

Stanza

- A Python NLP Package for
Many Human Languages

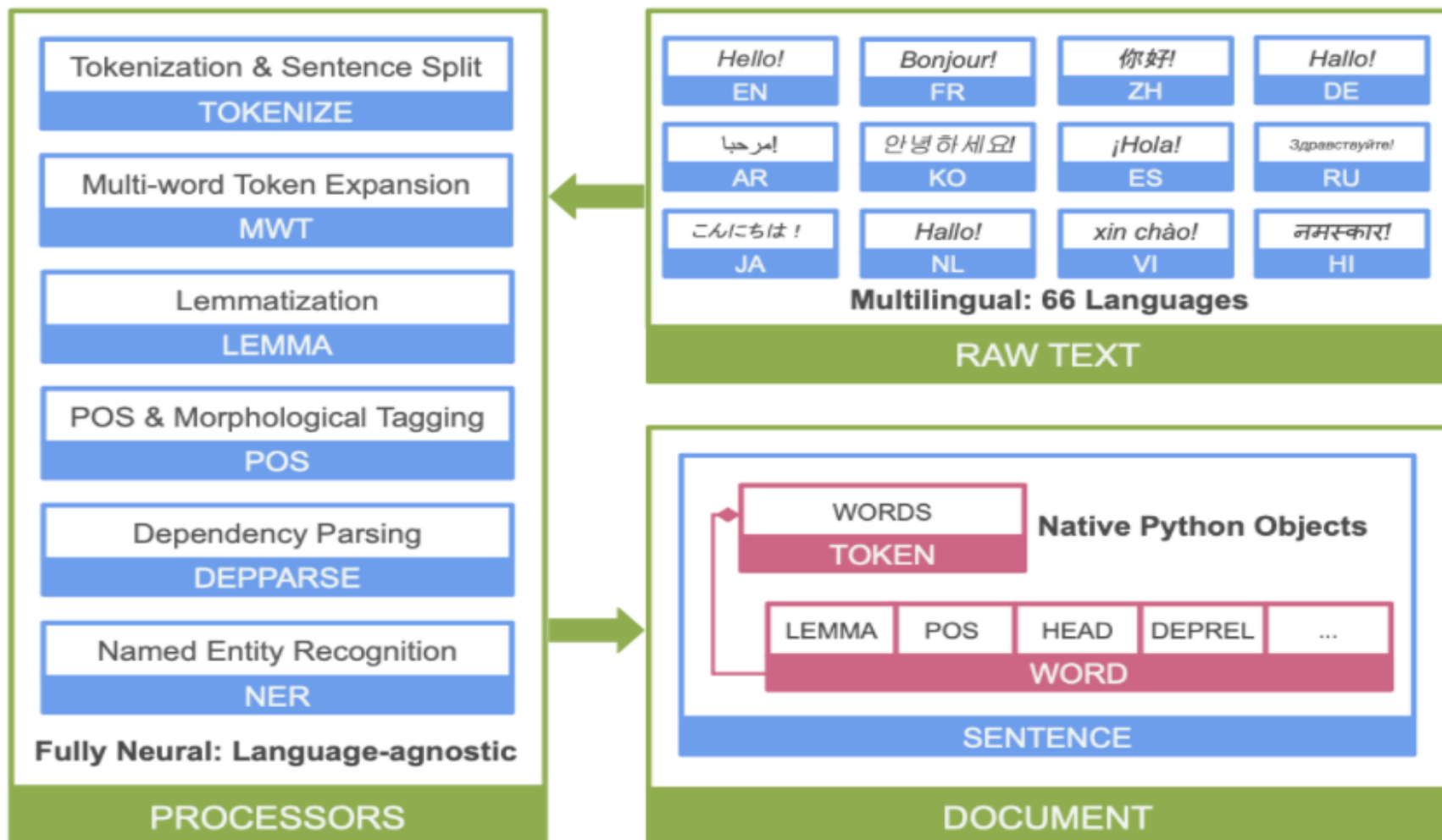
Stanza is...

