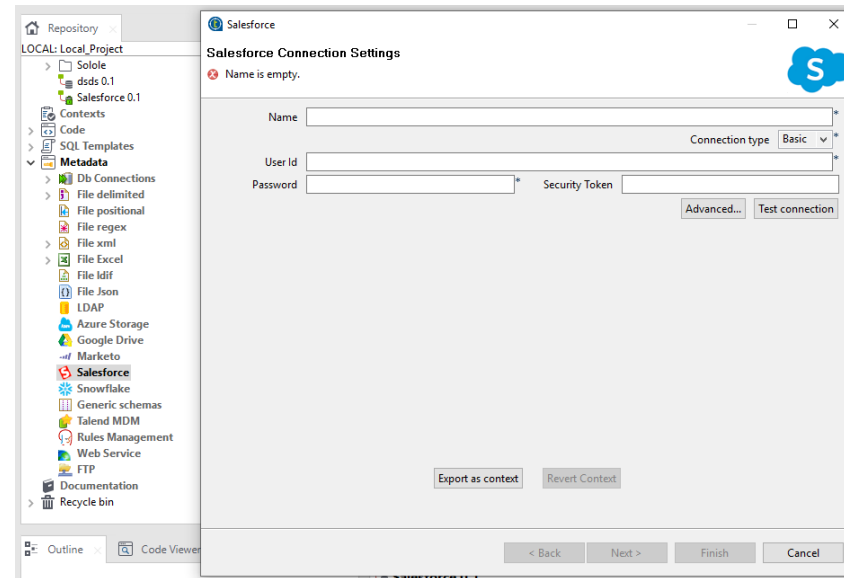


SALESFORCE & TALEND



SALESFORCE & TALEND - CONEXIÓN

- Conexión desde Talend a Salesforce.

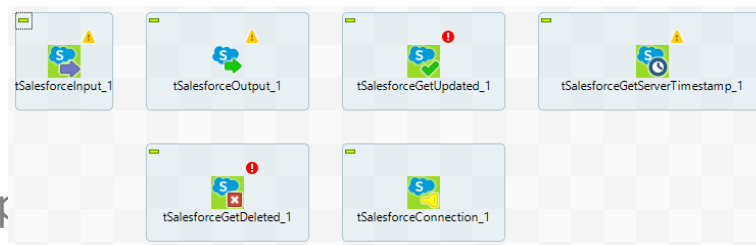


SALESFORCE & TALEND - API

- Salesforce provee dos tipos de APIs, *Standard* y *Bulk API* (cargas masivas).

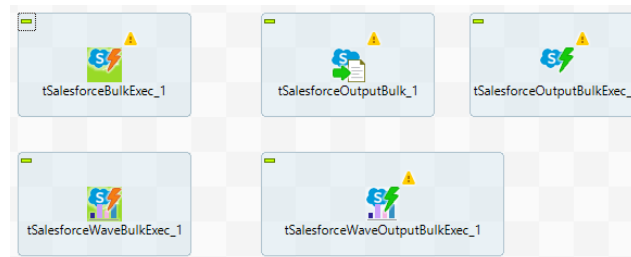
- Standar:

tSalesforceInput
tSalesforceOutput
tSalesforceGetUpdated
tSalesforceGetSercerTimestamp
tSalesforceGetDeleted
tSalesforceConnection



- Bulk:

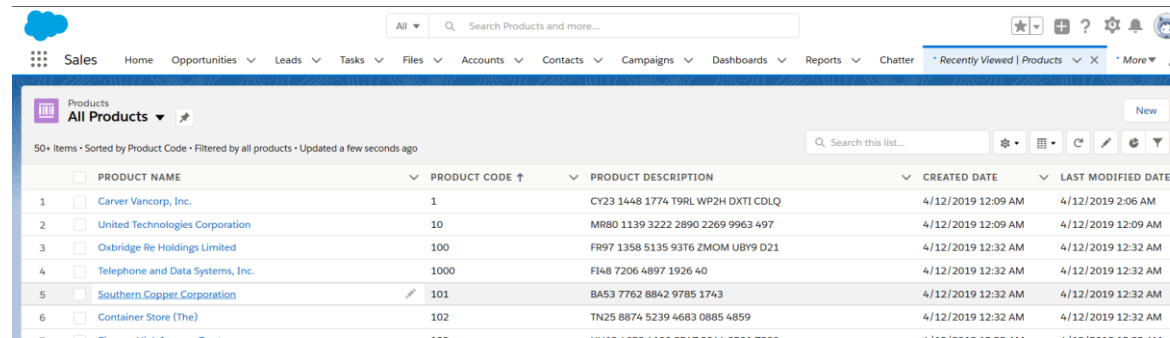
tSalesforceBulkExec
tSalesforceOutputBulk
tSalesforceOutputBulkExec
tSalesforceWaveBulkExec
tSalesforceWaveOutputBulkExec



- Query Timeout: valor establecido por Talend (un minuto) pero puede ser modificado. Salesforce por su parte también contiene un timeout interno asociado a la API cuyas reglas indican que cualquier query tiene que ser devuelta en dos minutos.

