

ModelArts

Data Labeling

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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

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1 Introduction to Data Labeling

NOTE

Data management is being upgraded and is invisible to users who have not used data management.

Model training requires a large amount of labeled data. Therefore, before training a model, label data. ModelArts provides you with the following labeling functions:

- **Manual Labeling:** allows you to manually label data.

Manual Labeling

Create a labeling job based on the dataset type. ModelArts supports the following types of labeling jobs:

- Images
 - Image classification: identifies a class of objects in images.
 - Object detection: identifies the position and class of each object in an image.
 - Image segmentation: segments an image into different areas based on objects in the image.
- Audio
 - Sound classification: classifies and identifies different sounds.
 - Speech labeling: labels speech content.
 - Speech paragraph labeling: segments and labels speech content.
- Text
 - Text classification: assigns labels to text according to its content.
 - Named entity recognition: assigns labels to named entities in text, such as time and locations.
 - Text triplet: assigns labels to entity segments and entity relationships in the text.
- Video

Video labeling: identifies the position and class of each object in a video. Only the MP4 format is supported.

Dataset Functions

Dataset functions vary depending on dataset types. For details, see [Table 1-1](#).

Table 1-1 Functions supported by different types of datasets

Dataset Type	Labeling Type	Manual Labeling	Auto Labeling	Team Labeling
Images	Image classification	Supported	Supported	Supported
	Object detection	Supported	Supported	Supported
	Image segmentation	Supported	N/A	N/A
Audio	Sound classification	Supported	N/A	N/A
	Speech labeling	Supported	N/A	N/A
	Speech paragraph labeling	Supported	N/A	Supported
Text	Text classification	Supported	N/A	Supported
	Named entity recognition	Supported	N/A	Supported
	Text triplet	Supported	N/A	Supported
Video	Video labeling	Supported	N/A	N/A
Free format	N/A	N/A	N/A	N/A
Table	N/A	N/A	N/A	N/A

2 Manual Labeling

2.1 Creating a Labeling Job

Model training requires a large amount of labeled data. Therefore, before training a model, label data. You can create a manual labeling job labeled by one person or by a group of persons (team labeling), or enable auto labeling to quickly label images. You can also modify existing labels, or delete them and re-label.

Labeling Job Types

Create a labeling job based on the dataset type. ModelArts supports the following types of labeling jobs:

- Images
 - Image classification: identifies a class of objects in images.
 - Object detection: identifies the position and class of each object in an image.
- Audio
 - Sound classification: classifies and identifies different sounds.
 - Speech labeling: labels speech content.
 - Speech paragraph labeling: segments and labels speech content.
- Text
 - Text classification: assigns labels to text according to its content.
 - Named entity recognition: assigns labels to named entities in text, such as time and locations.
 - Text triplet: assigns labels to entity segments and entity relationships in the text.

Prerequisites

Before labeling data, create a dataset.

 **NOTE**

Data management is being upgraded and is invisible to users who have not used data management.

Procedure

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**.
2. On the **Data Labeling** page, click **Create Labeling Job** in the upper right corner. On the page that is displayed, create a labeling job.
 - a. Enter basic information about the labeling job, including **Name** and **Description**.

Figure 2-1 Basic information about a labeling job

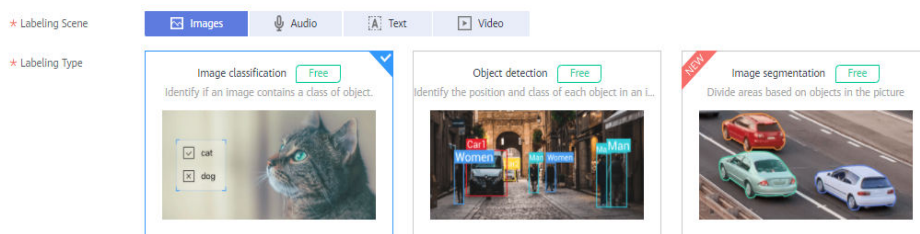


* Name: dataset-test

Description: 0/256

- b. Select a labeling scene and type as required.

Figure 2-2 Selecting a labeling scene and type



- c. Set the parameters based on the labeling job type. For details, see the parameters of the following labeling job types:
 - **Images (Image Classification and Object Detection)**
 - **Audio (Sound Classification, Speech Labeling, and Speech Paragraph Labeling)**
 - **Text (Text Classification, Named Entity Recognition, and Text Triplet)**
 - d. Click **Create** in the lower right corner of the page.
After the labeling job is created, the data labeling management page is displayed. You can perform the following operations on the labeling job: start auto labeling, publish new versions, modify the labeling job, and delete the labeling job.

Images (Image Classification and Object Detection)

Figure 2-3 Parameters of labeling jobs for image classification and object detection

The screenshot shows the configuration interface for a labeling job. It includes the following fields and options:

- Name:** A text input field containing "task-73f8".
- Description:** A large empty text area.
- Labeling Scene:** A set of tabs for "Images", "Audio", "Text", and "Video". The "Images" tab is selected.
- Labeling Type:** Three options are shown:
 - Image classification:** "Free" badge. Description: "Identify if an image contains a class of object." Example image shows a cat with labels for "cat" and "dog".
 - Object detection:** "Free" badge. Description: "Identify the position and class of each object in an L...". Example image shows a street scene with labels for "Car", "Women", and "Man".
 - Image segmentation:** "Free" badge. Description: "Divide areas based on objects in the picture". Example image shows a road with cars and a "NEW" badge.
- Dataset Name:** A dropdown menu showing "dataset-d1c4" and a "Create Dataset" button.
- Label Set:** A text input field with "Enter a label name." and an "Add Label" button. A note says "You can create 9999 more labels."
- Team Labeling:** A toggle switch that is currently turned off.

Table 2-1 Parameters of an image labeling job

Parameter	Description
Dataset Name	Select a dataset that supports the labeling type.
Label Set	<ul style="list-style-type: none"> • Label name: Enter a label name with 1 to 1024 characters. • Add Label: Click Add Label to add one or more labels. • Label color: Set label colors for object detection and image segmentation labeling jobs. Select a color from the color palette on the right of a label, or enter the hexadecimal color code to set the color. • Add Label Attribute: For an object detection labeling job, you can click the plus sign (+) on the right to add label attributes after setting a label color. Label attributes are used to distinguish different attributes of the objects with the same label. For example, yellow kittens and black kittens have the same label cat and their label attribute is color.

Audio (Sound Classification, Speech Labeling, and Speech Paragraph Labeling)

Figure 2-4 Parameters of labeling jobs for sound classification, speech labeling, and speech paragraph labeling

The screenshot shows the configuration interface for audio labeling jobs. Key elements include:

- Name:** task-73f8
- Description:** Empty text box with a 0/256 character limit.
- Labeling Scene:** Audio (selected), Images, Text, Video.
- Labeling Type:** Three options are shown:
 - Sound classification:** Identify if a sound appears in a piece of audio. Includes a waveform and labels for 'guitar' and 'piano'.
 - Speech labeling:** Label speech content. Includes a waveform and a list of labels.
 - Speech paragraph labeling:** Segment and label speech content. Includes a waveform with segments labeled 'thunder' and 'rain'.
- Dataset Name:** dataset-d56c, with a 'Create Dataset' button.
- Label Set:** A text box to 'Enter a label name.' and an 'Add Label' button. A note states: 'You can create 9993 more labels.'

Table 2-2 Parameters of an audio labeling job

Parameter	Description
Dataset Name	Select a dataset that supports the labeling type.
Label Set (for sound classification)	<p>You can add a label set for labeling jobs of sound classification.</p> <ul style="list-style-type: none"> Label name: Enter 1 to 1024 characters in the Label Set text box. Add Label: Click Add Label to add one or more labels.

Parameter	Description
<p>Label Management (for speech paragraph labeling)</p>	<p>Label management is available for speech paragraph labeling.</p> <ul style="list-style-type: none"> ● Single Label A single label is used to label a piece of audio that has only one class. <ul style="list-style-type: none"> - Label: Enter a label name, with 1 to 1024 characters. - Label Color: Set the label color in the Label Color column. You can select a color from the color palette or enter a hexadecimal color code to set the color. ● Multiple Labels Multiple labels are suitable for multi-dimensional labeling. For example, you can label a piece of audio as both noise and speech. For speech, you can label the audio with different speakers. You can click Add Label Class to add multiple label classes. A label class can contain multiple labels. The label class or name contains 1 to 256 characters. Only letters, digits, periods (.), underscores (_), and hyphens (-) are allowed. <ul style="list-style-type: none"> - Add Label Class: Enter a label class. - Label: Enter a label name. - Add Label: Click Add Label to add one or more labels.
<p>Speech Labeling (for speech paragraph labeling)</p>	<p>Only datasets for speech paragraph labeling support speech labeling. By default, speech labeling is disabled. If this function is enabled, you can label speech content.</p>

Text (Text Classification, Named Entity Recognition, and Text Triplet)

Figure 2-5 Parameters of labeling jobs for text classification, named entity recognition, and text triplet

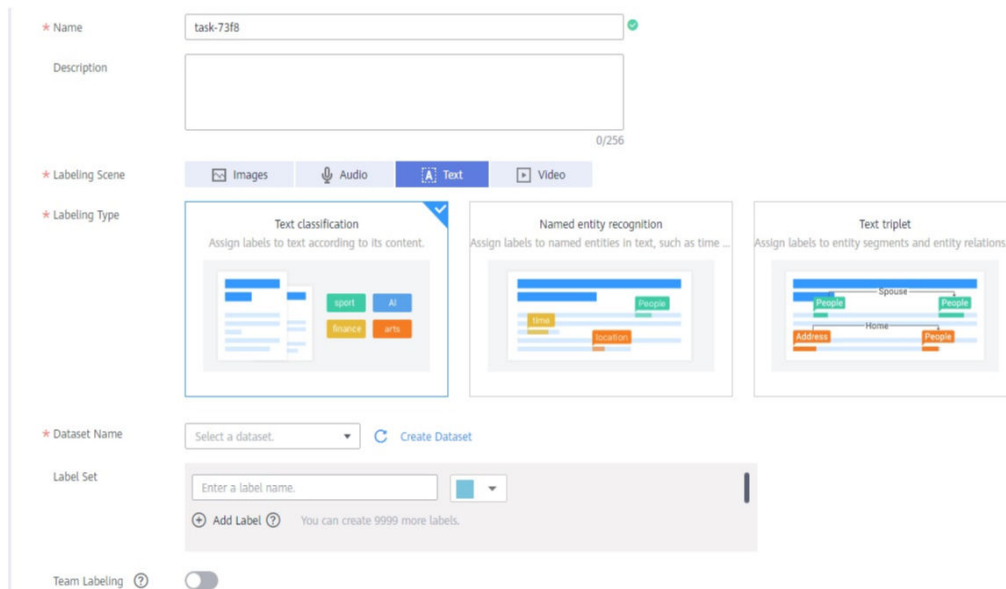


Table 2-3 Parameters of a text labeling job

Parameter	Description
Dataset Name	Select a dataset that supports the labeling type.
Label Set (for text classification and named entity recognition)	<ul style="list-style-type: none"> Label name: Enter a label name, with 1 to 1024 characters. Add Label: Click Add Label to add one or more labels. Label color: Select a color from the color palette or enter the hexadecimal color code to set the color.
Label Set (for text triplet)	<p>For datasets of the text triplet type, set entity labels and relationship labels.</p> <ul style="list-style-type: none"> Entity Label: Set the label name and label color. You can click the plus sign (+) on the right of the color area to add multiple labels. Relationship Label: a relationship between two entities. Set the source entity and target entity. Therefore, add at least two entity labels before adding a relationship label. <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> <p>Label Set</p> <p>Entity Label <input style="width: 150px;" type="text" value="Enter a label name."/> +</p> <p>Relationship Label <input style="width: 100px;" type="text" value="Enter a label name."/> <input style="width: 80px;" type="text" value="Source entity"/> <input style="width: 80px;" type="text" value="Target entity"/> +</p> </div>

2.2 Image Labeling

2.2.1 Image Classification

Training a model uses a large number of labeled images. Therefore, label images before the model training. You can add labels to images by manual labeling or auto labeling. In addition, you can modify the labels of images, or remove their labels and label the images again.

Before labeling an image in image classification scenarios, pay attention to the following:

- You can add multiple labels to an image.
- A label name can contain a maximum of 1024 characters, including letters, digits, hyphens (-), and underscores (_).

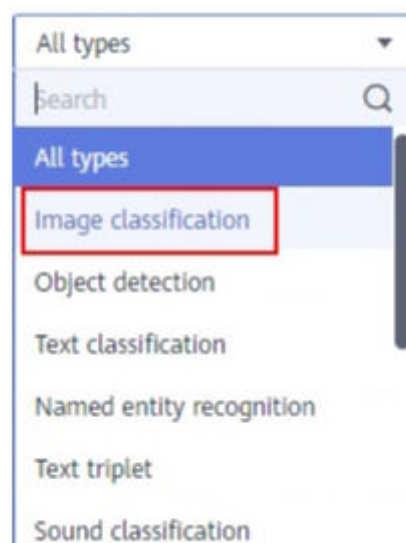
 **NOTE**

Data management is being upgraded and is invisible to users who have not used data management.

