Java in the amazon cloud

Christopher M. Judd

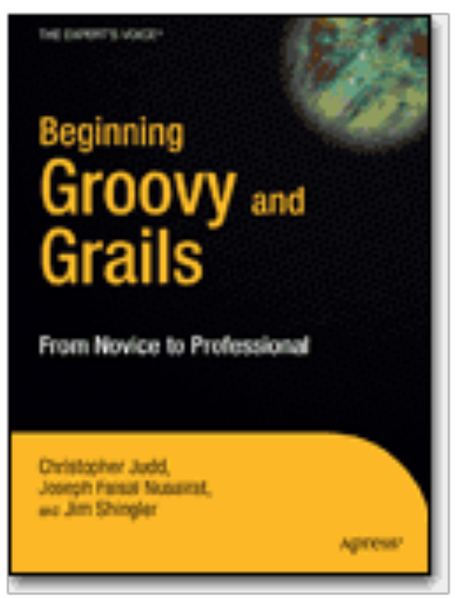
Christopher M. Judd

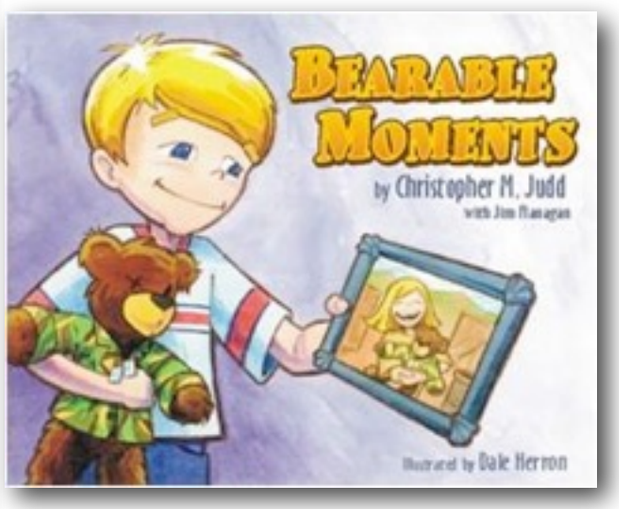
CTO and Partner at Manifest Solutions

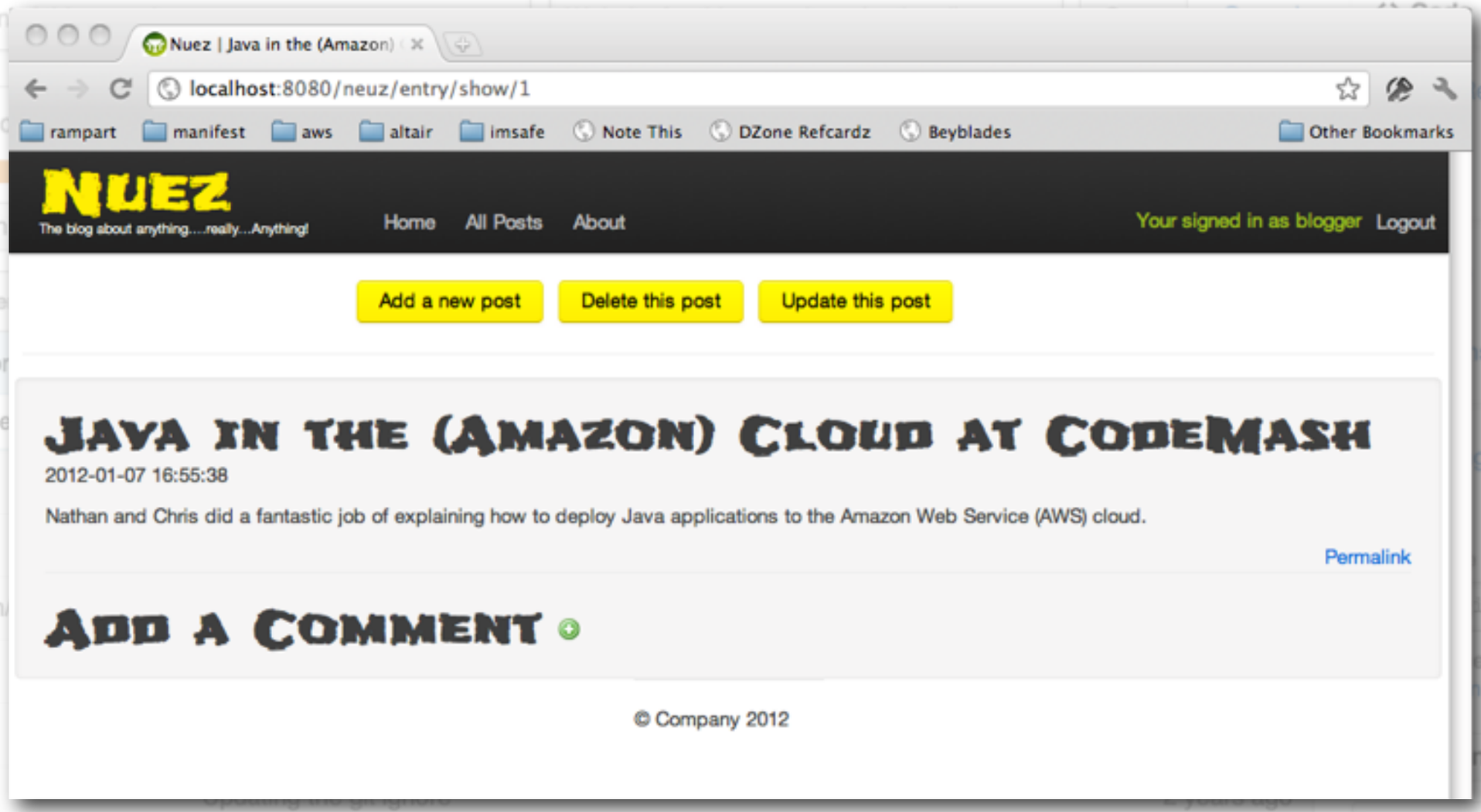
Titanium Certified App Developer

Central Ohio Java Users Group leader

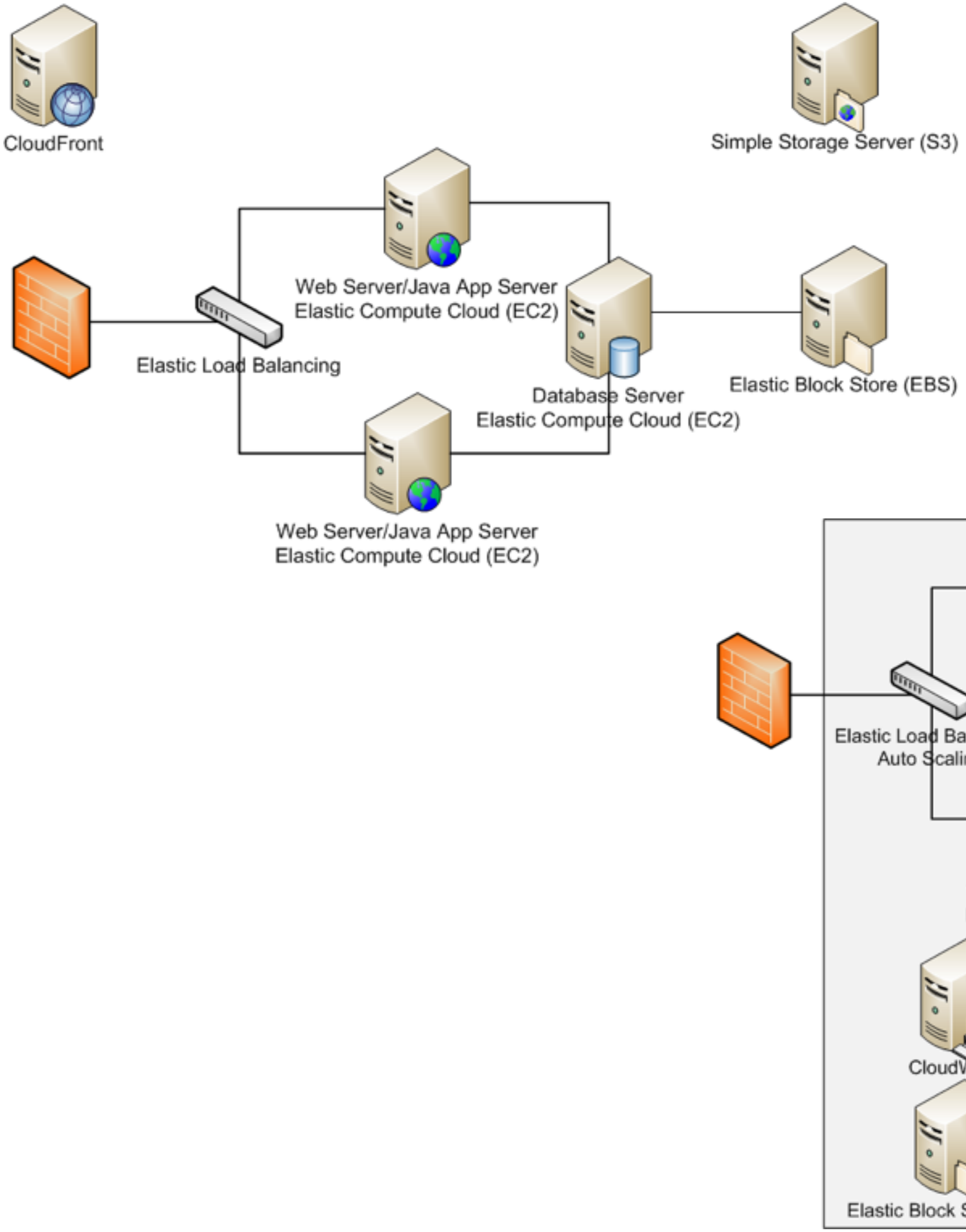
Columbus iPhone Developer User Group (CIDUG)

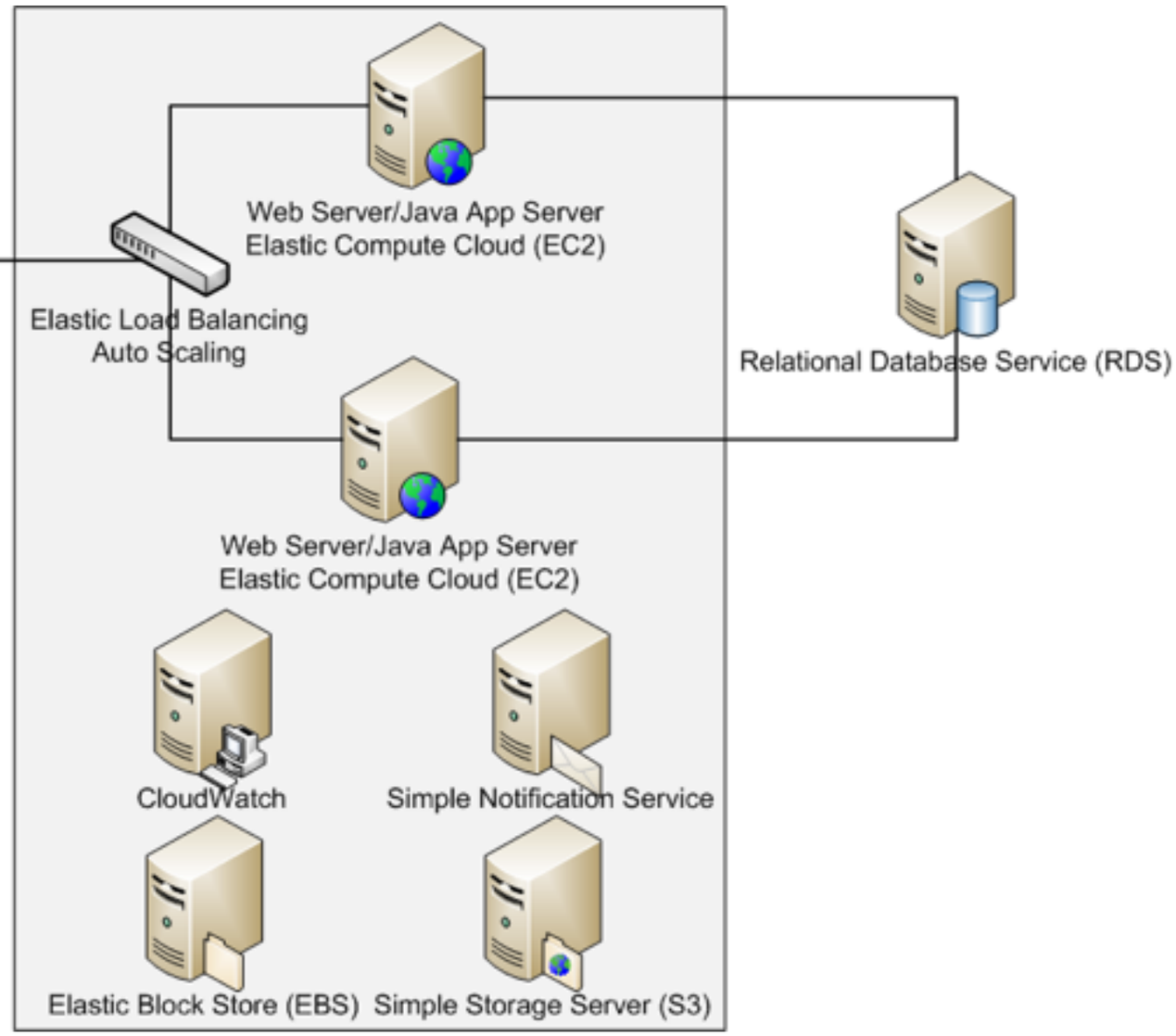






https://github.com/cjudd/nuez


CloudFront
Simple Storage Server (S3)
Web Server/Java App Server
Elastic Compute Cloud (EC2)
Elastic Load Balancing
Database Server
Elastic Compute Cloud (EC2)
Elastic Block Store (EBS)
Web Server/Java App Server
Elastic Compute Cloud (EC2)


Web Server/Java App Server
Elastic Compute Cloud (EC2)
Elastic Load Balancing
Auto Scaling
Relational Database Service (RDS)
Web Server/Java App Server
Elastic Compute Cloud (EC2)
CloudWatch
Simple Notification Service
Elastic Block Store (EBS)
Simple Storage Server (S3)

What is cloud computing?

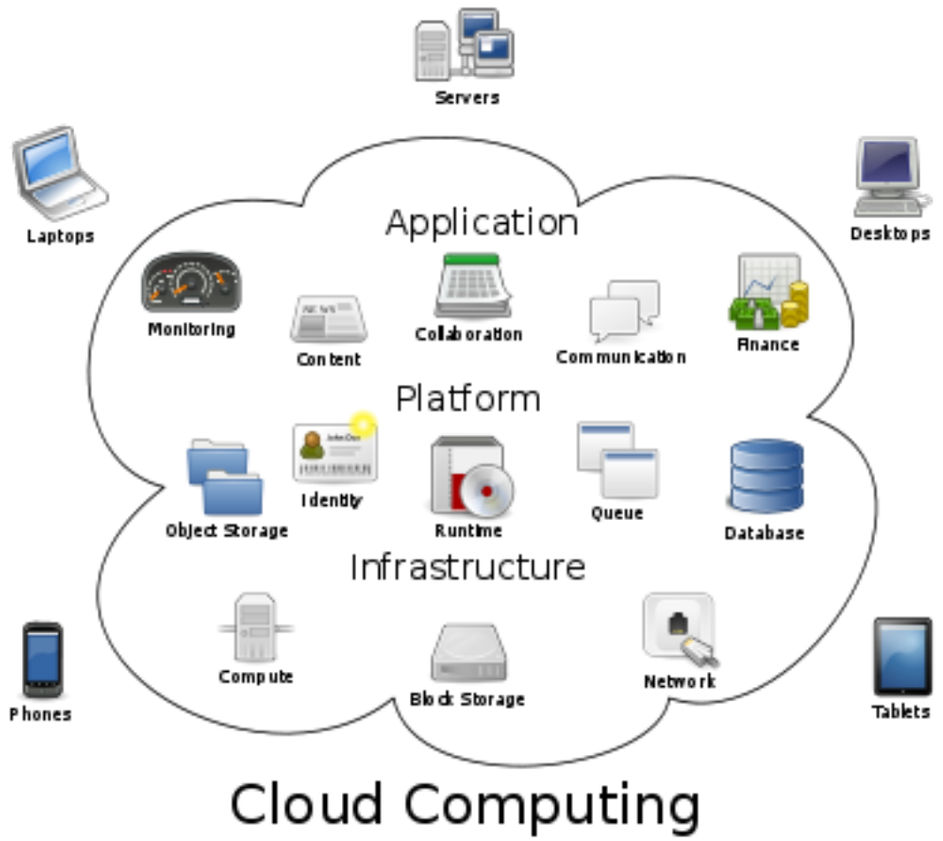
How do I get started?

How is different from what I am doing today?

Will I get a raise?

Cloud Computing

Cloud computing is the delivery of computing as a service rather than a product, whereby shared resources, software, and information are provided to computers and other devices as a metered service over a network (typically the Internet).



Cloud Computing

WIKIPEDIA
The Free Encyclopedia

Software as a service (SaaS) - “on-demand” software

Google Docs

Platform as a service (PaaS) - solution stack

Google app engine

Infrastructure as a service (IaaS) - virtual computing infrastructure

amazon web services™

PaaS

IaaS

AWS Elastic Beanstalk

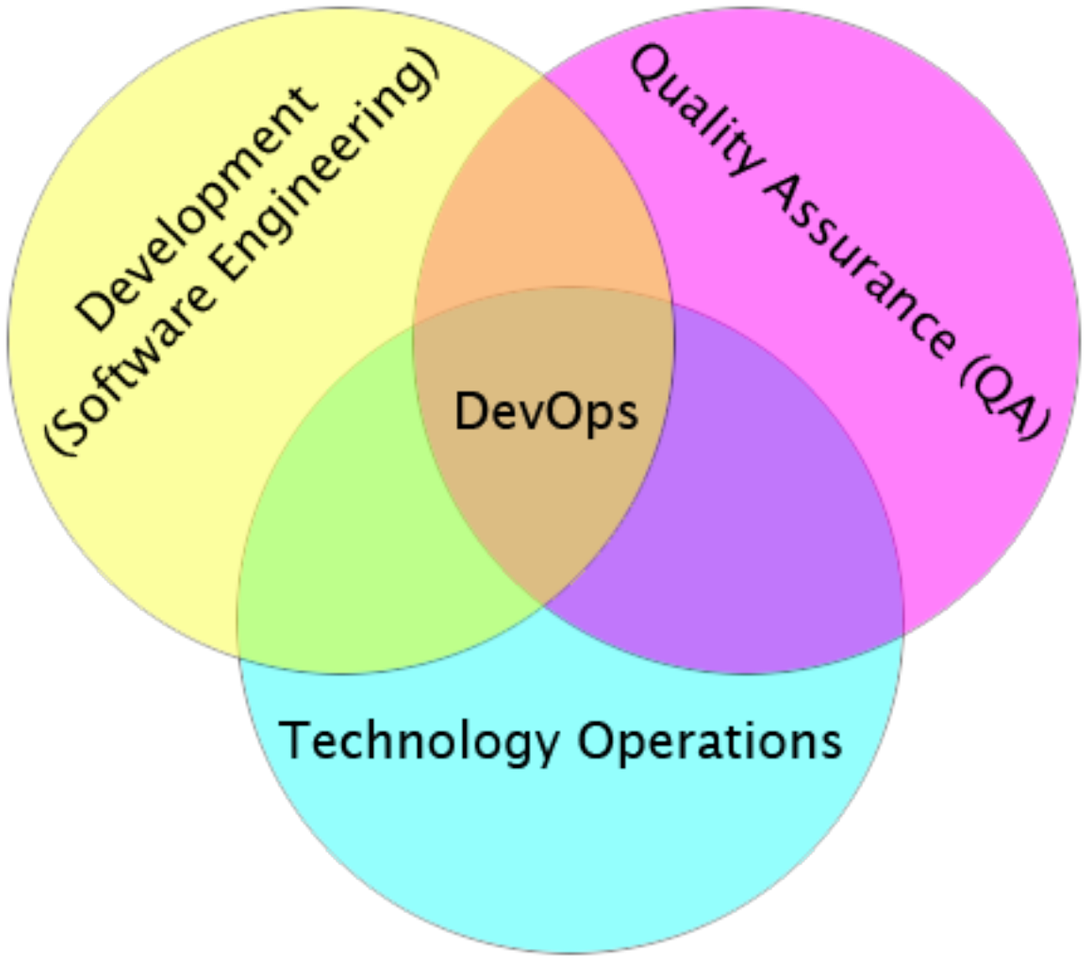
⬇flexibility⬆

⬇complexity⬆

⬇cost⬆

DevOps

an emerging set of principles, methods and practices for communication, collaboration and integration between software development (application/software engineering) and IT operations (systems administration/ infrastructure) professionals. It has developed in response to the emerging understanding of the interdependence and importance of both the development and operations disciplines in meeting an organization's goal of rapidly producing software products and services.

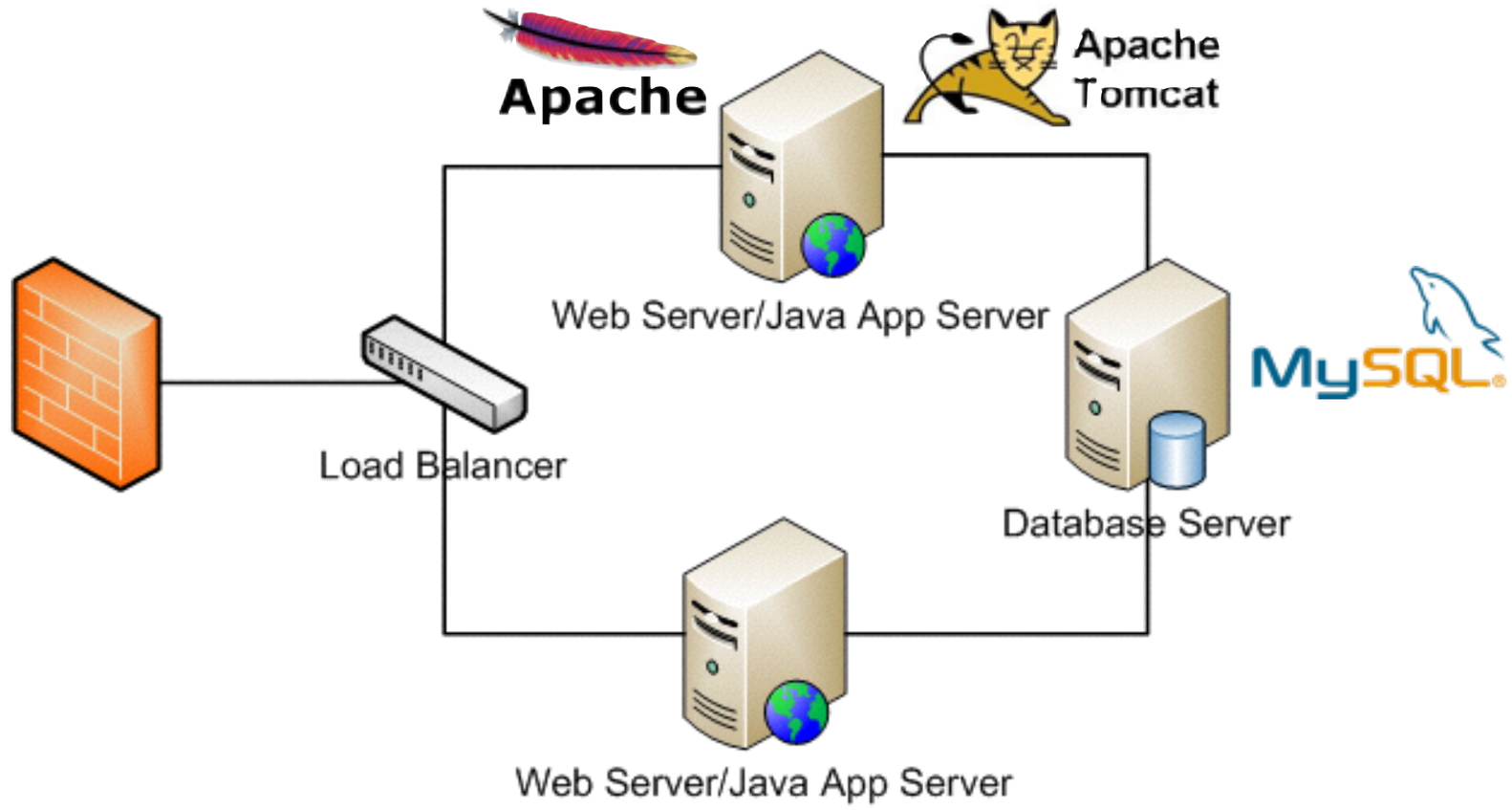


WIKIPEDIA
The Free Encyclopedia

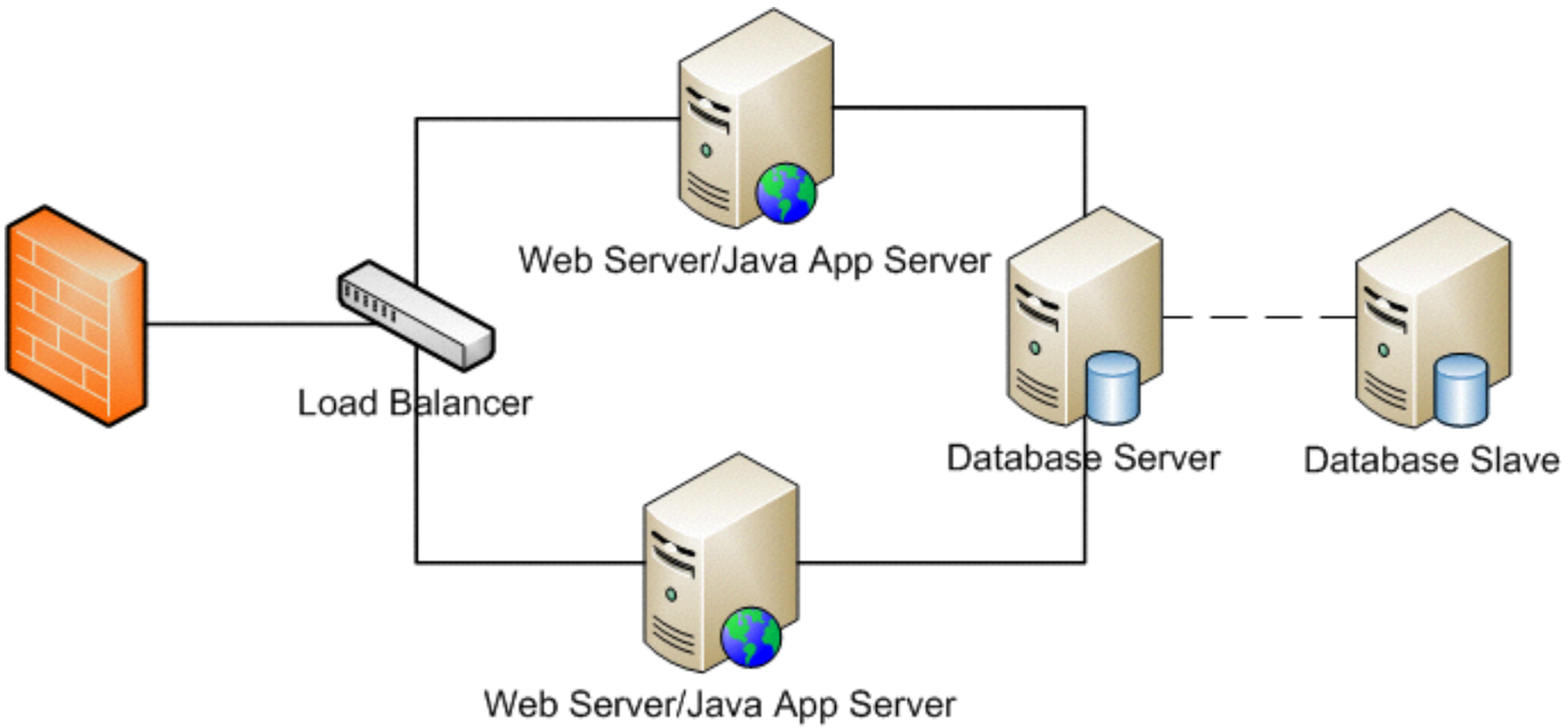
treat infrastructure like cattle not like pets

CURRENT ARCHITECTURE

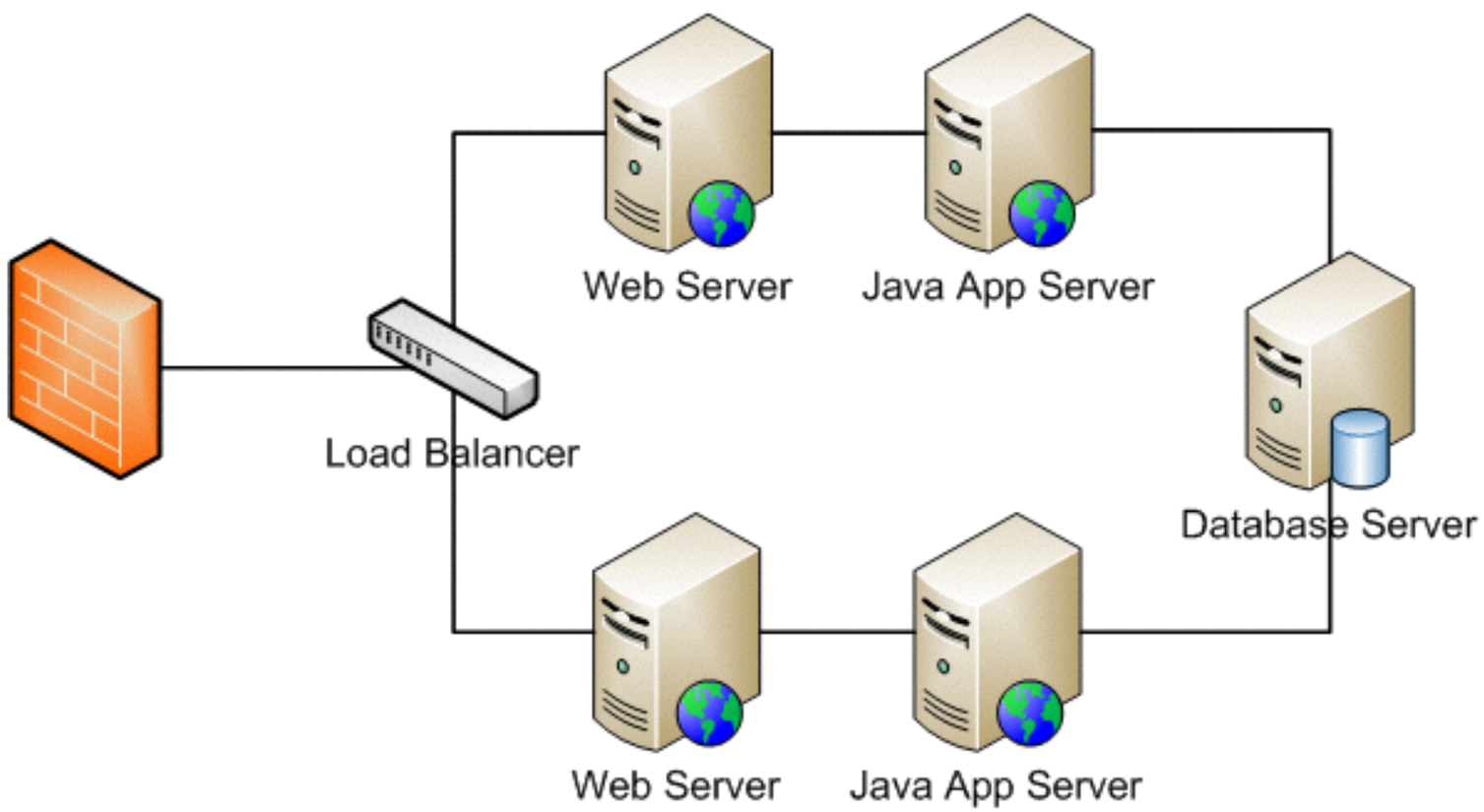
traditional Java architecture



traditional Java architecture



traditional Java architecture



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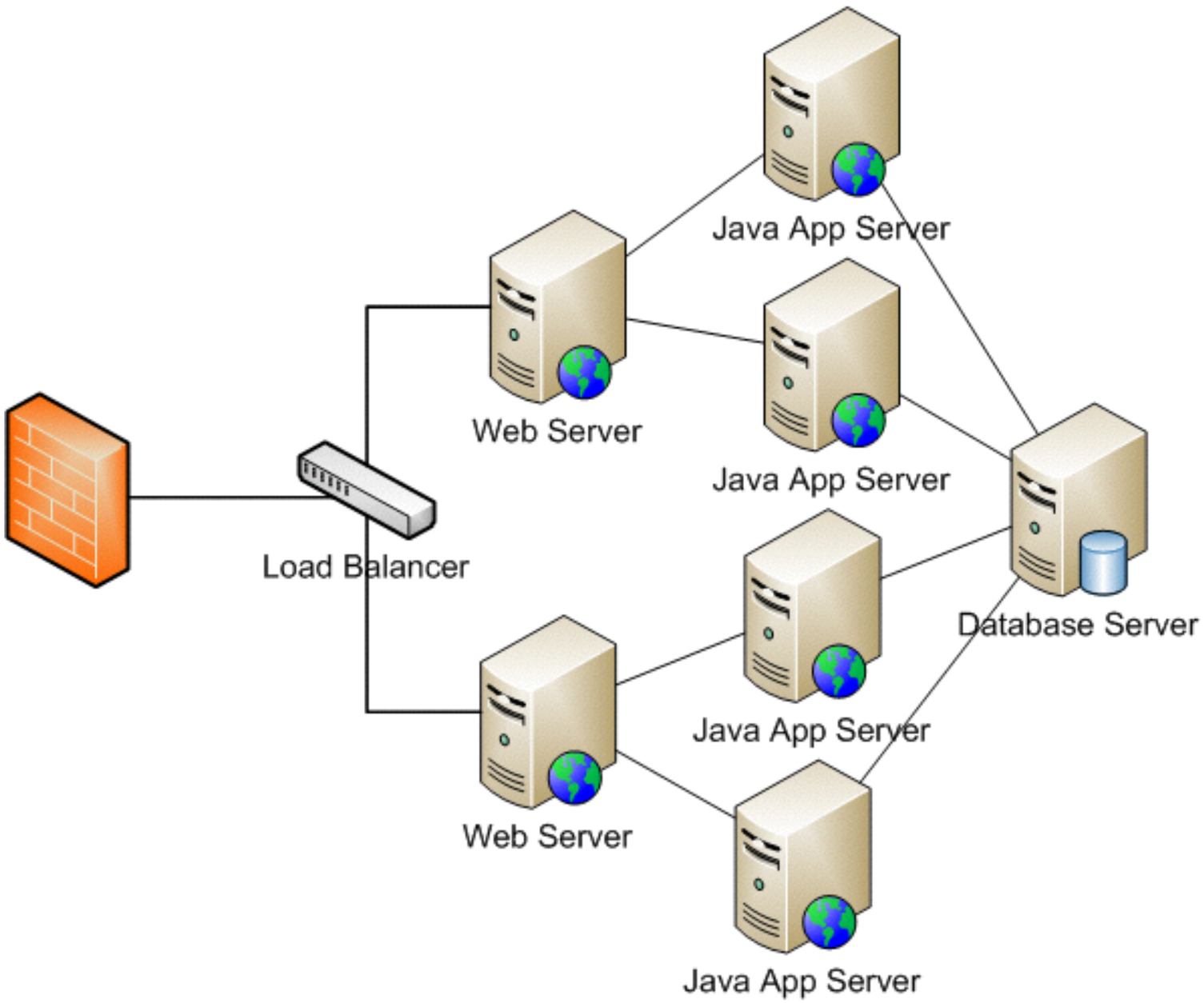

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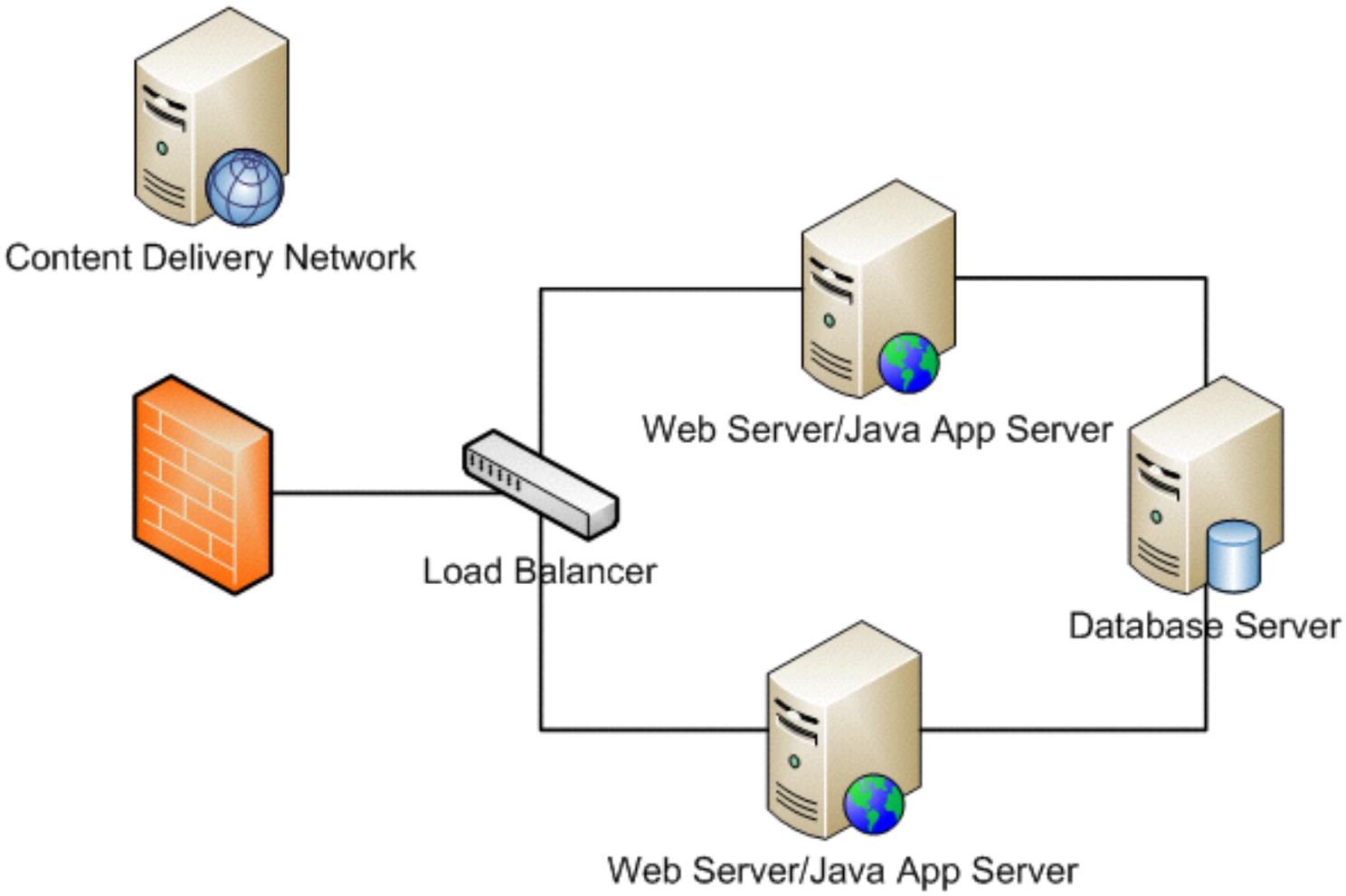
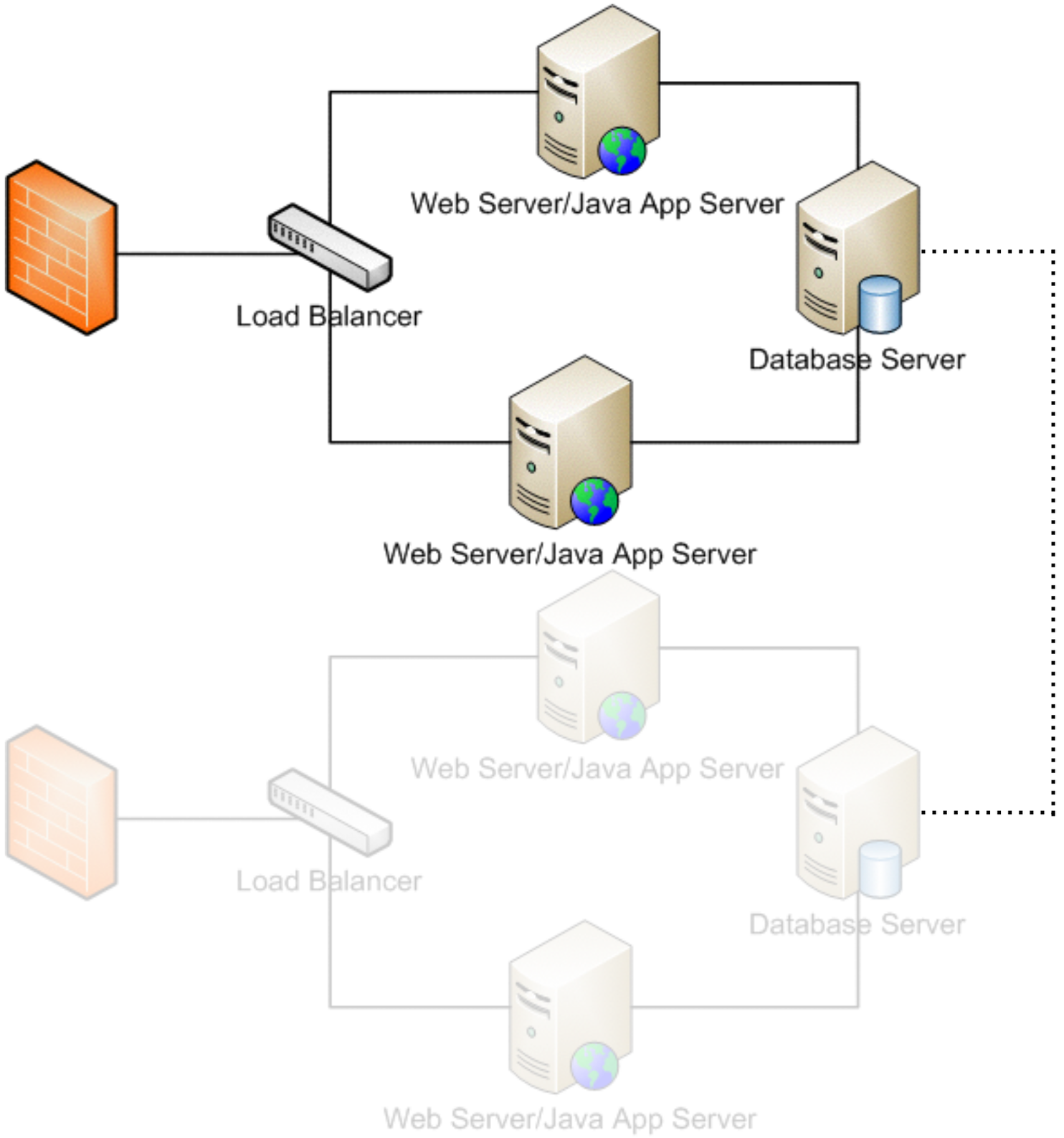


