ELB (ELASTIC LOAD BALANCING)
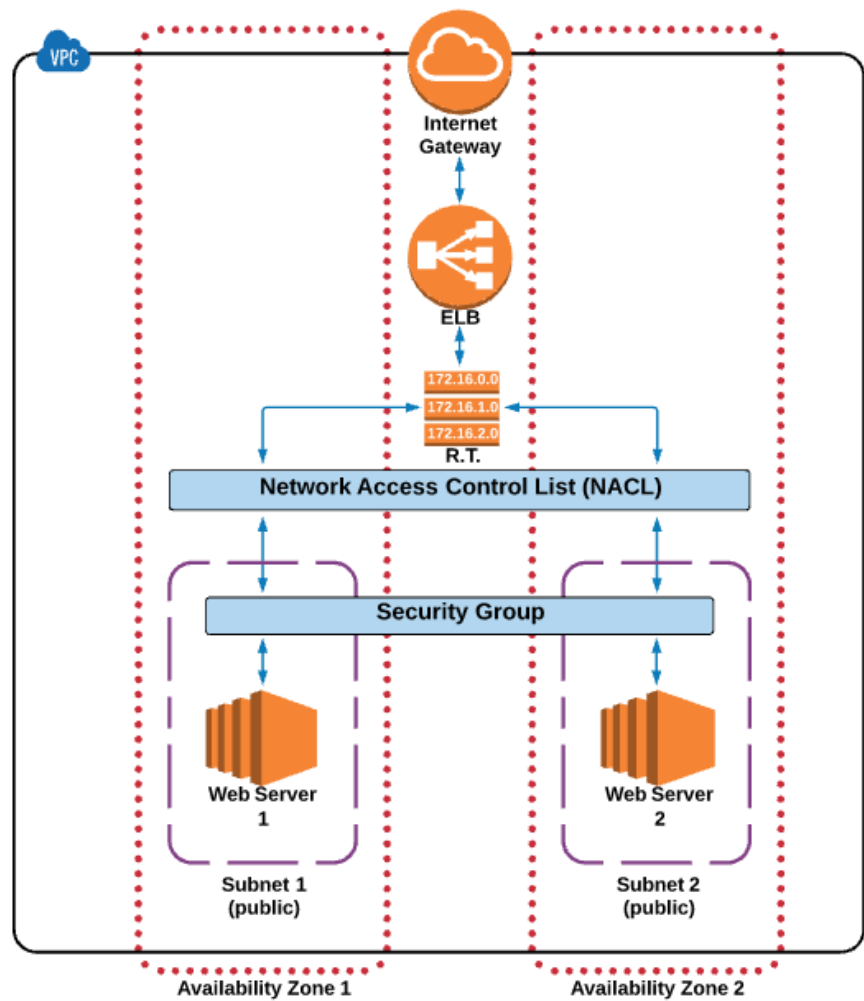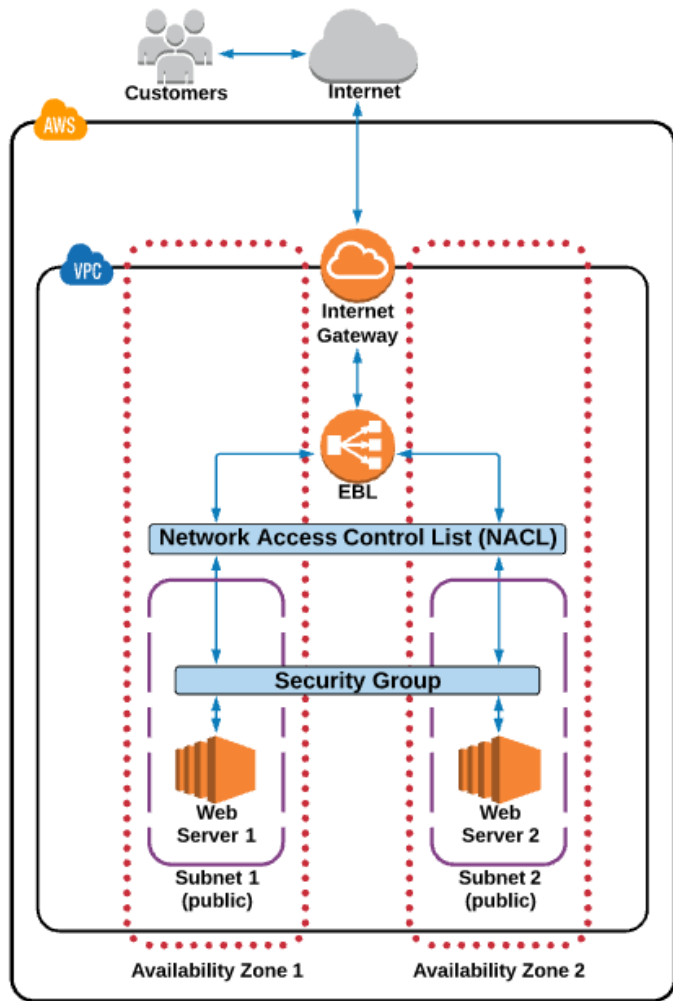
ELB = **E**lastic **L**oad **B**alancer
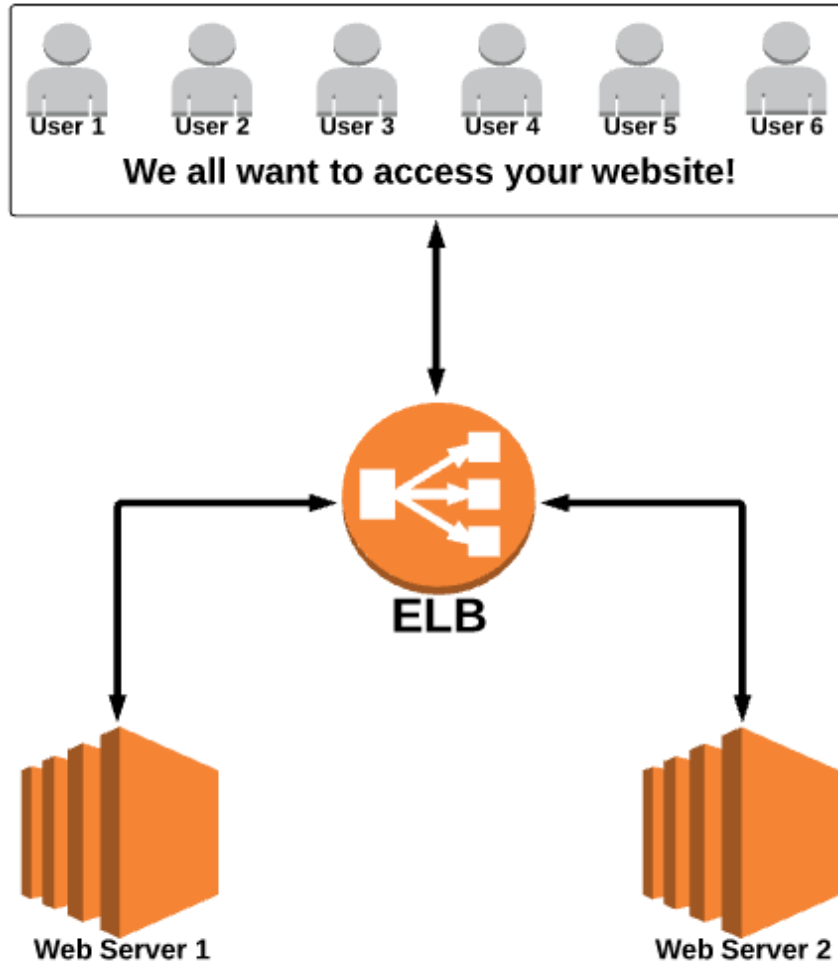
What is an Elastic Load Balancer (Classic)?

