



# Integración Salesforce & Talend

WEBINAR

# Contenido Teórico

## Índice

**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)

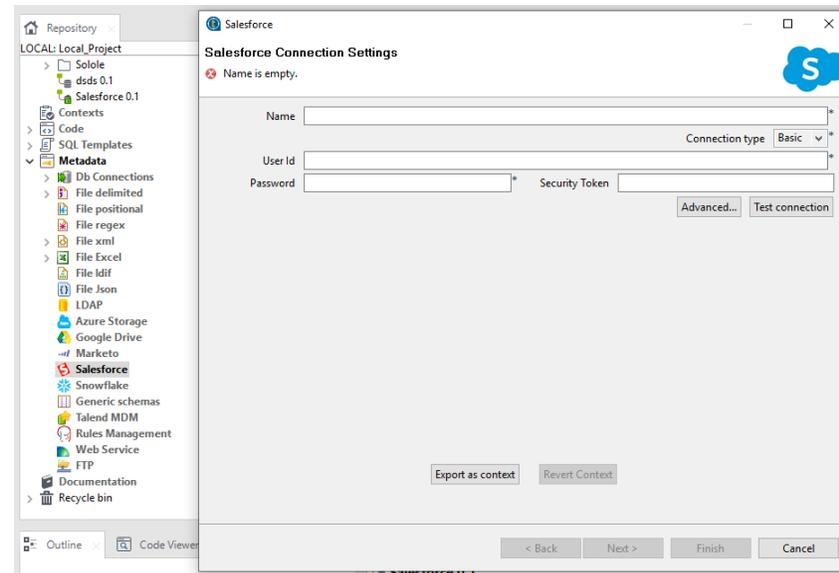


# SALESFORCE & TALEND



# SALESFORCE & TALEND - CONEXIÓN

- Conexión desde Talend a Salesforce.

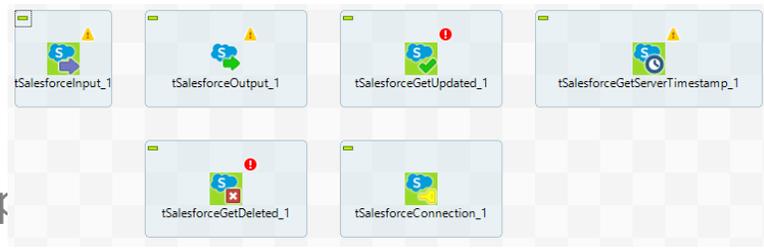


# SALESFORCE & TALEND - API

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

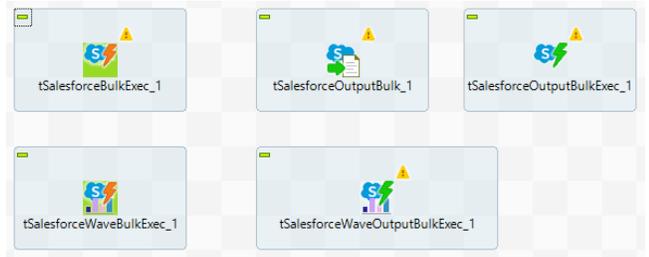
- Standar:

- tSalesforceInput
- tSalesforceOutput
- tSalesforceGetUpdated
- tSalesforceGetSercerTimestamp
- tSalesforceGetDeleted
- tSalesforceConnection



- Bulk:

- tSalesforceBulkExec
- tSalesforceOutputBulk
- tSalesforceOutputBulkExec
- tSalesforceWaveBulkExec
- tSalesforceWaveOutputBulkExec

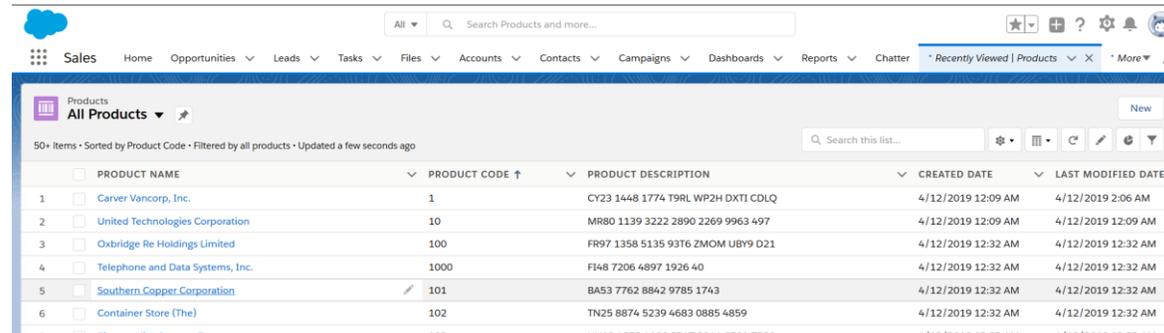


- Query Timeout: valor establecido por Talend (un minuto) pero puede ser modificado. Salesforce por su parte también contiene un timeout interno asociado a la API cuyas reglas indican que cualquier query tiene que ser devuelta en dos minutos.



