



Java™ in the amazon® cloud

Christopher M. Judd



Christopher M. Judd

CTO and Partner at

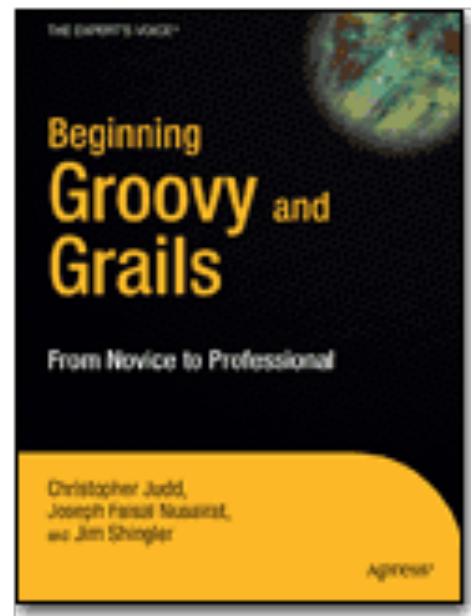


Central Ohio Java Users Group leader

Columbus



Developer User Group (CIDUG)



zendern/nuez - GitHub

GitHub, Inc. [US] <https://github.com/zendern/nuez>

Search... Explore Gist Blog Help

cjudd

zendern / nuez

Unwatch Fork Pull Request 2 1

Clone in

Files

Latest commit

Click on logo

zender a

nuez /

name

.setting

grails-a

test

web-app

.classpath

.gitignore

.project

application.properties

3 days ago

4 days ago

December 22, 2011

4 days ago

Centering the footer [zender]

Updating the name of the project from blog to nuez. [zender]

Adding .gitignore file [zendern]

Updating the name of the project from blog to nuez. [zender]

localhost:8080/neuz/entry/show/1

NUEZ

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

Home All Posts About

Your signed in as blogger Logout

Add a new post Delete this post Update this post

JAVA IN THE (AMAZON) CLOUD AT CODEMASH

2012-01-07 16:55:38

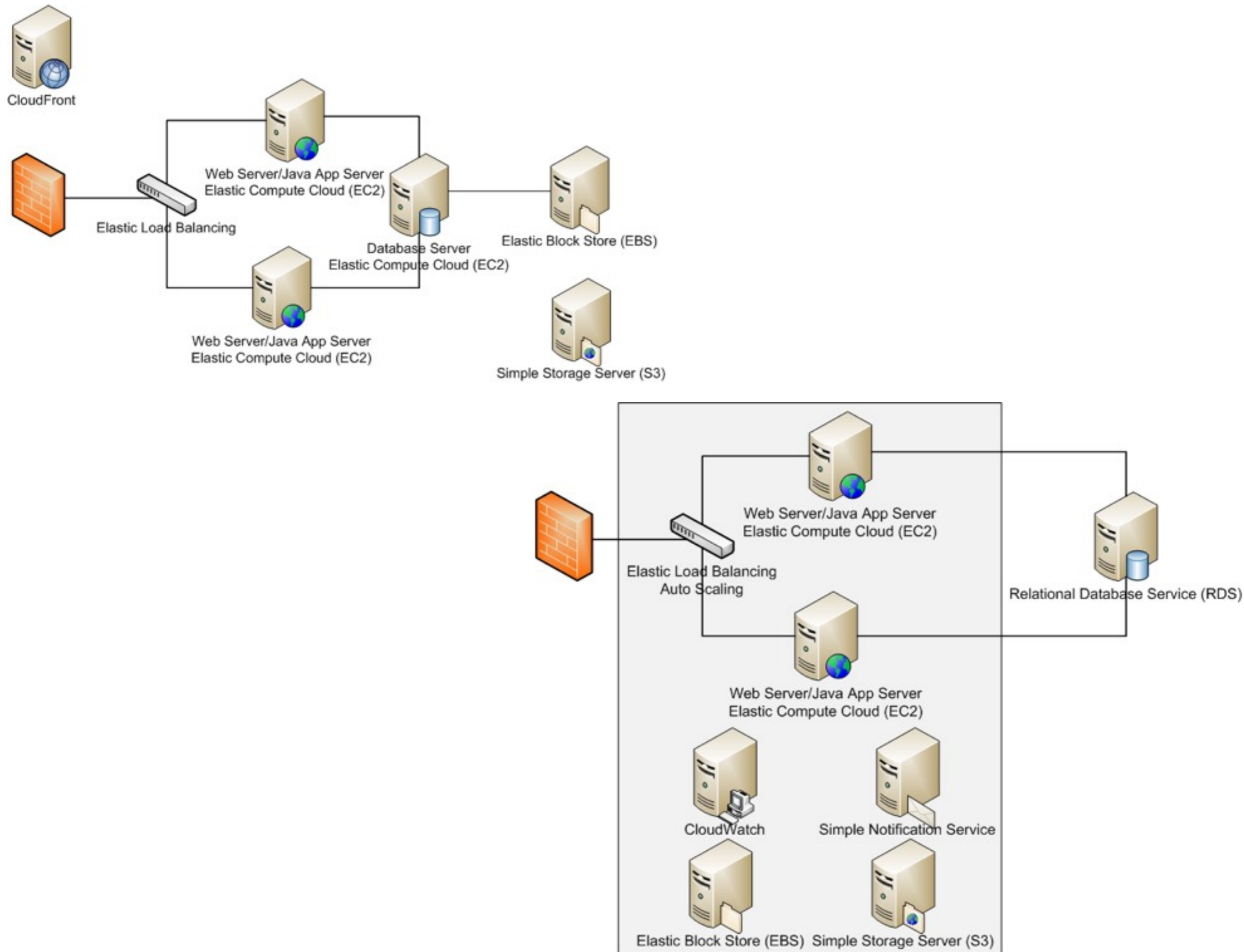
Nathan and Chris did a fantastic job of explaining how to deploy Java applications to the Amazon Web Service (AWS) cloud.

Permalink

ADD A COMMENT

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<https://github.com/zendern/nuez>





What is cloud computing?

How do I get started?

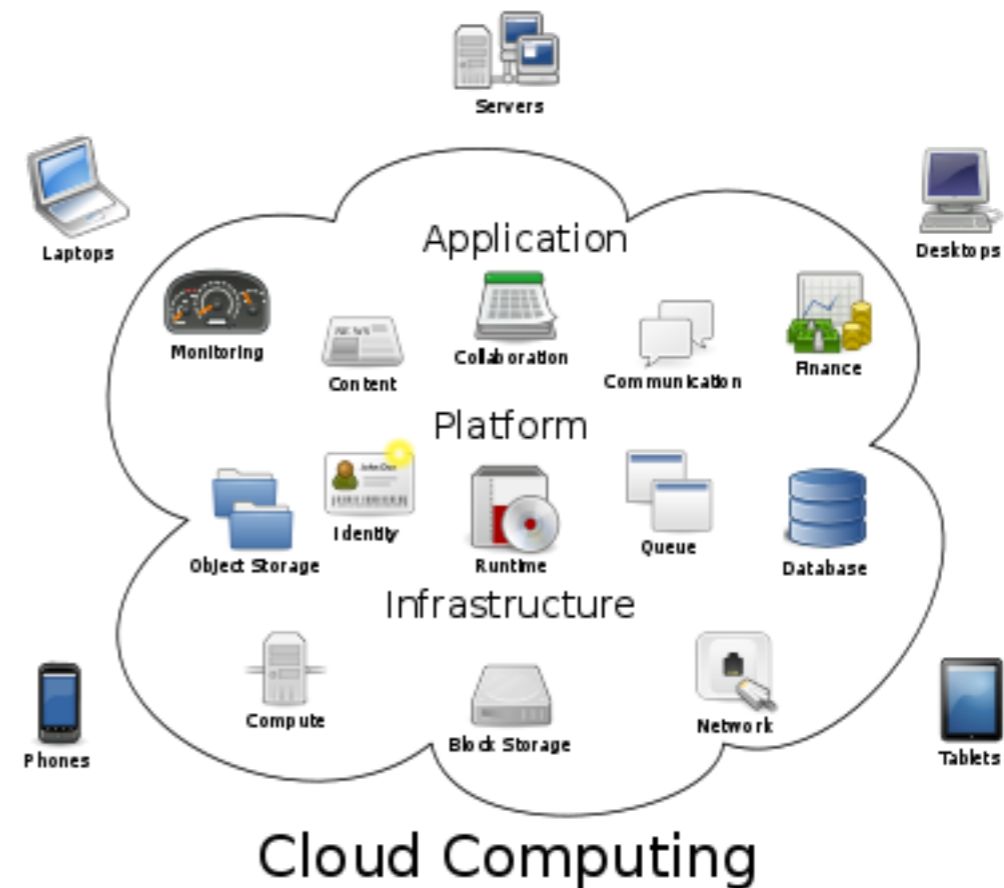


How is different from what I am doing today?

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](#)).



WIKIPEDIA
The Free Encyclopedia

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



Platform as a service (PaaS) - solution stack



Infrastructure as a service (IaaS) - virtual computing infrastructure



PaaS

IaaS



AWS Elastic Beanstalk



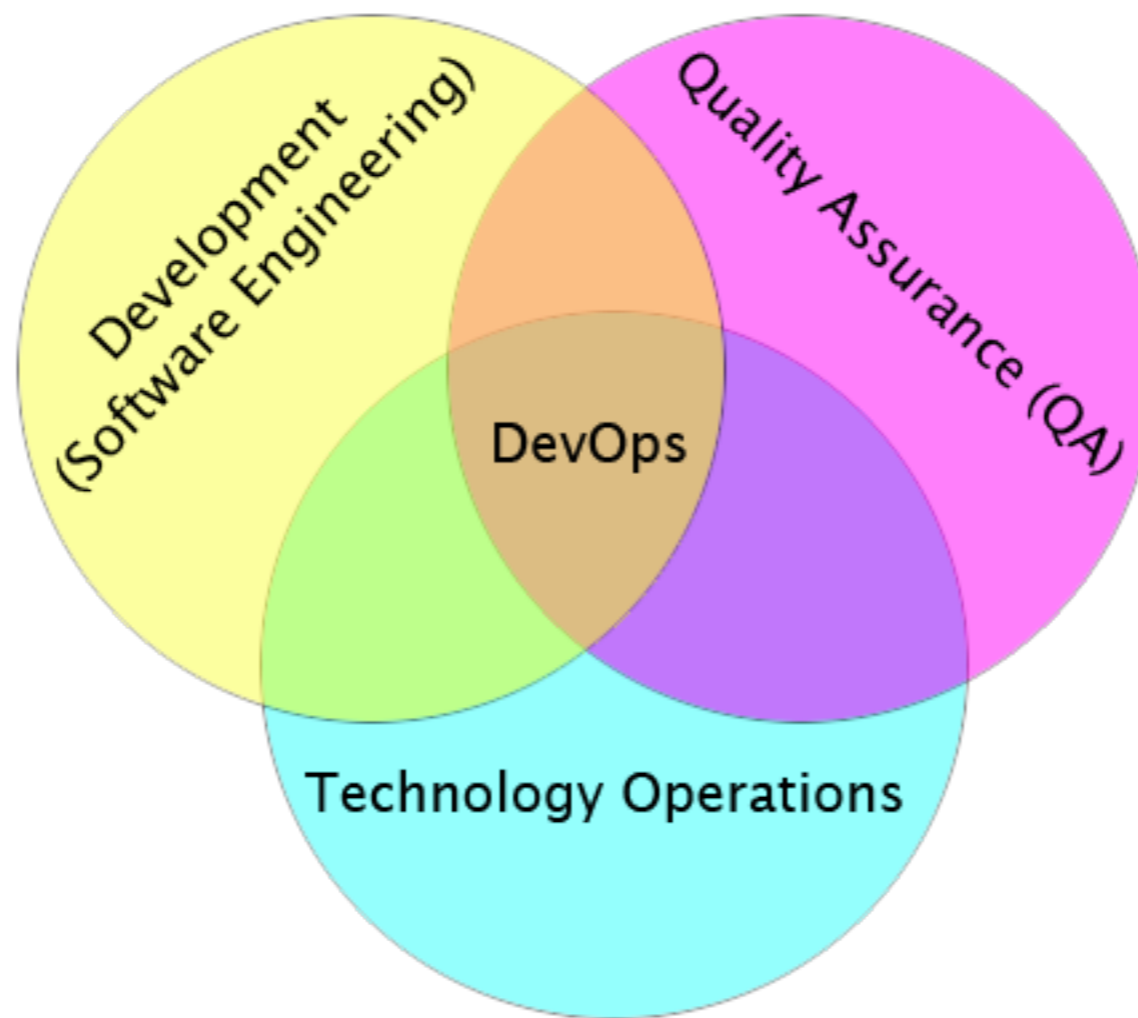
↓ flexibility ↑

↓ 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.



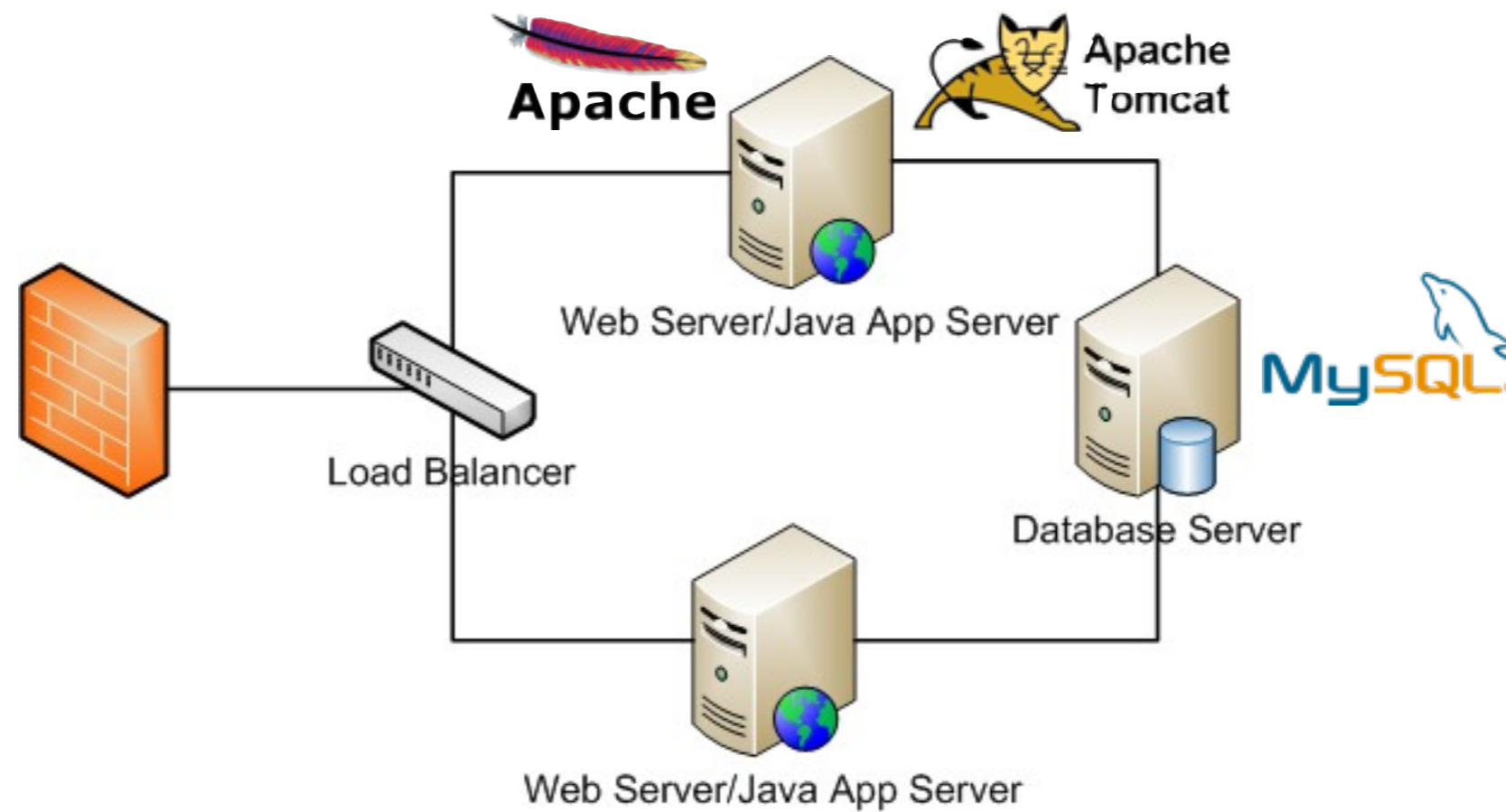
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A photograph of a group of cattle in a green field. In the foreground, several brown and white cattle are standing behind a wire fence, looking towards the camera. Some have yellow ear tags with numbers like 126, 50, and 86. In the background, another brown and white calf is standing alone. The text "treat infrastructure like cattle not like pets" is overlaid in a black, distressed font.

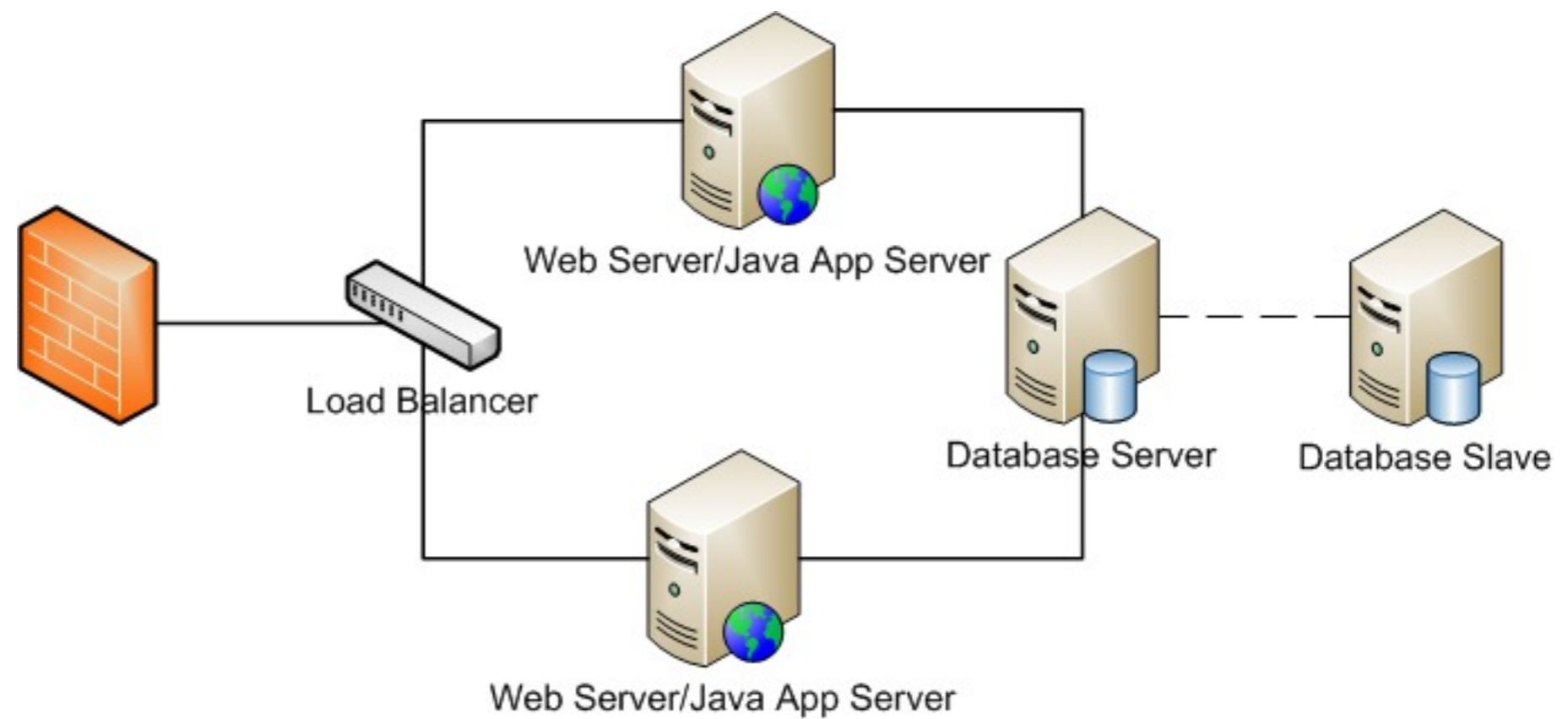
treat infrastructure like
cattle not like pets

