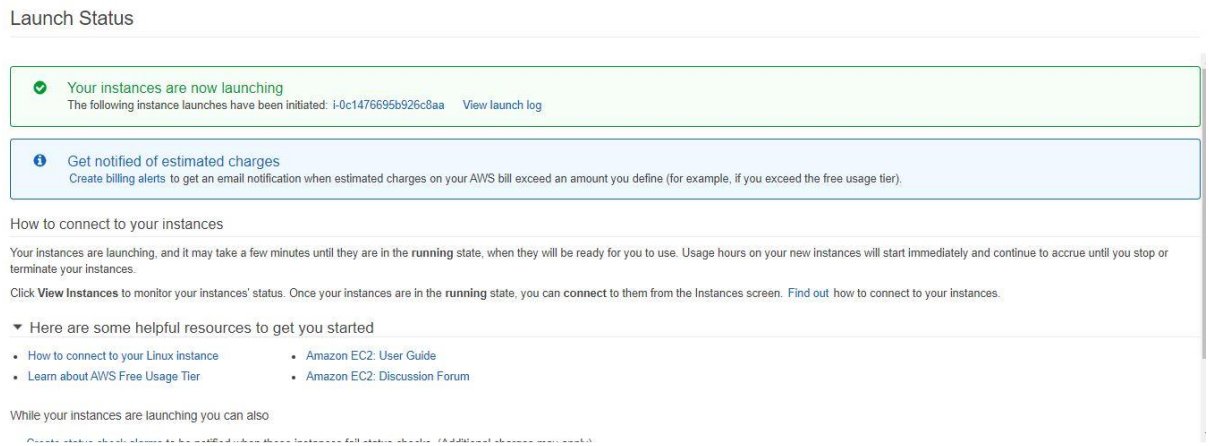
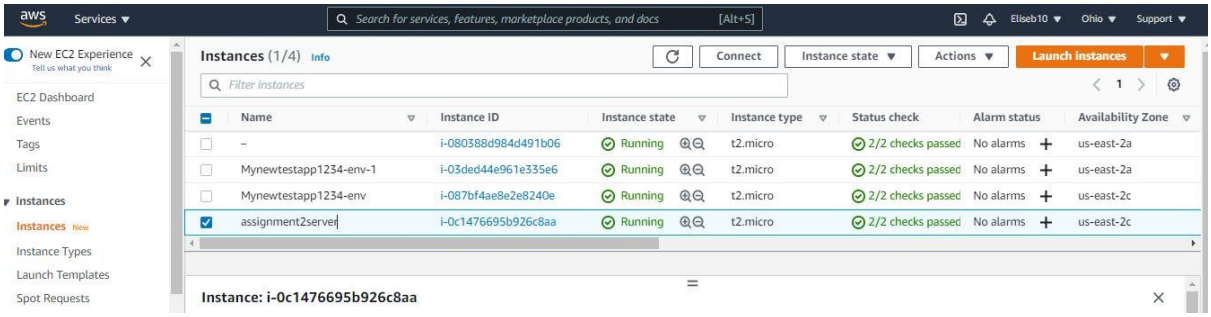
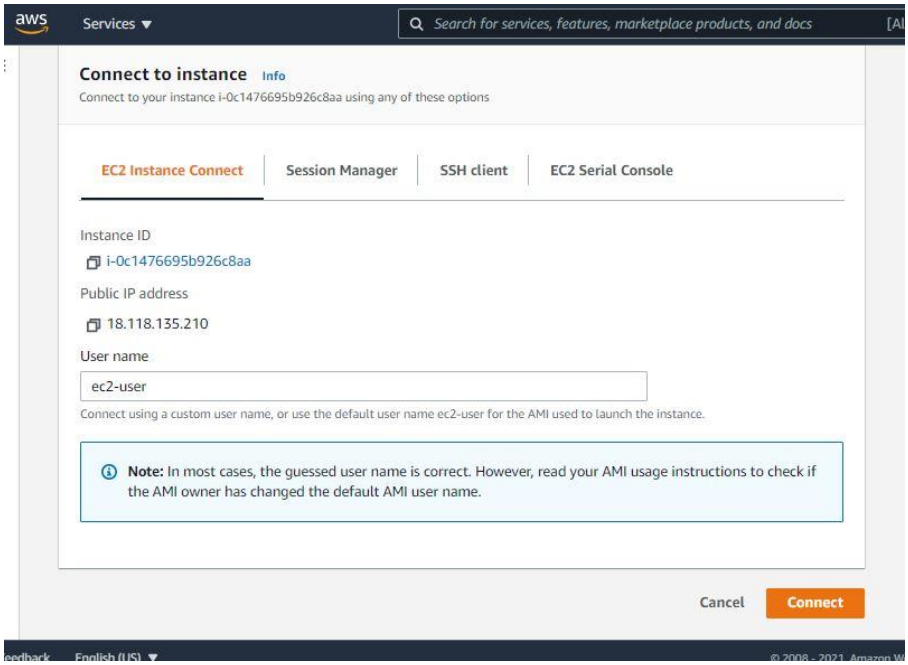
Day 2

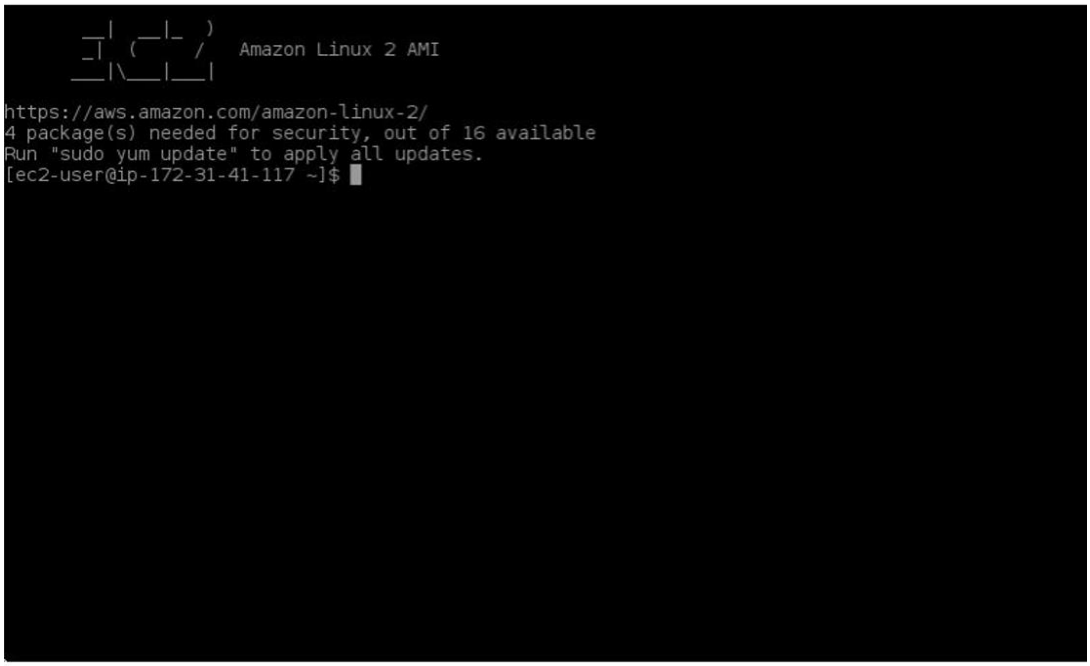
Assignment 2 – Working with EC2 Compute

1. Create with EC2 compute
2. Connect to an instance and run a system update
3. Enable termination protection and check how it works
4. Disable termination protection and terminate the instance