Stanza is a Python natural language analysis package. It contains tools, which can be used in a pipeline, to convert a string containing human language text into lists of sentences and words, to generate base forms of those words, their parts of speech and morphological features, to give a syntactic structure dependency parse, and to recognize named entities. The toolkit is designed to be parallel among more than 60 languages, using the Universal Dependencies formalism.

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- Natural Language analysis package for
 - 1) Tokenization & Sentence Split
 - 2) Multi-word Token Expansion
 - 3) Lemmatization
 - 4) POS & Morphological Tagging
 - 5) Dependency Parsing
 - 6) Named Entity Recognition

Stanza is...



Installation

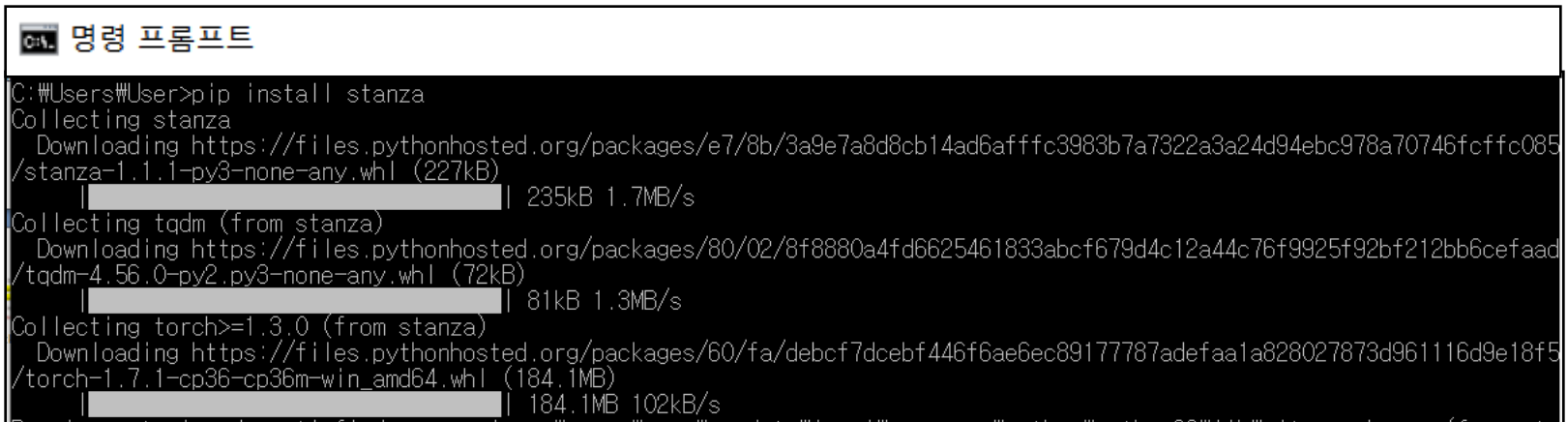
pypi v1.1.1

conda v1.1.1

python 3.6 | 3.7 | 3.8

1) using pip

```
pip install stanza
```



```
C:\Users\User>pip install stanza
Collecting stanza
  Downloading https://files.pythonhosted.org/packages/e7/8b/3a9e7a8d8cb14ad6afffc3983b7a7322a3a24d94ebc978a70746fcffc085/stanza-1.1.1-py3-none-any.whl (227kB)
    | 235kB 1.7MB/s
Collecting tqdm (from stanza)
  Downloading https://files.pythonhosted.org/packages/80/02/8f8880a4fd6625461833abcf679d4c12a44c76f9925f92bf212bb6cefaad/tqdm-4.56.0-py2.py3-none-any.whl (72kB)
    | 81kB 1.3MB/s
Collecting torch>=1.3.0 (from stanza)
  Downloading https://files.pythonhosted.org/packages/60/fa/debcf7dcebf446f6ae6ec89177787adefaa1a828027873d961116d9e18f5/torch-1.7.1-cp36-cp36m-win_amd64.whl (184.1MB)
    | 184.1MB 102kB/s
```