traditional Java architecture



amazon
web services™

Your Applications

Management & Administration

Web Interface
AWS Management Console

Identity & Access
IAM
Identity Federation
Consolidated Billing

Deployment & Automation
AWS Elastic Beanstalk
AWS CloudFormation

Monitoring
Amazon CloudWatch

Application Platform Services

Content Distribution
Amazon CloudFront

Messaging
Amazon SNS
Amazon SQS
Amazon SES

Search
Amazon CloudSearch

Distributed Computing
Elastic MapReduce
Amazon SWF

Libraries & SDKs
Java, PHP, Python, Ruby, .NET

Foundation Services

Compute
Amazon EC2
Auto Scaling

Storage
Amazon S3
Amazon EBS
AWS Storage Gateway

Database
Amazon RDS
Amazon DynamoDB
Amazon SimpleDB
Amazon ElastiCache

Networking
Amazon VPC
Elastic Load Balancing
Amazon Route 53
AWS Direct Connect

AWS Global Infrastructure

Availability Zones

Regions

Edge Locations

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Amazon SES

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Amazon SWF

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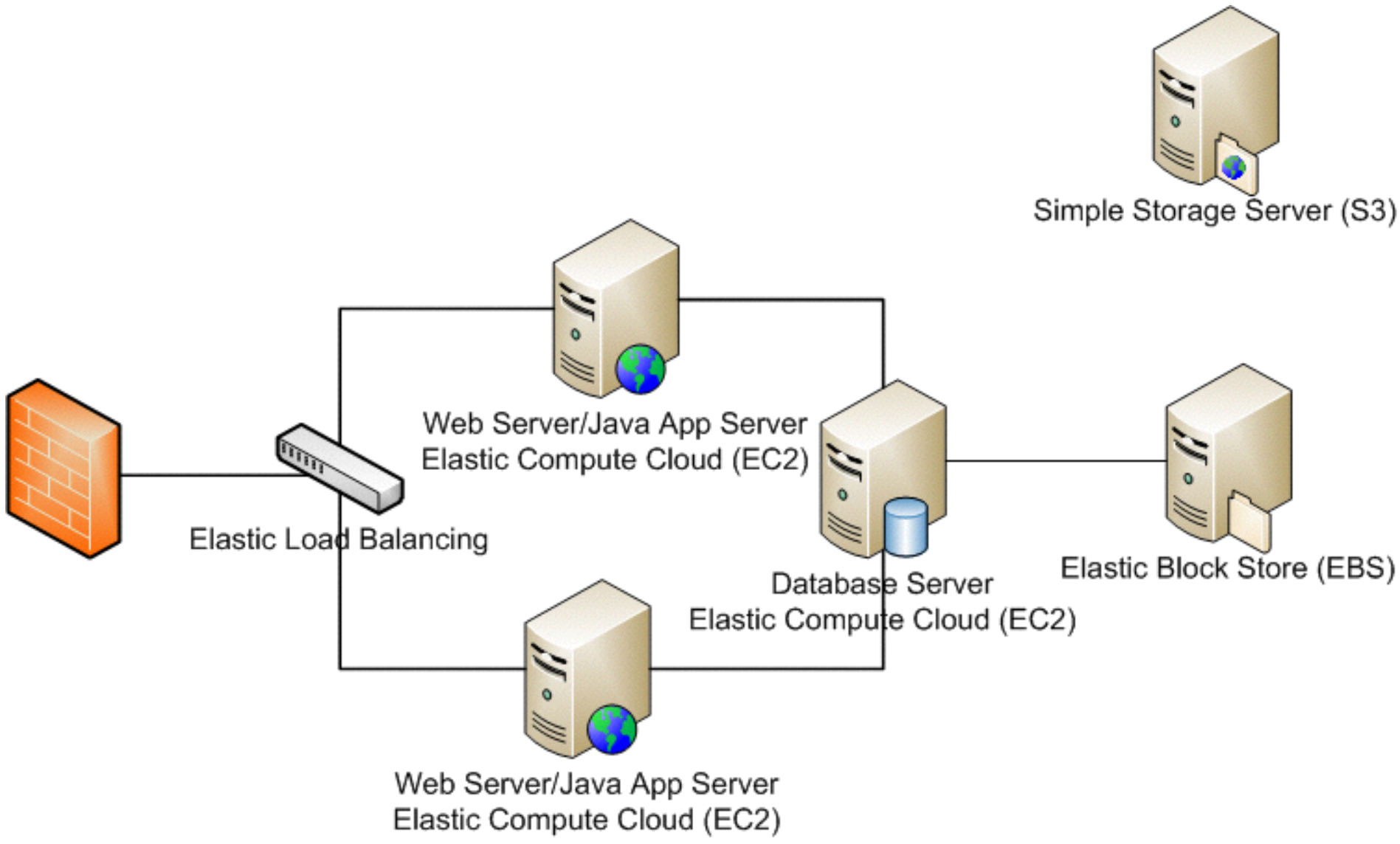
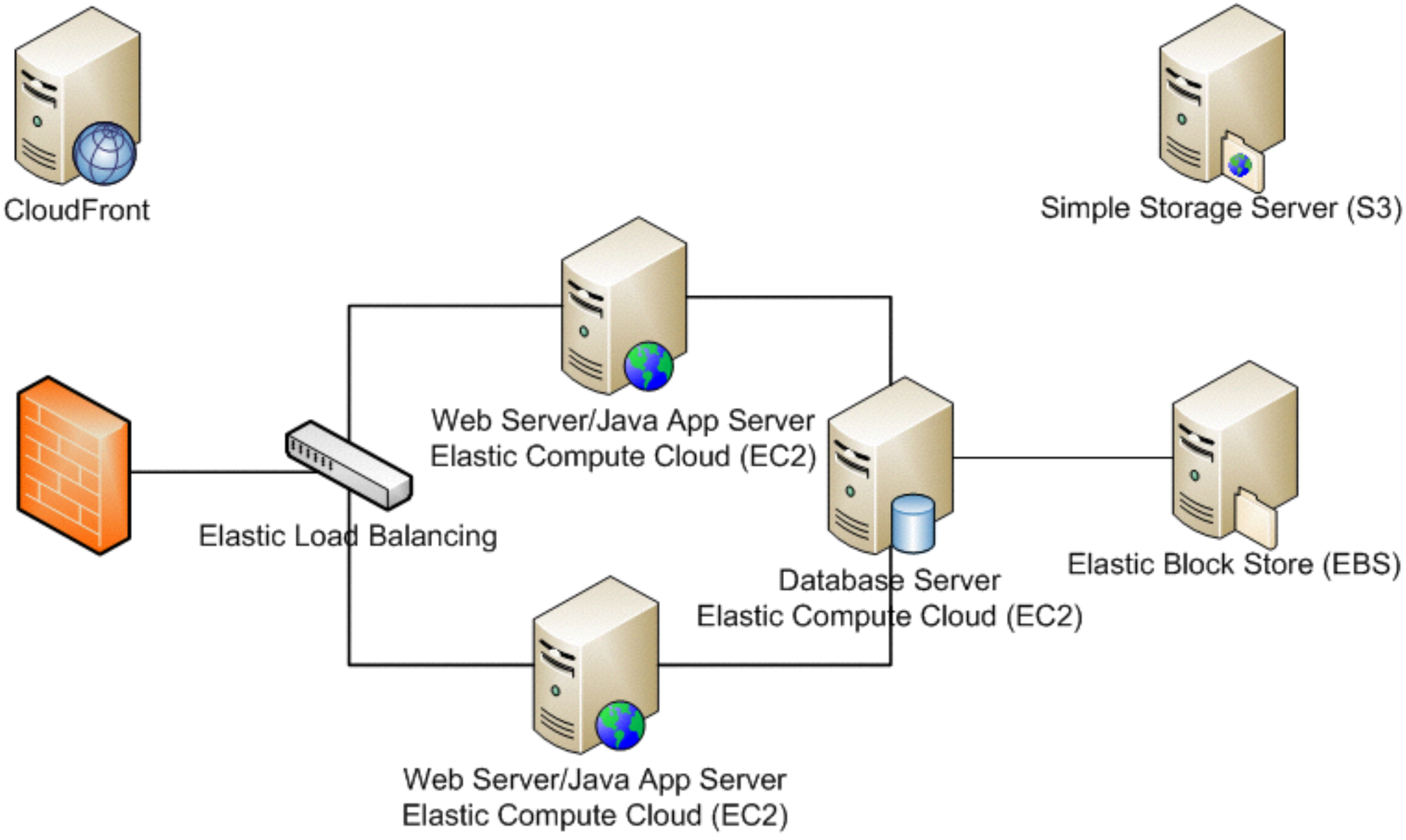
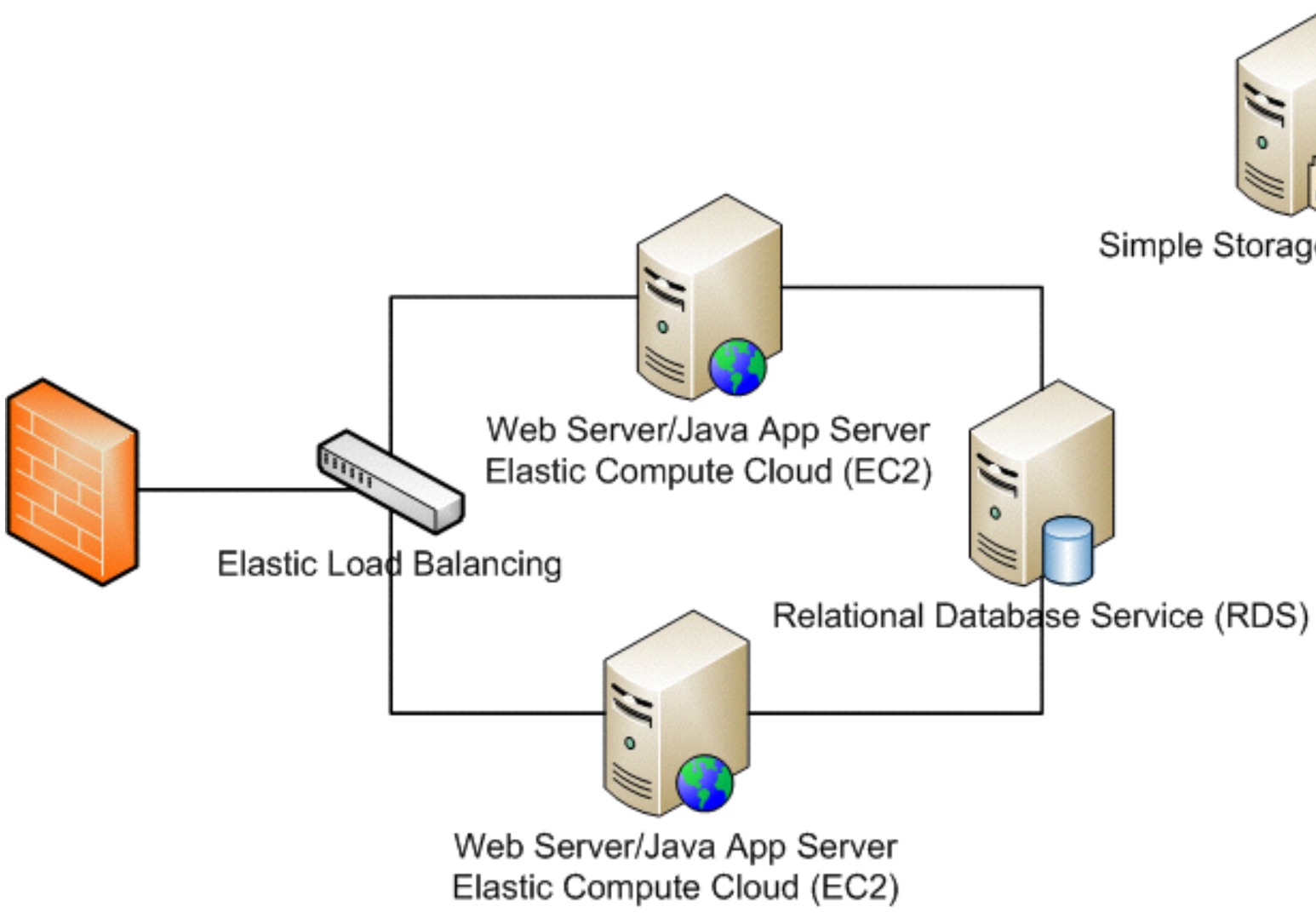
AWS architecture



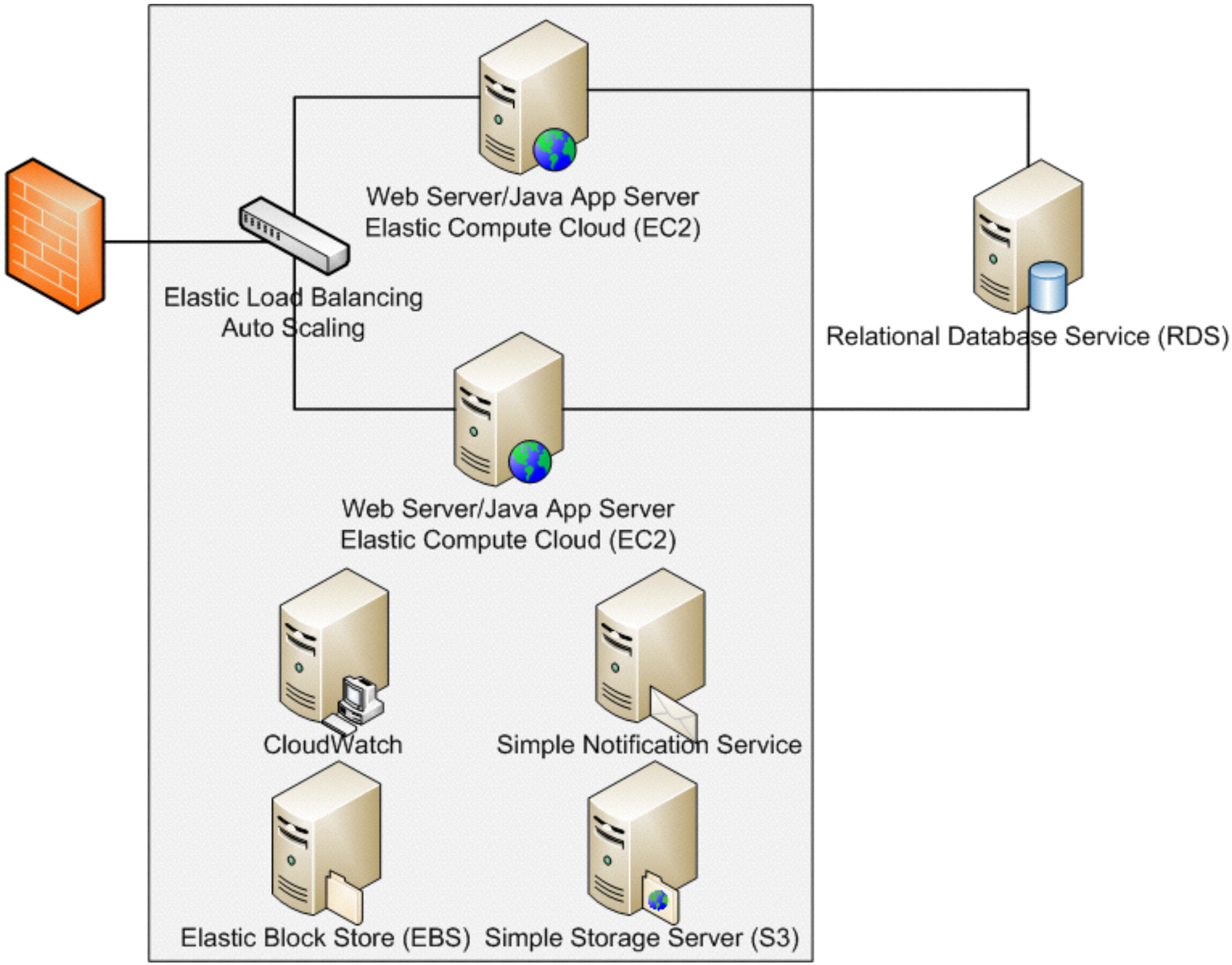
AWS architecture



AWS architecture

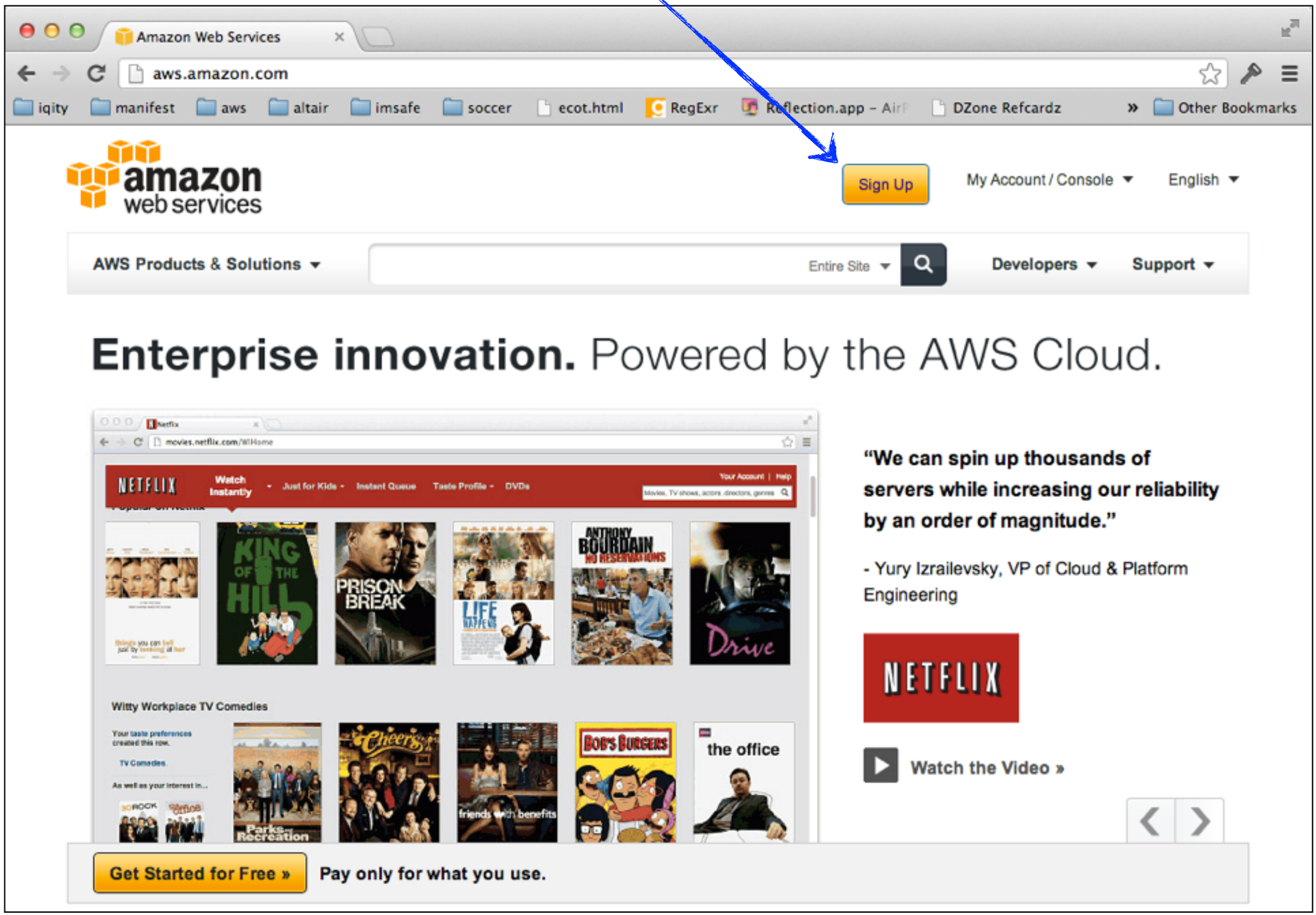


AWS Elastic Beanstalk architecture



Registration

start here



http://aws.amazon.com/

amazon web services™

Sign In or Create an AWS Account

You may sign in using your existing Amazon.com account or you can create a new account by selecting "I am a new user."

My e-mail address is: newuser@juddsolutions.com

need a valid email address

- (•) **I am a new user.**
- ( ) **I am a returning user and my password is:**

Sign in using our secure server

Forgot your password?

Has your e-mail address changed?

Learn more about AWS Identity and Access Management and AWS Multi-Factor Authentication, features that provide additional security for your AWS Account.

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Login Credentials

Use the form below to create login credentials that can be used for AWS as well as Amazon.com.

My name is: Christopher Judd

My e-mail address is: newuser@juddsolutions.com

Type it again: newuser@juddsolutions.com

note: this is the e-mail address that we will use to contact you about your account

Enter a new password: ••••••••

Type it again: ••••••••

Continue

About Amazon.com Sign In

Amazon Web Services uses information from your Amazon.com account to identify you and allow access to Amazon Web Services. Your use of this site is governed by our Terms of Use and Privacy Policy linked below.

Terms of Use | Privacy Policy © 1996-2012, Amazon.com, Inc. or its affiliates

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amazon web services

Amazon Web Services Sign Up

Contact Information

* required fields

Full Name*: Christopher Judd

Company Name: Judd Solutions

Country*: United States

Address Line 1*: 685 Farrington Dr.

Street address, P.O. box, company name, c/o

Address Line 2:

Apartment, suite, unit, building, floor, etc.

City*: Worthington

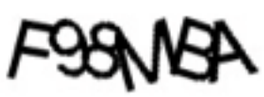
State, Province or Region*: OH

ZIP or Postal Code*: 43085

Phone number*: 6143784119

Security Check

Image:



Try a different image

Why do we ask you to type these characters?

Type the characters in the above image*: F98MBA

Having Trouble? Contact us.

AWS Customer Agreement

Check here to indicate that you have read and agree to the terms of the Amazon Web Services Customer Agreement.

Create Account and Continue

amazon web services™

Amazon Web Services Sign Up

CREATE ACCOUNT — PAYMENT METHOD — IDENTITY VERIFICATION — CONFIRMATION

Your AWS account credentials have been created, but in order to begin using any of the services, you will need to provide your payment information and continue. There is no fee to sign up and you only pay for what you use.

Enter Your Payment Information Below

Your credit card will not be charged until you begin using AWS, and many of your applications and uses of AWS may be able to operate within the AWS free usage tier. If your monthly usage goes beyond the free tier, your AWS service charges will be billed to the credit card you provide below. View detailed service pricing

* required fields

Credit Card*: Visa

Card Number*:

Cardholder's Name*:

Expiration Date*: 01 2011

Enter Your Billing Address

Select the billing address associated with your credit card.

- (•) Use my contact address as my billing address
  (685 Farrington Dr., WORTHINGTON, Ohio 43085, US, (614) 378-4119)
- ( ) Enter a new address

Continue

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Amazon Web Services Sign Up

CREATE ACCOUNT ✓ — PAYMENT METHOD ✓ — IDENTITY VERIFICATION — CONFIRMATION

In order to complete the sign up process, we will need to verify your identity.

Identity Verification by Telephone

After you provide a telephone number where you can be reached below, you will then be called immediately by an automated system and prompted to enter the PIN number over the phone. Once completed, you'll be able to proceed to review your account details. Please follow the 3 simple steps below.

1. Provide a telephone number

Please enter your information below and click the "Call Me Now" button.

Country Code: United States (+1) Phone number: (614) 378-4119 ext:

Call Me Now

2. Call in progress

3. Identity verification complete

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Amazon Web Services Sign Up

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✓ Provide a telephone number

✓ Call to 1 (614) 378-4119

3. Identity verification complete

Your identity has been verified successfully

Continue

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Amazon Web Services Sign Up

CREATE ACCOUNT ✓ — PAYMENT METHOD ✓ — IDENTITY VERIFICATION ✓ — CONFIRMATION

Activating your account...

We are in the process of activating your account so that you can begin using AWS.

We will notify you by e-mail at **aws@juddsolutions.com** once the verification is complete. You will then be able to begin using all AWS Infrastructure Services. For most customers, this process only takes a couple of minutes (but can sometimes take a few hours if additional account verification is required). As part of the account activation process, a $1 authorization will be placed on the payment method (normally, a Debit or Credit Card) to make sure your payment method is valid. **This authorization is not a charge**, but your bank may hold the authorized funds as unavailable until the authorization expires

Start Exploring Amazon Web Services

- Products & Services
- Detailed Service Pricing
- Documentation
- FAQs
- Discussion Forums

Protect your account with AWS Multi-Factor authentication (MFA)

AWS MFA is a feature that is available at no extra cost that greatly enhances your account's security. In addition to your username and password, AWS MFA requires a one-time code from your MFA device when signing in to AWS web properties.

Activate MFA > Learn more

Sign Up For AWS Support

AWS Support is a one-on-one, fast response support channel to help you build and run applications on AWS. With pay-by-the-month pricing and an unlimited number of support cases, you are not constrained by long-term support contracts or limited support privileges.

Sign Up Now > Learn more

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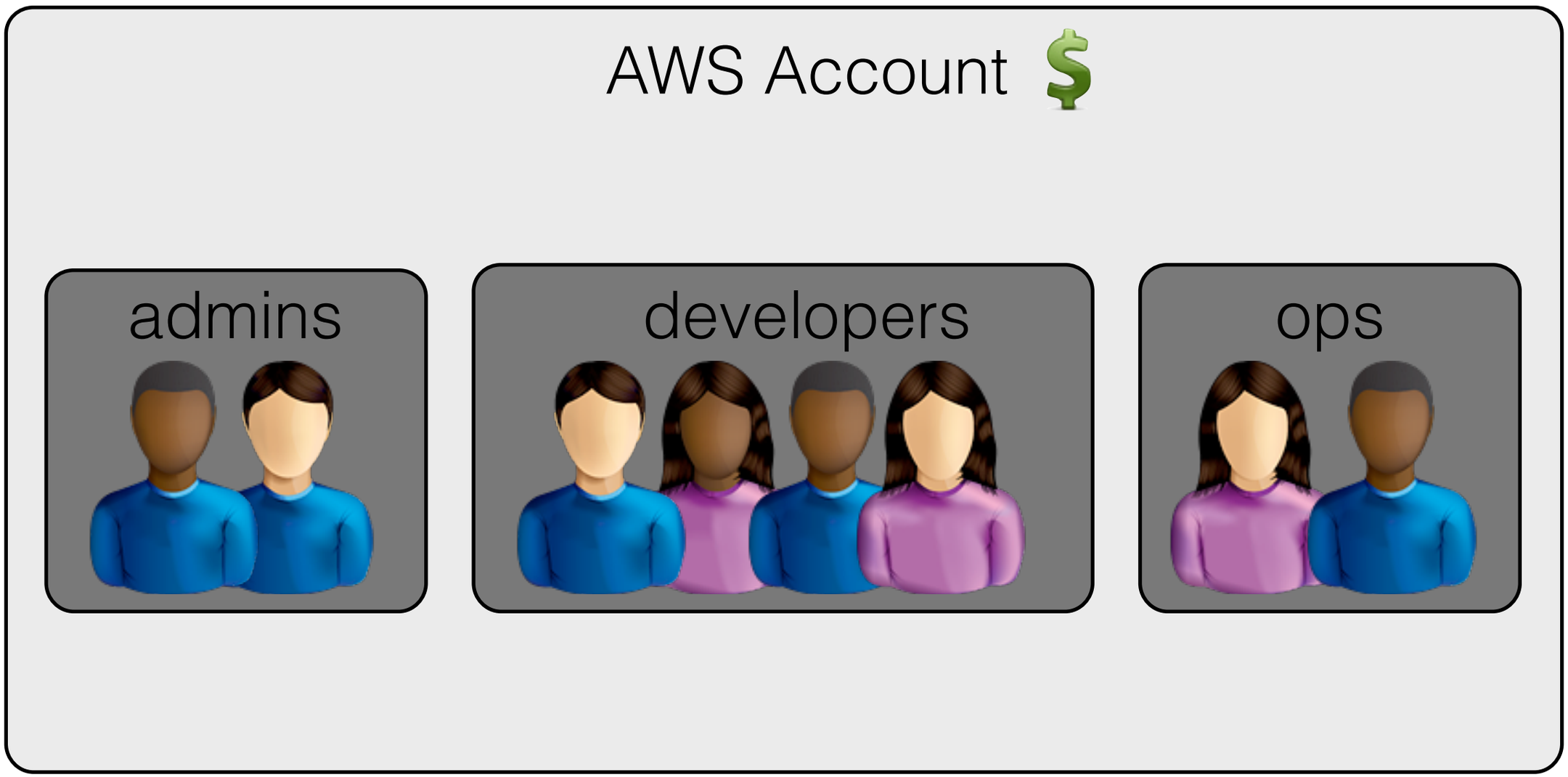
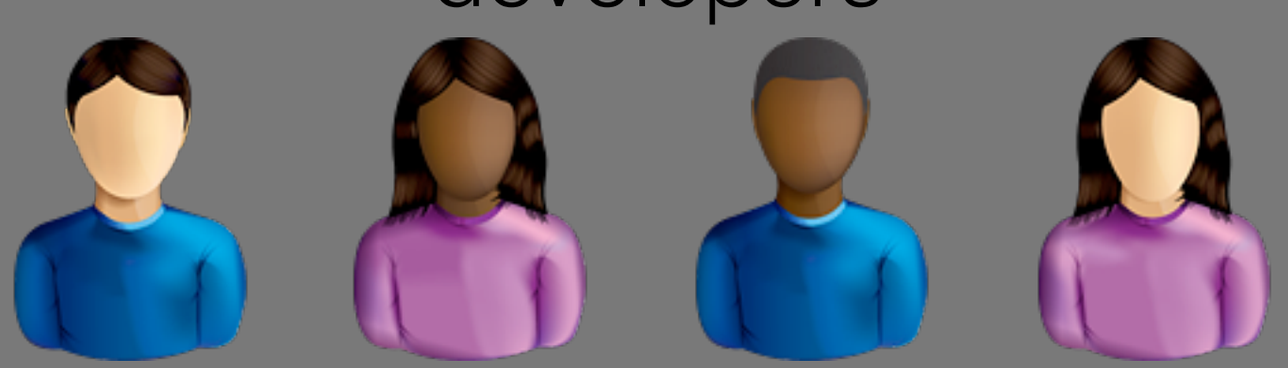


user/group based security

563700736850 💲

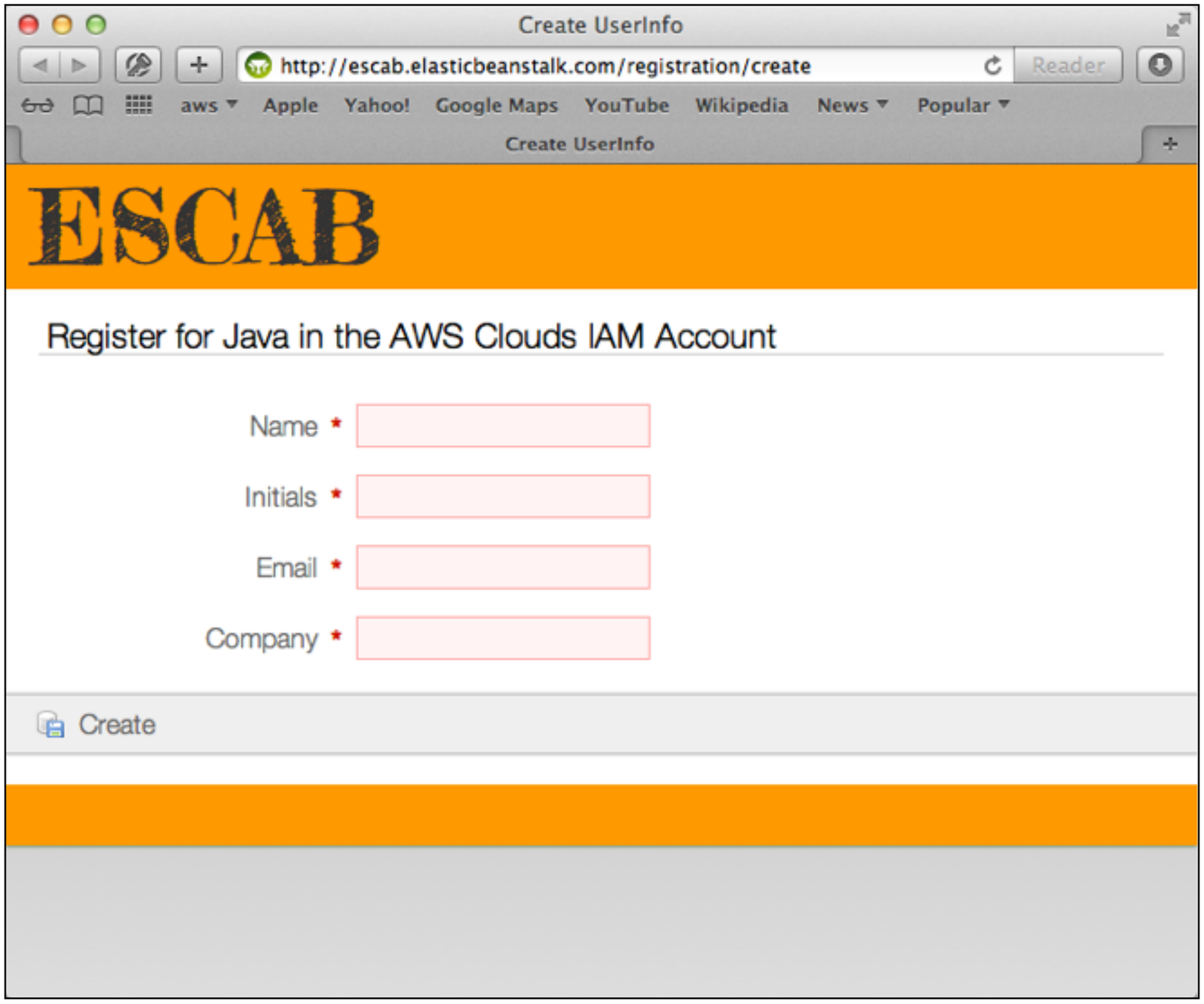
developers



cmj njz jjs cmj0

* all accounts will be removed by the end of the week

Register for your user account



http://escab.elasticbeanstalk.com

You AWS Credentials will be emailed to you. If you don't see it check your spam folder.

This repository Search Explore Gist Blog Help cjudd

cjudd / escab
forked from zendern/escab

Unwatch 1 Star 0 Fork 2

Java in the Amazon Cloud - Registration Application — Edit

9 commits 1 branch 0 releases 0 contributors

branch: master escab / +

This branch is even with zendern:master Pull Request Compare

Instead of using SES just going to use local SMTP server for now sinc… ···

Nathan Zender authored on Jan 8, 2013 latest commit b8243a9944

grails-app	Instead of using SES just going to use local SMTP server for now sinc…	2 years ago
src/java	Adding the ability to create users in IAM from the grails application…	2 years ago
test/unit	Adding that ability to create a IAM user on aws and updating screens …	2 years ago
web-app	Since the list page did not show the data as it should have so added …	2 years ago
.gitignore	Adding that ability to create a IAM user on aws and updating screens …	2 years ago
application.properties	Instead of using SES just going to use local SMTP server for now sinc…	2 years ago

We recommend adding a README to this repository to help give people an overview of your project. Add a README

Code
Pull Requests 0
Wiki
Pulse
Graphs
Settings

HTTPS clone URL
https://github.com/

You can clone with HTTPS, SSH, or Subversion.

Clone in Desktop
Download ZIP

https://github.com/cjudd/escab

aws@juddsolutions.com 1:35 PM (0 minutes ago)

to me

Console Url : https://563700736850.signin.aws.amazon.com/console
Username : tst
Password : codemash
Secret Key : CsOPQsnWe+3MYiwZ63BPeT/7dkkbnRXLg1ouXUV0
Access Key Id : AKIAIX6LH4GS2UHIGCRA

amazon web services

Amazon Web Services Sign In

Please enter the AWS Identity & Access Management (IAM) User name and password assigned by your system administrator to sign in.

AWS Account: 563700736850

User Name: cmj

Password: ••••••••

Sign in using our secure server

Please contact your system administrator if you have forgotten your user credentials.

Sign in using AWS Account credentials

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aws@juddsolutions.com 1:35 PM (0 minutes ago)

to me

Console Url : https://563700736850.signin.aws.amazon.com/console
Username : tst
Password : codemash
Secret Key : CsOPQsnWe+3MYiwZ63BPeT/7dkkbnRXLg1ouXUV0
Access Key Id : AKIAIX6LH4GS2UHIGCRA

https://563700736850.signin.aws.amazon.com/console

Services | Edit | Christopher Judd | Global | Help

Welcome

The AWS Management Console provides a graphical interface to Amazon Web Services. Learn more about how to use our services to meet your needs, or get started by selecting a service.

Getting started guides

Reference architectures

Free Usage Tier

Set Start Page

Console Home

AWS Marketplace
Find & buy software, launch with 1-Click and pay by the hour.

Amazon Web Services

Compute & Networking

- **Direct Connect** — Dedicated Network Connection to AWS
- **EC2** — Virtual Servers in the Cloud
- **Elastic MapReduce** — Managed Hadoop Framework
- **Route 53** — Scalable Domain Name System
- **VPC** — Isolated Cloud Resources

Storage & Content Delivery

- **CloudFront** — Global Content Delivery Network
- **Glacier** — Archive Storage in the Cloud
- **S3** — Scalable Storage in the Cloud
- **Storage Gateway** — Integrates on-premises IT environments with Cloud storage

Database

- **DynamoDB** — Predictable and Scalable NoSQL Data Store
- **ElastiCache** — In-Memory Cache
- **RDS** — Managed Relational Database Service

Deployment & Management

- **CloudFormation** — Templated AWS Resource Creation
- **CloudWatch** — Resource & Application Monitoring
- **Data Pipeline** NEW — Orchestration for data-driven workflows
- **Elastic Beanstalk** — AWS Application Container
- **IAM** — Secure AWS Access Control

App Services

- **CloudSearch** — Managed Search Service
- **SES** — Email Sending Service
- **SNS** — Push Notification Service
- **SQS** — Message Queue Service
- **SWF** — Workflow Service for Coordinating Application Components

Announcements

AWS Management Console Announces Tablet and Mobile Support

Amazon ElastiCache Announces Auto Discovery Client For PHP

Root Domain Support on Amazon S3 Hosted Websites

More...

Service Health Edit

Click Edit to add at least one service and at least one region to monitor.

Service Health Dashboard

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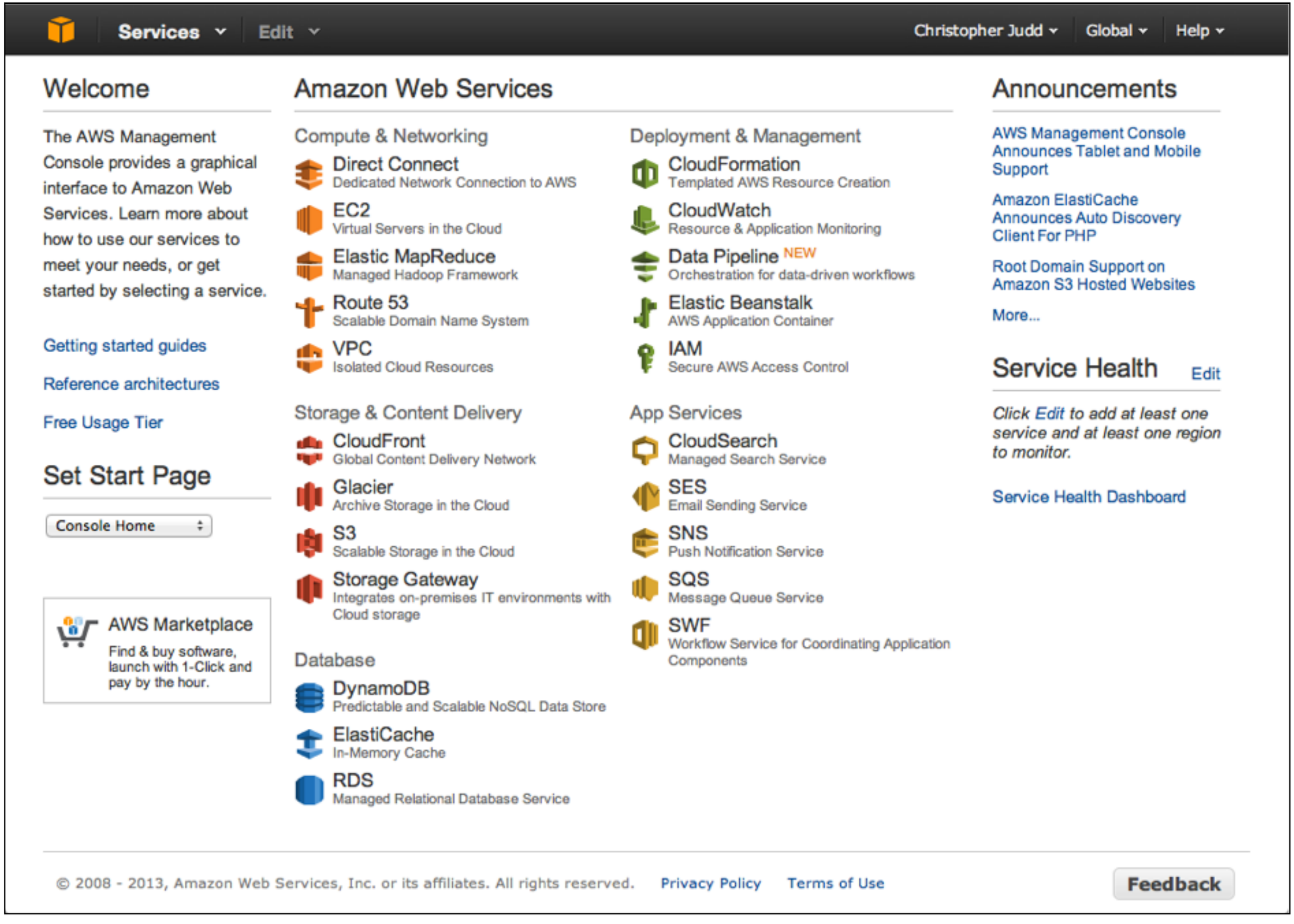
https://console.aws.amazon.com

Interfaces

Web Console


Services
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Christopher Judd
Global
Help
Welcome
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Glacier
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S3
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Predictable and Scalable NoSQL Data Store
ElastiCache
In-Memory Cache
RDS
Managed Relational Database Service
Deployment & Management
CloudFormation
Templated AWS Resource Creation
CloudWatch
Resource & Application Monitoring
Data Pipeline NEW
Orchestration for data-driven workflows
Elastic Beanstalk
AWS Application Container
IAM
Secure AWS Access Control
App Services
CloudSearch
Managed Search Service
SES
Email Sending Service
SNS
Push Notification Service
SQS
Message Queue Service
SWF
Workflow Service for Coordinating Application Components
Announcements
AWS Management Console Announces Tablet and Mobile Support
Amazon ElastiCache Announces Auto Discovery Client For PHP
Root Domain Support on Amazon S3 Hosted Websites
More...
Service Health
Edit
Click Edit to add at least one service and at least one region to monitor.
Service Health Dashboard
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Feedback

Command-line

```
$ aws --output text --region us-west-2 ec2 describe-instances
RESERVATIONS	563700736850	226008221399	r-07872030
GROUPS	sg-54675664	awseb-e-udfqj5hwba-stack-AWSEBSecurityGroup-11CG99AR8KVT0
INSTANCES	0	x86_64	cb9cf312-5ab8-45ab-8da7-7758db9aae10_us-west-2a_1	False	xen	ami-d03ea1e0	i-bccb9a88	t1.micro	aki-fc37bacc	escab-key	2013-12-04T16:52:55.000Z	ip-10-251-47-132.us-west-2.compute.internal	10.251.47.132	ec2-54-203-22-211.us-west-2.compute.amazonaws.com	54.203.22.211	/dev/sda1	ebs	None	paravirtual
BLOCKDEVICEMAPPINGS	/dev/sda1
EBS	2013-12-04T16:52:58.000Z	True	attached	vol-6116d449
IAMINSTANCEPROFILE	arn:aws:iam::563700736850:instance-profile/aws-elasticbeanstalk-ec2-role	AIPAIGCYITWRPOQIEXSKQ
MONITORING	disabled
PLACEMENT	us-west-2a	None	default
SECURITYGROUPS	sg-54675664	awseb-e-udfqj5hwba-stack-AWSEBSecurityGroup-11CG99AR8KVT0
STATE	16	running
TAGS	aws:cloudformation:stack-id	arn:aws:cloudformation:us-west-2:563700736850:stack/awseb-e-udfqj5hwba-stack/57fe9000-5d04-11e3-abea-50e2414b0a18
TAGS	Name	escab
TAGS	aws:cloudformation:stack-name	awseb-e-udfqj5hwba-stack
TAGS	aws:cloudformation:logical-id	AWSEBAutoScalingGroup
TAGS	elasticbeanstalk:environment-name	escab
TAGS	elasticbeanstalk:environment-id	e-udfqj5hwba
TAGS	aws:autoscaling:groupName	awseb-e-udfqj5hwba-stack-AWSEBAutoScalingGroup-1MNNRZ3V9ALOG
```

SDK Language Support

http://aws.amazon.com/tools/

EC2

A virtual machine (VM) is a software implementation of a machine (i.e. a computer) that executes programs like a physical machine. Virtual machines are separated into two major categories, based on their use and degree of correspondence to any real machine. A system virtual machine provides a complete system platform which supports the execution of a complete operating system (OS). In contrast, a process virtual machine is designed to run a single program, which means that it supports a single process. An essential characteristic of a virtual machine is that the software running inside is limited to the resources and abstractions provided by the virtual machine—it cannot break out of its virtual world.