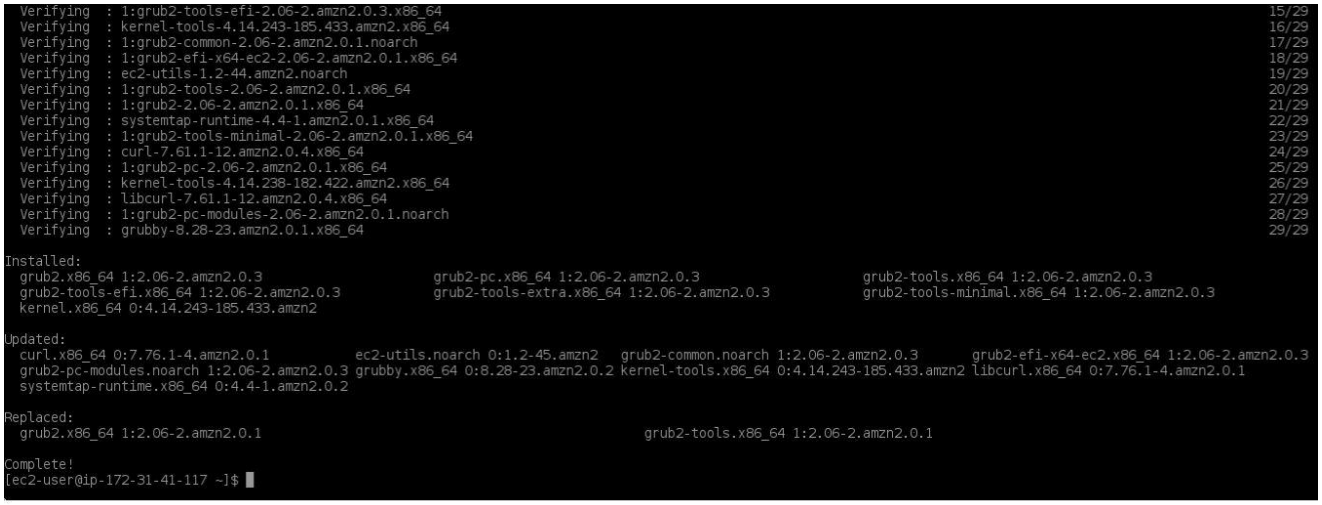




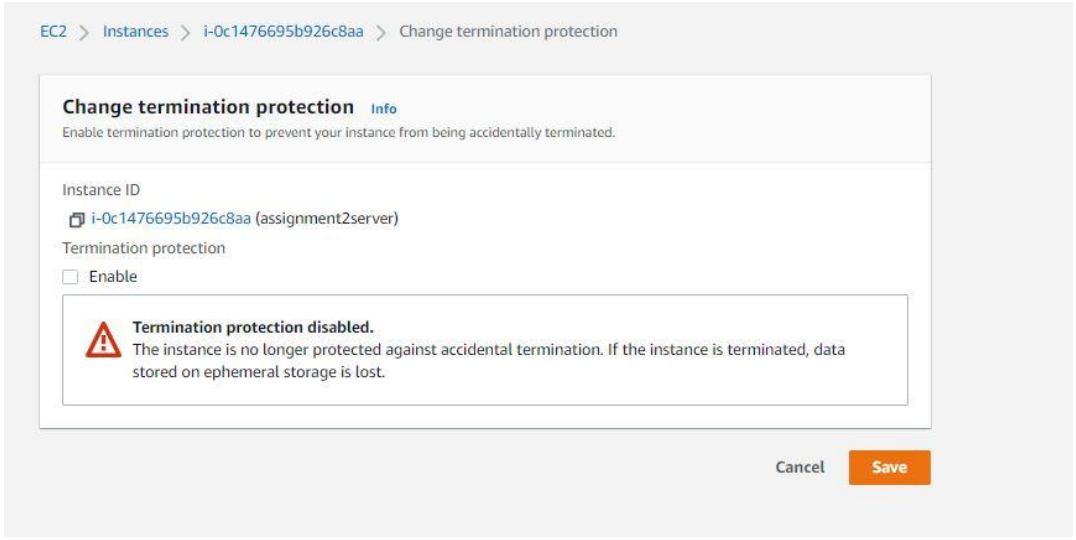


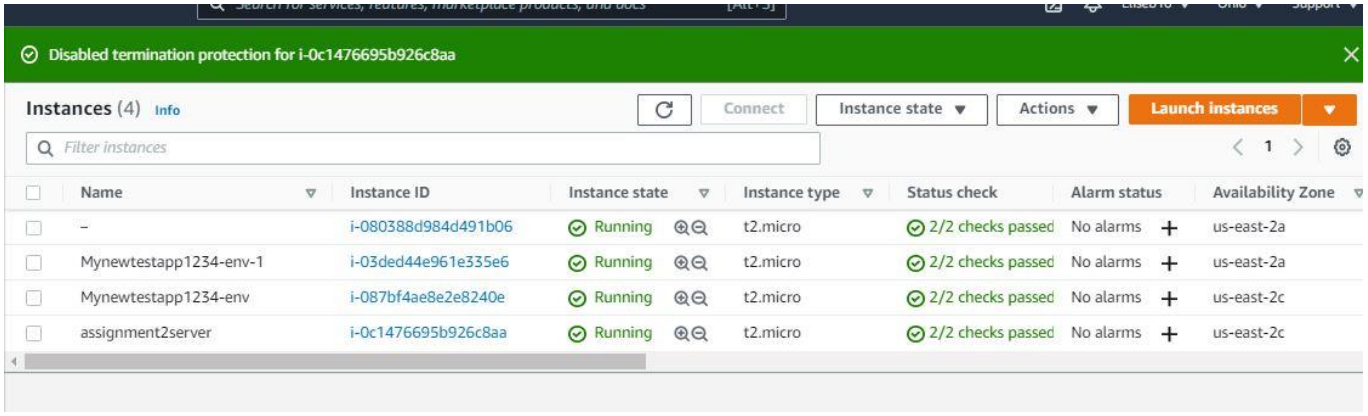
i-0c1476695b926c8aa (assignment2server)

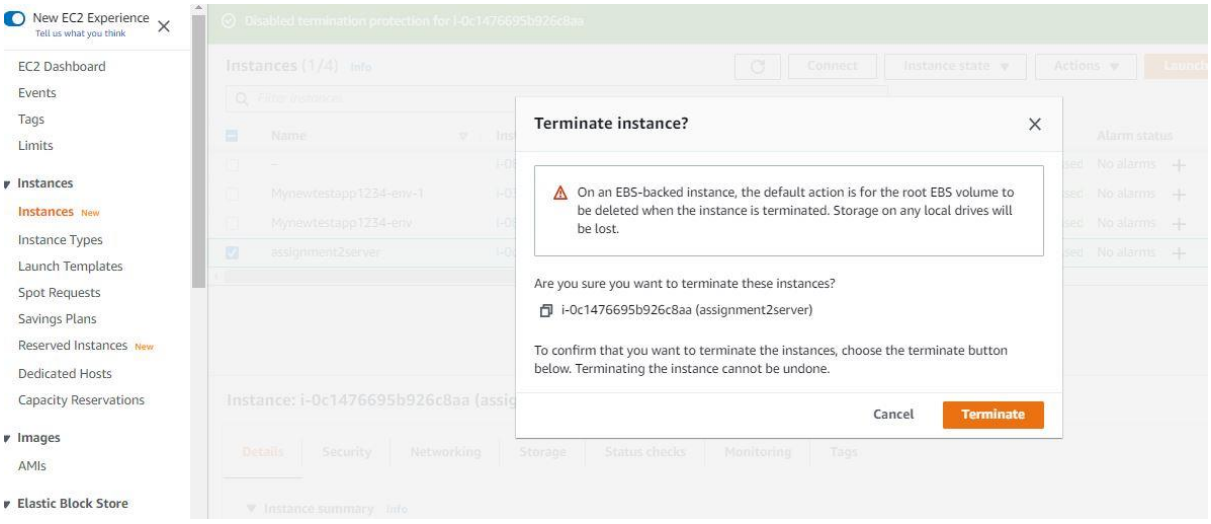
i-0c1476695b926c8aa (assignment2server)

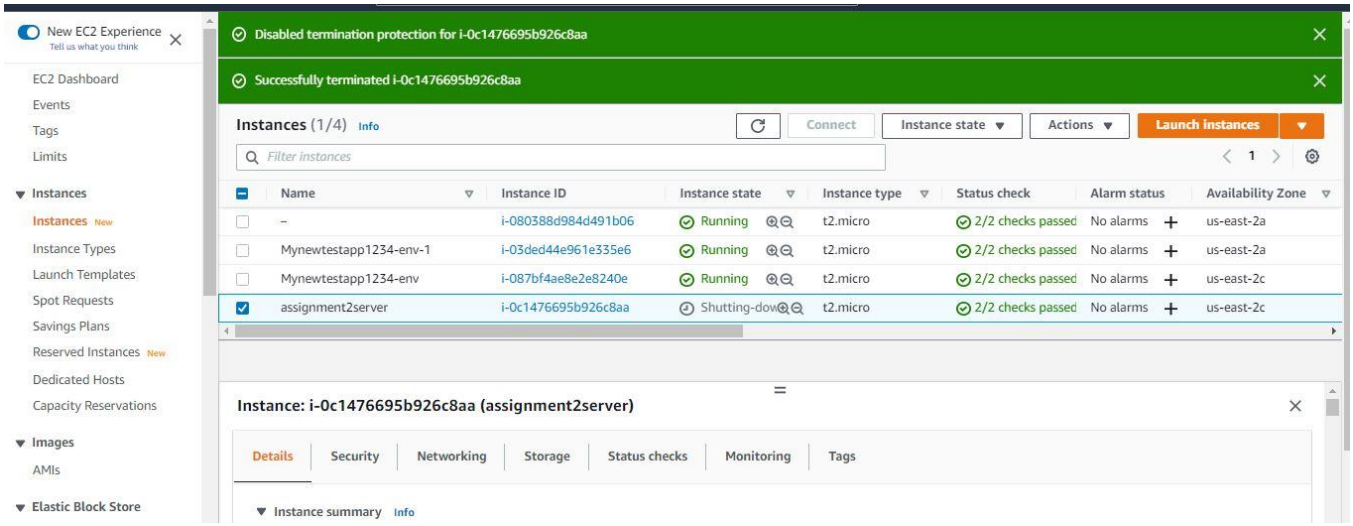


i-0c1476695b926c8aa (assignment2server)


EC2 > Instances > i-0c1476695b926c8aa > Change termination protection
Change termination protection Info
Enable termination protection to prevent your instance from being accidentally terminated.
Instance ID
i-0c1476695b926c8aa (assignment2server)
Termination protection
Enable
Termination protection disabled.
The instance is no longer protected against accidental termination. If the instance is terminated, data stored on ephemeral storage is lost.
Cancel
Save