CURRENT ARCHITECTURE

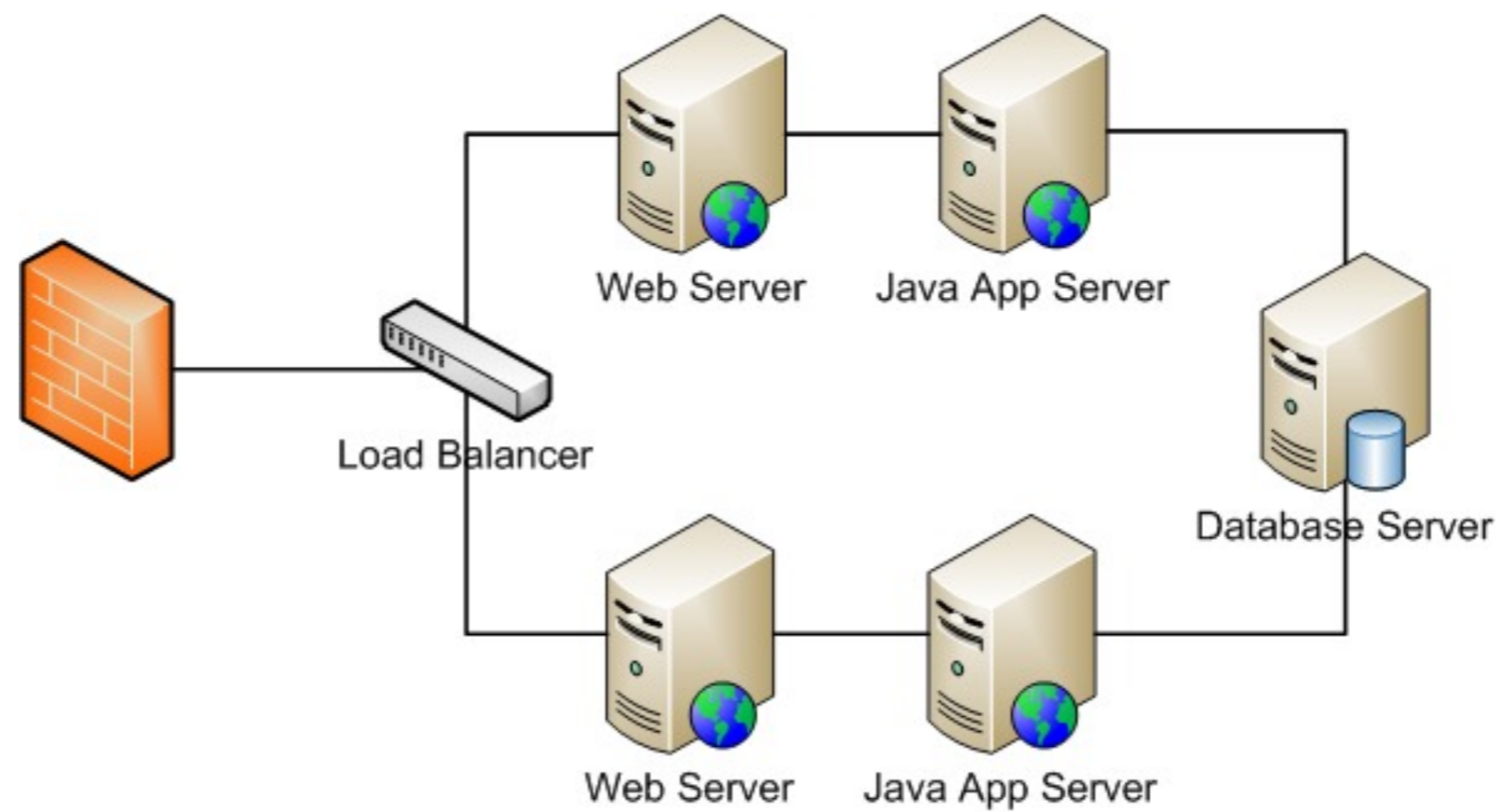
traditional Java architecture



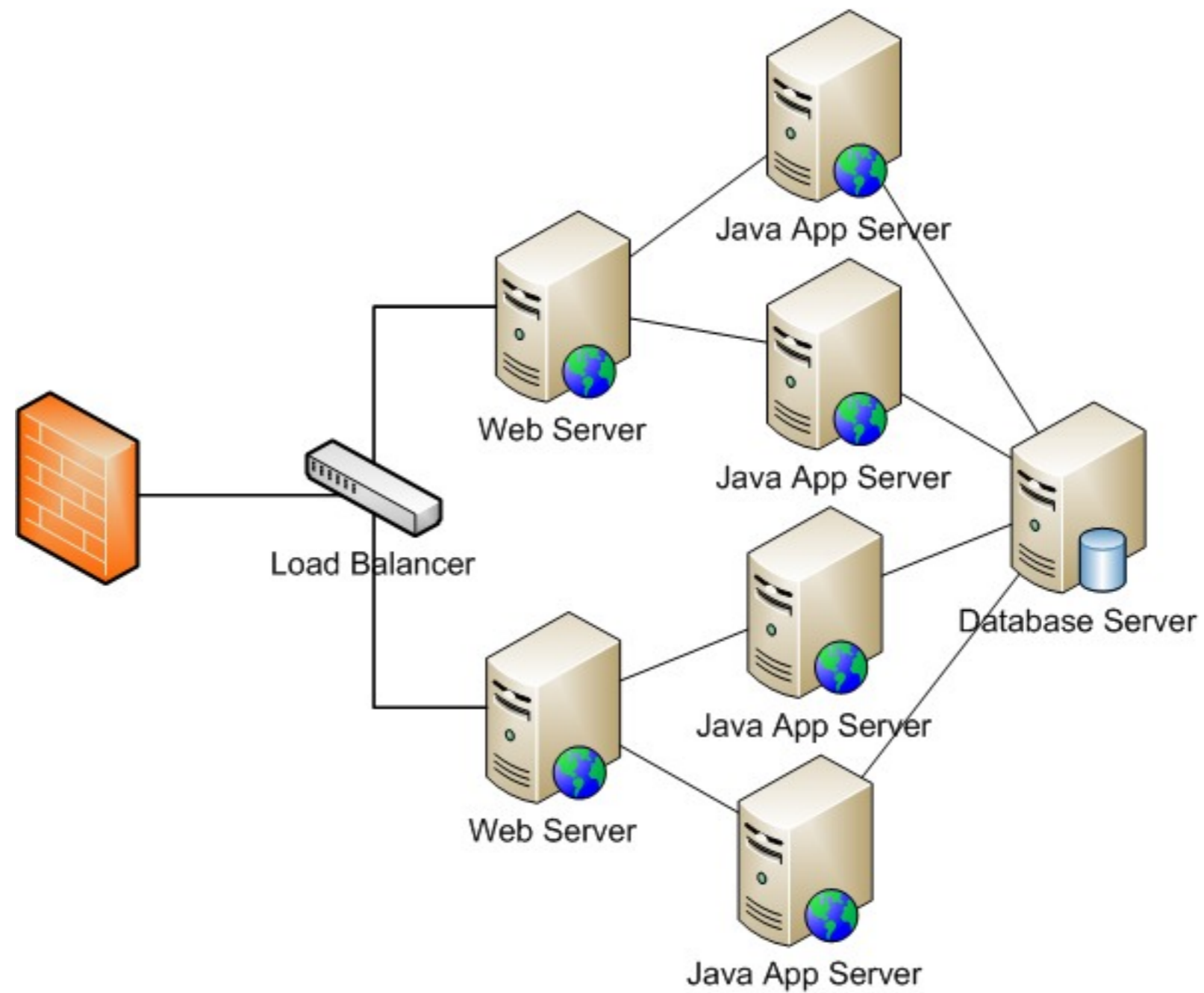
traditional Java architecture



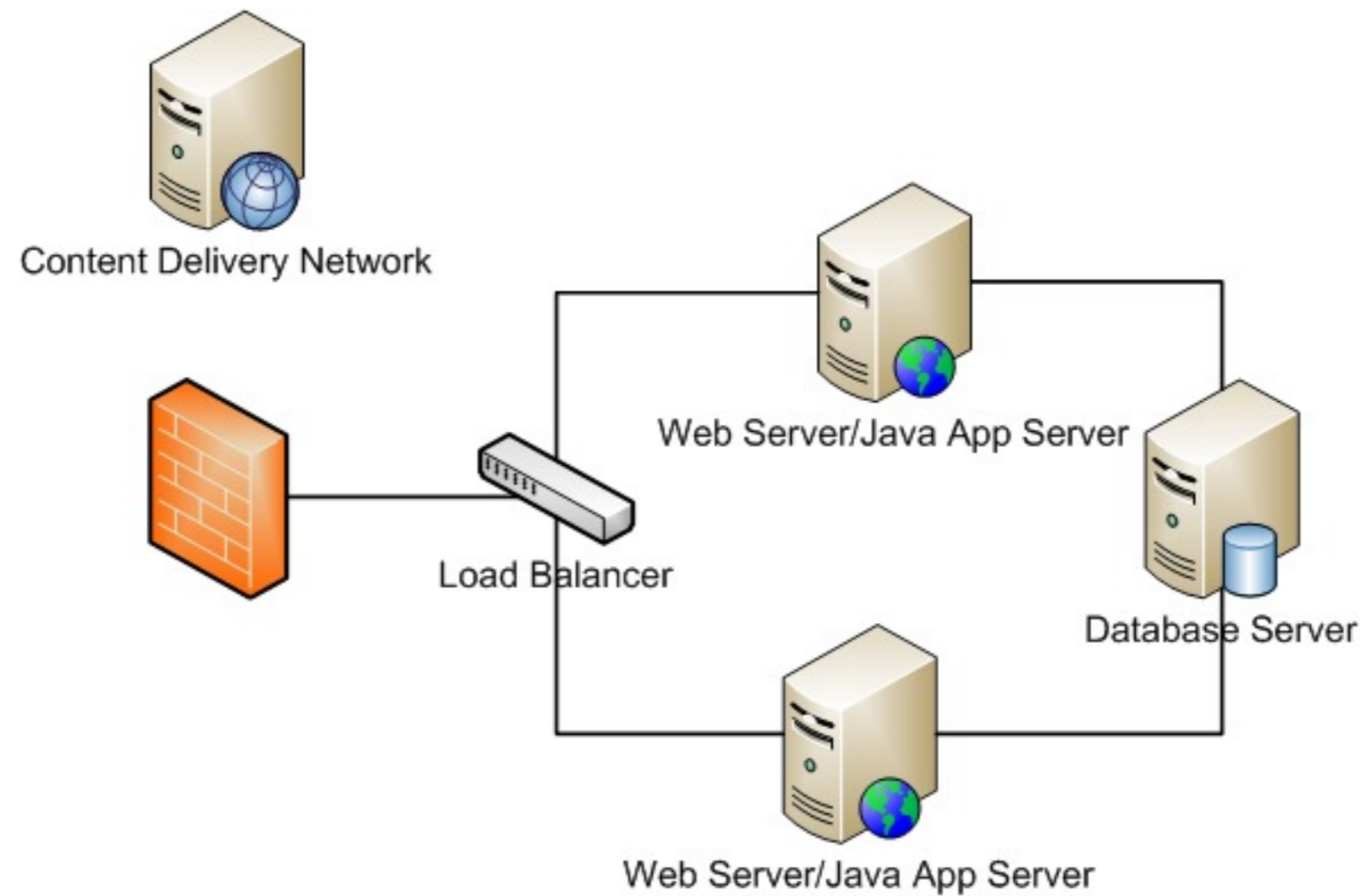
traditional Java architecture



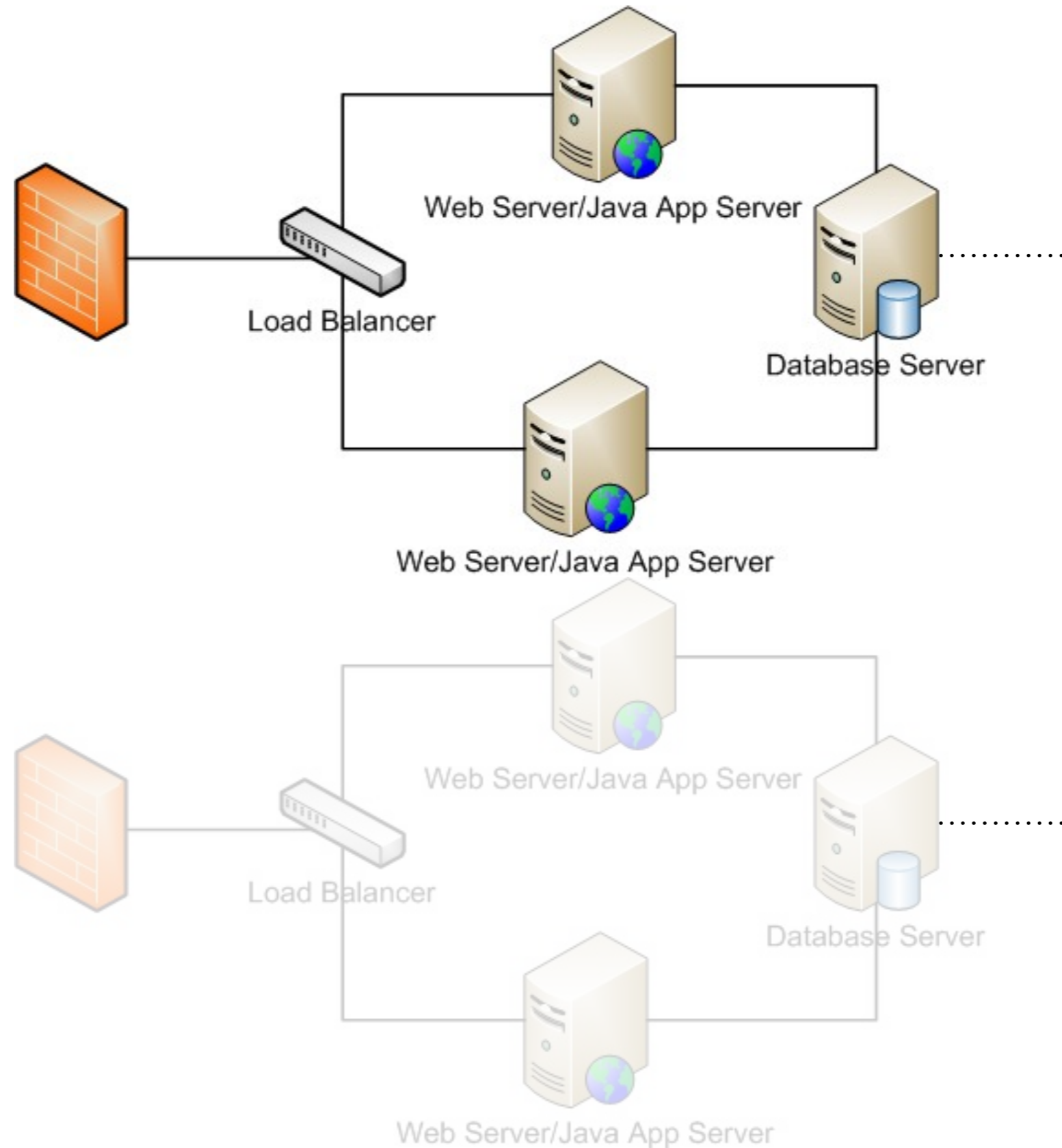
traditional Java architecture



traditional Java architecture



traditional Java architecture





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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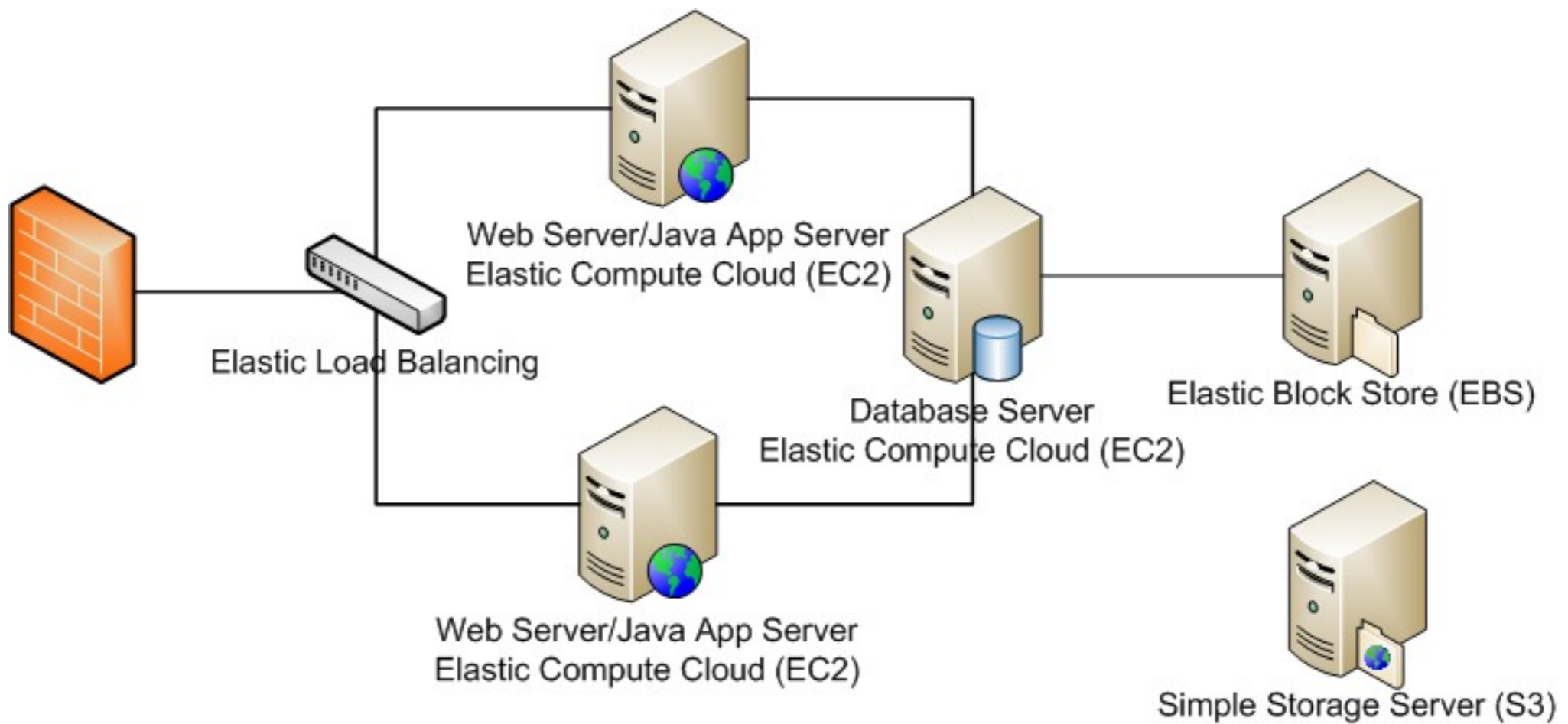
AWS Global Infrastructure

Availability Zones

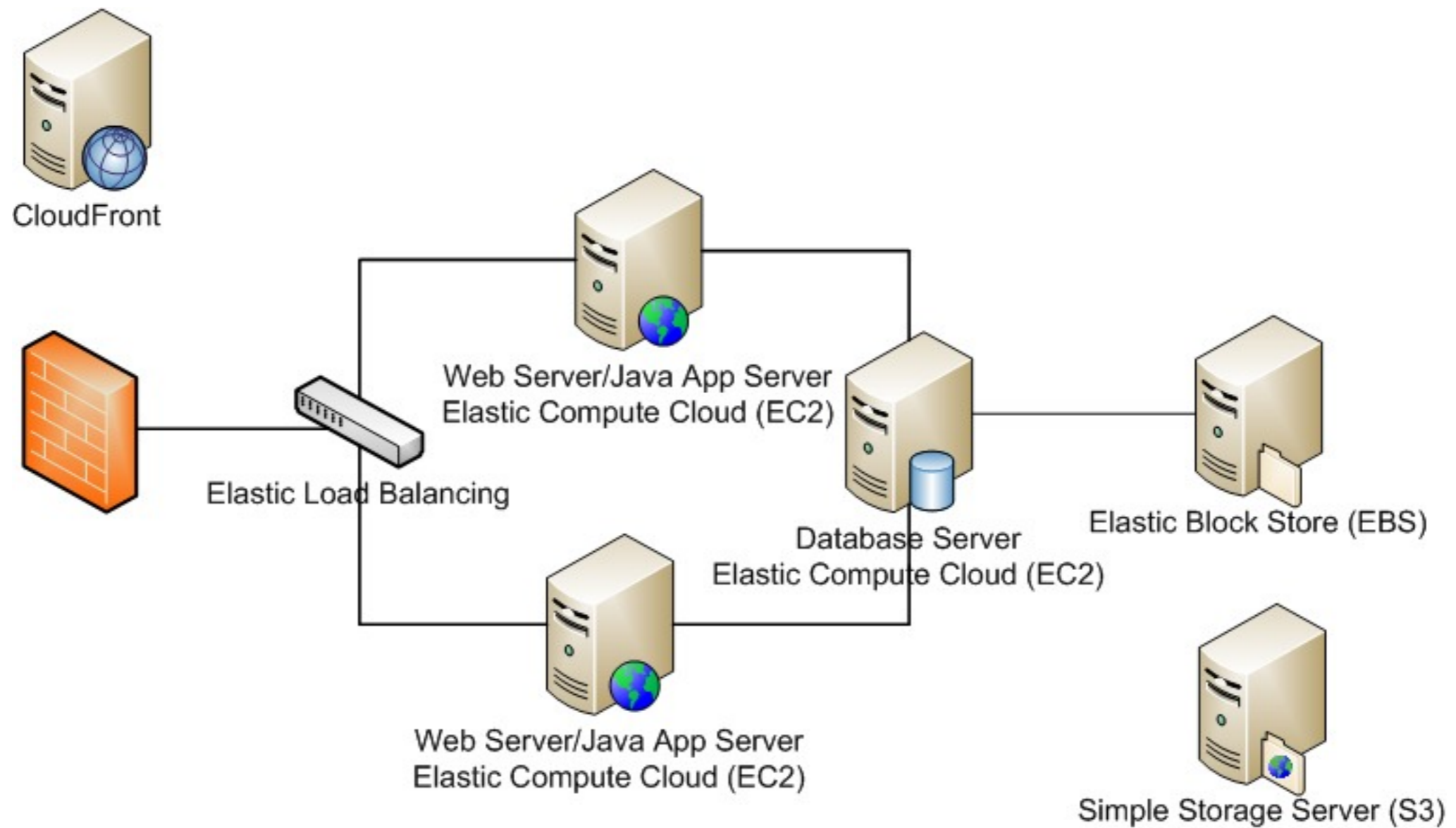
Regions

Edge Locations

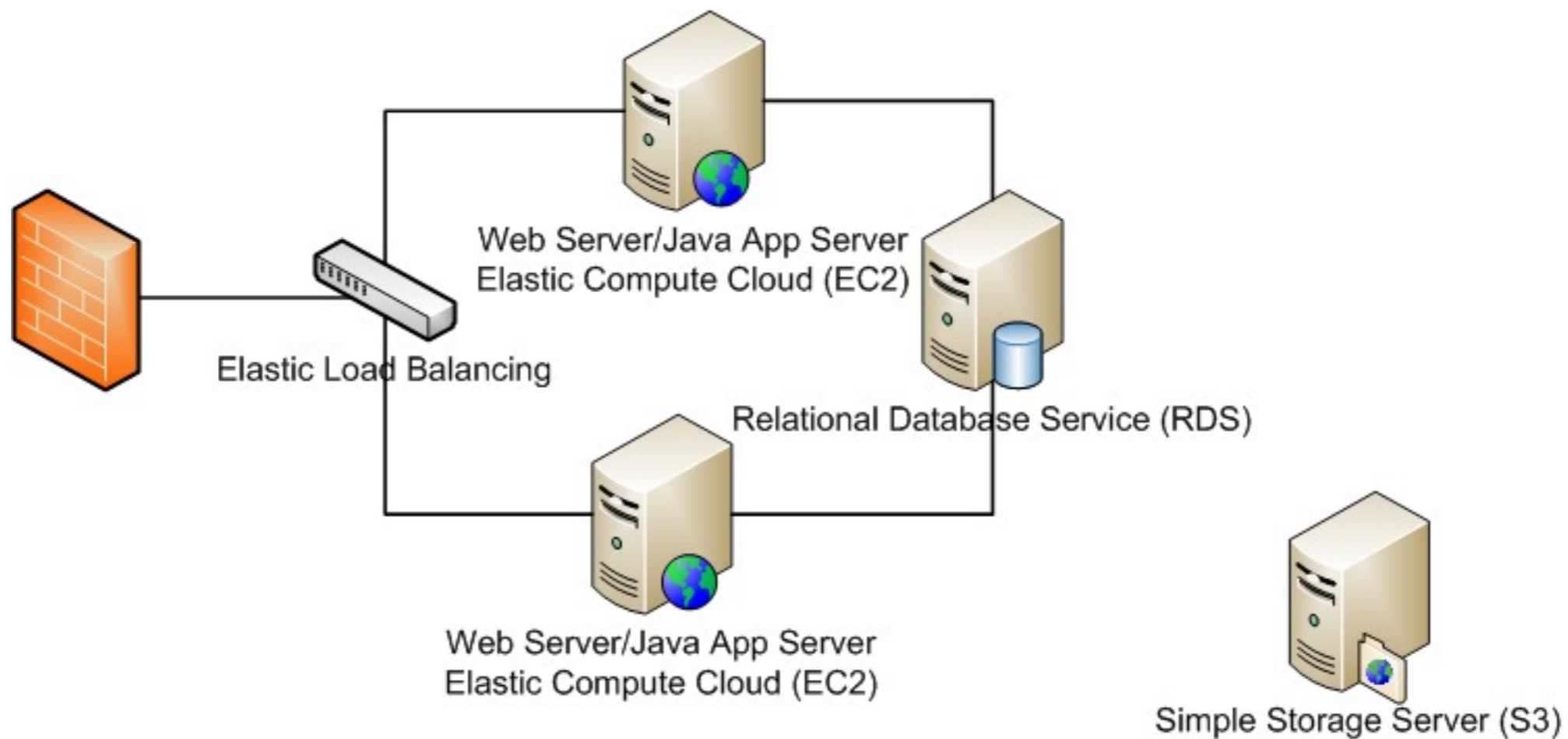
AWS architecture



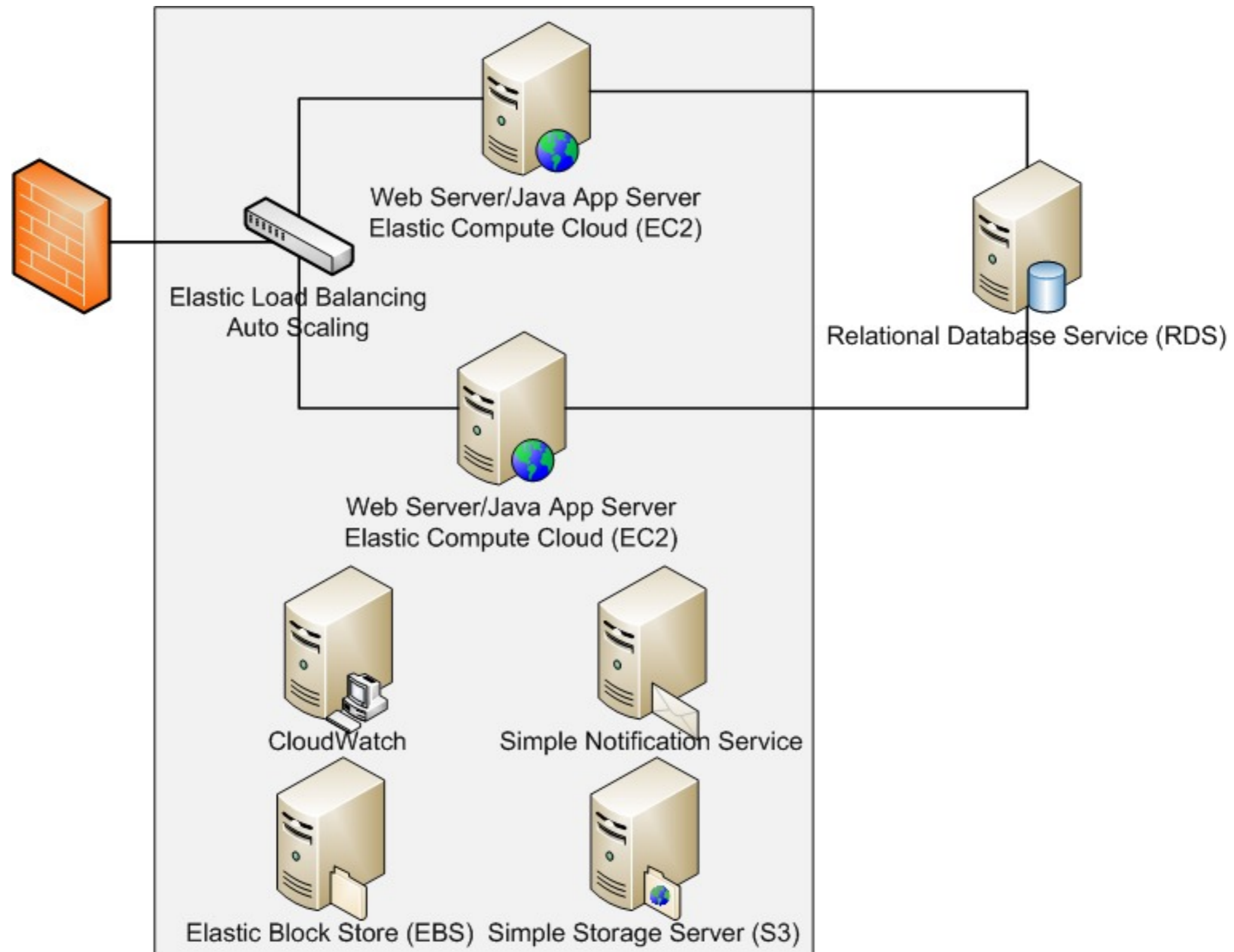
AWS architecture



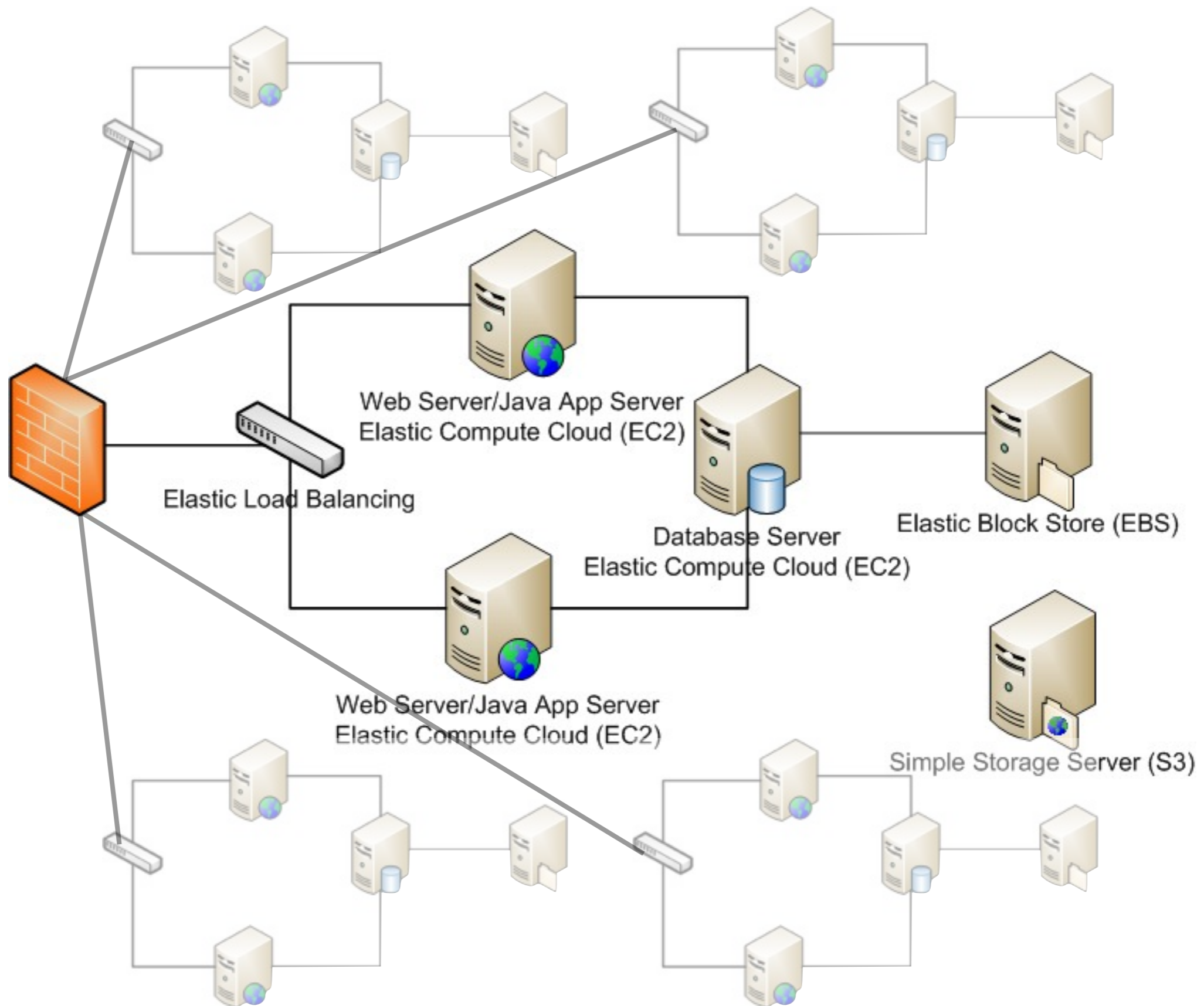
Amazon web services architecture



AWS Elastic Beanstalk architecture

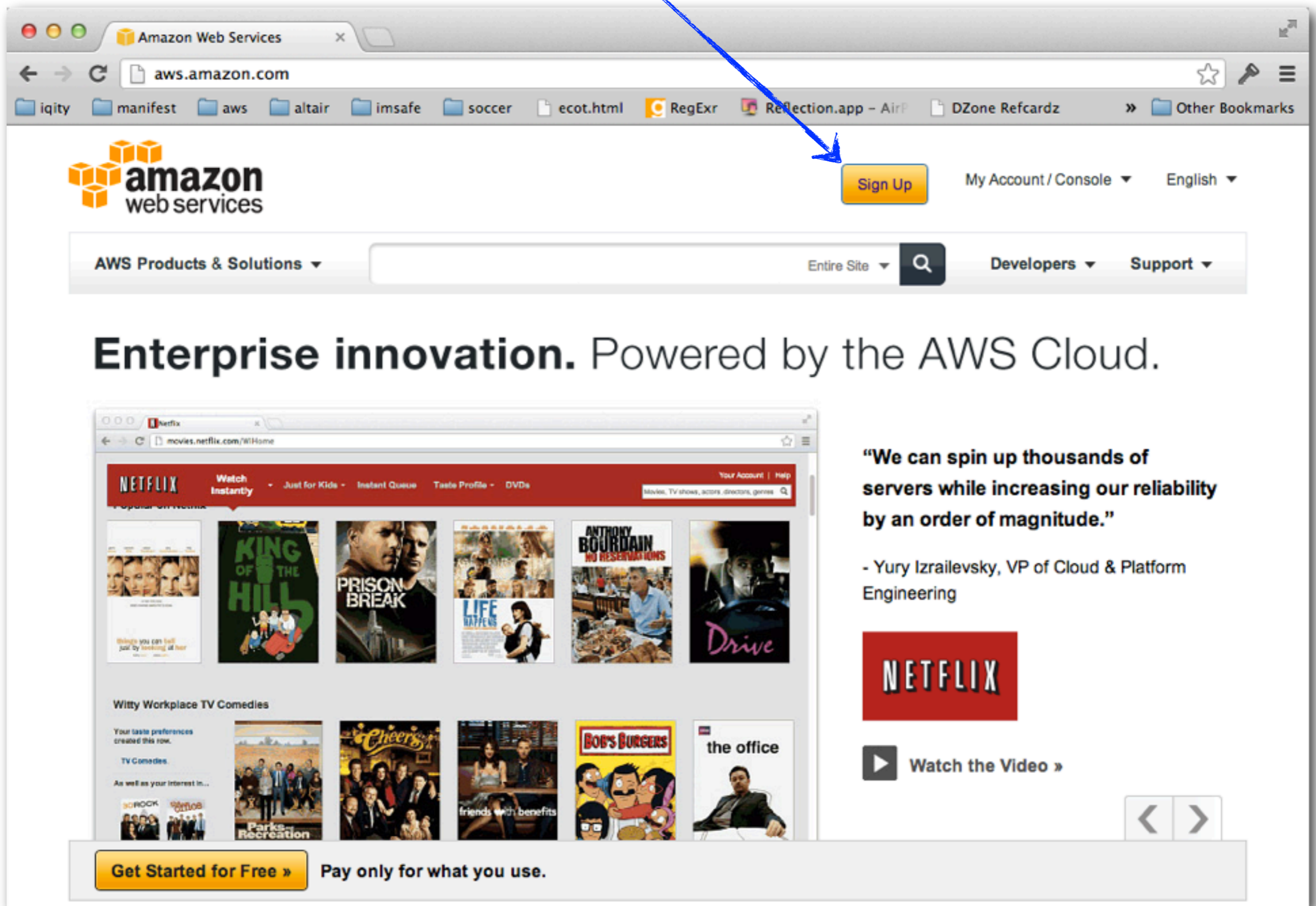


AWS architecture



REGISTRATION

start here



The image shows a screenshot of a web browser displaying the Amazon Web Services (AWS) homepage. A blue arrow points from the text "start here" to the "Sign Up" button. The browser's address bar shows "aws.amazon.com". The page features the AWS logo, navigation links for "AWS Products & Solutions", "Entire Site", "Developers", and "Support", and a search bar. The main headline reads "Enterprise innovation. Powered by the AWS Cloud." Below this is an inset image of the Netflix website, which includes a quote from Yury Izrailevsky, VP of Cloud & Platform Engineering, and a "Watch the Video" button. The Netflix inset also shows various movie and TV show thumbnails.

Amazon Web Services

aws.amazon.com

Sign Up

My Account / Console

English

AWS Products & Solutions

Entire Site

Developers

Support

Enterprise innovation. Powered by the AWS Cloud.

Netflix

Watch Instantly

Just for Kids

Instant Queue

Taste Profile

DVDs

Your Account | Help

Popular on Netflix

Things you can tell just by looking at her

KING OF THE HILL

PRISON BREAK

LIFE HAPPENS

ANTHONY BOURDAIN NO RESERVATIONS

Drive

Witty Workplace TV Comedies

Your taste preferences created this row.

TV Comedies

As well as your interest in...

SCROOG

the office

Parks Recreation

friends with benefits

BOB'S BURGERS

the office

Get Started for Free »

Pay only for what you use.

"We can spin up thousands of servers while increasing our reliability by an order of magnitude."

- Yury Izrailevsky, VP of Cloud & Platform Engineering

NETFLIX

Watch the Video »

<http://aws.amazon.com/>



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:

- ☒ **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.

need a valid email address



Login Credentials

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

My name is:

My e-mail address is:

Type it again:

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.

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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/oAddress 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](#)

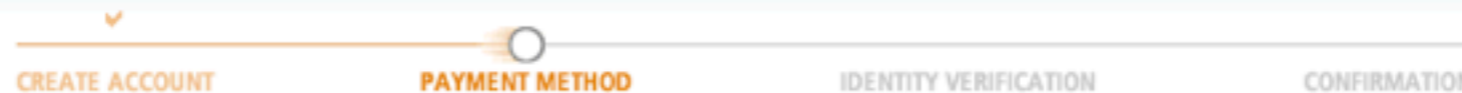
F98MBA

[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



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*:

Card Number*:

Cardholder's Name*:

Expiration Date*:

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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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: Phone number: ext:

Call Me Now

2. Call in progress

3. Identity verification complete

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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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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](#)[Privacy Policy](#) | [Customer Agreement](#)

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AWS Account 💰

admins



developers



ops



user/group based security



563700736850 \$

developers



cmj



njz



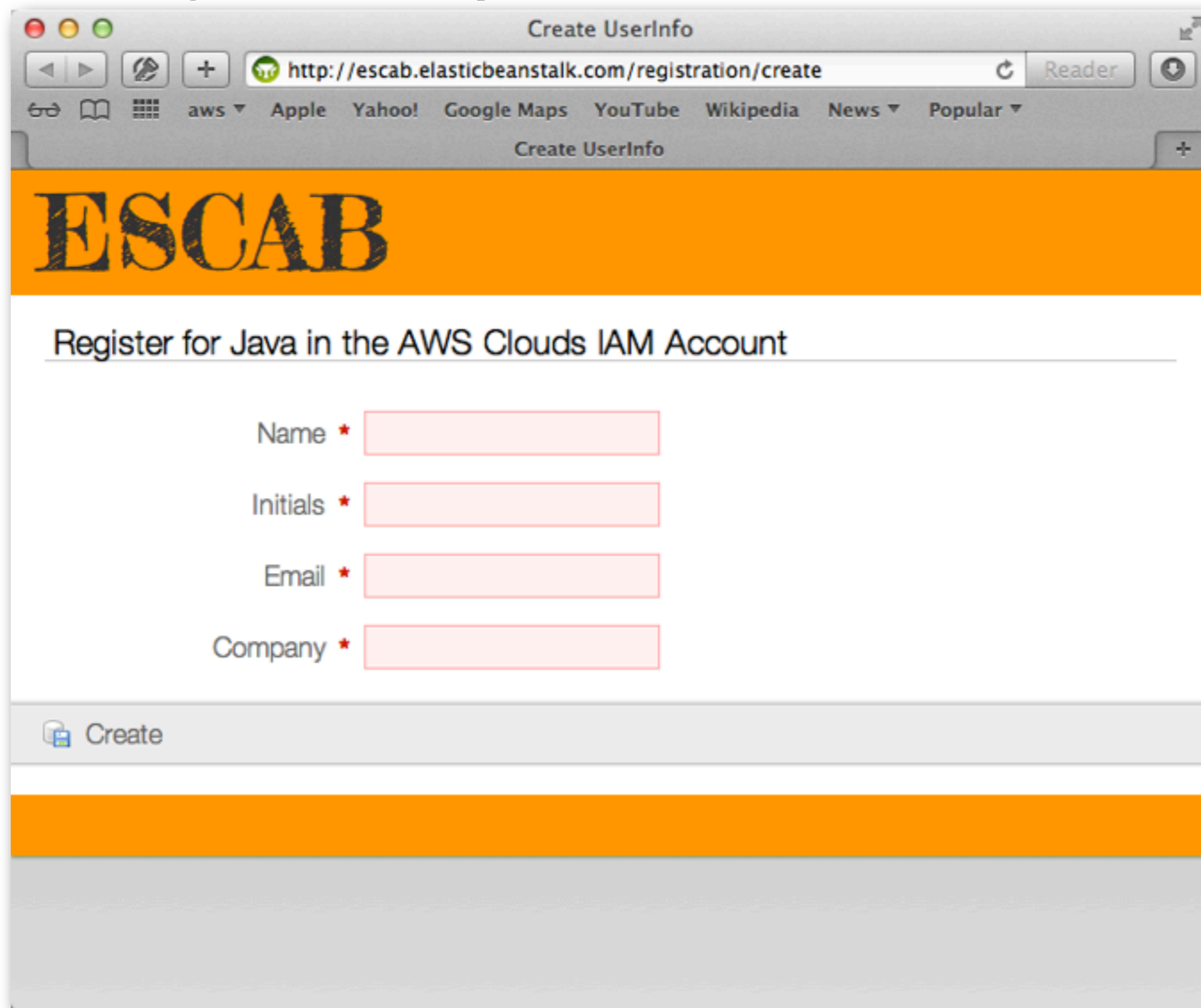
jjs



cmj0

* all accounts will be removed in a month

Register for your user account



The screenshot shows a web browser window titled "Create UserInfo". The address bar displays the URL <http://escab.elasticbeanstalk.com/registration/create>. The browser's search bar contains "aws", "Apple", "Yahoo!", "Google Maps", "YouTube", "Wikipedia", "News", and "Popular". The page features an orange header with the "ESCAB" logo. Below the header, the text "Register for Java in the AWS Clouds IAM Account" is displayed. The registration form includes four fields, each with a red asterisk indicating a required field: "Name", "Initials", "Email", and "Company". A "Create" button is located at the bottom of the form. The page has a white background with orange and grey accents.