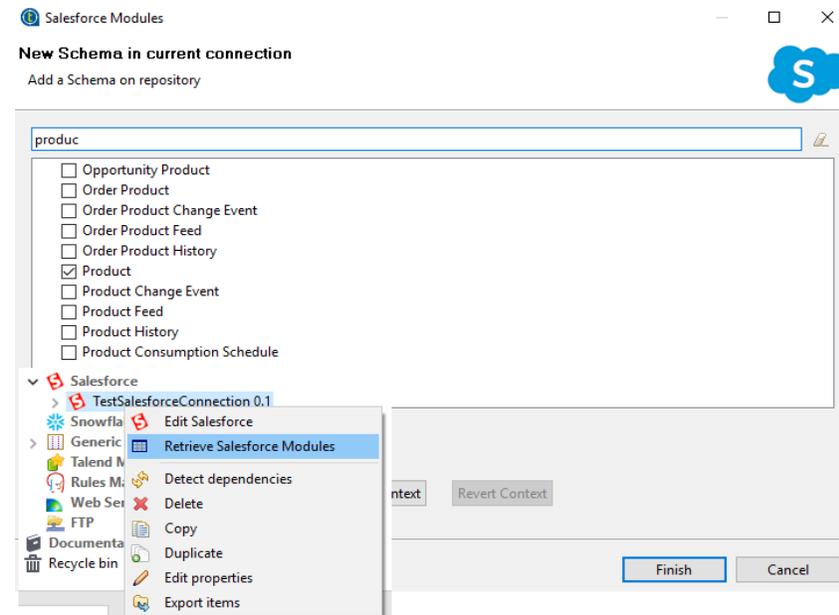
# SALESFORCE & TALEND - LECTURA

Para los siguientes ejemplos se utilizará la vista de Products.



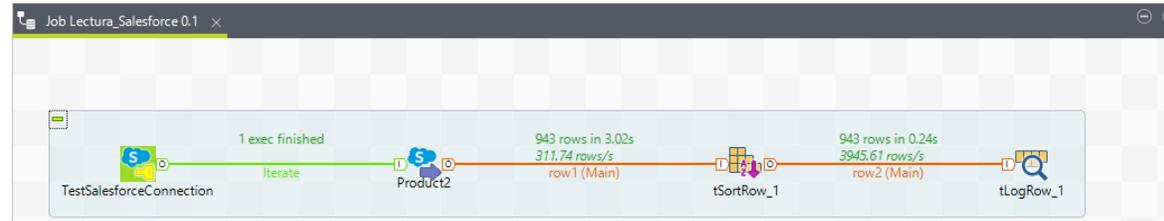
	PRODUCT NAME	PRODUCT CODE	PRODUCT DESCRIPTION	CREATED DATE	LAST MODIFIED DATE
1	Carver Vancorp, Inc.	1	CY23 1448 1774 T9RL WP2H DXTI CDLQ	4/12/2019 12:09 AM	4/12/2019 2:06 AM
2	United Technologies Corporation	10	MR80 1139 3222 2890 2269 9963 497	4/12/2019 12:09 AM	4/12/2019 12:09 AM
3	Oxbridge Re Holdings 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, aumentar 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 [Run] [Kill] [Clear]

