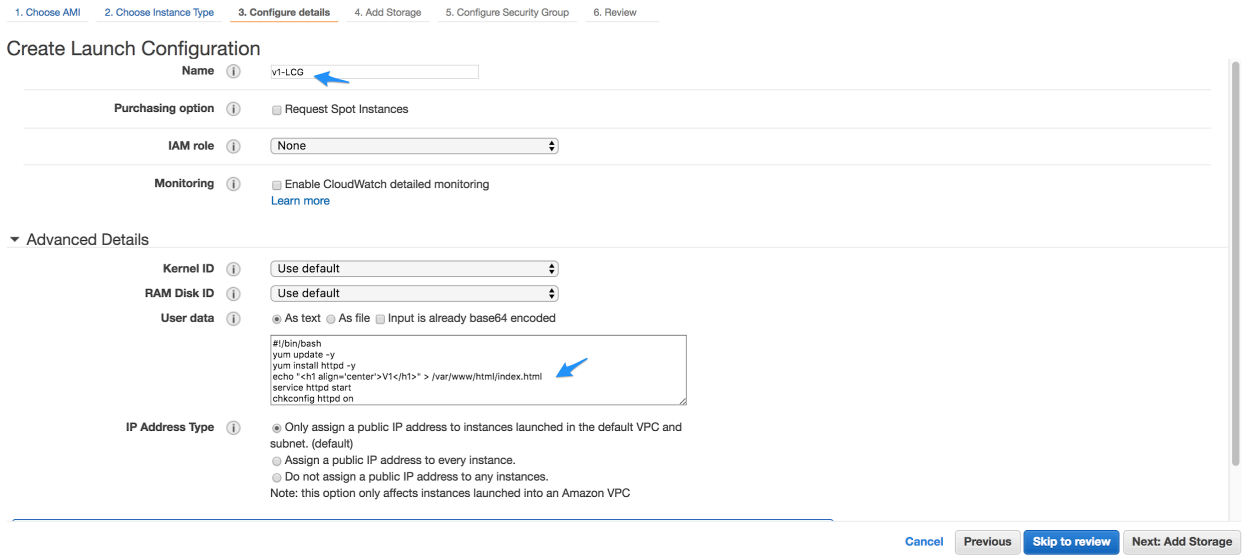
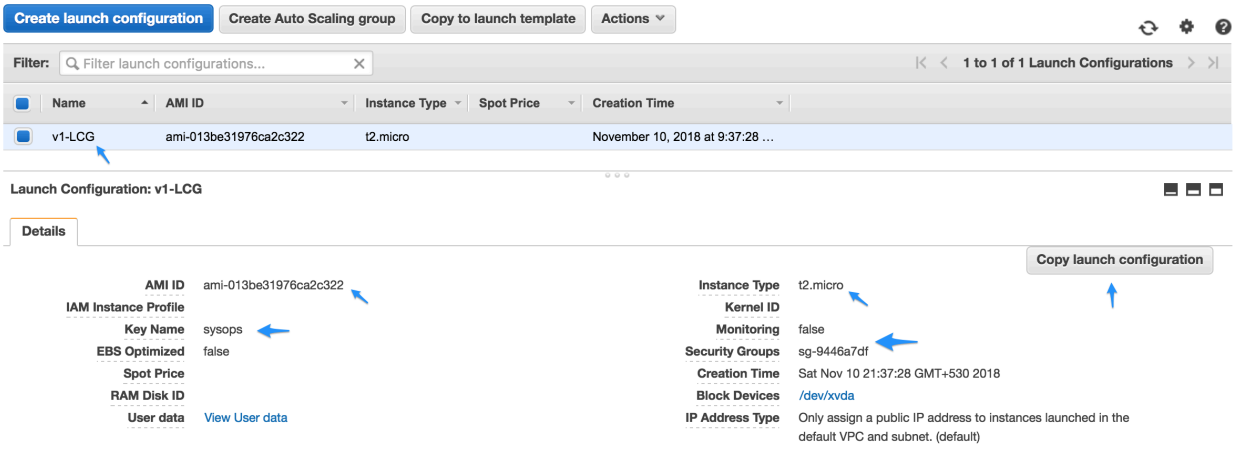
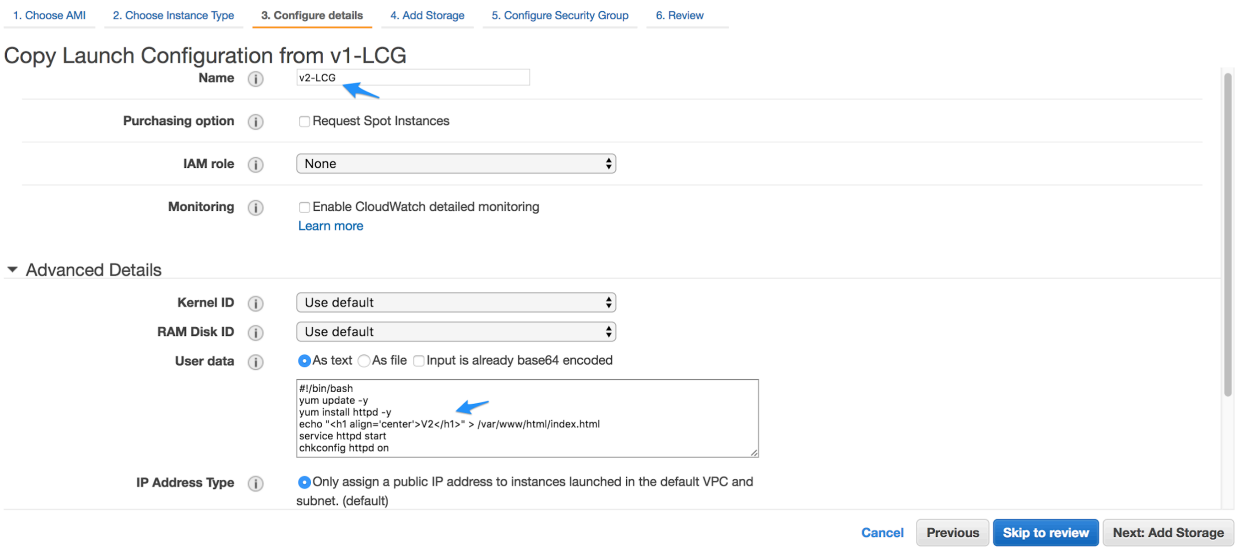
Blue/Green Deployment - Updating Auto Scaling Group's Launch Configuration

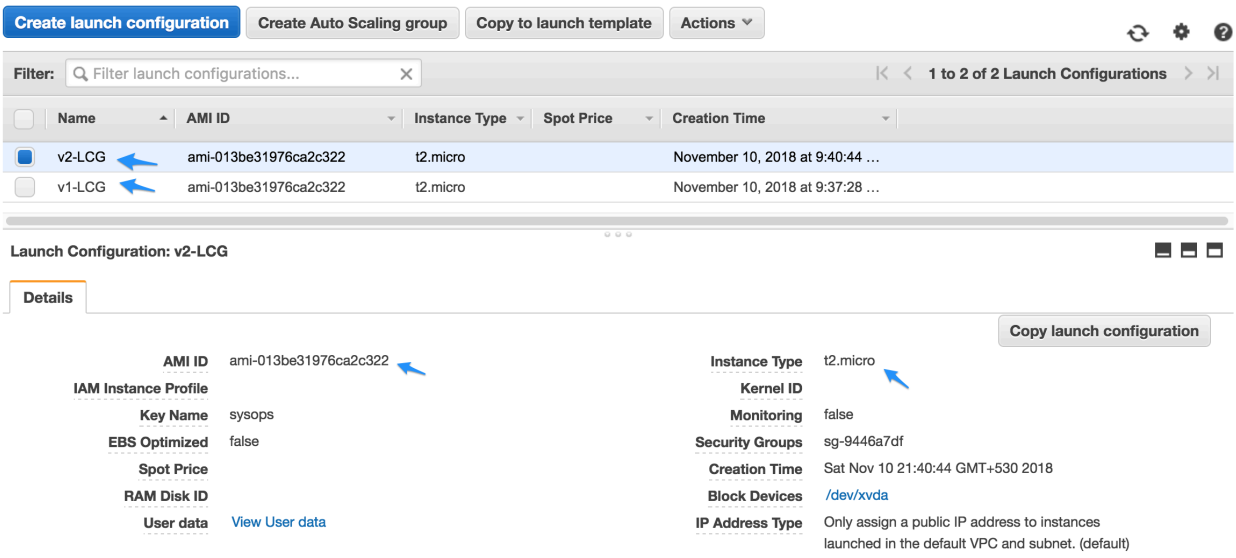
Lets create two launch configurations v1-LCG and v2-LCG



