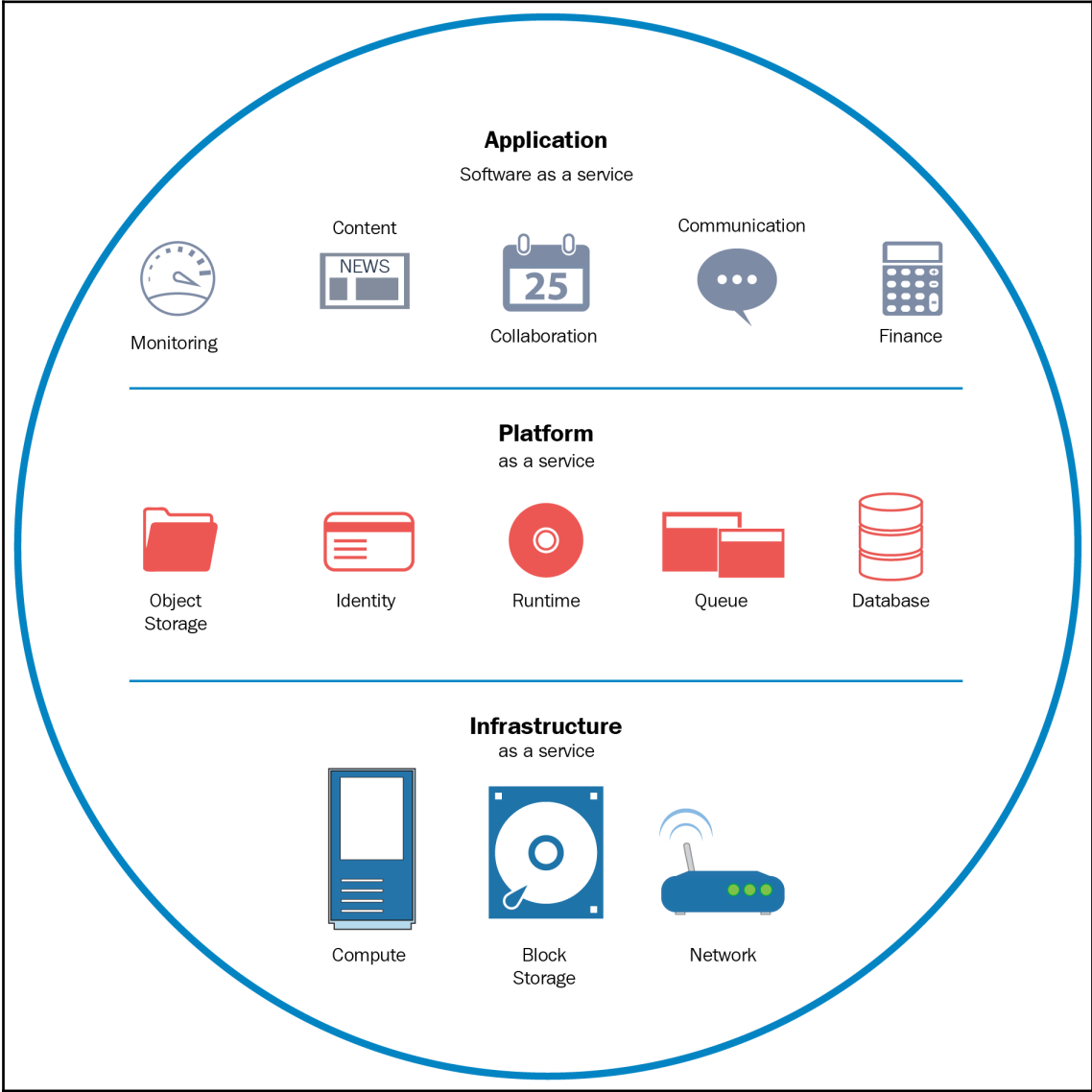
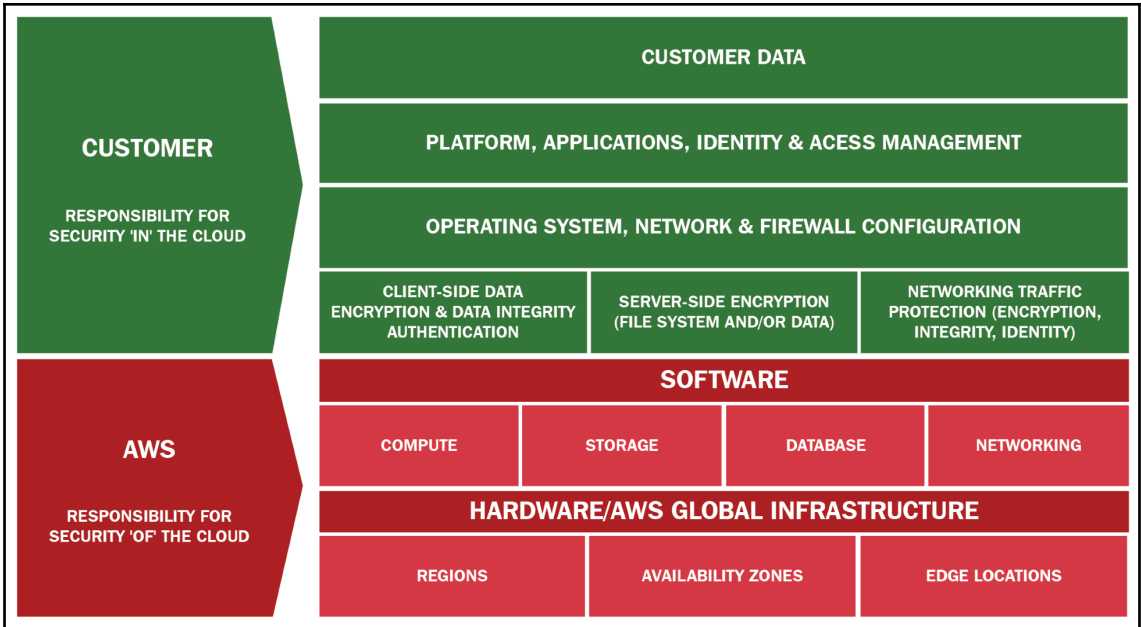
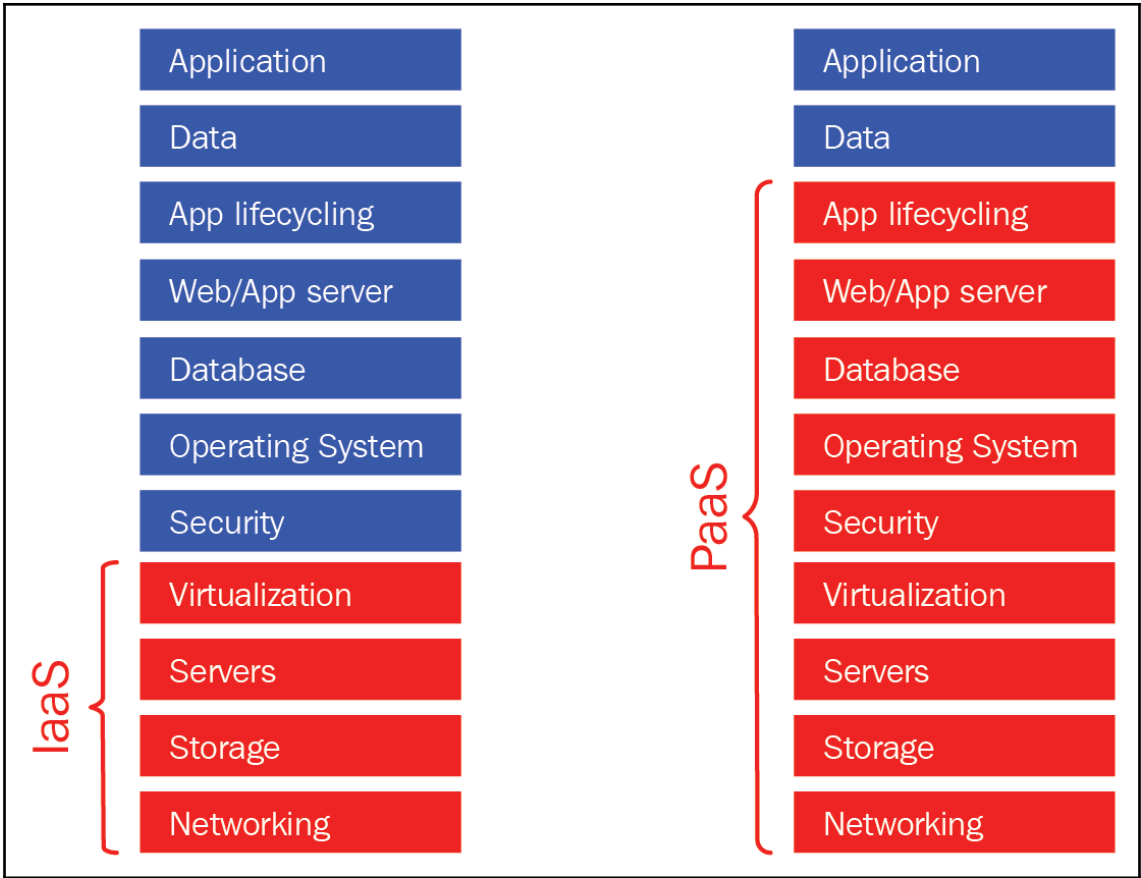
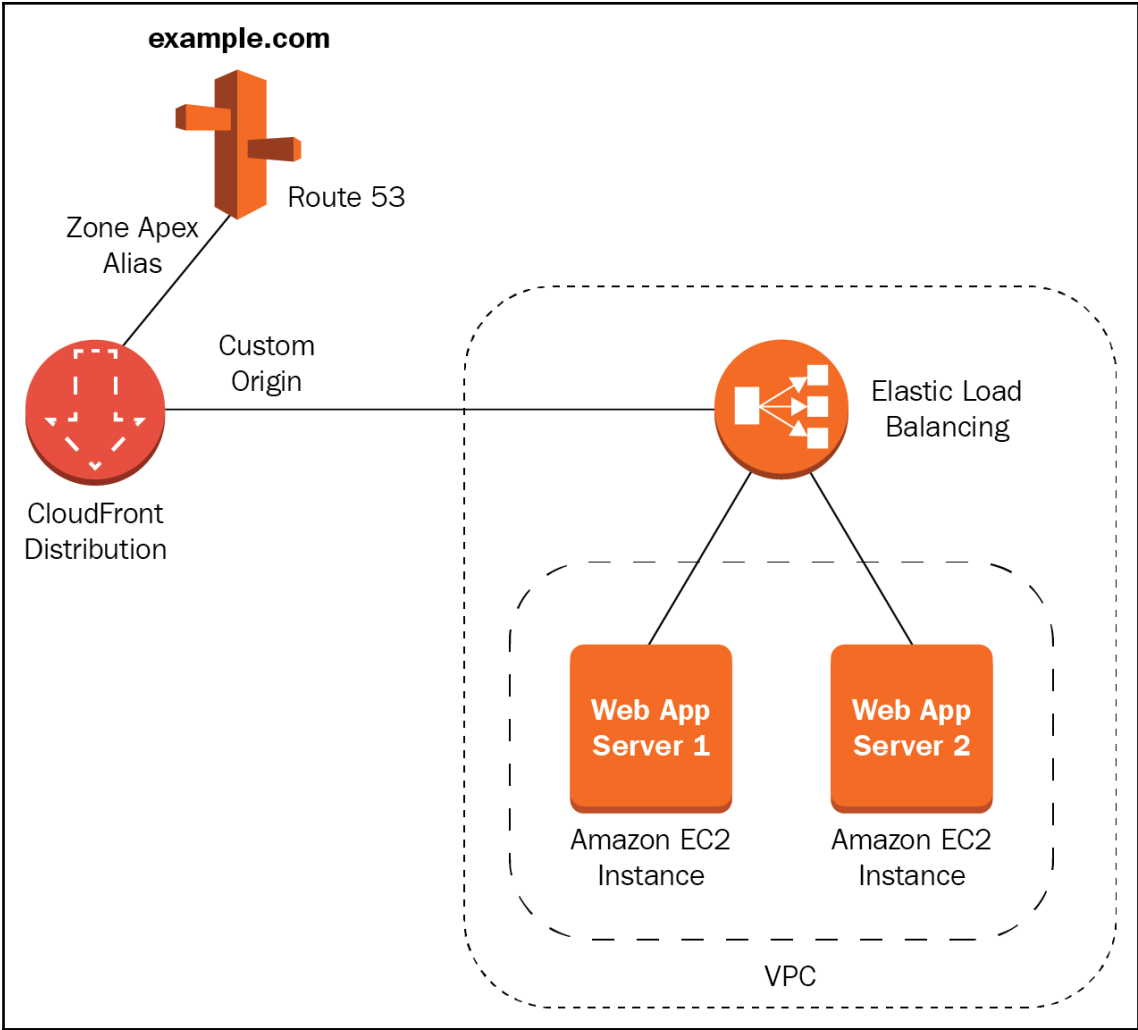


Chapter 2: The Fundamentals of Amazon Web Services









AWS compute offerings



Service

EC2

ECS

Lambda

Unit of scale

VM

Task

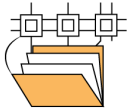
Function

Level of abstraction

H/W

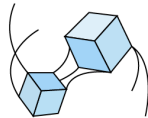
OS

Runtime



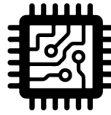
Amazon
EFS

File



Amazon
EBS

Block

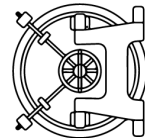


Amazon EC2
Instance
storage

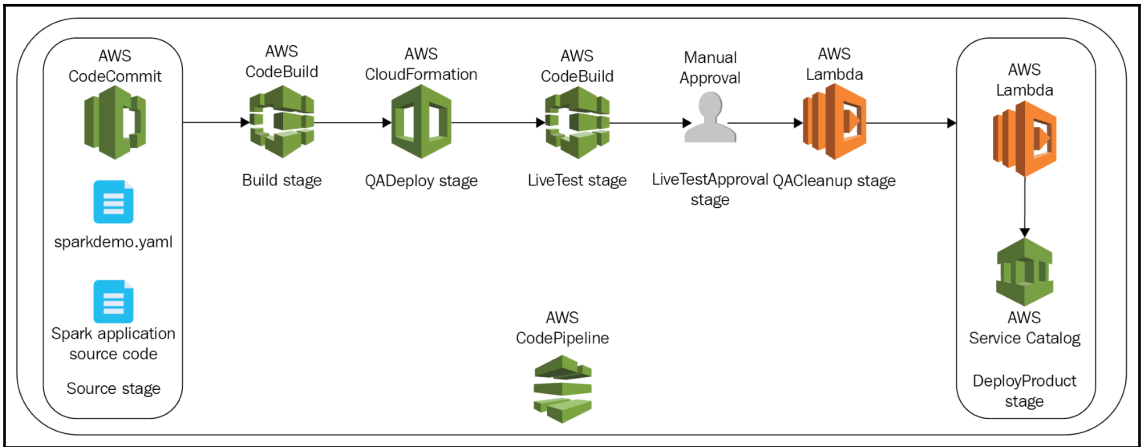
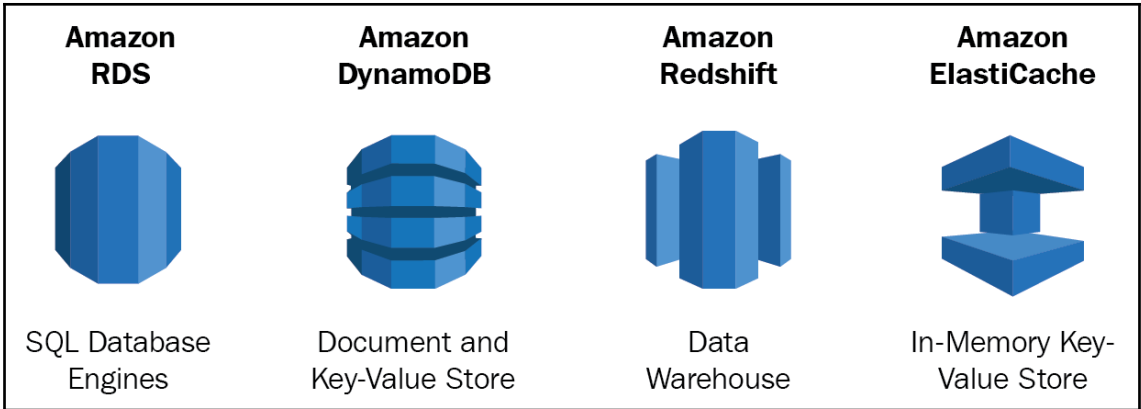


Amazon
S3

Object




Amazon
Glacier



[Menu](#)
aws
Contact Sales
Products ▾
Solutions
Pricing
Getting Started
More ▾
English ▾
My Account ▾
Create an AWS Account

Amazon Aurora Serverless

Automatically starts, scales, and shuts down your database
Only pay for the capacity you use





English ▾

Create an AWS account

AWS Accounts Include 12 Months of Free Tier Access

Including use of Amazon EC2, Amazon S3, and Amazon DynamoDB
Visit aws.amazon.com/free for full offer terms

Email address

Password

Confirm password

AWS account name ⓘ

Continue

[Sign in to an existing AWS account](#)



Services ▾

Resource Groups ▾



youraccount@youremail

Ohio ▾

Support ▾

AWS services

Find a service by name or feature (for example, EC2, S3 or VM, storage)

Recently visited services



IAM



Billing



Route 53

> All services

Build a solution

Get started with simple wizards and automated workflows.



Launch a virtual machine

With EC2
~2-3 minutes



Build a web app

With Elastic Beanstalk
~6 minutes



Build using virtual servers

With Lightsail
~1-2 minutes

Helpful tips



Manage your costs

Monitor your AWS costs, usage, and reservations using AWS Budgets. [Start now](#)



Create an organization

Use AWS Organizations for policy-based management of multiple AWS accounts. [Start now](#)

Explore AWS





Machine Learning with Amazon SageMaker

aws **Services** ^ **Resource Groups** v

History

- Console Home
- IAM
- Billing
- Route 53

Find a service by name or feature (for example, EC2, S3 or VM, storage).

 Compute	 Developer Tools
EC2	CodeStar
Lightsail ↗	CodeCommit
Elastic Container Service	CodeBuild
EKS	CodeDeploy
Lambda	CodePipeline
Batch	Cloud9
Elastic Beanstalk	X-Ray
 Storage	 Management Tools
S3	CloudWatch
EFS	AWS Auto Scaling

Resource Groups ^

Saved groups ^{new}


Create a group ^{new}

Tag Editor




Classic groups

A resource group is a collection of resources that share one or more tags.

Create a classic group



Alerts

 Open issues	0
 Scheduled changes	0
 Other notifications	0

[View all alerts](#)

IAM User:
yourname

Account:
youraccountname_

My Account

My Organization

My Billing Dashboard

My Security Credentials

Switch Role

Sign Out

US East (N. Virginia)

US East (Ohio)

US West (N. California)

US West (Oregon)

Asia Pacific (Mumbai)

Asia Pacific (Seoul)

Asia Pacific (Singapore)

Asia Pacific (Sydney)

Asia Pacific (Tokyo)

Canada (Central)

EU (Frankfurt)

EU (Ireland)

EU (London)

EU (Paris)

South America (São Paulo)