Debug Run

Advanced settings

Target Exec

Memory Run

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
01t2E00000N3fBcQAJ	Carver Vancorp, Inc.	11	CV23 1448 1774 T9RL WF2H DMTI CDLQ	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBdQAJ	Sigma Labs, Inc.	12	LV11 RMPF 4MT6 QAVO RLSN F	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBhQAJ	Primo Water Corporation	6	AZ06 UGZH YQOC FGAR LGUN 4WXX IJLY	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBtQAJ	Vivint Solar, Inc.	7	SK12 4148 2394 3122 4739 5433	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBvQAJ	ONE Gas, Inc.	8	ME45 9127 8031 5731 7393 59	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBjQAJ	United Technologies Corporation	10	MR80 1139 3222 2890 2269 9963 497	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBmQAJ	Lehman ABS Corporation	11	GB20 QAOQ 1465 5411 8116 75	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBnQAJ	Duff & Phelps Select Energy MIP Fund Inc.	12	FR80 0226 1214 58HO DRRU QSSU I87	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBpQAJ	Synovus Financial Corp.	13	ER60 2794 7621 0316 1034 8045 032M D	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBqQAJ	Esterline Technologies Corporation	14	SI52 1568 6523 3075 591	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBrQAJ	Fidelity National Financial, Inc.	15	BG07 JGIV 5960 57PT AKP7 P5	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBsQAJ	Transocean Ltd.	16	FR85 QI4F WFHZ 26AR ONYS 3VNO	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBtQAJ	China Green Agriculture, Inc.	17	EE84 9762 2326 1668 5856	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBuQAJ	Axon Enterprise, Inc.	20	DE34 7803 7072 4974 7915 11	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBvQAJ	Avangrid, Inc.	22	GT17 ETUV ARHM OFCW X5LQ DG25 LQCY	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBwQAJ	SLM Corporation	27	DKS9 2405 2868 4592 16	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBxQAJ	HELI Merger Corp. IV	31	HE83 2151 4993 2342	false	2019-04-12T07:09:47.000Z
01t2E00000N3fByQAJ	Internet Initiative Japan, Inc.	34	FR74 9597 8823 24BF U1GT D4VP A22	false	2019-04-12T07:09:47.000Z
01t2E00000N3fBzQAJ	HollyFrontier Corporation	35	CV36 9498 6773 303Z RCOW O6L1 UZEG	false	2019-04-12T07:09:47.000Z
01t2E00000N3fC0QAJ	RSP Permian, Inc.	37	LR24 7989 UO5Z 8AEG JKUR WFO3 FQFU	false	2019-04-12T07:09:47.000Z
01t2E00000N3fC1QAJ	Allied Healthcare Products, Inc.	40	WG32 WONI 4522 4330 0332 8866	false	2019-04-12T07:09:47.000Z



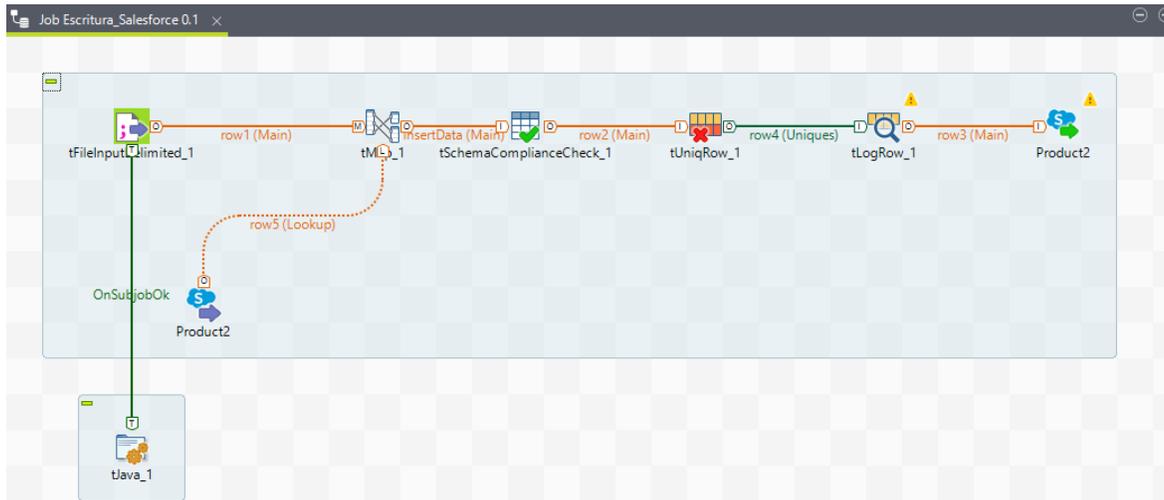
# SALESFORCE & TALEND - ESCRITURA

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

	MOCK_DATA.csv
1	Name, ProductCode, Description, IsActive, CreatedDate, CreatedById, LastModifiedDate, LastModifiedById, SystemModstamp, Family, ExternalDataSourceId, ExternalId, DisplayUrl, QuantityUnitOfMeasu
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