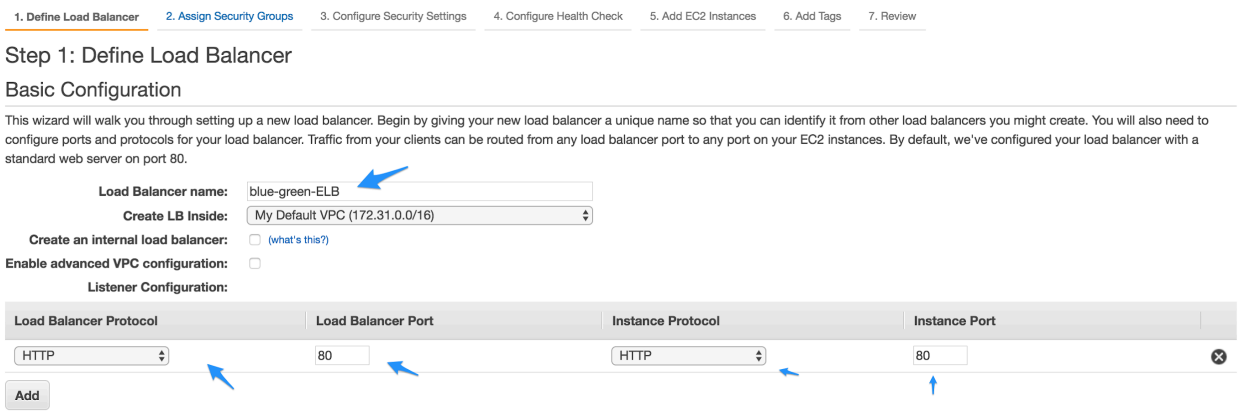


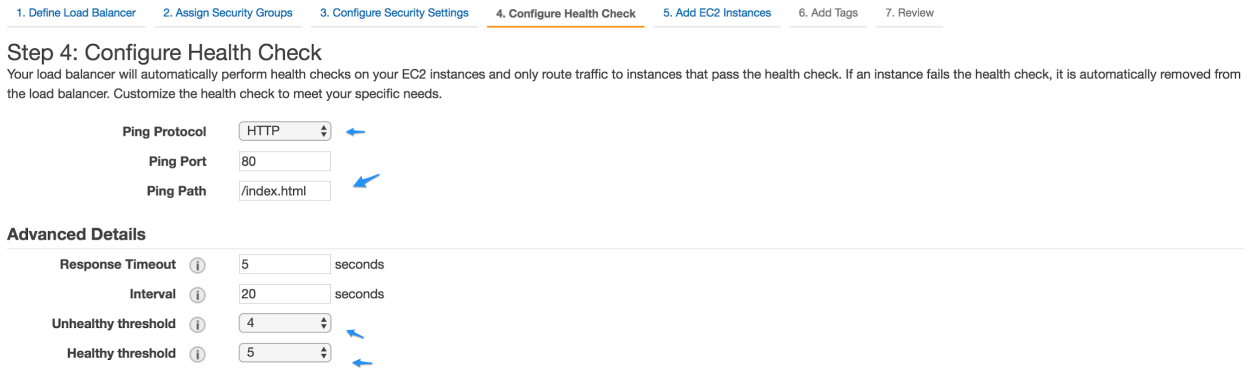
Next Lets copy the v1-LCG to create v2-LCG launch configuration, we will change the UserData for v2-LCG

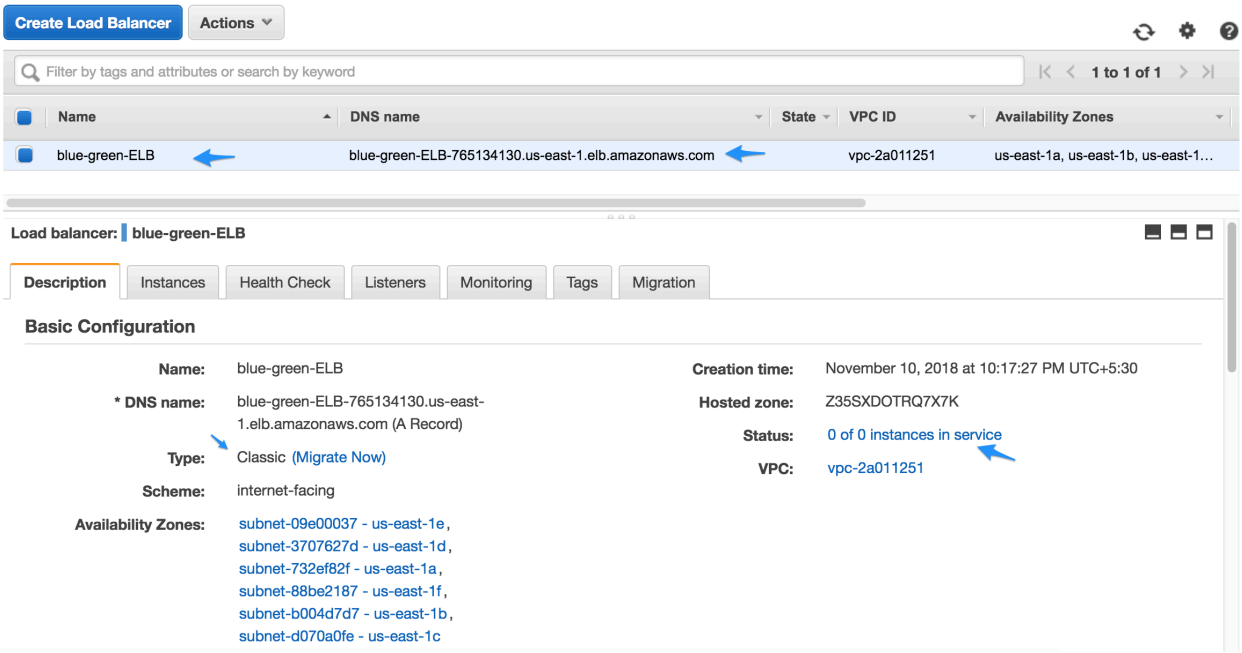

1. Choose AMI
2. Choose Instance Type
3. Configure details
4. Add Storage
5. Configure Security Group
6. Review
Copy Launch Configuration from v1-LCG
Name
v2-LCG
Purchasing option
Request Spot Instances
IAM role
None
Monitoring
Enable CloudWatch detailed monitoring
Learn more
Advanced Details
Kernel ID
Use default
RAM Disk ID
Use default
User data
As text
As file
Input is already base64 encoded
#!/bin/bash
yum update -y
yum install httpd -y
echo "<h1 align='center'>V2</h1>" > /var/www/html/index.html
service httpd start
chkconfig httpd on
IP Address Type
Only assign a public IP address to instances launched in the default VPC and subnet. (default)
Cancel
Previous
Skip to review
Next: Add Storage


Create launch configuration
Create Auto Scaling group
Copy to launch template
Actions
Filter:
Filter launch configurations...
1 to 2 of 2 Launch Configurations
Name
AMI ID
Instance Type
Spot Price
Creation Time
v2-LCG
ami-013be31976ca2c322
t2.micro
November 10, 2018 at 9:40:44 ...
v1-LCG
ami-013be31976ca2c322
t2.micro
November 10, 2018 at 9:37:28 ...
Launch Configuration: v2-LCG
Details
Copy launch configuration
AMI ID
ami-013be31976ca2c322
IAM Instance Profile
Key Name
sysops
EBS Optimized
false
Spot Price
RAM Disk ID
User data
View User data
Instance Type
t2.micro
Kernel ID
Monitoring
false
Security Groups
sg-9446a7df
Creation Time
Sat Nov 10 21:40:44 GMT+530 2018
Block Devices
/dev/xvda
IP Address Type
Only assign a public IP address to instances launched in the default VPC and subnet. (default)

