



Leading the **Integration** Revolution

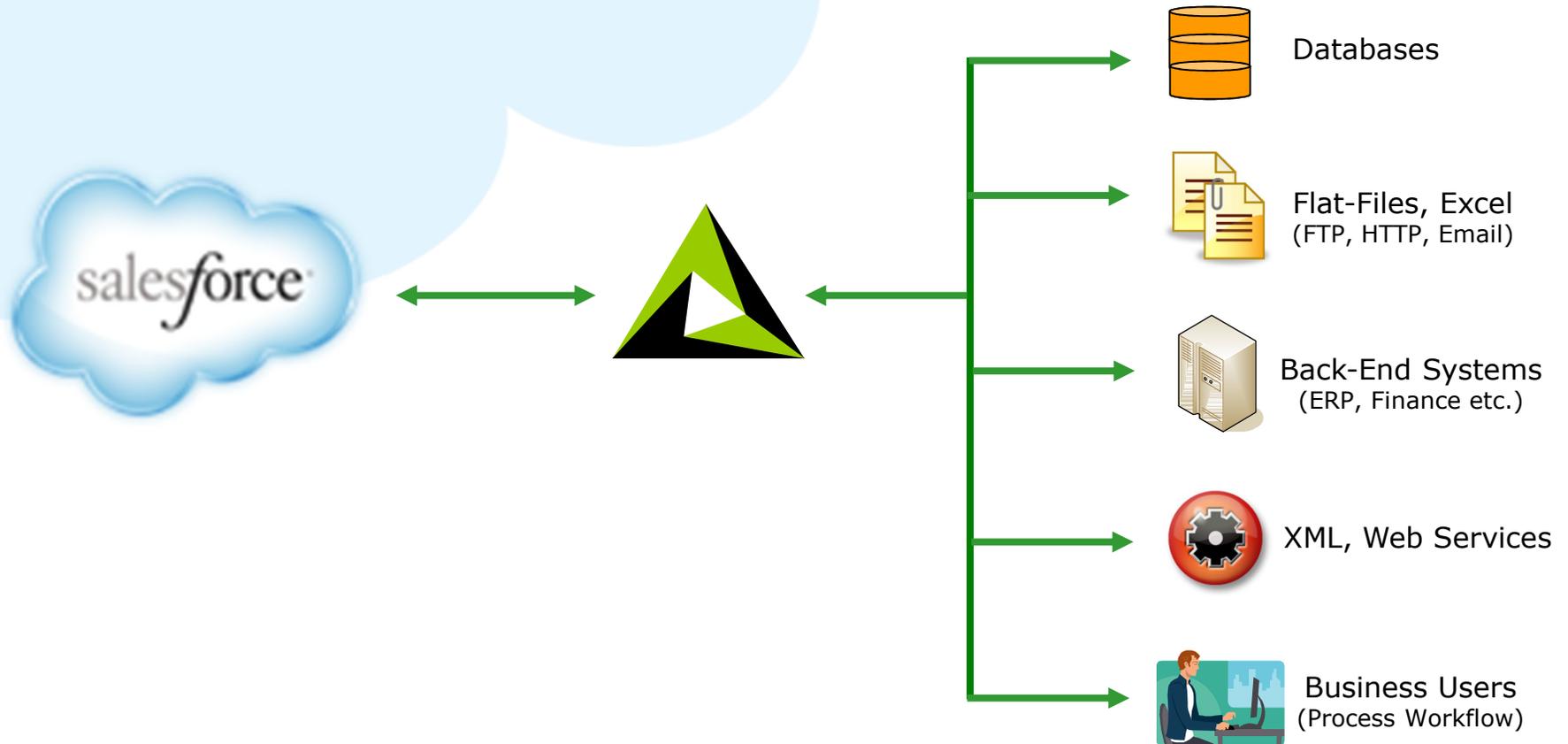
Your business problems have changed.
Why hasn't your integration solution?



ADEPTIA

Use Case: Salesforce connector

Use cases for Salesforce connector



High-level Description

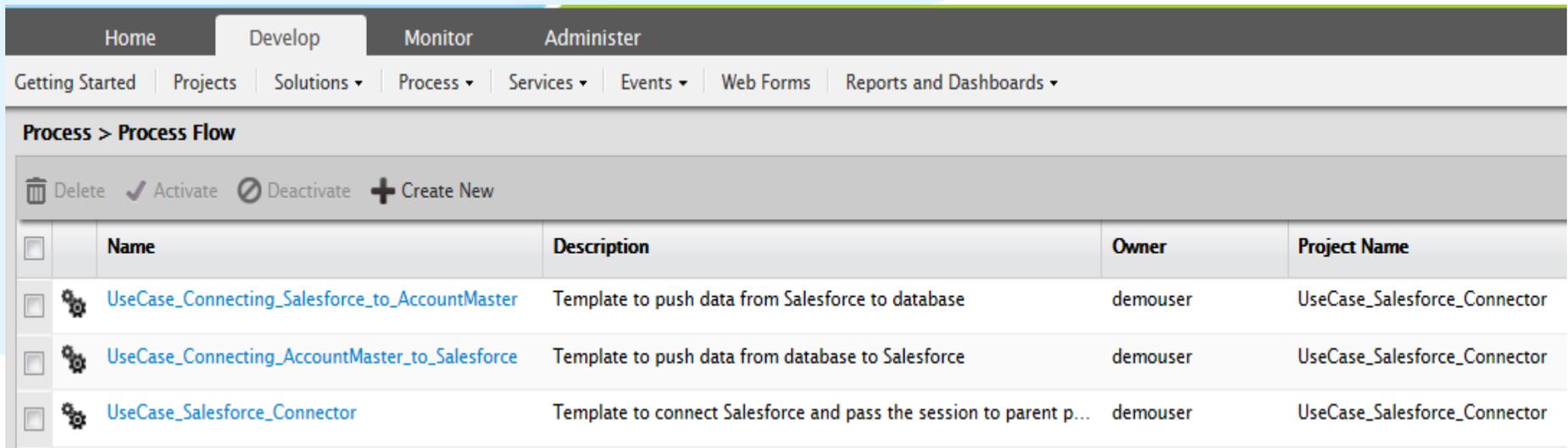
In this example we will use our Salesforce connector to connect to any application such as Database, ERP, Reporting, Workflow, Web Services or APIs.

