

Model Deployment with Flask

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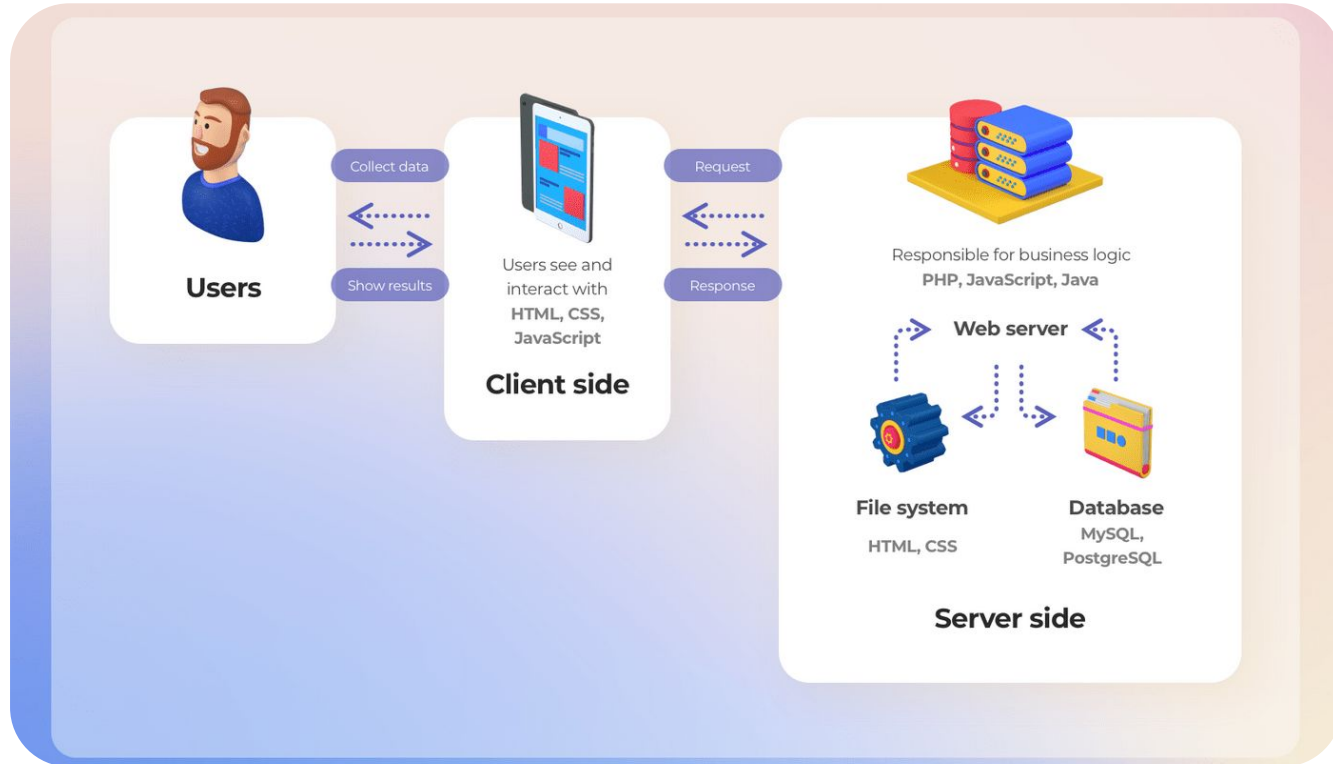
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What is a Web Application

"A web application is any software that runs in a web browser. It is created in a browser-supported programming language (such as the combination of JavaScript, HTML and CSS) and relies on a web browser to render the application."

- *Wikipedia*

What is a Web Application



What is a Web Application Framework

A Web-Application Framework or Web Framework is the collection of modules and libraries that helps the developer to write applications without writing the low-level codes such as protocols, thread management, etc.

Flask!

