Natural Language Processing

User Guide

Issue 01

Date 2019-12-20



HUAWEI TECHNOLOGIES CO., LTD.

Copyright © Huawei Technologies Co., Ltd. 2020. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions


and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.
All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base
Bantian, Longgang
Shenzhen 518129
People's Republic of China

Website: https://www.huawei.com

Email: support@huawei.com

Contents

1 Text Generation 1
1.1 Introduction 1
1.2 Enabling Text Generation 2
1.3 Customizing Documents 2
1.4 Managing Projects 3
1.5 Managing Documents 4
1.6 Configuring Data 5
1.7 Generating Text 7
A Change History 8

 Copyright © Huawei Technologies Co., Ltd.

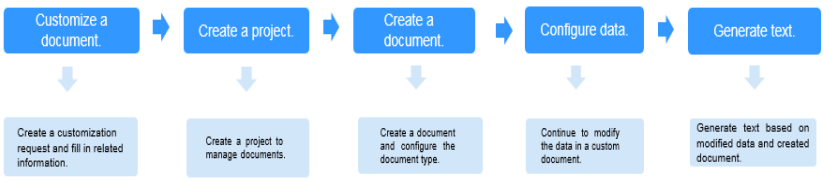
1 Text Generation

1.1 Introduction

Text Generation is a subservice of Natural Language Processing Service (NLP) and used to convert data into text. Three data types are currently supported: JSON, table, and knowledge graph. On the Text Generation console, you can create a data-to-text conversion template. The text is dynamically generated based on the input data.

Process Flow

Figure 1-1 Process flow for creating a knowledge graph



Functions

Text Generation has the following functions:

- **Customizing Documents**: Before customizing documents based on your needs, submit a customization application on the Text Generation console.

  After you submit the customization application, we will contact you to learn about your requirements. Note that if you submit three customization applications and they are still in process, you cannot initiate another customization application.
- **Managing Projects**: Create different projects to manage document templates by category.
- **Managing Documents**: Create different documents for different types of data from which text is generated.

 Copyright © Huawei Technologies Co., Ltd.

- **Configuring Data**: Edit the input data.
- **Generating Text**: Generate text based on the input data and the created document.

1.2 Enabling Text Generation

Before using the Text Generation service, apply for the open beta test (OBT) on the **Beta Services** page on the **Language Generation (LG) console** of NLP.

If your application for OBT is approved, **Enabled** is displayed next to **Status** on the **Beta Services** page.

1.3 Customizing Documents

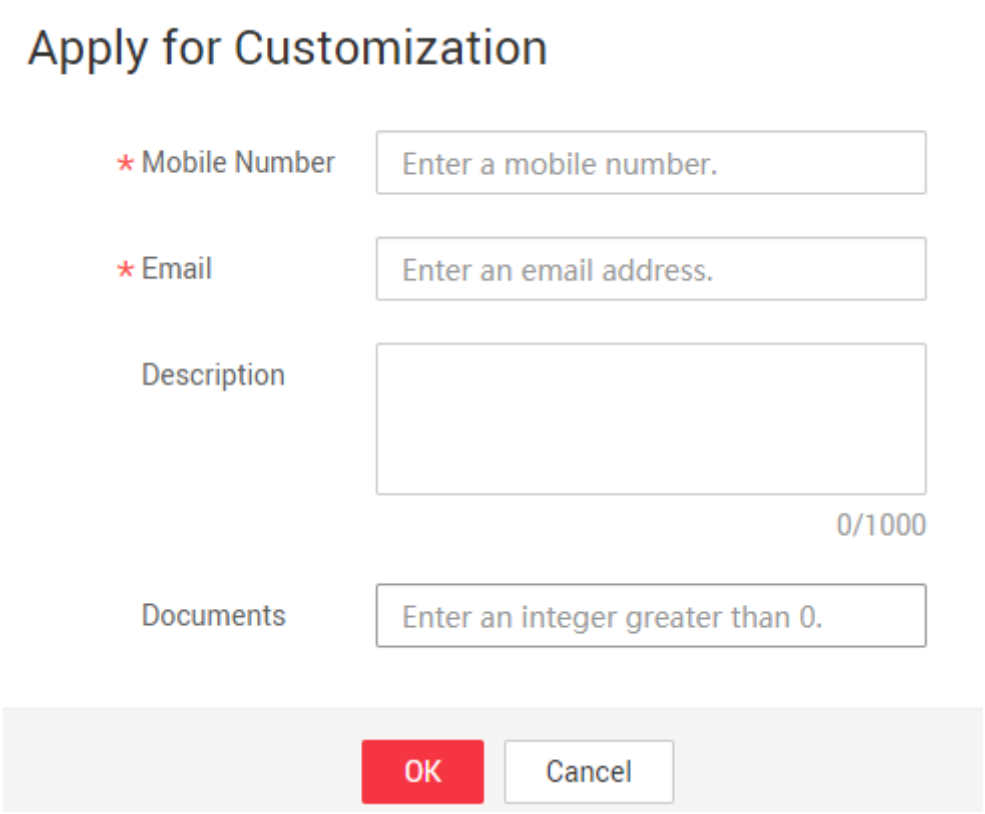
To use the customization function, you need to submit a customization application. The system creates the document based on your needs.

