AWS: Use of an Elastic Load Balancer

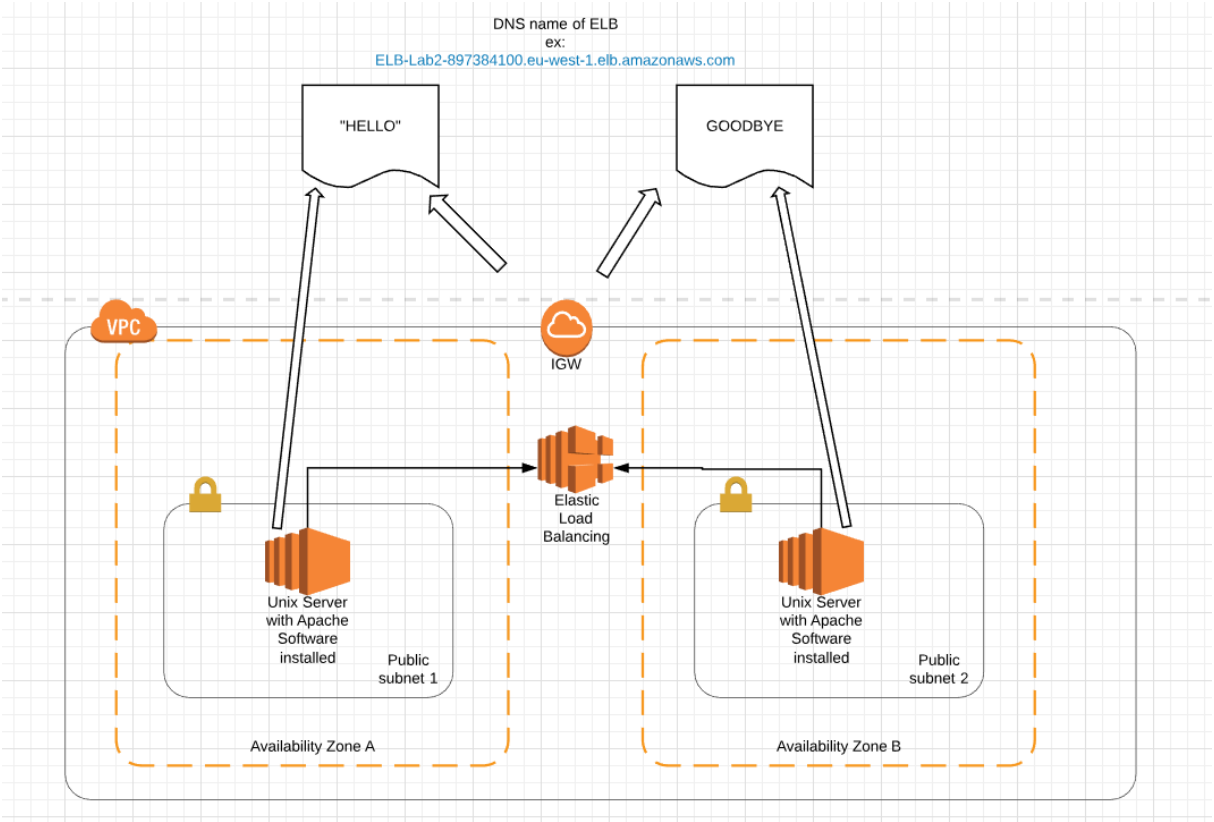
Goal :

Create an architecture, with 2 instances in 2 different subnets.

Each EC2 is an Apache Web Server, with a different content, managed by an ELB.

On the Web Brower, according to the refresh, we will the content of one Server or the content of the other.

