

# Imran Teli

## AWS Elastic BeanStalk + Jenkins

AWS Elastic Beanstalk 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.

In this exercise we will use Beanstalk Tomcat service to host our java application.

We will Build a Java Application from Jenkins and Deploy it to BeanStalk using AWS Beanstalk plugin in Jenkins.

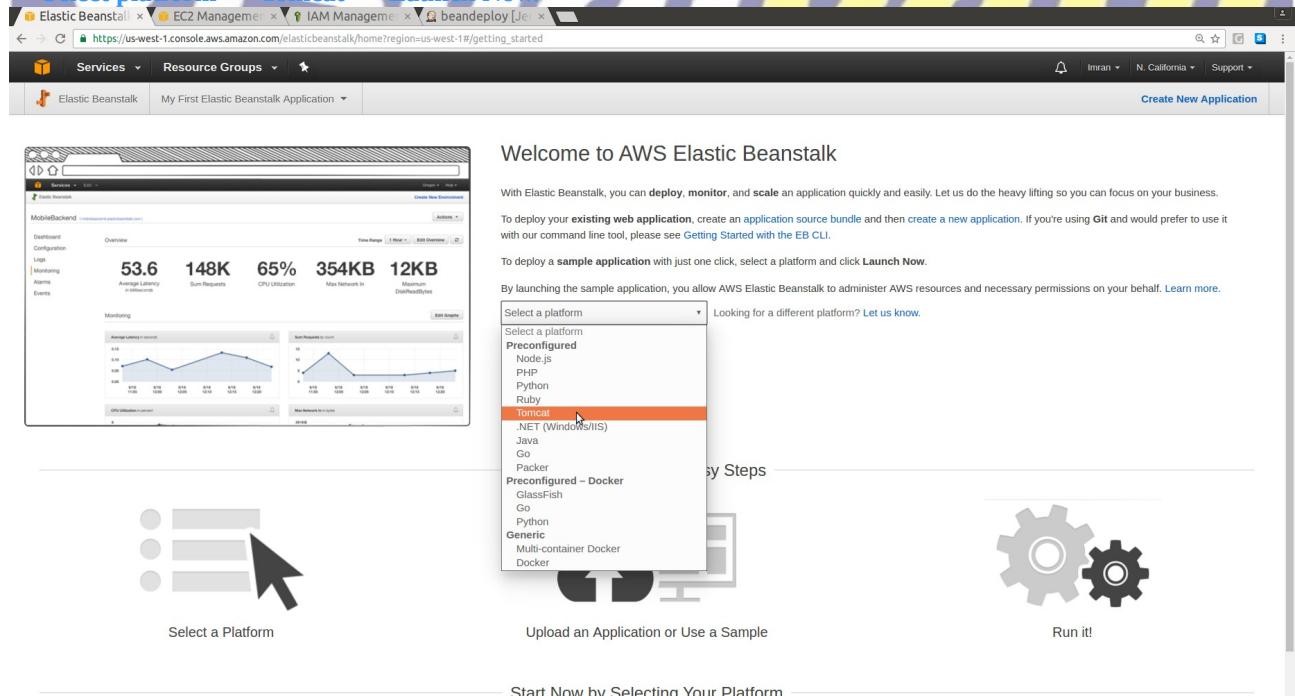
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Assumptions:

- Knowledge of Build & Release with Jenkins.
- Continous Delivery Knowledge.
- Hands on AWS IAM, Ec2, ELB, AutoScaling & CloudWatch.

### 1. Create Tomcat platform in BeanStalk.

Select platform => Tomcat => Launch Now.