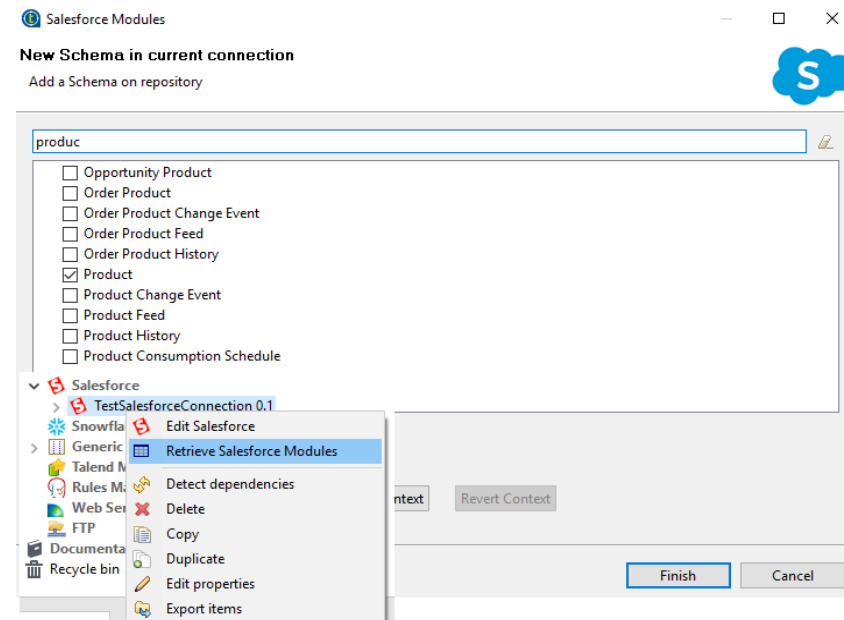
SALESFORCE & TALEND - LECTURA

Para los siguientes ejemplos se utilizará la vista de Products.



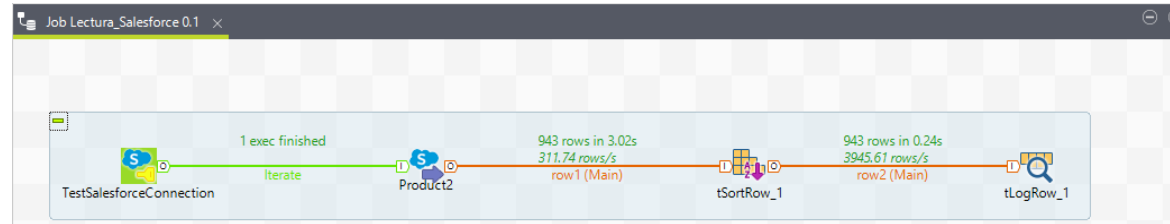
	PRODUCT NAME	PRODUCT CODE	PRODUCT DESCRIPTION	CREATED DATE	LAST MODIFIED DATE
1	Carver Vancorp, Inc.	1	CY23 1448 1774 T9RL WP2H DXTI CDLQ	4/12/2019 12:09 AM	4/12/2019 2:06 AM
2	United Technologies Corporation	10	MR80 1139 3222 2890 2269 9963 497	4/12/2019 12:09 AM	4/12/2019 12:09 AM
3	Oxbridge Re Holdings Limited	100	FR97 1358 5135 93T6 ZMOM UBY9 D21	4/12/2019 12:32 AM	4/12/2019 12:32 AM
4	Telephone and Data Systems, Inc.	1000	FI48 7206 4897 1926 40	4/12/2019 12:32 AM	4/12/2019 12:32 AM
5	Southern Copper Corporation	101	BA53 7762 8842 9785 1743	4/12/2019 12:32 AM	4/12/2019 12:32 AM
6	Container Store (The)	102	TN25 8874 5239 4683 0885 4859	4/12/2019 12:32 AM	4/12/2019 12:32 AM

Extracción de la vista utilizada y lectura de un objeto definido en Salesforce



SALESFORCE & TALEND - LECTURA

Se crea el job:



Se puede modificar el parámetro Batch Size, aumentando este tamaño permite aumentar la velocidad de lectura (teniendo en cuenta el timeout de respuesta) ya que se reduce el número de llamadas a la API.

El flujo de datos resultante:

Job Lectura_Salesforce

Execution

Basic Run
Debug Run
Advanced settings
Target Exec
Memory Run

Run Kill Clear

Starting job Lectura_Salesforce at 10:33 15/04/2019.