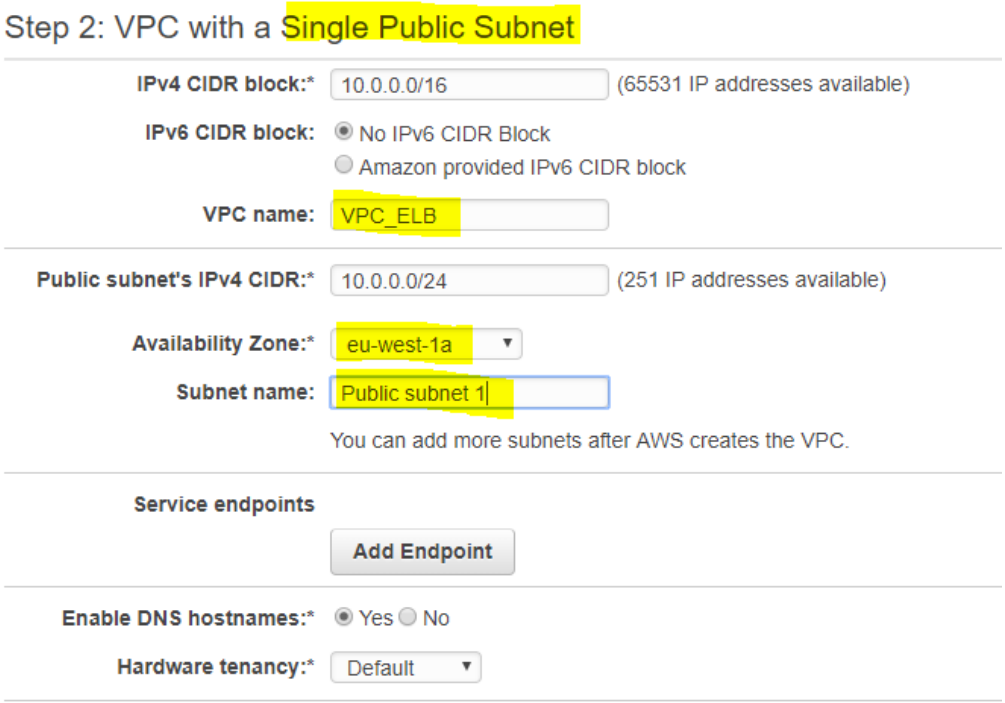
Architecture looks like as below:



Step 1: Create the VPC with the 2 Subnets

- **VPC -> Start VPC Wizard**

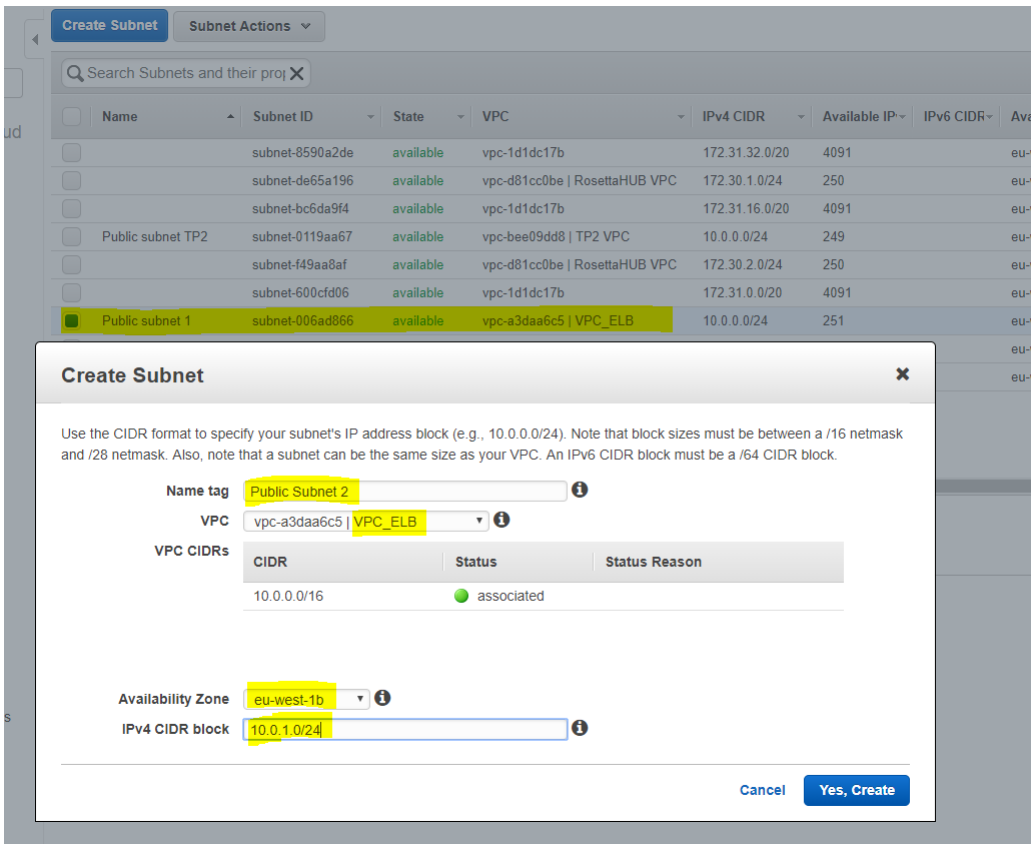
  Select VPC Configuration: VPC with a Single Public Subnet



Step 2: Add the second Public Subnet

- **Subnet -> Create Subnet**

In the correct VPC, and in a different AZ than the “Public Subnet 1”



