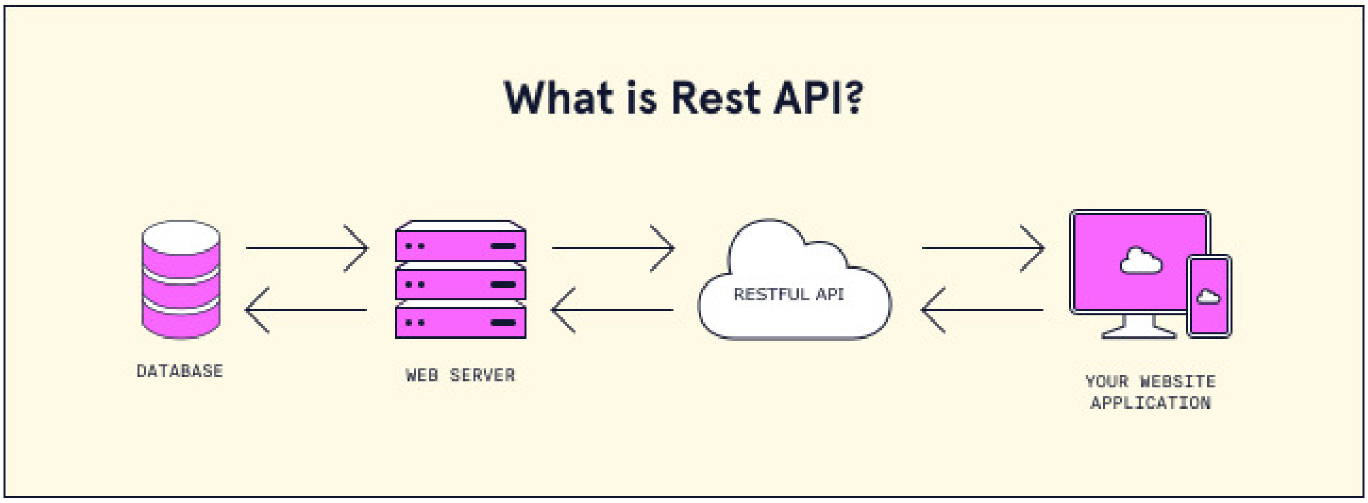
▶ Details

Table of Contents

REST or REpresentational State Transfer Architectural Style

- 表現層狀態轉換
- an architectuaral style for providing standards between computer systems on the web,
- making it easier for systems to communicate with eatch other.
- A `web API` that obeys the `REST constraints` is informally described as `RESTful`
- especially for the data transferring back and forth front-end, and back-end



APIs in Django REST Framework

- What is the `REST API`?
  - REST API is a way of accessing web services in a simple and flexible way without having any processing.
- Install 3rd-party package

```
$ pip install djangorestframework
```

Using **`REST API`**

- A request is sent from client to server in the form of a web URL as `HTTP GET` or `POST` or `PUT` or `DELETE` request.

How to use `Django REST Framework` aka `DRF`

- `models.py`, `serializers.py`, `urls.py`, `settings.py`, `views.py`
- Edit the **`settings.py`** file
  - beause we have to use those apps,
  - `rest_framework` MUST be imported

```
INSTALLED_APPS = [
    # ...

    "app01",
    "rest_framework"
]
```

- Edit the `urls.py` router (url) file

```
from django.contrib import admin
from django.urls import path, include
from app01 import views
from rest_framework.routers import DefaultRouter

# router
router = DefaultRouter()
router.register('books', views.BookViewSet)

urlpatterns = [
    path("admin/", admin.site.urls),

    # path('book/', include("app01.app01.urls"))
]
# add both list of urls together
urlpatterns += router.urls
```

- Edit the `views.py` file

```
from rest_framework.viewsets import ModelViewSet
from .models import Book
from .serializers import BookModelSerializer
# create your views here
class BookViewSet(ModelViewSet):
    queryset = Book.objects.all()
    serializer_class = BookModelSerializer
```

- Edit the `models.py` file

```
from django.db import models
# create a Book table in the database.
class Book(models.Model):
    book_id = models.AutoField(primary_key=True)
    book_name = models.CharField(max_length=64)
    price = models.DecimalField(max_digits=5, decimal_places=2)
    author = models.CharField(max_length=64)
```

```
        class Meta:
            managed = True
            db_table = 'Book'
```

- Create and edit the `serializers.py` file
    - the `serializers.py` file provides complex data such as **querysets** and **model instances** to be converted to native Python datatypes that can then be easily rendered into JSON, XML or other content types.
    - Serializers also provide `deserialization`, allowing parsed data to be converted back into complex types, after first validating the incoming data.

```
    from rest_framework.serializers import ModelSerializer
    from app01.models import Book
    class BookModelSerializer(ModelSerializer):
        class Meta:
            model = Book
            fields = "__all__"
```