

# Project 3

Step1: Create two linux instances, Use the first free linux AMI

The screenshot shows the AWS Launch Instance Wizard at Step 3: Configure Instance Details. The wizard is for creating EC2 instances in the us-east-1 region. The number of instances is set to 2. The purchasing option is set to On-Demand. The network is set to vpc-41f8173c (default). The subnet is set to No preference (default subnet in any Availability Zone). The auto-assign public IP is set to Use subnet setting (Enable). The placement group is set to None. The capacity reservation is set to Open. The IAM role is set to None. The shutdown behavior is set to Stop. The stop + hibernate behavior is set to None. The wizard includes a 'Review and Launch' button and a 'Next: Add Storage' button.

Launch instance wizard | EC2 Ma x

console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

Services Resource Groups

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances 2 Launch into Auto Scaling Group

You may want to consider launching these instances into an Auto Scaling Group to help you maintain application availability and for easy scaling in the future. [Learn how Auto Scaling can help your application stay healthy and cost effective.](#)

Purchasing option ☐ Request Spot Instances

Network vpc-41f8173c (default) Create new VPC

Subnet No preference (default subnet in any Availability Zone) Create new subnet

Auto-assign Public IP Use subnet setting (Enable)

Placement group ☐ Add instance to placement group

Capacity Reservation Open

IAM role None Create new IAM role

Shutdown behavior Stop

Stop + Hibernate behavior ☐ Enable hibernation as an additional stop behavior

Cancel Previous Review and Launch Next: Add Storage

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The screenshot shows the AWS Launch Instance Wizard at Step 7: Review Instance Launch. The wizard is for creating EC2 instances in the us-east-1 region. The AMI is Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-02354e95b39ca8dec. The instance type is t2.micro. The security group is launch-wizard-3. The wizard includes a 'Review and Launch' button and a 'Launch' button.

Launch instance wizard | EC2 Ma x

console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

Services Resource Groups

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

### Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

**Improve your instances' security. Your security group, launch-wizard-3, is open to the world.**  
Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

AMI Details [Edit AMI](#)

**Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-02354e95b39ca8dec**  
Free tier eligible  
Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras.  
Root Device Type: ebs Virtualization type: hvm

Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate

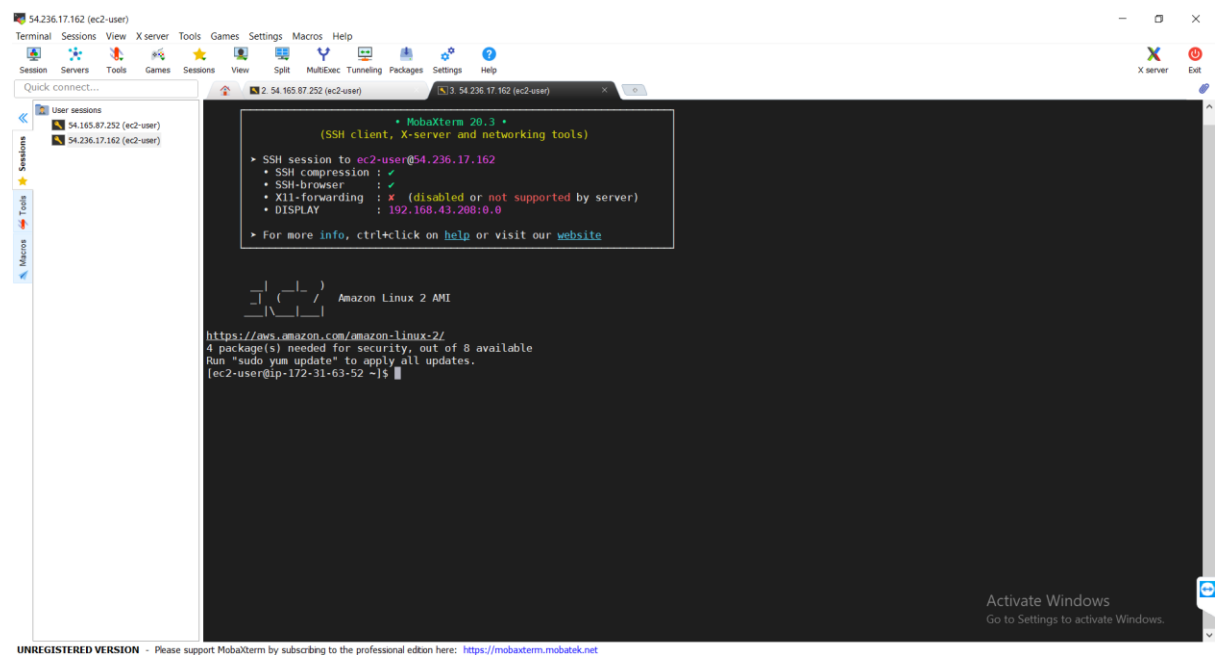
Security Groups [Edit security groups](#)