<http://escab.elasticbeanstalk.com/registration/>

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

zendern/escab · GitHub

github.com/zendern/escab

github Explore GitHub Search Features Blog Sign up for free Sign in

PUBLIC zendern / escab Star 0 Fork 0

Code Network Pull Requests 0 Issues 0 Graphs

Java in the Amazon Cloud - Registration Application

Clone in Mac ZIP HTTP SSH Git Read-Only https://github.com/zendern/escab.git Read-Only access

branch: master Files Commits Branches 1 Tags

escab / 9 commits

Instead of using SES just going to use local SMTP server for now sinc... [Nathan Zender]

Nathan Zender authored 10 hours ago latest commit b8243a9944

grails-app	10 hours ago	Instead of using SES just going to use local SMTP server for now sinc... [Nathan Zender]
src	21 hours ago	Adding the ability to create users in IAM from the grails application... [Nathan Zender]
test	18 hours ago	Adding that ability to create a IAM user on aws and updating screens ... [Nathan Zender]
web-app	18 hours ago	Since the list page did not show the data as it should have so added ... [Nathan Zender]
.gitignore	18 hours ago	Adding that ability to create a IAM user on aws and updating screens ... [Nathan Zender]
application.properties	10 hours ago	Instead of using SES just going to use local SMTP server for now sinc... [Nathan Zender]

<https://github.com/zendern/escab>



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 ← AWS account #

User Name: cmj ← initials

Password: ← codemash

[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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<https://563700736850.signin.aws.amazon.com/console>



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

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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](#)

<https://console.aws.amazon.com>

INTERFACES

Web Console



Services ▾

Edit ▾

Christopher Judd ▾Global ▾Help ▾

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[Service Health Dashboard](#)

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Command-line

```
ec2-user@ip-10-112-57-116:~ -- bash -- 87x37
Christopher-Judds-MacBook-Pro:~ cjudd$ ec2-describe-instances -H
Type      ReservationID  Owner    Groups Platform
RESERVATION r-91216af0    892852523686 cmj-webapp
INSTANCE    i-ace4adce    ami-4bb96d22      stopped cmj-webapp  t
1.micro 2012-01-11T05:02:41+0000      us-east-1b      aki-427d952b      m
onitoring-disabled      ebs      p
aravirtual xen      sg-a2d220ca      default
BLOCKDEVICE /dev/sda1      vol-272c764a      2012-01-11T06:19:52.000Z
TAG instance i-ace4adce      Name cmj-webapp-01
RESERVATION r-5f68393e    892852523686 cmj-db
INSTANCE    i-c0ecbda2    ami-d1984fb8      stopped cmj-webapp  t
1.micro 2012-01-11T03:43:42+0000      us-east-1b      aki-825ea7eb      m
onitoring-disabled      ebs      p
aravirtual xen      sg-b045b7d8      default
BLOCKDEVICE /dev/sda1      vol-df684eb2      2012-01-11T06:20:15.000Z
TAG instance i-c0ecbda2      Name cmj-db-01
RESERVATION r-ab5c0fca    892852523686 njz-webapp
INSTANCE    i-24461446    ami-4bb96d22      ec2-50-17-21-152.compute-1.amazonaws.co
m ip-10-194-137-164.ec2.internal running njz-webapp 0 t1.micr
o 2012-01-11T11:46:11+0000      us-east-1b      aki-427d952b      m
onitoring-disabled 50.17.21.152 10.194.137.164      ebs      p
aravirtual xen      sg-5c9b6634      default
BLOCKDEVICE /dev/sda1      vol-3d93b550      2012-01-11T11:46:33.000Z
TAG instance i-24461446      Name njz-webserver
RESERVATION r-9f4211fe    892852523686 njz-mysql
INSTANCE    i-a04416c2    ami-d1984fb8      ec2-50-19-181-246.compute-1.amazonaws.c
om ip-10-245-79-116.ec2.internal running njz-webapp 0 t1.micr
o 2012-01-11T11:48:41+0000      us-east-1b      aki-825ea7eb      m
onitoring-disabled 50.19.181.246 10.245.79.116      ebs      p
aravirtual xen      sg-029b666a      default
BLOCKDEVICE /dev/sda1      vol-cd90b6a0      2012-01-11T11:49:05.000Z
TAG instance i-a04416c2      Name njz-mysql
RESERVATION r-47792a26    892852523686 njz-webapp
INSTANCE    i-f0643692    ami-4bb96d22      ec2-67-202-2-209.compute-1.amazonaws.co
m ip-10-203-45-12.ec2.internal running njz-webapp 0 t1.micr
o 2012-01-11T12:13:26+0000      us-east-1b      aki-427d952b      m
onitoring-disabled 67.202.2.209 10.203.45.12      ebs      p
```

SDK Language Support



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

AMIs (Amazon Machine Images)



Public AMIs

8180 of them and counting


































Request Instances Wizard Cancel

CHOOSE AN AMI INSTANCE DETAILS CREATE KEY PAIR CONFIGURE FIREWALL REVIEW

Choose an Amazon Machine Image (AMI) from one of the tabbed lists below by clicking its **Select** button.

Quick Start **My AMIs** **Community AMIs**

Viewing: All Images 1 to 50 of 8180 Items

AMI ID	Root Device	Manifest	Platform	
 ami-000af969	instance-store	bitnami-cloud/wordpress/bitnami-wordpress-3.1-0-lin	 Ubuntu	Select 
 ami-0011e069	instance-store	clovr-standard-2011-01-07-16-01-33/clovr-standard-20	 Other Linux	Select 
 ami-0022c769	instance-store	level22-ec2-images/ubuntu-7.04-feisty-base-2007122	 Ubuntu	Select 
 ami-002dd269	ebs	293077032498/xsd.web.server	 Windows	Select 
 ami-0032c769	ebs	816268476753/cit-c-2-5-1285003210	 Windows	Select 
 ami-0055ad69	ebs	962722313162/ubuntu-jenkins-slave	 Ubuntu	Select 
 ami-0059bb69	instance-store	elasticbamboo/elasticbamboo-2.5-rc1-126111436914	 Other Linux	Select 
 ami-005daf69	ebs	amazon/ElasticBeanstalk-Tomcat6-64bit-20110322-5	 Amazon Linux	Select 
 ami-005db969	instance-store	alestic-64/ubuntu-8.04-hardy-base-64-20081222.mar	 Ubuntu	Select 
 ami-005dba69	instance-store	rbuilder-online/new-example-1-x86_64_20133.img.m	 Other Linux	Select 
 ami-005eba69	instance-store	kaavo-ntier-db/imod-ntier-32bit-FC-DB.manifest.xml	 Other Linux	Select 

<http://aws.amazon.com/amis>

That's awesome....

All I have to do is find what I need and off I go.
Someone else created it, maintains it....



**But there could be some issues
with using these....**

Did this guy setup this server?



Who knows....



ssdpapi.dll	WINDOWS\system32	34816
ssdpsrv.dll	WINDOWS\system32	71680
ssflwbox.scr	WINDOWS\system32	393216
ssmarque.scr	WINDOWS\system32	20992
ssmypics.scr	WINDOWS\system32	47104
ssmyst.scr	WINDOWS\system32	18944
sspipes.scr	WINDOWS\system32	610304
sssplt30.ocx	WINDOWS\system32	177608
ssstars.scr	WINDOWS\system32	14336
sstext3d.scr	WINDOWS\system32	679936
Status.MPF	WINDOWS\system32	63296
stclient.dll	WINDOWS\system32	59392
stdole32.tlb	WINDOWS\system32	7168
sti.dll	WINDOWS\system32	68096
sti_ci.dll	WINDOWS\system32	136704
stimon.exe	WINDOWS\system32	14848
stobject.dll	WINDOWS\system32	121856
storage.dll	WINDOWS\system32	4208
storprop.dll	WINDOWS\system32	74752
streamci.dll	WINDOWS\system32	8192
strmdll.dll	WINDOWS\system32	

AskBobRankin.com

Don't be discouraged....

<http://cloud.ubuntu.com/ami/>

http://fedoraproject.org/wiki/Cloud_images

<http://blog.susestudio.com/2011/03/opensuse-114-for-amazon-ec2.html>



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

EC2 Instance Types

- Micro
- M1 Small
- M1 Medium
- M1 Large
- M1 Extra Large
- M3 Extra Large
- M3 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

Region: US East (N. Virginia)		
	Linux/UNIX Usage	Windows Usage
Standard On-Demand Instances		
Small (Default)	\$0.065 per Hour	\$0.115 per Hour
Medium	\$0.130 per Hour	\$0.230 per Hour
Large	\$0.260 per Hour	\$0.460 per Hour
Extra Large	\$0.520 per Hour	\$0.920 per Hour
Second Generation Standard On-Demand Instances		
Extra Large	\$0.580 per Hour	\$0.980 per Hour
Double Extra Large	\$1.160 per Hour	\$1.960 per Hour
Micro On-Demand Instances		
Micro	\$0.020 per Hour	\$0.020 per Hour
High-Memory On-Demand Instances		
Extra Large	\$0.450 per Hour	\$0.570 per Hour
Double Extra Large	\$0.900 per Hour	\$1.140 per Hour
Quadruple Extra Large	\$1.800 per Hour	\$2.280 per Hour
High-CPU On-Demand Instances		
Medium	\$0.165 per Hour	\$0.285 per Hour
Extra Large	\$0.660 per Hour	\$1.140 per Hour
Cluster Compute Instances		
Quadruple Extra Large	\$1.300 per Hour	\$1.610 per Hour
Eight Extra Large	\$2.400 per Hour	\$2.970 per Hour
Cluster GPU Instances		
Quadruple Extra Large	\$2.100 per Hour	\$2.600 per Hour
High-I/O On-Demand Instances		
Quadruple Extra Large	\$3.100 per Hour	\$3.580 per Hour
High-Storage On-Demand Instances		
Eight Extra Large	\$4.600 per Hour	\$4.931 per Hour

Cost for Reserved Instances

Linux

RHEL

SLES

Windows

Windows with SQL Standard

Windows with SQL Web

Light Utilization Reserved Instances

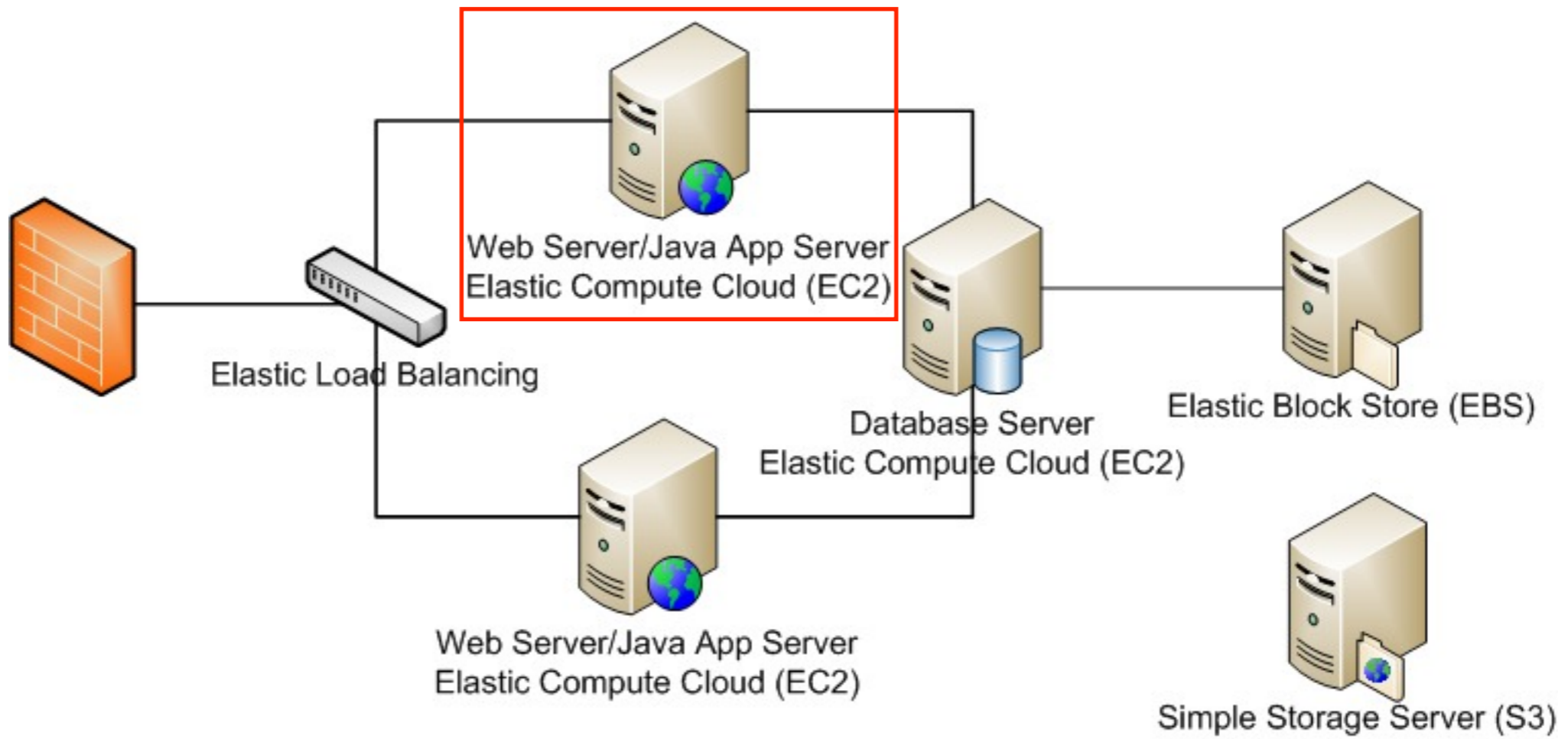
Region: US East (N. Virginia)

	1 yr Term		3 yr Term	
	Upfront	Hourly	Upfront	Hourly
Standard Reserved Instances				
Small (Default)	\$61	\$0.034 per Hour	\$96	\$0.027 per Hour
Medium	\$122	\$0.068 per Hour	\$192	\$0.054 per Hour
Large	\$243	\$0.136 per Hour	\$384	\$0.108 per Hour
Extra Large	\$486	\$0.271 per Hour	\$768	\$0.215 per Hour
Second Generation Standard Reserved Instances				
Extra Large	\$517	\$0.299 per Hour	\$807	\$0.236 per Hour
Double Extra Large	\$1034	\$0.598 per Hour	\$1614	\$0.472 per Hour
Micro Reserved Instances				
Micro	\$23	\$0.012 per Hour	\$35	\$0.012 per Hour
High-Memory Reserved Instances				
Extra Large	\$272	\$0.169 per Hour	\$398	\$0.136 per Hour
Double Extra Large	\$544	\$0.338 per Hour	\$796	\$0.272 per Hour
Quadruple Extra Large	\$1088	\$0.676 per Hour	\$1592	\$0.544 per Hour
High-CPU Reserved Instances				
Medium	\$161	\$0.09 per Hour	\$243	\$0.079 per Hour
Extra Large	\$644	\$0.36 per Hour	\$972	\$0.316 per Hour
Cluster Compute Reserved Instances				
Quadruple Extra Large	N/A	N/A	N/A	N/A
Eight Extra Large	\$1762	\$0.904 per Hour	\$2710	\$0.904 per Hour
High-Memory Cluster Reserved Instances				
Eight Extra Large	\$2474	\$1.54 per Hour	\$3846	\$1.225 per Hour
Cluster GPU Reserved Instances				
Quadruple Extra Large	N/A	N/A	N/A	N/A
High-I/O Reserved Instances				
Quadruple Extra Large	\$2576	\$1.477 per Hour	\$3884	\$1.15 per Hour
High-Storage Reserved Instances				
Eight Extra Large	\$3968	\$2.24 per Hour	\$5997	\$1.81 per Hour

Bandwidth Pricing

Region: US East (N. Virginia)	
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 SQS, or Amazon SimpleDB in the same AWS Region	\$0.00 per GB
Amazon EC2, Amazon RDS 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 and Amazon ElastiCache instances or Elastic Network Interfaces in another Availability Zone in the same AWS Region	\$0.01 per GB
Data Transfer OUT From Amazon EC2 To	
Amazon S3, Amazon Glacier, Amazon DynamoDB, Amazon SQS, Amazon SimpleDB in the same AWS Region	\$0.00 per GB
Amazon EC2, Amazon RDS, 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 or Amazon ElastiCache instances, Amazon Elastic Load Balancing, or Elastic Network Interfaces in another Availability Zone 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

EC2 WITH WEB CONSOLE





start here

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

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](#)

then here or here



Services ▾ Edit ▾

cmj @ 563700736850 ▾ N. Virginia ▾ Help ▾

EC2 Dashboard

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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

Getting Started

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 region.

Service Health

Service Status

Current Status	Details
✓ Amazon EC2 (US East - N. Virginia)	Service is operating normally

▶ View complete service health details

No EC2 Instances selected.

Select an instance above

My Resources

You are using the following Amazon EC2 resources in the region:

3 Running Instances

0 Elastic IPs

3 EBS Volumes

2 EBS Snapshots

2 Key Pairs

1 Load Balancer

0 Placement Groups

5 Security Groups

Events

✓ US East (N. Virginia): No events

Related Links

▶ Getting Started Guide

▶ Documentation


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launch here

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NETWORK & SECURITY







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

Launch Instance

Actions ▾




Viewing: All Instances ▾ All Instance Types ▾ Search

1 to 3 of 3 Instances


<input type="checkbox"/>	Name	Instance	AMI ID	Root Device	Type	State	Status Checks	Alarm Status	Monitoring	Security Groups	Key Pair Name	
<input type="checkbox"/>	escab	 i-c74fc6b6	ami-1624987f	ebs	m1.small	 running	2/2 checks passed	none	basic	awseb-e-2uamvdj3	Codemash	paravirtual
<input type="checkbox"/>	njz-webapp-01	 i-b3b53fc2	ami-09078e60	ebs	m1.small	 running	2/2 checks passed	none	basic	njz-webapp	Codemash	paravirtual
<input type="checkbox"/>	njz-db-01	 i-474ac036	ami-71068f18	ebs	t1.micro	 running	2/2 checks passed	none	basic	njz-db	Codemash	paravirtual

No EC2 Instances selected.

Select an instance above

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Create a New Instance

Cancel

Select an option below:

☒ Classic Wizard

Launch an On-Demand or Spot instance using the classic wizard with fine-grained control over how it is launched.

☐ Quick Launch Wizard

Launch an On-Demand instance using an editable, default configuration so that you can get started in the cloud as quickly as possible.

☐ AWS Marketplace

AWS Marketplace is an online store where you can find and buy software that runs on AWS. Launch with 1-Click and pay by the hour.

Submit Feedback

Getting Started Guide

Launch with the Classic Wizard

Request Instances Wizard

CHOOSE AN AMI

INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL


REVIEW


Choose an Amazon Machine Image (AMI) from one of the tabbed lists below by clicking its Select button.


Quick Start


My AMIs


Community AMIs


 **Basic 32-bit Amazon Linux AMI 2011.02.1 Beta** (AMI Id: ami-8c1feca5)
Amazon Linux AMI Base 2011.02.1, EBS boot, 32-bit architecture with Amazon EC2 AMI Tools.
Root Device Size: 8 GB

 **Basic 64-bit Amazon Linux AMI 2011.02.1 Beta** (AMI Id: ami-8e1feca7)
Amazon Linux AMI Base 2011.02.1, EBS boot, 64-bit architecture with Amazon EC2 AMI Tools.
Root Device Size: 8 GB

 **Red Hat Enterprise Linux 6.1 32 bit** (AMI Id: ami-0cbb4265)
Red Hat Enterprise Linux version 6.1, EBS-boot, 32-bit architecture.
Root Device Size: 7 GB

 **Red Hat Enterprise Linux 6.1 64 bit** (AMI Id: ami-5e837b37)
Red Hat Enterprise Linux version 6.1, EBS-boot, 64-bit architecture.
Root Device Size: 6 GB

 **SUSE Linux Enterprise Server 11 64-bit** (AMI Id: ami-e4a3578d)
SUSE Linux Enterprise Server 11 Service Pack 1 basic install, EBS boot, 64-bit architecture with Amazon EC2 AMI Tools preinstalled; Apache 2.2, MySQL 5.0, PHP 5.3, Ruby 1.8.7, and Rails 2.3.
Root Device Size: 15 GB

 Free tier eligible if used with a micro instance. See [AWS free tier](#) for complete details and terms.

Continue

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search for codemash

select JavaWebServer AMI

Request Instances Wizard

CHOOSE AN AMI | INSTANCE DETAILS | CREATE KEY PAIR | CONFIGURE FIREWALL | REVIEW

Choose an Amazon Machine Image (AMI) from one of the tabbed lists below by clicking its **Select** button.

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

Viewing: All Images | | 1 to 2 of 2 Items

AMI ID	Root Device	Manifest	Platform	
ami-09078e60	ebs	563700736850/Codemash-JavaWebServer	Other Linux	Select
ami-71068f18	ebs	563700736850/Codemash-MysqlServer	Other Linux	Select

★ Free tier eligible if used with a micro instance. See [AWS free tier](#) for complete details and terms.

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effects redundancy and scale

effects price and performance

Request Instances Wizard

CHOOSE AN AMI **INSTANCE DETAILS** CREATE KEY PAIR CONFIGURE FIREWALL REVIEW

Provide the details for your instance(s). You may also decide whether you want to launch your instances as "on-demand" or "spot" instances.

Number of Instances: 1 **Instance Type:** M1 Small (m1.small, 1.7 GiB)

Launch as an EBS-Optimized instance (additional charges apply): ☐ Not supported for this instance type

Launch into: ☒ EC2 ☐ VPC

Availability Zone: No Preference

☐ Request Spot Instances

[< Back](#) [Continue >](#)

effects availability zone

nothing to do here

Services

Edit

cmj @ 563700736850

N. Virginia

Help

EC2 Da

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Request Instances Wizard

CHOOSE AN AMI

INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL

REVIEW

Number of Instances: 1

Availability Zone: No Preference

Advanced Instance Options

Here you can choose a specific kernel or RAM disk to use with your instances. You can also choose to enable CloudWatch Detailed Monitoring or enter data that will be available from your instances once they launch.

Kernel ID:

Use Default

RAM Disk ID:

Use Default

Monitoring:

☐ Enable CloudWatch detailed monitoring for this instance
(additional charges will apply)

User Data:

☒ as text

☐ as file

(Use shift+enter to insert a newline)

☐ base64 encoded

☐ Prevention against accidental termination.

Termination Protection:

☐

Shutdown Behavior:

Stop

IAM Role:

None

< Back

Continue

instances

Alarm Status

none

none

none

Feedback

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nothing to do here



Services ▾

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Help ▾

Request Instances Wizard

Cancel

CHOOSE AN AMI **INSTANCE DETAILS** CREATE KEY PAIR CONFIGURE FIREWALL REVIEW

Number of Instances: 1

Availability Zone: No Preference

Storage Device Configuration

Your instance will be launched with the following storage device settings. Edit these settings to add EBS volumes, instance store volumes, or edit the settings of the root volume.

Type	Device	Snapshot ID	Size	Volume Type	IOPS	Delete on Termination
Root	/dev/sda1	snap-63ed2f2c	8	standard		true

0 EBS Volumes **0 Ephemerals**

Edit

< Back

Continue

name instance with naming convention



Services ▾

Edit ▾

cmj @ 563700736850 ▾

N. Virginia ▾

Help ▾

Request Instances Wizard

Cancel ✕

CHOOSE AN AMI **INSTANCE DETAILS** CREATE KEY PAIR CONFIGURE FIREWALL REVIEW

Add tags to your instance to simplify the administration of your EC2 infrastructure. A form of metadata, tags consist of a case-sensitive key/value pair, are stored in the cloud and are private to your account. You can create user-friendly names that help you organize, search, and browse your resources. For example, you could define a tag with key = Name and value = Webserver. You can add up to 10 unique keys to each instance along with an optional value for each key. For more information, go to [Using Tags](#) in the *EC2 User Guide*.

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

[Add another Tag.](#) (Maximum of 10)

< Back

Continue ▶

create new key pair

name key pair

Request Instances Wizard

Cancel

CHOOSE AN AMI INSTANCE DETAILS **CREATE KEY PAIR** CONFIGURE FIREWALL REVIEW

Public/private key pairs allow you to securely connect to your instance after it launches. For Windows Server instances, a Key Pair is required to set and deliver a secure encrypted password. For Linux server instances, a key pair allows you to SSH into your instance. To create a key pair, enter a name and click **Create & Download Your Key Pair**. You will be prompted to save the private key to your computer. Note: You only need to generate a key pair once - not each time you want to deploy an Amazon EC2 instance.

☐ Choose from your existing Key Pairs

☒ Create a new Key Pair

1. Enter a name for your key pair:* (e.g., jdoekey)

2. Click to create your key pair:* **Create & Download your Key Pair**

Save this file in a place that you will remember. You can use this key pair to launch other instances in the future or visit the Key Pairs page to create or manage existing ones.

☐ Proceed without a Key Pair

< Back Continue >

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download key pair
and copy it to ~/.ssh

create or use key pair for remote login



Services ▾

Edit ▾

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N. Virginia ▾

Help ▾

Request Instances Wizard

Cancel ✕

CHOOSE AN AMI

INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL

REVIEW

Security groups determine whether a network port is open or blocked on your instances. You may use an existing security group, or we can help you create a new security group to allow access to your instances using the suggested ports below. Add additional ports now or update your security group anytime using the Security Groups page.

☐ Choose one or more of your existing Security Groups

☒ Create a new Security Group

Group Name

cmj-webapp

Group Description

cmj web application secur

Inbound Rules

Create a new rule:

SSH

Source:

0.0.0.0/0

(e.g., 192.168.2.0/24, sg-47ad482e, or 12.4567890/default)

+ Add Rule

ssh rule

allowed ip addresses

< Back

Continue ▶



Request Instances Wizard

Cancel ✕

CHOOSE AN AMI

INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL

REVIEW

Security groups determine whether a network port is open or blocked on your instances. You may use an existing security group, or we can help you create a new security group to allow access to your instances using the suggested ports below. Add additional ports now or update your security group anytime using the Security Groups page.

☐ Choose one or more of your existing Security Groups☒ Create a new Security Group

Group Name

cmj-webapp

Group Description

cmj web application secur

Inbound Rules

Create a new rule:

Custom TCP rule

Port range:

(e.g., 80 or 49152-65535)

Source:

0.0.0.0/0

(e.g., 192.168.2.0/24, sg-47ad482e, or 1234567890/default)

+ Add Rule

ssh

TCP	Port (Service)	Source	Action
	22 (SSH)	0.0.0.0/0	Delete
	8080 (HTTP*)	0.0.0.0/0	Delete

tomcat

open to the world

< Back

Continue



Increased Security

The image shows a Google search for "what is my ip" and an AWS console configuration window for "Inbound Rules".

Google Search Results:

- Search query: what is my ip
- Results: About 488,000,000 results (0.14 seconds)
- Your public IP address is **72.240.63.90** - [Learn more](#)
- What Is My IP Address | Shows Your IP Address
- www.whatismyip.com/
- Locate **Your IP** Address; Speed Tests; IP Address Lookup; IP Address Host Lookup ...
- Knowing your own IP address is crucial for online gaming, tech support, ...
- [IP Address Lookup](#) - [Speed Test](#) - [How to Change Your IP Address](#) - [IP FAQ](#)

AWS Console Inbound Rules Configuration:

Create a new rule: Custom TCP rule

Port range: (e.g., 80 or 49152-65535)

Source: 0.0.0.0/0 (e.g., 192.168.2.0/24, sg-47ad482e, or 1234567890/default)

[+ Add Rule](#)

TCP Port (Service)	Source	Action
22 (SSH)	72.240.63.90/32	Delete
8080 (HTTP*)	0.0.0.0/0	Delete

[< Back](#) [Continue >](#)

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Services ▾

Edit ▾

cmj @ 563700736850 ▾

N. Virginia ▾

Help ▾

Request Instances Wizard

Cancel ✕

CHOOSE AN AMI

INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL

REVIEW

Please review the information below, then click **Launch**.**AMI:** Other Linux AMI ID ami-09078e60 (x86_64) [Edit AMI](#)**Number of Instances:** 1**Availability Zone:** No Preference**Instance Type:** M1 Small (m1.small)**Instance Class:** On Demand[Edit Instance Details](#)**EBS-Optimized:** No**Monitoring:** Disabled**Termination Protection:** Disabled**Tenancy:** Default**Kernel ID:** Use Default**Shutdown Behavior:** Stop**RAM Disk ID:** Use Default**Network Interfaces:****Secondary IP****Addresses:****User Data:****IAM Role:**[Edit Advanced Details](#)**Key Pair Name:** cmj-key[Edit Key Pair](#)**Security Group(s):** sg-749ea71c[Edit Firewall](#)[< Back](#)

Launch



your done

**Launch Instance Wizard**

Cancel

Your instances are now launching.

Instance ID(s): i-e93aae98

Note: Your instances may take a few minutes to launch, depending on the software you are running.

Note: Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

You can perform the following tasks while your instances are launching: **Create Status Check Alarms**

You can use status check alarms to be notified if these instances fail status checks (additional charges may apply).

Create EBS Volumes (Additional charges may apply.) **View your instances on the Instances page**

Close



ok, almost done

EC2 Dashboard
Events

INSTANCES

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Volumes

Snapshots

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Load Balancers

Key Pairs

Network Interfaces

Launch Instance

Actions ▾

Viewing: All Instances ▾

All Instance Types ▾

Search

1 to 4 of 4 Instances

<input type="checkbox"/>	Name	Instance	AMI ID	Root Device	Type	State	Status Checks	Ala
<input type="checkbox"/>	escab	i-c74fc6b6	ami-1624987f	ebs	m1.small	running	2/2 checks pa	Loe
<input type="checkbox"/>	njz-webapp-01	i-b3b53fc2	ami-09078e60	ebs	m1.small	running	2/2 checks pa	Loe
<input type="checkbox"/>	njz-db-01	i-474ac036	ami-71068f18	ebs	t1.micro	running	2/2 checks pa	Loe
<input checked="" type="checkbox"/>	cmj-webapp-01	i-e93aae98	ami-09078e60	ebs	m1.small	running	2/2 checks pa	Loe

your new instance

1 EC2 Instance selected.

EC2 Instance: cmj-webapp-01 (i-e93aae98)

ec2-23-22-9-39.compute-1.amazonaws.com

server name

Description

Status Checks

Monitoring

Tags

AMI:

Codemash-JavaWebServer (ami-09078e60)

Zone:

us-east-1b

Type:

m1.small

Scheduled Events:

No scheduled events

VPC ID:

-

Source/Dest. Check:**Alarm Status:**

Loading...

