Create EC2 and Load Balancer

This is a simple EC2 with an apache web server installed. The webserver is accessable behind a load balancer.

Requirements

This demo requires the VPC with pub to priv cidr installed from service catalog.

- transit gateway from SC for ocelot (Mulesoft is not required for this doc but is a separate gateway)

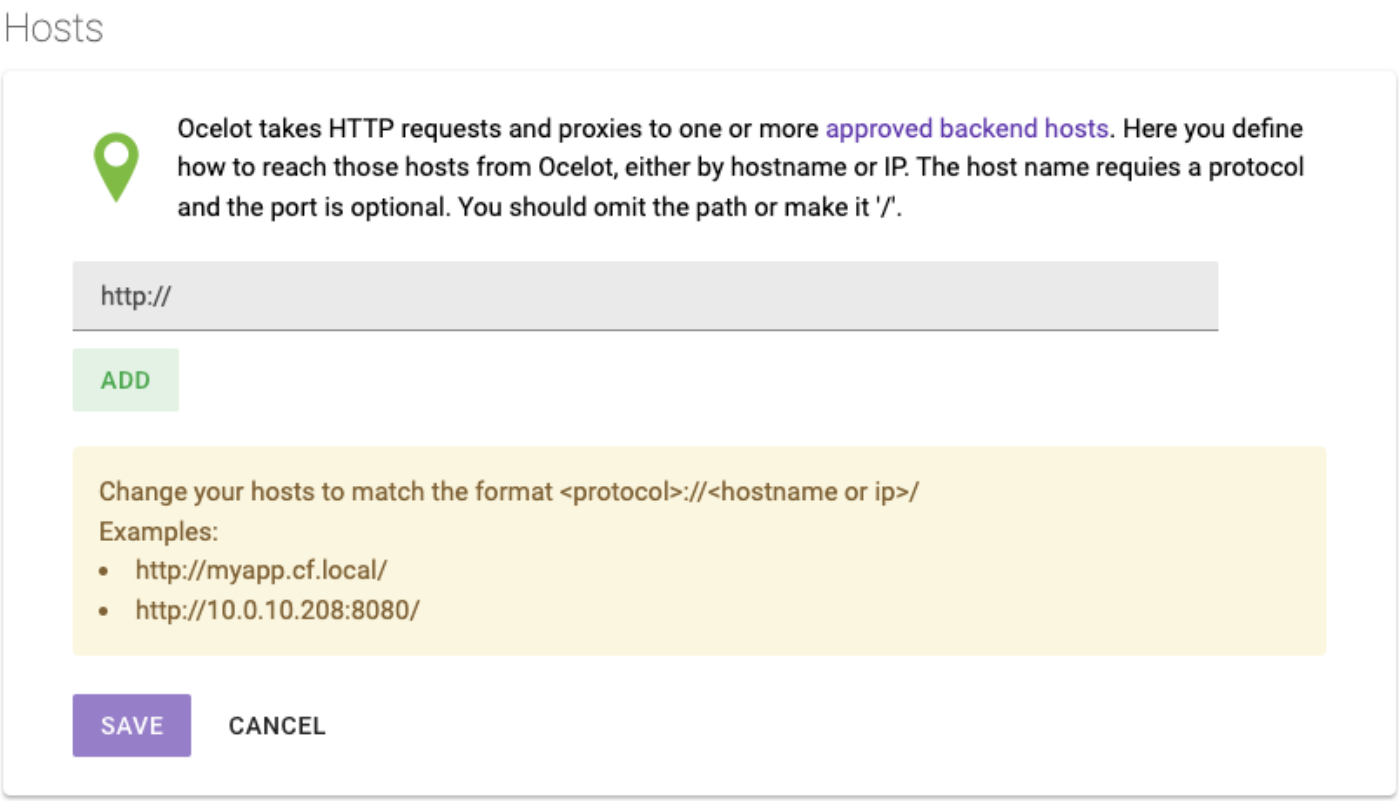
Ocelot

Setup ocelot to proxy traffic. Add the route name to Ocleot and route ownership group.

- route name: nginx-mike.velocity.ag
- route ownership: We use `API DSS` but your devloper group will be different.