Security group name launch-wizard-3  
Description launch-wizard-3 created 2020-08-23T16:08:29.914+05:30

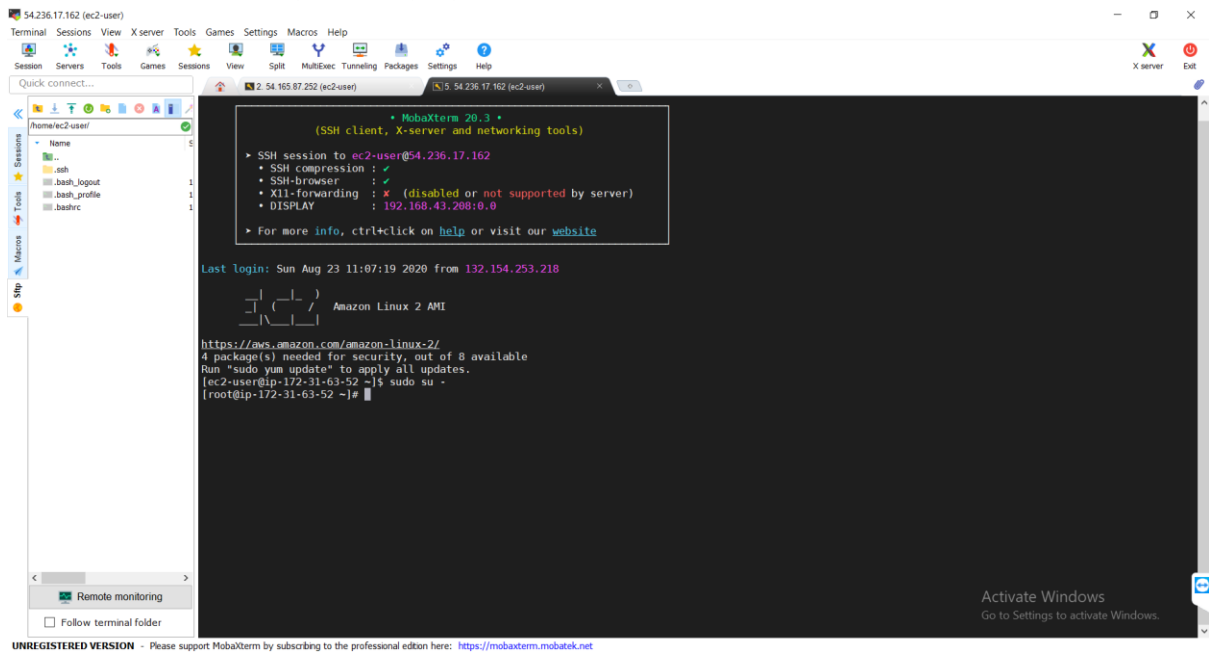
Activate Windows  
Go to Settings to activate Windows.

