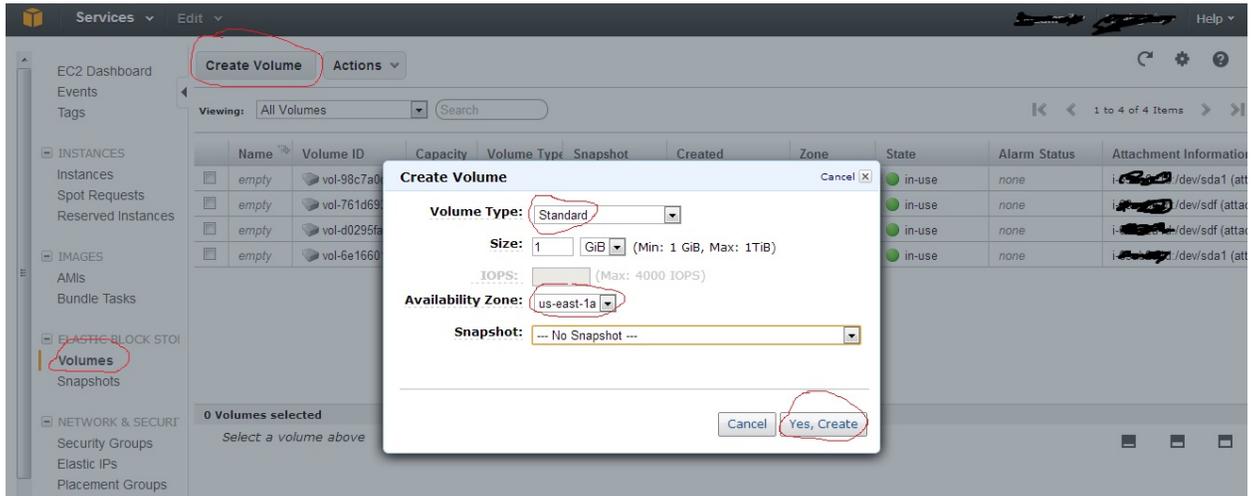


In this solution we use tomcat instead of other web/application servers

- 1) Remote login to your EC2 instance and execute the following command.
sudo apt-get install tomcat7 (This installs tomcat)
- 2) Create and attach EBS volume from web portal dashboard. EBS should be in same AZ as the EC2 instance. Use the snap shot below for reference.



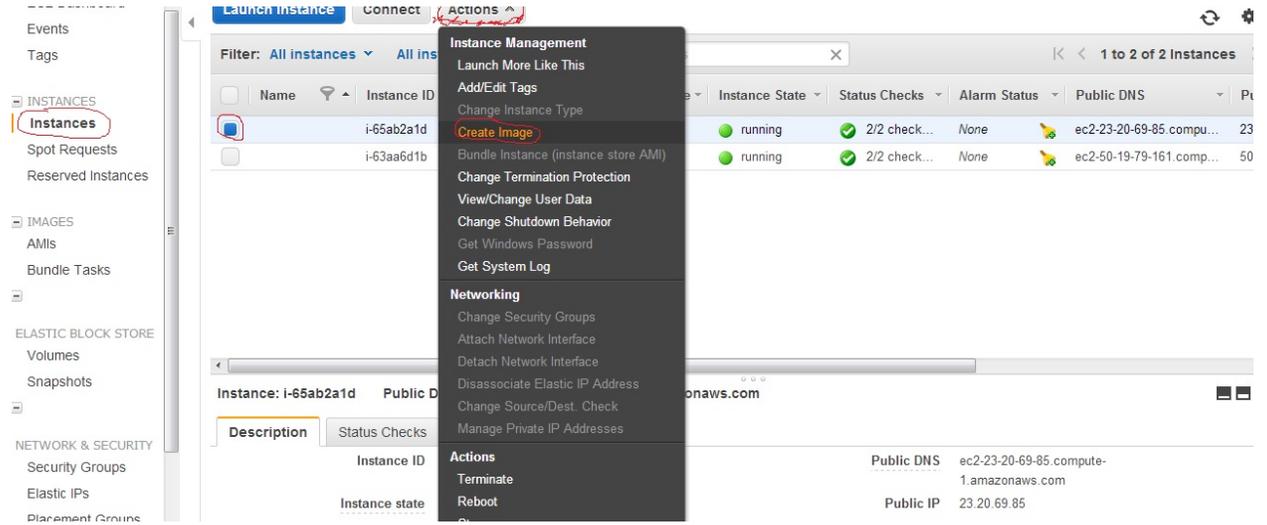
- 3) After creation goto Actions and attach the EBS to the EC2 instance.
- 4) Again on the remote login session execute the following commands:
lsblk (this command to list volumes)
sudo mkfs -t ext3 /dev/xvdf (where /dev/xvdf is the new volume name as listed with lsblk cmd)
sudo mkdir /mnt/abc (create new directory /mnt/abc to mount the new volume)
sudo mount /dev/xvdf /mnt/abc (this command mounts the volume in the newly created dir)
sudo mkdir /mnt/abc/tomcat-deploy (create new directory to place web app files)
sudo cp -r /var/lib/tomcat7/webapps/ROOT /mnt/abc/tomcat-deploy
- 5) Edit tomcat configuration files to change deployment dir from webapps to /mnt/abc/tomcat-deploy. Open the file using 'vi' (vi /etc/tomcat7/server.xml) and make the below change:

```
<Host name="localhost" appBase="/mnt/abc/tomcat-deploy"
```