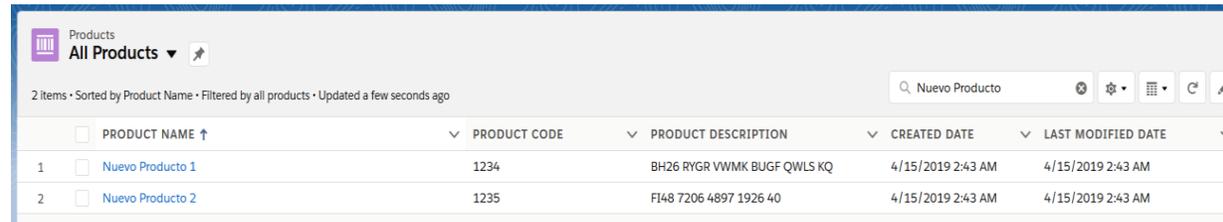
Talend permite la configuración Output Action, timeout & commit level y la elección de las operaciones:

- 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).

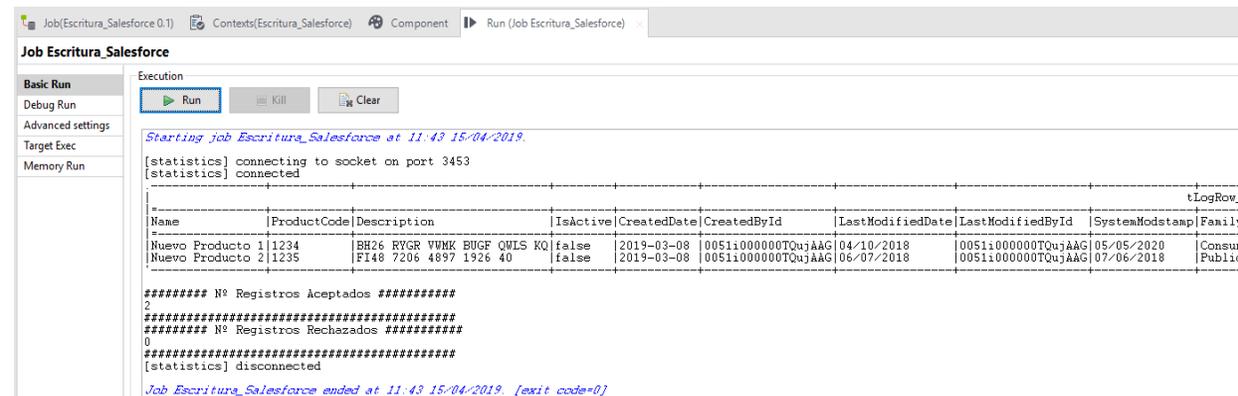


Products  
All Products

2 Items • Sorted by Product Name • Filtered by all products • Updated a few seconds ago

Q Nuevo Producto

	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



Job(Escriitura\_Salesforce 0.1) Contexts(Escriitura\_Salesforce) Component Run (Job Escriitura\_Salesforce)

