

DEPLOY THE PYTHON BASED APPLICATION

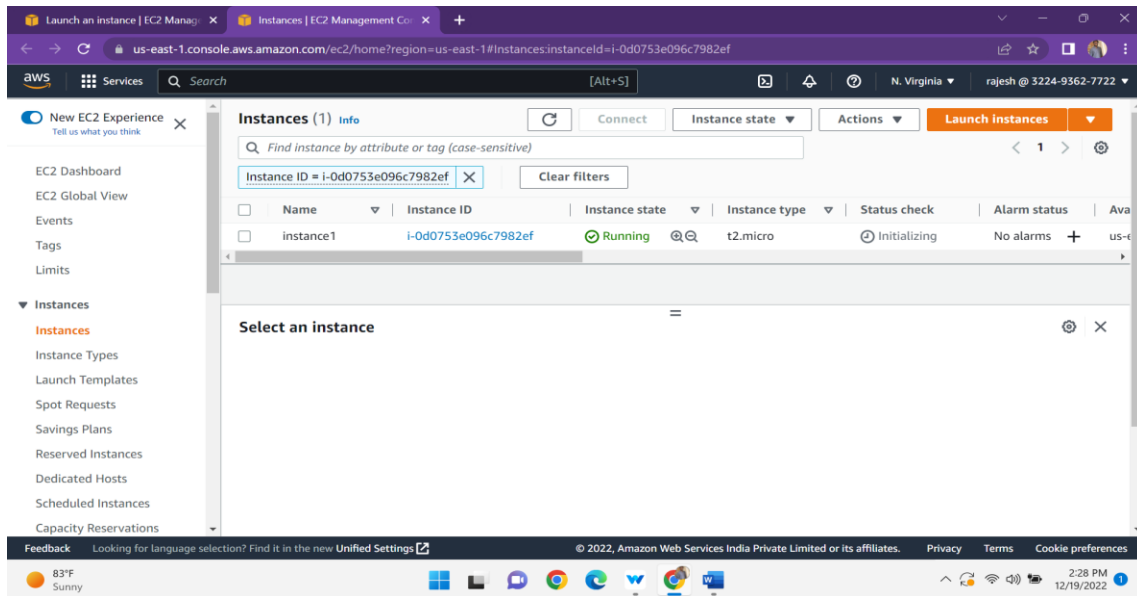
SIGN into the aws console and create an ec2 instance with the ubuntu server and give the customized vpc and security group are

SSH-22

HTTP-443

HTTPS-8080

TCP-7070,8000



Connect the ec2 instance with the terminal and update the system with the help of the command

----> `sudo apt update`

```
ubuntu@ip-192-168-144-230: ~$ ssh -i "esi.pem" ubuntu@107.21.14.20
The authenticity of host '107.21.14.20 (107.21.14.20)' can't be established.
ECDSA key fingerprint is SHA256:a8q0stur7M16FsDae7y5cLcRW0hFSL0A15hlaEpJY.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '107.21.14.20' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-1026-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Mon Dec 19 08:59:39 UTC 2022

System load: 0.2216796875      Processes:           104
Usage of /:  19.8% of 7.57GB    Users logged in:     0
Memory usage: 22%              IPv4 address for eth0: 192.168.144.230
Swap usage:  0%

0 updates can be applied immediately.

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
```

```
ubuntu@ip-192-168-144-230: ~$ sudo apt update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [114 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-security InRelease [59.8 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-security/main amd64 Packages [768 kB]
Get:5 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [14.1 MB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe Translation-en [5652 kB]
Get:7 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [532 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 c-n-f Metadata [286 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [217 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse Translation-en [112 kB]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse amd64 c-n-f Metadata [8372 B]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [768 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [172 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 c-n-f Metadata [11.5 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [498 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [76.3 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 c-n-f Metadata [532 B]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [767 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [130 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [14.2 kB]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [7300 B]
Get:22 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [2432 B]
Get:23 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [420 B]
Get:24 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [3324 B]
Get:25 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [1580 B]
Get:26 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [272 B]
Get:27 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
Get:28 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [6740 B]
Get:29 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [9460 B]
Get:30 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [348 B]
Get:31 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
```

