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

**Session-23**

**Throttling in DRF:**

* API throttling allows you to control the way an API is used.
* API throttling is the process of limiting the number of API requests a user can make in a certain period.
* Throttling is similar to permissions, in that it determines if a request should be authorized.
* Throttles indicate a temporary state, and are used to control the rate of requests that clients can make to an API.
* The Django REST Framework has three throttling classes in the rest\_framework.throttling module.
* AnonRate, UserRate, and ScopedRate throttle. All these classes specify throttling rules that signify the maximum number of requests in a given time within the scope.

**Ex:**

* **Create a new application with the name throttleapp**

**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',  
 'throttleapp',  
  
]

**models.py:**

from django.db import models  
  
*# Create your models here.*class Student(models.Model):  
 name=models.CharField(max\_length=20)  
 sid=models.IntegerField()  
 saddress=models.CharField(max\_length=20)

**admin.py :**

from django.contrib import admin  
from throttleapp.models import Student  
*# Register your models here.*@admin.register(Student)  
class StudentAdmin(admin.ModelAdmin):  
 list\_display = ['id','name','sid','saddress']

* **Now make migrations and migrate**

**serializers.py:**

from rest\_framework import serializers  
from throttleapp.models import Student  
  
class StudentSerializer(serializers.ModelSerializer):  
 class Meta:  
 model=Student  
 fields=['id','url','name','sid','saddress']

**views.py:**

from rest\_framework.permissions import IsAuthenticatedOrReadOnly  
from rest\_framework.authentication import SessionAuthentication  
from rest\_framework.throttling import AnonRateThrottle,UserRateThrottle  
  
  
*# Create your views here.*class StudentModelViewSet(viewsets.ModelViewSet):  
 queryset = Student.objects.all()  
 serializer\_class = StudentSerializer  
 authentication\_classes = [SessionAuthentication]  
 permission\_classes = [IsAuthenticatedOrReadOnly]  
 throttle\_classes = [AnonRateThrottle, UserRateThrottle]

**urls.py:**

from django.contrib import admin  
from django.urls import path,include  
from throttleapp import views  
from rest\_framework.routers import DefaultRouter  
  
  
router=DefaultRouter()  
  
router.register('studentapi',views.StudentModelViewSet,basename='student')  
urlpatterns = [  
 path('admin/', admin.site.urls),  
 path('',include(router.urls)),  
 path('auth/',include('rest\_framework.urls',namespace='rest\_framework'))  
]

**settings.py:**

REST\_FRAMEWORK={  
 'DEFAULT\_THROTTLE\_RATES':{  
 'anon':'3/day',  
 'user':'4/hour',  
   
 }  
}

**Now run server : python manage.py runserver**

**Note:** non authenticated user can make 3 requests per day and authenticated user can make 4 requests per hour.

* **Create a new python file with the name throttling.py**

**throttling.py :**

from rest\_framework.throttling import UserRateThrottle  
  
class MohanRateThrottle(UserRateThrottle):  
 scope='Mohan'

**views.py :**

from rest\_framework.permissions import IsAuthenticatedOrReadOnly  
from rest\_framework.authentication import SessionAuthentication  
from rest\_framework.throttling import AnonRateThrottle,UserRateThrottle  
from throttleapp.throttling import MohanRateThrottle  
  
*# Create your views here.*class StudentModelViewSet(viewsets.ModelViewSet):  
 queryset = Student.objects.all()  
 serializer\_class = StudentSerializer  
 authentication\_classes = [SessionAuthentication]  
 permission\_classes = [IsAuthenticatedOrReadOnly]  
 *#throttle\_classes = [AnonRateThrottle,UserRateThrottle]* throttle\_classes = [AnonRateThrottle, MohanRateThrottle]

**settings.py :**

REST\_FRAMEWORK={  
 'DEFAULT\_THROTTLE\_RATES':{  
 'anon':'3/day',  
 'user':'4/hour',  
 'Mohan':'2/minute'  
 }  
}

**Note: to do throttling settings in global, use the following code in settings.py file.**

REST\_FRAMEWORK={

'DEFAULT\_THROTTLE\_CLASSES':[

'rest\_framework.throttling.AnonRateThrottle',

'rest\_framework.throttling.UserRateThrottle'

],

'DEFAULT\_THROTTLE\_RATES':{

'anon':'100/day',

'user':'1000/day'

}

}