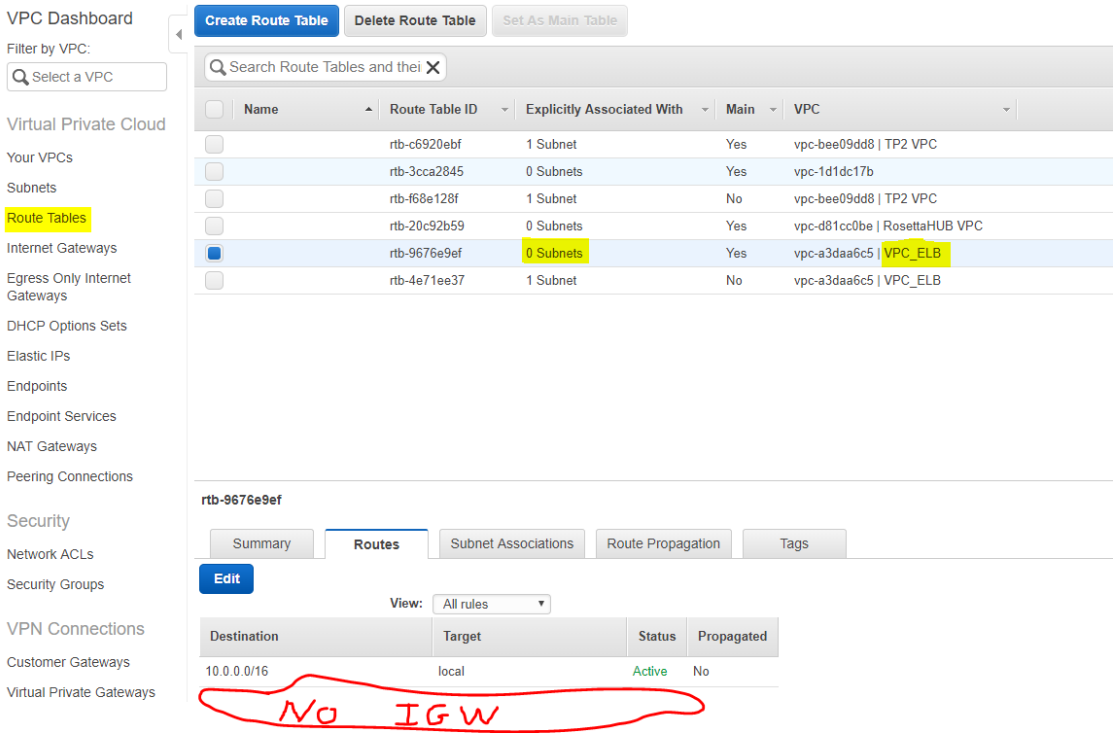
Step 3: Attach the 2nd subnet to the IGW, to be able to communicate with outside

By default, the Public Subnet just created is not connected to an Internet Gateway.

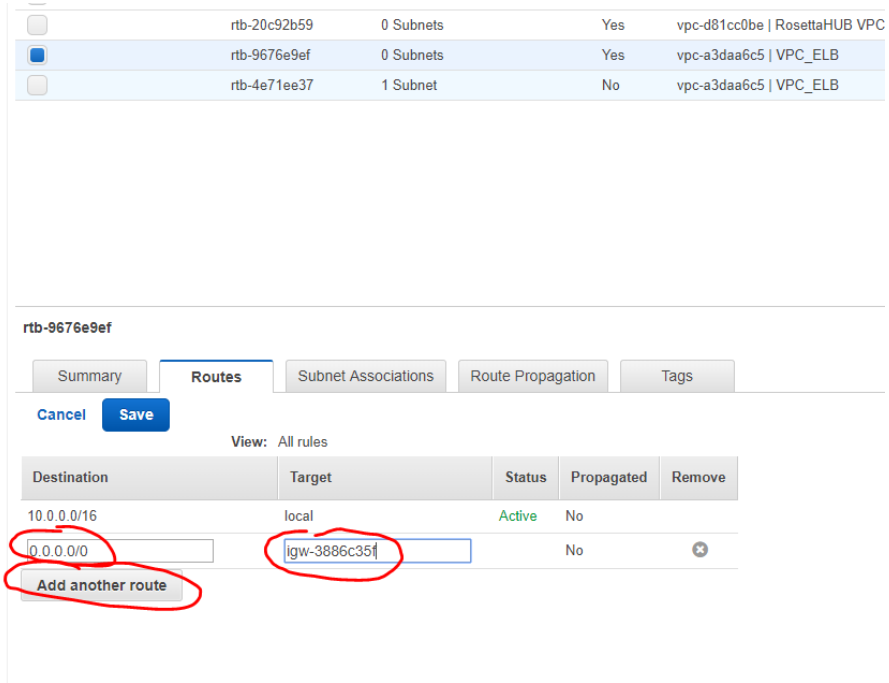
We have to configure it manually.