WIKIPEDIA
The Free Encyclopedia

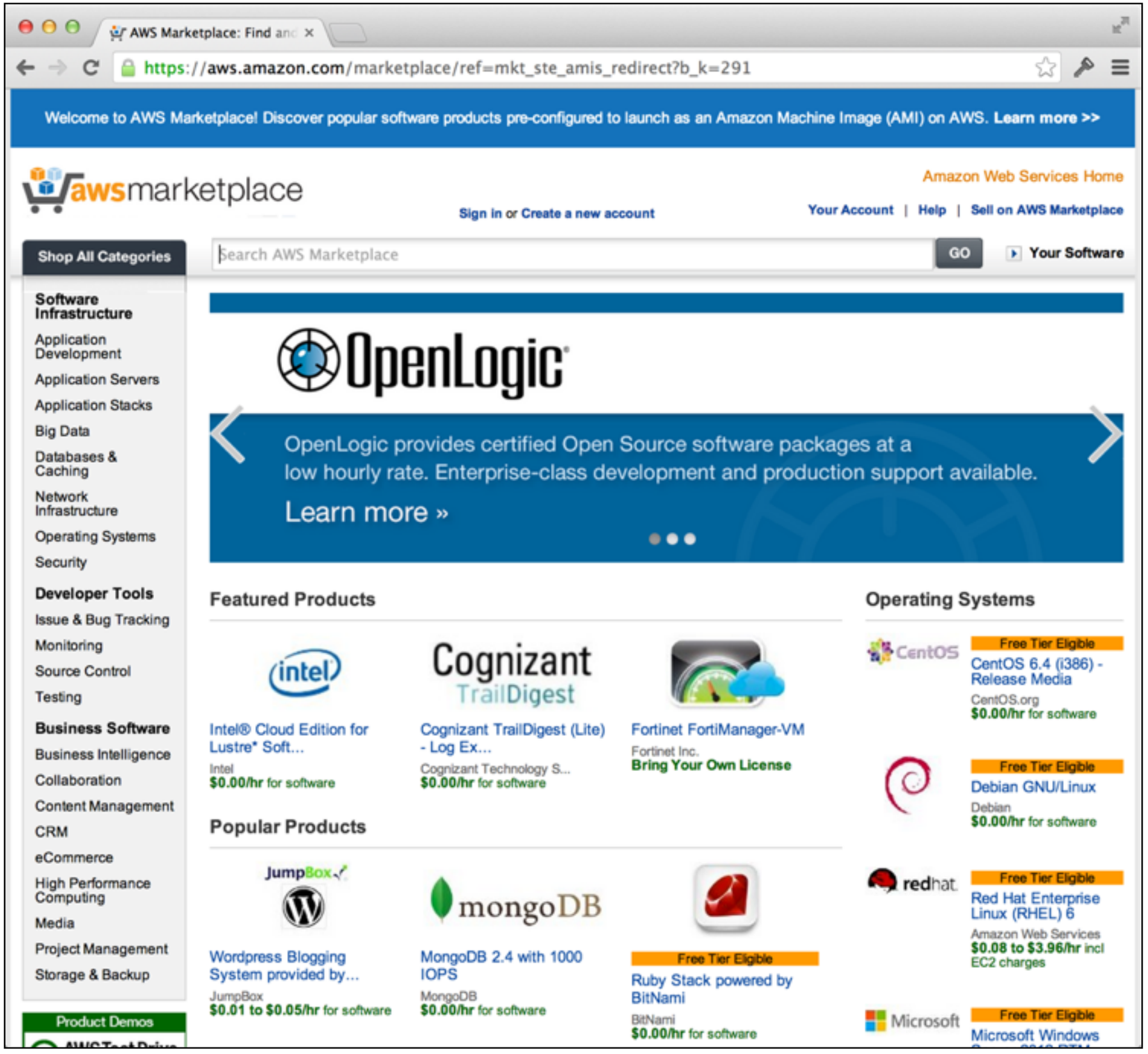
Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable compute capacity in the cloud. It is designed to make web-scale computing easier for developers.

- Elastic
- Completely Controlled
- Flexible
- Reliable

redhat

amazon

openSUSE



https://aws.amazon.com/marketplace/

AWS AMIs

Amazon Linux AMI 2013.09.1 - ami-83e4bcea (64-bit) / ami-cde4bca4 (32-bit)

Amazon Linux

Free tier eligible

The Amazon Linux AMI is an EBS-backed, PV-GRUB image. It includes Linux 3.4, AWS tools, and repository access to multiple versions of MySQL, PostgreSQL, Python, Ruby, and Tomcat.

Root device type: ebs Virtualization type: paravirtual

Select

64-bit 32-bit

Red Hat Enterprise Linux 6.4 - ami-a25415cb (64-bit) / ami-7e175617 (32-bit)

Red Hat

Free tier eligible

Red Hat Enterprise Linux version 6.4, EBS-boot.

Root device type: ebs Virtualization type: paravirtual

Select

64-bit 32-bit

SUSE Linux Enterprise Server 11 - ami-e8084981 (64-bit) / ami-b60948df (32-bit)

SUSE Linux

Free tier eligible

SUSE Linux Enterprise Server 11 Service Pack 3 basic install, EBS boot with Amazon EC2 AMI Tools preinstalled; Apache 2.2, MySQL 5.5, PHP 5.3, and Ruby 1.8.7 available

Root device type: ebs Virtualization type: paravirtual

Select

64-bit 32-bit

Ubuntu Server 12.04.3 LTS - ami-a73264ce (64-bit) / ami-a53264cc (32-bit)

Ubuntu

Free tier eligible

Ubuntu Server 12.04.3 LTS with support available from Canonical (http://www.ubuntu.com/cloud/services).

Root device type: ebs Virtualization type: paravirtual

Select

64-bit 32-bit

Ubuntu Server 13.10 - ami-ad184ac4 (64-bit) / ami-a9184ac0 (32-bit)

Ubuntu

Free tier eligible

Ubuntu Server 13.10: Ubuntu Server version 13.10, with support available from Canonical (http://www.ubuntu.com/cloud/services).

Root device type: ebs Virtualization type: paravirtual

Select

64-bit 32-bit

Amazon Linux AMI (HVM) 2013.09.1 - ami-d1bfe4b8

Amazon Linux

The Amazon Linux AMI is an EBS-backed, HVM image. It includes Linux 3.4, AWS tools, and repository access to multiple versions of MySQL, PostgreSQL, Python, Ruby, and Tomcat.

Root device type: ebs Virtualization type: hvm

Select

64-bit

Red Hat Enterprise Linux 6.4 for Cluster Instances - ami-3218595b

Red Hat

Red Hat Enterprise Linux version 6.4 is an EBS-backed, HVM image for use with Amazon EC2 Cluster Instances.

Root device type: ebs Virtualization type: hvm

Select

64-bit

EC2 Instance Types

- Micro
- Small
- Medium
- Large
- Extra Large
- Double Extra Large
- High Memory Extra Large
- High Memory Double Extra Large
- High Memory Quadruple Extra Large
- High CPU Medium
- High CPU Extra Large
- Cluster Compute Eight Extra Large
- Cluster GPU Quadruple Extra Large
- High I/O Quadruple Extra Large
- High Storage

Cost for On Demand

represents generation

$0.013 per hour

	vCPU	ECU	Memory (GiB)	Instance Storage (GB)	Linux/UNIX Usage
General Purpose - Current Generation					
t2.micro	1	Variable	1	EBS Only	$0.013 per Hour
t2.small	1	Variable	2	EBS Only	$0.026 per Hour
t2.medium	2	Variable	4	EBS Only	$0.052 per Hour
m3.medium	1	3	3.75	1 x 4 SSD	$0.070 per Hour
m3.large	2	6.5	7.5	1 x 32 SSD	$0.140 per Hour
m3.xlarge	4	13	15	2 x 40 SSD	$0.280 per Hour
m3.2xlarge	8	26	30	2 x 80 SSD	$0.560 per Hour
Compute Optimized - Current Generation					
c3.large	2	7	3.75	2 x 16 SSD	$0.105 per Hour
c3.xlarge	4	14	7.5	2 x 40 SSD	$0.210 per Hour
c3.2xlarge	8	28	15	2 x 80 SSD	$0.420 per Hour
c3.4xlarge	16	55	30	2 x 160 SSD	$0.840 per Hour
c3.8xlarge	32	108	60	2 x 320 SSD	$1.680 per Hour
GPU Instances - Current Generation					
g2.2xlarge	8	26	15	60 SSD	$0.650 per Hour
Memory Optimized - Current Generation					
r3.large	2	6.5	15	1 x 32 SSD	$0.175 per Hour
r3.xlarge	4	13	30.5	1 x 80 SSD	$0.350 per Hour
r3.2xlarge	8	26	61	1 x 160 SSD	$0.700 per Hour
r3.4xlarge	16	52	122	1 x 320 SSD	$1.400 per Hour
r3.8xlarge	32	104	244	2 x 320 SSD	$2.800 per Hour
Storage Optimized - Current Generation					
i2.xlarge	4	14	30.5	1 x 800 SSD	$0.853 per Hour
i2.2xlarge	8	27	61	2 x 800 SSD	$1.705 per Hour
i2.4xlarge	16	53	122	4 x 800 SSD	$3.410 per Hour

Cost for Reserved Instances

	1-Year Term		3-Year Term	
	Upfront	**Hourly**	**Upfront**	**Hourly**
General Purpose - Current Generation				
t2.micro	$51	$0.003 per Hour	$109	$0.002 per Hour
t2.small	$102	$0.006 per Hour	$218	$0.004 per Hour
t2.medium	$204	$0.012 per Hour	$436	$0.008 per Hour
m3.medium	$222	$0.018 per Hour	$337	$0.015 per Hour
m3.large	$443	$0.037 per Hour	$673	$0.03 per Hour
m3.xlarge	$886	$0.074 per Hour	$1345	$0.06 per Hour
m3.2xlarge	$1772	$0.146 per Hour	$2691	$0.12 per Hour
Compute Optimized - Current Generation				
c3.large	$326	$0.026 per Hour	$508	$0.022 per Hour
c3.xlarge	$652	$0.053 per Hour	$1016	$0.045 per Hour
c3.2xlarge	$1304	$0.104 per Hour	$2031	$0.09 per Hour
c3.4xlarge	$2608	$0.209 per Hour	$4063	$0.18 per Hour
c3.8xlarge	$5216	$0.417 per Hour	$8126	$0.359 per Hour
GPU Instances - Current Generation				
g2.2xlarge	$2306	$0.142 per Hour	$6307	$0.06 per Hour
Memory Optimized - Current Generation				
r3.large	$541	$0.033 per Hour	$1033	$0.026 per Hour
r3.xlarge	$1082	$0.066 per Hour	$2066	$0.052 per Hour
r3.2xlarge	$2164	$0.132 per Hour	$4132	$0.104 per Hour
r3.4xlarge	$4328	$0.264 per Hour	$8264	$0.208 per Hour
r3.8xlarge	$8656	$0.528 per Hour	$16528	$0.416 per Hour

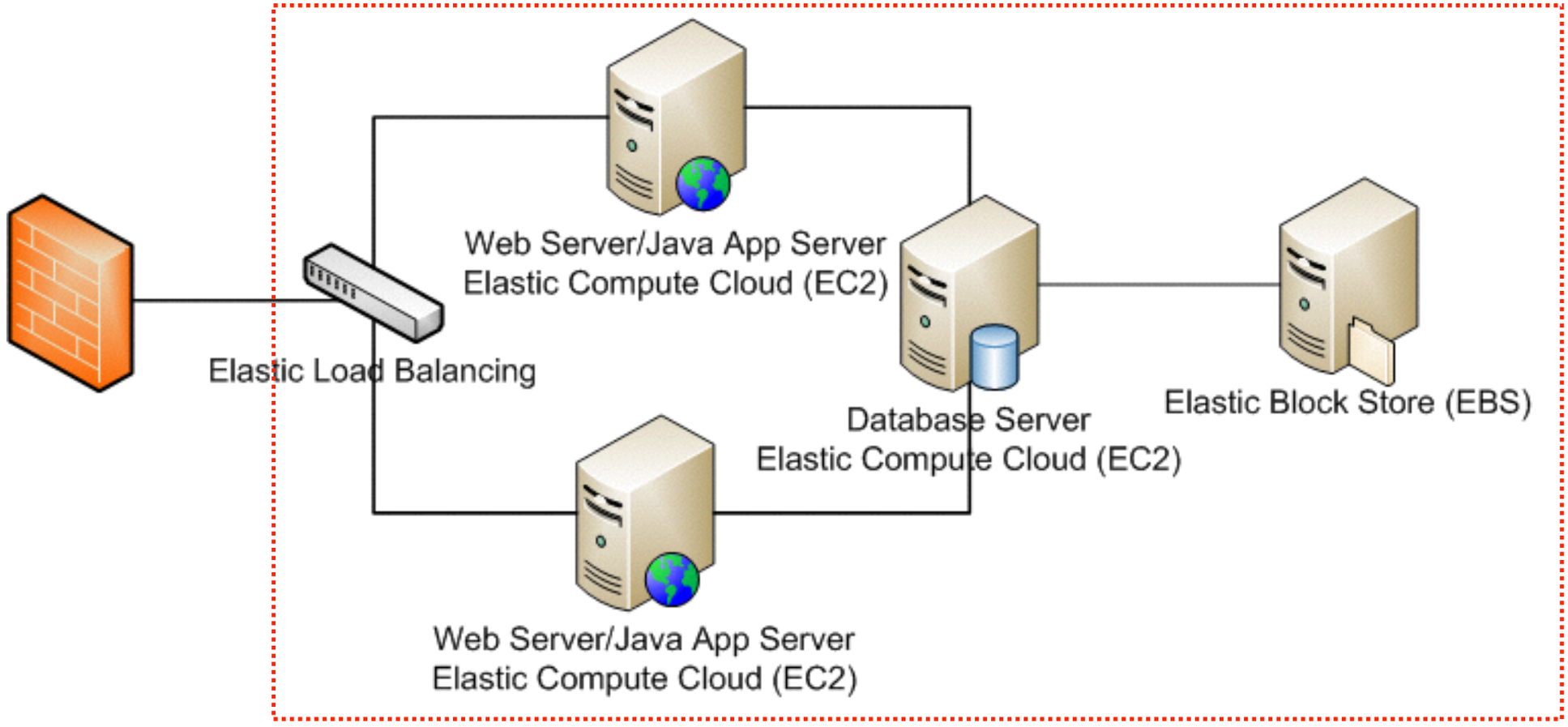
Bandwidth Pricing

	Pricing
Data Transfer IN To Amazon EC2 From	
Internet	$0.00 per GB
Another AWS Region (from any AWS Service)	$0.00 per GB
Amazon S3, Amazon Glacier, Amazon DynamoDB, Amazon SES, Amazon SQS, or Amazon SimpleDB in the same AWS Region	$0.00 per GB
Amazon EC2, Amazon RDS, Amazon Redshift and Amazon ElastiCache instances or Elastic Network Interfaces in the same Availability Zone	
Using a private IP address	$0.00 per GB
Using a public or Elastic IP address	$0.01 per GB
Amazon EC2, Amazon RDS, Amazon Redshift and Amazon ElastiCache instances or Elastic Network Interfaces in another Availability Zone or peered VPC in the same AWS Region	$0.01 per GB
Data Transfer OUT From Amazon EC2 To	
Amazon S3, Amazon Glacier, Amazon DynamoDB, Amazon SES, Amazon SQS, or Amazon SimpleDB in the same AWS Region	$0.00 per GB
Amazon EC2, Amazon RDS, Amazon Redshift or Amazon ElastiCache instances, Amazon Elastic Load Balancing, or Elastic Network Interfaces in the same Availability Zone	
Using a private IP address	$0.00 per GB
Using a public or Elastic IP address	$0.01 per GB
Amazon EC2, Amazon RDS, Amazon Redshift or Amazon ElastiCache instances, Amazon Elastic Load Balancing, or Elastic Network Interfaces in another Availability Zone or peered VPC in the same AWS Region	$0.01 per GB
Another AWS Region or Amazon CloudFront	$0.02 per GB

Data Transfer OUT From Amazon EC2 To Internet	
First 1 GB / month	$0.00 per GB
Up to 10 TB / month	$0.12 per GB
Next 40 TB / month	$0.09 per GB
Next 100 TB / month	$0.07 per GB
Next 350 TB / month	$0.05 per GB
Next 524 TB / month	Contact Us
Next 4 PB / month	Contact Us
Greater than 5 PB / month	Contact Us

VPC WITH WEB CONSOLE

VPC


Web Server/Java App Server
Elastic Compute Cloud (EC2)
Elastic Load Balancing
Database Server
Elastic Compute Cloud (EC2)
Elastic Block Store (EBS)
Web Server/Java App Server
Elastic Compute Cloud (EC2)

start here

Services | Edit | cmj @ 563700736850 | Global | Help

Welcome

The AWS Management Console provides a graphical interface to Amazon Web Services. Learn more about how to use our services to meet your needs, or get started by selecting a service.

Getting started guides

Reference architectures

Free Usage Tier

Set Start Page

Console Home

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Find & buy software, launch with 1-Click and pay by the hour.

Amazon Web Services

Compute & Networking

- **Direct Connect** — Dedicated Network Connection to AWS
- **EC2** — Virtual Servers in the Cloud
- **Elastic MapReduce** — Managed Hadoop Framework
- **Route 53** — Scalable Domain Name System
- **VPC** — Isolated Cloud Resources

Storage & Content Delivery

- **CloudFront** — Global Content Delivery Network
- **Glacier** — Archive Storage in the Cloud
- **S3** — Scalable Storage in the Cloud
- **Storage Gateway** — Integrates on-premises IT environments with Cloud storage

Database

- **DynamoDB** — Predictable and Scalable NoSQL Data Store
- **ElastiCache** — In-Memory Cache
- **RDS** — Managed Relational Database Service

Deployment & Management

- **CloudFormation** — Templated AWS Resource Creation
- **CloudWatch** — Resource & Application Monitoring
- **Data Pipeline** NEW — Orchestration for data-driven workflows
- **Elastic Beanstalk** — AWS Application Container
- **IAM** — Secure AWS Access Control

App Services

- **CloudSearch** — Managed Search Service
- **SES** — Email Sending Service
- **SNS** — Push Notification Service
- **SQS** — Message Queue Service
- **SWF** — Workflow Service for Coordinating Application Components

Announcements

Use Amazon CloudWatch to Detect and Shut Down Unused Amazon EC2 Instances

AWS Management Console Announces Tablet and Mobile Support

Amazon ElastiCache Announces Auto Discovery Client For PHP

More...

Service Health

Edit

Click Edit to add at least one service and at least one region to monitor.

Service Health Dashboard

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Feedback

VPC Dashboard

Filter by VPC:

None

Virtual Private Cloud

Your VPCs

Subnets

Route Tables

Internet Gateways

DHCP Options Sets

Elastic IPs

Peering Connections

Security

Network ACLs

Security Groups

VPN Connections

Customer Gateways

Virtual Private Gateways

VPN Connections

Resources

Start VPC Wizard | Launch EC2 Instances

Note: Your instances will launch in the US East (N. Virginia) region.

You are using the following Amazon VPC resources in the US East (N. Virginia) region:

1 VPC	1 Internet Gateway
3 Subnets	1 Route Table
1 Network ACL	0 Elastic IPs
2 Security Groups	0 Running Instances
0 VPC Peering Connections	0 Customer Gateways
0 VPN Connections	0 Virtual Private Gateways

VPN Connections

Amazon VPC enables you to use your own isolated resources within the AWS cloud, and then connect those resources directly to your own datacenter using industry-standard encrypted IPsec VPN connections.

VPN Connections	Customer Gateways	VPC ID	Status
You do not have any VPNs.			

Create VPN Connection

Service Health

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Step 1: Select a VPC Configuration

VPC with a Single Public Subnet

VPC with Public and Private Subnets

VPC with Public and Private Subnets and Hardware VPN Access

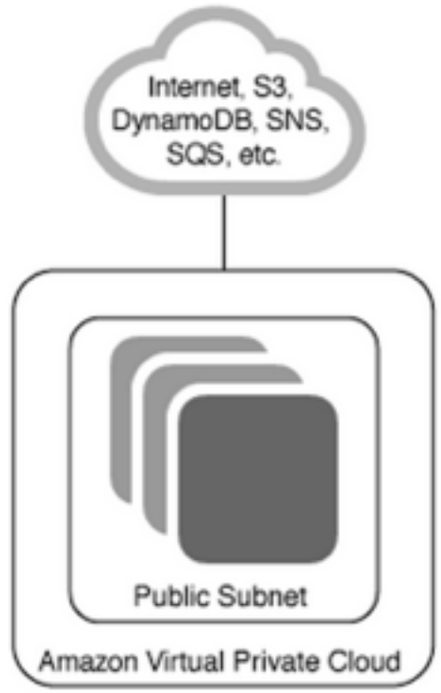
VPC with a Private Subnet Only and Hardware VPN Access

Your instances run in a private, isolated section of the AWS cloud with direct access to the Internet. Network access control lists and security groups can be used to provide strict control over inbound and outbound network traffic to your instances.

Creates:

A /16 network with a /24 subnet. Public subnet instances use Elastic IPs or Public IPs to access the Internet.

Select



Cancel and Exit

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Step 2: VPC with a Single Public Subnet

IP CIDR block:* 10.0.0.0/16 (65531 IP addresses available)

VPC name: cmj-vpc

Public subnet:* 10.0.0.0/24 (251 IP addresses available)

Availability Zone:* No Preference

Subnet name: cmj-sbnt

You can add more subnets after AWS creates the VPC.

Enable DNS hostnames:* Yes No

Hardware tenancy:* Default

Cancel and Exit Back Create VPC

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Services Edit cmj @ 563700736850 N. Virginia Support

VPC Dashboard

Filter by VPC:

None

Virtual Private Cloud

Your VPCs

Subnets

Route Tables

Internet Gateways

DHCP Options Sets

Elastic IPs

Peering Connections

Security

Network ACLs

Security Groups

VPN Connections

Customer Gateways

Virtual Private Gateways

VPN Connections

VPC Successfully Created

Your VPC has been successfully created.

You can launch instances into the subnets of your VPC. For more information, see Launching an Instance into Your Subnet**.**

OK

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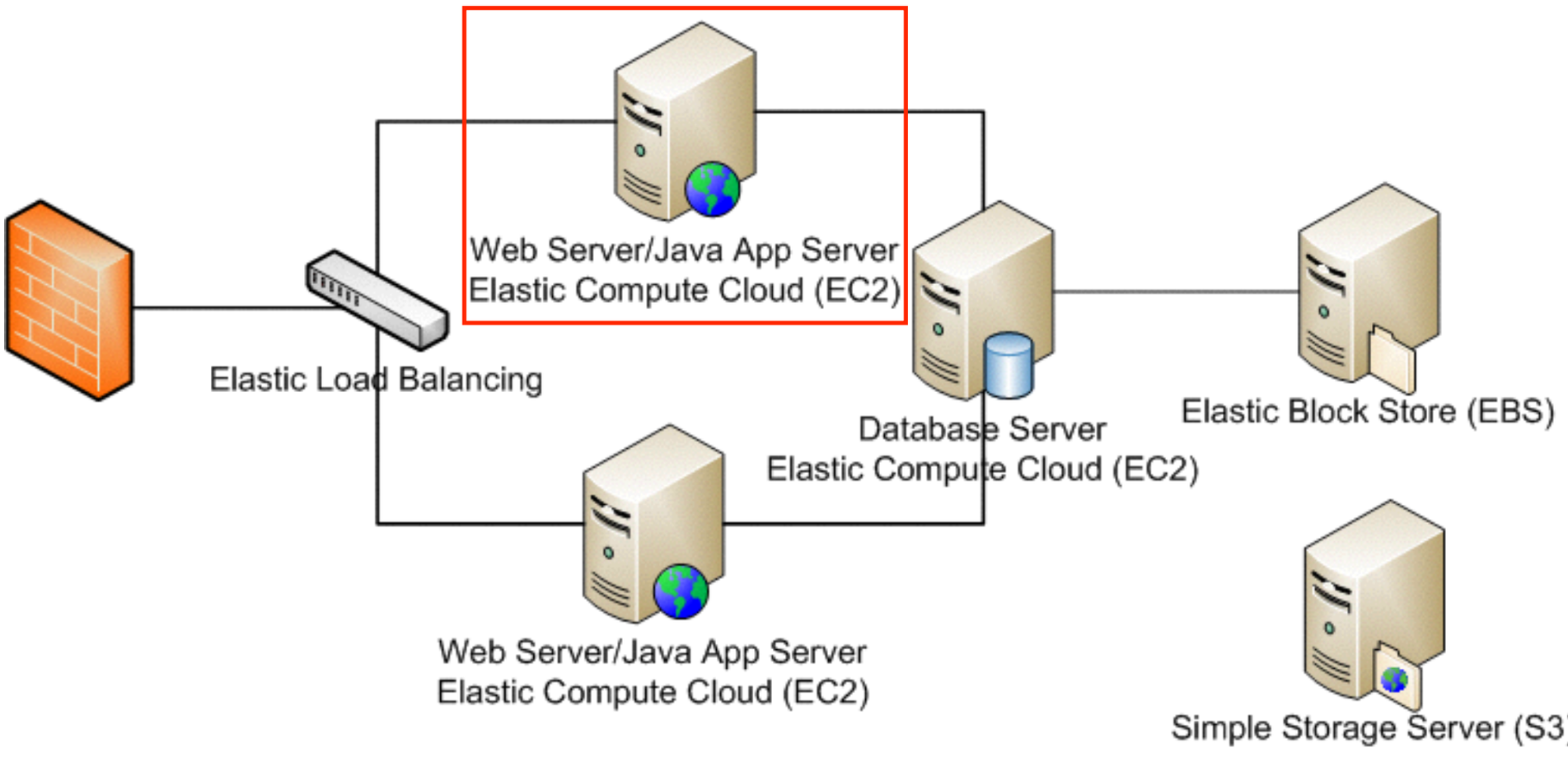
EC2 WITH WEB CONSOLE


Web Server/Java App Server
Elastic Compute Cloud (EC2)
Elastic Load Balancing
Database Server
Elastic Compute Cloud (EC2)
Elastic Block Store (EBS)
Web Server/Java App Server
Elastic Compute Cloud (EC2)
Simple Storage Server (S3)

start here

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Amazon ElastiCache Announces Auto Discovery Client For PHP

More...

Service Health

Edit

Click Edit to add at least one service and at least one region to monitor.

Service Health Dashboard

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then here or here

Services | Edit | cmj @ 563700736850 | N. Virginia | Support

- EC2 Dashboard
- Events
- Tags
- Reports
- Limits

INSTANCES
- Instances
- Spot Requests
- Reserved Instances

IMAGES
- AMIs
- Bundle Tasks

ELASTIC BLOCK STORE
- Volumes
- Snapshots

NETWORK & SECURITY
- Security Groups
- Elastic IPs
- Placement Groups
- Load Balancers
- Key Pairs
- Network Interfaces

AUTO SCALING
- Launch Configurations
- Auto Scaling Groups

Resources

You are using the following Amazon EC2 resources in the US East (N. Virginia) region:

0 Running Instances
0 Volumes
1 Key Pair
0 Placement Groups
0 Elastic IPs
2 Snapshots
0 Load Balancers
3 Security Groups

Easily deploy Ruby, PHP, Java, .NET, Python, Node.js & Docker applications with Elastic Beanstalk.

Hide

Create Instance

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

Launch Instance

Note: Your instances will launch in the US East (N. Virginia) region

Service Health

Service Status:

US East (N. Virginia):
This service is operating normally

Availability Zone Status:

us-east-1a:
Availability zone is operating normally

us-east-1b:
Availability zone is operating normally

Scheduled Events

US East (N. Virginia):

No events

Account Attributes

Supported Platforms
EC2
VPC

Additional Information

Getting Started Guide
Documentation
All EC2 Resources
Forums
Pricing
Contact Us

AWS Marketplace

Find **free software trial** products in the AWS Marketplace from the EC2 Launch Wizard.
Or try these popular AMIs:

Vyatta Virtual Router/Firewall/VPN

Provided by Vyatta, Inc.
Rating ★★★★☆
Pay by the hour for software and AWS usage
View all Networking

Alert Logic Threat Manager for

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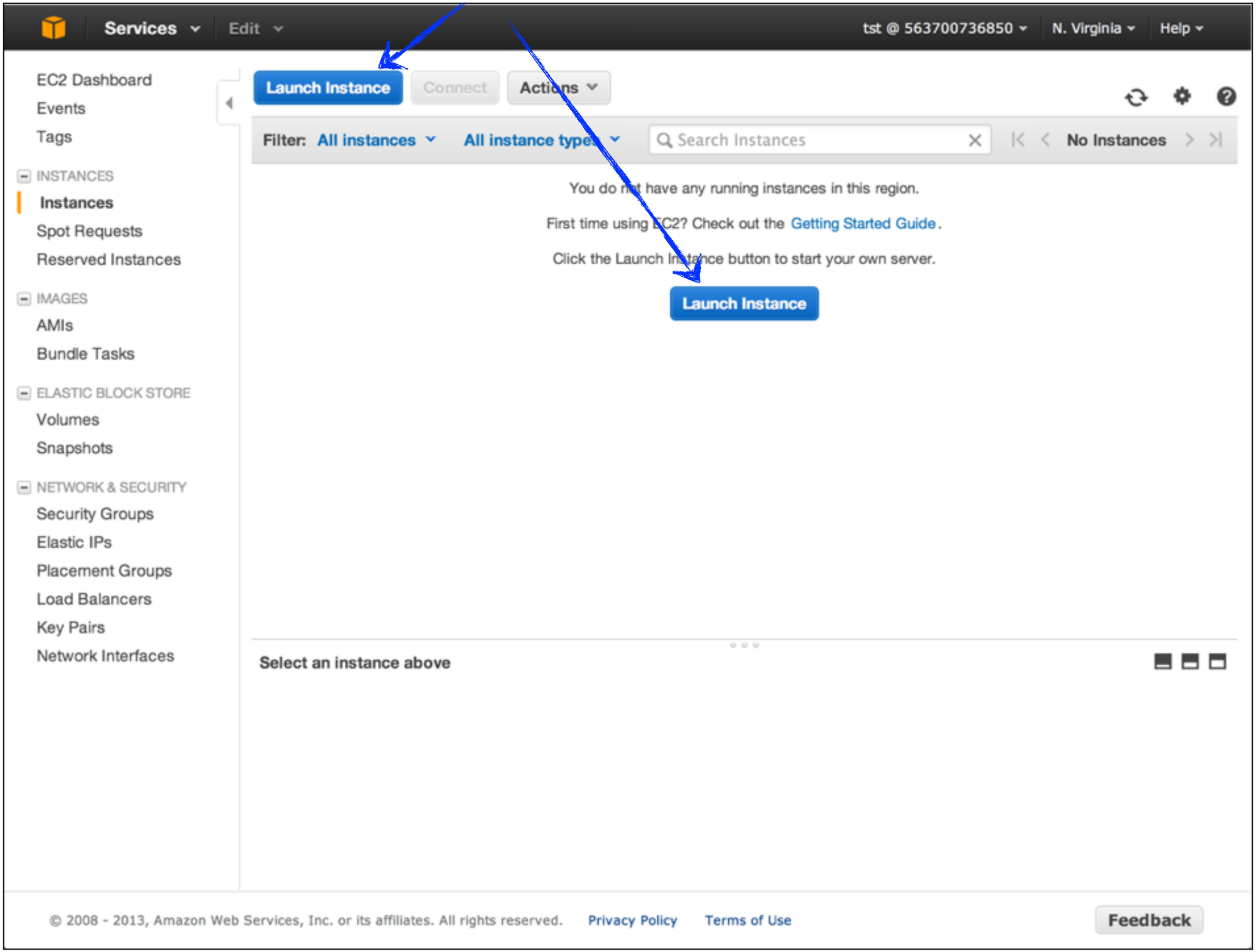
Feedback

https://console.aws.amazon.com/ec2/v2/home?region=us-east

launch here


Services
Edit
tst @ 563700736850
N. Virginia
Help
EC2 Dashboard
Events
Tags
INSTANCES
Instances
Spot Requests
Reserved Instances
IMAGES
AMIs
Bundle Tasks
ELASTIC BLOCK STORE
Volumes
Snapshots
NETWORK & SECURITY
Security Groups
Elastic IPs
Placement Groups
Load Balancers
Key Pairs
Network Interfaces
Launch Instance
Connect
Actions
Filter: All instances
All instance types
Search Instances
No Instances
You do not have any running instances in this region.
First time using EC2? Check out the Getting Started Guide.
Click the Launch Instance button to start your own server.
Launch Instance
Select an instance above
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Feedback

Step 1: Choose an Amazon Machine Image (AMI)

Cancel and Exit

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Quick Start

My AMIs
AWS Marketplace
Community AMIs

Free tier only

1 to 22 of 22 AMIs

Amazon Linux AMI 2014.09.1 (HVM) - ami-b66ed3de

Amazon Linux
Free tier eligible

The Amazon Linux AMI is an EBS backed image. It includes the 3.14 kernel, Ruby 2.1, PHP 5.5, PostgreSQL 9.3, Docker 1.2, the AWS command line tools, and repository access to many other packages.

Root device type: ebs Virtualization type: hvm

Select

64-bit

Red Hat Enterprise Linux 7.0 (HVM), SSD Volume Type - ami-a8d369c0

Red Hat
Free tier eligible

Red Hat Enterprise Linux version 7.0 (HVM), EBS General Purpose (SSD) Volume Type

Root device type: ebs Virtualization type: hvm

Select

64-bit

SuSE Linux Enterprise Server 12 (HVM), SSD Volume Type - ami-aeb532c6

SUSE Linux
Free tier eligible

SuSE Linux Enterprise Server 12 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled.

Root device type: ebs Virtualization type: hvm

Select

64-bit

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select aws-tutorial-webapp AMI

Services | Edit | cmj @ 563700736850 | N. Virginia | Support

1. Choose AMI | 2. Choose Instance Type | 3. Configure Instance | 4. Add Storage | 5. Tag Instance | 6. Configure Security Group | 7. Review

Cancel and Exit

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

- Quick Start
- **My AMIs**
- AWS Marketplace
- Community AMIs

Ownership

- [x] Owned by me
- [ ] Shared with me

Architecture

- [ ] 32-bit
- [ ] 64-bit

Root device type

- [ ] EBS
- [ ] Instance store

1 to 2 of 2 AMIs

Search my AMIs

aws-tutorial-webapp - ami-6308250a

AWS tutorial web application including tomcat

Root device type: ebs Virtualization type: paravirtual Owner: 563700736850

Select

64-bit

aws-tutorial-mysql - ami-7da38114

AWS tutorial mysql server.

Root device type: ebs Virtualization type: paravirtual Owner: 563700736850

Select

64-bit

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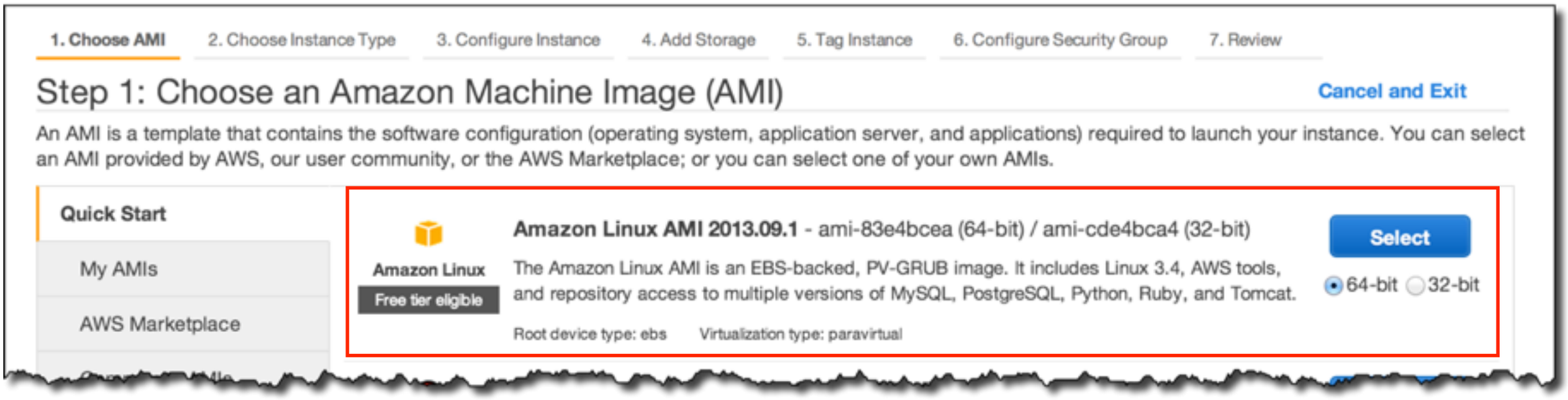
Feedback

Apache Tomcat 7.x

aws-tutorial-webapp AMI




```
sudo yum update

sudo yum install java-1.7.0-openjdk.x86_64
sudo yum install java-1.7.0-openjdk-devel.x86_64
sudo alternatives --config java
export JAVA_HOME=/usr/lib/jvm/java-1.7.0-openjdk-1.7.0.71.x86_64

sudo yum install tomcat7.noarch
sudo yum install tomcat7-webapps.noarch
sudo yum install tomcat7-admin-webapps.noarch
sudo service tomcat7 start
sudo chkconfig --level 345 tomcat7 on

sudo yum install git.x86_64
git clone https://github.com/cjudd/nuez.git

wget http://dist.springframework.org.s3.amazonaws.com/release/GRAILS/grails-2.0.0.zip
unzip grails-2.0.0.zip
export GRAILS_HOME=~/grails-2.0.0
export PATH=$PATH:$GRAILS_HOME/bin
```

select m1.small type

Services | Edit | cmj @ 563700736850 | N. Virginia | Support

1. Choose AMI | 2. Choose Instance Type | 3. Configure Instance | 4. Add Storage | 5. Tag Instance | 6. Configure Security Group | 7. Review

Step 2: Choose an Instance Type

Currently selected: m1.small (1 ECUs, 1 vCPUs, Intel Xeon Family, 1.7 GiB memory, 1 x 160 GiB Storage Capacity)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
☐	Micro instances	t1.micro Free tier eligible	1	0.613	EBS only	-	Very Low
⊘	General purpose	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate
⊘	General purpose	t2.small	1	2	EBS only	-	Low to Moderate
⊘	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate
☐	General purpose	m3.medium	1	3.75	1 x 4 (SSD)	-	Moderate
☐	General purpose	m3.large	2	7.5	1 x 32 (SSD)	-	Moderate
☐	General purpose	m3.xlarge	4	15	2 x 40 (SSD)	Yes	High
☐	General purpose	m3.2xlarge	8	30	2 x 80 (SSD)	Yes	High
■	General purpose	m1.small	1	1.7	1 x 160	-	Low

Cancel | Previous | Review and Launch | Next: Configure Instance Details

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Services | Edit | cmj @ 563700736850 | N. Virginia | Support

1. Choose AMI | 2. Choose Instance Type | 3. Configure Instance | 4. Add Storage | 5. Tag Instance | 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 (i) 1

Purchasing option (i) ☐ Request Spot Instances

Network (i) vpc-c758cba2 (10.0.0.0/16) | cmj-vpc — Create new VPC

Subnet (i) subnet-5cfe0777(10.0.0.0/24) | cmj-sbnt | us-east-1d — Create new subnet

251 IP Addresses available

Auto-assign Public IP (i) Enable

IAM role (i) None

Shutdown behavior (i) Stop

Enable termination protection (i) ☐ Protect against accidental termination ← in production you would want to enable

Monitoring (i) ☐ Enable CloudWatch detailed monitoring

Additional charges apply.

