

## Integration.

06/10/2022

- (i) Process of bringing together various types of software sub-systems so that they create a unified single system.
- (ii) Most enterprise-level applications have a need to integrate with other applications used by the same organization.

Data Sharding between two different systems

(Salesforce  $\rightleftharpoons$  ERP)

what is Salesforce Integration?

(\*) Salesforce integration is the process of merging the data and functionalities of Salesforce with another application to provide users with a single unified experience. It allows you to provide your team with an ideal mix of features pertaining to both platforms.

) Salesforce users often face the issue of reconciling data between two platforms and switching between them while performing specific activities.

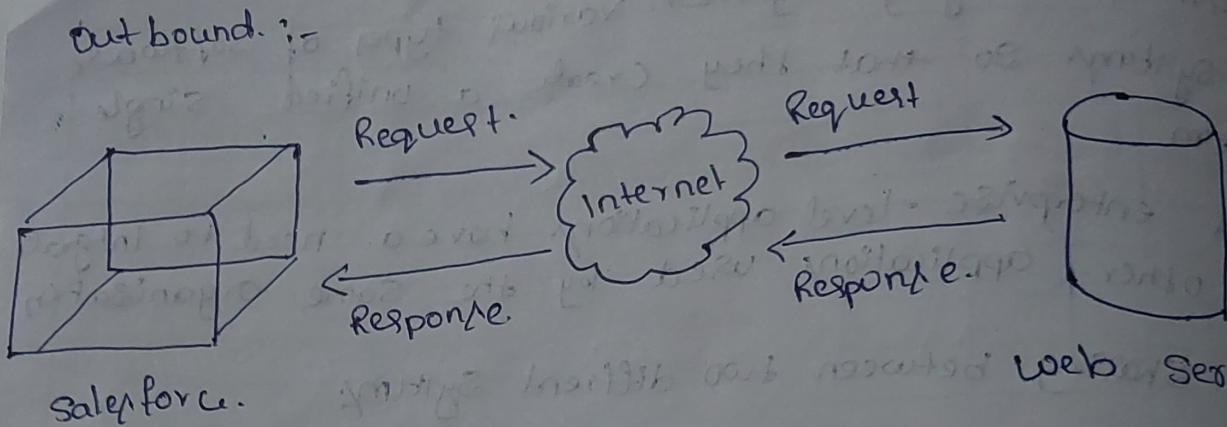
Salesforce Integration Process.

There are two major approaches to carry out the process of Salesforce integration.

i) App based Salesforce Integration

(ii) Code based Salesforce Integration.

## FLOW OF COMMUNICATION

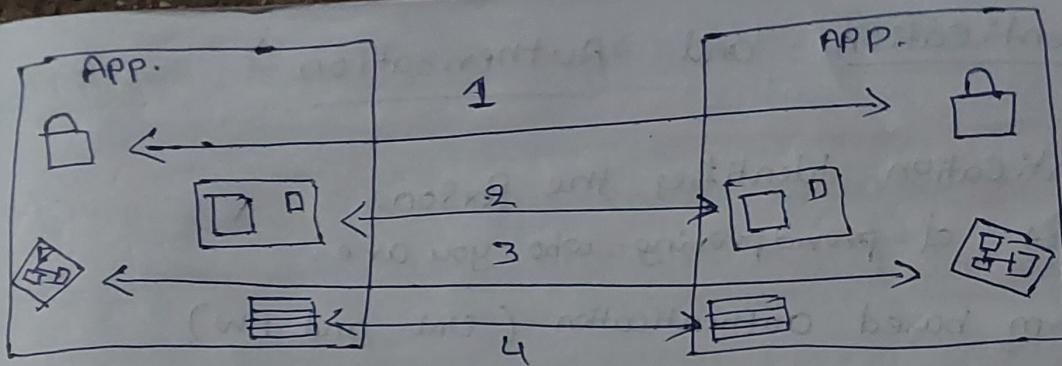


Outbound web service is when Salesforce consume any external third party application web service, a call needs to send to the External System.

(ii) Outbound integration enables business process authored in process designer to interact with other systems, such as a web service, a content management system or external database.

## Types of Integration in Salesforce

- i) User Interface
- ii) Business Logic
- iii) Data.



1. Security Integration
2. User Interface Integration
3. Logic Integration
4. Data Integration.

But what kind of integrations can you implement in your business? Most commonly organizations of any size and across multiple business domains connect their CRM to external systems at the process and data levels.

These can be spread out into three main types of integration. In Salesforce that we are going to look at.

#### i) Data Integration :-

is necessary when you need to sync data from two or more systems. As a result every extension that has been integrated will share real-time data.

#### ii) Business logic Integration :-

This particular type of integration allows building powerful all-round business solutions that incorporate various back end systems and app.

