# **Django retrieve data**

## **Django shell**[**¶**](https://learnbatta.com/course/django/retrieve-data/#django-shell)

* Run the command python manage.py shell open the django shell.
* Write django ORM queries to insert data into the database table.

## **Django Model - Contact**[**¶**](https://learnbatta.com/course/django/retrieve-data/#django-model-contact)

* We will be using model Contact from [Django Models](https://learnbatta.com/course/django/models/).

**my\_app/models.py**

from django.db import models

class Contact(models.Model):

first\_name = models.CharField(max\_length=30)

last\_name = models.CharField(max\_length=30)

email = models.EmailField(max\_length=255)

phone = models.CharField(max\_length=10, null=True)

class Meta:

db\_table = "contact"

## **insert the data**[**¶**](https://learnbatta.com/course/django/retrieve-data/#insert-the-data)

* Let's insert some data which will help in understanding the retrieve queries.

from my\_app.models import Contact

contacts = [

{"first\_name": "Johan", "last\_name": "K", "email": "johan@example.com"},

{"first\_name": "Johanan", "last\_name": "M", "email": "johanan@example.com"},

{"first\_name": "Joharr", "last\_name": "K", "email": "joharr@example.com"},

{"first\_name": "Mani", "last\_name": "M", "email": "mani@example.com"},

{"first\_name": "Rich", "last\_name": "B", "email": "rich@example.com"},

{"first\_name": "Ammulu", "last\_name": "D", "email": "ammulu@example.com"},

]

objects = [Contact(\*\*d) for d in contacts]

results = Contact.objects.bulk\_create(objects)

## **Retrieve all records - all()**[**¶**](https://learnbatta.com/course/django/retrieve-data/#retrieve-all-records-all)

* use method all() on django ORM.
* Look at the below query

from my\_app.models import Contact

contacts = Contact.objects.all()

print(contacts)

# output: <QuerySet [<Contact: Contact object (1)>, <Contact: Contact object (2)>, <Contact: Contact object (3)>, <Contact: Contact object (4)>, <Contact: Contact object (5)>, <Contact: Contact object (6)>, <Contact: Contact object (7)>, <Contact: Contact object (8)>, <Contact: Contact object (9)>, <Contact: Contact object (10)>, <Contact: Contact object (11)>, <Contact: Contact object (12)>]>

* To get SQL from the django orm query just use query attribute like below.

from my\_app.models import Contact

contacts = Contact.objects.all()

print(contacts.query)

* Above code outputs below SQL

SELECT "contact"."id", "contact"."first\_name", "contact"."last\_name", "contact"."email", "contact"."phone" FROM "contact"

## **Retrieve only one record - get()**[**¶**](https://learnbatta.com/course/django/retrieve-data/#retrieve-only-one-record-get)

* use get() method on django ORM to get only one record.
* Let's retrieve the record whose email is [mani@example.com](mailto:mani@example.com)

from my\_app.models import Contact

mani = Contact.objects.get(email='mani@example.com')

print(mani)

# output: Contact object (10)

* Above, ORM query is equivalent to the below SQL

SELECT "contact"."id", "contact"."first\_name", "contact"."last\_name", "contact"."email", "contact"."phone"

FROM "contact" WHERE email='mani@example.com'

## **Retrieve matching records - filter()**[**¶**](https://learnbatta.com/course/django/retrieve-data/#retrieve-matching-records-filter)

* Filter records whose name starts with "Johan"

from my\_app.models import Contact

contacts = Contact.objects.filter(first\_name\_\_startswith='Johan')

print(contacts)

# output: <QuerySet [<Contact: Contact object (7)>, <Contact: Contact object (8)>]>

## **Count matching records - count()**[**¶**](https://learnbatta.com/course/django/retrieve-data/#count-matching-records-count)

* use count() method to count the matching records.

from my\_app.models import Contact

count = Contact.objects.filter(first\_name\_\_startswith='Johan').count()

print(count)

# output: 2

## **Iterate through ORM records**[**¶**](https://learnbatta.com/course/django/retrieve-data/#iterate-through-orm-records)

* we can loop through the retrieved query results.
* These also called as queryset results.

from my\_app.models import Contact

contacts = Contact.objects.filter(first\_name\_\_startswith='Johan')

for contact in contacts:

print(contact.email)

# output:

# johan@example.com

# johanan@example.com

Note: Django queries are very powerfull. We can do more by writing less code.

## **References**[**¶**](https://learnbatta.com/course/django/retrieve-data/#references)

* <https://docs.djangoproject.com/en/dev/topics/db/queries/>