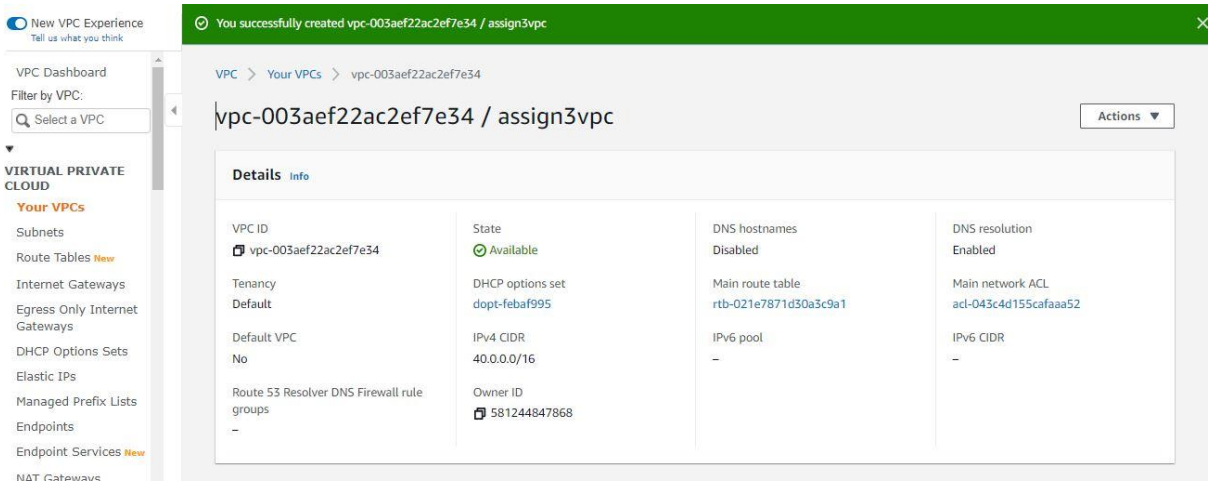

Disabled termination protection for i-0c1476695b926c8aa
Instances (4) Info
Connect
Instance state
Actions
Launch instances
Filter instances
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
– i-080388d984d491b06 Running t2.micro 2/2 checks passed No alarms us-east-2a
Mynewtestapp1234-env-1 i-03ded44e961e335e6 Running t2.micro 2/2 checks passed No alarms us-east-2a
Mynewtestapp1234-env i-087bf4ae8e2e8240e Running t2.micro 2/2 checks passed No alarms us-east-2c
assignment2server i-0c1476695b926c8aa Running t2.micro 2/2 checks passed No alarms us-east-2c

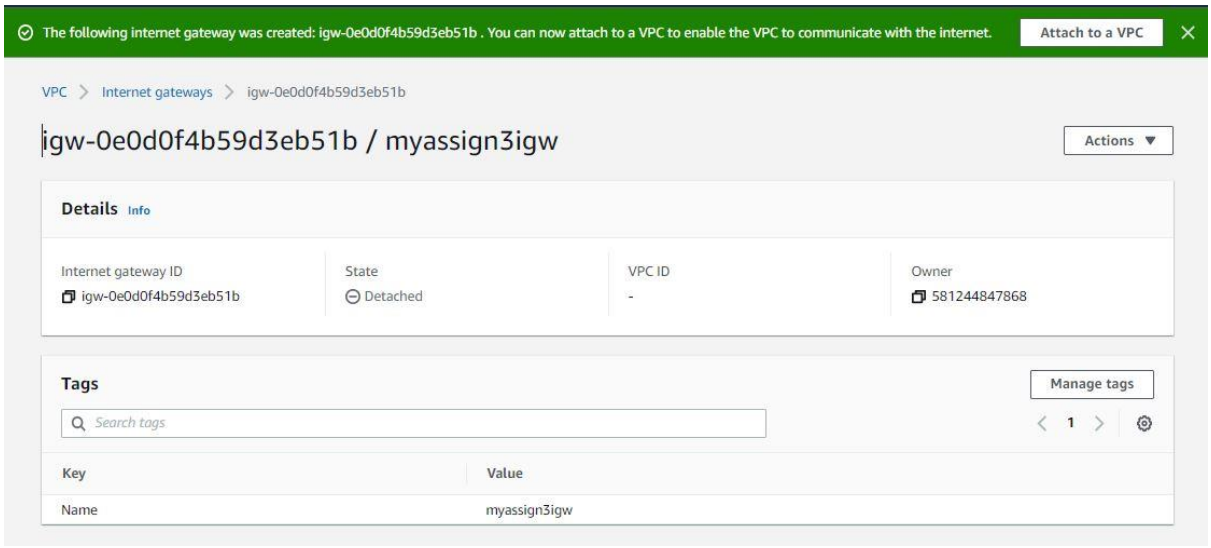

New EC2 Experience
Tell us what you think
EC2 Dashboard
Events
Tags
Limits
Instances
Instances New
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances New
Dedicated Hosts
Capacity Reservations
Images
AMIs
Elastic Block Store
Terminate instance?
On an EBS-backed instance, the default action is for the root EBS volume to be deleted when the instance is terminated. Storage on any local drives will be lost.
Are you sure you want to terminate these instances?
i-0c1476695b926c8aa (assignment2server)
To confirm that you want to terminate the instances, choose the terminate button below. Terminating the instance cannot be undone.
Cancel
Terminate

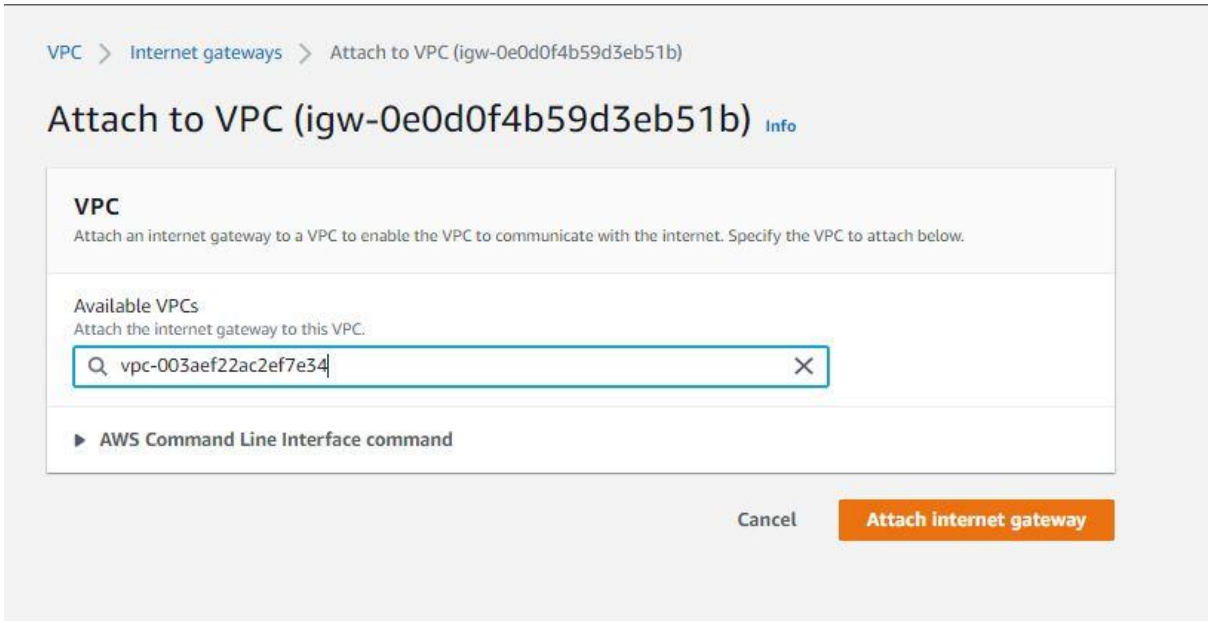

New EC2 Experience
Tell us what you think
EC2 Dashboard
Events
Tags
Limits
Instances
Instances New
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances New
Dedicated Hosts
Capacity Reservations
Images
AMIs
Elastic Block Store
Disabled termination protection for i-0c1476695b926c8aa
Successfully terminated i-0c1476695b926c8aa
Instances (1/4) Info
Connect
Instance state
Actions
Launch instances
Filter instances
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
– i-080388d984d491b06 Running t2.micro 2/2 checks passed No alarms us-east-2a
Mynewtestapp1234-env-1 i-03ded44e961e335e6 Running t2.micro 2/2 checks passed No alarms us-east-2a
Mynewtestapp1234-env i-087bf4ae8e2e8240e Running t2.micro 2/2 checks passed No alarms us-east-2c
assignment2server i-0c1476695b926c8aa Shutting-dow t2.micro 2/2 checks passed No alarms us-east-2c
Instance: i-0c1476695b926c8aa (assignment2server)
Details
Security
Networking
Storage
Status checks
Monitoring
Tags
Instance summary Info

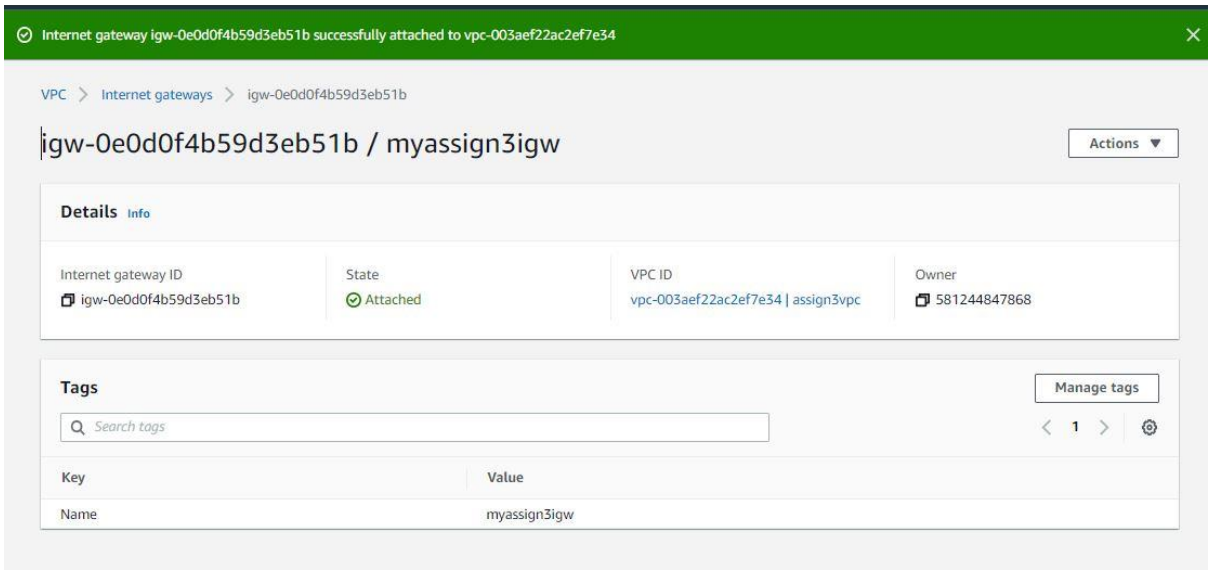
Assignment 3 – Working with VPC

1. Create a VPC
2. Create a internet gateway and attach to VPC
3. Create a route table and add route to igw
4. Make the custom route table the main table
5. Create the subnet
6. Modify auto assign IP settings for the subnet
7. Launch a ec2 instance in custom vpc






VPC > Internet gateways > Attach to VPC (igw-0e0d0f4b59d3eb51b)
Attach to VPC (igw-0e0d0f4b59d3eb51b) Info
VPC
Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.
Available VPCs
Attach the internet gateway to this VPC.
vpc-003aef22ac2ef7e34
AWS Command Line Interface command
Cancel
Attach internet gateway


Internet gateway igw-0e0d0f4b59d3eb51b successfully attached to vpc-003aef22ac2ef7e34
VPC > Internet gateways > igw-0e0d0f4b59d3eb51b
igw-0e0d0f4b59d3eb51b / myassign3igw
Actions
Details Info
Internet gateway ID
igw-0e0d0f4b59d3eb51b
State
Attached
VPC ID
vpc-003aef22ac2ef7e34 | assign3vpc
Owner
581244847868
Tags
Manage tags
Search tags
1
Key
Value
Name
myassign3igw

VPC > Route tables > Create route table

Create route table Info

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.

