AIM Django Demo Project Report

Baohua Cao

SECTION I: SETUP DEV AND DATABASE, DEMO SQL

SECTION II: DEV CODING AND BUILD WEB / ADMIN

FINAL OUTPUT:

http://ec2-54-186-83-10.us-west-2.compute.amazonaws.com:8000/

http://ec2-54-186-83-10.us-west-2.compute.amazonaws.com:8000/admin/

Username: admin Password: smiletolife

SECTION I: SETUP DEV AND DATABASE, DEMO SQL

1. Create an AWS EC2 instance.
2. Install software packages and updates.
3. Setup virtualenv with python3
   source myenv/bin/activate
4. Git clone:
   git clone https://github.com/michaelb87/aim-recruiting-django.git
5. Install requirements.txt
   pip install -r requirements.txt
   Fixed software bundles installation issues.
6. Make migrations

```
(myenv) [root@ip-172-31-31-17 aim-recruiting-django]# python manage.py makemigrations
Migrations for 'demo_app':
  demo_app/migrations/0001_initial.py
    - Create model Publisher
    - Create model Source
    - Create model RevenueRecord
(myenv) [root@ip-172-31-31-17 aim-recruiting-django]# python manage.py migrate
Operations to perform:
  Apply all migrations: admin, auth, contenttypes, demo_app, sessions
Running migrations:
  Applying contenttypes.0001_initial... OK
  Applying auth.0001_initial... OK
  Applying admin.0001_initial... OK
  Applying admin.0002_logentry_remove_auto_add... OK
  Applying admin.0003_logentry_add_action_flag_choices... OK
  Applying contenttypes.0002_remove_content_type_name... OK
  Applying auth.0002_alter_permission_name_max_length... OK
  Applying auth.0003_alter_user_email_max_length... OK
  Applying auth.0004_alter_user_username_opts... OK
```

```
  Applying auth.0005_alter_user_last_login_null... OK
  Applying auth.0006_require_contenttypes_0002... OK
  Applying auth.0007_alter_validators_add_error_messages... OK
  Applying auth.0008_alter_user_username_max_length... OK
  Applying auth.0009_alter_user_last_name_max_length... OK
  Applying auth.0010_alter_group_name_max_length... OK
  Applying auth.0011_update_proxy_permissions... OK
  Applying demo_app.0001_initial... OK
  Applying sessions.0001_initial... OK
```

1) Write a custom django admin command to ingest demo data eg. `python manage.py ingest demo_data.csv`

(myenv) [ec2-user@ip-172-31-31-17 aim-recruiting-django]$vim demo_app/management/commands/ingest.py

```
from django.core.management.base import BaseCommand, CommandError
import os
import csv
from demo_app.models import Publisher, Source, RevenueRecord
import datetime

class Command(BaseCommand):

    def add_arguments(self, parser):
        parser.add_argument('file', type=str)


    def handle(self, *args, **options):
        file = options['file']
        if not os.path.exists(file):
            raise CommandError("%s doesnt exist." % file)
        self.stdout.write(self.style.SUCCESS('Successfully read file "%s"' % file))
        with open(file, 'r') as csv_file:
            reader = csv.reader(csv_file, delimiter=',')
            fields_name = list(next(reader))
            self.stdout.write(" ".join(fields_name))
            objects_counter = [0] * 3
            for row in reader:
                date, pub_name, source, clicks, revenue = tuple(row)
                self.stdout.write(" ".join([date, pub_name, source, clicks, revenue]))
                try:
```

```
                    Publisher_Obj = Publisher.objects.get(name=pub_name)
                except Publisher.DoesNotExist:
                    Publisher_Obj = Publisher(name=pub_name)
                    Publisher_Obj.save()
                    objects_counter[0] += 1
                    self.stdout.write('Created a new publisher record.')
                try:
                   Source_Obj = Source.objects.get(name=source)
                except Source.DoesNotExist:
                    Source_Obj = Source(name=source)
                    Source_Obj.save()
                    objects_counter[1] += 1
                    self.stdout.write('Created a new source record.')
                Publisher_Obj = Publisher.objects.get(name=pub_name)
                Source_Obj = Source.objects.get(name=source)
                clicks, revenue = int(clicks), float(revenue)
                year, month, day = tuple([int(i) for i in date.split("-")])
                date = datetime.date(year, month, day)
                revenue_record = RevenueRecord(date=date, publisher=Publisher_Obj,
source=Source_Obj, clicks=clicks, revenue=revenue)
                revenue_record.save()
                objects_counter[2] += 1
                self.stdout.write('Created a new revenue record.')
            self.stdout.write("Created %s publisher records, %s source records, and %s
revenue records" % tuple(objects_counter))
```

```
(myenv) [ec2-user@ip-172-31-31-17 aim-recruiting-django]$ python manage.py ingest
"demo_data.csv"
Successfully read file "demo_data.csv"
date pub_name source clicks revenue
2019-10-01 micha google 138 49.68
Created a new publisher record.
Created a new source record.
Created a new revenue record.
2019-10-01 mark yahoo 263 231.44
Created a new publisher record.
Created a new source record.
Created a new revenue record.
2019-10-01 melanie google 374 179.52
Created a new publisher record.
Created a new revenue record.
2019-10-01 logan yahoo 492 403.44
Created a new publisher record.
```

Created a new revenue record.
2019-10-02 micha yahoo 134 127.75
Created a new revenue record.
2019-10-02 mark google 278 239.08
Created a new revenue record.
2019-10-02 melanie yahoo 478 22.31
Created a new revenue record.
2019-10-02 logan google 285 134.90
Created a new revenue record.
2019-10-03 micha google 325 244.83
Created a new revenue record.
2019-10-03 mark google 73 13.14
Created a new revenue record.
2019-10-03 melanie google 100 94.67
Created a new revenue record.
2019-10-03 logan google 424 330.72
Created a new revenue record.
2019-10-04 micha google 489 65.20
Created a new revenue record.
2019-10-04 mark google 244 92.72
Created a new revenue record.
2019-10-04 melanie google 213 210.16
Created a new revenue record.
2019-10-04 logan yahoo 84 6.16
Created a new revenue record.
2019-10-05 micha yahoo 420 282.80
Created a new revenue record.
2019-10-05 mark yahoo 421 140.33
Created a new revenue record.
2019-10-05 melanie yahoo 239 184.83
Created a new revenue record.
2019-10-05 logan yahoo 181 20.51
Created a new revenue record.
2019-10-06 micha yahoo 103 4.81
Created a new revenue record.
2019-10-06 mark google 494 55.99
Created a new revenue record.
2019-10-06 melanie google 331 88.27
Created a new revenue record.
2019-10-06 logan google 368 318.93
Created a new revenue record.
2019-10-07 micha google 210 65.80
Created a new revenue record.
2019-10-07 mark yahoo 147 128.38

Created a new revenue record.
2019-10-07 melanie yahoo 108 59.76
Created a new revenue record.
2019-10-07 logan yahoo 31 20.25
Created a new revenue record.
2019-10-08 micha google 353 298.87
Created a new revenue record.
2019-10-08 mark yahoo 44 26.69
Created a new revenue record.
2019-10-08 melanie google 117 67.08
Created a new revenue record.
2019-10-08 logan google 271 231.25
Created a new revenue record.
2019-10-09 micha yahoo 111 90.28
Created a new revenue record.
2019-10-09 mark google 364 283.92
Created a new revenue record.
2019-10-09 melanie google 475 85.50
Created a new revenue record.
2019-10-09 logan yahoo 49 26.79
Created a new revenue record.
2019-10-10 micha google 231 107.80
Created a new revenue record.
2019-10-10 mark google 158 122.19
Created a new revenue record.
2019-10-10 melanie google 69 40.48
Created a new revenue record.
2019-10-10 logan google 201 61.64
Created a new revenue record.
2019-10-11 micha yahoo 188 159.17
Created a new revenue record.
2019-10-11 mark yahoo 48 9.28
Created a new revenue record.
2019-10-11 melanie google 206 145.57
Created a new revenue record.
2019-10-11 logan google 129 100.62
Created a new revenue record.
2019-10-12 micha yahoo 109 86.47
Created a new revenue record.
2019-10-12 mark yahoo 161 156.71
Created a new revenue record.
2019-10-12 melanie yahoo 375 27.50
Created a new revenue record.
2019-10-12 logan yahoo 467 62.27

