1. One Script (from Creating EC2 Instance to Running Server)

```
1. import time
2. import boto3
3. from fabric import Connection
4.
5. ec2 = boto3.client("ec2")
6. print("Creating ec2 instance")
7. reservation = ec2.run_instances(
8.         ImageId='ami-0567f647e75c7bc05',
9.         SecurityGroups=['23019722-sg'],
10.         MinCount=1,
11.         MaxCount=1,
12.         InstanceType='t2.micro',
13.         KeyName='lab5-key',
14.         Placement= {
15.             'AvailabilityZone': 'ap-southeast-2a'
16.         },
17.         TagSpecifications=[
18.         {
19.             'ResourceType': 'instance',
20.             'Tags': [
21.                 {
22.                     'Key': 'Name',
23.                     'Value': '23019722'
24.                 },
25.             ]
26.         },
27.     ]
28.  )
29.  instance = reservation["Instances"][0]
30.  id = instance["InstanceId"]
31.  time.sleep(50)
32.  EC2_RESOURCE = boto3.resource('ec2')
33.  instances = EC2_RESOURCE.instances.all()
34.  for instance in instances:
35.      if instance.id == id:
```

```python
36.            public_ip = instance.public_ip_address
37.            DNS_name = instance.public_dns_name
38.
39.    print("Connecting to server")
40.    c = Connection(
41.        host = DNS_name,
42.        User = "ubuntu",
43.        connect_kwargs ={
44.            "key_filename": "/home/isaac/html/lab5-key.pem",
45.        }
46.    )
47.    print("Successfully connected")
48.    c.sudo('apt-get update')
49.    c.sudo('apt-get install -y python3-pip')
50.    c.sudo('apt-get upgrade -y')
51.    c.sudo('apt install -y nginx')
52.    c.sudo('pip install django')
53.    c.sudo('django-admin startproject lab')
54.    c.sudo('python3 /home/ubuntu/lab/manage.py startapp polls')
55.    c.sudo('chmod -R 777 /etc/nginx/sites-enabled/default')
56.    c.sudo('echo -
   e "server {\n  listen 80 default_server;\n  listen [::]:80 defaul
   t_server;\n\n  location / {\n     proxy_set_header X-Forwarded-
   Host \$host;\n     proxy_set_header X-Real-
   IP \$remote_addr;\n\n     proxy_pass http://127.0.0.1:8000;\n }\n}
   " > /etc/nginx/sites-enabled/default')
57.    c.sudo('chmod 777 /home/ubuntu/polls/views.py')
58.    c.sudo('echo -
   e "from django.shortcuts import render\nfrom django.http import H
   ttpResponse\ndef index(request):\n\treturn HttpResponse(\'Hello,
   world.\')" > /home/ubuntu/polls/views.py')
59.    c.sudo('touch /home/ubuntu/polls/urls.py')
60.    c.sudo('chmod 777 /home/ubuntu/polls/urls.py')
61.    c.sudo('echo -
   e "from django.urls import path\nfrom . import views\nurlpatterns
    = [\n\tpath(\'\', views.index, name=\'index\')]" > /home/ubuntu/
   polls/urls.py')
62.    c.sudo('chmod 777 /home/ubuntu/lab/lab/urls.py')
63.    c.sudo('echo -
   e "from django.urls import include, path\nfrom django.contrib imp
   ort admin\nurlpatterns = [\n\tpath(\'polls/\', include(\'polls.ur
```

```
    ls\')),\n\tpath(\'admin/\', admin.site.urls),]" > /home/ubuntu/la
    b/lab/urls.py')
64.     c.sudo('mkdir -p /opt/wwc/mysites')
65.     c.sudo('cp -r /home/ubuntu/polls/ /opt/wwc/mysites/')
66.     c.sudo('cp -r /home/ubuntu/lab/lab/ /opt/wwc/mysites/')
67.     c.sudo('cp /home/ubuntu/lab/manage.py /opt/wwc/mysites/')
68.     c.sudo('service nginx restart')
69.     print(id)
70.     print(DNS_name)
71.     print(public_ip)
72.     c.sudo('python3 /opt/wwc/mysites/manage.py runserver 8000 &')
```

2. Result

```
fab.py > ...
66     c.sudo('mkdir -p /opt/wwc/mysites')
67     c.sudo('cp -r /home/ubuntu/polls/ /opt/wwc/mysites/')
68     c.sudo('cp -r /home/ubuntu/lab/lab/ /opt/wwc/mysites/')
69     c.sudo('cp /home/ubuntu/lab/manage.py /opt/wwc/mysites/')
70     c.sudo('service nginx restart')
71     c.sudo('python3 /opt/wwc/mysites/manage.py migrate')
72     print(id)
73     print(DNS_name)
74     print(public_ip)
75     c.sudo('python3 /opt/wwc/mysites/manage.py runserver 8000 &')
```

PROBLEMS   OUTPUT   TERMINAL   DEBUG CONSOLE

```
i-09c8d6461aaa191e2
ec2-3-25-240-187.ap-southeast-2.compute.amazonaws.com
3.25.240.187
Performing system checks...

System check identified no issues (0 silenced).
September 30, 2021 - 08:47:01
Django version 3.2.7, using settings 'lab.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.
```

← → C A Not secure | 3.25.240.187/polls/

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Hello, world.