

```
1 package net.wiredclub.translation;
2
3 import com.fasterxml.jackson.databind.JsonNode;
4 import org.apache.http.client.fluent.Form;
5 import org.apache.http.client.fluent.Request;
6
7 import java.io.IOException;
8 import java.nio.charset.StandardCharsets;
9 import java.util.List;
10 import java.util.Set;
11 import java.util.regex.Pattern;
12 import java.util.stream.Collectors;
13
14 /**
15  * A helper class that executes requests to DeepL-API, e.g.
16  * it retrieves allowed source and target languages, usage stats,
17  * or triggers the translation of a text.
18  */
19 public class DeepLHelper {
20
21     // private static final Logger LOG = LoggerFactory.getLogger(DeepLHelper.class);
22
23     private static final String AUTH_KEY = "bddf179b-b8b6-d1a3-2a96-11c7cc8ac50a:fx";
24
25     private static final String DEEPL_BASE_URI_FREE = "https://api-free.deepl.com";
26     private static final String DEEPL_USAGE = "/v2/usage";
27     private static final String DEEPL_LANGUAGES = "/v2/languages";
28     private static final String DEEPL_TRANSLATE = "/v2/translate";
29
30     private static final String XML_TAG_TO_EXCHANGE_CURLY_BRACKETS = "donut";
31
32     private final JsonHelper jsonHelper;
33
34     public DeepLHelper() {
35         this.jsonHelper = new JsonHelper();
36     }
37
```

```
38     public DeepLHelper(JsonHelper jsonHelper) {
39         this.jsonHelper = jsonHelper;
40     }
41
42     public DeepLUsage usage() throws IOException, TranslationJsonProcessingException {
43         String response = Request.Post(DEEPL_BASE_URI_FREE + DEEPL_USAGE)
44             .bodyForm(Form.form()
45                 .add("auth_key", AUTH_KEY)
46                 .build())
47             .execute().returnContent().asString();
48
49         JsonNode json = jsonHelper.convertStringToJson(response);
50
51         long characterCount = json.get("character_count").asLong();
52         long characterLimit = json.get("character_limit").asLong();
53
54         return new DeepLUsage(characterCount, characterLimit);
55     }
56
57     public List<String> sourceLanguages() throws IOException, TranslationJsonProcessingException {
58         String response = Request.Post(DEEPL_BASE_URI_FREE + DEEPL_LANGUAGES)
59             .bodyForm(Form.form()
60                 .add("auth_key", AUTH_KEY)
61                 .add("type", "source")
62                 .build())
63             .execute().returnContent().asString();
64
65         JsonNode json = jsonHelper.convertStringToJson(response);
66         Set<String> languages = jsonHelper.extractLanguages(json);
67         return languages.stream().map(String::toLowerCase).sorted().collect(Collectors.toList());
68     }
69
70     public List<String> targetLanguages() throws IOException, TranslationJsonProcessingException {
71         String response = Request.Post(DEEPL_BASE_URI_FREE + DEEPL_LANGUAGES)
72             .bodyForm(Form.form()
73                 .add("auth_key", AUTH_KEY)
74                 .add("type", "target")
```

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75         .build())
76         .execute().returnContent().asString();
77
78     JsonNode json = jsonHelper.convertStringToJson(response);
79     Set<String> languages = jsonHelper.extractLanguages(json);
80     return languages.stream().map(String::toLowerCase).sorted().collect(Collectors.toList());
81 }
82
83 public String translate(String textToTranslate, String sourceLanguage, String targetLanguage)
84     throws IOException, TranslationJsonProcessingException {
85     String response = Request.Post(DEEPL_BASE_URI_FREE + DEEPL_TRANSLATE)
86         .bodyForm(Form.form()
87             .add("auth_key", AUTH_KEY)
88             .add("text", wrapTextToTranslate(textToTranslate))
89             .add("source_lang", sourceLanguage)
90             .add("target_lang", targetLanguage)
91             .add("tag_handling", "xml")
92             .add("ignore_tags", XML_TAG_TO_EXCHANGE_CURLY_BRACKETS) // xml tag for disabling translation
93             .build())
94         .execute().returnContent().asString(StandardCharsets.UTF_8);
95
96     JsonNode json = jsonHelper.convertStringToJson(response);
97     // LOG.debug("Translated '{}' to '{}'", textToTranslate, translation);
98     String translation = jsonHelper.extractTranslation(json, textToTranslate);
99     return unwrapTranslation(translation);
100 }
101
102 private static final Pattern CURLY_BRACKETS_START = Pattern.compile("\\{\\{");
103 private static final Pattern CURLY_BRACKETS_END = Pattern.compile("}\\}");
104
105 String wrapTextToTranslate(String text) {
106     String wrap = CURLY_BRACKETS_START.matcher(text).replaceAll("<" + XML_TAG_TO_EXCHANGE_CURLY_BRACKETS + ">{{");
107     return CURLY_BRACKETS_END.matcher(wrap).replaceAll("}}</" + XML_TAG_TO_EXCHANGE_CURLY_BRACKETS + ">");
108 }
109
110 private static final Pattern DONUT_START = Pattern.compile("<" + XML_TAG_TO_EXCHANGE_CURLY_BRACKETS + ">");
111 private static final Pattern DONUT_END = Pattern.compile("</" + XML_TAG_TO_EXCHANGE_CURLY_BRACKETS + ">");

```

```
112
113     String unwrapTranslation(String translation) {
114         String unwrap = DONUT_START.matcher(translation).replaceAll("");
115         return DONUT_END.matcher(unwrap).replaceAll("");
116     }
117
118     record DeepLUsage(long characterCount, long characterLimit) {
119     }
120 }
121
```