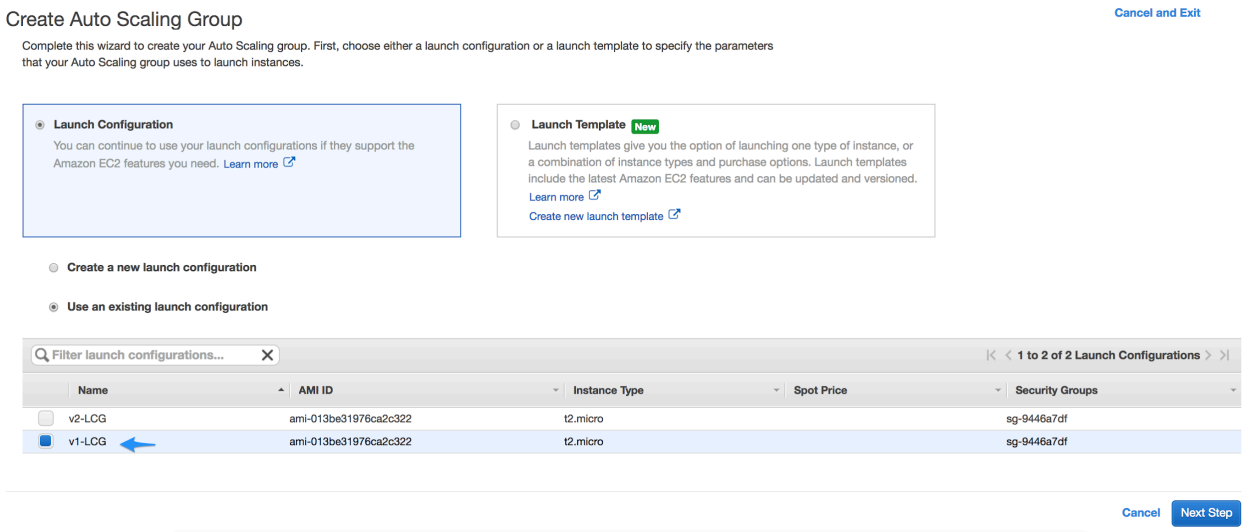
Next lets create the Classic Load Balancer blue-green-ELB

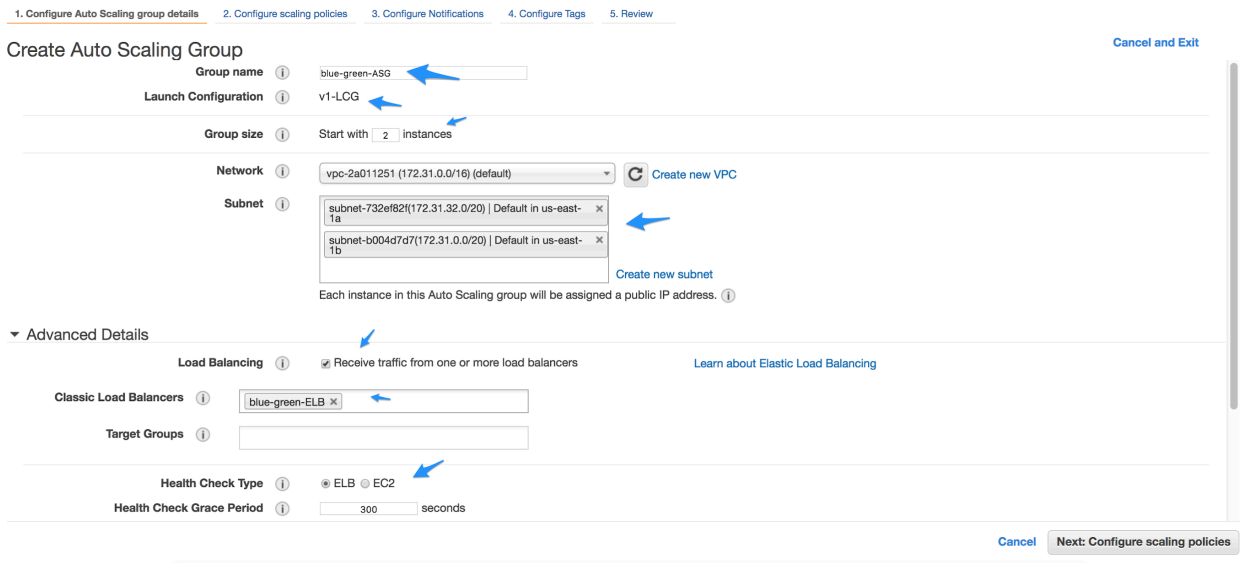


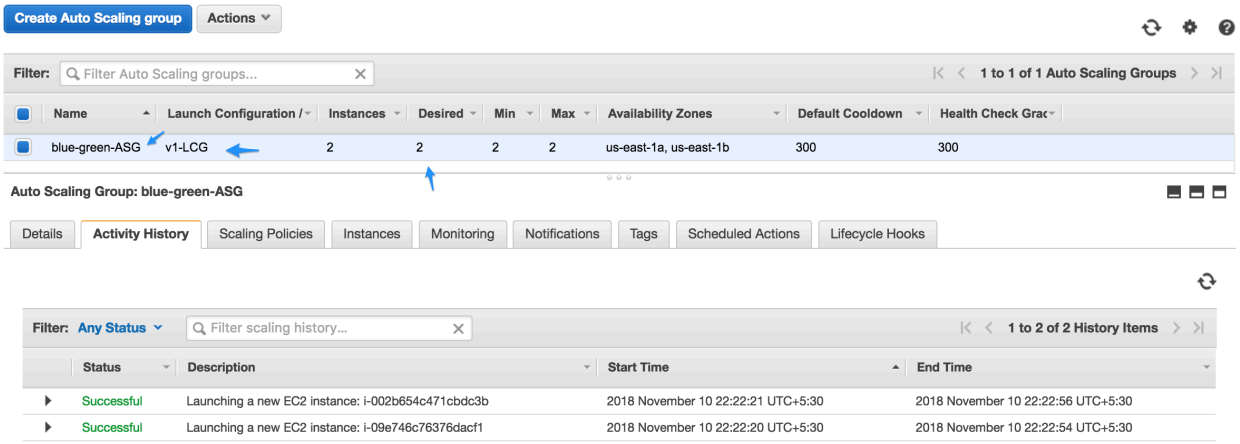


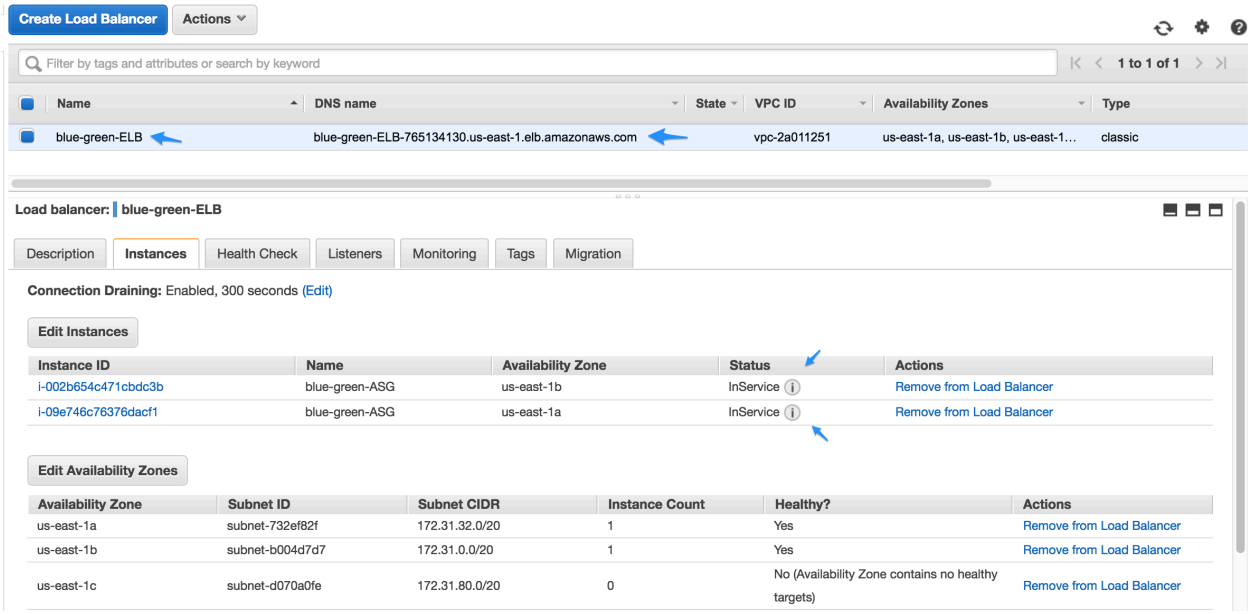


Next lets create the Auto Scaling group blue-green-ASG using v1-LCG launch configuration, and attach the blue-green-ELB to that auto scaling group with health check type set to ELB and desired capacity to 2 for auto scaling group.



