**REST API (Django Rest Framework-DRF)**

**Session-4**

**Serializers:**

* Serializers allow complex data such as query sets and model instances to be converted to native python data types 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.
* The process of converting complex data like query sets and model instances to python data types is called serialization.

**JsonRenderer:**

* It is used to render serialized data into JSON.

**Creating API with function based views:**

* Create a new django project and application.
* Go to settings.py

**Settings.py:**

INSTALLED\_APPS = [  
 **'django.contrib.admin'**,  
 **'django.contrib.auth'**,  
 **'django.contrib.contenttypes'**,  
 **'django.contrib.sessions'**,  
 **'django.contrib.messages'**,  
 **'django.contrib.staticfiles'**,  
 **'myapp.apps.MyappConfig'**,  
 **'rest\_framework'**,  
]

**models.py:**

**from** django.db **import** models  
  
*# Create your models here.***class** Employee(models.Model):  
 ename=models.CharField(max\_length=20)  
 eaddress=models.CharField(max\_length=20)  
 email=models.CharField(max\_length=20)

**admin.py:**

**from** django.contrib **import** admin  
**from** myapp.models **import** Employee  
  
*# Register your models here.*@admin.register(Employee)  
**class** EmployeeAdmin(admin.ModelAdmin):  
 list\_display =[**'id'**,**'ename'**,**'eaddress'**,**'email'**]

**Now go to terminal and then type the following commands**

* Python manage.py makemigrations
* Python manage.py migrate
* Python manage.py createsuperuser
* Now run server: python manage.py runserver
* Now go to browser: http://127.0.0.1:8000/admin
* **Now go to admin panel by login with super user login id and password and insert few records.**

**serializers.py:**

**from** rest\_framework **import** serializers  
  
**class** EmpSerializer(serializers.Serializer):  
 id=serializers.CharField(max\_length=20)  
 ename=serializers.CharField(max\_length=20)  
 eaddress=serializers.CharField(max\_length=20)  
 email=serializers.CharField(max\_length=20)

**views.py:**

**from** myapp.models **import** Employee  
**from** myapp.serializers **import** EmpSerializer  
**from** rest\_framework.renderers **import** JSONRenderer  
**from** django.http **import** HttpResponse  
  
*# Create your views here.***def** emp\_details(request,pk):  
 emp=Employee.objects.get(id=pk)  
 *#print(emp)* serializer=EmpSerializer(emp)  
 *#print(serializer)* json\_data=JSONRenderer().render(serializer.data)  
 *#print(json\_data)* **return** HttpResponse(json\_data,content\_type=**'application/json'**)  
  
**def** emp\_all\_details(request):  
 emp=Employee.objects.all()  
 serializer=EmpSerializer(emp,many=**True**)  
 json\_data=JSONRenderer().render(serializer.data)  
 **return** HttpResponse(json\_data,content\_type=**'application/json'**)

**urls.py :**

**from** django.contrib **import** admin  
**from** django.urls **import** path  
**from** myapp **import** views  
  
urlpatterns = [  
 path(**'admin/'**, admin.site.urls),  
 path(**'emp/<int:pk>'**,views.emp\_details),  
 path(**'empall/'**,views.emp\_all\_details),  
]

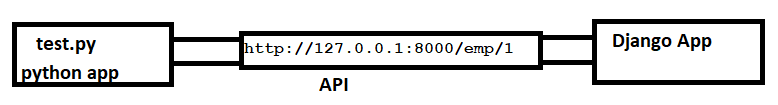
**Note: create a new python file with the name test.py**

**test.py :**

**import** requests  
  
URL=**"http://127.0.0.1:8000/emp/1"**r=requests.get(url=URL)  
emp\_data=r.json()  
print(emp\_data)

* **Go to terminal and run test.py**
* **python test.py**

**Note:** from test.py file we are requesting to api to get employee data and api will send request to django application**.**

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