"Essentials" Definition:
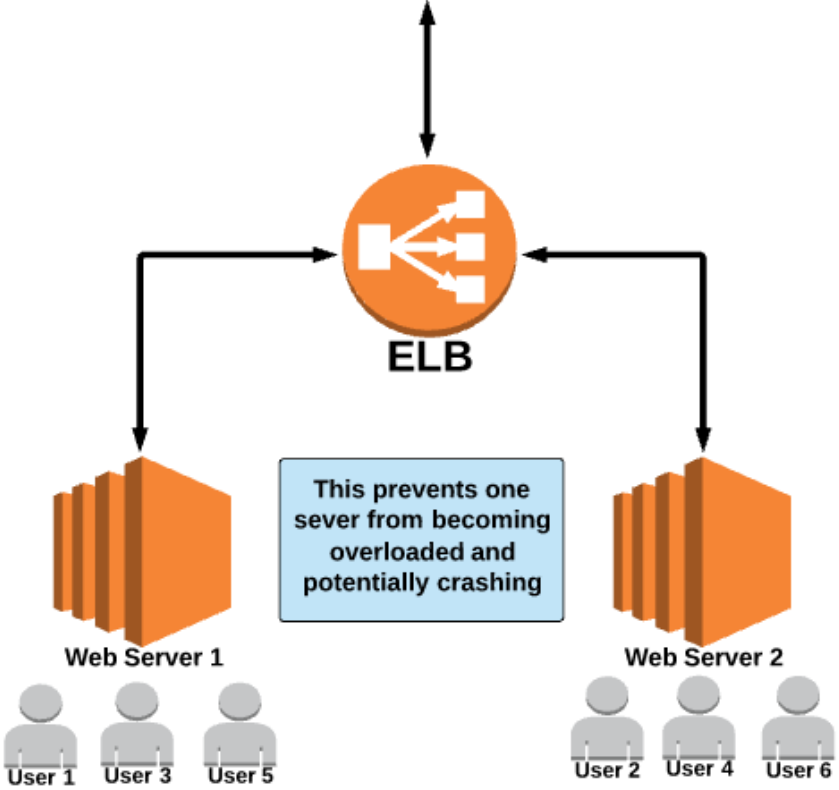An ELB evenly distribtes traffic between EC2 instances that are associated with it.