Add a host name, such as `https://nginx-mike.fargate.722540083300.cloud.bayer.com`

- host `http://<application-name><.fargate.722540083300><.cloud.bayer.com>`
  - application-name can be whaterver you want
  - `722540083300` is the AWS account number
  - always use `.cloud.bayer.com`



> Ocelot takes HTTP requests and proxies to one or more approved backend hosts. Here you define how to reach those hosts from Ocelot, either by hostname or IP. The host name requies a protocol and the port is optional. You should omit the path or make it '/'.

Ocelot Route key

A route key has been generated for your route: `nginx-mike.velocity.ag`

Please save this key, as it will not be available again. If you lose this key you will need to generate a new one.

Ocelot will send this key with all routed requests in the ocelot-route-key header. At your target, you can use this key to validate that the call did originate from a valid route definition in Ocelot.

Save key from ocelot `569d7b80-74d9-11ed-bf2e-9fefebdc0ebb`

Install EC2

Install EC2. I use `Ubuntu 20.04` and attach the VPC SG.

The VPC SG is typically listed as `default` but verify, when there are multiple VPCs in the account. The inbound and outbound rules for this SG allow all traffic. This will allow the ALB SG created by the fargate-infra product to connect to our EC2.

Apache

Install apache webserver in the EC2 bootstrap script

```
#!/bin/bash

sudo apt update -y
sudo apt install -y apache2 nano
sudo systemctl start apache2
sudo systemctl enable apache2 ## enable apache to load on boot


yum update -y
yum install httpd -y
systemctl start httpd
systemctl enable httpd
```

Connect to EC2 secure session manager. Make sure apache is running.

```
bash
sudo -u ubuntu -i

## sudo systemctl status apache2 ## check web server
## hostname -I ## copy and check addressess in browser
## curl -4 icanhazip.com ##  Icanhazip tool, which should give you your public IP addres
## sudo ufw status  ## Verify http traffic is allowed
```

Security Groups

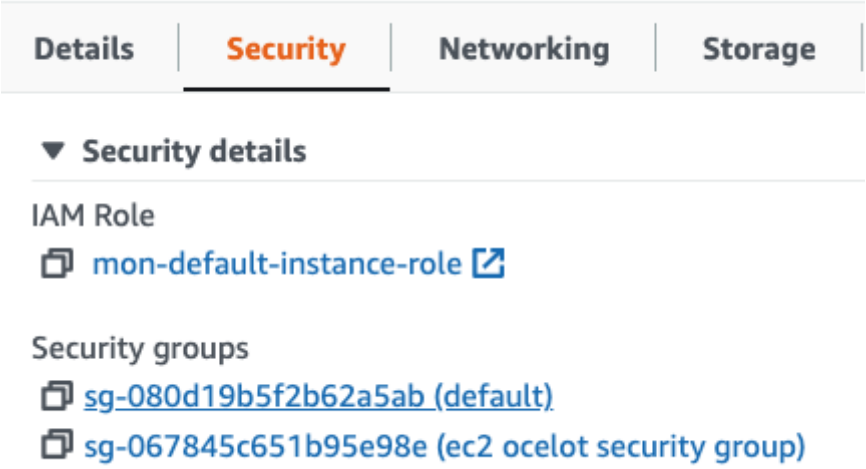
Virtual firewall to allow EC2 and LB to proxy through Ocelot

1. Default VPC SG
   2.Create SG to allow proxy Ocelot/Mulesoft/Akana

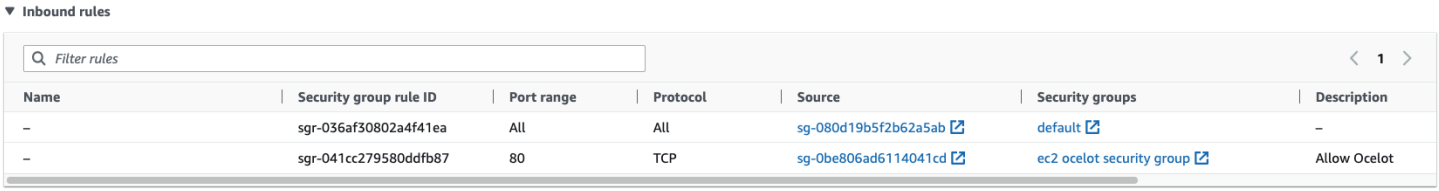
- Outbound rules `All traffic` All `Protocol` , All `Ports` and Destination `0.0.0.0/0`
- Inbound rules require port 443
  - Mulesoft CIDR `10.70.200.0/21`

