

EC2 Beginners Workshop

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@esh

What is Amazon EC2?

On Demand,

Self Service,

Pay As You Go,

Computing Infrastructure

EC2 Computing Infrastructure

Server	→ “Instance”
Static IP	→ “Elastic IP Address”
Firewall	→ “Security Group”
SAN	→ “Elastic Block Store”
Monitoring	→ “CloudWatch”
Load Balancing	→ “Elastic Load Balancing”
Auto Scaling	→ “Auto Scaling”
Network	→ “Network”

Public EC2 Images



Fedora

Red Hat

CentOS

Ubuntu

Debian

OpenSuse

Gentoo

(OpenSolaris)

(Windows 2003)

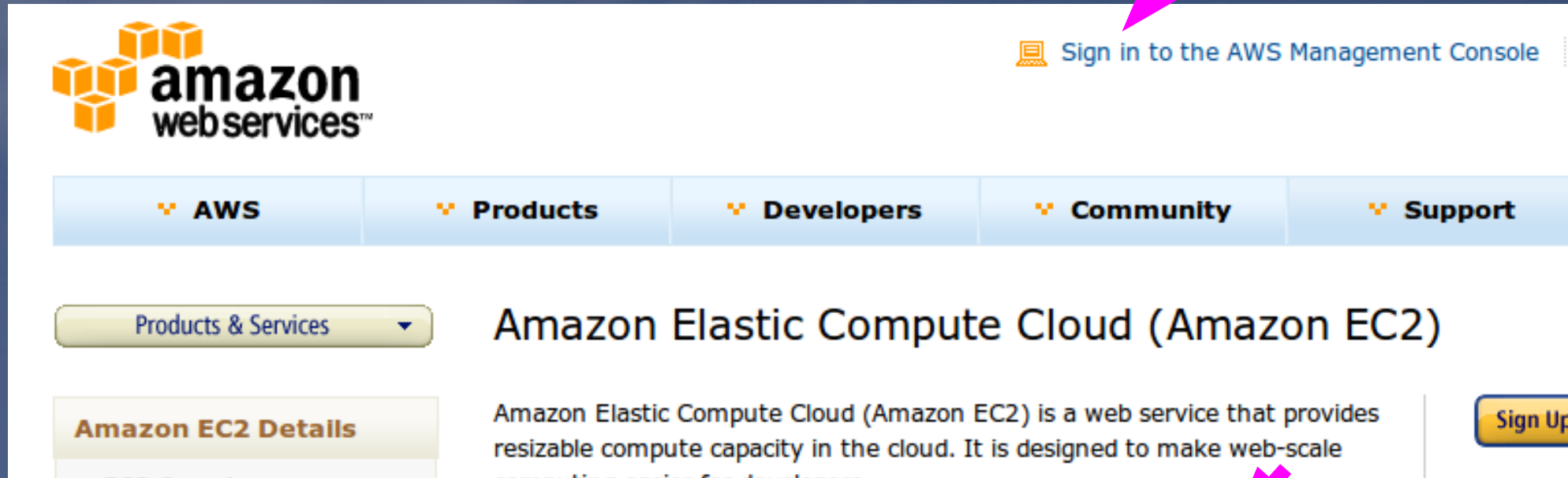
(Windows 2008)

Sign Up for AWS Account (already done)