Starting Labeling

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**.
2. On the right of the labeling job list, select a labeling type from the job type drop-down list. Click the job to be performed based on the labeling type. The details page of the job is displayed.

Figure 2-6 Selecting a labeling type



3. The job details page displays all data of the labeling job.

Synchronizing New Data

ModelArts automatically synchronizes data and labeling information from datasets to labeling jobs.

To quickly obtain the latest data in a dataset, on the **All statuses, Unlabeled**, or **Labeled** tab page of the labeling job details page, click **Synchronize New Data**.

NOTE

Symptom:

After the labeled data is uploaded to OBS and synchronized, the data is displayed as unlabeled.


Possible causes:

Automatic encryption is enabled in the OBS bucket.

Solution:

Create an OBS bucket and upload data again, or disable bucket encryption and upload data again.

Filtering Data

On the **All statuses, Unlabeled**, or tab page, click  in the filter criteria area and add filter criteria to quickly filter the data you want to view.

The following filter criteria are available. You can set one or more filter criteria.

- **Label:** Select **All** or one or more labels you specified.
- **File Name** or **Path:** Filter files by file name or file storage path.
- **Labeled By:** Select the name of the user who labeled the image.

Manually Labeling Images

The labeling job details page displays the **All statuses, Unlabeled**, and **Labeled** tab pages. The **Unlabeled** tab page is displayed by default. Click an image to preview it. For the images that have been labeled, the label information is displayed at the bottom of the preview page.

1. On the **Unlabeled** tab page, select the images to be labeled.
 - **Manual selection:** In the image list, click the selection box in the upper left corner of an image to enter the selection mode, indicating that the image is selected. You can select multiple images of the same type and add labels to them together.
 - **Batch selection:** If all the images on the current page of the image list belong to the same type, you can click **Select Images on Current Page** in the upper right corner to select all the images on the current page.
2. Add labels to the selected images.
 - a. In the label adding area on the right, set a label in the **Label** text box. Click the **Label** text box and select an existing label from the drop-down list. If the existing labels cannot meet the requirements, input a label in the text box.

- b. Click **OK**. The selected images are automatically moved to the **Labeled** tab page. On the **Unlabeled** and **All statuses** tab pages, the labeling information is updated along with the labeling process, including the added label names and the number of images for each label.

 **NOTE**

For details about how to label data, see **Labeling Description** on the dataset details page.

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**. The **Data Labeling** page is displayed.
2. On the **My Creations** or **My Participations** tab page, find the dataset to be labeled.
3. Click the dataset name. The labeling details page is displayed. (By default, the **Unlabeled** tab page is displayed.)
4. In the upper right corner of the labeling details page, click **Labeling Description**.

Figure 2-7 Labeling Description



Viewing Labeled Images

On the labeling job details page, click the **Labeled** tab to view the list of labeled images. By default, the corresponding labels are displayed under the image thumbnails. You can also select an image and view the label information of the image in the **Labels of Selected Images** area on the right.

Modifying Labeled Data

After labeling data, you can modify labeled data on the **Labeled** tab page.



- **Modifying based on images**

On the labeling job details page, click the **Labeled** tab, and select one or more images to be modified from the image list. Modify the image information in the label information area on the right.

Modifying a label: In the **Labels of Selected Images** area, click the edit icon in the **Operation** column, enter the correct label name in the text box, and click the check mark to complete the modification.

Deleting a label: In the **Labels of Selected Images** area, click the delete icon in the **Operation** column to delete the label. This operation deletes only the labels added to the selected image.

Figure 2-8 Modifying a label

Labels of Selected Images		
Name	Labels	Operation
dog_image	1	 

- **Modifying based on labels**
 - On the labeling job details page, click **Label Management**. All labels are displayed on the list.
 - Modifying a label: Click **Modify** in the **Operation** column. In the dialog box that is displayed, enter a new label name and click **OK**. After the modification, the images that have been added with the label use the new label name.
 - Deleting a label: Click **Delete** in the **Operation** column to delete the label from all images that have been added with the label.

Figure 2-9 Label Management

Name	Labels
animal	168
cake	50
cat_image	19
data	293
Data	6

Figure 2-10 All labels

<input type="checkbox"/> Label Name	Attribute	Operation
<input type="checkbox"/> animal	--	Modify Delete
<input type="checkbox"/> cake	--	Modify Delete
<input type="checkbox"/> cat_image	--	Modify Delete

- Click **Label** in the **Operation** column of the target labeling job to go to the label management page.
 - Click **Modify** in the **Operation** column of the target label to modify it.
 - Click **Delete** in the **Operation** column of the target label to delete it.

Adding Data

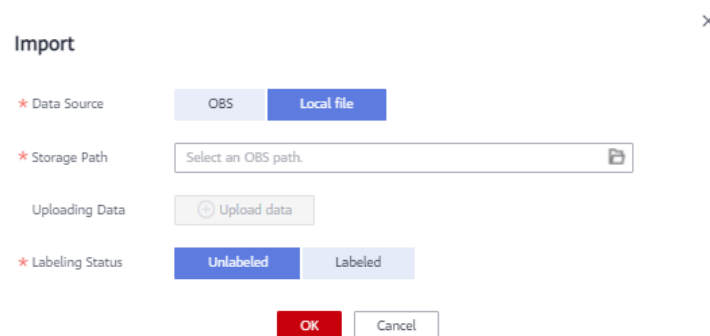
In addition to the data automatically synchronized from datasets, you can directly add images to labeling jobs for labeling. The added data is first imported to the dataset associated with the labeling job. Then, the labeling job automatically synchronizes the latest data from the dataset.

1. On the labeling job details page, click **All statuses**, **Labeled**, or **Unlabeled** tab, click **Add data** in the upper left corner.

Figure 2-11 Adding data



2. Configure the data source, import mode, import path, and labeling status.



3. Click **OK**.

The images you have added will be automatically displayed in the image list on the **All statuses** tab page. You can choose **Add data > View historical records** to view task history.

Figure 2-12 Viewing historical data

Created	Import Mode	Import Path	Samples	Imported Samples	Labeled Samples	Import-Stat...
Mar.24.2022 10:21:...	OBS path	obs://ei-modelarts-...	19	19	0	Succeed...

Deleting Images

You can quickly delete the images you want to discard.

On the **All statuses**, **Unlabeled**, or **Labeled** tab page, select the images to be deleted or click **Select Images on Current Page**, and click **Delete**. In the displayed dialog box, select or deselect **Delete the source files from OBS** as required. After confirmation, click **Yes** to delete the images.

Figure 2-13 Deleting Images



If a tick is displayed in the upper left corner of an image, the image is selected. If no image is selected on the page, the **Delete** button is unavailable.

 NOTE

If you select **Delete the source files from OBS**, images stored in the OBS directory will be deleted accordingly. This operation may affect other dataset versions or datasets using those files, for example, leading to an error in page display, training, or inference. Deleted data cannot be recovered. Exercise caution when performing this operation.

Managing Annotators

If team labeling is enabled for a labeling job, view its labeling details on the **Annotator Management** tab page. Additionally, you can add, modify, or delete annotators.


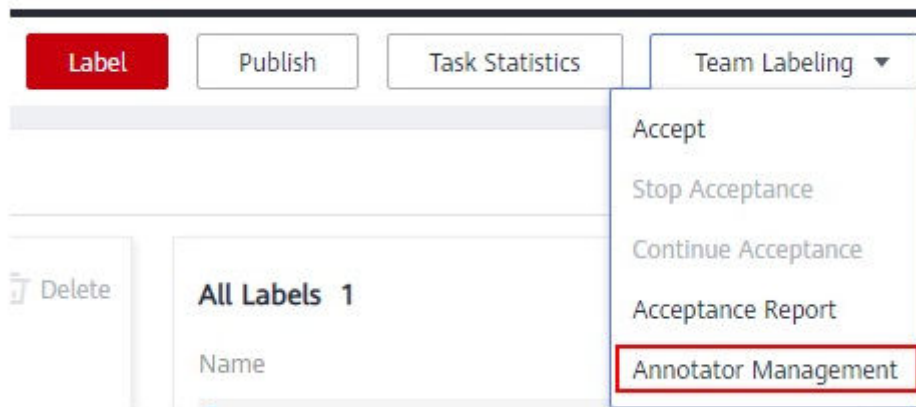
1. Choose **Data Management > Label Data**. On the **My Creations** tab page, view the list of all labeling jobs.
2. Locate the row that contains the target team labeling job. (The name of a team labeling job is followed by )
3. Choose **More > Annotator Management** in the **Operation** column. Alternatively, click the job name to go to the job details page, and choose **Team Labeling > Annotator Management** in the upper right corner.

Figure 2-14 Annotator Management (1)

Name	Dataset	Labeling Progress (Labeled/Total)	Pending Confir...	Created	Description	Operation
task-F98d	dataset-eddf	0% (0/2)	--	Mar 29, 2023 14:52:46 GMT+08:00		Auto Labeling Label Publish More
task-2a81	dataset-1c68	0% (1/1618)	--	Nov 13, 2022 15:58:21 GMT+08:00		Auto Labeling Label Publish More
task-0110	dataset-1c68	1% (110/10663)	--	Nov 01, 2022 15:58:08 GMT+08:00		Auto Labeling Label Publish More
dataset-63bd	dataset-63bd	79% (854/1083)	--	Oct 17, 2022 09:59:07 GMT+08:00		Auto Labeling Label Publish More

Figure 2-15 Annotator Management (2)



- Adding an annotator
Click **Add Member**, select a member name, and click **OK**.
Click **Send Email** in the **Operation** column to send the labeling job to the annotator by email.
- Modifying annotator information
Click **Modify** in the **Operation** column to modify the role of the annotator.
- Deleting an annotator
Click **Delete** in the **Operation** column to delete the annotator.

2.2.2 Object Detection

Training a model uses a large number of labeled images. Therefore, label images before the model training. You can add labels to images by manual labeling or auto labeling. In addition, you can modify the labels of images, or remove their labels and label the images again.

Before labeling an image in object detection scenarios, pay attention to the following:

- All target objects in the image must be labeled.
- Target objects are clear without any blocking and contained within bounding boxes.
- Only the entire object must be contained within a bounding box. The bounding box contains the entire object. The edge of the bounding box cannot intersect the edge outline of the object to be labeled. Ensure that there is no gap between the edge and the object to be labeled to prevent the background from interfering with the model training.

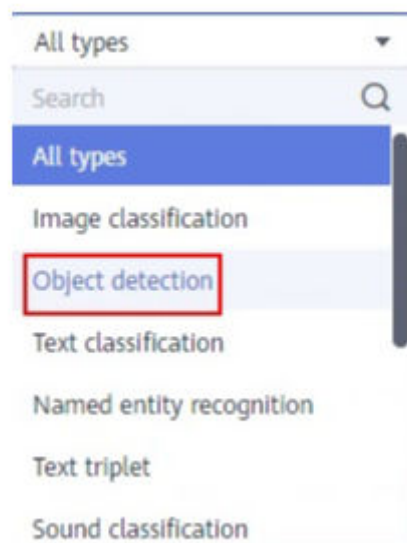
NOTE

Data management is being upgraded and is invisible to users who have not used data management.

Starting Labeling

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**.
2. In the labeling job list, select a labeling type from the **All type** drop-down list, click the job to be performed based on the labeling type. The details page of the job is displayed.

Figure 2-16 Selecting a labeling type



3. The job details page displays all data of the labeling job.

Synchronizing New Data

ModelArts automatically synchronizes data and labeling information from datasets to the labeling job.

To quickly obtain the latest data in a dataset, on the **All statuses**, **Unlabeled**, or **Labeled** tab page of the labeling job details page, click **Synchronize New Data**.

NOTE

Symptom:

After the labeled data is uploaded to OBS and synchronized, the data is displayed as unlabeled.


Possible causes:

Automatic encryption is enabled in the OBS bucket.

Solution:

Create an OBS bucket and upload data again, or disable bucket encryption and upload data again.

Filtering Data

On the **All statuses**, **Unlabeled**, or tab page, click  in the filter criteria area and add filter criteria to quickly filter the data you want to view.

The following filter criteria are available. You can set one or more filter criteria.

- **Label:** Select **All** or one or more labels you specified.
- **File Name** or **Path:** Filter files by file name or file storage path.
- **Labeled By:** Select the name of the user who labeled the image.

Manually Labeling Images







The labeling job details page displays the **All statuses**, **Unlabeled**, and **Labeled** tab pages. The **Unlabeled** tab page is displayed by default.

1. On the **Unlabeled** tab page, click an image. The system automatically directs you to the page for labeling the image. For details about how to use common buttons on this page, see [Table 2-5](#).
2. In the tool bar, select a proper labeling shape. The default labeling shape is a rectangle. In this example, the rectangle is used for labeling.

NOTE


In the tool bar, multiple tools are provided for you to label images. After you select a shape to label the first image, the shape automatically applies to subsequent images. You can switch the shape as required.