After upgrade the packages in the ubuntu machine with the help of the command

Sudo apt-get full-upgrade -y

And then install the python in the ubuntu machine

Pip3 is the official package manager and pip command for python3 .it enables the installation and management of third party software packages with features and functionality not found in the python standard library.

```
ubuntu@ip-192-168-144-230:~$ sudo apt-get install python3-pip
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  build-essential bzip2 cpp cpp-11 dpkg-dev fakeroot fontconfig-config fonts-dejavu-core g++ g++-11 gcc gcc-11 gcc-11-base
  javascript-common libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan6 libatomic1 libc-dev-bin
  libc-devtools libc6-dev libcc1-0 libcrypt-dev libdeflate0 libdpkg-perl libexpat1-dev libfakeroot libfile-fcntllock-perl
  libfontconfig1 libgcc-11-dev libgd3 libgomp1 libisl23 libitm1 libjpeg8 libjpeg-turbo8 libjpeg8-dev libjs-jquery libjs-sphinxdoc
  libjs-underscore liblsan0 libmpc3 libnsl-dev libpython3-dev libpython3.10 libpython3.10-dev libpython3.10-minimal
  libpython3.10-stdlib libquadmath0 libstdc++-11-dev libtiff5 libtirpc-dev libtsan0 libubsan1 libwebp7 libxpm4 linux-libc-dev
  lto-disabled-list make manpages-dev python3-dev python3-wheel python3.10 python3.10-dev python3.10-minimal rpcsvc-proto
  zlib1g-dev
Suggested packages:
  bzip2-doc cpp-doc gcc-11-locales debian-keyring g++-multilib g++-11-multilib gcc-11-doc gcc-multilib autoconf automake libtool
  flex bison gdb gcc-doc gcc-11-multilib apache2 | lighttpd | httpd glibc-doc bsr libgd-tools libstdc++-11-doc make-doc
  python3.10-venv python3.10-doc binfmt-support
The following NEW packages will be installed:
  build-essential bzip2 cpp cpp-11 dpkg-dev fakeroot fontconfig-config fonts-dejavu-core g++ g++-11 gcc gcc-11 gcc-11-base
  javascript-common libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan6 libatomic1 libc-dev-bin
  libc-devtools libc6-dev libcc1-0 libcrypt-dev libdeflate0 libdpkg-perl libexpat1-dev libfakeroot libfile-fcntllock-perl
  libfontconfig1 libgcc-11-dev libgd3 libgomp1 libisl23 libitm1 libjpeg8 libjpeg-turbo8 libjpeg8-dev libjs-jquery libjs-sphinxdoc
  libjs-underscore liblsan0 libmpc3 libnsl-dev libpython3-dev libpython3.10 libpython3.10-dev libpython3.10-minimal
  libpython3.10-stdlib libquadmath0 libstdc++-11-dev libtiff5 libtirpc-dev libtsan0 libubsan1 libwebp7 libxpm4 linux-libc-dev
  lto-disabled-list make manpages-dev python3-dev python3-pip python3-wheel
python3.10-dev rpcsvc-proto zlib1g-dev
The following packages will be upgraded:
  libpython3.10 libpython3.10-minimal libpython3.10-stdlib python3.10 python3.10-minimal
5 upgraded, 64 newly installed, 0 to remove and 21 not upgraded.
Need to get 78.5 MB of archives.
After this operation, 239 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

And clone the code from the repository by using

Git clone <https://github.com/kallasrikanth1999/fish-git>

```
ubuntu@ip-192-168-144-230:~$ git clone https://github.com/anudeepreddy77/flask-library-app.git
Cloning into 'flask-library-app'...
Username for 'https://github.com': maddalarajesh
Password for 'https://maddalarajesh@github.com':
remote: Repository not found.
fatal: repository 'https://github.com/anudeepreddy77/flask-library-app.git/' not found
ubuntu@ip-192-168-144-230:~$ git clone https://github.com/kallasrikanth1999/fish.git
Cloning into 'fish'...
remote: Enumerating objects: 10765, done.
remote: Counting objects: 100% (10/10), done.
remote: Compressing objects: 100% (9/9), done.
remote: Total 10765 (delta 2), reused 0 (delta 0), pack-reused 10755
Receiving objects: 100% (10765/10765), 81.40 MiB | 19.48 MiB/s, done.
Resolving deltas: 100% (804/804), done.
Updating files: 100% (10267/10267), done.
ubuntu@ip-192-168-144-230:~$
```

And go to the directory install the required packages and run the flask server

--> pip3 install -r requirements.txt

--> python3 app.py

```
ubuntu@ip-192-168-144-230: ~$ python3 app.py
/home/ubuntu/.local/lib/python3.10/site-packages/sklearn/base.py:329: UserWarning: Trying to unpickle estimator DecisionTreeRegressor
from version 1.1.1 when using version 1.1.2. 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(
/home/ubuntu/.local/lib/python3.10/site-packages/sklearn/base.py:329: UserWarning: Trying to unpickle estimator RandomForestRegressor
from version 1.1.1 when using version 1.1.2. 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(
/home/ubuntu/.local/lib/python3.10/site-packages/sklearn/base.py:329: UserWarning: Trying to unpickle estimator OneHotEncoder from ve
rsion 1.1.1 when using version 1.1.2. 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 '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 http://127.0.0.1:8000
Press CTRL+C to quit
* Restarting with stat
/home/ubuntu/.local/lib/python3.10/site-packages/sklearn/base.py:329: UserWarning: Trying to unpickle estimator DecisionTreeRegressor
from version 1.1.1 when using version 1.1.2. 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(
/home/ubuntu/.local/lib/python3.10/site-packages/sklearn/base.py:329: UserWarning: Trying to unpickle estimator RandomForestRegressor
from version 1.1.1 when using version 1.1.2. 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(
```

Here, after running python3 app.py it will generate local host ip address we can't access web app with that ip address then here we want to edit the file app.py with some details.

Sudo vi app.py

Go to the very bottom of the file and paste the following text and save the file

App.run(host='0.0.0.0', port=8080, debug=True)

