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Essential Django Interview Questions Answered [2025]

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When potential employers search for the ideal applicant to fill a job vacancy, they look for someone familiar and comfortable with the information and concepts related to the position. They want someone who will not only be a good fit but who clearly knows what they're doing and won't be in over their head.

You, as the candidate, should strengthen your position by making sure that you can field any question the interviewer poses to you. To help you do this, we present 50 Python Django interview questions that cover a range of complexity.

While there is no way to cover every single possibility, you will find that this selection features the most popular, often-asked questions. Use them as a refresher, reacquainting yourself with concepts that you may have forgotten about, but which stand a good chance of being brought up in an interview.

So, let's dig into these Django interview questions and start your preparation for that critical interview!

Basic Django Interview Questions

We begin with eight easy Django interview questions, suitable for entry-level positions. However, some interviewers who are looking for very experienced candidates could try to stump you with easy questions, expecting that you may have long forgotten the more elementary aspects of Django.

Also Read: [Django Vs. Flask](#)

1. So what is Django?

Django is an open-source web application framework [written in Python](#). Developed in a fast-paced newsroom, Django enables the rapid development of easily maintainable and secure websites. It's a favorite of newbies and advanced programmers alike.

2. Is Django named after that Quentin Tarantino movie?

No, Django is named after Django Reinhardt, a jazz guitarist from the 1930s to the early 1950s who is considered one of the best guitarists of all time.

3. What are Django's most prominent features?

Programmers like Django mostly for its convenient features like:

- Optimized for SEO
- Extremely fast
- A loaded framework that features authentications, content administrations and RSS feeds
- Exceptionally scalable to meet the heaviest traffic demand
- Highly secure
- Versatility, enabling you to create many different types of websites

4. Can you name some companies that use Django?

Some of the more well-known companies that use Django include:

- DISCUS
- Instagram
- Mozilla Firefox
- Pinterest
- Reddit
- YouTube

5. Why do web developers prefer Django?

Web developers use Django because it:

- Allows code modules to be divided into logical groups, making them flexible to change
- Provides an auto-generated web admin module to ease website administration
- Provides a pre-packaged API for common user tasks
- Enables developers to define a given function's URL
- Allows users to separate business logic from the [HTML](#)
- Is written in Python, one of the most popular [programming languages](#) available today
- Gives you a system to define the HTML template for your web page, avoiding code duplication

6. What is CRUD?

It has nothing to do with dirt or grime. It's a handy acronym for Create, Read, Update, and Delete. It's a mnemonic framework used to remind developers on how to construct usable models when building application programming interfaces (APIs).

7. Does Django have any drawbacks?

Django's disadvantages include:

- Its monolithic size makes it unsuitable for smaller projects
- Everything hinges on Django's ORM (Object-Relational Mapping)
- Everything must be explicitly defined due to a lack of convention

8. What does Django architecture look like?

Django architecture consists of:

- Models. Describes the database schema and data structure
- Views. Controls what a user sees. The view retrieves data from appropriate models, executes any calculations made, and passes it on to the template
- Templates. Controls how the user sees the pages. It describes how the data received from the views need to be altered or formatted to display on the page
- Controller. Made up of the Django framework and URL parsing

9. Explain the Django project directory structure.

Django organizes the various sections of the web application using a directory structure by generating a project and an app folder. Creating and arranging a proper project aids in keeping the project DRY (Don't Repeat Yourself) and clean. When you create a Django project, Django creates a root directory for the project using the project name you provide. It contains the files required to provide basic functionality to your web applications.

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10. What are models in Django?

A Django model is a built-in feature of Django that allows you to construct tables, fields, and constraints. [SQL](#) (Structured Query Language) is a complicated language that includes many different queries for generating, removing, updating, and other database-related tasks.

11. What are the views in Django?

11. What are the views in Django?

Django views are Python functions similar to HTML documents and accept HTTP requests and return HTTP responses.

12. What is Django ORM?

Django ORM is a database abstraction API using which we can interact with its database models i.e., perform actions like add, delete, modify and query objects.

13. Define static files and explain their uses.

The word "static files" refers to files in a web app that do not change, such as CSS, JavaScript, or pictures. They remain still. Static files are served up by the local Django web server for local development, and minimal configuration is required.

14. What are Django-admin and manage.py and explain their commands?

"Django-admin" is the command line utility of Django to perform administrative tasks. And manage.py is created automatically in every Django project. It performs the same functions as Django-admin, but it also modifies the DJANGO SETTINGS MODULE environment variable to point to your project's settings.py file.

15. What is Jinja templating?

Jinja is a modern, designer-friendly Python templating language that was inspired by Django templates and is frequently used for execution.

16. What are Django URLs?

In Django, URLs serve as the front door to your online application. In urls.py, you can configure how Django routing works.