Sign In to AWS Console

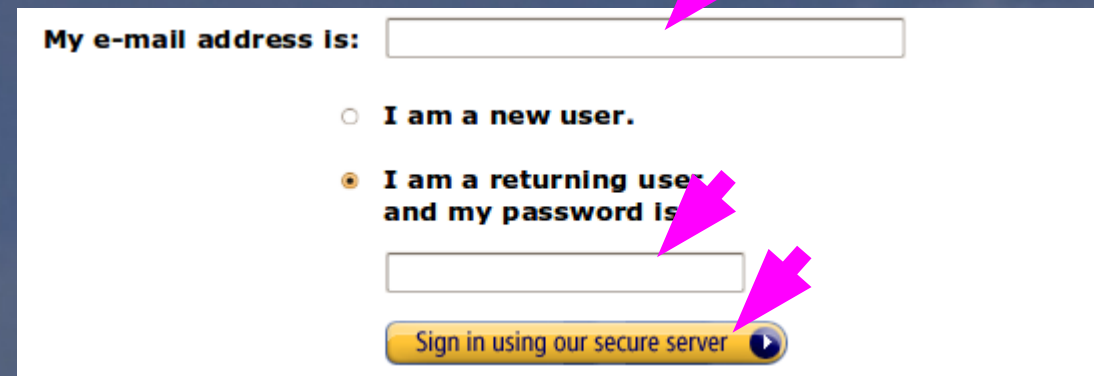
Sign In to AWS Console

aws.amazon.com/ec2



The screenshot shows the top portion of the AWS Management Console. On the left is the Amazon Web Services logo. To the right is a link that says "Sign in to the AWS Management Console" with a computer icon. Below the logo is a navigation bar with tabs for "AWS", "Products", "Developers", "Community", and "Support". Underneath is a "Products & Services" dropdown menu. The main heading is "Amazon Elastic Compute Cloud (Amazon EC2)". Below this is a brief description of the service and a "Sign Up" button on the right.

Email address
Password



The screenshot shows the sign-in form. It starts with the label "My e-mail address is:" followed by an empty text input field. Below this are two radio button options: "I am a new user." and "I am a returning user and my password is". The second option is selected. Below the radio buttons is another empty text input field. At the bottom is a yellow button labeled "Sign in using our secure server" with a right-pointing arrow.

AWS Console Dashboard

aws.amazon.com | AWS | Products | Developers | Community | Support | Account | Welcome, Eric Hammond | Settings | Sign Out

Amazon EC2 | Amazon Elastic MapReduce | Amazon CloudFront

Navigation

Region: US East

- > EC2 Dashboard
- INSTANCES
 - > Instances
 - > Spot Requests
- IMAGES
 - > AMIs
 - > Bundle Tasks
- ELASTIC BLOCK STORE
 - > Volumes
 - > Snapshots
- NETWORKING & SECURITY
 - > Elastic IPs
 - > Security Groups
 - > Key Pairs
 - > Load Balancers

Amazon EC2 Console Dashboard

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 US East (Virginia) region.

Service Health

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

[View complete service health details](#)

My Resources

You are using the following Amazon EC2 resources in the US East (Virginia) region: [Refresh](#)

- 0 Running Instances
- 0 Elastic IPs
- 0 EBS Volumes
- 0 EBS Snapshots
- 0 Key Pairs
- 1 Security Group
- 0 Load Balancers

Related Links

- > Documentation
- > All EC2 Resources
- > Forums
- > Feedback
- > Report an Issue

Create ssh Key Pair

Create ssh Key Pair

NETWORKING & SECURITY

- > Elastic IPs
- > Security Groups
- > Key Pairs
- > Load Balancers

You do not have any key pairs defined.
Click the Create Key Pair button to download a new private key.

Create Key Pair

Key Pair Name: ec2

Create Key Pair

Cancel X

Key Pair
Name:

ec2

Create

Create Key Pair

Cancel X

A key pair has been created for you with
the name ec2.

Your private key should begin
downloading in a few seconds, please
save it in a safe location.

Close

You have chosen to open

ec2.pem

which is a: PEM file
from: https://console.aws.amazon.com

What should Firefox do with this file?

Open with

Browse...

Save File

Do this automatically for files like this from now on.

