

Picking Right API

Salesforce provides programmatic access to your organization’s information using simple, powerful, and secure application programming interfaces.

When To Use REST API

REST API provides a powerful, convenient, and simple REST-based Web services interface for interacting with Salesforce. Its advantages include ease of integration and development, and it’s an excellent choice of technology for use with mobile applications and Web projects. However, if you have a large number of records to process, you may wish to use Bulk API, which is based on REST principles and optimized for large sets of data.

API Name	What It's For	When to Use It	Protocol	Data Format	Communication
REST API	Accessing objects in your organization using REST.	You want to leverage the REST architecture to integrate with your organization. No WSDL requirement. Well-suited for browser-based applications, mobile apps, and highly-interactive social applications.	REST	JSON, XML	Synchronous
SOAP API	Integrating your organization's data with other applications using SOAP.	You have pre-existing middleware services that need to work with WSDLs and XML data.	SOAP/WSDL	XML	Synchronous
Chatter REST API	Accessing Chatter feeds and social data such as users, groups, followers, and files using REST.	You want to integrate Chatter into a variety of applications, such as mobile apps, intranet sites, and third-party Web applications.	REST	JSON, XML	Synchronous (photos are processed asynchronously)
Bulk API	Loading or deleting large numbers of records.	You have over a million records to process and speed is a requirement.	REST	CSV, XML	Asynchronous
Metadata API	Managing customizations in your organization and building tools that can manage the metadata model, not the data itself.	You want to migrate changes, such as custom object definitions and page layouts, from a sandbox to your production environment.	SOAP/WSDL	XML	Asynchronous
Streaming API	Providing a stream of data reflecting data changes in your organization.	You need near real-time notifications of when records are created or updated.	Bayeux	JSON	Asynchronous (stream of data)
Apex REST API	Building your own REST API in Apex. Exposes Apex classes as RESTful Web services.	You need to build custom JSON responses or you want to expose custom functionality that you implemented in Apex.	REST	JSON, XML, Custom	Synchronous
Apex SOAP API	Creating custom SOAP Web services in Apex. Exposes Apex classes as SOAP Web services.	You need to build custom XML responses or you want to expose custom functionality that you implemented in Apex .	SOAP/WSDL	XML	Synchronous
Tooling API	Building custom development tools for Force.com applications.	You want to add functionality to your existing development and integration tools or you want to build specialized development tools for a specific application or service.	REST and SOAP	JSON, XML, Custom	Asynchronous

WHEN TO USE SOAP API

SOAP API provides a powerful, convenient, and simple SOAP-based Web services interface for interacting with Salesforce. You can use SOAP API to create, retrieve, update, or delete records. You can also use SOAP API to perform searches and much more. UseSOAP API in any language that supports Web services.

For example, you can use SOAP API to integrate Salesforce with your organization's ERP and finance systems, deliver real-time sales and support information to company portals, and populate critical business systems with customer information.

WHEN TO USE CHATTER REST API

Chatter REST API provides programmatic access to Chatter feeds and social data such as users, groups, followers, and files. Use Chatter REST API to integrate Chatter into a variety of applications such as mobile applications, intranet sites, and third-party Web applications. Chatter REST API is similar to APIs offered by other companies with feeds, such as Facebook and Twitter.

WHEN TO USE BULK API

Bulk API is based on REST principles and is optimized for loading or deleting [large sets of data](#). You can use it to query, insert, update, upsert, or delete a large number of records asynchronously by submitting batches which are processed in the background by Salesforce.

SOAP API, in contrast, is optimized for real-time client applications that update small numbers of records at a time. Although SOAP API can also be used for processing large numbers of records, when the data sets contain hundreds of thousands of records, it becomes less practical. Bulk API is designed to make it simple to process data from a few thousand to millions of records.

The easiest way to use Bulk API is to enable it for processing records in Data Loader using CSV files. This avoids the need to write your own client application.

WHEN TO USE METADATA API

Use Metadata API to retrieve, deploy, create, update, or delete customizations for your organization. The most common use is to migrate changes from a sandbox or testing organization to your production environment. Metadata API is intended for managing customizations and for building tools that can manage the metadata model, not the data itself.

The easiest way to access the functionality in Metadata API is to use the Force.com IDE or [Force.com](#) Migration Tool. These tools are built on top of Metadata API and use the standard Eclipse and Ant tools respectively to simplify the task of working with Metadata API. Built on the Eclipse platform, the Force.com IDE provides a comfortable environment for programmers familiar with integrated development environments, allowing you to code, compile, test, and deploy all from within the IDE itself. The Force.com Migration Tool is ideal if you want to use a script or a command-line utility for moving metadata between a local directory and a Salesforce organization.

WHEN TO USE STREAMING API

Use Streaming API to receive notifications for changes to data that match a SOQL query that you define.

Streaming API is useful when you want notifications to be pushed from the server to the client. Consider Streaming API for applications that poll frequently. Applications that have constant polling action against the Salesforce infrastructure, consuming unnecessary API call and processing time, would benefit from this API which reduces the number of requests that return no data. Streaming API is also ideal for applications that require general notification of data changes. This enables you to reduce the number of API calls and improve performance.

WHEN TO USE APEX REST API

Use Apex REST API when you want to expose your Apex classes and methods so that external applications can access your code through REST architecture. Apex REST API supports both OAuth 2.0 and Session ID for authorization.

WHEN TO USE APEX SOAP API

Use Apex SOAP API when you want to expose your Apex methods as SOAP Web service APIs so that external applications can access your code through SOAP. Apex SOAP API supports both OAuth 2.0 and Session ID for authorization.

WHEN TO USE TOOLING API

Use Tooling API when you want to manage and deploy working copies of Apex classes and triggers and Visualforce pages and components, set checkpoints or heap dump markers, execute anonymous Apex, and access logging and code coverage information.