Keanu Foltz

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Google Gson

The Google Gson API is an open source Java library created by Google. It is used for parsing, to convert Java objects to JSON and JSON to Java objects. Overall, Gson is simple and flexible with minimal dependencies. Getting into the history of Gson, it was developed by Google originally for internal use, then in May 2008, it was released to the public. Gson was designed as a way to work with JSON in Java with many of Google’s other services such as android apps and their other web based APIs. Gson is available on GitHub and is still actively maintained.

The Google Gson API has a ton of features that make it useful for tasks that handle JSON. Two of the main features of Gson is Object serialization and deserialization, meaning that it converts Java objects into JSON strings and back. Below is an example of serialization, how Java objects are converted into JSON strings:

Gson gson = new Gson();

String json = gson.toJson(myObject);

Below is an example of converting JSON strings to Java objects or deserialization:

MyClass obj = gson.fromJson(jsonString, MyClass.class);

Deserialization of Generic Types is also supported by Gson using TypeToken:

Type type = new TypeToken<List<MyClass>>() {}.getType();

List<MyClass> list = gson.fromJson(jsonArrayString, type);

Another nice aspect is that it allows for pretty printing, which makes things more easily read. Gson also supports custom serialization and deserialization strategies for complex mappings, though the API does provide default mapping for objects to be serialized as well. Null handling is smoother as Gson allows for control over whether null fields are included in outputs. Gson also supports many complex objects that have inheritance hierarchies that run deep. There is no dependency on other libraries other than JDK, making it easier to implement. These features and more all contribute to the great amount of flexibility and customization of JSON processing that developers have with Gson.

Gson is quite popular with over 560k downloads from Google’s GitHub repository here: <https://github.com/google/gson>

To download the .jar files for Gson, you can find them here separated into different versions: <https://repo1.maven.org/maven2/com/google/code/gson/gson/>

To conclude the Google Gson API is a great option for handling JSON because of how lightweight and user friendly it is when dealing with both simple and complex tasks dealing with JSON. The Gson library has a ton of features that we can make use of and provides support for a lot of modern Java practices, in addition to only needing minimal configuration, it is no wonder that Gson is so widely used. Thanks to Gson’s support from Google, as well as the support it gets from the community, being an open source API, Gson is consistently kept updated and maintained. Regardless of if you need it for a small or large scale project, Gson is a good choice for JSON parsing.

References:

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