To do this:

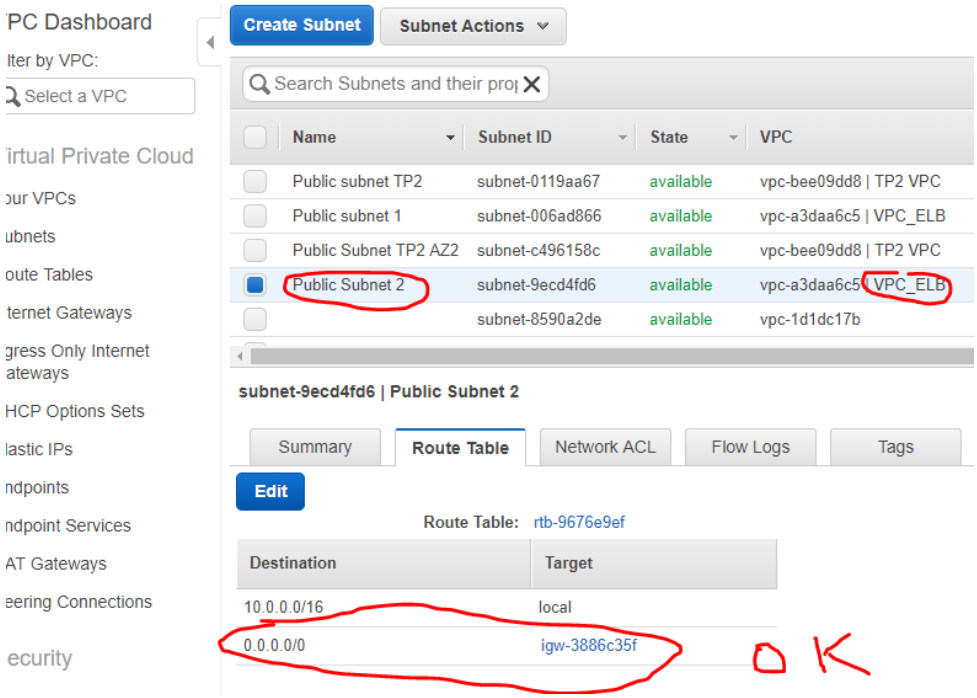
- go to Route Table on the right Dashboard.
- Select the Route of our "VPC_ELB", which is not associated to a Subnet: "Explicit Associated With 0 Subnets" or Main to "yes"



- Add another Route



- Check if “Public Subnet 2” is now correctly associated to IGW



Step 4: Create the 1st Instance (in Public Subnet 1) with Apache Server

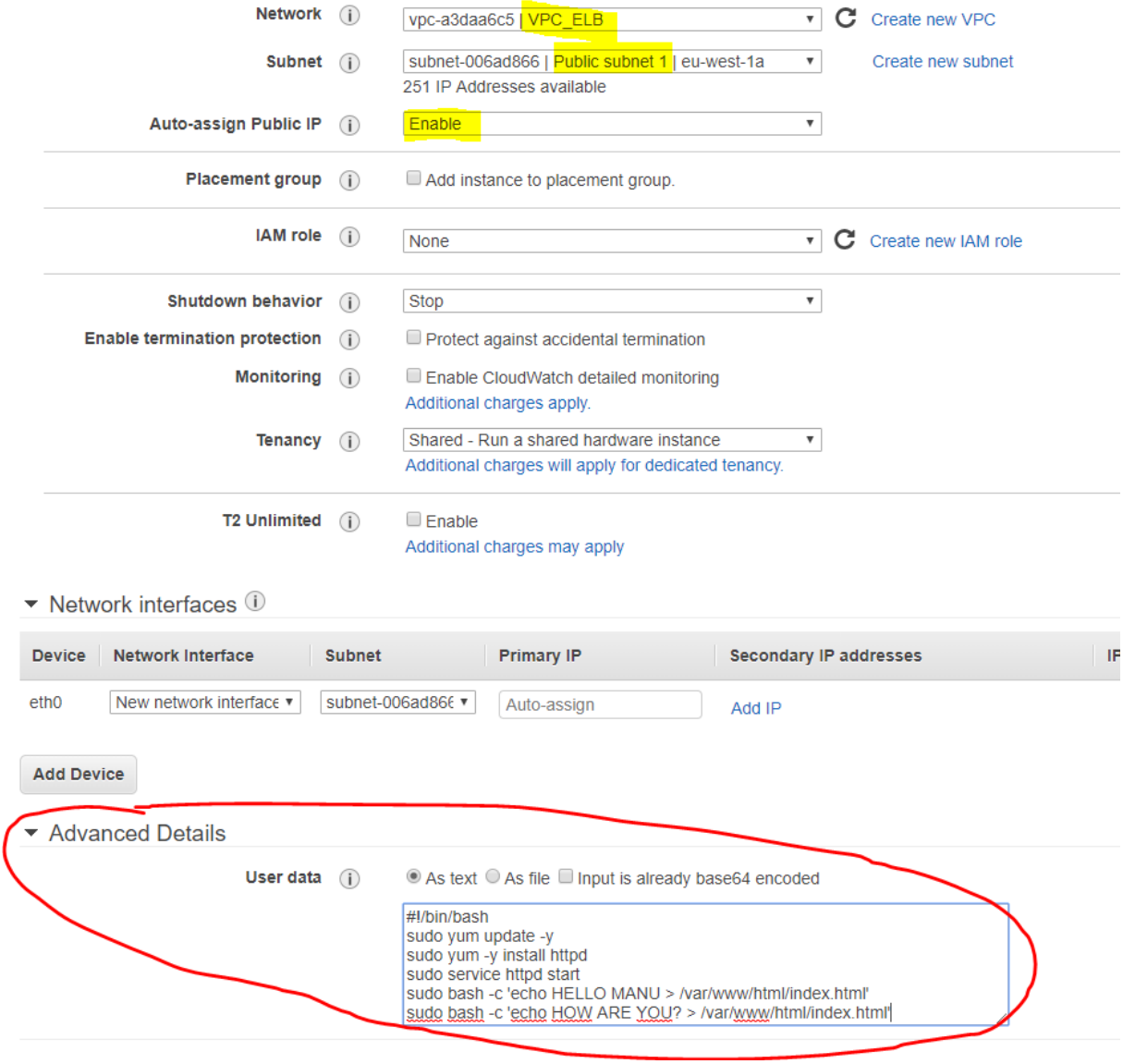
In the AWS console:

- Services -> EC2
- Launch Instance
- Step 1: Choose an Amazon Machine Image (AMI) -> Amazon Linux AMI
- Step 2: Choose an Instance Type -> t2.micro
- Step 3: Configure Instance Details : as below
  Do Not Forget to set the “Advanced Details” section, with following text, in order to install Apache:

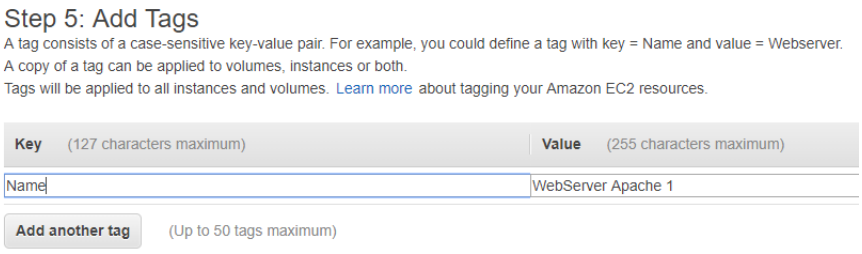
```
#!/bin/bash
sudo yum update -y
sudo yum -y install httpd
sudo service httpd start
sudo bash -c 'echo HELLO MANU > /var/www/html/index.html'
sudo bash -c 'echo HOW ARE YOU? >> /var/www/html/index.html'
```

This code allows to install Apache.

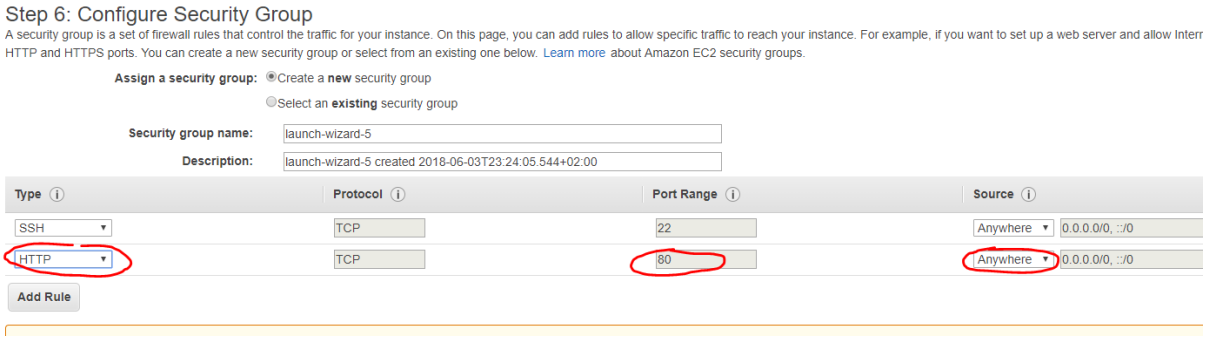
Step 3: Configure Instance Details



- Step 4: Add Storage -> Next
- Step 5: Add Tags :