[statistics] connecting to socket on port 3957
[statistics] connected

Id	Name	ProductCode	Description	IsActive	CreateDate
01t2E00000N3fBQAJ	Carver Vancorp, Inc.	1	CV23 1448 1774 T9RL WP2H DXTI CDLQ	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	Sigma Labs, Inc.	2	LV11 RMPF 4MT6 QAVQ RLSN F	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	Primo Water Corporation	6	AZ06 UGZH YQOC FGAR LGUN 4VKK IJLY	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	Vivint Solar, Inc.	7	SK12 4148 2394 3122 4739 5433	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	ONE Gas, Inc.	8	ME45 9127 8031 5731 7393 59	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	United Technologies Corporation	10	MR80 1139 3222 2890 2269 9963 497	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	Lehman ABS Corporation	11	GB20 QAOC 1465 5411 8116 75	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	Duff & Phelps Select Energy MLP Fund Inc.	12	FR80 0226 1214 58HO DRRU QSSU I87	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	Synovus Financial Corp.	13	ER60 2794 7621 0316 1034 8045 032M D	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	Esterline Technologies Corporation	14	SI52 1568 6523 3075 591	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	Fidelity National Financial, Inc.	15	BG07 JGIV 5960 57PT AKP7 P5	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	Transocean Ltd.	16	FK85 QIAF WPHZ 26AR ONYS 3VWQ	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	China Green Agriculture, Inc.	17	EE84 9762 2326 1668 5866	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	Axon Enterprise, Inc.	20	DE34 7803 7072 4974 7915 11	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	Avangrid, Inc.	22	GT17 ETVV ARMM OYCW X5LQ DG25 LOCY	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	SLM Corporation	27	DKS9 2405 2868 4592 16	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	REL Merger Corp. IV	31	RE13 2151 4993 2342	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	Internet Initiative Japan, Inc.	34	FR74 9597 8823 24BF U1GT D4VP A22	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	HollyFrontier Corporation	35	CV36 9498 6773 303Z KCOV OE6L UZEG	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBQAJ	RSP Permian, Inc.	37	LR24 7989 UO5Z 8AEG UKUR WFO3 FQFU	false	2019-04-12T07:09:47.000Z
01t2E00000N3fCQAJ	Allied Healthcare Products, Inc.	40	WG32 WONI 4522 4330 0332 8866	false	2019-04-12T07:09:47.000Z

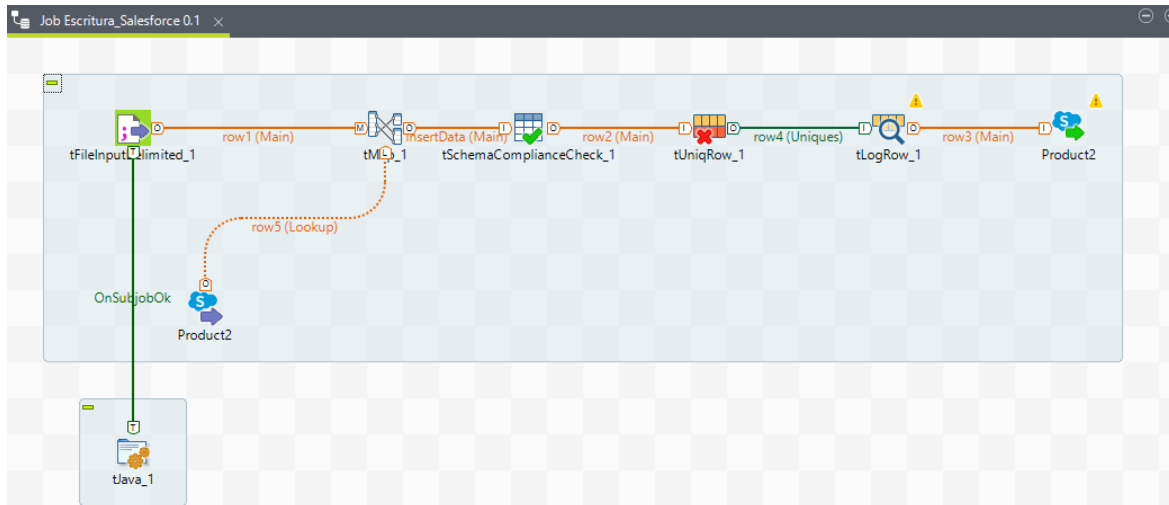
SALESFORCE & TALEND - ESCRITURA

Se crea la siguiente escritura y job para realizar una escritura sobre un objeto en Salesforce:

1	Name, ProductCode, Description, IsActive, CreatedDate, CreatedById, LastModifiedDate, LastModifiedById, SystemModstamp, Family, ExternalDataSourceId, ExternalId, DisplayUrl, QuantityUnitOfMeasure
2	"Nuevo Producto 1", 1234, BH26 RYGR VWMK BUGF QWLS KQ, false, 2019-03-08, 00511000000TQujAAG, 4/10/2018, 00511000000TQujAAG, 5/29/2018, Consumer Services, , , , , false, false, 12/3/2018, 9/16/2018
3	"Nuevo Producto 2", 1235, FI48 7206 4897 1926 40, false, 2019-03-08, 00511000000TQujAAG, 6/7/2018, 00511000000TQujAAG, 7/6/2018, Public Utilities, , , , , false, false, 2/8/2019, 2/14/2019, 88

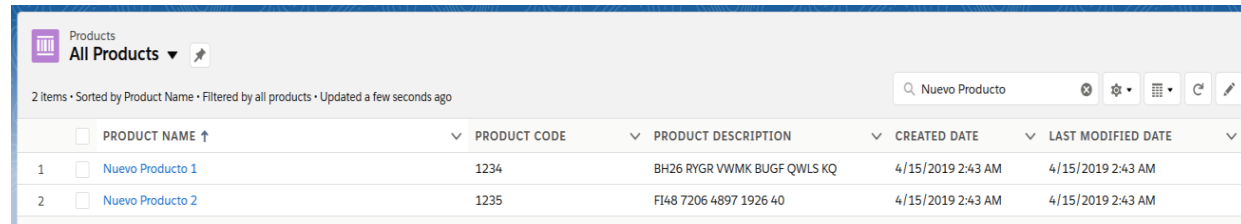
Talend permite la configuración Output Action, timeout & commit level y la elección de las operaciones:

- Insert: creación de registros nuevos (no requiere clave). Es la utilizada en este caso.
- Update: actualización de registros (requiere clave).
- Delete: borrado de registros, esta operación no borra realmente el registro físicamente únicamente modifica el campo isDelete = true (requiere clave).
- Upsert: update & insert (requiere clave) puede afectar al rendimiento.