Cancel Previous Launch

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## Step4:Host html login webpage on both servers



```
54.236.17.162 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultExec Tunneling Packages Settings Help
Quick connect...
/home/ec2-user/
Name
ssh
bash_logout
bash_profile
bashrc
Remote monitoring
Follow terminal folder
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net
```

MobaXterm 20.3  
(SSH client, X-server and networking tools)

SSH session to ec2-user@54.236.17.162

- SSH compression : ✓
- SSH-browser : ✓
- X11-forwarding : ✗ (disabled or not supported by server)
- DISPLAY : 192.168.43.200:0.0

For more info, ctrl+click on [help](#) or visit our [website](#)

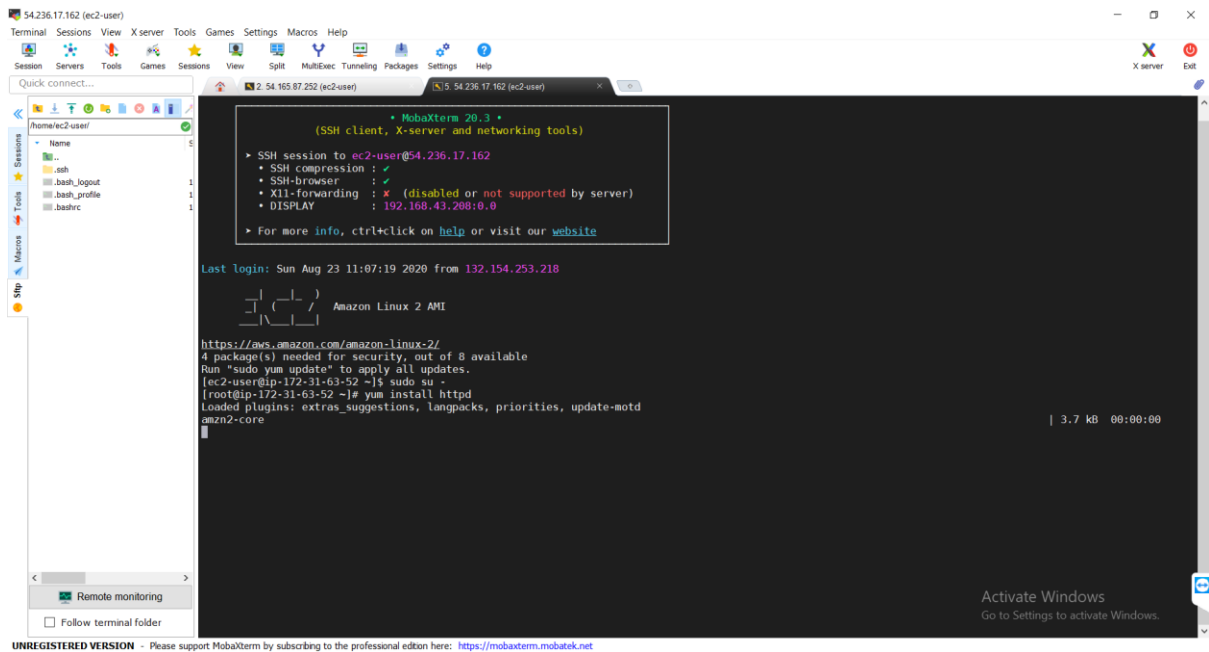
Last login: Sun Aug 23 11:07:19 2020 from 132.154.253.218

```

 _ _ _ _ _
| |   | |   | |   | |   | |
|_|  |_|   |_|   |_|   |_|
      Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
4 package(s) needed for security, out of 8 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-63-52 ~]$ sudo su -
[root@ip-172-31-63-52 ~]#
```

Activate Windows  
Go to Settings to activate Windows.



```
54.236.17.162 (ec2-user)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultExec Tunneling Packages Settings Help
Quick connect...
/home/ec2-user/
Name
ssh
bash_logout
bash_profile
bashrc
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UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net
```