Customizing a Document

1. Log in to the **LG console** of NLP, and click the **Beta Services** tab.
2. Click **Access Text Generation Console**. The **Text Generation** page is displayed.
3. On the **Text Generation** page, click **Apply for Customization** in the upper right corner.
4. Click **Apply for Customization**.

Copyright © Huawei Technologies Co., Ltd.

Figure 1-2 Applying for customization



5. Enter the required information.
6. Click **OK**. Information such as **Customization ID**, **Contact**, **Details**, **Applied**, **Status**, and **Remarks** is displayed on the **Apply for Customization** page.
   - The statuses for a customization application are as follows:

     Submitted indicates that you have submitted the customization application. **To be accepted** indicates that you have not accepted the customization request. **Completed** indicates that you have accepted the customization request. **Terminated** indicates that you have terminated the customization request.
   - After you submit the customization application, we will contact you soon to further learn about your needs. If there are three unclosed customization applications, new application cannot be initiated.
   - When the customization is completed, the status will change to **To be accepted**. You can find the custom document in the specified project and check whether the generation result meets your expectation.

1.4 Managing Projects

You can create projects to manage customized documents of different customers.

You can create, edit, and delete a project.

 Copyright © Huawei Technologies Co., Ltd.

Creating a Project

1. Log in to the **LG console** of NLP, and click the **Beta Services** tab.
2. Click **Access Text Generation Console**. The **Text Generation** page is displayed.
3. Click **Add** on the left of the page.
4. Enter a project name in the displayed text box, and click **OK**.

   The project name can contain 2 to 50 characters. Only letters, digits, underscores (_), and hyphens (-) are allowed, and the project name must be unique.

Modifying a Project

To modify a project, click ··· and select **Modify** to modify the name of a project.

Deleting a Project

To delete a project, click ··· and select **Delete** to delete the project. Deleting a project will also delete all the documents stored in the project.

1.5 Managing Documents

You can create different documents for different types of data from which text is generated. Before creating a document, ensure that a project has been created.

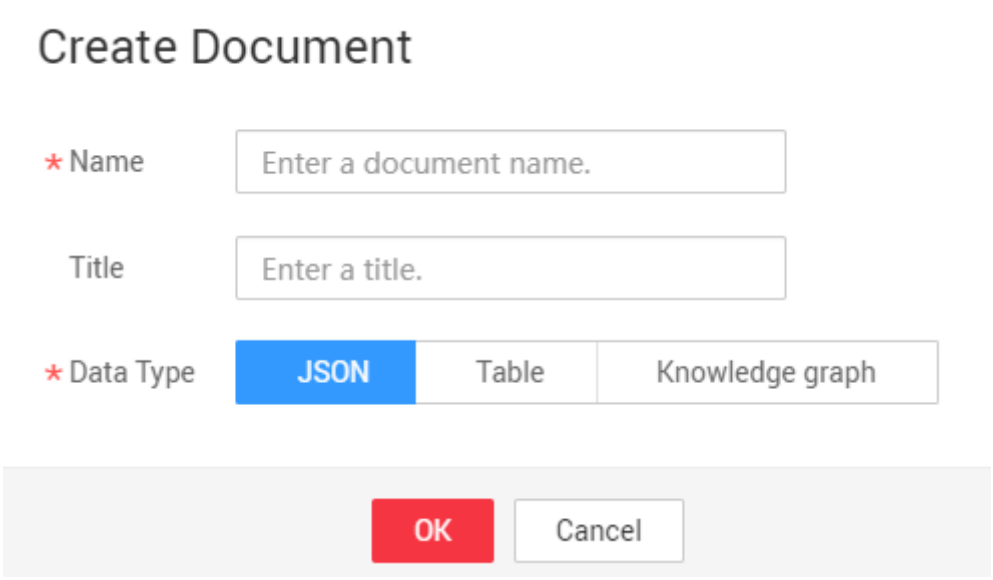
You can create, edit, and delete documents in a project, preview documents that have been customized, and view the generation result.

Creating a Document

1. Log in to the **LG console** of NLP, and click the **Beta Services** tab.
2. Click **Access Text Generation Console**. The **Text Generation** page is displayed.
3. In a project you have created, click +. The **Create Document** dialog box is displayed.

Copyright © Huawei Technologies Co., Ltd.

Figure 1-3 Creating a document



4. Set related parameters.
   - **Name**: The name can contain 2 to 50 characters. Only letters, digits, underscores (_), and hyphens (-) are allowed, and the document name must be unique in the project.
   - **Title**: Set a title for the generated text. The value ranges from 2 to 50 characters.
   - **Data Type**: Select the data type used for generating text. You can select JSON, table, or knowledge graph. The document configuration varies depending on the data type.
5. Click **OK**.