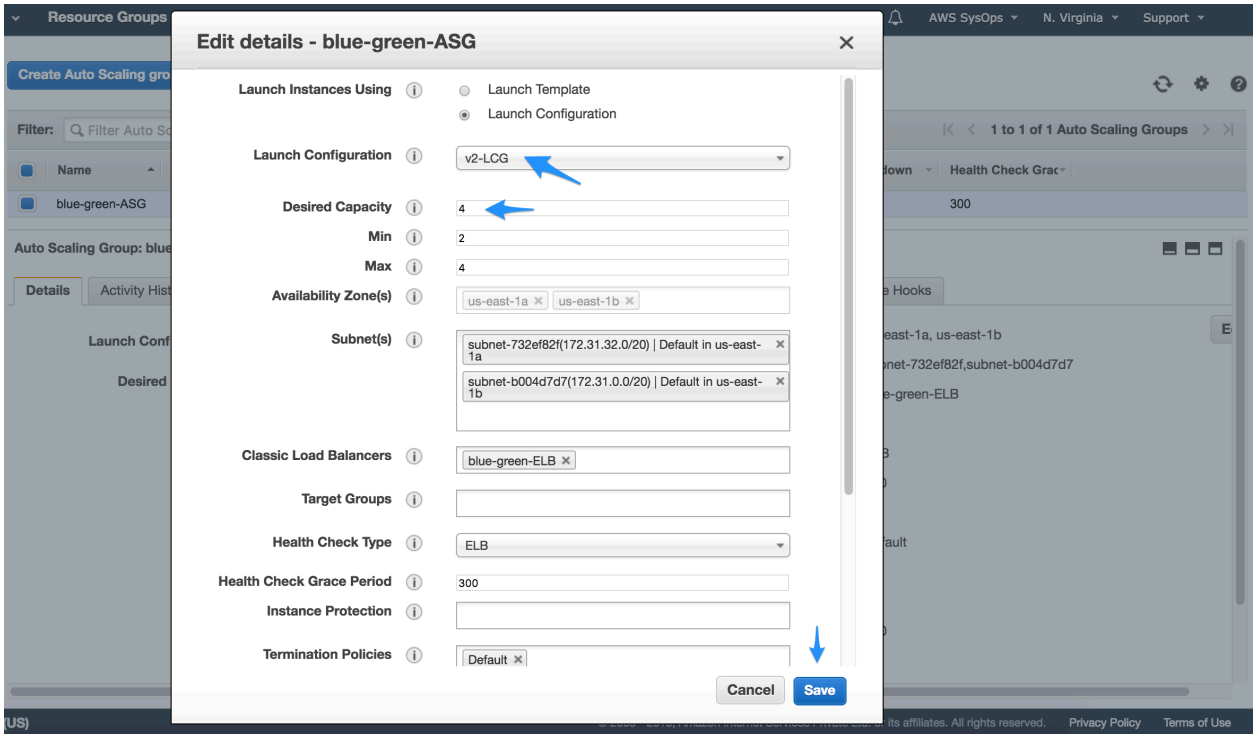


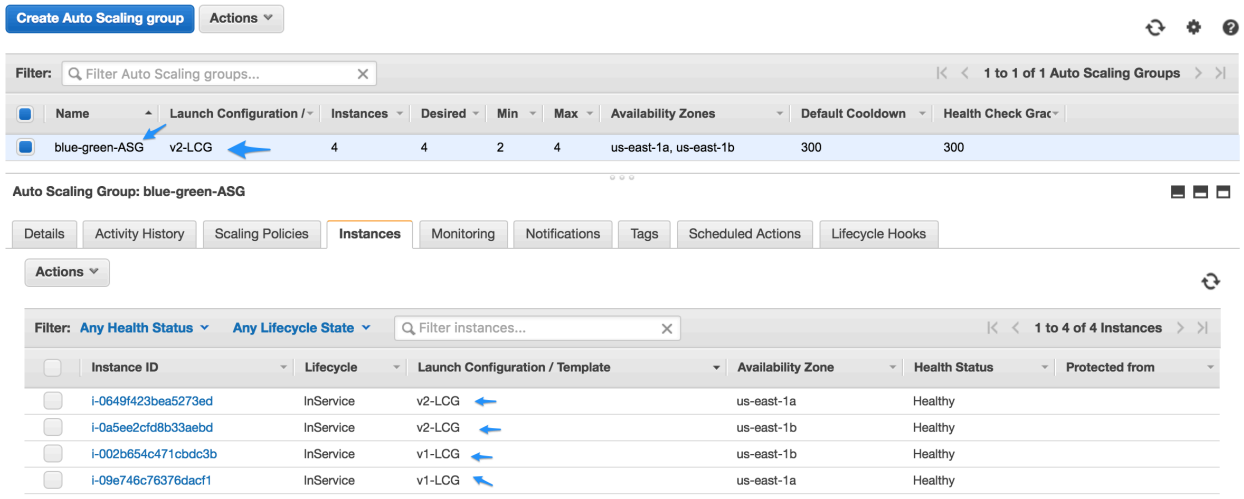


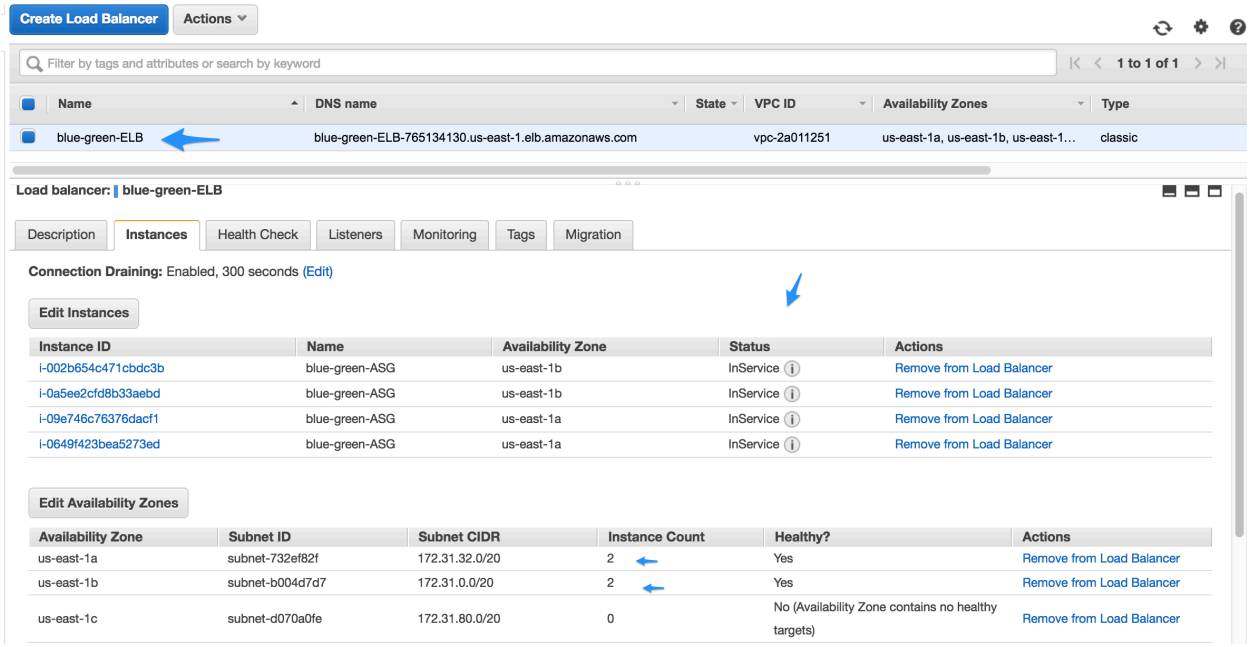


V1

Next we are going to update the blue-green-ASG by attaching the v2-LCG to the auto scaling group and set the desired capacity for the blue-green-ASG to 4. This will result in launching 2 new Instances with the v2-LCG launch configuration.