Job Escriitura\_Salesforce

Execution

Basic Run Run Kill Clear

Advanced settings

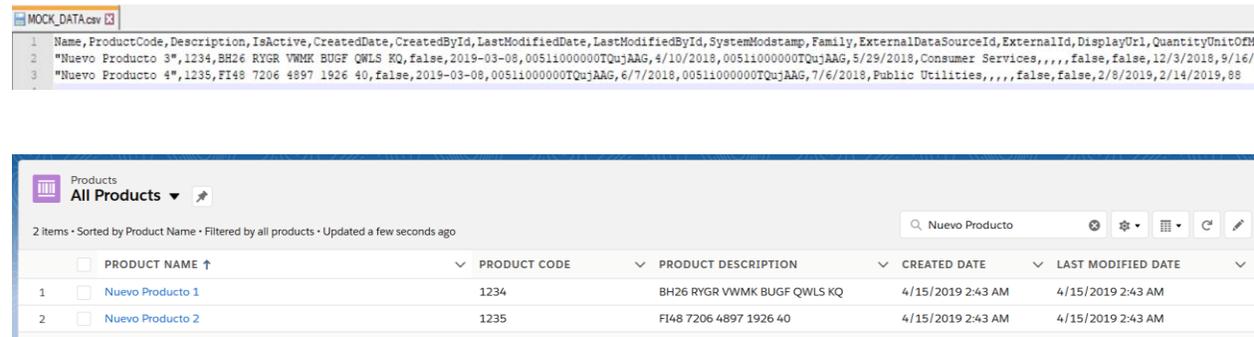
Target Exec

Memory Run

```
Starting job Escriitura_Salesforce at 11:43 15/04/2019.
[statistics] connecting to socket on port 3453
[statistics] connected
-----tLogRow_1
|Name|ProductCode|Description|IsActive|CreatedDate|CreatedById|LastModifiedDate|LastModifiedById|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 Escriitura_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 image shows two screenshots. The top one is a CSV file named 'MOCK\_DATA.csv' with the following content:

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

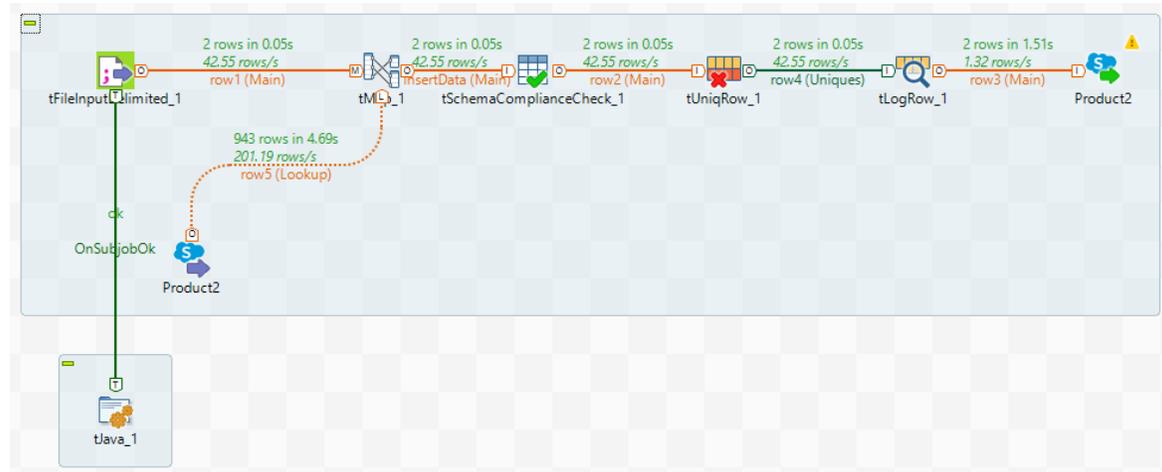
The bottom screenshot shows the Salesforce 'Products' table with the following data:

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	
Description	
IsActive	
CreateDate	
CreatedById	
LastModifiedDate	
LastModifiedById	
SystemModstamp	
Family	
ExternalDataSourceId	
ExternalId	
DisplayUrl	
QuantityUnitOfMeasure	
IsDeleted	
IsArchived	
LastViewedDate	
LastReferencedDate	
StockKeepingUnit	

Property	Value
Lookup Model	Last once
Match Model	Unique match
Join Model	Inner Join
Store temp data	false

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.CreateDate	CreateDate
row1.CreatedById	CreatedById
row1.LastModifiedDate	LastModifiedDate
row1.LastModifiedById	LastModifiedById
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
row5.id	id



# SALESFORCE & TALEND - ACTUALIZACIÓN

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

Column	Key	Type	N.	Date Pattern (C...	Length	Precision	Default	Comm...
Id	<input checked="" type="checkbox"/>	String	<input checked="" type="checkbox"/>		18			
Name	<input checked="" type="checkbox"/>	String	<input checked="" type="checkbox"/>		42	0		
ProductCode	<input checked="" type="checkbox"/>	String	<input checked="" type="checkbox"/>		7	0		
Description	<input checked="" type="checkbox"/>	String	<input checked="" type="checkbox"/>		36	0		

Column	Db Column	Key	Type	N.	Date Patter...	Length	Preci...	Def...	Com...
Id	Id	<input checked="" type="checkbox"/>	String	<input checked="" type="checkbox"/>		18			
Name	Name	<input checked="" type="checkbox"/>	String	<input checked="" type="checkbox"/>		42	0		
ProductCode	ProductCode	<input checked="" type="checkbox"/>	String	<input checked="" type="checkbox"/>		7	0		
Description	Description	<input checked="" type="checkbox"/>	String	<input checked="" type="checkbox"/>		36	0		

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

