TP AWS : Architecture & WEB Server integration

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Introduction

TP Architecture & WEB Server integration

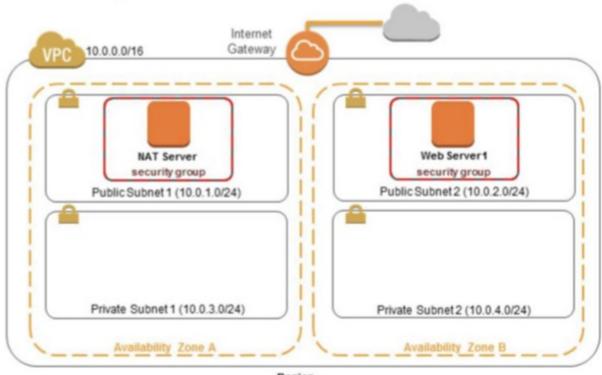
Part 1: Lab Connection

Region: Ireland

Group: Lab_Student_3

Part 2: Lab Connection

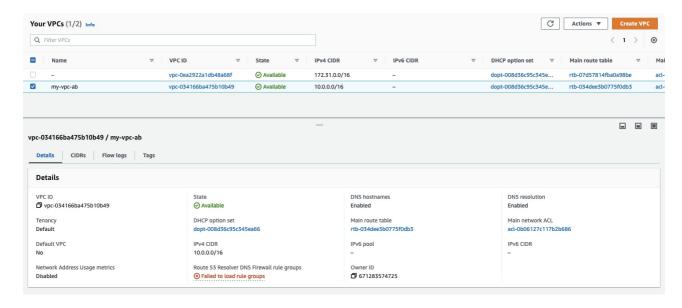
Architecture



Region

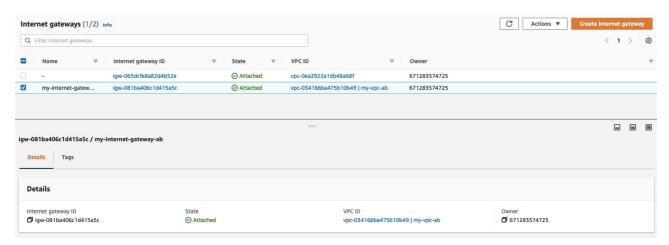
2.1 : Create a VPC

name: my_vpc_ab



2.2 : Create a Gateway

name: my_igw_ab



2.3 : Create a Subnet

names:

- my_private_subnet_ab-01
- my_private_subnet_ab-02
- my_public_subnet_ab-01
- my_public_subnet_ab-02

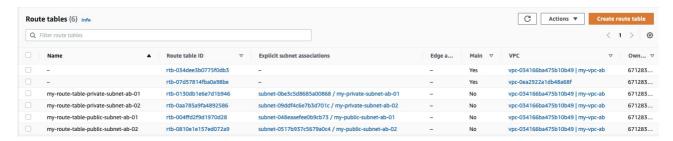
my-private-subnet-ab-01	subnet-0be3c5d8685a00868	vpc-034166ba475b10b49 m	10.0.3.0/24
my-private-subnet-ab-02	subnet-09ddf4c6e7b3d701c	vpc-034166ba475b10b49 m	10.0.4.0/24
my-public-subnet-ab-01	subnet-048eaaefee0b9cb73	vpc-034166ba475b10b49 m	10.0.1.0/24
my-public-subnet-ab-02	subnet-0517b937c5679a0c4	vpc-034166ba475b10b49 m	10.0.2.0/24

2.4 : Create a Route Table

names:

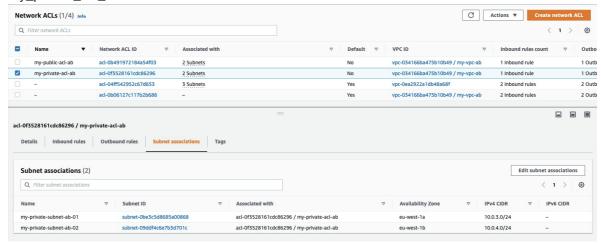
- my_route_table_private_subnet_ab-01
- my_route_table_private_subnet_ab-02
- my_route_table_public_subnet_ab-01

