

---

---

# Django Data Migrations

Justin Hopkins

MelbDjango Beginner Series Episode 01

---

---

# Django Migrations

- Usually involve schema changes
  - New models
  - Changes to models
- Also opportunity make non-schema updates - 'Data Migrations'
  - Insert data (i.e. populate models)
  - Update data
  - Remove data

---

# Use Cases

- Baseline data - initial state - useful for teams to share
- Reference data - e.g. lookups
- Groups and permissions
- Make deployments easier
- + more

---

# Starting with a blank migration

<https://docs.djangoproject.com/en/2.0/topics/migrations/#data-migrations>

```
manage.py makemigrations --empty myappname
```

```
# Generated by Django 2.0.1 on 2018-01-18 05:01

from django.db import migrations

class Migration(migrations.Migration):

    dependencies = [
        ('registry', '0001_initial'),
    ]

    operations = [
    ]
```

---

# Adding some baseline data

```
from django.db import migrations

def add_my_kitties(apps, schema):

    kitty_model = apps.get_model('registry', 'Kitty')
    my_kitty_ids = [468312, 468629, 468282]
    for kitty_id in my_kitty_ids:
        kitty_model.objects.update_or_create(kitty_id=kitty_id)

class Migration(migrations.Migration):

    dependencies = [
        ('registry', '0001_initial'),
    ]

    operations = [
        migrations.RunPython(add_my_kitties)
    ]
```

---

# Re-running a migration

```
# Rewind back to the previous migration
./manage.py migrate --fake myappname 0001_initial
./manage.py migrate
```

---

# Adding some reference data

```
from django.db import migrations

def add_sizes(apps, schema):
    sizes_model = apps.get_model('registry', 'KittySize')
    sizes_model.objects.update_or_create(name='large', pixel_size='500')
    sizes_model.objects.update_or_create(name='medium', pixel_size='300')
    sizes_model.objects.update_or_create(name='small', pixel_size='100')

class Migration(migrations.Migration):

    dependencies = [
        ('registry', '0002_add_my_kitties'),
    ]

    operations = [
        migrations.RunPython(add_sizes)
    ]
```

---

# Using reference data in a FK

```
class Kitty(models.Model):  
  
    kitty_id = models.IntegerField()  
    kitty_size = models.ForeignKey('KittySize', default=1, on_delete=models.CASCADE)  
    ...
```