Table 2-4 Supported bounding box

Icon	Description
	Rectangle. You can also press 1 . Click the edge of the upper left corner of the object to be labeled. A rectangle will be displayed. Drag the rectangle to cover the object and click to label the object.
	Polygon. You can also press 2 . In the area where the object to be labeled is located, click to label a point, move the mouse and click multiple points along the edge of the object, and then click the first point again. All the points form a polygon. In this way, the object to be labeled is within the bounding box.
	Round. You can also press 3 . Click the center point of an object, and move the mouse to draw a circle to cover the object and click to label the object.
	Straight. You can also press 4 . Click to specify the start and end points of an object, and move the mouse to draw a straight line to cover the object and click to label the object.
	Dashed line. You can also press 5 . Click to specify the start and end points of an object, and move the mouse to draw a dashed line to cover the object and click to label the object.
	Dot. You can also press 6 . Click the object in an image to label a point.

3. In the **Add Label** text box, enter a new label name, select the label color, and click **Add**. Alternatively, select an existing label from the drop-down list.
Label all objects in an image. Multiple labels can be added to an image. After labeling an image, click the right arrow (or press D) in the upper right corner of the image to switch to the next image and label the image.
4. Click **Back to Data Labeling Preview** in the upper left part of the page to view the labeling information. In the dialog box that is displayed, click **Yes** to save the labeling settings.
The selected images are automatically moved to the **Labeled** tab page. On the **Unlabeled** and **All statuses** tab pages, the labeling information is updated along with the labeling process, including the added label names and the number of images for each label.

Table 2-5 Common icons on the labeling page

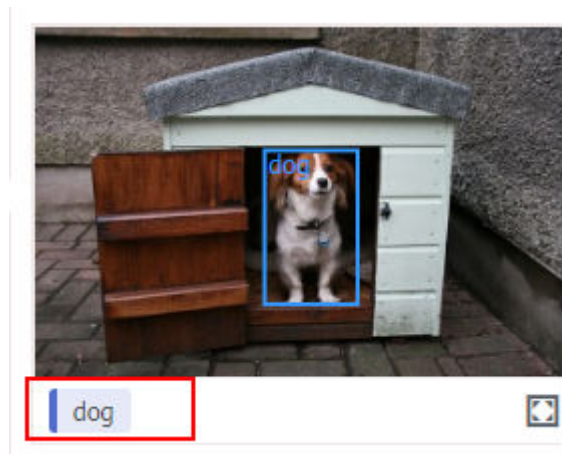
Button	Features
	Cancel the previous operation. You can also press Ctrl+Z .

Button	Features
	Redo the previous operation. You can also press Ctrl+Shift+Z .
	Zoom in an image. You can also use the mouse wheel to zoom in.
	Zoom out an image. You can also use the mouse wheel to zoom out.
	Delete all bounding boxes on the current image. You can also press Shift+Delete .
	Show or hide a bounding box. This operation can be performed only on a labeled image. You can also press Shift+H .
	Drag a bounding box to another position or drag the edge of the bounding box to resize it. You can also use X + left mouse button.
	Reset a bounding box. After dragging a bounding box, you can click this button to quickly restore the bounding box to its original shape and position. You can also press Esc .

Viewing Labeled Images

On the labeling job details page, click the **Labeled** tab to view the list of labeled images. The labels of each image are displayed below the image.

Figure 2-17 Labels

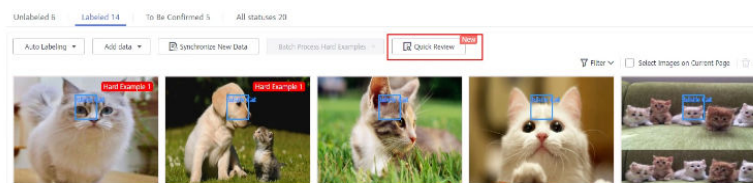


Quick Review

To simplify operations, ModelArts provides quick review so that you can batch review and modify labeled data.

1. Log in to the ModelArts management console. In the navigation pane, choose **Data Management > Label Data**. On the **My Creations** tab page, select the target labeling job type from the **All types** drop-down list in the upper right corner. (Only object detection and image segmentation support quick review.)
2. In the labeling job list, click the target labeling job. The labeling details page is displayed.
3. Click **Quick Review** on the **Labeled** tab. On the displayed page, confirm the labeling results.

Figure 2-18 Quick Review




4. Batch review images of the same label.
 - a. On the review page, select the label type from the drop-down list next to **Filter by Label**.
 - b. Sort images of the selected label type by bounding box area or aspect ratio.
 - c. Click an incorrectly labeled image, and then drag the labeling box to relabel the image. (**Modified** is displayed on the modified images.)
 - d. You can select the incorrectly labeled images, and then click  in the upper right corner to delete the label. (**Deleted** is displayed on the images whose label has been deleted.)

Figure 2-19 Modified



Figure 2-20 Deleted




- e. You can also modify the label of a labeled image.
 - i. Select the target images and click  in the **All Labels** area on the right.
 - ii. Type a new label and click **OK**.

Figure 2-21 All Labels

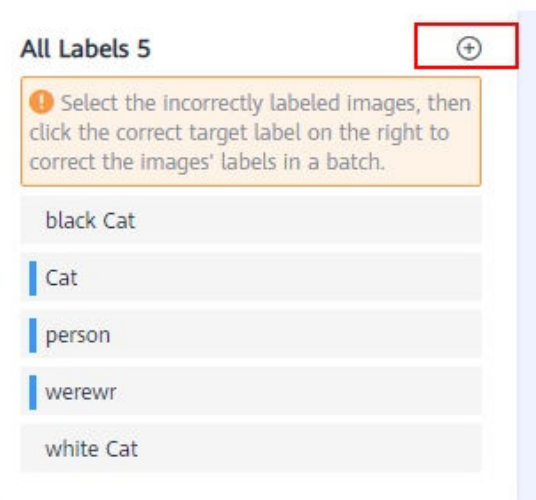
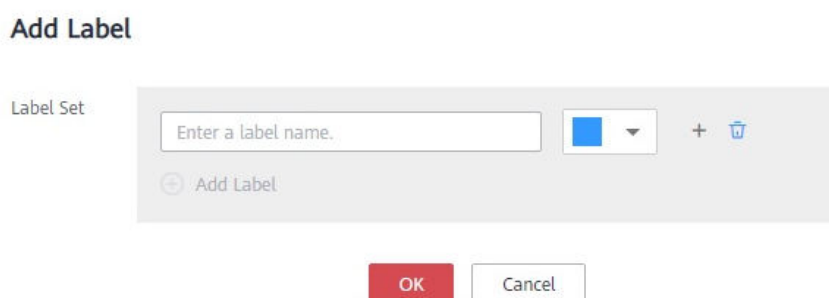
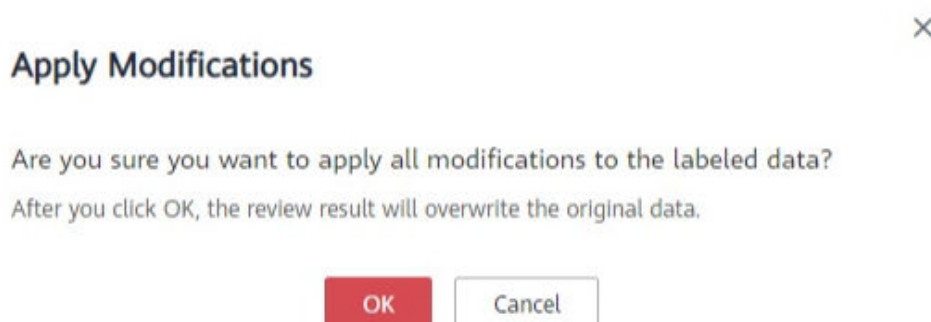


Figure 2-22 Adding a label



5. After the modification, click **Apply Modifications**. In the displayed dialog box, click **OK**. The system automatically returns to the labeling overview page and overwrites the original labeling data.

Figure 2-23 Apply Modifications



6. If you are not satisfied with the modified data, you can click **Cancel Modifications** to retain the original labeling data.

Figure 2-24 Cancel Modifications





Cancel Modifications

Are you sure you want to cancel all modifications in this review?

After you click OK, all the modifications in this review will be cancelled.



Table 2-6 Buttons on the quick review page

Button	Features
	Delete the label.
	Undo all operations on the current page.
	Undo the previous operation.
	Redo the previous operation.

Modifying Labeled Data

After labeling data, you can modify labeled data on the **Labeled** tab page.

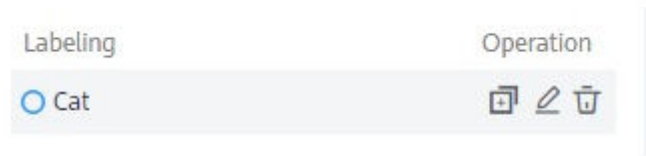
- **Modifying based on images**

On the labeling job details page, click the **Labeled** tab and then the image to be modified. The labeling page is displayed. Modify the image information in the label information area on the right.

- **Modifying a label:** In the **Labeling** area, click the edit icon, enter the correct label name in the text box, and click the check mark to complete the modification. Alternatively, click a label. In the image labeling area, adjust the position and size of the labeling box. After the adjustment, right-click the labeling box and choose **Modify** from the shortcut menu. Enter the new label and click **Modify** to save the modification.
- **Deleting a label:** In the **Labeling** area, click the deletion icon to delete a label from the image.

After deleting the label, click **Back to Data Labeling Preview** in the upper left corner of the page to exit the labeling page. In the dialog box that is displayed, save the modification. After all labels of an image are deleted, the image is displayed on the **Unlabeled** tab page.

Figure 2-25 Editing an object detection label



- **Modifying based on labels**

- On the labeling job details page, click **Label Management** on the right. All label information is displayed.
 - Modifying a label: Click **Modify** in the **Operation** column. In the dialog box that is displayed, enter a new label name, select a new label color, and click **OK**. After the modification, the images that have been added with the label use the new label name.
 - Deleting a label: Click **Delete** in the **Operation** column, or select the label to be deleted and click **Delete Label** above the label list.

Figure 2-26 Label Management



Figure 2-27 All labels

Label Name	Attribute	Label Color	Operation
<input type="checkbox"/> apple	--	■	Modify Delete
<input type="checkbox"/> banana	--	■	Modify Delete
<input type="checkbox"/> dog	--	■	Modify Delete
<input type="checkbox"/> object	Rectangle	■	Modify Delete
<input type="checkbox"/> orange	--	■	Modify Delete

- Alternatively, click **Label** in the **Operation** column of the target labeling job to go to the label management page.

Figure 2-28 Accessing the label management page from the labeling job list



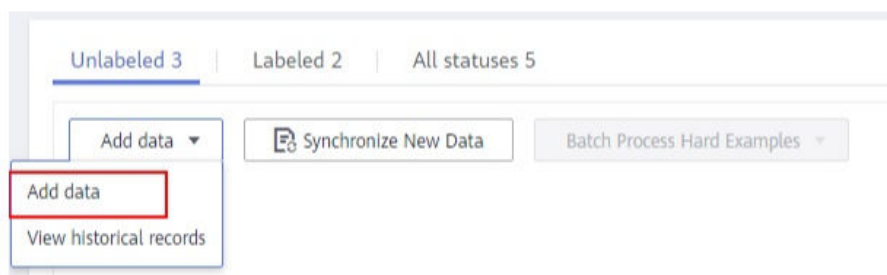
- Click **Modify** in the **Operation** column of the target label to modify it.
- Click **Delete** in the **Operation** column of the target label to delete it.

Adding Data

In addition to the data automatically synchronized from datasets, you can directly add images to labeling jobs for labeling. The added data is first imported to the dataset associated with the labeling job. Then, the labeling job automatically synchronizes the latest data from the dataset.

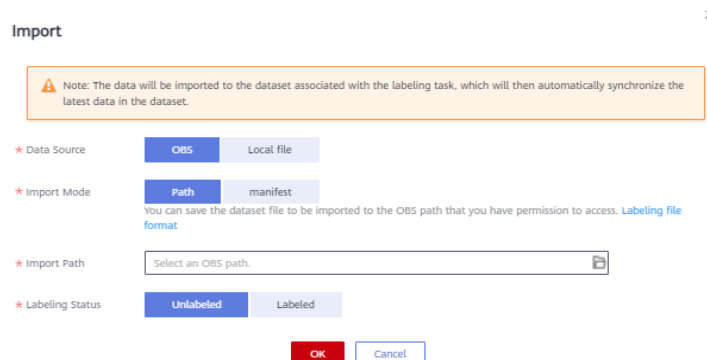
1. On the labeling job details page, click **All statuses**, **Labeled**, or **Unlabeled** tab, click **Add data** in the upper left corner.

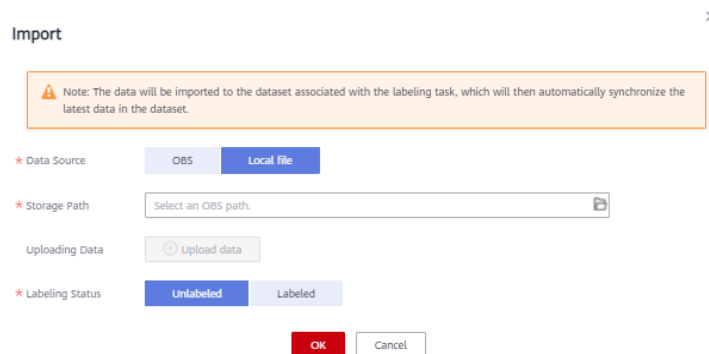
Figure 2-29 Adding data



2. Configure the data source, import mode, import path, and labeling status.

Figure 2-30 Adding images

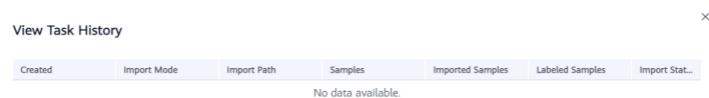




3. Click **OK**.

The images you have added will be automatically displayed in the image list on the **All statuses** tab page. You can choose **Add data > View historical records** to view task history.

