

CARA MENJALANKAN PROGRAM

1. Buka *google collab* (<https://colab.research.google.com/>)
2. Pilih *New notebook*
3. Masukkan potongan kode pada listing program ke tiap *cell* di *notebook*
4. Jalankan tiap *cell* di *notebook* dengan klik *Runtime*, kemudian klik *Run all* untuk menjalankan semua program di *notebook google collab*
5. Untuk menjalankan *API* menggunakan *Flask* di local pastikan sudah menginstall python dengan mendownload di (<https://www.python.org/downloads/windows/>)
6. Membuat virtual environment dengan membuka cmd lalu masukkan perintah `pip install virtualenv` untuk install paket virtualenv
7. Masukkan perintah `virtualenv env` untuk membuat direktori virtual environment dengan nama `env`

```
C:\Users\Lenovo>virtualenv env
created virtual environment CPython3.9.1.final.0-64 in 731ms
creator CPythonWindows(dest=C:\Users\Lenovo\env, clear=False, no_vcs_ignore=False, global=False)
seeder FromAppData(download=False, pip-bundle, setuptools-bundle, wheel-bundle, via=copy, app_data_dir=C:\Users\Lenovo\AppData\Local\pypa\virtualenv)
added seed packages: pip==21.1.2, setuptools==57.0.0, wheel==0.36.2
activators BashActivator, BatchActivator, FishActivator, PowerShellActivator, PythonActivator, XonshActivator
```

8. Masuk ke direktori `./env/Script` kemudian masukkan perintah `activate` untuk mengaktifkan virtual environment

```
C:\Users\Lenovo>cd ..
C:\Users\Lenovo>cd env\Scripts
C:\Users\Lenovo\env\Scripts>activate
(env) C:\Users\Lenovo\env\Scripts>_
```

9. Install package flask, nltk, Sastrawi, Flask-Cors, scikit-learn menggunakan pip insatall

```
(env) C:\Users\Lenovo\env\Scripts>pip install flask
Collecting flask
  Using cached Flask-2.2.3-py3-none-any.whl (101 kB)
Collecting Werkzeug>=2.2.2
  Using cached Werkzeug-2.2.3-py3-none-any.whl (233 kB)
Collecting Jinja2>=3.0
  Using cached Jinja2-3.1.2-py3-none-any.whl (133 kB)
Collecting itsdangerous>=2.0
  Using cached itsdangerous-2.1.2-py3-none-any.whl (15 kB)
Collecting click>=8.0
  Using cached click-8.1.3-py3-none-any.whl (96 kB)
Collecting importlib-metadata>=3.6.0
  Using cached importlib_metadata-6.0.0-py3-none-any.whl (21 kB)
Collecting colorama
  Using cached colorama-0.4.6-py2.py3-none-any.whl (25 kB)
Collecting zipp>=0.5
  Using cached zipp-3.14.0-py3-none-any.whl (6.7 kB)
Collecting MarkupSafe>=2.0
  Using cached MarkupSafe-2.1.2-cp39-cp39-win_amd64.whl (16 kB)
Installing collected packages: zipp, MarkupSafe, colorama, Werkzeug, Jinja2, itsdangerous, importlib-metadata, click, flask
Successfully installed Jinja2-3.1.2 MarkupSafe-2.1.2 Werkzeug-2.2.3 click-8.1.3 colorama-0.4.6 flask-2.2.3 importlib-metadata-6.0.0 itsdangerous-2.1.2 zipp-3.14.0
WARNING: You are using pip version 21.1.2; however, version 23.0.1 is available.
You should consider upgrading via the 'C:\Users\Lenovo\env\Scripts\python.exe -m pip install --upgrade pip' command.

(env) C:\Users\Lenovo\env\Scripts>pip install nltk
Collecting nltk
  Using cached nltk-3.8.1-py3-none-any.whl (1.5 MB)
Collecting joblib
  Using cached joblib-1.2.0-py3-none-any.whl (297 kB)
Requirement already satisfied: click in c:\users\lenovo\env\lib\site-packages (from nltk) (8.1.3)
Collecting regex>=2021.8.3
  Using cached regex-2022.10.31-cp39-cp39-win_amd64.whl (267 kB)
Collecting tqdm
  Using cached tqdm-4.64.1-py2.py3-none-any.whl (78 kB)
Requirement already satisfied: colorama in c:\users\lenovo\env\lib\site-packages (from click->nltk) (0.4.6)
Installing collected packages: tqdm, regex, joblib, nltk
Successfully installed joblib-1.2.0 nltk-3.8.1 regex-2022.10.31 tqdm-4.64.1
WARNING: You are using pip version 21.1.2; however, version 23.0.1 is available.
You should consider upgrading via the 'C:\Users\Lenovo\env\Scripts\python.exe -m pip install --upgrade pip' command.
```

```
(env) C:\Users\Lenovo\env\Scripts>pip install Sastrawi
Collecting Sastrawi
  Using cached Sastrawi-1.0.1-py2.py3-none-any.whl (209 kB)
Installing collected packages: Sastrawi
Successfully installed Sastrawi-1.0.1
WARNING: You are using pip version 21.1.2; however, version 23.0.1 is available.
You should consider upgrading via the 'C:\Users\Lenovo\env\Scripts\python.exe -m pip install --upgrade pip' command.

(env) C:\Users\Lenovo\env\Scripts>pip install Flask-Cors
Collecting Flask-Cors
  Using cached Flask_Cors-3.0.10-py2.py3-none-any.whl (14 kB)
Requirement already satisfied: Flask>=0.9 in c:\users\lenovo\env\lib\site-packages (from Flask-Cors) (2.2.3)
Collecting Six
  Using cached six-1.16.0-py2.py3-none-any.whl (11 kB)
Requirement already satisfied: click>=8.0 in c:\users\lenovo\env\lib\site-packages (from Flask>=0.9->Flask-Cors) (8.1.3)
Requirement already satisfied: Jinja2>=3.0 in c:\users\lenovo\env\lib\site-packages (from Flask>=0.9->Flask-Cors) (3.1.2)
Requirement already satisfied: Werkzeug>=2.2.2 in c:\users\lenovo\env\lib\site-packages (from Flask>=0.9->Flask-Cors) (2.2.3)
Requirement already satisfied: importlib-metadata>=3.6.0 in c:\users\lenovo\env\lib\site-packages (from Flask>=0.9->Flask-Cors) (6.0.0)
Requirement already satisfied: itsdangerous>=2.0 in c:\users\lenovo\env\lib\site-packages (from Flask>=0.9->Flask-Cors) (2.1.2)
Requirement already satisfied: colorama in c:\users\lenovo\env\lib\site-packages (from click>=8.0->Flask>=0.9->Flask-Cors) (0.4.6)
Requirement already satisfied: zipp>=0.5 in c:\users\lenovo\env\lib\site-packages (from importlib-metadata>=3.6.0->Flask>=0.9->Flask-Cors) (3.14.0)
Requirement already satisfied: MarkupSafe>=2.0 in c:\users\lenovo\env\lib\site-packages (from Jinja2>=3.0->Flask>=0.9->Flask-Cors) (2.1.2)
Installing collected packages: Six, Flask-Cors
Successfully installed Flask-Cors-3.0.10 Six-1.16.0
WARNING: You are using pip version 21.1.2; however, version 23.0.1 is available.
You should consider upgrading via the 'C:\Users\Lenovo\env\Scripts\python.exe -m pip install --upgrade pip' command.

(env) C:\Users\Lenovo\env\Scripts>pip install scikit-learn
Collecting scikit-learn
  Using cached scikit_learn-1.2.1-cp39-cp39-win_amd64.whl (8.4 MB)
Collecting threadpoolctl>=2.0.0
  Using cached threadpoolctl-3.1.0-py3-none-any.whl (14 kB)
Collecting scipy>=1.3.2
  Using cached scipy-1.10.0-cp39-cp39-win_amd64.whl (42.5 MB)
Requirement already satisfied: joblib>=1.1.1 in c:\users\lenovo\env\lib\site-packages (from scikit-learn) (1.2.0)
Collecting numpy>=1.17.3
  Using cached numpy-1.24.2-cp39-cp39-win_amd64.whl (14.9 MB)
Installing collected packages: numpy, threadpoolctl, scipy, scikit-learn
Successfully installed numpy-1.24.2 scikit-learn-1.2.1 scipy-1.10.0 threadpoolctl-3.1.0
WARNING: You are using pip version 21.1.2; however, version 23.0.1 is available.
You should consider upgrading via the 'C:\Users\Lenovo\env\Scripts\python.exe -m pip install --upgrade pip' command.
```