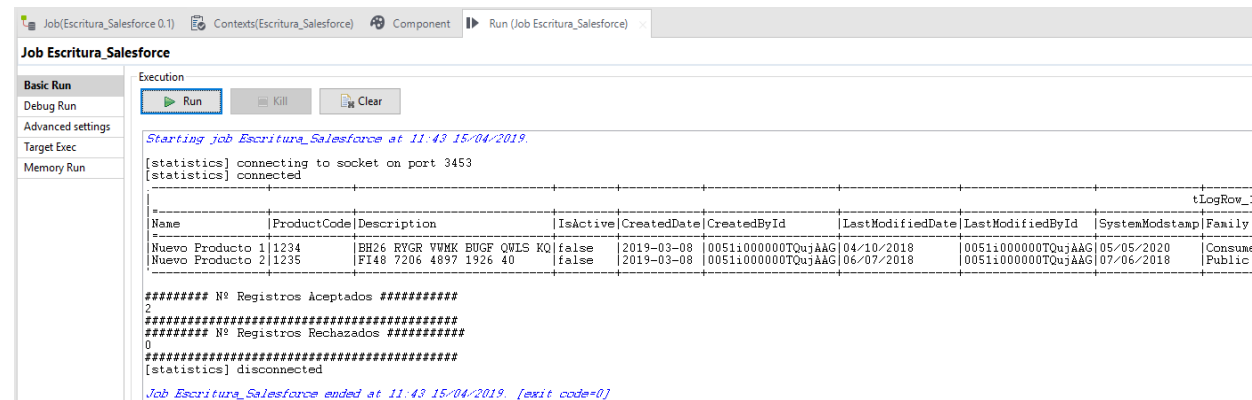
SALESFORCE & TALEND - ACTUALIZACIÓN

Para comprobar el resultado, se observa si se han escrito correctamente en el servidor cloud y adicionalmente mediante las variables disponibles (pantalla).



The screenshot shows the Salesforce 'Products' list. It displays two items: 'Nuevo Producto 1' and 'Nuevo Producto 2'. The table has columns for Product Name, Product Code, Product Description, Created Date, and Last Modified Date.

	PRODUCT NAME ↑	PRODUCT CODE	PRODUCT DESCRIPTION	CREATED DATE	LAST MODIFIED DATE
1	Nuevo Producto 1	1234	BH26 RYGR VWMK BUGF QWLS KQ	4/15/2019 2:43 AM	4/15/2019 2:43 AM
2	Nuevo Producto 2	1235	FI48 7206 4897 1926 40	4/15/2019 2:43 AM	4/15/2019 2:43 AM



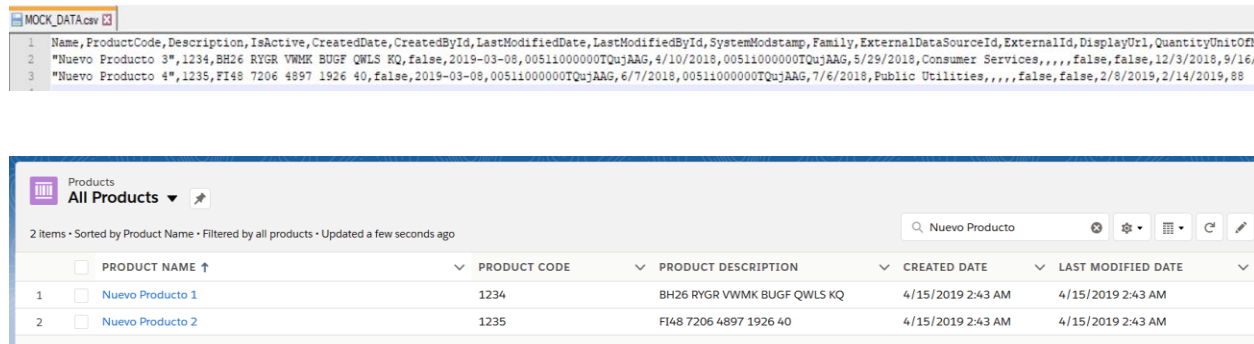
The screenshot shows the Talend Job Execution Log for 'Job Escritura_Salesforce'. The log displays the job's execution details, including the start and end times, and the status of the job. The log also shows the connection to the Salesforce database and the data being written.