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The screenshot shows the AWS Elastic Beanstalk console. At the top, there are tabs for Default-Environment, EC2 Management, IAM Management, and beandeploy [dev]. The main content area displays an info message: "Elastic Beanstalk is now creating your environment. When it has finished it will be running Sample Application." Below this, the navigation path is All Applications > My First Elastic Beanstalk Application > Default-Environment. On the left, a sidebar lists various monitoring and configuration options like Dashboard, Configuration, Logs, Health, Monitoring, Alarms, Managed Updates, Events, and Tags. The main panel shows an "Overview" section with a green "Health" status icon (Ok) and a "Running Version" of "Sample Application". A "Upload and Deploy" button is present. To the right, there's a "Configuration" section showing "64bit Amazon Linux 2016.09 v2.5.3 running Tomcat 8 Java 8" with a "Change" button. Below the overview is a "Recent Events" table:

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-JBNX1P2JTFIWI

The screenshot shows the AWS Elastic Beanstalk console. At the top, there are tabs for My First Elastic Beanstalk Application, EC2 Management, IAM Management, and beandeploy [dev]. The main content area displays an info message: "Click on My First Elastic Beanstalk Application." Below this, the navigation path is All Applications > My First Elastic Beanstalk Application. On the left, a sidebar lists Environments, Application versions, and Saved configurations. The main panel shows an "Environments" section with a green box for "Default-Environment" containing details: Environment tier: Web Server, Running versions: Sample Application, Last modified: 2017-03-19 19:05:50 UTC+0530, and URL: Default-Environment.jhabpwpn7.us-west-1.elasticbeanstalk.com. To the right, there is a "Default-Environment (Terminated)" section with similar details: Environment tier: Web Server, Running versions: 201703191804-2, Last modified: 2017-03-19 18:30:53 UTC+0530, and URL: Default-Environment.psxgmqyvth.us-west-1.elasticbeanstalk.com.

The screenshot shows the AWS Elastic Beanstalk console. At the top, there are tabs for My First Elastic Beanstalk Application, EC2 Management, IAM Management, and beandeploy [dev]. The main content area displays an info message: "Every Elastic BeanStalk application can have multiple environment." Below this, the navigation path is All Applications > My First Elastic Beanstalk Application. On the left, a sidebar lists Environments, Application versions, and Saved configurations. The main panel shows an "Environments" section with a green box for "Default-Environment" containing details: Environment tier: Web Server, Running versions: Sample Application, Last modified: 2017-03-19 19:05:50 UTC+0530, and URL: Default-Environment.jhabpwpn7.us-west-1.elasticbeanstalk.com. To the right, there is a "Default-Environment (Terminated)" section with similar details: Environment tier: Web Server, Running versions: 201703191804-2, Last modified: 2017-03-19 18:30:53 UTC+0530, and URL: Default-Environment.psxgmqyvth.us-west-1.elasticbeanstalk.com.

Every Elastic BeanStalk application can have multiple environment.  
As is real time we have Dev, QA, Staging, Prod etc.



## 2. Create IAM user for authentication from Jenkins jobs deployment.

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Go to IAM => Users => Add User => Give Username => Access type => Programmatic.

Add user

1 Details    2 Permissions    3 Review    4 Complete

User name\* beanstalkadmin

Add another user

Select AWS access type

Select how these users will access AWS. Access keys and autogenerated passwords are provided in the last step. [Learn more](#)

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

- Attach AWSElasticBeanstalkFullAccess policy.

Add user to group    Copy permissions from existing user    Attach existing policies directly

Attach one or more existing policies directly to the user or create a new policy. [Learn more](#)

Create policy    Refresh

Filter: Policy type ▾    AWSElasticBeanstalkFullAccess    Showing 1 result

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

Feedback English    Privacy Policy    Terms of Use



- Download Access keys csv file.

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://171225278948.signin.aws.amazon.com/console>

User	Access key ID	Secret access key
beantalkadmin	AKIAIZQQ7QDZW2UJHXNQ	***** Show

- Configure Jenkins job.