Specifically we have two working solutions as part of this scenario and these are:

1. (SF to DB) - First is a connection between Salesforce and Account Master database where Accounts are pulled from Salesforce and pushed into SAP Account Payable module.
2. (DB to SF) - Second is a connection between an Account Master database and Salesforce where Accounts are pulled from Account Master database and pushed into Salesforce.

Goal of this use case is to provide you with working templates so that you can expand on these and build your own solutions.

Sample process flows using Salesforce connector



The screenshot shows the Salesforce Process Flow console. The navigation bar includes Home, Develop (selected), Monitor, and Administer. Below the navigation bar, there are tabs for Getting Started, Projects, Solutions, Process, Services, Events, Web Forms, and Reports and Dashboards. The main content area is titled "Process > Process Flow" and contains a table of process flows. The table has columns for Name, Description, Owner, and Project Name. There are three rows of process flows, each with a checkbox and a gear icon in the first column.

<input type="checkbox"/>	Name	Description	Owner	Project Name
<input type="checkbox"/>	UseCase_Connecting_Salesforce_to_AccountMaster	Template to push data from Salesforce to database	demouser	UseCase_Salesforce_Connector
<input type="checkbox"/>	UseCase_Connecting_AccountMaster_to_Salesforce	Template to push data from database to Salesforce	demouser	UseCase_Salesforce_Connector
<input type="checkbox"/>	UseCase_Salesforce_Connector	Template to connect Salesforce and pass the session to parent p...	demouser	UseCase_Salesforce_Connector

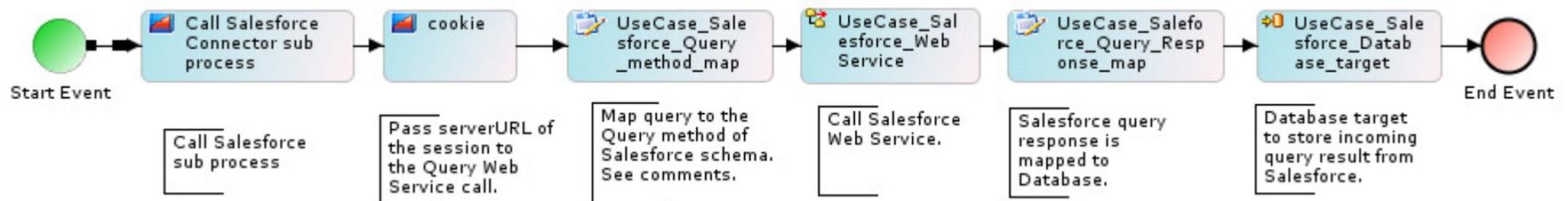
There are three process flows for your reference:

UseCase_Connecting_Salesforce_to_AccountMaster: In this example we show how to push data from Salesforce to Account Master database using the Salesforce Connector. This is SF to DB flow.

UseCase_Connecting_AccountMaster_to_Salesforce: In this example we show how to push data from a backend Account Master database to Salesforce using the Salesforce Connector. This is DB to SF flow.

UseCase_Salesforce_Connector: The Salesforce connector is a sub process that is called by any solution that requires connection to Salesforce to exchange data with any system. Both the processes above call this sub process.

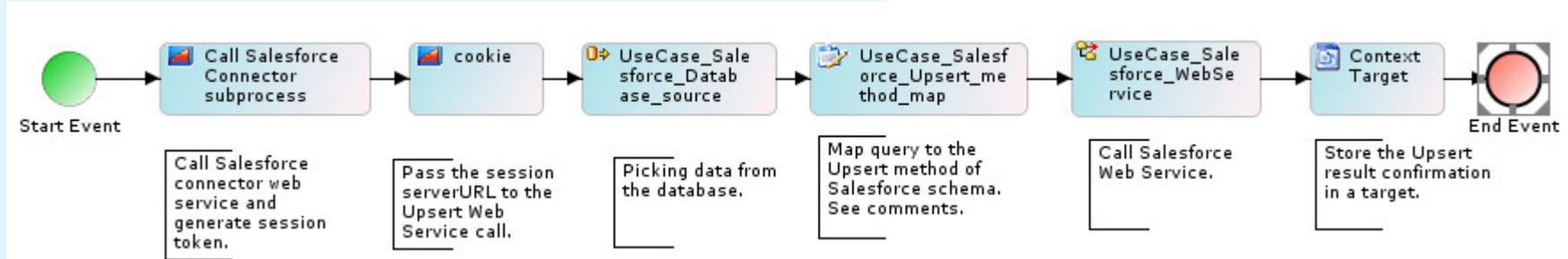
Technical design: Connecting Salesforce to Account Master database