17. What are the different model inheritance styles in Django?

In Django, there are three types of inheritance.

- Abstract base classes - When the parent class contains common fields and the parent class table is undesirable, use this.
- Multi-table inheritance - When the parent class has common fields, but the parent class table already exists in the database on its own, use this.
- Proxy models - Use this when you want to change the parent class's behavior, for as by modifying the order or adding a new model manager.

After going through some of the basic Django interview questions and answers, it is time we increase the difficulty level with the intermediate Django interview questions and answers.

Intermediate Django Interview Questions

Now let's increase the difficulty factor and explore some tougher Django interview question and answer combinations.

18. In Django's context, what's the difference between a project and an app?

The project covers the entire application, while an app is a module or application within the project that deals with one dedicated requirement. So, a project consists of several apps, while an app features in multiple projects.

19. What's a model in Django?

A model consists of all the necessary fields and attributes of your stored data. They are a single, definitive source of information regarding your data.

20. What are Django's templates?

Django templates render information in a designer-friendly format to present to the user. Using the Django Template Language (DTL), a user can generate HTML dynamically. Django templates consist of simple text files that can create any text-based format such as [XML](#), CSV, and HTML.

21. Discuss Django's Request/Response Cycle.

Starting the process off, the Django server receives a request. The server then looks for a matching

URL in the URL patterns defined for the project. If the server can't find a matching URL, it produces a 404-status code. If the URL matches, it executes the corresponding code in the view file associated with the URL and sends a response.

22. What is the Django Admin interface?

Django comes equipped with a fully customizable, built-in admin interface. This portal lets developers see and make changes to all the data residing in the database that contains registered apps and models. The model must be registered in the admin.py file to use a database table with the admin interface.

23. How do you install Django?

Users download and install Python per the operating system used by the host machine. Then run the command `pip install "django>=2.2,<3"` on the terminal and wait for the installation to finish.

Also Read: [Why Learn Python?](#)

24. How do you check which version of Django that you have installed on your system?

You can check the version by opening the command prompt and entering the command:

```
Python-m Django-version
```

You can also visit the Django homepage <https://www.djangoproject.com/> and look at the "Download latest release" button located on the right of the page.

25. What are signals in Django?

Signals are pieces of code containing information about what is currently going on. A dispatcher is used to both send and listen for signals.

26. Explain user authentication in Django.

Django includes a user authentication system that handles objects such as users, groups, user permissions, and some cookie-based user sessions.

27. What databases are supported by Django?

The following databases are that Django formally supports:

- [PostgreSQL](#)
- MariaDB
- MySQL
- Oracle
- SQLite

28. What's the use of a session framework?

The session structure enables per-site-visitor storage and retrieval of any type of data. It abstracts the sending and receiving of cookies and keeps data on the server side.

29. What is the context in Django?

In Django, a context is a dictionary where the keys are the names of the variables and the values are the values of those variables. The template receives this dictionary (context), which it uses along with the variables to output the dynamic content.

30. What are Django.shortcuts.render functions?

The render function is a shortcut function that allows the developer to quickly pass the data dictionary together with the template. The template is then combined with the data dictionary using the templating engine in this function. Finally, the render() function provides a HttpResponse containing the rendered text, which is the data returned by the models. As a result, Django render() saves the developer time and allows him to utilize multiple template engines.

31. What's the significance of the settings.py file?

This file, as the name implies, stores our Django project's configurations or settings, such as database configuration, backend engines, middlewares, installed applications, main URL configurations, static file addresses, templating engines, security keys, allowed hosts etc.

32. How to view all items in the Model?

The 'all()' function in your interactive shell can be used as follows to display every item in your database:

* Where XYZ is a class you've generated in your models, `XYZ.objects.all()`

You can either use the `get()` function or the `filter` method to remove a specific element from your database, as seen below:

* `pk=1 XYZ.objects.filter`

* `XYZ.objects(id=1)`

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33. How to filter items in the Model?

Depending on the user's interests, it is a very normal need for the web application to display data on the web page. The application is made more user-friendly by its search feature. The `filter()` method of the Django framework can be used to filter data from database tables. A table may have numerous records, and depending on the specific criteria, it may be necessary to determine some specific data. By utilizing the `filter()` technique in numerous ways, this process gets simpler. There are four types of filtering: Simple filtering, filter data with multiple fields, filter data with Q objects, and Filter data using filter chaining.

We have covered the easy and intermediate Django interview questions, now let's look into the advanced level of Django interview questions and answers.

Advanced Django Interview Questions

We conclude with eight considerably tougher Django interview questions, designed for the expert-level Django users.

34. What is the Django Rest Framework?

The Django Rest Framework (DRF) is a framework that helps you quickly create RESTful APIs. They are ideal for web applications due to low bandwidth utilization.