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

**Git**

Repositories

Repository URL: <https://github.com/wakaleo/game-of-life.git>  
Credentials: none Add Advanced... Add Repository

Branches to build

Branch Specifier (blank for 'any'): \*/master Add Branch

Repository browser: (Auto)

Additional Behaviours: Add

Subversion: Add

**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 Elastic Beanstalk

Save Apply AWS Credentials and Region



## Install AWS Beanstalk plugin in Jenkins.

Add Build Step => AWS Beanstalk

### Build

The screenshot shows the Jenkins build configuration interface. At the top, there's a goal 'Goals' set to 'install'. Below it, under 'Add build step', the 'AWS Elastic Beanstalk' option is highlighted in a dropdown menu. Other options like 'Conditional step (single)', 'Conditional steps (multiple)', 'Copy artifacts from another project', 'Execute Windows batch command', 'Execute shell', 'Invoke Ansible Ad-Hoc Command', and 'Invoke Ansible Playbook' are also listed.

### - Add credentials(keys) of the IAM user.

The screenshot shows the Jenkins AWS Beanstalk configuration page. Under the 'Build' tab, the 'AWS Credentials and Region' section is visible. It includes fields for 'Credentials' (set to 'Jenkins'), 'AWS Region' (set to 'us-east-1'), and 'Number Of Attempts' (set to 30). A 'Validate Credentials' button is present. Below this, the 'Application and Environment' section shows 'Application Name' and 'Environment Name' fields. The 'Application Name' field has 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'. The 'Environment Name' field also has an error: 'Environment names must be between 1-100 characters'. The 'Packaging' section includes 'Root Object (File / Directory)' and 'Includes' fields, with 'Save' and 'Apply' buttons at the bottom.

### - Check the credentials.csv file.

```
Access 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
```

```
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
```

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- Kind => AWS Credentials => feed the access & secret key => Add.

The screenshot shows the Jenkins 'Add Credentials' dialog. The 'Kind' dropdown is set to 'AWS Credentials'. The 'Access Key ID' field contains 'AKIAIZQQ7QDZW2UJHXNQ' and the 'Secret Access Key' field contains a masked value. Below the fields, a note states: 'These credentials are valid and have access to 5 availability zones'. At the bottom, there are 'Save' and 'Apply' buttons.

- Validate that credentials.

The screenshot shows the 'Validate Credentials' results for the previously added AWS credentials. The results list the following items:

- 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.

The screenshot shows the 'Application and Environment' configuration. The 'Application Name' is 'My First Elastic Beanstalk Application' and the 'Environment Name' is 'Default-Environment'. A note at the bottom right says 'Environment found (environmentId: e-mu3mbhmyan)'. There is a 'Validate Coordinates' button.

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- Root object should be the path of artifact located in workspace.
- Version we will keep same as the CD project.

The screenshot shows the Jenkins job configuration for 'beandeploy'. The 'Build' tab is selected. Key settings include:

- Application Name:** My First Elastic Beanstalk Application
- Environment Name:** Default-Environment
- Packaging:** Root Object (File / Directory) is set to gameoflife-web/target/gameoflife.war
- Uploading:** S3 Bucket Name and S3 Key Prefix are empty.
- Version and Deployment:**
  - Version Label Format: \$BUILD\_TIMESTAMP-\$BUILD\_ID
  - Zero downtime: checked
  - Amount of time to sleep between deployment status checks (seconds): 90
  - Ensure Health is Green after deploy?: checked
  - Number Of Attempts: 30

At the bottom are 'Save' and 'Apply' buttons.

- Run the job and check the console output.

The Jenkins job console output for 'beandeploy #2' shows the deployment process:

```

[INFO] Maven: Please initialize the log4j system property.
[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: 2017-03-19T18:04:05+05:30
[INFO] Final Memory: 36M/69M
[INFO] ...
[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-num3bmhyan'
No pending Environment Updates. Proceeding.
Checking health/status of environmentId e-num3bmhyan attempt 1/30
Environment Status is 'Ready'. Moving on.
Updating environmentId 'e-num3bmhyan' with Version Label set to '201703191804-2'
Checking health/status of environmentId e-num3bmhyan 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 marker as 'successful'. Starting post-deployment cleanup.
Cleaning up temporary file /tmp/awseb-7106147695585258645.zip
Finished: SUCCESS

```

At the bottom right, it says 'Page generated: 19-Mar-2017 18:15:03 IST REST API Jenkins ver. 2.32.3'.