AWS Definition:
"A load balancer *distributes incoming application traffic across multiple EC2 instances in multiple Availability Zones*. This **increases the fault tolerance** of your applications. Elastic Load Balancing *detects unhealthy instances and routes traffic only to healthy instances*."

Left diagram:

Customers ↔ Internet

AWS

VPC

Internet Gateway

EBL

Network Access Control List (NACL)

Security Group

Web Server 1 — Subnet 1 (public)

Web Server 2 — Subnet 2 (public)

Availability Zone 1

Availability Zone 2

Right diagram:

VPC

Internet Gateway

ELB

172.16.0.0
172.16.1.0
172.16.2.0
R.T.

Network Access Control List (NACL)

Security Group

Web Server 1 — Subnet 1 (public)

Web Server 2 — Subnet 2 (public)

Availability Zone 1

Availability Zone 2

We all want to access your website!

ELB

Web Server 1

Web Server 2

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We all want to access your website!

ELB

This prevents one sever from becoming overloaded and potentially crashing

Web Server 1

Web Server 2

User 1   User 3   User 5

User 2   User 4   User 6

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Pricing/Cost Overview:

Free Tier use is *NOT* available for ELB.

How are you charged for using ELB?

(1) *Each hour or partial hour the load balancer is running.*

(2) *For each GB of data transfered through the load balancer.*

Note: Prices may very depending on Region.

Before doing any major usage of ELBs, you should make sure to review AWS's current pricing model to make sure you understand how much you will be required to pay.

Detailed Classic ELB pricing info:
https://aws.amazon.com/elasticloadbalancing/classic/pricing/

Classic ELB

Creating a Classic ELB:

Basic Steps:
(1) *In EC2 navigate to ELB*.

(2) *Create an ELB -> select Classic Load Balancer.*

(3) *Basic Configuration:*
 -Give the ELB a name.
 Note: If the ELB is for serving web traffic to EC2 instances, make sure ELB/instance protocol is set to HTTP AND ELB port/instance port is set to 80. If you also want to add support for HTTPS, add another protocol for HTTPS traffic (port 443).
 .
(4) *Assign Security Groups:*
 -Make sure that the security group you assign to the ELB has the approriate rules set up to allow traffic based on the protocols you selected in the previous step.

(5) *Configure Security Settings:*
 -Only applicable if you choose HTTPS as a traffic type for the ELB. In which case you need to configure additional settings (this is outside the scope of this course).

(6) *Configure Health Checks:*
 -Select a ping protocol and ping port for the ELB to use to conduct health checks on the attached EC2 instances.
 -Alter Advanced Details to increase/decrease health check thresholds.

(7) *Add EC2 Instances:*
 -Select the EC2 instances that you want the ELB to serve traffic to.
 Note: Not required during creation; you can add instances later.

(8) *Add Tags:* Add tags if you wish, but it is not required.