Ohio ▾

Support ▲

Support Center

Forums

Documentation

Training

Other Resources



Services ▾

Resource Groups ▾



AWS services



Database Migration Service

Managed Database Migration Service

AWS AppSync

Real-Time Data Sync Using GraphQL for Mobile & Web Apps, Online or Offline

Amazon Redshift

Fast, Simple, Cost-Effective Data Warehousing

Data Pipeline

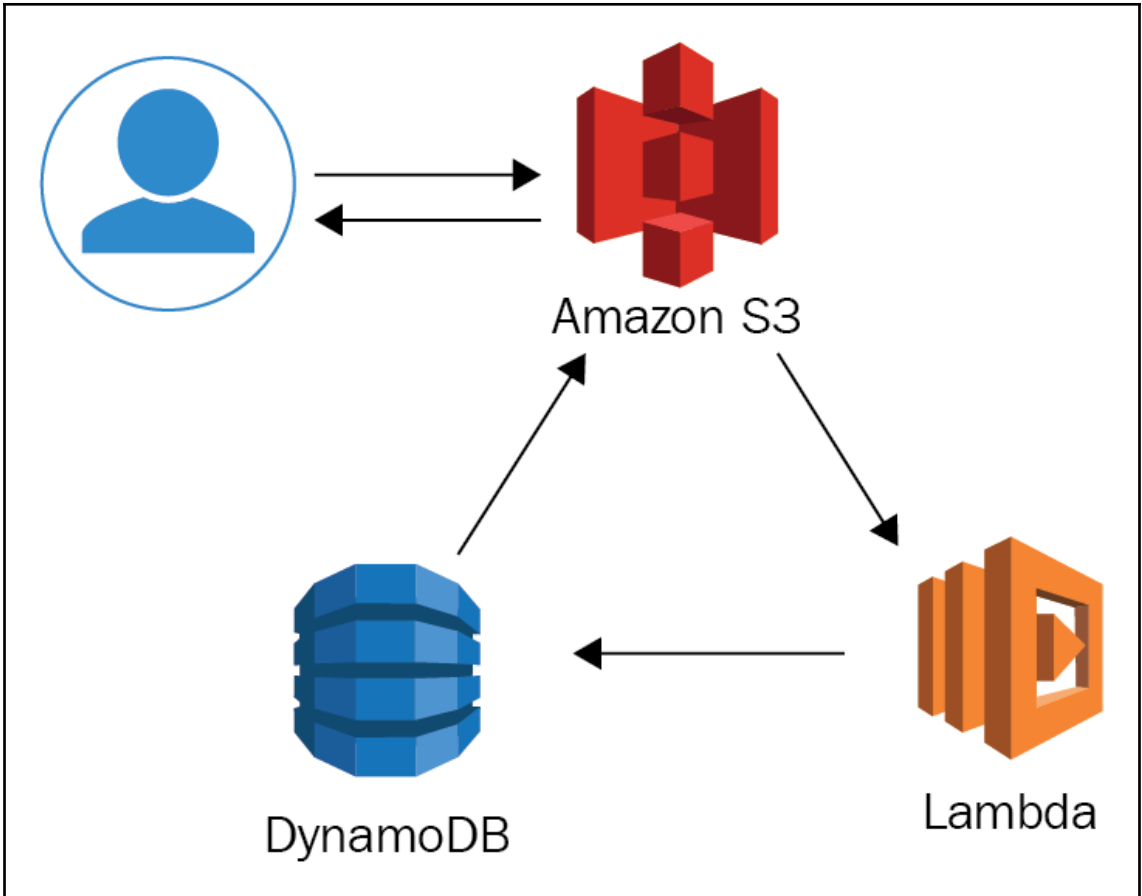
Orchestration for Data-Driven Workflows

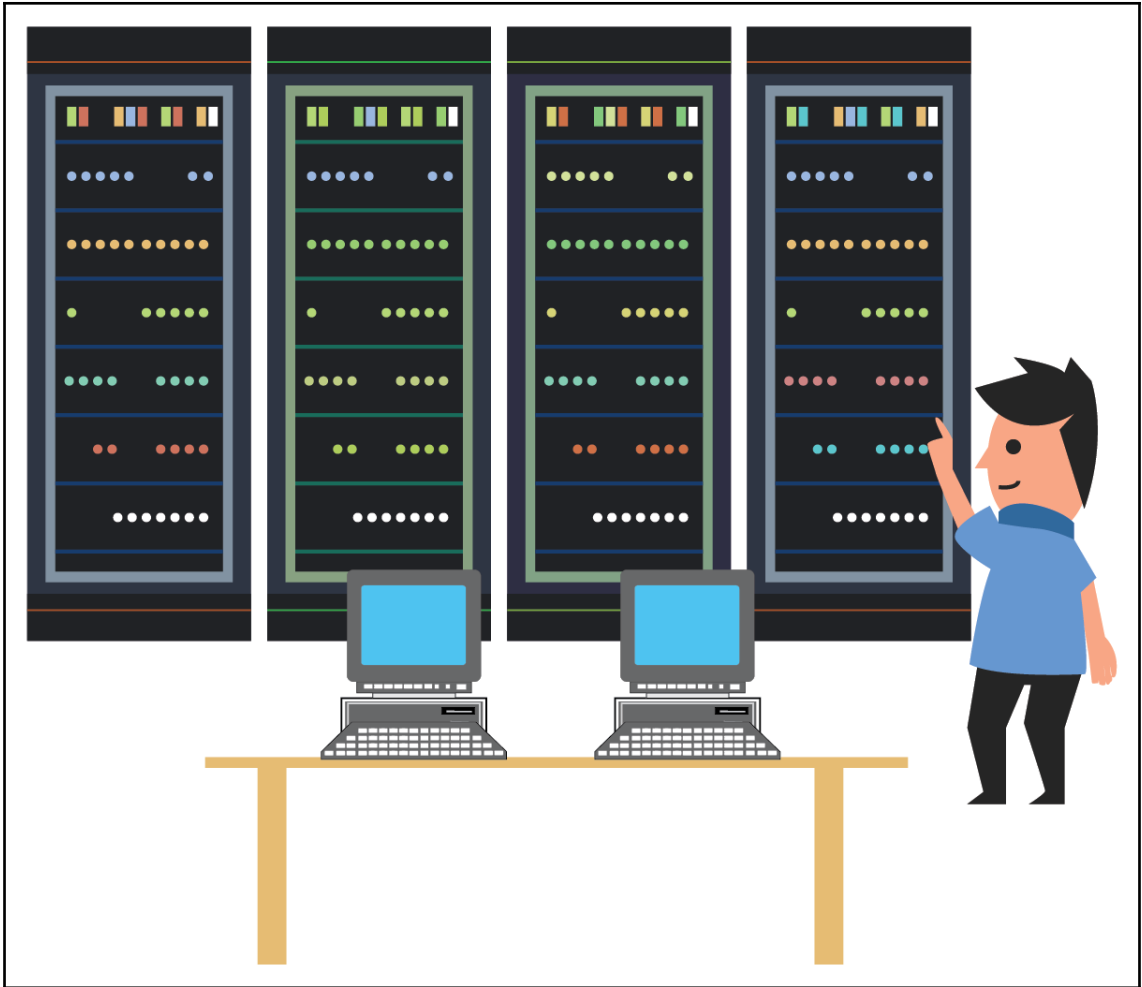
DynamoDB

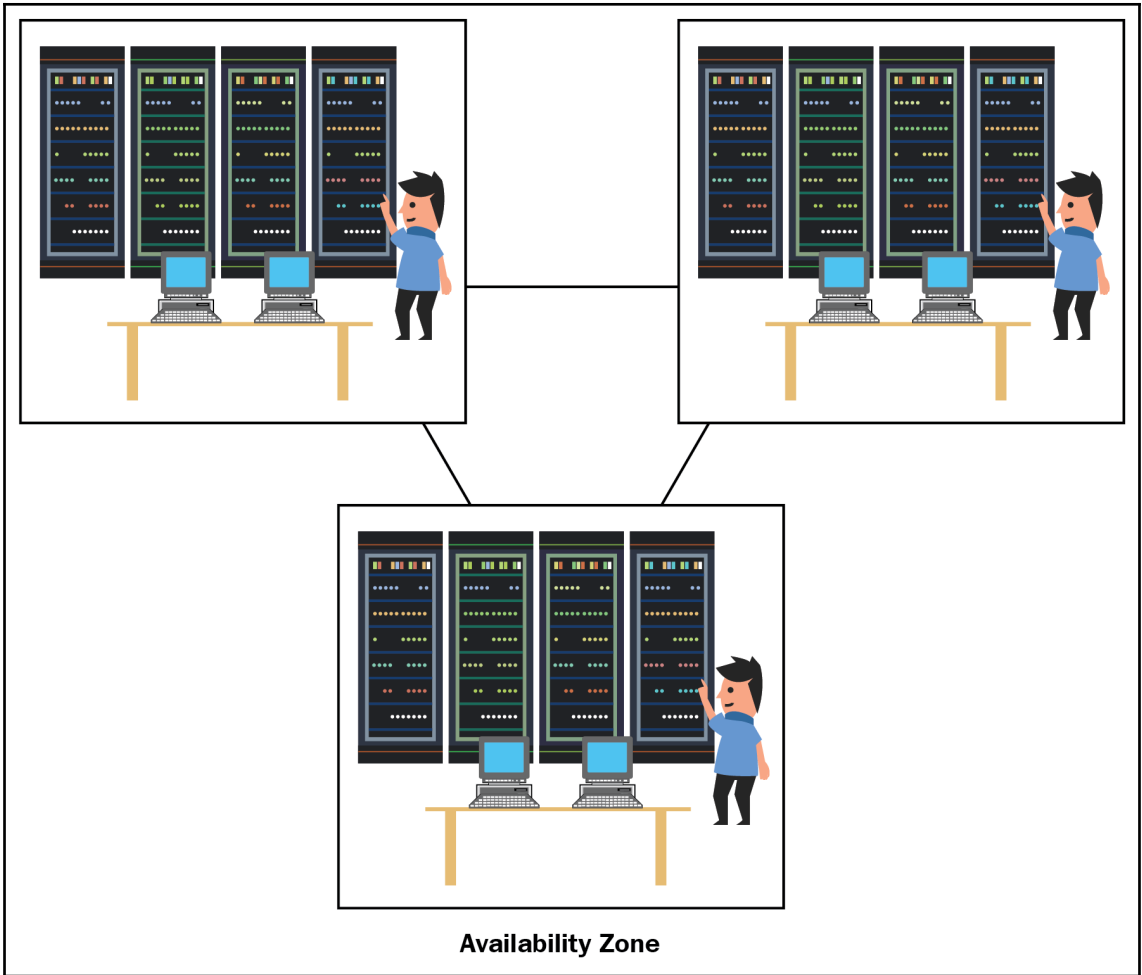
Managed NoSQL Database

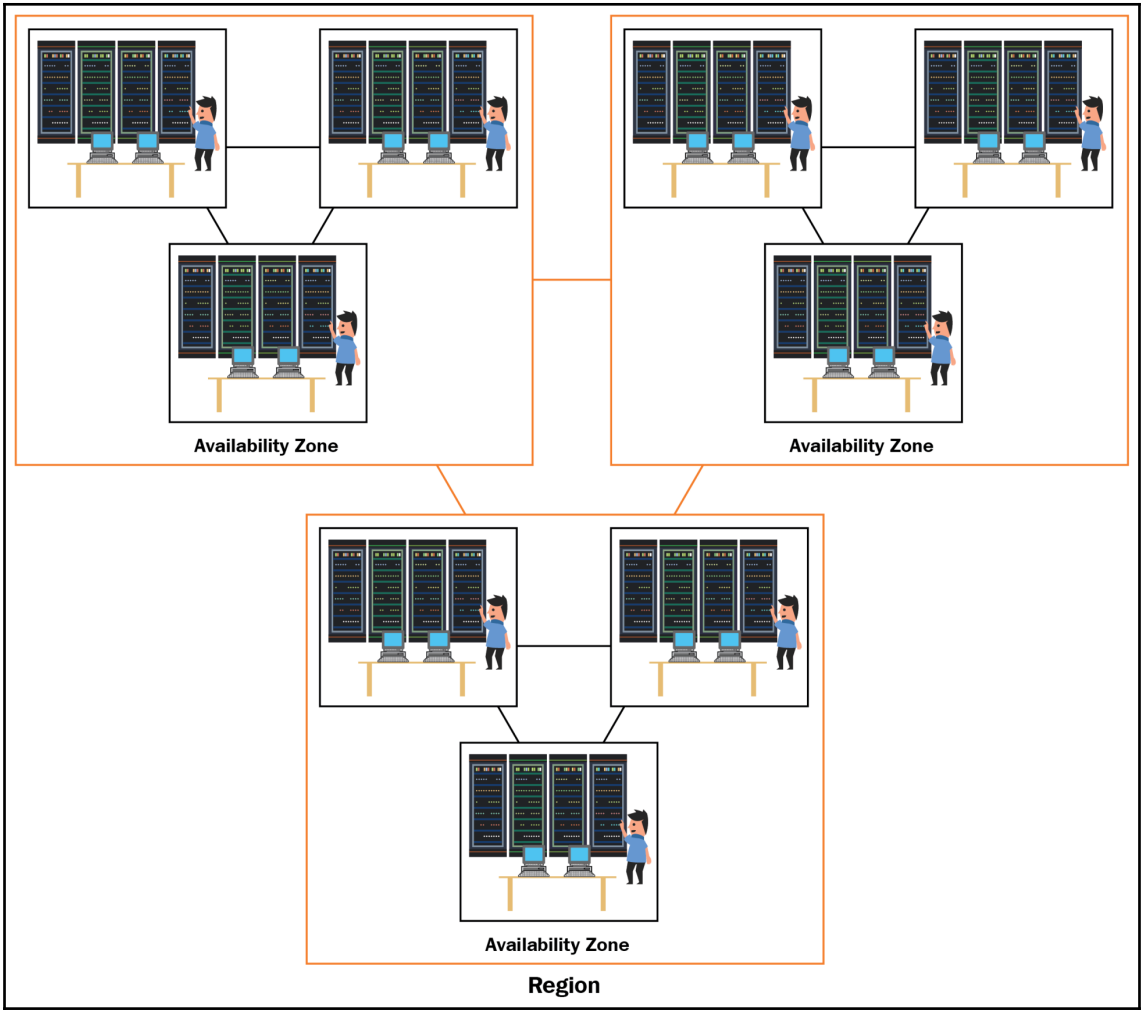
EMR

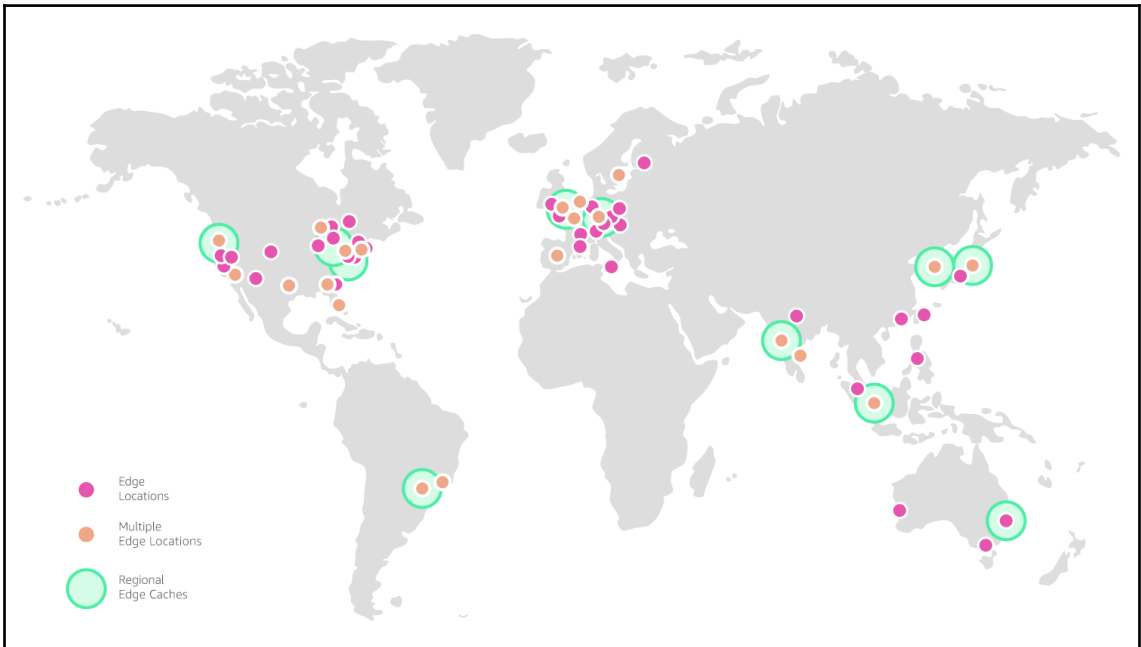
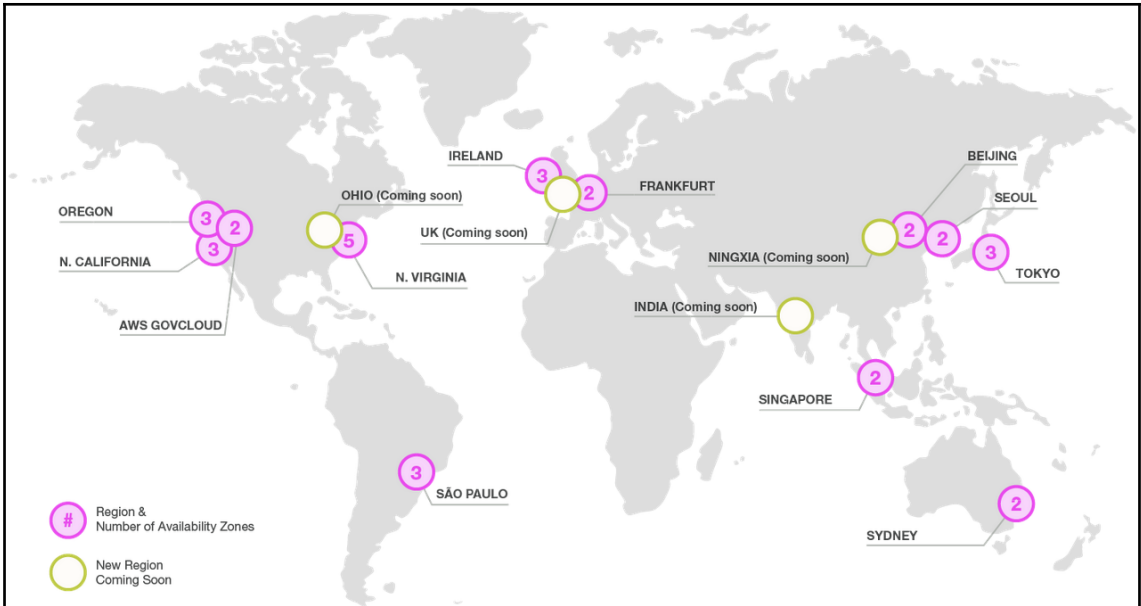
Managed Hadoop Framework





















Chapter 3: Managing AWS Security with Identity and Access Management

Security Status 1 out of 5 complete.

	Delete your root access keys	▼
	Activate MFA on your root account	▼
	Create individual IAM users	▼
	Use groups to assign permissions	▼
	Apply an IAM password policy	▼

Security Status 1 out of 5 complete.

	Delete your root access keys	▼
	Activate MFA on your root account	▲
<p>Activate multi-factor authentication (MFA) on your AWS root account to add another layer of protection to help keep your account secure. Learn More</p> <p><input type="button" value="Manage MFA"/></p>		
	Create individual IAM users	▼
	Use groups to assign permissions	▼
	Apply an IAM password policy	▼

You are accessing the security credentials page for your AWS account. The account credentials provide unlimited access to your AWS resources.

To help secure your account, follow an [AWS best practice](#) by creating and using AWS Identity and Access Management (IAM) users with limited permissions.

[Continue to Security Credentials](#) [Get Started with IAM Users](#)

Don't show me this message again

Your Security Credentials

Use this page to manage the credentials for your AWS account. To manage credentials for AWS Identity and Access Management (IAM) users, use the [IAM Console](#).

To learn more about the types of AWS credentials and how they're used, see [AWS Security Credentials](#) in AWS General Reference.

- + Password
- Multi-factor authentication (MFA)

You use MFA to increase the security of your AWS environments when you sign in to AWS websites. When MFA is enabled, you must provide a user name, password, and an authentication code from an MFA device.

[Activate MFA](#)

- + Access keys (access key ID and secret access key)
- + CloudFront key pairs
- + X.509 certificate
- + Account identifiers

Manage MFA device

Select the type of MFA device to activate:

- A virtual MFA device
- A hardware MFA device

For more information about supported MFA devices, see [AWS Multi-Factor Authentication](#).

[Cancel](#) [Next Step](#)

Manage MFA device ✕


To activate a virtual MFA device, you must first install an AWS MFA-compatible application on the user's smartphone, PC, or other device. You can find a list of AWS MFA-compatible applications [here](#). After the application is installed, click Next Step to configure the virtual MFA.

Don't show me this dialog box again.

[Cancel](#) [Previous](#) [Next Step](#)

Manage MFA device ✕

If your virtual MFA application supports scanning QR codes, scan the following QR code with your smartphone's camera.



▶ [Show secret key for manual configuration](#)

After the application is configured, enter two consecutive authentication codes in the boxes below and choose **Activate virtual MFA**.

Authentication code 1

Authentication code 2

[Cancel](#) [Previous](#) [Activate virtual MFA](#)

Security Status

2 out of 5 complete.

- Delete your root access keys ▼
- Activate MFA on your root account ▼
- Create individual IAM users ▲

Create IAM users and give them only the permissions they need. Do not use your AWS root account for day-to-day interaction with AWS, because the root account provides unrestricted access to your AWS resources. [Learn More](#)

[Manage Users](#)

- Use groups to assign permissions ▼
- Apply an IAM password policy ▼

Search IAM

[Add user](#) [Delete user](#) ↺ ⚙ ⌵

Dashboard

Groups

Users

Roles

Policies

Identity providers

Account settings

Credential report

Encryption keys

Find users by username or access key

Showing 0 results

<input type="checkbox"/>	User name ▼	Groups	Access key age	Password age	Last activity	MFA
There are no IAM users. Learn more						

Add user

1 2 3 4 5

Set user details

You can add multiple users at once with the same access type and permissions. [Learn more](#)

User name*

[+ Add another user](#)

Select AWS access type

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

Access type* **Programmatic access**
Enables an **access key ID** and **secret access key** for the AWS API, CLI, SDK, and other development tools.

AWS Management Console access
Enables a **password** that allows users to sign-in to the AWS Management Console.

Console password* Autogenerated password
 Custom password

Show password

Require password reset User must create a new password at next sign-in

* Required

[Cancel](#) [Next: Permissions](#)

Add user

1 2 3 4

Set permissions

[Add user to group](#) [Copy permissions from existing user](#) [Attach existing policies directly](#)

i **Get started with groups**
You haven't created any groups yet. Using groups is a best-practice way to manage users' permissions by job functions, AWS service access, or your custom permissions. Get started by creating a group. [Learn more](#)

[Create group](#)

▶ Set permissions boundary

Create group

Create a group and select the policies to be attached to the group. Using groups is a best-practice way to manage users' permissions by job functions, AWS service access, or your custom permissions. [Learn more](#)

Group name

Create policy

Filter policies Showing 360 results

	Policy name	Type	Used as	Description
<input checked="" type="checkbox"/>	AdministratorAccess	Job function	None	Provides full access to AWS services and resources.
<input type="checkbox"/>	AlexaForBusinessDeviceSetup	AWS managed	None	Provide device setup access to AlexaForBusiness services
<input type="checkbox"/>	AlexaForBusinessFullAccess	AWS managed	None	Grants full access to AlexaForBusiness resources and access to related AWS Services
<input type="checkbox"/>	AlexaForBusinessGatewayExecution	AWS managed	None	Provide gateway execution access to AlexaForBusiness services
<input type="checkbox"/>	AlexaForBusinessReadOnlyAccess	AWS managed	None	Provide read only access to AlexaForBusiness services
<input type="checkbox"/>	AmazonAPIGatewayAdministrator	AWS managed	None	Provides full access to create/edit/delete APIs in Amazon API Gateway via the AWS Management Console.
<input type="checkbox"/>	AmazonAPIGatewayInvokeFullAccess	AWS managed	None	Provides full access to invoke APIs in Amazon API Gateway.
<input type="checkbox"/>	AmazonAPIGatewayPushToCloudWatchLogs	AWS managed	None	Allows API Gateway to push logs to user's account.
<input type="checkbox"/>	AmazonAppStreamFullAccess	AWS managed	None	Provides full access to Amazon AppStream via the AWS Management Console.

Add user

1 2 3 4

Set permissions

Add user to an existing group or create a new one. Using groups is a best-practice way to manage user's permissions by job functions. [Learn more](#)

Add user to group

Showing 1 result

Group	Attached policies
<input checked="" type="checkbox"/> Administrators	AdministratorAccess

Add user

1

2

3

4

5

Add tags (optional)

IAM tags are key-value pairs you can add to your user. Tags can include user information, such as an email address, or can be descriptive, such as a job title. You can use the tags to organize, track, or control access for this user. [Learn more](#)

Key	Value (optional)	Remove
<input type="text" value="Add new key"/>	<input type="text"/>	

You can add 50 more tags.

[Cancel](#)

[Previous](#)

[Next: Review](#)

Add user

1

2

3

4

Review

Review your choices. After you create the user, you can view and download the autogenerated password and access key.

User details

User name	mynewuser
AWS access type	Programmatic access and AWS Management Console access
Console password type	Custom
Require password reset	Yes
Permissions boundary	Permissions boundary is not set

Permissions summary

The user shown above will be added to the following groups.

Type	Name
Group	Administrators
Managed policy	IAMUserChangePassword

[Cancel](#)

[Previous](#)

[Create user](#)

Add user

1 2 3 4

✓ Success

You successfully created the users shown below. You can view and download user security credentials. You can also email users instructions for signing in to the AWS Management Console. This is the last time these credentials will be available to download. However, you can create new credentials at any time.

Users with AWS Management Console access can sign-in at: <https://194495343937.signin.aws.amazon.com/console>

Download .csv

	User	Access key ID	Secret access key	Email login instructions
▶	✓ mynewuser	AKIAIVYQJPWLFIDTHAZA	***** Show	Send email ↗

Close

Security Status

4 out of 5 complete.

- ✓ Delete your root access keys ▼
- ✓ Activate MFA on your root account ▼
- ✓ Create individual IAM users ▼
- ✓ Use groups to assign permissions ▼
- ⚠ Apply an IAM password policy ▲

Use a password policy to require your IAM users to create strong passwords and to rotate their passwords regularly. [Learn More](#)

Manage Password Policy

▼ Password Policy

Successfully updated password policy.

A password policy is a set of rules that define the type of password an IAM user can set. For more information about password policies, go to [Managing Passwords](#) in Using IAM.

Modify your existing password policy below.

Minimum password length:

- Require at least one uppercase letter ⓘ
- Require at least one lowercase letter ⓘ
- Require at least one number ⓘ
- Require at least one non-alphanumeric character ⓘ
- Allow users to change their own password ⓘ
- Enable password expiration ⓘ
Password expiration period (in days):
- Prevent password reuse ⓘ
Number of passwords to remember:
- Password expiration requires administrator reset ⓘ

[Apply password policy](#)

[Delete password policy](#)

Security Status

5 out of 5 complete.