Cancel

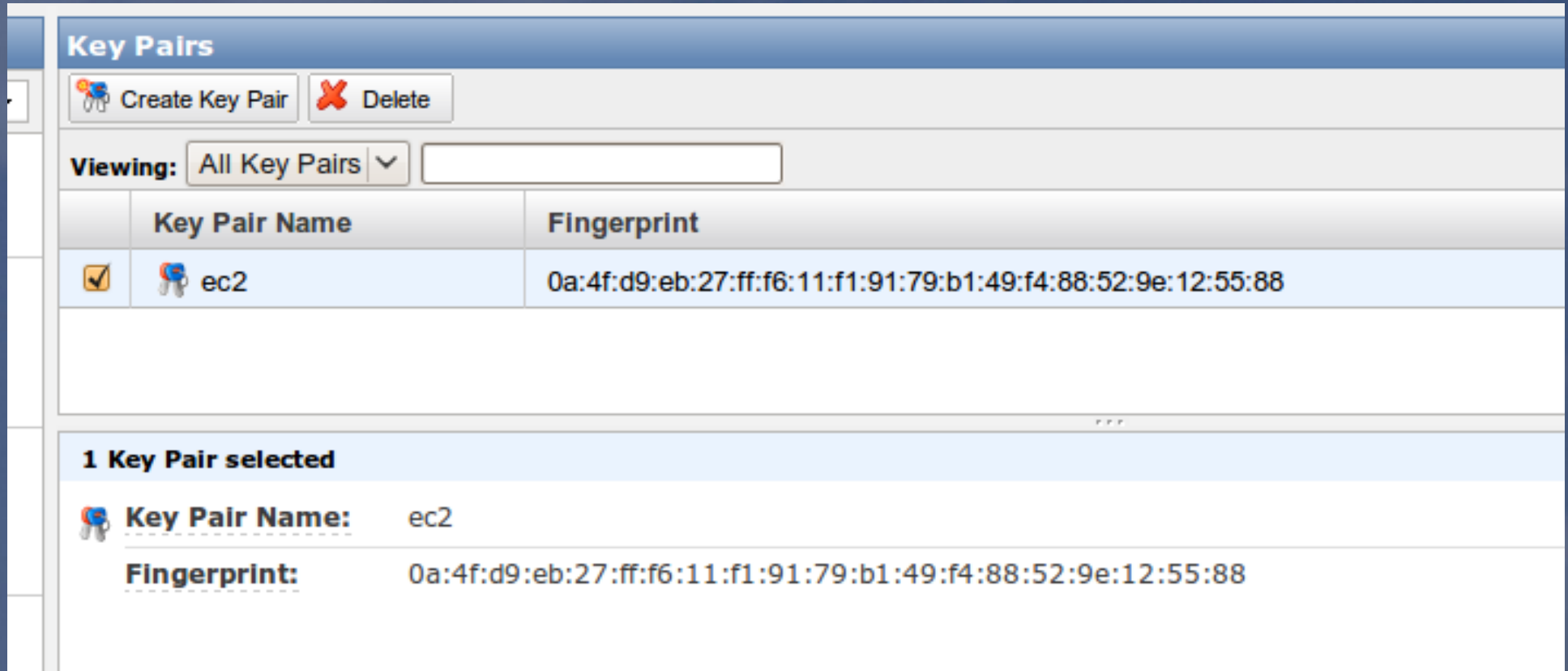
OK

Protect ssh Key



Applications
/ Accessories
/ Terminal

```
chmod 600 ec2.pem
```


Console: Key Pairs




Key Pairs

 Create Key Pair  Delete

Viewing: All Key Pairs

	Key Pair Name	Fingerprint
<input checked="" type="checkbox"/>	 ec2	0a:4f:d9:eb:27:ff:f6:11:f1:91:79:b1:49:f4:88:52:9e:12:55:88

1 Key Pair selected

 **Key Pair Name:** ec2

Fingerprint: 0a:4f:d9:eb:27:ff:f6:11:f1:91:79:b1:49:f4:88:52:9e:12:55:88

Configure Security Group (firewall)

Configure “default” Security Group

NETWORKING & SECURITY

- > Elastic IPs
- > Security Groups
- > Key Pairs
- > Load Balancers

Security Groups

Create Security Group Delete Show/Hide Refresh Help

Viewing: All Security Groups 1 to 1 of 1 Items

Name	Description
<input type="checkbox"/> default	default group

1 Security Group selected

Group Name: default

Description: default group

Allowed Connections:

Connection Method	Protocol	From Port	To Port	Source (IP or group)	Actions
All	icmp	-1	-1	default group	Remove
All	tcp	0	65535	default group	Remove
All	udp	0	65535	default group	Remove
SSH	tcp	22	22	0.0.0.0/0	Remove
HTTP	tcp	80	80	0.0.0.0/0	Remove
HTTPS	tcp	443	443	0.0.0.0/0	Remove

HTTPS TCP 443 443 0.0.0.0/0 Save

Launch EC2 Instance

Launch EC2 Instance

My Instances

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**

Viewing: All Images | scale8x | 1 to 1 of 1 Items

AMI ID	Root Device	Manifest	Platform	
ami-d57f93bc	ebs	063491364108/alectic/ubuntu-9.04-karmic-scale8x-i386-201	Ubuntu	Select

Continue | Continue | Continue | Continue

AMI: Ubuntu AMI ID ami-d57f93bc (i386) [Edit AMI](#)

Number of Instances: 1

Availability Zone: No Preference

Monitoring: Disabled

Instance Type: Small (m1.small)

Instance Class: On Demand [Edit Instance Details](#)

Kernel ID: Use Default

Ramdisk ID: Use Default

User Data: [Edit Advanced Details](#)

Key Pair Name: ec2 [Edit Key Pair](#)

Security Group(s): default [Edit Firewall](#)

Launch

Community AMIs
"scale8x"

EC2 Instances

My Instances

Launch Instance Instance Actions Reserved Instances Show/Hide Refresh Help

Viewing: All Instances All Instance Types 1 to 1 of 1 Instances

Instance	AMI ID	Root Device Type	Type	Status	Lifecycle	Public DNS	Security Group
<input checked="" type="checkbox"/> i-bfe81cd4	ami-d57f93bc	ebs	m1.small	running	normal	ec2-184-73-24-166.compute-1	default

1 EC2 Instance selected

EC2 Instance: i-bfe81cd4

Description Monitoring

AMI ID:	ami-d57f93bc	Zone:	us-east-1a
Security Groups:	default	Type:	m1.small
Status:	running	Owner:	818010445266
Reservation:	r-5ea1d836	Ramdisk ID:	ari-0915f660
Platform:	-	Key Pair Name:	ec2
Kernel ID:	aki-5f15f636	Monitoring:	disabled
AMI Launch Index:	0	Elastic IP:	-
Root Device:	/dev/sda1	Root Device Type:	ebs
Block Devices:	/dev/sda1=vol-8314ddea:attached:2010-02-20T09:44:49.000Z:true		
Lifecycle:	normal		
Public DNS:	ec2-184-73-24-166.compute-1.amazonaws.com		
Private DNS:	ip-10-243-46-143.ec2.internal		
Launch Time:	2010-02-20 01:44 PST		

Connect with ssh

Connect with ssh

Instance	AMI ID	Root
<input checked="" type="checkbox"/> i-bfe81cd4	ami-d57f93bc	ebs

1 EC2 Instance selected

Instance Management

- Connect
- Get System Log

Connect Help - Secure Shell (SSH) Cancel

Instance: i-4763962c

To access your instance using any SSH client

1. Open the SSH client of your choice (e.g., PuTTY, terminal).
2. Locate your private key file, ec2.pem
3. Use chmod to make sure your key file isn't publicly viewable, ssh won't work otherwise:
`chmod 400 ec2.pem`

Enter the following command line:

```
ssh -i ec2.pem root@ec2-184-73-35-131.compute-1.amazonaws.com
```

Close

```
ec2: #####
ec2: -----BEGIN SSH HOST KEY FINGERPRINTS-----
ec2: 2048 e4:07:be:06:68:d7:cf:b0:a4:44:59:d9:eb:21:91:ec /etc/ssh/ssh_host_rsa_key.pub (RSA)
ec2: 1024 e1:29:db:0c:35:5c:c6:02:5a:bd:9e:65:73:2a:68:76 /etc/ssh/ssh_host_dsa_key.pub (DSA)
ec2: -----END SSH HOST KEY FINGERPRINTS-----
ec2: #####
```