Security Groups:cmj-webapp. [view rules](#)**State:**

running

Owner:

563700736850

Subnet ID:

-

Virtualization:

paravirtual

Apache Tomcat/7.0.34


ec2-23-22-9-39.compute-1.amazonaws.com:8080

Home Documentation Configuration Examples Wiki Mailing Lists Find H

Apache Tomcat/7.0.34

The Apache Software Foundation
http://www.apache.org

If you're seeing this, you've successfully installed Tomcat.
Congratulations!



Recommended Reading:

- [Security Considerations HOW-TO](#)
- [Manager Application HOW-TO](#)
- [Clustering/Session Replication HOW-TO](#)

[Server Status](#)

[Manager App](#)

[Host Manager](#)

Developer Quick Start

Volumes

Snapshots

NETWORK & SECURITY

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

563700736850 ▾ N. Virginia ▾ Help ▾

1 to 4 of 4 Instances

Type	State	Status Checks	Ala
m1.small	● running	✓ 2/2 checks pa	Loe
m1.small	● running	✓ 2/2 checks pa	Loe
t1.micro	● running	✓ 2/2 checks pa	Loe
m1.small	● running	✓ 2/2 checks pa	Loe

EC2 Instance: cmj-webapp-01 (i-e93aae98) ●

ec2-23-22-9-39.compute-1.amazonaws.com

Description

Status Checks

Monitoring

Tags

AMI:
Codemash-JavaWebServer (ami-09078e60)

Zone: us-east-1b

Type: m1.small

Scheduled Events: No scheduled events

VPC ID: -

Source/Dest. Check:

Alarm Status: Loading...

Security Groups: cmj-webapp. [view rules](#)

State: running

Owner: 563700736850

Subnet ID: -

Virtualization: paravirtual

Remote access to your EC2 instance

key downloaded earlier



login as ec2-user



server name



```
$ ssh -i ~/.ssh/your-key-pair.pem ec2-user@ec2-23-22-9-39.compute-1.amazonaws.com
```

```
The authenticity of host 'ec2-23-22-9-39.compute-1.amazonaws.com (50.19.72.29)' 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 'ec2-23-22-9-39.compute-1.amazonaws.com,50.19.72.29' (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-user@ec2-50-19-72-29.compute-1.amazonaws.com
Last login: Thu Dec 29 13:47:16 2011 from 70.60.135.250
```

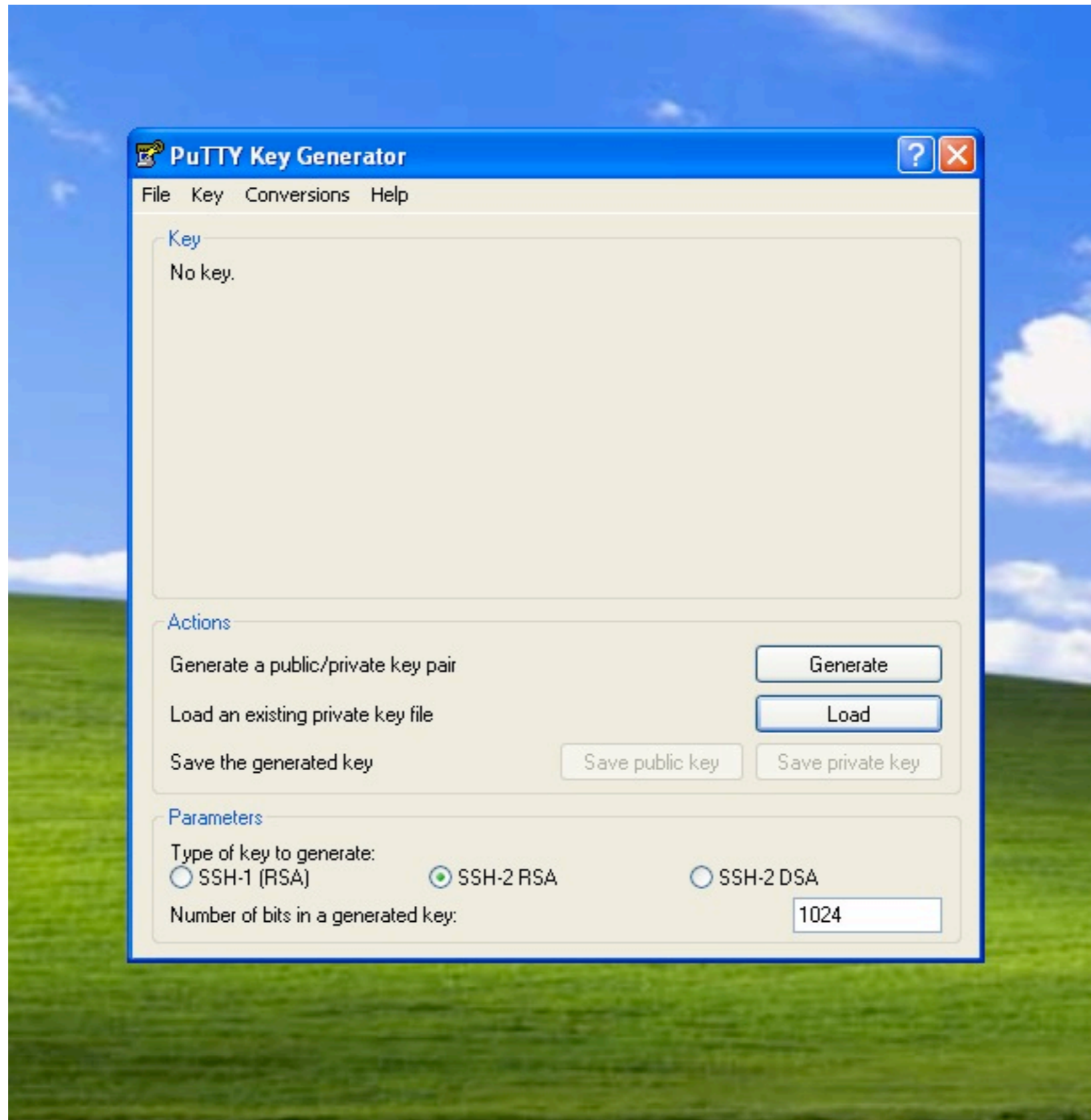
```
 _ | _ | _ )
 _ | ( _ /   Amazon Linux AMI
 _ | \ _ | _ |
```

```
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:

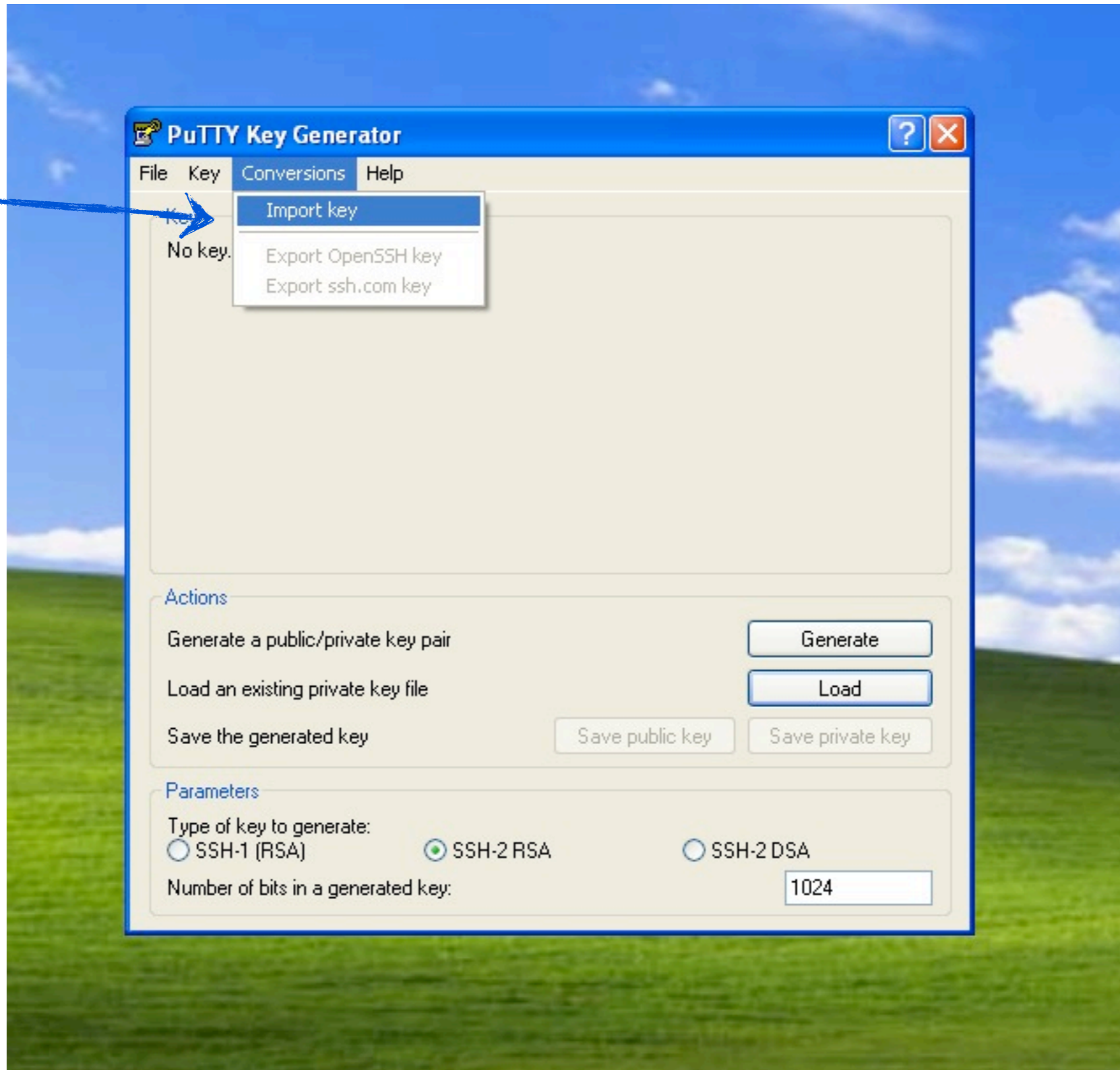
-  install software
-  start services

SSHing using Putty

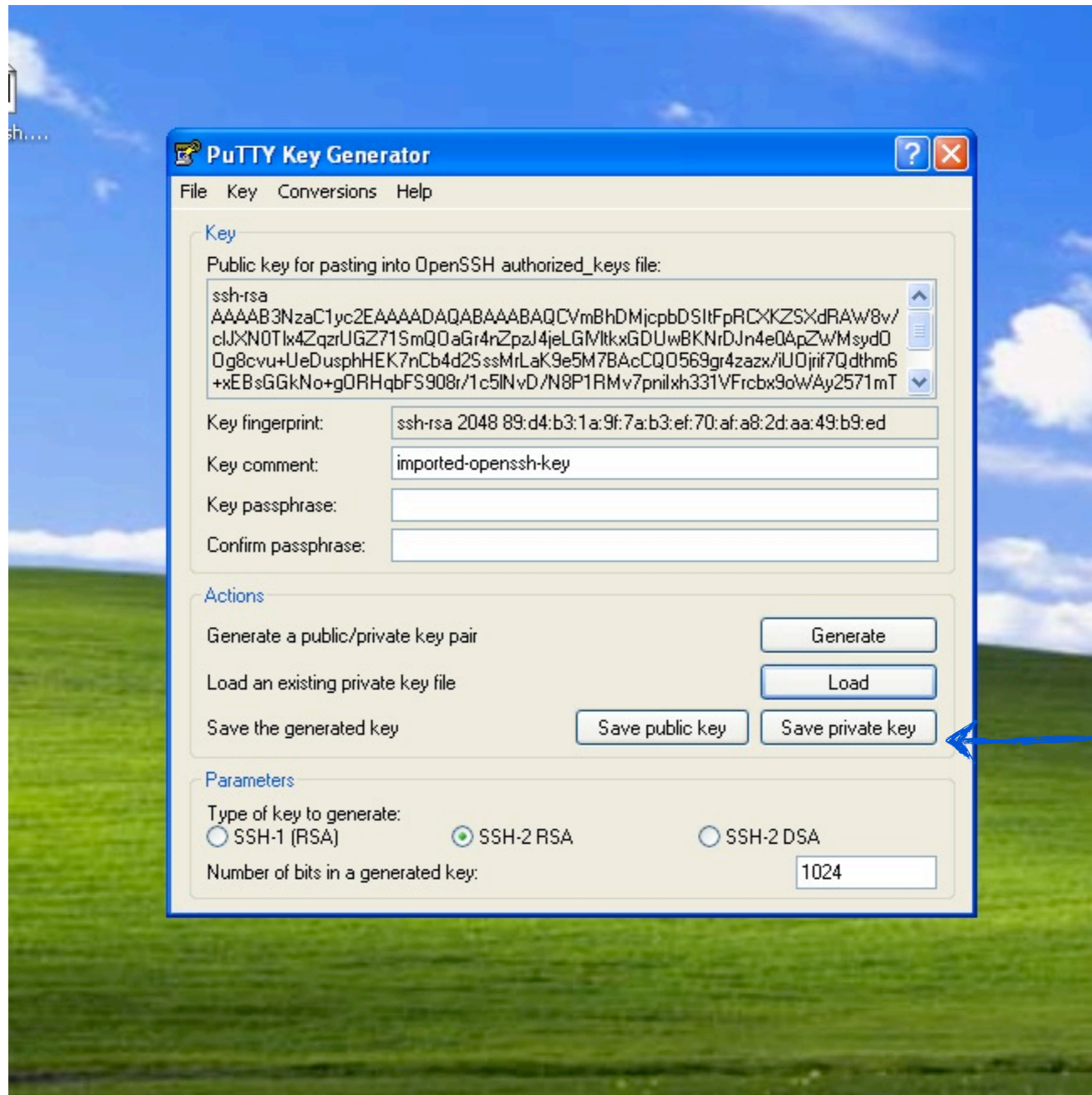


Importing the PEM file

Import PEM file
for conversion

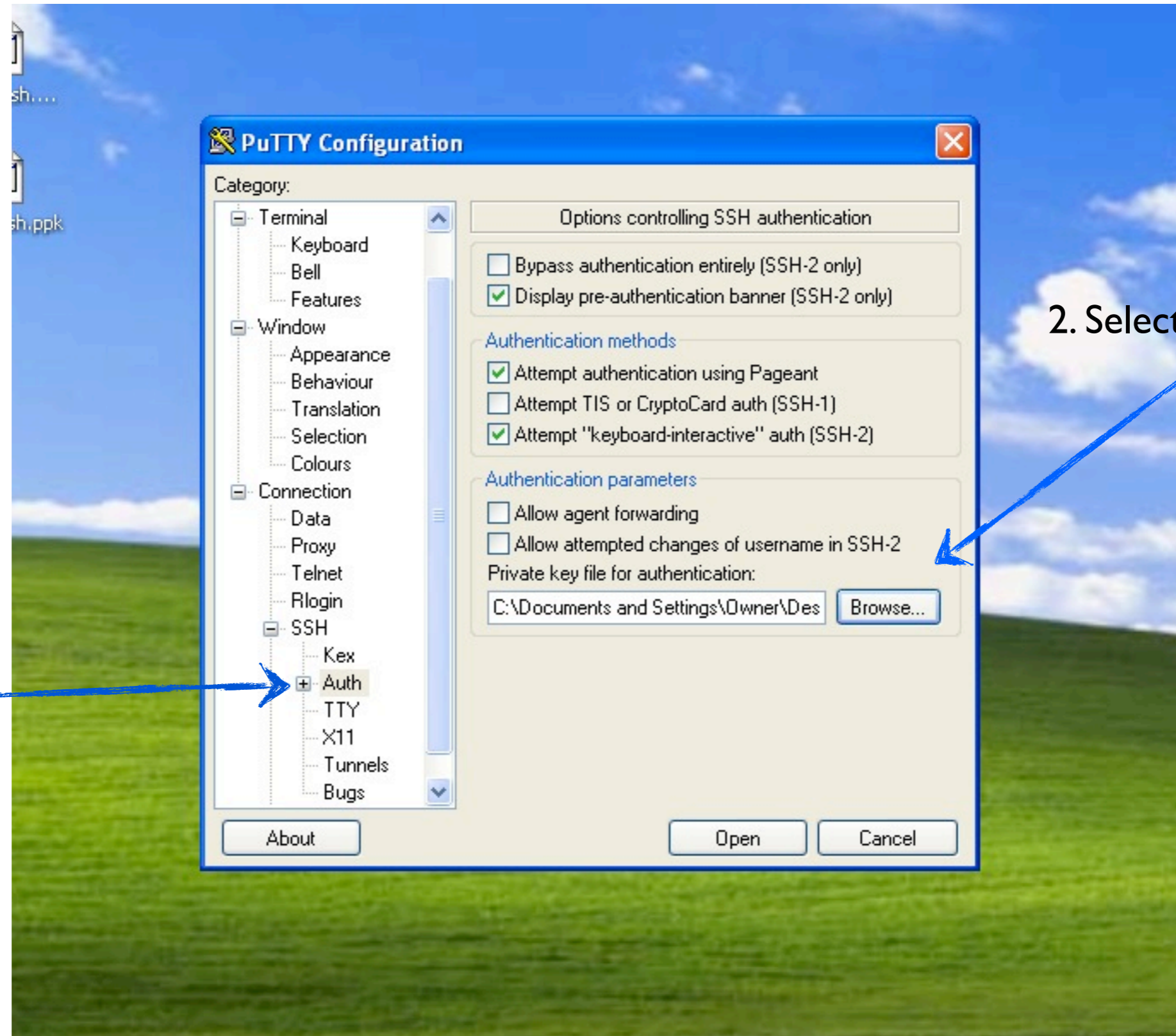


Conversion of Pem to PPK



Save private key
(ppk)

Setting up PuTTY to use PPK

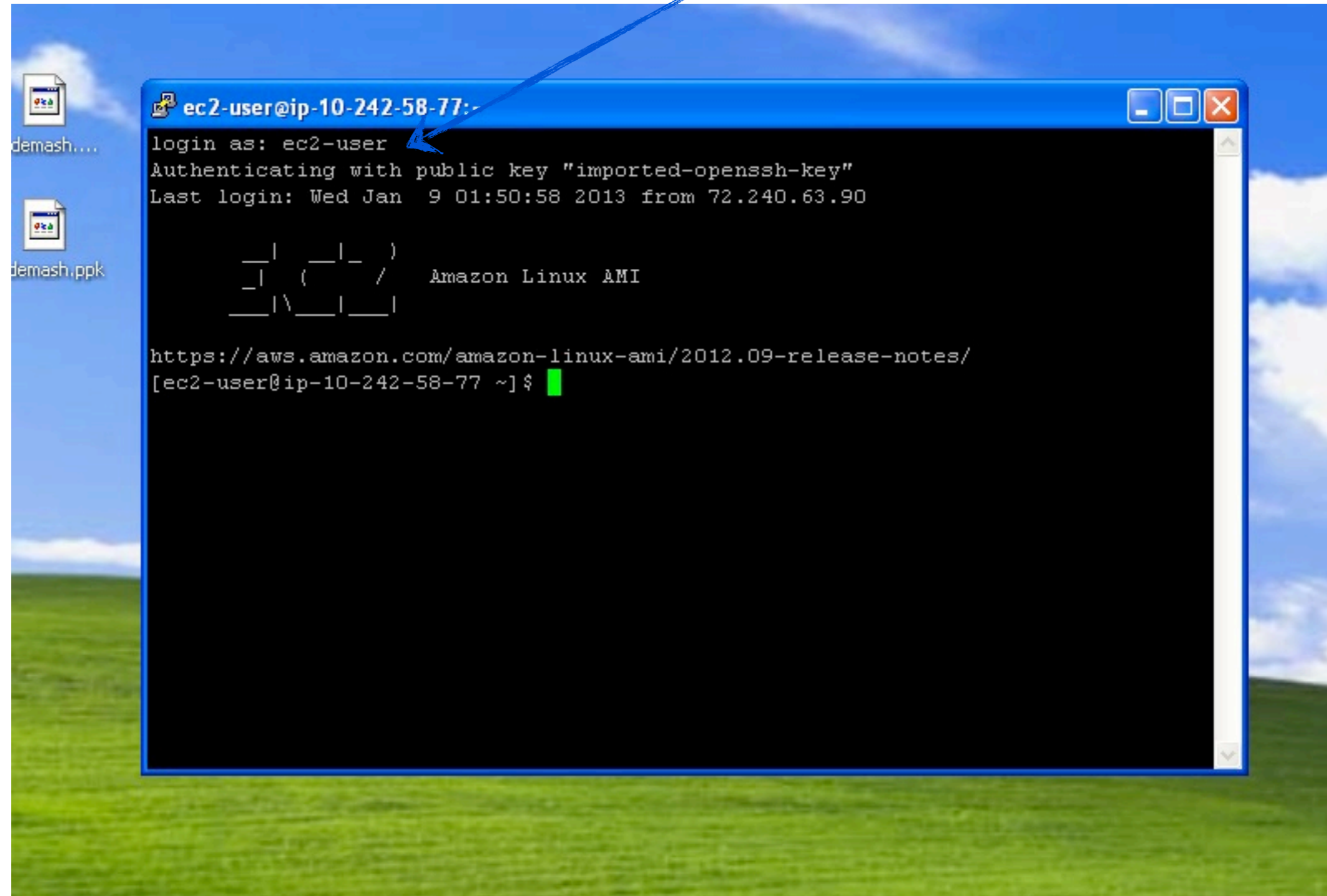


1. Navigate to
Connection > SSH
> Auth

2. Select ppk file here

Log in via Putty

When prompted for login enter **ec2-user**



EC2 Dashboard
Events

INSTANCES

Instances

Spot Requests

Reserved Instances

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AMIs

Bundle Tasks

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Volumes

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Network Interfaces

Launch Instance

Actions ▾

Viewing: All Instances ▾

All Instance Types ▾

Search

1 to 4 of 4 Instances

<input type="checkbox"/>	Name	Instance	AMI ID	Root Device	Type	State	Status Checks	Alarm
<input type="checkbox"/>	escab	i-c74fc6b6	ami-1624987f	ebs	m1.small	running	2/2 checks passed	Load...
<input type="checkbox"/>	njz-webapp-01	i-b3b53fc2	ami-09078e60	ebs	m1.small	running	2/2 checks passed	Load...
<input type="checkbox"/>	njz-db-01	i-474ac036	ami-71068f18	ebs	t1.micro	running	2/2 checks passed	Load...
<input checked="" type="checkbox"/>	cmj-webapp-01	i-474ac036	ami-71068f18	ebs	m1.small	running	2/2 checks passed	Load...

Instance Management

- Connect
- Get System Log
- Create Image (EBS AMI)
- Add/Edit Tags
- Change Security Groups
- Change Source / Dest Check
- Launch More Like This
- Disassociate IP Address
- Change Termination Protection
- View/Change User Data
- Change Instance Type
- Change Shutdown Behavior
- Attach Network Interface
- Detach Network Interface
- Manage Private IP Addresses

Instance Lifecycle

- Terminate
- Reboot
- Stop
- Start

1 EC2 Instance

EC2 Instance

ec2-23-22

Description

AMI:

Codemash-

Zone:

Type:

Schedule:

VPC ID:

Source/D

93aae98)

s.com

Tags

Alarm Status:

Loading...

Security Groups:

cmj-webapp. [view rules](#)

State:

running

Owner:

563700736850

Subnet ID:

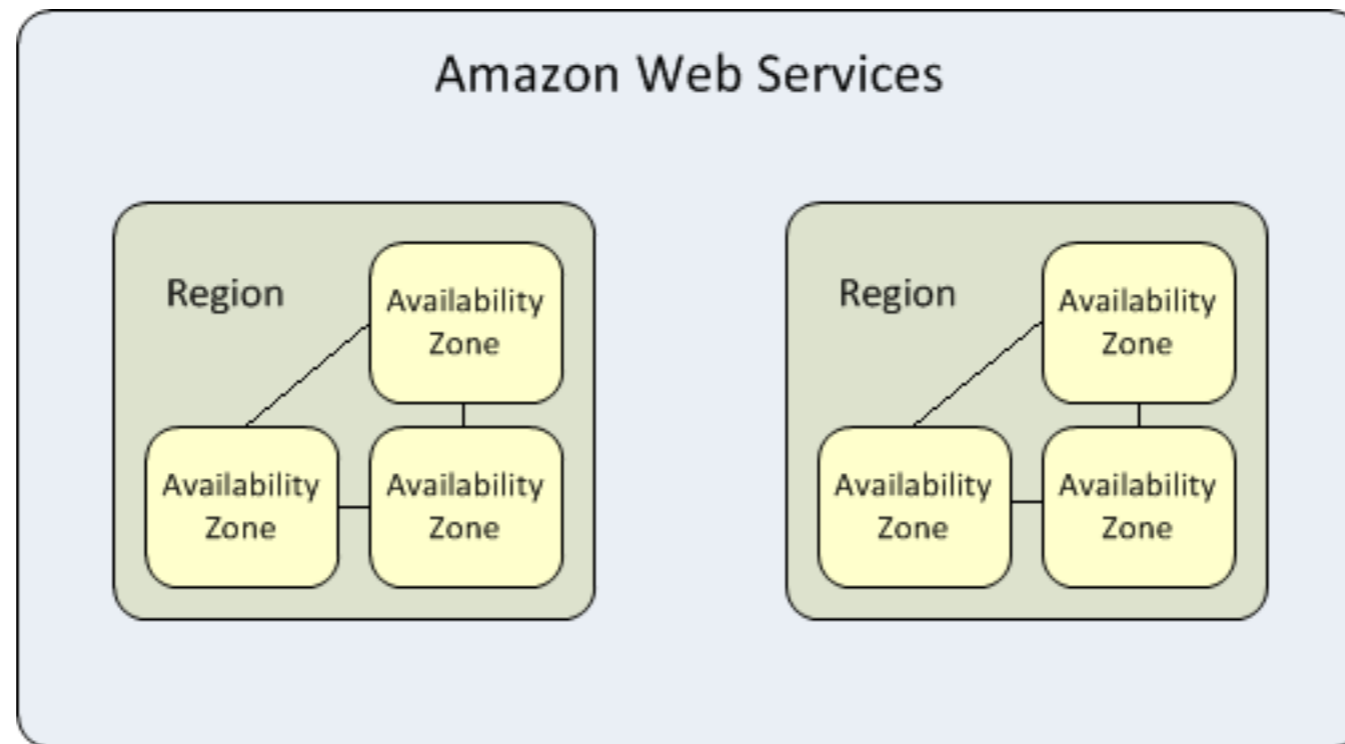
-

Virtualization:

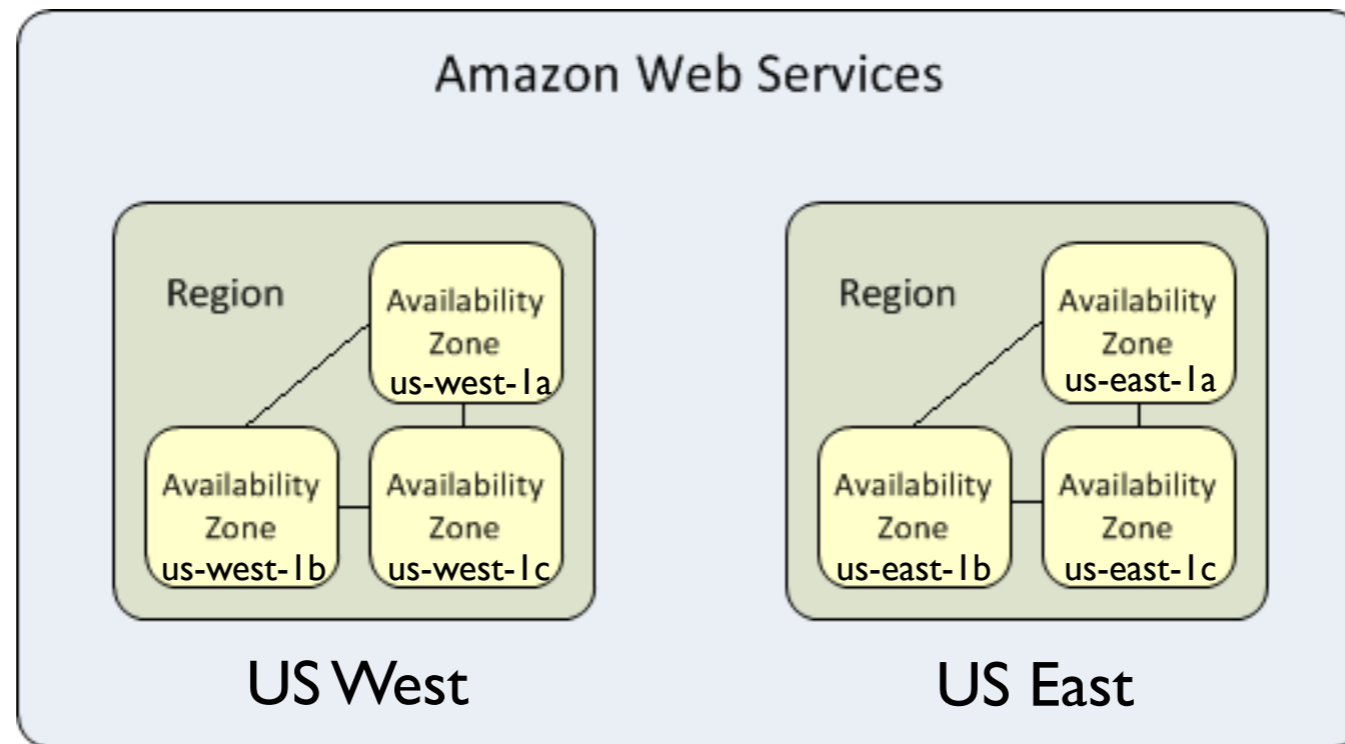
paravirtual

create a new AMI from this

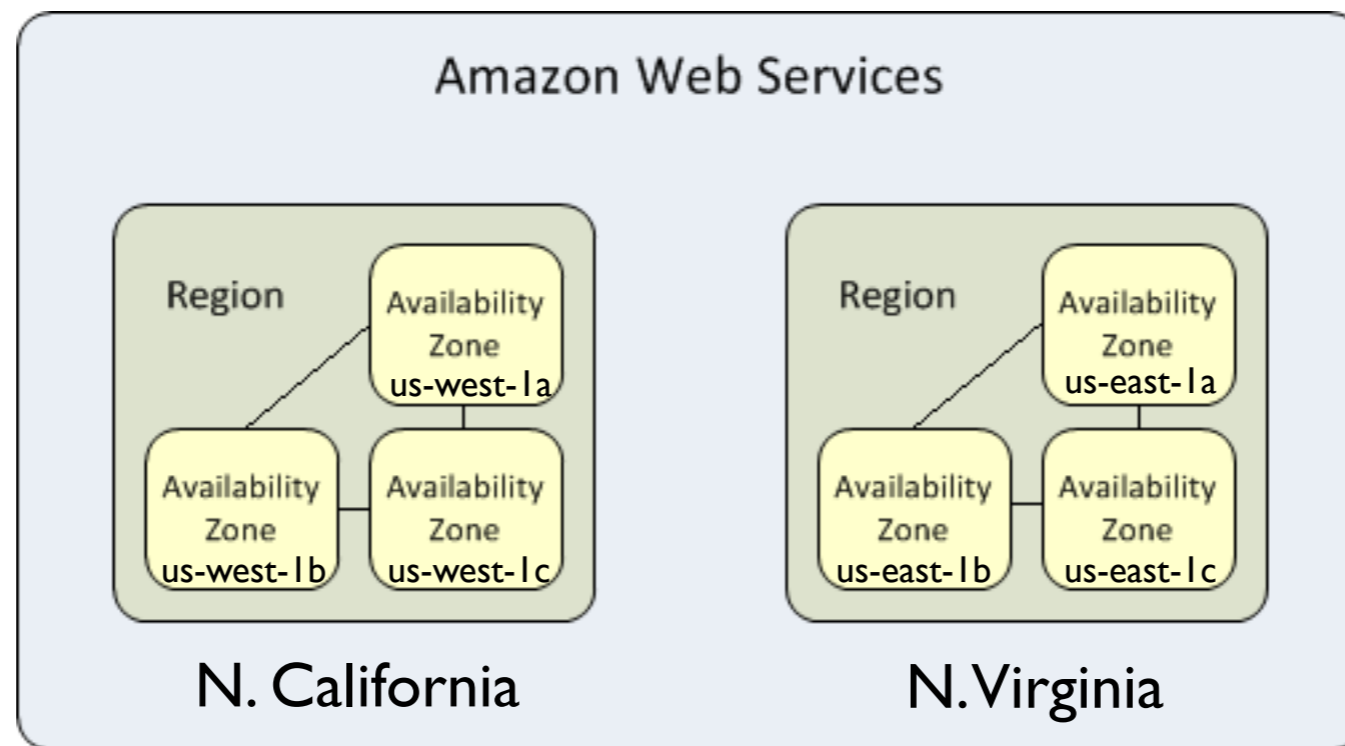
Regions and Availability Zones



Regions and Availability Zones



Regions and Availability Zones



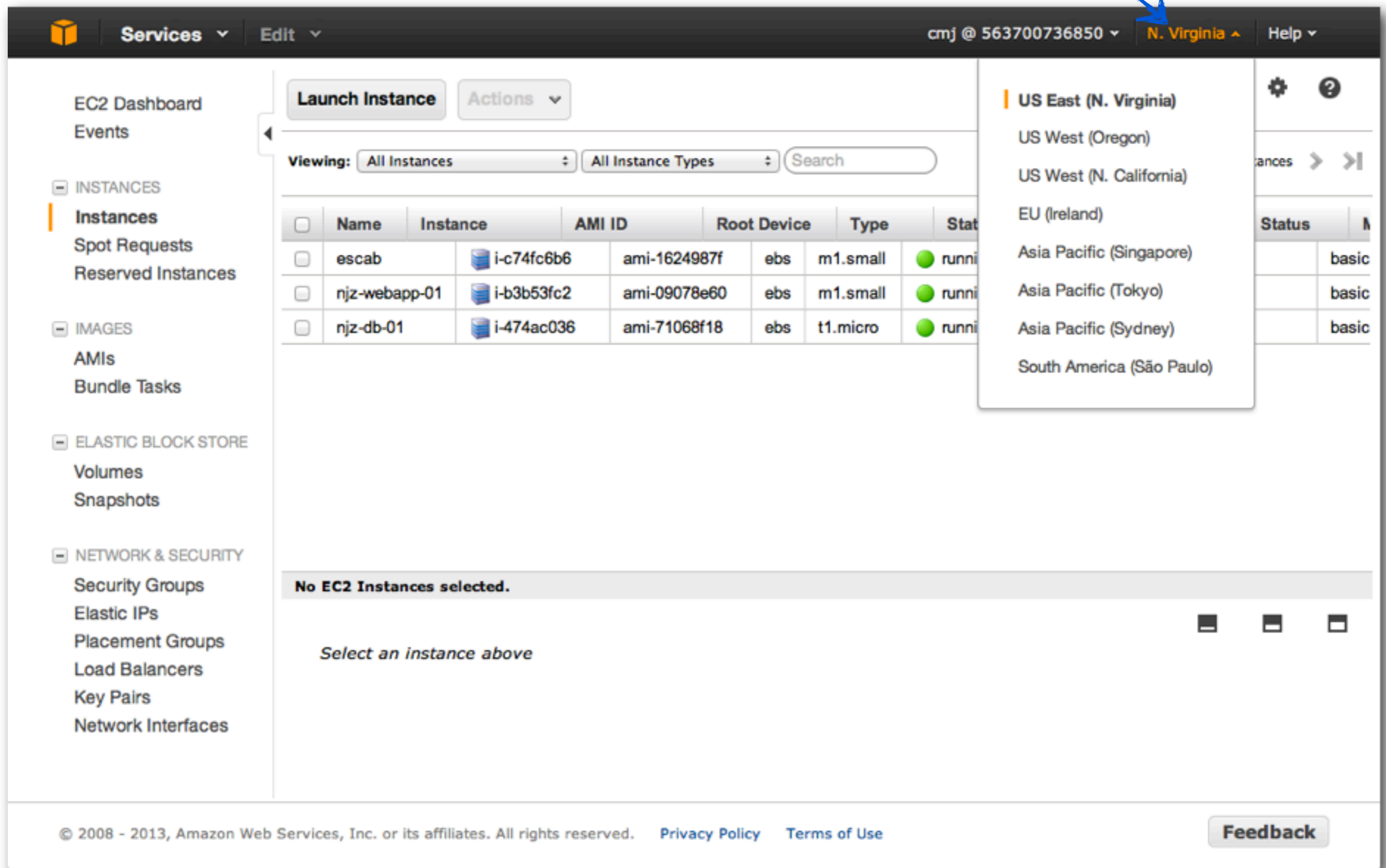
N. Virginia ^

- | **US East (N. Virginia)**
- US West (Oregon)
- US West (N. California)
- EU (Ireland)
- Asia Pacific (Singapore)
- Asia Pacific (Tokyo)
- Asia Pacific (Sydney)
- South America (São Paulo)

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 Dashboard

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Viewing: All Instances All Instance Types Search

	Name	Instance	AMI ID	Root Device	Type	Status
<input type="checkbox"/>	escab	i-c74fc6b6	ami-1624987f	ebs	m1.small	running
<input type="checkbox"/>	njz-webapp-01	i-b3b53fc2	ami-09078e60	ebs	m1.small	running
<input type="checkbox"/>	njz-db-01	i-474ac036	ami-71068f18	ebs	t1.micro	running

No EC2 Instances selected.

Select an instance above

US East (N. Virginia)

US West (Oregon)

US West (N. California)

EU (Ireland)

Asia Pacific (Singapore)

Asia Pacific (Tokyo)

Asia Pacific (Sydney)

South America (São Paulo)

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Feedback


Half/Half

EC2 WITH COMMAND LINE


Setup For Console Usage

Access Credentials

There are three types of access credentials used to authenticate your requests to AWS services: (a) access keys, (b) X.509 certificates, and (c) key pairs. Each access credential type is explained below.

 Access Keys

 **X.509 Certificates**

 Key Pairs

Use X.509 certificates to make secure SOAP protocol requests to AWS service APIs.

Exceptions: Amazon S3 and Amazon Mechanical Turk instead require your [Access Keys](#) for SOAP requests.

Created

X.509 Certificate

Status

[Create a new Certificate](#) | [Upload Your Own Certificate](#)

For your protection, AWS doesn't ask for your private key or retain it on file. You should also never share your private key with anyone. In addition, industry best practice recommends frequent certificate rotation.

 [Learn more about X.509 Certificates](#)

Console Environment Setup

- Download AWS Console API Tools
 - <http://developer.amazonwebservices.com/connect/entry.jspa?externalID=351&categoryID=88>
- Setup Your Path
 - export EC2_HOME=<Path to extracted download above>
 - export PATH=\$PATH:\$EC2_HOME/bin
 - export EC2_PRIVATE_KEY=<Path to downloaded key pair>
 - export EC2_CERT=<Path to downloaded X.509 certificate>
 - export JAVA_HOME=<Path to java install>

Console Usage

- `ec2-describe-images -o amazon`
- `ec2-add-keypair <key-pair-name>`
- `ec2-add-group <sec-group> -d <description>`
- `ec2-authorize <sec-group> -p 22`
- `ec2-run-instances <ami-id> -k <key-pair-name> -g <sec-group>`
- `ec2-describe-instances`
- `ssh -i <key-pair-pem-file> ec2-user@ec2-xx-xxx-xx-xx.compute-1.amazonaws.com`
- `ec2-stop-instances <instance-id>`
- `ec2-terminate-instances <instance-id>`

EC2 WITH JAVA SDK

Letting AWS know who you are

Using Java SDK

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

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

Creating a New Key Pair

Using Java SDK