Edit details - blue-green-ASG
Launch Instances Using
Launch Template
Launch Configuration
Launch Configuration
v2-LCG
Desired Capacity
4
Min
2
Max
4
Availability Zone(s)
us-east-1a
us-east-1b
Subnet(s)
subnet-732ef82f(172.31.32.0/20) | Default in us-east-1a
subnet-b004d7d7(172.31.0.0/20) | Default in us-east-1b
Classic Load Balancers
blue-green-ELB
Target Groups
Health Check Type
ELB
Health Check Grace Period
300
Instance Protection
Termination Policies
Default
Cancel
Save

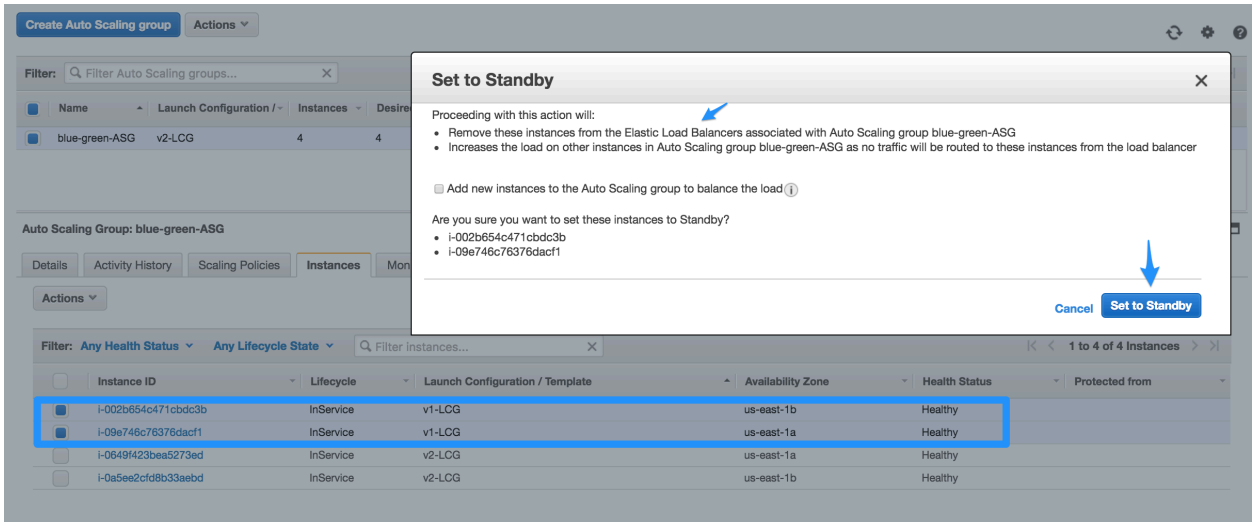

Create Auto Scaling group
Actions
Filter: Filter Auto Scaling groups...
1 to 1 of 1 Auto Scaling Groups
Name
Launch Configuration
Instances
Desired
Min
Max
Availability Zones
Default Cooldown
Health Check Grac
blue-green-ASG
v2-LCG
4
4
2
4
us-east-1a, us-east-1b
300
300
Auto Scaling Group: blue-green-ASG
Details
Activity History
Scaling Policies
Instances
Monitoring
Notifications
Tags
Scheduled Actions
Lifecycle Hooks
Actions
Filter: Any Health Status
Any Lifecycle State
Filter instances...
1 to 4 of 4 Instances
Instance ID
Lifecycle
Launch Configuration / Template
Availability Zone
Health Status
Protected from
i-0649f423bea5273ed
InService
v2-LCG
us-east-1a
Healthy
i-0a5ee2cfd8b33aebd
InService
v2-LCG
us-east-1b
Healthy
i-002b654c471cbdc3b
InService
v1-LCG
us-east-1b
Healthy
i-09e746c76376dacf1
InService
v1-LCG
us-east-1a
Healthy

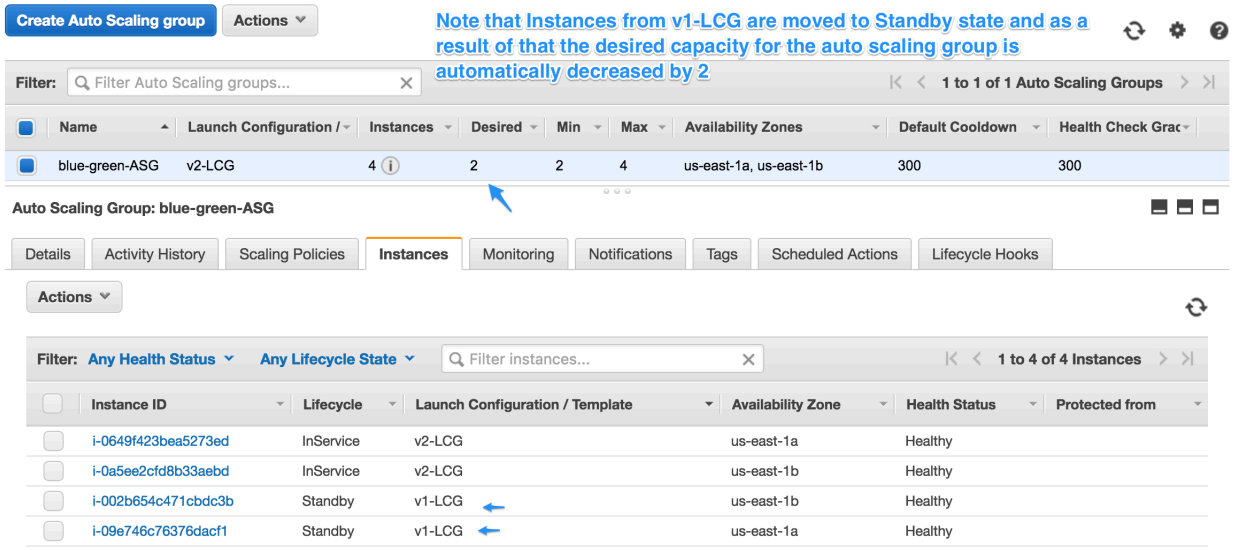


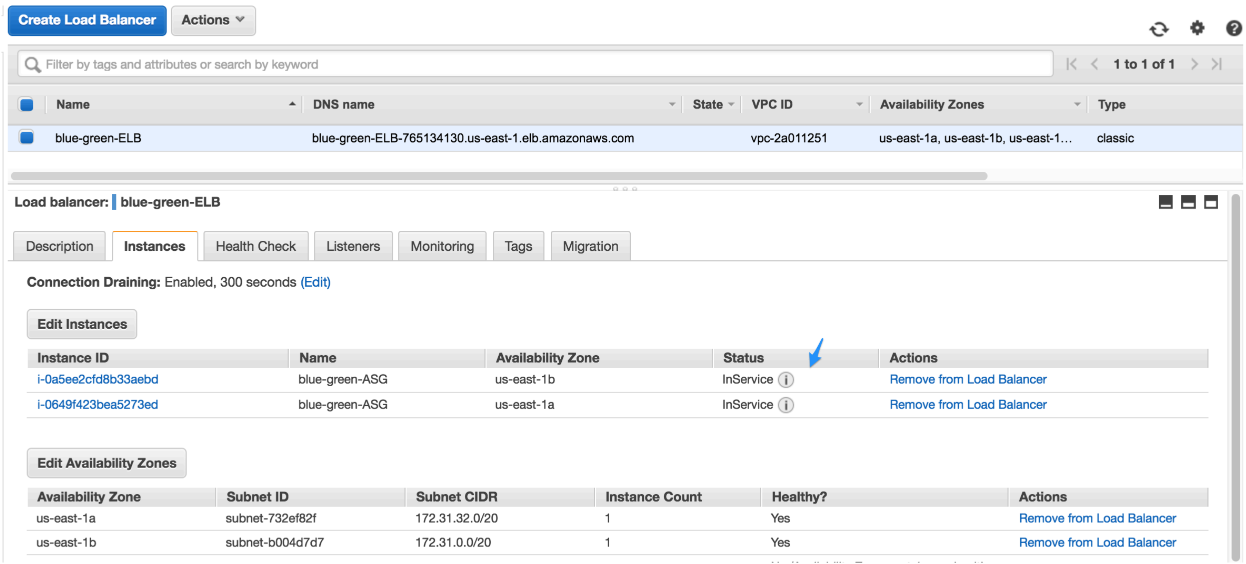

```
[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V2</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V2</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V2</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V2</h1>

INBL2-42RG3QD:~ mahtab.alam$
```