**I** Verify the Environments 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 18:07:58 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:3691b726-160f-4e06-8219-94c52eb92a9:autoScalingGroupName=awseb-e-mu3mbhmyan-stack-AWSEBAutoScalingGroup-AS2GQ9H1I1Z9:policyName=awseb-e-mu3mbhmyan-stack-AWSEBAutoScalingScaleDownPolicy-13H3NDYBO4XF0

**I** Verify the Environment Dashboard.

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).

**I** Click on the environment URL to verify if the app is accessible.

**I** <https://Default-Environment.psxgmqvvdh.us-west-1.elasticbeanstalk.com>



We can change the configuration of the Beanstalk Environment as per our need. Settings we can tweak are listed below as well the screenshots.

### Scaling:

- Load balancing, auto scaling or single instance.
- Autoscaling behavior like min & max instances, AZ, cooldown period.
- Scaling triggers like Network, CPU etc.
- Time based scaling as in a specific time in a day when the instance count should be raised.

This screenshot shows the AWS Elastic Beanstalk Configuration page for a 'Default-Environment'. The 'Web Tier' section is selected. It displays the following configuration:

- Scaling:** Environment type: Load balanced, auto scaling. Number instances: 1 - 4. Scale based on Average network out. Add instance when > 600000. Remove instance when < 200000.
- 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.

This screenshot shows the AWS Elastic Beanstalk Configuration page for a 'Default-Environment'. The 'Environment Type' section is selected. It displays the following configuration:

The following settings configure the availability settings of your environment to help reduce the costs for development activities.

Environment type: Load balancing, auto scaling. Current status: 1 instance(s) in service, Min: 1, Max: 4.

This screenshot shows the AWS Elastic Beanstalk Configuration page for a 'Default-Environment'. The 'Auto Scaling' section is selected. It displays the following configuration:

Use the following settings to control auto scaling behavior. Learn more.

Minimum instance count: 1. Maximum instance count: 4. Availability Zones: Any. Specific Availability Zones to launch instances in: us-west-1a, us-west-1b. Scaling cooldown: 360 seconds. The amount of time after a scaling activity before any further trigger-related scaling activities can occur.

Scaling Trigger

Time-based Scaling

Cancel Apply

The screenshot shows the AWS Elastic Beanstalk configuration page for an application named 'MyFirstElasticBeanstalk'. The 'Scaling Trigger' section is open, displaying various parameters for a scaling trigger named 'NetworkOut'. The parameters include:

- Trigger measurement:** NetworkOut
- Trigger statistic:** Average
- Unit of measurement:** Bytes
- Measurement period (minutes):** 5
- Breach duration (minutes):** 5
- Upper threshold:** 6000000
- Upper breach scale increment:** 1
- Lower threshold:** 2000000
- Lower breach scale increment:** -1

#### Scaling Trigger

Trigger measurement:	NetworkOut	The measure name associated with the metric the trigger uses.
Trigger statistic:	Average	The statistic that the trigger uses when fetching metrics statistics to examine.
Unit of measurement:	Bytes	The standard unit that the trigger uses when fetching metric statistics to examine.
Measurement period (minutes):	5	The period between metric evaluations.
Breach duration (minutes):	5	The amount of time used to determine the existence of a breach. The service looks at data between the current time and the number of minutes specified to see if a breach has occurred.
Upper threshold:	6000000	The upper limit for the metric. If the data points exceed the threshold for the period set as the breach duration, the trigger is activated.
Upper breach scale increment:	1	The incremental amount to use when performing scaling activities when the upper threshold has been breached. Must be an integer, optionally followed by a % sign.
Lower threshold:	2000000	The lower limit for the metric. If the data points are below this threshold for the period set as the breach duration, the trigger is activated.
Lower breach scale increment:	-1	The incremental amount to use when performing scaling activities when the lower threshold has been breached. Must be an integer, optionally followed by a % sign.