Tenancy (i) Shared tenancy (multi-tenant hardware)

Additional charges will apply for dedicated tenancy.

Cancel | Previous | Review and Launch | Next: Add Storage

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Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. Learn more about storage options in Amazon EC2.

Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Delete on Termination	Encrypted
Root	/dev/sda1	snap-99d74f83	8	General Purpose (SSD)	24 / 3000	☑	Not Encrypted

Add New Volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. Learn more about free usage tier eligibility and usage restrictions.

Cancel | Previous | Review and Launch | Next: Tag Instance

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name instance with naming convention

Services | Edit | cmj @ 563700736850 | N. Virginia | Support

1. Choose AMI | 2. Choose Instance Type | 3. Configure Instance | 4. Add Storage | 5. Tag Instance | 6. Configure Security Group | 7. Review

Step 5: Tag Instance

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. Learn more about tagging your Amazon EC2 resources.

Key (127 characters maximum)	Value (255 characters maximum)
Name	cmj-webapp-01

Create Tag (Up to 10 tags maximum)

Cancel | Previous | Review and Launch | Next: Configure Security Group

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name group with naming convention

Services | Edit | cmj @ 563700736850 | N. Virginia | Support

1. Choose AMI | 2. Choose Instance Type | 3. Configure Instance | 4. Add Storage | 5. Tag Instance | 6. Configure Security Group | 7. Review

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. Learn more about Amazon EC2 security groups.

Assign a security group: (•) Create a **new** security group

( ) Select an **existing** security group

Security group name: cmj-webapp-sg

Description: cmj web application security group

Type	Protocol	Port Range	Source	
SSH	TCP	22	Anywhere	0.0.0.0/0
Custom TCP Rule	TCP	8080	Anywhere	0.0.0.0/0

tomcat

Add Rule

Warning

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel | Previous | Review and Launch

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Step 7: Review Instance Launch

AMI Details

Edit AMI

aws-tutorial-webapp - ami-6308250a

AWS tutorial web application including tomcat

Root Device Type: ebs Virtualization type: paravirtual

Instance Type

Edit instance type

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
m1.small	1	1	1.7	1 x 160	-	Low

Security Groups

Edit security groups

Security group name cmj-webapp-sg
Description cmj web application security group

Type	Protocol	Port Range	Source
SSH	TCP	22	0.0.0.0/0
Custom TCP Rule	TCP	8080	0.0.0.0/0

Instance Details

Edit instance details

Cancel Previous **Launch**

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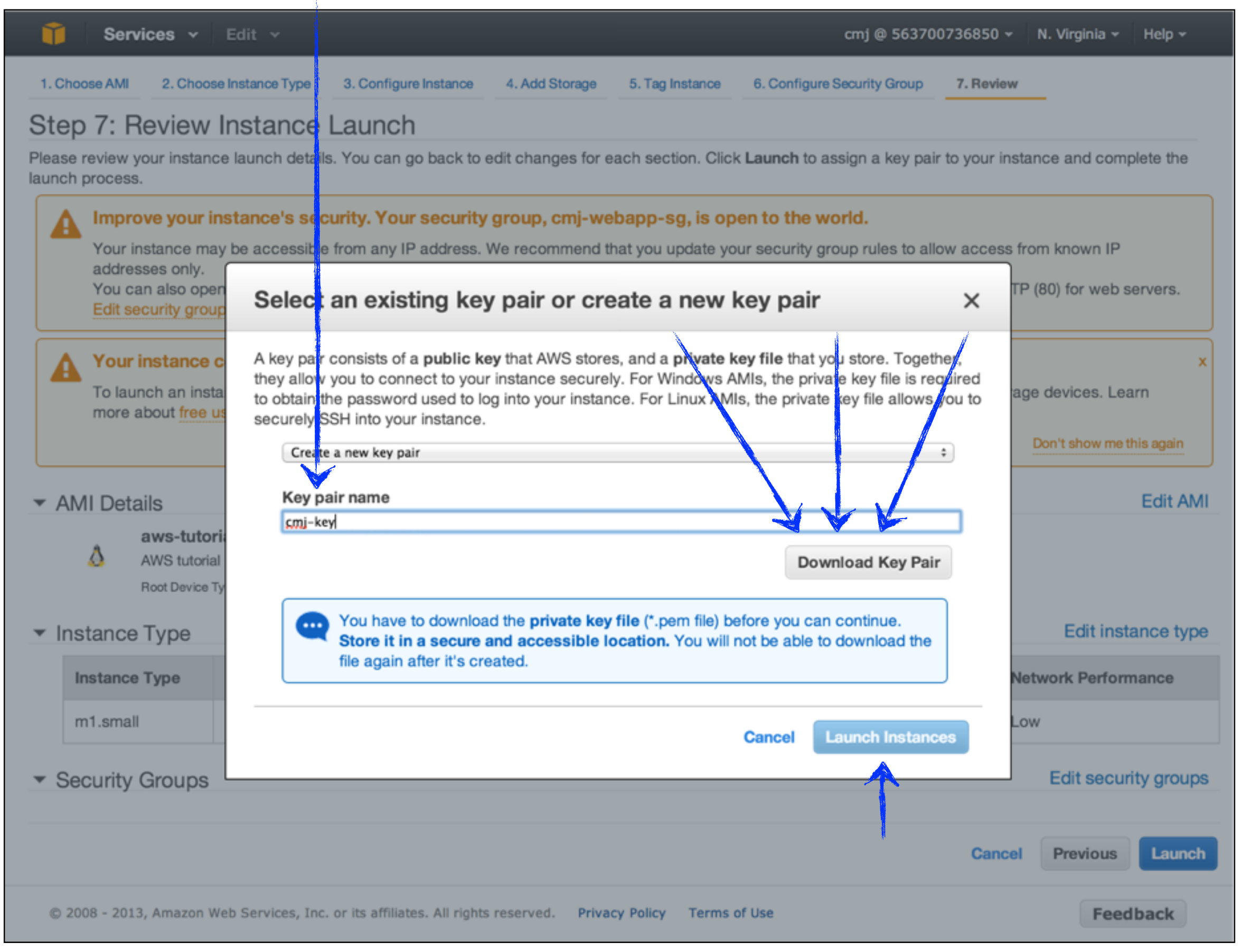
name key with naming convention



Launch Status

Your instance is now launching

The following instance launch has been initiated: i-70fcab91 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 instance

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

Click **View Instances** to monitor your instance's status. Once your instance is in the **running** state, you can **connect** to it from the Instances screen. Find out how to connect to your instance.

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

Create status check alarms to be notified when these instances fail status checks. (Additional charges may apply)

Create and attach additional EBS volumes (Additional charges may apply)

Manage security groups

View Instances

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Feedback

Services | Edit | cmj @ 563700736850 | N. Virginia | Support

- EC2 Dashboard
- Events
- Tags
- Reports
- Limits

INSTANCES
- Instances
- Spot Requests
- Reserved Instances

IMAGES
- AMIs
- Bundle Tasks

ELASTIC BLOCK STORE
- Volumes
- Snapshots

NETWORK & SECURITY
- Security Groups
- Elastic IPs
- Placement Groups
- Load Balancers
- Key Pairs
- Network Interfaces

AUTO SCALING
- Launch Configurations

Launch Instance | Connect | Actions

Filter by tags and attributes or search by keyword | 1 to 1 of 1

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Chec
cmj-webapp-01	i-70fcab91	m1.small	us-east-1d	running	2/2 check

your new instance

server name

Instance: i-70fcab91 (cmj-webapp-01) Public DNS: ec2-54-174-104-73.compute-1.amazonaws.com

Description | Status Checks | Monitoring | Tags

Instance ID	i-70fcab91	Public DNS	ec2-54-174-104-73.compute-1.amazonaws.com
Instance state	running	Public IP	54.174.104.73
Instance type	m1.small	Elastic IP	-
Private DNS	ip-10-0-0-35.ec2.internal	Availability zone	us-east-1d
Private IPs	10.0.0.35	Security groups	cmj-webapp-sg. view rules
Secondary private IPs		Scheduled events	No scheduled events
VPC ID	vpc-c758cba2	AMI ID	aws-tutorial-webapp (ami-6308250a)

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Apache Tomcat/7.0.42

ec2-54-174-104-73.compute-1.amazonaws.com:8080

Home Documentation Configuration Examples Wiki Mailing Lists

Apache Tomcat/7.0.42

If you're seeing this, you've successfully install

Recommended Reading:

Security Considerations HOW-TO

Manager Application HOW-TO

Clustering/Session Replication HOW-TO

cmj @ 563700736850 | N. Virginia | Support

1 to 1 of 1

Instance Type	Availability Zone	Instance State	Status Chec
.small	us-east-1d	running	2/2 check

Instance: i-70fcab91 (cmj-webapp-01) Public DNS: ec2-54-174-104-73.compute-1.amazonaws.com

- AMIs
- Bundle Tasks

ELASTIC BLOCK STORE
- Volumes
- Snapshots

NETWORK & SECURITY
- Security Groups
- Elastic IPs
- Placement Groups
- Load Balancers
- Key Pairs
- Network Interfaces

AUTO SCALING
- Launch Configurations

Description | Status Checks | Monitoring | Tags

Instance ID	i-70fcab91	Public DNS	ec2-54-174-104-73.compute-1.amazonaws.com
Instance state	running	Public IP	54.174.104.73
Instance type	m1.small	Elastic IP	-
Private DNS	ip-10-0-0-35.ec2.internal	Availability zone	us-east-1d
Private IPs	10.0.0.35	Security groups	cmj-webapp-sg. view rules
Secondary private IPs		Scheduled events	No scheduled events
VPC ID	vpc-c758cba2	AMI ID	aws-tutorial-webapp (ami-6308250a)

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Feedback

Remote access to your EC2 instance

login as ec2-user

key downloaded earlier

server name

```
$ ssh -i ~/.ssh/your-key-pair.pem ec2-user@ec2-54-174-104-73.compute-1.amazonaws.com

The authenticity of host 'ec2-54-174-104-73.compute-1.amazonaws.com (54.174.104.73)' can't be
established.
RSA key fingerprint is 0b:c1:e1:b4:50:ec:cf:e7:a5:cb:20:4f:74:34:c5:29.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'ec2-54-174-104-73.compute-1.amazonaws.com,54.174.104.73' (RSA) to
the list of known hosts.
```

```
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@         WARNING: UNPROTECTED PRIVATE KEY FILE!          @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
Permissions 0644 for '~/.ssh/your-key-pair.pem' are too open.
It is recommended that your private key files are NOT accessible by others.
This private key will be ignored.
bad permissions: ignore key: ~/.ssh/your-key-pair.pem
Permission denied (publickey).
```

don't panic

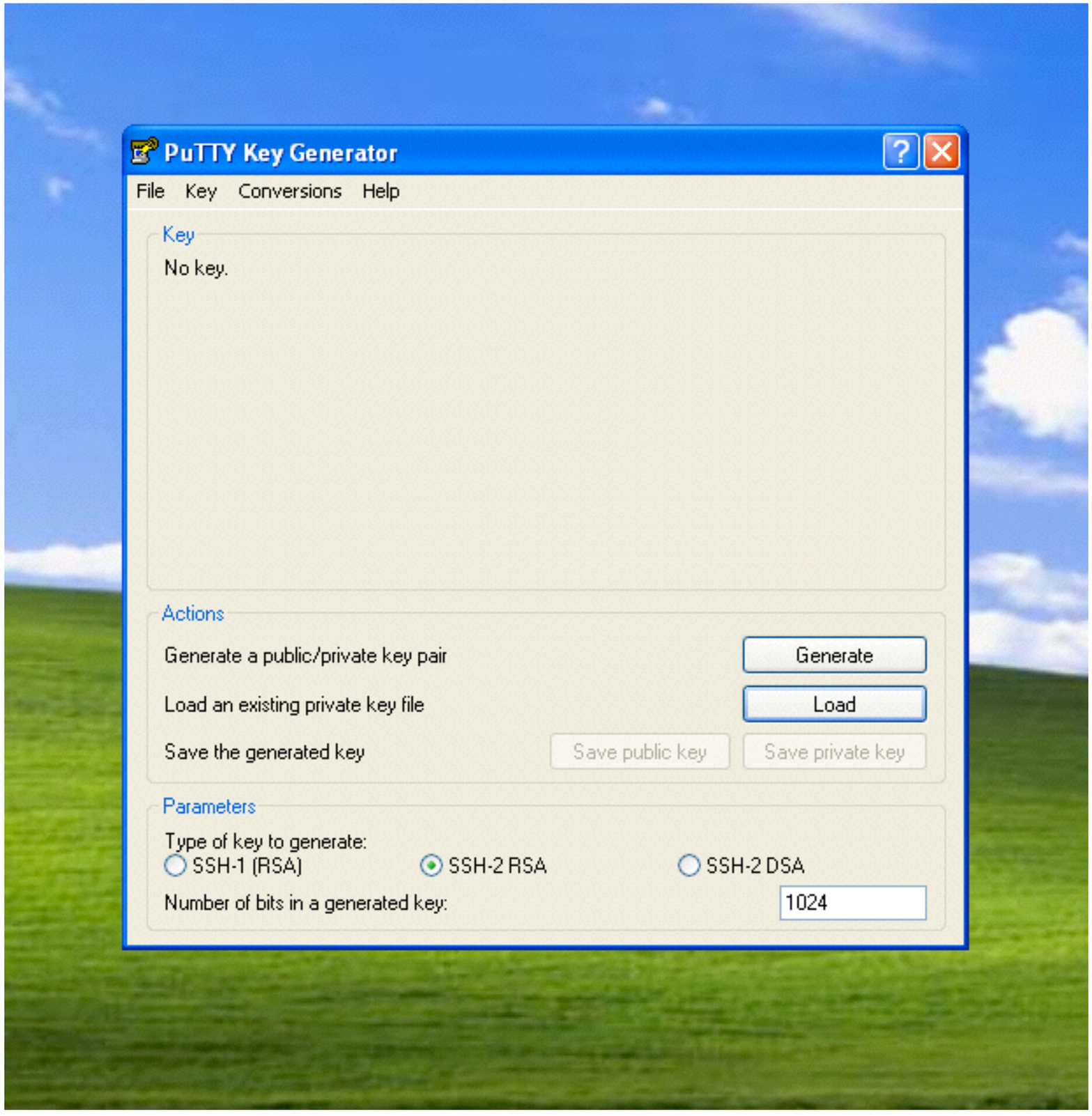
```
$ chmod 400 ~/.ssh/your-key-pair.pem
```

```
$ssh -i ~/.ssh/your-key-pair.pem ec2-54-174-104-73.compute-1.amazonaws.com
Last login: Thu Dec 29 13:47:16 2011 from 70.60.135.250

       __|  __|_  )
       _|  (     /   Amazon Linux AMI
      ___|\___|___|

See /usr/share/doc/system-release/ for latest release notes.
There are 3 security update(s) out of 4 total update(s) available
-bash: EXPORT: command not found
[ec2-user@ip-10-245-202-126 ~]$
```

your in, now you can:

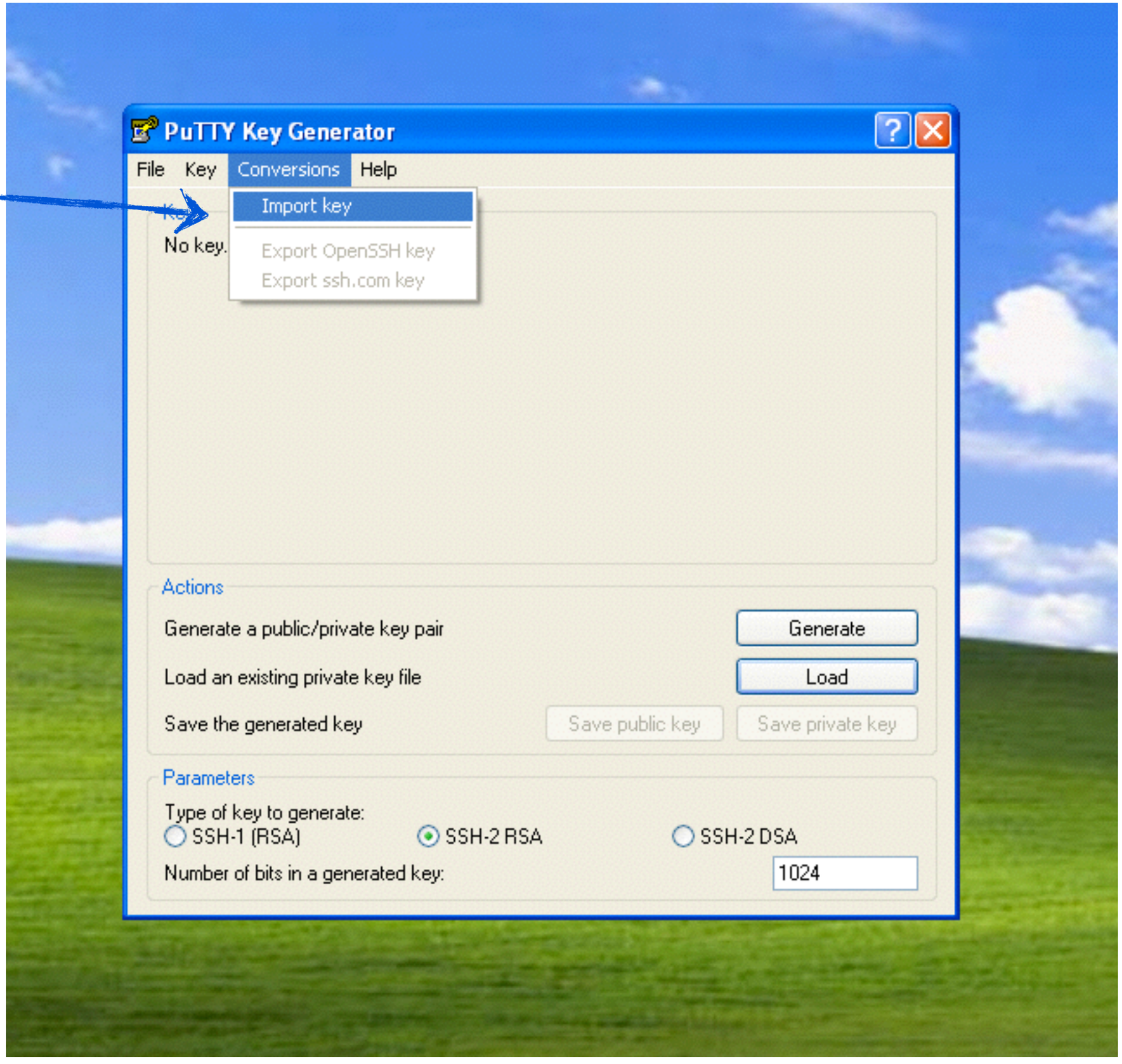
- install software
- start services

SSHing using Putty

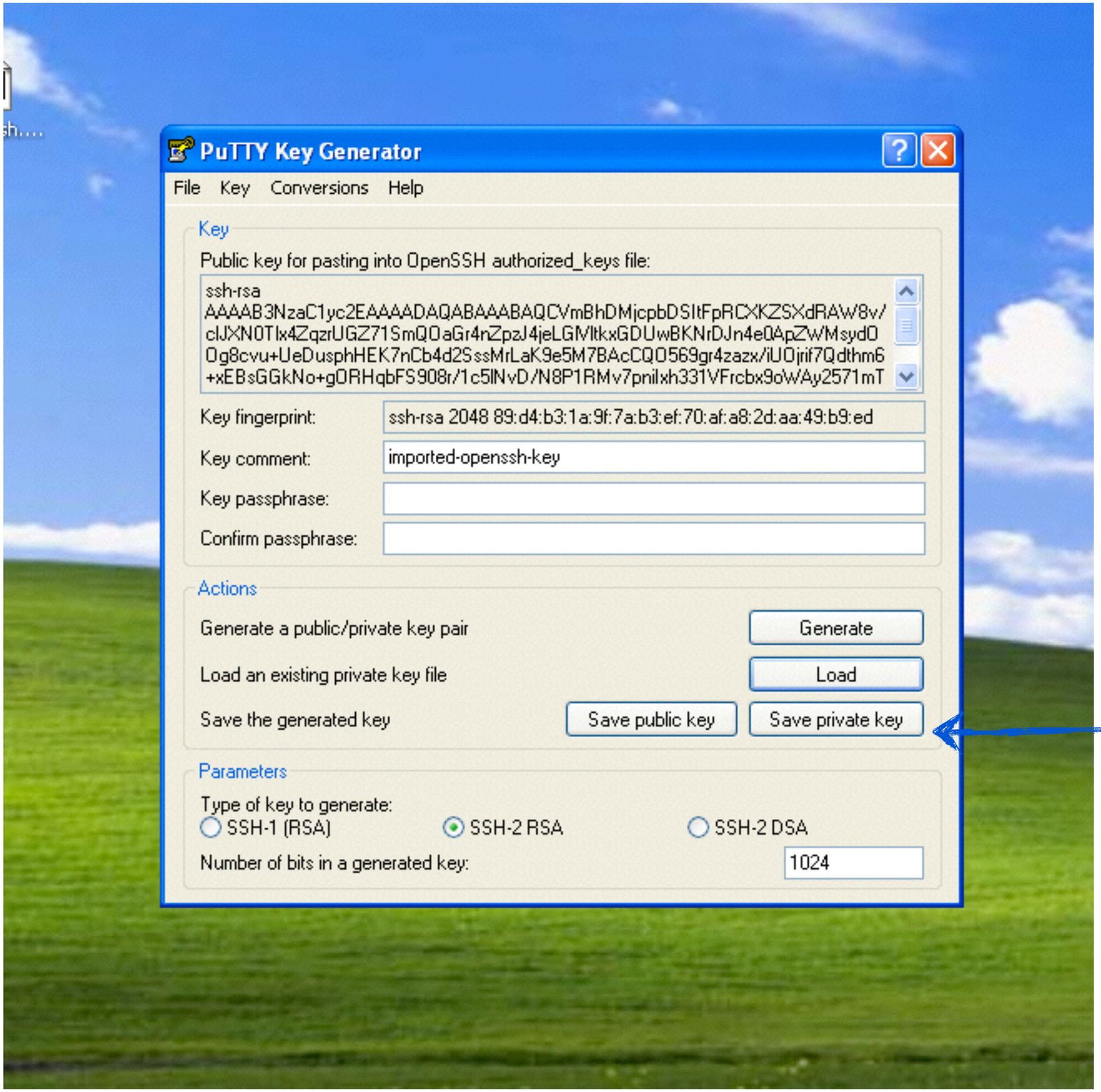


Importing the PEM file

Import PEM file for conversion

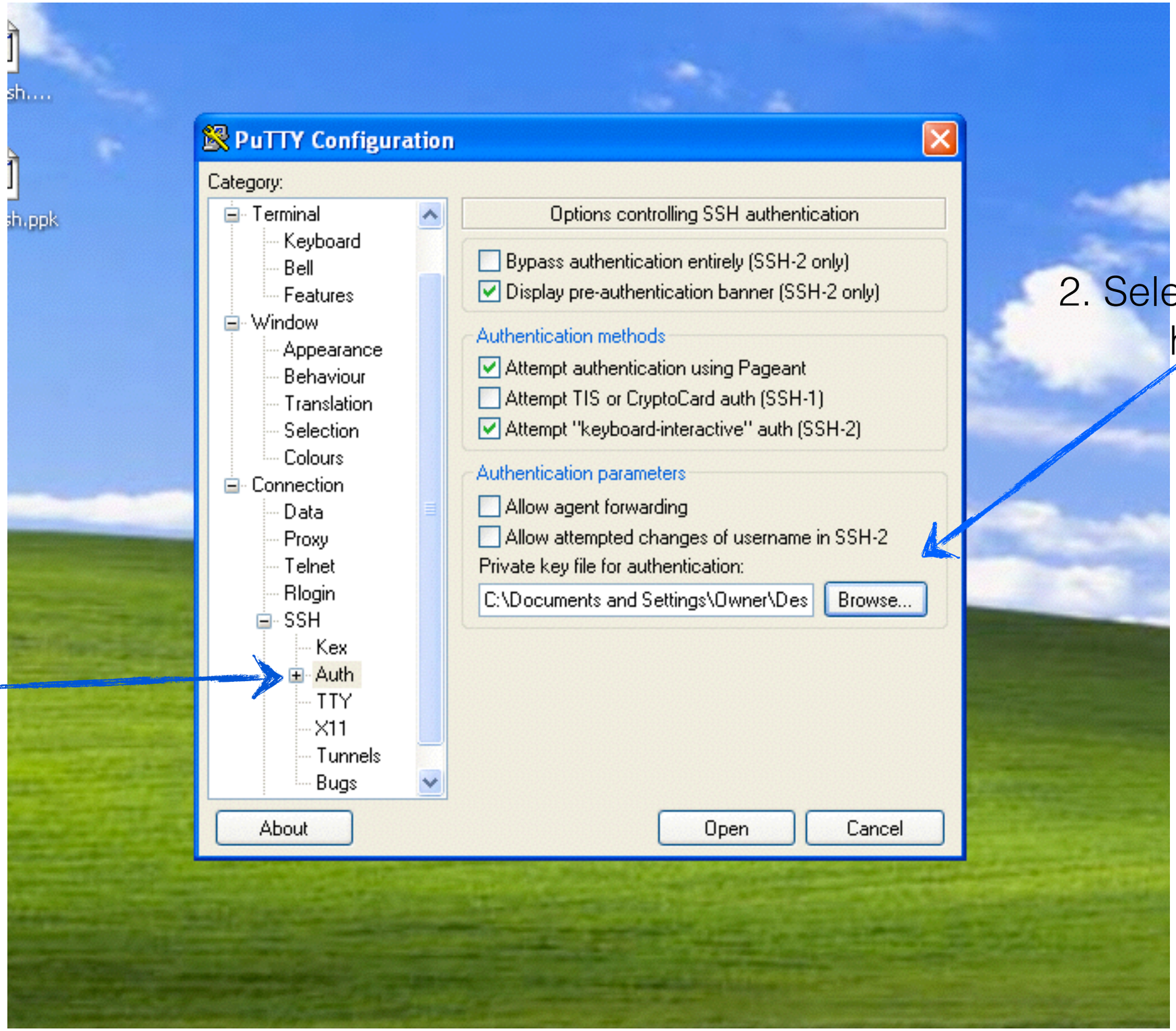


Conversion of Pem to PPK



Save private key (ppk)

Setting up Putty to use PPK

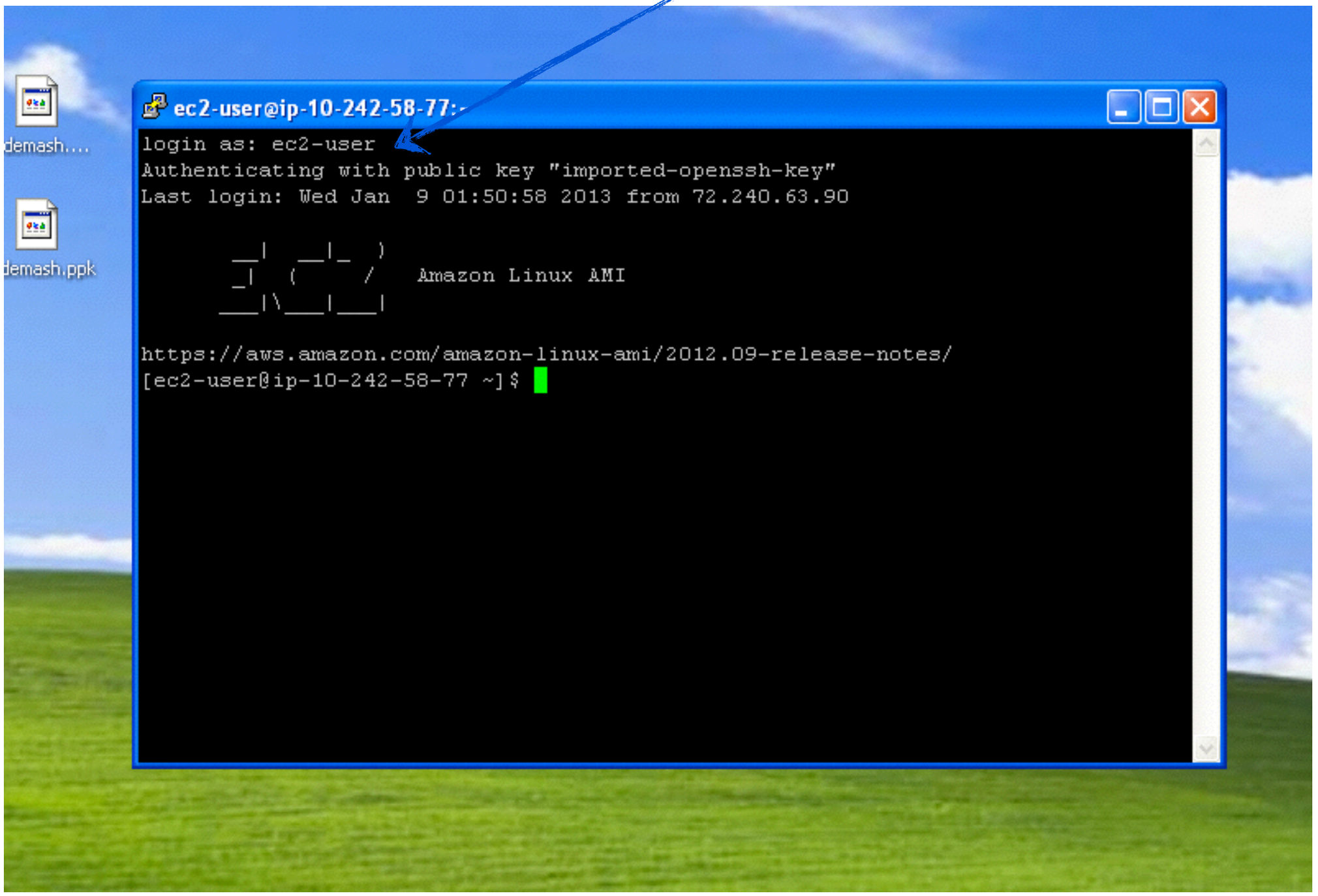


1. Navigate to Connection> SSH > Auth

2. Select ppk file here

Log in via Putty

When prompted for login enter ec2-user



Services | Edit | cmj @ 563700736850 | N. Virginia | Help

- EC2 Dashboard
- Events
- Tags
- INSTANCES
  - Instances
  - Spot Requests
  - Reserved Instances
- IMAGES
  - AMIs
  - Bundle Tasks
- ELASTIC BLOCK STORE
  - Volumes
  - Snapshots
- NETWORK & SECURITY
  - Security Groups
  - Elastic IPs
  - Placement Groups
  - Load Balancers
  - Key Pairs
  - Network Interfaces

Launch Instance | Connect | Actions

Filter: All instances | All instance types | Search Instances

1 to 1 of 1 Instances

Name	Insta	ty Zone	Instance State	Status Checks	Alarm
cmj-webapp-01	i-2505		running	2/2 check…	None

Instance Management
- Launch More Like This
- Add/Edit Tags
- Change Instance Type
- Create Image
- Bundle Instance (instance store AMI)
- Change Termination Protection
- View/Change User Data
- Change Shutdown Behavior
- Get Windows Password
- Get System Log

Networking
- Change Security Groups
- Attach Network Interface
- Detach Network Interface
- Disassociate Elastic IP Address
- Change Source/Dest. Check
- Manage Private IP Addresses

Actions
- Terminate
- Reboot
- Stop
- Start

CloudWatch Monitoring
- Enable Detailed Monitoring
- Disable Detailed Monitoring
- Add/Edit Alarms

you can create an AMI

Instance: i-25054a5d (cmj-webapp-0 … compute-1.amazonaws.com

Description | Status Checks

Instance ID	i-2	Public DNS	ec2-54-221-1-247.compute-1.amazonaws.com
Instance state	ru	Public IP	54.221.1.247
Instance type	m	Elastic IP	-
Private DNS	ip-13	Availability zone	us-east-1b
Private IPs	10	Security groups	cmj-webapp-sg. view rules
Secondary private IPs	-	Scheduled events	No scheduled events
VPC ID	-	AMI ID	aws-tutorial-webapp

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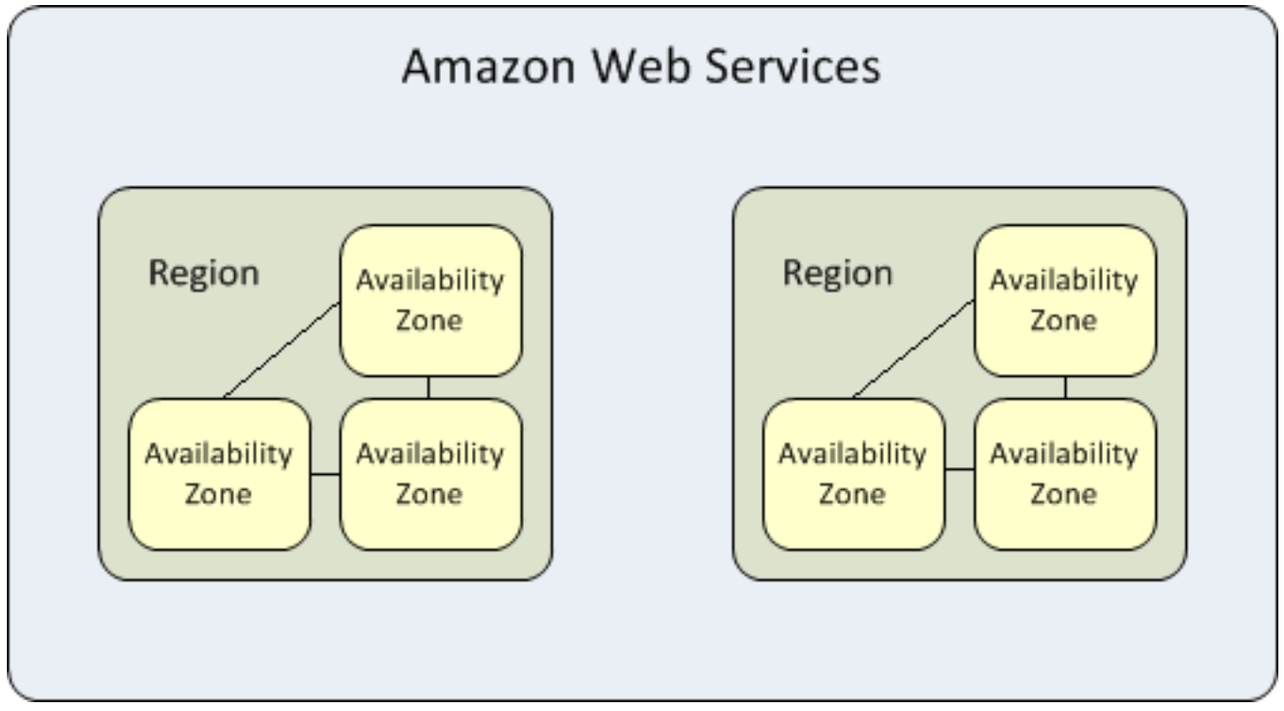
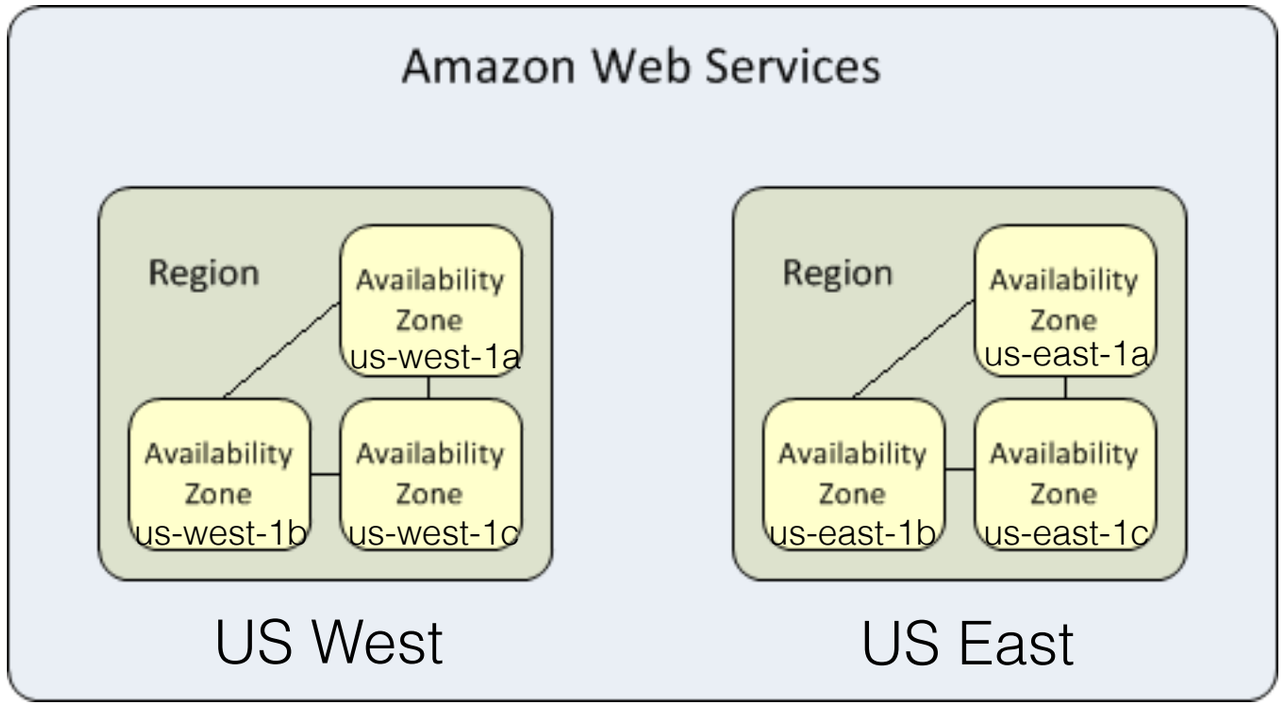
Feedback