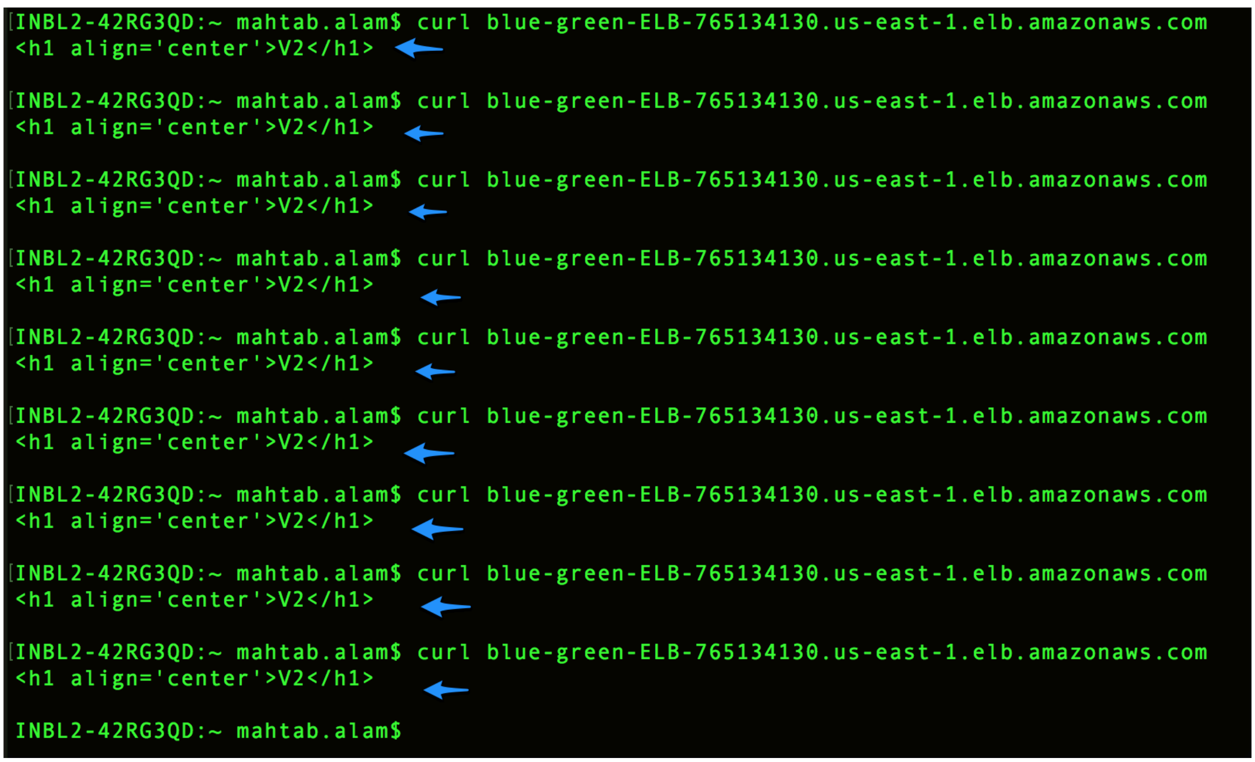
Currently we have 2 Instances from the v1-LCG and 2 Instances from v2-LCG launch configuration registered under load balancer as InService and are serving traffic.

Now lets put the 2 Instances from v1-LCG into Standby state, this will decrease the autoscaling group's desired capacity to 2 automatically and also remove those 2 Instances from v1-LCG from the load balancer.

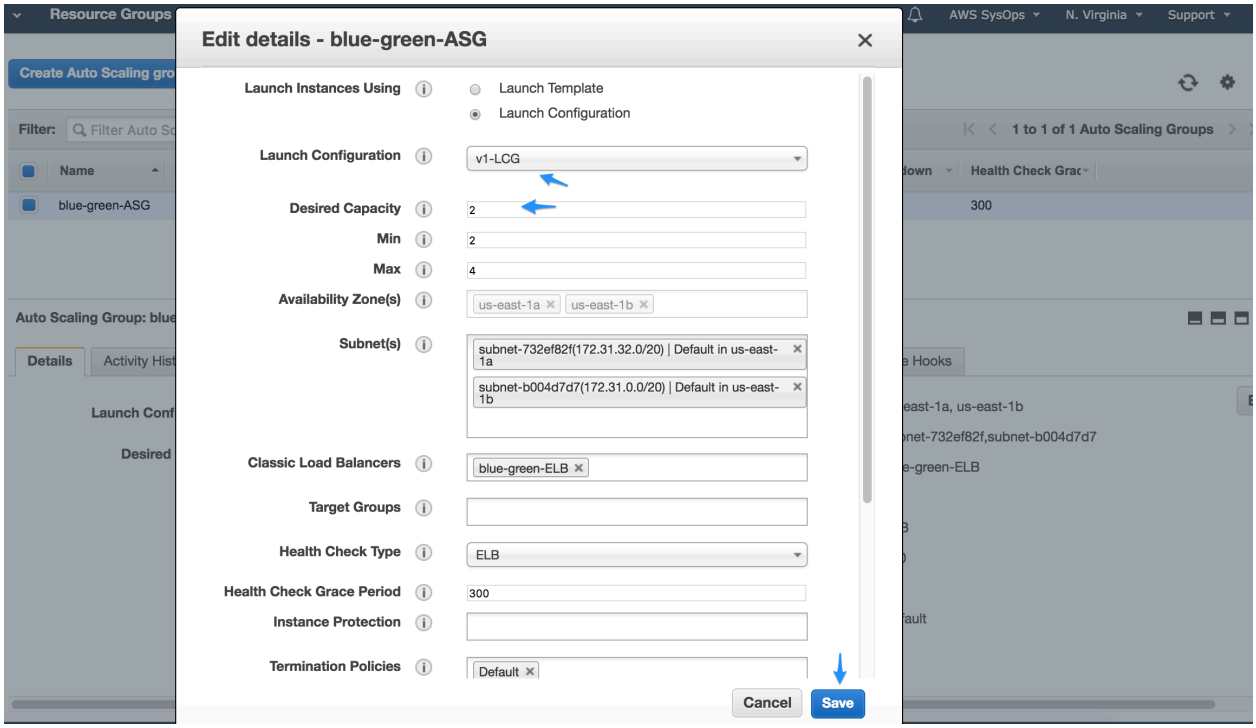

Create Auto Scaling group
Actions
Set to Standby
Proceeding with this action will:
Remove these instances from the Elastic Load Balancers associated with Auto Scaling group blue-green-ASG
Increases the load on other instances in Auto Scaling group blue-green-ASG as no traffic will be routed to these instances from the load balancer
Add new instances to the Auto Scaling group to balance the load
Are you sure you want to set these instances to Standby?
i-002b654c471cbdc3b
i-09e746c76376dacf1
Cancel
Set to Standby
Auto Scaling Group: blue-green-ASG
Details
Activity History
Scaling Policies
Instances
Actions
1 to 4 of 4 Instances
Instance ID
Lifecycle
Launch Configuration / Template
Availability Zone
Health Status
Protected from
i-002b654c471cbdc3b InService v1-LCG us-east-1b Healthy
i-09e746c76376dacf1 InService v1-LCG us-east-1a Healthy
i-0649f423bea5273ed InService v2-LCG us-east-1a Healthy
i-0a5ee2cfd8b33aebd InService v2-LCG us-east-1b Healthy

