

Integrate Flask With Scoring End Point

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Project Name	Crude Oil Price Prediction

The screenshot displays the Spyder Python IDE interface. The main editor window shows a Python script named `app.py` located at `C:\Users\HP\Desktop\Ibm\Flask\app.py`. The code implements a Flask web application with the following components:

- Imports:** `numpy` as `np`, `Flask`, `render_template`, `request` from `flask`, and `load_model` from `tensorflow.keras.models`.
- App Initialization:** `app = Flask(__name__)` and `model = load_model('crude.h5')`.
- Routes:**
 - `@app.route('/')`: `def home():` returns `render_template("index.html")`.
 - `@app.route('/about')`: `def home1():` returns `render_template("index.html")`.
 - `@app.route('/predict')`: `def home2():` returns `render_template("web.html", showcase="")`.
 - `@app.route('/login', methods=['POST'])`: `def login():` processes a POST request to predict crude oil prices.
- Logic in `login()`:**
 - Extracts `request.form[1]` and converts it to a float.
 - Reshapes the input to `(1, -1)`.
 - Converts the input to a list and then to a NumPy array.
 - Iterates over `n_steps` (10) to perform predictions.
 - For each step, it appends the input to `x_input`, reshapes it to `(1, n_steps, 1)`, and uses the `model.predict()` method to get `yhat`.
 - Prints the day output and extends the `temp_input` list with `yhat[0]`.

The right sidebar contains the **Variable Explorer** (empty) and the **Console** (showing IPython 7.34.0 output).

```
1 import numpy as np
2 from flask import Flask, render_template, request
3 from tensorflow.keras.models import load_model
4 app = Flask(__name__)
5 model = load_model('crude.h5')
6 @app.route('/')
7 def home():
8     return render_template("index.html")
9 @app.route('/about')
10 def home1():
11     return render_template("index.html")
12 @app.route('/predict')
13 def home2():
14     return render_template("web.html", showcase="")
15 @app.route('/login', methods=['POST'])
16 def login():
17     x_input = []
18     for i in request.form:
19         x_input.append(float(request.form[i]))
20     x_input = np.array(x_input).reshape(1, -1)
21     temp_input = list(x_input)
22     temp_input = temp_input[0].tolist()
23     list_output = []
24     n_steps = 10
25     i = 0
26     while(i < 1):
27         if(len(temp_input) > 10):
28             x_input = np.array(temp_input[1:])
29             print("{} day input {}".format(i, x_input))
30             x_input = x_input.reshape(1, -1)
31             x_input = x_input.reshape((1, n_steps, 1))
32             yhat = model.predict(x_input, verbose=0)
33             print("{} day output {}".format(i, yhat))
34             temp_input.extend(yhat[0].tolist())
35             temp_input = temp_input[1:]
```