• my_route_table_public_subnet_ab-02

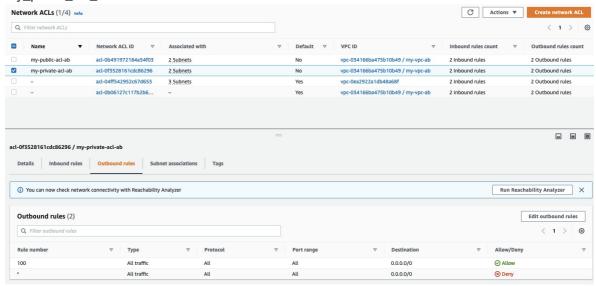


2.5 : Create ACL

my_private_acl_ab



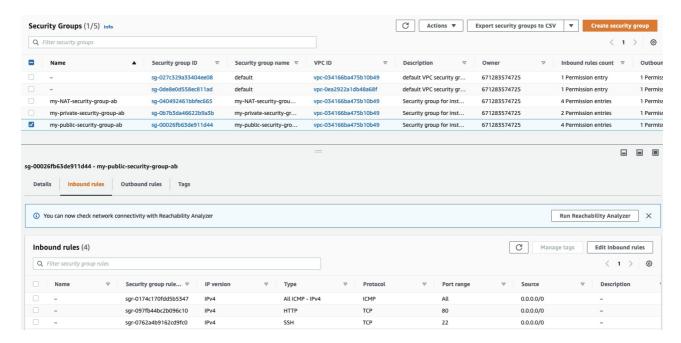
my_public_acl_ab



2.6 : Create a Security Group

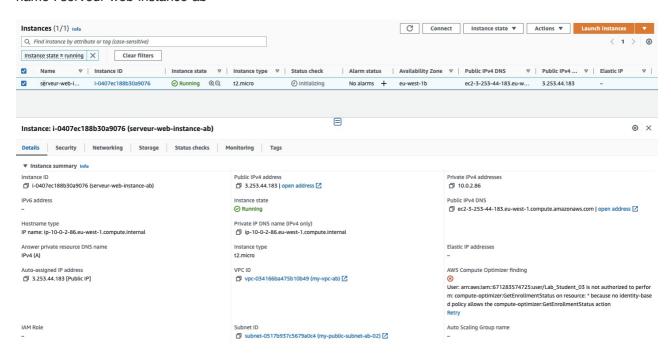
names:

- my_private_security_group_ab
- my_public_security_group_ab



2.7 : Create a AMI

name: serveur-web-instance-ab



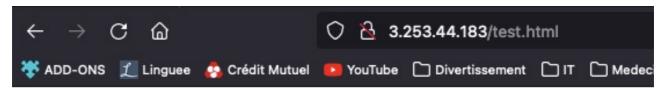
ssh connection to the AMI:

```
M2/Semestre_9/Virtual_Network

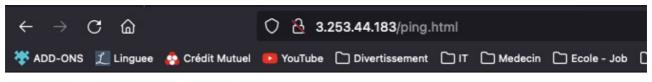
) ssh -i "AMI2-instance_ab.pem" ec2-user@ec2-3-253-44-183.eu-west-1.compute.amazonaws.com
Last login: Tue Jan 31 10:32:04 2023 from 150.166.65.37.rev.sfr.net

__| __| __| __|
__| _| _/ Amazon Linux 2 AMI
___|\__| _| _| https://aws.amazon.com/amazon-linux-2/
31 package(s) needed for security, out of 54 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-10-0-2-86 ~]$
```

Pages result (test.html & ping.html):

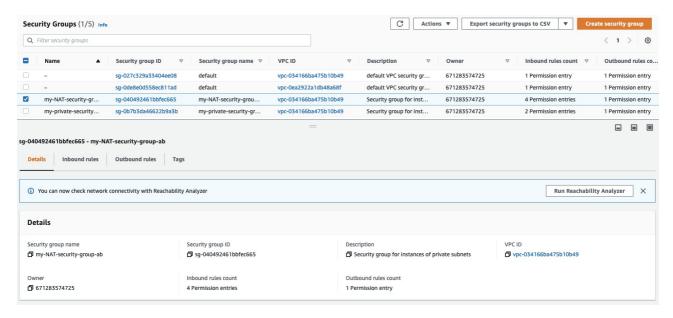


Cette page est une page toute simple du serveur



Si vous lisez cette ligne le test est réussi !!!

2.8 : Create a NAT Group



2.9 : Create a NAT Instance

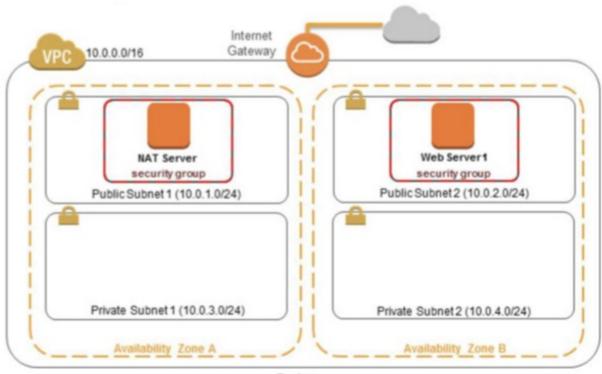
A bastion is a server that is accessible from the internet and that is used to access a private network. It is a security best practice to use a bastion to access a private network.

