Pretty-Print a JSON in Java

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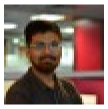

Written by: Rajat Garg (https://www.baeldung.com/author/rajatgarg)

Reviewed by: Michal Aibin (https://www.baeldung.com/editor/michal-author)

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1. Introduction

In this tutorial, we'll delve into the process of formatting JSON data in Java to enhance its readability.

Often, when dealing with extensive JSON objects, understanding and debugging them can be a daunting task. Consequently, adopting the practice of pretty-printing JSON objects becomes crucial.

To achieve this, we'll leverage the capabilities of the Jackson (/jackson) and Gson libraries (/gson-serialization-guide), which provide convenient methods for generating well-formatted JSON output.

2. Pretty Print JSON using Jackson

To pretty-print JSON using Jackson, let's begin by adding the following dependencies to the *pom.xml* file:

```
<dependency>
    <groupId>com.fasterxml.jackson.core</groupId>
    <artifactId>jackson-databind</artifactId>
    <version>2.17.2</version>
</dependency>
```

Always use the latest versions from the Maven central repository for *jackson-databind.*
(https://mvnrepository.com/artifact/com.fasterxml.jackson.core/jackson-databind)

2.1. Pretty Print On-Demand

To achieve on-demand pretty printing of JSON, we can utilize the *writeWithDefaultPrettyPrinter()* method:

```
String uglyJsonString = "{\"one\":\"AAA\",\"two\":
[\"BBB\",\"CCC\"],\"three\":{\"four\":\"DDD\",\"five\":
[\"EEE\",\"FFF\"]}}";

public String prettyPrintJsonUsingDefaultPrettyPrinter(String
uglyJsonString) {
    ObjectMapper objectMapper = new ObjectMapper();
    Object jsonObject = objectMapper.readValue(uglyString, Object.class);
    String prettyJson =
objectMapper.writerWithDefaultPrettyPrinter().writeValueAsString(jsonObje
ct);
    return prettyJson;
}
```

The result is the well-formatted JSON object:

```
@Test
public void shouldPrettyPrintJsonStringUsingDefaultPrettyPrinter() throws
JsonProcessingException {
    JsonPrettyPrinter jsonPrettyPrinter = new JsonPrettyPrinter();
    String formattedJsonString =
jsonPrettyPrinter.prettyPrintJsonUsingDefaultPrettyPrinter(uglyJsonString
);
    System.out.println(formattedJsonString);
}
// output:
{
    "one" : "AAA",
    "two" : [ "BBB", "CCC" ],
    "three" : {
        "four" : "DDD",
        "five" : [ "EEE", "FFF" ]
    }
}
```

2.2. Pretty Print Globally

By enabling the *INDENT_OUTPUT* setting globally, we can generate a well-formatted JSON string with pretty printing. This ensures that JSON output throughout the system will be consistently formatted in a readable manner.

Let's proceed to enable the *INDENT_OUTPUT setting* globally:

```
public String prettyPrintUsingGlobalSetting(String uglyJsonString) {
    ObjectMapper mapper = new
ObjectMapper().enable(SerializationFeature.INDENT_OUTPUT);
    Object jsonObject = mapper.readValue(uglyJsonString, Object.class);
    String prettyJson = mapper.writeValueAsString(jsonObject);
    return prettyJson;
}
```

The result is the well-formatted JSON object:

```
@Test
public void shouldPrettyPrintJsonStringUsingGlobalSetting() throws
JsonProcessingException {
    JsonPrettyPrinter jsonPrettyPrinter = new JsonPrettyPrinter();
    String formattedJsonString =
jsonPrettyPrinter.prettyPrintUsingGlobalSetting(uglyJsonString);
    System.out.println(formattedJsonString);
}
// output:
{
    "one" : "AAA",
    "two" : [ "BBB", "CCC" ],
    "three" : {
        "four" : "DDD",
        "five" : [ "EEE", "FFF" ]
    }
}
```

3. Pretty Print JSON using Gson

Let's first add the Gson Maven dependency:

```
<dependency>                         (/)
    <groupId>com.google.code.gson</groupId>
    <artifactId>gson</artifactId>
    <version>2.10.1</version>
</dependency>
```

Always use the latest versions from the Maven central repository for *gson* (https://mvnrepository.com/artifact/com.google.code.gson/gson). To pretty-print JSON, we'll use *the setPrettyPrinting()* method of *GsonBuilder:*

```
public String prettyPrintUsingGson(String uglyJson) {
    Gson gson = new GsonBuilder().setPrettyPrinting().create();
    JsonElement jsonElement = JsonParser.parseString(uglyJsonString);
    String prettyJsonString = gson.toJson(jsonElement);
    return prettyJsonString;
}
```

The result is the well-formatted JSON object:

```
@Test
public void shouldPrettyPrintJsonStringUsingGson() {
    JsonPrettyPrinter jsonPrettyPrinter = new JsonPrettyPrinter();
    String formattedJsonString =
jsonPrettyPrinter.prettyPrintUsingGson(uglyJsonString);
    System.out.println(formattedJsonString);
}
// output:
{
    "one": "AAA",
    "two": [
        "BBB",
        "CCC"
    ],
    "three": {
        "four": "DDD",
        "five": [
            "EEE",
            "FFF"
        ]
    }
}
```

4. Conclusion (/)

In this article, we have explored various methods for achieving pretty printing of JSON in Java.

The code backing this article is available on GitHub. Once you're **logged in as a Baeldung Pro Member (/members/)**, start learning and coding on the project.

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Do JSON right with Jackson

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