Route table settings

Name - *optional*
Create a tag with a key of 'Name' and a value that you specify.

myassign3route

VPC
The VPC to use for this route table.

vpc-003aef22ac2ef7e34 (assign3vpc)

Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key | Value - *optional*

VPC > Route tables > Create route table

Create route table Info

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.

Route table settings

Name - *optional*
Create a tag with a key of 'Name' and a value that you specify.

myassign3route

VPC
The VPC to use for this route table.

vpc-003aef22ac2ef7e34 (assign3vpc)

Tags

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key | Value - *optional*

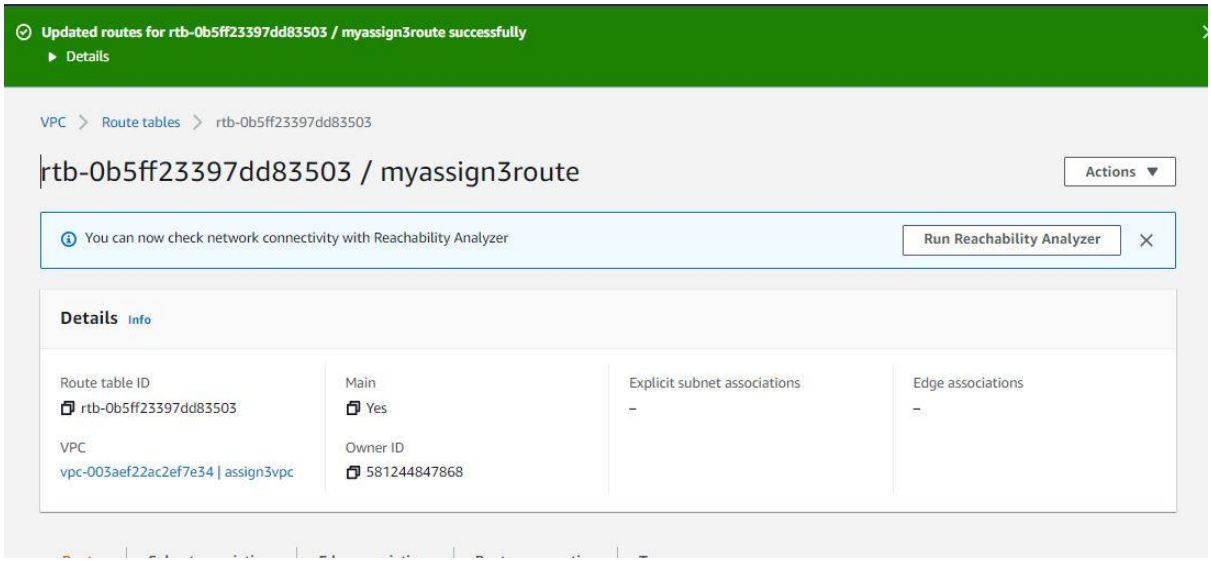
VPC > Route tables > rtb-0b5ff23397dd83503 > Edit routes

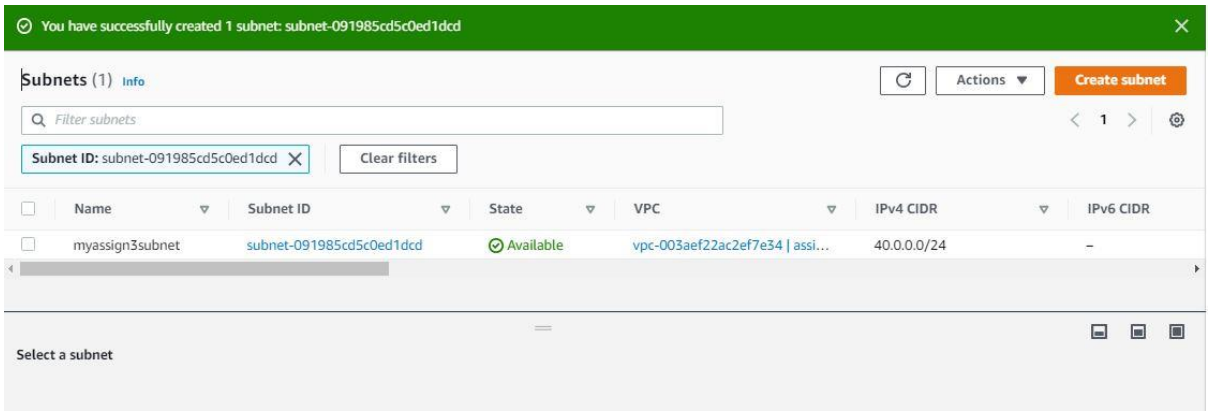
Edit routes

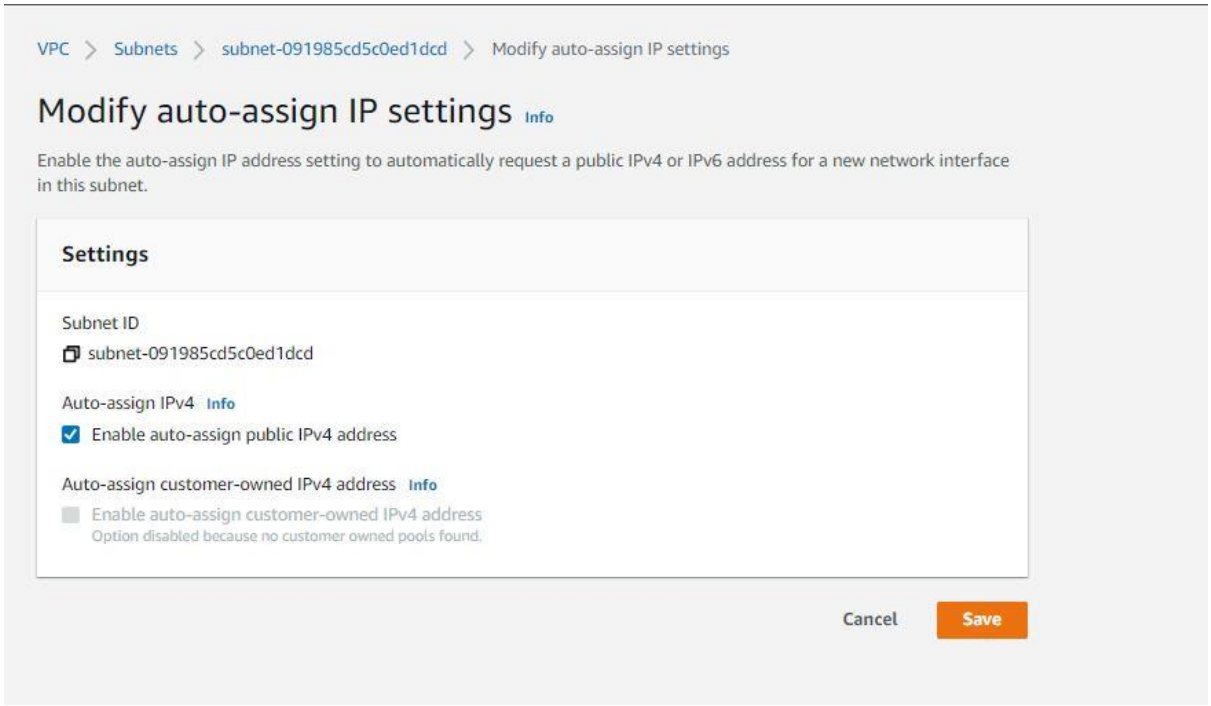
Destination	Target	Status	Propagated	
40.0.0.0/16	local	Active	No	
0.0.0.0/0	igw-0e0d0f4b59d3eb51b	–	No	Remove