This process flow

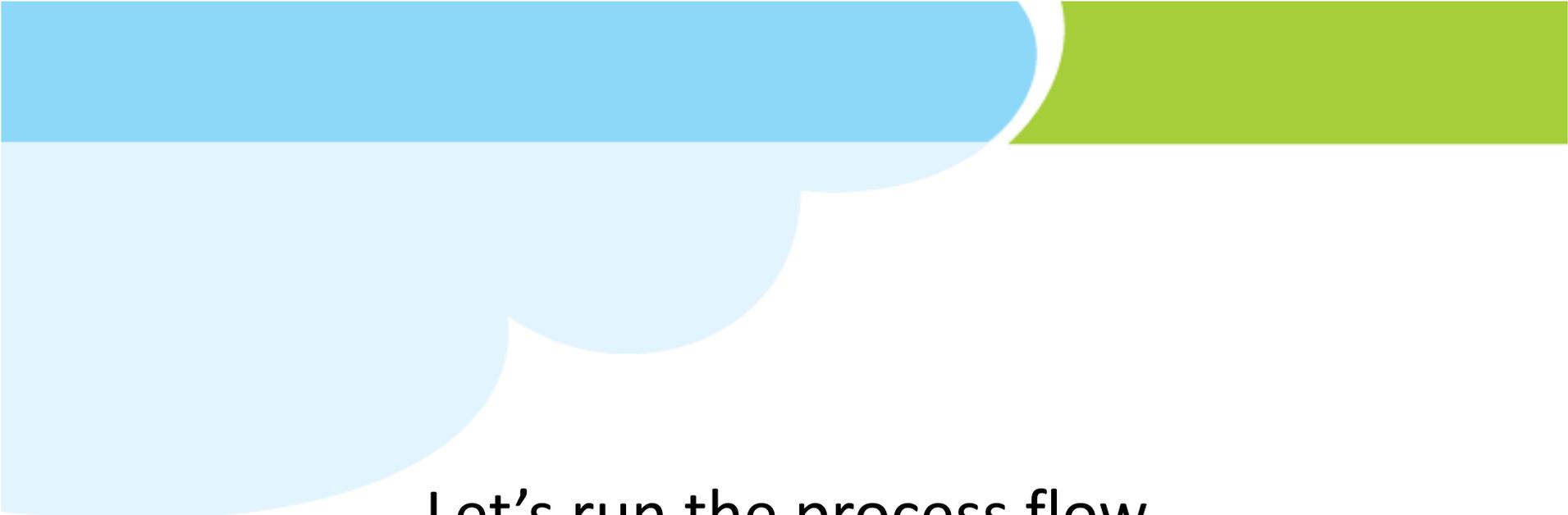
- Calls Salesforce Connector sub process
- It gets back the session back from sub process call
- Session persisted in this process using the cookie
- Next we map the Query rule in the mapping to search for the Account in Salesforce
- The Mapping output which is a SOAP Query method envelope is passed to Salesforce Web Service call
- Result of the Web Service is mapped to Account Master database
- Data is loaded into the database target
- Refer to the annotations and comments for this process in the Process Designer for more details

Technical design: Connecting Account Master database to Salesforce



This process flow

- Calls Salesforce Connector sub process
- It gets back the session from sub process call
- Session is persisted in this process using the cookie
- Next we get the data from Mast Account database using the Database Source activity
- Next we map the source data to the Upsert function and the Account data object of Salesforce
- The Mapping output which is a SOAP Upsert method envelope is passed to Salesforce Web Service call
- Result of the Web Service is mapped to target context variable
- Now login to Salesforce and verify that Accounts data is inserted/updated.
- Refer to the annotations and comments for this process in the Process Designer for more details



Let's run the process flow
(login in as demouser/indigo1)

Run-time: Execute the process flows

Execute the process and see the results

- You can execute the process by clicking on the Execute icon next to the process flow name
- If the process flows are bound to an Event then the flows will be triggered automatically
- Refer to Help on how to bind an event to a process flow

<input type="checkbox"/>	Name	Description	Owner	Project Name
<input type="checkbox"/>	 UseCase_Connecting_AccountMaster_to_Salesforce	Template to push data from database to Salesforce	demouser	UseCase_Salesforce_Connector
<input type="checkbox"/>	 UseCase_Connecting_Salesforce_to_AccountMaster	Template to push data from Salesforce to database	demouser	UseCase_Salesforce_Connector
<input type="checkbox"/>	 UseCase_Salesforce_Connector	Template to connect Salesforce and pass the session to parent...	demouser	UseCase_Salesforce_Connector

Run-time: Checking the status of the process execution

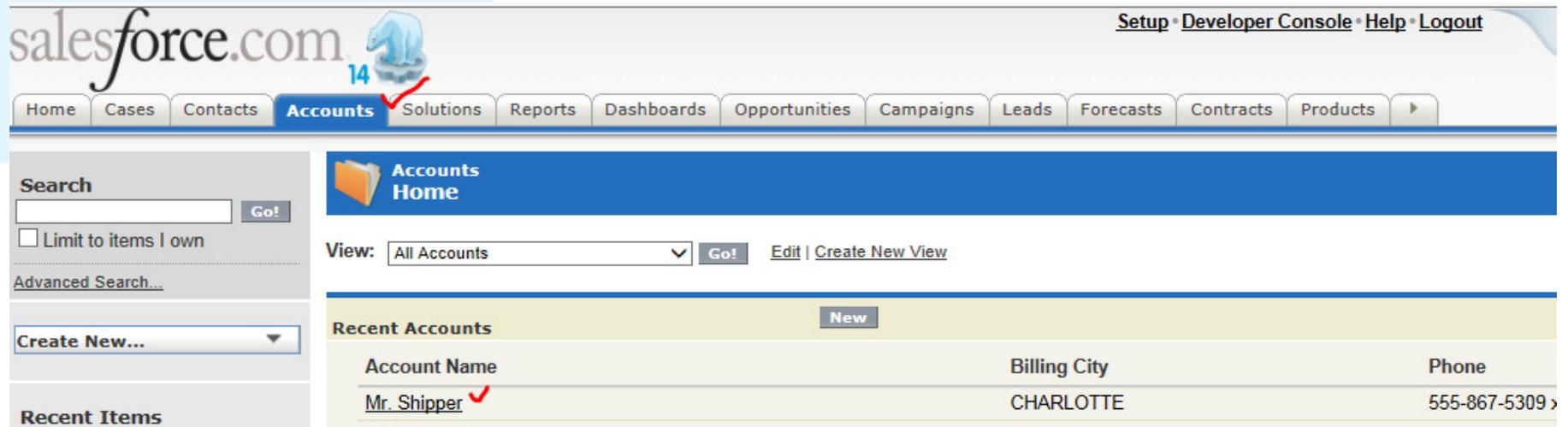
- Once a flow is executed click on View Logs or go to Monitor > Dashboard > Process Flow and click on your flow to the right
- View the diagnostics logs by clicking on the link for each instance in the Description column
 - To verify data you can go to Salesforce or Database to confirm data changes depending upon the flow direction