Installation

pypi v1.1.1

conda v1.1.1

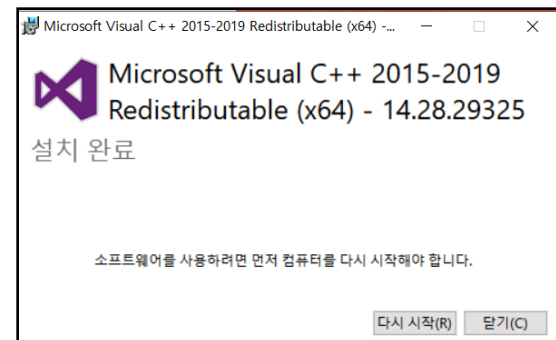
python 3.6 | 3.7 | 3.8

1) using pip

```
>>> import stanza
Microsoft Visual C++ Redistributable is not installed, this may lead to the DLL load failure.
It can be downloaded at https://aka.ms/vs/16/release/vc_redist.x64.exe
Traceback (most recent call last):
  File "<pyshell#0>", line 1, in <module>
    import stanza
  File "C:\Users\User\AppData\Local\Programs\Python\Python36\lib\site-packages\stanza\__init__.py", line 1, in <module>
    from stanza.pipeline.core import Pipeline
  File "C:\Users\User\AppData\Local\Programs\Python\Python36\lib\site-packages\stanza\pipeline\core.py", line 8, in <module>
    import torch
  File "C:\Users\User\AppData\Local\Programs\Python\Python36\lib\site-packages\torch\__init__.py", line 128, in <module>
    raise err
OSError: [WinError 126] 지정된 모듈을 찾을 수 없습니다. Error loading "C:\Users\User\AppData\Local\Programs\Python\Python36\lib\site-packages\torch\lib\asmjit.dll" or one of its dependencies.
>>> |
```

Follow the directions

- Go to https://aka.ms/vs/16/release/vc_redist.x64.exe
- Download it
- Try again



Installation

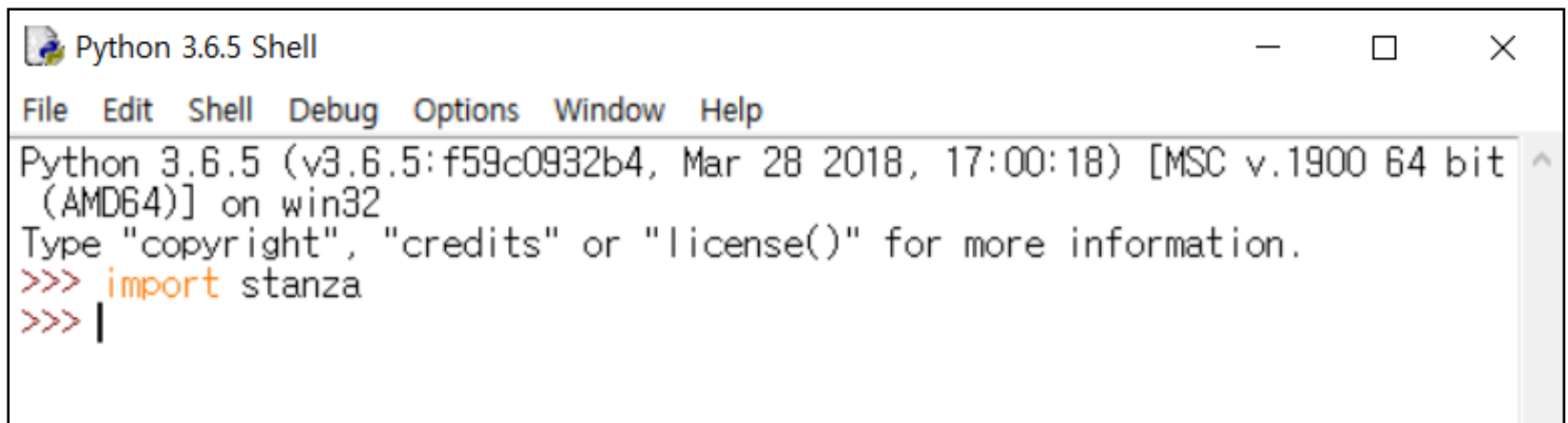
pypi v1.1.1

conda v1.1.1

python 3.6 | 3.7 | 3.8

1) using `pip`

complete!

