1- Deployment of Machine Learning Model

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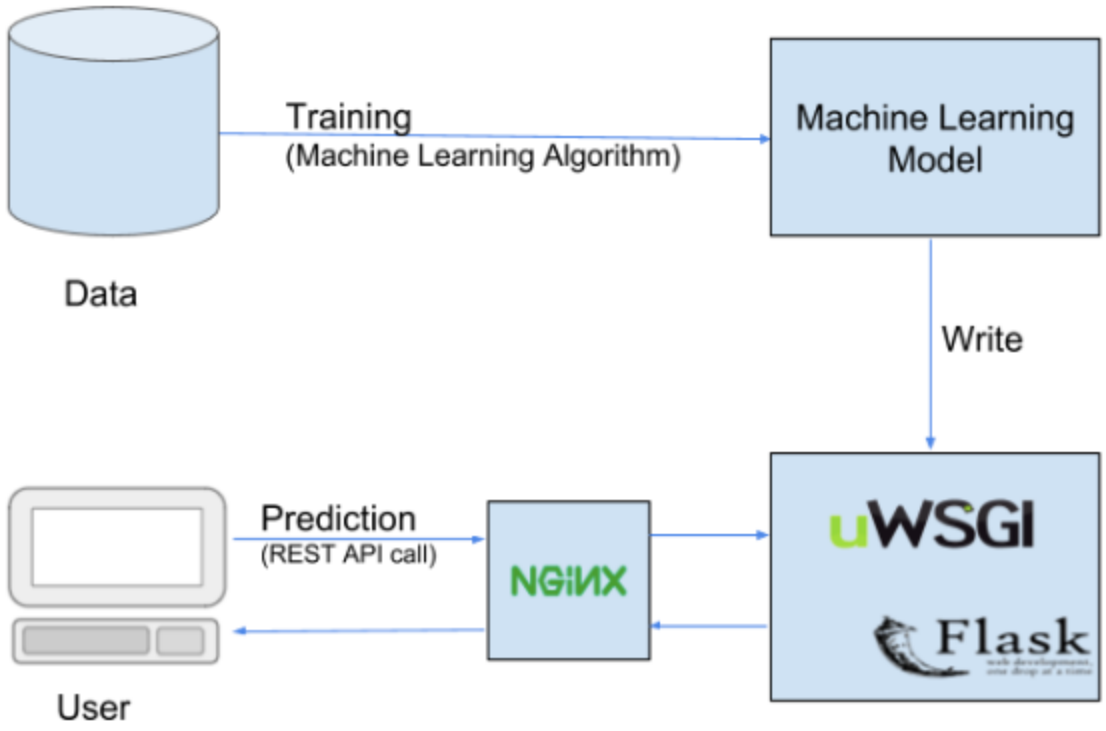
Why Deploy a Machine Learning Model?

Deploying allows the model to be **integrated into real-world applications** like websites or apps, where it can perform tasks like making predictions or recommendations based on new data.