- Delete your root access keys ▼
- Activate MFA on your root account ▼
- Create individual IAM users ▼
- Use groups to assign permissions ▼
- Apply an IAM password policy ▼

Search IAM

[Add user](#) [Delete user](#)

Dashboard

Groups

Users

Roles

Policies

Identity providers

Account settings

Credential report

Encryption keys

Find users by username or access key

Showing 1 result

<input type="checkbox"/>	User name	Groups	Access key age	Password age	Last activity	MFA
<input type="checkbox"/>	mynewuser	Administrators	<input checked="" type="checkbox"/> Yesterday	Yesterday	None	Not enabled

Summary



User ARN `arn:aws:iam::194495343937:user/mynewuser`

Path `/`

Creation time 2018-09-21 13:01 EDT

- Permissions
- Groups (1)
- Security credentials
- Access Advisor

▼ Permissions policies (2 policies applied)

Add permissions

+ Add inline policy

Policy name ▼	Policy type ▼	
Attached directly		
▶ IAMUserChangePassword	AWS managed policy	✕
Attached from group		
Show 1 more		
▶ Permissions boundary (not set)		

Summary



User ARN `arn:aws:iam::194495343937:user/mynewuser`

Path `/`

Creation time 2018-09-21 13:01 EDT

- Permissions
- Groups (1)
- Security credentials
- Access Advisor

Add user to groups

Group name ▼	Attached permissions	
Administrators	AdministratorAccess	✕

Summary

Delete user

User ARN arn:aws:iam::019859648260:user/mynewuser

Path /

Creation time 2019-01-24 15:08 UTC+0530

- Permissions
- Groups (1)
- Tags
- Security credentials**
- Access Advisor

Sign-in credentials

Summary • Console sign-in link: <https://te-books.signin.aws.amazon.com/console>

Console password Enabled (never signed in) | [Manage](#)

Assigned MFA device Not assigned | [Manage](#)

Signing certificates None

Access keys

Use access keys to make secure REST or HTTP Query protocol requests to AWS service APIs. For your protection, you should never share your secret keys with anyone. As a best practice, we recommend frequent key rotation. [Learn more](#)

[Create access key](#)

Access key ID	Created	Last used	Status	
AKIAIWPEUHC5HAG46BMQ	2019-01-24 15:08 UTC+0530	N/A	Active Make inactive	

SSH keys for AWS CodeCommit

Use SSH public keys to authenticate access to AWS CodeCommit repositories. [Learn more](#)

[Upload SSH public key](#)

SSH key ID	Uploaded	Status	
------------	----------	--------	--

[Create access key](#)

Access key ID	Created	Last used	Status	
AKIAIXNXFQKDAME453KQ	2018-09-23 10:51 EDT	N/A	Active Make inactive	
AKIAIVYQJPWLFIDTHAZA	2018-09-21 13:01 EDT	N/A	Inactive Make active	

Search IAM

Create New Group Group Actions

Dashboard

Groups

Users

Roles

Policies

Identity providers

Account settings

Credential report

Encryption keys

Filter

Showing 1 results

<input type="checkbox"/>	Group Name	Users	Inline Policy	Creation Time
<input type="checkbox"/>	Administrators	1		2018-09-21 12:54 EDT

IAM > Groups > Administrators

Summary

Group ARN: arn:aws:iam::194495343937:group/Administrators

Users (in this group): 1

Path: /

Creation Time: 2018-09-21 12:54 EDT

Users Permissions Access Advisor

Access advisor shows the service permissions granted to this group and when those services were last accessed. You can use this information to revise your policies. [Learn more](#)

Note: Recent activity usually appears within 4 hours. Data is stored for a maximum of 365 days, depending when your region began supporting this feature. [Learn more](#)

Filter: No filter Search

Showing 104 results

Service Name	Policies Granting Permissions	Access by Members	Last Accessed
Amazon GameLift	AdministratorAccess		Not accessed in the tracking period
AWS Certificate Manager	AdministratorAccess		Not accessed in the tracking period

Roles

What are IAM roles?

IAM roles are a secure way to grant permissions to entities that you trust. Examples of entities include the following:

- IAM user in another account
- Application code running on an EC2 instance that needs to perform actions on AWS resources
- An AWS service that needs to act on resources in your account to provide its features
- Users from a corporate directory who use identity federation with SAML

IAM roles issue keys that are valid for short durations, making them a more secure way to grant access.

Additional resources:

- [IAM Roles FAQ](#)
- [IAM Roles Documentation](#)
- [Tutorial: Setting Up Cross Account Access](#)
- [Common Scenarios for Roles](#)

Create role


Delete role





Create role


1 2 3

Select type of trusted entity

 **AWS service**
EC2, Lambda and others

 **Another AWS account**
Belonging to you or 3rd party

 **Web identity**
Cognito or any OpenID provider

 **SAML 2.0 federation**
Your corporate directory

Allows AWS services to perform actions on your behalf. [Learn more](#)

Choose the service that will use this role

EC2

Allows EC2 instances to call AWS services on your behalf.

Lambda

Allows Lambda functions to call AWS services on your behalf.

API Gateway	CodeDeploy	EMR	IoT	Rekognition
AWS Support	Config	ElastiCache	Kinesis	S3
AppSync	DMS	Elastic Beanstalk	Lambda	SMS
Application Auto Scaling	Data Lifecycle Manager	Elastic Container Service	Lex	SNS

* Required

Cancel

Next: Permissions

Create role

Attach permissions policies

Choose one or more policies to attach to your new role.

Filter policies Showing 7 results

	Policy name	Used as	Description
<input checked="" type="checkbox"/>	AmazonDynamoDBFullAccess	None	Provides full access to Amazon Dynamo...
<input type="checkbox"/>	AmazonDynamoDBFullAccesswithDataPipeline	None	Provides full access to Amazon Dynamo...
<input type="checkbox"/>	AmazonDynamoDBReadOnlyAccess	None	Provides read only access to Amazon Dy...
<input type="checkbox"/>	AWSApplicationAutoscalingDynamoDBTableP...	None	Policy granting permissions to Applicatio...
<input type="checkbox"/>	AWSLambdaDynamoDBExecutionRole	None	Provides list and read access to Dynamo...
<input type="checkbox"/>	AWSLambdaInvocation-DynamoDB	None	Provides read access to DynamoDB Stre...
<input type="checkbox"/>	DynamoDBReplicationServiceRolePolicy	None	Permissions required by DynamoDB for...

* Required

Create role

Review

Provide the required information below and review this role before you create it.

Role name* Use alphanumeric and '+, -, @, _' characters. Maximum 64 characters.

Role description Maximum 1000 characters. Use alphanumeric and '+, -, @, _' characters.

Trusted entities AWS service: ec2.amazonaws.com

Policies Policies not attached

Permissions boundary Permissions boundary is not set

* Required

Search IAM

Dashboard
Groups
Users
Roles
Policies
Identity providers
Account settings
Credential report

Encryption keys

Policies > AdministratorAccess

Summary

Policy ARN arn:aws:iam::aws:policy/AdministratorAccess

Description Provides full access to AWS services and resources.

Permissions Policy usage Policy versions Access Advisor

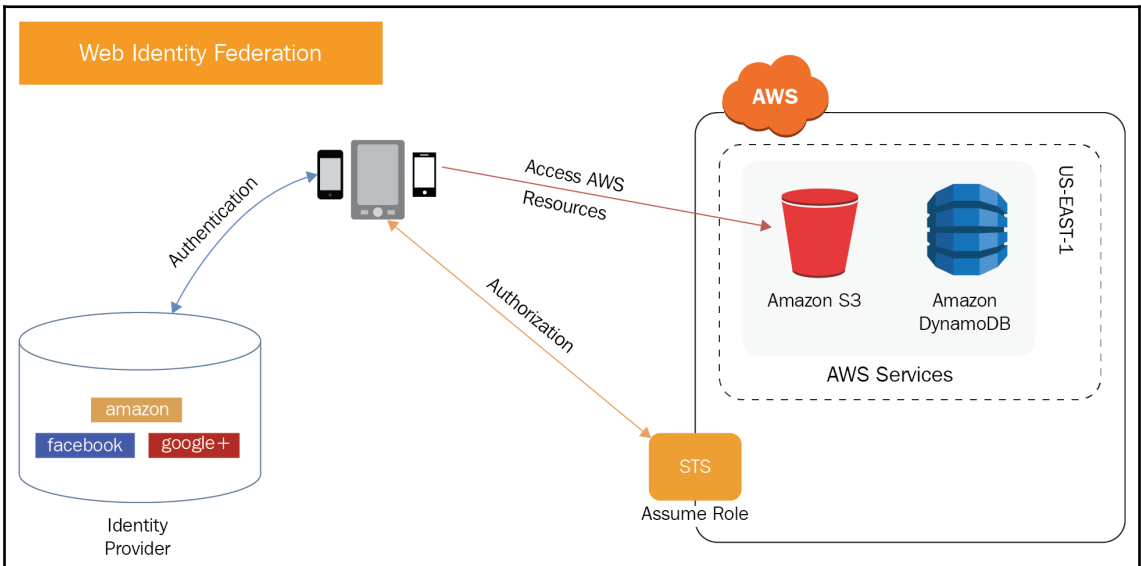
Policy summary { } JSON

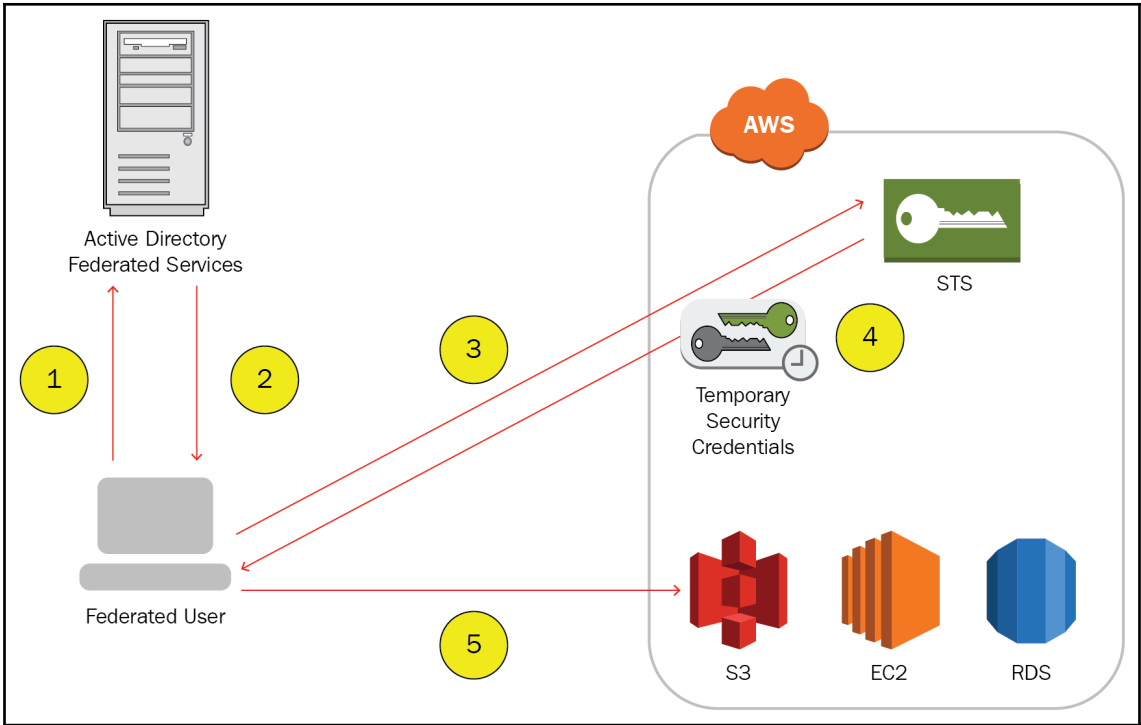
```

1- {
2-   "Version": "2012-10-17",
3-   "Statement": [
4-     {
5-       "Effect": "Allow",
6-       "Action": "*",
7-       "Resource": "*"
8-     }
9-   ]
10- }

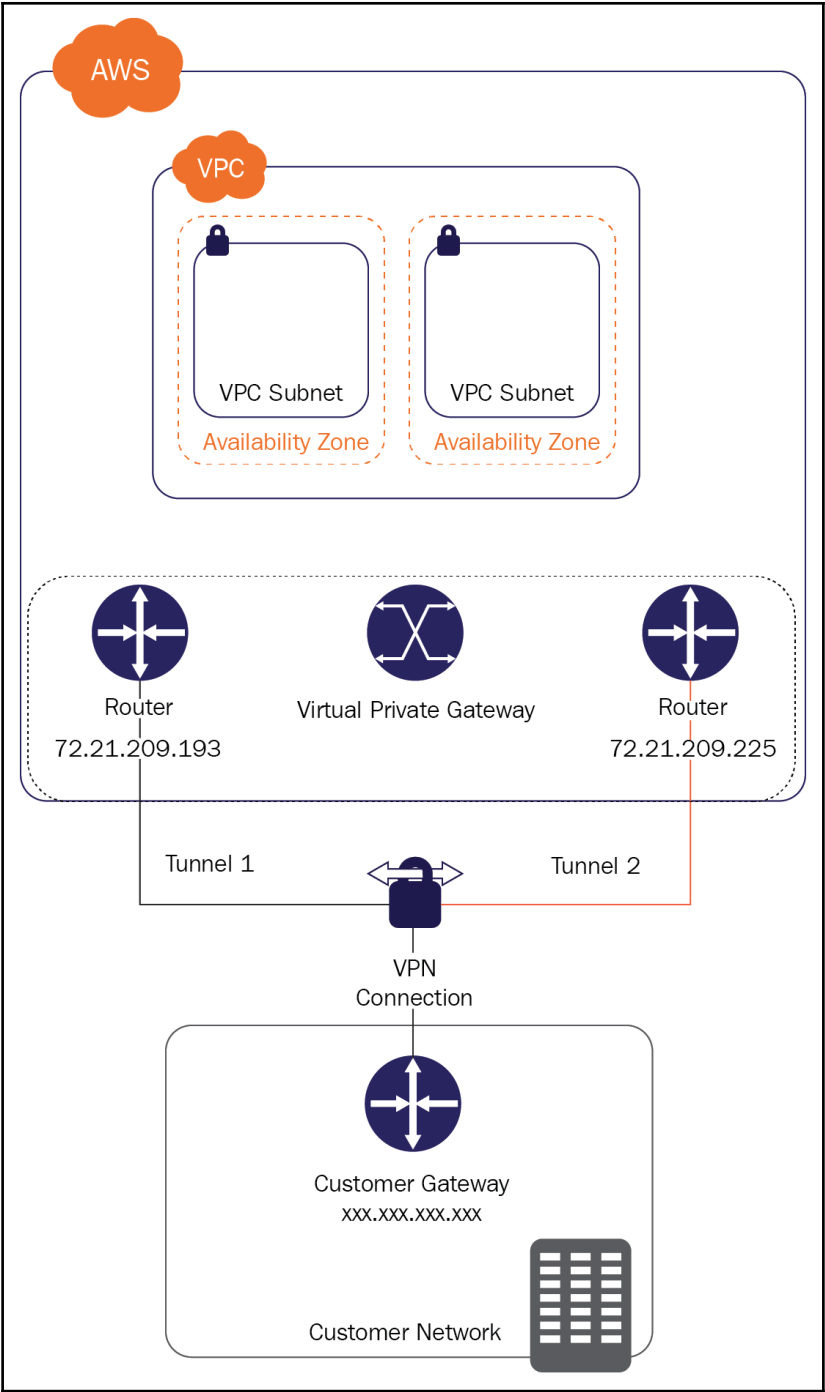
```

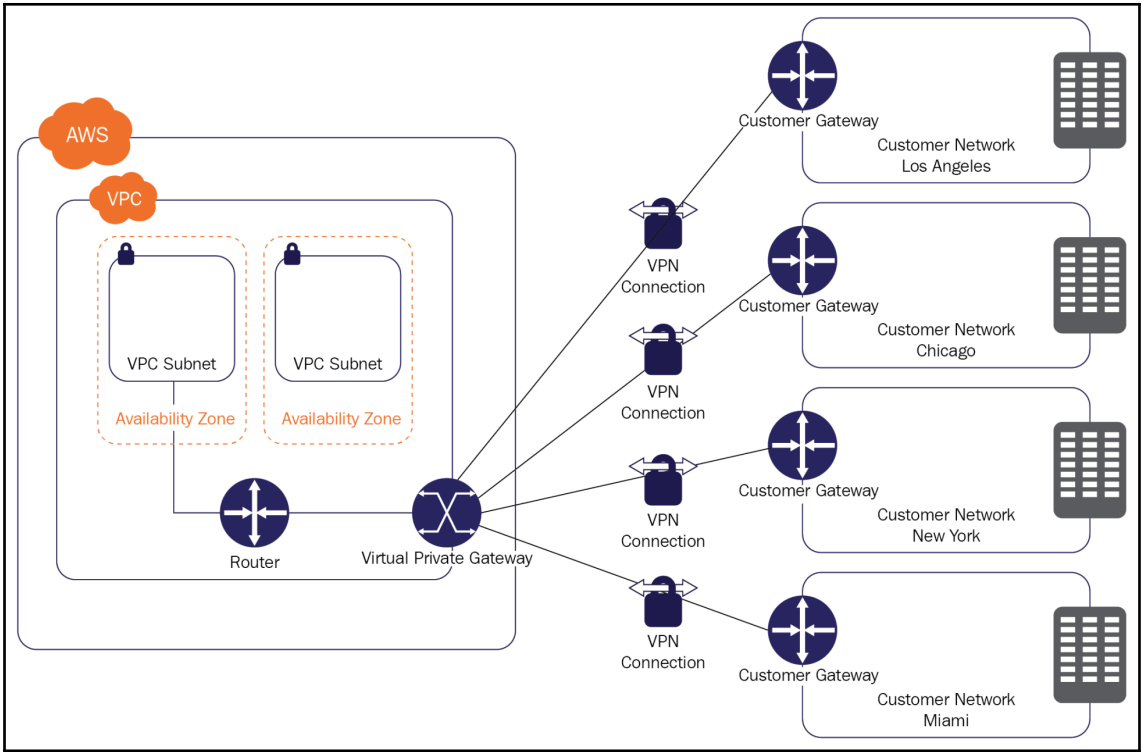
read-only

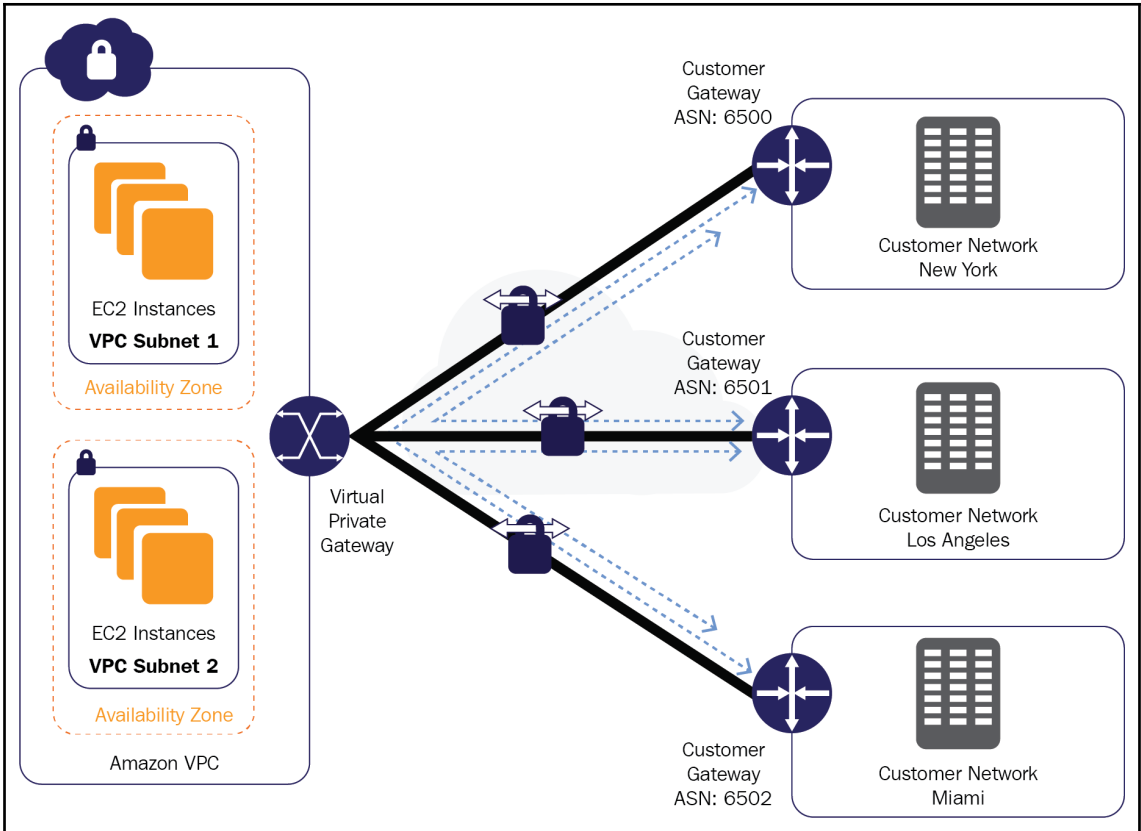


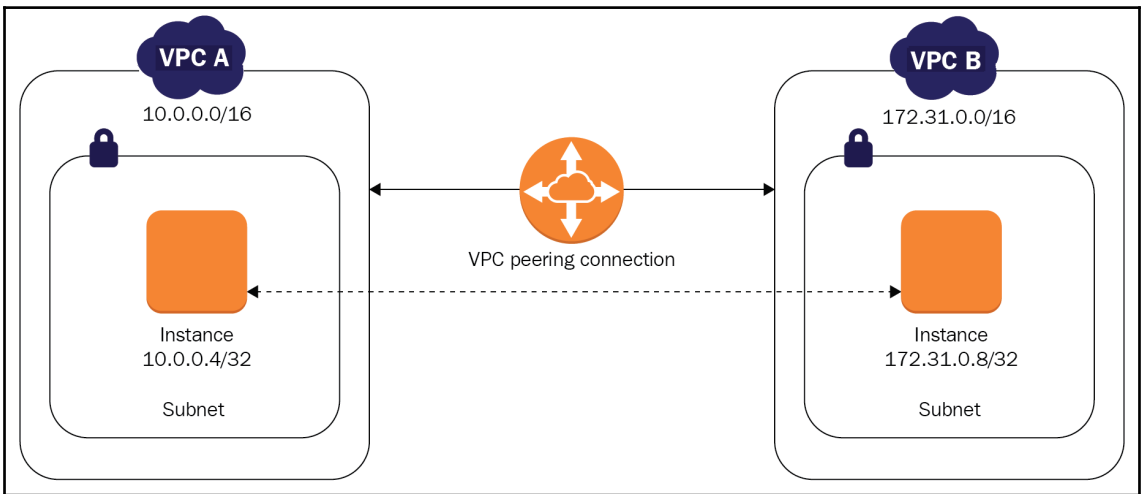
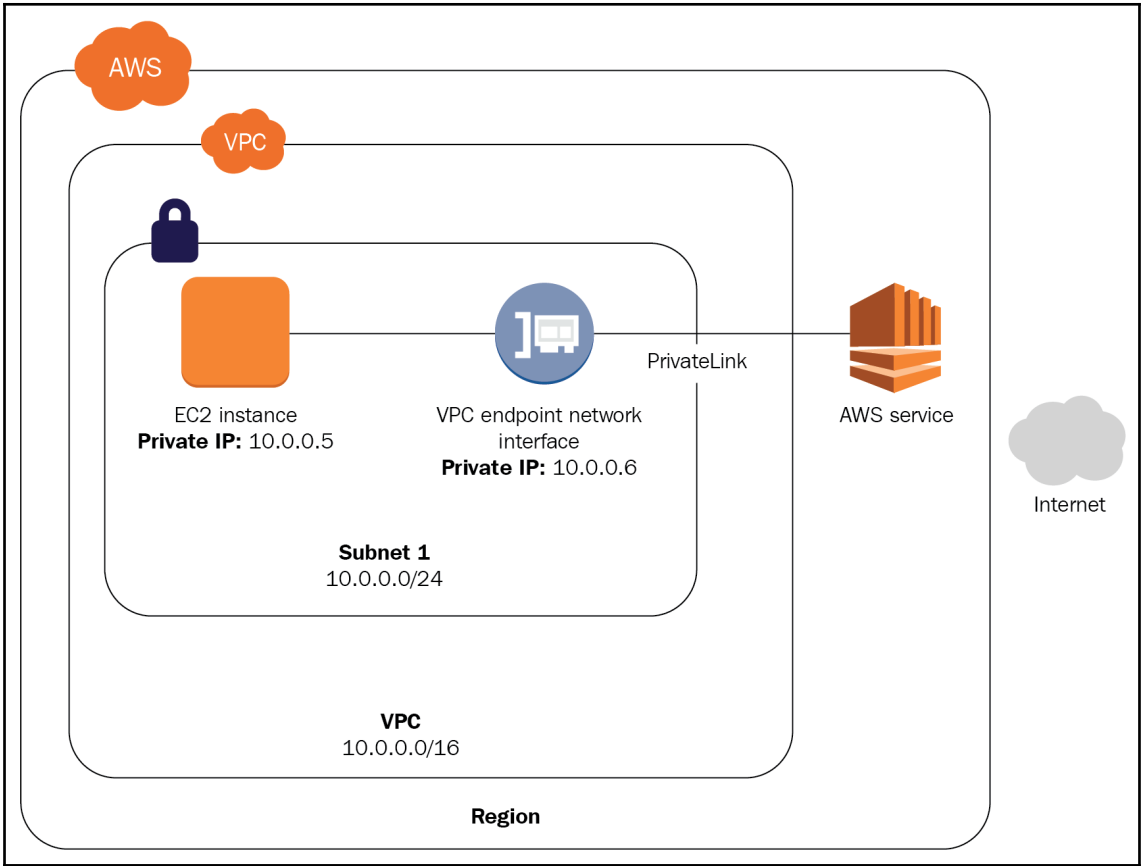