Created a new revenue record.
2019-10-13 micha google 37 22.94
Created a new revenue record.
2019-10-13 mark google 371 262.17
Created a new revenue record.
2019-10-13 melanie google 38 1.27
Created a new revenue record.
2019-10-13 logan yahoo 307 151.45
Created a new revenue record.
2019-10-14 micha google 86 36.12
Created a new revenue record.
2019-10-14 mark google 147 23.52
Created a new revenue record.
2019-10-14 melanie yahoo 114 23.56
Created a new revenue record.
2019-10-14 logan google 376 300.80
Created a new revenue record.
2019-10-15 micha google 378 221.76
Created a new revenue record.
2019-10-15 mark yahoo 261 212.28
Created a new revenue record.
2019-10-15 melanie google 295 116.03
Created a new revenue record.
2019-10-15 logan yahoo 221 184.17
Created a new revenue record.
2019-10-16 micha yahoo 316 107.44
Created a new revenue record.
2019-10-16 mark yahoo 164 106.05
Created a new revenue record.
2019-10-16 melanie yahoo 241 17.67
Created a new revenue record.
2019-10-16 logan yahoo 432 118.08
Created a new revenue record.
2019-10-17 micha google 418 415.21
Created a new revenue record.
2019-10-17 mark google 300 176.00
Created a new revenue record.
2019-10-17 melanie yahoo 103 6.87
Created a new revenue record.
2019-10-17 logan yahoo 138 29.44
Created a new revenue record.
2019-10-18 micha yahoo 413 19.27
Created a new revenue record.
2019-10-18 mark yahoo 307 36.84

Created a new revenue record.
2019-10-18 melanie google 217 47.74
Created a new revenue record.
2019-10-18 logan yahoo 275 157.67
Created a new revenue record.
2019-10-19 micha google 465 365.80
Created a new revenue record.
2019-10-19 mark yahoo 270 61.20
Created a new revenue record.
2019-10-19 melanie yahoo 255 212.50
Created a new revenue record.
2019-10-19 logan yahoo 45 16.80
Created a new revenue record.
2019-10-20 micha google 138 129.72
Created a new revenue record.
2019-10-20 mark google 498 169.32
Created a new revenue record.
2019-10-20 melanie google 340 156.40
Created a new revenue record.
2019-10-20 logan google 207 38.64
Created a new revenue record.
2019-10-21 micha google 483 460.46
Created a new revenue record.
2019-10-21 mark google 169 140.83
Created a new revenue record.
2019-10-21 melanie google 217 65.10
Created a new revenue record.
2019-10-21 logan google 490 392.00
Created a new revenue record.
2019-10-22 micha yahoo 51 31.62
Created a new revenue record.
2019-10-22 mark yahoo 434 2.89
Created a new revenue record.
2019-10-22 melanie yahoo 209 30.65
Created a new revenue record.
2019-10-22 logan yahoo 144 128.64
Created a new revenue record.
2019-10-23 micha google 109 88.65
Created a new revenue record.
2019-10-23 mark yahoo 499 182.97
Created a new revenue record.
2019-10-23 melanie google 384 17.92
Created a new revenue record.
2019-10-23 logan google 186 100.44

Created a new revenue record.
2019-10-24 micha yahoo 162 114.48
Created a new revenue record.
2019-10-24 mark yahoo 142 107.92
Created a new revenue record.
2019-10-24 melanie google 106 46.64
Created a new revenue record.
2019-10-24 logan google 105 87.50
Created a new revenue record.
2019-10-25 micha google 245 238.47
Created a new revenue record.
2019-10-25 mark google 293 220.73
Created a new revenue record.
2019-10-25 melanie yahoo 366 43.92
Created a new revenue record.
2019-10-25 logan google 112 11.20
Created a new revenue record.
2019-10-26 micha yahoo 214 179.76
Created a new revenue record.
2019-10-26 mark google 323 94.75
Created a new revenue record.
2019-10-26 melanie google 66 36.08
Created a new revenue record.
2019-10-26 logan google 437 142.75
Created a new revenue record.
2019-10-27 micha google 260 195.87
Created a new revenue record.
2019-10-27 mark google 138 47.84
Created a new revenue record.
2019-10-27 melanie yahoo 365 46.23
Created a new revenue record.
2019-10-27 logan yahoo 124 83.49
Created a new revenue record.
2019-10-28 micha google 298 282.11
Created a new revenue record.
2019-10-28 mark google 350 39.67
Created a new revenue record.
2019-10-28 melanie yahoo 318 154.76
Created a new revenue record.
2019-10-28 logan yahoo 247 189.37
Created a new revenue record.
2019-10-29 micha google 44 13.79
Created a new revenue record.
2019-10-29 mark yahoo 310 155.00

```
Created a new revenue record.
2019-10-29 melanie yahoo 146 127.51
Created a new revenue record.
2019-10-29 logan yahoo 492 357.52
Created a new revenue record.
2019-10-30 micha yahoo 41 24.60
Created a new revenue record.
2019-10-30 mark google 329 149.15
Created a new revenue record.
2019-10-30 melanie google 46 38.33
Created a new revenue record.
2019-10-30 logan yahoo 457 237.64
Created a new revenue record.
2019-10-31 micha yahoo 463 450.65
Created a new revenue record.
2019-10-31 mark google 376 82.72
Created a new revenue record.
2019-10-31 melanie yahoo 97 73.07
Created a new revenue record.
2019-10-31 logan yahoo 312 255.84
Created a new revenue record.
Created 4 publisher records, 2 source records, and 124 revenue records

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| django_demo        |
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)

mysql> use django_demo;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> show tables;
+----------------------------+
| Tables_in_django_demo      |
+----------------------------+
```

```
| auth_group                  |
| auth_group_permissions      |
| auth_permission             |
| auth_user                   |
| auth_user_groups            |
| auth_user_user_permissions |
| demo_app_publisher          |
| demo_app_revenuerecord      |
| demo_app_source             |
| django_admin_log            |
| django_content_type         |
| django_migrations           |
| django_session              |
+-----------------------------+
13 rows in set (0.01 sec)

mysql> select * from demo_app_publisher;
+----+---------+
| id | name    |
+----+---------+
|  5 | micha   |
|  6 | mark    |
|  7 | melanie |
|  8 | logan   |
+----+---------+
4 rows in set (0.00 sec)

mysql> select * from demo_app_source;
+----+--------+
| id | name   |
+----+--------+
|  1 | google |
|  2 | yahoo  |
+----+--------+
2 rows in set (0.00 sec)

mysql> select * from demo_app_revenuerecord
    -> ;
+-----+------------+--------+---------+--------------+-----------+
| id  | date       | clicks | revenue | publisher_id | source_id |
+-----+------------+--------+---------+--------------+-----------+
|   1 | 2019-10-01 |    138 |   49.68 |            5 |         1 |
|   2 | 2019-10-01 |    263 |  231.44 |            6 |         2 |
|   3 | 2019-10-01 |    374 |  179.52 |            7 |         1 |
```