```
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

Using the Java SDK

```
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 the EC2 Instance

Using the Java SDK

```
// 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 the 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

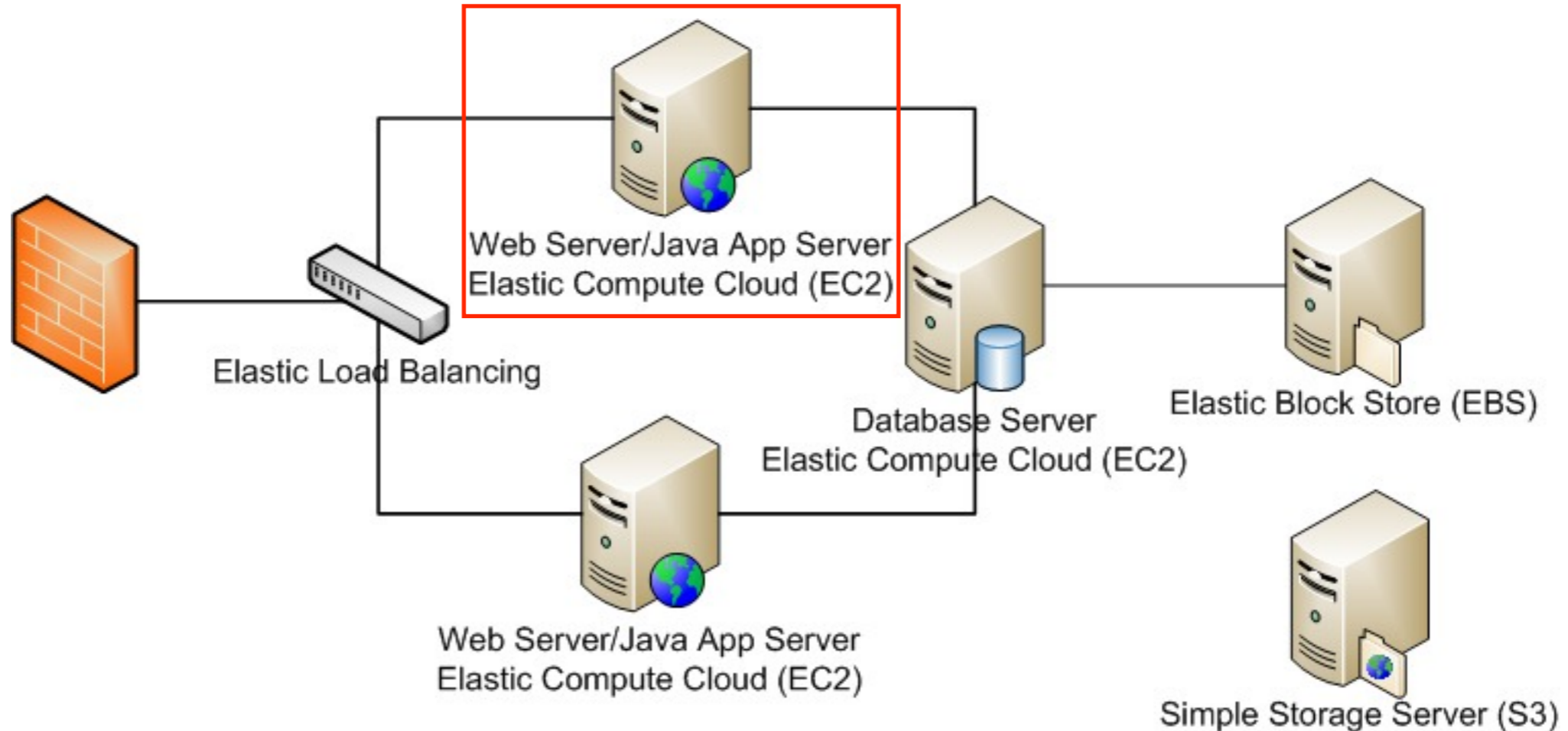
<http://puppetlabs.com/>

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

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

Lab I

1. Start instance of UberConf-2013-JavaWebServer
2. Verify Tomcat is running accessible
3. ssh to JavaWebServer instance
4. Stop JavaWebServer instance
5. Restart JavaWebServer 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

instance



Services ▾

Edit ▾

cmj @ 563700736850 ▾

N. Virginia ▾

Help ▾

Request Instances Wizard

Cancel X



CHOOSE AN AMI

INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL

REVIEW

Choose an Amazon Machine Image (AMI) from one of the tabbed lists below by clicking its **Select** button.

Quick Start

My AMIs

Community AMIs

AWS Marketplace

Viewing:

All Images

Search



1 to 50 of 14305 Items



AMI ID	Root Device	Manifest	Platform	
ami-000af969	instance store	bitnami-cloud/wordpress/bitnami-wordpress-3.1.0-lin	Ubuntu	Select
ami-0011e069	instance store	clovr-standard-2011-01-07-16-01-33/clovr-standard-2	Other Linux	Select
ami-0017b369	instance store	clovr-standard-2012-05-15-03-00-26/clovr-standard-2	Other Linux	Select
ami-0022c769	instance store	level22-ec2-images/ubuntu-7.04-feisty-base-200712	Ubuntu	Select
ami-00279c69	instance store	bitnami-cloud/gitorious/bitnami-gitorious-2.3.2-0-lin	Ubuntu	Select
ami-002bf169	instance store	bitnami-cloud/wordpress/bitnami-wordpress-3.3.2-0-r	Ubuntu	Select
ami-002dd269	ebs	293077032498/xsd.web.server	Windows	Select
ami-0032c769	ebs	816268476753/cit-c-2-5-1285003210	Windows	Select
ami-00358c69	instance store	bitnami-cloud/jrubystack/bitnami-jrubystack-1.7.0.R	Ubuntu	Select
ami-00399869	ebs	485391117403/ImageTestServer	Other Linux	Select
ami-0055ad69	ebs	962722313162/ubuntu-jenkins-slave	Ubuntu	Select



Free tier eligible if used with a micro instance. See [AWS free tier](#) for complete details and terms.

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	\$0.095 per GB	\$0.076 per GB	\$0.010 per GB
Next 49 TB / month	\$0.080 per GB	\$0.064 per GB	\$0.010 per GB
Next 450 TB / month	\$0.070 per GB	\$0.056 per GB	\$0.010 per GB
Next 500 TB / month	\$0.065 per GB	\$0.052 per GB	\$0.010 per GB
Next 4000 TB / month	\$0.060 per GB	\$0.048 per GB	\$0.010 per GB
Over 5000 TB / month	\$0.055 per GB	\$0.037 per GB	\$0.010 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 ††
† No charge for delete requests of Standard or RRS objects. For objects that are archived to Glacier, there is a pro-rated charge of \$0.03 per gigabyte for objects deleted prior to 90 days. Learn more.	
†† Glacier is designed with the expectation that restores are infrequent and unusual, and data will be stored for extended periods of time. You can restore up to 5% of your average monthly Glacier storage (pro-rated daily) for free each month. If you choose to restore more than this amount of data in a month, you are charged a restore fee starting at \$0.01 per gigabyte. Learn more.	

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

EBS Pricing

Region:

Amazon EBS Standard volumes

- \$0.10 per GB-month of provisioned storage
- \$0.10 per 1 million I/O requests

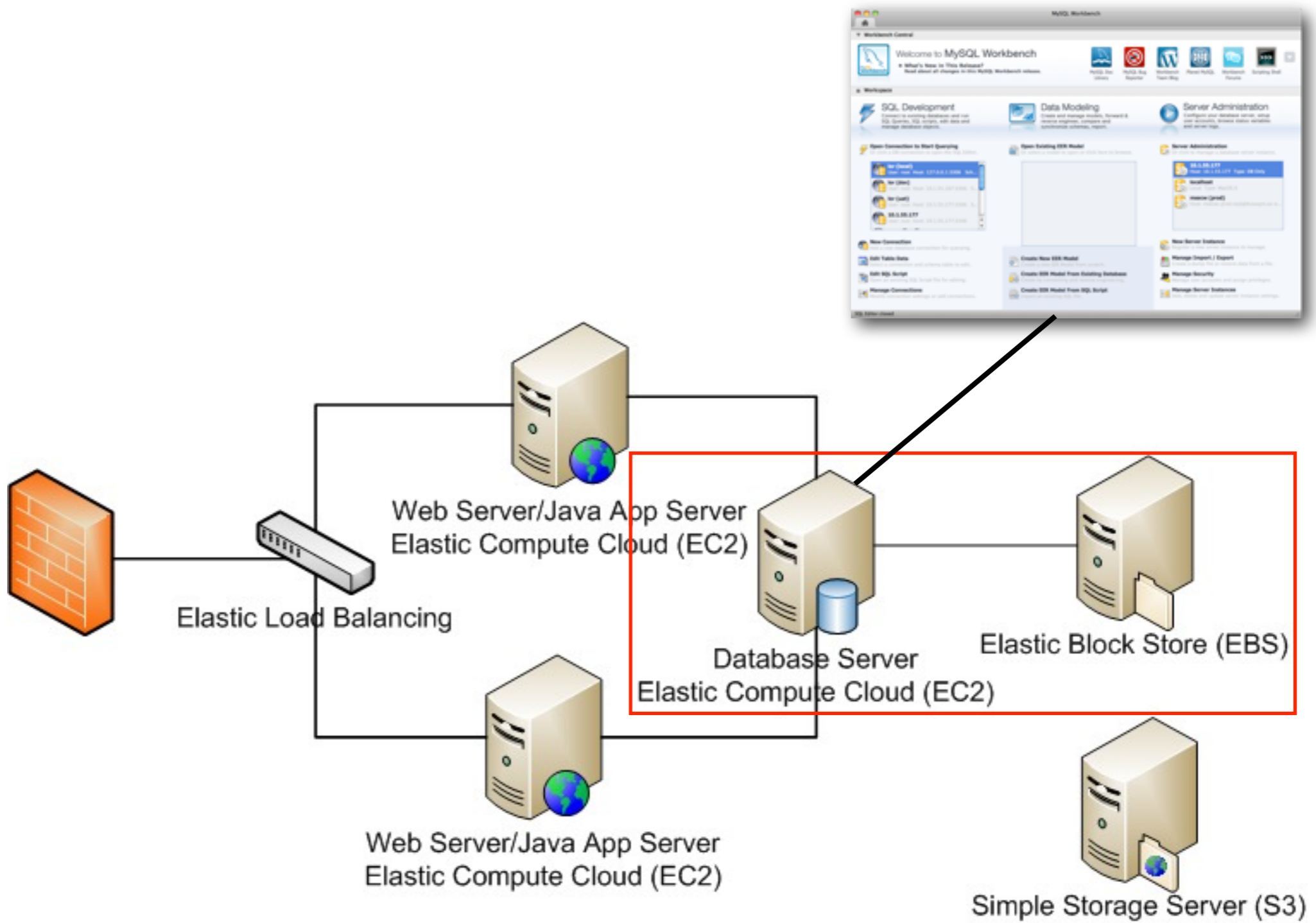
Amazon EBS Provisioned IOPS volumes

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


Amazon EBS Snapshots to Amazon S3

- \$0.095 per GB-month of data stored

DATABASE



launch here

 **Services** ▾ **Edit** ▾

cmj @ 563700736850 ▾ N. Virginia ▾ **Help** ▾

EC2 Dashboard

Events

INSTANCES

Instances

Spot Requests

Reserved Instances

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AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Load Balancers

Key Pairs







Network Interfaces

Launch Instance

Actions ▾

Viewing: All Instances ▾ All Instance Types ▾

1 to 3 of 3 Instances

<input type="checkbox"/>	Name	Instance	AMI ID	Root Device	Type	State	Status Checks	Alarm Status	Monitoring	Security Groups	Key Pair Name	
<input type="checkbox"/>	escab	 i-c74fc6b6	ami-1624987f	ebs	m1.small	 running	2/2 checks passed	none	basic	awseb-e-2uamvdj3	Codemash	paravirtual
<input type="checkbox"/>	njz-webapp-01	 i-b3b53fc2	ami-09078e60	ebs	m1.small	 running	2/2 checks passed	none	basic	njz-webapp	Codemash	paravirtual
<input type="checkbox"/>	njz-db-01	 i-474ac036	ami-71068f18	ebs	t1.micro	 running	2/2 checks passed	none	basic	njz-db	Codemash	paravirtual

No EC2 Instances selected.

Select an instance above

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Feedback

search for codemash

select MySQLServer AMI



Services ▾

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Help ▾

Request Instances Wizard

Cancel X



CHOOSE AN AMI

INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL

REVIEW

Choose an Amazon Machine Image (AMI) from one of the tabbed lists below by clicking its **Select** button.

Quick Start

My AMIs

Community AMIs

AWS Marketplace

Viewing:

All Images ▾

codemash



1 to 2 of 2 Items



AMI ID	Root Device	Manifest	Platform	
ami-09078e60	ebs	563700736850/Codemash-JavaWebServer	Other Linux	Select
ami-71068f18	ebs	563700736850/Codemash-MysqlServer	Other Linux	Select



Free tier eligible if used with a micro instance. See [AWS free tier](#) for complete details and terms.



Request Instances Wizard

Cancel X

CHOOSE AN AMI

INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL

REVIEW

Provide the details for your instance(s). You may also decide whether you want to launch your instances as "on-demand" or "spot" instances.

Number of Instances:

1

Instance Type:

T1 Micro (t1.micro, 613 MiB) ▾

Launch as an EBS-Optimized instance (additional charges apply):

☐ Not supported for this instance type☒ Launch Instances

EC2 Instances let you pay for compute capacity by the hour with no long term commitments. This transforms what are commonly large fixed costs into much smaller variable costs.

Launch into:

☒ EC2 ☐ VPC

Availability Zone:

No Preference ▾

☐ Request Spot Instances

< Back

Continue



nothing to do here

Services

Edit

cmj @ 563700736850

N. Virginia

Help

Request Instances Wizard

Cancel

CHOOSE AN AMI

INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL

REVIEW

Number of Instances: 1

Availability Zone: No Preference

Advanced Instance Options

Here you can choose a specific kernel or RAM disk to use with your instances. You can also choose to enable CloudWatch Detailed Monitoring or enter data that will be available from your instances once they launch.

Kernel ID:

Loading...

RAM Disk ID:

Loading...

Monitoring:

☐ Enable CloudWatch detailed monitoring for this instance
(additional charges will apply)

User Data:

☒ as text

☐ as file

(Use shift+enter to insert a newline)

☐ base64 encoded

Termination Protection:

☐ Prevention against accidental termination.

Shutdown Behavior:

Stop

IAM Role:

None

< Back

Continue

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nothing to do here



Services ▾

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Help ▾

Request Instances Wizard

Cancel



Number of Instances: 1

Availability Zone: No Preference

Storage Device Configuration

Your instance will be launched with the following storage device settings. Edit these settings to add EBS volumes, instance store volumes, or edit the settings of the root volume.

Type	Device	Snapshot ID	Size	Volume Type	IOPS	Delete on Termination
Root	/dev/sda1	snap-6531f32a	8	standard		true

0 EBS Volumes

Edit

[< Back](#)

Continue

Feedback

name instance with naming convention



Services ▾

Edit ▾

cmj @ 563700736850 ▾

N. Virginia ▾

Help ▾

Request Instances Wizard

Cancel ✕

CHOOSE AN AMI **INSTANCE DETAILS** CREATE KEY PAIR CONFIGURE FIREWALL REVIEW

Add tags to your instance to simplify the administration of your EC2 infrastructure. A form of metadata, tags consist of a case-sensitive key/value pair, are stored in the cloud and are private to your account. You can create user-friendly names that help you organize, search, and browse your resources. For example, you could define a tag with key = Name and value = Webserver. You can add up to 10 unique keys to each instance along with an optional value for each key. For more information, go to [Using Tags](#) in the *EC2 User Guide*.

Key (127 characters maximum)	Value (255 characters maximum)	Remove
Name	cmj-db-01	✕
		✕

[Add another Tag.](#) (Maximum of 10)

< Back

Continue ▶

select existing key pairs

The screenshot shows the 'Request Instances Wizard' in the AWS Management Console. The wizard is at the 'CREATE KEY PAIR' step, which is highlighted in orange. The previous step, 'CHOOSE AN AMI', is also highlighted. The next steps are 'CONFIGURE FIREWALL' and 'REVIEW'. The wizard explains that public/private key pairs allow secure connection to the instance. It provides instructions on how to create a key pair and notes that it only needs to be generated once. There are three radio button options: 'Choose from your existing Key Pairs' (selected), 'Create a new Key Pair', and 'Proceed without a Key Pair'. The 'Choose from your existing Key Pairs' option has a dropdown menu showing 'cmj-key'. A blue arrow points to this option. At the bottom, there are 'Back' and 'Continue' buttons. The footer contains copyright information, links to Privacy Policy and Terms of Use, and a Feedback button.

Services Edit cmj @ 563700736850 N. Virginia Help

Request Instances Wizard

Cancel

CHOOSE AN AMI INSTANCE DETAILS **CREATE KEY PAIR** CONFIGURE FIREWALL REVIEW

Public/private key pairs allow you to securely connect to your instance after it launches. For Windows Server instances, a Key Pair is required to set and deliver a secure encrypted password. For Linux server instances, a key pair allows you to SSH into your instance. To create a key pair, enter a name and click **Create & Download Your Key Pair**. You will be prompted to save the private key to your computer. Note: You only need to generate a key pair once - not each time you want to deploy an Amazon EC2 instance.

☒ **Choose from your existing Key Pairs**

Your existing Key Pairs*: cmj-key

☐ **Create a new Key Pair**

☐ **Proceed without a Key Pair**

< Back Continue

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developer's machine

Request Instances Wizard [Cancel]

CHOOSE AN AMI | INSTANCE DETAILS | CREATE KEY PAIR | **CONFIGURE FIREWALL** | REVIEW

Security groups determine whether a network port is open or blocked on your instances. You may use an existing security group, or we can help you create a new security group to allow access to your instances using the suggested ports below. Add additional ports now or update your security group anytime using the Security Groups page.

☐ Choose one or more of your existing Security Groups

☒ **Create a new Security Group**

Group Name

Group Description

Inbound Rules

Create a new rule:

Port range:
(e.g., 80 or 49152-65535)

Source:
(e.g., 192.168.2.0/24, sg-47ad482e, or 1234567890/default)

TCP	Port (Service)	Source	Action
	22 (SSH)	0.0.0.0/0	Delete
	3306 (MYSQL)	72.240.63.95/32	Delete
	3306 (MYSQL)	sg-749ea71c	Delete

[< Back](#) [Continue >](#)

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web application security group



Request Instances Wizard

Cancel

CHOOSE AN AMI

INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL

REVIEW

Please review the information below, then click **Launch**.**AMI:** Other Linux AMI ID ami-71068f18 (x86_64) [Edit AMI](#)**Number of Instances:** 1**Availability Zone:** No Preference**Instance Type:** T1 Micro (t1.micro)**Instance Class:** On Demand[Edit Instance Details](#)**EBS-Optimized:** No**Monitoring:** Disabled**Termination Protection:** Disabled**Tenancy:** Default**Kernel ID:** Use Default**Shutdown Behavior:** Stop**RAM Disk ID:** Use Default**Network Interfaces:****Secondary IP****Addresses:****User Data:****IAM Role:**[Edit Advanced Details](#)**Key Pair Name:** cmj-key[Edit Key Pair](#)**Security Group(s):** sg-d492abbc[Edit Firewall](#)[< Back](#)[Launch](#)

**Launch Instance Wizard**

Cancel

Your instances are now launching.

Instance ID(s): i-59ee7928

Note: Your instances may take a few minutes to launch, depending on the software you are running.

Note: Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

You can perform the following tasks while your instances are launching: **Create Status Check Alarms**

You can use status check alarms to be notified if these instances fail status checks (additional charges may apply).

[Create EBS Volumes](#) (Additional charges may apply.) [View your instances on the Instances page](#)

Close

**Scheduled Events:** No scheduled events**VPC ID:** -**Source/Dest. Check:****Placement Group:****Owner:** 563700736850**Subnet ID:** -**Virtualization:** paravirtual**Reservation:** r-d26169aa

```
$ ssh -i ~/.ssh/your-key-pair.pem ec2-user@ec2-184-72-144-98.compute-1.amazonaws.com
```

```
$ mysql -u codemash -pcodemash -e 'create database nuev'
```

```
$ mysql -h ec2-54-243-16-144.compute-1.amazonaws.com -u codemash -p nuev
```

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: Type a name for the connection

Connection Method: Method to use to connect to the RDBMS

Parameters Advanced

Hostname: Port: Name or IP address of the server host - TCP/IP port

Username: Name of the user to connect with.

Password: The user's password.