Figure 2-31 Viewing historical data

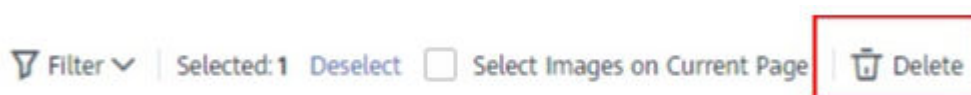


Deleting Images

You can quickly delete the images you want to discard.

On the **All statuses**, **Unlabeled**, or **Labeled** tab page, select the images to be deleted or click **Select Images on Current Page**, and click **Delete**. In the displayed dialog box, select or deselect **Delete the source files from OBS** as required. After confirmation, click **Yes** to delete the images.

Figure 2-32 Deleting images



If a tick is displayed in the upper left corner of an image, the image is selected. If no image is selected on the page, the **Delete** button is unavailable.

NOTE

If you select **Delete the source files from OBS**, images stored in the OBS directory will be deleted accordingly. This operation may affect other dataset versions or datasets using those files, for example, leading to an error in page display, training, or inference. Deleted data cannot be recovered. Exercise caution when performing this operation.

Managing Annotators

If team labeling is enabled for a labeling job, view its labeling details on the **Annotator Management** tab page. Additionally, you can add, modify, or delete annotators.

1. Choose **Data Management > Label Data**. On the **My Creations** tab page, view the list of all labeling jobs.
2. Locate the row that contains the target team labeling job. (The name of a team labeling job is followed by .)
3. Choose **More > Annotator Management** in the **Operation** column. Alternatively, click the job name to go to the job details page, and choose **Team Labeling > Annotator Management** in the upper right corner.

Figure 2-33 Annotator Management (1)









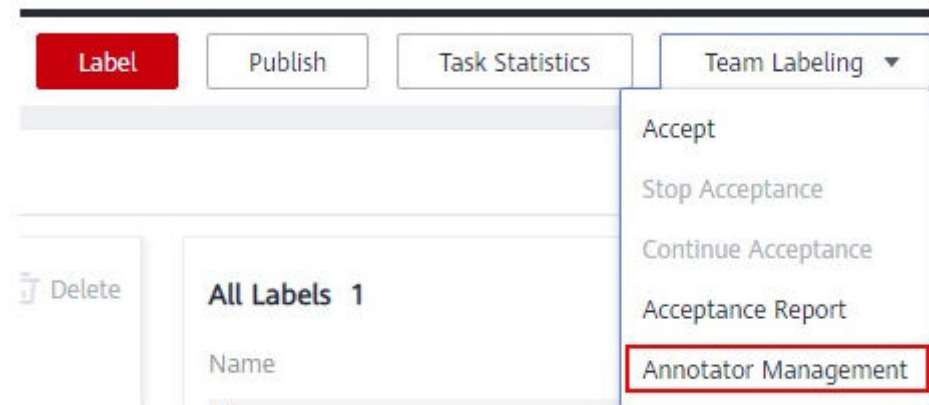
Name	Dataset	Labeling Progress (Labeled/Total)	Pending Confir...	Created	Description	Operation
 data-005	dataset-c42d	<div style="width: 33%;"><div style="width: 33%;"></div></div> 33% (20/60)	0	May 13, 2021 18:33:15 GMT+0800		Auto Labeling Label Publish More
 dataset-c42d	dataset-c42d	<div style="width: 33%;"><div style="width: 33%;"></div></div> 33% (20/60)	0	May 13, 2021 16:23:04 GMT+0800		Auto Labeling Label More
 dataset-car-all-test-135...	dataset-car-all-test-135...	<div style="width: 67%;"><div style="width: 67%;"></div></div> 67% (8/12)	0	Apr 26, 2021 09:49:32 GMT+0800		Auto Labeling Label More
 dataset-c49c	dataset-c49c	<div style="width: 0%;"><div style="width: 0%;"></div></div> 0% (0/200)	0	Apr 23, 2021 20:34:17 GMT+0800		Auto Labeling Label More

Figure 2-34 Annotator Management (2)



- Adding an annotator
Click **Add Member**, select a member name, and click **OK**.
Click **Send Email** in the **Operation** column to send the labeling job to the annotator by email.
- Modifying annotator information
Click **Modify** in the **Operation** column to modify the role of the annotator.
- Deleting an annotator
Click **Delete** in the **Operation** column to delete the annotator.

2.3 Text Labeling

2.3.1 Text Classification

Model training requires a large amount of labeled data. Therefore, before the model training, add labels to the files that are not labeled. In addition, you can modify, delete, and re-label the labeled text.

Text classification classifies text content based on labels. Before labeling text content, pay attention to the following:

- Text labeling supports multiple labels. That is, you can add multiple labels to a labeling object.
- A label name can contain a maximum of 1024 characters, including letters, digits, hyphens (-), underscores (_), and special characters.

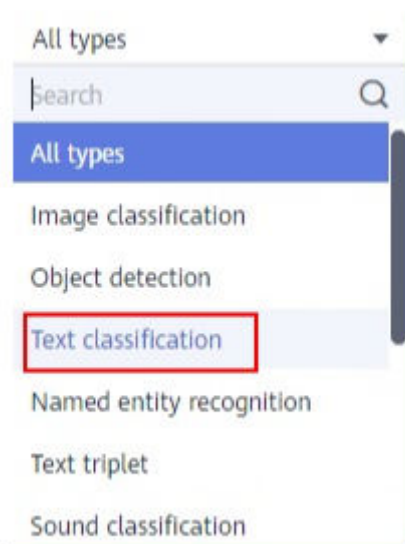
 **NOTE**

Data management is being upgraded and is invisible to users who have not used data management.

Starting Labeling

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**.
2. In the labeling job list, select a labeling type from the **All type** drop-down list, click the job to be performed based on the labeling type. The details page of the job is displayed.

Figure 2-35 Selecting a labeling type



3. The job details page displays all data of the labeling job.

Synchronizing New Data

ModelArts automatically synchronizes data and labeling information from datasets to the labeling job.

To quickly obtain the latest data in the datasets, on the **Unlabeled** tab page of the labeling job details page, click **Synchronize New Data**.

 **NOTE**

Symptom:

After the labeled data is uploaded to OBS and synchronized, the data is displayed as unlabeled.

Possible causes:

Automatic encryption is enabled in the OBS bucket.

Solution:

Create an OBS bucket and upload data again, or disable bucket encryption and upload data again.

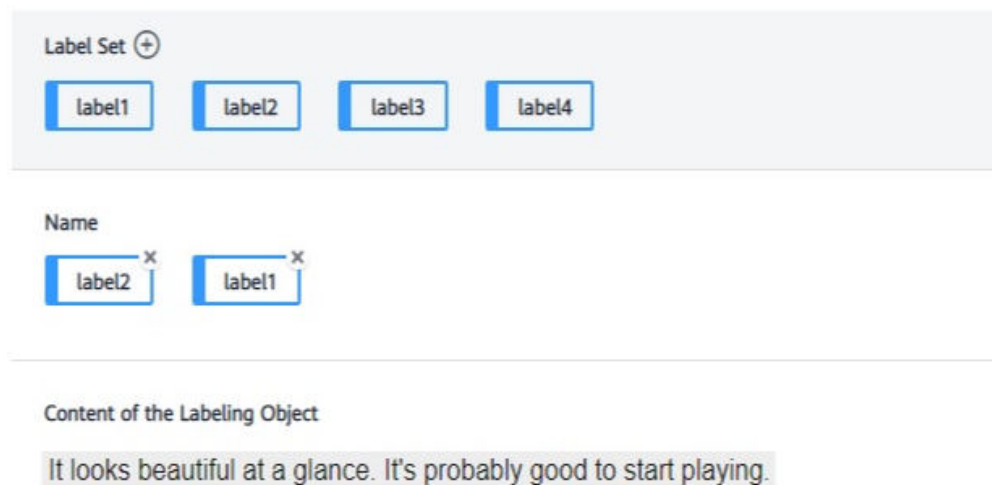
Labeling Text Files

The labeling job details page displays the **Unlabeled** and **Labeled** tabs. The **Unlabeled** tab page is displayed by default.

1. On the **Unlabeled** tab page, the objects to be labeled are listed in the left pane. In the list, click the text object to be labeled, and select a label in the **Label Set** area in the right pane. Multiple labels can be added to a labeling object.

You can repeat this operation to select objects and add labels to the objects.

Figure 2-36 Labeling for text classification



2. After all objects are labeled, click **Save Current Page** at the bottom of the page.

Adding a Label

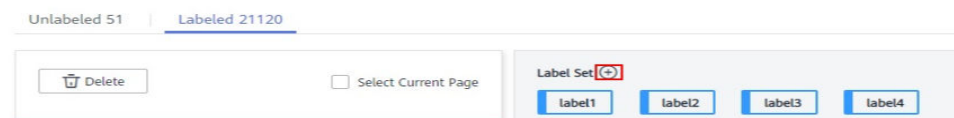
- Adding labels on the **Unlabeled** tab page: Click the plus sign (+) next to **Label Set**. On the **Add Label** page that is displayed, add a label name, select a label color, and click **OK**.

Figure 2-37 Adding a label (1)



- Adding labels on the **Labeled** tab page: Click the plus sign (+) next to **Label Set**. On the **Add Label** page that is displayed, add a label name, select a label color, and click **OK**.

Figure 2-38 Adding a label (2)



Viewing the Labeled Text

On the labeling job details page, click the **Labeled** tab to view the list of labeled texts. You can also view all labels supported by the labeling job in the **All Labels** area on the right.

Modifying Labeled Data

After labeling data, you can modify labeled data on the **Labeled** tab page.

- **Modifying based on texts**

On the labeling job details page, click the **Labeled** tab and select the text to be modified from the text list.

In the text list, click the text. When the text background turns blue, the text is selected. If a text file has multiple labels, you can click **✕** above a label to delete the label.
- **Modifying based on labels**

On the labeling job details page, click the **Labeled** tab. The information about all labels is displayed on the right.

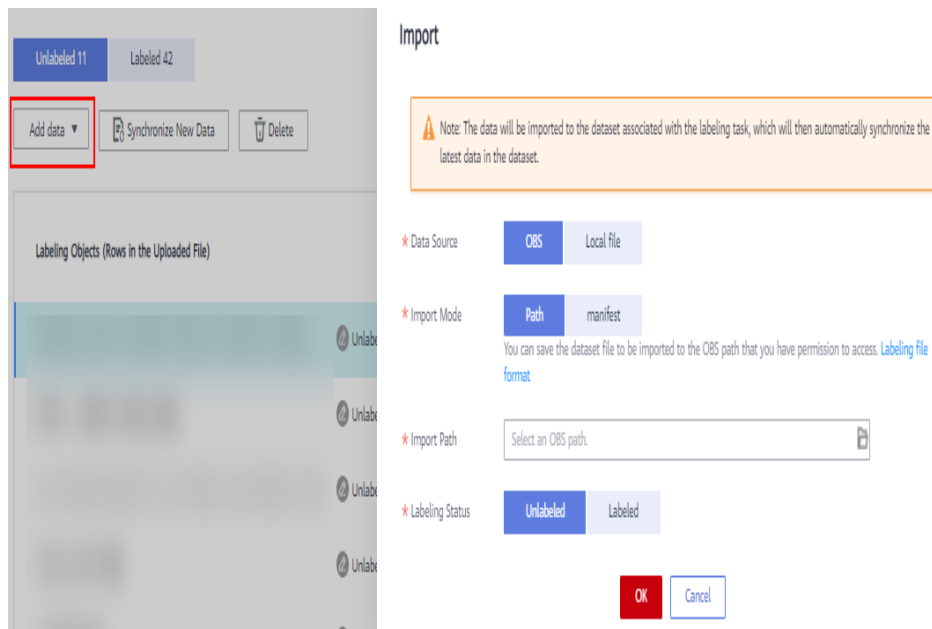
 - **Batch modification:** In the **All Labels** area, click the edit icon in the **Operation** column, modify the label name in the text box, select a label color, and click **OK**.
 - **Batch deletion:** In the **All Labels** area, click the deletion icon in the **Operation** column to delete the label. In the dialog box that is displayed, select **Delete the label** or **Delete the label and objects with only the label**, and click **OK**.

Adding a File

In addition to the data synchronized, you can directly add data on labeling job details page for labeling.

1. On the labeling job details page, click the **Unlabeled** tab, click **Add data** in the upper left corner.
2. Configure input data and click **OK**.
For details about how to import data, see section "Importing Data".

Figure 2-39 Importing data



Deleting a File

You can quickly delete the files you want to discard.