Ping resutl:

```
[ec2-user@ip-10-0-2-86 ~]$ ping 10.0.1.156
PING 10.0.1.156 (10.0.1.156) 56(84) bytes of data.
64 bytes from 10.0.1.156: icmp_seq=1 ttl=255 time=0.674 ms
64 bytes from 10.0.1.156: icmp_seq=2 ttl=255 time=0.697 ms
64 bytes from 10.0.1.156: icmp_seq=3 ttl=255 time=0.744 ms
64 bytes from 10.0.1.156: icmp_seq=4 ttl=255 time=0.709 ms
^C
--- 10.0.1.156 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3064ms
rtt min/avg/max/mdev = 0.674/0.706/0.744/0.025 ms
[ec2-user@ip-10-0-2-86 ~]$
```

Part 3: Load Balancer & Auto Scaling

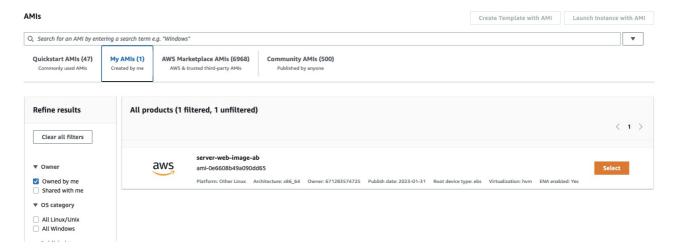
AWS Architecture



Region

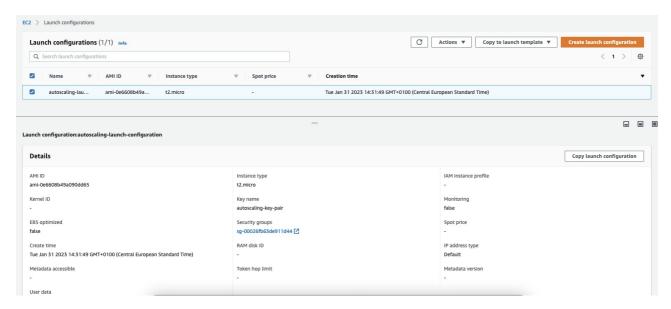
3.1 : Create a AMI

Create a AMI from the web server instance created in part 2.7



3.2 : Create a configuration template

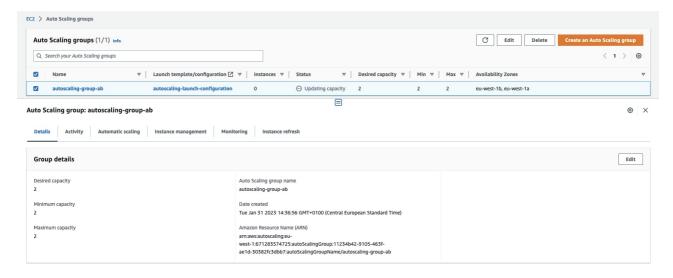
name: autoscaling_launch_configuration_ab