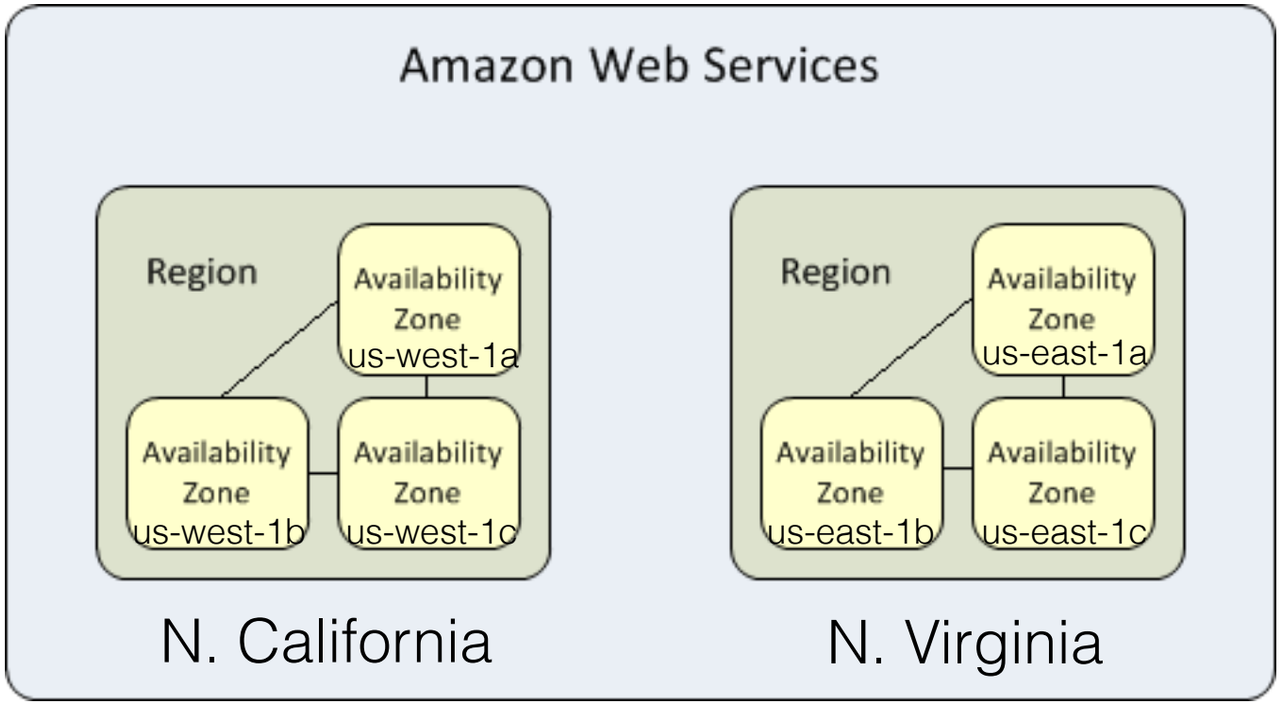
Regions and Availability Zones

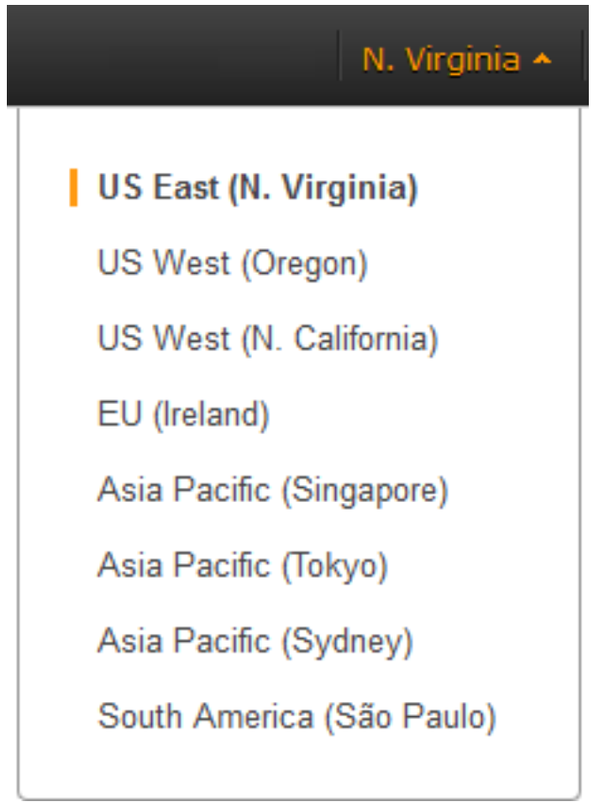


Regions and Availability Zones



Regions and Availability Zones

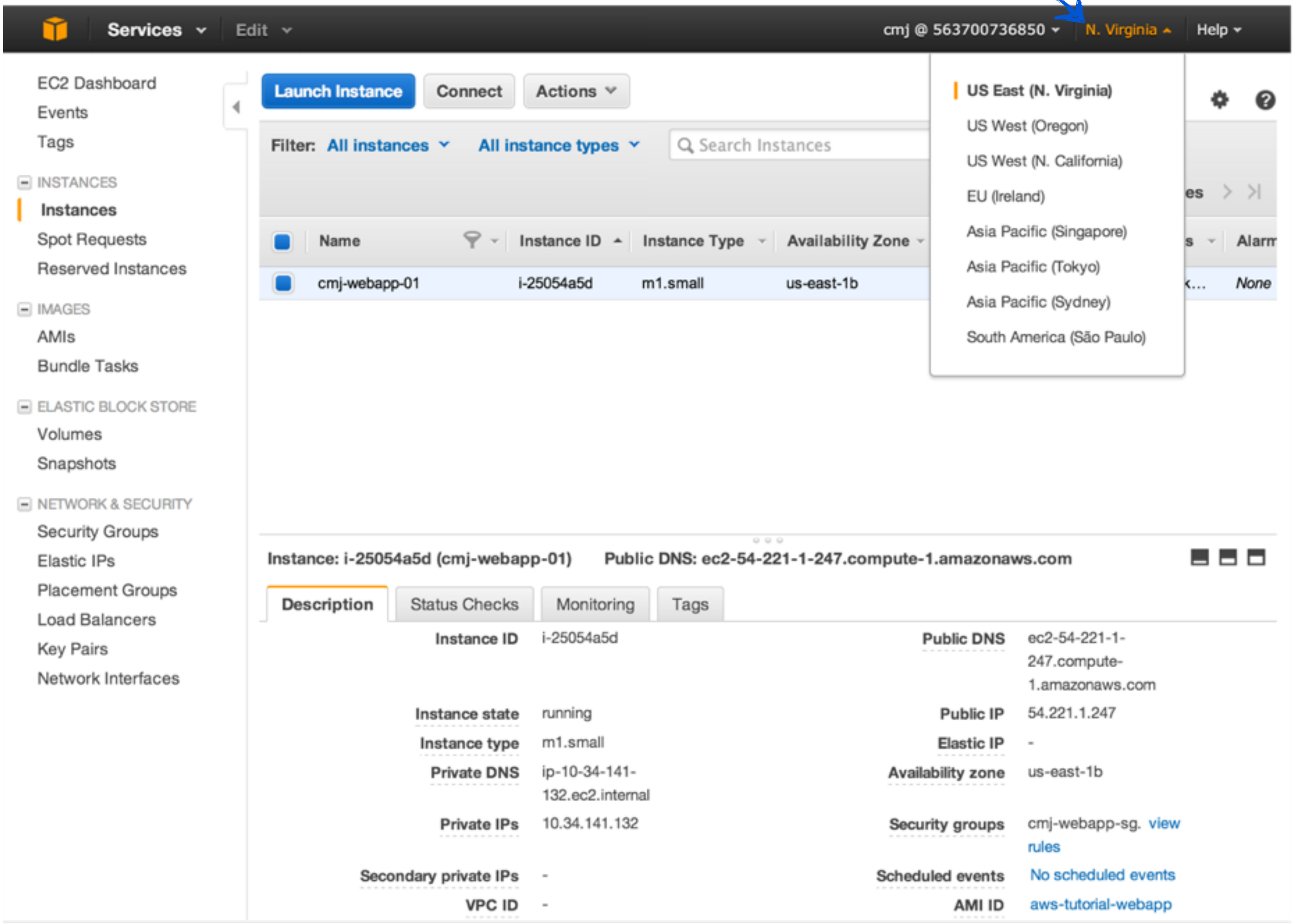




Products and Services by Region

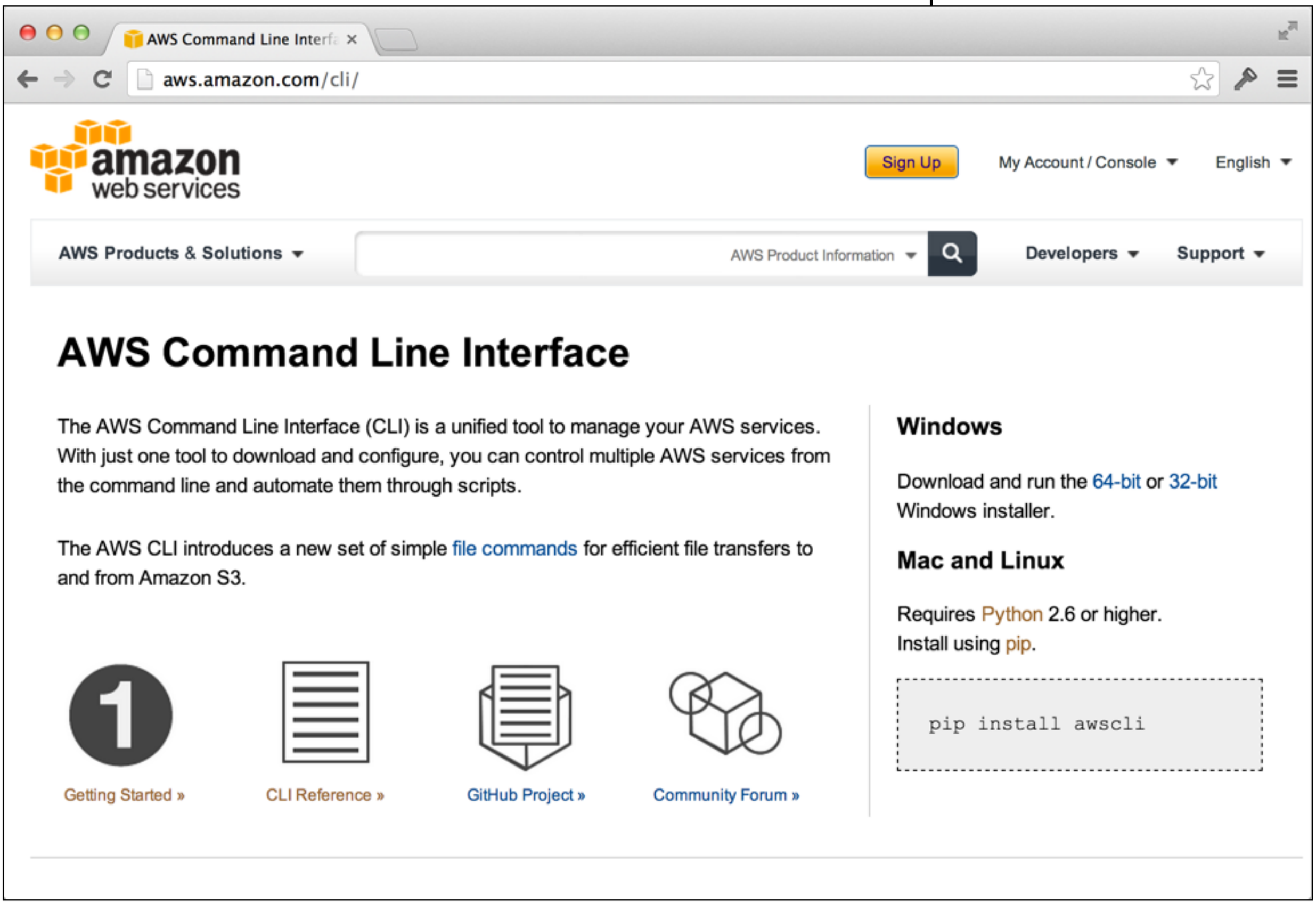
Services offered:	N. Virginia	Oregon	N. California	Ireland	Singapore	Tokyo	Sydney	São Paulo	GovCloud
Amazon Elastic Compute Cloud (EC2)	✔	✔	✔	✔	✔	✔	✔	✔	✔
Amazon CloudWatch	✔	✔	✔	✔	✔	✔	✔	✔	✔
Amazon Virtual Private Cloud (VPC)	✔	✔	✔	✔	✔	✔	✔	✔	✔
Amazon Simple Storage Service (S3)	✔	✔	✔	✔	✔	✔	✔	✔	✔
Amazon Elastic Block Store (EBS)	✔	✔	✔	✔	✔	✔	✔	✔	✔
Auto Scaling	✔	✔	✔	✔	✔	✔	✔	✔	✔
Amazon Simple Queue Service (SQS)	✔	✔	✔	✔	✔	✔	✔	✔	✔
Amazon Simple Notification Service (SNS)	✔	✔	✔	✔	✔	✔	✔	✔	✔
Elastic Load Balancing	✔	✔	✔	✔	✔	✔	✔	✔	✔
AWS Support	✔	✔	✔	✔	✔	✔	✔	✔	✔
Amazon DynamoDB	✔	✔	✔	✔	✔	✔	✔	✔	✔
Amazon Relational Database Service (RDS)	✔	✔	✔	✔	✔	✔	✔	✔	✔
Amazon Elastic MapReduce	✔	✔	✔	✔	✔	✔	✔	✔	
VM Import/Export	✔	✔	✔	✔	✔	✔	✔	✔	
AWS CloudFormation	✔	✔	✔	✔	✔	✔	✔	✔	
AWS Elastic Beanstalk	✔	✔	✔	✔	✔	✔	✔	✔	
AWS Storage Gateway	✔	✔	✔	✔	✔	✔	✔	✔	
Amazon SimpleDB	✔	✔	✔	✔	✔	✔	✔	✔	
Amazon ElastiCache	✔	✔	✔	✔	✔	✔		✔	
AWS Direct Connect	✔		✔	✔	✔	✔	✔	✔	
AWS Import/Export	✔	✔	✔	✔	✔				
Amazon Glacier	✔	✔	✔	✔		✔			
High Performance Computing	✔	✔		✔					✔
Amazon Simple Email Service (SES)	✔								
Amazon CloudSearch	✔								
Amazon Simple Workflow Service (SWF)	✔								
AWS Data Pipeline	✔								

change region here



EC2 with Command Line

Console Environment Setup



http://aws.amazon.com/cli/

Console Environment Setup

```
sudo python ez_setup.py
sudo python get-pip.py
sudo pip install awscli
aws configure
AWS Access Key ID [None]: AKIAI6ZZCGHYRQGEAYJJ
AWS Secret Access Key [None]: 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
Default region name [None]: us-east-1
Default output format [None]:
```

Console Usage

```
aws [options] <command> <subcommand> [parameters]
aws ec2 describe-images --owner self
aws ec2 run-instance --image-id <image id>
                     --key-name <key name>
                     --security-group-ids <security group id>
aws ec2 describe-instances
ssh -i <key-pair-pem-file> ec2-user@<server name>
aws ec2 stop-instance <instance id>
aws ec2 terminate-instance <instance id>
```

EC2 WITH JAVA SDK

Configuring Credentials

```
//SETUP CREDENTIALS
AWSCredentials creds = new
PropertiesCredentials(this.getClass().getResourceAsStream("/awsCredentials.properties"));


//CREATING EC2 CLIENT
AmazonEC2 ec2 = new AmazonEC2Client(creds);
```

Creating new key pair

```
CreateKeyPairRequest createKeyPairRequest = new CreateKeyPairRequest();


String keyName = "testKeyPair-fromjava";
createKeyPairRequest.withKeyName(keyName);


CreateKeyPairResult createKeyPairResult = ec2.createKeyPair(createKeyPairRequest);

KeyPair keyPair = createKeyPairResult.getKeyPair();
File pemFile = new File(keyName + ".pem");

BufferedWriter out = new BufferedWriter(new FileWriter(pemFile));
out.write(keyPair.getKeyMaterial());
out.close();
```

Creating a Security Group

```
CreateSecurityGroupRequest r1 = new CreateSecurityGroupRequest("webserver-
group", "Sec Group for My Web Servers");
ec2.createSecurityGroup(r1);

AuthorizeSecurityGroupIngressRequest r2 = new
AuthorizeSecurityGroupIngressRequest(); r2.setGroupName("webserver-group");
IpPermission permission = new IpPermission();
permission.setIpProtocol("tcp");
permission.setFromPort(80);
permission.setToPort(80);
List ipRanges = new ArrayList();

//use CIDR notation, see http://en.wikipedia.org/wiki/CIDR_notation
ipRanges.add("0.0.0.0/0"); permission.setIpRanges(ipRanges);

List permissions = new ArrayList();
permissions.add(permission);
r2.setIpPermissions(permissions);
ec2.authorizeSecurityGroupIngress(r2);
```

Creating EC2 Instance

```
// CREATE EC2 INSTANCES
RunInstancesRequest runInstancesRequest = new RunInstancesRequest()
    .withInstanceType("micro")
    .withImageId("ami-4bb96d22")
    .withMinCount(1)
    .withMaxCount(1)
    .withSecurityGroupIds("webserver-group")
    .withKeyName("testKeyPair-fromjava");

RunInstancesResult runInstances = ec2.runInstances(runInstancesRequest);
```

Giving Instance Metadata

```
// TAG EC2 INSTANCES WITH USER METADATA
List<Instance> instances = runInstances.getReservation().getInstances();
for (Instance instance : instances) {
  CreateTagsRequest createTagsRequest = new CreateTagsRequest();
  createTagsRequest.withResources(instance.getInstanceId())
           .withTags(new Tag("Name", "MyFirstEC2Instance"));
  ec2.createTags(createTagsRequest);
}
```

Stopping/Terminating EC2 Instance

```
StopInstancesRequest stopInstanceRequest =
                                    new StopInstancesRequest().withInstanceIds(instanceIds);
ec2.terminateInstances(stopInstanceRequest);
```

```
TerminateInstancesRequest terminateInstanceRequest =
                                   new
TerminateInstancesRequest().withInstanceIds(instanceIds);
ec2.terminateInstances(terminateInstanceRequest);
```

Infrastructure Automation

AWS CloudFormation

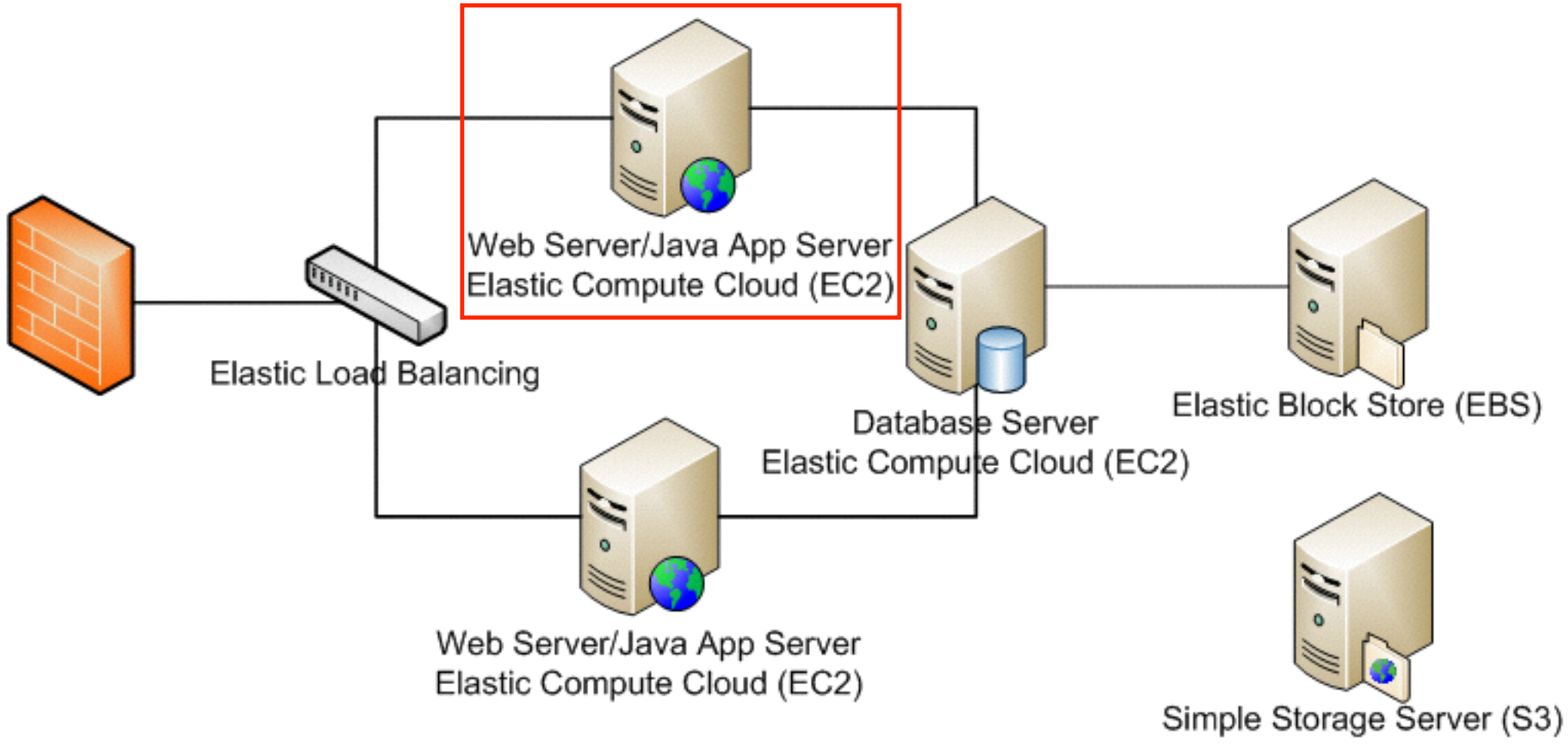
http://puppetlabs.com/

http://www.opscode.com/chef/

http://aws.amazon.com/cloudformation/

Lab 1

1. Start instance of aws-tutorial-webapp
2. Verify Tomcat is running accessible
3. ssh to new server instance
4. Stop new server instance
5. Restart new server instance



STORAGE

Storage Options

- Structured Data
  - Amazon DynamoDB - NoSQL DB
  - Relational Databases (in EC2 and EBS)
  - Amazon RDS - Managed databases like mysql
  - Amazon ElasticCache - in-memory cache
  - Amazon Redshift - petabyte-scale data warehouse

- Unstructured Data
  - Amazon EC2 Instance Storage - local filesystem
  - Amazon EBS Volumes - remote mounted filesystem
  - Amazon S3 - bucket storage
  - Amazon Glacier - archiving and backup

mysql

1 to 25 of 286 AMIs

instance

- ami-225fba4b

Root device type: instance-store Virtualization type: paravirtual

Select

32-bit

- ami-22b6534b

Root device type: instance-store Virtualization type: paravirtual

Select

32-bit

- ami-255fba4c

Root device type: instance-store Virtualization type: paravirtual

Select

32-bit

- ami-25b6534c

Root device type: instance-store Virtualization type: paravirtual

Select

32-bit

ShreeKrishnaTravels - ami-00a2d869

CRM APPLICATION SETUP - APACHE, UBUNTU, MYSQL

Root device type: ebs Virtualization type: paravirtual

Select

64-bit

EBS

	Unstructured Data			Structured Data		
	Amazon EC2 Instance Storage	**Amazon EBS Volumes**	**Amazon S3**	**Amazon SimpleDB**	**Other Relational DB (on EC2 and EBS)**	**Amazon RDS**
Performance	High	High	Moderate (single thread) to Very High (multiple threads)	Moderate to High (batched Puts / Gets)	High	High
Durability	Low	Moderate	High	High	High	Moderate
Cost	Included in EC2 cost	Provisioned per GB/Month	Stored per GB/Month	Provisioned First GB free, then per GB/Month	Provisioned (same as EBS)	Provisioned per GB/Month (5 GB minimum)
Availability	Low	Moderate to High (using EBS snapshots)	High	High	Moderate to High	High
Elasticity / Scalability	No	Manual (adding more volumes)	Automatic	Automatic	Manual	Manual (one command to modify DB Instance)
Size Limits	160 GB to 1.6 TB (larger instances have both larger volumes and more volumes)	1 GB to 1 TB per volume (can use multiple volumes or striping for larger capacities)	Effectively Unlimited (5 TB per object, unlimited objects per bucket)	10 GB/domain 100 domains (more domains available upon request)	(same as EBS)	5 GB to 1 TB per DB Instance
Persistence Across Instantiations	No	Yes	Yes	Yes	Yes	Yes
Interfaces	Block Device, access via OS / file system on EC2	N/A, access through EC2 OS / file system	HTTP, REST or SOAP	REST or SOAP	MySQL or JDBC libraries	MySQL or JDBC libraries
Security (encryption at-rest)	Run Encrypted FS	Run Encrypted FS	Encrypt using 256-bit AES	Encrypt using 256-bit AES		
Security (encryption in-transit)	N/A	N/A	SSL (HTTPS)	SSL (HTTPS)	SSL (HTTPS)	SSL (HTTPS)
RDBMS Platforms Supported	MySQL, SQL Server, Oracle, DB2, etc.	MySQL, SQL Server, Oracle, DB2, etc.	N/A	N/A	MySQL, SQL Server, Oracle, DB2 etc.	MySQL 5.1
Model (relational or otherwise)	Block	Block	Object	Non-relational, flexible schema, entity store	Relational	Relational
Degree of Automation	None	Auto-mirroring	Auto-replication, Versioning	Indexing, replication, provisioning, patching	Depends on DB	Automated backups, software
Degree of Redundancy	Not redundant	Redundant within an Availability Zone	Highly redundant across multiple data centers	Maintain multiple, geographically diverse copies of all user data	None (asynchronous replication available)	Offer both single DB Instance (one AZ) and Multi-AZ options
Cross-Instance Access (i.e., shareability)	No	No	Yes	Yes	Yes	Yes
Management and Administration	Manual	Manual	Auto	Auto	Manual	Auto

S3 Pricing

Storage Pricing

Region: US Standard

	Standard Storage	Reduced Redundancy Storage	Glacier Storage
First 1 TB / month	$0.0300 per GB	$0.0240 per GB	$0.0100 per GB
Next 49 TB / month	$0.0295 per GB	$0.0236 per GB	$0.0100 per GB
Next 450 TB / month	$0.0290 per GB	$0.0232 per GB	$0.0100 per GB
Next 500 TB / month	$0.0285 per GB	$0.0228 per GB	$0.0100 per GB
Next 4000 TB / month	$0.0280 per GB	$0.0224 per GB	$0.0100 per GB
Over 5000 TB / month	$0.0275 per GB	$0.0220 per GB	$0.0100 per GB

Request Pricing

Region: US Standard

	Pricing
PUT, COPY, POST, or LIST Requests	$0.005 per 1,000 requests
Glacier Archive and Restore Requests	$0.05 per 1,000 requests
Delete Requests	Free †
GET and all other Requests	$0.004 per 10,000 requests
Glacier Data Restores	Free ‡

Data Transfer Pricing

The pricing below is based on data transferred "in" to and "out" of Amazon S3.

Region: US Standard

	Pricing
Data Transfer IN To Amazon S3	
All data transfer in	$0.000 per GB
Data Transfer OUT From Amazon S3 To	
Amazon EC2 in the Northern Virginia Region	$0.000 per GB
Another AWS Region or Amazon CloudFront	$0.020 per GB
Data Transfer OUT From Amazon S3 To Internet	
First 1 GB / month	$0.000 per GB
Up to 10 TB / month	$0.120 per GB
Next 40 TB / month	$0.090 per GB
Next 100 TB / month	$0.070 per GB
Next 350 TB / month	$0.050 per GB
Next 524 TB / month	Contact Us
Next 4 PB / month	Contact Us
Greater than 5 PB / month	Contact Us

EBS Pricing

Amazon EBS General Purpose (SSD) volumes

- $0.10 per GB-month of provisioned storage

Amazon EBS Provisioned IOPS (SSD) volumes

- $0.125 per GB-month of provisioned storage
- $0.10 per provisioned IOPS-month

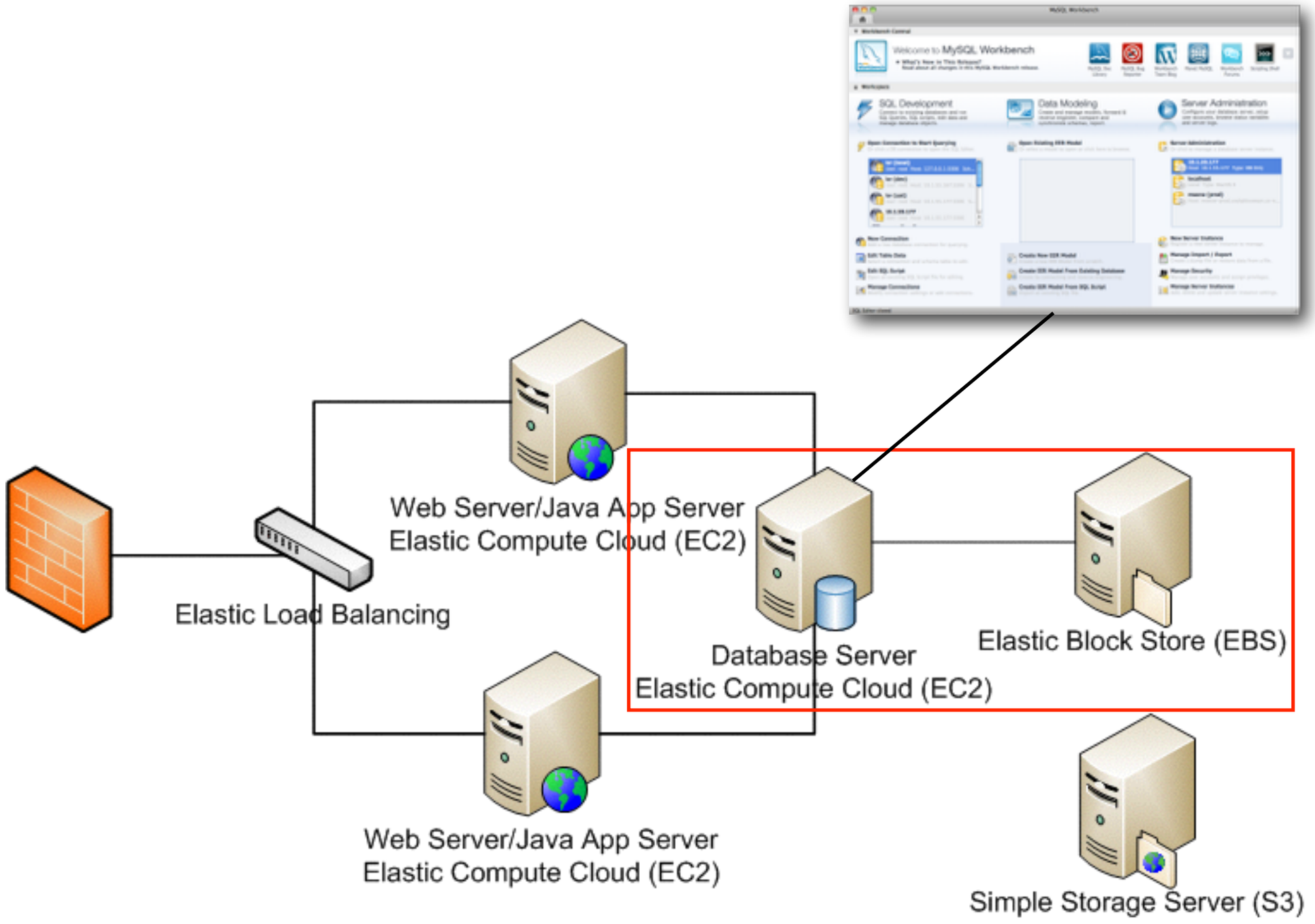
Amazon EBS Magnetic volumes

- $0.05 per GB-month of provisioned storage
- $0.05 per 1 million I/O requests

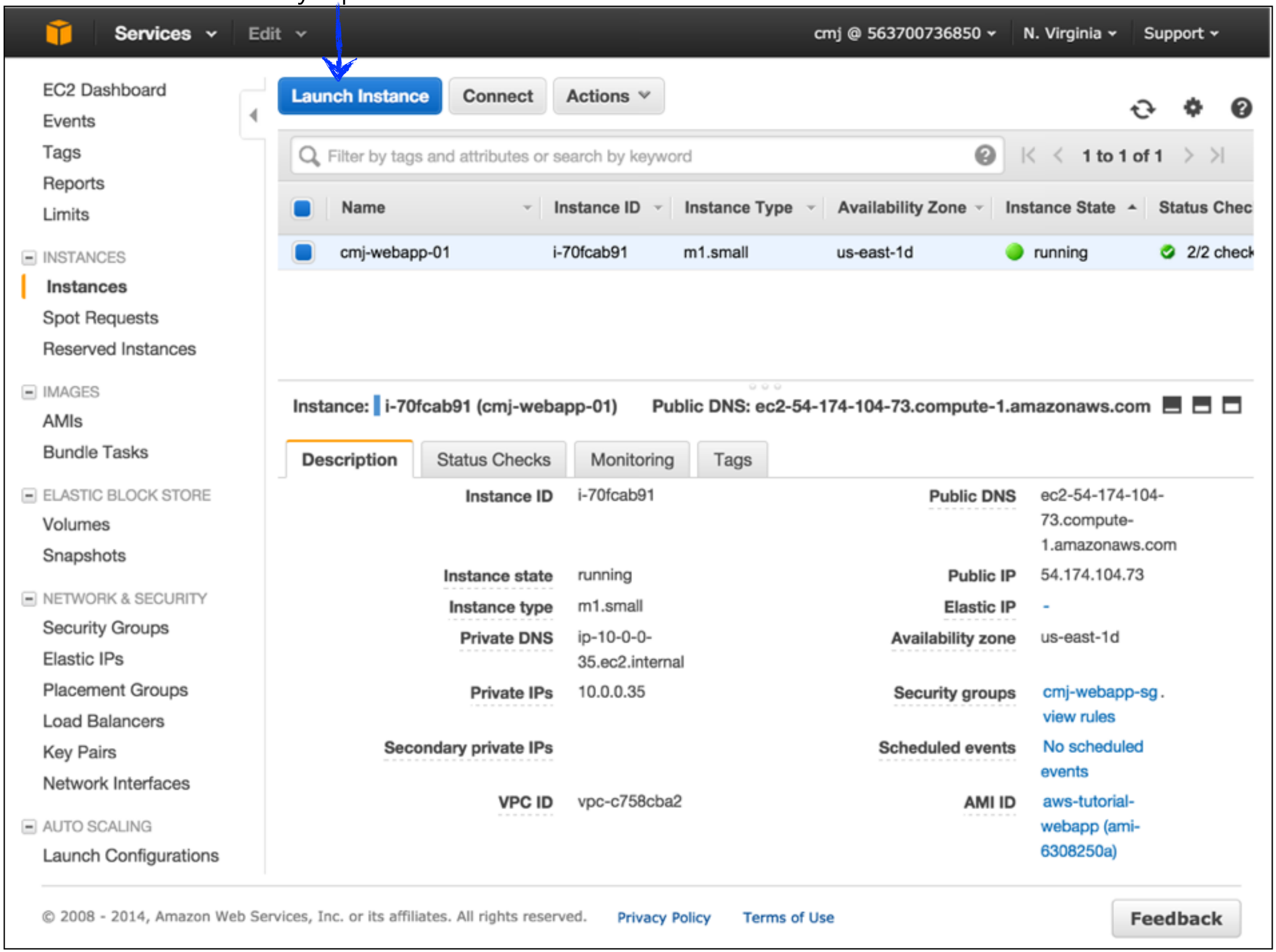
Amazon EBS Snapshots to Amazon S3

- $0.095 per GB-month of data stored

DATABASE


Welcome to MySQL Workbench
SQL Development
Data Modeling
Server Administration
Web Server/Java App Server
Elastic Compute Cloud (EC2)
Elastic Load Balancing
Database Server
Elastic Compute Cloud (EC2)
Elastic Block Store (EBS)
Web Server/Java App Server
Elastic Compute Cloud (EC2)
Simple Storage Server (S3)

launch new mysql server instance



Step 1: Choose an Amazon Machine Image (AMI)

Cancel and Exit

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Quick Start

1 to 22 of 22 AMIs

My AMIs
AWS Marketplace
Community AMIs

Free tier only

Amazon Linux
Free tier eligible

Amazon Linux AMI 2014.09.1 (HVM) - ami-b66ed3de

The Amazon Linux AMI is an EBS backed image. It includes the 3.14 kernel, Ruby 2.1, PHP 5.5, PostgreSQL 9.3, Docker 1.2, the AWS command line tools, and repository access to many other packages.

Root device type: ebs Virtualization type: hvm

Select

64-bit

Red Hat
Free tier eligible

Red Hat Enterprise Linux 7.0 (HVM), SSD Volume Type - ami-a8d369c0

Red Hat Enterprise Linux version 7.0 (HVM), EBS General Purpose (SSD) Volume Type

Root device type: ebs Virtualization type: hvm

Select

64-bit

SUSE Linux
Free tier eligible

SuSE Linux Enterprise Server 12 (HVM), SSD Volume Type - ami-aeb532c6

SuSE Linux Enterprise Server 12 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled.

Root device type: ebs Virtualization type: hvm

Select

64-bit

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select aws-tutorial-mysql AMI

Services | Edit | cmj @ 563700736850 | N. Virginia | Support

1. Choose AMI | 2. Choose Instance Type | 3. Configure Instance | 4. Add Storage | 5. Tag Instance | 6. Configure Security Group | 7. Review

Step 1: Choose an Amazon Machine Image (AMI)

Cancel and Exit

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- Quick Start
- **My AMIs**
- AWS Marketplace
- Community AMIs

Search my AMIs

1 to 2 of 2 AMIs

aws-tutorial-webapp - ami-6308250a

AWS tutorial web application including tomcat

Root device type: ebs | Virtualization type: paravirtual | Owner: 563700736850

Select

64-bit

aws-tutorial-mysql - ami-7da38114

AWS tutorial mysql server.

Root device type: ebs | Virtualization type: paravirtual | Owner: 563700736850

Select

64-bit

Ownership

- [x] Owned by me
- [ ] Shared with me

Architecture

- [ ] 32-bit
- [ ] 64-bit

Root device type

- [ ] EBS
- [ ] Instance store

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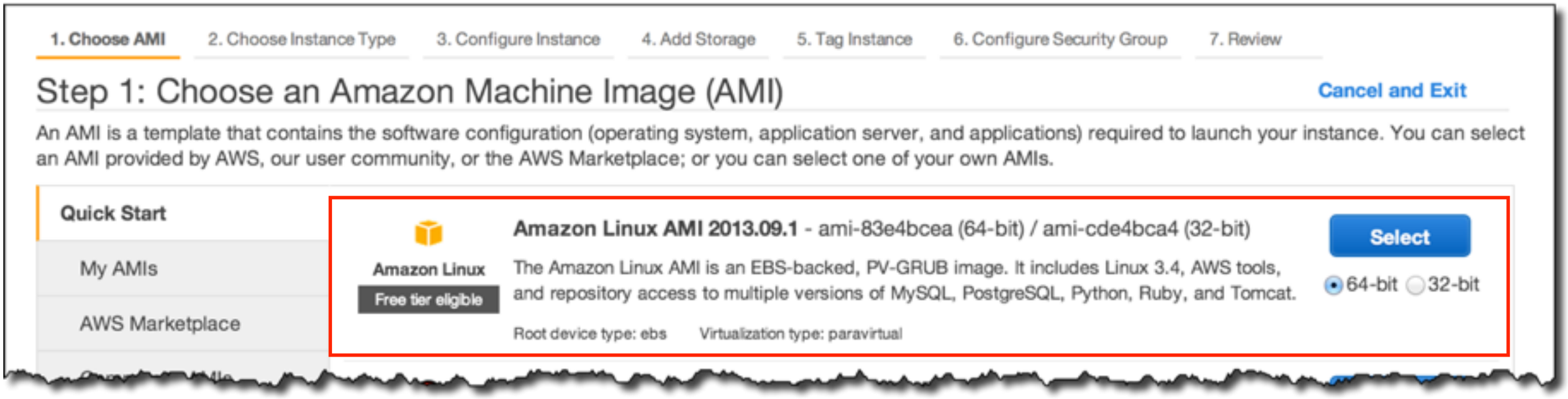
aws-tutorial-mysql AMI




```
sudo yum update
sudo yum install mysql55.x86_64
sudo yum install mysql55-server.x86_64
sudo service mysqld start
mysql -u root -e "create database nuez;"
mysql -u root -e "CREATE USER 'codemash'@'%' IDENTIFIED BY 'codemash';"
mysql -u root -e "GRANT ALL PRIVILEGES ON *.* TO 'codemash'@'%'"
sudo chkconfig --level 345 mysqld on
```

select t1.micro

Services | Edit | cmj @ 563700736850 | N. Virginia | Support

1. Choose AMI | 2. Choose Instance Type | 3. Configure Instance | 4. Add Storage | 5. Tag Instance | 6. Configure Security Group | 7. Review

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. Learn more about instance types and how they can meet your computing needs.

Filter by: All instance types | All generations | Show/Hide Columns

Currently selected: t1.micro (Variable ECUs, 1 vCPUs, 0.613 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
■	Micro instances	t1.micro Free tier eligible	1	0.613	EBS only	-	Very Low
⊘	General purpose	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate
⊘	General purpose	t2.small	1	2	EBS only	-	Low to Moderate
⊘	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate
☐	General purpose	m3.medium	1	3.75	1 x 4 (SSD)	-	Moderate
☐	General purpose	m3.large	2	7.5	1 x 32 (SSD)	-	Moderate
☐	General purpose	m3.xlarge	4	15	2 x 40 (SSD)	Yes	High

Cancel | Previous | Review and Launch | Next: Configure Instance Details

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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 (i) 1

Purchasing option (i) ☐ Request Spot Instances

Network (i) vpc-c758cba2 (10.0.0.0/16) | cmj-vpc — Create new VPC

Subnet (i) subnet-5cfe0777(10.0.0.0/24) | cmj-sbnt | us-east-1d — Create new subnet

250 IP Addresses available

Auto-assign Public IP (i) Enable

IAM role (i) None

Shutdown behavior (i) Stop

Enable termination protection (i) ☐ Protect against accidental termination

Monitoring (i) ☐ Enable CloudWatch detailed monitoring

Additional charges apply.

Tenancy (i) Shared tenancy (multi-tenant hardware)

Additional charges will apply for dedicated tenancy.

Cancel | Previous | Review and Launch | Next: Add Storage

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Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. Learn more about storage options in Amazon EC2.

Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Delete on Termination	Encrypted
Root	/dev/sda1	snap-425a8358	8	General Purpose (SSD)	24 / 3000	☑	Not Encrypted

Add New Volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. Learn more about free usage tier eligibility and usage restrictions.

Cancel | Previous | Review and Launch | Next: Tag Instance

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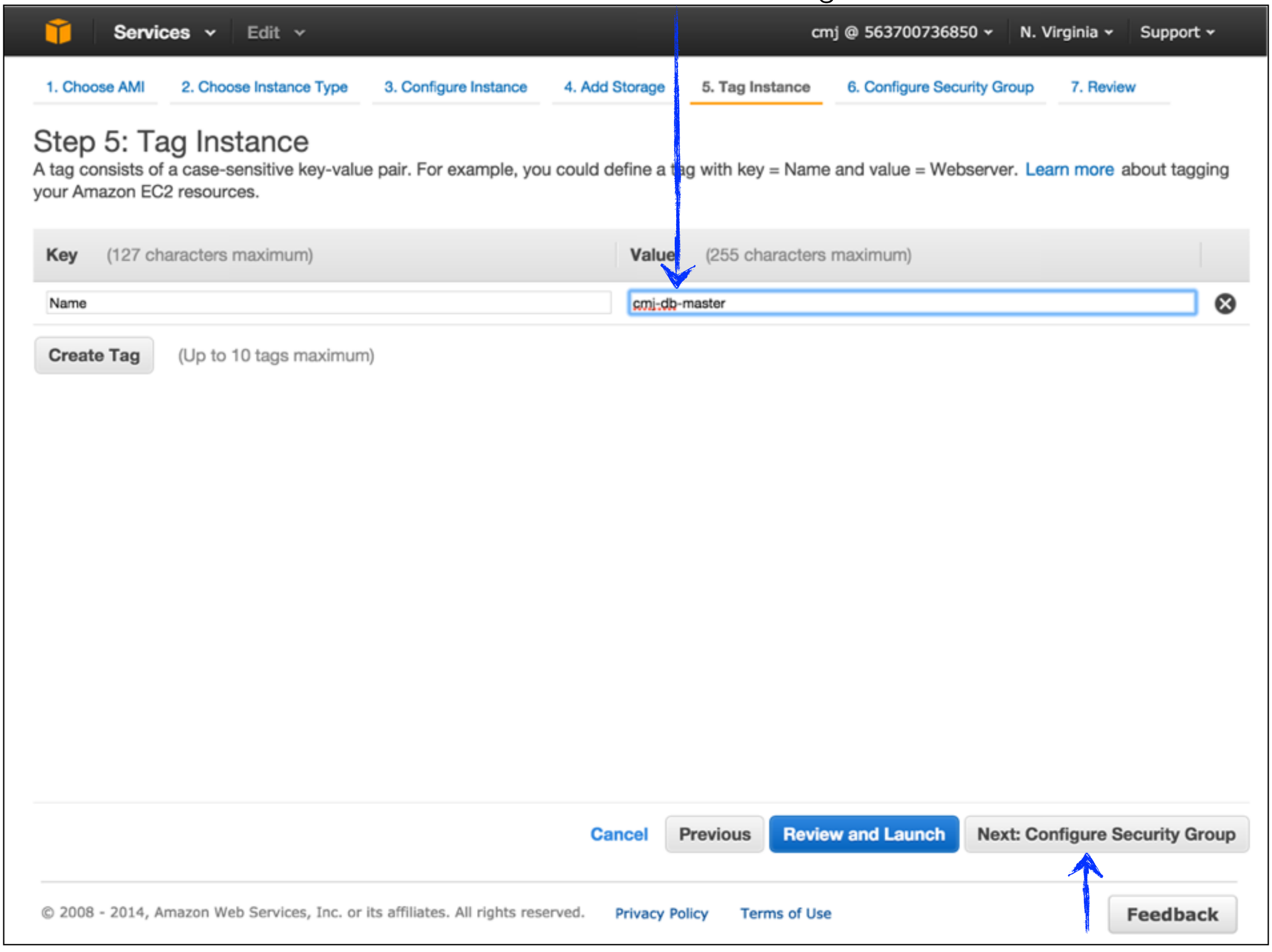
name instance with naming convention



Services | Edit | cmj @ 563700736850 | N. Virginia | Support

1. Choose AMI | 2. Choose Instance Type | 3. Configure Instance | 4. Add Storage | 5. Tag Instance | 6. Configure Security Group | 7. Review

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. Learn more about Amazon EC2 security groups.