Connect with ssh

```
$ chmod 600 ec2.pem
$ ssh -i ec2.pem ubuntu@ec2-184-73-24-166.compute-1.amazonaws.com
The authenticity of host 'ec2-184-73-24-166.compute-1.amazonaws.com (184.73.24.166)' can't be established.
RSA key fingerprint is 94:3c:c3:c0:60:d2:42:cf:96:c6:2a:1b:bc:ff:1d:8b.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'ec2-184-73-24-166.compute-1.amazonaws.com,184.73.24.166' (RSA) to the list of known hosts.
Linux ip-10-243-46-143 2.6.31-302-ec2 #7-Ubuntu SMP Tue Oct 13 19:06:04 UTC 2009
i686

Built by Eric Hammond <esh@ubuntu.com> for SCALE 8x, Feb 2010.
This demo image should not be used for production purposes.

http://ec2-184-73-24-166.compute-1.amazonaws.com

Last login: Fri Feb 19 23:49:36 2010 from cpe-98-149-136-53.socal.res.rr.com
ubuntu@ip-10-243-46-143:~$ █
```


Connect with Browser

Connect with Browser

http://ec2-184-73-24-166.compute-1.amazonaws.com



Log in / create account

Set \$wgLogo to the URL path to your own logo image.

navigation

- [Main Page](#)
- [Community portal](#)
- [Current events](#)
- [Recent changes](#)
- [Random page](#)
- [Help](#)

search

toolbox

- [What links here](#)
- [Related changes](#)
- [Special pages](#)
- [Printable version](#)
- [Permanent link](#)

[page](#) [discussion](#) [edit](#) [history](#)

Main Page

MediaWiki has been successfully installed.

Consult the [User's Guide](#) for information on using the wiki software.

SCALE 8x Demo [\[edit\]](#)

Congratulations!

You have successfully started an Amazon EC2 instance of the SCALE 8x demo AMI.

This instance is running Ubuntu 9.10 Karmic and has a sample WikiMedia installation, but you can start with a clean server image and install any software you desire.

Eric Hammond lists some good Ubuntu AMIs on

<http://alestic.com>

Remember to terminate this instance using the AWS console to discontinue charges on your credit card.

This page was last modified on 19 February 2010, at 23:44.

This page has been accessed 2 times.

[Privacy policy](#)

[About](#)

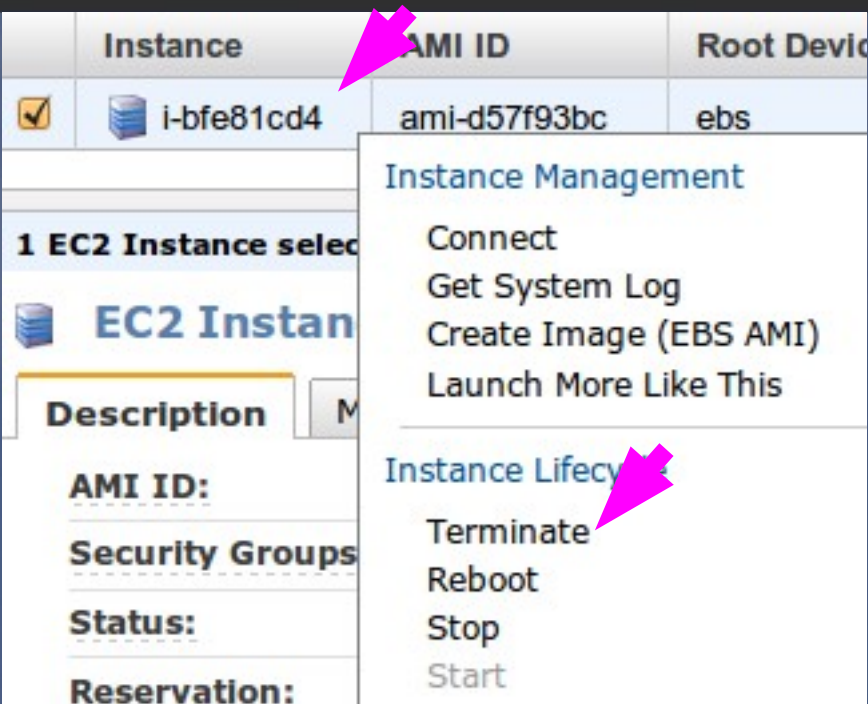


[SCALE 8x Try It Lab Demo](#)

