CYBERDEFEND

Technical Reference Manual

Overview & Purpose

The technical reference manual provides details regarding the compatibility requirements of the web application, technology stack used for development, libraries used, virtual environment details (if locally hosted) and various 3rd party services used by the application for its functioning.

Compatibility Requirements

1. OS : Window 10, Windows 11, MacOS Catalina
2. Browser : Chrome, Firefox, Edge

Technology Stack

1. Frontend
    a. HTML
    b. CSS
    c. Bootstrap
    d. Javascript
2. Backend
    a. Streamlit
    b. Google Safe Browsing API
3. Training and testing of models
    a. Python
    b. Jupyter notebook

Libraries

Below is a list of libraries and their versions required by the web application for its appropriate functioning.

absl-py==0.15.0
altair==4.2.0
argon2-cffi==21.3.0
argon2-cffi-bindings==21.2.0
asgiref==3.5.0
astor==0.8.1
astunparse==1.6.3
attrs==21.4.0
backcall==0.2.0
backports.zoneinfo==0.2.1
base58==2.1.1
beautifulsoup4==4.10.0
bleach==4.1.0
blinker==1.4
cached-property==1.5.2
cachetools==5.0.0
certifi==2021.10.8
cffi==1.15.0
chardet==3.0.4
charset-normalizer==2.0.12
clang==5.0
click==7.1.2
colorama==0.4.4
configparser==5.2.0
debugpy==1.5.1
decorator==5.1.1
defusedxml==0.7.1
Django==3.2.12
django-recaptcha==3.0.0
docopt==0.6.2
entrypoints==0.4
filelock==3.6.0
flatbuffers==1.12
gast==0.4.0
gitdb==4.0.9
GitPython==3.1.27
google-auth==2.6.2
google-auth-oauthlib==0.4.6
google-pasta==0.2.0
grpcio==1.44.0
h5py==3.1.0
idna==2.10
importlib-metadata==4.11.2
importlib-resources==5.4.0
ipykernel==6.9.1
ipython==7.32.0
ipython-genutils==0.2.0
ipywidgets==7.6.5
jedi==0.18.1
Jinja2==3.0.3
joblib==1.1.0
jsonschema==4.4.0
jupyter-client==7.1.2
jupyter-core==4.9.2
jupyterlab-pygments==0.1.2
jupyterlab-widgets==1.0.2
keras==2.6.0
Keras-Preprocessing==1.1.2
libclang==13.0.0
Markdown==3.3.6
MarkupSafe==2.1.0
matplotlib-inline==0.1.3
mistune==0.8.4
nbclient==0.5.12
nbconvert==6.4.2
nbformat==5.1.3
nest-asyncio==1.5.4
notebook==6.4.8
numpy==1.19.5
oauthlib==3.2.0
opt-einsum==3.3.0
packaging==21.3
pandas==1.1.3
pandocfilters==1.5.0
parso==0.8.3
pickleshare==0.7.5
Pillow==9.0.1
pipreqs==0.4.11
platformdirs==2.5.1
prometheus-client==0.13.1
prompt-toolkit==3.0.28
protobuf==3.19.4
pyarrow==7.0.0
pyasn1==0.4.8

pyasn1-modules==0.2.8
pycparser==2.21
pydeck==0.7.1
Pygments==2.11.2
Pympler==1.0.1
pyparsing==3.0.7
pyrsistent==0.18.1
pysafebrowsing==0.1.1
python-dateutil==2.8.2
pytz==2021.3
pytz-deprecation-shim==0.1.0.post0
pyzmq==22.3.0
requests==2.24.0
requests-oauthlib==1.3.1
rsa==4.8
scikit-learn==1.0.2
scipy==1.7.3
semver==2.13.0
Send2Trash==1.8.0
six==1.15.0
sklearn==0.0
smmap==5.0.0
soupsieve==2.3.1
sqlparse==0.4.2
streamlit==1.3.1
tensorboard==2.8.0
tensorboard-data-server==0.6.1
tensorboard-plugin-wit==1.8.1
tensorflow==2.6.0
tensorflow-estimator==2.8.0
tensorflow-io-gcs-filesystem==0.24.0
termcolor==1.1.0
terminado==0.13.3
testpath==0.6.0
tf-estimator-nightly==2.8.0.dev2021122109
threadpoolctl==3.1.0
toml==0.10.2
toolz==0.11.2
tornado==6.1
traitlets==5.1.1
typing-extensions==3.7.4.3
tzdata==2021.5
tzlocal==4.1
uritools==4.0.0
urlextract==1.5.0
urllib3==1.25.11
validators==0.18.2
watchdog==2.1.6
wcwidth==0.2.5
webencodings==0.5.1
Werkzeug==2.0.3
whois==0.9.13
widgetsnbextension==3.5.2
wrapt==1.12.1
yarg==0.1.9
zipp==3.7.0

Virtual Environment

The web application is hosted on Streamlit cloud and can be accessed directly using its URL, but a virtual environment needs to be created in case the web application is to be run on localhost. The required libraries can be found in the requirements.txt file and can be installed easily. Python version 3.7.3 has been used for the development of the application.

3rd Party Services

1. Export Chrome History Extension
2. Google Safebrowsing API
3. Cisco's top 1 million domain list as a CSV file