10. Menjalankan code Flask API dengan menuliskan perintah python nama_file.py

```
(env) D:\DATA\KELAS\SEM7\SKRIPSI\api>python flask_app.py
D:\DATA\KELAS\SEM7\SKRIPSI\api\flask_app.py:14: DeprecationWarning: Please use `csr_matrix` from the `scipy.sparse` namespace, the `scipy.sparse.csr` namespace is deprecated.
  model = pickle.load(open(root_dir+"\model\nlp_model_indh.sav", "rb"))
c:\users\lenovo\env\lib\site-packages\sklearn\base.py:299: UserWarning: Trying to unpickle estimator SVC from version 1.0.2 when using version 1.2.1. This might lead to breaking code or invalid results. Use at your own risk. For more info please refer to:
https://scikit-learn.org/stable/model_persistence.html#security-maintainability-limitations
  warnings.warn(
 * Serving Flask app 'flask_app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on all addresses (0.0.0.0)
 * Running on http://127.0.0.1:5000
 * Running on http://192.168.43.189:5000
Press CTRL+C to quit
 * Restarting with stat
D:\DATA\KELAS\SEM7\SKRIPSI\api\flask_app.py:14: DeprecationWarning: Please use `csr_matrix` from the `scipy.sparse` namespace, the `scipy.sparse.csr` namespace is deprecated.
  model = pickle.load(open(root_dir+"\model\nlp_model_indh.sav", "rb"))
c:\users\lenovo\env\lib\site-packages\sklearn\base.py:299: UserWarning: Trying to unpickle estimator SVC from version 1.0.2 when using version 1.2.1. This might lead to breaking code or invalid results. Use at your own risk. For more info please refer to:
https://scikit-learn.org/stable/model_persistence.html#security-maintainability-limitations
  warnings.warn(
 * Debugger is active!
 * Debugger PIN: 616-413-171
```

11. Melakukan request API menggunakan postman