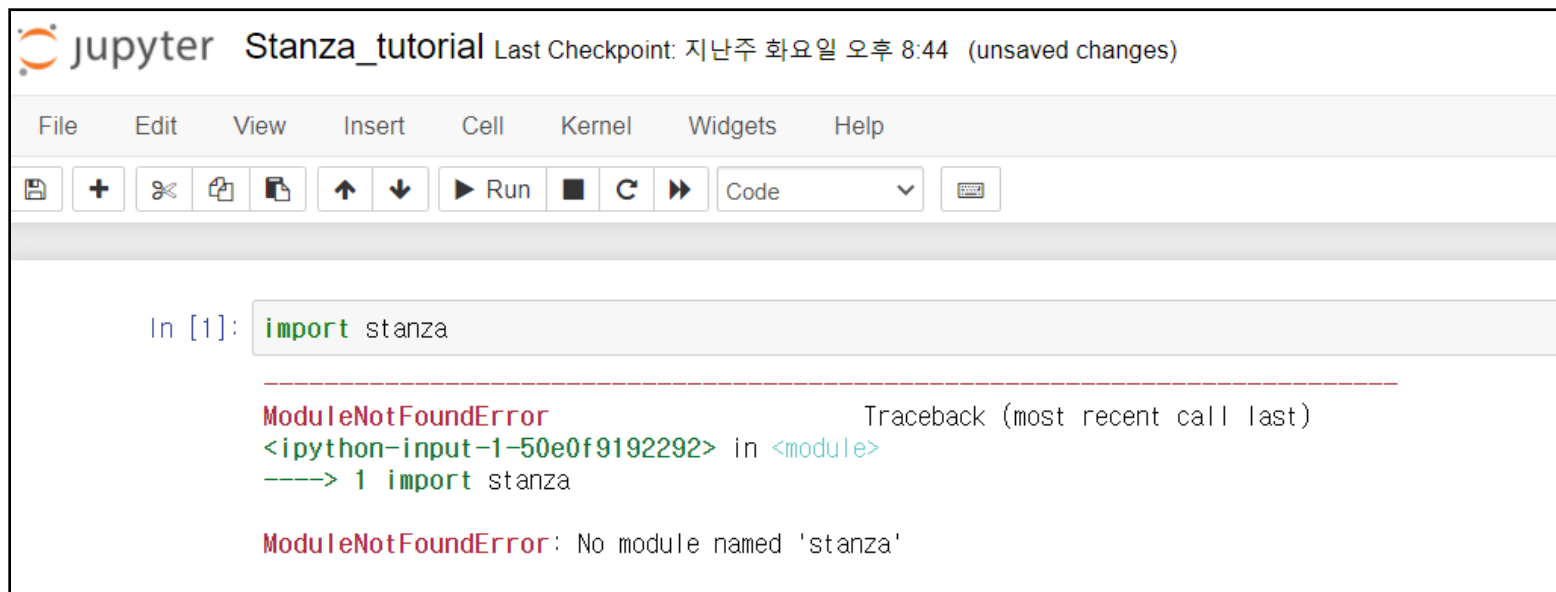


```
Python 3.6.5 Shell
File Edit Shell Debug Options Window Help
Python 3.6.5 (v3.6.5:f59c0932b4, Mar 28 2018, 17:00:18) [MSC v.1900 64 bit
(AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> import stanza
>>> |
```