Name	ProductCode	Description	IsActive	CreatedDate	CreatedBy	LastModifiedDate	LastModifiedBy	SystemModstamp	Family
Nuevo Producto 1	1234	BH26 RYGR VWMK BUGF QWLS KQ	false	2019-03-08	00511000000TQjAAG	04/10/2018	00511000000TQjAAG	05/05/2020	Consume
Nuevo Producto 2	1235	FI48 7206 4897 1926 40	false	2019-03-08	00511000000TQjAAG	06/07/2018	00511000000TQjAAG	07/06/2018	Public

N° Registros Aceptados #####
2
N° Registros Rechazados #####
0
[statistics] disconnected
Job Escritura_Salesforce ended at 11:43 15/04/2019. [exit code=0]

SALESFORCE & TALEND - ACTUALIZACIÓN

Se procede a realizar una actualización de un objeto definido en Salesforce.



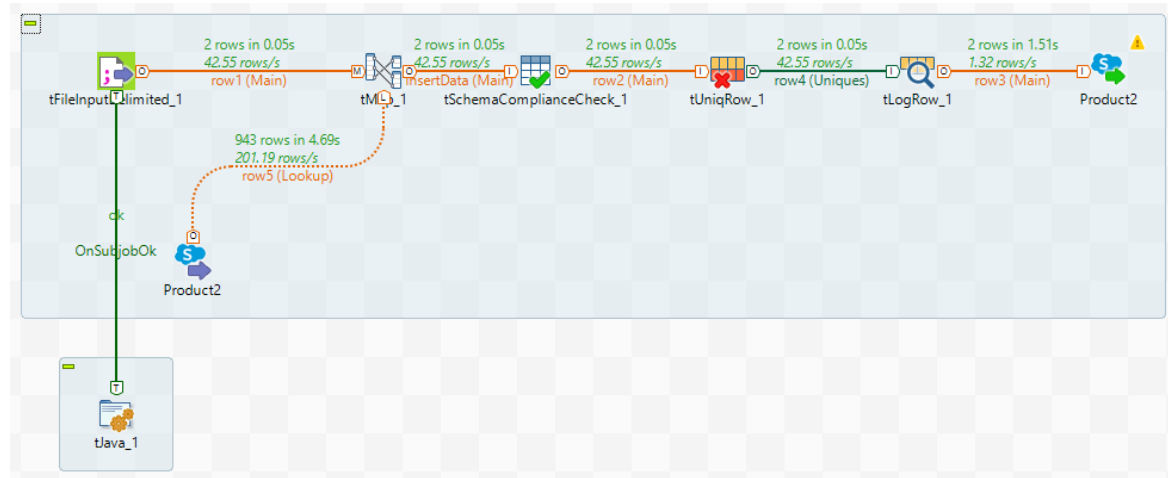
The screenshot displays a Talend data integration interface. At the top, a CSV file named 'MOCK_DATA.csv' is open, showing a list of product records with various fields including Name, ProductCode, Description, IsActive, CreatedDate, CreatedById, LastModifiedDate, LastModifiedById, SystemModstamp, Family, ExternalDataSourceId, ExternalId, DisplayUrl, and QuantityUnitOfM. Below the CSV, a Salesforce table named 'Products' is shown, containing two items: 'Nuevo Producto 1' and 'Nuevo Producto 2'. The table has columns for Product Name, Product Code, Product Description, Created Date, and Last Modified Date.

PRODUCT NAME	PRODUCT CODE	PRODUCT DESCRIPTION	CREATED DATE	LAST MODIFIED DATE
Nuevo Producto 1	1234	BH26 RYGR VWMK BUGF QWLS KQ	4/15/2019 2:43 AM	4/15/2019 2:43 AM
Nuevo Producto 2	1235	FI48 7206 4897 1926 40	4/15/2019 2:43 AM	4/15/2019 2:43 AM

Es necesario la clave (id) para realizar actualizaciones, este id es auto asignado y autogenerado por Salesforce, por lo tanto, se debe realizar un Join por el objeto para extraer su ID, en caso de no disponer del mismo.

SALESFORCE & TALEND - ACTUALIZACIÓN

Visualización del job y del join.



Name	Value
ProductCode	ProductCode
Description	Description
IsActive	IsActive
CreatedDate	CreatedDate
CreatedBy	CreatedBy
LastModifiedDate	LastModifiedDate
LastModifiedBy	LastModifiedBy
SystemModstamp	SystemModstamp
Family	Family
ExternalDataSourceId	ExternalDataSourceId
ExternalId	ExternalId
DisplayUrl	DisplayUrl
QuantityUnitOfMeasure	QuantityUnitOfMeasure
IsDeleted	IsDeleted
IsArchived	IsArchived
LastViewedDate	LastViewedDate
LastReferencedDate	LastReferencedDate
StockKeepingUnit	StockKeepingUnit

Property	Value
Catch output reject	false
Catch lookup inner join reject	true
Schema Type	Built-In

Expression	Column
row1.Name	Name
row1.ProductCode	ProductCode
row1.Description	Description
row1.IsActive	IsActive
row1.CreatedDate	CreatedDate
row1.CreatedBy	CreatedBy
row1.LastModifiedDate	LastModifiedDate
row1.LastModifiedBy	LastModifiedBy
row1.SystemModstamp	SystemModstamp
row1.Family	Family
row1.ExternalDataSourceId	ExternalDataSourceId
row1.ExternalId	ExternalId
row1.DisplayUrl	DisplayUrl
row1.QuantityUnitOfMeasure	QuantityUnitOfMeasure
row1.IsDeleted	IsDeleted
row1.IsArchived	IsArchived
row1.LastViewedDate	LastViewedDate
row1.LastReferencedDate	LastReferencedDate
row1.StockKeepingUnit	StockKeepingUnit

SALESFORCE & TALEND - ACTUALIZACIÓN

Seleccionar la operación de tipo Update. Comprobar que el schema sea correcto.