- On the **Unlabeled** tab page, select the text to be deleted, and click **Delete** in the upper left corner to delete the text.
- On the **Labeled** tab page, select the text to be deleted and click **Delete**. Alternatively, tick **Select Current Page** to select all text objects on the current page and click **Delete** in the upper left corner.

The background of the selected text is blue.

Managing Annotators

If team labeling is enabled for a labeling job, view its labeling details on the **Annotator Management** tab page. Additionally, you can add, modify, or delete annotators.


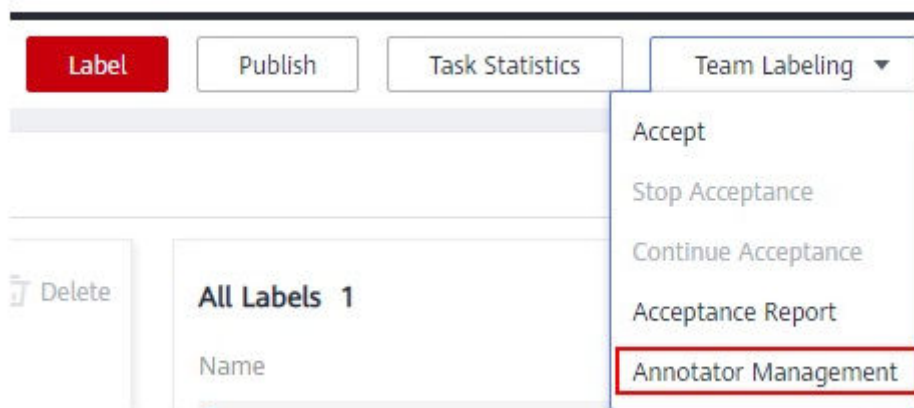
1. Choose **Data Management > Label Data**. On the **My Creations** tab page, view the list of all labeling jobs.
2. Locate the row that contains the target team labeling job. (The name of a team labeling job is followed by )
3. Choose **More > Annotator Management** in the **Operation** column. Alternatively, click the job name to go to the job details page, and choose **Team Labeling > Annotator Management** in the upper right corner.

Figure 2-40 Annotator Management (1)

Name	Dataset	Labeling Progress (Labeled/Total)	Pending Confir...	Created	Description	Operation
task-f8fd	dataset-e8df	0% (0/2)		Mar 29, 2023 14:52:46 GMT+08:00		Auto Labeling Label Publish More
task-2a81	dataset-1c98	0% (1/1618)		Nov 13, 2022 15:58:21 GMT+08:00		Auto Labeling Label Publish More
task-c010	dataset-1c98	1% (10/1663)		Nov 01, 2022 15:58:08 GMT+08:00		Auto Labeling Label Publish More
dataset-63e0	dataset-63e0	79% (854/1083)		Oct 17, 2022 09:59:07 GMT+08:00		Auto Labeling Label Publish Modify

Figure 2-41 Annotator Management (2)



- Adding an annotator
Click **Add Member**, select a member name, and click **OK**.
Click **Send Email** in the **Operation** column to send the labeling job to the annotator by email.
- Modifying annotator information
Click **Modify** in the **Operation** column to modify the role of the annotator.
- Deleting an annotator
Click **Delete** in the **Operation** column to delete the annotator.

2.3.2 Named Entity Recognition

Named entity recognition assigns labels to named entities in text, such as time and locations. Before labeling, pay attention to the following:

A label name of a named entity can contain a maximum of 1024 characters, including letters, digits, hyphens (-), underscores (_), and special characters.

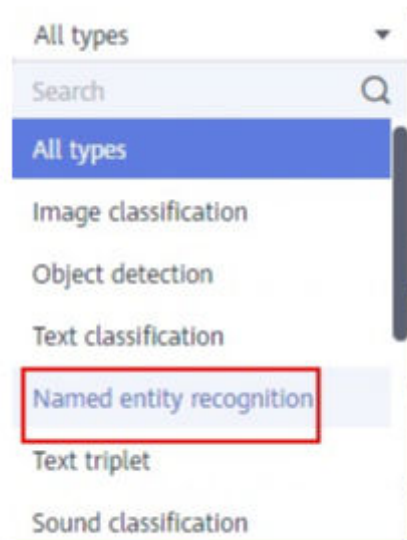
NOTE

Data management is being upgraded and is invisible to users who have not used data management.

Starting Labeling

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**.
2. In the labeling job list, select a labeling type from the **All type** drop-down list, click the job to be performed based on the labeling type. The details page of the job is displayed.

Figure 2-42 Selecting a labeling type



3. The job details page displays all data of the labeling job.

Synchronizing New Data

ModelArts automatically synchronizes data and labeling information from datasets to the labeling job.

To quickly obtain the latest data in the datasets, on the **Unlabeled** tab page of the labeling job details page, click **Synchronize New Data**.

NOTE

Symptom:

After the labeled data is uploaded to OBS and synchronized, the data is displayed as unlabeled.

Possible causes:

Automatic encryption is enabled in the OBS bucket.

Solution:

Create an OBS bucket and upload data again, or disable bucket encryption and upload data again.

Labeling Text Files

The labeling job details page displays the **Unlabeled** and **Labeled** tabs. The **Unlabeled** tab page is displayed by default.

1. On the **Unlabeled** tab page, the objects to be labeled are listed in the left pane. In the list, click the text object to be labeled, select a part of text displayed under **Label Set** for labeling, and select a label in the **Label Set** area in the right pane.

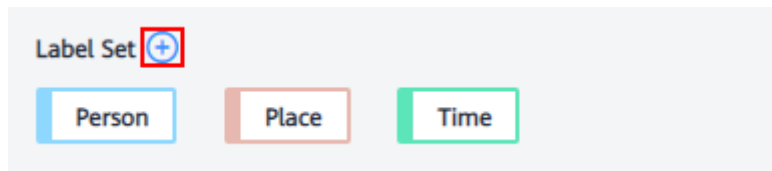
You can repeat this operation to select objects and add labels to the objects.

2. Click **Save Current Page** in the lower part of the page to complete the labeling.

Adding a Label

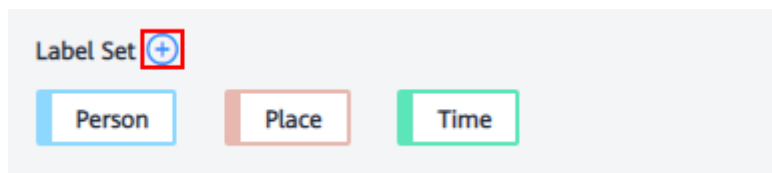
- Adding labels on the **Unlabeled** tab page: Click the plus sign (+) next to **Label Set**. On the **Add Label** page that is displayed, add a label name, select a label color, and click **OK**.

Figure 2-43 Adding a named entity label (1)



- Adding labels on the **Labeled** tab page: Click the plus sign (+) next to **Label Set**. On the **Add Label** page that is displayed, add a label name, select a label color, and click **OK**.

Figure 2-44 Adding a named entity label (2)



Viewing the Labeled Text

On the dataset details page, click the **Labeled** tab to view the list of the labeled text. You can also view all labels supported by the dataset in the **All Labels** area on the right.

Modifying Labeled Data

After labeling data, you can modify labeled data on the **Labeled** tab page.

On the labeling job details page, click the **Labeled** tab, and modify the text information in the label information area on the right.

- **Modifying based on texts**

On the labeling job details page, click the **Labeled** tab, and select the text to be modified from the text list.

Manual deletion: In the text list, click the text. When the text background turns blue, the text is selected. On the right of the page, click **✕** above a text label to delete the label.

- **Modifying based on labels**

On the labeling job details page, click the **Labeled** tab. The information about all labels is displayed on the right.

- Batch modification: In the **All Labels** area, click the edit icon in the **Operation** column, add a label name in the text box, select a label color, and click **OK**.

- Batch deletion: In the **All Labels** area, click the deletion icon in the **Operation** column to delete the label. In the dialog box that is displayed, select **Delete the label** or **Delete the label and objects with only the label**, and click **OK**.

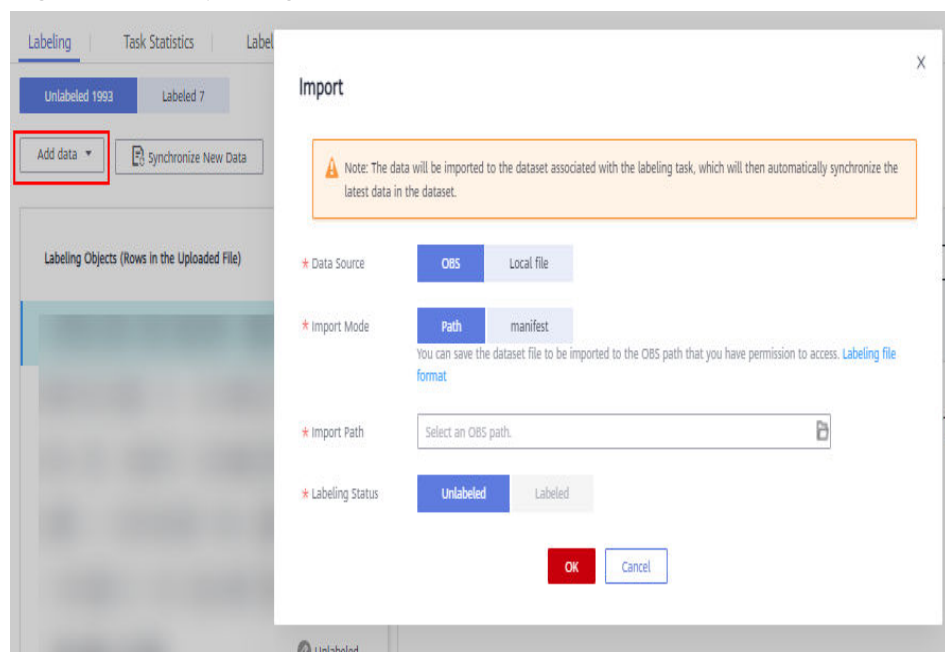
Adding a File

In addition to the data synchronized, you can directly add data on labeling job details page for labeling.

1. On the labeling job details page, click the **Unlabeled** tab, click **Add data** in the upper left corner.
2. Configure input data and click **OK**.

For details about how to import data, see section "Importing Data".

Figure 2-45 Importing data



Deleting a File

You can quickly delete the files you want to discard.

- On the **Unlabeled** tab page, select the text to be deleted, and click **Delete** in the upper left corner to delete the text.
- On the **Labeled** tab page, select the text to be deleted and click **Delete**. Alternatively, tick **Select Current Page** to select all text objects on the current page and click **Delete** in the upper left corner.

The background of the selected text is blue.

Managing Annotators

If team labeling is enabled for a labeling job, view its labeling details on the **Annotator Management** tab page. Additionally, you can add, modify, or delete annotators.


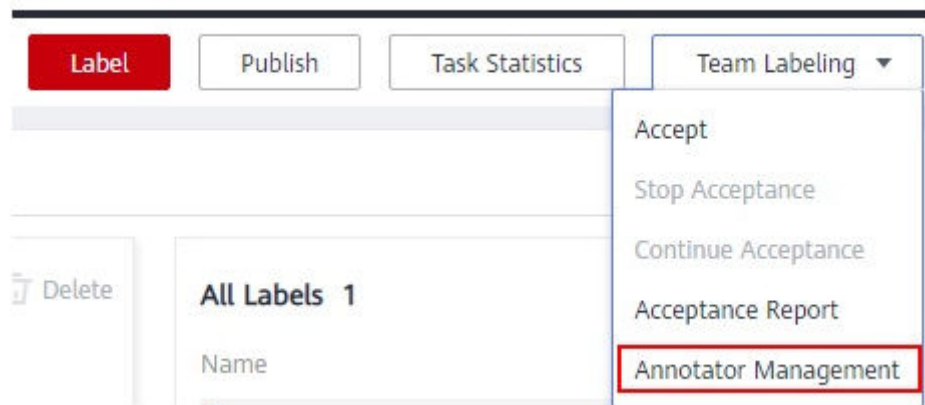
1. Choose **Data Management > Label Data**. On the **My Creations** tab page, view the list of all labeling jobs.
2. Locate the row that contains the target team labeling job. (The name of a team labeling job is followed by )
3. Choose **More > Annotator Management** in the **Operation** column. Alternatively, click the job name to go to the job details page, and choose **Team Labeling > Annotator Management** in the upper right corner.

Figure 2-46 Annotator Management (1)

Name	Dataset	Labeling Progress (Labeled/Total)	Pending Confir...	Created	Description	Operation
task-f8fd	dataset-e8df	0% (0/2)	--	Mar 29, 2023 14:52:46 GMT+08:00	Auto Labeling	Label Publish More
task-2a8f	dataset-1068	0% (1/1618)	--	Nov 13, 2022 15:58:21 GMT+08:00	Auto Labeling	Label Publish Delete
task-010	dataset-1068	1% (10/1663)	--	Nov 01, 2022 15:58:08 GMT+08:00	Auto Labeling	Label Publish Annotator Management
dataset-63e0	dataset-63e0	79% (854/1083)	--	Oct 17, 2022 09:59:07 GMT+08:00	Auto Labeling	Label Publish Modify

Figure 2-47 Annotator Management (2)



- Adding an annotator
Click **Add Member**, select a member name, and click **OK**.
Click **Send Email** in the **Operation** column to send the labeling job to the annotator by email.
- Modifying annotator information
Click **Modify** in the **Operation** column to modify the role of the annotator.
- Deleting an annotator
Click **Delete** in the **Operation** column to delete the annotator.