#### iii) User Interface Integration :-

If you want to build a centralized user-interface experience for everyone then you might want to consider UI integration. Salesforce provides tool necessary to do so, even if user utilize different applications in various languages.

## Authentication and Authorization

Authentication identifies the person.

The act of proving who you are

Ex:- Form based authentication (UN and PW)

Authorization

Act of granting user access to resource.

Ex:- User entitled to a folder with specific privilege

Hard for developer, End User.

## Basic and Local Identity & Access Management

(\*) If your user wants to access application he has to fill credentials like every time.

(\*) If we want to access application within application he has to fill again username and password

(\*) It's hard for user every time. and also hard for developer also.

## Modern Identity Management & Access.

Claims-based Identity → enables external user in one organization to access network applications of another. Company using their own identities.

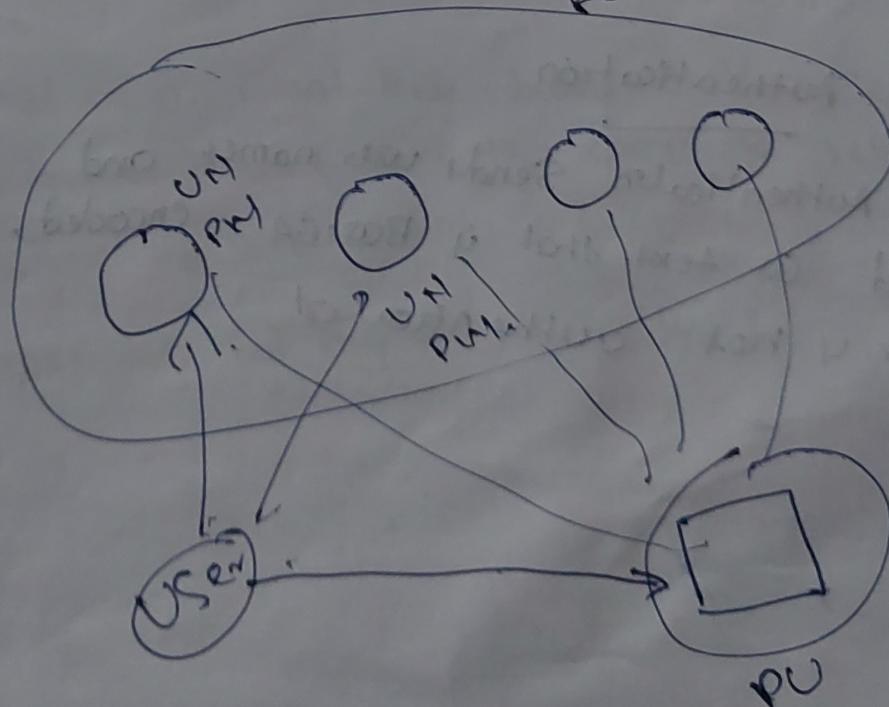
(a) Claims-based Identity offers more versatility because organizations can create additional attribute or claims on which to base access control.

Here, we using Identity provider \*

An Identity provider is a system entity that creates, maintains, and manages identity information for principals and also provides authentication service to relying applications within a federated and distributed network.

Identity providers offer user authentication as a service.

Revol



## Types of Authentication

1. Basic Authentication.
2. API key based Authentication.
3. OAuth 2.  
Web Server flow.  
username and password flow (while working with salesforce)
4. JWT (JSON web Service Token).

Authentication is the process of identifying user that request access to a system, network, or device.

- Access control often determine user identity according to credentials like username and password.
- Other authentication technology like biometric and auth app are used to authenticate user identity.

### Basic Authentication

Basic Authentication sends user name and password over Internet as text that is Base64 encoded, and the target server is not authenticated.

2. API key based Authentication.  
→ Using API keys is a way to authenticate an application by accessing the API, without referencing an actual user.

① The app adds the key to each API request, and API can use the key to identify the application and authenticate the request.

### 3. OAuth 2.

OAuth 2.0 is the industry-standard protocol for authentication. OAuth 2.0 focuses on client developer simplicity while providing specific authentication flows for web applications, desktop applications, mobile phones and living room devices.

4. JWT (JSON Web Token)  
→ JWT Authentication is a token-based stateless authentication mechanism.

It's popularly used as a Client-side-based Stateless Session, which means the server doesn't have to completely rely on a database to store session information.

JWT can be encrypted, but they are typically encoded & signed.

No Authentication.

1. The Recovery (End points or Services) can be used by the public without any authentication.

API key based authentication.