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

user = codemash
password = codemash

AMIs
Bundle Tasks

☐ ELASTIC BLOCK STORE
Volumes
Snapshots

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

1 EC2 Instance selected.

EC2 Instance: cmj-db-01 (i-c0ecbda2) ec2-184-72-144-98.compute-1.amazonaws.com

Description Status Checks Monitoring Tags

AMI:	Codemash2012MySQL Server (ami-d1984fb8)	Zone:	us-east-1b
Security Groups:	cmj-db	Type:	t1.micro
State:	running	Scheduled Events:	No scheduled events
Owner:	892852523686	VPC ID:	-

```
// 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://ec2-184-72-144-98-compute-1.amazonaws.com: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

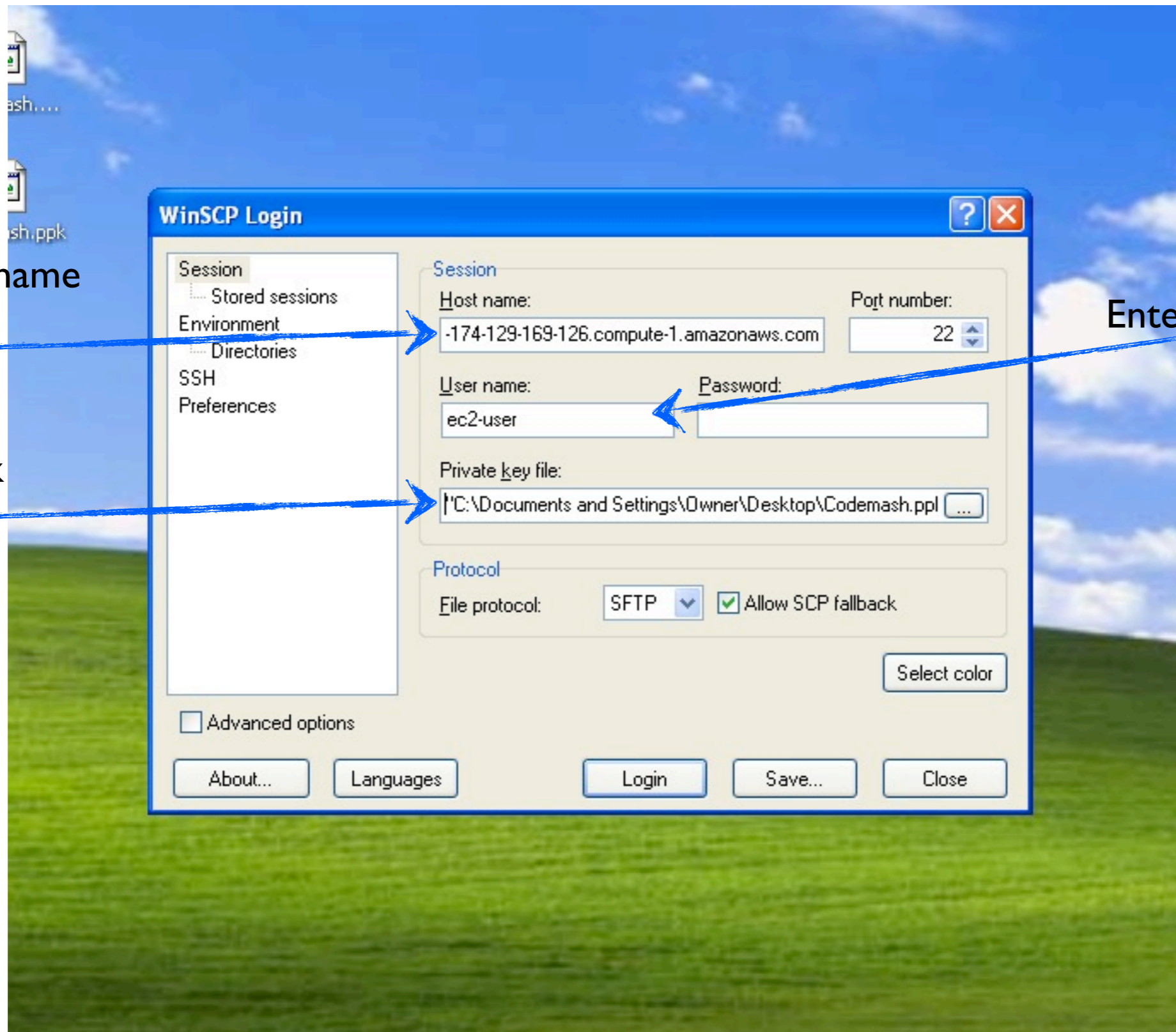
grails war

Secure Copy War

```
$ scp -i ~/.ssh/your-key-pair.pem target/nuez-0.1.war ec2-user@  
ec2-23-22-9-39.compute-1.amazonaws.com:/usr/share/tomcat7/webapps/nuez.war
```

