

Monitoring AWS Billing:

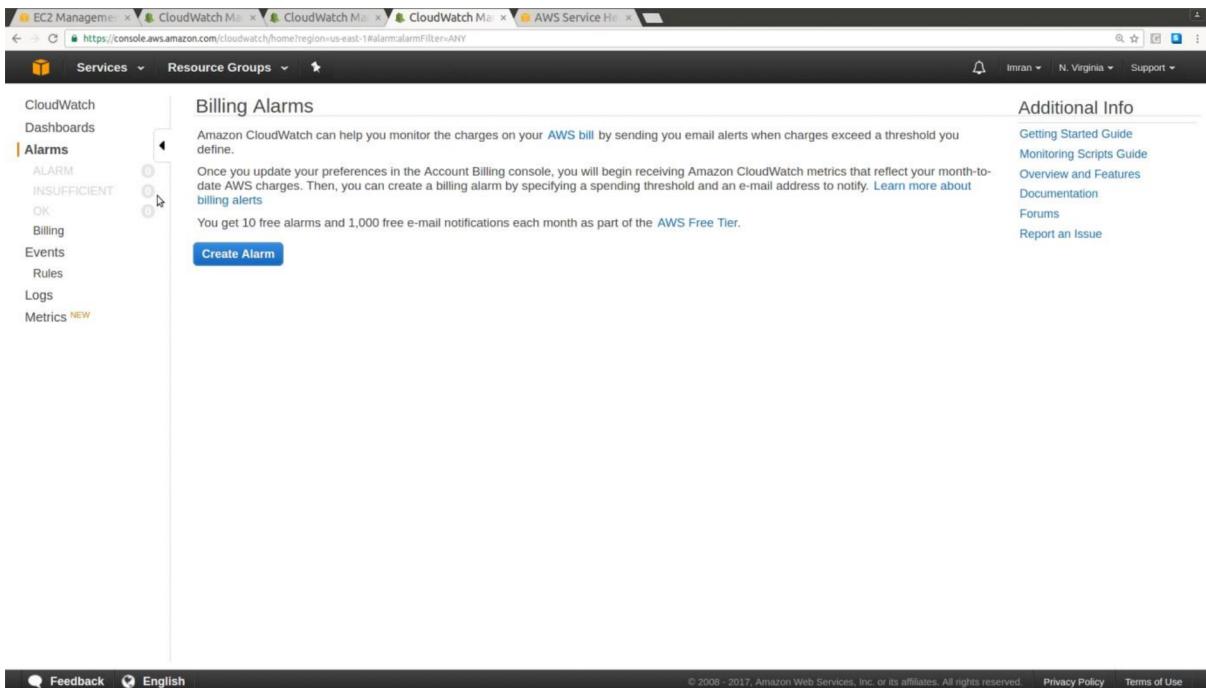
We can also monitor our account's estimated costs and usage by setting up an alarm.

Go to My Billing Dashboard ==> Preferences ==> Put a check mark on Receive billing alerts.
Click on the Save Preferences

Go to CloudWatch service, Click on Billing and select create alarm.

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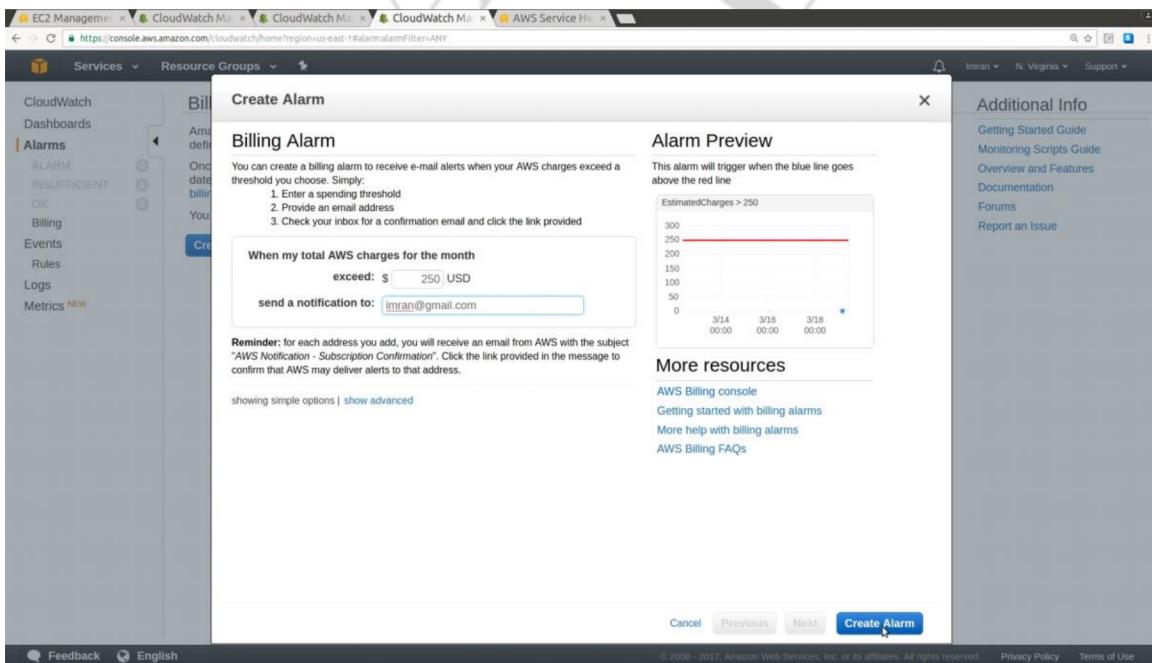
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The screenshot shows the AWS CloudWatch Billing Alarms page. On the left sidebar, under the 'Alarms' section, 'Billing' is selected. The main content area is titled 'Billing Alarms' and contains a brief description of how CloudWatch can monitor AWS charges. It includes a link to learn more about billing alerts and a note that 10 free alarms and 1,000 free e-mail notifications are included in the AWS Free Tier. A prominent blue 'Create Alarm' button is located at the bottom of this section. The top right corner shows user information: Imran, N. Virginia, and Support.

Create Alarm:

Enter the threshold, if your AWS account charges exceeds than the threshold value you will receive an email which you will provide in the send notification.
Click on create alarm.



The screenshot shows the 'Create Alarm' dialog box for a 'Billing Alarm'. The dialog has two main sections: 'Billing Alarm' and 'Alarm Preview'. The 'Billing Alarm' section explains that an alarm can be created to receive email alerts when AWS charges exceed a chosen threshold. It lists three steps: 1. Enter a spending threshold, 2. Provide an email address, and 3. Check your inbox for a confirmation email. Below this, it specifies 'When my total AWS charges for the month exceed: \$ 250 USD' and 'send a notification to: imran@gmail.com'. A 'Reminder' note states that each address added will receive an email from AWS with a subscription confirmation link. The 'Alarm Preview' section shows a graph titled 'EstimatedCharges > 250' with a red horizontal line at the 250 mark. The Y-axis ranges from 0 to 300, and the X-axis shows dates from 3/14 to 3/18. The graph shows a blue line starting to rise towards the 250 mark. At the bottom of the dialog, there are 'Cancel', 'Previous', 'Next', and 'Create Alarm' buttons, along with links for 'More resources' like the AWS Billing console and FAQs.