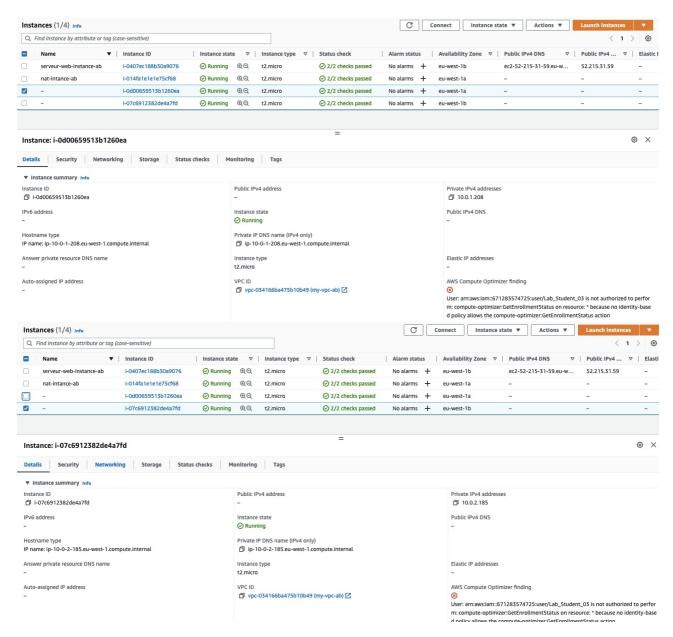
3.3 : Create a Auto Scaling Group

name: autoscaling_group_ab

Configuration with 2 instances MIN/MAX

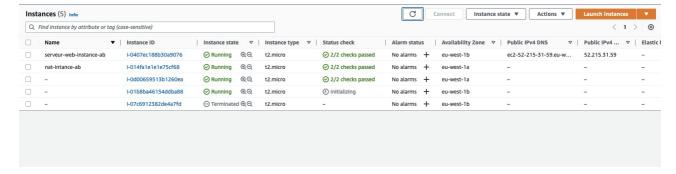


Instance creation verification:



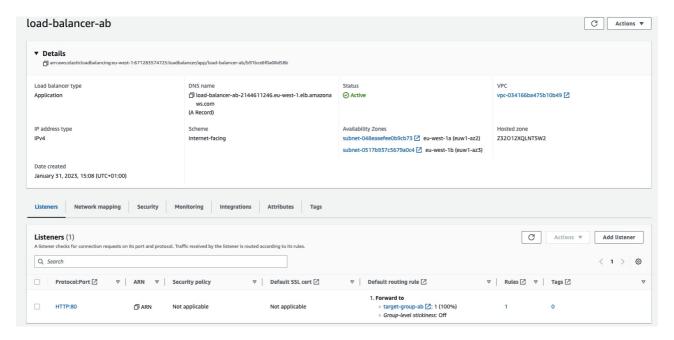
Try to delete one instance:

a new instance has been created

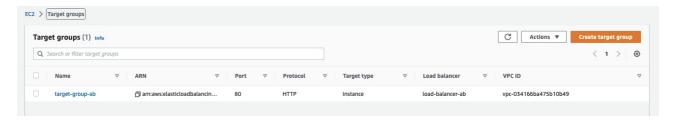


3.4 : Create a Load Balancer

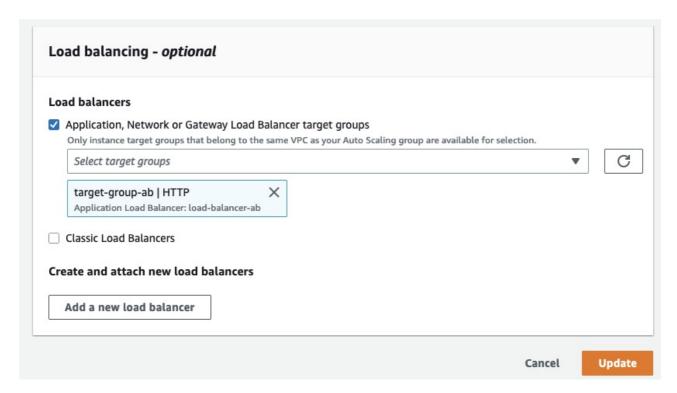
name: load_balancer_ab



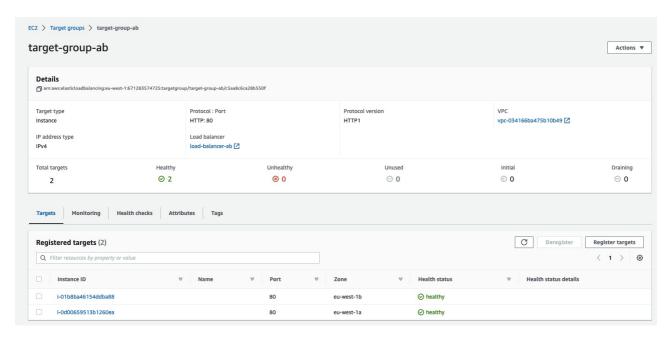
target group creation:



3.5 : Add Target Group to Load Balancer

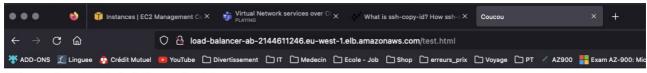


Health check:

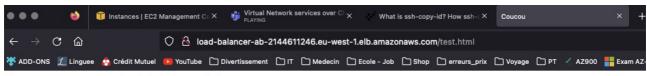


3.6: Test Load Balancer

After customizing the test.html page, we can test the load balancer :



Cette page est une page toute simple du serveur Je suis 1



Cette page est une page toute simple du serveur Je suis 2