Label Studio Tutorial

Installing Label Studio

To install Label Studio with pip and a virtual environment, you need Python version 3.8 or later. Run the following:

```
python3 -m venv env
source env/bin/activate
python -m pip install label-studio
```

After you install Label Studio, start the server with the following command:

```
label-studio start
```

The default web browser will automatically open at http://localhost:8080 with Label Studio.

Then sign-in or create an account.

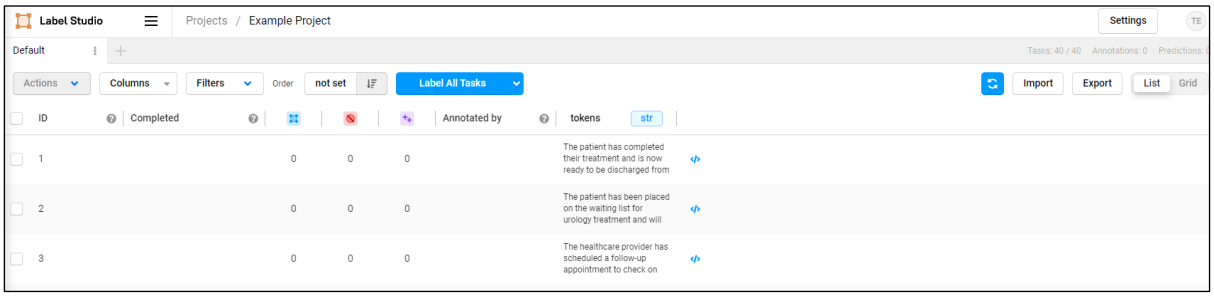
Creating a Project

To create a project, select the ‘Create’ button in the top right corner. Name the project, upload the .csv file containing the data, and ‘Custom template’ from the left side bar.

In the code tab on the left, copy-paste the following:

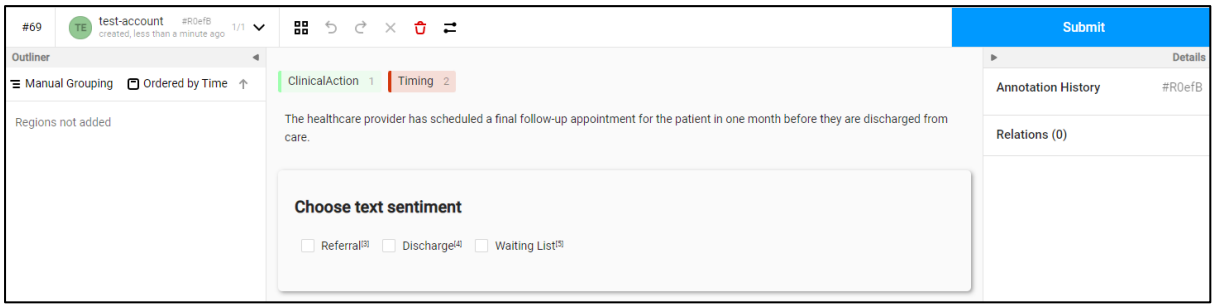
```
<View>
	<View>
		<Relations>
		<Relation value="action:within"/>
		</Relations>
		<Labels name="label" toName="text">
		<Label value="ClinicalAction" background="#9effae"/><Label value="Timing"
background="#D4380D"/></Labels>
	</View>
	<Text name="text" value="$tokens"/>
	<View style="box-shadow: 2px 2px 5px #999; padding: 20px; margin-top: 2em; border-radius: 5px;">
	<Header value="Choose the primary clinical action"/>
	<Choices name="sentiment" toName="text" choice="single" showInLine="true">
    <Choice value="Referral"/><Choice value="Discharge"/><Choice value="Waiting List"/></Choices>
	</View>
</View>
```

This will create a labelling interface all three classification tasks we will attempt in this project; sentiment analysis, named-entity recognition, and relation extraction. Click save and you should see a project screen, like the one shown below:

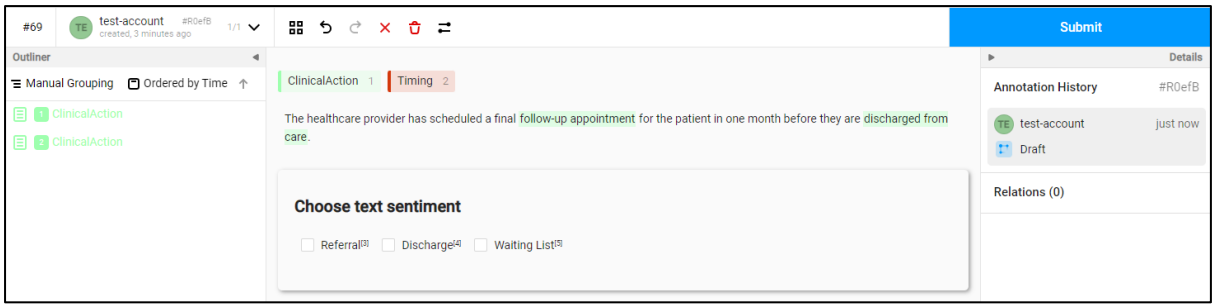


Labelling Data

To label a data item, click on the row and a dashboard will appear (shown below).

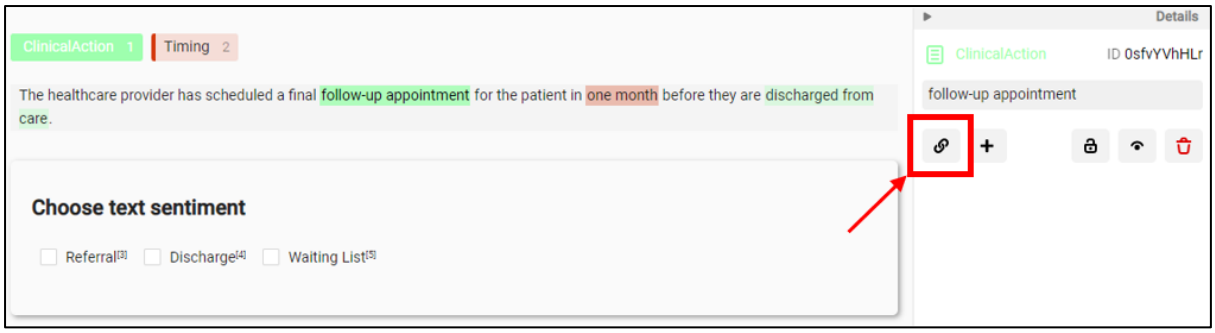


First select the *ClinicalAction* tab and highlight any clinical actions/events in the text. In this text we have two actions, follow-up appointment and a discharge, so we will highlight both.

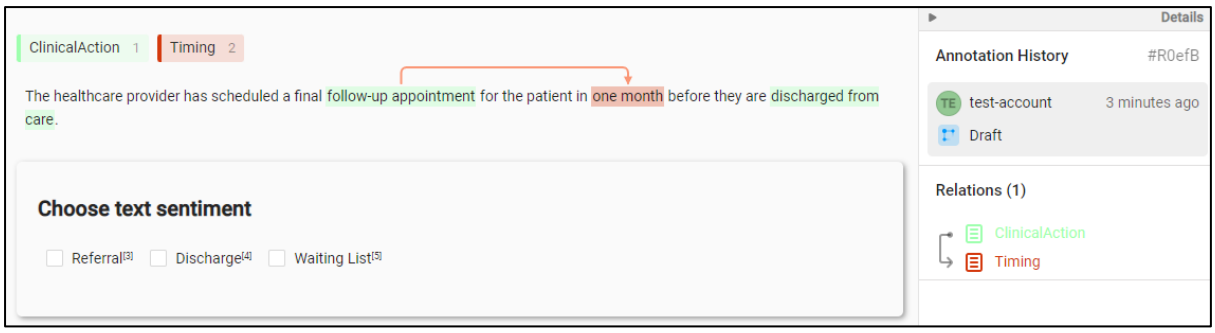


Then select the *Timing* tab and highlight any timings, regardless as to whether the relate to an event or not. In this text we have the timing ‘one month’.

Now we want to relate the timing with the event. To do this, select the tagged *ClinicalAction* in the text, click the link icon on the right tab, then click the relevant tagged *Timing* to link.



A link will then be created as shown below:



Lastly, select the primary clinical action, in this case it is a referral as the referral precedes the discharge. Then press submit to save the annotated text.

Exporting Data

When you have finished labelling your data, click the export tab and select ‘JSON’ then click export. A file will be downloaded containing the raw data, and associated annotations.