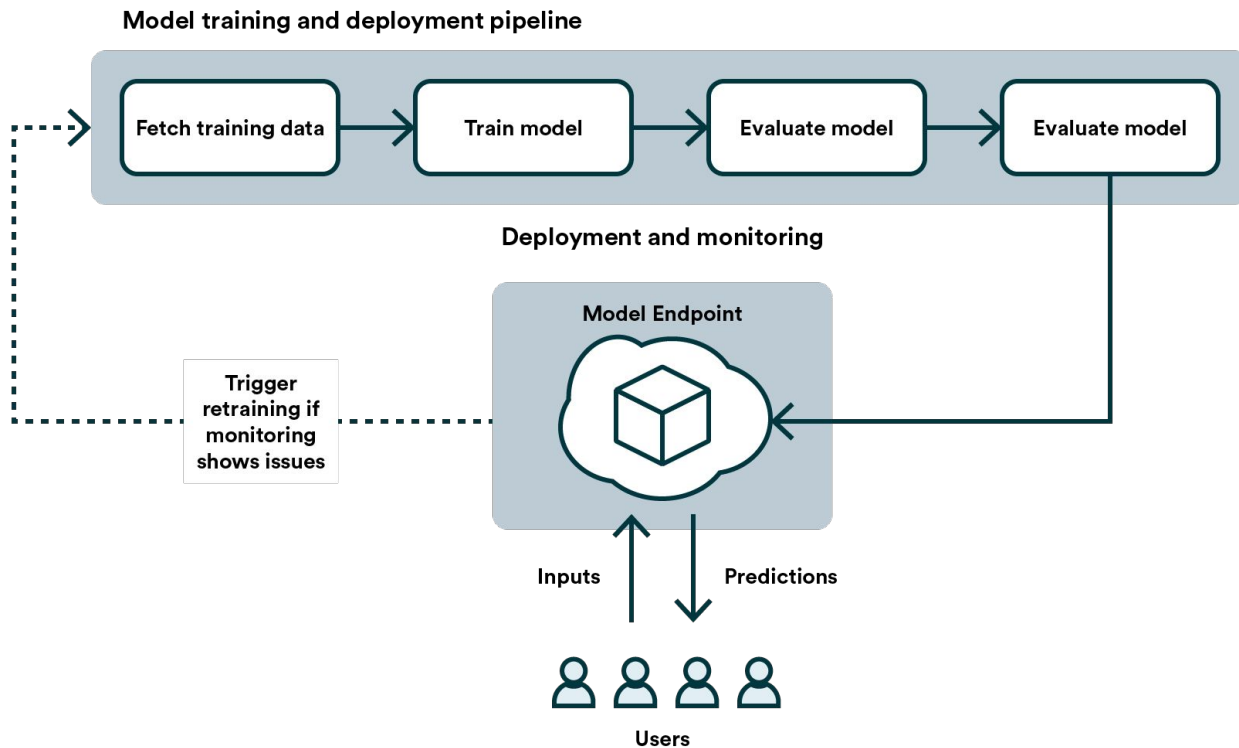
- **Flask** is micro-framework for **web application development** which has very little dependency on external libraries.
- Open source: BSD license.
- Based on Python.
- Flask is a wrapper around:
 - Werkzeug: it is a collection of libraries that can be used to create a WSGI (Web Server Gateway Interface) compatible web application in Python.
 - Jinja2: it is a template engine for Python. You can use it when rendering data to web pages.



Machine Learning Model Deployment

- Model deployment is simply the engineering task of exposing an ML model to real use.
- The term is often used quite synonymously with making a model available via real-time APIs. Still, we should think about model deployment more broadly – as online inference in the cloud.

Machine Learning Model Deployment



Today's Session

- **Train** a machine learning model using sklearn (in Python)
- **Deploy** the trained model to a server using Flask (in Python).

Prerequisite:

- Create a <https://ngrok.com/> account and get the authentication key from <https://dashboard.ngrok.com/get-started/your-authtoken>.
- Download and extract the test data to your local machine:
https://drive.google.com/file/d/1XhtEysisWJT4l64dzWsnxy6HVqjOsf5Xk/view?usp=share_link.

Today's Session

Code: https://github.com/debanga/flask_example