How can we make that happen? Using API

https://youtu.be/s7wmiS2mSXY

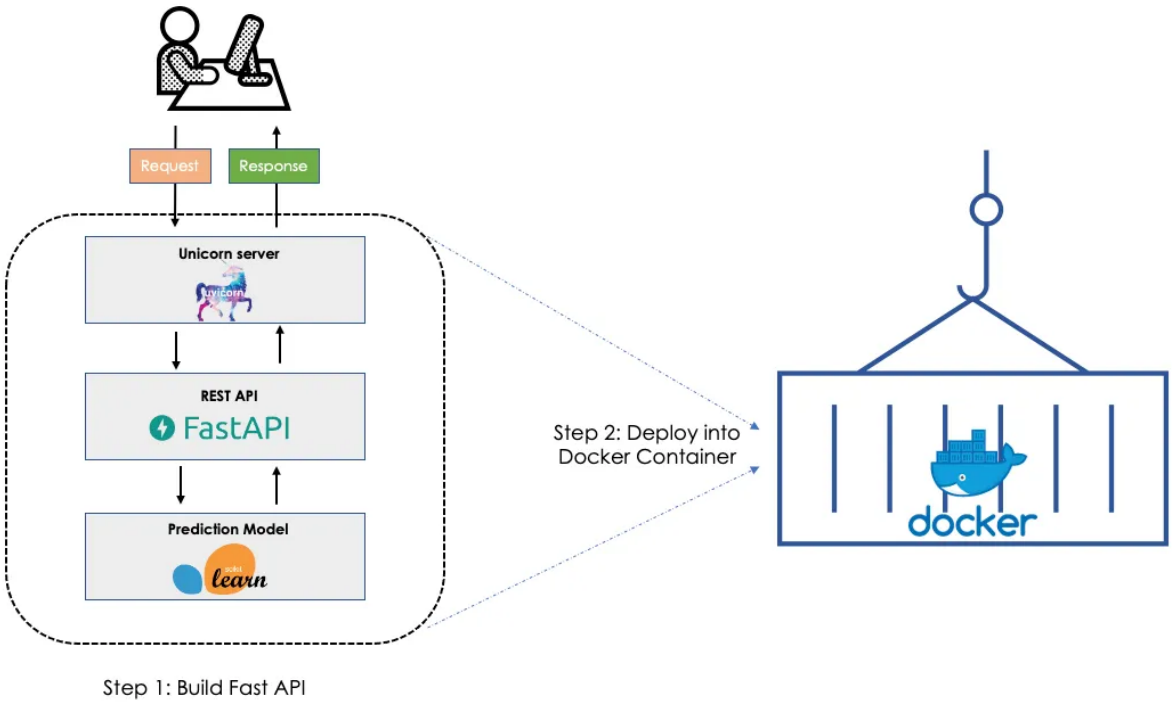
Role of an API in Machine Learning

- **Abstraction:** An API lets users interact with the model by sending inputs and receiving outputs **without needing to understand the underlying complexities.**
- **Security:** Manages authentication, **ensuring only authorized users can access the model**.
- **Integration:** Enables easy integration of the machine learning model with other applications, **allowing developers to incorporate model predictions into their software.**
- **Consistency and Monitoring:** Ensures consistent model performance and allows for usage **tracking and performance monitoring.**

There are many different frameworks for building APIs in Python. Some of the most popular frameworks for creating APIs in Python are **Django, Flask, and FastAPI**.

What is FastAPI

FastAPI is a high-performing web framework for building APIs with Python.



Note:
Unicorn is typically used as the server to run Python web applications that are built with an ASGI framework. For instance, if you develop an application using FastAPI, you can use Unicorn to serve that application.

How to build API?

Let’s create an API for our prediction model of used cars prices in usecase 4 in the next lesson

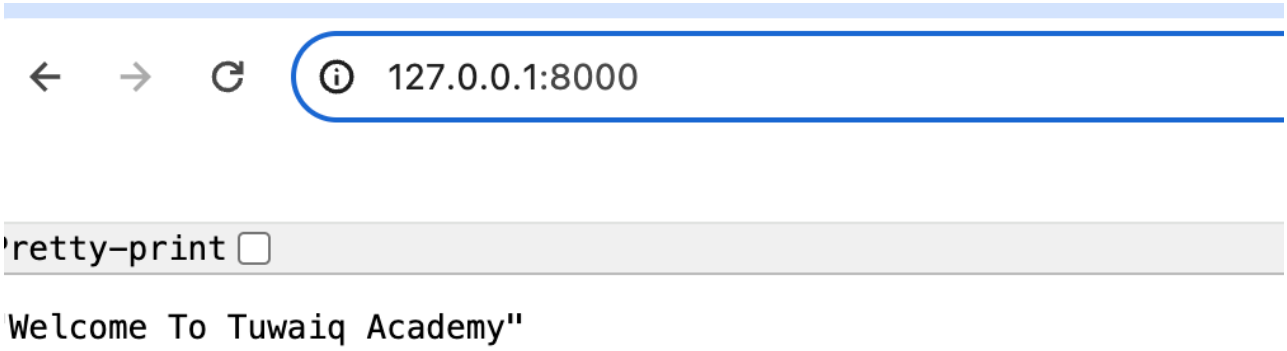
In steps:

Check **‘2- FastAPI Practise.pdf’**

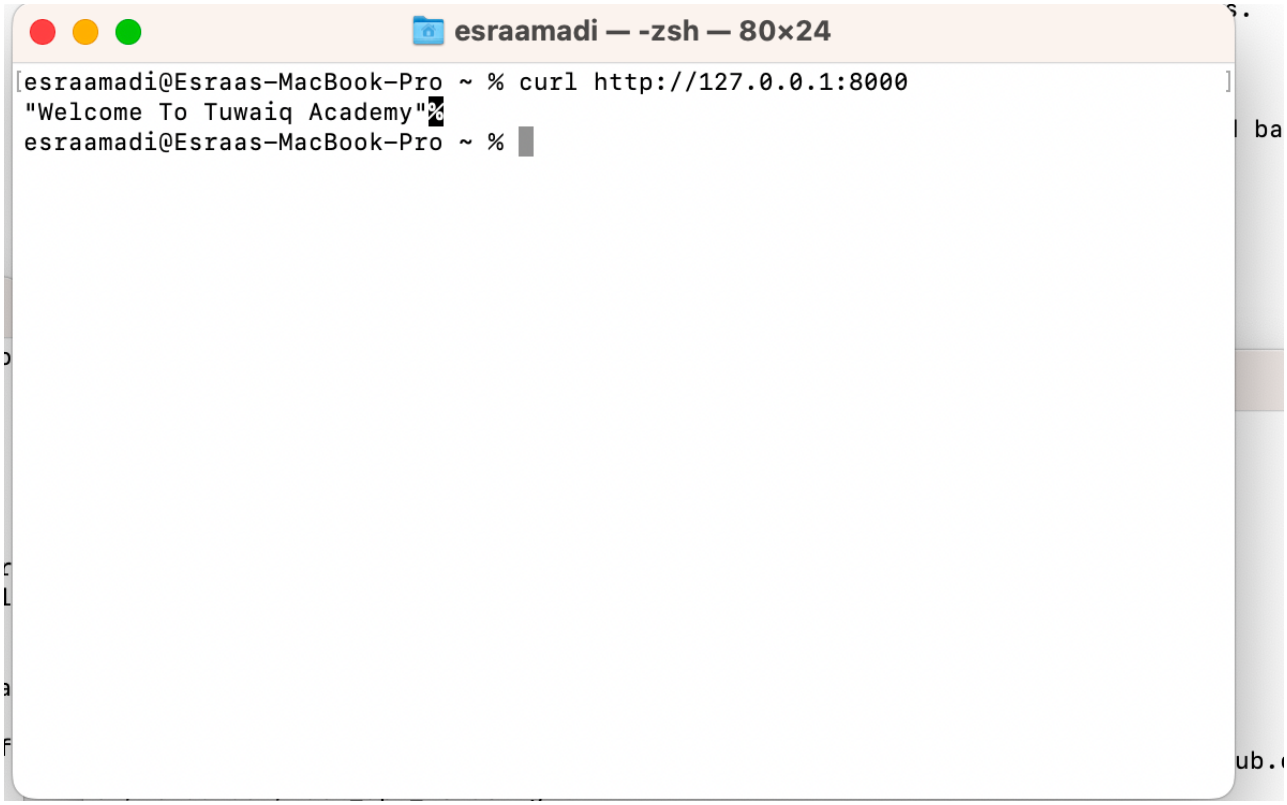
How to use it?