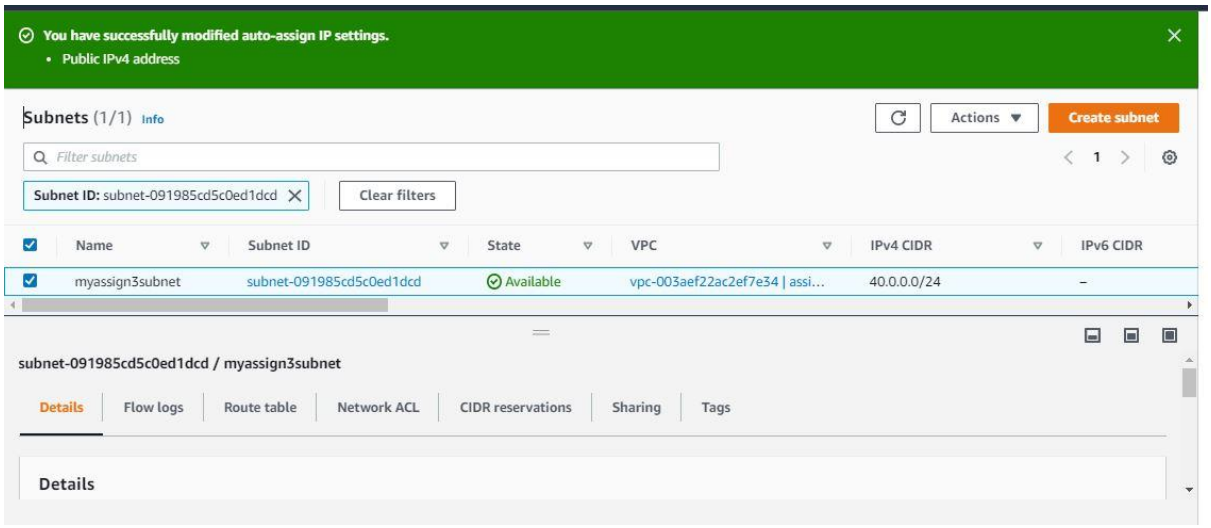
Add route

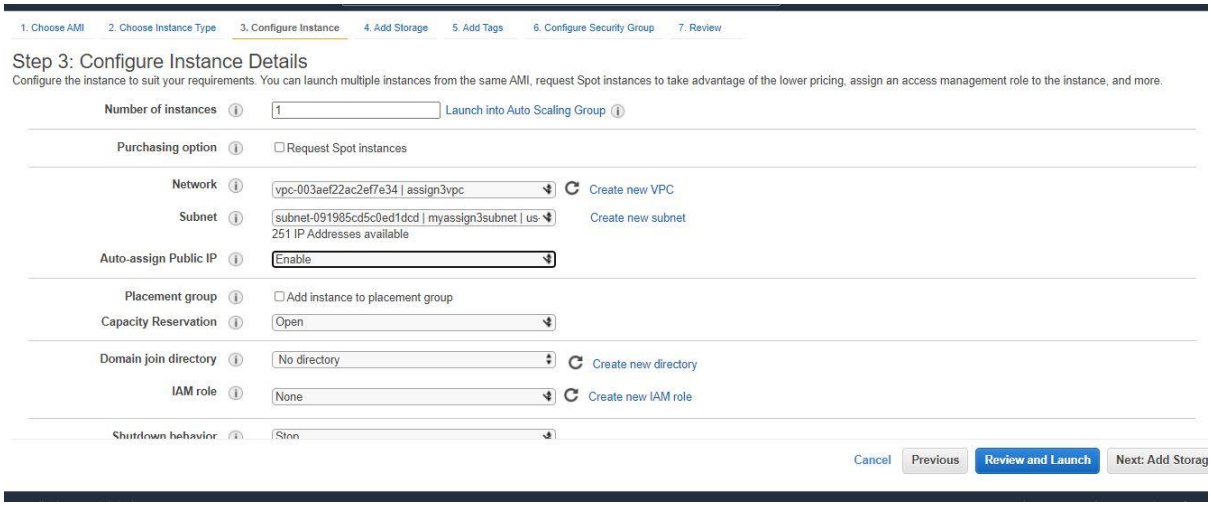
Cancel | Preview | Save changes

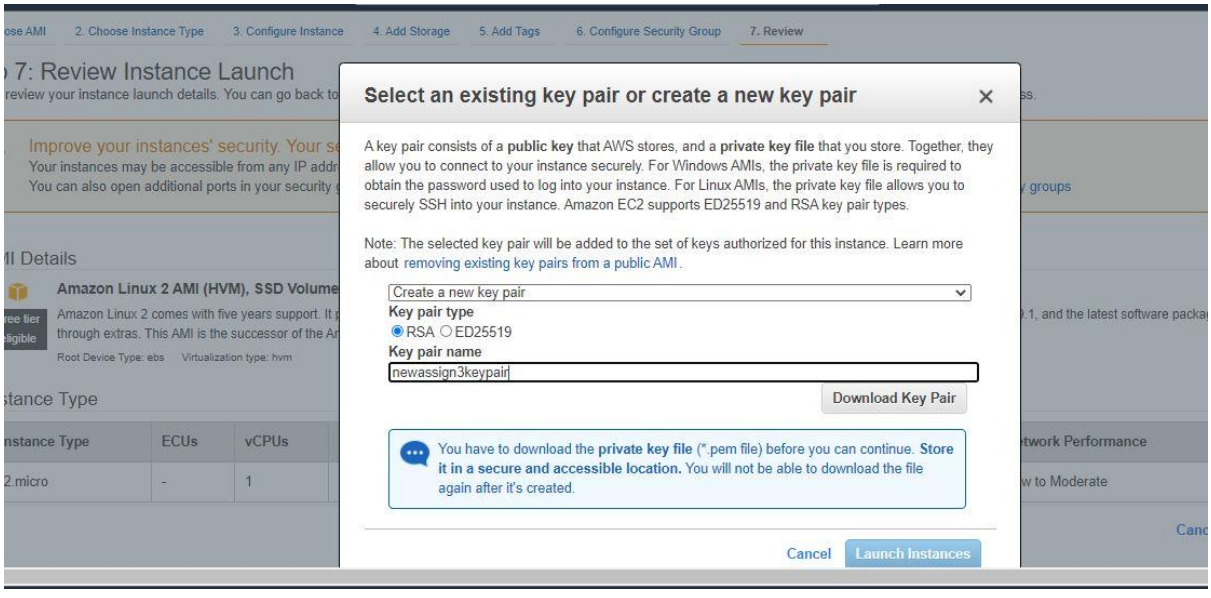

Updated routes for rtb-0b5ff23397dd83503 / myassign3route successfully
Details
VPC > Route tables > rtb-0b5ff23397dd83503
rtb-0b5ff23397dd83503 / myassign3route
Actions
You can now check network connectivity with Reachability Analyzer
Run Reachability Analyzer
Details Info
Route table ID
rtb-0b5ff23397dd83503
Main
Yes
Explicit subnet associations
–
Edge associations
–
VPC
vpc-003aef22ac2ef7e34 | assign3vpc
Owner ID
581244847868


You have successfully created 1 subnet: subnet-091985cd5c0ed1dcd
Subnets (1) Info
Actions
Create subnet
Filter subnets
Subnet ID: subnet-091985cd5c0ed1dcd
Clear filters
Name
Subnet ID
State
VPC
IPv4 CIDR
IPv6 CIDR
myassign3subnet
subnet-091985cd5c0ed1dcd
Available
vpc-003aef22ac2ef7e34 | assi...
40.0.0.0/24
–
Select a subnet


VPC > Subnets > subnet-091985cd5c0ed1dcd > Modify auto-assign IP settings
Modify auto-assign IP settings Info
Enable the auto-assign IP address setting to automatically request a public IPv4 or IPv6 address for a new network interface in this subnet.
Settings
Subnet ID
subnet-091985cd5c0ed1dcd
Auto-assign IPv4 Info
Enable auto-assign public IPv4 address
Auto-assign customer-owned IPv4 address Info
Enable auto-assign customer-owned IPv4 address
Option disabled because no customer owned pools found.
Cancel
Save


You have successfully modified auto-assign IP settings.
Public IPv4 address
Subnets (1/1) Info
Actions
Create subnet
Filter subnets
Subnet ID: subnet-091985cd5c0ed1dcd
Clear filters
Name
Subnet ID
State
VPC
IPv4 CIDR
IPv6 CIDR
myassign3subnet
subnet-091985cd5c0ed1dcd
Available
vpc-003aef22ac2ef7e34 | assi...
40.0.0.0/24
subnet-091985cd5c0ed1dcd / myassign3subnet
Details
Flow logs
Route table
Network ACL
CIDR reservations
Sharing
Tags
Details


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
1
Launch into Auto Scaling Group
Purchasing option
Request Spot instances
Network
vpc-003aef22ac2ef7e34 | assign3vpc
Create new VPC
Subnet
subnet-091985cd5c0ed1dcd | myassign3subnet | us
Create new subnet
251 IP Addresses available
Auto-assign Public IP
Enable
Placement group
Add instance to placement group
Capacity Reservation
Open
Domain join directory
No directory
Create new directory
IAM role
None
Create new IAM role
Shutdown behavior
Stop
Cancel
Previous
Review and Launch
Next: Add Storag


2. Choose Instance Type
3. Configure Instance
4. Add Storage
5. Add Tags
6. Configure Security Group
7. Review
7: Review Instance Launch
Improve your instances' security. Your
Your instances may be accessible from any IP addr
You can also open additional ports in your security
groups
Details
Amazon Linux 2 AMI (HVM), SSD Volume
Amazon Linux 2 comes with five years support. It
through extras. This AMI is the successor of the Ar
Root Device Type: ebs
Virtualization type: hvm
stance Type
nstance Type
ECUs
vCPUs
2.micro
-
1
twork Performance
w to Moderate
Select an existing key pair or create a new key pair
A key pair consists of a public key that AWS stores, and a private key file that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance. Amazon EC2 supports ED25519 and RSA key pair types.
Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about removing existing key pairs from a public AMI.
Create a new key pair
Key pair type
RSA
ED25519
Key pair name
newassign3keypair
Download Key Pair
You have to download the private key file (*.pem file) before you can continue. Store it in a secure and accessible location. You will not be able to download the file again after it's created.
Cancel
Launch Instances

Launch Status

Your instances are now launching
The following instance launches have been initiated: i-03bfe85b16bed41d2 View launch log

Get notified of estimated charges
Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