2.3.3 Text Triplet

Triplet labeling is suitable for scenarios where structured information, such as subjects, predicates, and objects, needs to be labeled in statements. With this function, not only entities in statements, but also relationships between entities can be labeled. Triplet labeling is often used in natural language processing tasks such as dependency syntax analysis and information extraction.

Text triplet labeling involves two classes of important labels: **Entity Label** and **Relationship Label**. For **Relationship Label**, set its **Source entity** and **Target entity**.

- You can define multiple entity and relationship labels for a text object.
- The **Entity Label** defined during dataset creation cannot be deleted.

Precautions

Before labeling, ensure that the **Entity Label** and **Relationship Label** of a labeling job have been defined. For **Relationship Label**, set its **Source entity** and **Target entity**. **Relationship Label** must be between the defined **Source entity** and **Target entity**.

For example, if two entities are labeled as **Place**, you cannot add any relationship label between them. If a relationship label cannot be added, a red cross is displayed.

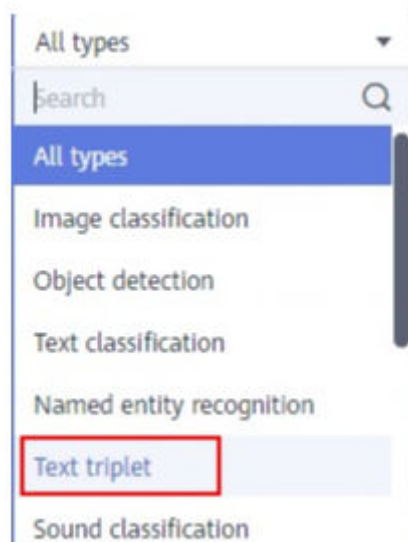
NOTE

Data management is being upgraded and is invisible to users who have not used data management.

Starting Labeling

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**.
2. In the labeling job list, select a labeling type from the **All type** drop-down list, click the job to be performed based on the labeling type. The details page of the job is displayed.

Figure 2-48 Selecting a labeling type



3. The job details page displays all data of the labeling job.

Synchronizing New Data

ModelArts automatically synchronizes data and labeling information from datasets to the labeling job.

To quickly obtain the latest data in the datasets, on the **Unlabeled** tab page of the labeling job details page, click **Synchronize New Data**.

 **NOTE**

Symptom:

After the labeled data is uploaded to OBS and synchronized, the data is displayed as unlabeled.

Possible causes:

Automatic encryption is enabled in the OBS bucket.

Solution:

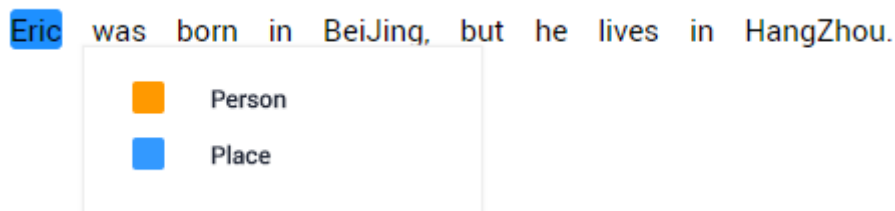
Create an OBS bucket and upload data again, or disable bucket encryption and upload data again.

Labeling Text Files

The labeling job details page displays the **Unlabeled** and **Labeled** tabs. The **Unlabeled** tab page is displayed by default.

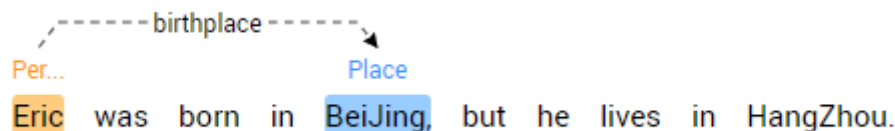
1. On the **Unlabeled** tab page, the objects to be labeled are listed in the left pane. In the list, click a text object, select the corresponding text content on the right pane, and select an entity name from the displayed entity list to label the content.

Figure 2-49 Labeling an entity



2. After labeling multiple entities, click the source entity and target entity in sequence and select a relationship type from the displayed relationship list to label the relationship.

Figure 2-50 Labeling a relationship



3. After all objects are labeled, click **Save Current Page** at the bottom of the page.

 **NOTE**

You cannot modify the labels of a dataset in the text triplet type on the labeling page. Instead, click **Label Management** and modify the **Entity Label** and **Relationship Label**.

Modifying Labeled Data

After labeling data, you can modify labeled data on the **Labeled** tab page.

On the labeling job details page, click the **Labeled** tab. Select a text object in the left pane and the right pane displays the detailed label information. You can move your cursor to the entity or relationship label, and right-click to delete it. You can also click the source entity and target entity in sequence to add a relationship label.

You can click **Delete Labels on Current Item** at the bottom of the page to delete all labels in the selected text object.

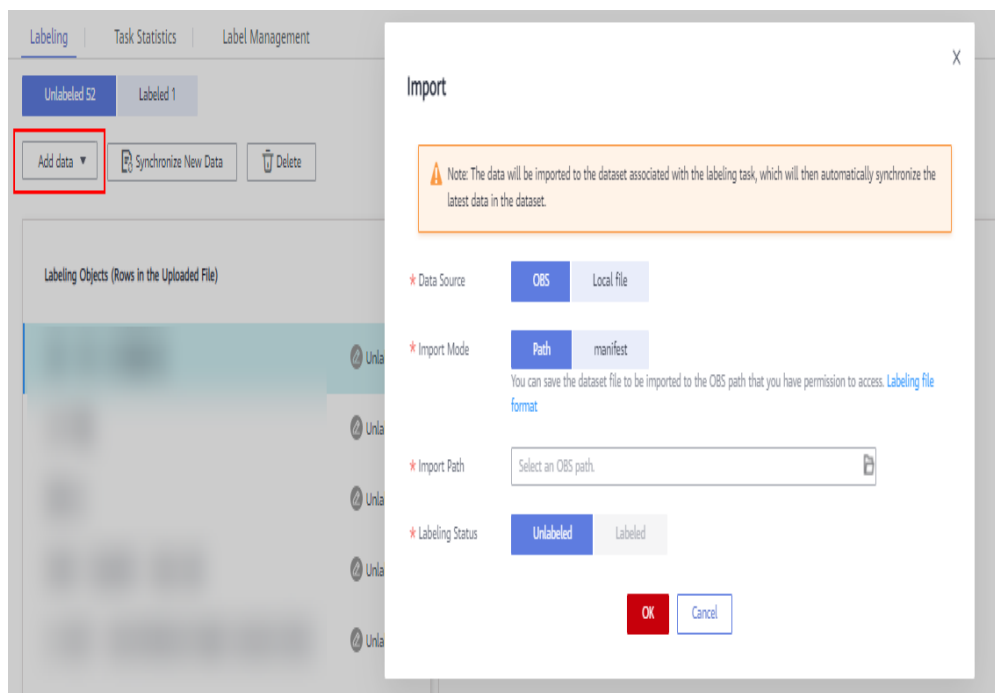
Adding a File

In addition to the data synchronized, you can directly add data on labeling job details page for labeling.

1. On the labeling job details page, click the **Unlabeled** tab, click **Add data** in the upper left corner.
2. Configure input data and click **OK**.

For details about how to import data, see .

Figure 2-51 Importing data



Deleting a File

You can quickly delete the files you want to discard.

- On the **Unlabeled** tab page, select the text to be deleted, and click **Delete** in the upper left corner to delete the text.

- On the **Labeled** tab page, select the text to be deleted and click **Delete**. Alternatively, tick **Select Current Page** to select all text objects on the current page and click **Delete** in the upper left corner.

The background of the selected text is blue. If no text is selected on the page, the **Delete** button is unavailable.

Managing Annotators

If team labeling is enabled for a labeling job, view its labeling details on the **Annotator Management** tab page. Additionally, you can add, modify, or delete annotators.


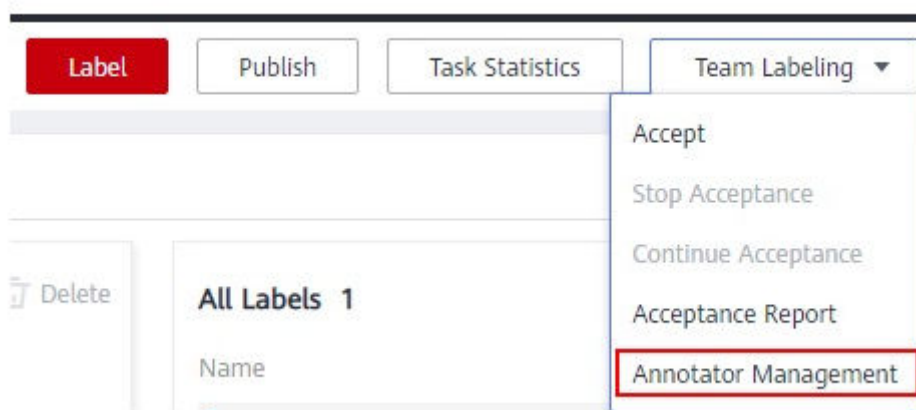
- Choose **Data Management > Label Data**. On the **My Creations** tab page, view the list of all labeling jobs.
- Locate the row that contains the target team labeling job. (The name of a team labeling job is followed by )
- Choose **More > Annotator Management** in the **Operation** column. Alternatively, click the job name to go to the job details page, and choose **Team Labeling > Annotator Management** in the upper right corner.

Figure 2-52 Annotator Management (1)

Name	Dataset	Labeling Progress (Labeled/Total)	Pending Confir...	Created	Description	Operation
task-f98d	dataset-e8df	0% (0/2)		Mar 29, 2023 14:52:46 GMT+08:00		Auto Labeling Label Publish More
task-2a81	dataset-1c98	0% (1/1618)		Nov 13, 2022 15:58:21 GMT+08:00		Auto Labeling Label Delete Task Statistics
task-c010	dataset-1c98	1% (10/1663)		Nov 01, 2022 15:58:08 GMT+08:00		Auto Labeling Label Annotator Management Modify
dataset-63e0	dataset-63e0	79% (854/1083)		Oct 17, 2022 09:59:07 GMT+08:00		Auto Labeling Label Annotator Management Modify

Figure 2-53 Annotator Management (2)



- Adding an annotator**
Click **Add Member**, select a member name, and click **OK**.
Click **Send Email** in the **Operation** column to send the labeling job to the annotator by email.
- Modifying annotator information**
Click **Modify** in the **Operation** column to modify the role of the annotator.
- Deleting an annotator**
Click **Delete** in the **Operation** column to delete the annotator.

2.4 Audio Labeling

2.4.1 Sound Classification

Model training requires a large amount of labeled data. Therefore, before the model training, label the unlabeled audio files. ModelArts enables you to label audio files in batches by one click. In addition, you can modify the labels of audio files, or remove their labels and label the audio files again.

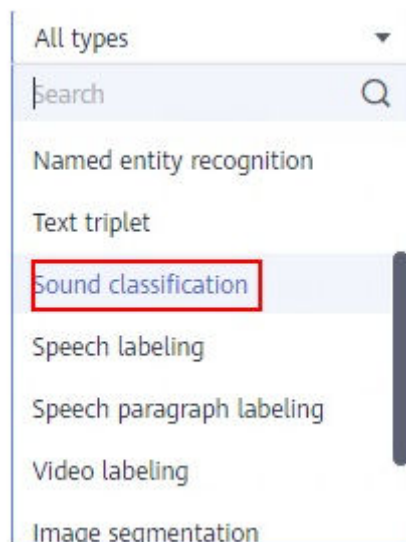
NOTE

Data management is being upgraded and is invisible to users who have not used data management.

Starting Labeling

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**.
2. In the labeling job list, select a labeling type from the **All type** drop-down list, click the job to be performed based on the labeling type. The details page of the job is displayed.

Figure 2-54 Selecting a labeling type



3. The job details page displays all data of the labeling job.

Synchronizing New Data

ModelArts automatically synchronizes data and labeling information from datasets to the labeling job.

To quickly obtain the latest data in the datasets, on the **Unlabeled** or **Labeled** tab page of the labeling job details page, click **Synchronize New Data**.

 **NOTE**

Symptom:

After the labeled data is uploaded to OBS and synchronized, the data is displayed as unlabeled.

Possible causes:


Automatic encryption is enabled in the OBS bucket.

Solution:

Create an OBS bucket and upload data again, or disable bucket encryption and upload data again.

Labeling Audio Files

The labeling job details page displays the **Unlabeled** and **Labeled** tabs. The

Unlabeled tab page is displayed by default. Click  on the left of the audio to preview the audio.