View Alarm: your alarm has been successfully created for billing section of AWS.

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Your alarm **BillingAlarm** has been saved.

Create Alarm Add to Dashboard Actions

Filter: All alarms AWS/Billing

State: OK Name: BillingAlarm Threshold: EstimatedCharges > 250 for 6 hours Config Status

1 Alarm selected

Alarm: BillingAlarm

Details History

State Details: State changed to OK at 2017/03/19. Reason: Threshold Crossed: 1 datapoint (0.72) was not greater than the threshold (250.0).

Description: Threshold: EstimatedCharges > 250 for 6 hours Actions: In ALARM: • Send message to topic "NotifyMe" (imranti@gmail.com)

Namespace: AWS/Billing Metric Name: EstimatedCharges Dimensions: Currency = USD Statistic: Maximum Period: 6 hours

BillingAlarm EstimatedCharges > 250

EstimatedCharges	Time
0	3/14 00:00
50	3/16 00:00
250	3/18 00:00
300	3/18 06:00

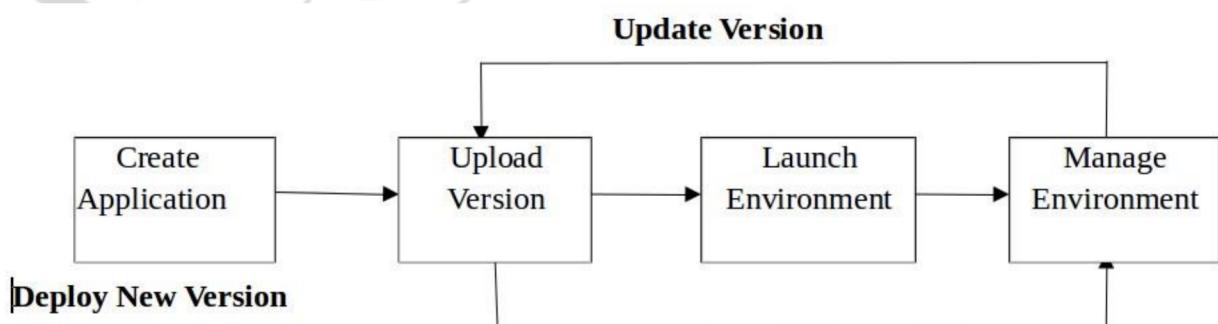
15. AWS Elastic Beanstalk + Jenkins

AWS Elastic Beanstalk is a cloud deployment and provisioning service that automates the process of getting applications set up on the Amazon Web Services (AWS) infrastructure. It is an easy-to-use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker on familiar servers such as Apache, Nginx, Passenger, and IIS.

Workflow of Beanstalk:

Create an application, upload an application version in the form of an application source bundle (for example, a Java .war file) to Elastic Beanstalk, and then provide some information about the application. Elastic Beanstalk automatically launches an environment and creates and configures the AWS resources needed to run your code. After your environment is launched, you can then manage your environment and deploy new application versions. The following diagram illustrates the workflow of Elastic Beanstalk

Create Tomcat platform in Beanstalk.

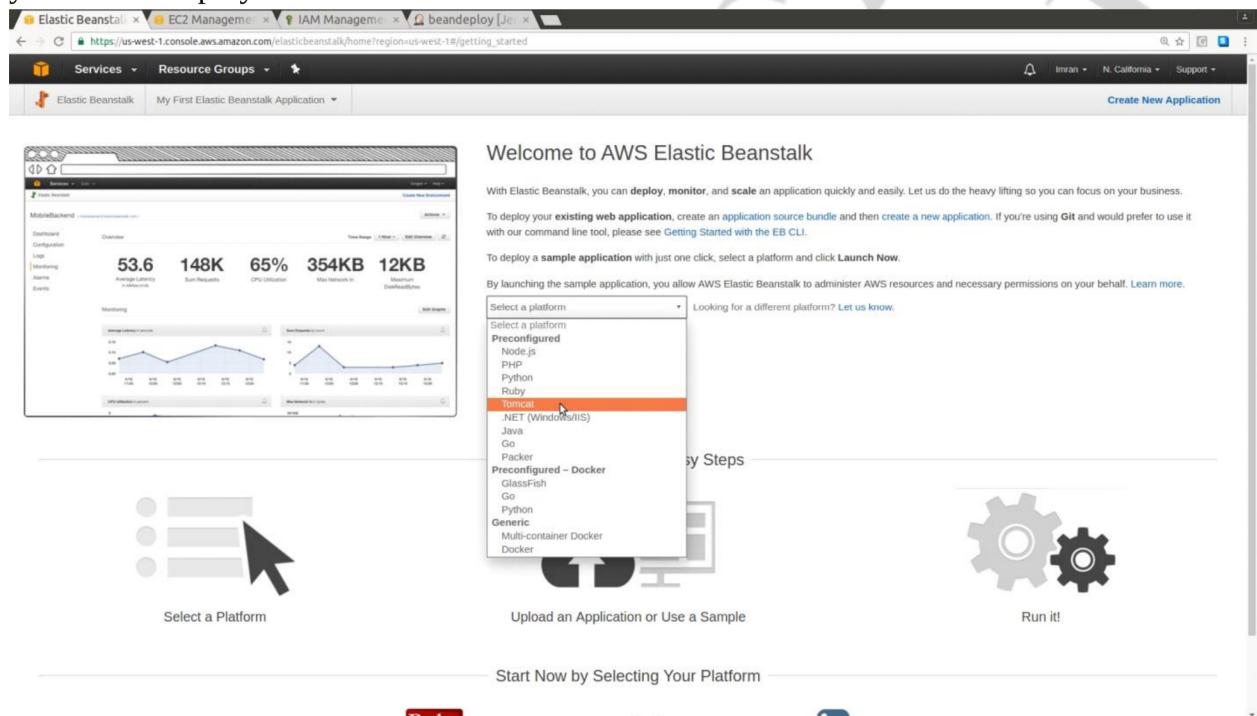


Benefits of Elastic Beanstalk:

- Fast and simple to begin
- Developer productivity
- Impossible to outgrow
- Complete resource control

Create an Application:

Open Elastic Beanstalk Management console from AWS main page. Select the application in which you want to deploy.