Schema of Product2										Product2 (Output)										
tLogRow_1 (Input - Main)																				
Column	Key	Type	<input type="checkbox"/>	N.	Date Pattern (C...	Length	Precision	Default	Comm...	Column	Db Column	Key	Type	<input type="checkbox"/>	N.	Date Patter...	Length	Preci...	Def...	Cor...
Id	<input type="checkbox"/>	String	<input type="checkbox"/>			18				Id	Id	<input type="checkbox"/>	String	<input type="checkbox"/>			18			
Name	<input type="checkbox"/>	String	<input checked="" type="checkbox"/>			42	0			Name	Name	<input type="checkbox"/>	String	<input checked="" type="checkbox"/>			42	0		
ProductCode	<input type="checkbox"/>	String	<input checked="" type="checkbox"/>			7	0			ProductCode	ProductCode	<input type="checkbox"/>	String	<input checked="" type="checkbox"/>			7	0		
Description	<input type="checkbox"/>	String	<input checked="" type="checkbox"/>			36	0			Description	Description	<input type="checkbox"/>	String	<input checked="" type="checkbox"/>			36	0		

Comprobar el resultado en el servidor cloud y adicionalmente mediante las variables disponibles (pantalla).

Job Escritura_Salesforce

Basic Run
Debug Run
Advanced settings
Target Exec
Memory Run

Run Kill Clear

Starting job Escritura_Salesforce at 12:31 15/04/2019.

[statistics] connecting to socket on port 3834
[statistics] connected

Name	ProductCode	Description	IsActive	CreatedDate	CreatedById	LastModifiedDate	LastModifiedById	SystemModstamp
Nuevo Producto 3	1234	BH26 RYGR VWMK BUGF QWLS KQ	false	2019-03-08	00511000000TQjAAG	04/10/2018	00511000000TQjAAG	05/05/2020
Nuevo Producto 4	1235	FI48 7206 4897 1926 40	false	2019-03-08	00511000000TQjAAG	06/07/2018	00511000000TQjAAG	07/06/2018

Nº Registros Aceptados #####
2
Nº Registros Rechazados #####
0

[statistics] disconnected
Job Escritura_Salesforce ended at 12:31 15/04/2019. [exit code=0]

Cloud icon

All ▾ 🔍 Search Products and more...

☆ ? ⚙

Sales Home Opportunities ▾ Leads ▾ Tasks ▾ Files ▾ Accounts ▾ Contacts ▾ Campaigns ▾ Dashboards ▾ Reports ▾ Recently Viewed | Products ▾ X ▾ More ▾

Products

All Products ▾

2 Items • Sorted by Created Date • Filtered by all products • Updated a few seconds ago

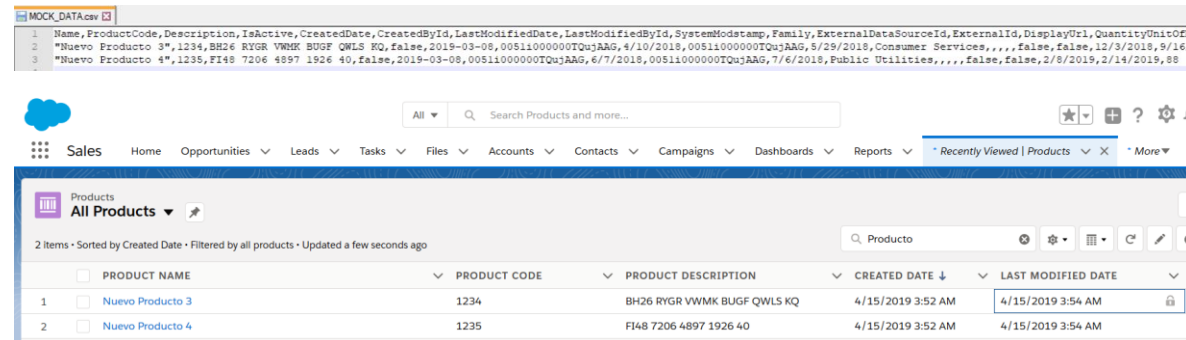
Producto 🔍

🔍 📄 🗑 🔄 📌

	PRODUCT NAME	PRODUCT CODE	PRODUCT DESCRIPTION	CREATED DATE	LAST MODIFIED DATE
1	Nuevo Producto 3	1234	BH26 RYGR VWMK BUGF QWLS KQ	4/15/2019 3:52 AM	4/15/2019 3:54 AM
2	Nuevo Producto 4	1235	FI48 7206 4897 1926 40	4/15/2019 3:52 AM	4/15/2019 3:54 AM