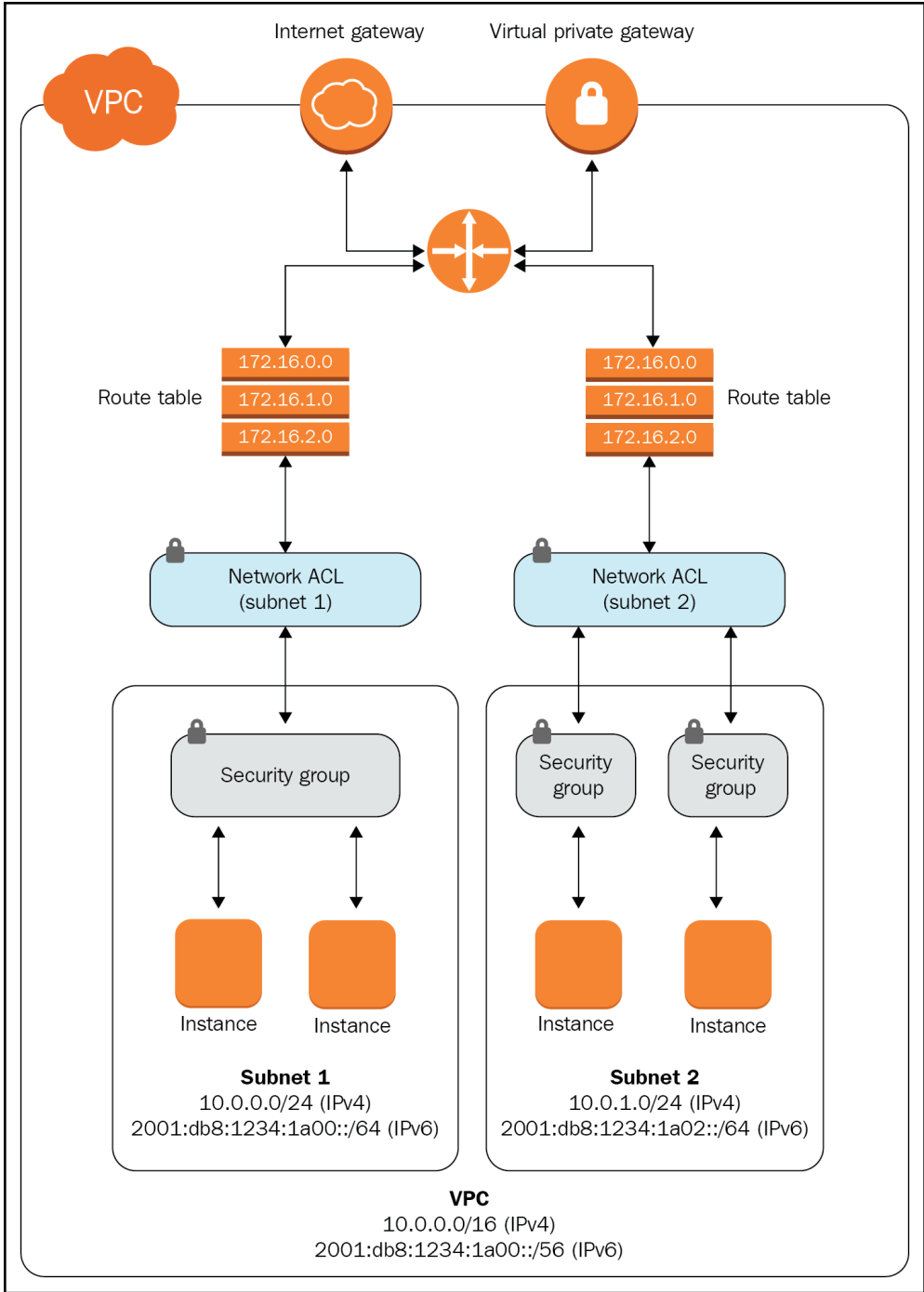
Chapter 4: Networking with the Virtual Private Cloud











VPC Dashboard

Filter by VPC:

- Virtual Private Cloud
- Your VPCs
- Subnets
- Route Tables
- Internet Gateways
- Egress Only Internet Gateways
- DHCP Options Sets
- Elastic IPs
- Endpoints
- Endpoint Services
- NAT Gateways
- Peering Connections
- Security
- Network ACLs
- Security Groups

[Launch VPC Wizard](#)
[Launch EC2 Instances](#)

Note: Your Instances will launch in the US East (Ohio) region.

Resources by Region [Refresh Resources](#)

You are using the following Amazon VPC resources

VPCs <small>See all regions ▾</small>	Ohio 1	Nat Gateways <small>See all regions ▾</small>	Ohio 0
Subnets <small>See all regions ▾</small>	Ohio 3	VPC Peering Connections <small>See all regions ▾</small>	Ohio 0
Route Tables <small>See all regions ▾</small>	Ohio 1	Network ACLs <small>See all regions ▾</small>	Ohio 1
Internet Gateways <small>See all regions ▾</small>	Ohio 1	Security Groups <small>See all regions ▾</small>	Ohio 1
Egress-only Internet Gateways <small>See all regions ▾</small>	Ohio 0	Customer Gateways <small>See all regions ▾</small>	Ohio 0
DHCP options sets <small>See all regions ▾</small>	Ohio 1	Virtual Private Gateways <small>See all regions ▾</small>	Ohio 0

Service Health

Current Status	Details
✔ Amazon EC2 - US East (Ohio)	Service is operating normally

[View complete service health details](#)

Account Attributes

[Resource ID length management](#)

Additional Information

[VPC Documentation](#)
[All VPC Resources](#)
[Forums](#)
[Report an Issue](#)

VPN Connections

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

[Create VPN Connection](#)

Step 1: Select a VPC Configuration

- VPC with a Single Public Subnet
- VPC with Public and Private Subnets**
- VPC with Public and Private Subnets and Hardware VPN Access
- VPC with a Private Subnet Only and Hardware VPN Access

In addition to containing a public subnet, this configuration adds a private subnet whose instances are not addressable from the Internet. Instances in the private subnet can establish outbound connections to the Internet via the public subnet using Network Address Translation (NAT).

Creates:

A /16 network with two /24 subnets. Public subnet instances use Elastic IPs to access the Internet. Private subnet instances access the Internet via Network Address Translation (NAT). (Hourly charges for NAT devices apply.)

[Select](#)

The diagram illustrates the VPC configuration. At the top, a cloud icon represents Internet services: S3, SNS, and SQS. A line connects this cloud to a box labeled 'Amazon Virtual Private Cloud'. Inside this box, there are two subnets: 'Public Subnet' and 'Private Subnet'. The 'Public Subnet' contains several server icons. A 'NAT' device is shown between the two subnets, with lines connecting it to both. The 'Private Subnet' also contains several server icons.

VPC Dashboard

Filter by VPC:

Virtual Private Cloud

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

DHCP Options Sets

Elastic IPs

Endpoints

Endpoint Services

NAT Gateways

Peering Connections

Create VPC

Actions

<input type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
<input type="checkbox"/>		vpc-f3b18e9b	available	172.31.0.0/16	



Select a VPC above

Create VPC ✕

A VPC is an isolated portion of the AWS cloud populated by AWS objects, such as Amazon EC2 instances. You must specify an IPv4 address range for your VPC. Specify the IPv4 address range as a Classless Inter-Domain Routing (CIDR) block; for example, 10.0.0.0/16. You cannot specify an IPv4 CIDR block larger than /16. You can optionally associate an Amazon-provided IPv6 CIDR block with the VPC.

Name tag ⓘ

IPv4 CIDR block* ⓘ

IPv6 CIDR block* No IPv6 CIDR Block ⓘ Amazon provided IPv6 CIDR block

Tenancy ⓘ

Cancel Yes, Create

[Subnets](#) > Create subnet

Create subnet

Specify your subnet's IP address block in CIDR format; for example, 10.0.0.0/24. IPv4 block sizes must be between a /16 netmask and /28 netmask, and can be the same size as your VPC. An IPv6 CIDR block must be a /64 CIDR block.

Name tag ⓘ

VPC* ⓘ

VPC CIDRs	CIDR	Status	Status Reason
	10.0.0.0/16	associated	

Availability Zone ⓘ

IPv4 CIDR block* ⓘ

* Required

Cancel Create

Create internet gateway

An internet gateway is a virtual router that connects a VPC to the internet. To create a new internet gateway specify the name for the gateway below.

Name tag

* Required

Cancel

Actions ^

Filter by tags and attributes

<input type="checkbox"/>	Name	Name	State	VPC
<input checked="" type="checkbox"/>	my-new-igw	my-new-igw	detached	-
<input type="checkbox"/>		igw-d2bb63ba	attached	vpc-f3b18e9b

Context menu for selected item:

- Delete internet gateway
- Attach to VPC
- Detach from VPC
- Add/Edit Tags

Attach to VPC

Attach an internet gateway to a VPC to enable communication with the internet. Specify the VPC you would like to attach below.

VPC*

▶ AWS Command Line Interface command

* Required

Cancel

[Create Route Table](#)
[Delete Route Table](#)
[Set As Main Table](#)
↻ ⚙️ ⓘ

« < 1 to 2 of 2 Route Tables > »

<input type="checkbox"/>	Name	Route Table ID	Explicitly Associated	Main	VPC
<input type="checkbox"/>		rtb-a0cc0bcb	0 Subnets	Yes	vpc-f3b18e9b
<input checked="" type="checkbox"/>		rtb-0ede6a56f67ef5...	0 Subnets	Yes	vpc-0da86bd591e92d236 my-custo...

rtb-0ede6a56f67ef5d55
☰ ☱ ☲

[Summary](#)
[Routes](#)
[Subnet Associations](#)
[Route Propagation](#)
[Tags](#)

[Edit](#)

View:

Destination	Target	Status	Propagated
10.0.0.0/16	local	Active	No

Create Route Table ✕

A route table specifies how packets are forwarded between the subnets within your VPC, the Internet, and your VPN connection.

Name tag ⓘ

VPC ⓘ

[Cancel](#)
[Yes, Create](#)

rtb-0ede6a56f67ef5d55

Summary Routes Subnet Associations Route Propagation Tags

Cancel Save

View: All rules

Destination	Target	Status	Propagated	Remove
10.0.0.0/16	local	Active	No	
<input type="text" value="0.0.0.0/0"/>	<input type="text"/>		No	<input type="button" value="✕"/>

igw-0210059e60a99b7ad | my-new-igw
 e1gw-09e0d48f70cfb994f

rtb-04aa97a6b0b4ec7ba | public

Summary Routes Subnet Associations Route Propagation Tags

Cancel Save

Associate	Subnet	IPv4 CIDR	IPv6 CIDR	Current Route Table
<input checked="" type="checkbox"/>	subnet-020f3b9fc95a242a3 custom-subnet-1	10.0.1.0/24	-	Main
<input checked="" type="checkbox"/>	subnet-0de3f5a11ef9e3745 custom subnet2	10.0.2.0/24	-	Main
<input type="checkbox"/>	subnet-0a3fd50a1a407abe6 private-subnet-1	10.0.100.0/24	-	Main
<input type="checkbox"/>	subnet-0805e881e154a1c5a private-subnet-2	10.0.101.0/24	-	Main

Create subnet **Actions** ↕ ↻ ⚙️ ?

Filter by tags and 1 to 7 of 7

<input type="checkbox"/>	Name		State	VPC	IPv4 CIDR
<input checked="" type="checkbox"/>	custom-subn...	3	available	vpc-0da86bd591e92d236 ...	10.0.1.0/24
<input type="checkbox"/>	private-subn...	5a	available	vpc-0da86bd591e92d236 ...	10.0.101.0/24
<input type="checkbox"/>	private-subn...	e6	available	vpc-0da86bd591e92d236 ...	10.0.100.0/24
<input type="checkbox"/>	custom subnet2	subnet-0de3f5a11ef9e3745	available	vpc-0da86bd591e92d236 ...	10.0.2.0/24
<input type="checkbox"/>		subnet-512bef1d	available	vpc-f3b18e9b	172.31.32.0/20
<input type="checkbox"/>		subnet-adf468d7	available	vpc-f3b18e9b	172.31.16.0/20
<input type="checkbox"/>		subnet-c06d4ba8	available	vpc-f3b18e9b	172.31.0.0/20

- Delete subnet
- Create flow log
- Modify auto-assign IP settings
- Edit IPv6 CIDRs
- Edit network ACL association
- Edit route table association
- Add/Edit Tags

[Subnets](#) > Modify auto-assign IP settings

Modify auto-assign IP settings

Enable the auto-assign IP address setting to automatically request a public IPv4 or IPv6 address for an instance launched in this subnet. You can override the auto-assign IP settings for an instance at launch time.

Subnet ID subnet-020f3b9fc95a242a3

Auto-assign IPv4 Enable auto-assign public IPv4 address ?

* Required [Cancel](#) [Save](#)

Create DHCP options set



Dynamic Host Configuration Protocol (DHCP) provides a standard for passing configuration information to hosts on a TCP/IP network. The options field of a DHCP message contains configuration parameters.

Name tag

Specify at least one of the following configuration parameters

Domain name

Domain name servers

NTP servers

NetBIOS name servers

NetBIOS node type

Cancel

Yes, Create

[Addresses](#) > Allocate new address

Allocate new address

Allocate a new Elastic IP address by selecting the scope in which it will be used

▼ AWS Command Line Interface command

You can perform the same actions on this page by using the AWS Command Line Interface (CLI) tools. Learn more about the [AWS CLI tools](#)

Platform

CLI command

Copy to clipboard

* Required

Cancel

Allocate

Create Endpoint

A VPC endpoint allows you to securely connect your VPC to another service.

An interface endpoint is powered by [PrivateLink](#), and uses an elastic network interface (ENI) as an entry point for traffic destined to the service.

A gateway endpoint serves as a target for a route in your route table for traffic destined for the service.

- Service category**
- AWS services
 - Find service by name
 - Your AWS Marketplace services

Service Name Select a service ⓘ

<< < 1 to 33 of 33 > >>

	Service Name	Owner	Type
<input type="radio"/>	com.amazonaws.us-east-2.kinesis-streams	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.kms	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.logs	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.monitoring	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.s3	amazon	Gateway
<input type="radio"/>	com.amazonaws.us-east-2.sagemaker.api	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.sagemaker.run...	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.sagemaker.run...	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.secretsmanager	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.servicecatalog	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.sms	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.sms-fips	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.sns	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.sqs	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.ssm	amazon	Interface
<input type="radio"/>	com.amazonaws.us-east-2.ssmmessages	amazon	Interface

VPC* ⓘ

* Required

vpc-0ba124184a47a0bde	10.0.0.0/16	available	my-custom-vpc
------------------------------	-------------	-----------	---------------

Cancel

Create endpoint

Cloud

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

DHCP Options Sets

Elastic IPs

Endpoints

Endpoint Services

NAT Gateways

Peering Connections

Security

Network ACLs

Security Groups

VPN Connections

Customer Gateways

Virtual Private Gateways

VPN Connections

Create Security Group Security Group Actions

Filter All security groups Search Security Groups and t

<input type="checkbox"/>	Name tag	Group ID	Group Name	VPC	Description
<input checked="" type="checkbox"/>		sg-0343f098c...	default	vpc-0da86bd591e92d236 ...	default VPC security
<input type="checkbox"/>		sg-33a2da5e	default	vpc-f3b18e9b	default VPC security

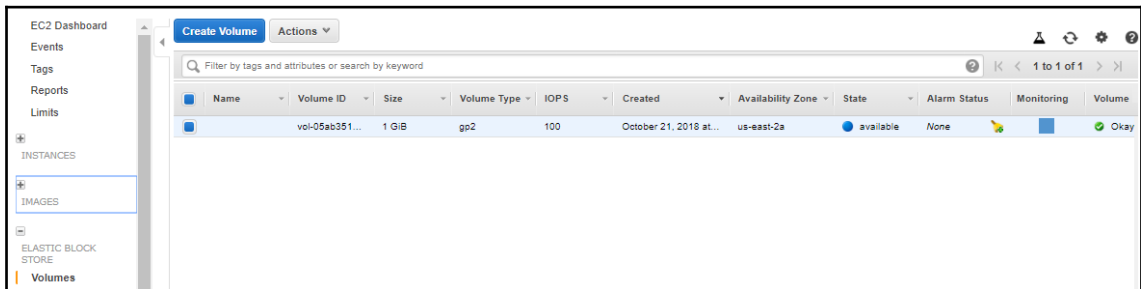
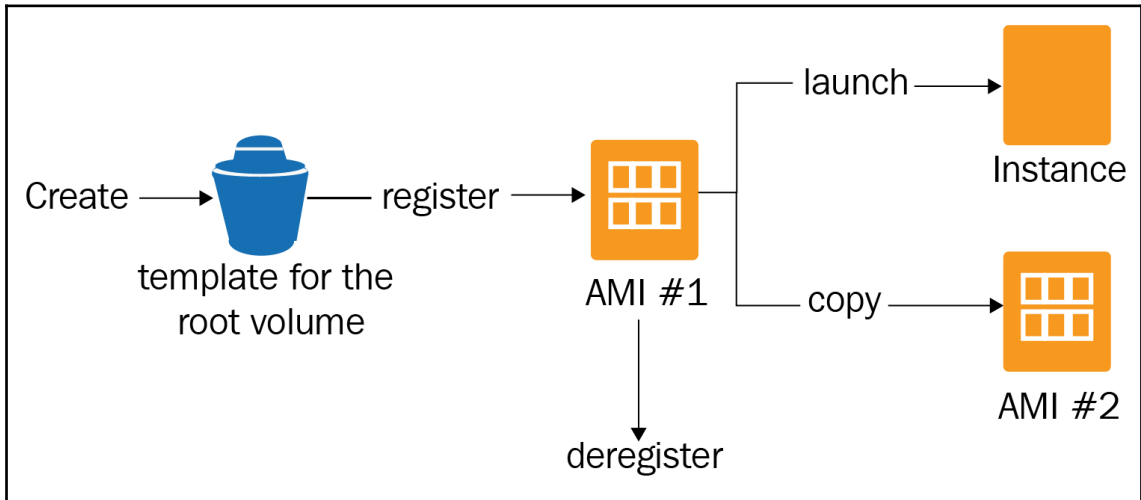
sg-0343f098ce6f19337

Summary Inbound Rules Outbound Rules Tags

Edit

Type	Protocol	Port Range	Source	Description
ALL Traffic	ALL	ALL	sg-0343f098ce6f19337	

Chapter 5: Managing Servers on AWS with Elastic Compute Cloud



EC2 Dashboard

- Events
- Tags
- Reports
- Limits
- INSTANCES
 - Instances
 - Launch Templates
 - Spot Requests
 - Reserved Instances
 - Dedicated Hosts
- IMAGES
 - AMIs
 - Bundle Tasks
- ELASTIC BLOCK STORE
 - Volumes
 - Snapshots
 - Lifecycle Manager

Resources

You are using the following Amazon EC2 resources in the US East (Ohio) region:

0 Running Instances	0 Elastic IPs
0 Dedicated Hosts	0 Snapshots
0 Volumes	0 Load Balancers
0 Key Pairs	2 Security Groups
0 Placement Groups	

Learn more about the latest in AWS Compute from AWS re:Invent 2017 by viewing the [EC2 Videos](#).
✕

Create Instance

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

[Launch Instance](#)

Note: Your instances will launch in the US East (Ohio) region

Account Attributes

Supported Platforms

VPC

Default VPC

vpc-f3b18e9b

Resource ID length management

Console experiments

Additional Information

Getting Started Guide

Documentation

All EC2 Resources

Forums

Pricing

Contact Us

AWS Marketplace

Find free software trial products in the AWS

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

Cancel and Exit

Step 1: Choose an Amazon Machine Image (AMI)

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

Q Search for an AMI by entering a search term e.g. "Windows" ✕

Quick Start

- My AMIs
- AWS Marketplace
- Community AMIs
- Free tier only (i)

1 <
> 36 of 36 AMIs
>

 Amazon Linux Free tier eligible	<p>Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-0cd3dfa4e37921605</p> <p style="font-size: 8px;">The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.</p> <p style="font-size: 8px;">Root device type: ebs Virtualization type: hvm</p>	Select 64-bit (x86)
 Amazon Linux Free tier eligible	<p>Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-04328208f4f0cf1fe (64-bit x86) / ami-0cc848dfaa82172af (64-bit Arm)</p> <p style="font-size: 8px;">Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras.</p> <p style="font-size: 8px;">Root device type: ebs Virtualization type: hvm</p>	Select <input checked="" type="radio"/> 64-bit (x86) <input type="radio"/> 64-bit (Arm)
 SUSE Linux Free tier eligible	<p>SUSE Linux Enterprise Server 15 (HVM), SSD Volume Type - ami-0eb9f58db22854f8f</p> <p style="font-size: 8px;">SUSE Linux Enterprise Server 15 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled.</p> <p style="font-size: 8px;">Root device type: ebs Virtualization type: hvm</p>	Select 64-bit (x86)

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

Step 2: Choose an Instance Type

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

Filter by: All instance types Current generation Show/Hide Columns

Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.large	2	8	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.xlarge	4	16	EBS only	-	Moderate	Yes

Cancel Previous Review and Launch Next: Configure Instance Details

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

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances Launch into Auto Scaling Group

Purchasing option Request Spot instances

Network Create new VPC

Subnet Create new subnet

Auto-assign Public IP

Placement group Add instance to placement group.