Here I selected tomcat application and click on Launch now. After creating the Elastic Beanstalk application, you can view information about the application you deployed and its provisioned resources by going to the environment dashboard in the AWS Management Console. The dashboard shows the health of your application's environment, the running version, and the environment configuration. While Elastic Beanstalk creates your AWS resources and launches your application, the environment will be in a Pending state.

All Applications > My First Elastic Beanstalk Application > Default-Environment (Environment ID: e-22zgqsygu, URL: Default-Environment.jhabpwpn7.us-west-1.elasticbeanstalk.com)

Dashboard

Configuration

Logs

Health (Ok)

Monitoring

Alarms

Managed Updates

Events

Tags

Recent Events

Time	Type	Details
2017-03-19 19:05:58 UTC+0530	INFO	Environment health has transitioned from Pending to Ok. Initialization completed 34 seconds ago and took 3 minutes.
2017-03-19 19:05:50 UTC+0530	INFO	Successfully launched environment: Default-Environment
2017-03-19 19:04:25 UTC+0530	INFO	Created CloudWatch alarm named: awseb-e-22zgqsygu-stack-AWSEBCloudwatchAlarmHigh-MOE230K7UHU8
2017-03-19 19:04:25 UTC+0530	INFO	Created CloudWatch alarm named: awseb-e-22zgqsygu-stack-AWSEBCloudwatchAlarmLow-KY7CRNBHJJPB
2017-03-19 19:04:24 UTC+0530	INFO	Created Auto Scaling group policy named: arn:aws:autoscaling:us-west-1:171225278948:scalingPolicy:6392303a-b79c-4ca2-96ac-3510b69f6391:autoScalingGroupName:awseb-e-22zgqsygu-stack-AWSEBAutoScalingGroup-QDHTJDJV7S0B:policyName:awseb-e-22zgqsygu-stack-AWSEBAutoScalingScaleUpPolicy:JBNX1P2JTFIW

Actions

Create New Environment

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Click on My First Elastic Beanstalk Application in the environment's dashboard to see the status messages about launch events.

All Applications > My First Elastic Beanstalk Application

Environments

Application versions

Saved configurations

Default-Environment	Default-Environment (Terminated)
Environment tier: Web Server	Environment tier: Web Server
Running version: Sample Application	Running version: 201703191804-2
Last modified: 2017-03-19 19:05:50 UTC+0530	Last modified: 2017-03-19 18:30:53 UTC+0530
URL: Default-Environment.jhabpwpn7.us-west-1.elasticbeanstalk.com	URL: Default-Environment.pxgmyvvh.us-west-1.elasticbeanstalk.com

Actions

Create New Environment

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Every Elastic Beanstalk application can have multiple environments.
As in real time we have Dev, QA, Staging and Prod etc.

Creating IAM user:

Create IAM user for authentication from Jenkins jobs deployment.

Open IAM Dashboard from AWS main page, go to user's pane and click on adduser.
Provide name for the user and select the Access type as Programmatic.

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Add user

Set user details

User name* beanstalkadmin

Access type* Programmatic access
Enables an access key ID and secret access key for the AWS API, CLI, SDK, and other development tools.

AWS Management Console access
Enables a password that allows users to sign-in to the AWS Management Console.

* Required

Cancel Next: Permissions

You will get an access key and secret access IDs key to access the account.
Click on Next to attach permissions to the user.
Attach AWSElasticBeanstalkFullAccess policy.

Add user to group

Copy permissions from existing user

Attach existing policies directly

Policy name	Type	Attachments	Description
AWSElasticBeanstalkFullAccess	AWS managed	0	Provides full access to AWS Elastic Beanstalk and underlying services that it requires such...

Showing 1 result

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Download Access keys csv file:

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Success
You successfully created the users shown below. You can view and download user security credentials. You can also email users instructions for signing in to the AWS Management Console. This is the last time these credentials will be available to download. However, you can create new credentials at any time.

Users with AWS Management Console access can sign-in at: <https://17125278948.signin.aws.amazon.com/console>

User	Access key ID	Secret access key
beanstalkadmin	AKIAZQQ7QDZWUJHXNQ	***** Show

Configure Jenkins job:

General **Source Code Management** Build Triggers Build Environment Build Post-build Actions

Source Code Management

- Git**
- Repositories**
 - Repository URL: <https://github.com/wakaleo/game-of-life.git>
 - Credentials: none
 - Advanced...
 - Add Repository
- Branches to build**
 - Branch Specifier (blank for 'any'): *master
 - Add Branch
- Repository browser**: (Auto)
- Additional Behaviours**: Add
- Subversion**

Build Triggers

- Trigger builds remotely (e.g., from scripts)
- Build after other projects are built
- Build periodically
- Poll SCM

Build Environment

- Delete workspace before build starts
- Abort the build if it's stuck
- Add timestamps to the Console Output
- Use secret text(s) or file(s)

Build

- Invoke top-level Maven targets
- Goals: install
- Advanced...

AWS Credentials and Region

Save **Apply**

Install AWS Beanstalk plugin in Jenkins and configure beanstalk plugin in Add Build Step

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Add credentials(keys) of the IAM user.

A screenshot of a Jenkins job configuration titled "My First Elastic Beanstalk". The "Build" tab is active. Under the "AWS Elastic Beanstalk" section, there is a "AWS Credentials and Region" panel. It shows a dropdown for "Credentials" set to "none", a dropdown for "AWS Region" set to "us-east-1", and a "Number Of Attempts" field set to "30". Below this is an "Application and Environment" panel. The "Application Name" field is empty, and the "Environment Name" field contains "beandeploy" with validation errors: "Application Names must have between 1-100 characters" and "Doesn't look like an environment name. Must be from 4 to 40 characters in length. The name can contain only letters, numbers, and hyphens. It cannot start or end with a hyphen". At the bottom of the "AWS Elastic Beanstalk" panel is a "Validate Credentials" button. The "Packaging" panel below it has fields for "Root Object (File / Directory)" and "Includes", both currently empty. At the bottom of the configuration page is a "credentials.csv" file attachment and a "Show all" link.

Check the credentials.csv file from the command line as shown below
Access key highlighted below.