The screenshot displays the Adeptia Monitor interface. At the top, there are navigation tabs: Home, Develop, Monitor (selected), and Administer. Below these are menu items: My Tasks, My Documents, Dashboard, Reports, History, and My Solutions. The main content area is titled 'Dashboard > Process Flows'. On the left, a 'Process Flows List' shows a search for '*salesforce*' with four results: 'UseCase_Connecting_AccountMaster_to_Salesforc...', 'UseCase_Connecting_Salesforce_to_AccountMaste...', 'UseCase_Salesforce_Connector', and 'UseCase_Salesforce_Connector_combined'. The selected flow is 'UseCase_Connecting_AccountMaster_to_Salesforc...'. The 'Process Details' section for this flow shows the title 'UseCase_Connecting_AccountMaster_to_Salesforce (Template to push data from database to Salesforce)' and an 'Execute' button. Below the title are two bar charts. The first chart, 'Status', shows the number of instances in different states: Queued (0), Running (0), Failed (0), and Executed (0). The second chart, 'Last 10 Days', shows the number of instances over time from 01 Nov to 10 Nov. The data points are: 01 Nov (0), 02 Nov (0), 03 Nov (0), 04 Nov (0), 05 Nov (0), 06 Nov (0), 07 Nov (2), 08 Nov (4), 09 Nov (0), and 10 Nov (0). Below the charts is a table titled 'Process > Process Flow' with a 'Quick Search' field. The table has columns: Description, Status, Started By, Start Time, Duration, and Action. The data rows are:

Description	Status	Started By	Start Time	Duration	Action
Template to push data fr...	Executed	demouser	11/08/2013 14:29:45	12 sec	⋮
Template to connect Sale...	Executed	demouser	11/07/2013 11:21:47	6 sec	⋮
Template to connect Sale...	Executed	demouser	11/07/2013 11:17:37	6 sec	⋮

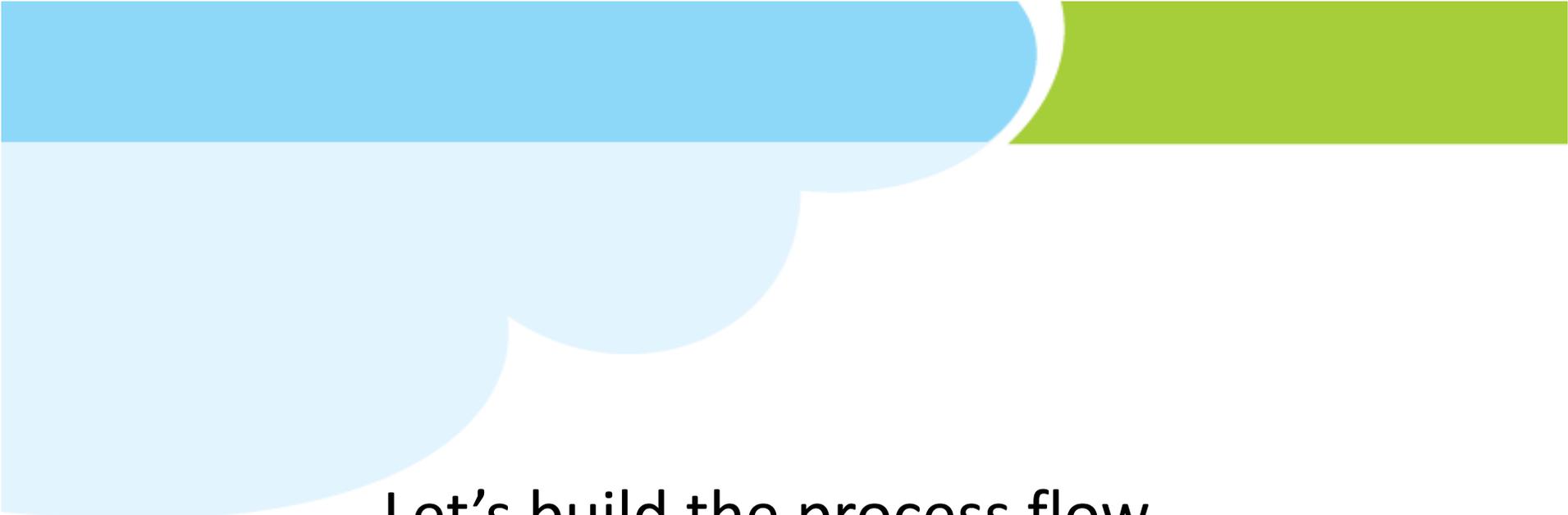
Run-time: Viewing the results in Salesforce

Once the flow is executed, depending upon the flow direction you can view the results in Salesforce or in the database. If the data is pushed from database to Salesforce, then login to your Salesforce account and view the results. Depending upon the data object being refreshed in Salesforce go to its tab and view new records. Similarly if the data is being pushed into a database then refresh the table and see the results.



The screenshot shows the Salesforce user interface for the 'Accounts' tab. The top navigation bar includes links for Home, Cases, Contacts, Accounts (selected), Solutions, Reports, Dashboards, Opportunities, Campaigns, Leads, Forecasts, Contracts, and Products. The 'Accounts Home' section displays a 'View: All Accounts' dropdown and a 'Go!' button. Below this is a table titled 'Recent Accounts' with a 'New' button. The table has columns for Account Name, Billing City, and Phone. One record is visible: 'Mr. Shipper' with a red checkmark, located in 'CHARLOTTE' with phone number '555-867-5309'.