35. What do you use middleware for in Django?

You use middleware for four different functions:

- Content Gziping
- Cross-site request forgery protection
- Session management
- Use authentication

36. What does a URLs-config file contain?

The URLs-config file in Django contains a list of URLs and mappings created to view those URLs' functions. The URLs can map to view functions, class-based views, and the URLs-config of other applications.

37. Does Django support multiple-column primary keys?

No, Django supports only single-column primary keys.

38. How can you see raw SQL queries running in Django?

To begin, make sure that the DEBUG setting is set to True. If the setting is squared away, then type the following commands:

1) from Django.db import connection

2) connection.queries

39. List several caching strategies supported by Django.

Django supports these caching strategies:

- Database caching
- In-memory caching
- File System Caching
- Memcached

40. What is a QuerySet in the context of Django?

QuerySet is a collection of SQL queries. The command `print(b.query)` shows you the SQL query created from the Django filter call.

41. What do you use `django.test.Client` class for?

The Client class acts like a dummy web browser, enabling users to test views and interact with Django-powered applications programmatically. This is especially useful when performing integration testing.

42. How to use file-based sessions?

To use a file-based session, you must set the `SESSION_ENGINE` settings to `"Django.contrib.sessions.backends.file"`.

43. What is mixin?

In Django, a mixin is a Python class that is inherited by another class to carry out extra functions. Classes that can be reused and scaled are mixins. A unique form of multiple inheritances is a mixin. Mixins are typically employed in two contexts:

- You wish to give a class several optional features.
- You wish to apply a specific feature to numerous classes.

44. What is Django Field Class?

In general, "Field" is an abstract class that represents a database table column. In turn,

`RegisterLookupMixin` is a subclass of the Field class. These fields are utilized by Django's `get_prep_value`

value() and from db value() methods to construct database tables (db type()), which are then used to transfer Python types to the database. As a result, fields are essential components of other Django APIs like models and querysets.

45. Why is permanent redirection not a good option?

Permanent redirection is only employed if it does not require visitors to be directed to the old URLs. The browser caches the response of permanent redirections, thus attempting to redirect to somewhere different will cause problems. Because this is a browser-side process, if your user navigates to a different page, it will load the same page.

46. Difference between Django OneToOneField and ForeignKey Field?

Both are among the most frequent sorts of fields in Django. The sole difference between these two is that the ForeignKey field includes an on_delete option in addition to a model's class because it is used for many-to-one relationships, whilst the OneToOneField only handles one-to-one relationships and requires only the model's class.

47. How to combine multiple QuerySets in a View?

QuerySets can be combined into another QuerySet, and they do not have to be from the same model.

To merge QuerySets from the same model, use the Python union operator.

The union operator can be used to combine two or more QuerySets with the following syntax:

```
model_combination = model_set1 | model_set2 | model_set3
```

Additionally, you can concatenate two or more QuerySets from other models by using the chain() method from the Itertools package.

```
from itertools import chain
```

```
model_combination = list(chain(model_set1, model_set2))
```

As an alternative, you can merge two or more QuerySets from other models using union(), passing

`all=True` to allow for duplication.

```
model_combination = model_set1.union(model_set2, all=True)
```

48. Mention the ways used for the customization of the functionality of the Django admin interface.

Numerous customization options are available in the Django admin interface, and additional admin interfaces can even be created to enable user separation through permissions. The `ModelAdmin` class, which serves as a representation of a model in the administration interface, can be used to perform the majority of adjustments.

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49. Difference between select_related and prefetch_related?

Django's select-related and prefetch-related functions are intended to reduce the number of database queries that are generated when related objects are accessed.

When a query is executed, select related() "follows" foreign-key relationships and choose extra related-object data.

Prefetch related() performs the "joining" in Python by performing a separate lookup for each relationship.

When picking a single object, such as an OneToOneField or a ForeignKey, users utilize the select-related function. When retrieving a "set" of items, such as ManyToManyFields or reverse ForeignKeys, users utilize prefetch related.

50. Explain Q objects in Django ORM.

When writing complex queries, Q objects are employed because filter() functions only allow you to 'AND' the conditions; whereas, Q objects allow you to 'OR' the conditions.

51. What are Django exceptions?

An exception is an unusual event that causes a programme to fail. Django has its exception classes

to cope with this circumstance, and it also supports all fundamental Python exceptions. The Django. core. exceptions module defines the Django core exceptions classes.

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Python is such a popular programming language that any aspiring developer or programmer would be smart to learn as much about it as possible. Fortunately, Simplilearn makes it easy for you. Check out Simplilearn's [Python course](#) article to get started.

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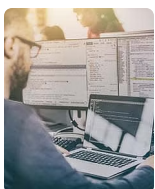
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