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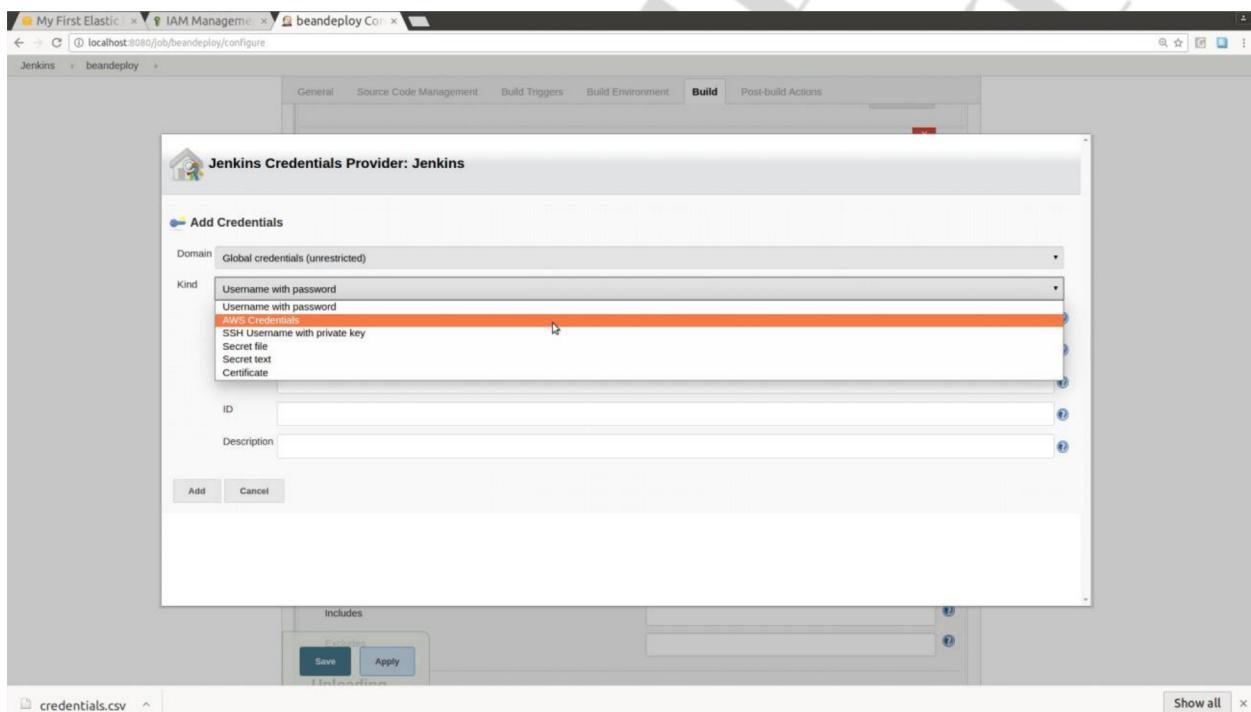
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```
imran@DevOps:~$ cd Downloads/
imran@DevOps:~/Downloads$ cat credentials.csv
User name,Password,Access key ID,Secret access key,Console login link
beanstalkadmin,,AKIAIZQQ7QDZW2UJHXNQ,KXzgqn0L76qc4siJoRDPMT5Lxrw0dGeA5fbz9QuA,https://171225278948.signin.aw
s.amazon.com/console
```

Security Key highlighted below.

```
imran@DevOps:~$ cd Downloads/
imran@DevOps:~/Downloads$ cat credentials.csv
User name,Password,Access key ID,Secret access key,Console login link
beanstalkadmin,,AKIAIZQQ7QDZW2UJHXNQ,KXzgqn0L76qc4siJoRDPMT5Lxrw0dGeA5fbz9QuA,https://171225278948.signin.aw
s.amazon.com/console
```

When you click on add for the credentials, you will see the Kind option. Select AWS Credentials then add the access & secret key and click on Add.



The screenshot shows the Jenkins Credentials Provider configuration page. The 'Build' tab is selected. A modal window titled 'Jenkins Credentials Provider: Jenkins' is open, showing the 'Add Credentials' form. The 'Kind' is set to 'AWS Credentials'. The 'Access Key ID' is 'AKIAIZQQ7QDZW2UJHXNQ' and the 'Secret Access Key' is masked. The 'Description' is 'BeanStalkAdminKeys'. The 'Scope' is 'Global (Jenkins, nodes, items, all child items, etc)'. The 'ID' field is empty. The 'Domain' is 'Global credentials (unrestricted)'. There is a note stating 'These credentials are valid and have access to 5 availability zones'. At the bottom of the modal are 'Add' and 'Cancel' buttons, and an 'Advanced...' link. Below the modal, there is a 'Save' button and an 'Apply' button.

Validate the given credentials by selecting validate credentials while configuring AWS beanstalk plugin.

The screenshot shows the 'AWS Credentials and Region' configuration screen. Under 'Credentials', a dropdown menu shows 'AKIAIZQQ7QDZW2UJHXNQ (BeanStalkAdminKeys)'. Under 'AWS Region', 'us-west-1' is selected. Under 'Number Of Attempts', '30' is entered. A 'Validate Credentials' button is present. Below the button, a list of validation results is shown:

- Building Client (credentialId: '600fc365-d5b4-48de-a367-d378b1a30b4d', region: 'us-west-1')
- Testing Amazon S3 Service (endpoint: https://s3-us-west-1.amazonaws.com)
- Buckets Found: 3
- Testing AWS Elastic Beanstalk Service (endpoint: https://elasticbeanstalk.us-west-1.amazonaws.com)
- Applications Found: 1 (My First Elastic Beanstalk Application)

**Give Application and environment name.
Check that information in Beanstalk.**

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Application and Environment

Application Name	My First Elastic Beanstalk Application
Environment Name	Default-Environment
Environment found (environmentId: e-mu3mbhmyan)	
Validate Coordinates	

Root object should be the path of artifact located in workspace.

Version we will keep BUILD_ID AND BUILD_TIMESTAMP same as the CD project.

The screenshot shows the Jenkins beandeploy configuration interface. The 'Build' tab is active. The 'Application Name' is set to 'My First Elastic Beanstalk Application' and the 'Environment Name' is 'Default-Environment'. Under 'Packaging', the 'Root Object (File / Directory)' is specified as 'gameoflife-web/target/gameoflife.war'. In the 'Uploading' section, 'S3 Bucket Name' and 'S3 Key Prefix' fields are present. The 'Version and Deployment' section includes 'Version Label Format' set to '\$BUILD_TIMESTAMP-\$BUILD_ID', 'Zero downtime?' checked, 'Amount of time to sleep between deployment status checks (seconds)' set to 90, 'Ensure Health is Green after deploy?' checked, and 'Number Of Attempts' set to 30. At the bottom are 'Save' and 'Apply' buttons.

Run the job and check the console output.