Account Name	Billing City	Phone
Mr. Shipper ✓	CHARLOTTE	555-867-5309



Let's build the process flow

Design methodology

Design

Design a high level process flow

Configure

Configure all the activities in the process flow

Deploy

Attach the process flow to an Event to trigger the process automatically.

Design: First let's create a Top level design of the solution using the Process Designer

Go to Develop > Process > Process Flow

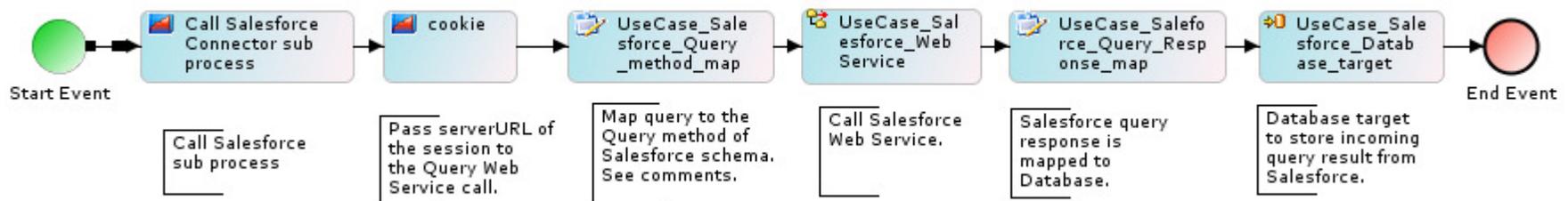
Create new and in the designer, design a top-level flow by pulling the icons from the palette area.

Refer to the demo and tutorial videos on how to design a process flow.

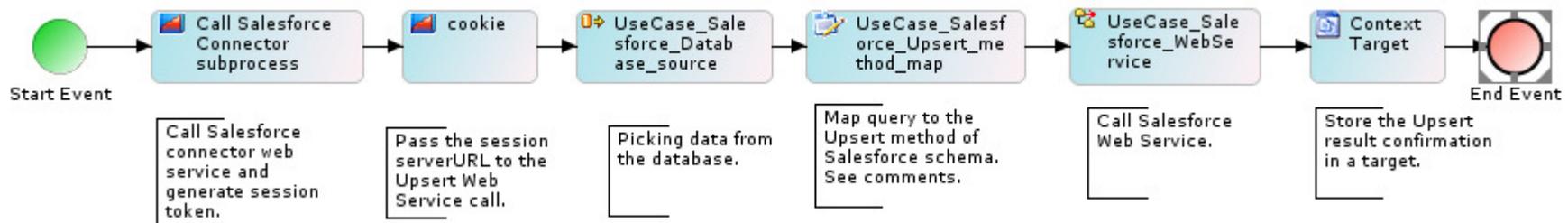
Each activity performs a discreet function such as connecting to Salesforce, persisting the session and either sending data to Salesforce or receiving data from Salesforce.

To view their design, right click on the names and edit the processes and view these flows in the Process Designer.

SF to DB



DB to SF



Configure: Salesforce Web Service Consumer activity

This activity is used in connecting to Salesforce. Go to Develop > Services > Web Services > Consumer
Here we created a consumer activity by uploading enterprise.wsdl file.
In Salesforce you can get the WSDL from Setup > Develop > API

The screenshot shows the Salesforce Developer Console interface. The top navigation bar includes 'Home', 'Develop', 'Monitor', and 'Administer'. Below this, there are tabs for 'Getting Started', 'Projects', 'Solutions', 'Process', 'Services', 'Events', 'Web Forms', and 'Reports and Dashboards'. The main content area is titled 'Services > Web Services > Consumer'. It features a 'Delete' icon and a '+ Create New' button. A table lists the consumer activities, with 'UseCase_Salesforce_WebService' selected and marked with a red checkmark. The 'Edit Web Service Consumer: UseCase_Salesforce_WebService' form is displayed, showing the following fields:

- Name*: UseCase_Salesforce_WebService
- Description*: Setup SF web service enterprise WSDL linkage
- Character Set Encoding*: ISO-8859-1
- Consumer Type*: SOAP REST
- URI Location: HTTP Local/LAN
- WSDL URL (HTTP URL)*: [Empty field]
- File References: None (dropdown menu)
- WSDL File Path(Local/LAN)*: UseCase_Salesforce_WebService_192168001024138377232881600008.wsdl (with a red checkmark)

A 'Browse WSDL' button is located next to the WSDL File Path field.

Configure: Mapping to Map Query, Upsert or other Salesforce methods

Go to Develop > Services > Data Transformation > Mapping

Here you will see list of maps related to this use case. Right click, edit and open the mapping to see the conversion rules.

The screenshot displays the Salesforce Data Mapper interface. At the top, there are navigation tabs: Home, Develop, Monitor, and Administer. Below these are menu options: Getting Started, Projects, Solutions, Process, Services, Events, Web Forms, and Reports and Dashboards. The main heading is 'Services > Data Transformation > Data Mapping'. Below this, there are 'Delete' and 'Create New' buttons. A table lists several maps:

Name	Description	Owner	Project Name
UseCase_Salesforce_Upsert_method_map	Map Upsert method of Salesforce Web Service	demouser	UseCase_Salesforce_Co...
UseCase_Salesforce_Query_Response_map			
UseCase_Salesforce_Query_method_map			
UseCase_Salesforce_Connector_Login_Respons...			
UseCase_Salesforce_Connector_Login_Map			

A red arrow points from the first map in the table to the 'Data Mapper' window. The 'Data Mapper' window shows a mapping between two XSD structures:

- Structure_of_source_XSD:** Root (UseCase_Salesforce_Account_Schema) > Record (F) > Action > recordNumber > ACCOUNTNUMBER (string) (M). Other fields include ACTIVE__C, ANNUALREVENUE, BILLINGCITY, BILLINGCOUNTRY, BILLINGPOSTALCODE, BILLINGSTATE, BILLINGSTREET, CREATEDBYID, CREATEDDATE, CUSTOMERPRIORITY__C, DESCRIPTION, FAX, INDUSTRY, LASTMODIFIEDBYID, LASTMODIFIEDDATE, NAME, NUMBEROFEMPLOYEES, NUMBEROFLOCATIONS__C, OWNERID, OWNERSHIP, PARENTID, PHONE, RATING, SLAEXPIRATIONDATE__C, SLASERIALNUMBER__C, and SLA__C.
- Structure_of_destination_XSD:** tns:upsert (upsert) (wsSchema_UseCase_Salesforce_WebService) > tns:externalIDFieldName (string) (M) > tns:Objects (Account) (F, CM - Rule to get less than 5 record, E - Account) > xsi:type (M) > ens:fieldsToNull (string) > ens:id (ID) > ens:AccountContactRoles (QueryResult) > ens:AccountNumber (string) (M) > ens:AccountPartnersFrom (QueryResult) > ens:AccountPartnersTo (QueryResult) > ens:AccountSource (string) > ens:Active__c (string) > ens:ActivityHistories (QueryResult) > ens:AnnualRevenue (double) > ens:Assets (QueryResult) > ens:Attachments (QueryResult) > ens:BillingCity (string) (M) > ens:BillingCountry (string) (M) > ens:BillingLatitude (double) > ens:BillingLongitude (double) > ens:BillingPostalCode (string) (M) > ens:BillingState (string) (M) > ens:BillingStreet (string) (M) > ens:Cases (QueryResult) > ens:CombinedAttachments (QueryResult) > ens:Contacts (QueryResult) > ens:Contracts (QueryResult) > ens:CreatedBy (User) > ens:CreatedById (ID) (M) > ens:CreatedDate (dateTime) > ens:CustomerPriority__c (string) (M).

Blue lines connect the source fields to the destination fields, illustrating the mapping rules.

Configure: Schema, Source, and Target activities

For this use case we have created schema for the Account Master database. This can be viewed by going To Develop > Services > Schema. Also refer to the Source and Target for this use case.

We are using MySQL database to pull accounts and push them to Salesforce and vice versa.

Table script is available in the use case description page.

The screenshot displays the Adeptia web interface. The top navigation bar includes 'Home', 'Develop', 'Monitor', and 'Administer'. Below this, a secondary navigation bar lists 'Getting Started', 'Projects', 'Solutions', 'Process', 'Services', 'Events', 'Web Forms', and 'Reports and Dashboards'. The main content area is titled 'Services > Schema > Database'. It features a toolbar with 'Delete', 'Refresh', and 'Create New' icons. A table lists database schemas with columns for 'Name', 'Description', 'Owner', and 'Project Name'. The first entry is 'UseCase_Salesforce_Account_Schema' with a description of 'Database schema for Accounts repository', owner 'demouser', and project name 'UseCase_Salesforce_Con...'. A red arrow points from this entry to the configuration form below. The form includes a 'Select Database Info*' dropdown menu set to 'UseCase_Salesforce_db_connection'. The 'Definition Mode*' section has two radio buttons: 'Import XSD File' (unselected) and 'Table Name' (selected). Below this, there is an 'XSD File' input field with a 'Browse...' button. The 'Table Name' input field contains 'sfaccount' and has a 'Browse Tables' button. At the bottom, a text area contains the SQL query 'SELECT * FROM sfaccount'.

Name	Description	Owner	Project Name
UseCase_Salesforce_Account_Schema	Database schema for Accounts repository	demouser	UseCase_Salesforce_Con...

Select Database Info* UseCase_Salesforce_db_connection

Definition Mode* Import XSD File Table Name

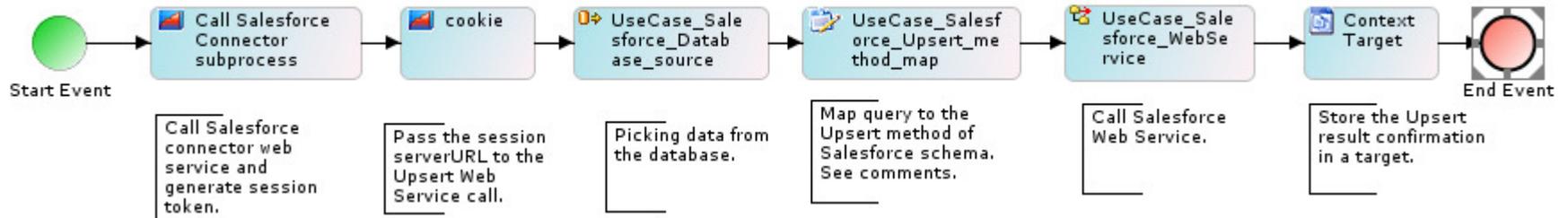
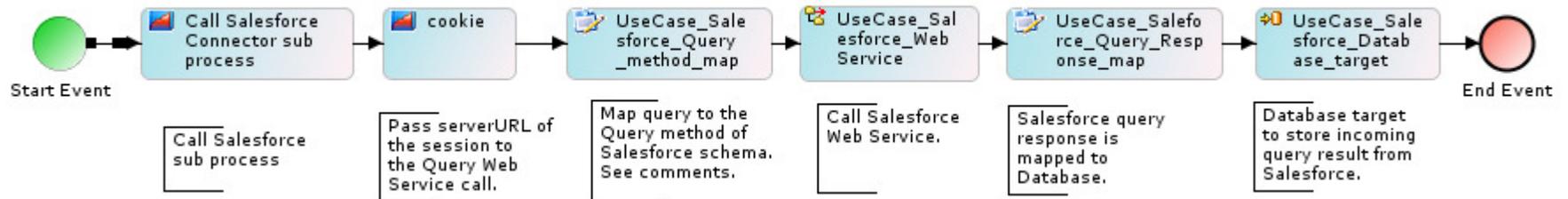
XSD File Browse...