IAM role Create new IAM role

Shutdown behavior

Enable termination protection Protect against accidental termination

Monitoring Enable CloudWatch detailed monitoring
Additional charges apply.

Tenancy

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

Step 4: Add Storage

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

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted
Root	/dev/xvda	snap-089169bbdb370a22f	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted
EBS	/dev/sdb	Search (case-insensit)	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input type="checkbox"/>	Not Encrypted

[Add New Volume](#)

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

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

Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. A copy of a tag can be applied to volumes, instances or both. Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key	Value	Instances	Volumes
Name	mynewhost	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Add another tag](#) (Up to 50 tags maximum)

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

Step 6: Configure Security Group

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

Assign a security group: Create a new security group Select an existing security group

Security group name: SSH Access
 Description: launch-wizard-6 created 2019-01-17T12:53:49.330+05:30

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop

[Add Rule](#)

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

[Cancel](#) [Previous](#) [Review and Launch](#)


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

Step 7: Review Instance Launch

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

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

▼ **AMI Details** [Edit AMI](#)

 **Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-0cd3dfa4e37921605**

The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.

Root Device Type: ebs Virtualization type: hvm

▼ **Instance Type** [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate

▼ **Security Groups** [Edit security groups](#)

Security group name SSS Access
Description launch-wizard-6 created 2019-01-17T12:53:49.330+05:30

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ	Description ⓘ
SSH	TCP	22	0.0.0.0/0	

Select an existing key pair or create a new key pair ✕

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Create a new key pair ▾

Key pair name

Download Key Pair

... You have to download the **private key file** (*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Cancel **Launch Instances**

Launch Status

Your instances are now launching

The following instance launches have been initiated: `i-0384f084cbe01453a`

EC2 Dashboard

Launch Instance | Connect | Actions

Filter by tags and attributes or search by keyword

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP
mynewhost	i-000a29f3a1b9094c7	t2.micro	us-east-2c	running	2/2 checks ...	None	ec2-18-222-240-243 us...	18.222.240.243
	i-00403a37e9824c561	t2.nano	us-east-2a	stopped		None		-
	i-007524875924ceb63	t2.nano	us-east-2b	stopped		None		-

INSTANCES

Instances

Launch Templates

```
[ec2-user@ip-172-31-32-189 ~]$ sudo file -s /dev/xvdb  
/dev/xvdb: data
```

```
[ec2-user@ip-172-31-32-189 ~]$ sudo mkfs -t ext4 /dev/xvdb  
mke2fs 1.43.5 (04-Aug-2017)  
Creating filesystem with 8388608 4k blocks and 2097152 inodes  
Filesystem UUID: 2adaf47e-bddf-4b14-bb33-bla3ffa4194e  
Superblock backups stored on blocks:  
    32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208,  
    4096000, 7962624  
  
Allocating group tables: done  
Writing inode tables: done  
Creating journal (65536 blocks): done  
Writing superblocks and filesystem accounting information: done
```

```
[ec2-user@ip-172-31-32-189 ~]$ sudo mkdir /newvolume  
[ec2-user@ip-172-31-32-189 ~]$ sudo mount /dev/xvdb /newvolume  
[ec2-user@ip-172-31-32-189 ~]$ cd /newvolume  
[ec2-user@ip-172-31-32-189 newvolume]$ df -h .  
Filesystem      Size  Used Avail Use% Mounted on  
/dev/xvdb       32G   49M   30G   1% /newvolume
```

Chapter 6: Handling Server Traffic with Elastic Load Balancing

The screenshot shows the AWS Management Console interface for the EC2 Instances page. The top navigation bar includes the AWS logo, 'Services', and 'Resource Groups'. The left sidebar contains navigation options: EC2 Dashboard, Events, Tags, Reports, Limits, INSTANCES, and Instances (highlighted). The main content area features a 'Launch Instance' button, a 'Connect' button, and an 'Actions' dropdown. Below these is a search bar with the text 'Filter by tags and attributes or search by keyword'. A table lists the instances:

<input type="checkbox"/>	Name	Instance ID	Instance Type	Availability Zone	Instance State
<input type="checkbox"/>	webserver1	i-06db9b050dbf3d037	t2.micro	us-east-1a	● running
<input type="checkbox"/>	webserver2	i-0f431099b2f4a78a2	t2.micro	us-east-1f	● running

The screenshot shows the AWS Management Console interface for the Security Groups page. The top navigation bar includes the AWS logo, 'Services', and 'Resource Groups'. The left sidebar contains navigation options: Scheduled Instances, IMAGES, AMIs, Bundle Tasks, ELASTIC BLOCK STORE, Volumes, Snapshots, Lifecycle Manager, NETWORK & SECURITY, Security Groups (highlighted), and Elastic IPs. The main content area features a 'Create Security Group' button and an 'Actions' dropdown. Below these is a search bar with the text 'Filter by tags and attributes or search by keyword'. A table lists the security groups:

<input type="checkbox"/>	Name	Group ID	Group Name	VPC ID	Description
<input type="checkbox"/>		sg-03dc368dffdd68a2c	SSH Access	vpc-9fdafd9	SSH Access Security Group For Tutorial
<input type="checkbox"/>		sg-03f8464db472de2d9	elb tutorial	vpc-9fdafd9	elb tutorial
<input type="checkbox"/>		sg-0b56e974	default	vpc-9fdafd9	default VPC security group

Create Security Group

Security group name: Open Port 80

Description: ELB Tutorial

VPC: vpc-9fdafdf9 (default)

Security group rules:

Inbound | Outbound

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Anywhere	0.0.0.0/0, ::/0 e.g. SSH for Admin Desktop
HTTP	TCP	80	Anywhere	0.0.0.0/0, ::/0 e.g. SSH for Admin Desktop

Add Rule

Cancel Create

Launch Instance | Connect | Actions

Filter by tags and attributes or search

Name	Instance ID	Availability Zone	Instance State	Status Checks
webserv1	i-06db9b050dbf...	us-east-1a	running	2/2 checks ...
webserv2	i-0f431099b2f4a...	us-east-1f	running	2/2 checks ...

- Connect
 - Get Windows Password
- Launch More Like This
- Instance State
- Instance Settings
- Image
- Networking
 - Change Security Groups
 - Attach Network Interface
 - Detach Network Interface
 - Disassociate Elastic IP Address
 - Change Source/Dest. Check
 - Manage IP Addresses
- CloudWatch Monitoring

Change Security Groups ✕

Instance ID: i-06db9b050dbf3d037
Interface ID: eni-0f4f0eba46b3204ca

Select Security Group(s) to associate with your instance

Security Group ID	Security Group Name	Description
<input type="checkbox"/> sg-0b56e974	default	default VPC security group
<input type="checkbox"/> sg-03f8464db472de2d9	elb tutorial	elb tutorial
<input checked="" type="checkbox"/> sg-032d8734fa8108e4b	Open Port 80	ELB Tutorial
<input type="checkbox"/> sg-03dc368dffdd68a2c	SSH Access	SSH Access Security Group For Tutorial

Cancel Assign Security Groups

Launch Instance ▼
Connect
Actions ▼

<input type="checkbox"/>	Name ▼	Instance ID ▼	Instance Type ▼	Availability Zone ▼	Instance State ▲	Status Checks ▼
<input checked="" type="checkbox"/>	webserver1	i-06db9b050dbf3d037	t2.micro	us-east-1a	● running	✔ 2/2 checks ...
<input type="checkbox"/>	webserver2	i-0f431099b2f4a78a2	t2.micro	us-east-1f	● running	✔ 2/2 checks ...

Instance: i-06db9b050dbf3d037 (webserver1) Elastic IP: 52.0.148.57

Description

Status Checks

Monitoring

Tags

<u>Instance ID</u>	i-06db9b050dbf3d037
<u>Instance state</u>	running
<u>Instance type</u>	t2.micro
<u>Elastic IPs</u>	52.0.148.57*
<u>Availability zone</u>	us-east-1a
<u>Security groups</u>	Open Port 80 · view inbound rules · view outbound rules
<u>Scheduled events</u>	No scheduled events
<u>AMI ID</u>	amzn-ami-hvm-2018.03.0.20180811-x86_64-gp2 (ami-0ff8a91507f77f867)

```
[ec2-user@ip-172-31-23-162 ~]$ sudo su
[root@ip-172-31-23-162 ec2-user]# nohup sh -c "mkdir test && cd test && echo '<html>Hello from webserver1</html>' > index.html && python -m SimpleHTTPServer 80" &
[1] 2715
[root@ip-172-31-23-162 ec2-user]# nohup: ignoring input and appending output to 'nohup.out'
```

```
[ec2-user@ip-172-31-89-90 ~]$ sudo su
[root@ip-172-31-89-90 ec2-user]# nohup sh -c "mkdir test && cd test && echo '<html>Hello from webserver 2</html>' > index.html && python -m SimpleHTTPServer 80" &
[1] 2734
[root@ip-172-31-89-90 ec2-user]# nohup: ignoring input and appending output to 'nohup.out'
```

The screenshot shows a web browser window with two tabs: '52.0.148.57' and '18.235.114.51'. The address bar shows 'Not secure | 52.0.148.57'. The page content is 'Hello from webserver1'. The browser's developer tools are open to the Network tab, showing a single request. The request details are expanded to show the Headers tab, which includes the Request URL (http://52.0.148.57/), Request Method (GET), Status Code (200 OK), Remote Address (52.0.148.57:80), and Referrer Policy (no-referrer-when-downgrade).

Name	Headers	Preview	Response	Timing
52.0.148.57	General Request URL: http://52.0.148.57/ Request Method: GET Status Code: 200 OK Remote Address: 52.0.148.57:80 Referrer Policy: no-referrer-when-downgrade			
	Response Headers	view source		

Menu 52.0.148.57 18.235.114.51

Not secure 18.235.114.51

Hello from webserver2

Elements Network Console Sources Performance Memory Application

View: Group by frame Preserve log Disable cache

Filter Hide data URLs All XHR JS CSS Img Media Font Doc WS M

Name	Duration
18.235.114.51	20 ms

Headers Preview Response Timing

General

- Request URL: http://18.235.114.51/
- Request Method: GET
- Status Code: 200 OK
- Remote Address: 18.235.114.51:80
- Referrer Policy: no-referrer-when-downgrade

Response Headers view source



[-] NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

[-] LOAD BALANCING

| **Load Balancers**

Target Groups

[-] AUTO SCALING

Create Load Balancer

Actions ▾

🔍 Filter by tags and attributes or search by keyword



Name



DNS name

Select a load balancer

Select load balancer type

Elastic Load Balancing supports three types of load balancers: Application Load Balancers, Network Load Balancers (new), and Classic Load Balancers. Choose the load balancer type that meets your needs. [Learn more about which load balancer is right for you](#)

Application Load Balancer

HTTP
HTTPS

Create

Choose an Application Load Balancer when you need a flexible feature set for your web applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide advanced routing and visibility features targeted at application architectures, including microservices and containers.

[Learn more >](#)

Network Load Balancer

TCP

Create

Choose a Network Load Balancer when you need ultra-high performance and static IP addresses for your application. Operating at the connection level, Network Load Balancers are capable of handling millions of requests per second while maintaining ultra-low latencies.

[Learn more >](#)

Classic Load Balancer

PREVIOUS GENERATION

for HTTP, HTTPS, and TCP

Create

Choose a Classic Load Balancer when you have an existing application running in the EC2-Classic network.

[Learn more >](#)

Step 1: Define Load Balancer

Basic Configuration

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:

Create LB Inside:

Create an internal load balancer: [\(what's this?\)](#)

Enable advanced VPC configuration:

Listener Configuration:

Load Balancer Protocol	Load Balancer Port	Instance Protocol	Instance Port	
<input type="text" value="HTTP"/>	<input type="text" value="80"/>	<input type="text" value="HTTP"/>	<input type="text" value="80"/>	<input type="button" value="✕"/>

[Cancel](#)

1. Define Load Balancer

2. Assign Security Groups

3. Configure Security Settings

4. Configure Health Check

Step 2: Assign Security Groups

You have selected the option of having your Elastic Load Balancer inside of a VPC, which allows you to assign security groups to your load balancer. Please select the security groups to assign to this load balancer. This can be changed at any time.

Assign a security group: Create a **new** security group
 Select an **existing** security group

Security group name:

Description:

Type i

Protocol i

Port Range i

Source i

Custom TCP F v

TCP

80

Custom v

0.0.0.0/0

Add Rule

Cancel

Previous

Next: Configure Security Settings

1. Define Load Balancer

2. Assign Security Groups

3. Configure Security Settings

4. Configure Health Check

Step 3: Configure Security Settings



Improve your load balancer's security. Your load balancer is not using any secure listener.

If your traffic to the load balancer needs to be secure, use either the HTTPS or the SSL protocol for your front-end connection. You can go back to the first step to add/configure secure listeners under [Basic Configuration](#) section. You can also continue with current settings.

Cancel

Previous

Next: Configure Health Check

Step 4: Configure Health Check

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

Ping Protocol

Ping Port

Ping Path

Advanced Details

Response Timeout seconds

Interval seconds

Unhealthy threshold

Healthy threshold

[Cancel](#) [Previous](#) [Next: Add EC2 Instances](#)

Step 5: Add EC2 Instances

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

VPC vpc-92468eea (172.31.0.0/16)

<input type="checkbox"/>	Instance	Name	State	Security g	Zone	Subnet ID	Subnet CIDR
<input type="checkbox"/>	i-0605b9dd1f902e217	webserv2	running	launch-wiz...	us-west-2b	subnet-dce2c7a5	172.31.16.0/20
<input type="checkbox"/>	i-0a7ff913cf397fa1d	webserv1	running	launch-wiz...	us-west-2b	subnet-dce2c7a5	172.31.16.0/20

Availability Zone Distribution

2 instances in us-west-2b

Enable Cross-Zone Load Balancing

Enable Connection Draining seconds

[Cancel](#) [Previous](#) [Next: Add Tags](#)

- [1. Define Load Balancer](#)
- [2. Assign Security Groups](#)
- [3. Configure Security Settings](#)
- [4. Configure Health Check](#)
- [5. Add EC2 Instances](#)

Step 6: Add Tags

Apply tags to your resources to help organize and identify them.

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

Key	Value	
<input type="text" value="application"/>	<input type="text" value="webserver"/>	<input type="button" value="✕"/>
<input type="text"/>	<input type="text"/>	<input type="button" value="✕"/>

- [1. Define Load Balancer](#)
- [2. Assign Security Groups](#)
- [3. Configure Security Settings](#)
- [4. Configure Health Check](#)
- [5. Add EC2 Instances](#)

Step 7: Review

Please review the load balancer details before continuing

- ▼ Define Load Balancer [Edit load balancer definition](#)
 - Load Balancer name: Tutorial-AWS-ELB
 - Scheme: internet-facing
 - Port Configuration: 80 (HTTP) forwarding to 80 (HTTP)
- ▼ Configure Health Check [Edit health check](#)
 - Ping Target: HTTP:80/index.html
 - Timeout: 5 seconds
 - Interval: 30 seconds
 - Unhealthy threshold: 2
 - Healthy threshold: 10
- ▼ Add EC2 Instances [Edit instances](#)
 - Cross-Zone Load Balancing: Enabled
 - Connection Draining: Enabled, 300 seconds
 - Instances: i-0605b9dd1f902e217 (webserver2), i-0a7ff913cf397fa1d (webserver1)
- ▼ VPC Information [Edit subnets](#)
 - VPC: vpc-92468eea

Load Balancer Creation Status



Successfully created load balancer

Load balancer [Tutorial-AWS-ELB](#) was successfully created.

Note: It might take a few minutes for your load balancer to be fully set up and ready to route traffic, and for the targets to complete the registration process and pass the initial health checks

Close

The screenshot shows the AWS console interface for creating a target group. The left sidebar contains navigation options: IMAGES, ELASTIC BLOCK STORE, NETWORK & SECURITY, and LOAD BALANCING. The 'LOAD BALANCING' section is expanded to show 'Target Groups'. The main content area is titled 'Create target group' and features a search bar and a table of existing target groups. The table has columns for Name, Port, Protocol, Target type, Load Balancer, VPC ID, and Monitoring. One target group, 'Webserver-Target-Group', is listed with port 80, HTTP protocol, instance target type, and associated with 'Tutorial-A...' load balancer and 'vpc-9fdafdf9' VPC. Below the table, the 'Target group: Webserver-Target-Group' details are shown, including tabs for Description, Targets, Health checks, Monitoring, and Tags. The 'Basic Configuration' section lists: Name (Webserver-Target-Group), ARN (arn:aws:elasticloadbalancing:us-east-1:890722620077:targetgroup/Webserver-Target-Group/87c80d3b5802146d), Protocol (HTTP), Port (80), Target type (instance), and VPC (vpc-9fdafdf9).

The screenshot shows the 'Targets' tab for the 'Webserver-Target-Group'. It includes tabs for Description, Targets, Health checks, Monitoring, and Tags. A message states: 'The load balancer starts routing requests to a newly registered target as soon as the registration process completes and the target passes the initial health checks. If demand on your targets increases, you can register additional targets. If decreases, you can deregister targets.' An 'Edit' button is visible. A yellow warning box indicates: 'None of these Availability Zones contains a healthy target. Requests are being routed to all targets.' Below this, the 'Registered targets' section contains a table with columns: Instance ID, Name, Port, Availability Zone, and Status.

Instance ID	Name	Port	Availability Zone	Status
i-0431099b24a78a2	webserver2	80	us-east-1f	initial ⓘ
i-06db9b050dbf3d037	webserver1	80	us-east-1a	initial ⓘ

Create target group Actions ▾

Filter by tags and attributes or search by keyword

Name	Port	Protocol	Target type	Load Balanc	VPC ID	Monitoring
Webserver-Target-Group	80	HTTP	Instance	Tutorial-A...	vpc-9fdafdf9	<input checked="" type="checkbox"/>

Target group: **Webserver-Target-Group**

Description **Targets** Health checks Monitoring Tags

The load balancer starts routing requests to a newly registered target as soon as the registration process completes and the target passes the initial health checks. If demand on your targets increases, you can register additional targets. If demand decreases, you can deregister targets.

[Edit](#)

Registered targets

Instance ID	Name	Port	Availability Zone	Status
i-0f431099b2f4a78a2	webserver2	80	us-east-1f	healthy ⓘ
i-06db9b050df3d037	webserver1	80	us-east-1a	healthy ⓘ

Availability Zones

Availability Zone	Target count	Healthy?
us-east-1f	1	Yes
us-east-1a	1	Yes

Create Load Balancer Actions ▾

Filter by tags and attributes or search by keyword

Name	DNS name	State	VPC ID
Tutorial-AWS-ELB	Tutorial-AWS-ELB-1353523...	active	vpc-9fdafdf9

Load balancer: **Tutorial-AWS-ELB**

Description **Listeners** Monitoring Tags

Basic Configuration

Name: Tutorial-AWS-ELB ↻

ARN: arn:aws:elasticloadbalancing:us-east-1:890722620077:loadbalancer/app/Tutorial-AWS-ELB/38d1b5b83d63d847 ↗

DNS name: Tutorial-AWS-ELB-1353523812.us-east-1.elb.amazonaws.com ↗
(A Record)

Scheme: internet-facing

Type: application

Menu tutorial-aws-elb-13535238 X +

< > ↻ 🗨️ Not secure tutorial-aws-elb-1353523812.us-east-1.elb.amazonaws.com

Hello from webserver1

🔍 📄 Elements Network Console Sources Performance Memory Application Security Audits

🔴 🛑 🎥 🔍 View: 📄 🚩 Group by frame Preserve log Disable cache Offline Online

Filter Hide data URLs All XHR JS CSS Img Media Font Doc WS Manifest Other

20 ms	40 ms	60 ms	80 ms	100 ms	120 ms

Name x Headers Preview Response Timing

tutorial-aws-elb-1353523812.u... ▼ General

- Request URL: http://tutorial-aws-elb-1353523812.us-east-1.elb.amazonaws.com
- Request Method: GET
- Status Code: 🟢 200 OK
- Remote Address: 52.7.86.17:80
- Referrer Policy: no-referrer-when-downgrade

▼ Response Headers view source

Menu tutorial-aws-elb-13535238 X +

< > C Not secure tutorial-aws-elb-1353523812.us-east-1.elb.amazonaws.com

Hello from webserver2

Elements Network Console Sources Performance Memory Application Security Audits

View: Group by frame Preserve log Disable cache Offline Online

Filter Hide data URLs All XHR JS CSS Img Media Font Doc WS Manifest Other

20 ms	40 ms	60 ms	80 ms	100 ms	120 ms

Name Headers Preview Response Timing

tutorial-aws-elb-1353523812.u... General

Request URL: http://tutorial-aws-elb-1353523812.us-east-1.elb.amazonaws.com

Request Method: GET

Status Code: 200 OK

Remote Address: 52.7.86.17:80

Referrer Policy: no-referrer-when-downgrade

aws Services Resource Groups

EC2 Dashboard
Events
Tags
Reports
Limits

INSTANCES
Instances
Launch Templates
Spot Requests
Reserved Instances
Dedicated Hosts
Scheduled Instances

IMAGES
AMIs
Bundle Tasks

ELASTIC BLOCK STORE
Volumes
Snapshots
Lifecycle Manager

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

LOAD BALANCING
Load Balancers

Create Load Balancer Actions

Filter by tags and attributes

Name	State	VPC ID
Tutorial-AWS-ELB	active	vpc-

Load balancer: Tutorial-AWS-ELB

Description Listeners Monitoring Tags

Basic Configuration

Name: Tutorial-AWS-ELB ↻

ARN: arn:aws:elasticloadbalancing:us-east-1:890722620077:loadbalancer/app/Tutorial-AWS-ELB/38d1b5b83d63d847 ↻

DNS name: Tutorial-AWS-ELB-1353523812.us-east-1.elb.amazonaws.com ↻
(A Record)

Scheme: internet-facing

Type: application

Availability Zones: subnet-50a0205c - us-east-1f, subnet-dea05d96 - us-east-1a

Edit availability zones

Security

Edit health check
Edit subnets
Edit IP address type
Edit instances
Edit listeners
Edit security groups
Delete

EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

Scheduled Instances

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Lifecycle Manager

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

LOAD BALANCING

Load Balancers

Target Groups

Create target group

Actions

Filter by tags and attributes

<input type="checkbox"/>	Name	Port	Protocol	Target type
<input type="checkbox"/>	Webserver-Target-Group	80	HTTP	instance

- Edit health check
- Register and deregister targets
- Edit attributes
- Delete

Target group: Webserver-Target-Group

Description

Targets

Health checks

Monitoring

Tags

Basic Configuration

Name		Webserver-Target-Group
ARN		arn:aws:elasticloadbalancing:us-east-
Protocol		HTTP
Port		80
Target type		instance
VPC		vpc-9fdafdf9
Load balancer		

Attributes

Deregistration delay 300 seconds

Chapter 7: Understanding Simple Storage Service and Glacier

The screenshot shows the Amazon S3 console interface. At the top left is the Amazon S3 logo. To the right are links for 'Discover the new console' and 'Quick tips'. Below this is a search bar labeled 'Search for buckets'. A navigation bar contains buttons for '+ Create bucket', 'Delete bucket', and 'Empty bucket'. On the right side of the navigation bar, it displays '0 Buckets', '0 Public', and '0 Regions' with a refresh icon. The main content area has a light blue background and a message: 'You do not have any buckets. Here is how to get started with Amazon S3.' Below this message are three columns, each with an icon, a title, a description, and a 'Learn more' link. The first column shows a bucket icon with the title 'Create a new bucket' and the text 'Buckets are globally unique containers for everything that you store in Amazon S3.' The second column shows a bucket icon with an upload arrow and the title 'Upload your data' and the text 'After you create a bucket, you can upload your objects (for example, your photo or video files).' The third column shows a person icon with a plus sign and the title 'Set up your permissions' and the text 'By default, the permissions on an object are private, but you can set up access control policies to grant permissions to others.' At the bottom center of the main content area is a blue 'Get started' button.