Assign a security group: (•) Create a **new** security group

( ) Select an **existing** security group

Security group name: cmj-db-sg

Description: cmj mysql database security group

Type	Protocol	Port Range	Source	
SSH	TCP	22	Anywhere	0.0.0.0/0
MYSQL	TCP	3306	Custom IP	sg-39fb165d
MYSQL	TCP	3306	My IP	24.208.238.227/32

Add Rule

Warning

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel | Previous | Review and Launch

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web application security group

developer's machine

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

Improve your instance's security. Your security group, cmj-db-sg, is open to the world.

Your instance may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only.
You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. Edit security groups

AMI Details

Edit AMI

aws-tutorial-mysql - ami-7da38114
AWS tutorial mysql server.

Root Device Type: ebs Virtualization type: paravirtual

Instance Type

Edit instance type

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t1.micro	Variable	1	0.613	EBS only	-	Very Low

Security Groups

Edit security groups

Security group name cmj-db-sg
Description cmj mysql database security group

Cancel | Previous | Launch

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Services | Edit | cmj @ 563700736850 | N. Virginia | Support

1. Choose AMI | 2. Choose Instance Type | 3. Configure Instance | 4. Add Storage | 5. Tag Instance | 6. Configure Security Group | 7. Review

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

Improve y

Your instanc… cess from known IP addresses…
You can also… , HTTP (80) for web servers…

AMI Details

Edit AMI

aws-…
AWS …
Root D…

Instance Typ…

Edit instance type

Instance Type…	…work Performance
t1.micro	Low

Security Grou…

…dit security groups

Security group name	cmj-db-sg
Description	cmj mysql database security group

Cancel | Previous | Launch

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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.

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.

Choose an existing key pair

Select a key pair

cmj-key

I acknowledge that I have access to the selected private key file (cmj-key.pem), and that without this file, I won't be able to log into my instance.

Cancel | Launch Instances

Launch Status

Your instance is now launching

The following instance launch has been initiated: i-70cc9d91 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 instance

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

Click **View Instances** to monitor your instance's status. Once your instance is in the **running** state, you can **connect** to it from the Instances screen. Find out how to connect to your instance.

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

- Create status check alarms to be notified when these instances fail status checks. (Additional charges may apply)
- Create and attach additional EBS volumes (Additional charges may apply)
- Manage security groups

View Instances

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Feedback

Services | Edit | cmj @ 563700736850 | N. Virginia | Support

- EC2 Dashboard
- Events
- Tags
- Reports
- Limits

INSTANCES
- Instances
- Spot Requests
- Reserved Instances

IMAGES
- AMIs
- Bundle Tasks

ELASTIC BLOCK STORE
- Volumes
- Snapshots

NETWORK & SECURITY
- Security Groups
- Elastic IPs
- Placement Groups
- Load Balancers
- Key Pairs
- Network Interfaces

AUTO SCALING
- Launch Configurations

Launch Instance | Connect | Actions

Filter by tags and attributes or search by keyword | 1 to 2 of 2

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Chec
cmj-webapp-01	i-70fcab91	m1.small	us-east-1d	running	2/2 check
cmj-db-master	i-70cc9d91	t1.micro	us-east-1d	running	Initializi

Instance: i-70cc9d91 (cmj-db-master) Public DNS: ec2-54-173-90-190.compute-1.amazonaws.com

Description | Status Checks | Monitoring | Tags

Instance ID	i-70cc9d91	Public DNS	ec2-54-173-90-190.compute-1.amazonaws.com
Instance state	running	Public IP	54.173.90.190
Instance type	t1.micro	Elastic IP	-
Private DNS	ip-10-0-0-34.ec2.internal	Availability zone	us-east-1d
Private IPs	10.0.0.34	Security groups	cmj-db-sg. view rules
Secondary private IPs		Scheduled events	No scheduled events
VPC ID	vpc-c758cba2	AMI ID	aws-tutorial-mysql (ami-7da38114)
Subnet ID	subnet-5cfe0777	Platform	-

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```
$ mysql -h ec2-54-173-90-190.compute-1.amazonaws.com -u codemash -p nuez
```

Manage DB Connections

Stored Connections
- lor (local)
- lor (dev)
- lor (uat)
- 10.1.55.177
- mgvs (local)
- msecw (prod)
- moodle (uat dev)
- lms (dev01)
- nuez

Connection Name: nuez — Type a name for the connection

Connection Method: Standard (TCP/IP) — Method to use to connect to the RDBMS

Parameters | Advanced

Hostname: ec2-184-72-144-98.co Port: 3306 — Name or IP address of the server host - TCP/IP port

Username: codemash — Name of the user to connect with.

Password: Store in Keychain ... Clear — The user's password.

Default Schema: — The schema that will be used as default schema

user = codemash
password = codemash

New | Delete | Duplicate | Move Up | Move Down | Test Connection | Close

Elastic IPs
Placement Groups
Load Balancers
Key Pairs
Network Interfaces

Instance: i-3b226e43 (cmj-db-master) Public DNS: ec2-54-211-15-127.compute-1.amazonaws.com

Description | Status Checks | Monitoring | Tags

Instance ID	i-3b226e43	Public DNS	ec2-54-211-15-127.compute-1.amazonaws.com
Instance state	running	Public IP	54.211.15.127
Instance type	t1.micro	Elastic IP	-
Private DNS	ip-10-164-106-11.ec2.internal	Availability zone	us-east-1b

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Update nuez with database connection

```
// environment specific settings
environments {
    development {
        dataSource {
            dbCreate = "update"
            url = "jdbc:h2:mem:devDb;MVCC=TRUE"
        }
    }
    test {
        dataSource {
            dbCreate = "update"
            url = "jdbc:h2:mem:testDb;MVCC=TRUE"
        }
    }
    production {
        dataSource {
            driverClassName = "com.mysql.jdbc.Driver"
            dialect = "org.hibernate.dialect.MySQL5Dialect"
            username = "codemash"
            password = "codemash"
            dbCreate = "update"
            url = "jdbc:mysql://10.0.0.34:3306/nuez"
            pooled = true
            properties {
                maxActive = -1
                minEvictableIdleTimeMillis = 1800000
                timeBetweenEvictionRunsMillis = 1800000
                numTestsPerEvictionRun = 3
                testOnBorrow = true
                testWhileIdle = true
                testOnReturn = true
                validationQuery = "SELECT 1"
            }
        }
    }
}
```

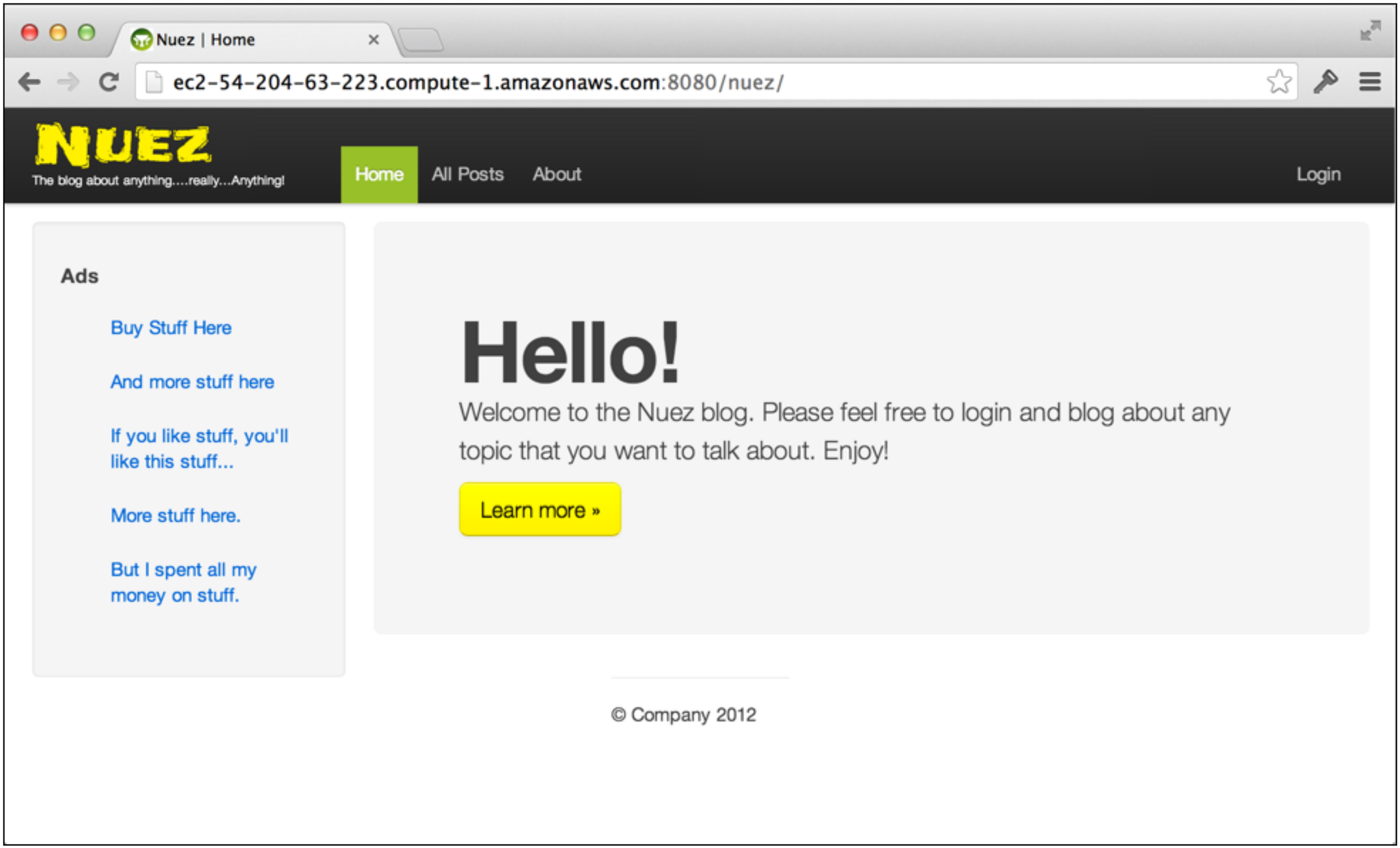
username/password

mysql instance url

grails-app/conf/DataSource.groovy

grails war

```
sudo cp target/nuez-0.1.war /usr/share/tomcat7/webapps/nuez.war
```



http://ec2-54-204-63-223.compute-1.amazonaws.com:8080/nuez/

Login

ec2-54-204-63-223.compute-1.amazonaws.com:8080/nuez/login/auth

NUEZ

The blog about anything....really...Anything!

Home All Posts About Login

Please Login

Username: blogger

Password: ••••••••

Remember me

Login

blogger

1234abcd

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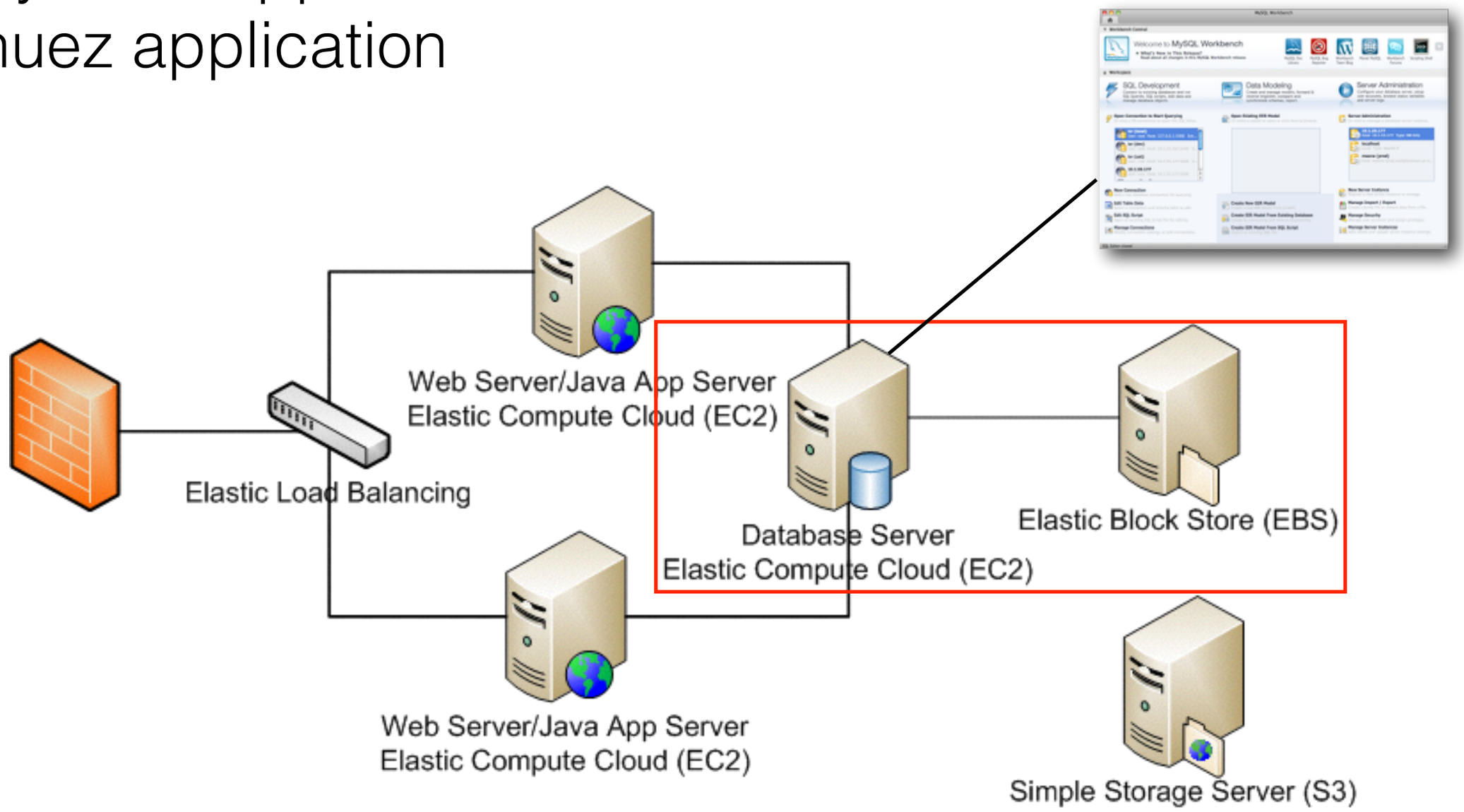
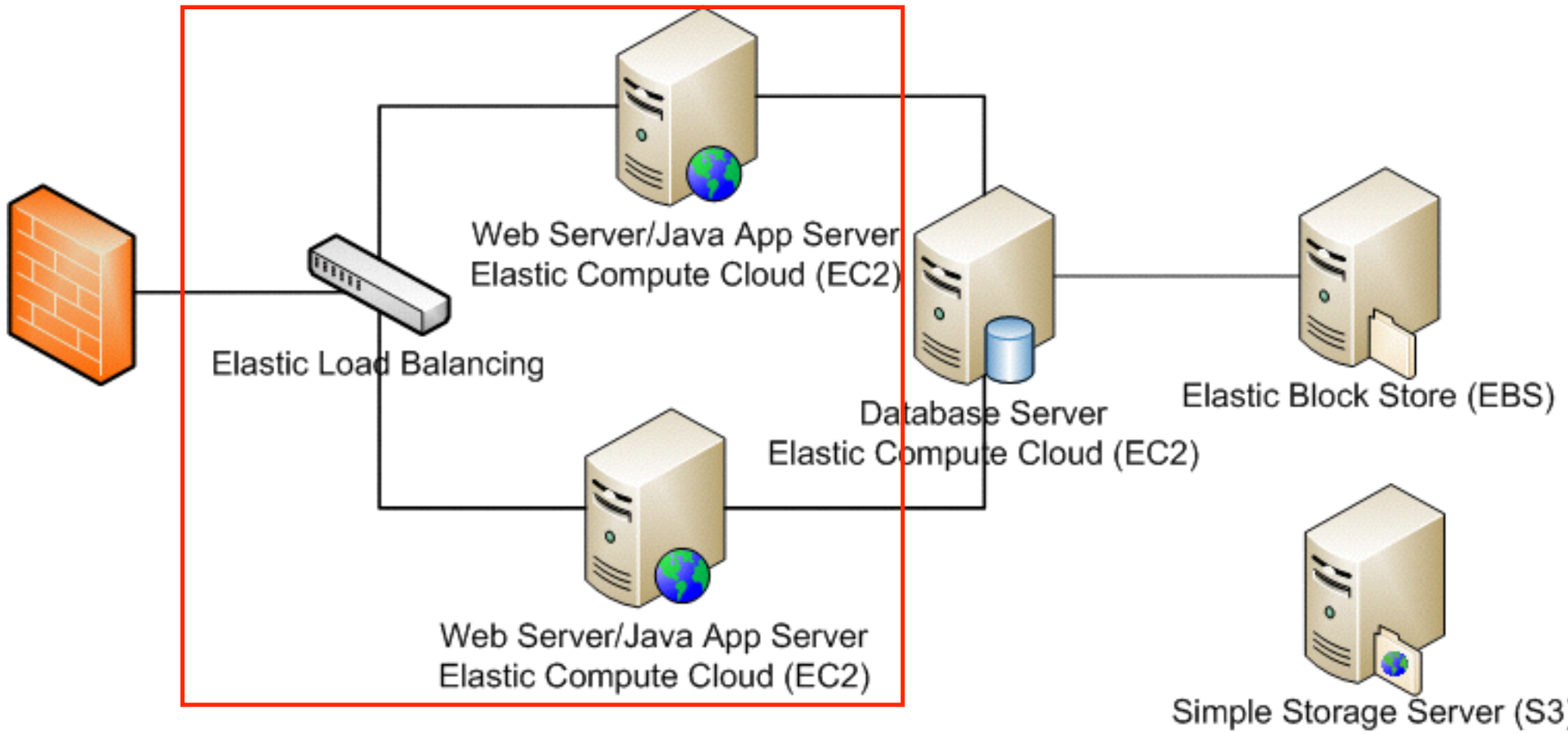
Lab 2

1. Start instance of aws-tutorial-mysql instance
2. Connect with mysql tool or ssh to instance
3. Change nuez application database string
4. Deploy nuez application
5. Test nuez application



Load Balancing


Web Server/Java App Server
Elastic Compute Cloud (EC2)
Elastic Load Balancing
Database Server
Elastic Compute Cloud (EC2)
Elastic Block Store (EBS)
Web Server/Java App Server
Elastic Compute Cloud (EC2)
Simple Storage Server (S3)

Services | Edit | cmj @ 563700736850 | N. Virginia | Support

- EC2 Dashboard
- Events
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- Reports
- Limits

INSTANCES
- Instances
- Spot Requests
- Reserved Instances

IMAGES
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- Volumes
- Snapshots

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- Security Groups
- Elastic IPs
- Placement Groups
- Load Balancers
- Key Pairs
- Network Interfaces

AUTO SCALING
- Launch Configurations

Launch Instance | Connect | Actions

Filter by tags and attributes or search by keyword | 1 to 2 of 2

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Chec
cmj-webapp-01		mall	us-east-1d	running	2/2 check
cmj-db-master		cro	us-east-1d	running	2/2 check

Connect
Get Windows Password
Launch More Like This
Instance State
Instance Settings
Image
Networking
CloudWatch Monitoring

Launch another one just like it.

Instance: i-70fcab91 (cr... NS: ec2-54-173-230-74.compute-1.amazonaws.com

Description | Status ... | ...ags

Instance ID	i-70fcab91	Public DNS	ec2-54-173-230-74.compute-1.amazonaws.com
Instance state	running	Public IP	54.173.230.74
Instance type	m1.small	Elastic IP	-
Private DNS	ip-10-0-0-35.ec2.internal	Availability zone	us-east-1d
Private IPs	10.0.0.35	Security groups	cmj-webapp-sg. view rules
Secondary private IPs		Scheduled events	No scheduled events
VPC ID	vpc-c758cba2	AMI ID	aws-tutorial-webapp (ami-6308250a)

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Copy key to webapp-01

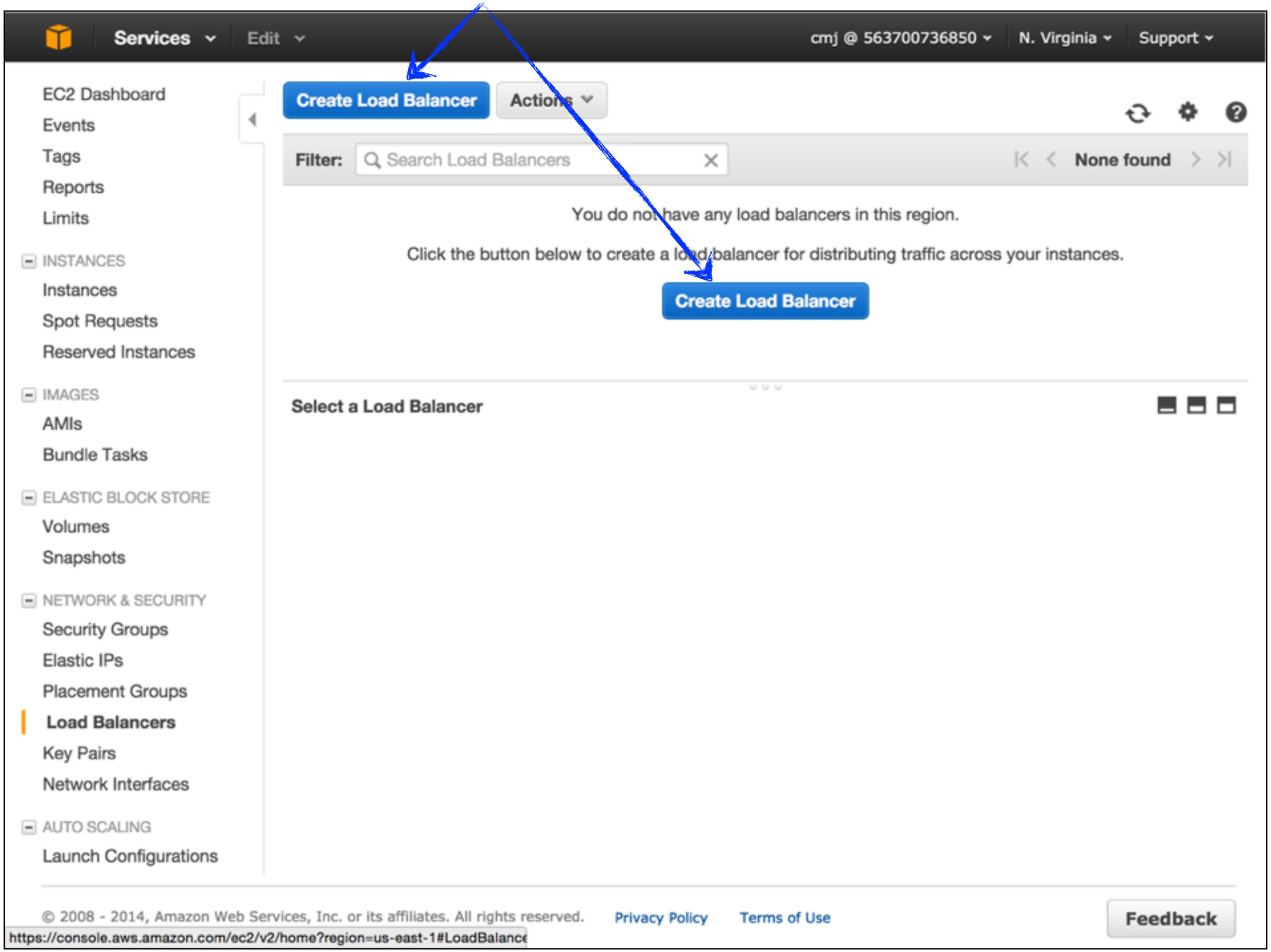
```
scp -i cmj-key.pem cmj-key.pem ec2-user@ec2-54-204-63-223.compute-1.amazonaws.com:~/.ssh/
```

Copy war to webapp-02

```
scp -i ~/.ssh/cmj-key.pem target/nuez-0.1.war ec2-user@ec2-54-227-224-140.compute-1.amazonaws.com:~
```

Deploy war on webapp-02