Installation

pypi v1.1.1 conda v1.1.1 python 3.6 | 3.7 | 3.8

2) using Anaconda



The screenshot shows a Jupyter Notebook window titled "Stanza_tutorial". The top bar indicates the last checkpoint was at "지난주 화요일 오후 8:44" with "(unsaved changes)". The menu bar includes File, Edit, View, Insert, Cell, Kernel, Widgets, and Help. The toolbar contains icons for saving, adding cells, undo, redo, running, and other standard Jupyter actions. The code area shows a single cell with the input "In [1]: import stanza". Below the code, a red error message is displayed: "ModuleNotFoundError: No module named 'stanza'". The error message is preceded by a dashed line and the text "Traceback (most recent call last)".

```
In [1]: import stanza

ModuleNotFoundError: No module named 'stanza'
```

```
conda install -c stanfordnlp stanza
```

Installation

pypi v1.1.1 conda v1.1.1 python 3.6 | 3.7 | 3.8

2) using Anaconda

```
conda install -c stanfordnlp stanza
```

```
Anaconda Prompt

(base) C:\Users\User>conda install -c stanfordnlp stanza
Collecting package metadata (repodata.json): done
Solving environment: done

## Package Plan ##

  environment location: C:\Users\User\Anaconda3

added / updated specs:
  - stanza
```


Installation

pypi v1.1.1

conda v1.1.1

python 3.6 | 3.7 | 3.8

2) using Anaconda

```
conda install -c stanfordnlp stanza
```

```
In [2]: import stanza
```

```
-----  
ImportError                                Traceback (most recent call last)  
<ipython-input-2-50e0f9192292> in <module>  
----> 1 import stanza  
  
~\Anaconda3\lib\site-packages\stanza\__init__.py in <module>  
----> 1 from stanza.pipeline.core import Pipeline  
      2 from stanza.models.common.doc import Document  
      3 from stanza.resources.common import download  
      4 from stanza.resources.installation import install_corenlp, download_corenlp_models  
      5 from stanza._version import __version__, __resources_version__  
  
~\Anaconda3\lib\site-packages\stanza\pipeline\core.py in <module>  
      6 import itertools  
      7 import sys  
----> 8 import torch  
      9 import logging  
     10 import json  
  
~\Anaconda3\lib\site-packages\torch\__init__.py in <module>  
      79 del _dl_flags  
      80  
----> 81 from torch._C import *  
      82  
      83 __all__ += [name for name in dir(_C)]  
  
ImportError: DLL load failed: DLL 초기화 루틴을 실행할 수 없습니다.
```

→ install Pytorch!

Installation

pypi v1.1.1 conda v1.1.1 python 3.6 | 3.7 | 3.8

2) using Anaconda

- how to install Pytorch to Anaconda

```
>>>conda install pytorch-cpu -c pytorch
```

```
Anaconda Prompt

(base) C:\Users\User>conda install pytorch-cpu -c pytorch
Collecting package metadata (repodata.json): done
Solving environment: done

## Package Plan ##

  environment location: C:\Users\User\Anaconda3

added / updated specs:
- pytorch-cpu

The following packages will be downloaded:

package | build | size
-----|-----|-----
ca-certificates-2021.1.19 | haa95532_0 | 160 KB
pytorch-cpu-1.1.0 | py3.6_cpu_1 | 79.1 MB pytorch
```

