

WEEK 4 -Flask Deployment

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Batch Code:LISUM45

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```
: from sklearn.datasets import load_iris
from sklearn.ensemble import RandomForestClassifier
import joblib

# Load dataset
iris = load_iris()
X, y = iris.data, iris.target

# Train model
model = RandomForestClassifier()
model.fit(X, y)

# Save model to file
joblib.dump(model, 'iris_model.pkl')
```

```
: ['iris_model.pkl']
```

```
pip install flask joblib
```

```
Requirement already satisfied: flask in c:\users\user\anaconda3\lib\site-packages (3.0.3)
Requirement already satisfied: joblib in c:\users\user\anaconda3\lib\site-packages (1.4.2)
Requirement already satisfied: Werkzeug>=3.0.0 in c:\users\user\anaconda3\lib\site-packages (from flask) (3.0.3)
Requirement already satisfied: Jinja2>=3.1.2 in c:\users\user\anaconda3\lib\site-packages (from flask) (3.1.4)
Requirement already satisfied: itsdangerous>=2.1.2 in c:\users\user\anaconda3\lib\site-packages (from flask) (2.2.0)
Requirement already satisfied: click>=8.1.3 in c:\users\user\anaconda3\lib\site-packages (from flask) (8.1.7)
Requirement already satisfied: blinker>=1.6.2 in c:\users\user\anaconda3\lib\site-packages (from flask) (1.6.2)
Requirement already satisfied: colorama in c:\users\user\anaconda3\lib\site-packages (from click>=8.1.3->flask) (0.4.6)
Requirement already satisfied: MarkupSafe>=2.0 in c:\users\user\anaconda3\lib\site-packages (from Jinja2>=3.1.2->flask) (2.1.3)
Note: you may need to restart the kernel to use updated packages.
```

```
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```

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```

App.py

```
1 |
2 from flask import Flask, request, jsonify
3 import joblib
4 import numpy as np
5
6 model = joblib.load('iris_model.pkl')
7 target_names = ['setosa', 'versicolor', 'virginica']
8
9 app = Flask(__name__)
10
11 @app.route('/')
12 def home():
13     return "Iris model Flask API is running!"
14
15 @app.route('/predict', methods=['POST'])
16 def predict():
17     data = request.get_json(force=True)
18     features = data['features']
19     input_features = np.array(features).reshape(1, -1)
20     prediction = model.predict(input_features)
21     predicted_class = target_names[prediction[0]]
22     return jsonify({'prediction': predicted_class})
23
24 if __name__ == '__main__':
25     app.run(port=5000, debug=True)
26
```

Prediction(html)

Enter Flower Features:

Sepal Length
Sepal Width
Petal Length
Petal Width

Predict

{{ prediction_text }}