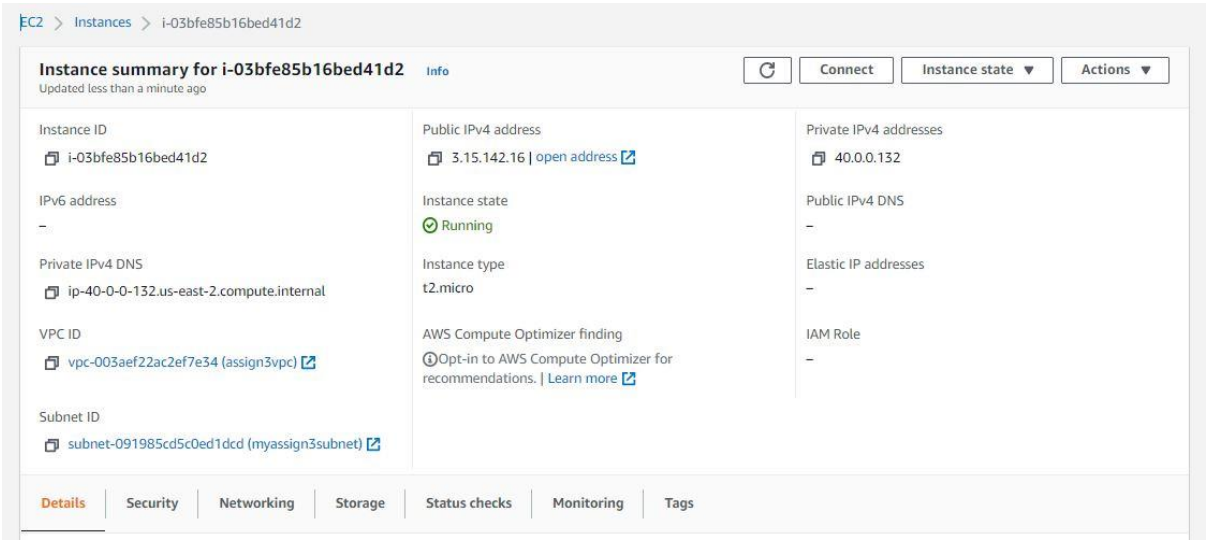
Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click **View Instances** to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. Find out how to connect to your instances.

▼ Here are some helpful resources to get you started

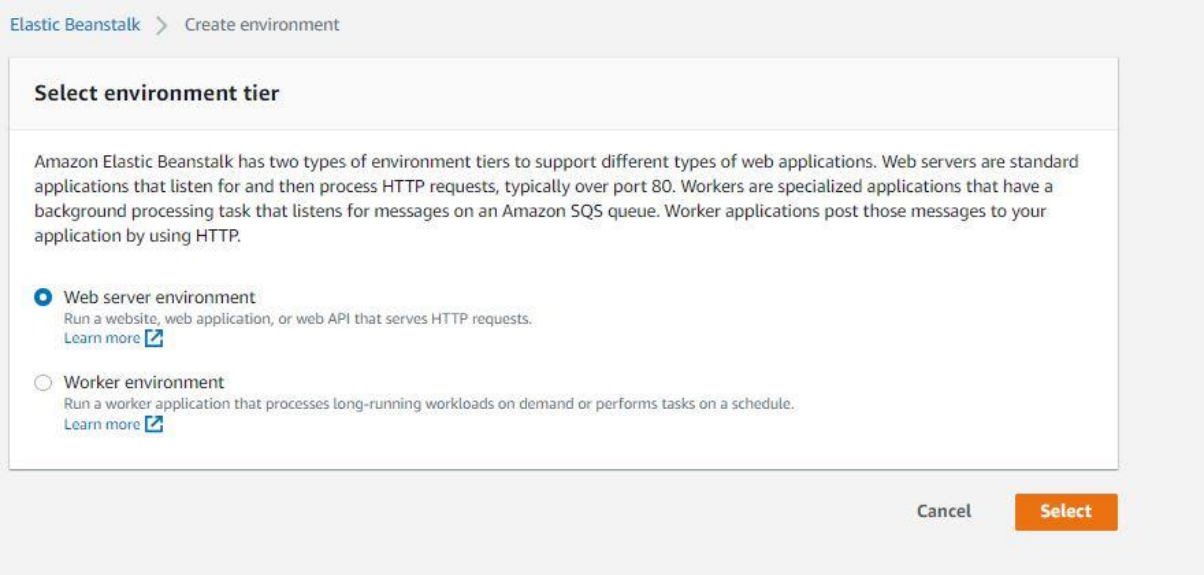
- How to connect to your Linux instance
- Learn about AWS Free Usage Tier
- Amazon EC2: User Guide
- Amazon EC2: Discussion Forum

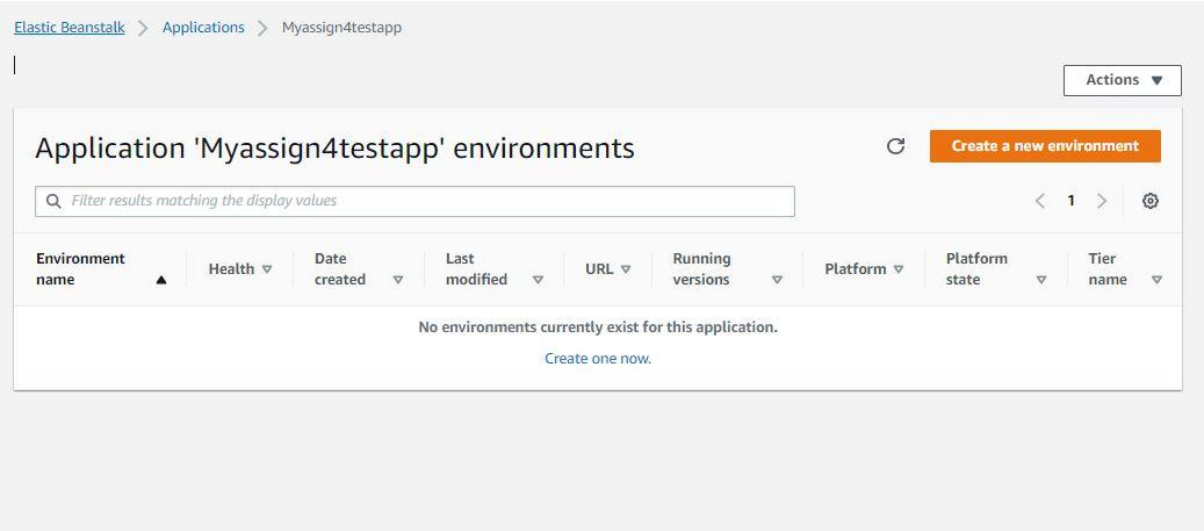
While your instances are launching you can also

