

## SOAP API vs Bulk API

Both SOAP API and Bulk API have the same purpose: they are used for Salesforce data retrieving and modifying – creating, updating, and deleting records. However, there are big differences between them.

### Bulk and SOAP API Overview

1. SOAP API is based on SOAP **WSDL** protocol.
  2. It uses XML format for loaded data and synchronous processing.
  3. This API was the first API introduced in Salesforce, and it offers more flexible functionality.
  4. It is optimized for real-time client applications that update a few records at a time.
- 
1. Bulk API uses REST protocol and allows XML, JSON, and CSV data format.
  2. This API is more limited (for example, some SOQL features, like subqueries, SUM, ROLLUP, or COUNT, are not supported), and it is optimized for loading large volumes of data.
  3. Bulk API is asynchronous, it allows sending batches of records to Salesforce, and then these batches are processed in the background.

### Batch Size Limits

1. Being optimized for large data volumes, Bulk API allows larger record batches.
2. While SOAP API retrieves data in batches of up to 2,000 records (or up to 200 records, if two or more custom fields of type long text are selected), Bulk API allows batches of up to 10,000 records.
3. Bulk API batches have the same record count limit for both querying and loading data to Salesforce. SOAP API batches, however, are always limited to 200 records when loading data to Salesforce.

### Performance

We have performed performance testing and found out that using Bulk API for reading data does not provide a noticeable performance gain in our case, that is why we do not use Bulk API for reading data. Loading data to Salesforce is, however, more efficient with Bulk API than with SOAP API, especially for large data volumes.