- Ocelot CIDR `10.62.21.0/24`
- Akana CIDR `192.168.0.0/24`
- This SG ID = `sg-0be806ad6114041cd`

Open EC2 and add SG `sg-0be806ad6114041cd` to network interface. Now our EC2 has two SGs.

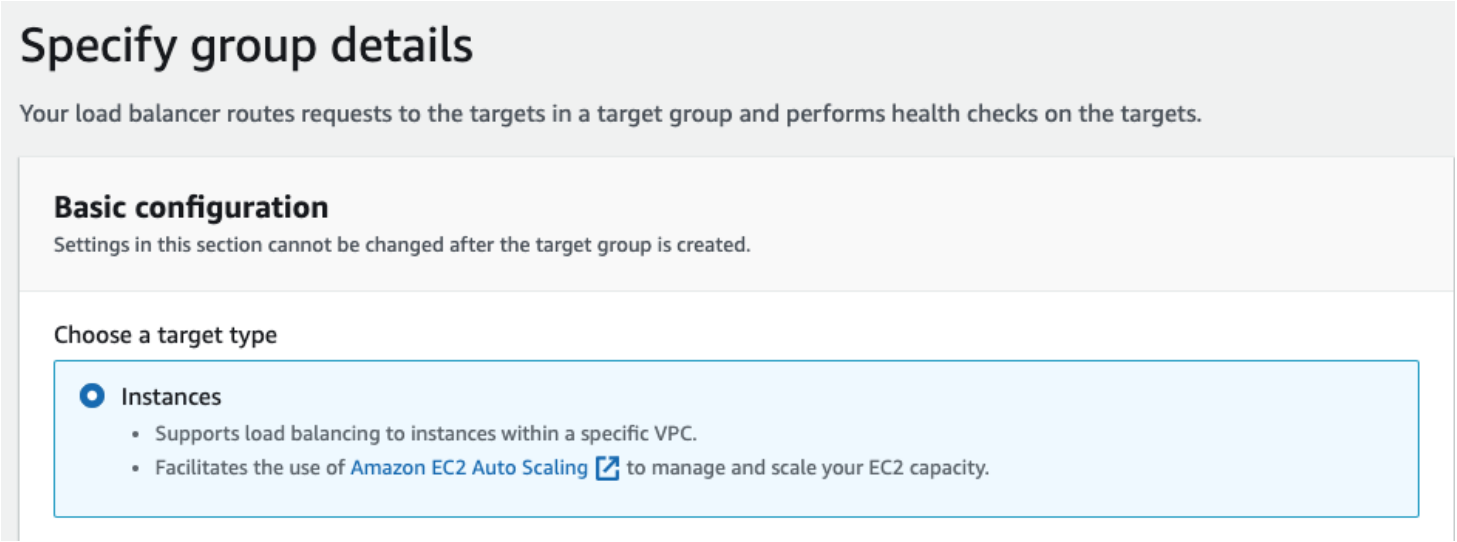


The inbound rules of the EC2 should look like this.



Create Target Group

Add the "instances" for target type.