#### Time-based Scaling

[Cancel](#) [Apply](#)

The screenshot shows the AWS Elastic Beanstalk configuration page for an application named 'MyFirstElasticBeanstalk'. The 'Scaling Trigger' section is open, displaying various parameters for a scaling trigger named 'NetworkOut'. The parameters include:

- Trigger measurement:** NetworkOut
- Trigger statistic:** Average
- Unit of measurement:** Bytes
- Measurement period (minutes):** 5
- Breach duration (minutes):** 5
- Upper threshold:** 6000000
- Upper breach scale increment:** 1
- Lower threshold:** 2000000
- Lower breach scale increment:** -1

[Show all](#)

The screenshot shows the AWS Elastic Beanstalk configuration page for an application named 'MyFirstElasticBeanstalk'. The 'Scaling Trigger' section is open, displaying various parameters for a scaling trigger named 'NetworkOut'. The parameters include:

- Trigger measurement:** NetworkOut
- Trigger statistic:** Average
- Unit of measurement:** Bytes
- Measurement period (minutes):** 5
- Breach duration (minutes):** 5
- Upper threshold:** 6000000
- Upper breach scale increment:** 1
- Lower threshold:** 2000000
- Lower breach scale increment:** -1

[Show all](#)

#### Time-based Scaling

Use the following settings to control time-based scaling actions. [Learn more](#)

Time zone:  UTC  Local

Name	Limits	Next occurrence (UTC)	Actions
------	--------	-----------------------	---------

The screenshot shows the AWS Elastic Beanstalk configuration page for an application named 'MyFirstElasticBeanstalk'. The 'Scaling Trigger' section is open, displaying various parameters for a scaling trigger named 'NetworkOut'. The parameters include:

- Trigger measurement:** NetworkOut
- Trigger statistic:** Average
- Unit of measurement:** Bytes
- Measurement period (minutes):** 5
- Breach duration (minutes):** 5
- Upper threshold:** 6000000
- Upper breach scale increment:** 1
- Lower threshold:** 2000000
- Lower breach scale increment:** -1

A modal dialog titled 'New scheduled action' is open, prompting for a new scheduled action. The fields in the dialog are:

- Name:** (must be unique) (Input field)
- Instances:** Min [ ] Max [ ] (Input fields)
- Desired capacity:** [ ] (Optional) (Input field)
- Occurrence:** One-time (Select dropdown)
- Start time:** 2017-03-19T13:00:00Z (Input field)