```
ubuntu@ip-192-168-144-230: ~$ sudo vi app.py

@app.route('/')
@app.route('/main')
def main():
    return render_template('main.html')

@app.route('/predict', methods=['POST'])
def predict():
    int_features = [x for x in request.form.values()]
    print('$'+30)
    print(int_features)
    c = ['Species', 'Length1', 'Length2', 'Length3', 'Height', 'Width']
    df = pd.DataFrame(int_features, columns=c)
    l = onehot.transform(df.iloc[:,1:])
    c = onehot.get_feature_names_out()
    t = pd.DataFrame(l, columns=c)
    l2 = df.iloc[:,1:]
    final = pd.concat([t, l2], axis=1)
    result = model.predict(final)
    print("The Result is :", result)

    print(int_features)

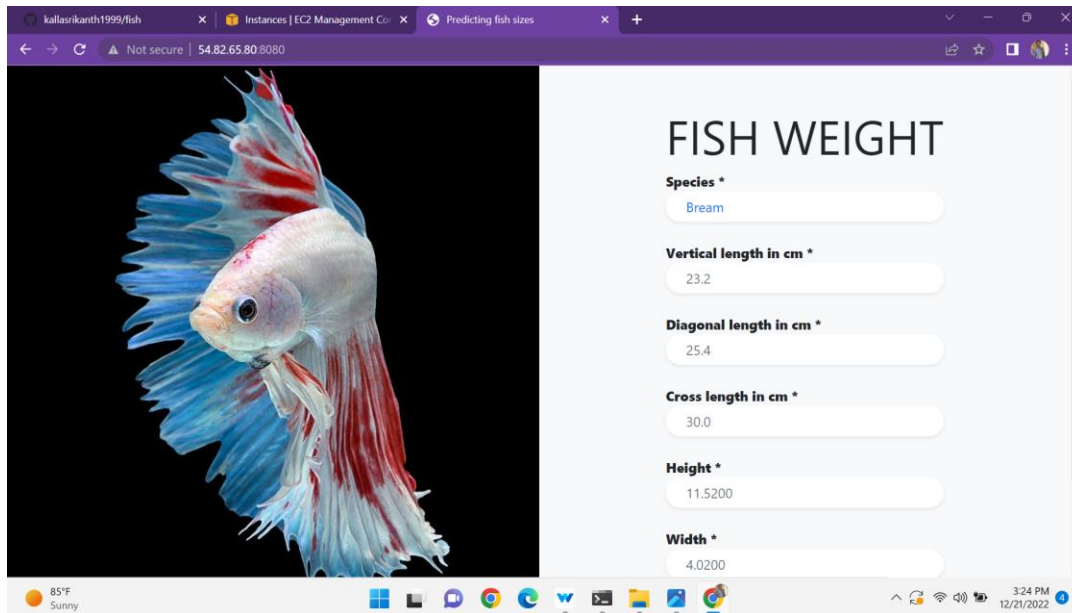
    return render_template("main.html", prediction_text=" The Estimated Fish Weight is {} in gms.".format(result))

if __name__ == "__main__":
    app.debug=True
    app.run(host = '0.0.0.0', port=8080, debug=true)
-- INSERT --
```

Now again run the flask server by using the below command