1. On the **Unlabeled** tab page, select the audio files to be labeled.
 - Manual selection: In the audio list, click the target audio. If the blue check box is displayed in the upper right corner, the audio is selected. You can select multiple audio files of the same type and label them together.
 - Batch selection: If all audio files of the current page belong to one type, you can click **Select Current Page** in the upper right corner of the list to select all the audio files on the page.
2. Add labels.
 - a. In the label adding area on the right, set a label in the **Label** text box.

Method 1 (the required label already exists): In the right pane, select a shortcut from the **Shortcut** drop-down list, select an existing label name from the **Label** text box, and click **OK**.

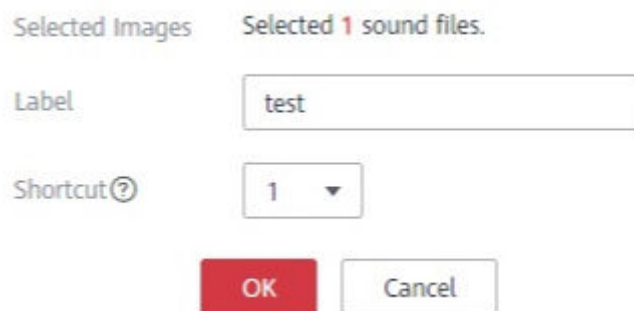
Method 2 (adding a label): In the right pane, select a shortcut from the **Shortcut** drop-down list, and enter a new label name in the **Label** text box.
 - b. The selected audio files are automatically moved to the **Labeled** tab page. On the **Unlabeled** tab page, the labeling information is updated along with the labeling process, including the added label names and the number of audio files corresponding to each label.

 **NOTE**

Shortcut key description: After specifying a shortcut key for a label, you can select an audio file and press the shortcut key to add a label for the audio file. Example: Specify **1** as the shortcut key for the **aa** label. Select one or more files and press **1**. A message is displayed, asking you whether to label the files with **aa**. Click **OK**.

Each label has a shortcut key. A shortcut key cannot be specified for different labels. Shortcut keys can greatly improve the labeling efficiency.

Figure 2-55 Adding an audio label



Viewing the Labeled Audio Files

On the labeling job details page, click the **Labeled** tab to view the list of labeled audio files. Click an audio file. You can view the label information about the audio file in the **File Labels** area on the right.

Modifying Labeled Data

After labeling data, you can modify labeled data on the **Labeled** tab page.

- **Modifying based on audio**

On the labeling job details page, click the **Labeled** tab. Select one or more audio files to be modified from the audio list. Modify the label in the label details area on the right.

- Modifying a label: In the **File Labels** area, click the edit icon in the **Operation** column, enter the correct label name in the text box, and click the check mark to complete the modification.
- Deleting a label: In the **File Labels** area, click the delete icon in the **Operation** column to delete the label.

- **Modifying based on labels**

On the labeling job details page, click the **Labeled** tab. The information about all labels is displayed on the right.

Figure 2-56 Information about all labels

All Labels 4		Label Management	
Label	Count	Shortcut	Operation
8	1	6	
aaaa	7	1	
qqqq	1	2	
test	1	--	

- Modifying a label: Click the edit icon in the **Operation** column. In the dialog box that is displayed, enter the new label name and click **OK**. After the modification, the new label applies to the audio files that contain the original label.
- Deleting a label: Click the deletion icon in the **Operation** column. In the displayed dialog box, select the object to be deleted as prompted and click **OK**.

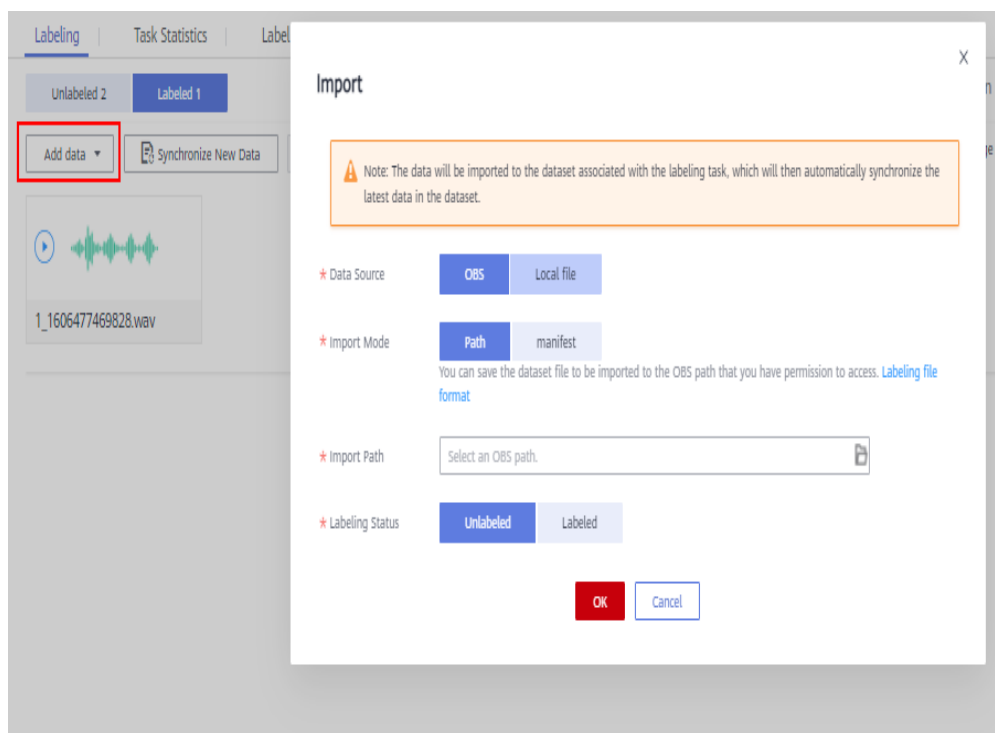
Adding Audio Files

In addition to the data synchronized, you can directly add data on labeling job details page for labeling.

1. On the labeling job details page, click the **Unlabeled** or **Labeled** tab, click **Add data** in the upper left corner.
2. Configure input data and click **OK**.

For details about how to import data, see section "Importing Data".

Figure 2-57 Importing data



Deleting Audio Files

You can quickly delete the audio files you want to discard.

On the **Unlabeled** or **Labeled** tab page, select the audio files to be deleted one by one or tick **Select Current Page** to select all audio files on the page, and then click **Delete File** in the upper left corner. In the displayed dialog box, select or deselect **Delete the source files from OBS** as required. After confirmation, click **OK** to delete the audio files.

If a tick is displayed in the upper right corner of an audio file, the audio file is selected. If no audio file is selected on the page, the **Delete File** button is unavailable.

 **NOTE**

If you select **Delete the source files from OBS**, audio files stored in the corresponding OBS directory will be deleted when you delete the selected audio files. Deleting source files may affect other dataset versions or datasets using those files. As a result, the page display, training, or inference is abnormal. Deleted data cannot be recovered. Exercise caution when performing this operation.

2.4.2 Speech Labeling

Model training requires a large amount of labeled data. Therefore, before the model training, label the unlabeled audio files. ModelArts enables you to label audio files in batches by one click. In addition, you can modify the labels of audio files, or remove their labels and label the audio files again.

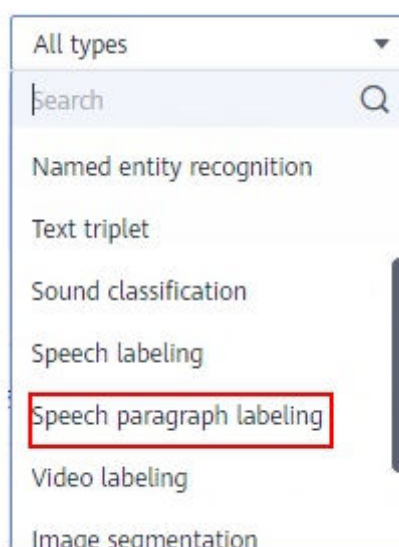
 **NOTE**

Data management is being upgraded and is invisible to users who have not used data management.

Starting Labeling

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**.
2. In the labeling job list, select a labeling type from the **All type** drop-down list, click the job to be performed based on the labeling type. The details page of the job is displayed.

Figure 2-58 Selecting a labeling type



3. The job details page displays all data of the labeling job.

Synchronizing New Data

ModelArts automatically synchronizes data and labeling information from datasets to the labeling job.

To quickly obtain the latest data in the datasets, on the **Unlabeled** tab page of the labeling job details page, click **Synchronize New Data**.

NOTE

Symptom:

After the labeled data is uploaded to OBS and synchronized, the data is displayed as unlabeled.

Possible causes:

Automatic encryption is enabled in the OBS bucket.

Solution:

Create an OBS bucket and upload data again, or disable bucket encryption and upload data again.

Labeling Audio Files

The labeling job details page displays the labeled and unlabeled audio files. The **Unlabeled** tab page is displayed by default.


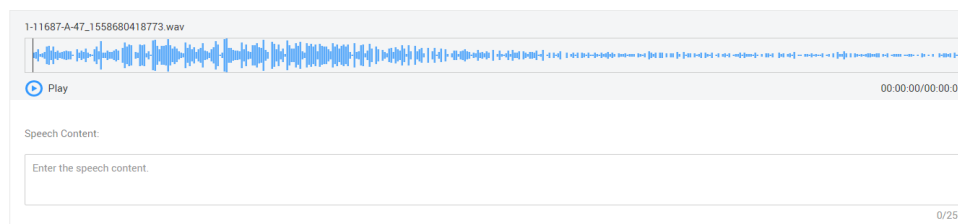
1. In the audio file list on the **Unlabeled** tab page, click the target audio file. In the area on the right, the audio file is displayed. Click  below the audio file to play the audio.
2. In **Speech Content**, enter the speech content.
3. After entering the content, click **Label** to complete the labeling. The audio file is automatically moved to the **Labeled** tab page.

Figure 2-59 Labeling speech content



Viewing the Labeled Audio Files

On the labeling job details page, click the **Labeled** tab to view the list of labeled audio files. Click the audio file to view the audio content in the **Speech Content** text box on the right.

Modifying Labeled Data

After labeling data, you can modify labeled data on the **Labeled** tab page.

On the labeling job details page, click the **Labeled** tab and select the audio file to be modified from the audio file list. In the label information area on the right,

modify the content of the **Speech Content** text box, and click **Label** to complete the modification.

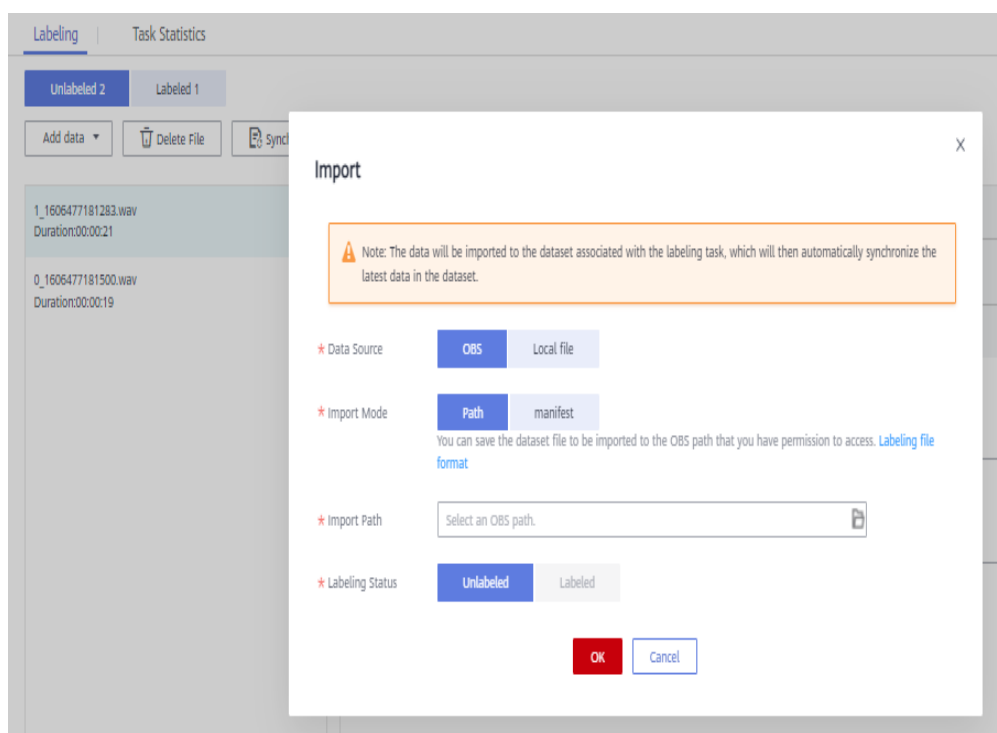
Adding an Audio File

In addition to the data synchronized, you can directly add data on labeling job details page for labeling.

1. On the labeling job details page, click the **Unlabeled** tab, click **Add data** in the upper left corner.
2. Configure input data and click **OK**.

For details about how to import data, see section "Importing Data".

Figure 2-60 Importing data



Deleting Audio Files

You can quickly delete the audio files you want to discard.

On the **Unlabeled** or **Labeled** tab page, select the audio files to be deleted, and then click **Delete File** in the upper left corner. In the displayed dialog box, select or deselect **Delete the source files from OBS** as required. After confirmation, click **OK** to delete the audio files.