```

Default-Environment [The Game Of Life] [S3 Management] [IAM Management] [beandeploy #2]
localhost:8080/job/beandeploy/2/console
Jenkins > beandeploy > #2

[INFO] Using system property: log4j.rootCategory=INFO,INFO
[INFO] Reading requirements from net.thucydides.core.requirements.FileSystemRequirementsTagProvider@1593583c
[INFO] Reading requirements from net.thucydides.core.requirements.PackageAnnotationBasedTagProvider@7c85d634
[INFO] Requirements found:[]
[INFO] Generating release reports for: []
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ gameoflife-web ---
[INFO] Installing /var/lib/jenkins/workspace/beandeploy/gameoflife-web/target/gameoflife.war to /var/lib/jenkins/.m2/repository/com/wakaleo/gameoflife/gameoflife-web/1.0-SNAPSHOT/gameoflife-web-1.0-SNAPSHOT.war
[INFO] Installing /var/lib/jenkins/workspace/beandeploy/gameoflife-web/pom.xml to /var/lib/jenkins/.m2/repository/com/wakaleo/gameoflife/gameoflife-web/1.0-SNAPSHOT/gameoflife-web-1.0-SNAPSHOT.pom
[INFO] -----
[INFO] Reactor Summary:
[INFO]
[INFO] gameoflife ..... SUCCESS [ 2.366 s]
[INFO] gameoflife-build ..... SUCCESS [ 1.285 s]
[INFO] gameoflife-core ..... SUCCESS [ 3.584 s]
[INFO] gameoflife-web ..... SUCCESS [ 3.922 s]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 11.515 s
[INFO] Finished at: 2017-03-19T18:04:50+05:30
[INFO] Memory usage: 30M/693M
[INFO] -----
AwSEB Deployment Plugin Version 0.3.15
Root File Object is a file. We assume its a zip file, which is okay.
bucketName not set. Calling createStorageLocation
Using s3 Bucket 'elasticbeanstalk-us-west-1-171225278948'
Uploading file awseb-7106147695585258645.zip as s3://elasticbeanstalk-us-west-1-171225278948/My First Elastic Beanstalk Application-201703191804-2.zip
Creating application version 201703191804-2 for application My First Elastic Beanstalk Application for path s3://elasticbeanstalk-us-west-1-171225278948/My First Elastic Beanstalk Application-201703191804-2.zip
Created version 201703191804-2
Using environmentId 'e-mu3mbhmyan'
No pending Environment Updates. Proceeding.
Checking health/status of environmentId e-mu3mbhmyan attempt 1/30
Environment Status is 'Ready' and Health is 'Green'.
Updating environmentId 'e-mu3mbhmyan' with Version Label set to '201703191804-2'
Checking health/status of environmentId e-mu3mbhmyan attempt 1/30
Versions reported: (current=201703191804-2, underDeployment: 201703191804-2).. Should I move on? false
Environment Status is 'Ready' and Health is 'Green'. Moving on.
Deployment marked as 'successful'. Starting post-deployment cleanup.
Cleaning up temporary file /tmp/awseb-7106147695585258645.zip
Finished: SUCCESS

```

Page generated: 19-Mar-2017 18:15:03 IST REST API Jenkins ver. 2.32.3

[credentials.csv](#) Show all

Verify the Environments Events.

Events		
Severity	TRACE	2017-01-29 18:15:00 UTC+0530
Time	Type	Details
2017-03-19 18:09:56 UTC+0530	INFO	Environment health has transitioned from Info to Ok. Application update completed 60 seconds ago and took 79 seconds.
2017-03-19 18:08:10 UTC+0530	INFO	Environment update completed successfully.
2017-03-19 18:08:10 UTC+0530	INFO	New application version was deployed to running EC2 instances.
2017-03-19 18:07:56 UTC+0530	INFO	Environment health has transitioned from Ok to Info. Application update in progress on 1 instance. 0 out of 1 instance completed (running for 59 seconds).
2017-03-19 18:07:29 UTC+0530	INFO	Deploying new version to instance(s).
2017-03-19 18:06:42 UTC+0530	INFO	Environment update is starting.
2017-03-19 17:49:40 UTC+0530	INFO	Successfully launched environment: Default-Environment
2017-03-19 17:48:58 UTC+0530	INFO	Environment health has transitioned from Pending to Ok. Initialization completed 8 seconds ago and took 3 minutes.
2017-03-19 17:48:13 UTC+0530	INFO	Created CloudWatch alarm named: awseb-e-mu3mbhmyan-stack-AWSEBCloudwatchAlarmLow-L17P22APEL9M
2017-03-19 17:48:13 UTC+0530	INFO	Created CloudWatch alarm named: awseb-e-mu3mbhmyan-stack-AWSEBCloudwatchAlarmHigh-8QGX847L01JH