- Step 6: Configure Security Group : Add Rule, to allow set up your web server: port HTTP



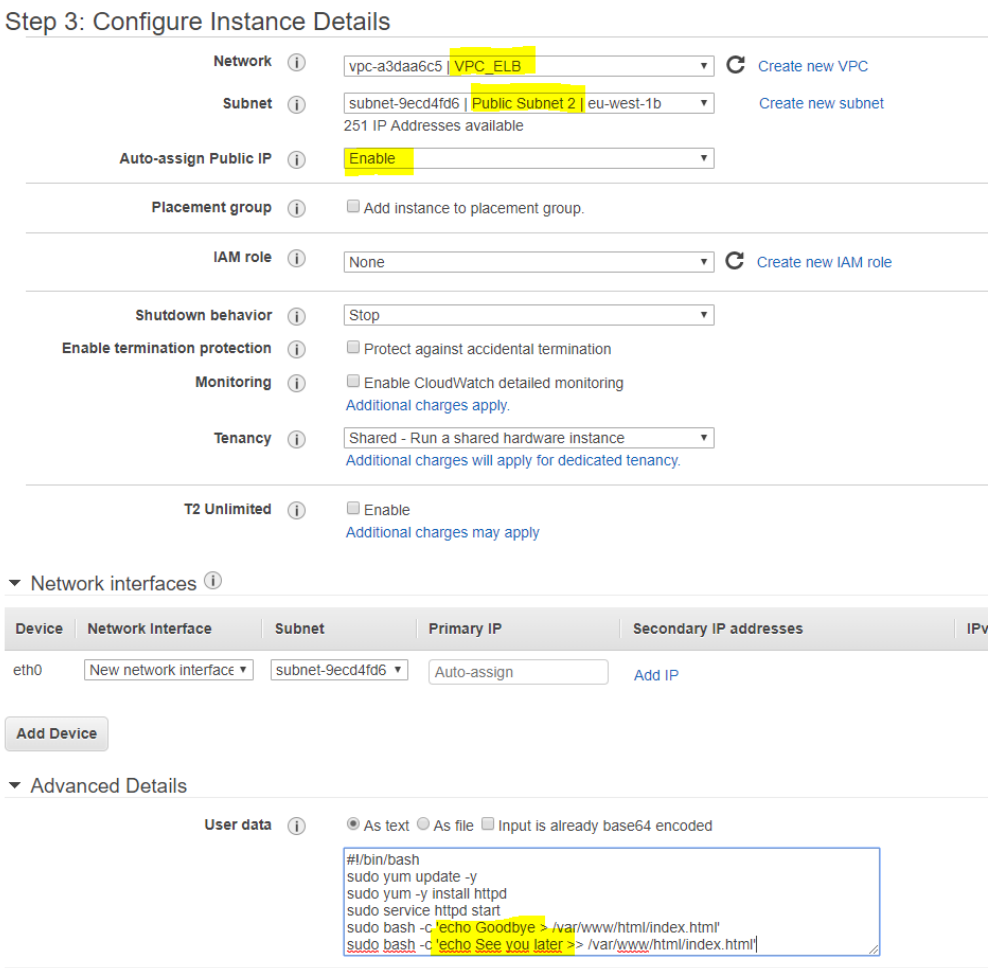
- Step 7: Review Instance Launch

  Select an existing key pair or create a new one

  And Launch Instances

Step 5: Create the 2nd Instance (in Public Subnet 2) with Apache Server

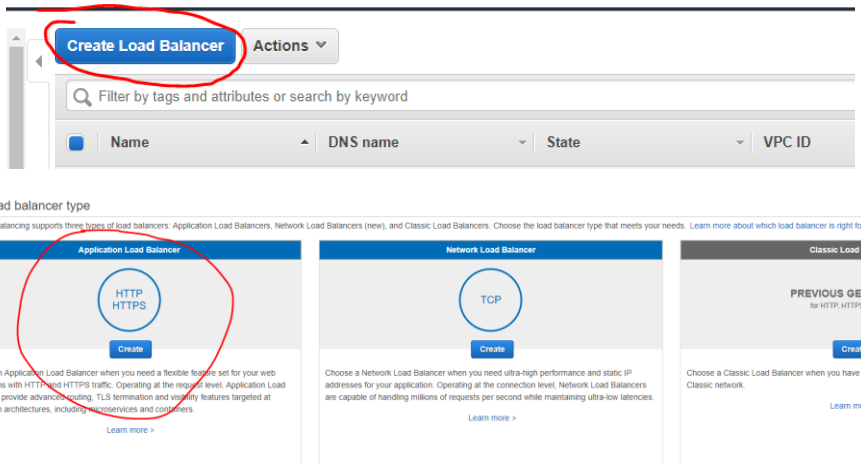
Repeat the same steps than **Step 4,** but for the Public Subnet 2, and specify a different message printed on your web server, to differentiate when we will refresh