Installation

pypi v1.1.1

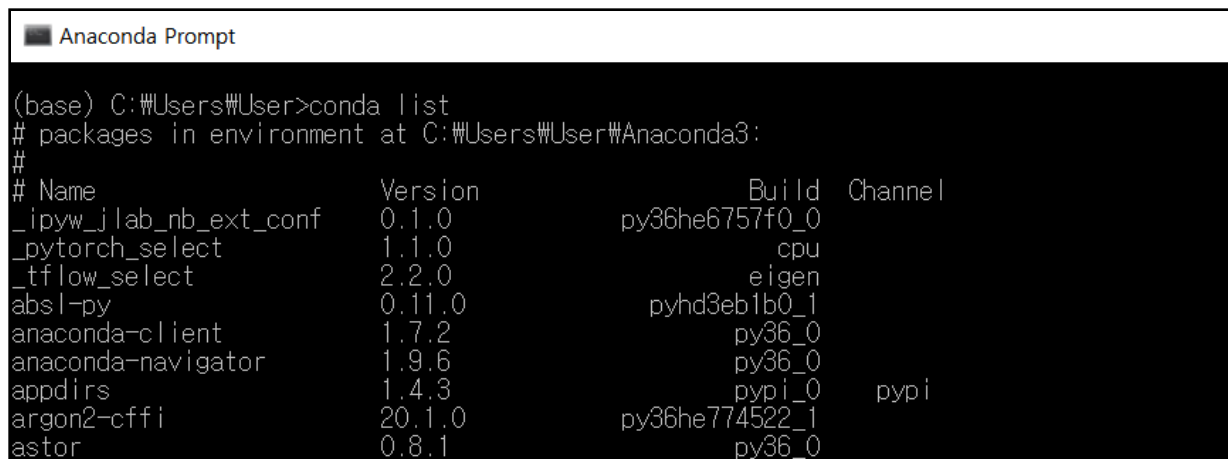
conda v1.1.1

python 3.6 | 3.7 | 3.8

2) using Anaconda

- how to install Pytorch to Anaconda

```
>>>conda list
```



```
Anaconda Prompt
(base) C:\Users\User>conda list
# packages in environment at C:\Users\User\Anaconda3:
#
# Name                        Version      Build      Channel
_ipyw_jlab_nb_ext_conf       0.1.0        py36he6757f0_0
_pytorch_select               1.1.0        cpu
_tflearn_select               2.2.0        eigen
absl-py                       0.11.0       pyhd3eb1b0_1
anaconda-client               1.7.2        py36_0
anaconda-navigator            1.9.6        py36_0
appdirs                       1.4.3        pypi_0     pypi
argon2-cffi                   20.1.0       py36he774522_1
astor                         0.8.1        py36_0
```

pip, python, pytorch-cpu

→ check!