Table Name sfaccount

```
SELECT * FROM sfaccount
```

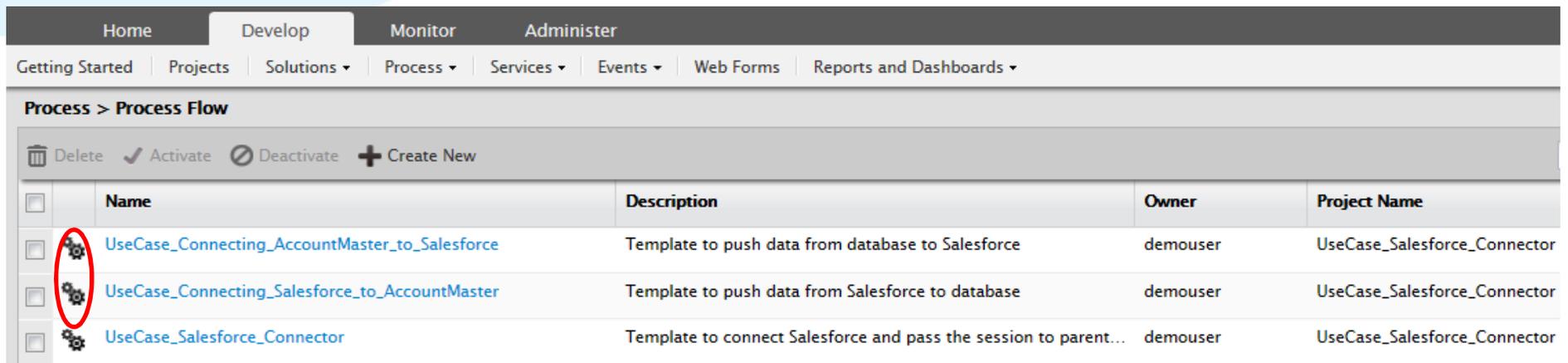
Configure: Process Flow

Each of the activity created in the two flows is then attached to its related step by going to the repository view and selecting the specific activity and attaching it to the step. Each step has annotation that describes what the Activity is going to do at run-time.



Deploy: Manually execute or attach it to Calendar (batch) Event

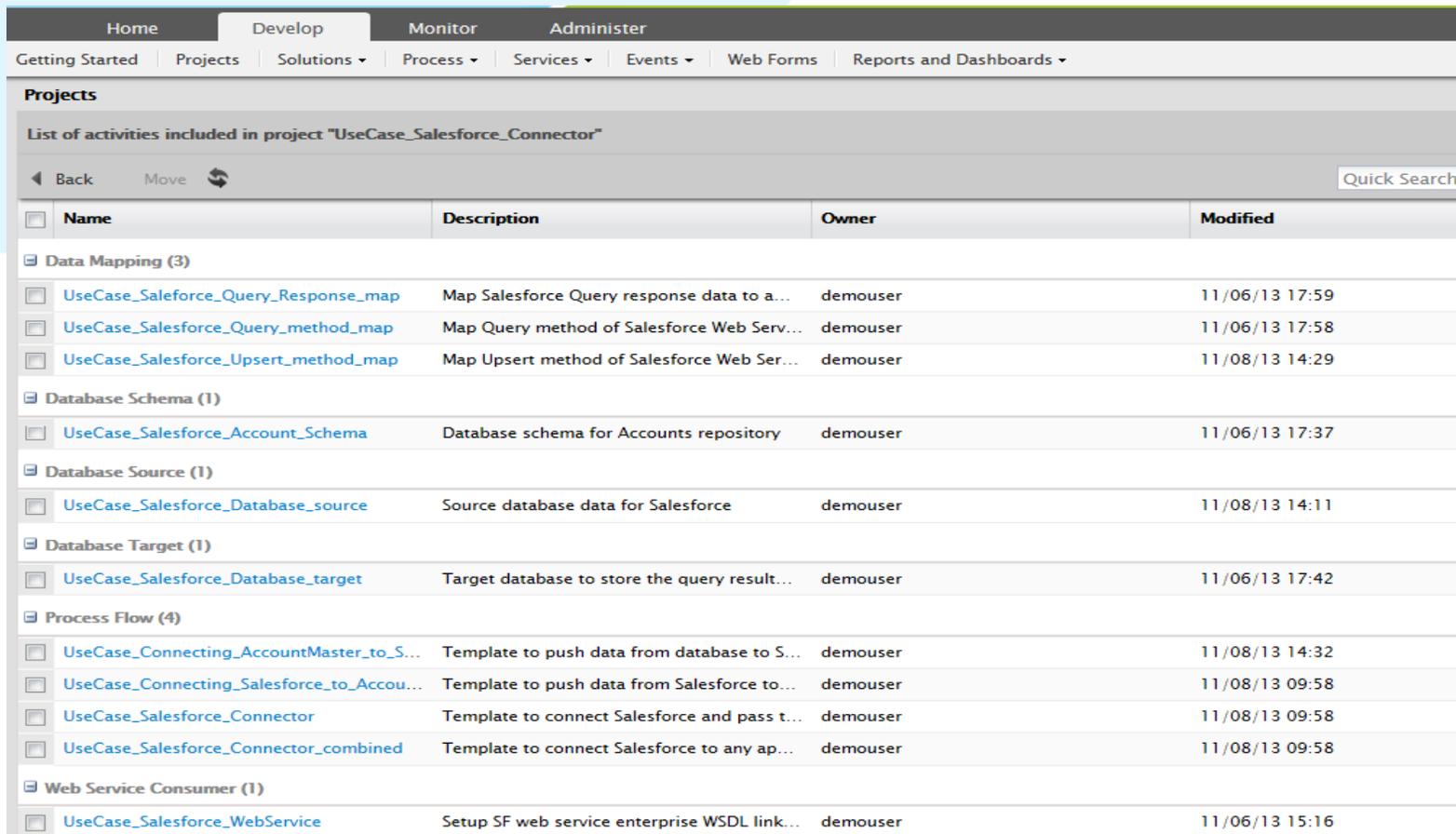
You can manually execute the process flows by going to Develop > Process > Process Flow as shown below. You can also right click on the Process Flow names and select 'Bind Event' to attach the flow execution to run automatically.