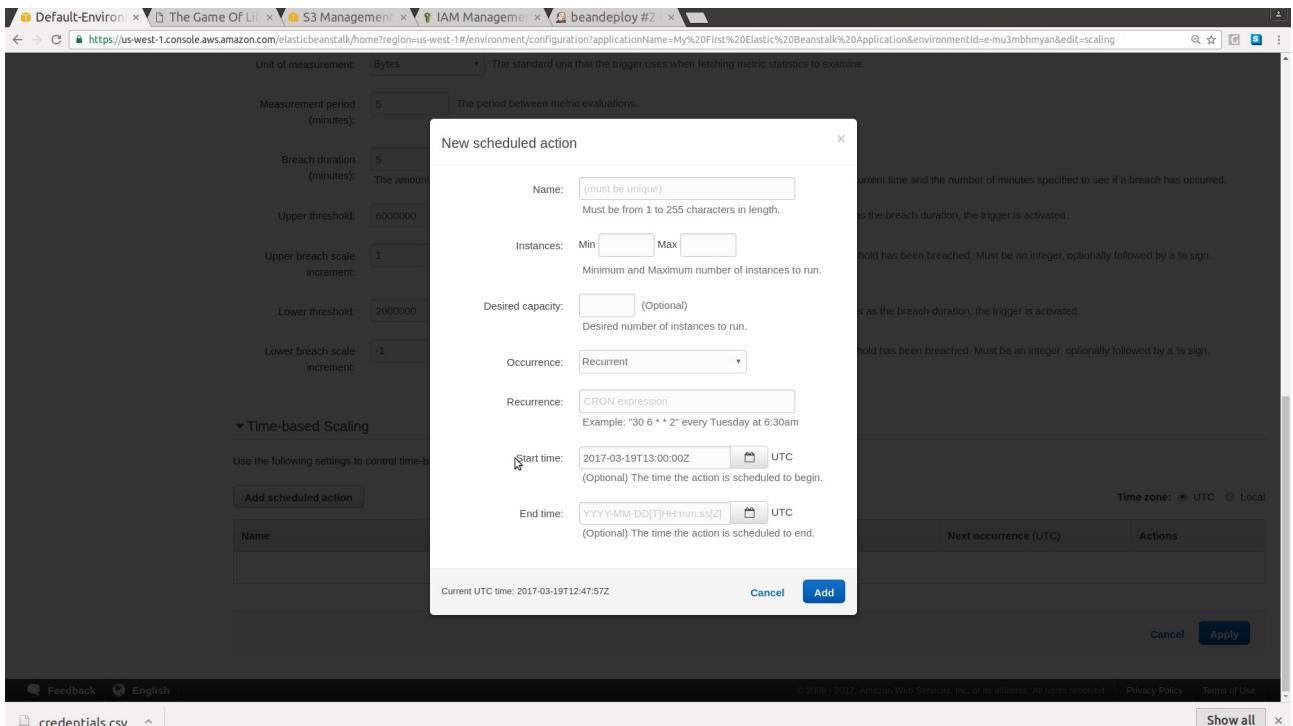
At the bottom of the dialog, it says 'Current UTC time: 2017-03-19T12:47:41Z' and has 'Cancel' and 'Add' buttons.

The main configuration page also shows a table for scheduled actions:

Name	Limits	Next occurrence (UTC)	Actions
No scheduled actions			

[Cancel](#) [Apply](#)

[Show all](#)



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- Server => Instance type
- Ec2 key pair
- Monitoring interval
- Root Volume size for the instances



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

Actions

Dashboard

Configuration

Logs

Health

Monitoring

Alarms

Managed Updates

Events

Tags

Server

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-AWSEBSecl

The names of the security groups (comma separated) that define firewall access to the launched EC2 instances.

EC2 key pair:  Refresh

(Optional Select a key pair dropdown showing 'awsbatch-vcalifornia')

Instance profile:  Refresh

(Optional Select a key pair dropdown showing 'awsbatch-vcalifornia')

Monitoring interval: 5 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:  Enables you to specify the size of the root volume.

GiB

Number of gibibytes 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

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

Actions

Dashboard

Configuration

Logs

Health

Monitoring

Alarms

Managed Updates

Events

Tags

Server

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-AWSEBSecl

The names of the security groups (comma separated) that define firewall access to the launched EC2 instances.

EC2 key pair:  Refresh

(Optional Select a key pair dropdown showing 'awsbatch-vcalifornia')

Instance profile:  Refresh

(Optional Select a key pair dropdown showing 'awsbatch-vcalifornia')

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credentials.csv

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Default-Enviro > The Game Of Life > S3 Management > IAM Management > beandeploy #2

Services Resource Groups

Elastic Beanstalk My First Elastic Beanstalk Application Create New Environment

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

Dashboard Configuration Logs Health Monitoring Alarms Managed Updates Events Tags

Server

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-AWSEBSecuri 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 Enables remote login to your instances.

Instance profile: aws-elasticbeanstalk-ec2-role Refresh The instance profile grants your environment specific permissions under your AWS account. Learn more.

Monitoring interval: 5 minute 1 minute 5 minute The time interval between when metrics are reported from the EC2 instances.

Custom AMI ID: ami-2012-02-22-00 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:  Enables you to specify the size of the root volume.  GiB Number of gibibytes 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.

Default-Enviro > The Game Of Life > S3 Management > IAM Management > beandeploy #2

Services Resource Groups

Elastic Beanstalk My First Elastic Beanstalk Application Create New Environment

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

Dashboard Configuration Logs Health Monitoring Alarms Managed Updates Events Tags

Server

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-AWSEBSecuri 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 Enables remote login to your instances.