SALESFORCE & TALEND - BORRADO

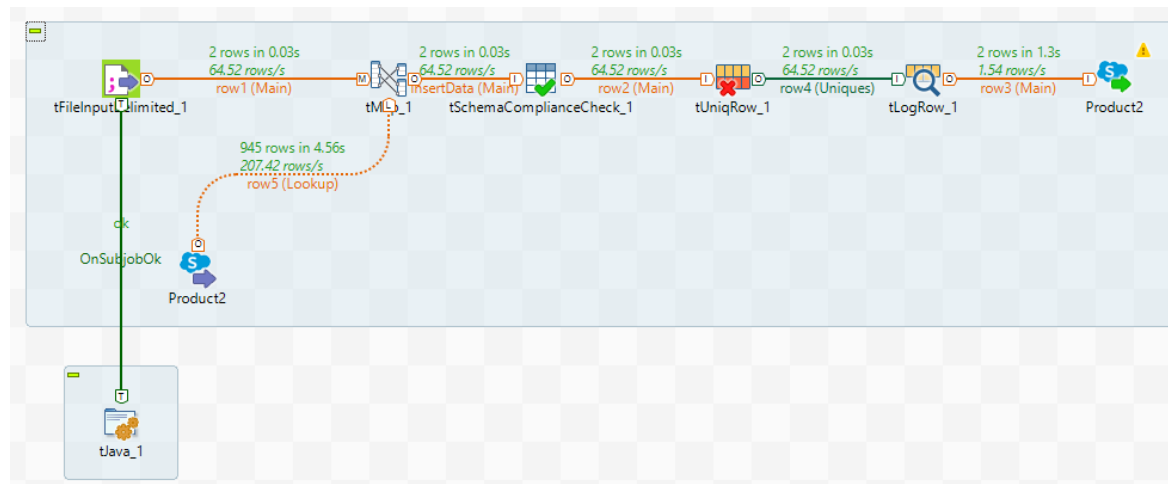
Borrado de un objeto definido en Salesforce.



The screenshot shows the Salesforce interface for the 'Products' object. A table lists two products:

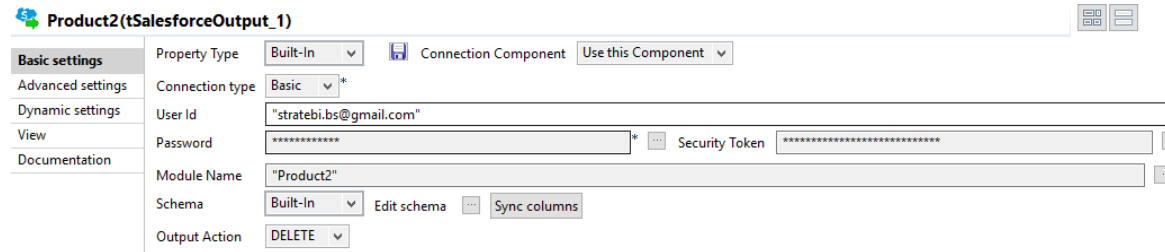
	PRODUCT NAME	PRODUCT CODE	PRODUCT DESCRIPTION	CREATED DATE	LAST MODIFIED DATE
1	Nuevo Producto 3	1234	BH26 RYGR VWMK BUGF QWLS KQ	4/15/2019 3:52 AM	4/15/2019 3:54 AM
2	Nuevo Producto 4	1235	FI48 7206 4897 1926 40	4/15/2019 3:52 AM	4/15/2019 3:54 AM

El borrado en Salesforce lo único que hace es activar un flag de borrado isDelete = 1. Únicamente es necesario el ID proporcionado por Salesforce sobre el registro.