```
sudo mv nuez-0.1.war /usr/share/tomcat7/webapps/nuez.war
```


Services
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Actions
Filter:
Search Load Balancers
None found
You do not have any load balancers in this region.
Click the button below to create a load balancer for distributing traffic across your instances.
Create Load Balancer
Select a Load Balancer
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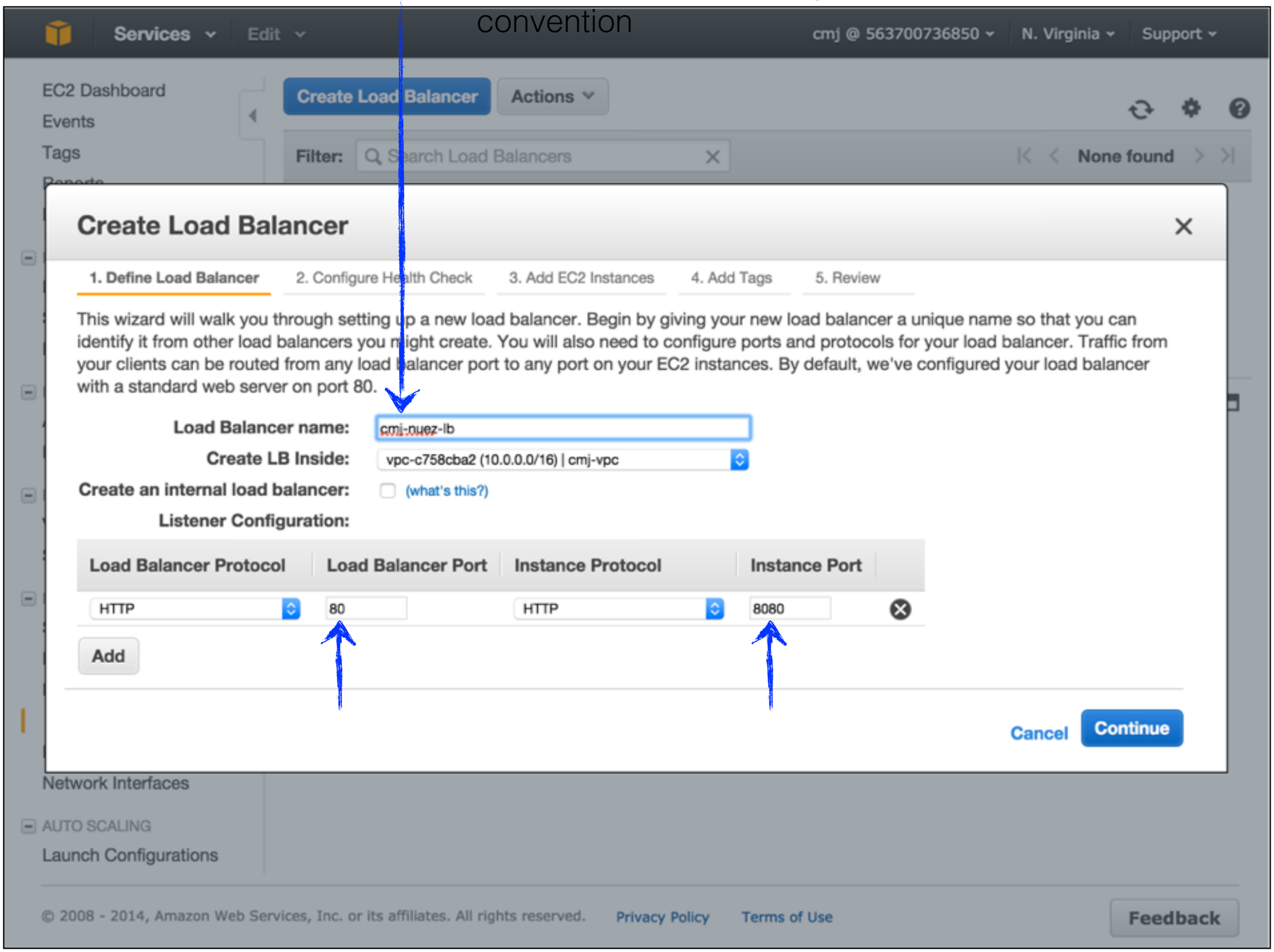
https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LoadBalance

name load balancer based on naming convention



Services | Edit | cmj @ 563700736850 | N. Virginia | Support

EC2 Dashboard

Create Load Balancer | Actions

Create Load Balancer

1. Define Load Balancer | **2. Configure Health Check** | 3. Select Subnets | 4. Assign Security Groups | 5. Add EC2 Instances | 6. Add Tags | 7. Review

Configure Health Check

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

Ping Protocol	HTTP
Ping Port	8080
Ping Path	/nuez/about/index

health check

Advanced Details

Response Timeout	5 seconds
Health Check Interval	30 seconds
Unhealthy Threshold	2
Healthy Threshold	10

Back | Continue

Launch Configurations

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EC2 Dashboard
Events
Tags
Reports
Limits

Create Load Balancer | Actions

Filter: Search Load Balancers | None found

You do not have any load balancers in this region.

Create Load Balancer

1. Define Load Balancer | 2. Configure Health Check | **3. Select Subnets** | 4. Assign Security Groups | 5. Add EC2 Instances | 6. Add Tags | 7. Review

Select Subnets

You will need to select a Subnet for each Availability Zone where you wish traffic to be routed by your load balancer. A Virtual Network Interface will be placed inside the Subnet to allow traffic to be routed into that Availability Zone. If you have instances in only one Availability Zone, please select at least two Subnets in different Availability Zones to provide higher availability for your load balancer.

VPC vpc-c758cba2 (10.0.0.0/16) | cmj-vpc

Available Subnets

Actions	Availability Zone	Subnet ID	Subnet CIDR	Name

Selected Subnets

Actions	Availability Zone	Subnet ID	Subnet CIDR	Name
⊖	us-east-1d	subnet-5cfe0777	10.0.0.0/24	cmj-sbnt

Back | Continue

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Services | Edit | cmj @ 563700736850 | N. Virginia | Support

EC2 Dashboard
Events
Tags
Reports

Create Load Balancer | Actions

Filter: Search Load Balancers | 1 to 1 of 1

Create Load Balancer

1. Define Load Balancer | 2. Configure Health Check | 3. Select Subnets | **4. Assign Security Groups** | 5. Add EC2 Instances | 6. Add Tags | 7. Review

Assign Security Groups

Assign a security group: (•) Create a **new** security group
( ) Select an **existing** security group

Security group name: cmj-lb-sg

Description: quick-create-1 created on Saturday, November 29, 2014 9:25:07 PM UTC-5

Type	Protocol	Port Range	Source	
HTTP	TCP	80	Anywhere	0.0.0.0/0

Add Rule

Back | Continue

Stickiness: Disabled (Edit)

AUTO SCALING
Launch Configurations

Availability Zones: subnet-5cfe0777 - us-east-1d

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Tags
Reports
Limits

Filter: Search Load Balancers

None found

You do not have any load balancers in this region.

Create Load Balancer

1. Define Load Balancer | 2. Configure Health Check | 3. Select Subnets | 4. Assign Security Groups | **5. Add EC2 Instances** | 6. Add Tags | 7. Review

Add Instances to Load Balancer

The table below lists all your running EC2 Instances. Check the boxes in the Select column to add those instances to this load balancer.

VPC vpc-c758cba2 (10.0.0.0/16) | cmj-vpc

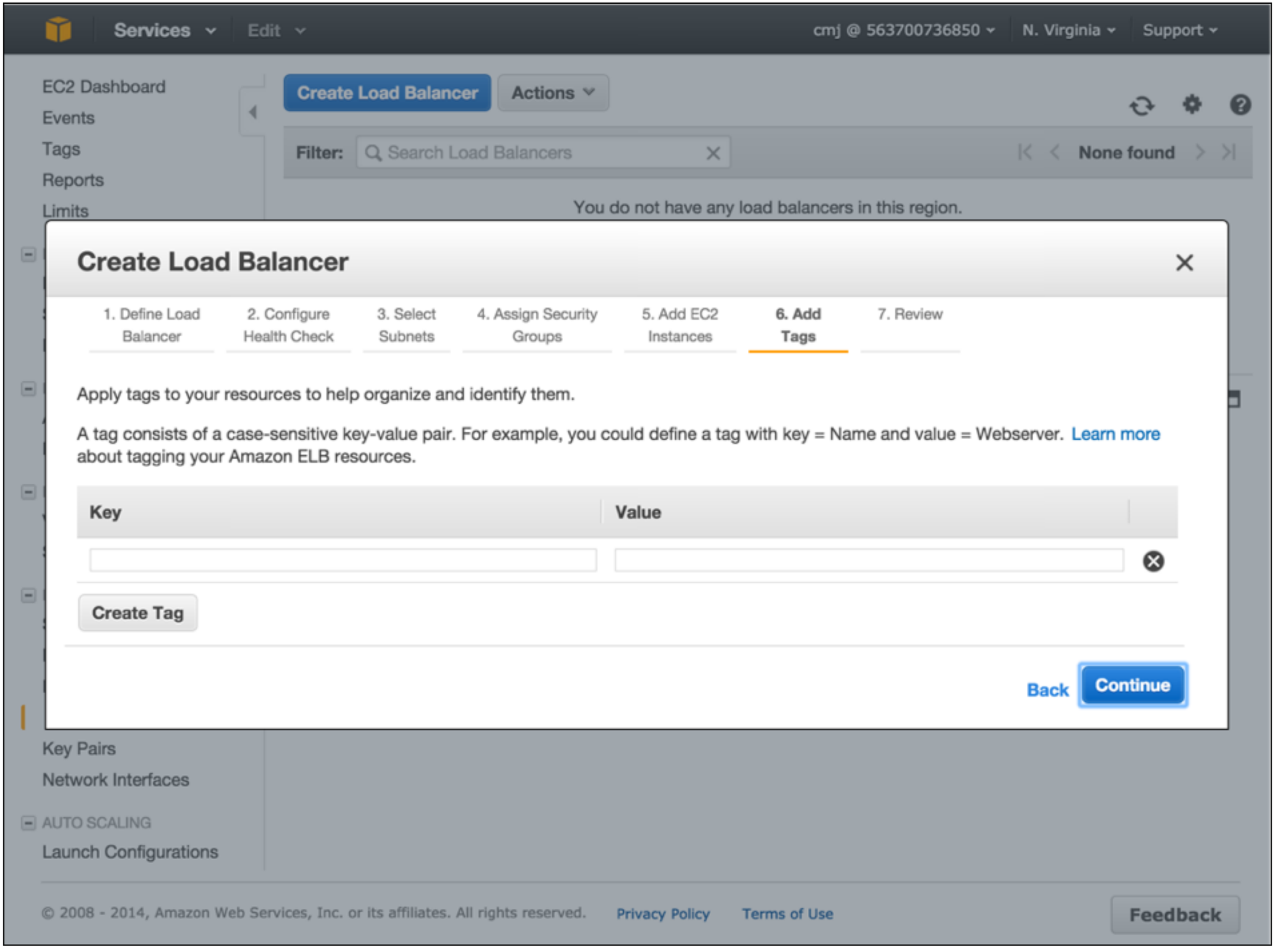
Instance	Name	State	Security Groups	Zone	Subnet ID	Subnet CIDR
i-70fcab91	cmj-webapp-01	running	cmj-webapp-sg	us-east-1d	subnet-5cfe0777	10.0.0.0/24
i-70cc9d91	cmj-db-master	running	cmj-db-sg	us-east-1d	subnet-5cfe0777	10.0.0.0/24
i-c8e1b029	cmj-webapp-02	running	cmj-webapp-sg	us-east-1d	subnet-5cfe0777	10.0.0.0/24

Availability Zone Distribution
2 instances in us-east-1d

Enable Cross-Zone Load Balancing

Enable Connection Draining 300 seconds

Back Continue


Services
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Create Load Balancer
Actions
Filter:
Search Load Balancers
None found
You do not have any load balancers in this region.
Create Load Balancer
1. Define Load Balancer
2. Configure Health Check
3. Select Subnets
4. Assign Security Groups
5. Add EC2 Instances
6. Add Tags
7. Review
Apply tags to your resources to help organize and identify them.
A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. Learn more about tagging your Amazon ELB resources.
Key
Value
Create Tag
Back
Continue
Key Pairs
Network Interfaces
AUTO SCALING
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Create Load Balancer

1. Define Load Balancer | 2. Configure Health Check | 3. Select Subnets | 4. Assign Security Groups | 5. Add EC2 Instances | 6. Add Tags | **7. Review**

Review

Please review the load balancer details before continuing

Define Load Balancer

Edit load balancer definition

Load Balancer name: cmj-nuez-lb
Scheme: internet-facing
Port Configuration: 80 (HTTP) forwarding to 8080 (HTTP)

Configure Health Check

Edit health check

Ping Target: HTTP:8080/nuez/about/index
Timeout: 5 seconds
Interval: 30 seconds
Unhealthy Threshold: 2
Healthy Threshold: 10

Add EC2 Instances

Edit instances

Cross-Zone Load Balancing: Enabled
Connection Draining: Enabled, 300 seconds
Instances: i-70fcab91 (cmj-webapp-01), i-c8e1b029 (cmj-webapp-02)

VPC Information

Edit subnets

VPC: vpc-c758cba2 (cmj-vpc)

Back | Create

Services | Edit | cmj @ 563700736850 | N. Virginia | Support

EC2 Dashboard

Create Load Balancer | Actions

Create Load Balancer

Successfully created load balancer

Load balancer cmj-nuez-lb was successfully created.

Note: It may take a few minutes for your instances to become active in the new load balancer.

Close

AUTO SCALING

Launch Configurations

Availability Zones: subnet-5cfe0777 - us-east-1d

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- Placement Groups
- **Load Balancers**
- Key Pairs
- Network Interfaces

AUTO SCALING
- Launch Configurations

Create Load Balancer | **Actions**

Filter: Search Load Balancers | 1 to 1 of 1

Load Balancer Name	DNS Name	Port Configuration	Availability Zones
cmj-nuez-lb	cmj-nuez-lb-1069225102.us-...	80 (HTTP) forwarding to 808...	us-east-1d

Here is the base url to access the load balancer

Load balancer: cmj-nuez-lb

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

DNS Name: cmj-nuez-lb-1069225102.us-east-1.elb.amazonaws.com (A Record)

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

Scheme: internet-facing

Status: 2 of 2 instances in service

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

Availability Zones: subnet-5cfe0777 - us-east-1d

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Nuez | Home

cmj-nuez-lb-1069225102.us-east-1.elb.amazonaws.com/nuez/

NUEZ

The blog about anything....really...Anything!

Home All Posts About

Ads

Buy Stuff Here

And more stuff here

If you like stuff, you'll like this stuff...

More stuff here.

But I spent all my money on stuff.

Hello!

Welcome to the Nuez blog. Please feel that you want to talk about. Enjoy!

Learn more »

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1 to 1 of 1

	Port Configuration	Availability Zones
2.us-…	80 (HTTP) forwarding to 808…	us-east-1d

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Load Balancers

Key Pairs

Network Interfaces

AUTO SCALING

Launch Configurations

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

DNS Name: cmj-nuez-lb-1069225102.us-east-1.elb.amazonaws.com (A Record)

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

Scheme: internet-facing

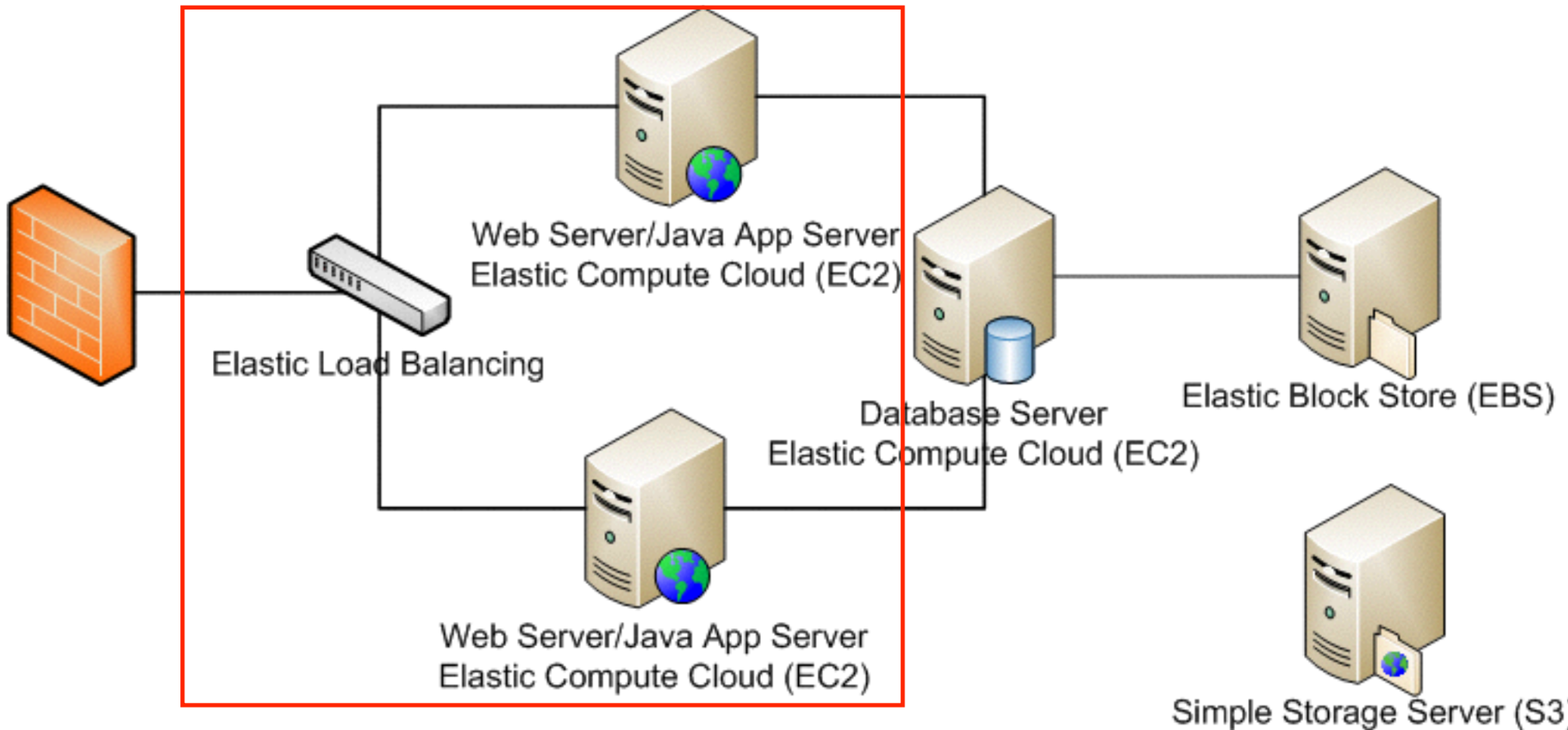
Status: 2 of 2 instances in service

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

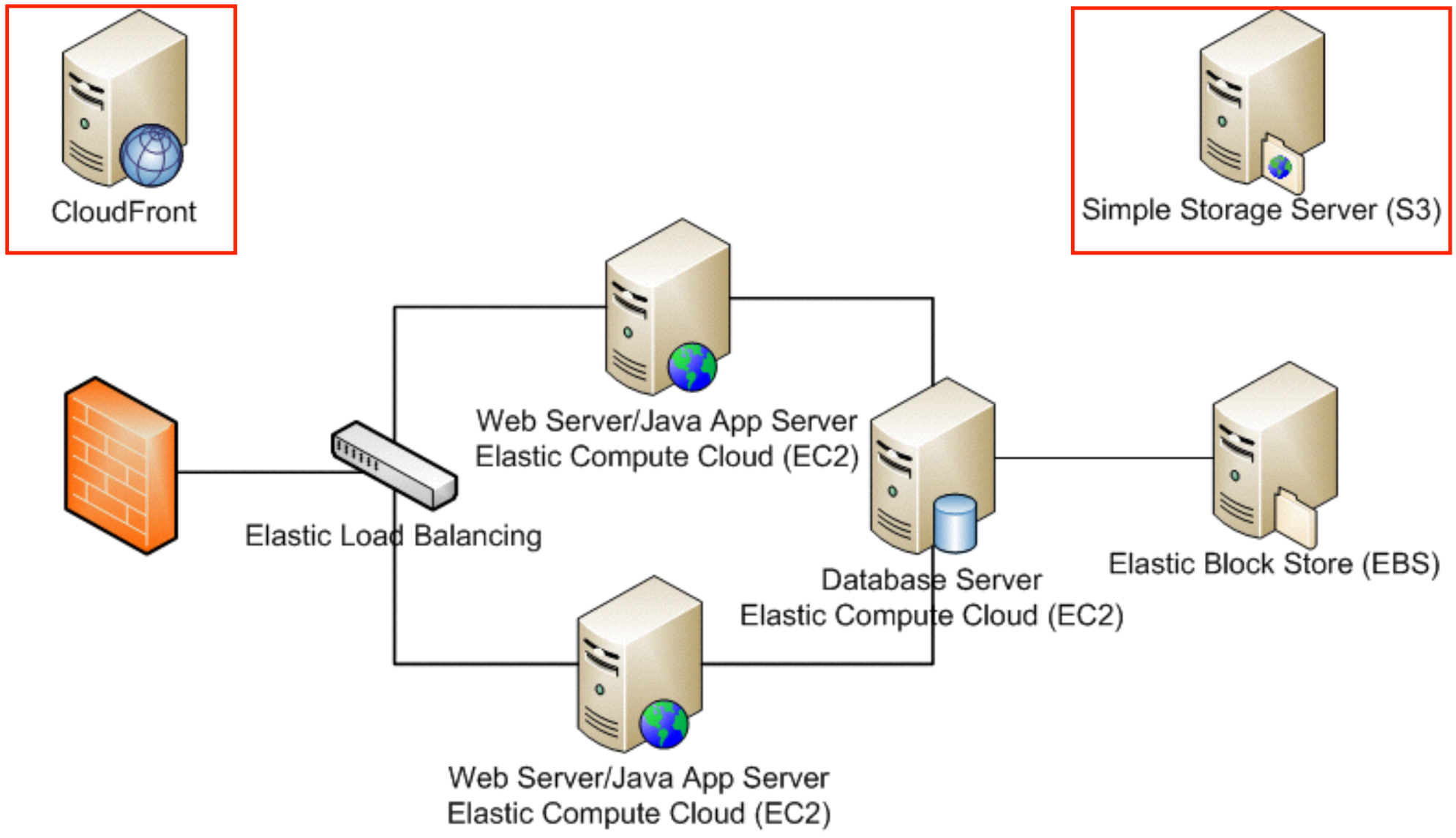
Availability Zones: subnet-5cfe0777 - us-east-1d

Lab 3

1. Create/start another instance of aws-tutorial-webapp
2. Create a new load balancer
3. Add both aws-tutorial-webapp EC2 instances to load balancer



CDN


CloudFront
Simple Storage Server (S3)
Web Server/Java App Server
Elastic Compute Cloud (EC2)
Elastic Load Balancing
Database Server
Elastic Compute Cloud (EC2)
Elastic Block Store (EBS)
Web Server/Java App Server
Elastic Compute Cloud (EC2)

CloudFront Pricing

On-Demand Pricing

Regional Data Transfer Out to Internet (per GB)

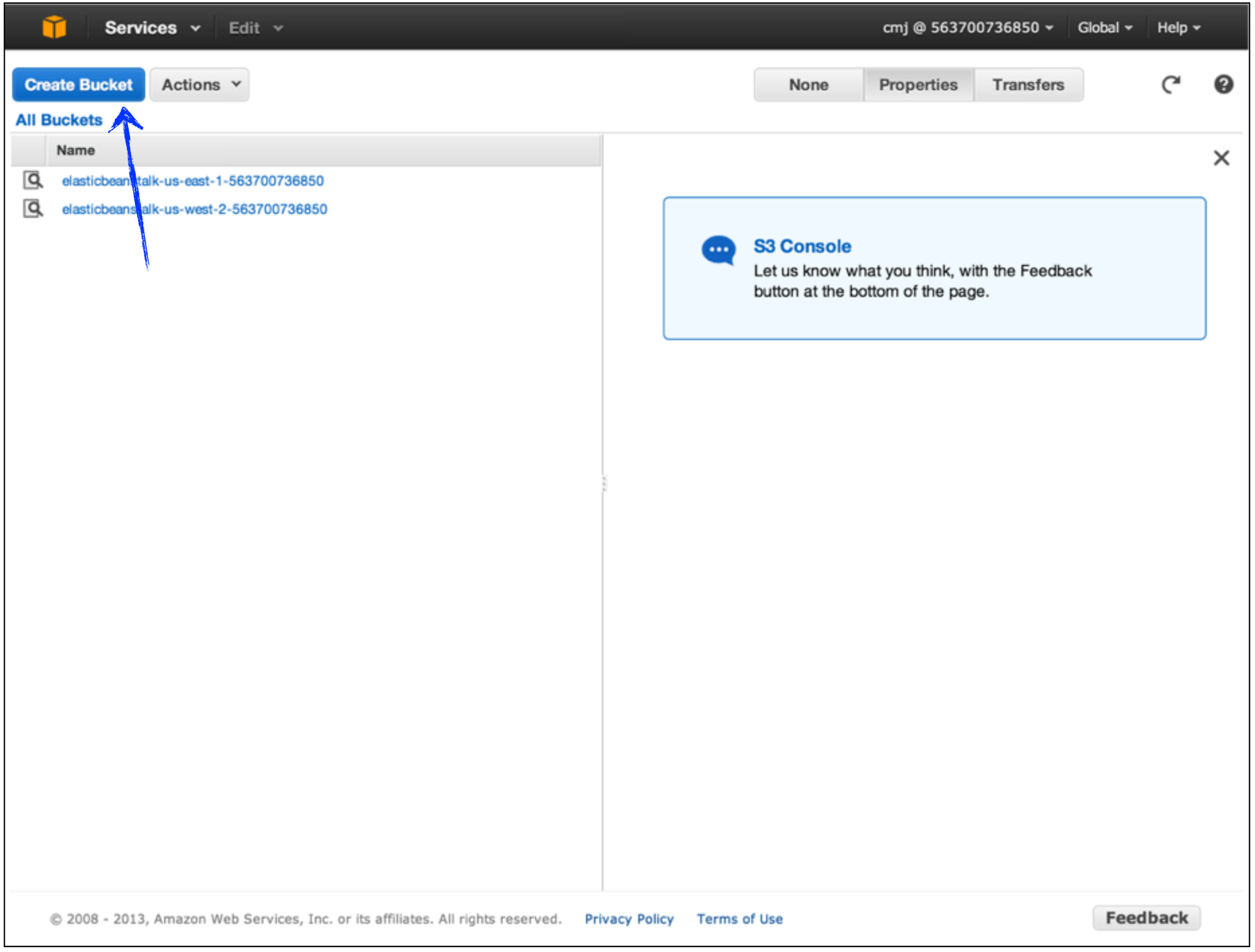
	United States	Europe	Hong Kong, Philippines, S. Korea, Singapore & Taiwan	Japan	South America	Australia	India	Reserved Capacity Pricing
First 10 TB / month	$0.120	$0.120	$0.190	$0.190	$0.250	$0.190	$0.170	Contact Us
Next 40 TB / month	$0.080	$0.080	$0.140	$0.140	$0.200	$0.140	$0.130	Contact Us
Next 100 TB / month	$0.060	$0.060	$0.120	$0.120	$0.180	$0.120	$0.110	Contact Us
Next 350 TB / month	$0.040	$0.040	$0.100	$0.100	$0.160	$0.100	$0.100	Contact Us
Next 524 TB / month	$0.030	$0.030	$0.080	$0.080	$0.140	$0.095	Contact Us	Contact Us
Next 4 PB / month	$0.025	$0.025	$0.070	$0.070	$0.130	$0.090	Contact Us	Contact Us
Over 5 PB / month	$0.020	$0.020	$0.060	$0.060	$0.125	$0.085	Contact Us	Contact Us

Regional Data Transfer Out to Origin (per GB)

	United States	Europe	Hong Kong, Philippines, S. Korea, Singapore & Taiwan	Japan	South America	Australia	India	Reserved Capacity Pricing
All Data Transfer	$0.020	$0.020	$0.060	$0.060	$0.125	$0.100	$0.160	Contact Us

Request Pricing for All HTTP Methods (per 10,000)

	United States	Europe	Hong Kong, Philippines, S. Korea, Singapore & Taiwan	Japan	South America	Australia	India	Reserved Capacity Pricing
HTTP requests	$0.0075	$0.0090	$0.0090	$0.0090	$0.0160	$0.0090	$0.0090	Contact Us
HTTPS requests	$0.0100	$0.0120	$0.0120	$0.0120	$0.0220	$0.0125	$0.0120	Contact Us


Services
Edit
cmj @ 563700736850
Global
Help
Create Bucket
Actions
None
Properties
Transfers
All Buckets
Name
elasticbeanstalk-us-east-1-563700736850
elasticbeanstalk-us-west-2-563700736850
S3 Console
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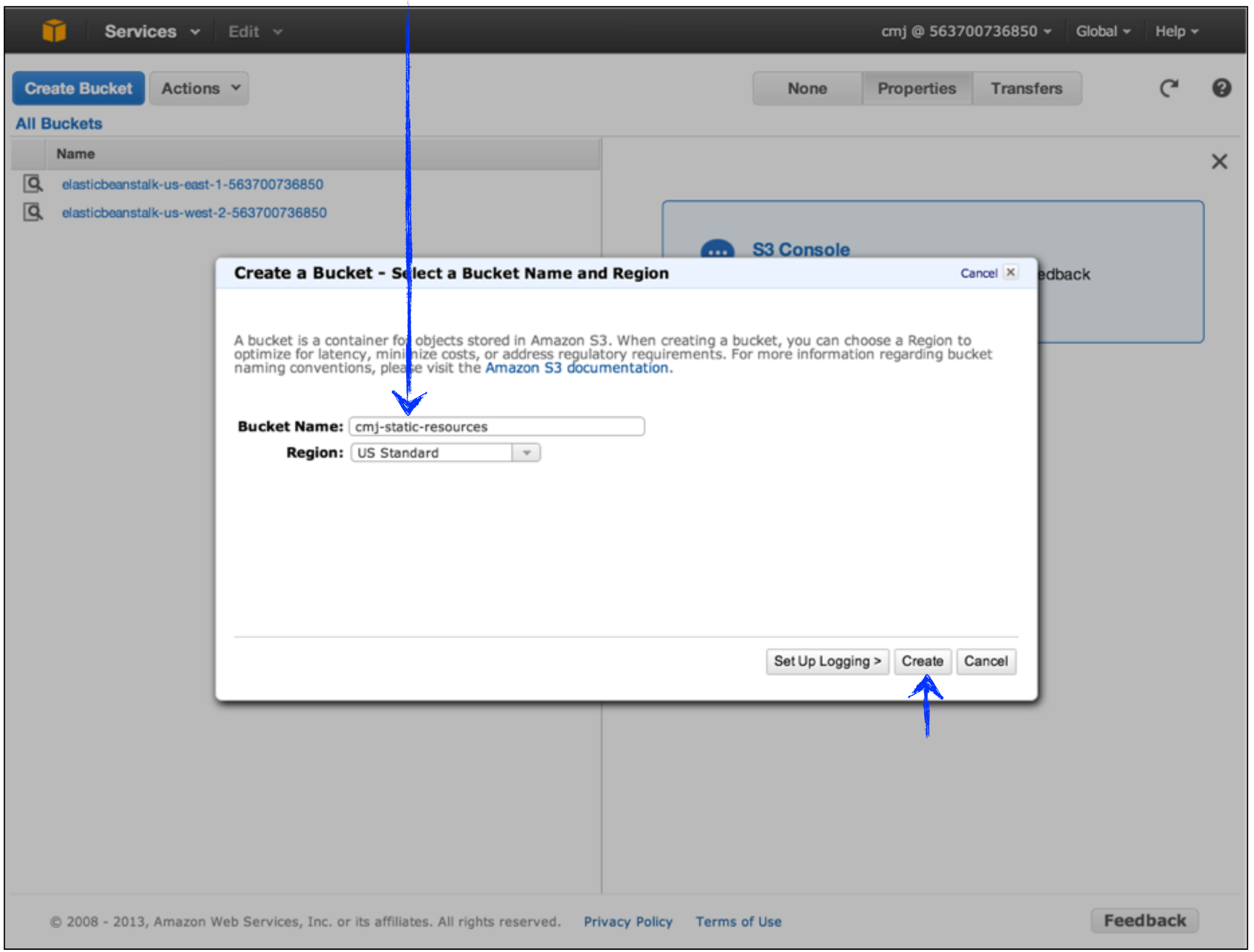
create bucket name with naming convention



Services | Edit | cmj @ 563700736850 | Global | Help

Upload | Create Folder | Actions | None | Properties | Transfers

All Buckets / cmj-static-resources

	Name	Storage Class	Size	Last Modified
	static			

The bucket 'cmj-static-resources' is empty

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Services | Edit | cmj @ 563700736850 | Global | Help

Upload | Create Folder | Actions | None | Properties | Transfers

All Buckets / cmj-static-resources / static

Name	Storage Class	Size	Last Modified
css	--	--	--
images	--	--	--
js	--	--	--

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Services | Edit | cmj @ 563700736850 | Global | Help

Upload | Create Folder | Actions | None | Properties | Transfers

All Buckets / cmj-static-resources / static / css

	Name	Storage Class	Size	Last Modified

The folder 'css' is empty

Transfers

Automatically clear finished transfers

Done

Delete: Deleting js from static

Done

Make Public: Making static public in cmj-static-resources

Done

Upload: Uploading 4 items to cmj-static-resources

Done

Delete: Deleting 4 objects from css

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Services | Edit | cmj @ 563700736850 | Global | Help

Upload | Create Folder | Actions | None | Properties | Transfers

All Buckets / cmj-static-resources / static / css

Name

Upload - Select Files Cancel

Upload to: All Buckets / cmj-static-resources / static / css

To upload files (up to 5 TB each) to Amazon S3, click **Add Files**. To upload whole folders to Amazon S3, click **Enable Enhanced Uploader (BETA)**, which can take up to 2 minutes as it downloads a Java™ Applet (requires Java SE 6 Update 10 or later). To remove files already selected, click the **X** to the far right of the file name.

No files added...

Add Files | **Remove Selected Files** | **Enable Enhanced Uploader (BETA)**

Number of files: **0** Total upload size: **0 bytes**

Set Details > | Start Upload | Cancel

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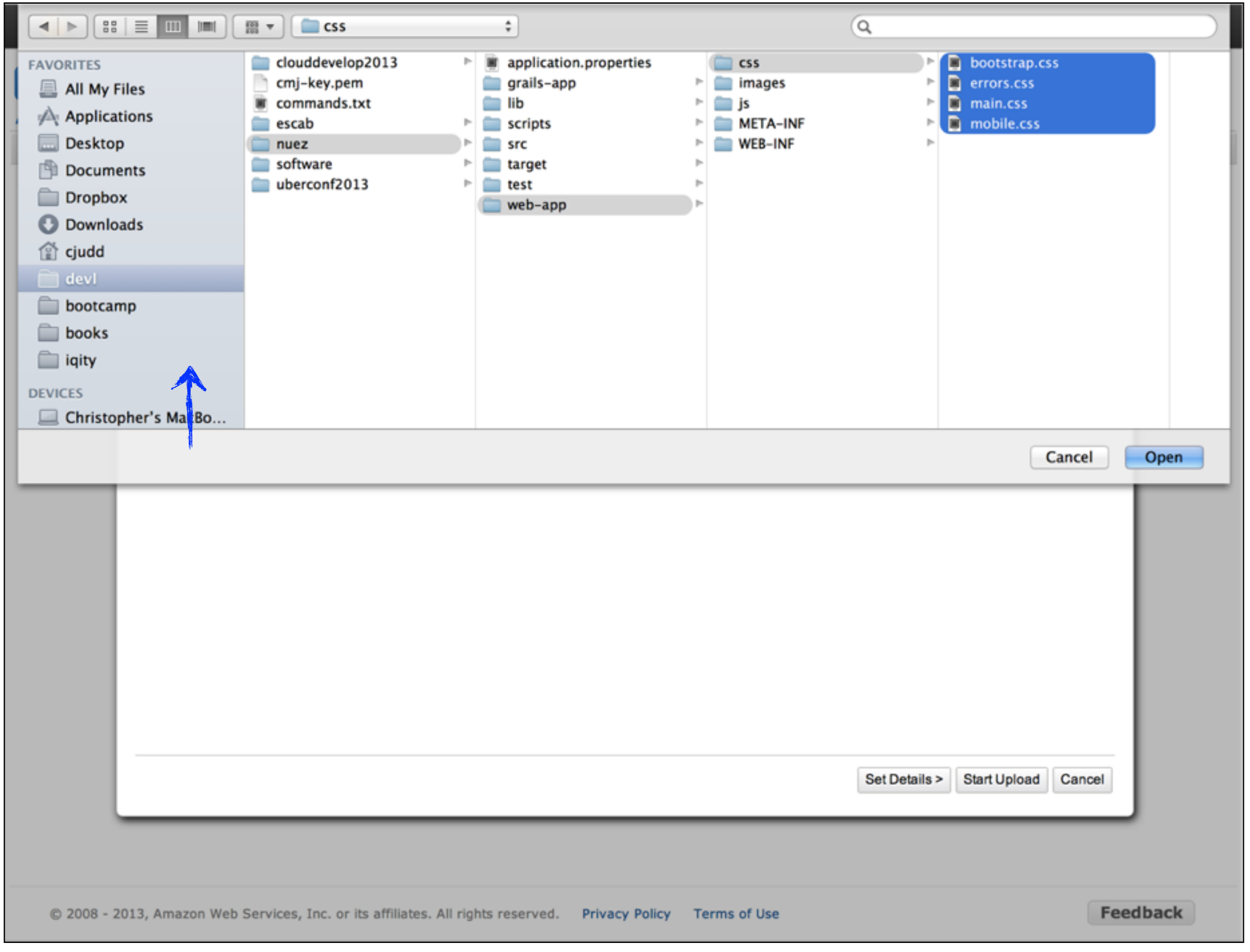
css
FAVORITES
All My Files
Applications
Desktop
Documents
Dropbox
Downloads
cjudd
devl
bootcamp
books
iqity
DEVICES
Christopher's Ma...Bo...
clouddevelop2013
cmj-key.pem
commands.txt
escab
nuez
software
uberconf2013
application.properties
grails-app
lib
scripts
src
target
test
web-app
css
images
js
META-INF
WEB-INF
bootstrap.css
errors.css
main.css
mobile.css
Cancel
Open
Set Details >
Start Upload
Cancel
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Services | Edit | cmj @ 563700736850 | Global | Help

Upload | Create Folder | Actions | None | Properties | Transfers

All Buckets / cmj-static-resources / static / css

Name

Upload - Select Files Cancel

Upload to: All Buckets / cmj-static-resources / static / css

To upload files (up to 5 TB each) to Amazon S3, click **Add Files**. To upload whole folders to Amazon S3, click **Enable Enhanced Uploader (BETA)**, which can take up to 2 minutes as it downloads a Java™ Applet (requires Java SE 6 Update 10 or later). To remove files already selected, click the **X** to the far right of the file name.

- bootstrap.css **(58.8 KB)** X
- errors.css **(1.6 KB)** X
- main.css **(10.9 KB)** X
- mobile.css **(1.3 KB)** X

Add Files | **Remove Selected Files** | **Enable Enhanced Uploader (BETA)**

Number of files: **4** Total upload size: **72.9 KB**

Set Details > | Start Upload | Cancel

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Services | Edit | cmj @ 563700736850 | Global | Help

Upload | Create Folder | Actions | None | Properties | Transfers

All Buckets / cmj-static-resources

Name	Storage Class	Size	Last Modified
static	--	--	--

- Open
- Make Public
- Delete
- Initiate Restore
- Cut
- Copy
- Paste Into
- Properties

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Navigation

- Distribution
- Private Content
  - How-To Guide
  - Origin Access Identity

CloudFront: Distributions

Create Distribution | Distribution Settings | Delete | Enable | Disable | Show/Hide | Refresh | Help

Amazon CloudFront Getting Started

Either your search returned no results, or you do not have any distributions. Click the button below to create a new CloudFront distribution. A distribution allows you to distribute content using a worldwide network of edge locations that provide low latency and high data transfer speeds (learn more)

Create Distribution

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Services | Edit | cmj @ 563700736850 | Global | Help

CloudFront > Create Distribution

Step 1: Select delivery method

Step 2: Create distribution

Select a delivery method for your content. Learn More

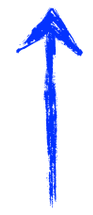
- (•) Web
- ( ) RTMP

Create a web distribution if you want to:

- Speed up distribution of static and dynamic content, for example, .html, .css, .php, and graphics files.
- Distribute media files using HTTP or HTTPS.
- Add, update, or delete objects, and submit data from web forms.
- Use live streaming to stream an event in real time.

You store your files in an origin — either an Amazon S3 bucket or a web server. After you create the distribution, you can add more origins to the distribution.

Cancel **Continue**



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Feedback

CloudFront > Create Distribution

Step 1: Select delivery method

Step 2: Create distribution

Origin Settings

Origin Domain Name: cmj-static-resources.s3.amazonaws.com

Origin ID: S3-cmj-static-resources

Restrict Bucket Access: Yes / No

Default Cache Behavior Settings

Path Pattern: Default (*)

Viewer Protocol Policy: HTTP and HTTPS / HTTPS Only

Allowed HTTP Methods: GET, HEAD / GET, HEAD, PUT, POST, PATCH, DELETE, OPTIONS

Object Caching: Use Origin Cache Headers / Customize

Minimum TTL: 0

Forward Cookies: None (Improves Caching)

Whitelist Cookies:

Forward Query Strings: Yes

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Grails Resource Change to Support CDN url

```
<link rel="shortcut icon" href="${grailsApplication.config.cloudfront.cdn.url}
${resource(dir: 'images', file: 'favicon.ico')}" type="image/x-icon">
```

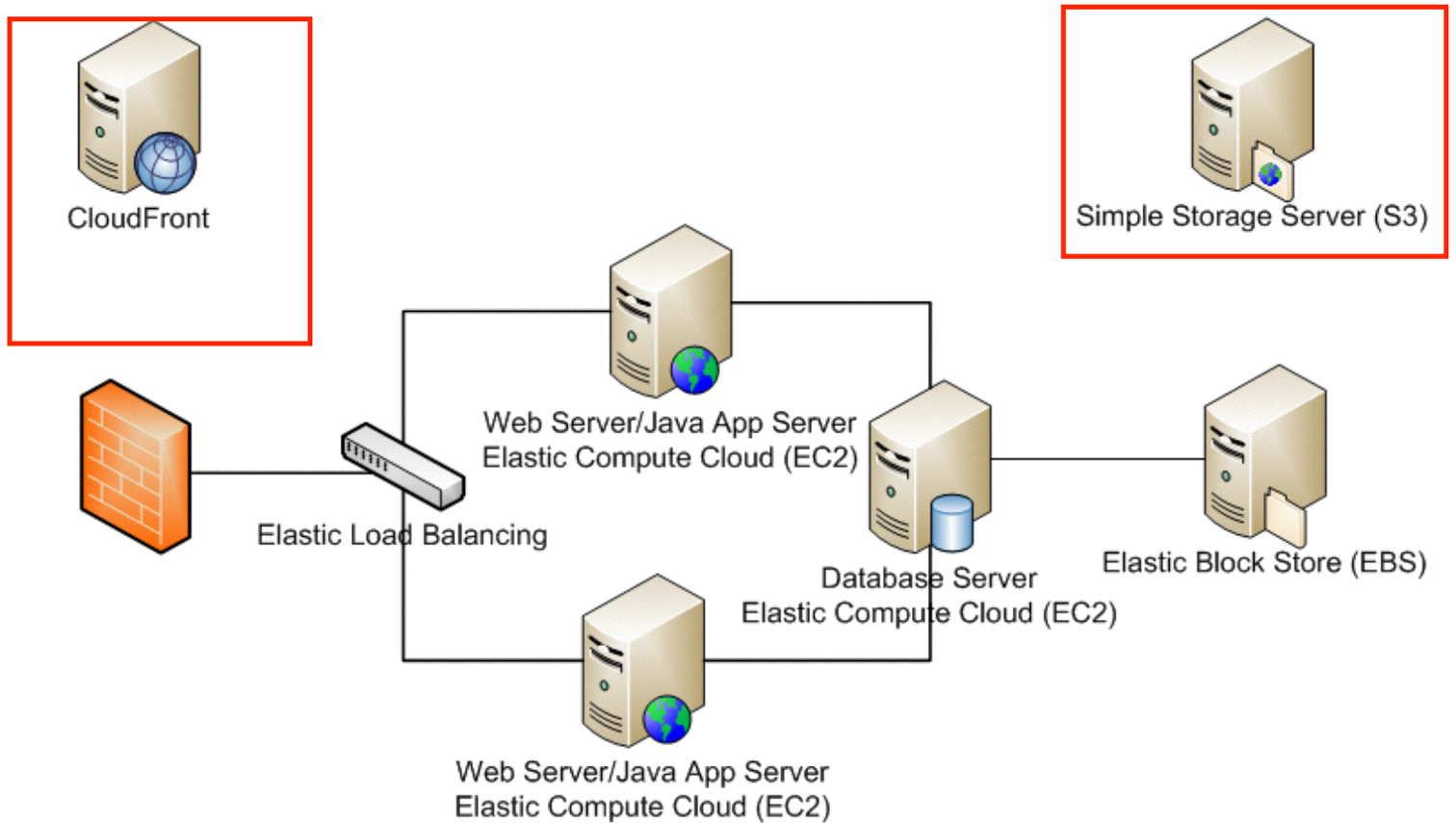
Configure Web App

Config.groovy

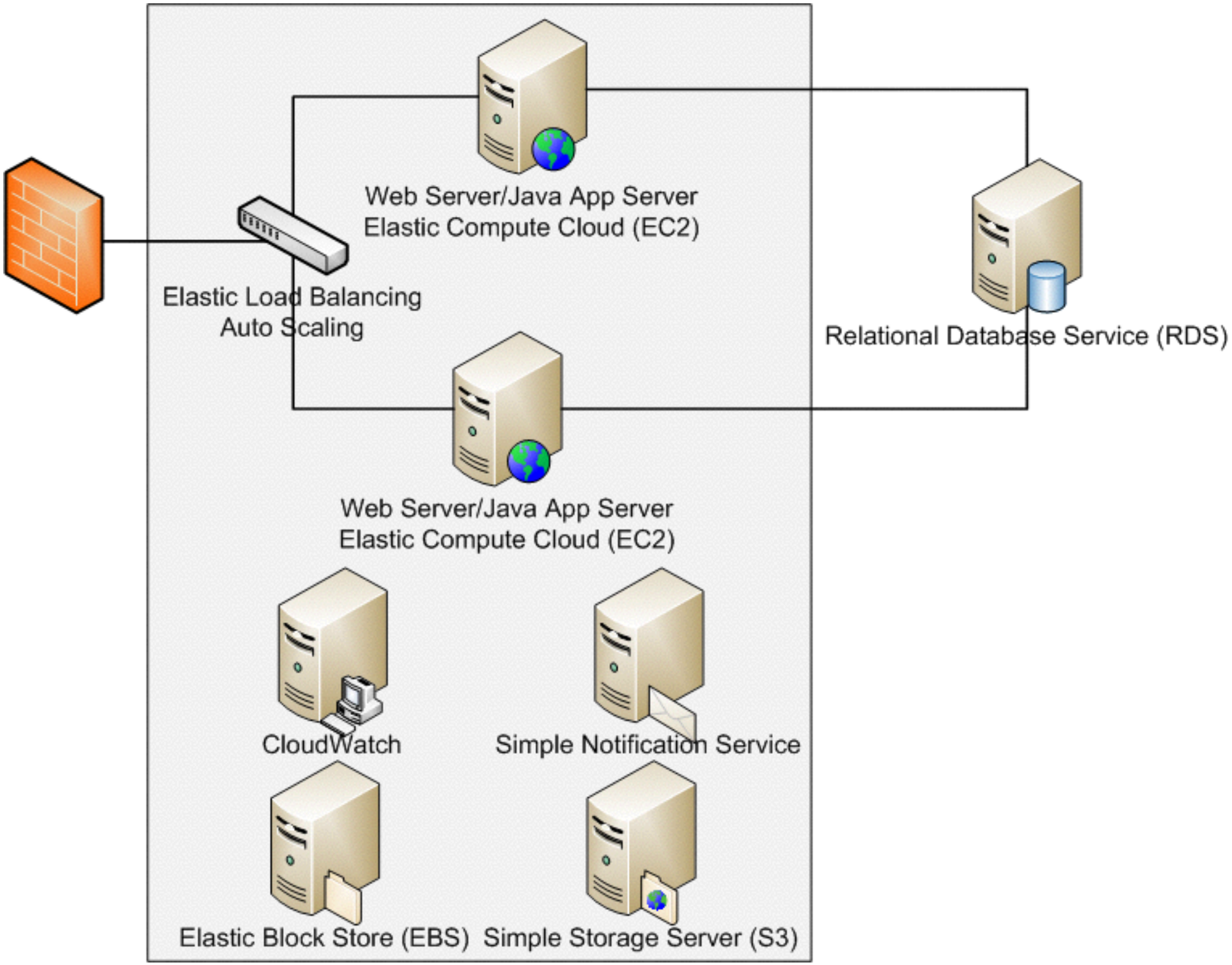
```
environments {
    development {
        grails.logging.jul.usebridge = true
         cloudfront.cdn.url = ""
    }
    production {
        grails.logging.jul.usebridge = false
         cloudfront.cdn.url = "http://your.cloudfront.net"
    }
}
```

Lab 4

1. Create new S3 bucket
2. Create directory structure in S3
3. Upload all static content to S3 in the appropriate directories
4. Create new CloudFront distribution
5. Update nuez to use CloudFront distribution url
6. Redeploy nuez web app
7. Test

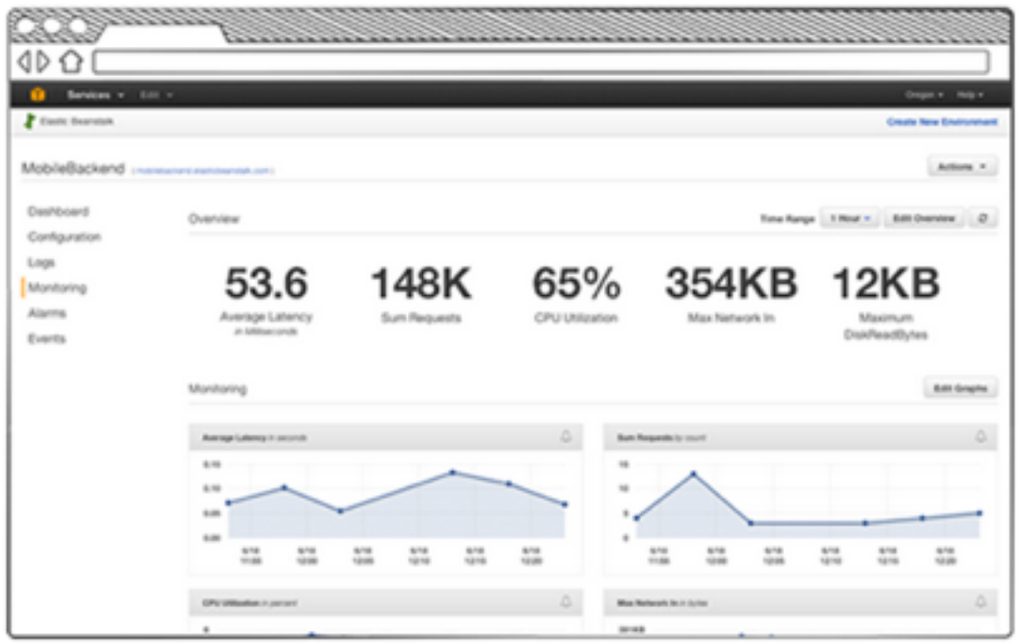


Elastic Beanstalk


Web Server/Java App Server
Elastic Compute Cloud (EC2)
Elastic Load Balancing
Auto Scaling
Relational Database Service (RDS)
Web Server/Java App Server
Elastic Compute Cloud (EC2)
CloudWatch
Simple Notification Service
Elastic Block Store (EBS)
Simple Storage Server (S3)

Services | Edit | cmj @ 563700736850 | N. Virginia | Help

Elastic Beanstalk — Create New Application



Welcome to AWS Elastic Beanstalk

Elastic Beanstalk allows you to **deploy**, **monitor**, and **grow** your application quickly and easily. Let us do the heavy lifting so you can focus on your business.

Select a Platform | Get Started

Get Started in Three Easy Steps

Select a Platform

Upload an Application or Use a Sample

Run it!

Start Now by Selecting Your Platform

Services | Edit | cmj @ 563700736850 | N. Virginia | Help

Elastic Beanstalk — Create New Application

- Application Info
- Environment Type
- Application Version
- Environment Info
- Additional Resources
- Configuration Details
- Review Information

Application Information

To create a new application, enter the details of your application. Learn more.

Application name: nuez — Must be less than 100 characters and cannot contain a /

Description: nuez application — Optional.

Cancel | Create

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Feedback

Services | Edit | cmj @ 563700736850 | N. Virginia | Help

Elastic Beanstalk | nuez | Create New Application

- Application Info
- **Environment Type**
- Application Version
- Environment Info
- Additional Resources
- Configuration Details
- Review Information

Environment Type

Choose whether to launch an environment and if so what kind.

☑ Launch a new environment running this application

Predefined configuration: Tomcat ← Tomcat 7 Java 7

Elastic Beanstalk will create an environment running Tomcat 7 Java 7 on 64bit Amazon Linux 2013.09.
Change Defaults

Environment type: Load balancing, autoscaling Learn more

Cancel | **Continue**

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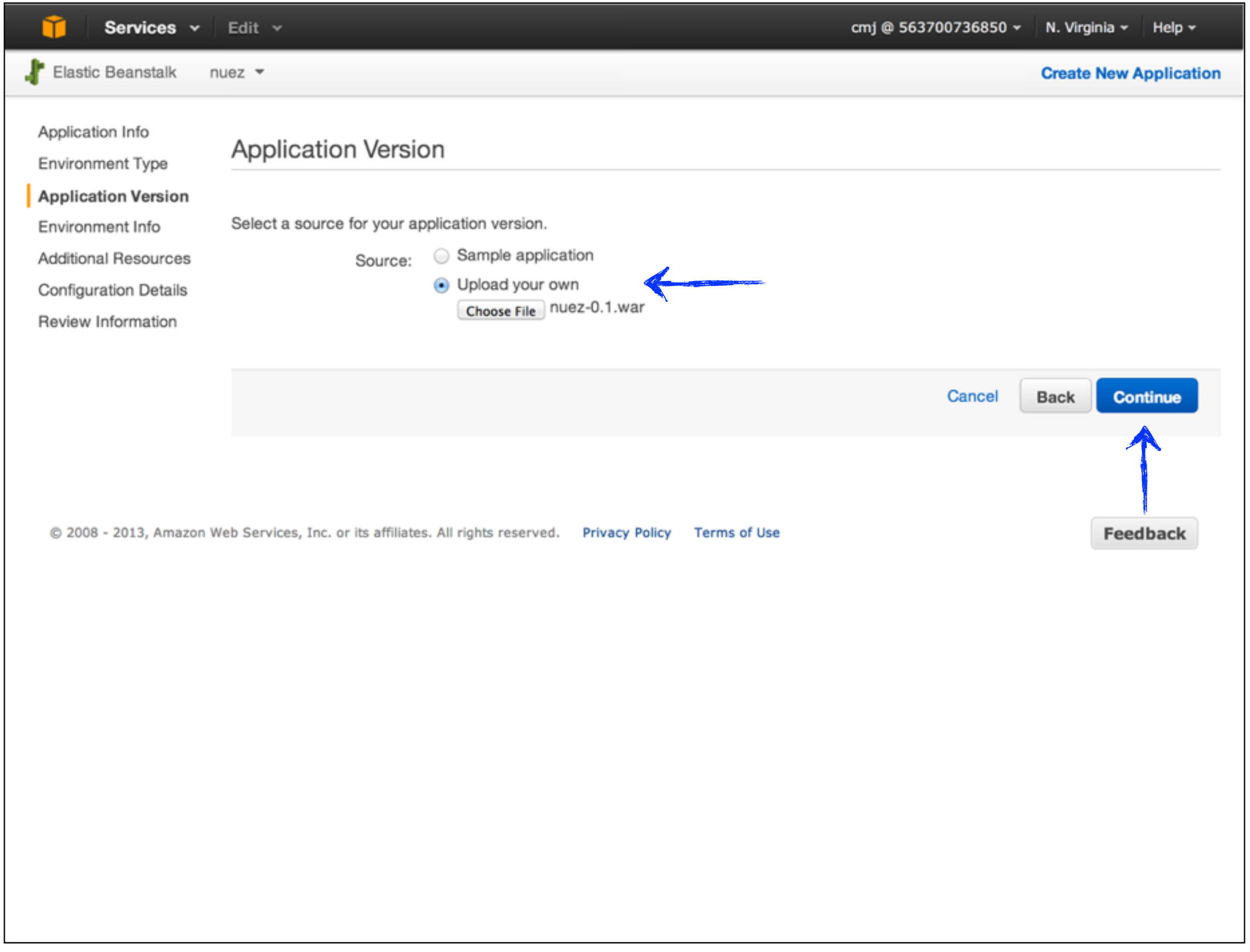
Feedback


Services
Edit
cmj @ 563700736850
N. Virginia
Help
Elastic Beanstalk
nuez
Create New Application
Application Info
Environment Type
Application Version
Environment Info
Additional Resources
Configuration Details
Review Information
Application Version
Select a source for your application version.
Source:
Sample application
Upload your own
Choose File
nuez-0.1.war
Cancel
Back
Continue
Feedback
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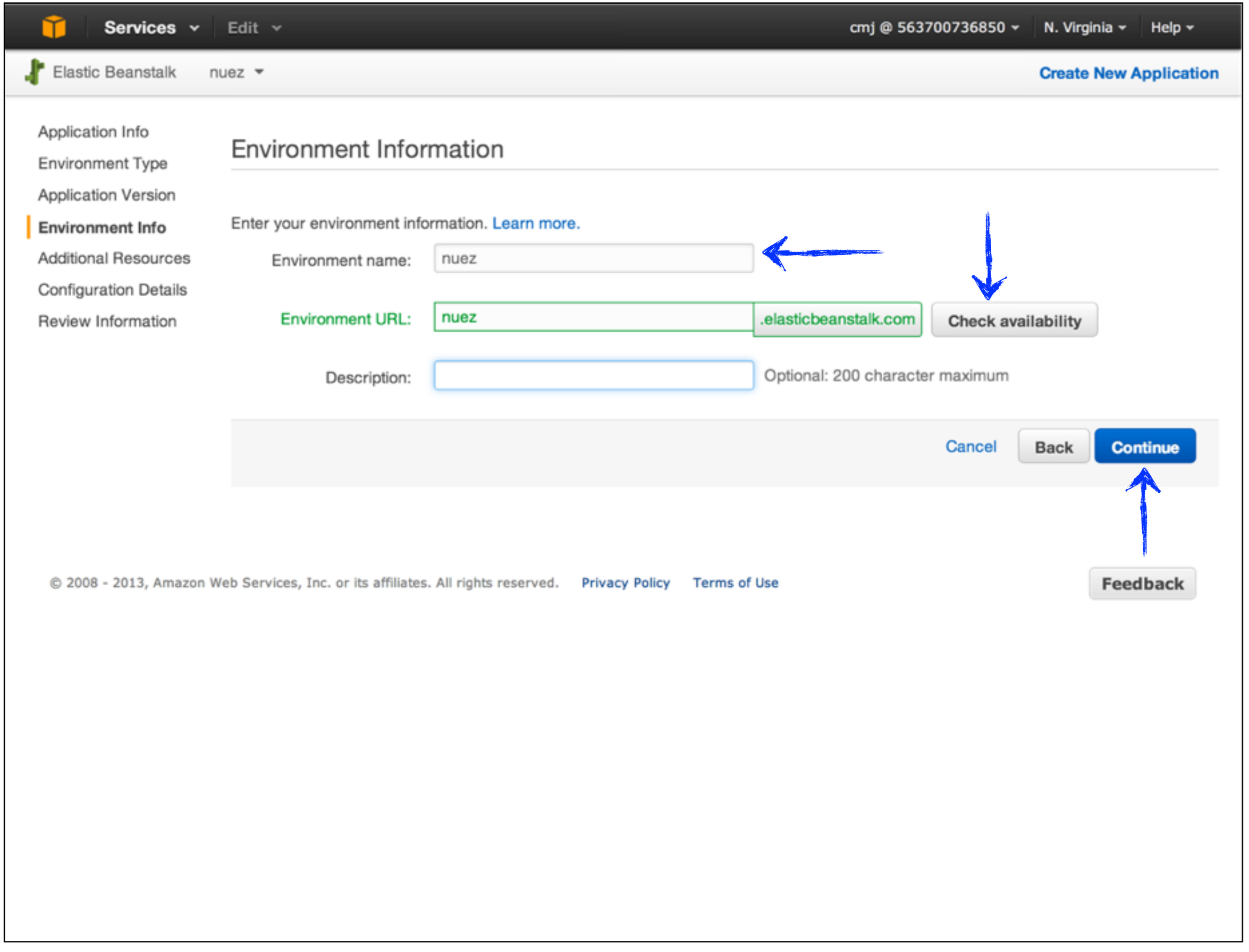
Services
Edit
cmj @ 563700736850
N. Virginia
Help
Elastic Beanstalk
nuez
Create New Application
Application Info
Environment Type
Application Version
Environment Info
Additional Resources
Configuration Details
Review Information
Environment Information
Enter your environment information. Learn more.
Environment name:
nuez
Environment URL:
nuez
.elasticbeanstalk.com
Check availability
Description:
Optional: 200 character maximum
Cancel
Back
Continue
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Feedback

Application Info
Environment Type
Application Version
Environment Info
Additional Resources
Configuration Details
RDS Configuration
Review Information

Additional Resources

Select additional resources for this environment.

- [x] Create an RDS DB Instance with this environment Learn more
- [ ] Create this environment inside a VPC Learn more

Cancel | Back | Continue

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Feedback

Application Info
Environment Type
Application Version
Environment Info
Additional Resources
Configuration Details
RDS Configuration
Review Information

Configuration Details

Modify the following settings or click Continue to accept the default configuration. Learn more.

Instance type: t1.micro — m1.small
Determines the processing power of the servers in your environment.

EC2 key pair: cmj-key Refresh
Optional: Enables remote login to your instances.

Email address: javajudd@gmail.com
Optional: Get notified about any major changes to your environment.

Application health check URL: /nuez/about/index
Enter the relative URL that ELB continually monitors to ensure your application is available.

Enable rolling updates: Lets you control how changes to the environment's instances are propagated. Learn more.

Instance profile: Create Default Profile Refresh
Your instance profile list could not be displayed. Select "Create a default instance profile" to create your environment with a default instance profile. Error message: User: arn:aws:iam::563700736850:user/cmj is not authorized to perform: iam:ListInstanceProfiles on resource: arn:aws:iam::563700736850:instance-profile/
Grants your environment specific permissions under your AWS account. Learn more.

Cancel | Back | Continue

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Feedback

Application Info
Environment Type
Application Version
Environment Info
Additional Resources
Configuration Details
RDS Configuration
Review Information

RDS Configuration

Specify your RDS settings. Learn more.

Snapshot: None Refresh

DB engine: mysql Refresh

Instance class: db.t1.micro Refresh

Allocated storage: 5 GB

You must specify a value from 5 GB to 1024 GB.

Username: codemash

Password: ••••••••

Retention setting: Delete

Your RDS DB instance will be deleted if you terminate the environment. Choose create snapshot to save your data.

Availability: Single Availability Zone

Cancel | Back | Continue

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Application Info
Environment Type
Application Version
Environment Info
Additional Resources
Configuration Details
RDS Configuration
Review Information

Review

Review the following information. Then click Create.

Application Info

Application name	nuez
Description	nuez application

Environment Type

Container type	64bit Amazon Linux 2013.09 running Tomcat 7 Java 7
Environment type	Load balancing, autoscaling

Application Version

Application source	C:\fakepath\nuez-0.1.war

Environment Info

Environment name	nuez
Environment URL	http://nuez.elasticbeanstalk.com

Configuration Details

Instance type	t1.micro

Info

Elastic Beanstalk is now creating your environment. When it has finished it will be running First Release.

nuez ▸ nuez (nuez.elasticbeanstalk.com)

Actions

- Dashboard
- Configuration
- Logs
- Monitoring
- Alarms
- Events

Overview

Refresh

Health

Red

Monitor

Running Version

First Release

Upload and Deploy

Configuration

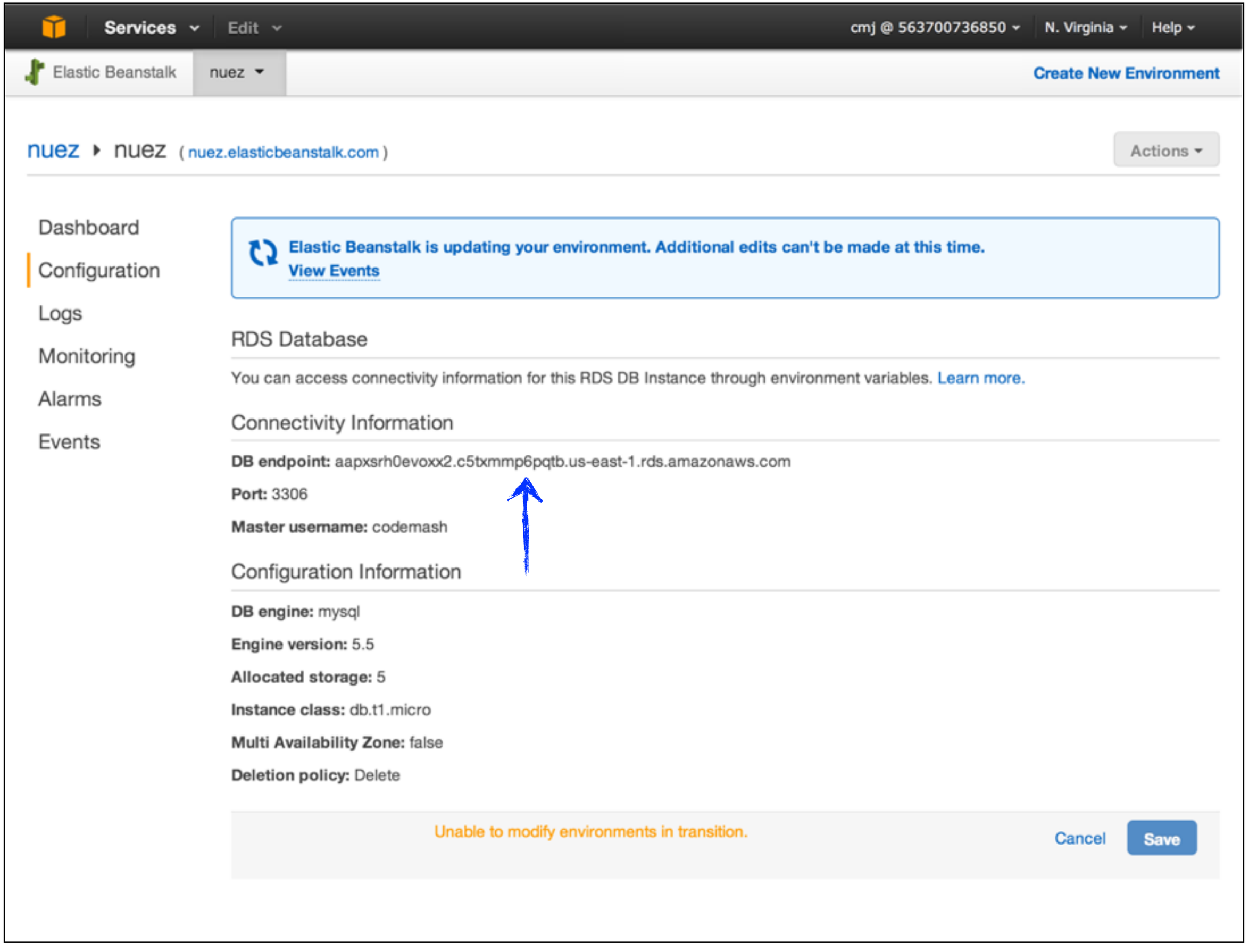
Tomcat 7 Java 7

Edit

Recent Events

Show All

Time	Type	Details
2013-12-04 23:52:41 UTC-0500	WARN	Environment health has been set to RED
2013-12-04 23:52:36 UTC-0500	INFO	Successfully launched environment: nuez
2013-12-04 23:52:28 UTC-0500	INFO	Adding instance 'i-ecaa3891' to your environment.
2013-12-04 23:51:35 UTC-0500	INFO	Added EC2 instance 'i-ecaa3891' to Auto Scaling Group 'awseb-e-ih8gf4j7gh-stack-AWSEBAutoScalingGroup-ZMLNHDM8CJUY'.
2013-12-04 23:50:21 UTC-0500	INFO	Created CloudWatch alarm named: awseb-e-ih8gf4j7gh-stack-


Services
Edit
cmj @ 563700736850
N. Virginia
Help
Elastic Beanstalk
nuez
Create New Environment
nuez ▸ nuez (nuez.elasticbeanstalk.com)
Actions
Dashboard
Configuration
Logs
Monitoring
Alarms
Events
Elastic Beanstalk is updating your environment. Additional edits can't be made at this time.
View Events
RDS Database
You can access connectivity information for this RDS DB Instance through environment variables. Learn more.
Connectivity Information
DB endpoint: aapxsrh0evoxx2.c5txmmp6pqtb.us-east-1.rds.amazonaws.com
Port: 3306
Master username: codemash
Configuration Information
DB engine: mysql
Engine version: 5.5
Allocated storage: 5
Instance class: db.t1.micro
Multi Availability Zone: false
Deletion policy: Delete
Unable to modify environments in transition.
Cancel
Save

RDS Dashboard

Database

Instances
Reserved Purchases
Snapshots
Security Groups
Parameter Groups
Option Groups
Subnet Groups
Events
Event Subscriptions

DB Security Groups > awseb-e-ih8gf4j7gh-stack-awsebrdsdbsecuritygroup-1h7vqw7jq87zb

Security Group Details

Connection Type	Details	Status	Actions
CIDR/IP	**CIDR/IP:** 0.0.0.0/0	authorized	Remove
EC2 Security Group	**AWS Account ID:** 563700736850 **EC2 Security Group:** awseb-e-ih8gf4j7gh-stack-awsebsecuritygroup-11az2ue3dwpq7	authorized	Remove
CIDR/IP	**CIDR:** Our best estimate for the CIDR of your current machine is 64.135.17.66/32 . However, if your machine is behind a proxy/firewall, this estimate may be inaccurate and you may need to contact your network administrator.		Add

Refresh Security Groups

Recent Events

Most Recent Events

Time	Source	System Notes
December 5, 2013 12:06:20 AM UTC-5	awseb-e-ih8gf4j7gh-stack-awsebrdsdbsecuritygroup-1h7vqw7jq87zb	Applied change to security group
December 4, 2013 11:41:40 PM UTC-5	awseb-e-ih8gf4j7gh-stack-awsebrdsdbsecuritygroup-1h7vqw7jq87zb	Applied change to security group

see more events

Tags

Add tags to your RDS resources to organize and track your Amazon RDS costs. Tags represent your business dimensions, consist of a case-sensitive key/value pair, are stored in the cloud and are private to your account. As an example, you could define a tag with key = Staging and value = LocationDB. You can add up to 10 unique keys to each resource along with an optional value for each key. For more information, go to Using Tags in the RDS User Guide