Amazon S3

Discover the new console Quick tips

Search for buckets

+ Create bucket Delete bucket Empty bucket

0 Buckets 0 Public 0 Regions

You do not have any buckets. Here is how to get started with Amazon S3.

Create a new bucket

Buckets are globally unique containers for everything that you store in Amazon S3.

Learn more

Upload your data

After you create a bucket, you can upload your objects (for example, your photo or video files).

Learn more

Set up your permissions

By default, the permissions on an object are private, but you can set up access control policies to grant permissions to others.

Learn more

Get started

Create bucket



- 1 Name and region
- 2 Configure options
- 3 Set permissions
- 4 Review

Name and region

Bucket name

Region



Copy settings from an existing bucket



Create

Cancel

Next

Create bucket



Name and region



Configure options



Set permissions



Review

Properties

Versioning

Keep all versions of an object in the same bucket. [Learn more](#)

Server access logging

Log requests for access to your bucket. [Learn more](#)

Target bucket

685684-mynewbucket

Target prefix

685684-target

Tags

You can use tags to track project costs. [Learn more](#)

685684

project-tags

+ Add another

Object-level logging

Record object-level API activity using AWS CloudTrail for an additional cost. See [CloudTrail pricing](#) or [learn more](#)

Default encryption

Previous

Next

Create bucket



Name and region



2 Configure options



3 Set permissions



4 Review

Log requests for access to your bucket. [Learn more](#)

Target bucket

685684-mynewbucket

Target prefix

685684-target

Tags

You can use tags to track project costs. [Learn more](#)

685684

project-tags



[+ Add another](#)

Object-level logging

Record object-level API activity using AWS CloudTrail for an additional cost. See [CloudTrail pricing](#) or [learn more](#)

Default encryption

Automatically encrypt objects when they are stored in S3. [Learn more](#)

Management

CloudWatch request metrics

Monitor requests in your bucket for an additional cost. See [CloudWatch pricing](#) or [learn more](#)

[Previous](#)

[Next](#)

Create bucket



Name and region



Configure options



Set permissions



Review

Note: You can grant access to specific users after you create the bucket.

Public access settings for this bucket

Use the Amazon S3 block public access settings to enforce that buckets don't allow public access to data. You can also configure the Amazon S3 block public access settings at the account level. [Learn more](#)

Manage public access control lists (ACLs) for this bucket

- Block new public ACLs and uploading public objects *(Recommended)*
- Remove public access granted through public ACLs *(Recommended)*

Manage public bucket policies for this bucket

- Block new public bucket policies *(Recommended)*
- Block public and cross-account access if bucket has public policies *(Recommended)*

Manage system permissions

Do not grant Amazon S3 Log Delivery group write access to this bucket

Previous

Next

Create bucket



Name and region



Configure options



Set permissions



Review

Name and region

Edit

Bucket name 685684-mynewbucket **Region** US West (Oregon)

Options

Edit

Versioning Enabled

Server access logging Enabled

Tagging 1 Tags

Object-level logging Disabled

Default encryption None

CloudWatch request metrics Disabled

Permissions

Edit

Users 1

Public permissions Enabled

System permissions Disabled

Previous

Create bucket

Overview

Properties

Permissions

Management

Public access settings

Access Control List

Bucket Policy

CORS configuration

Bucket policy editor ARN: arn:aws:s3:::685684-mynewbucket

Type to add a new policy or edit an existing policy in the text area below.

Delete

Cancel

Save

```
1 {
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Sid": "PublicReadGetObject",
6       "Effect": "Allow",
7       "Principal": "*",
8       "Action": "s3:GetObject",
9       "Resource": "arn:aws:s3:::685684-mynewbucket/*"
10    }
11  ]
12 }
```

Search for buckets

+ Create bucket

Delete bucket

Empty bucket

1 Buckets

1 Public

1 Regions



Bucket name ↑	Access ⓘ ↑	Region ↑	Date created ↑
685684-mynewbucket	Public	US West (Oregon)	Oct 23, 2018 9:14:45 PM GMT+0700


* Objects might still be publicly accessible due to object ACLs. [Learn more](#)

Amazon S3 > 685684-mynewbucket

Overview Properties Permissions **Public** Management

Upload Create folder Actions Versions Hide Show US West (Oregon) ↻


This bucket is empty. Upload new objects to get started.



Upload an object

Buckets are globally unique containers for everything that you store in Amazon S3.


[Learn more](#)



Set object properties

After you create a bucket, you can upload your objects (for example, your photo or video files).

[Learn more](#)



Set object permissions

By default, the permissions on an object are private, but you can set up access control policies to grant permissions to others.

[Learn more](#)



[Get started](#)

Upload

1 Select files
2 Set permissions
3 Set properties
4 Review

1 Files **Size:** 201.0 B **Target path:** 685684-mynewbucket

[+ Add more files](#)

 index.html


- 201.0 B

[Upload](#)
[Next](#)

Overview

Properties

Permissions
Public

Management

🔍 Type a prefix and press Enter to search. Press ESC to clear.

📁 Upload

+ Create folder

Actions ▾


Versions

Hide

Show

US West (Oregon) ↻

Viewing 1 to 1

<input type="checkbox"/>	Name ↑ ▾	Last modified ↑ ▾	Size ↑ ▾	Storage class ↑ ▾
<input type="checkbox"/>	 index.html	Oct 23, 2018 9:25:42 PM GMT+0700	201.0 B	Standard

Viewing 1 to 1

Amazon S3 > 685684-mynewbucket

index.html Latest version ▼

Overview

Properties

Permissions

Select from

Open

Download

Download as

Make public

Copy path

Owner

Stan

Last modified

Oct 23, 2018 9:25:42 PM GMT+0700

Etag

3e465c7733b8110c681839a2ae87987a

Storage class

Standard

Server-side encryption

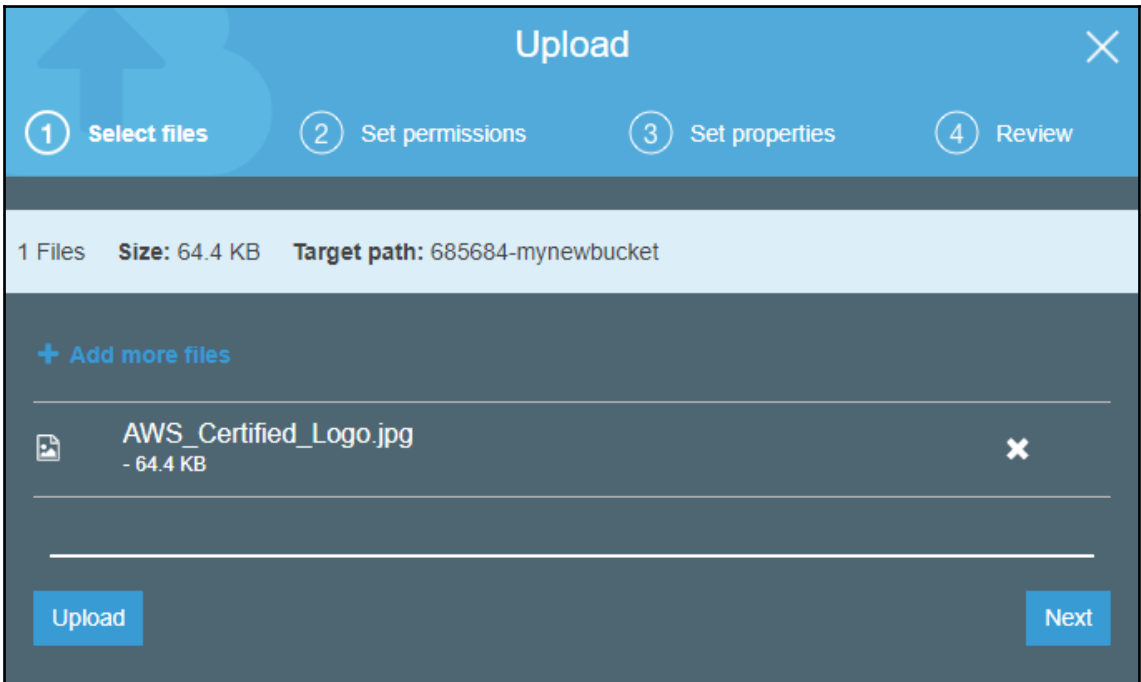
None

Size

201

Link

<https://s3-us-west-2.amazonaws.com/685684-mynewbucket/index.html>



Amazon S3 > 685684-mynewbucket

AWS_Certified_Logo.jpg Latest version ▾

Overview

Properties

Permissions

Select from

Open

Download

Download as

Make public

Copy path

Owner

Stan

Last modified

Oct 23, 2018 10:56:02 PM GMT+0700

Etag

17ba17538dba0524ba3cc9c673f0d30b

Storage class

Standard

Server-side encryption

None

Size

65967

Link

https://s3-us-west-2.amazonaws.com/685684-mynewbucket/AWS_Certified_Logo.jpg

Amazon S3 > 685684-mynewbucket

index.html Latest version ▾

 Oct 23, 2018 11:01:03 PM GMT+0700 (Latest version) Standard  

 Oct 23, 2018 9:23:01 PM GMT+0700 Standard  

Owner

Stan

Last modified

Oct 23, 2018 11:01:03 PM GMT+0700

Etag

b69fa08ac712b2c8af5d9b05953cfa1b

Storage class

Standard

Server-side encryption

None

Size

209

Link

<https://s3-us-west-2.amazonaws.com/685684-mynewbucket/index.html>




Amazon S3 > 685684-mynewbucket

Overview Properties Permissions **Management**

Lifecycle Replication Analytics Metrics Inventory

+ Add lifecycle rule Edit Delete Actions


There is no lifecycle rule applied to this bucket.
Here is how to get started.



Use lifecycle rules to manage your objects

You can manage an object's lifecycle by using a lifecycle rule, which defines how Amazon S3 manages objects during their lifetime.


[Learn more](#)



Automate transition to tiered storage

Lifecycle rules enable you to automatically transition objects to the Standard - IA and/or to the Amazon Glacier storage class.

[Learn more](#)



Expire your objects

Using a lifecycle rule, you can automatically expire objects based on your retention needs or clean up incomplete multipart uploads.

[Learn more](#)

[Get started](#)

Lifecycle rule



1 Name and scope

2 Transitions

3 Expiration

4 Review

Enter a rule name

Add filter to limit scope to prefix/tags ⓘ

Cancel

Next

Lifecycle rule



Name and scope



Transitions



Expiration



Review

Configure transition

Current version Previous versions

For current versions of objects [+ Add transition](#)

Object creation

Days after creation

Transition to Amazon Glacier after 

1 X

Previous

Next

Lifecycle rule



Name and scope



Transitions



Expiration



Review

Configure expiration

- Current version Previous versions

- Expire current version of object

After days from object creation

- Permanently delete previous versions

After days from becoming a previous version

Clean up expired object delete markers and incomplete multipart uploads

- Clean up expired object delete markers

You cannot enable clean up expired object delete markers if you enable Expiration.

- Clean up incomplete multipart uploads

After Days from start of upload

Previous

Next

Lifecycle rule



Name and scope



Transitions



Expiration



Review

Name and scope

Edit

Name 685684-glacier

Scope Whole bucket

Transitions

Edit

For current version of objects

Transition to Amazon Glacier after 1 days

Expiration

Edit

Expire after 30 days

Permanently delete after 30 days

Clean up incomplete multipart uploads after 7 days

Previous

Save

Amazon S3 > 685684-mynewbucket

Overview Properties Permissions **Public** Management

Lifecycle Replication Analytics Metrics Inventory

+ Add lifecycle rule Edit Delete Actions

Lifecycle rule	Applied to	Actions for current version	Actions for previous version(s)
685684-glacier	Whole bucket	Amazon Glacier / Expire	Permanently Delete

Amazon S3 Discover the new console Quick tips

Search for buckets

+ Create bucket Delete bucket Empty bucket **1** Buckets **1** Public **1** Regions

Bucket name	Access	Region	Date created
685684-mynewbucket	Public	US West (Oregon)	Oct 23, 2018 9:14:45 PM GMT+0700

* Objects might still be publicly accessible due to object ACLs. [Learn more](#)

Delete bucket

Before deleting the "685684-mynewbucket" bucket, consider the following:

- Bucket names are unique. If you delete this bucket, another AWS user can use the name.
- This bucket is not empty. If you delete it, all the objects in the bucket will also be deleted.
- Based on the number of objects in your bucket, this may take some time. Please do not close your browser window before the process is completed.
- This bucket hosts a static website. Ensure that you clean up all related DNS entries.

[Learn more](#)

Type the name of the bucket to confirm deletion:

[Cancel](#) [Confirm](#)

Amazon S3


Discover the new console Quick tips

Search for buckets

[+ Create bucket](#) [Delete bucket](#) [Empty bucket](#)

0 Buckets 0 Public 0 Regions


You do not have any buckets. Here is how to get started with Amazon S3.



Create a new bucket

Buckets are globally unique containers for everything that you store in Amazon S3.


[Learn more](#)



Upload your data

After you create a bucket, you can upload your objects (for example, your photo or video files).

[Learn more](#)
[Get started](#)



Set up your permissions

By default, the permissions on an object are private, but you can set up access control policies to grant permissions to others.

[Learn more](#)

[Delete bucket](#) [Operation successful](#) [Delete objects 100% Successful](#) [Delete bucket Successful](#)

Operations 0 In progress 1 Success 0 Error

Chapter 8: Understanding Content Distribution with CloudFront

Distributions

What's New ✨

Reports & Analytics

Cache Statistics

Monitoring and Alarms

Popular Objects

Top Referrers

Usage

Viewers

Security

Origin Access Identity

Public key

Field-level encryption

Amazon CloudFront Getting Started ?

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

[Create Distribution](#)

Step 1: Select delivery method

Step 2: Create distribution

Select a delivery method for your content.

Web

Create a web distribution if you want to:

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

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

[Get Started](#)

Step 1: Select delivery method

Step 2: Create distribution

Create Distribution

Origin Settings

Origin Domain Name ⓘ

Origin Path ⓘ

Origin ID ⓘ

Origin Custom Headers	Header Name	Value	ⓘ
	<input type="text"/>	<input type="text"/>	

Default Cache Behavior Settings

Path Pattern ⓘ

Viewer Protocol Policy HTTP and HTTPS ⓘ
 Redirect HTTP to HTTPS
 HTTPS Only

Allowed HTTP Methods GET, HEAD ⓘ
 GET, HEAD, OPTIONS
 GET, HEAD, OPTIONS, PUT, POST, PATCH, DELETE

Field-level Encryption Config ⓘ

Cached HTTP Methods ⓘ

Cache Based on Selected Request Headers ⓘ
[Learn More](#)

Object Caching Use Origin Cache Headers ⓘ
 Customize
[Learn More](#)

Minimum TTL ⓘ

Distributions

What's New ★

Reports & Analytics

Cache Statistics

Monitoring and Alarms

Popular Objects

Top Referrers

Usage

Viewers

CloudFront Distributions

Create Distribution
Distribution Settings
Delete
Enable
Disable

Viewing:
⏪ < Viewing 1 to 1 of 1 Items > ⏩

Delivery Method	ID	Domain Name	Origin	Status	State	Last Modified
<input type="checkbox"/> Web	E2M8P8M2JAM1RH	d1eqn6fbz9xs2.cloudfront.net	- 685684-mynewbucke	In Progress	Enabled	2018-10-24 15:24 UTC+7

⏪ < Viewing 1 to 1 of 1 Items > ⏩

Tools » CDN Performance Checker tool

Instantly check your CDN's performance from 10 residential locations around the globe.

How fast does your CDN deliver content to people's homes in US, Canada, Ireland, France, The Netherlands, India, Philippines, Vietnam and Australia?

<http://685684-mynewbucket.s3-website-us-west-2.amazonaws.com/>

I'm not a robot



Run the performance check!

Powered by [TurboBytes Pulse](#)

Results for test completed on 2018-10-24 at 08:47:42

<http://685684-mynewbucket.s3-website-us-west-2.amazonaws.com/>

Location	Network	Status ?	DNS ?	Connect ?	TTFB ?
AU - Adelaide	iiNet (Internode)	200	179	1331	607
CA - Montreal	Videotron	200	53	80	108
DE - Berlin	Deutsche Telekom	200	306	208	233
IE - Dublin	Liberty Global (UPC)	200	20	178	202
PH - Pateros	PLDT	200	212	202	228
US - Cleveland	AT&T	200	1041	77	99
VN - Ho Chi Minh City	VNPT	200	92	221	242

Tools » CDN Performance Checker tool

Instantly check your CDN's performance from 10 residential locations around the globe.

How fast does your CDN deliver content to people's homes in US, Canada, Ireland, France, The Netherlands, India, Philippines, Vietnam and Australia?

I'm not a robot



Run the performance check!

Powered by [TurboBytes Pulse](#)

Results for test completed on 2018-10-24 at 08:50:54

<http://d1eqn6fbzi9xs2.cloudfront.net/>

Location	Network	Status ?	DNS ?	Connect ?	TTFB ?
AU - Adelaide	iiNet (Internode)	200	111	107	120
CA - Montreal	Videotron	200	71	11	18
DE - Berlin	Deutsche Telekom	200	5001	27	86
IE - Dublin	Liberty Global (UPC)	200	31	16	36
PH - Pateros	PLDT	200	59	3	5
US - Cleveland	AT&T	200	61	28	37
VN - Ho Chi Minh City	VNPT	200	192	34	35

CloudFront Distributions

Buttons: [Create Distribution](#) [Distribution Settings](#) [Delete](#) [Enable](#) [Disable](#)

Viewing: [Any Delivery Method](#) [Any State](#) « Viewing 1 to 2 of 2 Items »

Delivery Method	ID	Domain Name	Comment	Origin	CNAMEs	Status	State	Last Modified
<input type="checkbox"/> Web	E2M8P8M2JAM1RH	d1eqn6fbzi9xs2.cloudfront.net	-	685684-mynewbucke	-	Deployed	Enabled	2018-10-24 15:24 UTC+7
<input type="checkbox"/> Web	E2VZXAVOT12QGH	d2kev4w9m1dp3.cloudfront.net	-	685684-mynewbucke	-	In Progress	Disabled	2018-10-24 16:19 UTC+7

« Viewing 1 to 2 of 2 Items »

Disable Distribution(s) ✕

Are you sure you want to disable the following distributions?

- E2M8P8M2JAM1RH

[Cancel](#) [Yes, Disable](#)

CloudFront Distributions

[Create Distribution](#) [Distribution Settings](#) [Delete](#) [Enable](#) [Disable](#) ↺ ⚙ 🔍 👤

Viewing Any Delivery Method Any State <<< Viewing 1 to 2 of 2 Items >>>

<input type="checkbox"/>	Delivery Method	ID	Domain Name	Comment	Origin	CNAMEs	Status	State	Last Modified
<input type="checkbox"/>	Web	E2M8P8M2JAM1RH	d1eqn6fbz9xs2.cloudfront.net	-	685684-mynewbucke	-	Deployed	Disabled	2018-10-24 16:21 UTC+7
<input type="checkbox"/>	Web	E2VZXAVOT12QGH	d2kev4w9m1dp3.cloudfront.net	-	685684-mynewbucke	-	Deployed	Disabled	2018-10-24 16:19 UTC+7

<<< Viewing 1 to 2 of 2 Items >>>

Delete Distribution(s)



Are you sure you want to delete the following distributions?

- E2M8P8M2JAM1RH

Cancel

Yes, Delete

Chapter 10: Working with the Route 53 Domain Name System



Amazon Route 53

You can use Amazon Route 53 to register new domains, transfer existing domains, route traffic for your domains to your AWS and external resources, and monitor the health of your resources.



DNS management

If you already have a domain name, such as `example.com`, Route 53 can tell the Domain Name System (DNS) where on the Internet to find web servers, mail servers, and other resources for your domain.

[Learn More](#)

[Get started now](#)



Availability monitoring

Route 53 can monitor the health and performance of your application as well as your web servers and other resources. Route 53 can also redirect traffic to healthy resources.

[Learn More](#)

[Get started now](#)



Traffic management

Route 53 traffic flow provides a visual tool that you can use to create and update sophisticated routing policies to route end users to multiple endpoints for your application.

[Learn More](#)

[Get started now](#)



Domain registration

If you need a domain name, you can find an available name and register it by using Route 53. You can also make Route 53 the registrar for existing domains that you registered with other registrars.

[Learn More](#)

[Get started now](#)

- Dashboard
- Hosted zones
- Health checks
- Traffic flow
- Traffic policies
- Policy records
- Domains
 - Registered domains
 - Pending requests
- Resolver
- VPCs
- Inbound endpoints
- Outbound endpoints
- Rules

Register Domain
Transfer Domain
Domain Billing Report

X

Domain Name	Privacy Protection	Expiration Date	Auto Renew	Transfer Lock
No domains to display				

1: Domain Search

2: Contact Details

3: Verify & Purchase

Choose a domain name

.com - \$12.00

Availability for 'awsdemo.com'

Domain Name	Status	Price /1 Year	Action
awsdemo.com	✗	Unavailable	

Related domain suggestions

Domain Name	Status	Price /1 Year	Action
4awsdemo.com	✓	Available	<input style="width: 40px; height: 20px; background-color: #ccc; border: none;" type="button" value="Add to cart"/>
awsdemo.ninja	✓	Available	<input style="width: 40px; height: 20px; background-color: #ccc; border: none;" type="button" value="Add to cart"/>
awsdemo.org	✓	Available	<input style="width: 40px; height: 20px; background-color: #ccc; border: none;" type="button" value="Add to cart"/>
awsdemo.tv	✓	Available	<input style="width: 40px; height: 20px; background-color: #ccc; border: none;" type="button" value="Add to cart"/>
awsdemodesign.com	✓	Available	<input style="width: 40px; height: 20px; background-color: #ccc; border: none;" type="button" value="Add to cart"/>
awsdemodesign.net	✓	Available	<input style="width: 40px; height: 20px; background-color: #ccc; border: none;" type="button" value="Add to cart"/>
awsdemogroup.com	✓	Available	<input style="width: 40px; height: 20px; background-color: #ccc; border: none;" type="button" value="Add to cart"/>
awsdemogroup.net	✓	Available	<input style="width: 40px; height: 20px; background-color: #ccc; border: none;" type="button" value="Add to cart"/>

Shopping cart

- 1: Domain Search
- 2: Contact Details**
- 3: Verify & Purchase

Contact Details for Your 1 Domain

Enter the details for your Registrant, Administrative and Technical contacts below. All fields are required unless specified otherwise. [Learn more.](#)

My Registrant, Administrative and Technical Contacts are all the same: Yes No

Registrant Contact

Contact Type Person

First Name

Last Name

Organization *Not applicable*

Email

Phone + -

Enter country calling code and phone number

Address 1

Street address, P.O. box

Address 2

Optional

Apt, suite, unit, building, floor, etc.

Country

State

City

Postal/Zip Code

Privacy Protection When the contact type is Person:

- Privacy protection hides **some** contact details for .mobi domains.

Shopping cart

One-time fees

awsdemo.mobi
Register for year **\$12.00**

SUBTOTAL **\$12.00**

Monthly Fees for DNS Management

[View pricing details](#) for Route 53 queries and for the hosted zone that we create for each new domain.

