

Understanding Django Models

Django Models

- Django Models are Python Classes
- They describe the shape of the data of your application
- Django Models create a Table in the Database (ORM)

Lets build a Pet App!

App Models

- Cat
- Owner

Remember

**SQL Databases are
like Excel**

Fields

- They tell Django and the DB what kind of data you are going to save.
- Is it gonna be a text? A number? An email? A file? A URL?
- This helps validate and constrain data

Defining the Model

```
from django.db import models

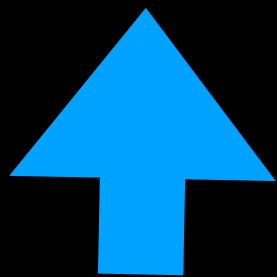
class Cat(models.Model):
    name = models.CharField(max_length=30)
    breed = models.CharField(max_length=20)
```

Field



Behind the scenes

Cat		
id	name	breed



AUTO

Creating a Cat

```
Cat.objects.create(  
    name="Fluffy",  
    breed="Persian"  
)
```

Behind the scenes

Cat			
id		name	breed
1		Fluffy	Persian

Finding a Cat

```
cat = Cat.objects.get(id=1)
```

Behind the scenes

Cat

id	name	breed
1	Fluffy	Persian
2	Mr. Bunns	British

Model Operations

- All Cats:
 - `create()`
 - `get()`
 - `filter()`
 - `all()`

- One Cat:
 - save()
 - delete()

filter()

```
british_cats = Cat.objects.filter(breed="British")
```

Cat		
id	name	breed
1	Fluffy	Persian
2	Mr. Bunns	British
3	Conrad	Siamese
4	Shishi	British
5	Conrad	Persian

filter() Lookups

```
cats = Cat.objects.filter(name__startswith="Mr")
```

Cat		
id	name	breed
1	Mr. Fluffs	Persian
2	Mr. Bunns	British
3	Conrad	Siamese
4	Shishi	British
5	Conrad	Persian

Lookup Options

- startwith
- contains
- istartswith
- icontains
- lt (less than)
- gt (greather than)
- ...

all()

```
cats = Cat.objects.all()
```

Cat			
id		name	breed
1		Fluffy	Persian
2		Mr. Bunns	British
3		Conrad	Siamese
4		Shishi	British
5		Conrad	Persian

.save()

Renaming a cat

```
fluffy = Cat.objects.get(id=1)
```

Cat

id	name	breed
1	Fluffy	Persian
2	Mr. Bunns	British

```
fluffy.name = "Mr. Fluffs"
```

```
fluffy.save()
```

Cat

id	name	breed
1	Mr. Fluffs	Persian
2	Mr. Bunns	British
3	Conrad	Siamese

delete()

```
fluffy = Cat.objects.get(id=1)
```

```
fluffy.delete()
```

Cat		
id	name	breed
2	Mr. Bunns	British
3	Conrad	Siamese
4	Shishi	British
5	Conrad	Persian