```
nuez-0.1.war 100% 27MB 666.3KB/s 00:42
```

SCP using Windows



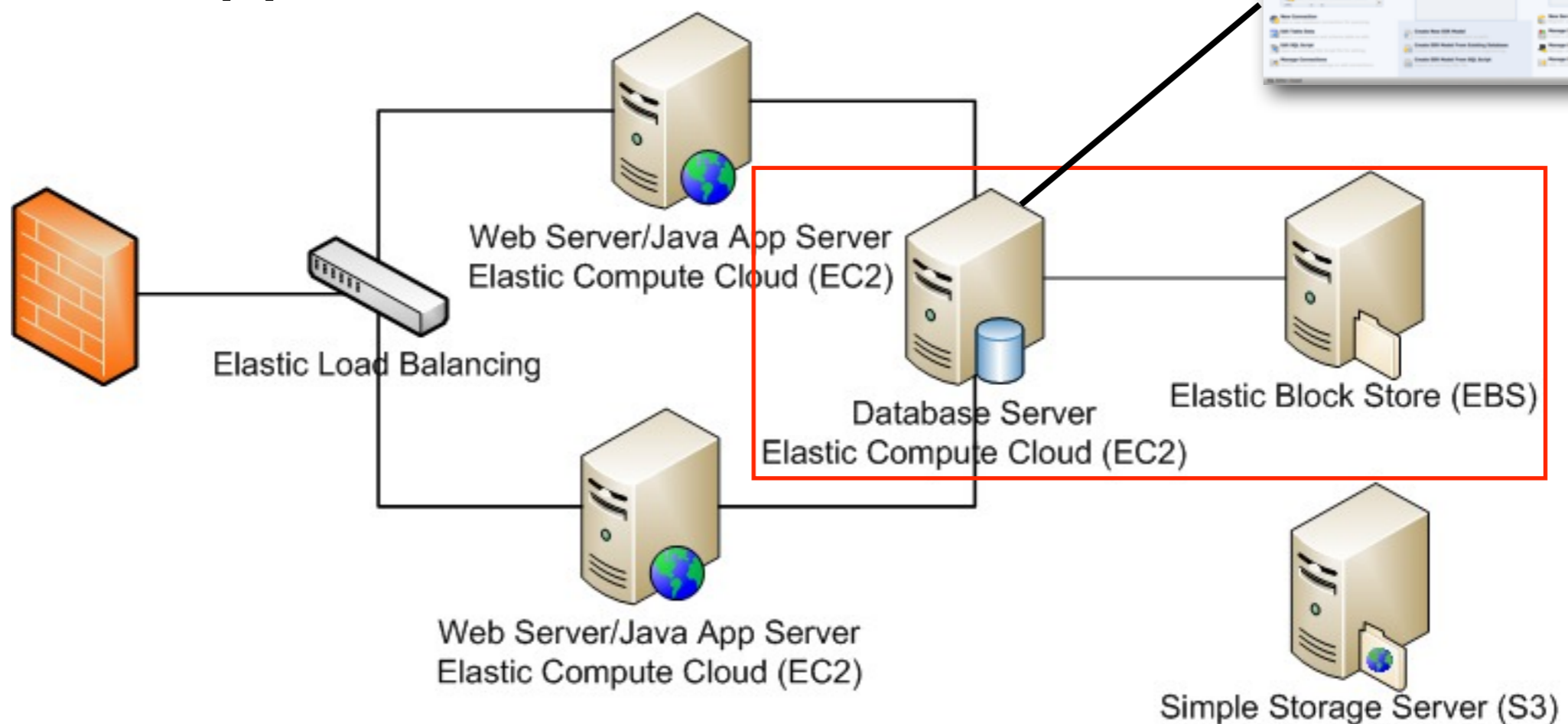
Enter machine name
here

Select you ppk
file here

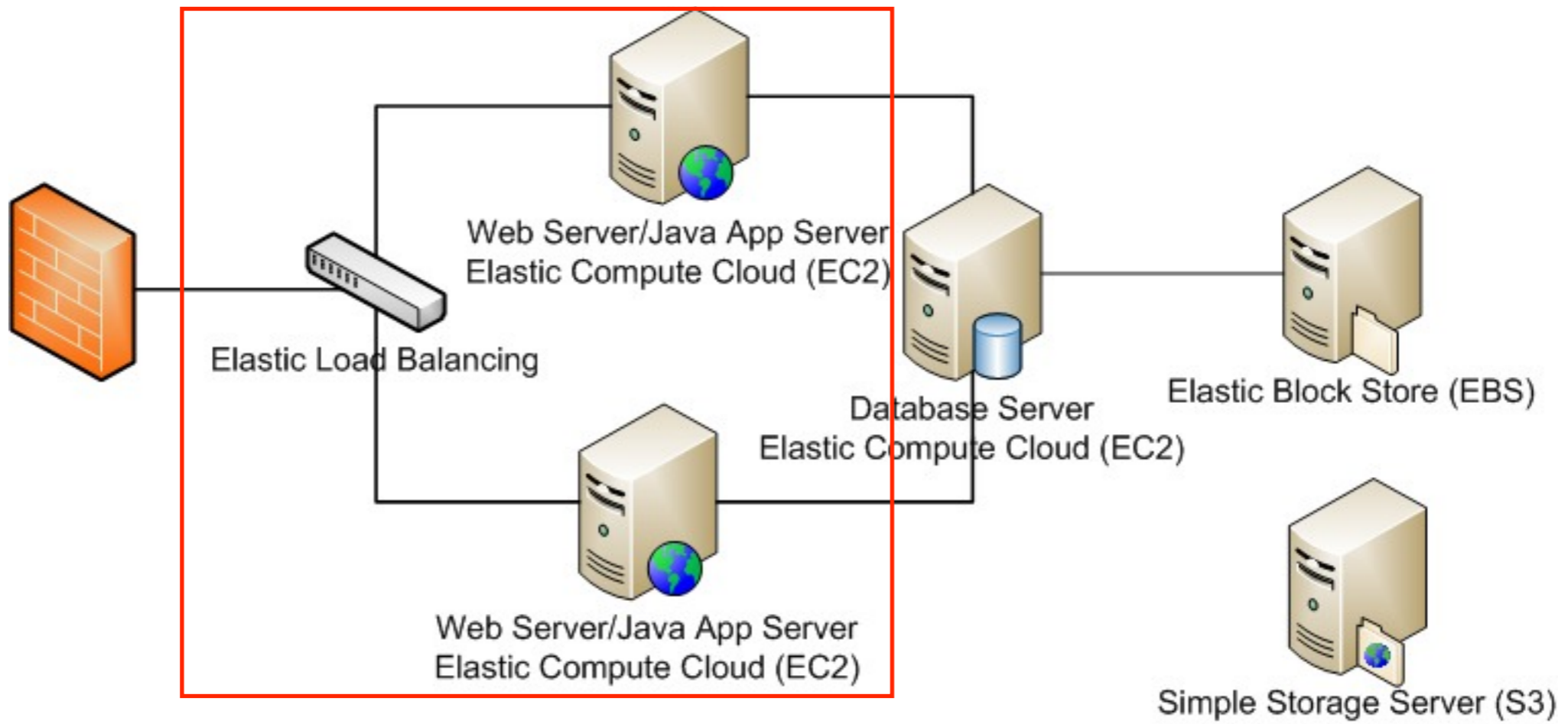
Enter **ec2-user** here

Lab 2

1. Start instance of UberConf-2013-MySQLServer
2. Connect with mysql tool or ssh to instance
3. Create nuev database (if not created already)
4. Change nuev application database string
5. Deploy nuev application
6. Test nuev application



LOAD BALANCING



Launch Similar EC2 Instance



Services ▾

Edit ▾

cmj @ 563700736850 ▾

N. Virginia ▾

Help ▾

EC2 Dashboard

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Launch Instance

Actions ▾

Viewing: All Instances ▾

All Instance Types ▾

Search

1 to 5 of 5 Instances

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Elastic IPs

Placement Groups

Load Balancers

Key Pairs

Network Interfaces

	Name	ID	Root Device	Type	State	Status Checks	Alarm
<input type="checkbox"/>	escal	624987f	ebs	m1.small	● running	✓ 2/2 checks pa	Loe
<input type="checkbox"/>	njz-w	9078e60	ebs	m1.small	● running	✓ 2/2 checks pa	Loe
<input type="checkbox"/>	njz-dl	1068f18	ebs	t1.micro	● running	✓ 2/2 checks pa	Loe
<input type="checkbox"/>	cmj-v	9078e60	ebs	m1.small	● running	✓ 2/2 checks pa	Loe
<input type="checkbox"/>	cmj-c	1068f18	ebs	t1.micro	● running	⌚ initializing...	Loe

1 EC2 Inst

EC2

ec2-23

Descri

AMI:

Codem

Zone:

Type:

Sched

VPC ID

Source

Instance Management

Connect

Get System Log

Create Image (EBS AMI)

Add/Edit Tags

Change Security Groups

Change Source / Dest Check

Launch More Like This

Disassociate IP Address

Change Termination Protection

View/Change User Data

Change Instance Type

Change Shutdown Behavior

Attach Network Interface

Detach Network Interface

Manage Private IP Addresses

Instance Lifecycle

Terminate

Reboot

Stop

Start

CloudWatch Monitoring

Enable Detailed Monitoring

Disable Detailed Monitoring

Add/Edit Alarms

Launch

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Create Load Balancer

Delete

Viewing:

All Load Balancers ▾

Search

1 to 1 of 1 Items

<input type="checkbox"/>	Load Balancer Name	DNS Name	Port Configuration	Availability Zones
<input type="checkbox"/>	awseb-e-2-AWSEBLoa-XI	awseb-e-2-AWSEBLoa-XPCLUNB0VD36-1918	80 (HTTP) forwarding to 8080 (HTTP)	us-east-1

0 Load Balancers selected

Select a load balancer above

Launch



Load Balancing Instances



Create a New Load Balancer

Cancel X

DEFINE LOAD
BALANCER

CONFIGURE
HEALTH CHECK

ADD EC2
INSTANCES

REVIEW

This wizard will walk you through setting up a new load balancer. Begin by giving your new load balancer a unique name so that you can identify it from other load balancers you might create. You will also need to configure ports and protocols for your load balancer. Traffic from your clients can be routed from any load balancer port to any port on your EC2 instances. By default, we've configured your load balancer with a standard web server on port 80.

Load Balancer Name: cmj-lb

Create LB inside: EC2

Create an internal load balancer:
(what's this?) ☐

Listener Configuration:

Load Balancer Protocol	Load Balancer Port	Instance Protocol	Instance Port	Actions
HTTP	80	HTTP	8080	Save

Continue



Configure Health Check

EC2

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Availab

us-east-

Create a New Load Balancer

Cancel

✓

○

DEFINE LOAD BALANCER

CONFIGURE HEALTH CHECK

ADD EC2 INSTANCES

REVIEW

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.

Configuration Options:

Ping Protocol: HTTP

Ping Port: 8080

Ping Path: /

Advanced Options:

Response Timeout: 5 Seconds

Health Check Interval: 0.5 Minutes

Unhealthy Threshold: 2 3 4 5 6 7 8 9 10

Healthy Threshold: 2 3 4 5 6 7 8 9 10

Time to wait when receiving a response from the health check (2 sec - 60 sec).

Amount of time between health checks (0.1 min - 5 min)

Number of consecutive health check failures before declaring an EC2 instance unhealthy.

Number of consecutive health check successes before declaring an EC2 instance healthy.

< Back

Continue

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Back

Select EC2 Instances



Create a New Load Balancer

[Cancel](#)DEFINE LOAD
BALANCERCONFIGURE
HEALTH CHECKADD EC2
INSTANCES

REVIEW

The table below lists all your running EC2 Instances that are not already behind another load balancer or part of an auto-scaling capacity group. Check the boxes in the Select column to add those instances to this load balancer.

Manually Add Instances to Load Balancer:

Select	Instance	Name	State	Security Groups
<input type="checkbox"/>	i-c74fc6b6	escab	● running	wseb-e-2uamvdj3wk-stack-AWSEBSecurityGroup-1BHGR05BMWU..
<input type="checkbox"/>	i-b3b53fc2	njz-webapp-01	● running	njz-webapp
<input type="checkbox"/>	i-474ac036	njz-db-01	● running	njz-db
<input checked="" type="checkbox"/>	i-e93aae98	cmj-webapp-01	● running	cmj-webapp
<input type="checkbox"/>	i-59ee7928	cmj-db-01	● running	cmj-db
<input checked="" type="checkbox"/>	i-d19205a0	cmj-webapp-02	● running	cmj-webapp

[select all](#) | [select none](#)

Availability Zone Distribution:

0 instances in us-east-1a2 instances in us-east-1b[< Back](#)[Continue](#)

Review



Create a New Load Balancer

Cancel



DEFINE LOAD BALANCER

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

[Edit Load Balancer Definition](#)

CONFIGURE HEALTH CHECK

Ping Target: HTTP:8080:/
Timeout: 5
Interval: 0.5

Unhealthy Threshold: 2
Healthy Threshold: 10

[Edit Health Check](#)

ADD EC2 INSTANCES

EC2 Instances: i-e93aae98, i-d19205a0

[Edit EC2 Instance Selection](#)

VPC INFORMATION

VPC:
Subnets:

[< Back](#)

Create



Please review your selections on this page.
Clicking "Create" will launch your load balancer.
Check the Amazon EC2 product page for load balancer pricing info

Almost done



Create a New Load Balancer

Cancel

Your load balancer has been created.

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

> [View my load balancers and check their status.](#)

< [Back](#)

Close



Getting url to load balancer



Services ▾

Edit ▾

cmj @ 563700736850 ▾

N. Virginia ▾

Help ▾

EC2 Dashboard

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Security Groups

Elastic IPs

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Create Load Balancer

Delete

Viewing: All Load Balancers ▾ Search

1 to 2 of 2 Items

<input type="checkbox"/>	Load Balancer Name	DNS Name	Port Configuration	Av
<input type="checkbox"/>	awseb-e-2-AWSEBLoa-XI	awseb-e-2-AWSEBLoa-XPCLUNB0VD36-191870646	80 (HTTP) forwarding to 8080 (HTTP)	us
<input checked="" type="checkbox"/>	cmj-lb	cmj-lb-946245467.us-east-1.elb.amazonaws.com	80 (HTTP) forwarding to 8080 (HTTP)	us

1 Load Balancer selected

Load Balancer: cmj-lb

Description

Instances

Health Check

Security

Listeners

DNS Name:

cmj-lb-946245467.us-east-1.elb.amazonaws.com (A Record)

ipv6.cmj-lb-946245467.us-east-1.elb.amazonaws.com (AAAA Record)

dualstack.cmj-lb-946245467.us-east-1.elb.amazonaws.com (A or AAAA 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 LoadBalancer 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 the [Using Domain Names With Elastic Load Balancing](#)

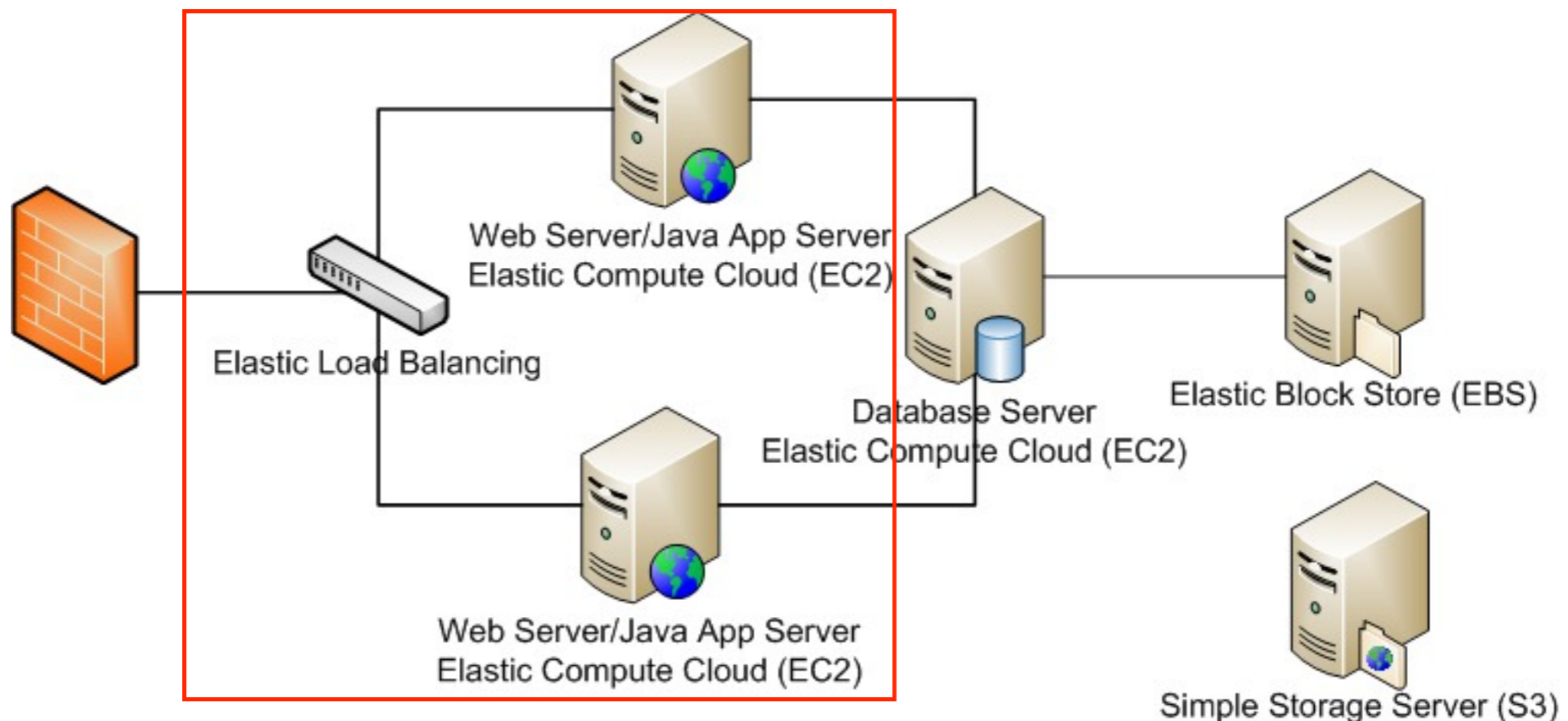
Scheme:

internet-facing

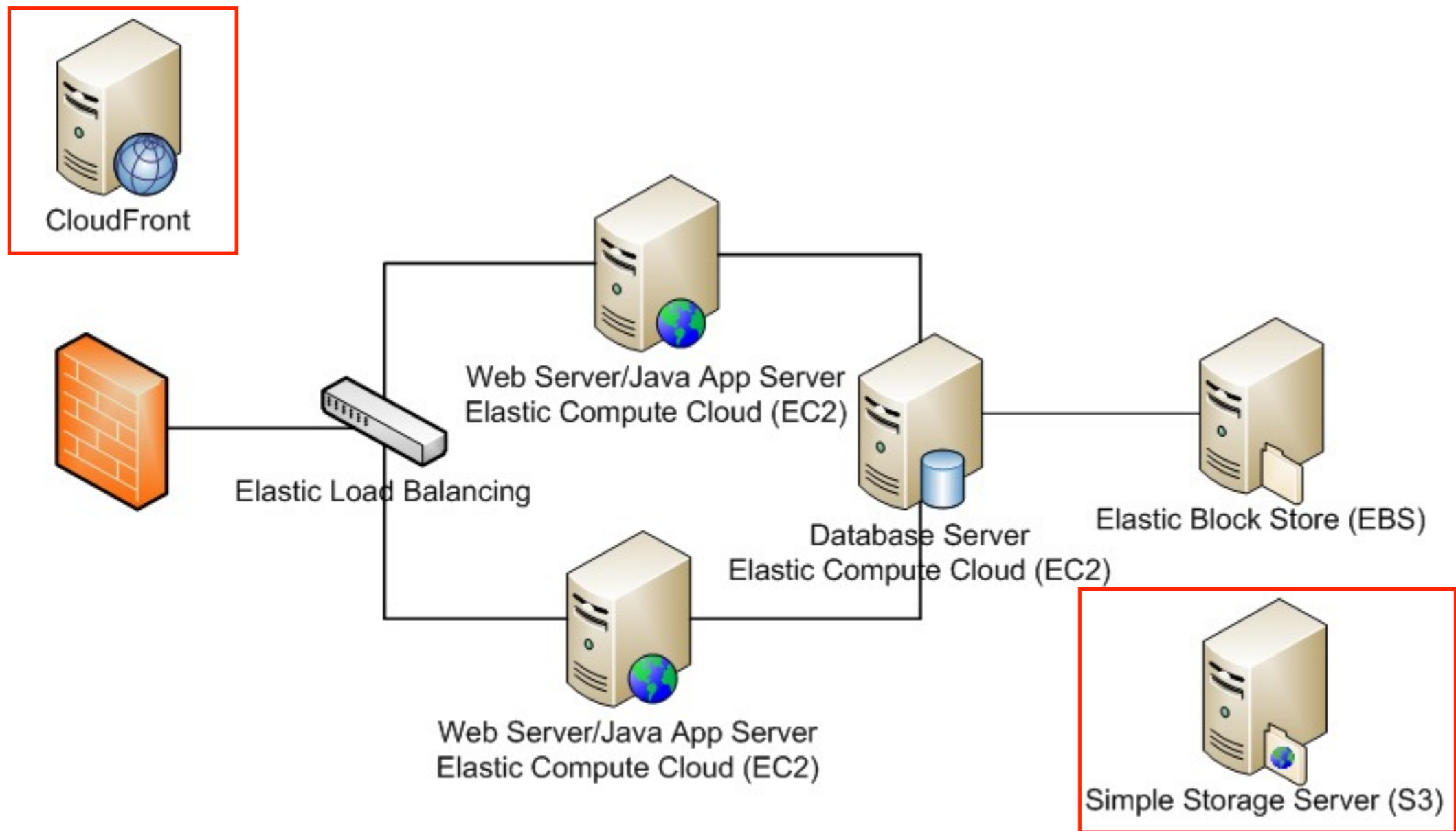
Here is the base url
to access the load
balancer

Lab 3

1. Create/start another instance of UberConf-2013-JavaWebServer
2. Create a new load balancer
3. Add both UberConf-2013-JavaWebServer EC2 instances to load balancer



CDN



CloudFront Pricing

On-Demand Pricing

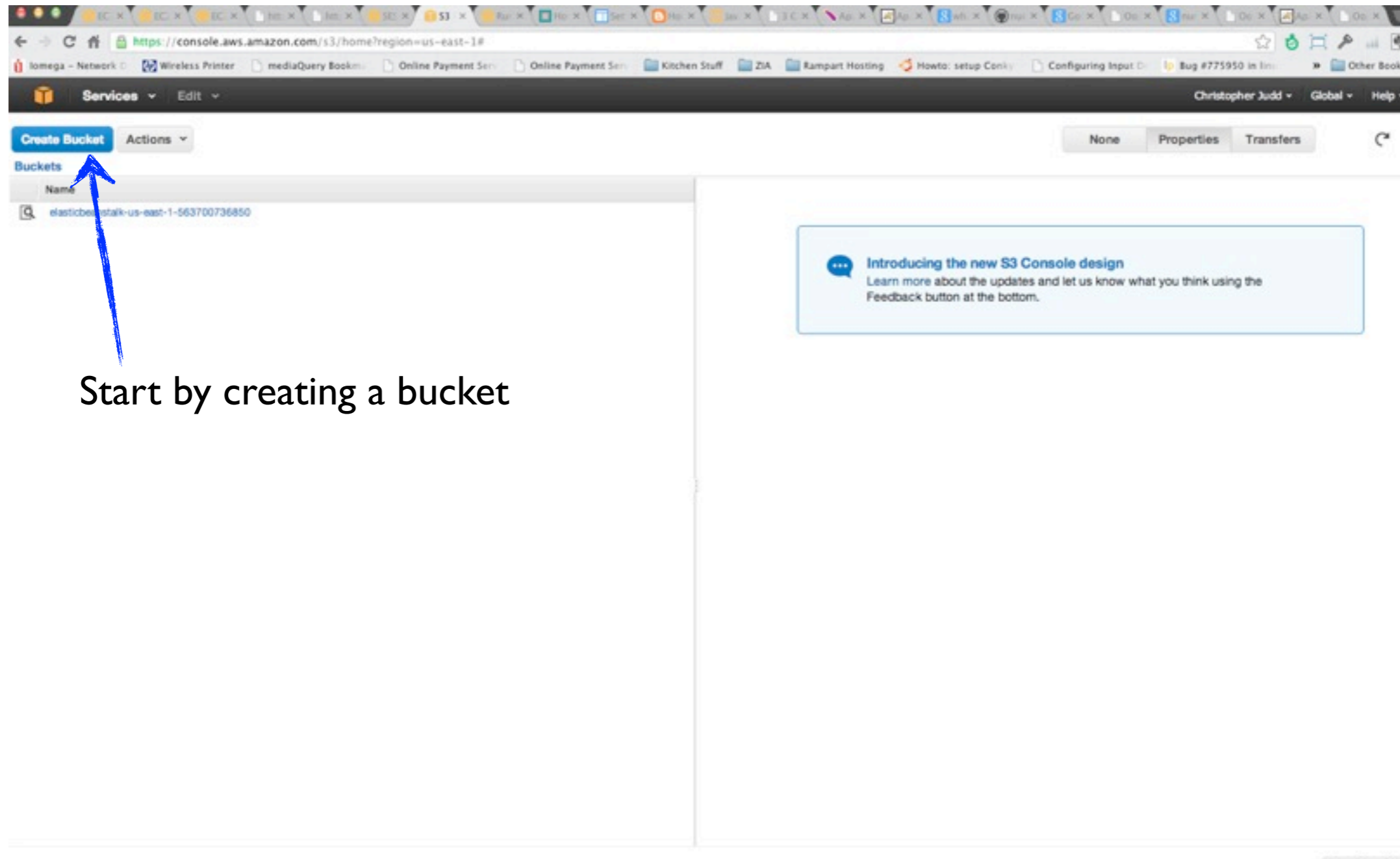
Regional Data Transfer Out (per GB)

	United States	Europe	Hong Kong & Singapore	Japan	South America	Australia	Reserved Capacity Pricing
First 10 TB / month	\$0.120	\$0.120	\$0.190	\$0.201	\$0.250	\$0.190	contact us
Next 40 TB / month	\$0.080	\$0.080	\$0.140	\$0.148	\$0.200	\$0.140	contact us
Next 100 TB / month	\$0.060	\$0.060	\$0.120	\$0.127	\$0.180	\$0.120	contact us
Next 350 TB / month	\$0.040	\$0.040	\$0.100	\$0.106	\$0.160	\$0.100	contact us
Next 524 TB / month	\$0.030	\$0.030	\$0.080	\$0.085	\$0.140	\$0.095	contact us
Next 4 PB / month	\$0.025	\$0.025	\$0.070	\$0.075	\$0.130	\$0.090	contact us
Over 5 PB / month	\$0.020	\$0.020	\$0.060	\$0.065	\$0.125	\$0.085	contact us

Request Pricing (per 10,000)

	United States	Europe	Hong Kong & Singapore	Japan	South America	Australia	Reserved Capacity Pricing
HTTP requests	\$0.0075	\$0.0090	\$0.0090	\$0.0095	\$0.0160	\$0.0090	contact us
HTTPS requests	\$0.0100	\$0.0120	\$0.0120	\$0.0130	\$0.0220	\$0.0125	contact us

Setting up S3 with CloudFront



Start by creating a bucket

Name S3 Bucket

Create a Bucket - Select a Bucket Name and Region Cancel X

A bucket is a container for objects stored in Amazon S3. When creating a bucket, you can choose a Region to optimize for latency, minimize costs, or address regulatory requirements. For more information regarding bucket naming conventions, please visit the [Amazon S3 documentation](#).

Bucket Name:

Region:

[Set Up Logging >](#) [Create](#) [Cancel](#)

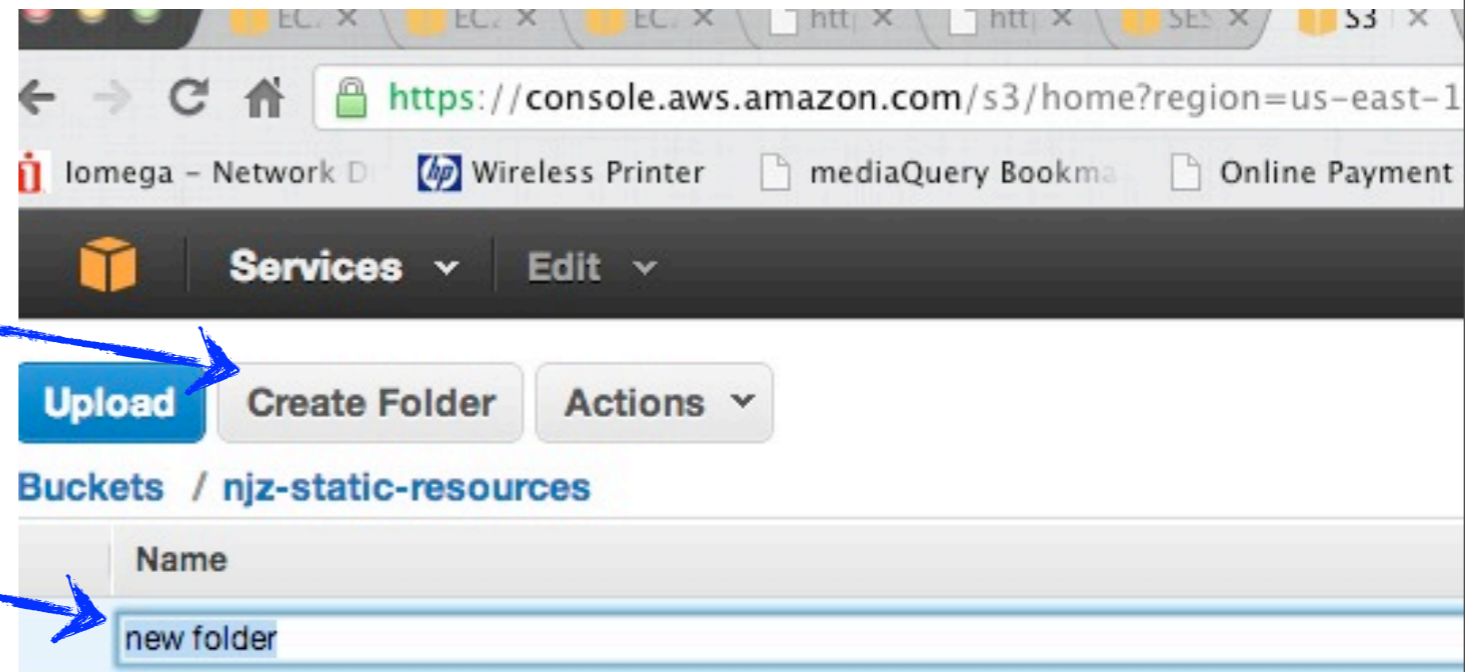
Logging can also be enabled
to tell you more about
your S3 usage

Click here to name and
finish creating your
bucket

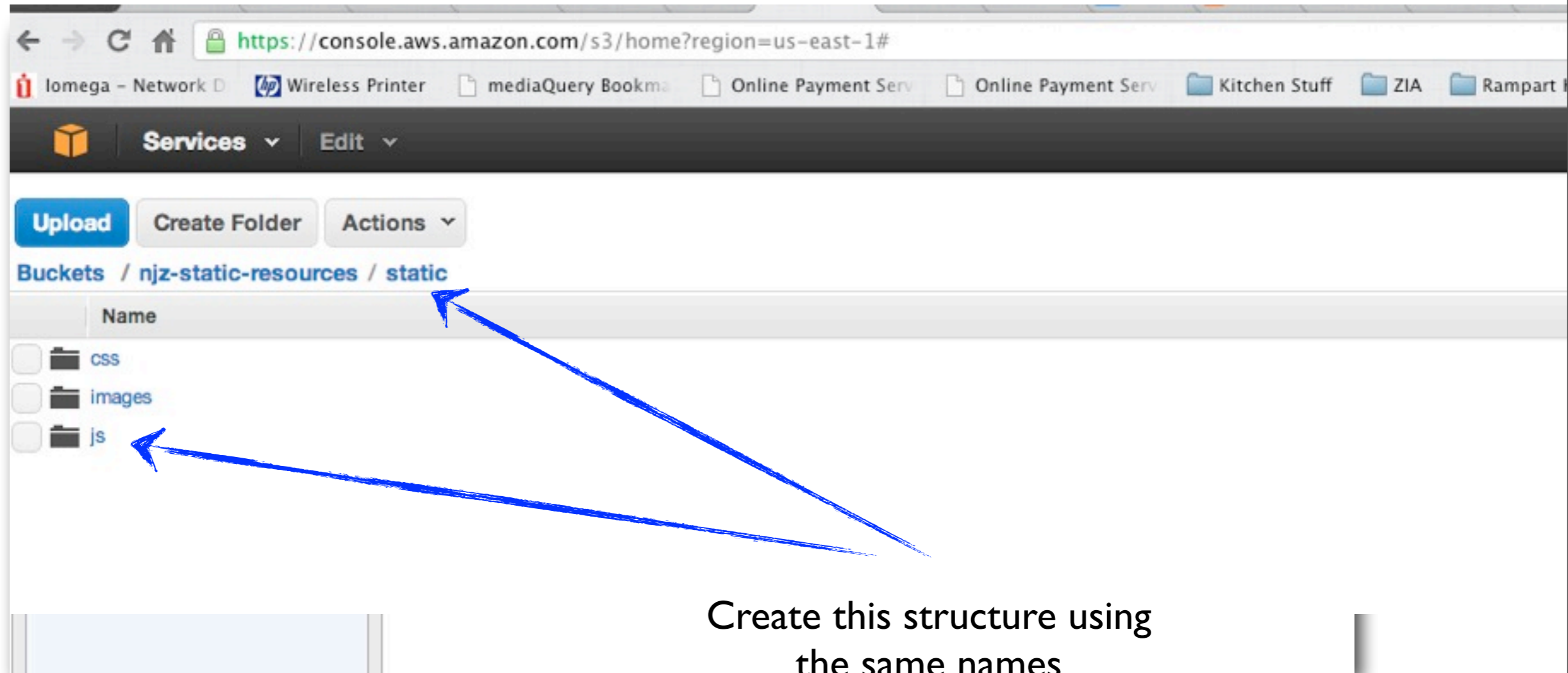
Create S3 directory structure

Click here to create a new folder inside your bucket

After clicking you will be prompted to enter the name here



Create S3 directory structure (continued)



Services Edit

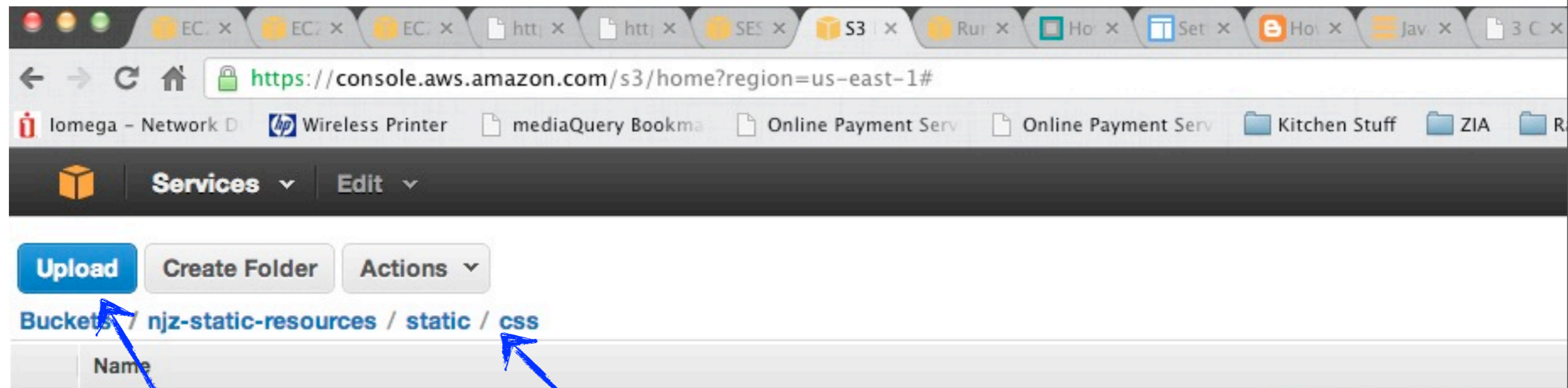
Upload Create Folder Actions

Buckets / njz-static-resources / static

	Name
<input type="checkbox"/>	css
<input type="checkbox"/>	images
<input type="checkbox"/>	js

Create this structure using the same names

Uploading Static Content

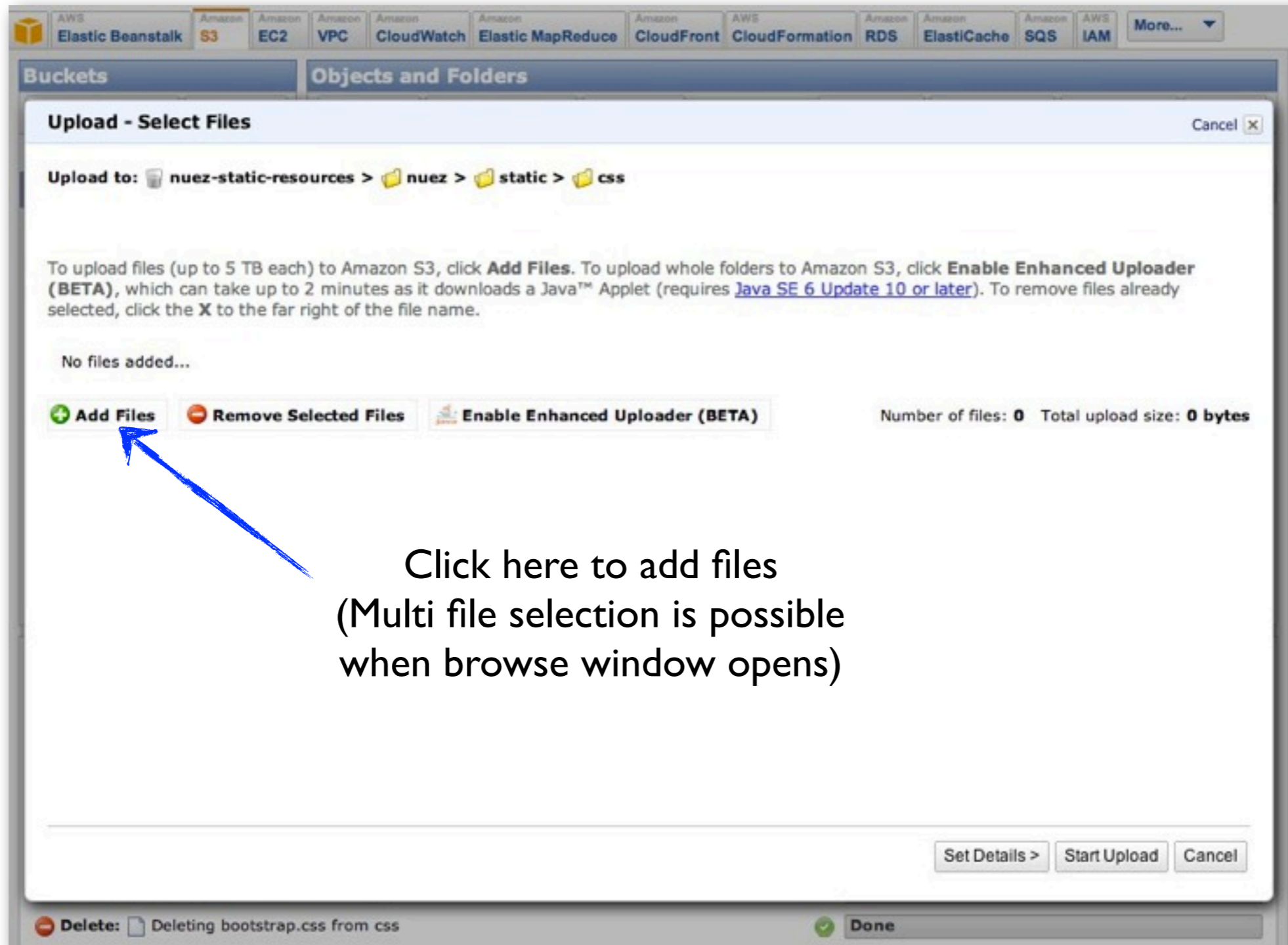


Upload content

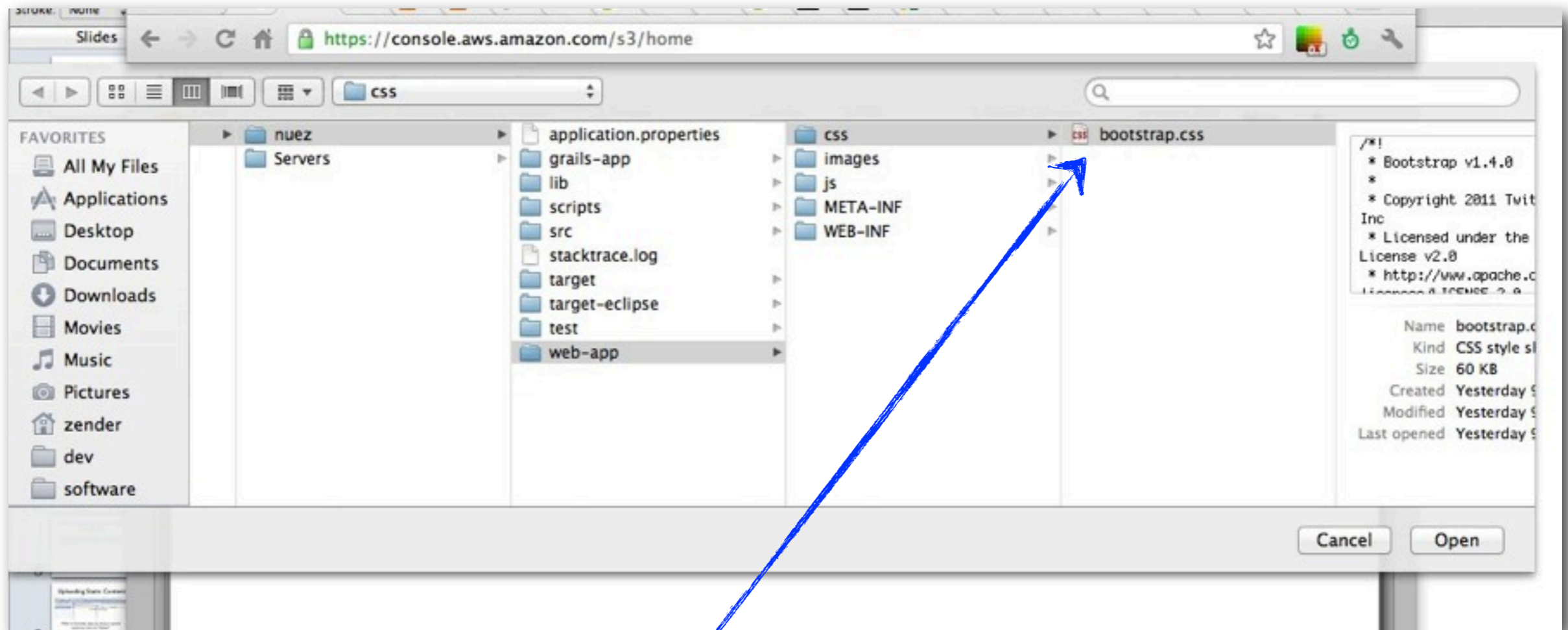
destination folder

The folder 'css' is empty

Uploading (continued)

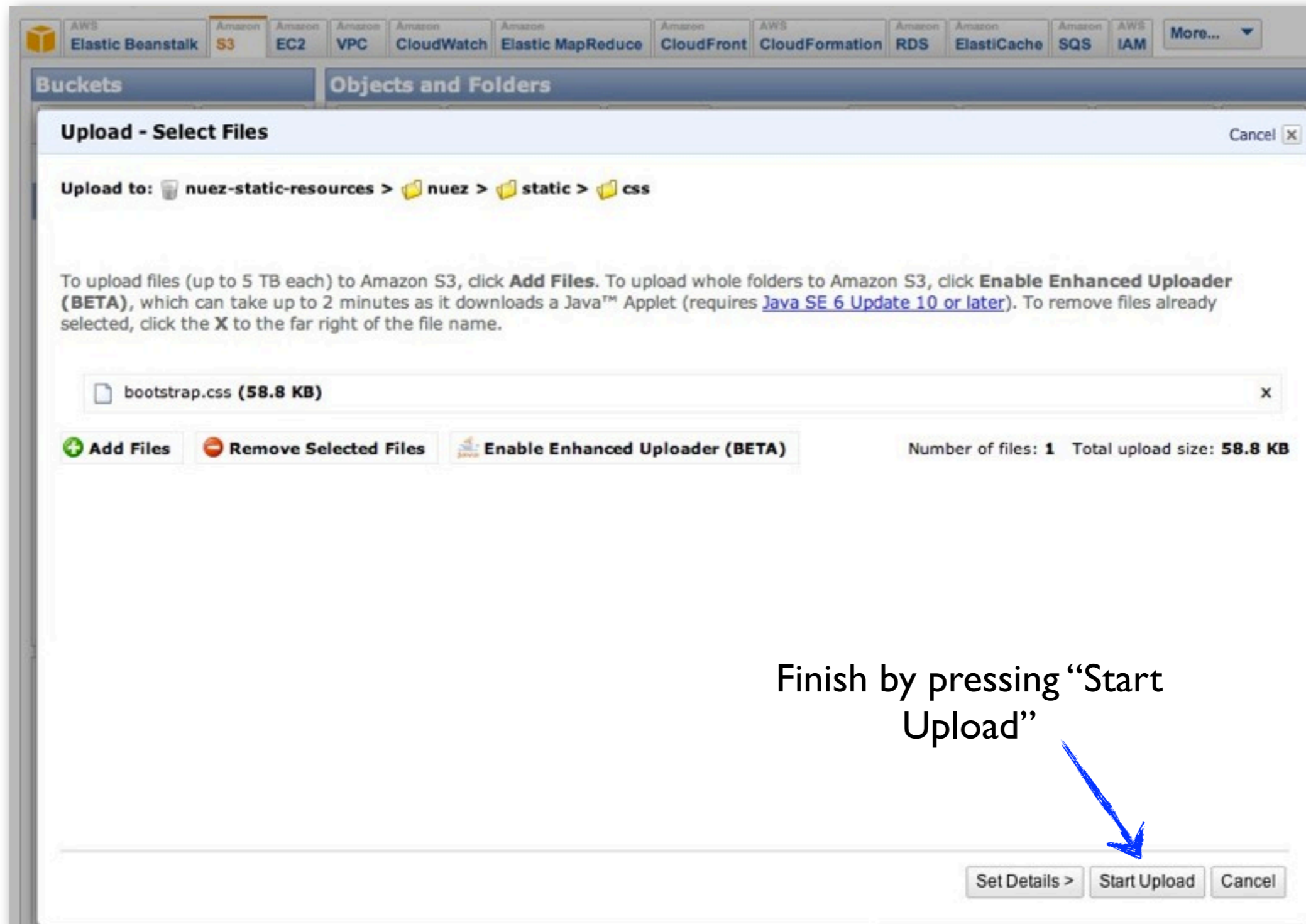


Uploading (continued)

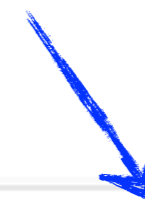


Select corresponding static files located in the webapp on your machine to be uploaded into S3

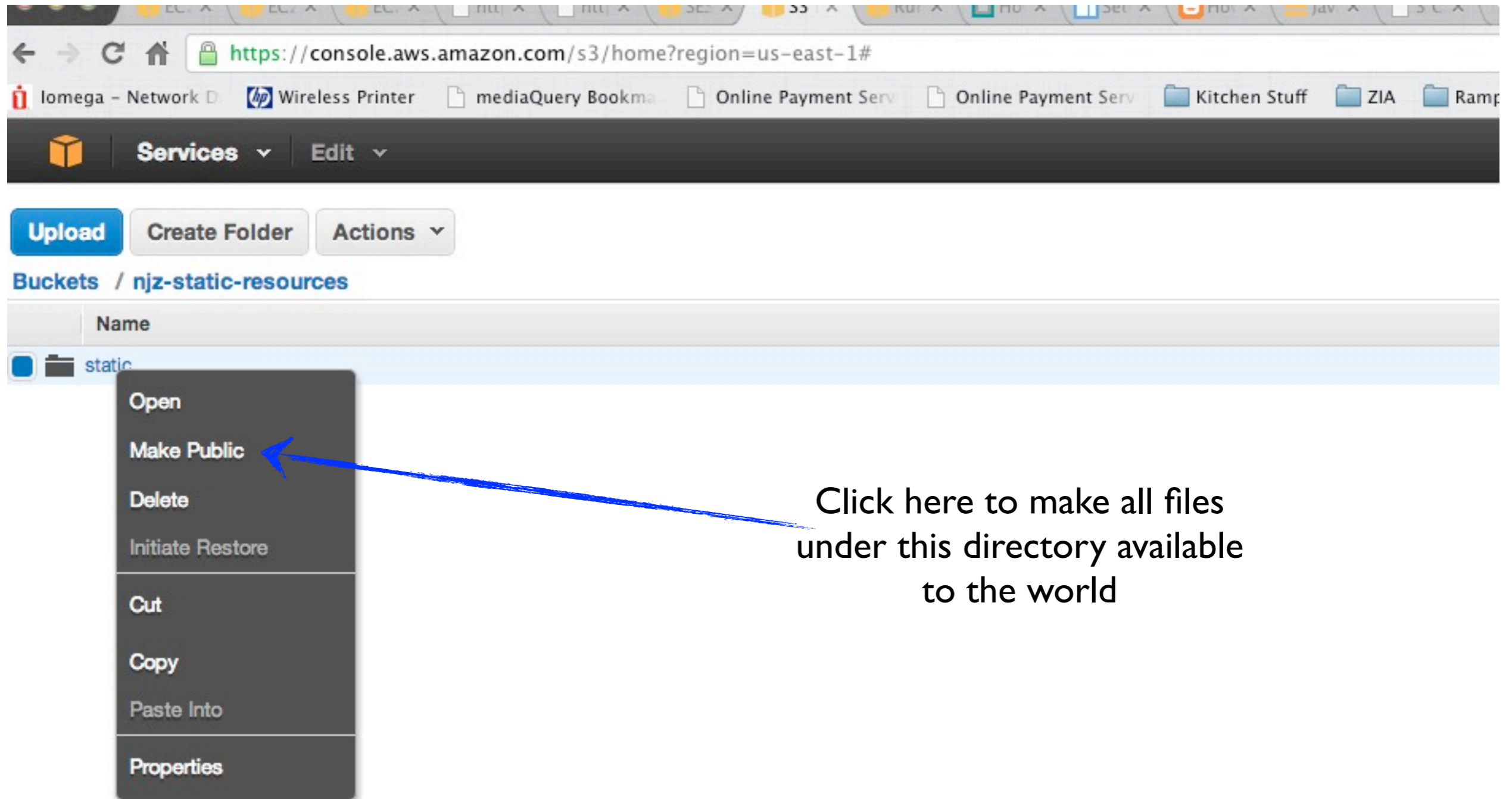
Uploading(Almost done)



Finish by pressing "Start Upload"



Make All S3 Files Public



The screenshot shows the AWS S3 console interface. The browser address bar displays <https://console.aws.amazon.com/s3/home?region=us-east-1#>. The top navigation bar includes the AWS logo, 'Services', and 'Edit' dropdown. Below this, there are buttons for 'Upload', 'Create Folder', and 'Actions'. The breadcrumb path is 'Buckets / njz-static-resources'. A table lists the contents of the bucket, with a folder named 'static' highlighted. A context menu is open over the 'static' folder, showing options: 'Open', 'Make Public', 'Delete', 'Initiate Restore', 'Cut', 'Copy', 'Paste Into', and 'Properties'. A blue arrow points from the 'Make Public' option to a text box on the right that reads: 'Click here to make all files under this directory available to the world'.

Click here to make all files under this directory available to the world

Creating a new Cloudfront

The screenshot shows the AWS Management Console interface for CloudFront Distributions. At the top, the browser address bar shows the URL `https://console.aws.amazon.com/cloudfront/home?region=us-east-1#`. The top navigation bar includes 'Services' and 'Edit' dropdown menus. On the left sidebar, under 'Migration', there is a 'Distribution' section with links for 'Private Content', 'How-To Guide', and 'Origin Access Identity'. The main content area is titled 'CloudFront: Distributions' and features a toolbar with buttons: 'Create Distribution' (with a globe icon), 'Distribution Settings' (with an 'i' icon), 'Delete' (with an 'x' icon), 'Enable' (with a radio button), and 'Disable' (with a radio button). Below the toolbar is a yellow banner titled 'Amazon CloudFront Getting Started' with the text: 'Either your search returned no results, or you do not have any distributions. Click the button below to create a new CloudFront distribution that provide low latency and high data transfer speeds ('. A 'Create Distribution' button with a globe icon is located on the right side of the banner. Two blue arrows originate from the text 'Start by clicking here or here' at the bottom. One arrow points to the 'Create Distribution' button in the toolbar, and the other points to the 'Create Distribution' button on the yellow banner.

Services Edit

Migration

Distribution

Private Content

How-To Guide

Origin Access Identity

CloudFront: Distributions

Create Distribution Distribution Settings Delete Enable Disable

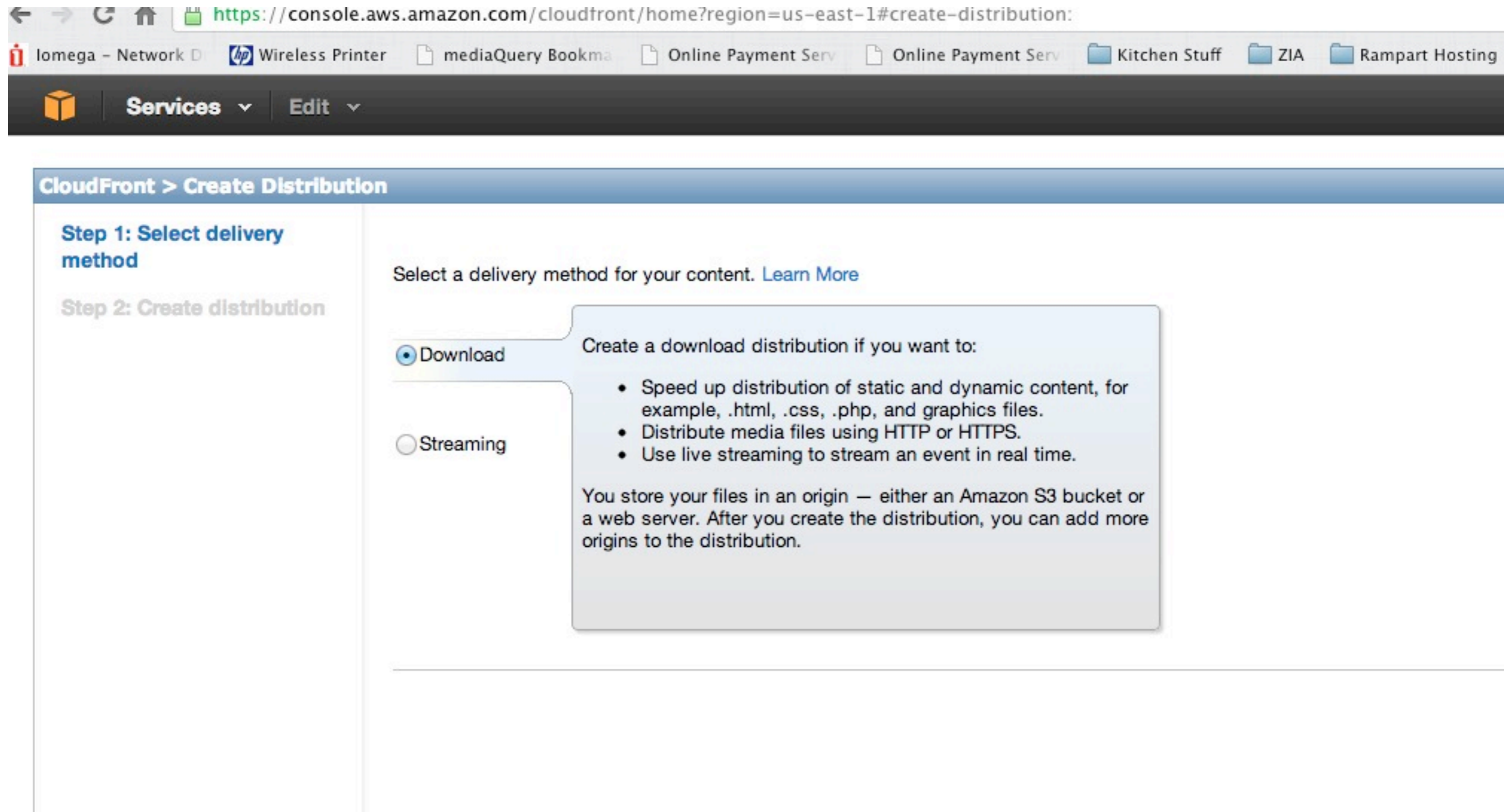
Amazon CloudFront Getting Started

Either your search returned no results, or you do not have any distributions. Click the button below to create a new CloudFront distribution that provide low latency and high data transfer speeds (

Create Distribution

Start by clicking here
or here

Selecting CDN Type (download vs. streaming)



The screenshot shows the AWS CloudFront console at the URL `https://console.aws.amazon.com/cloudfront/home?region=us-east-1#create-distribution:`. The browser's address bar and tabs are visible at the top. The console header includes the AWS logo, 'Services', and 'Edit' dropdown menus. The main content area is titled 'CloudFront > Create Distribution'.

Step 1: Select delivery method

Step 2: Create distribution

Select a delivery method for your content. [Learn More](#)

☒ Download

☐ Streaming


Create a download 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.
- 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.

Setting up S3 as Origin

← → ↻ 🏠 <https://console.aws.amazon.com/cloudfront/home?region=us-east-1#create-distribution:>

 **Services** ▾ **Edit** ▾

CloudFront > Create Distribution

Step 1: Select delivery method

Step 2: Create distribution

Origin Settings

Origin Domain Name ⓘ Click in the field and specify the domain name for your origin—the Amazon S3 bucket or web content. The dropdown list enumerates the AWS resources associated with the current AWS account. The domain name of the resource. For example, for an Amazon S3 bucket, type the name in the bucket name. The domain name must be publicly readable.

Origin ID ⓘ

Restrict Bucket Access ☐ Yes ⓘ If you want to require that users always access your Amazon S3 content using CloudFront URLs, not Amazon S3 URLs, click Yes to your content. In the Help, see "Serving Private Content through CloudFront." ☒ No

Default Cache Behavior Settings

Path Pattern ⓘ

Viewer Protocol Policy ☒ HTTP and HTTPS ⓘ ☐ HTTPS Only

Object Caching ☒ Use Origin Cache Headers ⓘ ☐ Customize

Minimum TTL ⓘ

Forward Cookies ⓘ

Whitelist Cookies ⓘ

Forward Query Strings ☐ Yes ⓘ ☒ No (Improves Caching)

Restrict Viewer Access (Use Signed URLs) ☐ Yes ⓘ ☒ No

**Alternate Domain
Names(CNAMEs)**



Default Root Object



Logging

☐ On
☒ Off



Bucket for Logs



Log Prefix



Cookie Logging

☐ On
☒ Off



Comment



Distribution State

☒ Enabled
☐ Disabled



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">
```

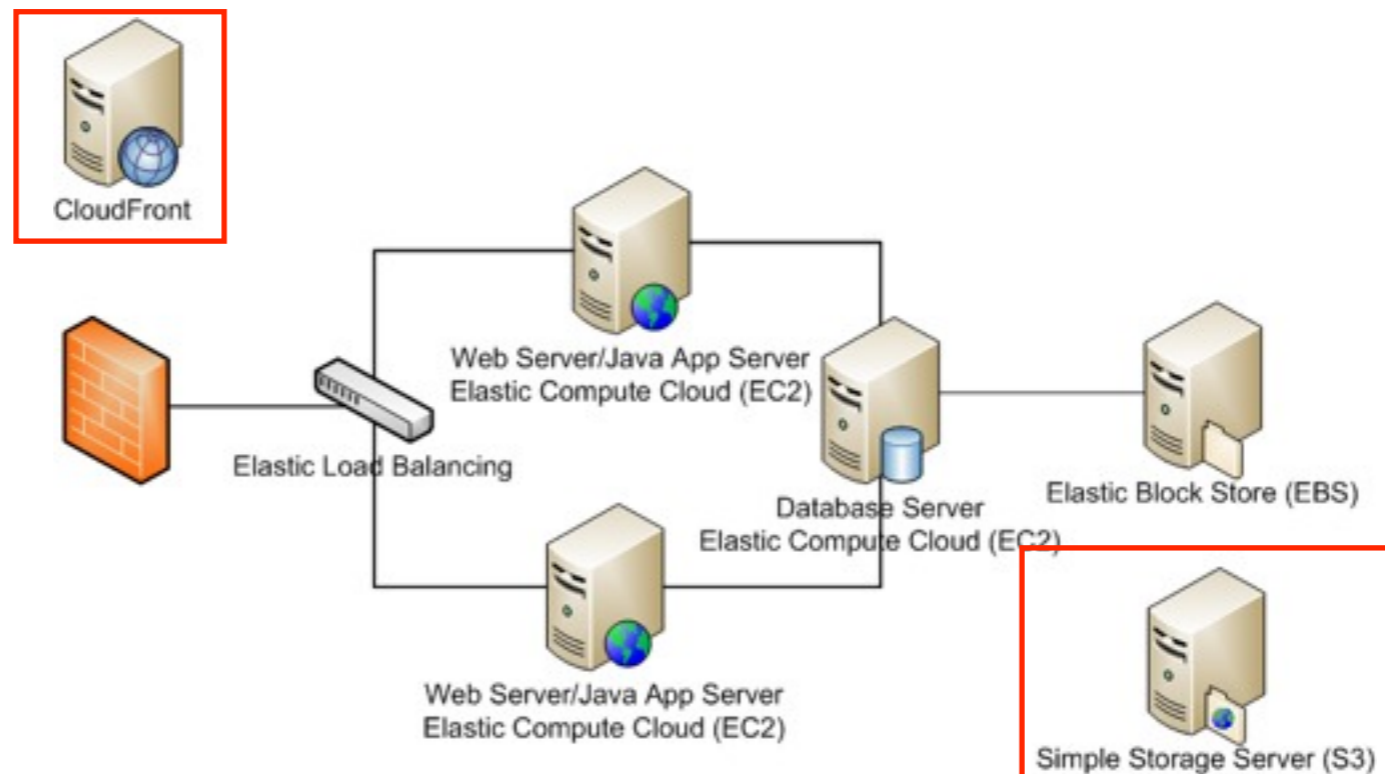
Configure Web App

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 nuev to use CloudFront distribution url
6. Redeploy nuev web app
7. Test



ELASTIC BEANSTALK

Elastic Beanstalk

You do not have any AWS Elastic Beanstalk applications launched. AWS Elastic Beanstalk makes it even easier to deploy and manage scalable and fault-tolerant applications on the AWS cloud, while retaining the ability to control the underlying resources. To get started, simply upload your application to AWS Elastic Beanstalk and within minutes access your application running on AWS's infrastructure services. [Learn more about creating and launching your applications using AWS Elastic Beanstalk→](#)

Select your platform and click start

Launch an Elastic Beanstalk environment to get started. You can then upload your own application or customize the environment.