2017-03-19 17:48:13 UTC+0530	INFO	Created Auto Scaling group policy named: arn:aws:autoscaling:us-west-1:171225278948:scalingPolicy:9691b726-160f-4e06-8219-94c52eab92a9:autoScalingGroupName/awseb-e-mu3mbhmyan-stack-AWSEBAutoScalingGroup-AS2G99HITZ9:policyName/awseb-e-mu3mbhmyan-stack-AWSEBAutoScalingScaleDownPolicy-13H3NDYBO4XF0

[credentials.csv](#) Show all

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All Applications > My First Elastic Beanstalk Application > Default-Environment (Environment ID: e-mu3mbhmyan, URL: Default-Environment.psgmqvvdh.us-west-1.elasticbeanstalk.com)

Health

Ok

Running Version
201703191804-2

Upload and Deploy

Configuration
64bit Amazon Linux 2016.09 v2.3.2 running Tomcat 8 Java 8

Recent Events

Time	Type	Details
2017-03-19 18:09:56 UTC+0530	INFO	Environment health has transitioned from Info to Ok. Application update completed 60 seconds ago and took 79 seconds.
2017-03-19 18:08:10 UTC+0530	INFO	Environment update completed successfully.
2017-03-19 18:08:10 UTC+0530	INFO	New application version was deployed to running EC2 instances.
2017-03-19 18:07:56 UTC+0530	INFO	Environment health has transitioned from Ok to Info. Application update in progress on 1 instance. 0 out of 1 instance completed (running for 59 seconds).
2017-03-19 18:07:29 UTC+0530	INFO	Deploying new version to instance(s).

Feedback English

credentials.csv

Show all

Click on the environment URL to verify if the application is accessible.
 We can change the configuration of the Beanstalk Environment as per our need.
 We can improvise the settings in the configuration tab of My First Beanstalk Application.
 Select scaling option in the configuration and follow the below steps:

All Applications > My First Elastic Beanstalk Application > Default-Environment (Environment ID: e-mu3mbhmyan, URL: Default-Environment.psgmqvvdh.us-west-1.elasticbeanstalk.com)

Web Tier

Scaling

Environment type: Load balanced, auto scaling
Number instances: 1 - 4
Scale based on Average network out
Add instance when > 6000000
Remove instance when < 2000000

Instances

Instance type: t1.micro
Availability Zones: Any

Notifications

Notifications: Off

Software Configuration

AWS X-Ray: disabled
Log publication: off
Log streaming: disabled
Initial JVM heap size: 256m
JVM command line options: blank
Maximum JVM heap size: 256m
Maximum JVM permanent generation size: 64m

Updates and Deployments

Deployment batch size: 100%
Rolling updates are disabled

Health

Application health check URL: blank
Health reporting: Enhanced

Managed Updates

Managed updates are disabled

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Select the Environment-Type as Load balancing, auto scaling or single instance.

The screenshot shows the AWS Elastic Beanstalk environment configuration page. On the left, there's a sidebar with links like Dashboard, Configuration, Logs, Health, Monitoring, Alarms, Managed Updates, Events, and Tags. The main area is titled 'Environment Type' with a sub-section 'The following settings configure the availability settings of your environment to help reduce the costs for development activities.' A dropdown menu for 'Environment type:' is open, showing 'Load balancing, auto scaling' (which is selected and highlighted in orange), 'Load balancing, static', and 'Single instance'. Below the dropdown, 'Current status:' is listed as '1 instance(s) in service, Min: 1, Max: 4'. There are three sections under 'Auto Scaling': 'Scaling Trigger' and 'Time-based Scaling'. At the bottom right are 'Cancel' and 'Apply' buttons.

This is helpful to balance the load to available web servers and also performs autoscaling. While configuring Auto scaling behaviour we can mention the parameters like minimum & maximum instances to be scaled, Availability Zones, and cooldown period.

The screenshot shows the same configuration page with the 'Auto Scaling' section expanded. Under 'Auto Scaling', it says 'Use the following settings to control auto scaling behavior. Learn more.' with fields for 'Minimum instance count:' (set to 1) and 'Maximum instance count:' (set to 4). It also includes 'Availability Zones:' (set to 'Any') and 'Custom Availability Zones:' (a dropdown showing 'us-west-1a' and 'us-west-1b'). Below these is a field for 'Scaling cooldown (seconds)' set to 360. The other sections 'Scaling Trigger' and 'Time-based Scaling' are also visible.