Dashboard

Hosted zones

Health checks

Traffic flow

Traffic policies

Policy records

Domains

Registered domains

Pending requests

Resolver

VPCs

Inbound endpoints


Outbound endpoints

Rules

Create Hosted Zone

Go to Record Sets

Delete Hosted Zone



Amazon Route 53 is an authoritative Domain Name System (DNS) service. DNS is the system that translates human-readable domain names (example.com) into IP addresses (192.0.2.0). With authoritative name servers in data centers all over the world, Route 53 is reliable, scalable, and fast.

If you already have a domain name, such as example.com, Route 53 can tell the Domain Name System (DNS) where on the Internet to find web servers, mail servers, and other resources for your domain. [Learn More](#)

Create Hosted Zone

Route 53 documentation and support

[Getting started guide](#) | [Route 53 documentation](#)

DNS is the system that translates human-readable domain names (example.com) into IP addresses (192.0.2.8).

Dashboard

Hosted zones

Health checks

Traffic flow

Traffic policies

Policy records

Domains

Registered domains

Pending requests

Resolver

VPCs

Inbound endpoints

Outbound endpoints

Rules

Create Hosted Zone

Go to Record Sets

Delete Hosted Zone

Search all fields

All Types

No Hosted Zones to display

Domain Name	Type	Record Set Count	Comment	Hosted Zone ID
You have no hosted zones				

Create Hosted Zone

A hosted zone is a container that holds information about how you want to route traffic for a domain, such as example.com, and its subdomains.

Domain Name:

Comment:

Type:

A public hosted zone determines how traffic is routed on the Internet.

Create

Dashboard

Hosted zones

Health checks

Traffic flow

Traffic policies

Policy records

Domains

Registered domains

Pending requests

Resolver

VPCs

Inbound endpoints

Outbound endpoints

Rules

Back to Hosted Zones Create Record Set Import Zone File Delete Record Set Test Record Set

Record Set Name X Any Type Aliases Only Weighted

Only

Displaying 1 to 2 out of 2 Record Sets

Name	Type	Value	Evaluate Target Health
<input type="checkbox"/> aws.demo.com	NS	ns-1533.awsdns-63.org. ns-107.awsdns-13.com. ns-1691.awsdns-19.co.uk. ns-606.awsdns-11.net.	-
<input type="checkbox"/> aws.demo.com	SOA	ns-1533.awsdns-63.org. awsdns-hostmaster.amazon.com.	-

To get started, click Create Record Set button or click an existing record set.

Dashboard

Hosted zones

Health checks

Traffic flow

Traffic policies

Policy records

Domains

Registered domains

Pending requests

Resolver

VPCs

Inbound endpoints

Outbound endpoints

Rules

Back to Hosted Zones Create Record Set Import Zone File Delete Record Set Test Record Set

Record Set Name X Any Type Aliases Only Weighted

Only

Displaying 1 to 2 out of 2 Record Sets

Name	Type	Value	Evaluate Target Health
<input type="checkbox"/> aws.demo.com	NS	ns-1533.awsdns-63.org. ns-107.awsdns-13.com. ns-1691.awsdns-19.co.uk. ns-606.awsdns-11.net.	-
<input type="checkbox"/> aws.demo.com	SOA	ns-1533.awsdns-63.org. awsdns-hostmaster.amazon.com.	-

Create Record Set

Name: test .aws.demo.com.

Type: A - IPv4 address

Alias: Yes No

TTL (Seconds): 300 1m 5m 1h 1d

Value: 1.2.3.4

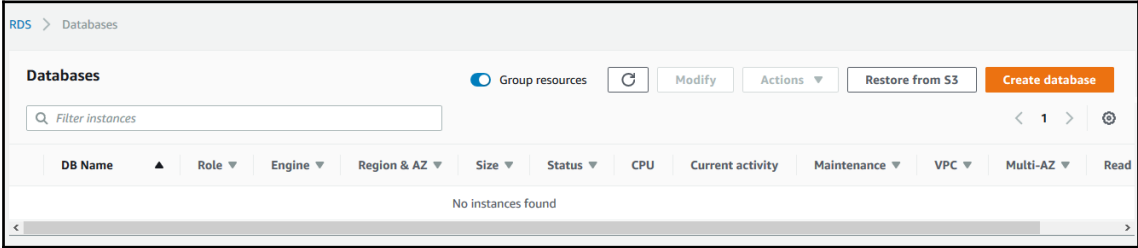
IPv4 address. Enter multiple addresses on separate lines.
Example:
192.0.2.235
198.51.100.234

Routing Policy: Simple

Route 53 responds to queries based only on the values in this record. [Learn More](#)

Create

Chapter 11: Working with Relational Database Services



Select engine

Engine options

Amazon Aurora

**Amazon
Aurora**

MySQL



MariaDB



PostgreSQL



Oracle

ORACLE

Microsoft SQL Server



MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 32 TiB.
- Instances offer up to 32 vCPUs and 244 GiB Memory.
- Supports automated backup and point-in-time recovery.
- Supports cross-region read replicas.



Aurora global database feature is now available.

This feature is now available in our new database creation flow.

[Try it now](#)

Only enable options eligible for RDS Free Usage Tier [Info](#)

Cancel

Next

Step 1
Select engine

RDS > Create database

Choose use case

Step 2
Choose use case

Step 3
Specify DB details

Step 4
Configure advanced settings

Use case

Do you plan to use this database for production purposes?

Use case

- Production - Amazon Aurora** Recommended
MySQL-compatible, enterprise-class database at 1/10th the cost of commercial databases.
- Production - MySQL**
Use [Multi-AZ Deployment](#) and [Provisioned IOPS Storage](#) as defaults for high availability and fast, consistent performance.
- Dev/Test - MySQL**
This instance is intended for use outside of production or under the [RDS Free Usage Tier](#).

Billing is based on [RDS pricing](#).

Cancel

Previous

Next

Step 1
Select engine

RDS > Create database

Step 2
Choose use case

Specify DB details

Step 3
Specify DB details

Instance specifications

Estimate your monthly costs for the DB Instance using the [AWS Simple Monthly Calculator](#)

DB engine

MySQL Community Edition

License model [Info](#)

general-public-license

DB engine version [Info](#)

MySQL 5.6.40



Known Issues/Limitations

Review the [Known Issues/Limitations](#) to learn about potential compatibility issues with specific database versions.



Free tier

The Amazon RDS Free Tier provides a single db.t2.micro instance as well as up to 20 GiB of storage, allowing new AWS customers to gain hands-on experience with Amazon RDS. Learn more about the RDS Free Tier and the instance restrictions [here](#).

Only enable options eligible for RDS Free Usage Tier [Info](#)

DB instance class [Info](#)

db.t2.small — 1 vCPU, 2 GiB RAM

Multi-AZ deployment [Info](#)

Create replica in different zone

Creates a replica in a different Availability Zone (AZ) to provide data redundancy, eliminate I/O freezes, and minimize latency spikes during system backups.

No

Step 4
Configure advanced settings

Storage type [Info](#)

General Purpose (SSD) ▼

Allocated storage

20 GiB

(Minimum: 20 GiB, Maximum: 16384 GiB) Higher allocated storage [may improve](#) IOPS performance.

i Provisioning less than 100 GiB of General Purpose (SSD) storage for high throughput workloads could result in higher latencies upon exhaustion of the initial General Purpose (SSD) IO credit balance. [Click here](#) for more details.

Settings

DB instance identifier [Info](#)

Specify a name that is unique for all DB instances owned by your AWS account in the current region.

markocloud-db-instance

DB instance identifier is case insensitive, but stored as all lower-case, as in "mydbinstance". Must contain from 1 to 63 alphanumeric characters or hyphens (1 to 15 for SQL Server). First character must be a letter. Cannot end with a hyphen or contain two consecutive hyphens.

Master username [Info](#)

Specify an alphanumeric string that defines the login ID for the master user.

markocloud

Master Username must start with a letter. Must contain 1 to 16 alphanumeric characters.

Master password [Info](#)

●●●●●●●●●●●●●●●●

Confirm password [Info](#)

●●●●●●●●●●●●●●●●

Master Password must be at least eight characters long, as in "mypassword". Can be any printable ASCII character except "/", "", or "@".

Cancel

Previous

Next

Step 1

Select engine

RDS > Create database

Configure advanced settings

Step 2

Choose use case

Step 3

Specify DB details

Step 4

Configure advanced settings

Network & Security

Virtual Private Cloud (VPC) [Info](#)

VPC defines the virtual networking environment for this DB instance.

Default VPC (vpc-9fdafdf9) ▼



Only VPCs with a corresponding DB subnet group are listed.

Subnet group [Info](#)

DB subnet group that defines which subnets and IP ranges the DB instance can use in the VPC you selected.

default ▼

Public accessibility [Info](#)

Yes

EC2 instances and devices outside of the VPC hosting the DB instance will connect to the DB instances. You must also select one or more VPC security groups that specify which EC2 instances and devices can connect to the DB instance.

No

DB instance will not have a public IP address assigned. No EC2 instance or devices outside of the VPC will be able to connect.

Availability zone [Info](#)

us-east-1a ▼

VPC security groups

Security groups have rules authorizing connections from all the EC2 instances and devices that need to access the DB instance.

Create new VPC security group

Choose existing VPC security groups

Database options

Database name [Info](#)

Note: if no database name is specified then no initial MySQL database will be created on the DB Instance.

Port [Info](#)

TCP/IP port the DB instance will use for application connections.

DB parameter group [Info](#)

Option group [Info](#)

IAM DB authentication [Info](#)


Enable IAM DB authentication

Manage your database user credentials through AWS IAM users and roles.



Disable

Encryption

Encryption

- Enable encryption** [Learn more](#) 
- Select to encrypt the given instance. Master key ids and aliases appear in the list after they have been created using the Key Management Service(KMS) console.
- Disable encryption**

Backup

 Please note that automated backups are currently supported for InnoDB storage engine only. If you are using MyISAM, refer to detail [here](#). 

Backup retention period [Info](#)

Select the number of days that Amazon RDS should retain automatic backups of this DB instance.

7 days 

Backup window [Info](#)

- Select window
- No preference**
- Copy tags to snapshots

Monitoring

Enhanced monitoring

- Enable enhanced monitoring**
- Enhanced monitoring metrics are useful when you want to see how different processes or threads use the CPU.
- Disable enhanced monitoring**

Log exports



Select the log types to publish to Amazon CloudWatch Logs

- Audit log
- Error log
- General log
- Slow query log

IAM role

The following service-linked role is used for publishing logs to CloudWatch Logs.

RDS Service Linked Role

 Ensure that General, Slow Query, and Audit Logs are turned on. Error logs are enabled by default. [Learn more](#) 

Maintenance

Auto minor version upgrade [Info](#)

- Enable auto minor version upgrade**
Enables automatic upgrades to new minor versions as they are released. The automatic upgrades occur during the maintenance window for the DB instance.
- Disable auto minor version upgrade**

Maintenance window [Info](#)

Select the period in which you want pending modifications or patches applied to the DB instance by Amazon RDS.

- Select window**
- No preference**

Deletion protection

- Enable deletion protection**
Protects the database from being deleted accidentally. While this option is enabled, you can't delete the database.

Cancel

Previous

Create database



Your DB instance is being created.

Note: Your instance may take a few minutes to launch.

Connecting to your DB instance

Once Amazon RDS finishes provisioning your DB instance, you can use a SQL client application or utility to connect to the instance.

[Learn about connecting to your DB instance](#)

Usage charges

The following selections disqualify the instance from being eligible for the free tier:

- DB instance class

You will be charged normal RDS Prices. [Learn More](#)

Estimate your monthly costs for the DB Instance using the [AWS Simple Monthly Calculator](#)

[All DB instances](#)

[View DB instance details](#)

markocloud-db-instance

Modify Delete Instance actions

Summary

Engine MySQL 5.6.40	DB instance class Info db.t2.small	DB instance status creating	Pending maintenance none
------------------------	---	--------------------------------	-----------------------------

CloudWatch (17)

Legend: markocloud-db-instance

Refresh Add instance to compare Monitoring Last Hour

< 1 2 3 > ⌂

CPU Utilization (Percent)



DB Connections (Count)



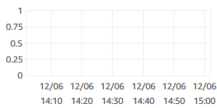
Free Storage Space (MB)



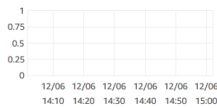
Freeable Memory (MB)



Write IOPS (Count/Second)



Read IOPS (Count/Second)



Connect

Endpoint

markocloud-db-instance.csiwymxk8hr.us-east-1.rds.amazonaws.com

Port

3306

Publicly accessible

No


Security group rules (2)

RDS > Databases > markocloud-db-instance

markocloud-db-instance

[Modify](#) [Actions](#) ▼

Summary

DB Name	CPU	Info	Class
markocloud-db-instance	 0.54%	✔ Available	db.r4.xlarge

RDS > Databases > markocloud-db-instance > Modify

Modify DB Instance: markocloud-db-instance

Instance specifications

DB engine version
Version number of the database engine to be used for this instance.

MySQL 5.6.41 (default) ▼

DB instance class
Contains the compute and memory capacity of the DB instance.

db.r4.xlarge — 4 vCPU, 30.5 GiB RAM ▼

- db.r4.large — 2 vCPU, 15.25 GiB RAM
- db.r4.xlarge — 4 vCPU, 30.5 GiB RAM**
- db.r4.2xlarge — 8 vCPU, 61 GiB RAM
- db.r4.4xlarge — 16 vCPU, 122 GiB RAM
- db.r4.8xlarge — 32 vCPU, 244 GiB RAM

Modify DB Instance: markocloud-db-instance

Summary of modifications

You are about to submit the following modifications. Only values that will change are displayed. Carefully verify your changes and click Modify DB Instance.

Attribute	Current value	New value
DB instance class	db.r4.xlarge	db.r4.16xlarge

Scheduling of modifications

When to apply modifications

Apply during the next scheduled maintenance window
Current maintenance window: sat:07:31-sat:08:01

Apply immediately
The modifications in this request and any pending modifications will be asynchronously applied as soon as possible, regardless of the maintenance window setting for this database instance.



Modifications will not be applied immediately

Modifications will be applied during the next scheduled maintenance window (sat:07:31-sat:08:01). To apply these modifications immediately, choose "Apply immediately" above.

Cancel

Back

Modify DB Instance

markocloud-db-instance

Modify

Actions ▾

Summary

DB Name

markocloud-db-instance

CPU

 1.67%

Info

 Available


Class

db.t2.small

Role

Instance

Current activity

 0 Connections

Engine

MySQL

Region & AZ

us-east-1a

Stop

Reboot

Delete

Create read replica

Create Aurora read replica

Promote read replica

Take snapshot

Restore to point in time

Migrate snapshot

Connectivity

Monitoring

Logs & events

Configuration

Maintenance & backups

Tags

Connectivity

Endpoint & port

Endpoint

markocloud-db-instance.csiwymxk8hr.us-east-1.rds.amazonaws.com

Port

3306

Networking

Availability zone

us-east-1a

VPC

[vpc-9fdafdf9](#)

Security

VPC security groups

[rds-launch-wizard \(sg-00037fd7377cd4c06\)](#)
(active)

Public accessibility

Create read replica DB instance

You are creating a replica DB instance from a source DB instance. This new DB instance will have the source DB instance's DB security groups and DB parameter groups.

Network & Security

Destination region

The region in which the replica will be launched

US East (N. Virginia) ▼

Destination DB subnet group

default ▼

Availability zone

The EC2 Availability Zone that the database instance will be created in.

us-east-1f ▼

Publicly accessible

Yes

EC2 instances and devices outside of the VPC hosting the DB instance will connect to the DB instances. You must also select one or more VPC security groups that specify which EC2 instances and devices can connect to the DB instance.

No

DB instance will not have a public IP address assigned. No EC2 instance or devices outside of the VPC will be able to connect.

Encryption

Encryption

Enable encryption [Learn more](#)

Select to encrypt the given instance. Master key ids and aliases appear in the list after they have been created using the Key Management Service(KMS) console.

Disable encryption

Instance specifications

DB instance class

Contains the compute and memory capacity of the DB instance.

db.t2.small — 1 vCPU, 2 GiB RAM

Multi-AZ deployment

Specifies if the DB instance should have a standby deployed in another availability zone.

Yes

No

Storage type [Info](#)

General Purpose (SSD)

ⓘ Provisioning less than 100 GiB of General Purpose (SSD) storage for high throughput workloads could result in higher latencies upon exhaustion of the initial General Purpose (SSD) IO credit balance. [Click here](#) for more details.

Monitoring

Enhanced monitoring

Enable enhanced monitoring

Enhanced monitoring metrics are useful when you want to see how different processes or threads use the CPU.

Disable enhanced monitoring

Log exports

Select the log types to publish to Amazon CloudWatch Logs

Audit log

Error log

General log

Slow query log

IAM role

The following service-linked role is used for publishing logs to CloudWatch Logs.

RDS Service Linked Role

ⓘ Ensure that General, Slow Query, and Audit Logs are turned on. Error logs are enabled by default. [Learn more](#)

Settings

Read replica source

Source DB instance Identifier

markocloud-db-instance

DB instance identifier

DB instance identifier. This is the unique key that identifies a DB instance. This parameter is stored as a lowercase string (e.g. mydbinstance).

markocloud-replica

Maintenance

Auto minor version upgrade

Specifies if the DB instance should receive automatic engine version upgrades when they are available.

Yes

No

Cancel Create read replica

Database options

Database port

Port number on which the database accepts connections.

3306

(default: 3306)

Copy tags to snapshots

IAM DB authentication [Info](#)

Enable IAM DB authentication

Manage your database user credentials through AWS IAM users and roles.

Disable

RDS > Databases

Databases

Group resources

[Refresh](#) [Modify](#) [Actions](#) [Restore from S3](#) [Create database](#)

< 1 > [Refresh](#)

<input type="checkbox"/>	DB Name	Role	Engine	Region & AZ	Size	Status	CPU	Current activity	Maintenance	VPC
<input type="radio"/>	markocloud-db-instance	Master	MySQL	us-east-1a	db.t2.small	⌚ Modifying	<div style="width: 100%;"><div style="width: 1.31%; background-color: #f27121;">1.31%</div></div>	<div style="width: 100%;"><div style="width: 0%; background-color: #ccc;">0 Connections</div></div>	none	vpc-9fdaf
<input type="radio"/>	markocloud-replica	Replica	MySQL	us-east-1f	db.t2.small	⌚ Creating			none	vpc-9fdaf

RDS > Databases

Databases Group resources Modify Actions Restore from S3 Create database

<input type="checkbox"/>	DB Name	Role	Engine	Region & AZ	Size	Status	CPU
<input checked="" type="radio"/>	markocloud-db-instance	Master	MySQL	us-east-1a	db.t2.small	Available	1
<input type="radio"/>	markocloud-replica	Replica	MySQL	us-east-1f	db.t2.small	Available	1

- Stop
- Reboot
- Delete
- Create read replica
- Create Aurora read replica
- Promote read replica
- Take snapshot
- Restore to point in time
- Migrate snapshot

Maintenance: none | VPC: vpc-9fdafd

RDS > Databases > Take snapshot

Take DB Snapshot

This feature is currently supported for InnoDB storage engine only. If you are using MyISAM, refer to details [here](#).

Settings

To take a snapshot of this DB instance you must provide a name for the snapshot.

DB instance
The unique key that identifies a DB instance. This parameter isn't case-sensitive.
markocloud-db-instance

Snapshot name
The Identifier for the DB Snapshot.

Cancel Take Snapshot

RDS > Snapshots

Snapshots (7) Owned by Me Aons Take snapshot

Filter snapshots

Snapshot	DB instance or cluster	Snapshot Creation Time	Status	Progress	VPC	je	Engine	Storage
<input type="checkbox"/> rds:markocloud-db-instance-2018-12-09-13-30	markocloud-db-instance	Sun Dec 09 20:31:06 GMT+700 2018	available	Completed	vpc-9fdafdf9	omated	MySQL	Generc
<input type="checkbox"/> rds:markocloud-db-instance-2018-12-09-05-44	markocloud-db-instance	Sun Dec 09 12:44:11 GMT+700 2018	available	Completed	vpc-9fdafdf9	omated	MySQL	Generc
<input type="checkbox"/> rds:markocloud-db-instance-2018-12-08-05-43	markocloud-db-instance	Sat Dec 08 12:43:59 GMT+700 2018	available	Completed	vpc-9fdafdf9	omated	MySQL	Generc
<input type="checkbox"/> rds:markocloud-db-instance-2018-12-07-05-44	markocloud-db-instance	Fri Dec 07 12:44:18 GMT+700 2018	available	Completed	vpc-9fdafdf9	omated	MySQL	Generc
<input type="checkbox"/> rds:markocloud-db-instance-2018-12-06-09-14	markocloud-db-instance	Thu Dec 06 16:15:09 GMT+700 2018	available	Completed	vpc-9fdafdf9	omated	MySQL	Generc
<input type="checkbox"/> rds:markocloud-db-instance-2018-12-06-08-05	markocloud-db-instance	Thu Dec 06 15:06:27 GMT+700 2018	available	Completed	vpc-9fdafdf9	omated	MySQL	Generc
<input type="checkbox"/> markocloud-db-20181209	markocloud-db-instance		creating	0%	vpc-9fdafdf9	nual	MySQL	Generc

Backup

Backup retention period
The number of days for which automated backups are retained. Setting this parameter to a positive number enables backups. Setting this parameter to 0 disables automated backups.

7 days

Backup window
The daily time range (in UTC) during which automated backups are created if automated backups are enabled.

Start Time: 05 : 39 UTC Duration: 0.5 hours



Copy tags to snapshots

Yes
 No

markocloud-db-instance

[Modify](#) [Actions](#) ▼

Summary

DB Name markocloud-db-instance	CPU  1.33%	Info ✔ Available	Class db.t2.small
Role Master	Current activity  1 Connections	Engine MySQL	Region & AZ us-east-1a

[Connectivity](#) | [Monitoring](#) | [Logs & events](#) | [Configuration](#) | **[Maintenance & backups](#)** | [Tags](#)

Maintenance

Auto minor version upgrade Enabled	Maintenance window sun:09:47-sun:10:17 UTC (GMT)	Pending maintenance none
---------------------------------------	---	-----------------------------


Backup

Automated backups Enabled (14 Days)	Latest restore time December 9th 2018, 8:50:00 pm UTC--7 (local)	Backup window 05:39-06:09 UTC (GMT)
Copy tags to snapshots Enabled		

Chapter 12: Introduction to ElastiCache

ElastiCache Dashboard

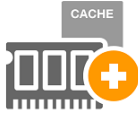
- Memcached
- Redis
- Reserved Nodes
- Backups
- Parameter Groups
- Subnet Groups
- Events
- ElastiCache Cluster Client



ElastiCache

ElastiCache is a web service that makes it easier to launch, manage, and scale a distributed in-memory cache in the cloud.


[Get Started Now](#)



Launch a Cluster

Create Clusters with just a few clicks. You can choose either Memcached or Redis as the engine software for this cluster.


[Link to Documentation](#)



Manage

Using the AWS Management Console, you can easily add resources, modify configuration and monitor nodes of your ElastiCache environment to meet your applications requirements.

[Link to Documentation](#)



Connect

Once you have authorized access to the Cluster and it is in the available state, you can log into an EC2 instance and connect it to a Node in the cluster.

[Link to Documentation](#)

Create your Amazon ElastiCache cluster



Cluster engine **Redis**

In-memory data structure store used as database, cache and message broker. ElastiCache for Redis offers Multi-AZ with Auto-Failover and enhanced robustness.