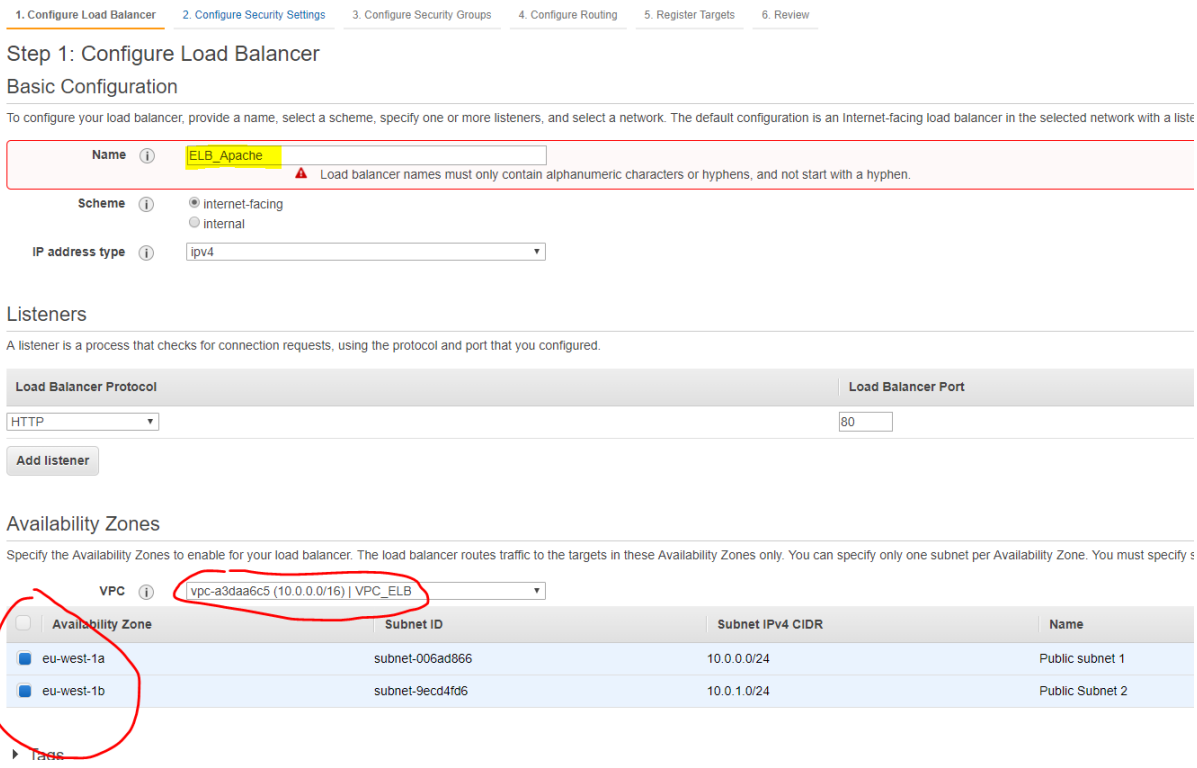
Step 6: Create and Configure ELB

In the AWS console, on EC2 Dashboards, Select Load Balancers

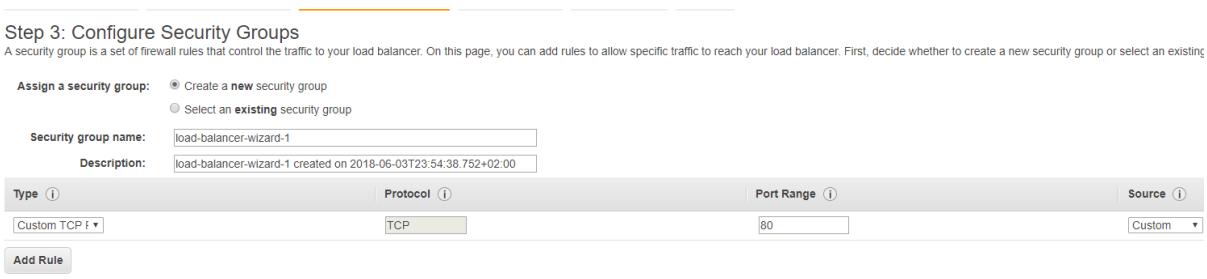
- And Create Load Balancer



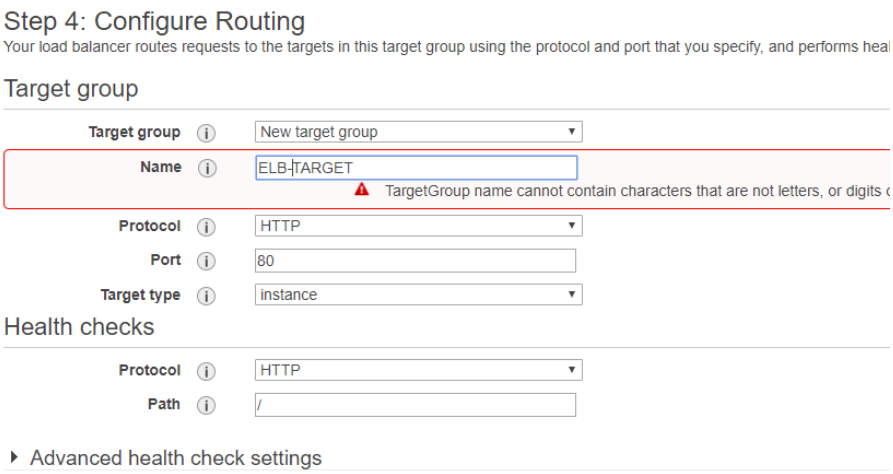
- And Configure as snapshot below, mainly the Availability Zones and the 2 Subnets:



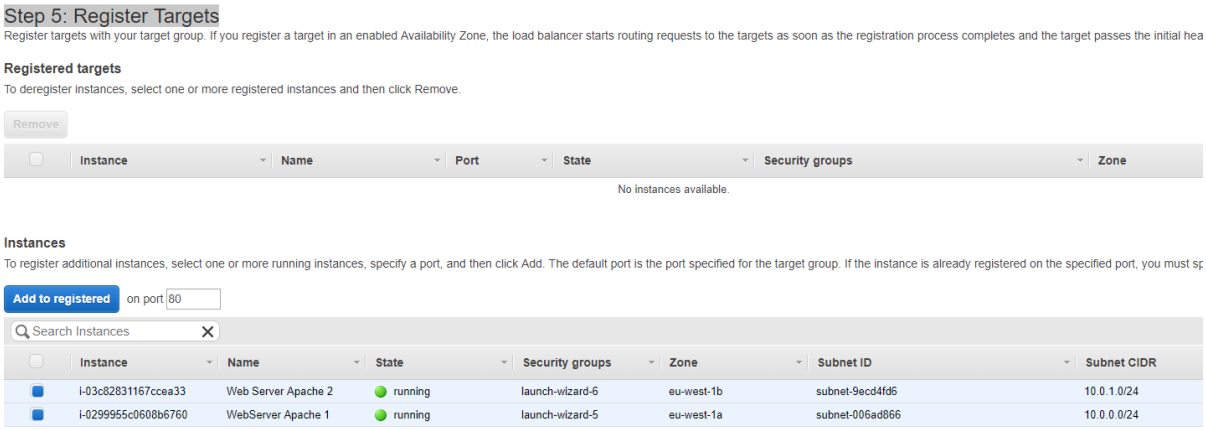
- Configure Security Groups



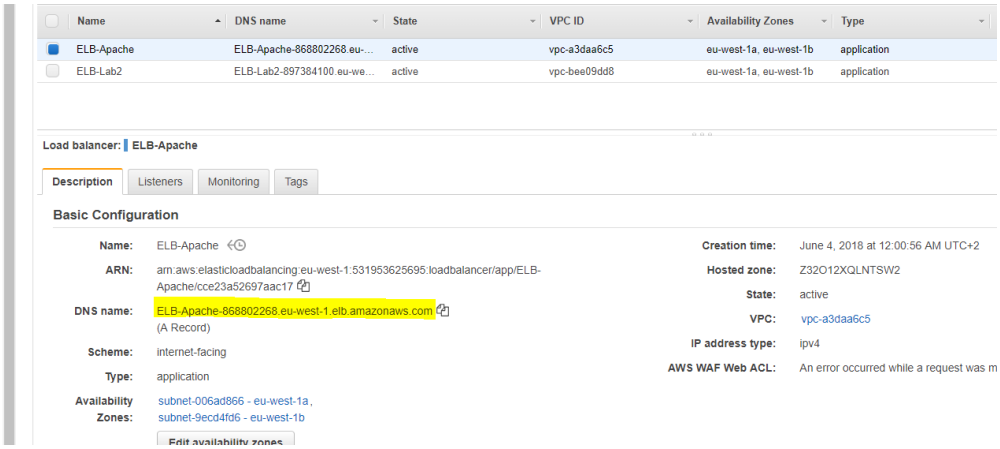
- Configure Routing, as default:



- Register Targets: Add our 2 instances in the target group



Step 8: Open in a new web Brower, the DNS of the ELB just created:



Here we go:

After few refresh