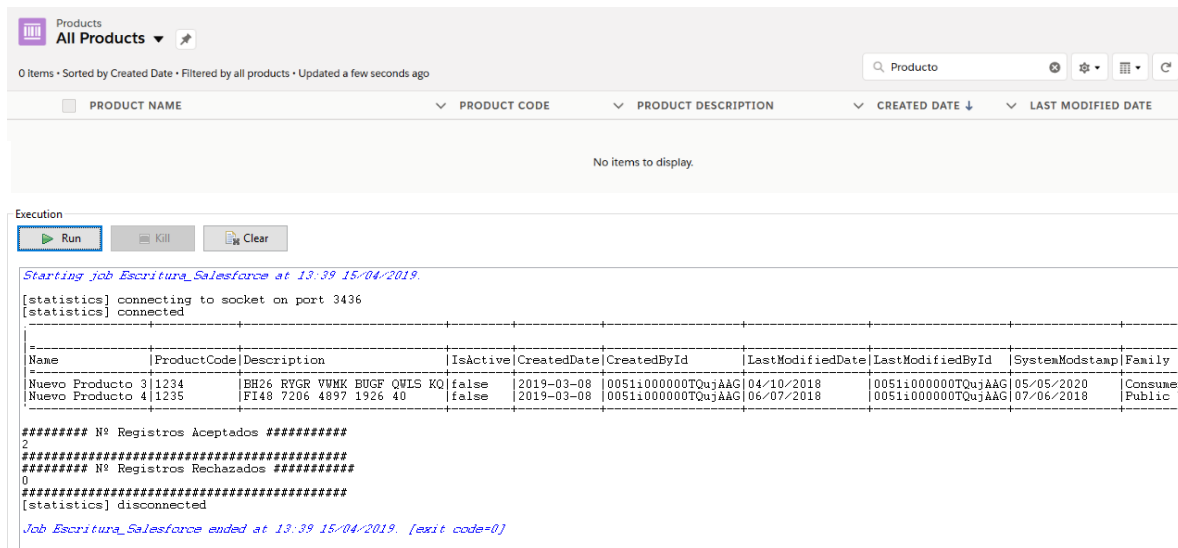
SALESFORCE & TALEND - BORRADO

Importante seleccionar la operación Delete sobre Output Action.



The screenshot shows the configuration for a Salesforce Output Action named "Product2(tSalesforceOutput_1)". The "Basic settings" tab is active. The "Property Type" is set to "Built-In". The "Connection type" is "Basic". The "User Id" is "stratebi.bs@gmail.com". The "Password" is masked with asterisks. The "Security Token" is also masked. The "Module Name" is "Product2". The "Schema" is "Built-In". The "Output Action" is set to "DELETE".

Para comprobar el resultado, se observa si se han escrito correctamente en el servidor cloud y adicionalmente mediante las variables disponibles (pantalla).

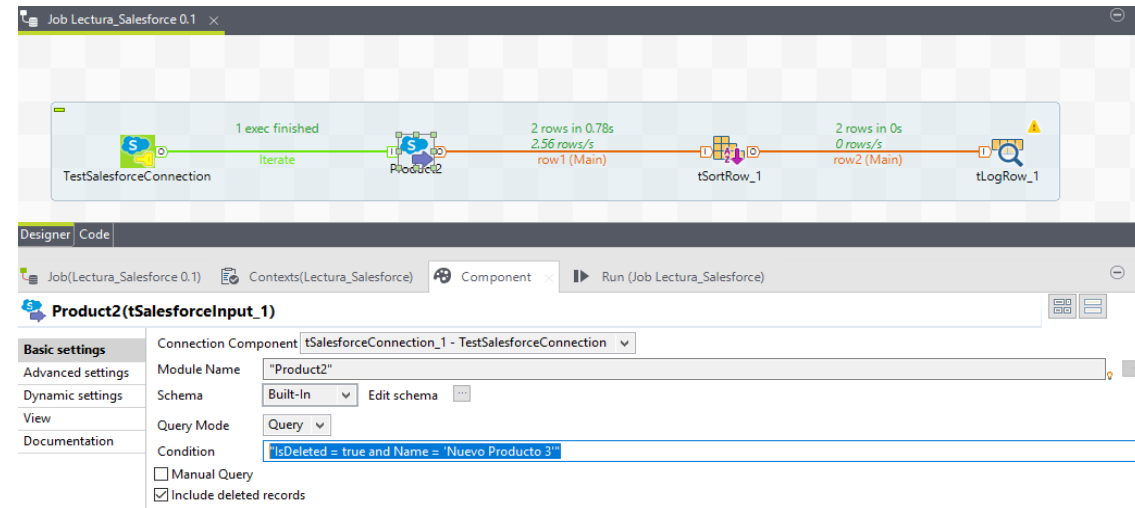


The screenshot shows the execution console of Talend Studio. The top part shows the "Products" table with columns: PRODUCT NAME, PRODUCT CODE, PRODUCT DESCRIPTION, CREATED DATE, and LAST MODIFIED DATE. Below the table, it says "No items to display". The bottom part shows the execution log for the job "Escriitura_Salesforce". The log indicates that the job started at 13:39 15/04/2019 and ended at 13:39 15/04/2019 with an exit code of 0. The log also shows the number of records accepted (2) and rejected (0).

```
Starting job Escriitura_Salesforce at 13:39 15/04/2019.
[statistics] connecting to socket on port 3436
[statistics] connected
=====
=====
##### N° Registros Aceptados #####
2
##### N° Registros Rechazados #####
0
#####
[statistics] disconnected
Job Escriitura_Salesforce ended at 13:39 15/04/2019. [exit code=0]
```


SALESFORCE & TALEND - BORRADO

Se realiza una comprobación adicional añadiendo sobre el componente de lectura tSalesforceInput la condición “isDelete = true”.



Resultados de la ejecución:

Job Lectura_Salesforce

Execution

Run Kill Clear

Starting job Lectura_Salesforce at 13:43 15/04/2019.

[statistics] connecting to socket on port 3926
[statistics] connected

tLogRow_1						
Id	Name	ProductCode	Description	IsActive	IsDeleted	IsArchived
01t2E00000N3m2ZQAR	Nuevo Producto 3	1234	BH26 RYGR VWMK BUGF QWLS KQ	false	true	false
01t2E00000N3m2jQAB	Nuevo Producto 3	1234	BH26 RYGR VWMK BUGF QWLS KQ	false	true	false

[statistics] disconnected
Job Lectura_Salesforce ended at 13:43 15/04/2019. [exit code=0]

Preguntas