4	2019-10-01	492	403.44	8	2
5	2019-10-02	134	127.75	5	2
6	2019-10-02	278	239.08	6	1
7	2019-10-02	478	22.31	7	2
8	2019-10-02	285	134.9	8	1
9	2019-10-03	325	244.83	5	1
10	2019-10-03	73	13.14	6	1
11	2019-10-03	100	94.67	7	1
12	2019-10-03	424	330.72	8	1
13	2019-10-04	489	65.2	5	1
14	2019-10-04	244	92.72	6	1
15	2019-10-04	213	210.16	7	1
16	2019-10-04	84	6.16	8	2
17	2019-10-05	420	282.8	5	2
18	2019-10-05	421	140.33	6	2
19	2019-10-05	239	184.83	7	2
20	2019-10-05	181	20.51	8	2
21	2019-10-06	103	4.81	5	2
22	2019-10-06	494	55.99	6	1
23	2019-10-06	331	88.27	7	1
24	2019-10-06	368	318.93	8	1
25	2019-10-07	210	65.8	5	1
26	2019-10-07	147	128.38	6	2
27	2019-10-07	108	59.76	7	2
28	2019-10-07	31	20.25	8	2
29	2019-10-08	353	298.87	5	1
30	2019-10-08	44	26.69	6	2
31	2019-10-08	117	67.08	7	1
32	2019-10-08	271	231.25	8	1
33	2019-10-09	111	90.28	5	2
34	2019-10-09	364	283.92	6	1
35	2019-10-09	475	85.5	7	1
36	2019-10-09	49	26.79	8	2
37	2019-10-10	231	107.8	5	1
38	2019-10-10	158	122.19	6	1
39	2019-10-10	69	40.48	7	1
40	2019-10-10	201	61.64	8	1
41	2019-10-11	188	159.17	5	2
42	2019-10-11	48	9.28	6	2
43	2019-10-11	206	145.57	7	1
44	2019-10-11	129	100.62	8	1
45	2019-10-12	109	86.47	5	2
46	2019-10-12	161	156.71	6	2
47	2019-10-12	375	27.5	7	2

48	2019-10-12	467	62.27	8	2
49	2019-10-13	37	22.94	5	1
50	2019-10-13	371	262.17	6	1
51	2019-10-13	38	1.27	7	1
52	2019-10-13	307	151.45	8	2
53	2019-10-14	86	36.12	5	1
54	2019-10-14	147	23.52	6	1
55	2019-10-14	114	23.56	7	2
56	2019-10-14	376	300.8	8	1
57	2019-10-15	378	221.76	5	1
58	2019-10-15	261	212.28	6	2
59	2019-10-15	295	116.03	7	1
60	2019-10-15	221	184.17	8	2
61	2019-10-16	316	107.44	5	2
62	2019-10-16	164	106.05	6	2
63	2019-10-16	241	17.67	7	2
64	2019-10-16	432	118.08	8	2
65	2019-10-17	418	415.21	5	1
66	2019-10-17	300	176	6	1
67	2019-10-17	103	6.87	7	2
68	2019-10-17	138	29.44	8	2
69	2019-10-18	413	19.27	5	2
70	2019-10-18	307	36.84	6	2
71	2019-10-18	217	47.74	7	1
72	2019-10-18	275	157.67	8	2
73	2019-10-19	465	365.8	5	1
74	2019-10-19	270	61.2	6	2
75	2019-10-19	255	212.5	7	2
76	2019-10-19	45	16.8	8	2
77	2019-10-20	138	129.72	5	1
78	2019-10-20	498	169.32	6	1
79	2019-10-20	340	156.4	7	1
80	2019-10-20	207	38.64	8	1
81	2019-10-21	483	460.46	5	1
82	2019-10-21	169	140.83	6	1
83	2019-10-21	217	65.1	7	1
84	2019-10-21	490	392	8	1
85	2019-10-22	51	31.62	5	2
86	2019-10-22	434	2.89	6	2
87	2019-10-22	209	30.65	7	2
88	2019-10-22	144	128.64	8	2
89	2019-10-23	109	88.65	5	1
90	2019-10-23	499	182.97	6	2
91	2019-10-23	384	17.92	7	1

92	2019-10-23	186	100.44	8	1
93	2019-10-24	162	114.48	5	2
94	2019-10-24	142	107.92	6	2
95	2019-10-24	106	46.64	7	1
96	2019-10-24	105	87.5	8	1
97	2019-10-25	245	238.47	5	1
98	2019-10-25	293	220.73	6	1
99	2019-10-25	366	43.92	7	2
100	2019-10-25	112	11.2	8	1
101	2019-10-26	214	179.76	5	2
102	2019-10-26	323	94.75	6	1
103	2019-10-26	66	36.08	7	1
104	2019-10-26	437	142.75	8	1
105	2019-10-27	260	195.87	5	1
106	2019-10-27	138	47.84	6	1
107	2019-10-27	365	46.23	7	2
108	2019-10-27	124	83.49	8	2
109	2019-10-28	298	282.11	5	1
110	2019-10-28	350	39.67	6	1
111	2019-10-28	318	154.76	7	2
112	2019-10-28	247	189.37	8	2
113	2019-10-29	44	13.79	5	1
114	2019-10-29	310	155	6	2
115	2019-10-29	146	127.51	7	2
116	2019-10-29	492	357.52	8	2
117	2019-10-30	41	24.6	5	2
118	2019-10-30	329	149.15	6	1
119	2019-10-30	46	38.33	7	1
120	2019-10-30	457	237.64	8	2
121	2019-10-31	463	450.65	5	2
122	2019-10-31	376	82.72	6	1
123	2019-10-31	97	73.07	7	2
124	2019-10-31	312	255.84	8	2

124 rows in set (0.00 sec)

2)

```
show a table with the following columns:
    - date
    - sum(revenue)
    - sum(clicks)
```

date	total_revenue	total_clicks
2019-10-01	864.08	1267
2019-10-02	524.04	1175
2019-10-03	683.36	922
2019-10-04	374.24	1030
2019-10-05	628.47	1261
2019-10-06	468.00	1296
2019-10-07	274.19	496
2019-10-08	623.89	785
2019-10-09	486.49	999
2019-10-10	332.11	659
2019-10-11	414.64	571
2019-10-12	332.95	1112
2019-10-13	437.83	753
2019-10-14	384.00	723
2019-10-15	734.24	1155
2019-10-16	349.24	1153
2019-10-17	627.52	959
2019-10-18	261.52	1212
2019-10-19	656.30	1035
2019-10-20	494.08	1183
2019-10-21	1058.39	1359
2019-10-22	193.80	838
2019-10-23	389.98	1178
2019-10-24	356.54	515
2019-10-25	514.32	1016
2019-10-26	453.34	1040
2019-10-27	373.43	887
2019-10-28	665.91	1213
2019-10-29	653.82	992
2019-10-30	449.72	873
2019-10-31	862.28	1248

3)

show another table with the following columns:

- publisher name
- sum(revenue)
- sum(clicks)

publisher	total_revenue	total_clicks
micha	4982.18	7432
mark	3771.72	8376
melanie	2467.90	7008
logan	4700.92	8089

show another table with the following columns:

- publisher name
- date
- sum(revenue) by date
- sum(clicks) by date

publisher	date	total_revenue	total_clicks
micha	2019-10-01	49.68	138
micha	2019-10-02	127.75	134
micha	2019-10-03	244.83	325
micha	2019-10-04	65.20	489
micha	2019-10-05	282.80	420
micha	2019-10-06	4.81	103
micha	2019-10-07	65.80	210
micha	2019-10-08	298.87	353
micha	2019-10-09	90.28	111
micha	2019-10-10	107.80	231
micha	2019-10-11	159.17	188
micha	2019-10-12	86.47	109
micha	2019-10-13	22.94	37
micha	2019-10-14	36.12	86
micha	2019-10-15	221.76	378
micha	2019-10-16	107.44	316
micha	2019-10-17	415.21	418
micha	2019-10-18	19.27	413
micha	2019-10-19	365.80	465
micha	2019-10-20	129.72	138
micha	2019-10-21	460.46	483
micha	2019-10-22	31.62	51
micha	2019-10-23	88.65	109
micha	2019-10-24	114.48	162