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In Scaling triggers, we mention Network, CPU, threshold etc.

The screenshot shows the 'Scaling Trigger' configuration page in the AWS Elastic Beanstalk console. It includes fields for Trigger measurement (NetworkOut), Trigger statistic (Average), Unit of measurement (Bytes), Measurement period (5 minutes), Breach duration (5 minutes), Upper threshold (6000000), Upper breach scale increment (1), Lower threshold (2000000), and Lower breach scale increment (-1). Below this is a 'Time-based Scaling' section with a 'Show all' button and 'Cancel'/'Apply' buttons.

In Time based scaling we mention specific time in a day when the instance count should be raised.

The screenshot shows the 'Time-based Scaling' configuration page in the AWS Elastic Beanstalk console. It includes fields for Unit of measurement (Bytes), Measurement period (5 minutes), Breach duration (5 minutes), Upper threshold (6000000), Upper breach scale increment (1), Lower threshold (2000000), and Lower breach scale increment (-1). Below this is a table for scheduled actions with columns for Name, Limits, Next occurrence (UTC), and Actions. A 'Show all' button and 'Cancel'/'Apply' buttons are also present.

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Below screenshot gives the details of how to configure Time-Based scaling

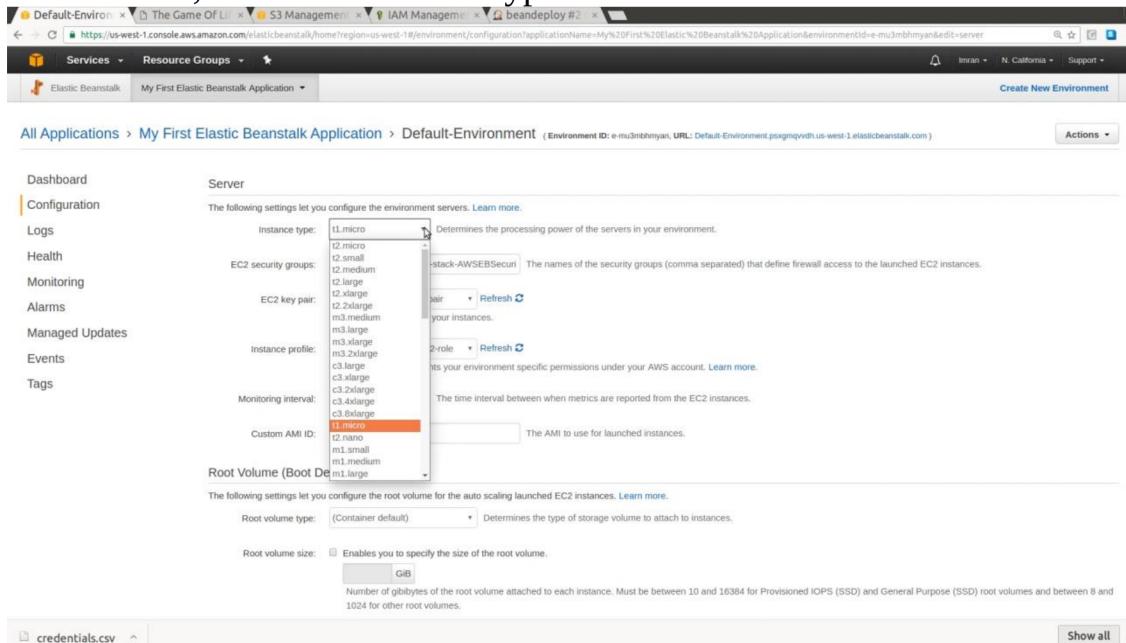
The screenshot shows the AWS CloudWatch Metrics console with the URL <https://us-west-1.console.aws.amazon.com/elasticbeanstalk/home?region=us-west-1#/environment/configuration/applicationName=My%20First%20Elastic%20Beanstalk%20Application&environmentId=e-mu3mbhmyan&edit=scaling>. The page displays settings for 'Time-based Scaling'. A modal window titled 'New scheduled action' is open, allowing configuration of a breach duration (5 minutes), upper threshold (600000), upper breach scale increment (1), lower threshold (200000), and lower breach scale increment (-1). The 'Occurrences' dropdown is set to 'One-time', and the 'Start time' is set to '2017-03-19T13:00:00Z'. The 'Recurrence' dropdown is set to 'Recurrent', and the 'Recurrence' field contains 'CRON expression: * * * * * every Tuesday at 6:30am'. The 'End time' field is set to 'YYYY-MM-DDThH:mm:ssZ' with the value '2017-03-19T13:00:00Z'. The 'Time zone' dropdown is set to 'UTC'. At the bottom of the modal, there are 'Cancel' and 'Add' buttons.

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Select instances from configuration tab and follow below steps:

In Server, select the Instance type as t1.micro



The following settings let you configure the environment servers. Learn more.

Instance type: **t1.micro** Determines the processing power of the servers in your environment.

EC2 security groups: **awseb-e-mu3mbhmyan-stack-AWSEBSecon** The names of the security groups (comma separated) that define firewall access to the launched EC2 instances.

EC2 key pair: **(Optional) Select a key pair** Refresh Creates a new key pair for your instances.

Instance profile: **aws-ebs-elasticbeanstalk-ec2-role** Refresh Grants your environment specific permissions under your AWS account. Learn more.

Monitoring interval: **1 minute** The time interval between when metrics are reported from the EC2 instances.

Custom AMI ID: **ami-eb7b228b** The AMI to use for launched instances.

Root Volume (Boot Device)

The following settings let you configure the root volume for the auto scaling launched EC2 instances. Learn more.

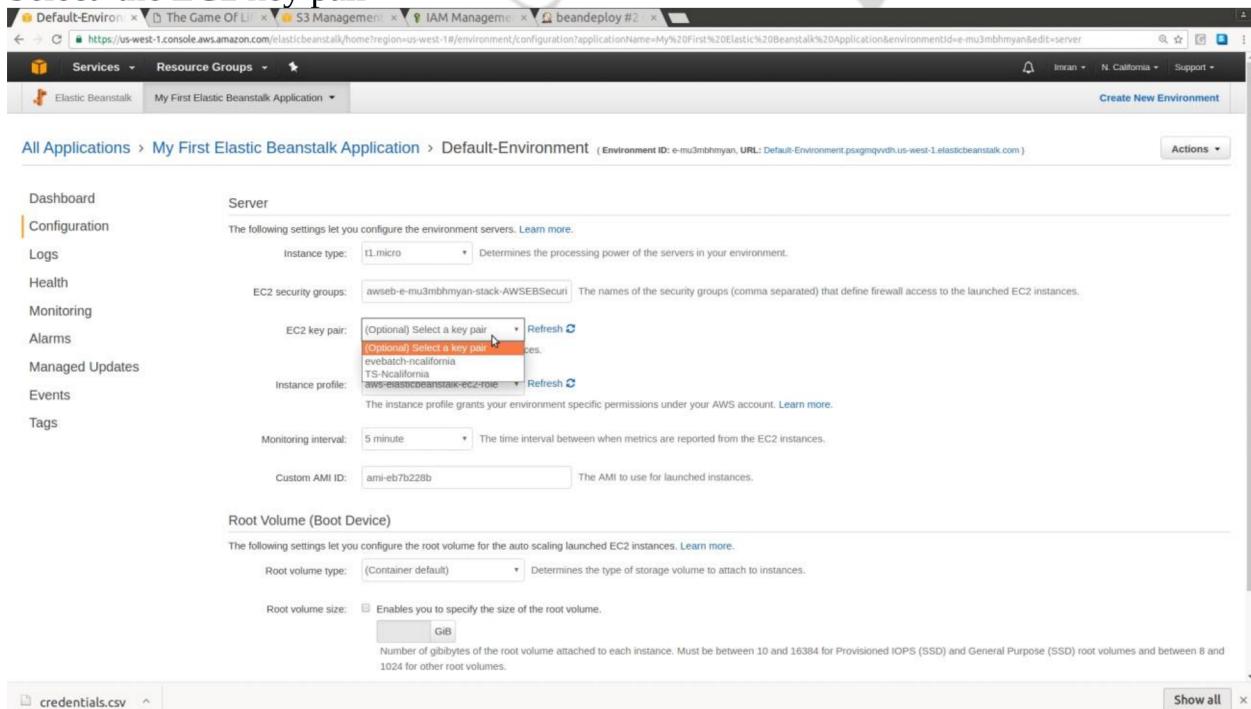
Root volume type: **(Container default)** Determines the type of storage volume to attach to instances.

Root volume size: **10 GiB** Enables you to specify the size of the root volume.

Number of gigabytes of the root volume attached to each instance. Must be between 10 and 16384 for Provisioned IOPS (SSD) and General Purpose (SSD) root volumes and between 8 and 1024 for other root volumes.

credentials.csv Show all

Select the EC2 key pair



The following settings let you configure the environment servers. Learn more.