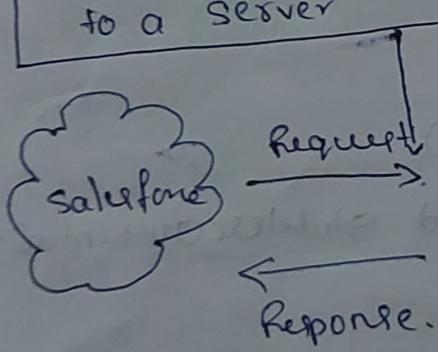
→ Authenticate any system using API key provided by the service provider. API key can be passed as URL parameter.

Some scenario where to pass the API key in the URL.

reader also broke rules like returning

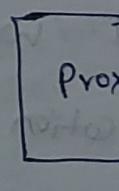
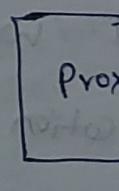
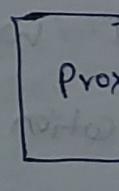
Outbound.

Saleforce prepare and submit a service request to a server.



INTERNET

firewall



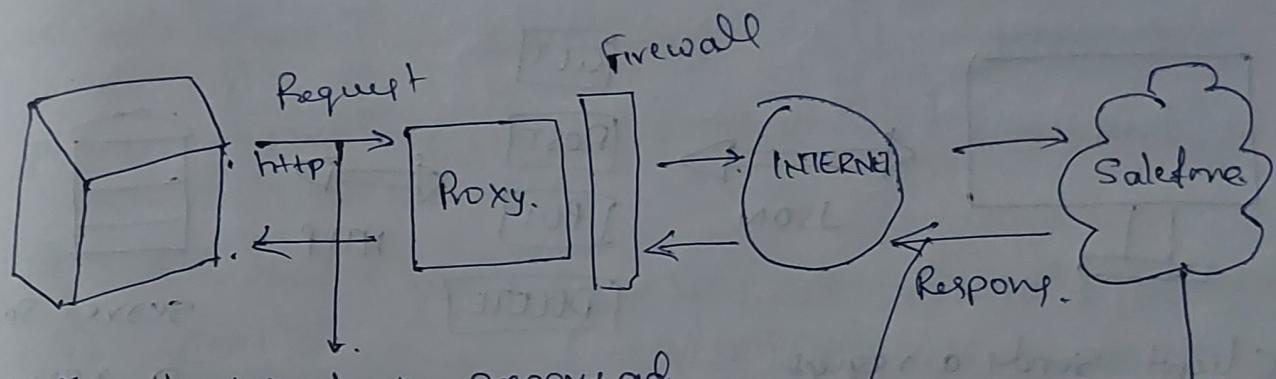
The Server receives the request and return an acknowledgement. It has not processed the request.

Saleforce process the request in the request. At minimum, Saleforce should return a response acknowledging the receipt of the request.

After processing the request, the server does a callback providing a result of the initial request.

## Inbound

(a) Dot net, Java or PHP code to interact with Salesforce



The client application prepares and submits a service request to a server.

The server processes the request and

The client application handles the response.

## Consumes 3rd Party API

Sample API Providers

Openweathermap.

Quickbook.

LinkedIn.

Google.

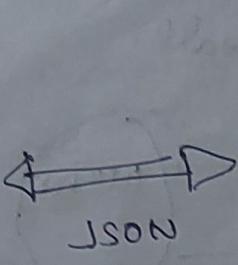
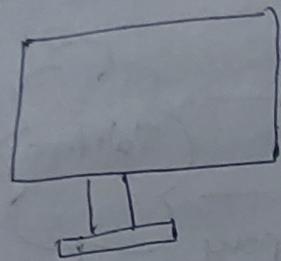
facebook.

outbound. REST API call used by Salesforce to access the source.

Note: 3rd Party API can be tested using browser or Postman based on the complexity of API.

Outbound - REST

Connect to 3rd Party System from Salesforce using REST  
API Call.

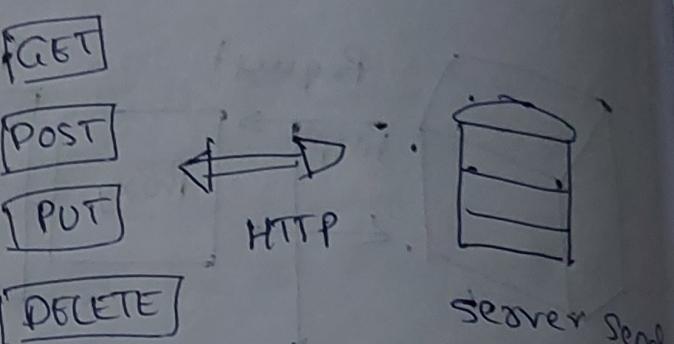


GET

POST

PUT

DELETE



Client sends a request

HTTP



Server sends a response

REST Method.

HTTP Method.

GET

→ Retrieve data identified by a URL

POST

→ Create resource or post data to the Server.

DELETE

→ Delete a resource identified by a URL.

PUT

→ Create or replace the resource sent in the request body.