Instance profile: aws-elasticbeanstalk-ec2-role Refresh The instance profile grants your environment specific permissions under your AWS account. Learn more.

Monitoring interval: 5 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:  Enables you to specify the size of the root volume.  GiB Number of gibibytes 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.

Feedback English

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Notifications:

- Email

The screenshot shows the AWS Elastic Beanstalk 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=notifications>. The page title is "All Applications > My First Elastic Beanstalk Application > Default-Environment". On the left, there's a sidebar with links like Dashboard, Configuration, Logs, Health, Monitoring, Alarms, Managed Updates, Events, and Tags. The main content area is titled "Notifications" and contains a form to enter an email address for notifications. The input field has "Email: imran@gmail.com" and a placeholder "The address that will receive Elastic Beanstalk event notifications.". Below the input field are "Cancel" and "Apply" buttons.

The screenshot shows the AWS credentials download page with the URL <https://us-west-1.console.aws.amazon.com/credentials?region=us-west-1&format=csv>. The page title is "Feedback English". It displays a single file link "credentials.csv" and a "Show all" button.

- At the application level you can change the platform version is allowed.  
Click on application => Configuration => Change.

The screenshot shows the AWS Elastic Beanstalk console with the URL <https://us-west-1.console.aws.amazon.com/elasticbeanstalk/home?region=us-west-1#/environment/dashboard?applicationName=My%20First%20Elastic%20Beanstalk%20Application&environmentId=e-mu3mbhmyan>. The page title is "All Applications > My First Elastic Beanstalk Application". A modal dialog titled "Update Platform Version" is open. It contains a warning message about replacing instances and keeping at least one instance in service during the update. It also provides links to "Updating AWS Elastic Beanstalk Environments with Rolling Updates" and "Deploying Version with Zero Downtime". The "Platform:" dropdown menu is set to "64bit Amazon Linux 2016.09 v2.5.3 running Tomcat 8 Java 8". The "Service role:" dropdown menu shows "Latest" selected, which is highlighted in orange. Other options include "Older" and "64bit Amazon Linux 2015.03 v1.4.5 running Tomcat 8 Java 8". Below the dropdowns, there are "Cancel" and "Save" buttons. To the right of the dialog, the application configuration is shown as "64bit Amazon Linux 2016.09 v2.5.3 running Tomcat 8 Java 8". There is a "Change" button next to it. The background shows a log history with entries from March 19, 2017, such as "New application version was deployed to running EC2 instances" and "Environment health has transitioned from Ok to Info".



Screenshot of the AWS Elastic Beanstalk console showing the 'Upload and Deploy' dialog. The dialog is titled 'Upload and Deploy' and contains fields for 'Upload application:' (Choose file), 'Version label:' (empty red box), and 'Deployment Preferences' (Healthy threshold: Ok, Ignore health check: False, Batch size: Percentage (100%), Fixed (4 instances)). Below the dialog, the application overview shows 1 instance running on 64bit Amazon Linux 2016.09 v2.5.3 with Tomcat 8 Java 8. A green checkmark icon is present.