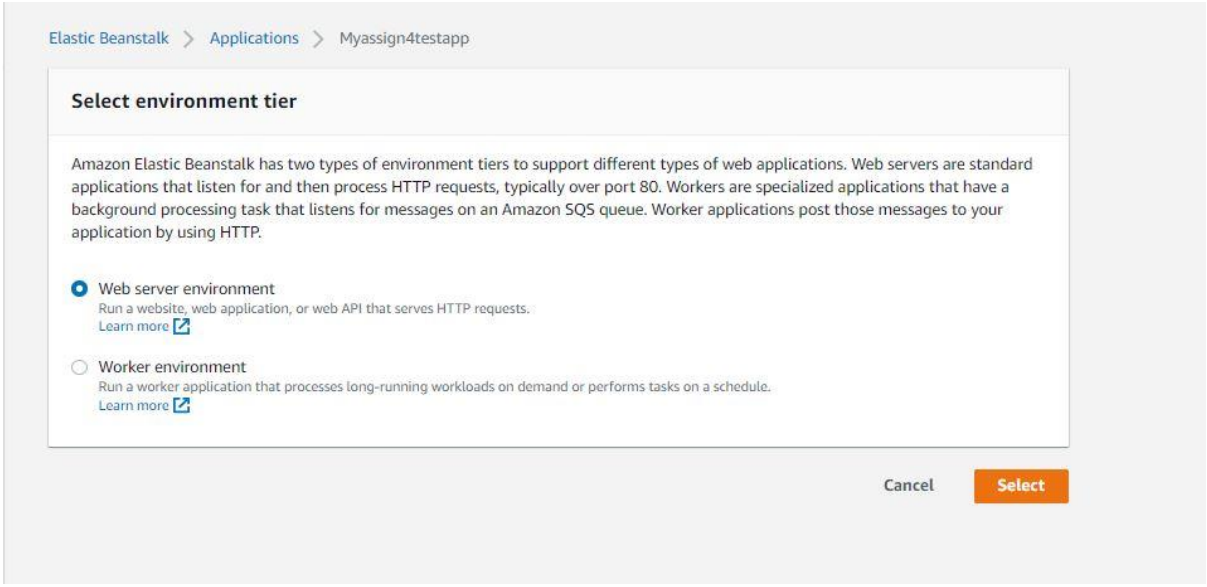


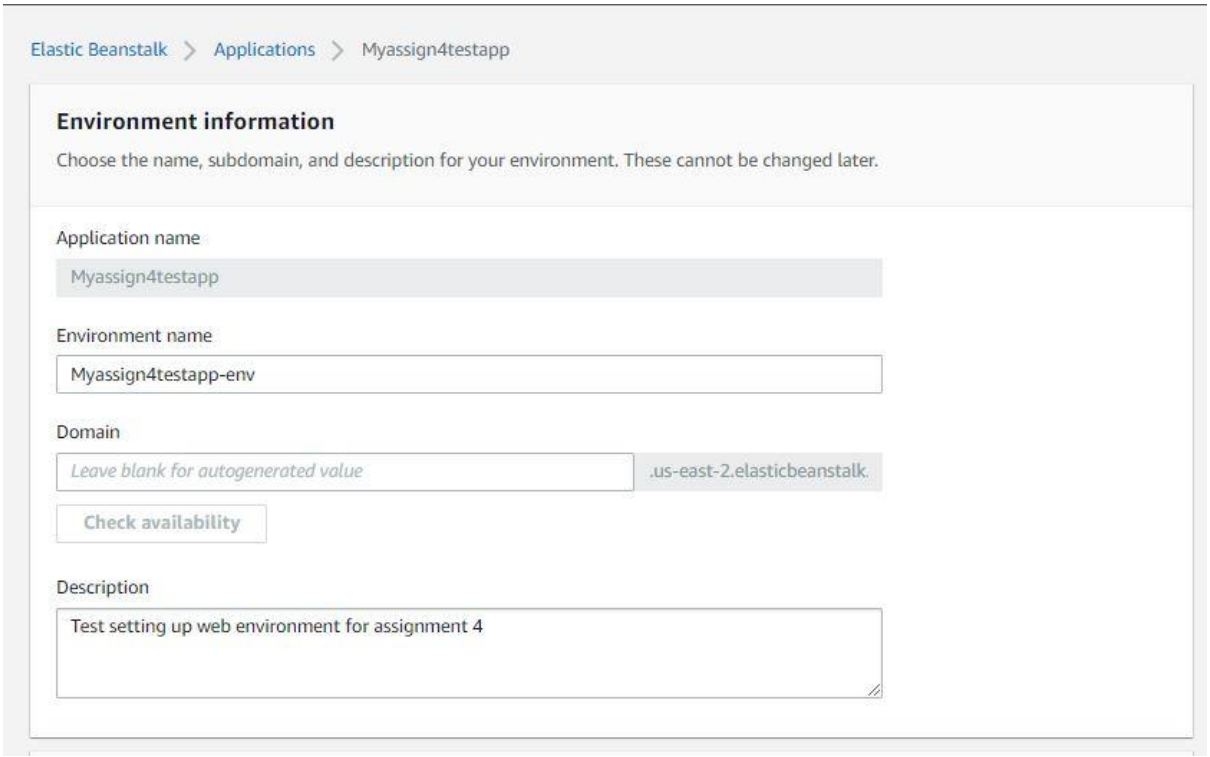
Assignment 4 – Deploying an application on Elastic beanstalk

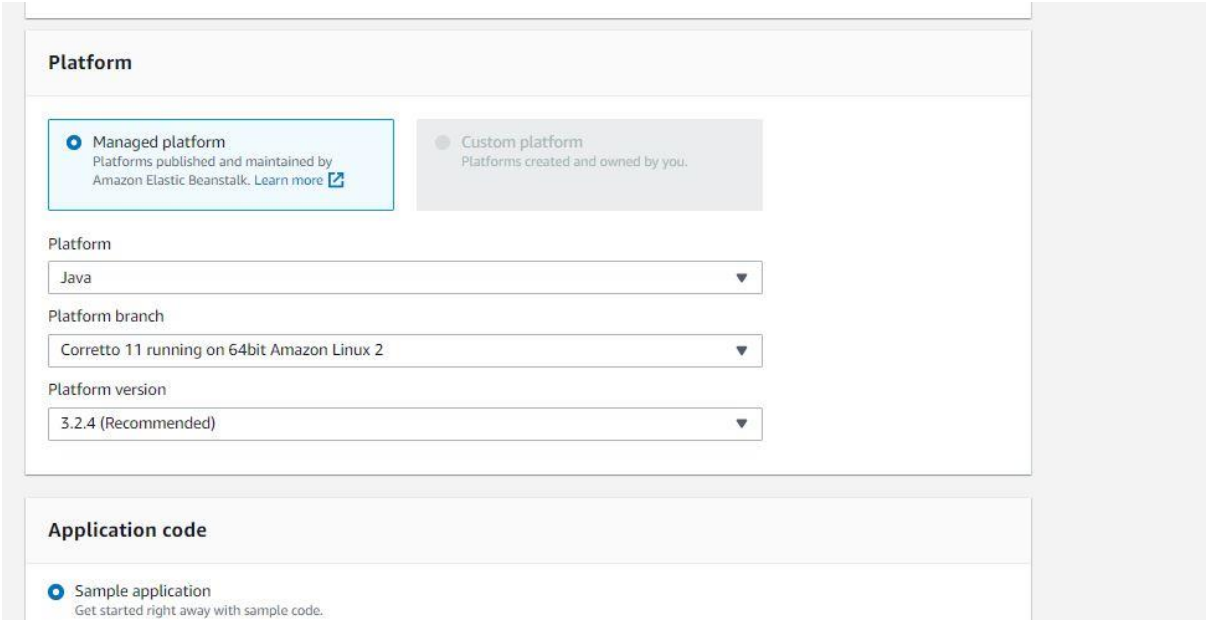
1. Create an elastic beanstalk application
2. Create web server environment
3. Deploy a sample application

