

Amazon Web Services (AWS)

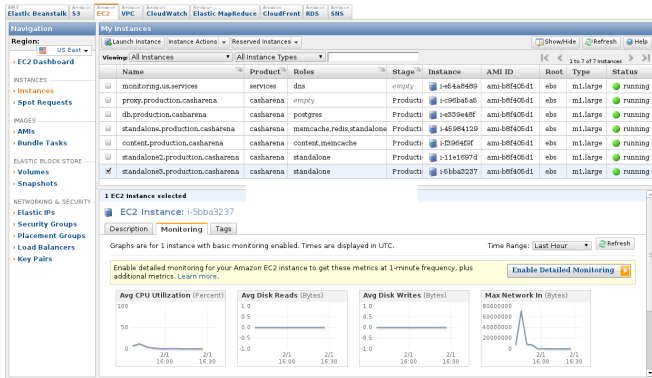
Elastic Cloud (EC2)

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AWS Overview

- Elastic Cloud (EC2)
- S3
- CloudFront
- Virtual Private Cloud (VPC)
- Simple Email Service (SES)
- ...

AWS Console UI



- Amazon account

EC2 Instance

- AMI: EBS or local storage

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: 64-bit | ubuntu 1 to 50 of 407 items

AMI ID	Root Device	Manifest	Platform	
ami-005aab69	ebs	099720109477/ebs/ubuntu-images-testing/ubuntu-luc	Ubuntu	Select
ami-006db969	instance-store	alestic-64/ubuntu-8.04-hardy-base-64-20081222.man	Ubuntu	Select
ami-00ca3c69	instance-store	zend-images-us-east/zend-server-5.0.4-php5.3-ubuntu	Ubuntu	Select
ami-00e41469	ebs	099720109477/ebs/ubuntu-images-testing/ubuntu-luc	Ubuntu	Select
ami-00f00069	ebs	172612712884/ebs-ubuntu-10.10-x64-glassfish-31-b-3	Ubuntu	Select
ami-0122cd68	instance-store	/hypertable/am/ubuntu-8.04-x86_64/image.manifest.t	Ubuntu	Select
ami-015db968	instance-store	alestic-64/ubuntu-8.04-hardy-rightscales-64-20081222	Ubuntu	Select
ami-025db96b	instance-store	alestic-64/ubuntu-6.06-dapper-base-64-20081222.man	Ubuntu	Select
ami-02d9296b	instance-store	ubuntu-images-testing-us/ubuntu-natty-daily-amd64-s	Ubuntu	Select
ami-02da2a6b	instance-store	ubuntu-images-testing-us/ubuntu-hardy-daily-amd64-s	Ubuntu	Select
ami-0354b96a	ebs	063491364108/ubuntu-8.04.3-hardy-server-amd64-20	Ubuntu	Select
ami-035db96a	instance-store	alestic-64/ubuntu-7.10-utsv-base-64-20081222.manif	Ubuntu	Select

EC2 Instance

- hardware
- performance

Request Instances Wizard

Cancel

✓

○

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

Availability Zone:

No Preference ▼

Instance Type:

Large (m1.large, 7.5 GB) ▼

⊙ 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.

⊙ Request Spot Instances

⊙ Launch Instances Into Your Virtual Private Cloud

◀ Back

Continue ▶

EC2 Instance

- CloudWatch

Request Instances Wizard

Cancel

✓

CHOOSE AN AMIINSTANCE DETAILSCREATE KEY PAIRCONFIGURE FIREWALLREVIEW

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:

☐ base64 encoded

Back

Continue

EC2 Instance

- Tags

Request Instances Wizard

Cancel

✓

CHOOSE AN AMIINSTANCE DETAILSCREATE KEY PAIRCONFIGURE FIREWALLREVIEW

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
<input type="text" value="Name"/>	<input type="text" value="Testing instance"/>	
<input type="text" value="Stage"/>	<input type="text" value="devrel"/>	
<input type="text"/>	<input type="text"/>	

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

Back

Continue

EC2 Instance

- SSH Keys, AWS Keys

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. To create a key pair, enter a name and click **Create & Download your Key Pair**. You will then 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*: comoga-us ▼

☐ Create a new Key Pair

☐ Proceed without a Key Pair

Back

Continue

EC2 Instance

- Security Group

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. All changes take effect immediately.