micha	2019-10-25	238.47	245
micha	2019-10-26	179.76	214
micha	2019-10-27	195.87	260
micha	2019-10-28	282.11	298
micha	2019-10-29	13.79	44
micha	2019-10-30	24.60	41
micha	2019-10-31	450.65	463
mark	2019-10-01	231.44	263
mark	2019-10-02	239.08	278
mark	2019-10-03	13.14	73
mark	2019-10-04	92.72	244
mark	2019-10-05	140.33	421
mark	2019-10-06	55.99	494
mark	2019-10-07	128.38	147
mark	2019-10-08	26.69	44
mark	2019-10-09	283.92	364
mark	2019-10-10	122.19	158
mark	2019-10-11	9.28	48
mark	2019-10-12	156.71	161
mark	2019-10-13	262.17	371
mark	2019-10-14	23.52	147
mark	2019-10-15	212.28	261
mark	2019-10-16	106.05	164
mark	2019-10-17	176.00	300
mark	2019-10-18	36.84	307
mark	2019-10-19	61.20	270
mark	2019-10-20	169.32	498
mark	2019-10-21	140.83	169
mark	2019-10-22	2.89	434
mark	2019-10-23	182.97	499
mark	2019-10-24	107.92	142
mark	2019-10-25	220.73	293
mark	2019-10-26	94.75	323
mark	2019-10-27	47.84	138
mark	2019-10-28	39.67	350
mark	2019-10-29	155.00	310
mark	2019-10-30	149.15	329
mark	2019-10-31	82.72	376
melanie	2019-10-01	179.52	374
melanie	2019-10-02	22.31	478
melanie	2019-10-03	94.67	100
melanie	2019-10-04	210.16	213
melanie	2019-10-05	184.83	239
melanie	2019-10-06	88.27	331

melanie	2019-10-07	59.76	108
melanie	2019-10-08	67.08	117
melanie	2019-10-09	85.50	475
melanie	2019-10-10	40.48	69
melanie	2019-10-11	145.57	206
melanie	2019-10-12	27.50	375
melanie	2019-10-13	1.27	38
melanie	2019-10-14	23.56	114
melanie	2019-10-15	116.03	295
melanie	2019-10-16	17.67	241
melanie	2019-10-17	6.87	103
melanie	2019-10-18	47.74	217
melanie	2019-10-19	212.50	255
melanie	2019-10-20	156.40	340
melanie	2019-10-21	65.10	217
melanie	2019-10-22	30.65	209
melanie	2019-10-23	17.92	384
melanie	2019-10-24	46.64	106
melanie	2019-10-25	43.92	366
melanie	2019-10-26	36.08	66
melanie	2019-10-27	46.23	365
melanie	2019-10-28	154.76	318
melanie	2019-10-29	127.51	146
melanie	2019-10-30	38.33	46
melanie	2019-10-31	73.07	97
logan	2019-10-01	403.44	492
logan	2019-10-02	134.90	285
logan	2019-10-03	330.72	424
logan	2019-10-04	6.16	84
logan	2019-10-05	20.51	181
logan	2019-10-06	318.93	368
logan	2019-10-07	20.25	31
logan	2019-10-08	231.25	271
logan	2019-10-09	26.79	49
logan	2019-10-10	61.64	201
logan	2019-10-11	100.62	129
logan	2019-10-12	62.27	467
logan	2019-10-13	151.45	307
logan	2019-10-14	300.80	376
logan	2019-10-15	184.17	221
logan	2019-10-16	118.08	432
logan	2019-10-17	29.44	138
logan	2019-10-18	157.67	275
logan	2019-10-19	16.80	45

logan	2019-10-20	38.64	207
logan	2019-10-21	392.00	490
logan	2019-10-22	128.64	144
logan	2019-10-23	100.44	186
logan	2019-10-24	87.50	105
logan	2019-10-25	11.20	112
logan	2019-10-26	142.75	437
logan	2019-10-27	83.49	124
logan	2019-10-28	189.37	247
logan	2019-10-29	357.52	492
logan	2019-10-30	237.64	457
logan	2019-10-31	255.84	312

4)

```
show a table with the following columns:
    - source
    - sum(revenue)
    - sum(clicks)
```

source	total_revenue	total_clicks
google	9204.97	16797
yahoo	6717.75	14108

```
show a table with the following columns:
    - publisher
    - source
    - sum(revenue)
    - sum(clicks)
```

publisher	source	total_revenue	total_clicks
micha	yahoo	1679.10	2725
micha	google	3303.08	4707
mark	yahoo	1557.98	3471
mark	google	2213.74	4905
melanie	yahoo	1031.14	3414
melanie	google	1436.76	3594
logan	yahoo	2449.53	4498
logan	google	2251.39	3591

Setting up development environment issues and fixes:

.....

File "/Library/Frameworks/Python.framework/Versions/3.7/lib/python3.7/importlib/__init__.py", line 127, in import_module
return _bootstrap._gcd_import(name[level:], package, level)
File "/Library/Frameworks/Python.framework/Versions/3.7/lib/python3.7/site-packages/django/db/backends/mysql/base.py", line 36, in <module>
raise ImproperlyConfigured('mysqlclient 1.3.13 or newer is required; you have %s.' % Database.__version__)
django.core.exceptions.ImproperlyConfigured: mysqlclient 1.3.13 or newer is required; you have 0.9.3.

Update the mysqlclient version to fix this and update the __init__.py under the project:

```
import pymysql
pymysql.install_as_MySQLdb()
```

Commented out the version check from the base.py file:
Fixed:

```
Vim python3.7/site-packages/django/db/backends/mysql/base.py
```

34 version = Database.version_info
35 #if version < (1, 3, 13):
36 # raise ImproperlyConfigured('mysqlclient 1.3.13 or newer is required; you have %s.' % Database.__version__)
37

File "/Library/Frameworks/Python.framework/Versions/3.7/lib/python3.7/site-packages/django/db/backends/mysql/operations.py", line 146, in last_executed_query
query = query.decode(errors='replace')
AttributeError: 'str' object has no attribute 'decode'

Fixed:

```
140     def last_executed_query(self, cursor, sql, params):
141         # With MySQLdb, cursor objects have an (undocumented) "_executed"
142         # attribute where the exact query sent to the database is saved.
143         # See MySQLdb/cursors.py in the source distribution.
144         query = getattr(cursor, '_executed', None)
```

```
145             if query is not None:
146                 query = query.encode(errors='replace')
                    # decode modified to encode
147             return query
```

Reset mysql root password by using mysql safe mode to access the mysql database.

SECTION II: DEV CODING AND BUILD WEB / ADMIN

1. Create Admin

```
(myenv) [ec2-user@ip-172-31-31-17 aim-recruiting-django]$ python manage.py createsuperuser
Username (leave blank to use 'ec2-user'): admin
Email address: caobaohua@gmail.com
Password:
Password (again):
Superuser created successfully.
```

2. Enable AWS EC2 Security Group for Remote Access

   Open 8000 for TCP in ec2 instance's security group

   Custom TCP Rule TCP 8000 0.0.0.0/0

3. Run Django Server:

```
(myenv) [ec2-user@ip-172-31-31-17 aim-recruiting-django]$ python manage.py runserver 0.0.0.0:8000
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).
November 27, 2019 - 01:38:05
Django version 2.2.7, using settings 'demo.settings'
Starting development server at http://0.0.0.0:8000/
Quit the server with CONTROL-C.
[27/Nov/2019 01:38:08] "GET / HTTP/1.1" 200 126
[27/Nov/2019 01:41:48] "GET / HTTP/1.1" 200 167
```

4. Remotely Access Main Home-Page from Browsers:

   http://ec2-54-186-83-10.us-west-2.compute.amazonaws.com:8000/

   Or

   http://54.186.83.10:8000/

5. Remotely Access Admin System from Browsers:

   http://ec2-54-186-83-10.us-west-2.compute.amazonaws.com:8000/admin/

   http://54.186.83.10:8000/admin/

User: admin
Password: smiletolife

6. Collect Static Files of JS, HTML, CSS, IMAGES

```
(myenv) [ec2-user@ip-172-31-31-17 aim-recruiting-django]$ python manage.py collectstatic

You have requested to collect static files at the destination
location as specified in your settings:

    /home/ec2-user/aim-recruiting-django/static

This will overwrite existing files!
Are you sure you want to do this?

Type 'yes' to continue, or 'no' to cancel: yes
```