	Name	Description	Owner	Project Name
<input type="checkbox"/>	UseCase_Connecting_AccountMaster_to_Salesforce	Template to push data from database to Salesforce	demouser	UseCase_Salesforce_Connector
<input type="checkbox"/>	UseCase_Connecting_Salesforce_to_AccountMaster	Template to push data from Salesforce to database	demouser	UseCase_Salesforce_Connector
<input type="checkbox"/>	UseCase_Salesforce_Connector	Template to connect Salesforce and pass the session to parent...	demouser	UseCase_Salesforce_Connector

Managing the activities created for this use case

You can manage and view all the activities of this use case by going to Develop > Projects
Click on the project named "UseCase_Salesforce_Connector" and it will show all the activities configured for this process under its related categories. You can open any category to view its activities.



The screenshot displays the Adeptia web application interface. At the top, there is a navigation bar with tabs for 'Home', 'Develop', 'Monitor', and 'Administer'. Below this, a secondary navigation bar contains links for 'Getting Started', 'Projects', 'Solutions', 'Process', 'Services', 'Events', 'Web Forms', and 'Reports and Dashboards'. The main content area is titled 'Projects' and shows a list of activities for the project 'UseCase_Salesforce_Connector'. The list is organized into categories, each with a collapse/expand icon and a count in parentheses. The categories and their activities are:

- Data Mapping (3)**
 - UseCase_Salesforce_Query_Response_map: Map Salesforce Query response data to a... (Owner: demouser, Modified: 11/06/13 17:59)
 - UseCase_Salesforce_Query_method_map: Map Query method of Salesforce Web Serv... (Owner: demouser, Modified: 11/06/13 17:58)
 - UseCase_Salesforce_Upsert_method_map: Map Upsert method of Salesforce Web Ser... (Owner: demouser, Modified: 11/08/13 14:29)
- Database Schema (1)**
 - UseCase_Salesforce_Account_Schema: Database schema for Accounts repository (Owner: demouser, Modified: 11/06/13 17:37)
- Database Source (1)**
 - UseCase_Salesforce_Database_source: Source database data for Salesforce (Owner: demouser, Modified: 11/08/13 14:11)
- Database Target (1)**
 - UseCase_Salesforce_Database_target: Target database to store the query result... (Owner: demouser, Modified: 11/06/13 17:42)
- Process Flow (4)**
 - UseCase_Connecting_AccountMaster_to_S...: Template to push data from database to S... (Owner: demouser, Modified: 11/08/13 14:32)
 - UseCase_Connecting_Salesforce_to_Accou...: Template to push data from Salesforce to... (Owner: demouser, Modified: 11/08/13 09:58)
 - UseCase_Salesforce_Connector: Template to connect Salesforce and pass t... (Owner: demouser, Modified: 11/08/13 09:58)
 - UseCase_Salesforce_Connector_combined: Template to connect Salesforce to any ap... (Owner: demouser, Modified: 11/08/13 09:58)
- Web Service Consumer (1)**
 - UseCase_Salesforce_WebService: Setup SF web service enterprise WSDL link... (Owner: demouser, Modified: 11/06/13 15:16)

Providing Salesforce login credentials in the Connector flow

In the Salesforce Connector process flow, the very first activity is a Mapping activity that we use to map the Salesforce login credentials to the Login method. These need to be edited for your testing. These can also be passed dynamically. Go to Develop > Services > Data Transformation > Mapping and edit the mapping with your credentials. Note that in the password field you need to merge your password with the Salesforce token such as 'myPasswordXXXX'.

The screenshot displays the ADEPTIA Data Mapper interface. At the top, there are navigation tabs: Home, Develop, Monitor, and Administer. Below these are menu items: Getting Started, Projects, Solutions, Process, Services, Events, Web Forms, and Reports and Dashboards. The main content area is titled 'Services > Data Transformation > Data Mapping'. It contains a table with the following data:

Name	Description
UseCase_Salesforce_Upsert_method_map	Map Upsert method of Salesforce Web Service
UseCase_Salesforce_Query_Response_map	Map Salesforce Query response data to a database
UseCase_Salesforce_Query_method_map	Map Query method of Salesforce Web Service
UseCase_Salesforce_Connector_Login_Response	Login response from Salesforce used in subsequent Salesforce WS calls
UseCase_Salesforce_Connector_Login_Map	Login mapping activity used in the Salesforce connector use case

Below the table, the 'UseCase_Salesforce_Connector_Login_Map' activity is selected, and its configuration is shown. The 'Structure_of_source_XSD' pane on the left shows a 'Root (InputContextSchema)'. The 'Structure_of_destination_XSD' pane on the right shows a 'tns:login (login) (wsSchema_UseCase_Salesforce_WebService)' element with two child elements: 'tns:username (string) (M)' and 'tns:password (string) (M)'. The 'tns:password' element is highlighted with a red checkmark. The 'Mapping Rules' pane at the bottom shows a global variable definition: `'mySalesforceaccount@mycomp.com'`, which is also marked with a red checkmark.

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Your business problems have changed.
Why hasn't your integration solution?

Thank You!



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