⊙ Choose one or more of your existing Security Groups

Security Groups:

default

production.casharena

(Selected groups: default)

⊙ Create a new Security Group

Back

Continue

EC2 Instance

Request Instances Wizard

Cancel

CHOOSE AN AMI


INSTANCE DETAILS

CREATE KEY PAIR

CONFIGURE FIREWALL

REVIEW

Please review the information below, then click Launch.

AMI:  Ubuntu AMI ID ami-005aab69 (x86_64) [Edit AMI](#)

Number of Instances: 1

Availability Zone: No Preference

Instance Type: Large (m1.large)

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

Monitoring: Disabled

Kernel ID: Use Default

RAM Disk ID: Use Default

User Data: [Edit Advanced Details](#)

Key Pair Name: comoga-us [Edit Key Pair](#)

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

Back

Launch

EC2 Overview

- regional
- AMI
- CPU, HDD, network, DNS, SSH

Automated deployment

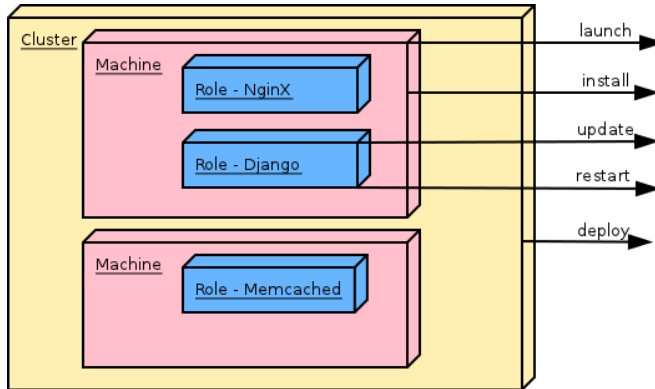
- fabric
 - python ssh wrapper
 - deployment tool
- boto
 - AWS rest API wrapper
- knitting
 - fabric + boto + magic

Knitting Definitions

Defines:

- Cluster
- Machines
- Roles
- Firewall
- Deployment scenarios

Knitting Architecture



Knitting Definitions (cluster)

```
definition = {  
    'production.mysite': {  
        'tags': {  
            'Stage': 'Production',  
            'Product': 'MySite',  
        },  
        'region': 'eu-west-1',  
        'zone': 'eu-west-1a',  
        'key_name': 'master_key',  
        'credentials_file': os.path.expanduser('~/.ec2/aws.ini'),  
        'domain': 'production.mysite',  
    },  
}
```

Knitting Definitions (machines+roles)

```
'machines': {
  'frontend': {
    'ami': 'ami-d19ca9a5',
    'instance': 'm1.large',
    'security_group': 'webserver',
    'class': Machine,
    'roles': {
      'proxy': Proxy(sites=['nginx/mysite/proxy'],),
      'django': MySite(),
    }
  },
  'db': {
    ...
    'roles': {
      'memcache': Memcache(unix_socket=False,),
      'redis': Redis(),
      'postgres': BouncedPostgres(
        db_name='mysite', user='mysite', unix_socket=False, max_db_connections=4096,
        trust_users=['postgres', 'mysite'], max_bouncer_connections=8192,
      ),
    }
  },
},
```


Knitting Definitions (scenarios)

```
'deploy': [  
    'proxy.site_down',  
    'ALL.update',  
    'django.migrate',  
    'django.static',  
    'memcache.restart',  
    'proxy.site_up',  
],  
'hotfix': [  
    'django.update',  
    'proxy.reload',  
],
```

Knitting commands

Launch machines:

```
fab mysite_production launch
```

Install machines:

```
fab mysite_production install
```

Run tasks:

```
fab mysite_production deploy  
fab mysite_production hotfix
```

Cons

- price
- docs, support
- scalability, EIP, performance

Pros

- infrastructure, HW, backup
- API
- additional services

Embrace

- sign up
- embrace
- ???
- profit