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 # Lab 6
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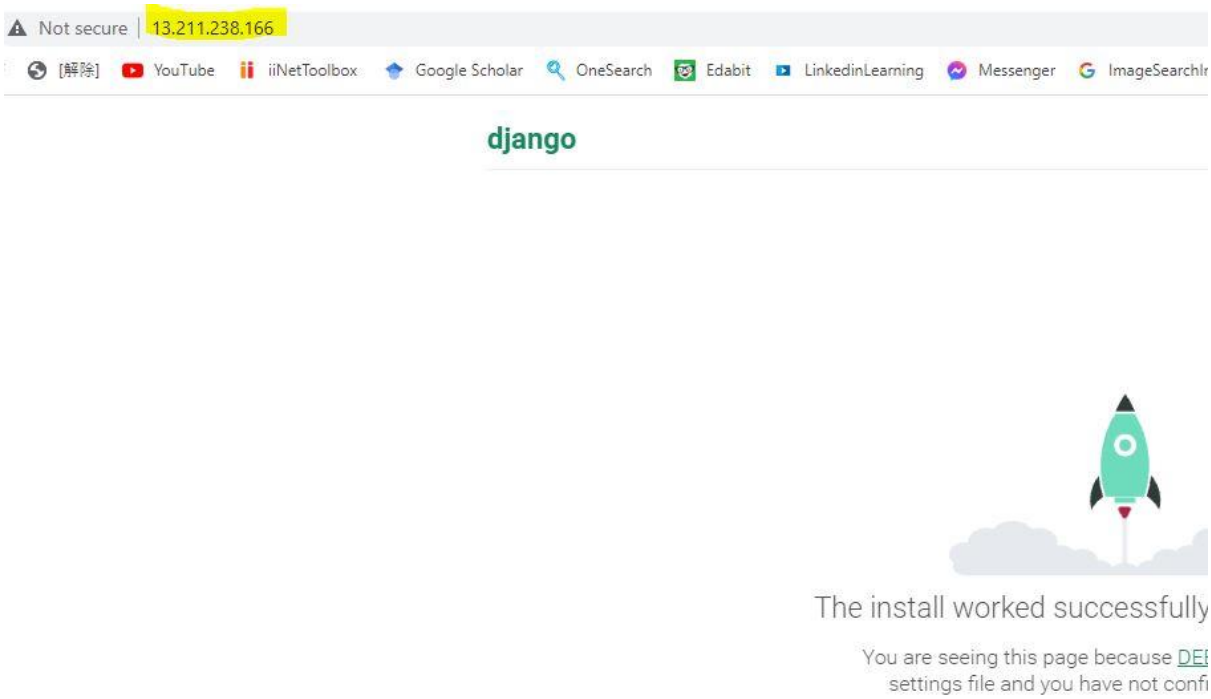
1. Creating a Page with Django & nginx

```
root@ip-172-31-42-10:/opt/wwc/mysites/lab# service nginx restart
root@ip-172-31-42-10:/opt/wwc/mysites/lab# python3 manage.py runserver 8000
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until
 apply the migrations for app(s): admin, auth, contenttypes, sessions.
Run 'python manage.py migrate' to apply them.
September 26, 2021 - 11:31:34
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.
[26/Sep/2021 11:31:42] "GET /polls HTTP/1.0" 301 0
[26/Sep/2021 11:31:42] "GET /polls/ HTTP/1.0" 200 13
[26/Sep/2021 11:31:47] "GET /polls HTTP/1.0" 301 0
[26/Sep/2021 11:31:48] "GET /polls HTTP/1.0" 301 0
```



2. Adding Load Balancer

2.1 Creating 2 Instances in Subnet ap-southeast-2a & ap-southeast-2b

```
import time
import boto3

ec2 = boto3.client("ec2")
response = ec2.describe_vpcs()

## run again with 'ap-southeast-2b'
reservation = ec2.run_instances(
        ImageId='ami-0567f647e75c7bc05',
        SecurityGroups=['23019722-sg'],
        MinCount=1,
        MaxCount=1,
        InstanceType='t2.micro',
        KeyName='lab5-key',
        Placement= {
            'AvailabilityZone': 'ap-southeast-2a'
        }
    )

instance = reservation["Instances"][0]
id = instance["InstanceId"]
print(id)

time.sleep(20)
EC2_RESOURCE = boto3.resource('ec2')
```

```
instances = EC2_RESOURCE.instances.all()
for instance in instances:
    if instance.id == id:
        print(instance.public_ip_address)
```

```
isaac@isaac-VirtualBox:~/html$ python3 lab6.py
i-088748adb6317e099
13.211.238.166
isaac@isaac-VirtualBox:~/html$ python3 lab6.py
i-0b6ea84980d096eb3
3.25.109.167
isaac@isaac-VirtualBox:~/html$
```

2.2 Create Load Balancer and Target Group

```
import boto3

client = boto3.client('elbv2')
client.create_load_balancer(
    Name='23019722',
    Subnets= ['subnet-2a20f762','subnet-69a1040f'],
    SecurityGroups=['sg-0c08b9c87f1035ba3'],
    Scheme='internet-facing',
    Tags=[
        {
            'Key': 'Name',
            'Value': '23019722'
        },
    ],
    Type='application',
    IpAddressType='ipv4'
)

client.create_target_group(
    Name='23019722',
    Protocol='HTTP',
    Port=80,
    VpcId='vpc-38e71a5e',
    HealthCheckProtocol='HTTP',
    HealthCheckEnabled=True,
    HealthCheckPath='HTTP:80/polls',
    TargetType='instance',
    Tags=[
```

```
        {
            'Key': 'Name',
            'Value': '23019722'
        },
    ]
)
```

2.3 Register Targets

```
import boto3

client = boto3.client('elbv2')

client.register_targets(
    TargetGroupArn='arn:aws:elasticloadbalancing:ap-southeast-
2:622578507161:targetgroup/23019722/1f1853c33f6f6918',
    Targets=[
        {
            'Id': 'i-088748adb6317e099'
        },
        {
            'Id': 'i-0b6ea84980d096eb3'
        },
    ]
)
```

2.4 Create Listener

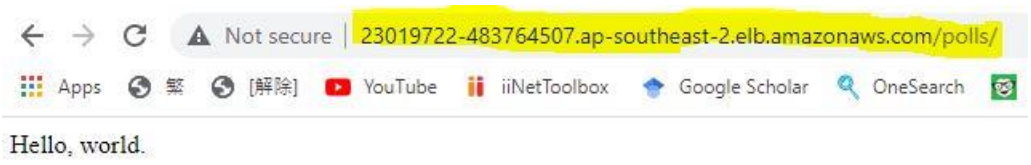
```
import boto3

client = boto3.client('elbv2')

client.create_listener(
    LoadBalancerArn='arn:aws:elasticloadbalancing:ap-southeast-
2:622578507161:loadbalancer/app/23019722/6dc663d9b9b98d1b',
    Protocol='HTTP',
    Port=80,
    DefaultActions=[
        {
            'Type': 'forward',
            'TargetGroupArn': 'arn:aws:elasticloadbalancing:ap-
southeast-2:622578507161:targetgroup/23019722/1f1853c33f6f6918',
```

```
        }
    ],
    Tags=[
        {
            'Key': 'Name',
            'Value': '23019722'
        },
    ]
)
```

2.5 Access the Site via Load Balancer DNS



Hello, world.