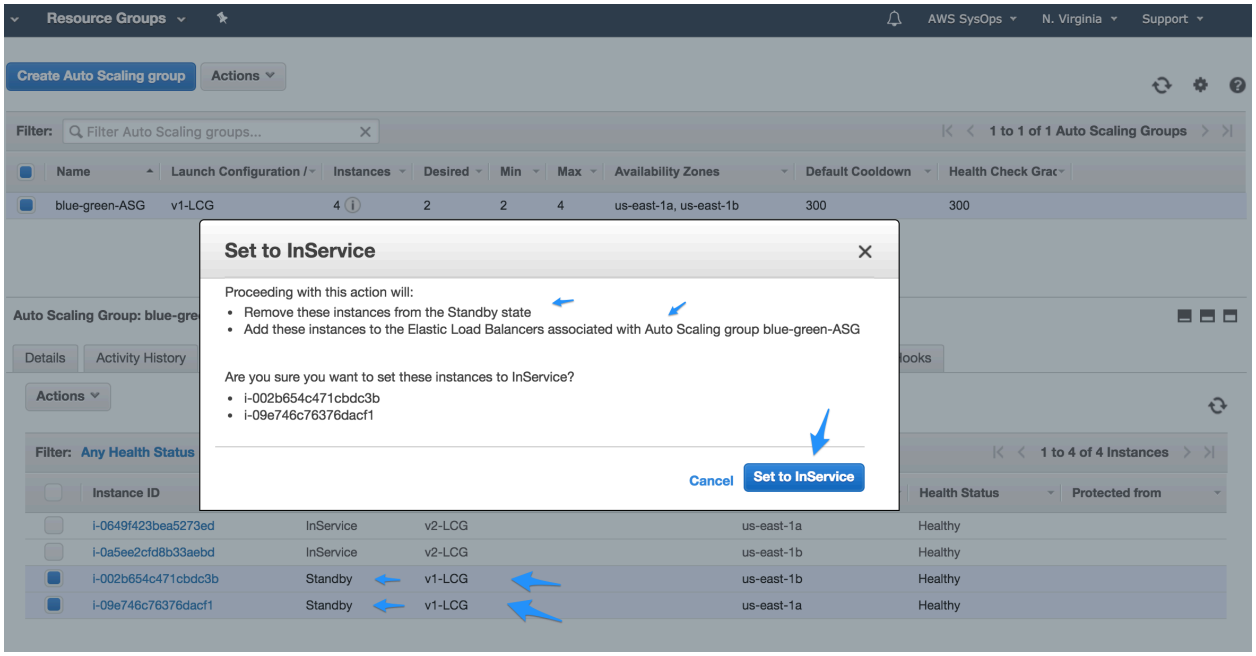

Create Auto Scaling group
Actions
Note that Instances from v1-LCG are moved to Standby state and as a result of that the desired capacity for the auto scaling group is automatically decreased by 2
1 to 1 of 1 Auto Scaling Groups
Name
Launch Configuration /
Instances
Desired
Min
Max
Availability Zones
Default Cooldown
Health Check Grac
blue-green-ASG v2-LCG 4 2 2 4 us-east-1a, us-east-1b 300 300
Auto Scaling Group: blue-green-ASG
Details
Activity History
Scaling Policies
Instances
Monitoring
Notifications
Tags
Scheduled Actions
Lifecycle Hooks
Actions
Filter: Any Health Status
Any Lifecycle State
1 to 4 of 4 Instances
Instance ID
Lifecycle
Launch Configuration / Template
Availability Zone
Health Status
Protected from
i-0649f423bea5273ed InService v2-LCG us-east-1a Healthy
i-0a5ee2cfd8b33aebd InService v2-LCG us-east-1b Healthy
i-002b654c471cbdc3b Standby v1-LCG us-east-1b Healthy
i-09e746c76376dacf1 Standby v1-LCG us-east-1a Healthy

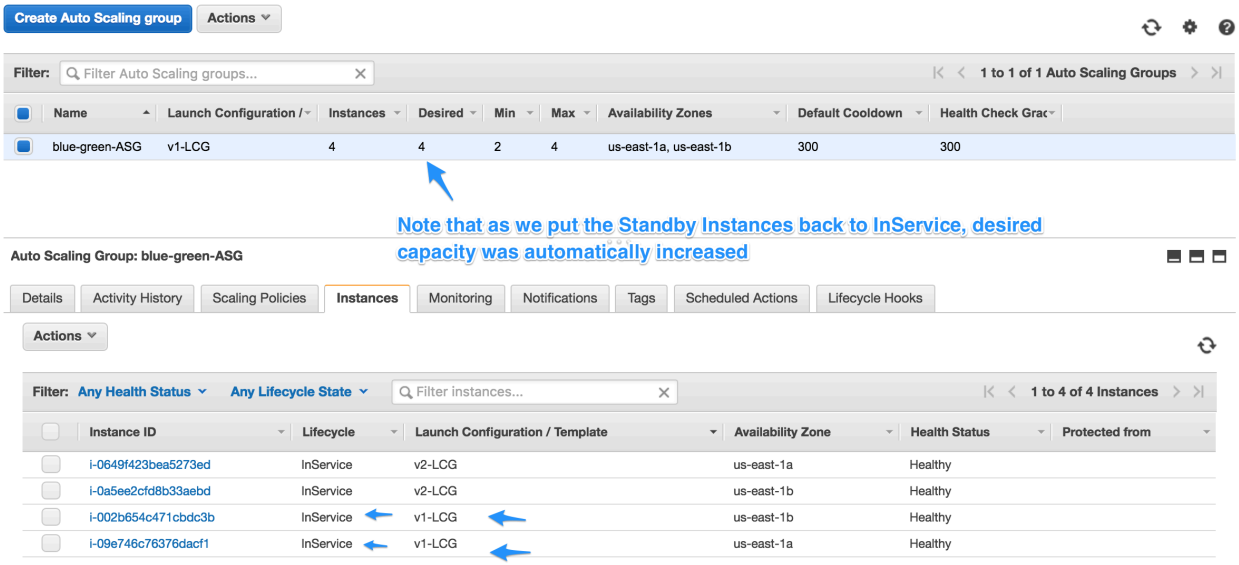




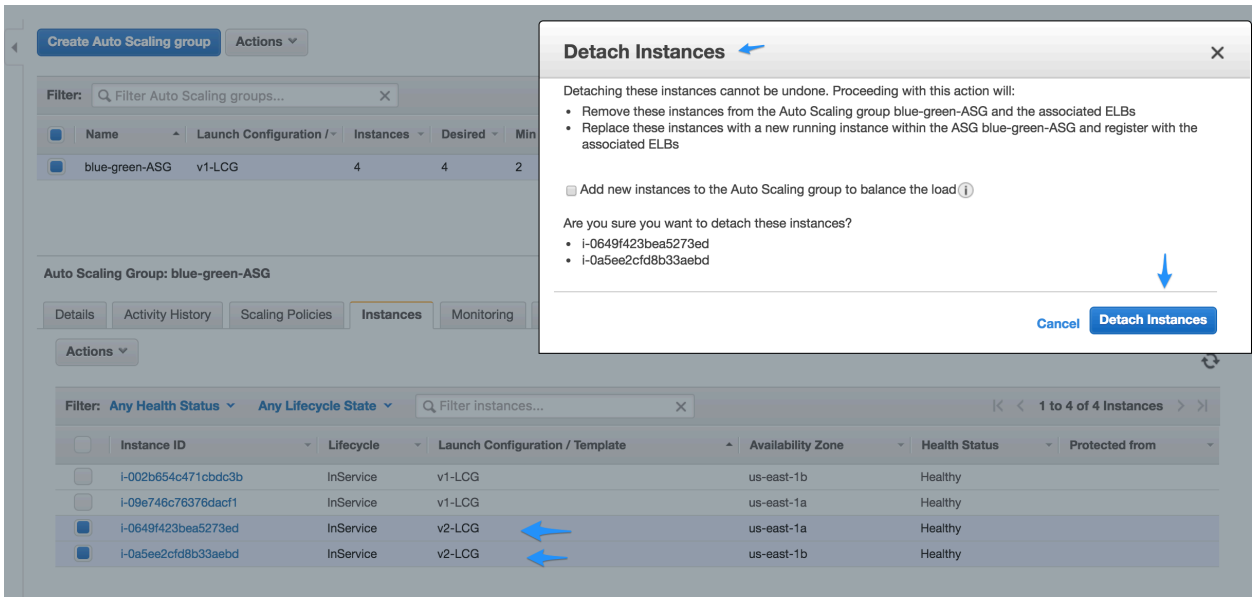
Now If we want to rollback the deployment we can update the blue-green-ASG to use v1-LCG and then put the Standby Instances back to InService and lastly detach the Instances from v2-LCG. So lets rollback