MobaXterm 20.3  
(SSH client, X-server and networking tools)

SSH session to ec2-user@54.236.17.162

- SSH compression : ✓
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- DISPLAY : 192.168.43.200:0.0

For more info, ctrl+click on [help](#) or visit our [website](#)

Last login: Sun Aug 23 11:07:19 2020 from 132.154.253.218

```

 _ _ _ _ _
| |   | |   | |   | |   | |
|_|  |_|   |_|   |_|   |_|
      Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
4 package(s) needed for security, out of 8 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-63-52 ~]$ sudo su -
[root@ip-172-31-63-52 ~]# yum install httpd
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core
| 3.7 kB  00:00:00
```

Activate Windows  
Go to Settings to activate Windows.









## Step6:Create a application Load balancer with the above two instances as targets

The screenshot shows the 'Create Load Balancer' wizard in the AWS console. The browser address bar shows the URL: `console.aws.amazon.com/ec2/v2/home?region=us-east-1#SelectCreateELBWizard`. The page title is 'Create Load Balancer | EC2 Man...'. The AWS logo and navigation menu are visible at the top. The main heading is 'Select load balancer type'. Below it, a note states: 'Elastic Load Balancing supports three types of load balancers: Application Load Balancers, Network Load Balancers (new), and Classic Load Balancers. Choose the load balancer type that meets your needs. [Learn more about which load balancer is right for you](#)'. There are three cards representing different load balancer types: 1. 'Application Load Balancer' with a circular icon containing 'HTTP' and 'HTTPS', a 'Create' button, and a description: 'Choose an Application Load Balancer when you need a flexible feature set for your web applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide advanced routing and visibility features targeted at application architectures, including microservices and containers.' 2. 'Network Load Balancer' with a circular icon containing 'TCP', 'TLS', and 'UDP', a 'Create' button, and a description: 'Choose a Network Load Balancer when you need ultra-high performance, TLS offloading at scale, centralized certificate deployment, support for UDP, and static IP addresses for your application. Operating at the connection level, Network Load Balancers are capable of handling millions of requests per second securely while maintaining ultra-low latencies.' 3. 'Classic Load Balancer' with the text 'PREVIOUS GENERATION for HTTP, HTTPS, and TCP' and a 'Create' button. A 'Learn more >' link is present below the Classic Load Balancer card. At the bottom right, there is an 'Activate Windows' watermark and a 'Cancel' button.

The screenshot shows the 'Create Load Balancer' wizard in the AWS console, specifically 'Step 1: Configure Load Balancer'. The browser address bar shows the URL: `console.aws.amazon.com/ec2/v2/home?region=us-east-1#V2CreateELBWizard?type=network`. The page title is 'Instances | EC2 Management Console | Create Load Balancer | EC2 Man...'. The AWS logo and navigation menu are visible at the top. The main heading is 'Step 1: Configure Load Balancer'. Below it, the sub-heading is 'Basic Configuration'. A note states: 'To configure your load balancer, provide a name, select a scheme, specify one or more listeners, and select a network. The default configuration is an Internet-facing load balancer in the selected network with a listener that receives TCP traffic on port 80.' There are two input fields: 'Name' with the value 'MyLb' and 'Scheme' with the radio button 'Internet-facing' selected. Below this, the 'Listeners' section is shown. A note states: 'A listener is a process that checks for connection requests, using the protocol and port that you configured.' There is a table with two columns: 'Load Balancer Protocol' and 'Load Balancer Port'. The first row has 'TCP' in the protocol column and '80' in the port column. Below the table is an 'Add listener' button. The 'Availability Zones' section is also visible, with a note: 'Specify the Availability Zones to enable for your load balancer. The load balancer routes traffic to the targets in these Availability Zones only. You can specify only one subnet per Availability Zone. You may also add one Elastic IP per Availability Zone if you wish to have specific addresses for your load balancer.' At the bottom right, there is a 'Cancel' button and a 'Next: Configure Security Settings' button. At the bottom left, there is a 'Feedback' button and a 'Next: Configure Security Settings' button.