```
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]
```

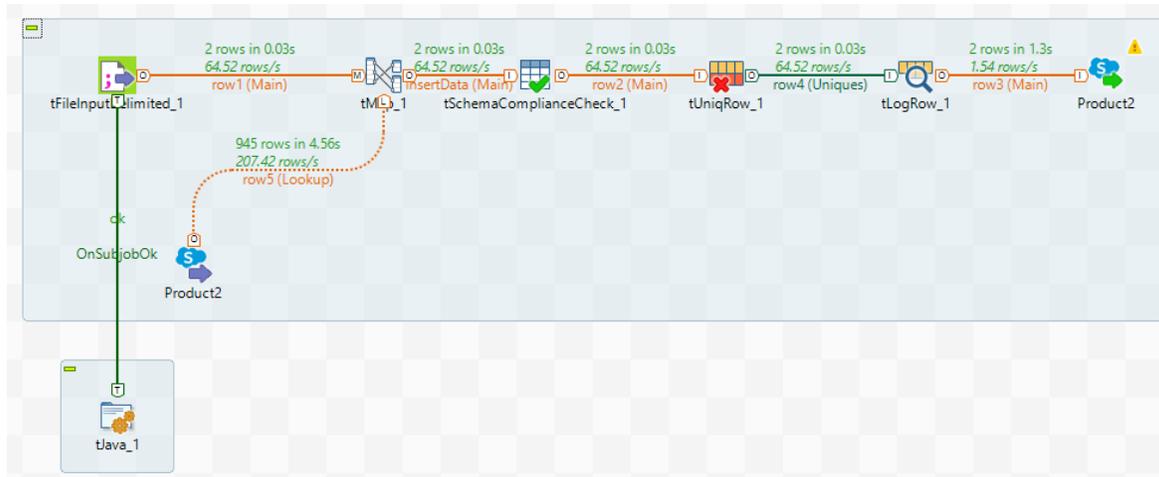
PRODUCT NAME	PRODUCT CODE	PRODUCT DESCRIPTION	CREATED DATE	LAST MODIFIED DATE
Nuevo Producto 3	1234	BH26 RYGR VWMK BUGF QWLS KQ	4/15/2019 3:52 AM	4/15/2019 3:54 AM
Nuevo Producto 4	1235	FI48 7206 4897 1926 40	4/15/2019 3:52 AM	4/15/2019 3:54 AM

# SALESFORCE & TALEND - BORRADO

Borrado de un objeto definido en Salesforce.

PRODUCT NAME	PRODUCT CODE	PRODUCT DESCRIPTION	CREATED DATE	LAST MODIFIED DATE
Nuevo Producto 3	1234	BH26 RYGR VWMK BUGF QWLS KQ	4/15/2019 3:52 AM	4/15/2019 3:54 AM
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 Talend component named "Product2(tSalesforceOutput\_1)". The "Output Action" is set to "DELETE". Other settings include "Built-In" property type, "Basic" connection type, and "Product2" module name.

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 output of a Talend job. It displays a table with columns: Name, ProductCode, Description, IsActive, CreatedDate, CreatedById, LastModifiedDate, LastModifiedById, SystemModstamp, and Family. The table contains two rows of product data.

Name	ProductCode	Description	IsActive	CreatedDate	CreatedById	LastModifiedDate	LastModifiedById	SystemModstamp	Family
Nuevo Producto 3	1234	BH26 RYGR VVMK BUGF OWLS KQ	false	2019-03-08	00511000000TQujAAG	04/10/2018	00511000000TQujAAG	05/05/2020	Consumer
Nuevo Producto 4	1235	F148 7206 4897 1926 40	false	2019-03-08	00511000000TQujAAG	06/07/2018	00511000000TQujAAG	07/06/2018	Public U

Additional output text includes: "Starting job Escritura\_Salesforce at 13:39 15/04/2019", "[statistics] connecting to socket on port 3436", "##### N° Registros Aceptados #####", "2", "##### N° Registros Rechazados #####", "0", "[statistics] disconnected", and "Job Escritura\_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”.

The screenshot shows the Talend Designer interface for a job named 'Job Lectura\_Salesforce 0.1'. The job flow consists of the following components: 'TestSalesforceConnection', 'Iterate', 'Product2', 'tSortRow\_1', and 'tLogRow\_1'. The 'Product2' component is selected, and its configuration is shown in the 'Component' pane. The 'Condition' field is set to 'IsDeleted = true and Name = 'Nuevo Producto 3''. The 'Include deleted records' checkbox is checked.

Resultados de la ejecución:

The screenshot shows the 'Execution' pane for the job 'Job Lectura\_Salesforce'. The job started at 13:43 15/04/2019. The output shows the following data from the 'tLogRow\_1' component:

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

The job ended at 13:43 15/04/2019 with an exit code of 0.

# Preguntas