7. Restart Django Server

```
(myenv) [ec2-user@ip-172-31-31-17 aim-recruiting-django]$ python manage.py runserver 0.0.0.0:8000
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).
November 27, 2019 - 11:27:14
Django version 2.2.7, using settings 'demo.settings'
Starting development server at http://0.0.0.0:8000/
Quit the server with CONTROL-C.
```

8. Add Routings

Update urls.py to add routings as follows:

```
urlpatterns = [
    path('', views.IndexView.as_view(), name='index'),
    path('date_view/<str:date>/', views.date_view, name='date_view'),
    path('publisher_view/<int:publisher>/<str:date>/',views.publisher_view,
     name='publisher_view'),
]
```

9. Add Views

Update views.py to add new data processing logic as follows:

```
from django.shortcuts import render
from django.views import View
from .models import Publisher, Source, RevenueRecord
from django.db.models import Sum
from .tables import *
```

```
from django_tables2 import RequestConfig
#from django.http import HttpResponse

class IndexView(View):
    def get(self, request):
        table = RevenueRecordTable(RevenueRecord.objects.values('date')\
                .annotate(Sum('revenue')).annotate(Sum('clicks')))
        RequestConfig(request).configure(table)
        return render(request, 'index_template.html', {'table': table})

def date_view(request, date):

    DateRevenueObjects = RevenueRecord.objects.filter(date=date).values('publisher')\
            .annotate(Sum('revenue')).annotate(Sum('clicks'))
    for obj in DateRevenueObjects:
        obj['date'] = date
        obj['name'] = Publisher.objects.get(pk=obj['publisher']).name
        #return HttpResponse(str(obj))
    table = DateRevenueTable(DateRevenueObjects)
    RequestConfig(request).configure(table)
    return render(request, 'date_template.html', {'table': table})

def publisher_view(request, publisher, date):
    PublisherRevenueObjects =
RevenueRecord.objects.filter(date=date,publisher=publisher).values('source')\
            .annotate(Sum('revenue')).annotate(Sum('clicks'))
    for obj in PublisherRevenueObjects:
        obj['source_name'] = Source.objects.get(pk=obj['source']).name
    table = PublisherRevenueTable(PublisherRevenueObjects)
    return render(request, 'publisher_template.html', {'table': table})
    #return HttpResponse('<html><head></head><body>publisher: %s,
date: %s</body></html>' % (publisher, date))
```

10. Add Django tables2

Add django tables2 to use the new djang's tables2 template for table rendering, ordering and pagination as follows:

```
# add your table herei
import django_tables2 as tables
from .models import RevenueRecord
import datetime

class RevenueRecordTable(tables.Table):
    class Meta:
```

```
            model = RevenueRecord
            #template_name = "django_tables2/bootstrap.html"
            fields = ("date", "revenue__sum", "clicks__sum")

        #date = tables.LinkColumn('date_view', args=[tables.A('date')])
        date = tables.Column(linkify=('date_view',{'date':tables.A('date')}))
        revenue__sum = tables.Column()

        def render_revenue__sum(self, value):
            return '{:0.2f}'.format(value)


class DateRevenueTable(tables.Table):
        revenue__sum = tables.Column()
        class Meta:
            model = RevenueRecord
            fields = ("name", "revenue__sum", "clicks__sum")

        name = tables.Column(linkify=('publisher_view', {'publisher': tables.A('publisher'), 'date': tables.A('date')}))

        def render_revenue__sum(self, value):
            return '{:0.2f}'.format(value)


class PublisherRevenueTable(tables.Table):
        class Meta:
            model = RevenueRecord
            fields = ("source_name", "revenue__sum", "clicks__sum")

        revenue__sum = tables.Column()

        def render_revenue__sum(self, value):
            return '{:0.2f}'.format(value)
```

11. Add Templates

Add html templates to render the front-end html pages and tables as follows:

```
{% load render_table from django_tables2 %}
<!doctype html>
<html>
    <head>
        <title>Demo Page</title>
    </head>
```

```
    <body>
        {% render_table table %}
    </body>
</html>

{% load render_table from django_tables2 %}
<!doctype html>
<html>
    <head>
        <title>Daily Revenue Page</title>
    </head>
    <body>
        {% render_table table %}
    </body>
</html>

{% load render_table from django_tables2 %}
<!doctype html>
<html>
    <head>
        <title>Publisher Daily Revenue Page</title>
    </head>
    <body>
        {% render_table table %}
    </body>
</html>
```

12. Collect Static Files and Run Django Server to update the web system

```
(myenv) [ec2-user@ip-172-31-31-17 aim-recruiting-django]$ python manage.py collectstatic
(myenv) [ec2-user@ip-172-31-31-17 aim-recruiting-django]$ python manage.py runserver 0.0.0.0:8000
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).
November 27, 2019 - 13:19:34
Django version 2.2.7, using settings 'demo.settings'
Starting development server at http://0.0.0.0:8000/
Quit the server with CONTROL-C.
```

13. Open browsers and test

http://ec2-54-186-83-10.us-west-2.compute.amazonaws.com:8000/

http://ec2-54-186-83-10.us-west-2.compute.amazonaws.com:8000/admin/

http://54.186.83.10:8000/

http://54.186.83.10:8000/admin/login/?next=/admin/

Screen shots:

```
2) On the main page show a table with the following columns:
  - date
  - sum(revenue)
  - sum(clicks)
```

Date	Revenue sum	Clicks sum
2019-10-01	864.08	1267
2019-10-02	524.04	1175
2019-10-03	683.36	922
2019-10-04	374.24	1030
2019-10-05	628.47	1261
2019-10-06	468.00	1296
2019-10-07	274.19	496
2019-10-08	623.89	785
2019-10-09	486.49	999
2019-10-10	332.11	659
2019-10-11	414.64	571
2019-10-12	332.95	1112
2019-10-13	437.83	753
2019-10-14	384.00	723
2019-10-15	734.24	1155
2019-10-16	349.24	1153
2019-10-17	627.52	959
2019-10-18	261.52	1212
2019-10-19	656.30	1035
2019-10-20	494.08	1183
2019-10-21	1058.39	1359
2019-10-22	193.80	838
2019-10-23	389.98	1178
2019-10-24	356.54	515
2019-10-25	514.32	1016

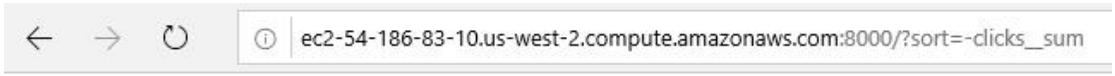
- 1
- 2
- next

Date	Revenue sum	Clicks sum
2019-10-13	437.83	753
2019-10-14	384.00	723
2019-10-10	332.11	659
2019-10-11	414.64	571
2019-10-24	356.54	515
2019-10-07	274.19	496

- previous
- 1
- 2

Pagination

Ordering



Date	Revenue sum	Clicks sum
2019-10-21	1058.39	1359
2019-10-06	468.00	1296
2019-10-01	864.08	1267
2019-10-05	628.47	1261
2019-10-31	862.28	1248
2019-10-28	665.91	1213
2019-10-18	261.52	1212
2019-10-20	494.08	1183
2019-10-23	389.98	1178
2019-10-02	524.04	1175
2019-10-15	734.24	1155
2019-10-16	349.24	1153
2019-10-12	332.95	1112
2019-10-26	453.34	1040
2019-10-19	656.30	1035
2019-10-04	374.24	1030
2019-10-25	514.32	1016
2019-10-09	486.49	999
2019-10-29	653.82	992
2019-10-17	627.52	959
2019-10-03	683.36	922
2019-10-27	373.43	887
2019-10-30	449.72	873
2019-10-22	193.80	838
2019-10-08	623.89	785

- 1
- 2
- next

3) When clicked on the date show another table with the following columns:

- publisher name
- sum(revenue)
- sum(clicks)