Instances | EC2 Management Console

Create Load Balancer | EC2 Management Console

console.aws.amazon.com/ec2/v2/home?region=us-east-1#V2CreateELBWizard?type=network

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1. Configure Load Balancer

2. Configure Security Settings

3. Configure Routing

4. Register Targets

5. Review

### Step 3: Configure Routing

Your load balancer routes requests to the targets in this target group using the protocol and port that you specify, and performs health checks on the targets using these health check settings. Note that each target group can be associated with only one load balancer.

#### Target group

Target group

New target group

Name

muelb

Target type

☒ Instance

☐ IP

Protocol

TCP

Port

80

#### Health checks

Protocol

TCP

Advanced health check settings

Cancel

Previous

Next: Register Targets

Go to Settings to activate Windows.

Feedback

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Create Load Balancer | EC2 Management Console

console.aws.amazon.com/ec2/v2/home?region=us-east-1#V2CreateELBWizard?type=network

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1. Configure Load Balancer

2. Configure Security Settings

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5. Review

### Step 4: Register Targets

Configure Security Groups

The security groups for your Instances must allow traffic from the VPC CIDR on the health check port.

Register targets with your target group. If you register a target in an enabled Availability Zone, the load balancer starts routing requests to the targets as soon as the registration process completes and the target passes the initial health checks.

#### Registered targets

To deregister instances, select one or more registered instances and then click Remove.

Remove

	Instance	Name	Port	State	Security groups	Zone
<input type="checkbox"/>	i-0f7253d48e9ef9a17	myos2	80	running	launch-wizard-3	us-east-1e
<input type="checkbox"/>	i-05de7d993f199a435	Myos1	80	running	launch-wizard-3	us-east-1e

#### Instances

To register additional instances, select one or more running instances, specify a port, and then click Add. The default port is the port specified for the target group. If the instance is already registered on the specified port, you must specify a different port.

Add to registered

on port 80

Search Instances

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Cancel

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console.aws.amazon.com/ec2/v2/home?region=us-east-1#V2CreateELBWizard?type=network

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1. Configure Load Balancer2. Configure Security Settings3. Configure Routing4. Register Targets5. Review

### Step 5: Review

Please review the load balancer details before continuing.

Load balancer

Name

Mylb

Scheme

internet-facing

Listeners

Port 80 - Protocol: TCP

IP address type

IPv4

VPC

vpc-41f8173c

Subnets

subnet-c8508c97, subnet-7e8f694f

Tags

Edit

Routing

Target group

New target group

Target group name

myalb

Port

80

Target type

instance

Protocol

TCP

Health check protocol

TCP

Health check port

traffic port

Healthy threshold

3

Unhealthy threshold

3

Interval

30

Edit

Targets

Instances

i-07253d48e8ef9a17 (myos2) 80, i-05de7d993f1199e435 (Myos1) 80

Edit

Activate Windows

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CancelPreviousCreate

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Instances | EC2 Management Console

Create Load Balancer | EC2 Management Console

console.aws.amazon.com/ec2/v2/home?region=us-east-1#V2CreateELBWizard?type=network

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### Load Balancer Creation Status

Successfully created load balancer

Load balancer Mylb was successfully created.

Note: It might take a few minutes for your load balancer to be fully set up and ready to route traffic, and for the targets to complete the registration process and pass the initial health checks.

Suggested next steps

• Check your listeners and individually customize them. If you set an ALPN policy for a TLS listener during the load balancer creation process, you must confirm that the TLS listener is configured to forward traffic to a TLS target group in order for the ALPN policy to take effect. Visit the [Listeners](#) tab within [Mylb](#)

Close

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