Start

Select you platform

Elastic Beanstalk (Default application)



Services ▾

Edit ▾

My First Elastic Beanstalk Application ▾

▼ Elastic Beanstalk Application Details

Overview

Events

Versions

Application Description: This is the sample application provided by Amazon Web Services for demonstrating AWS Elastic Beanstalk.

Created on: 2013-01-09 10:29 EST

[Edit Application Description](#) | [Delete This Application](#)

My First Elastic Beanstalk Application Environments



Default-Environment

Successfully running version **Sample Application**.

▼ Environment Details

Overview

Logs

Monitoring

Events

URL: <http://Default-Environment-k4mkugmwy3.elasticbeanstalk.com>

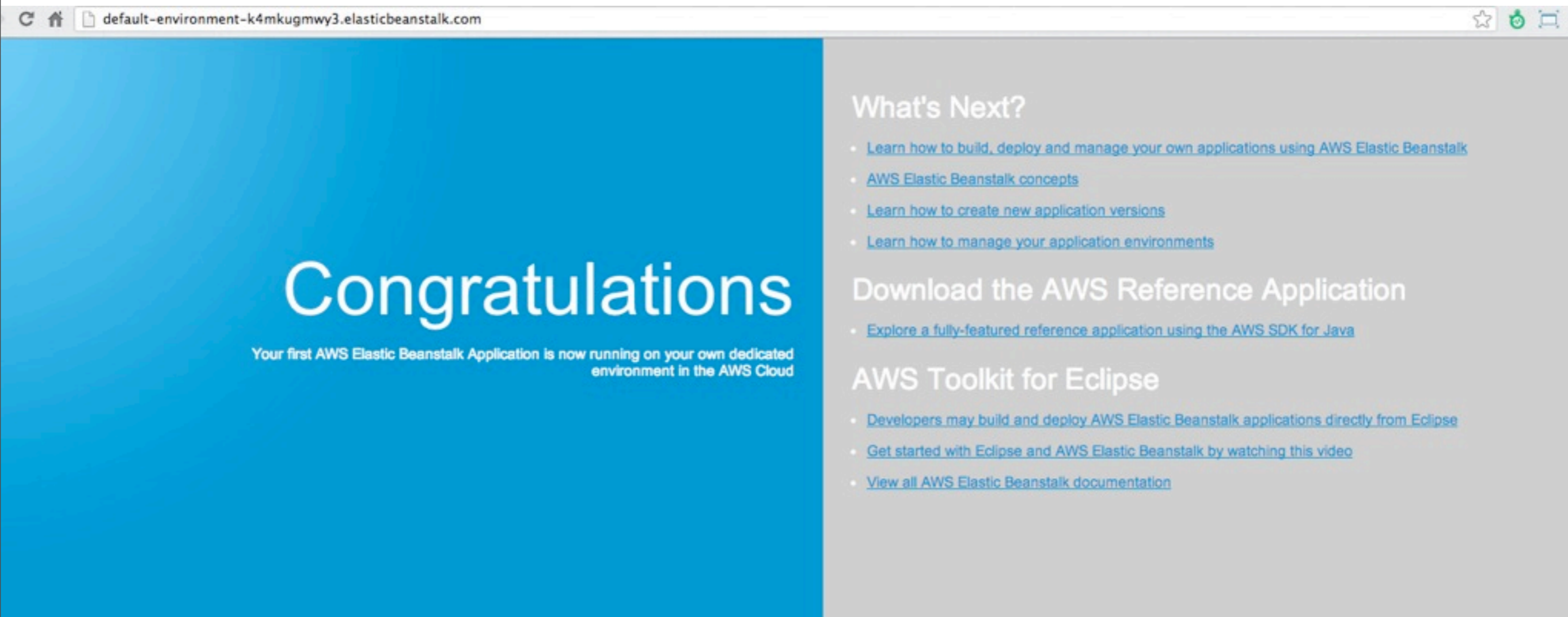
Running Version: Sample Application

Container Type: 64bit Amazon Linux running Tomcat 7

Changed on: 2013-01-09 10:34 EST

[Deploy a Different Version](#) | [Edit Configuration](#)

Elastic Beanstalk (Default application)



The screenshot shows a web browser window with the address bar displaying "default-environment-k4mkugmwy3.elasticbeanstalk.com". The page has a blue header area on the left with the word "Congratulations" in large white text. Below it, in smaller white text, it says "Your first AWS Elastic Beanstalk Application is now running on your own dedicated environment in the AWS Cloud". The right side of the page has a light gray background and contains three sections of links: "What's Next?", "Download the AWS Reference Application", and "AWS Toolkit for Eclipse". Each section has a list of links to various AWS resources.

default-environment-k4mkugmwy3.elasticbeanstalk.com

Congratulations

Your first AWS Elastic Beanstalk Application is now running on your own dedicated environment in the AWS Cloud

What's Next?

- [Learn how to build, deploy and manage your own applications using AWS Elastic Beanstalk](#)
- [AWS Elastic Beanstalk concepts](#)
- [Learn how to create new application versions](#)
- [Learn how to manage your application environments](#)

Download the AWS Reference Application

- [Explore a fully-featured reference application using the AWS SDK for Java](#)

AWS Toolkit for Eclipse

- [Developers may build and deploy AWS Elastic Beanstalk applications directly from Eclipse](#)
- [Get started with Eclipse and AWS Elastic Beanstalk by watching this video](#)
- [View all AWS Elastic Beanstalk documentation](#)

Creating your own application

The screenshot shows the AWS Elastic Beanstalk console interface. At the top, there's a navigation bar with 'Services' and 'Edit' dropdowns, and user information 'Christopher Judd' and 'N. California'. The main content area is titled 'My First Elastic Beanstalk Application'. It features three buttons at the top right: 'Upload New Version', 'Launch New Environment', and 'Create New Application'. Below this, there's a section for 'Elastic Beanstalk Application Details' with tabs for 'Overview', 'Events', and 'Versions'. The 'Overview' tab is active, showing the application description, creation date, and links to 'Edit Application Description' and 'Delete This Application'. Below this is a section for 'My First Elastic Beanstalk Application Environments' with a 'Refresh' button. It shows a 'Default-Environment' that is 'Successfully running version Sample Application.' with a 'View Running Version' button and an 'Actions' dropdown. At the bottom, there's an 'Environment Details' section with tabs for 'Overview', 'Logs', 'Monitoring', and 'Events'. The 'Overview' tab is active, showing details like URL, Running Version, Container Type, and Changed on date, along with links to 'Deploy a Different Version' and 'Edit Configuration'. A blue arrow originates from the text 'Start here' and points directly to the 'Create New Application' button.

Start here

Create New Application

Cancel

APPLICATION DETAILS

ENVIRONMENT DETAILS

CONFIGURATION DETAILS

REVIEW

To create a new application, enter the details of your application below. [Learn more about creating new applications using AWS Elastic Beanstalk.](#)

Application Name:

nuez

Description: (optional, 200 char maximum)

Nuez Java Web App

Container Type:

64bit Amazon Linux running Tomcat 7

Application Source:


☒ Use the Sample Application

☐ Upload your Existing Application

Choose File No file chosen

Continue

Create New Application

Cancel 

APPLICATION DETAILS ENVIRONMENT DETAILS CONFIGURATION DETAILS REVIEW

Enter the details of your environment below. If you choose to not launch an environment now, no details are needed. You can always launch environments after this application has been created. [Learn more about launching new environments.](#)

- ☒ Launch a new environment running this application
- ☒ Create an RDS DB Instance with this environment

Environment Name:

nuez

Environment URL:


http://nuez.elasticbeanstalk.com

✓ URL is available


Description: (optional, 200 char maximum)

Nuez Java Web App

< Back

Continue 

Create New Application

Cancel 

APPLICATION DETAILS

ENVIRONMENT DETAILS

CONFIGURATION DETAILS

REVIEW

We will be launching your environment with the following default configuration. Modify the defaults before launch or just click **Continue**.

Instance Type:

m1.small

The instance type determines the processing power of the servers in your environment.

Existing Key Pair:

Codemash-nca

Key pairs are used to enable remote login to your instances.

Email Address:

aws@juddsolutions.com

We can notify you via email of any major changes to your environment.

**Application Health
Check URL:**

/

We continually monitor your application to make sure it's available. What relative URL would you like us to monitor?

< Back

Continue 

Create New Application

Cancel

APPLICATION DETAILS

ENVIRONMENT DETAILS

CONFIGURATION DETAILS

REVIEW

Enter the details of your RDS DB Instance. [Learn more.](#)

☒ Create an RDS DB Instance

☐ Create an RDS DB Instance from a snapshot

Snapshot: None

DB Engine: mysql

Instance Class: db.t1.micro

Allocated Storage: 5 GB
Note: You must specify a value in the range 5 GB to 1024 GB.

Master Username: codemash

Master Password:

Deletion Policy: Delete
Note: Your RDS DB Instance will be deleted if you terminate the environment. Create a snapshot to save your data.

Multiple Availability Zones: ☐

< BackContinue >

Amazon Web Services for demonstrating AWS Elastic Beanstalk.

Create New ApplicationCancel

APPLICATION DETAILS

ENVIRONMENT DETAILS

CONFIGURATION DETAILS

REVIEW

Review the information below, then click **Finish**.

Application Name:	nuez
Description:	Nuez Java Web App
Container Type:	64bit Amazon Linux running Tomcat 7
Application Source:	Sample Application

Environment Name:	nuez
Environment URL:	http://nuez.elasticbeanstalk.com
Description:	Nuez Java Web App

Instance Type:	m1.small
Existing Key Pair:	Codemash-nca
Email Address:	aws@juddsolutions.com
Application Health Check URL:	/

DB Engine:	mysql
Instance Class:	db.t1.micro
Allocated Storage:	5 GB
Deletion Policy:	Delete

< BackFinish

Services Edit Christopher Judd N. California

Navigation

- Getting Started Guide
- Dashboard
- Databases
 - DB Instances
 - Reserved DB Purchases
 - Orderable DB Options
 - DB Snapshots
 - DB Security Groups
 - DB Parameter Groups
 - Option Groups
 - DB Subnet Groups
 - DB Events

Amazon RDS : My DB Instances

Launch DB Instance Instance Actions Show/Hide Refresh

Viewing: All Instances 1 to 1 of 1 Items

DB Instance	VPC ID	Multi-AZ	Class	Status	Storage	IOPS	Security Groups	Engine	Zone	Pending Changes
<input checked="" type="checkbox"/> aa1w2u6dik6dppm		No	db.t1.micro	available	5 GiB		awseb-e-nh3zjm2vyl	mysql	us-west-1b	

1 DB Instances Selected

DB Instances: aa1w2u6dik6dppm

Description Monitoring Recent Events Tags

DB Instance Name:	aa1w2u6dik6dppm	Alarm Status:	None
DB Engine:	mysql	DB Engine Version:	5.5.27
License Model:	general-public-license	Auto Minor Vers. Upgrade:	Yes
DB Security Groups:	awseb-e-nh3zjm2vyl-stack-awsebrdsdbsecuritygroup-minqsja86c9	DB Status:	available
DB Instance Class:	db.t1.micro	Endpoint:	aa1w2u6dik6dppm.cdrw92njsm5b.us-west-1.rds.amazonaws.com
Port:		Zone:	us-west-1b
Multi-AZ Deployment:	No	DB Storage:	5GiB
IOPS:		Master Username:	codemash
DB Name:	ebdb	Created Time:	2013 January 9 11:17:29 UTC-5
Latest Restorable Time:	2013 January 9 11:25:00 UTC-5	Backup Retention Period:	1
DB Parameter Group:	default.mysql5.5 (in-sync)	Backup Window:	09:30-10:00
Maintenance Window:	fri:06:40-fri:07:10	Pending Modifications:	
Read Replica Source:	None	Read Replica(s):	
VPC ID:		Character Set Name:	

Click here to try our new look

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Use these fields to construct connection string for application

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://aa1w2u6dik6dppm.cdrw92njsm5b.us-west-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





Services ▾

Edit ▾

nuez

▼ Elastic Beanstalk Application Details

Overview

Events

Versions

Application Description: Nuez Java Web App

Created on: 2013-01-09 11:12 EST

[Edit Application Description](#) | [Delete This Application](#)

nuez Environments



nuez

Successfully running version **Sample Application**.

▼ Environment Details

Overview

Logs

Monitoring

Events

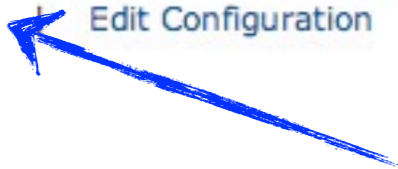
URL: <http://nuez.elasticbeanstalk.com>

Running Version: Sample Application

Container Type: 64bit Amazon Linux running Tomcat 7


Changed on: 2013-01-09 11:25 EST

[Deploy a Different Version](#) | [Edit Configuration](#)



Deploy the latest version of nuez

Deploy a Different Version


Cancel 

Select a different version to deploy to this environment, or upload a new version and deploy it to this environment.

Environment: nuev

Deployment

☐ Deploy an existing version

Sample Application 

☒ Upload and deploy a new version

Version Label:

nuez-0.3

Description: (optional, 200 char maximum)

Updates to use Nuez with RDS and ElasticBeanstalk

Upload Existing Application: (e.g. WAR file)

Choose File nuev-0.3.war

Cancel

Deploy Version



Services ▾

Edit ▾

nuez

▼ Elastic Beanstalk Application Details

Overview

Events

Versions

Application Description: Nuez Java Web App

Created on: 2013-01-09 11:12 EST

[Edit Application Description](#) | [Delete This Application](#)

nuez Environments



nuez

Successfully running version **nuez-0.3**.

▼ Environment Details

Overview

Logs

Monitoring

Events

URL: <http://nuez.elasticbeanstalk.com>

Running Version: nuez-0.3

Container Type: 64bit Amazon Linux running Tomcat 7

Changed on: 2013-01-09 11:41 EST

[Deploy a Different Version](#) | [Edit Configuration](#)



Services ▾

Edit ▾

nuez

▼ Elastic Beanstalk Application Details

Overview

Events

Versions

Application Description: Nuez Java Web App

Created on: 2013-01-09 11:12 EST

[Edit Application Description](#) | [Delete This Application](#)

nuez Environments



nuez

Successfully running version **nuez-0.3**.

▼ Environment Details

Overview

Logs

Monitoring

Events

URL: <http://nuez.elasticbeanstalk.com>

Running Version: nuez-0.3

Container Type: 64bit Amazon Linux running Tomcat 7

Changed on: 2013-01-09 11:41 EST

[Deploy a Different Version](#) | [Edit Configuration](#)

Start here to modify
server configurations



Edit Configuration

Cancel X

Pick a saved configuration and/or edit the attributes below. When you are finished making edits, click "Apply Changes".

Saved Configurations: None ▾

Server

Load Balancer

Auto Scaling

Database

Notifications

Container

These settings allow you to control your environment's servers and enable login. [Learn more](#) >>

* **EC2 Instance Type** m1.small ▾

Note: Pick the instance type that best meets your compute, memory, and cost needs.

* **EC2 Security Groups** awseb-e-nh3zjm2vyb-stack-AWSEB

* **Existing Key Pair** Codemash-nca

Note: Key pairs are used to enable login to your instances.

* **Monitoring Interval** 5 minute ▾

* **Custom AMI ID** ami-1bf9de5e


Note: * It may take a few minutes to see changes to these options take effect in your environment.

Cancel

Apply Changes

at 7

Edit Configuration

Cancel 

Pick a saved configuration and/or edit the attributes below. When you are finished making edits, click "Apply Changes".

Saved Configurations: None 

Server

Load Balancer

Auto Scaling

Database

Notifications

Container

Container Options

These settings control container behavior and allow you to pass key/value pairs in as OS environment variables. [Learn more >>](#)

Initial JVM Heap Size (MB)

Maximum JVM Heap Size (MB)

Maximum JVM Permanent Generation Size (MB)

JVM Command Line Options

☐ **Enable log file rotation to Amazon S3**
Note: When enabled, Elastic Beanstalk will rotate your log files to an S3 bucket every hour.

Environment Properties

These properties are passed into the application as environment variables. [Learn more >>](#)

Cancel

Apply Changes



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 \$0.065

- 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 - \$569.40 (\$0.065/hr)

Light Reserved - \$410.64 (\$0.039/hr + \$69)

Medium Reserved - \$370.24 (\$0.024/hr + \$160)

Heavy Reserved - \$335.16 (\$0.016/hr + \$195)

* small instance for one year



EC2 Dashboard

Events

Request Spot Instances

Cancel

Pricing History



Viewing: All Requests ▾

Search



Spot Instance Pricing History

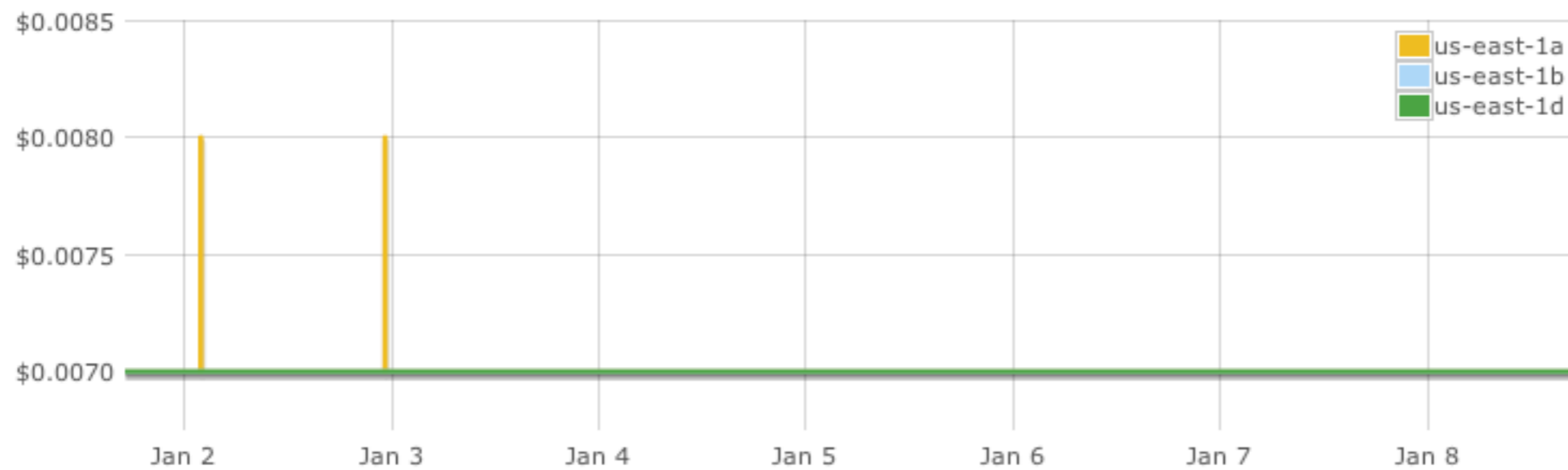
Cancel ✕

Product: Linux/UNIX ▾

Instance Type: m1.small ▾

Date Range: 1 week ▾

Zone: All zones ▾



Close

Load Balancers

Key Pairs

Network Interfaces

NEW! - [AWS lowers its pricing again! - Amazon S3 reduces storage price by 25% in all regions](#)

 FREE USAGE TIER: New Customers get free usage tier for first 12 months ☒

 Language:
 English

Amazon EC2

Amazon S3

Amazon RDS

 Amazon
DynamoDB

 Amazon
SimpleDB

Amazon SQS

Amazon SES

Amazon SNS

Amazon SWF

 Amazon Route
53

 Amazon
Glacier

 Amazon
CloudFront

 Amazon
ElastiCache

 Amazon
CloudWatch

Amazon VPC

 Amazon
Elastic
MapReduce

 AWS Import
Export

AWS Support

Services

Estimate of your Monthly Bill (\$ 0.00)

 Choose
region:

US-East (Northern Virginia) & US-West (Oregon)

Inbound Data Transfer is Free and Outbound Data Transfer is 1 GB free per region per month



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. Amazon Elastic Block Store (EBS) provides persistent storage to Amazon EC2 instances.

Clear Form

+ Compute: Amazon EC2 On-Demand Instances:

	Instances	Description	Operating System	Instance Type	Usage	Detailed Monitoring
	0		Linux	Micro	0 Hours/Mon	<input type="checkbox"/>

+ Compute: Amazon EC2 Reserved Instances:

	Instances	Description	Operating System	Instance Type	Offering Type	Term	Usage
	0		Linux	Small	Medium Utiliza	3 yr t	0 Hours/Mon

+ Storage: Amazon EBS Volumes:

	Volumes	Description	Volume Type	Storage	IOPS	Snapshot Storage
	0		Standard	0 GB	0	0 GB-month of Storage

Elastic IP:

 Number of Additional Elastic IPs: 0
 Elastic IP Non-attached Time: 0 Hours/Mon
 Number of Elastic IP Remaps: 0 Per Month

Amazon EC2 Data Transfer:

 Data Transfer In: 0 GB/Month
 Data Transfer Out: 0 GB/Month
 Regional Data Transfer: 0 GB/Month
 Public IP/Elastic IP Data Transfer: 0 GB/Month

Elastic Load Balancing:

 Number of Elastic LBs: 0
 Total Data Processed by all ELBs: 0 GB/Month

**Common
Customer
Samples**

Reset All

 Free Website on
AWS

 AWS Elastic
Beanstalk Default

 Marketing Web
Site

Web Application

Media Application

HPC Cluster

 Disaster
Recovery and
Backup

 European Web
Application

We are currently Beta testing the AWS Simple Monthly Calculator. This Calculator provides an estimate of usage charges for AWS services based on certain information you provide. Monthly charges will be based on your actual usage of AWS services, and may vary from the estimates the Calculator has provided. [Give us your feedback](#) on our Developer Center Feedback forum.

<http://aws.amazon.com/calculator>

AWS Free Usage Tier (Per Month):

Elastic Compute Cloud (EC2)

- 750 hours of [Amazon EC2](#) Linux/UNIX or [RHEL](#)† 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

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

Products & Services

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

Compute

Amazon Elastic Com

Amazon Elastic MapR

Auto Scaling

Content Delivery

Amazon CloudFront

Database

Amazon SimpleDB

Amazon Relational D

Amazon ElastiCache

Deployment & Managem

AWS Elastic Beansta

AWS CloudFormatior

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Amazon Fulfillment

Industry-specific Clouds

AWS GovCloud (US)

Messaging

Amazon Simple Quei

Amazon Simple Notif

Amazon Simple Ema

Monitoring

Amazon CloudWatch

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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



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](#))



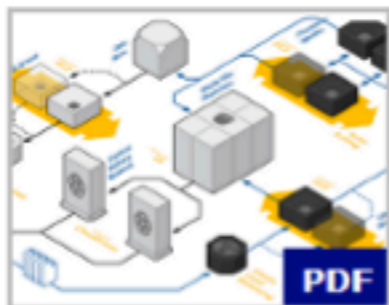
Disaster Recovery for Local Applications

Build cost-effective Disaster Recovery solutions for on-premises applications ([PDF](#))



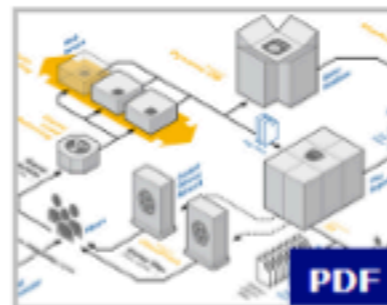
File Synchronization

Build simple file synchronization service ([PDF](#))



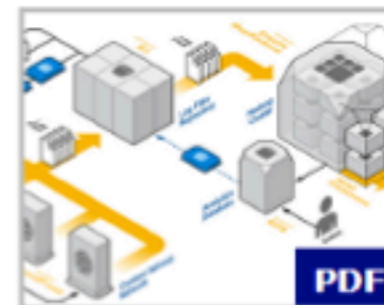
Media Sharing

Cloud-powered Media Sharing Framework ([PDF](#))



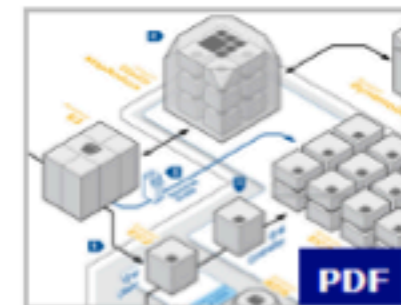
Online Games

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 Frontends 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

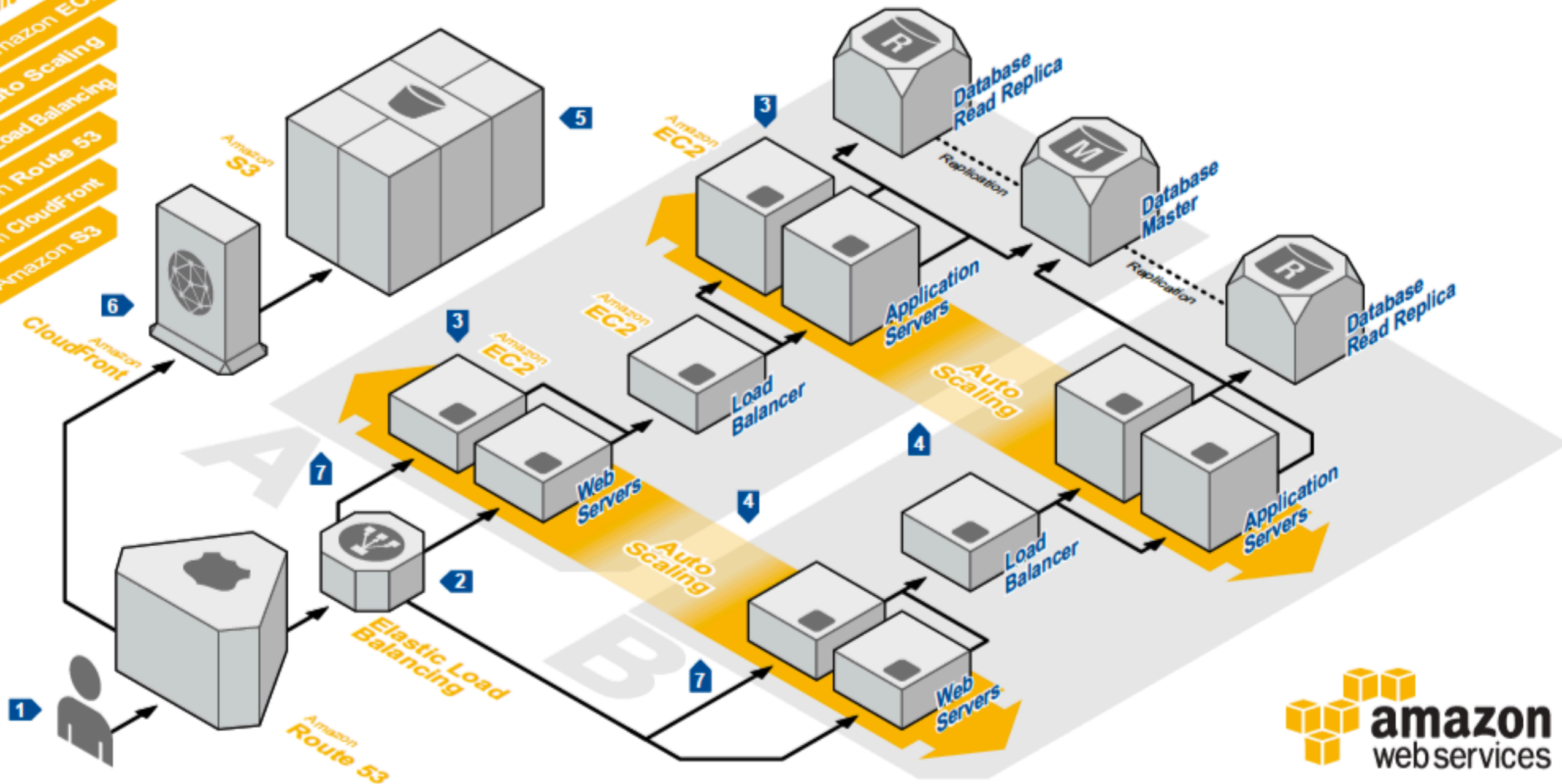
Auto Scaling

Elastic Load Balancing

Amazon Route 53

Amazon CloudFront

Amazon S3



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.



Presentation
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Netflix in the Cloud

Recorded at: **QCon**

Presented by: **Adrian Cockcroft** on Dec 21, 2010 Length: 01:01:52 Download: [MP3](#)

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Summary
Adrian Cockcroft discusses the advantages of running Netflix services in Amazon's cloud, comparing the old data center solution against the new cloud architecture implemented to offer faster, more scalable, more available, and more productive services across the enterprise.

Bio
Adrian Cockcroft is an architect at Netflix leading the Cloud Systems group. He authored Sun Performance and Tuning, Resource Management and Capacity Planning for Web Services while being a Distinguished Engineer at

Netflix in the Cloud

Nov 3, 2010
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<http://www.infoq.com/presentations/Netflix-in-the-Cloud>



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