Open the file 'vi /mnt/abc/tomcat-deploy/ROOT/index.html' and put some text that identifies this instance when this web page will be loaded.

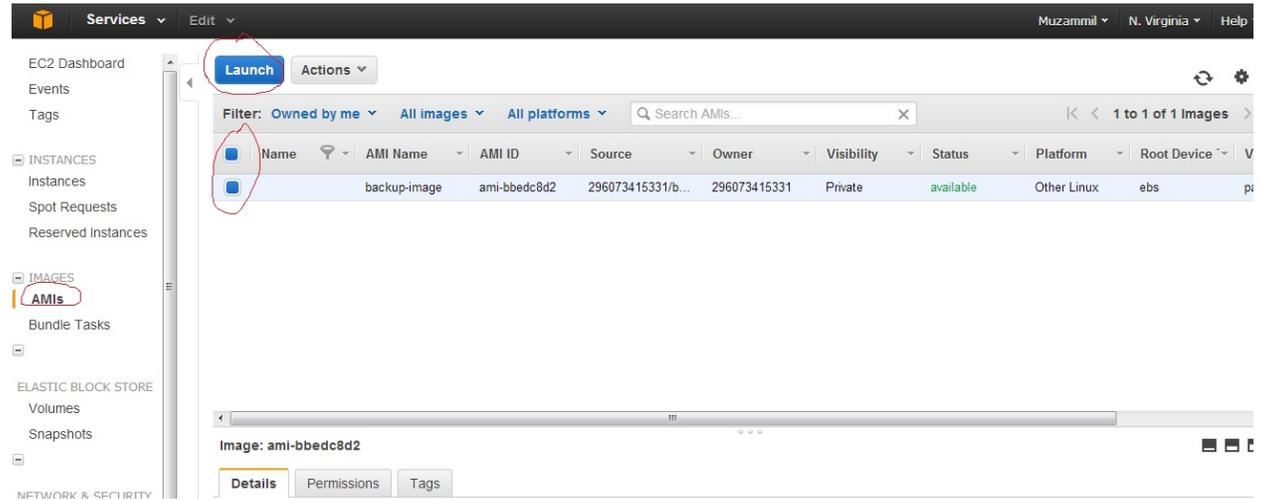
- 6) sudo service tomcat7 restart (Restart tomcat)
- 7) Create image of EC2 instance (EBS snapshot will be automatically created)

Use the below snapshot for reference.



8) Goto IMAGES -> AMIs and launch new instance with AMI in different zone.

Use the below snapshots for reference.



9) Repeat tomcat EBS mounting related and tomcat related steps for this new EC2 instance.

10) Create Load balancer. Use snapshots below for reference.

Create a New Load Balancer

DEFINE LOAD BALANCER | CONFIGURE HEALTH CHECK | ADD EC2 INSTANCES | REVIEW

This wizard will walk you through setting up a new load balancer. Begin by giving your new load balancer a unique name so that you can identify it from other load balancers you might create. You will also need to configure ports and protocols for your load balancer. Traffic from your clients can be routed from any load balancer port to any port on your EC2 instances. By default, we've configured your load balancer with a standard web server on port 80.

Load Balancer Name: lb-name

Create LB inside: EC2

Create an internal load balancer: (what's this?)

Listener Configuration:

Load Balancer Protocol	Load Balancer Port	Instance Protocol	Instance Port	Actions
HTTP	8080	HTTP	8080	Save

Continue

Create a New Load Balancer

DEFINE LOAD BALANCER | CONFIGURE HEALTH CHECK | ADD EC2 INSTANCES | REVIEW

Your load balancer will automatically perform health checks on your EC2 instances and only route traffic to instances that pass the health check. If an instance fails the health check, it is automatically removed from the load balancer. Customize the health check to meet your specific needs.

