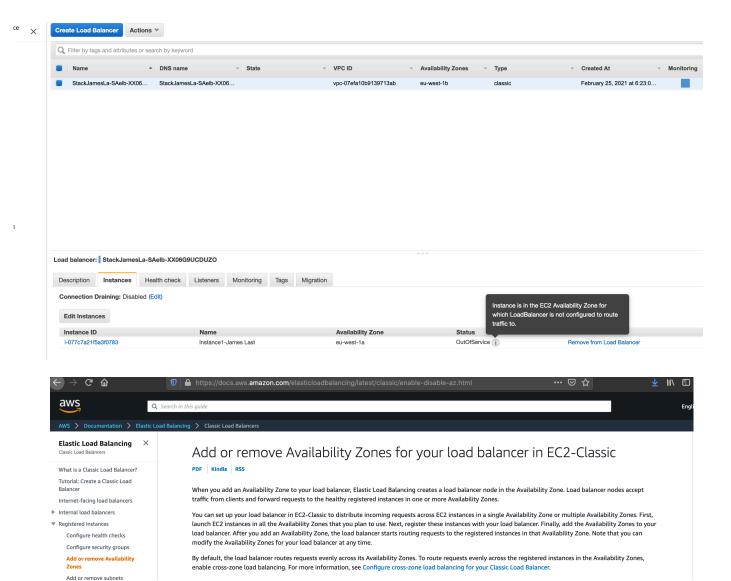
## a) Troubleshoot the implementation

1) Elastic Load Balancer not configured correctly

See status 'OutOfService' = "Instance is in the EC2 Availability Zone…." VPC has two public subnets (PublicSubnetB, PublicSubnetA), one in each AZ (eu-west-1a, eu-west-1B), however, only one of the two AZ (b) initially registered in ELB (see <a href="https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/enable-disable-az.html">https://docs.aws.amazon.com/elasticloadbalancing/latest/classic/enable-disable-az.html</a>



## 2) ELB Health check

...configured to health check against port 443 (http\_s), however, web server on EC 2 instance listening only on 80 (http). Hence health check failing. Solution -> edit health check in ELB to use port 80 instead of 443.

## 3) a) and b) Security Group (SG) f-ups

Note: Security Group = firewalls attached to instances (instance e.g. a VM of a load balancer instance)

ELB (Elastic Load Balancer has SG ELBSecurityGroup attached.

The Web Server (EC2 instance=VM) has SG AppServerSecurityGroup attached.

Both SGs are empty, SG default behaviour = block everything unless allowed. Hence, two changes necessary:

- a) Allow traffic (HTTP=port 80) from ELB to Webserver.
- b) Allow the world (='the internet) to talk to and connect to ELB on port 80.

**N.b.** Security Groups can 'allow' as source another SGs, so to allow the ELB to talk to the Webserver on port 80, you can specify as source the SG that is assigned to the ELB (the *ELBSecurityGroup*)