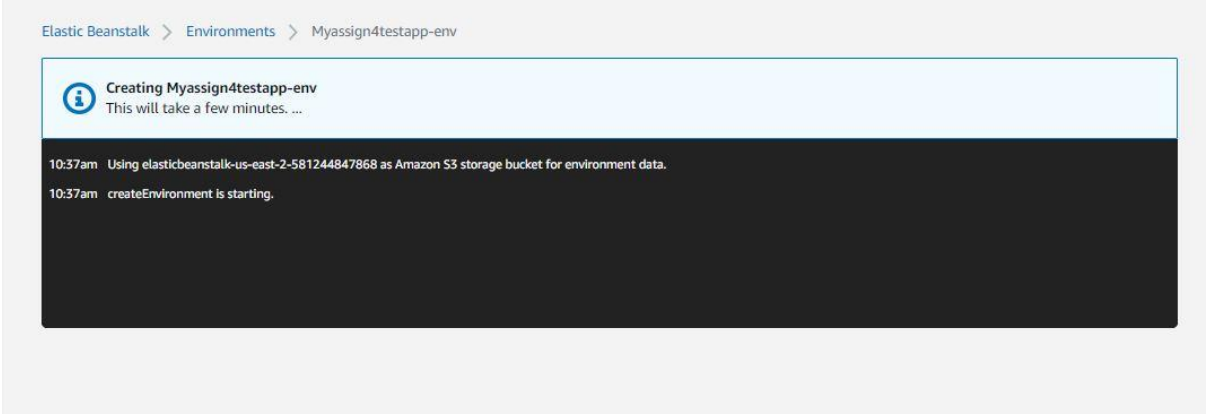


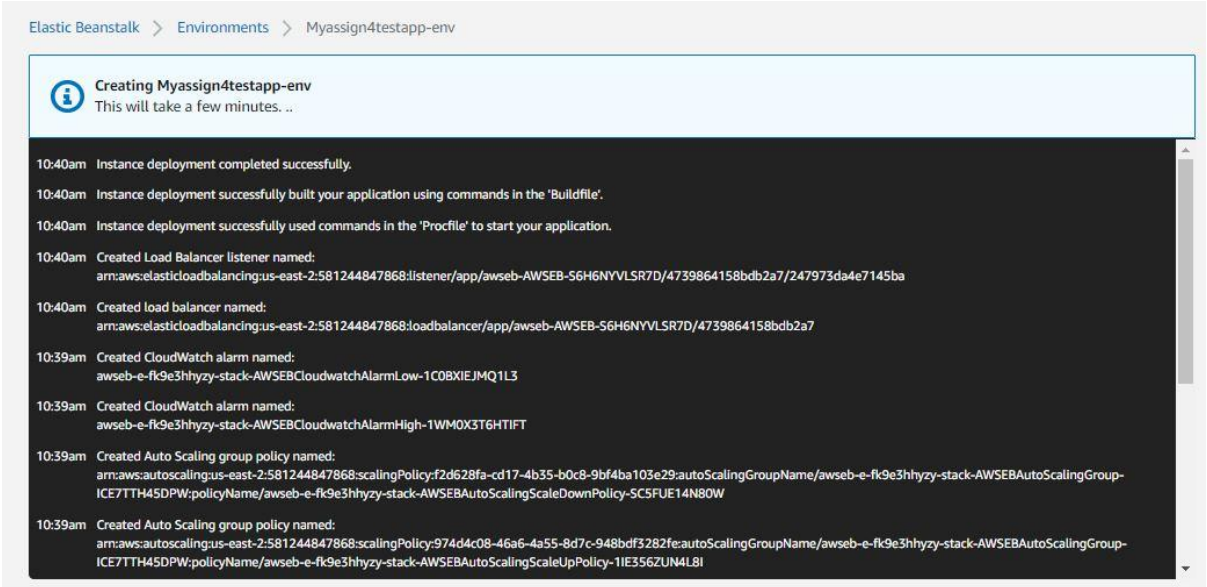


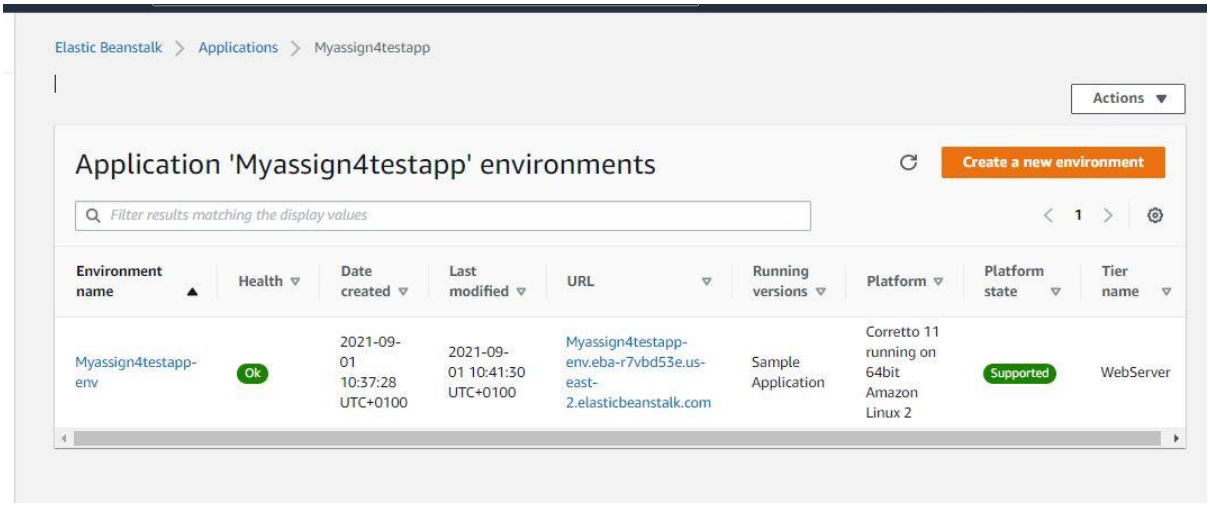

Elastic Beanstalk > Applications > Myassign4testapp
Select environment tier
Amazon Elastic Beanstalk has two types of environment tiers to support different types of web applications. Web servers are standard applications that listen for and then process HTTP requests, typically over port 80. Workers are specialized applications that have a background processing task that listens for messages on an Amazon SQS queue. Worker applications post those messages to your application by using HTTP.
Web server environment
Run a website, web application, or web API that serves HTTP requests.
Learn more
Worker environment
Run a worker application that processes long-running workloads on demand or performs tasks on a schedule.
Learn more
Cancel
Select

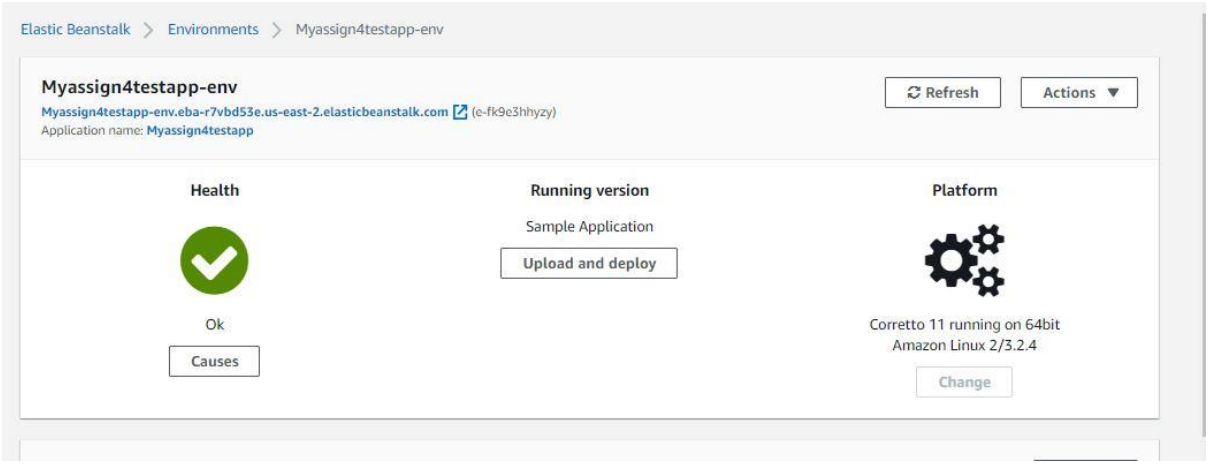

Elastic Beanstalk > Applications > Myassign4testapp
Environment information
Choose the name, subdomain, and description for your environment. These cannot be changed later.
Application name
Myassign4testapp
Environment name
Myassign4testapp-env
Domain
Leave blank for autogenerated value
.us-east-2.elasticbeanstalk.
Check availability
Description
Test setting up web environment for assignment 4

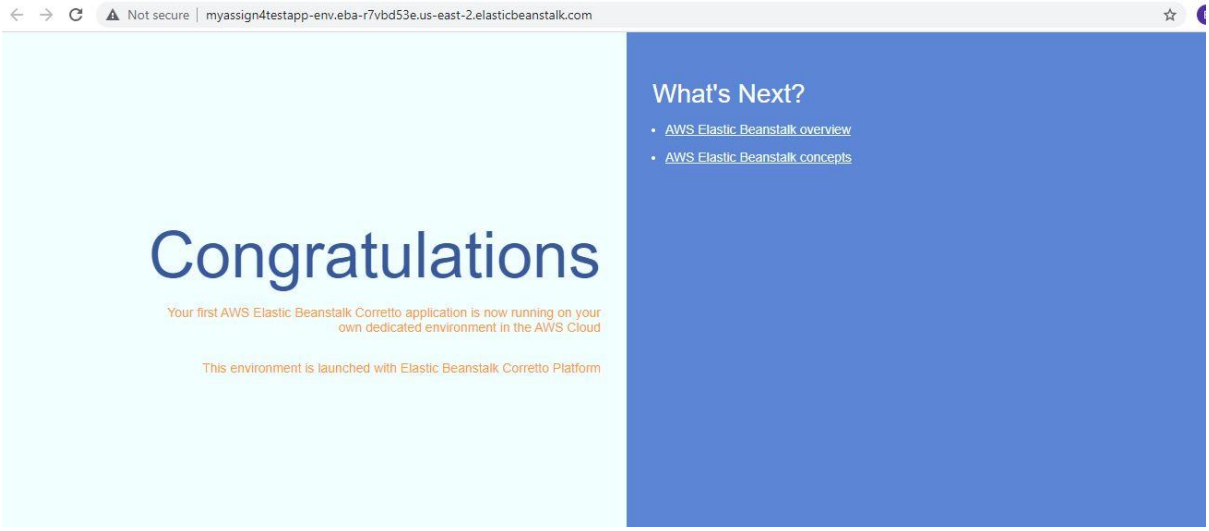

Platform
Managed platform
Platforms published and maintained by Amazon Elastic Beanstalk. Learn more
Custom platform
Platforms created and owned by you.
Platform
Java
Platform branch
Corretto 11 running on 64bit Amazon Linux 2
Platform version
3.2.4 (Recommended)
Application code
Sample application
Get started right away with sample code.


Elastic Beanstalk > Environments > Myassign4testapp-env
Creating Myassign4testapp-env
This will take a few minutes. ...
10:37am Using elasticbeanstalk-us-east-2-581244847868 as Amazon S3 storage bucket for environment data.
10:37am createEnvironment is starting.


Elastic Beanstalk > Environments > Myassign4testapp-env
Creating Myassign4testapp-env
This will take a few minutes. ..
10:40am Instance deployment completed successfully.
10:40am Instance deployment successfully built your application using commands in the 'Buildfile'.
10:40am Instance deployment successfully used commands in the 'Procfile' to start your application.
10:40am Created Load Balancer listener named:
arn:aws:elasticloadbalancing:us-east-2:581244847868:listener/app/awseb-AWSEB-S6H6NYVLSR7D/4739864158bdb2a7/247973da4e7145ba
10:40am Created load balancer named:
arn:aws:elasticloadbalancing:us-east-2:581244847868:loadbalancer/app/awseb-AWSEB-S6H6NYVLSR7D/4739864158bdb2a7
10:39am Created CloudWatch alarm named:
awseb-e-fk9e3hhyzy-stack-AWSEBCloudwatchAlarmLow-1C0BXIEJMQ1L3
10:39am Created CloudWatch alarm named:
awseb-e-fk9e3hhyzy-stack-AWSEBCloudwatchAlarmHigh-1WM0X3T6HTIFT
10:39am Created Auto Scaling group policy named:
arn:aws:autoscaling:us-east-2:581244847868:scalingPolicy:f2d628fa-cd17-4b35-b0c8-9bf4ba103e29:autoScalingGroupName/awseb-e-fk9e3hhyzy-stack-AWSEBAutoScalingGroup-ICE7TTH45DPW:policyName/awseb-e-fk9e3hhyzy-stack-AWSEBAutoScalingScaleDownPolicy-SC5FUE14N80W
10:39am Created Auto Scaling group policy named:
arn:aws:autoscaling:us-east-2:581244847868:scalingPolicy:974d4c08-46a6-4a55-8d7c-948bdf3282fe:autoScalingGroupName/awseb-e-fk9e3hhyzy-stack-AWSEBAutoScalingGroup-ICE7TTH45DPW:policyName/awseb-e-fk9e3hhyzy-stack-AWSEBAutoScalingScaleUpPolicy-1IE356ZUN4L8I


Elastic Beanstalk > Applications > Myassign4testapp
Actions
Application 'Myassign4testapp' environments
Create a new environment
Filter results matching the display values
1
Environment name
Health
Date created
Last modified
URL
Running versions
Platform
Platform state
Tier name
Myassign4testapp-env
Ok
2021-09-01 10:37:28 UTC+0100
2021-09-01 10:41:30 UTC+0100
Myassign4testapp-env.eba-r7vbd53e.us-east-2.elasticbeanstalk.com
Sample Application
Corretto 11 running on 64bit Amazon Linux 2
Supported
WebServer


Elastic Beanstalk > Environments > Myassign4testapp-env
Myassign4testapp-env
Myassign4testapp-env.eba-r7vbd53e.us-east-2.elasticbeanstalk.com (e-fk9e3hhyzy)
Application name: Myassign4testapp
Refresh
Actions
Health
Ok
Causes
Running version
Sample Application
Upload and deploy
Platform
Corretto 11 running on 64bit Amazon Linux 2/3.2.4
Change


Not secure | myassign4testapp-env.eba-r7vbd53e.us-east-2.elasticbeanstalk.com
Congratulations
Your first AWS Elastic Beanstalk Corretto application is now running on your own dedicated environment in the AWS Cloud
This environment is launched with Elastic Beanstalk Corretto Platform
What's Next?
AWS Elastic Beanstalk overview
AWS Elastic Beanstalk concepts