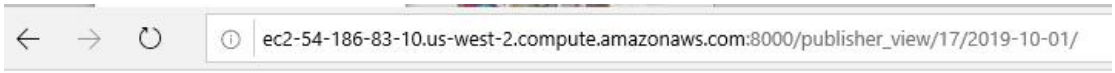
Name	Revenue sum	Clicks sum
micha	49.68	138
mark	231.44	263
melanie	179.52	374
logan	403.44	492

Name	Revenue sum	Clicks sum
micha	238.47	245
mark	220.73	293
melanie	43.92	366
logan	11.20	112

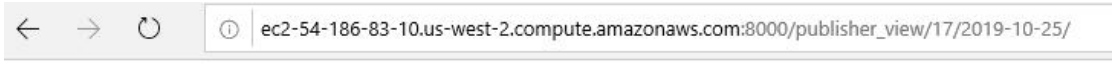
4) When clicked on the publisher name show a table with the following columns:

- source
- sum(revenue)
- sum(clicks)

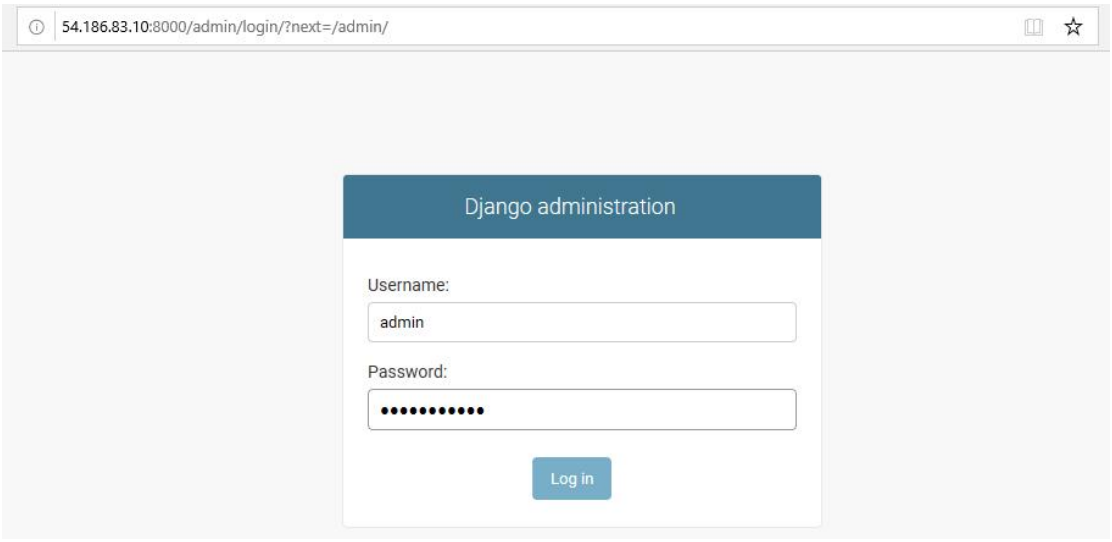
(only show data for selected publisher and day)



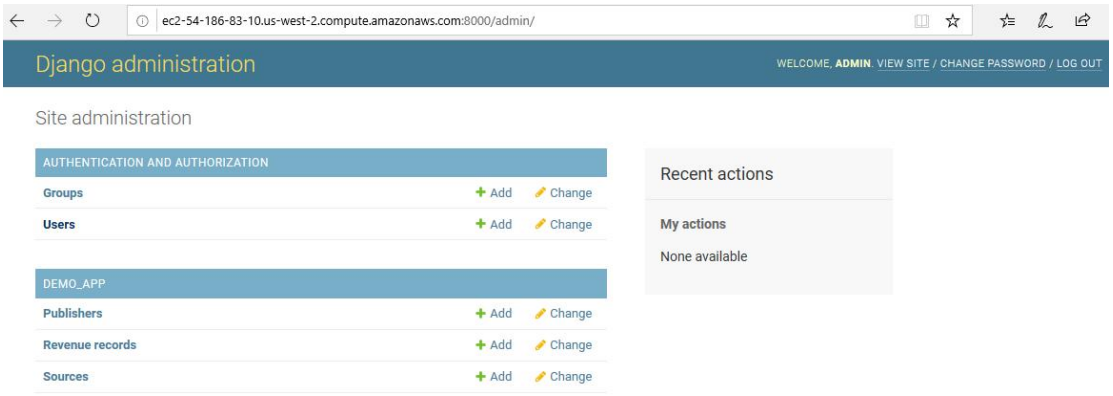
Source name	Revenue sum	Clicks sum
google	49.68	138



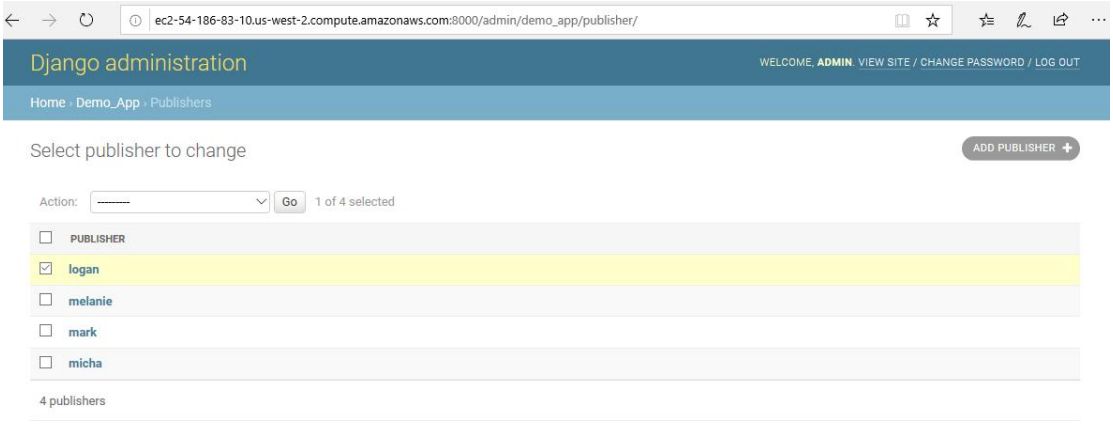
Source name	Revenue sum	Clicks sum
google	238.47	245