NOTE

If you select **Delete the source files from OBS**, audio files stored in the corresponding OBS directory will be deleted when you delete the selected audio files. Deleting source files may affect other dataset versions or datasets using those files. As a result, the page display, training, or inference is abnormal. Deleted data cannot be recovered. Exercise caution when performing this operation.

2.4.3 Speech Paragraph Labeling

Model training requires a large amount of labeled data. Therefore, before the model training, label the unlabeled audio files. ModelArts enables you to label audio files. In addition, you can modify the labels of audio files, or remove their labels and label the audio files again.

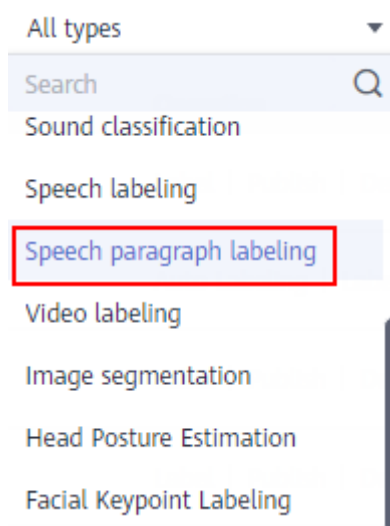
NOTE

Data management is being upgraded and is invisible to users who have not used data management.

Starting Labeling

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**.
2. In the labeling job list, select a labeling type from the **All type** drop-down list, click the job to be performed based on the labeling type. The details page of the job is displayed.

Figure 2-61 Selecting a labeling type



3. The job details page displays all data of the labeling job.

Synchronizing Data Sources

ModelArts automatically synchronizes data and labeling information from datasets to the labeling job.

To quickly obtain the latest data in the OBS bucket, click **Synchronize Data Source** on the **Unlabeled** tab page of the labeling job details page to add the data uploaded using OBS to the dataset.

 **NOTE**

Symptom:

After the labeled data is uploaded to OBS and synchronized, the data is displayed as unlabeled.

Possible causes:

Automatic encryption is enabled in the OBS bucket.

Solution:

Create an OBS bucket and upload data again, or disable bucket encryption and upload data again.

Labeling Audio Files

The labeling job details page displays the **Unlabeled** and **Labeled** tabs. The **Unlabeled** tab page is displayed by default.


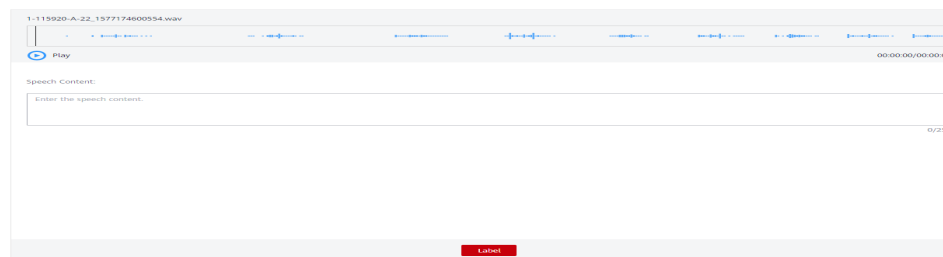
1. In the audio file list on the **Unlabeled** tab page, click the target audio file. In the area on the right, the audio file is displayed. Click  below the audio file to play the audio.
2. Select an audio segment based on the content being played, and enter the audio file label and content in the **Speech Content** text box.

Figure 2-62 Speech paragraph labeling




3. After entering the content, click **Label** to complete the labeling. The audio file is automatically moved to the **Labeled** tab page.

Viewing the Labeled Audio Files

On the labeling job details page, click the **Labeled** tab to view the list of labeled audio files. Click the audio file to view the labeling information on the right.

Modifying Labeled Data

After labeling data, you can modify labeled data on the **Labeled** tab page.

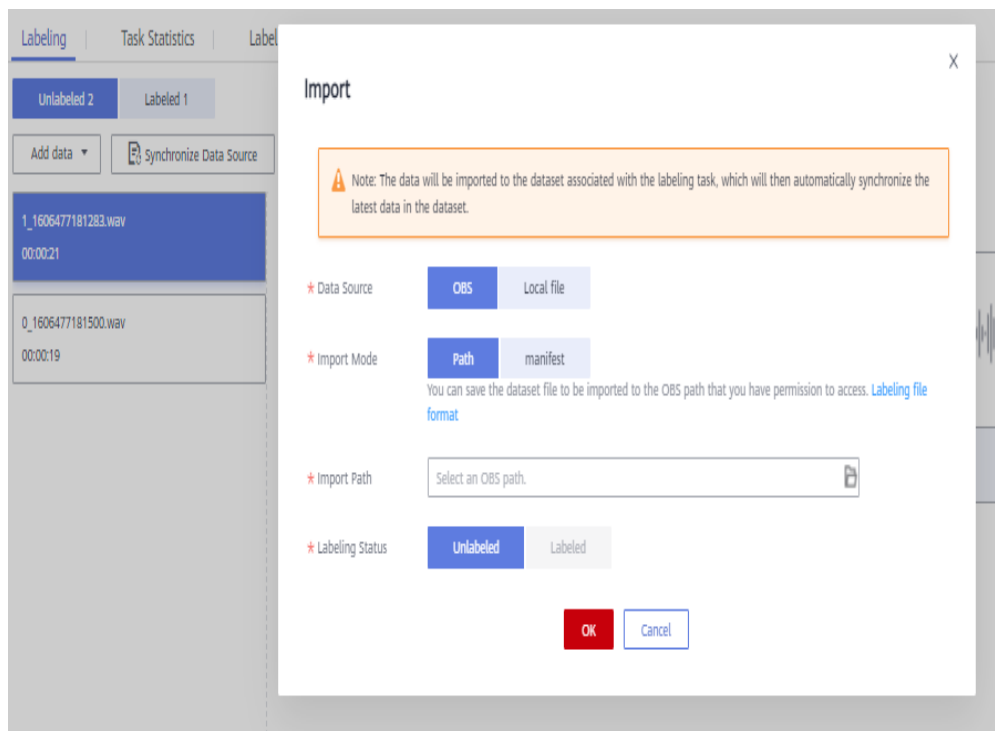
- Modifying a label: On the labeling details page, click the **Labeled** tab, and select the audio file to be modified from the audio file list. In the right area, modify labeling information and click **Label** to complete the modification.
- Deleting a label: Click **Delete** in the **Operation** column of the target number to delete the label of the audio segment. Alternatively, you can click  above the labeled audio file to delete the label. Then click **Label**.

Adding an Audio File

In addition to the data synchronized, you can directly add data on labeling job details page for labeling.

1. On the labeling job details page, click the **Unlabeled** tab, click **Add data** in the upper left corner.
2. Configure input data and click **OK**.

Figure 2-63 Importing data



Deleting Audio Files

You can quickly delete the audio files you want to discard.

On the **Unlabeled** or **Labeled** tab page, select the audio files to be deleted, and then click **Delete File** in the upper left corner. In the displayed dialog box, select or deselect **Delete the source files from OBS** as required. After confirmation, click **OK** to delete the audio files.

NOTE

If you select **Delete the source files from OBS**, audio files stored in the corresponding OBS directory will be deleted when you delete the selected audio files. Deleting source files may affect other dataset versions or datasets using those files. As a result, the page display, training, or inference is abnormal. Deleted data cannot be recovered. Exercise caution when performing this operation.

Managing Annotators

If team labeling is enabled for a labeling job, view its labeling details on the **Annotator Management** tab page. Additionally, you can add, modify, or delete annotators.


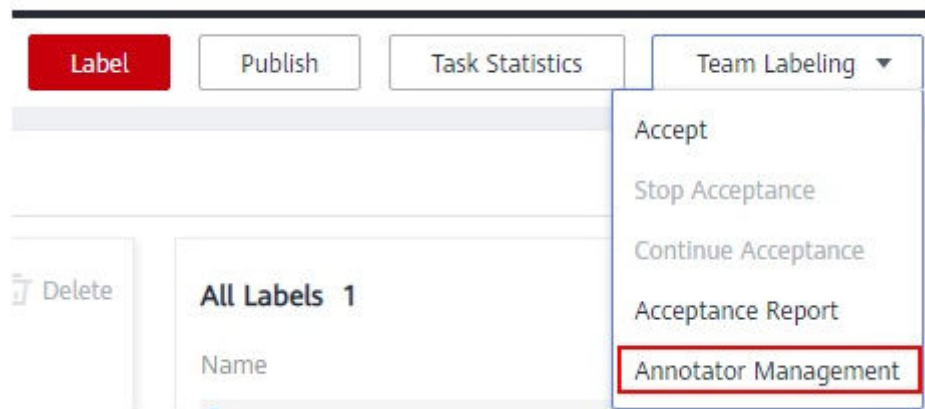
1. Choose **Data Management > Label Data**. On the **My Creations** tab page, view the list of all labeling jobs.
2. Locate the row that contains the target team labeling job. (The name of a team labeling job is followed by )
3. Choose **More > Annotator Management** in the **Operation** column. Alternatively, click the job name to go to the job details page, and choose **Team Labeling > Annotator Management** in the upper right corner.

Figure 2-64 Annotator Management (1)

Name	Dataset	Labeling Progress (Labeled/Total)	Pending Confir...	Created	Description	Operation
task-fined	dataset-e8df	0% (0/2)		Mar 29, 2023 14:52:46 GMT+08:00		Auto Labeling Label Publish More
task-2a81	dataset-1c68	0% (1/1618)		Nov 13, 2022 15:58:21 GMT+08:00		Auto Labeling Label Publish Task Statistics Annotator Management
task-010	dataset-1c68	1% (10/1663)		Nov 01, 2022 15:58:06 GMT+08:00		Auto Labeling Label Publish Modify
dataset-63e0	dataset-63e0	79% (854/1083)		Oct 17, 2022 09:59:07 GMT+08:00		Auto Labeling Label Publish Modify

Figure 2-65 Annotator Management (2)



- Adding an annotator
Click **Add Member**, select a member name, and click **OK**.
Click **Send Email** in the **Operation** column to send the labeling job to the annotator by email.
- Modifying annotator information
Click **Modify** in the **Operation** column to modify the role of the annotator.
- Deleting an annotator
Click **Delete** in the **Operation** column to delete the annotator.

2.5 Viewing Labeling Jobs

2.5.1 Viewing My Created Labeling Jobs

On the ModelArts **Data Labeling** page, view your created labeling jobs on the **My Creations** tab page.

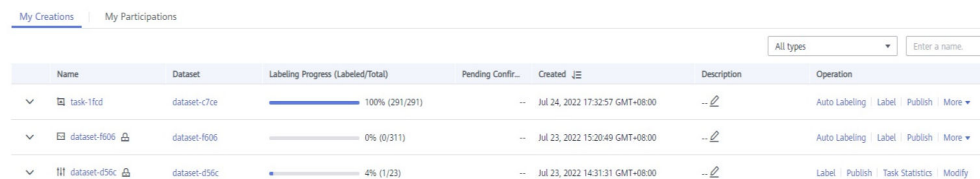
 NOTE

Data management is being upgraded and is invisible to users who have not used data management.

Procedure

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**. The **Data Labeling** page is displayed.
2. On the **My Creations** tab, view all labeling jobs created by you. You can view information about these labeling jobs.

Figure 2-66 My Creations



Name	Dataset	Labeling Progress (Labeled/Total)	Pending Confir...	Created	Description	Operation
task-1fcd	dataset-c7ce	100% (291/291)	--	Jul 24, 2022 17:32:57 GMT+08:00	--	Auto Labeling Label Publish More
dataset-f606	dataset-f606	0% (0/311)	--	Jul 23, 2022 15:20:49 GMT+08:00	--	Auto Labeling Label Publish More
dataset-d56c	dataset-d56c	4% (1/23)	--	Jul 23, 2022 14:31:31 GMT+08:00	--	Label Publish Task Statistics Modify

Copying a Labeling Job

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**. The **Data Labeling** page is displayed.
2. On the **My Creations** tab, locate the labeling job you want to copy.
3. Choose **More > Copy** in the **Operation** column of the job.
4. In the **Copy Task** dialog box, enter the job description and job name *Task name-copy-xxxx*, where *xxxx* is a randomly generated code to distinguish the new job from the copied job. You can also change the name of the new job. Click **Yes**.


Copy Task

You are copying the labeling task **dataset-a4d9** . After you click OK, a new labeling task is created based on the task.

Name

Description

0/256

 The copy operation rebuilds the job based on the dataset associated with the job. If the dataset sample changes, the new job will change accordingly. In addition, the labeling result cannot be copied.

5. After the labeling job is copied, you can obtain the new labeling job on the labeling job list page. The new labeling job information includes the samples, labels, and team labeling information.

2.5.2 Viewing My Participated Labeling Jobs

On the ModelArts **Data Labeling** page, view your participated labeling jobs on the **My Participations** tab page.

Prerequisites

Team labeling is enabled when a labeling job is created.

NOTE

Data management is being upgraded and is invisible to users who have not used data management.

Procedure

1. Log in to the ModelArts management console. In the left navigation pane, choose **Data Management > Label Data**. The **Data Labeling** page is displayed.
2. Click the **My Participations** tab page to view the labeling jobs you have participated in, including the members in the labeling team and the labeling progress.