Bootstrap scripts
When you launch an instance in Amazon EC2, you have the option of passing user data to the instance that can be used to perform common automated configuration tasks.

```
#!/bin/bash
sudo su
yum update -y
yum install httpd -y
cd /var/www/html
echo "MyGoogle-2" > index.html
service httpd start
chkconfig httpd on
```

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A load balancer accepts incoming traffic from clients and routes requests to EC2 instances
(Targets).
The load balancer also monitors the health of its registered targets and ensures that it routes traffic only to healthy targets.
When the load balancer detects an unhealthy target, it stops routing traffic to that target. It then resumes routing traffic to that target when it detects that the target is healthy again.
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Step 1: Create Linux Machine
Launch instance --- Amazon Linux -- No of intances - 1 --- Name Tag- Lin-1 --- Security Group - web-server-SG(allow, ssh & http) ---- network settings (select 1a)
Description - demo-sg
Add Rule
HTTP
ssh

Launch

Step 2: Convert pem to ppk file or user terminal to login to the EC2.

Step 3: Access the machine

Step 4: Run the commands to install web package
sudo su
 yum update -y

```
 yum install httpd -y
cd    /var/www/html
echo "MyGoogle-1" > index.html
ls
systemctl start httpd
systemctl enable httpd
```

Step 5: Access the webserver by using public_ip

Step 6: Launch one more Linux Machine in different Availability zone (1b) and install Web package
AmazonLinux -- Step 3: Advanced Details - User data

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yum update -y
yum install httpd -y
cd /var/www/html
echo "MyGoogle-2" > index.html
service httpd start
chkconfig httpd on
```

Next -- Add Name Tag -- Step 6: Select existing security group -- Choose existing key pair -- Launch instance.

Kindly check both EC2 public IPs, both website should work fine.

Step 7 : now select target group option from left menu
* Create target group ----> instances ----> Target group name (any) ---> protocol : port (http-80)---> rest all settings make it default.

* register targets option (select all web server ec2 and click on "Include as pending below".
And click on create target group

Step 8: Create load balancers
Select application load balancer

Load Balancer Name - MyLB --> scheme (internet-facing) IPV4----> Network Mapping (VPC - default), Mappings (select all Availability Zones)

*security group ---> add web server SG
*listeners and routing ----> Http : 80 (default action - select your TG name)
* rest all settings as default and create load balancer.

Once load balancer status is showing "active"

Step 9: Access the load balance by using DNS name (END POINT) and experience the load balancer.

Step 10: If one server is down, it should redirect the traffic to another server.

1) if any EC2 is not working LB will stop redirecting traffic to the perticular server.
To practice this stop any 1 server, now access LB DNS name only working server page will reflect.

Now, access the load balance , traffic should be redirected to 2nd server.

How can we know, which instance is down?
Goto load balances ---> instances tab,
We can see the status is OutOfService.

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To avoid billing ----> remove both the instance ----> delete load balancer
 & Target group