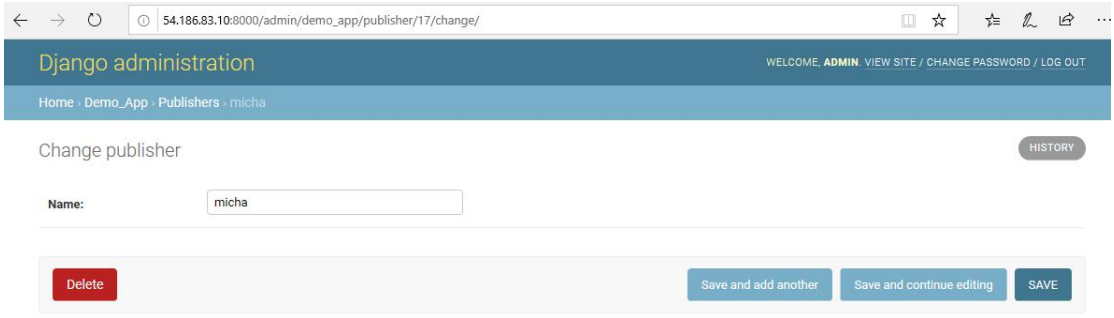
Django Admin System



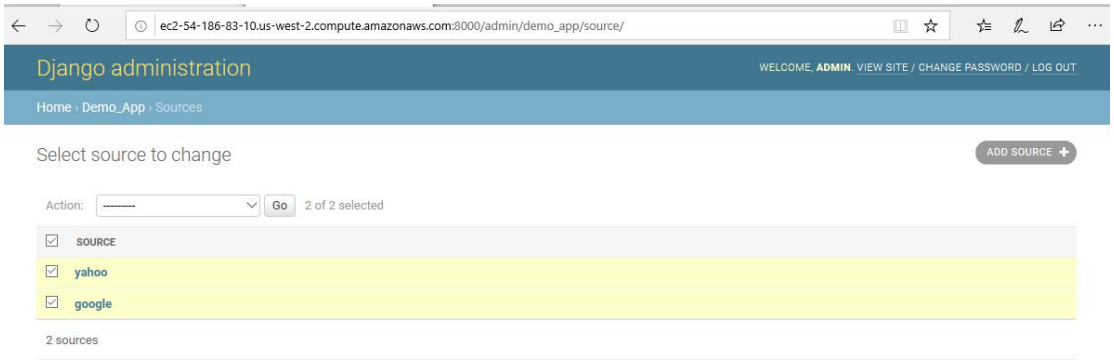
Django Admin Home



Publishers Listing

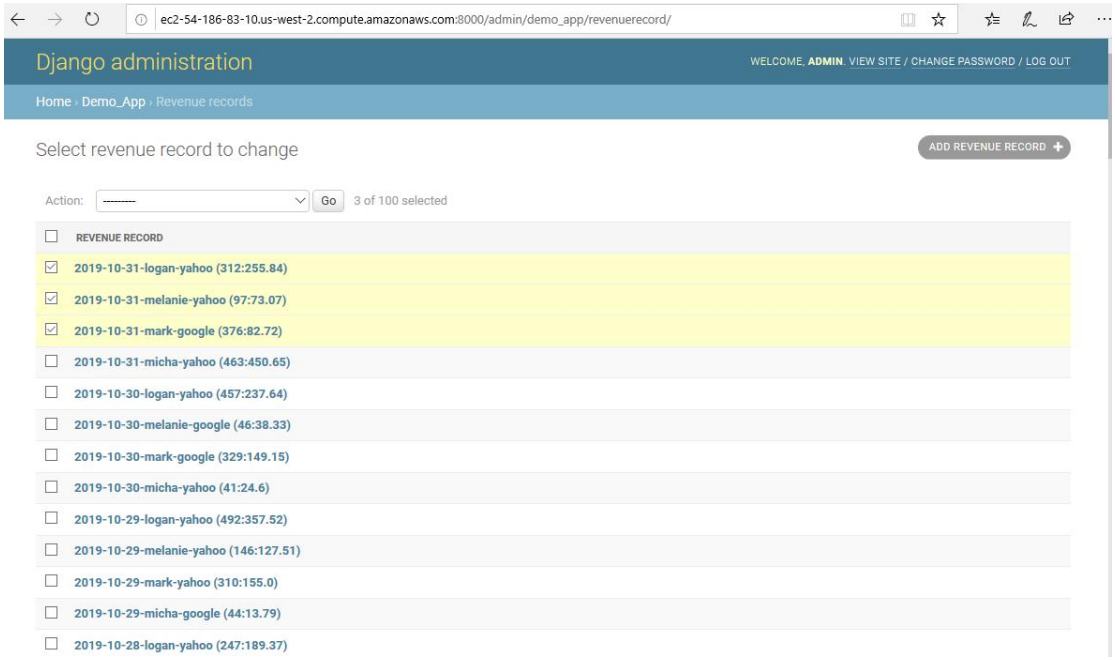


Publisher Editing

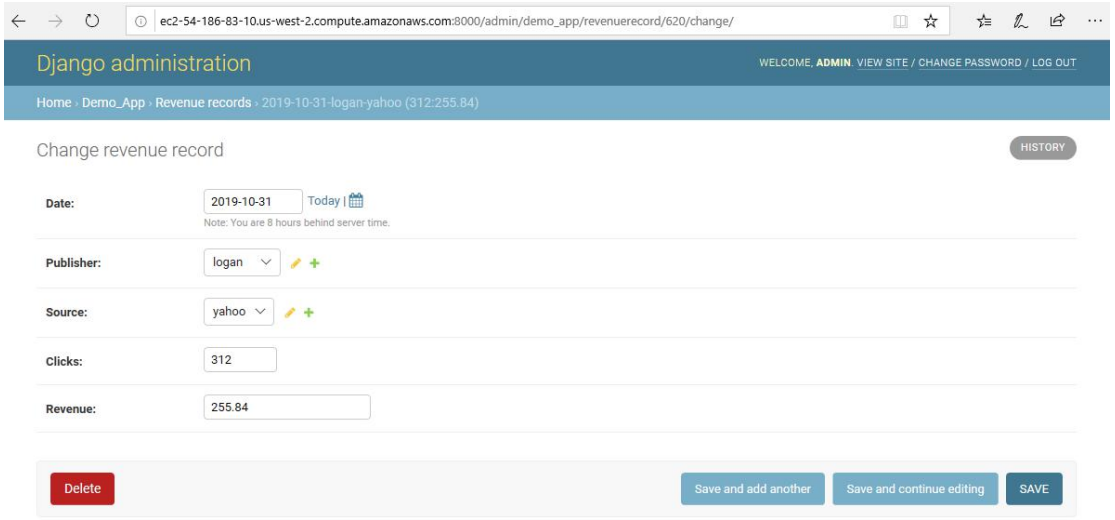


Source Listing

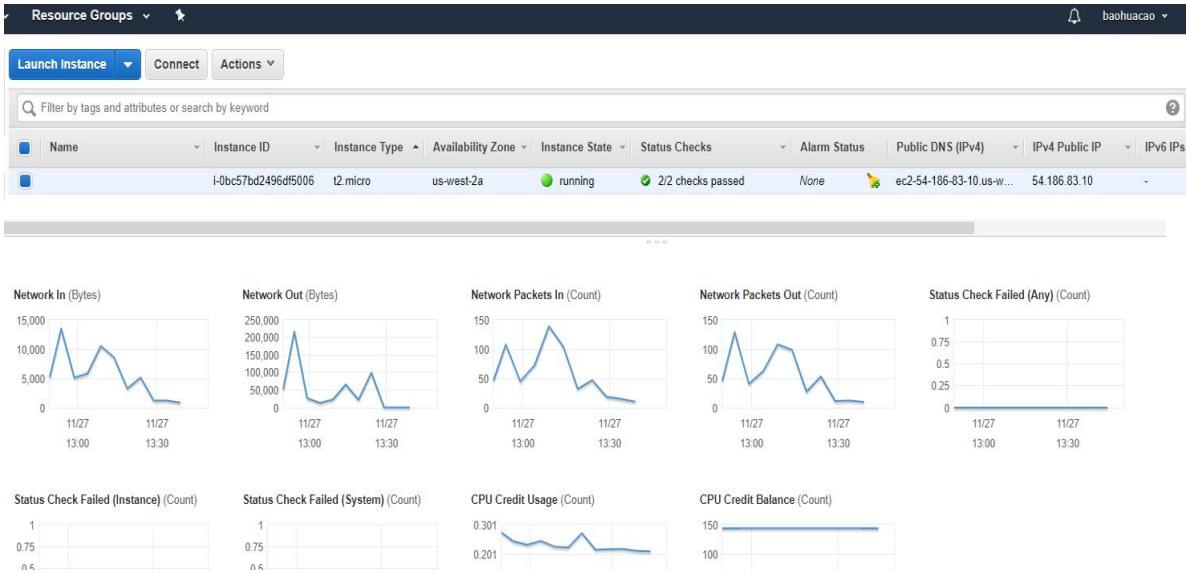
Source Editing



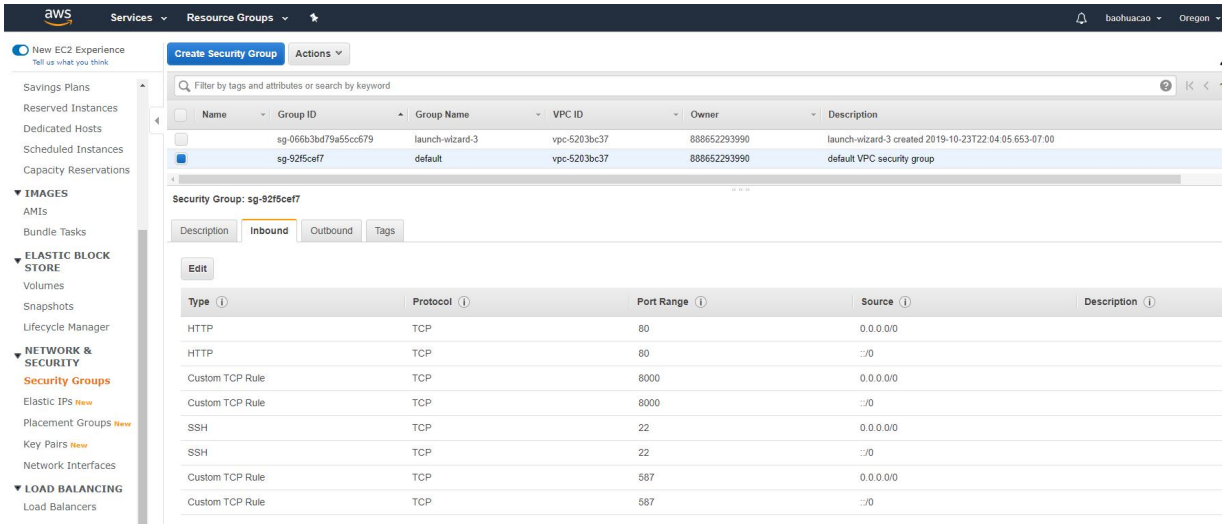
Revenue Report Listing



Revenue Report Editing

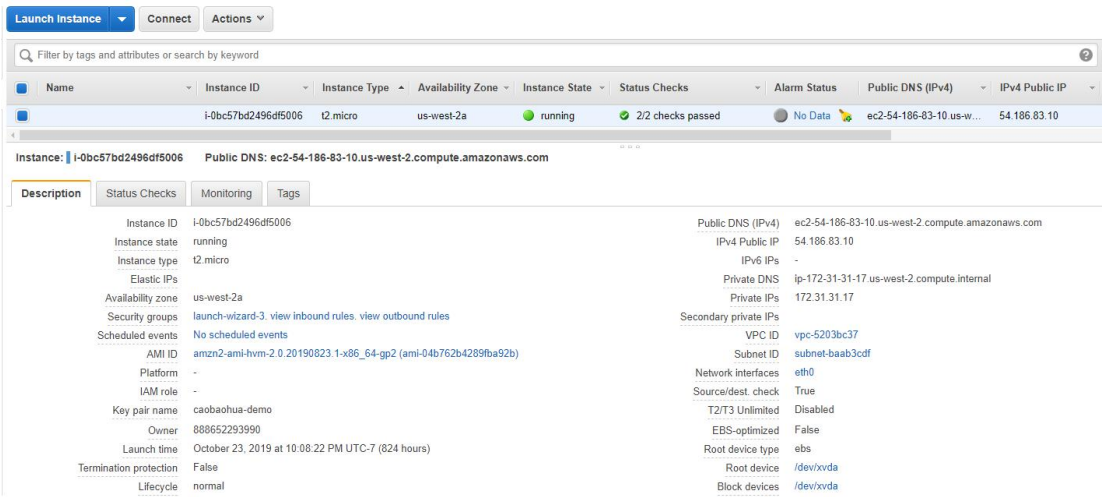


AWS CLOUD MONITOR

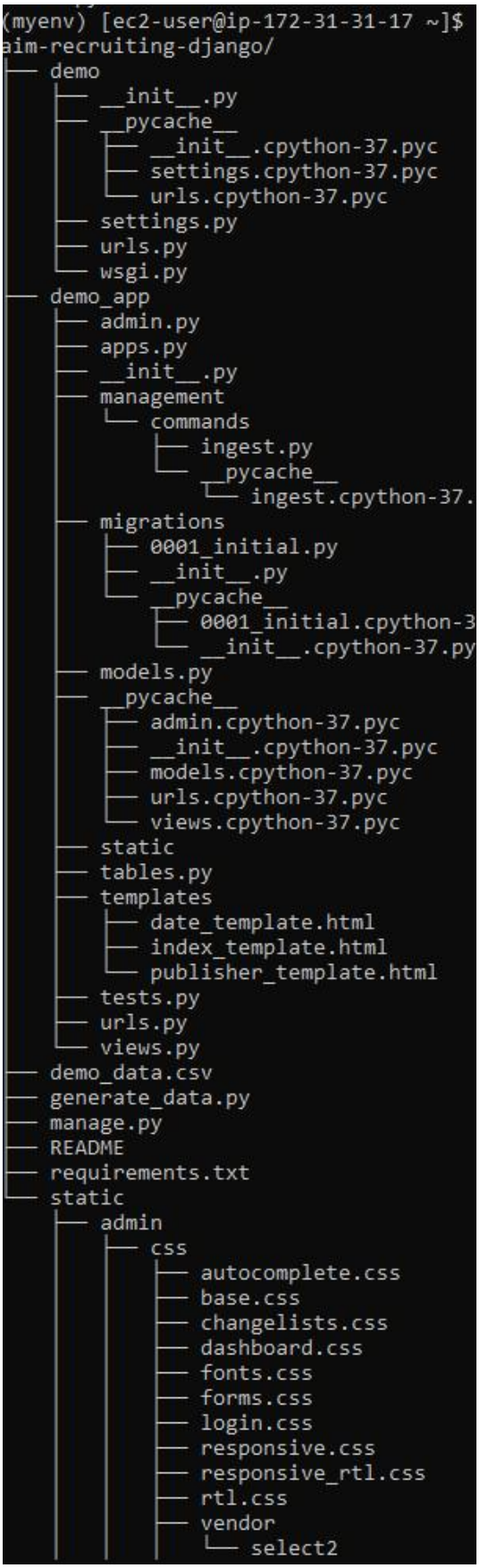


AWS SECURITY GROUP | AWS EC2 IP: 54.186.83.10

ec2-54-186-83-10.us-west-2.compute.amazonaws.com



TREE CODE


(myenv) [ec2-user@ip-172-31-31-17 ~]$
aim-recruiting-django/
├── demo
│   ├── __init__.py
│   ├── __pycache__
│   │   ├── __init__.cpython-37.pyc
│   │   ├── settings.cpython-37.pyc
│   │   └── urls.cpython-37.pyc
│   ├── settings.py
│   ├── urls.py
│   └── wsgi.py
├── demo_app
│   ├── admin.py
│   ├── apps.py
│   ├── __init__.py
│   ├── management
│   │   └── commands
│   │   ├── ingest.py
│   │   └── __pycache__