```
mysql -h aapxsrh0evoxx2.c5txmmp6pqtb.us-east-1.rds.amazonaws.com -u codemash -pcodemash
create database nuez;
```

Update Nuez with RDS Connection

```
// environment specific settings
environments {
    development {
        dataSource {
            dbCreate = "update"
            url = "jdbc:h2:mem:devDb;MVCC=TRUE"
        }
    }
    test {
        dataSource {
            dbCreate = "update"
            url = "jdbc:h2:mem:testDb;MVCC=TRUE"
        }
    }
    production {
        dataSource {
            driverClassName = "com.mysql.jdbc.Driver"
            dialect = "org.hibernate.dialect.MySQL5Dialect"
            username = "codemash"
            password = "codemash"
            dbCreate = "update"
            url = "jdbc:mysql://aapxsrh0evoxx2.c5txmmp6pqtb.us-east-1.rds.amazonaws.com:3306/ebdb"
            pooled = true
            properties {
                maxActive = -1
                minEvictableIdleTimeMillis = 1800000
                timeBetweenEvictionRunsMillis = 1800000
                numTestsPerEvictionRun = 3
                testOnBorrow = true
                testWhileIdle = true
                testOnReturn = true
                validationQuery = "SELECT 1"
            }
        }
    }
}
```

rds url

nuez ▸ nuez (nuez.elasticbeanstalk.com) Actions

Dashboard
Configuration
Logs
Monitoring
Alarms
Events

Container Options

The following settings control container behavior and let you pass key-value pairs in as OS environment variables. Learn more.

Initial JVM heap size: 512m
Specify the initial size of the memory allocation pool. This value must be a multiple of 1024 greater than 1MB. Use k or K for kilobytes, or m or M for megabytes. The default is 256m.

Maximum JVM heap size: 512m
Specify the maximum size of the memory allocation pool. This value must a multiple of 1024 greater than 2MB. Use k or K for kilobytes, or m or M for megabytes. The default is 256m.

Maximum JVM permanent generation size: 128m
Size of the permanent generation. The default is 64m.

JVM command line options:
Arbitrary JVM options string.

Log Options

The following settings control the log publication behavior.

Instance profile:
User: arn:aws:iam::563700736850:user/cmj is not authorized to perform: iam:ListInstanceProfiles on resource: arn:aws:iam::563700736850:instance-profile/
The instance profile grants your environment specific permissions under your AWS account. Learn More.

Enable log file rotation to Amazon S3. If checked, service logs are published to S3.

Services | Edit | cmj @ 563700736850 | N. Virginia | Help

Elastic Beanstalk | nuez | Create New Environment

nuez ▸ nuez (nuez.elasticbean | Actions

- Dashboard
- Configuration
- Logs
- Monitoring
- Alarms
- Events

Overview | Refresh

Configuration

Tomcat 7 Java 7

Edit

Upload and Deploy

Upload application: Choose File nuez-0.1.war

Version label: nuez-0.1

To redeploy an existing version, go to All Versions.

Cancel | Deploy

Recent Events

Show All

Time	Type	Details
2013-12-05 00:13:03 UTC-0500	INFO	Environment update completed successfully.
2013-12-05 00:13:03 UTC-0500	INFO	Successfully deployed new configuration to environment.
2013-12-05 00:11:40 UTC-0500	INFO	Updating environment nuez's configuration settings.
2013-12-05 00:11:31 UTC-0500	INFO	Environment update is starting.
2013-12-04 23:52:41 UTC-0500	WARN	Environment health has been set to RED

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https://github.com/zend × | Amazon EC2 Pricing × | EC2 Management Console × | Elastic Beanstalk Manage × | Nuez | Home ×

nuez.elasticbeanstalk.com

NUEZ

The blog about anything....really...Anything!

Home All Posts About

Ads

Buy Stuff Here

And more stuff here

If you like stuff, you'll like this stuff...

More stuff here.

But I spent all my money on stuff.

Hello!

Welcome to the Nuez blog. Please feel free to login and blog about any topic that you want to

Learn more »

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Pricing

pay as you use

use small EC2 instance for one hour and pay $0.044

- On-Demand - pay by hour no long-term commitment
- Reserved - one-time payment and discounted hourly rate
- Spot - bid for unused capacity

Example:

On-Demand - $385.44 ($0.044/hr)

Light Reserved - $358.84 ($0.034/hr + $61)
Medium Reserved - $232.40 ($0.015/hr + $101)
Heavy Reserved - $210.60 ($0.01/hr + $123)

* small instance for one year

Services | Edit | cmj @ 563700736850 | N. Virginia | Help

EC2 Dashboard
Events

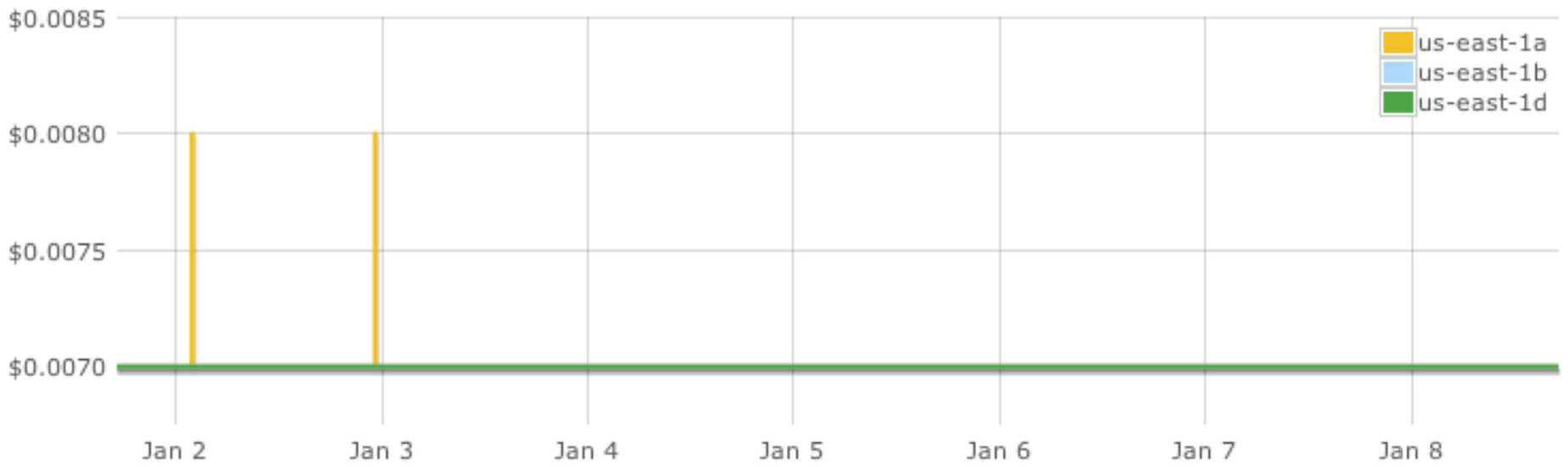
Request Spot Instances | Cancel | Pricing History

Viewing: All Requests | Search

Spot Instance Pricing History

Cancel

Product: Linux/UNIX | **Instance Type:** m1.small | **Date Range:** 1 week | **Zone:** All zones



Close

Load Balancers
Key Pairs
Network Interfaces

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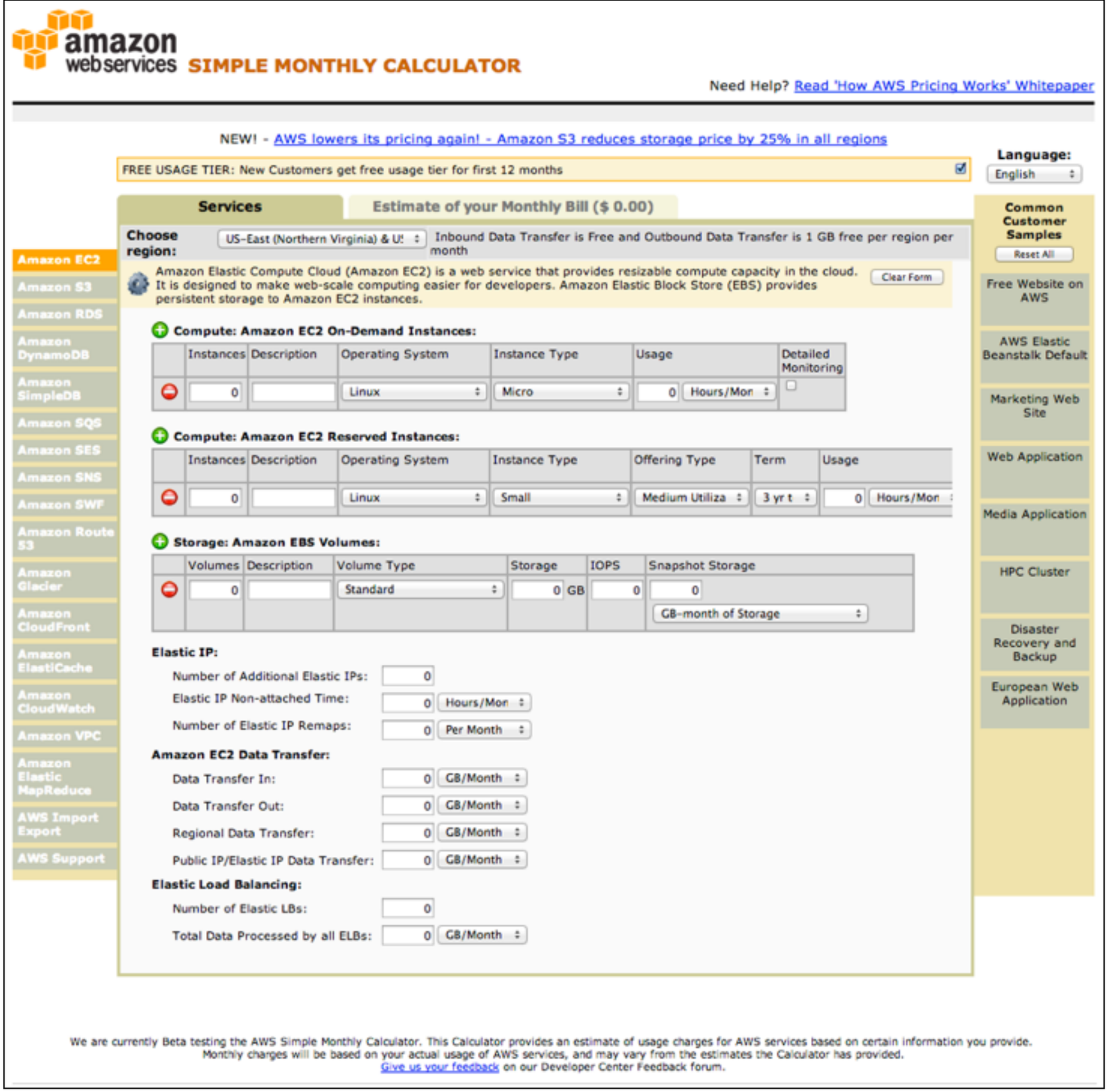


http://aws.amazon.com/calculator

AWS Free Usage Tier (Per Month):

Elastic Compute Cloud (EC2)

- 750 hours of Amazon EC2 Linux† Micro Instance usage (613 MB of memory and 32-bit and 64-bit platform support) – enough hours to run continuously each month*
- 750 hours of Amazon EC2 Microsoft Windows Server‡ Micro Instance usage (613 MB of memory and 32-bit and 64-bit platform support) – enough hours to run continuously each month*
- 750 hours of an Elastic Load Balancer plus 15 GB data processing*
- 30 GB of Amazon Elastic Block Storage, plus 2 million I/Os and 1 GB of snapshot storage*

Simple Storage Service (S3)

- 5 GB of Amazon S3 standard storage, 20,000 Get Requests, and 2,000 Put Requests*

DynamoDB

100 MB of storage, 5 units of write capacity, and 10 units of read capacity for Amazon DynamoDB.**

Relational Database Service (RDS)

- 750 hours of Amazon RDS Single-AZ Micro DB Instances, for running MySQL, Oracle BYOL or SQL Server (running SQL Server Express Edition) – enough hours to run a DB Instance continuously each month*
- 20 GB of database storage
- 10 million I/Os
- 20 GB of backup storage for your automated database backups and any user-initiated DB Snapshots

Amazon CloudFront

- 50 GB Data Transfer Out, 2,000,000 HTTP and HTTPS Requests of Amazon CloudFront*

Simple Workflow (SWF)

- 1,000 Amazon SWF workflow executions can be initiated for free. A total of 10,000 activity tasks, signals, timers and markers, and 30,000 workflow-days can also be used for free**

Simple Queue Service (SQS) and Simple Notification Service (SNS)

- 1,000,000 Requests of Amazon Simple Queue Service**
- 1,000,000 Requests, 100,000 HTTP notifications and 1,000 email notifications for Amazon Simple Notification Service**

Amazon Elastic Transcoder

- 20 minutes of SD transcoding or 10 minutes of HD transcoding**

CloudWatch

- 10 Amazon Cloudwatch metrics, 10 alarms, and 1,000,000 API requests**

Data Transfer

- 15 GB of bandwidth out aggregated across all AWS services*

Data Pipeline

- 3 low frequency preconditions running on AWS per month*
- 5 low frequency activities running on AWS per month*

ElastiCache

- 750 hours of Amazon ElastiCache - enough hours to run a Cache Node continuously each month.*

Resources

Products & Services

Compute
- Amazon Elastic Compute Cloud (EC2)
- Amazon Elastic MapReduce
- Auto Scaling

Content Delivery
- Amazon CloudFront

Database
- Amazon SimpleDB
- Amazon Relational Database Service (RDS)
- Amazon ElastiCache

Deployment & Management
- AWS Elastic Beanstalk
- AWS CloudFormation

E-Commerce
- Amazon Fulfillment Web Service (FWS)

Industry-specific Clouds
- AWS GovCloud (US)

Messaging
- Amazon Simple Queue Service (SQS)
- Amazon Simple Notification Service (SNS)
- Amazon Simple Email Service (SES)

Monitoring
- Amazon CloudWatch

Networking
- Amazon Route 53
- Amazon Virtual Private Cloud (VPC)
- Elastic Load Balancing
- AWS Direct Connect

Payments & Billing
- Amazon Flexible Payments Service (FPS)
- Amazon DevPay

Storage
- Amazon Simple Storage Service (S3)
- Amazon Elastic Block Store (EBS)
- AWS Import/Export

Support
- AWS Premium Support

Web Traffic
- Alexa Web Information Service
- Alexa Top Sites

Workforce
- Amazon Mechanical Turk

Amazon Web Services

Compute & Networking

Direct Connect
Dedicated Network Connection to AWS

EC2
Virtual Servers in the Cloud

Elastic MapReduce
Managed Hadoop Framework

Route 53
Scalable Domain Name System

VPC
Isolated Cloud Resources

Storage & Content Delivery

CloudFront
Global Content Delivery Network

Glacier
Archive Storage in the Cloud

S3
Scalable Storage in the Cloud

Storage Gateway
Integrates on-premises IT environments with Cloud storage

Database

DynamoDB
Predictable and Scalable NoSQL Data Store

ElastiCache
In-Memory Cache

RDS
Managed Relational Database Service

Deployment & Management

CloudFormation
Templated AWS Resource Creation

CloudWatch
Resource & Application Monitoring

Data Pipeline NEW
Orchestration for data-driven workflows

Elastic Beanstalk
AWS Application Container

IAM
Secure AWS Access Control

App Services

CloudSearch
Managed Search Service

SES
Email Sending Service

SNS
Push Notification Service

SQS
Message Queue Service

SWF
Workflow Service for Coordinating Application Components

http://aws.amazon.com/architecture/

amazon web services

Sign Up | My Account / Console | English

AWS Products & Solutions | AWS Product Information | Developers | Support

Architecture Center

- **Overview**
- AWS Simple Icons

Related Resources

- AWS Economics Center
- Security & Compliance
- AWS Products & Services
- AWS Solutions
- Case Studies

AWS Support

Please visit **AWS Support** for more details on getting one on one support for your architecture questions.

AWS Architecture Center

The AWS Architecture Center is designed to provide you with the necessary guidance and best practices to build highly scalable and reliable applications in the AWS Cloud. These resources will help you understand the AWS platform, its services and features, and will provide architectural guidance for design and implementation of systems that run on the AWS infrastructure.

Featured

Reference Implementation: Deploy a Microsoft SharePoint 2010 Server Farm in the AWS Cloud in 6 Simple Steps

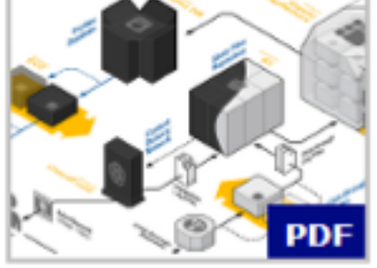
SHAW MEDIA

Read Shaw Media Case Study "Our average uptime increased rapidly from 98.8% to 99.9% without re-architecting applications"

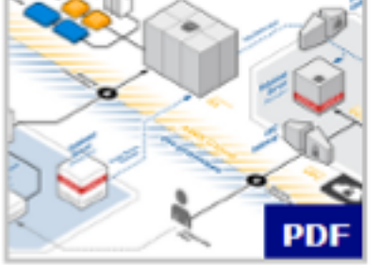
AWS Reference Architectures

The flexibility of AWS allows you to design your application architectures the way you like. AWS Reference Architecture Datasheets provide you with the architectural guidance you need in order to build an application that takes full advantage of the AWS cloud. Each datasheet includes a visual representation of the architecture and basic description of how each service is used.

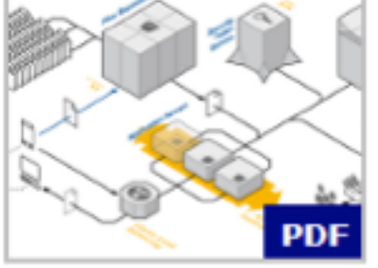
Large Scale Processing and Huge Data sets
Build high-performance computing systems that involve Big Data (PDF)



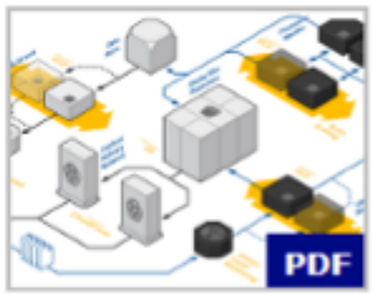
Ad Serving
Build highly-scalable online ad serving solutions (PDF)



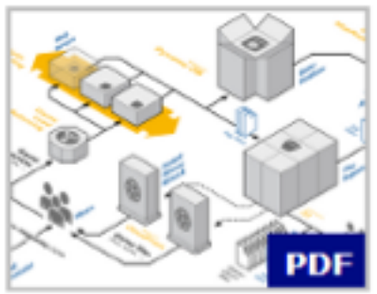
Disaster Recovery for Local Applications
Build cost-effective Disaster Recovery solutions for on-premises applications (PDF)



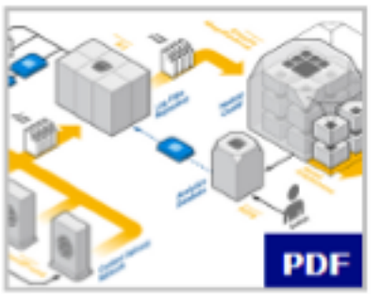
File Synchronization
Build simple file synchronization service (PDF)



Media Sharing
Cloud-powered Media Sharing Framework (PDF)

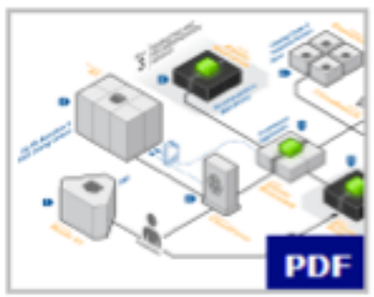


Online Games
Build powerful online games (PDF)

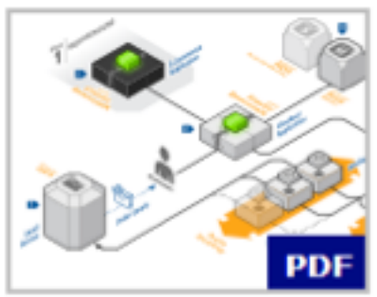


Log Analysis
Analyze massive volumes of log data in the cloud (PDF)

Financial Services Grid Computing
Build highly scalable and elastic grids for the Financial Services Sector (PDF)



E-Commerce Website Part 1: Web Frontend
Build elastic Web Front-ends for an e-Commerce website (PDF)



E-Commerce Website Part 2: Checkout Pipeline
Build highly scalable checkout pipeline for an e-Commerce website (PDF)

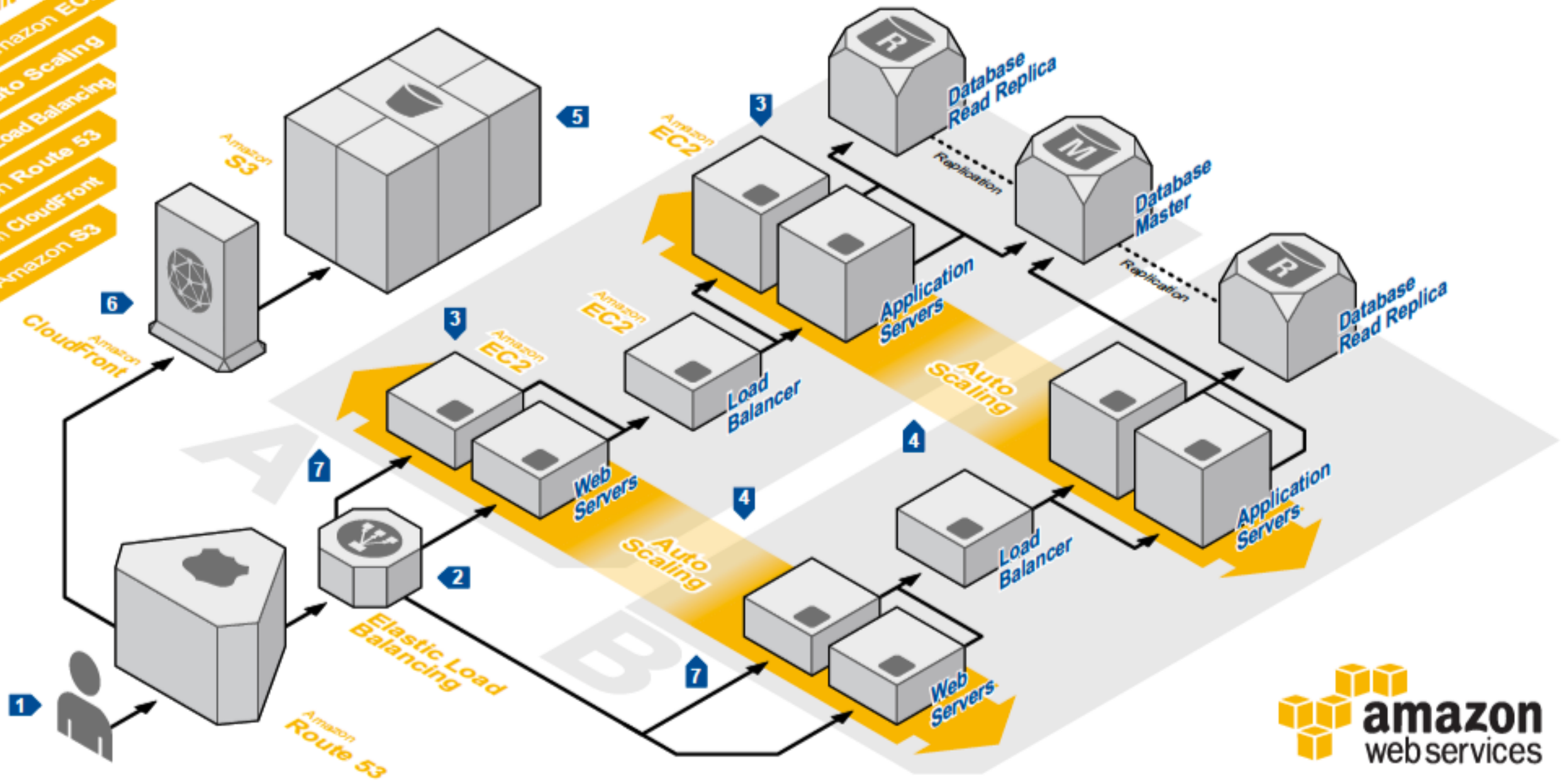
E-Commerce Website Part 3: Marketing and Recommendations
Build highly scalable recommendation engine for an e-Commerce website (PDF)

WEB APPLICATION HOSTING

Highly available and scalable web hosting can be complex and expensive. Dense peak periods and wild swings in traffic patterns result in low utilization rates of expensive hardware. Amazon Web Services provides the reliable, scalable, secure, and high-performance infrastructure required for web applications while enabling an elastic, scale out and scale down infrastructure to match IT costs in real time as customer traffic fluctuates.

AWS Reference Architectures

- Amazon EC2
- Auto Scaling
- Basic Load Balancing
- Amazon Route 53
- Amazon CloudFront
- Amazon S3



amazon web services

System Overview

1 The user's DNS requests are served by **Amazon Route 53**, a highly available Domain Name System (DNS) service. Network traffic is routed to infrastructure running in Amazon Web Services.

2 HTTP requests are first handled by Elastic Load Balancing, which automatically distributes incoming application traffic across multiple **Amazon Elastic Compute Cloud (EC2)** instances across Availability Zones (AZs). It enables even greater fault tolerance in your applications, seamlessly providing the amount of load balancing capacity needed in response to incoming application traffic.

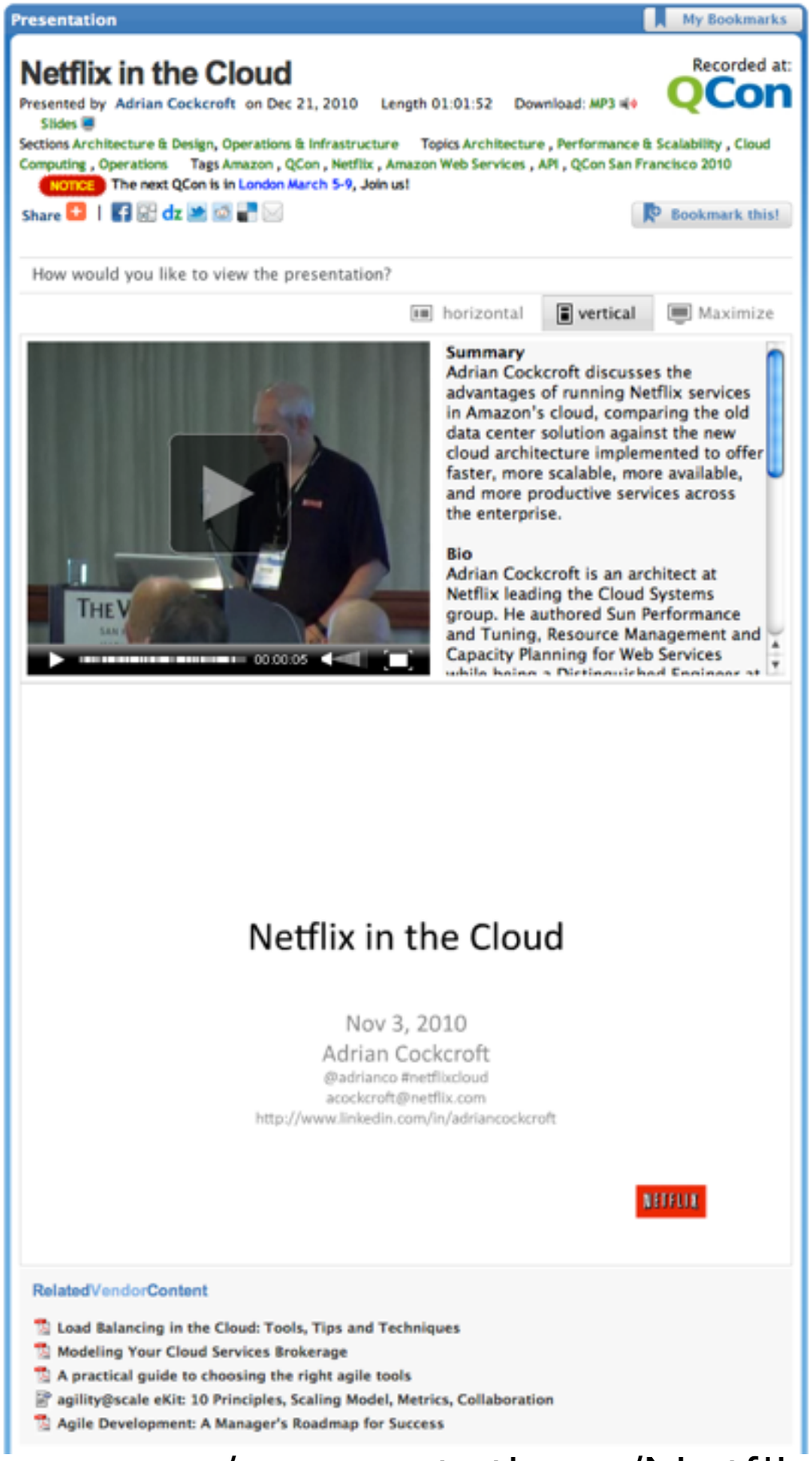
3 Web servers and application servers are deployed on **Amazon EC2** instances. Most organizations will select an **Amazon Machine Image (AMI)** and then customize it to their needs. This custom AMI will then be used as the starting point for future web development.

4 Web servers and application servers are deployed in an **Auto Scaling** group. Auto Scaling automatically adjusts your capacity up or down according to conditions you define. With Auto Scaling, you can ensure that the number of **Amazon EC2** instances you're using increases seamlessly during demand spikes to maintain performance and decreases automatically during demand lulls to minimize costs.

5 Resources and static content used by the web application are stored on **Amazon Simple Storage Service (S3)**, a highly durable storage infrastructure designed for mission-critical and primary data storage.

6 Static and streaming content is delivered by **Amazon CloudFront**, a global network of edge locations. Requests are automatically routed to the nearest edge location, so content is delivered with the best possible performance.

7 **Availability zones (AZs)** are distinct geographic locations that are engineered to insulate against failures in other AZs. Multiple AZs are combined into a region. Here, the entire web application is deployed in two different AZs for high availability.



http://www.infoq.com/presentations/Netflix-in-the-Cloud

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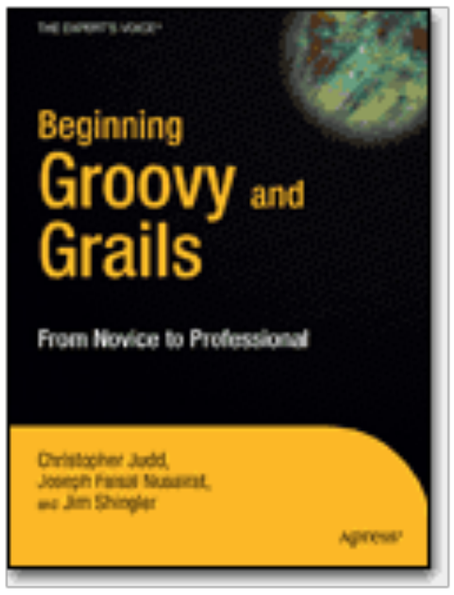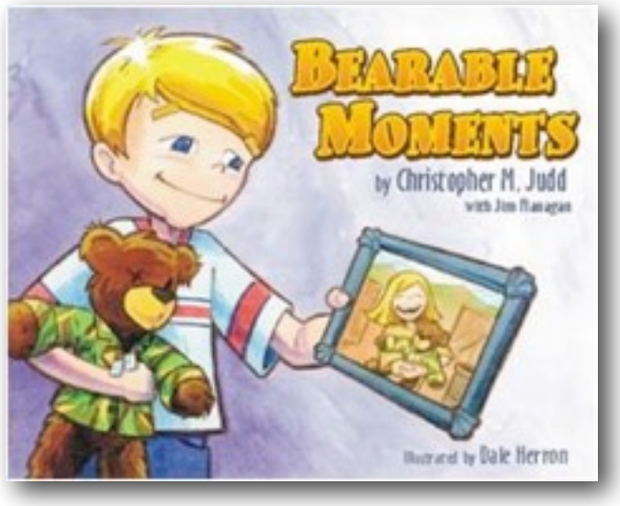
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