There are three common methods to send requests to an API endpoint:

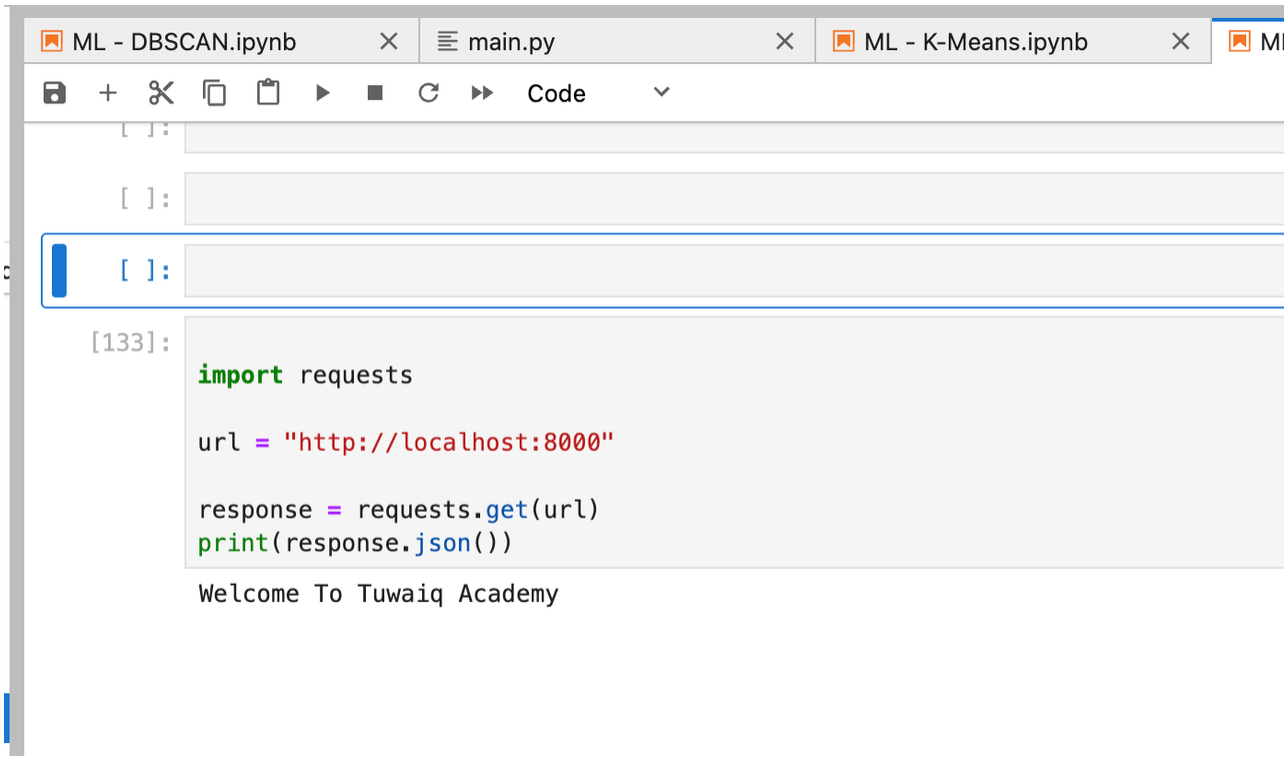
- **Browser**: Quick and easy for GET requests.



- **Curl**: Versatile for both GET and POST requests, useful for testing from command line.



- **Python `requests`**: Best for integrating HTTP requests into larger Python applications or scripts.



In steps:

Check **‘3- How to Request API?.pdf’**