Configuration Options:

Ping Protocol: HTTP

Ping Port: 8080

Ping Path: /

Advanced Options:

Response Timeout: 10 Seconds

Health Check Interval: 0.5 Minutes

Unhealthy Threshold: 5

Healthy Threshold: 5

Time to wait when receiving a response from the health check (2 sec - 60 sec).

Amount of time between health checks (0.1 min - 5 min)

Number of consecutive health check failures before declaring an EC2 instance unhealthy.

Number of consecutive health check successes before declaring an EC2 instance healthy.

Back Continue

Create a New Load Balancer Cancel X

DEFINE LOAD BALANCER
 CONFIGURE HEALTH CHECK
 ADD EC2 INSTANCES
 REVIEW

The table below lists all your running EC2 Instances that are not already behind another load balancer or part of an auto-scaling capacity group. Check the boxes in the Select column to add those instances to this load balancer.

Manually Add Instances to Load Balancer:

Select	Instance	Name	State	Security Groups	Availability Zone
<input checked="" type="checkbox"/>	i-65ab2a1d		● running	launch-wizard-2	us-east-1b
<input checked="" type="checkbox"/>	i-63aa6d1b		● running	launch-wizard-1	us-east-1c

select all | select none

Availability Zone Distribution:

- 1 instances in us-east-1b
- 1 instances in us-east-1c

< Back Continue

DEFINE LOAD BALANCER
 CONFIGURE HEALTH CHECK
 ADD EC2 INSTANCES
 REVIEW

DEFINE LOAD BALANCER

Load Balancer Name: lb-name
Scheme: internet-facing
Port Configuration: 8080 (HTTP) forwarding to 8080 (HTTP)

[Edit Load Balancer Definition](#)

CONFIGURE HEALTH CHECK

Ping Target: HTTP:8080/
Timeout: 10
Interval: 0.5

Unhealthy Threshold: 5
Healthy Threshold: 5

[Edit Health Check](#)

ADD EC2 INSTANCES

EC2 Instances: i-65ab2a1d, i-63aa6d1b

[Edit EC2 Instance Selection](#)

VPC INFORMATION

VPC:
Subnets:

< Back Create

Please review your selections on this page. Clicking "Create" will launch your load balancer. Check the Amazon EC2 product page for load

The screenshot displays the AWS Management Console interface for an Elastic Load Balancing (ELB) instance. The left-hand navigation pane shows the 'Load Balancers' option under the 'NETWORK & SECURITY' category. The main content area shows a table with one row for the 'load-balancer' instance. Below the table, the 'Description' tab is active, providing details about the instance's DNS name, scheme, and status.

Load Balancer Name	DNS Name	Port Configuration
load-balancer	load-balancer-135577796.us-east-1.elb.amazonaws.com	80 (HTTP) forwarding to 8080 (HTTP), 8080 (HTTP) forwarding to 8080 (HTTP)

1 Load Balancer selected

Load Balancer: load-balancer

Description | Instances | Health Check | Monitoring | Security | Listeners

DNS Name: load-balancer-135577796.us-east-1.elb.amazonaws.com (A Record)
 ipv6.load-balancer-135577796.us-east-1.elb.amazonaws.com (AAAA Record)
 dualstack.load-balancer-135577796.us-east-1.elb.amazonaws.com (A or AAAA Record)

Note: Because the set of IP addresses associated with a LoadBalancer can change over time, you should never create an "A" record with any specific IP address. If you want to use a friendly DNS name for your LoadBalancer instead of the name generated by the Elastic Load Balancing service, you should create a CNAME record for the LoadBalancer DNS name, or use Amazon Route 53 to create a hosted zone. For more information, see the Using Domain Names With Elastic Load Balancing

Scheme: internet-facing

Status: 2 of 2 instances in service

Port Configuration: 80 (HTTP) forwarding to 8080 (HTTP) (edit)
 Stickiness: Disabled

After adding the instance in the load balancer it takes some time to check the health of the instances attached. Once the setup is ready you see Status as 2 of 2 instances in service (shown in the last snapshot)

To test the setup use the public DNS Name of load balancer and make a request typing the following in the browser :

<http://<public dns name>:8080>

Refresh the page multiple times or use different browser for multiple requests.

You should now be able to differentiate the serving instance based on instance specific text you put in the index.html file