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

Screenshot of a Jenkins job named 'beandeploy' showing the Jenkins logs for deployment. The logs show the Maven build process for 'gameoflife-web' and the deployment via AWS Elastic Beanstalk. The deployment summary indicates a successful build and deployment.

```
[INFO] --- maven-thucydides-plugin:0.9.26R:aggregate (thucydides-reports) @ gameoflife-web ---
[INFO] [INFO] No appenders could be found for logger (org.jboss.logging).
[INFO] [INFO] Please initialize the log4j system properly.
[INFO] [INFO] Reading requirements from net.thucydides.core.requirements.FileSystemRequirementsTagProvider@11739298
[INFO] [INFO] Reading requirements from net.thucydides.core.requirements.PackageAnnotationBasedTagProvider@3a9d421b
[INFO] Requirements found:[]
[INFO] Generating release reports for: []
[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 [ 2.158 s]
[INFO] gameoflife-build ..... SUCCESS [ 1.276 s]
[INFO] gameoflife-core ..... SUCCESS [ 3.573 s]
[INFO] gameoflife-web ..... SUCCESS [ 3.791 s]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 11.158 s
[INFO] Finished at: 2017-03-19T18:21:04+05:30
[INFO] Final Memory: 30M/375M
[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-7078723462288618946.zip as s3://elasticbeanstalk-us-west-1-171225278948/My First Elastic Beanstalk Application-201703191820-3.zip
Creating application version 201703191820-3 for application My First Elastic Beanstalk Application for path s3://elasticbeanstalk-us-west-1-171225278948/My First Elastic Beanstalk Application-201703191820-3.zip
Created version: 201703191820-3
Using environmentId 'e-mu3mbhmyan'
No pending Environment Updates. Proceeding.
Checking health/status of environmentId e-mu3mbhmyan attempt 1/30
Environment Status is 'Ready'. Moving on.
Updating environmentId 'e-mu3mbhmyan' with Version Label set to '201703191820-3'
```

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**Application versions rollback.**

The screenshot shows the AWS Elastic Beanstalk console with the URL <https://us-west-1.console.aws.amazon.com/elasticbeanstalk/home?region=us-west-1#/applications>. The main area displays 'All Applications' with one entry: 'My First Elastic Beanstalk Application'. Below it, two environment cards are shown: 'Default-Environment' (status: Running, tier: Web Server) and 'Default-Environment (Terminated)' (status: Terminated, tier: Web Server). A context menu is open over the first environment, with the option 'View application versions' highlighted.

**Select an older version => Deploy.**

The screenshot shows the AWS Elastic Beanstalk console with the URL <https://us-west-1.console.aws.amazon.com/elasticbeanstalk/home?region=us-west-1#/application/versions?applicationName=My%20First%20Elastic%20Beanstalk%20Application>. The left sidebar shows 'Environments' and 'Application versions'. The 'Application versions' section lists three entries: '201703191820-3' (selected), '201703191804-2' (checked), and 'Sample Application'. At the top right, there are buttons for 'Delete', 'Deploy', 'Upload', and 'Refresh'. The 'Deploy' button is highlighted with a cursor.

**Visualpath Imran Teli**

A purple rectangular banner with the text 'Visualpath' in large white letters and 'Imran Teli' in smaller yellow letters below it.

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Restarting app servers.

Default-Environment | The Game Of Life | EC2 Management | IAM Management | beandeploy #3 |

https://us-west-1.console.aws.amazon.com/elasticbeanstalk/home?region=us-west-1#/environment/dashboard?applicationName=My%20First%20Elastic%20Beanstalk%20Application&environmentId=e-mu3nbhmyan

Services Resource Groups

Elastic Beanstalk My First Elastic Beanstalk Application Create New Environment

All Applications > My First Elastic Beanstalk Application > Default-Environment (Environment ID: e-mu3nbhmyan, URL: Default-Environment.psxgmqvvdh.us-west-1.elasticbeanstalk.com)

Actions

- Load Configuration
- Save Configuration
- Swap Environment URLs
- Clone Environment
- Clone with Latest Platform
- Abort Current Operation
- Restart App Server(s)**
- Rebuild Environment
- Terminate Environment

Dashboard Configuration Logs Health Monitoring Alarms Managed Updates Events Tags

Overview

Health **OK** Causes

Running Version 201703191804-2 Upload and Deploy

64bit Amazon Linux running

Recent Events

Time	Type	Details
2017-03-19 18:25:55 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 7 seconds).
2017-03-19 18:25:51 UTC+0530	INFO	Environment update completed successfully.
2017-03-19 18:25:51 UTC+0530	INFO	New application version was deployed to running EC2 instances.
2017-03-19 18:25:28 UTC+0530	INFO	Deploying new version to instance(s).
2017-03-19 18:25:22 UTC+0530	INFO	Environment update is starting.

Show All

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