Instance type: **t1.micro** Determines the processing power of the servers in your environment.

EC2 security groups: **awseb-e-mu3mbhmyan-stack-AWSEBSecon** The names of the security groups (comma separated) that define firewall access to the launched EC2 instances.

EC2 key pair: **(Optional) Select a key pair** Refresh Creates a new key pair for your instances.

(Optional) Select a key pair **ebvbatch-ncalifornia**, **TS-Recallitron**, **aws-ebs-elasticbeanstalk-ec2-role**

Instance profile: **aws-ebs-elasticbeanstalk-ec2-role** Refresh Grants your environment specific permissions under your AWS account. Learn more.

Monitoring interval: **5 minutes** The time interval between when metrics are reported from the EC2 instances.

Custom AMI ID: **ami-eb7b228b** The AMI to use for launched instances.

Root Volume (Boot Device)

The following settings let you configure the root volume for the auto scaling launched EC2 instances. Learn more.

Root volume type: **(Container default)** Determines the type of storage volume to attach to instances.

Root volume size: **10 GiB** Enables you to specify the size of the root volume.

Number of gigabytes of the root volume attached to each instance. Must be between 10 and 16384 for Provisioned IOPS (SSD) and General Purpose (SSD) root volumes and between 8 and 1024 for other root volumes.

credentials.csv Show all

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Monitoring interval

The screenshot shows the AWS Elastic Beanstalk console for the 'Default-Environment' of the 'My First Elastic Beanstalk Application'. In the 'Server' section, under 'Monitoring', the 'Monitoring interval' dropdown is set to '5 minute'. Other options shown are '1 minute' and '30 minutes'. The 'Custom AMI ID' field contains 'ami-eb7b228b'.

Root Volume size for the instances

The screenshot shows the AWS Elastic Beanstalk console for the 'Default-Environment'. In the 'Server' section, under 'Root Volume (Boot Device)', the 'Root volume size' dropdown is set to '5 GiB'. The 'Custom AMI ID' field contains 'ami-eb7b228b'.

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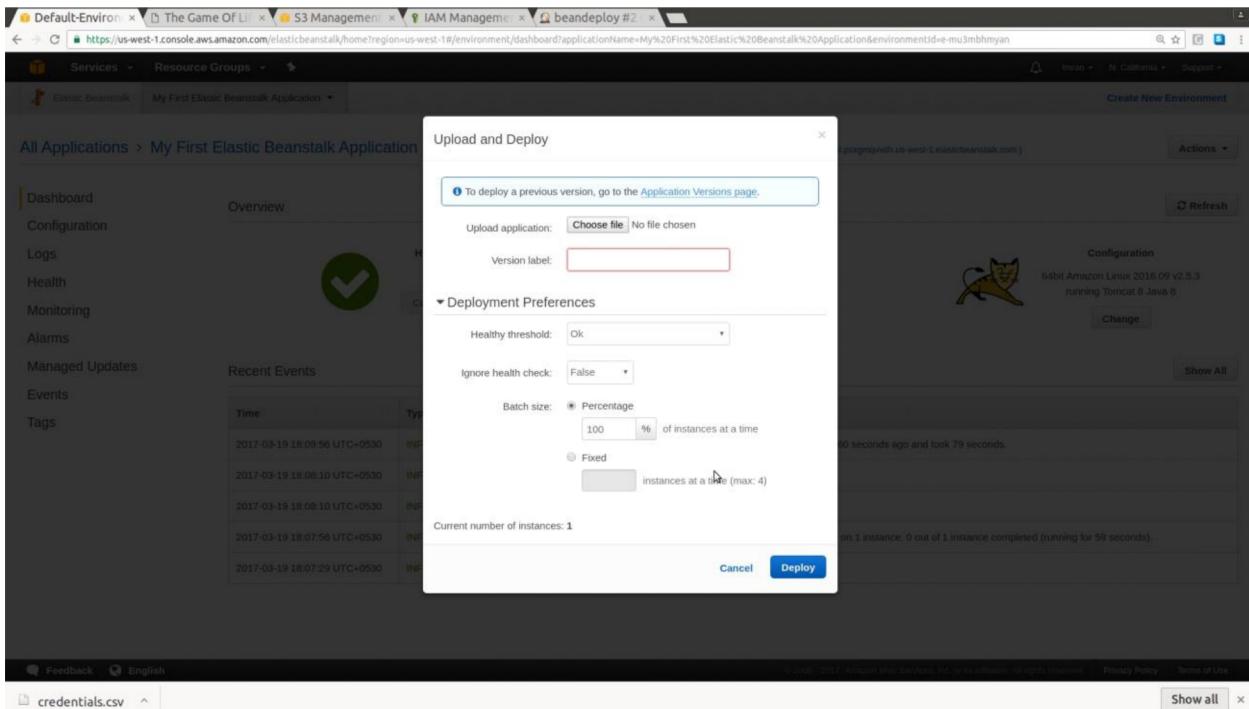
Provide the Email in Notifications page in order to receive the important messages from the Amazon Simple Notification service. Click on Apply

The screenshot shows the AWS Elastic Beanstalk Notifications configuration page. On the left, there's a sidebar with links like Dashboard, Configuration, Logs, Health, Monitoring, Alarms, Managed Updates, Events, and Tags. The main area is titled 'Notifications' and contains a sub-instruction: 'Enter an email address where Amazon Simple Notification Service sends important messages. To stop receiving notifications, remove your email address.' Below this is a text input field labeled 'Email:' containing 'imran@gmail.com'. A note next to it says 'The address that will receive Elastic Beanstalk event notifications.' At the bottom right are 'Cancel' and 'Apply' buttons.

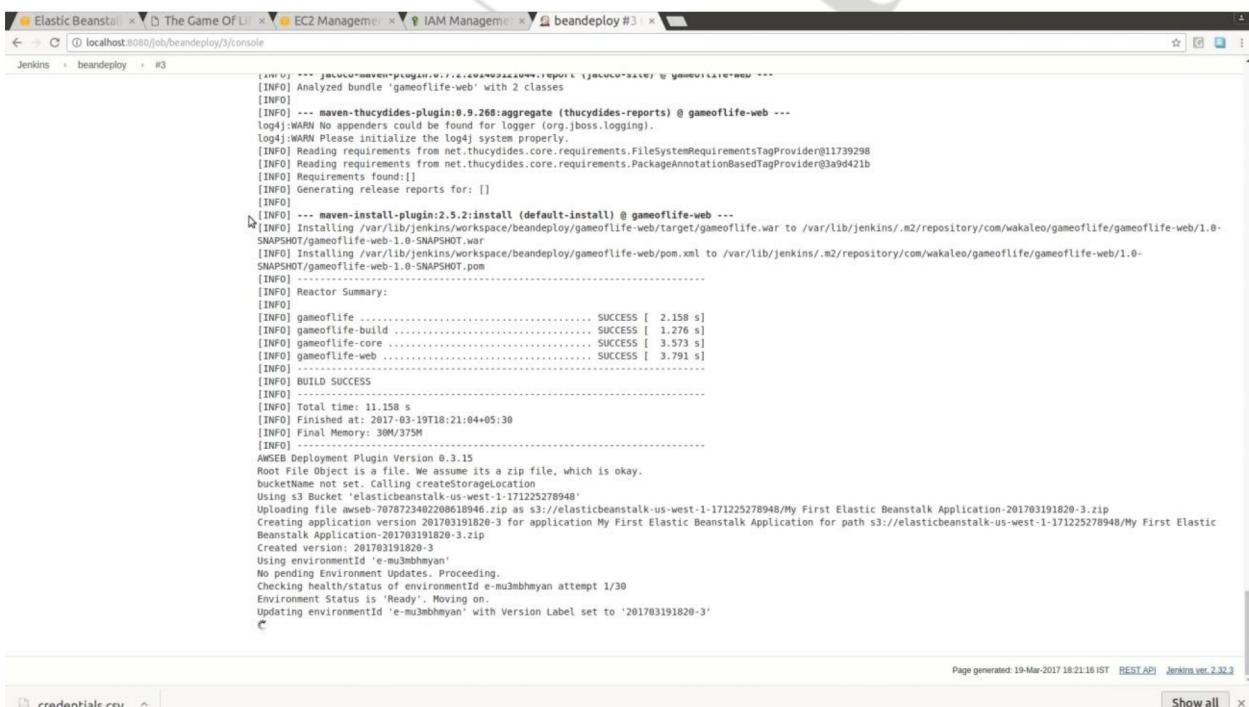
The screenshot shows the AWS Elastic Beanstalk application configuration page for 'My First Elastic Beanstalk Application'. In the center, there's a modal window titled 'Update Platform Version'. It contains a warning message about replacing instances and keeping at least one instance in service during the update. Below this, it shows the 'Current platform' as '64bit Amazon Linux 2016.09 v2.5.3 running Tomcat 8 Java 8'. A dropdown menu for 'Platform' lists three options: 'Latest' (selected), '64bit Amazon Linux 2016.09 v2.5.3 running Tomcat 8 Java 8', and 'Older' (disabled). A note below the dropdown says 'Service role: 64bit Amazon Linux 2015.03 v1.4.5 running Tomcat 8 Java 8'. At the bottom of the modal are 'Cancel' and 'Save' buttons. The background shows the application's recent events and a configuration section with a cat icon.

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Run Jenkins job few more times to deploy new versions of softwares.



Rollback the application. Click on Actions and select view application versions

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