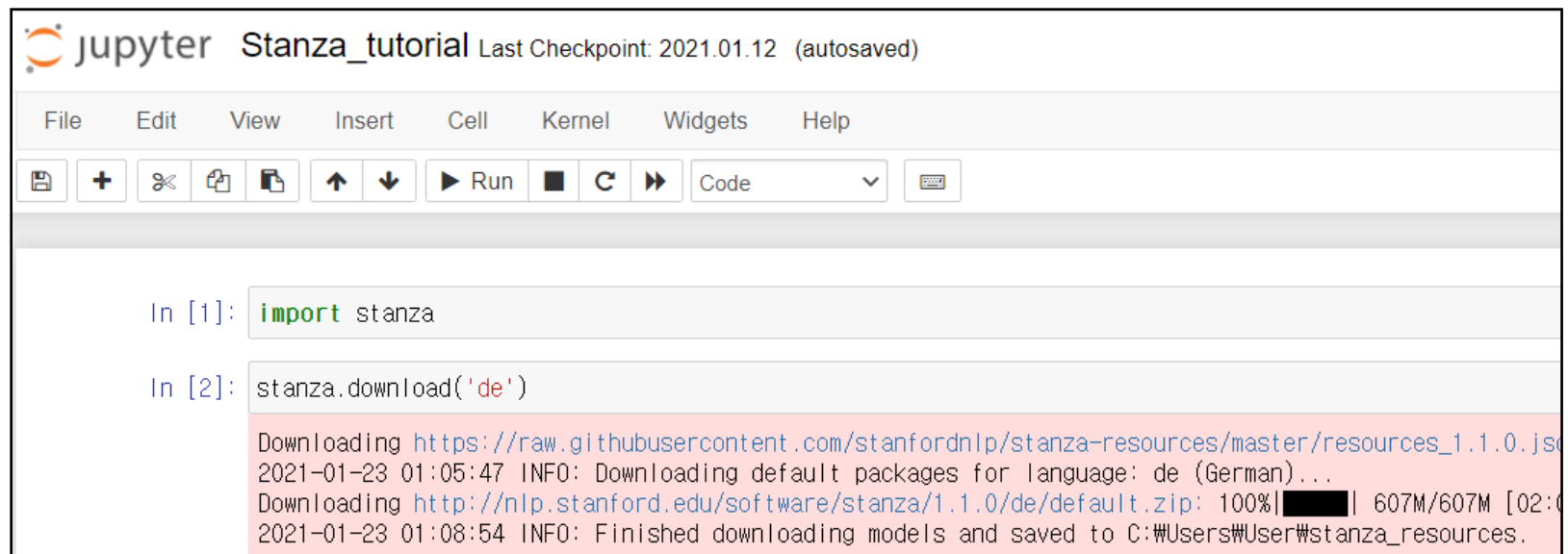
Installation

pypi v1.1.1

conda v1.1.1

python 3.6 | 3.7 | 3.8

2) using Anaconda
complete!



```
jupyter Stanza_tutorial Last Checkpoint: 2021.01.12 (autosaved)
File Edit View Insert Cell Kernel Widgets Help
[Save] [Add] [Undo] [Redo] [Run] [Stop] [Refresh] [Code]
In [1]: import stanza
In [2]: stanza.download('de')
Downloading https://raw.githubusercontent.com/stanfordnlp/stanza-resources/master/resources_1.1.0.js
2021-01-23 01:05:47 INFO: Downloading default packages for language: de (German)...
Downloading http://nlp.stanford.edu/software/stanza/1.1.0/de/default.zip: 100%|██████████| 607M/607M [02:0
2021-01-23 01:08:54 INFO: Finished downloading models and saved to C:\Users\User\stanza_resources.
```

Installation

pypi v1.1.1

conda v1.1.1

python 3.6 | 3.7 | 3.8

3) using googla colab

```
>>>!pip install stanza
```



```
stanza_tutorial.ipynb ☆
파일 수정 보기 삽입 런타임 도구 도움말

+ 코드 + 텍스트

[1] !pip install stanza

Collecting stanza
  Downloading https://files.pythonhosted.org/packages/e7/8b/3a9e7a8d8cb14ad6afffc3983b7a7322a3a24d94ebc978a70746fcffc08
    235kB 4.8MB/s
Requirement already satisfied: torch>=1.3.0 in /usr/local/lib/python3.6/dist-packages (from stanza) (1.7.0+cu101)
Requirement already satisfied: tqdm in /usr/local/lib/python3.6/dist-packages (from stanza) (4.41.1)
Requirement already satisfied: protobuf in /usr/local/lib/python3.6/dist-packages (from stanza) (3.12.4)
Requirement already satisfied: requests in /usr/local/lib/python3.6/dist-packages (from stanza) (2.23.0)
Requirement already satisfied: numpy in /usr/local/lib/python3.6/dist-packages (from stanza) (1.19.5)
Requirement already satisfied: dataclasses in /usr/local/lib/python3.6/dist-packages (from torch>=1.3.0->stanza) (0.8)
Requirement already satisfied: future in /usr/local/lib/python3.6/dist-packages (from torch>=1.3.0->stanza) (0.16.0)
Requirement already satisfied: typing-extensions in /usr/local/lib/python3.6/dist-packages (from torch>=1.3.0->stanza)
Requirement already satisfied: six>=1.9 in /usr/local/lib/python3.6/dist-packages (from protobuf->stanza) (1.15.0)
Requirement already satisfied: setuptools in /usr/local/lib/python3.6/dist-packages (from protobuf->stanza) (51.1.1)
Requirement already satisfied: urllib3!=1.25.0,!1.25.1,<1.26,>=1.21.1 in /usr/local/lib/python3.6/dist-packages (from requests->stanza)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.6/dist-packages (from requests->stanza) (2019.9.11)
Requirement already satisfied: chardet<4,>=3.0.2 in /usr/local/lib/python3.6/dist-packages (from requests->stanza) (3.0.4)
```

Requirement & Reference



만약 다른 종류의 오류가 발생한다면

1) pytorch가 설치되어 있는지 확인하거나

2) python의 버전을 확인해보세요!

(3.6.x, 3.7.x, 3.8.x 지원)

- Official site
<https://stanfordnlp.github.io/stanza/>
- Running online demo
<http://stanza.run/>
- Pypi documentation
<https://pypi.org/project/stanza/>