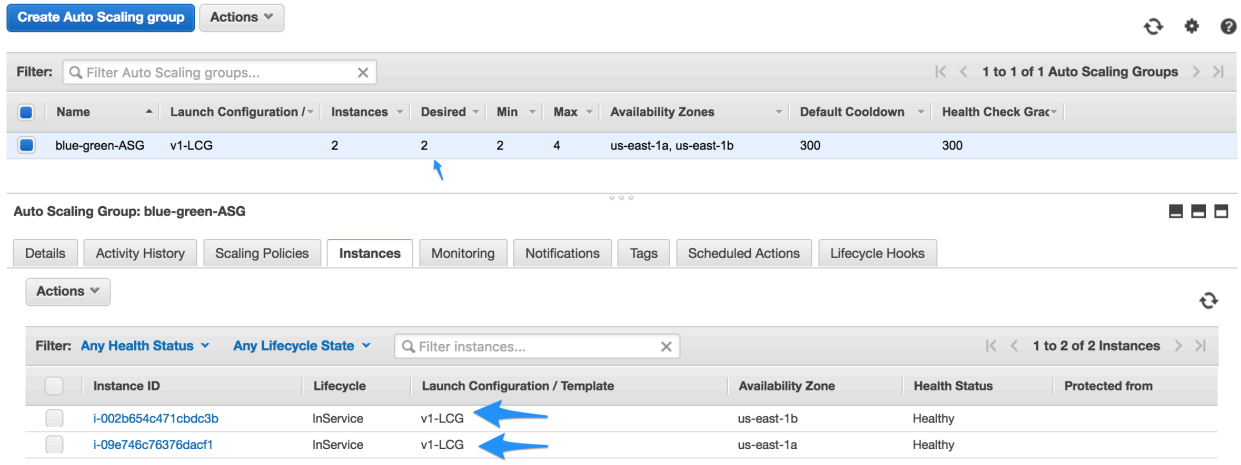

Edit details - blue-green-ASG
Launch Instances Using
Launch Template
Launch Configuration
Launch Configuration
v1-LCG
Desired Capacity
2
Min
2
Max
4
Availability Zone(s)
us-east-1a
us-east-1b
Subnet(s)
subnet-732ef82f(172.31.32.0/20) | Default in us-east-1a
subnet-b004d7d7(172.31.0.0/20) | Default in us-east-1b
Classic Load Balancers
blue-green-ELB
Target Groups
Health Check Type
ELB
Health Check Grace Period
300
Instance Protection
Termination Policies
Default
Cancel
Save

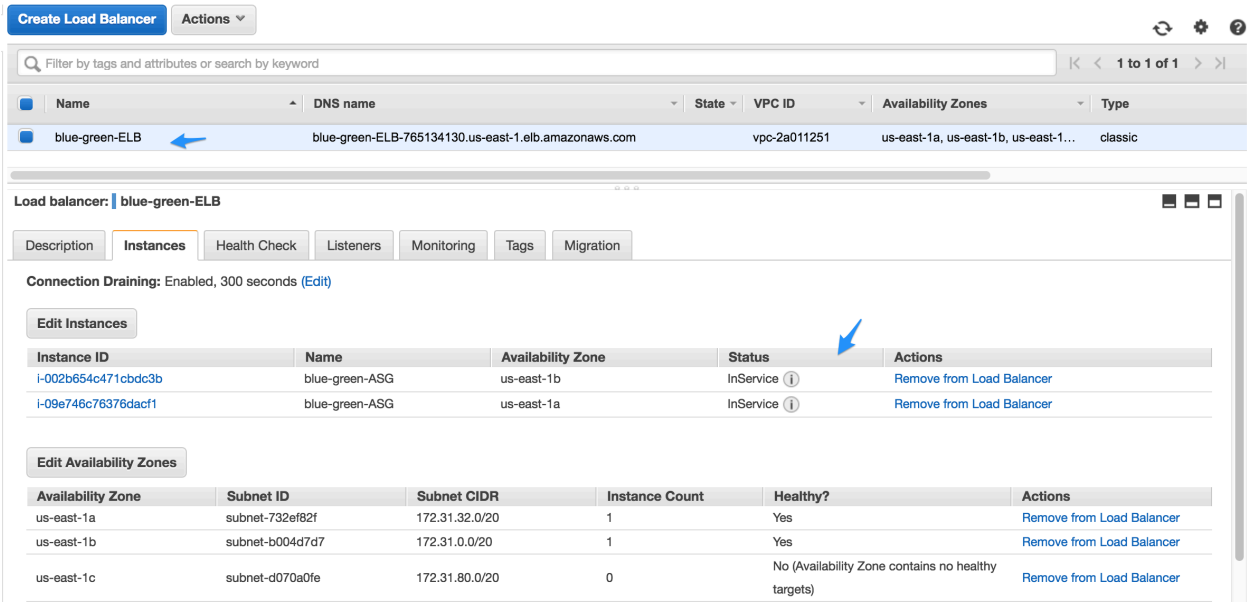

Set to InService
Proceeding with this action will:
Remove these instances from the Standby state
Add these instances to the Elastic Load Balancers associated with Auto Scaling group blue-green-ASG
Are you sure you want to set these instances to InService?
i-002b654c471cbdc3b
i-09e746c76376dacf1
Cancel
Set to InService



Next we are going to detach the Instances with the v2-LCG launch configuration, detaching the Instances from the auto scaling group will automatically decrement the desired capacity of the auto scaling group.




Create Auto Scaling group
Actions
Filter: Filter Auto Scaling groups...
1 to 1 of 1 Auto Scaling Groups
Name
Launch Configuration /
Instances
Desired
Min
Max
Availability Zones
Default Cooldown
Health Check Grac
blue-green-ASG
v1-LCG
2
2
2
4
us-east-1a, us-east-1b
300
300
Auto Scaling Group: blue-green-ASG
Details
Activity History
Scaling Policies
Instances
Monitoring
Notifications
Tags
Scheduled Actions
Lifecycle Hooks
Actions
Filter: Any Health Status
Any Lifecycle State
Filter instances...
1 to 2 of 2 Instances
Instance ID
Lifecycle
Launch Configuration / Template
Availability Zone
Health Status
Protected from
i-002b654c471cbdc3b
InService
v1-LCG
us-east-1b
Healthy
i-09e746c76376dacf1
InService
v1-LCG
us-east-1a
Healthy


Create Load Balancer
Actions
Filter by tags and attributes or search by keyword
1 to 1 of 1
Name
DNS name
State
VPC ID
Availability Zones
Type
blue-green-ELB
blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
vpc-2a011251
us-east-1a, us-east-1b, us-east-1...
classic
Load balancer: blue-green-ELB
Description
Instances
Health Check
Listeners
Monitoring
Tags
Migration
Connection Draining: Enabled, 300 seconds (Edit)
Edit Instances
Instance ID
Name
Availability Zone
Status
Actions
i-002b654c471cbdc3b
blue-green-ASG
us-east-1b
InService
Remove from Load Balancer
i-09e746c76376dacf1
blue-green-ASG
us-east-1a
InService
Remove from Load Balancer
Edit Availability Zones
Availability Zone
Subnet ID
Subnet CIDR
Instance Count
Healthy?
Actions
us-east-1a
subnet-732ef82f
172.31.32.0/20
1
Yes
Remove from Load Balancer
us-east-1b
subnet-b004d7d7
172.31.0.0/20
1
Yes
Remove from Load Balancer
us-east-1c
subnet-d070a0fe
172.31.80.0/20
0
No (Availability Zone contains no healthy targets)
Remove from Load Balancer

```
[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

[INBL2-42RG3QD:~ mahtab.alam$ curl blue-green-ELB-765134130.us-east-1.elb.amazonaws.com
<h1 align='center'>V1</h1>

INBL2-42RG3QD:~ mahtab.alam$
```