Editing a Document

To edit a document, click in the lower right corner of a document.

Deleting a Document

To delete a document, click in the lower right corner of the document.

Previewing a Document

To preview a document, click in the lower right corner of the document.

A document can be previewed only after the data and document structure are configured. Otherwise the text generation result cannot be obtained.

1.6 Configuring Data

Text Generation supports three types of data. You can select a specific type of documents based on the data type.

 Copyright © Huawei Technologies Co., Ltd.

The data configured on the **Data** page is only used to assist in creating a document and test whether the text generation result meets your expectation. It is recommended that you do not configure excessive data.

Configuring Data

1. Log in to the **LG console** of NLP, and click the **Beta Services** tab.
2. Click **Access Text Generation Console**. The **Text Generation** page is displayed.
3. Click a project name to go to the specific project page.
4. Click a document and the **Data** page is displayed.
5. Enter the data information according to the data type.
   - JSON data

     Select JSON data when the input data structure is loose.
   - Table data

     Enter the information based on your needs.
   - Knowledge graph data

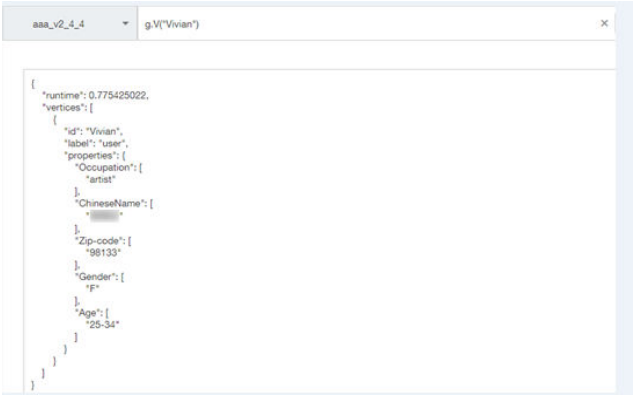
     The knowledge graph data is from the Knowledge Graph (KG) service of NLP. So you need to create a knowledge graph on the KG console before using the data.

     When the graph data is used as the input data for text generation, you need to construct related query statements. You can combine the query statements and JSON data to form dynamic graph data.

     i. Enter a Gremlin query statement and click the query button.

     Currently, only the Gremlin query statement can be entered on the **Data** page.

     Figure 1-4 Entering a query statement

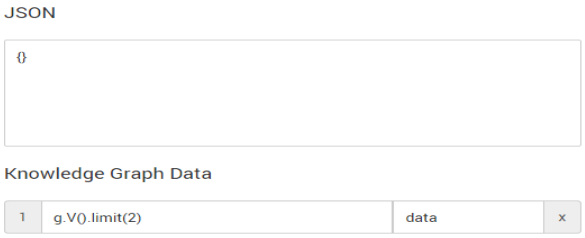
     

     ii. Ensure that the query statement is correct, and then click  to insert the query statement.

     If you want to combine JSON data, enter dynamic data items in the **JSON** text box and set the data name based on the query statement.

 Copyright © Huawei Technologies Co., Ltd.

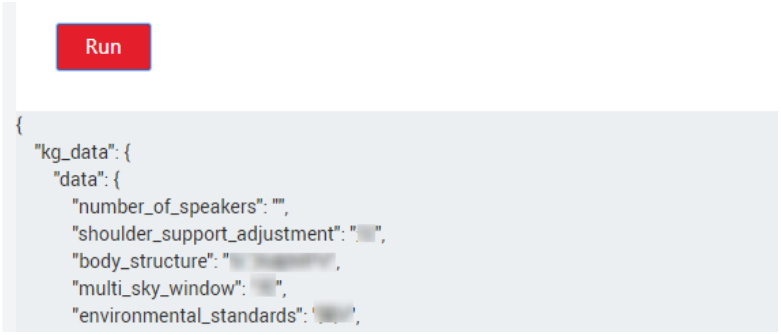
Figure 1-5 Inserting a query statement



iii. Click **Run** to obtain the complete graph data.

kg_data contains the dynamic execution results of each query statement.

Figure 1-6 Viewing the query execution results



1.7 Generating Text

Text is generated based on the input data and created document. Before you can obtain valid text generation results, ensure you have configured the document data and structure.

Procedure

1. Log in to the **LG console** of NLP, and click the **Beta Services** tab.
2. Click **Access Text Generation Console**. The **Text Generation** page is displayed.
3. Click a project name to go to the specific project page.
4. Click a document. The **Data** page is displayed.
5. Click **Generation** in the navigation tree on the left. The system generates text information based on the input data and data on the **Editor** page.

 Copyright © Huawei Technologies Co., Ltd.

A Change History

Released On	What's New
2019-12-20	This is the first official release.

 Copyright © Huawei Technologies Co., Ltd.