[Disclaimers](#)

Terminate EC2 Instance

Terminate EC2 Instance



The screenshot shows the AWS Management Console interface. A table lists EC2 instances with columns for Instance ID, AMI ID, and Root Device. The instance 'i-bfe81cd4' is selected. A context menu is open over the instance, showing options under 'Instance Management' and 'Instance Lifecycle'. The 'Terminate' option is highlighted with a pink arrow.

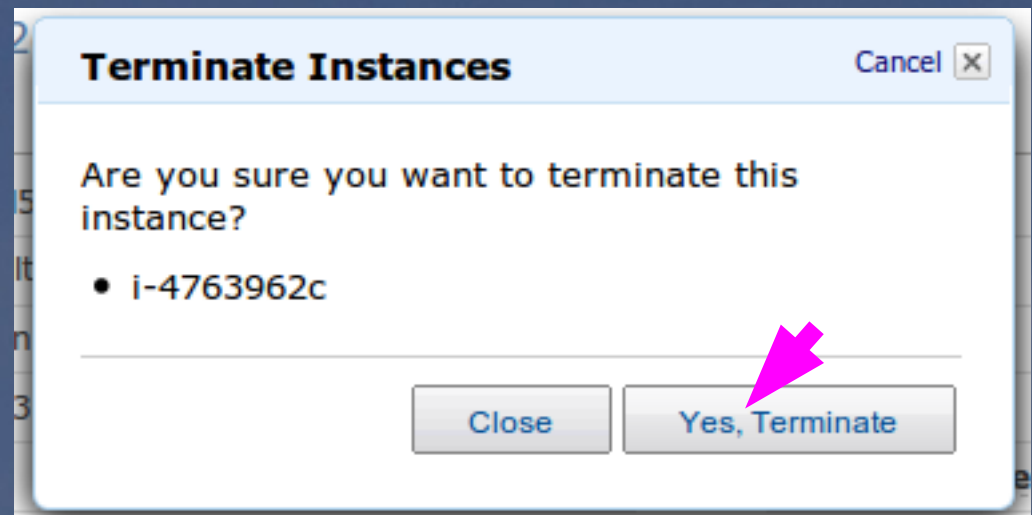
Instance	AMI ID	Root Device
<input checked="" type="checkbox"/> i-bfe81cd4	ami-d57f93bc	ebs

Instance Management

- Connect
- Get System Log
- Create Image (EBS AMI)
- Launch More Like This

Instance Lifecycle

- Terminate
- Reboot
- Stop
- Start



The screenshot shows the 'Terminate Instances' dialog box. It contains the text 'Are you sure you want to terminate this instance?' and a list of instance IDs: 'i-4763962c'. At the bottom, there are three buttons: 'Close', 'Yes, Terminate', and 'Cancel'. The 'Yes, Terminate' button is highlighted with a pink arrow.

Terminate Instances Cancel

Are you sure you want to terminate this instance?

- i-4763962c

Close Yes, Terminate Cancel

Resources

Amazon EC2
ec2.notlong.com

Public EC2 images (some of them)
ec2ami.notlong.com

Ubuntu and Debian EC2 images
alestic.com

Support Groups

Amazon EC2 Forum
ec2forum.notlong.com

Google Group for EC2 and Ubuntu
groups.google.com/group/ec2ubuntu

AWS support (especially EC2, S3)
irc.freenode.net **##aws**

Ubuntu and EC2
irc.freenode.net **#ubuntu-server**

CampusExplorer.com is hiring:

Perl Developer

Eric Hammond

Email: esh@ubuntu.com

Twitter: [esh](#)

Identi.ca: [esh](#)

Facebook: [/erichammond](#)

[Alestic.com](#) (Ubuntu on EC2)