

# Django Rest Framework Interview Question

## Beginner-Level Questions

1. **What is Django REST Framework (DRF)?**
    - Why is it used, and how does it differ from Django?
  2. **What are serializers in DRF?**
    - Explain the purpose of serializers and the difference between `Serializer` and `ModelSerializer`.
  3. **What is the difference between `APIView` and `GenericAPIView`?**
    - When would you use one over the other?
  4. **What are views in DRF?**
    - Explain the types of views: `APIView`, `ViewSet`, and `Function-Based Views`.
  5. **What is the purpose of `HyperlinkedModelSerializer`?**
    - How does it differ from `ModelSerializer`?
  6. **What are query parameters in DRF?**
    - How can you access them in a view?
  7. **What is a Router in DRF?**
    - Explain how routers work and the advantages they provide.
  8. **How do you handle authentication in DRF?**
    - Discuss the built-in authentication classes like `BasicAuthentication` and `TokenAuthentication`.
  9. **What is the use of `@api_view` decorator?**
    - How is it used in function-based views?
  10. **What are the common status codes used in DRF?**
    - Explain codes like 200, 201, 400, 401, and 404.
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## Intermediate-Level Questions

11. **How do you implement custom authentication in DRF?**
  - Describe creating a custom authentication class.
12. **How do you handle permissions in DRF?**
  - Explain the `IsAuthenticated`, `IsAdminUser`, and `AllowAny` permissions.
13. **What are throttling and rate limiting in DRF?**
  - Explain their purpose and how to implement them.
14. **What are mixins in DRF?**
  - Name some mixins and explain how they simplify development.
15. **What is the difference between `TokenAuthentication` and `SessionAuthentication`?**
  - When would you use one over the other?

16. **How do you create a custom exception handler in DRF?**
    - Describe the process of overriding the default exception handling.
  17. **How can you filter and search data in DRF?**
    - Explain the use of `django-filter` and the `SearchFilter` and `OrderingFilter` classes.
  18. **How do you implement pagination in DRF?**
    - Explain pagination types like `PageNumberPagination`, `LimitOffsetPagination`, and `CursorPagination`.
  19. **What are signals in Django?**
    - Explain their role in DRF workflows like sending confirmation emails.
  20. **How do you test APIs built with DRF?**
    - Mention tools like `pytest` or DRF's `APIClient`.
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## Advanced-Level Questions

21. **How do you implement JWT (JSON Web Tokens) in DRF?**
  - Explain the process and the libraries you would use, like `djangorestframework-simplejwt`.
22. **How do you secure APIs in DRF?**
  - Discuss strategies like HTTPS, token-based authentication, rate limiting, and CORS handling.
23. **How do you optimize DRF APIs for performance?**
  - Explain caching, database optimization, and serializer optimizations.
24. **How do you handle file uploads in DRF?**
  - Explain uploading files through serializers and views.
25. **What is the difference between `ViewSet` and `ModelViewSet`?**
  - When would you use each?
26. **How do you manage nested relationships in serializers?**
  - Discuss the use of `NestedSerializer` or `SlugRelatedField`.
27. **What is content negotiation in DRF?**
  - Explain how DRF determines the format of the response.
28. **How do you handle versioning in DRF APIs?**
  - Discuss the types of versioning strategies supported by DRF.
29. **What is the role of middleware in Django REST Framework?**
  - How does it help in request/response processing?
30. **How do you debug DRF APIs effectively?**
  - Mention tools like `django-debug-toolbar` or Postman/Insomnia for API testing.