│   │   └── ingest.cpython-37.
│   ├── migrations
│   │   ├── 0001_initial.py
│   │   ├── __init__.py
│   │   └── __pycache__
│   │   ├── 0001_initial.cpython-3
│   │   └── __init__.cpython-37.py
│   ├── models.py
│   ├── __pycache__
│   │   ├── admin.cpython-37.pyc
│   │   ├── __init__.cpython-37.pyc
│   │   ├── models.cpython-37.pyc
│   │   ├── urls.cpython-37.pyc
│   │   └── views.cpython-37.pyc
│   ├── static
│   ├── tables.py
│   ├── templates
│   │   ├── date_template.html
│   │   ├── index_template.html
│   │   └── publisher_template.html
│   ├── tests.py
│   ├── urls.py
│   └── views.py
├── demo_data.csv
├── generate_data.py
├── manage.py
├── README
├── requirements.txt
└── static
    ├── admin
    │   ├── css
    │   │   ├── autocomplete.css
    │   │   ├── base.css
    │   │   ├── changelists.css
    │   │   ├── dashboard.css
    │   │   ├── fonts.css
    │   │   ├── forms.css
    │   │   ├── login.css
    │   │   ├── responsive.css
    │   │   ├── responsive_rtl.css
    │   │   ├── rtl.css
    │   │   ├── vendor
    │   │   │   └── select2