```
Python3 app.py
```

Copy the public ip adress and paste it on terminal with required port number



And again clone the fuel-consumption repository

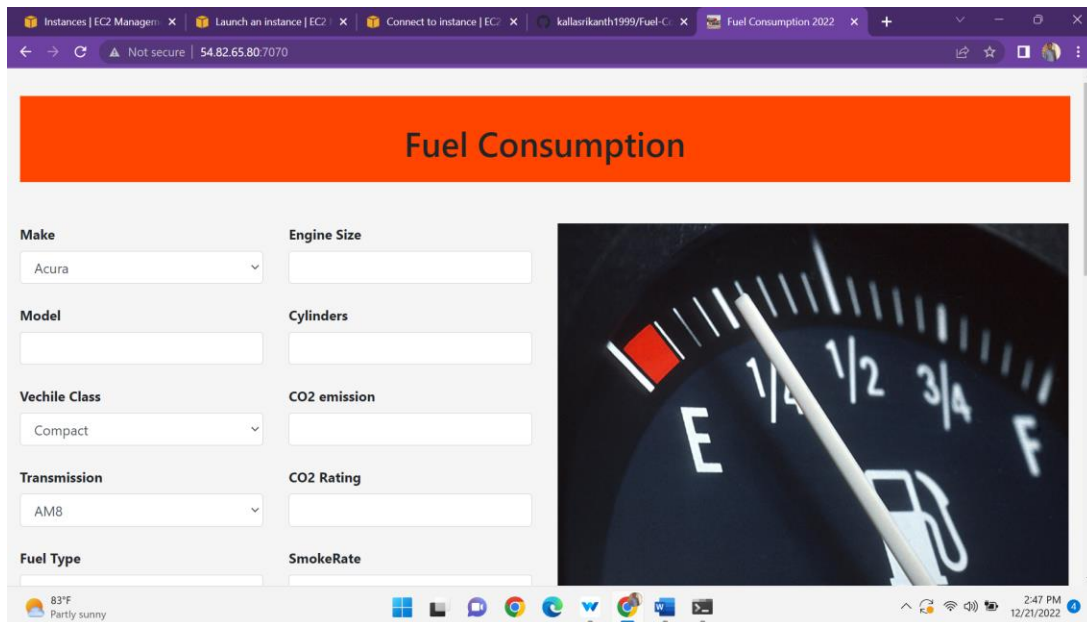
Go to that directory install the requirements .txt

Run the flask server

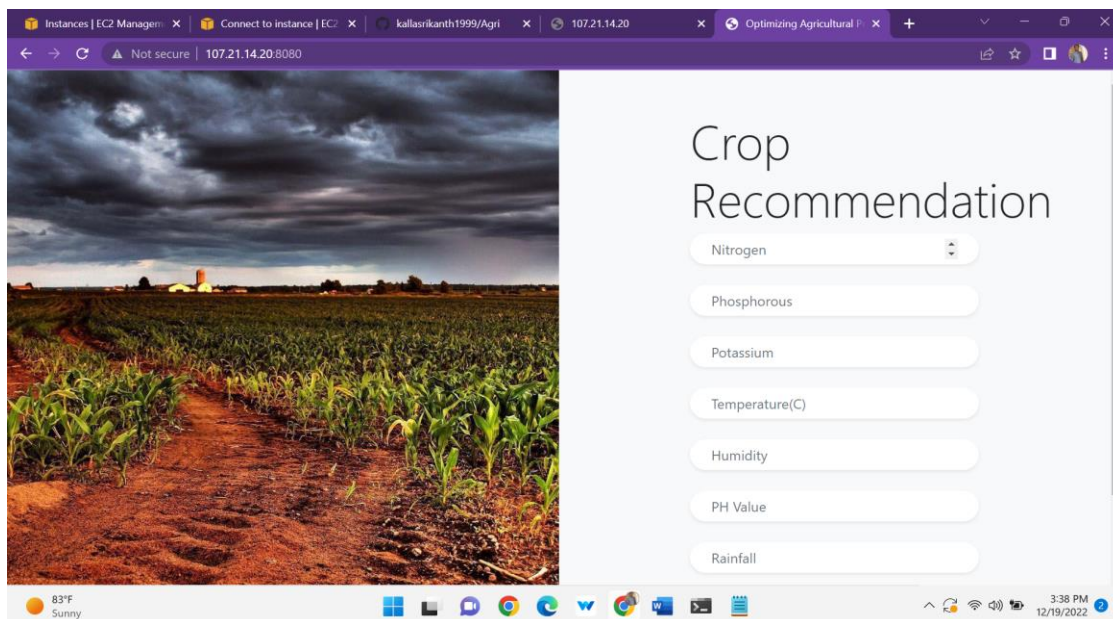
Edit the sudo vi app.py

And again run python3 app.py

Copy the public ip adress and paste it on the browser



And after clone the agri repo and same edit app.py and copy the public ip on browser



And then clone the liver-patient repo

kallaznikanth1999/indian-liver-pi x EC2 Management Console x Predicting fish sizes x 54.82.65.80:7000 x +

← → ↻ ⚠ Not secure | 54.82.65.80:7000

LIVER PATIENT

Gender *	Sgpt *
<input type="text" value="Female"/>	<input type="text"/>
Age *	Sgot *
<input type="text"/>	<input type="text"/>
TB *	TP *
<input type="text"/>	<input type="text"/>
DB *	ALB *
<input type="text"/>	<input type="text"/>
Alkphos *	AG *
<input type="text"/>	<input type="text"/>

85°F Sunny 3:36 PM 12/21/2022