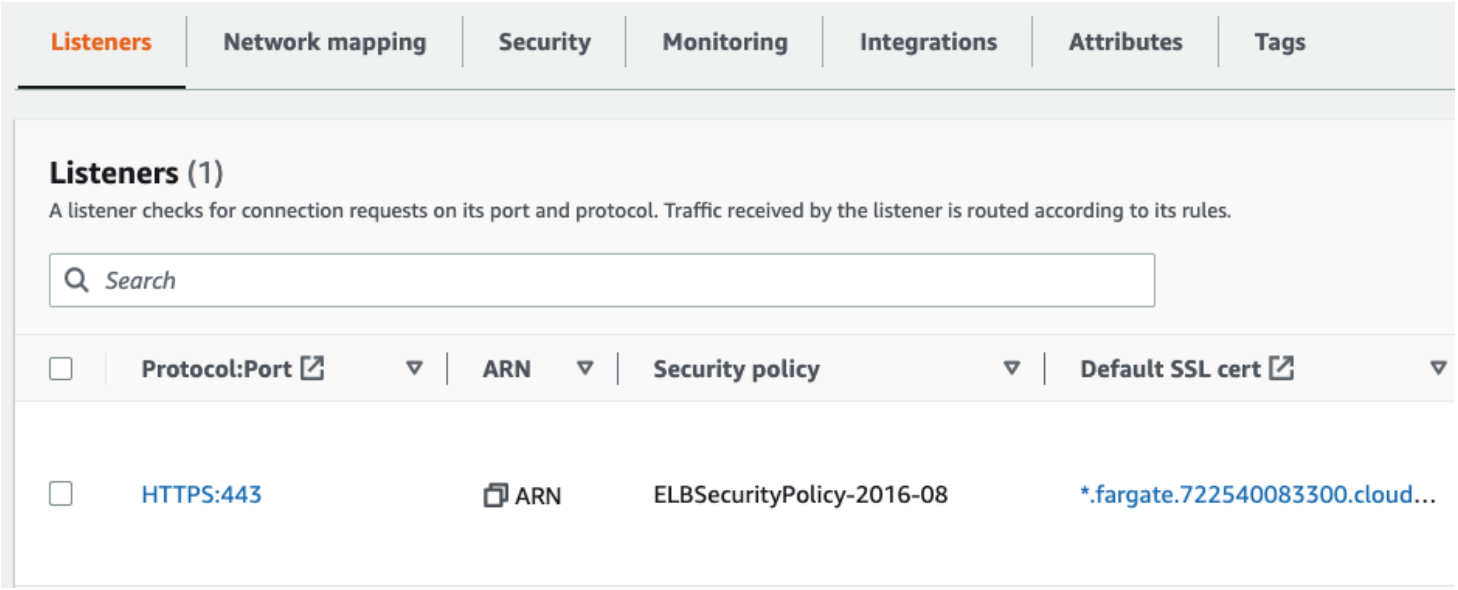


- Target group name `apache-target-group`
- Add VPC in account

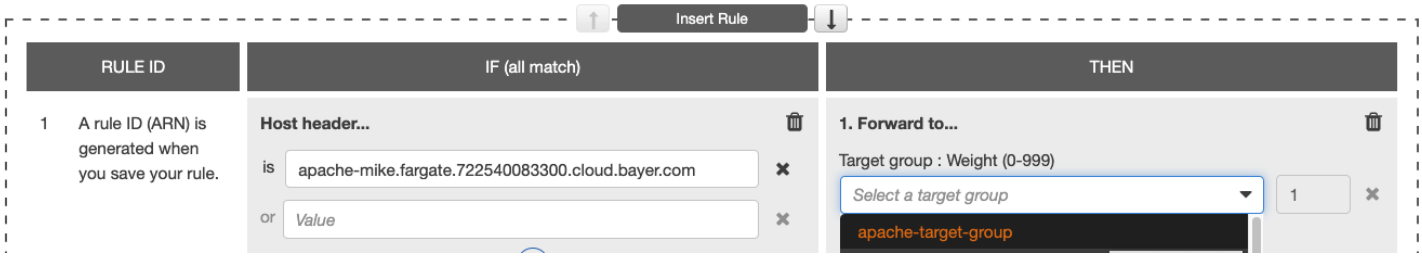
Register target to complete this step.

Load Balancer

Edit listener



Select "Manage Rules" to edit the Listener


Insert Rule
RULE ID
IF (all match)
THEN
1
A rule ID (ARN) is generated when you save your rule.
Host header...
is
apache-mike.fargate.722540083300.cloud.bayer.com
or
Value
1. Forward to...
Target group : Weight (0-999)
Select a target group
1
apache-target-group