Cluster Mode enabled

Memcached

High-performance, distributed memory object caching system, intended for use in speeding up dynamic web applications.

Redis settings

Name

Description

Engine version compatibility 5.0.0

Port 6379

Parameter group default.redis5.0

Node type cache.r5.large (13.07 GiB)

Number of replicas 2

▼ Advanced Redis settings

Advanced settings have common defaults set to give you the fastest way to get started. You can modify these now or after your cluster has been created.

Multi-AZ with Auto-Failover



Redis settings

Name	<input type="text" value="markocloud-redis"/>	
Description	<input type="text" value="markocloud redis description"/>	
Engine version compatibility	<input type="text" value="5.0.0"/>	
Port	<input type="text" value="6379"/>	
Parameter group	<input type="text" value="default.redis5.0"/>	
Node type	<input type="text" value="cache.t2.small (1.5 GiB)"/>	
Number of replicas	<input type="text" value="2"/>	

▼ Advanced Redis settings

Advanced settings have common defaults set to give you the fastest way to get started. You can modify these now or after your cluster has been created.

Multi-AZ with Auto-Failover

Subnet group

Name	<input type="text" value="markocloud-subnet-group"/>		
Description	<input type="text" value="markocloud subnet group description"/>		
VPC ID	<input type="text" value="vpc-9fdafd9"/>		
Subnets			
	<input type="text" value="Subnet ID"/>	<input type="text" value="Availability zone"/>	<input type="text" value="CIDR Block"/>
<input checked="" type="checkbox"/>	subnet-a793fb9b	us-east-1e	172.31.48.0/20
<input type="checkbox"/>	subnet-540d4b31	us-east-1c	172.31.0.0/20
<input type="checkbox"/>	subnet-50a0205c	us-east-1f	172.31.80.0/20
<input checked="" type="checkbox"/>	subnet-0ba3a126	us-east-1d	172.31.64.0/20
<input type="checkbox"/>	subnet-00edd45b	us-east-1b	172.31.32.0/20
<input type="checkbox"/>	subnet-dea05d96	us-east-1a	172.31.16.0/20

▼ Advanced Redis settings

Advanced settings have common defaults set to give you the fastest way to get started. You can modify these now or after your cluster has been created.

Multi-AZ with Auto-Failover



Slots and keyspaces

Equal distribution



Availability zone(s)

No preference



	Slots/Keyspaces	Primary	Replica 1	Replica 2
Shard 1	Equal distribution	No preference	No preference	No preference
Shard 2	Equal distribution	No preference	No preference	No preference
Shard 3	Equal distribution	No preference	No preference	No preference

Security

Security groups default (sg-0b56e974) 



Encryption at-rest



Encryption in-transit



Import data to cluster

Seed RDB file S3 location



Use comma to separate multiple paths in the field

Backup

Enable automatic backups



Backup retention period



day(s)

Backup window



No preference



Specify backup window

Maintenance

Maintenance window No preference



Specify maintenance window

Topic for SNS notification



Cancel

Create

ElastiCache Dashboard

Memcached

Redis

Reserved Nodes

Backups

Parameter Groups

Subnet Groups

Events

ElastiCache Cluster Client

Filter: Search Clusters... 1 to 1 of 1 Clusters

Cluster Name	Mode	Shards	Nodes	Node Type	Status	Encryption in-transit	Encryption at-rest
markocloud-redis	Redis	0	0 nodes	cache.t2.small	creating	No	No

Cluster Name	Mode	Shards	Nodes	Node Type	Status	Encryption in-transit	Encryption at-rest
markocloud-redis	Redis	1	3 nodes	cache.t2.small	available	No	No

Name: markocloud-redis **Creation Time:** December 15, 2018 at 2:18:13 PM UTC+7

Configuration Endpoint: - **Status:** available

Primary Endpoint: markocloud-redis.k2eymp.ng.0001.use1.cache.amazonaws.com:6379 **Engine:** Redis

Engine Version Compatibility: 5.0.0 **Node type:** cache.t2.small

Availability Zones: us-east-1e, us-east-1d **Shards:** 1

Number of Nodes: 3 nodes **Multi-AZ:** enabled

Description: markocloud redis description **Parameter Group:** default.redis5.0 (in-sync)

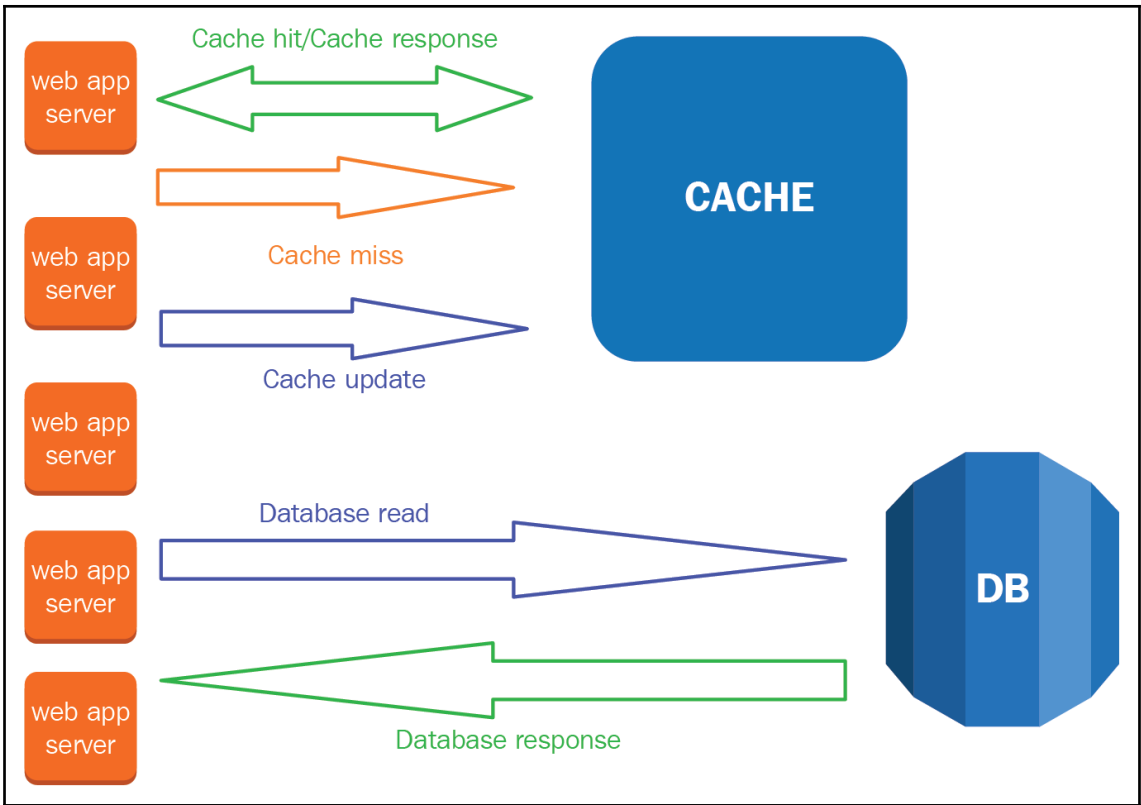
Subnet Group: markocloud-subnet-group **Security Group(s):** sg-0b56e974 (VPC) (active)

Notification ARN: Disabled **Maintenance Window:** fri:04:00-fri:05:00

Backup Retention Period: 1 day(s) **Backup Window:** 06:30-07:30

Encryption in-transit: No **Redis Auth:** No

Encryption at-rest: No



[Create](#)
[Backup](#)
[Reboot](#)
[Delete](#)
[Modify](#)

Filter: 1 to 1 of 1 Clusters

Cluster Name	Mode	Shards	Nodes	Node Type	Status	Encryption in-transit	Encryption at-rest
markocloud-redis	Redis	1	3 nodes	cache.t2.small	available	No	No

Name: markocloud-redis **Creation Time:** December 15, 2018 at 2:18:13 PM UTC+7
Configuration Endpoint: - **Status:** available
Primary Endpoint: markocloud-redis.k2eymp.ng.0001.use1.cache.amazonaws.com:6379 **Engine:** Redis
Engine Version Compatibility: 5.0.0 **Node type:** cache.t2.small
Availability Zones: us-east-1e, us-east-1d **Shards:** 1
Number of Nodes: 3 nodes **Multi-AZ:** enabled
Description: markocloud redis description **Parameter Group:** default.redis5.0 (in-sync)
Subnet Group: markocloud-subnet-group **Security Group(s):** sg-0b56e974 (VPC) (active)
Notification ARN: Disabled **Maintenance Window:** fri:04:00-fri:05:00
Backup Retention Period: 1 day(s) **Backup Window:** 06:30-07:30
Encryption in-transit: No **Redis Auth:** No
Encryption at-rest: No

Modify Cluster



Description

Engine Version Compatibility ⓘ

VPC Security Group(s) default (sg-0b56e974) ⓘ

Parameter Group

Node Type ⓘ
Changed from cache.t2.small

Multi-AZ Yes No ⓘ

Enable Automatic Backups Yes No

Backup Node Id

Backup Retention Period day(s)

Backup Window : UTC - : UTC

Maintenance Window : : UTC - : : UTC

Topic for SNS Notification* ⓘ [Manual ARN input](#) ⓘ

Apply immediately ⓘ



The node type modification process is designed to make a best effort to retain your existing data, and requires Redis replication to succeed. For best practices on Redis replication, please see [this](#). Please note that primaries will be unavailable to service requests during the modification period.



All the following nodes in this cluster will be modified:

- markocloud-redis-001
- markocloud-redis-002
- markocloud-redis-003

Cancel

Modify

[Create](#)
[Backup](#)
[Reboot](#)
[Delete](#)
[Modify](#)

Filter:

Cluster Name	Mode	Shards	Nodes	Node Type	Status	Encryption in-transit	Encryption at-rest
markocloud-redis	Redis	1	3 nodes	cache.t2.small	modifying	No	No

Name: markocloud-redis **Creation Time:** December 15, 2018 at 2:18:13 PM UTC+7

Configuration Endpoint: - **Status:** modifying

Primary Endpoint: markocloud-redis.k2eymp.ng.0001.use1.cache.amazonaws.com:6379 **Engine:** Redis

Engine Version Compatibility: 5.0.0 **Node type:** cache.t2.small

Availability Zones: us-east-1e, us-east-1d **Shards:** 1

Number of Nodes: 3 nodes **Multi-AZ:** enabled

Description: markocloud redis description **Parameter Group:** default.redis5.0 (in-sync)

Subnet Group: markocloud-subnet-group **Security Group(s):** sg-0b56e974 (VPC) (active)

Notification ARN: Disabled **Maintenance Window:** fri:04:00-fri:05:00

Backup Retention Period: 1 day(s) **Backup Window:** 06:30-07:30

Encryption in-transit: No **Redis Auth:** No

Encryption at-rest: No

Chapter 13: Amazon DynamoDB - A NoSQL Database Service



Amazon DynamoDB

Amazon DynamoDB is a fast and flexible NoSQL database service for all applications that need consistent, single-digit millisecond latency at any scale. Its flexible data model and reliable performance make it a great fit for mobile, web, gaming, ad-tech, IoT, and many other applications.

[Create table](#)

[Getting started guide](#)



Create tables

Create DynamoDB tables with a few clicks. Just specify the desired read and write throughput for your table, and DynamoDB handles the rest.

[More about DynamoDB throughput](#)



Monitor and manage tables

Using the AWS Management Console, you can monitor performance and adjust the throughput of your tables, enabling you to scale seamlessly.

[Monitoring tables](#)



Add and query items

Once you have created a DynamoDB table, use the AWS SDKs to write, read, modify, and query items in DynamoDB.

[DynamoDB API reference](#)

Create DynamoDB table

Tutorial ?

DynamoDB is a schema-less database that only requires a table name and primary key. The table's primary key is made up of one or two attributes that uniquely identify items, partition the data, and sort data within each partition.

Table name* ⓘ

Primary key* Partition key

String ⓘ

Add sort key

String ⓘ

Table settings

Default settings provide the fastest way to get started with your table. You can modify these default settings now or after your table has been created.

- Use default settings
- No secondary indexes.
 - Provisioned capacity set to 5 reads and 5 writes.
 - Basic alarms with 80% upper threshold using SNS topic "dynamodb".
 - Encryption at Rest with DEFAULT encryption type **NEW!**

ⓘ You do not have the required role to enable Auto Scaling by default.
Please refer to [documentation](#).

Additional charges may apply if you exceed the AWS Free Tier levels for CloudWatch or Simple Notification Service. Advanced alarm settings are available in the CloudWatch management console.

Cancel **Create**

Table settings

Default settings provide the fastest way to get started with your table. You can modify these default settings now or after your table has been created.

- Use default settings

Secondary indexes

Name	Type	Partition key	Sort key	Projected Attributes	ⓘ
login_tim	GSI	login_time (St	-	ALL	✕

[+ Add index](#)

Read/write capacity mode

Select on-demand if you want to pay only for the read and writes you perform, with no capacity planning required. Select provisioned to save on throughput costs if you can reliably estimate your application's throughput requirements. See the [DynamoDB pricing page](#) and [DynamoDB Developer Guide](#) to learn more.

Read/write capacity mode can be changed later.

- Provisioned (free-tier eligible)
- On-demand

Provisioned capacity

Read capacity units

Table

Write capacity units

Add index ✕

Primary key* Partition key

 i

Add sort key

Index name* i

Projected attributes i

- All
- Keys only
- Include

Provisioned capacity

	Read capacity units	Write capacity units
Table	<input type="text" value="5"/>	<input type="text" value="5"/>
login_time-index	<input type="text" value="5"/>	<input type="text" value="5"/>

Estimated cost \$5.81 / month ([Capacity calculator](#))

Auto Scaling

	<input checked="" type="checkbox"/> Read capacity	<input checked="" type="checkbox"/> Write capacity
		<input type="checkbox"/> Same settings as read
Target utilization	<input type="text" value="70"/> %	<input type="text" value="70"/> %
Minimum provisioned capacity	<input type="text" value="5"/> units	<input type="text" value="5"/> units
Maximum provisioned capacity	<input type="text" value="40000"/> units	<input type="text" value="40000"/> units
	<input checked="" type="checkbox"/> Apply same settings to global secondary indexes	<input checked="" type="checkbox"/> Apply same settings to global secondary indexes

i Please check your IAM permissions to create new service linked role for enabling Auto Scaling. See [permissions](#).

IAM Role I authorize DynamoDB to scale capacity using the following role:

- DynamoDB AutoScaling Service Linked Role
- Existing role with pre-defined policies [\[Instructions\]](#)

Note: If you have the required IAM permissions, a Service Linked Role will automatically be created on your behalf. [Learn more](#)

Role Name*

Encryption At Rest

Select Encryption settings for your DynamoDB table to help protect data at rest. [Learn more](#)

- DEFAULT**
Server-side encryption using AWS owned CMK
(Customer Master Key)
- KMS**
Server-side encryption using AWS managed CMK
(Customer Master Key)

Additional charges may apply if you exceed the AWS Free Tier levels for CloudWatch or Simple Notification Service. Advanced alarm settings are available in the CloudWatch management console.

Cancel

Create

DynamoDB

- Dashboard
- Tables
- Backups
- Reserved capacity
- Preferences
- DAX
- Dashboard
- Clusters
- Subnet groups
- Parameter groups
- Events

Create table
Delete table

Name
● users

USERS
Close

Overview

Items

Metrics

Alarms

Capacity

Indexes

Global Tables

Backups

Recent alerts

No CloudWatch alarms have been triggered for this table.

Stream details

Stream enabled	No
View type	-
Latest stream ARN	-

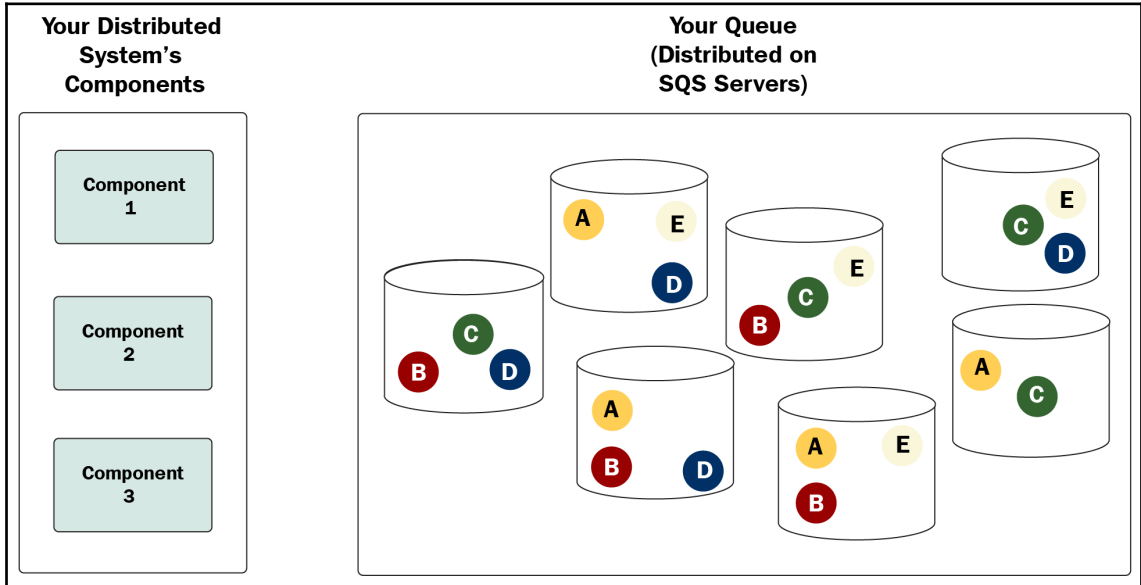
Manage Stream

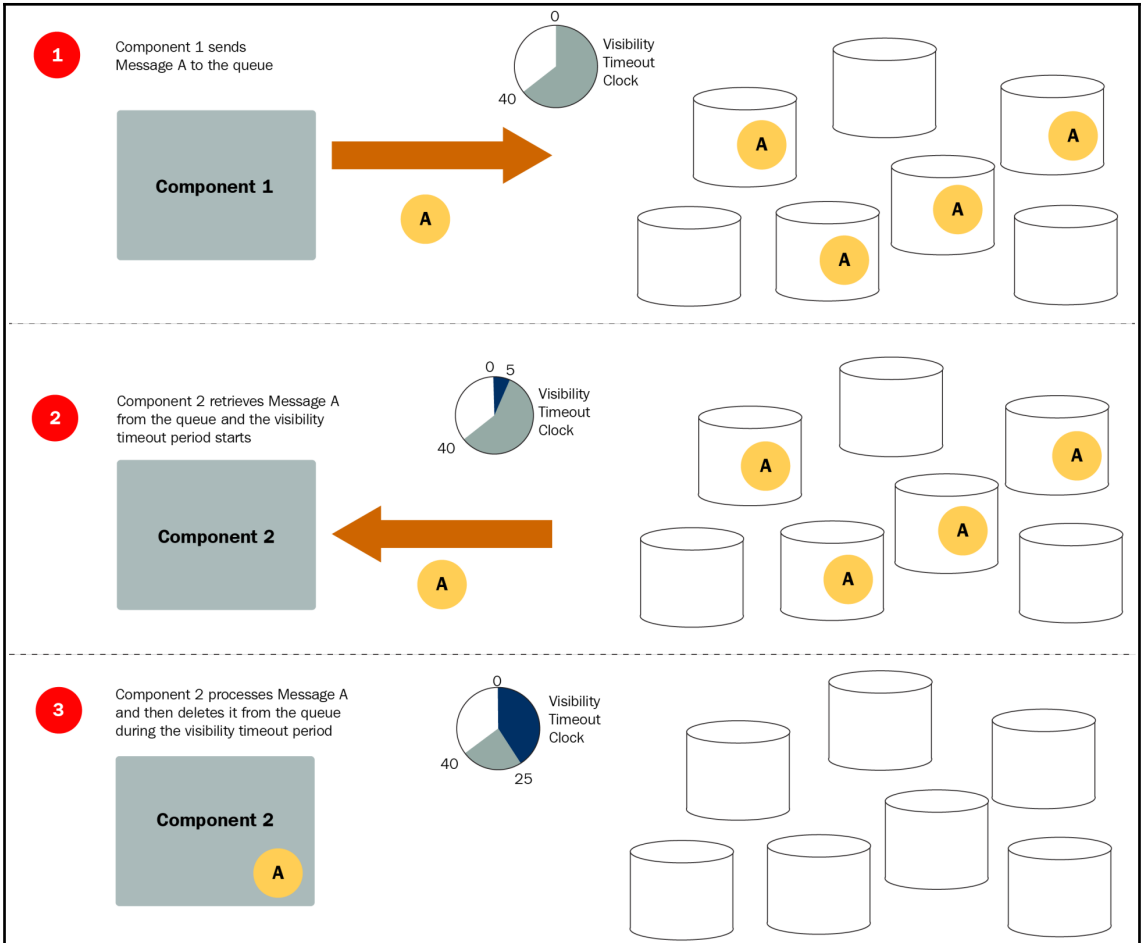
Table details

Table name	users
Primary partition key	username (String)
Primary sort key	last_name (String)
Point-in-time recovery	DISABLED Enable
Encryption Type	DEFAULT
KMS Master Key ARN	Not Applicable
Time to live attribute	DISABLED Manage TTL
Table status	Active
Creation date	December 21, 2018 at 1:29:47 PM UTC-5
Read/write capacity mode	Provisioned
Last change to on-demand mode	-
Provisioned read capacity units	5 (Auto Scaling Enabled)
Provisioned write capacity units	5 (Auto Scaling Enabled)
Last decrease time	-
Last increase time	-
Storage size (in bytes)	0 bytes
Item count	0
Region	US East (Ohio)
Amazon Resource Name (ARN)	arn:aws:dynamodb:us-east-2:866117724370:table/users

Storage size and item count are not updated in real-time. They are updated periodically, roughly every six hours.

Chapter 14: Working with Simple Queue Service







Simple Queue Service

Amazon Simple Queue Service (SQS) is a reliable, scalable, fully-managed message queuing service.

[Get Started Now](#)

[Learn more about AWS SQS](#)



Ensure high availability

Amazon SQS uses a distributed architecture within Amazon's high-availability data centers, so queues will be available whenever applications need them. To prevent messages from being lost, all messages are stored redundantly across multiple servers and data centers.



Scale with your business

Amazon SQS enables an unlimited number of services to read and write an unlimited number of messages at any time. Amazon SQS is used by some of the most highly-scaled applications in the world, such as [Netflix](#).



Reduce your cost

Amazon SQS is a fully-managed service, with no up-front costs or fixed expenses. Pay only for what you use, with a small charge for each API request and data transfer.

Create New Queue

What do you want to name your queue?

Queue Name ⓘ

Type the queue name.

Region ⓘ US East (Ohio)

What type of queue do you need?

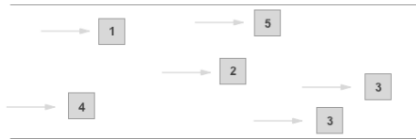
Standard Queue

FIFO Queue

Unlimited Throughput: Standard queues support a nearly unlimited number of transactions per second (TPS) per API action.

At-Least-Once Delivery: A message is delivered at least once, but occasionally more than one copy of a message is delivered.

Best-Effort Ordering: Occasionally, messages might be delivered in an order different from which they were sent.



Send data between applications when the throughput is important, for example:

- Decouple live user requests from intensive background work: let users upload media while resizing or encoding it.
- Allocate tasks to multiple worker nodes: process a high number of credit card validation requests.
- Batch messages for future processing: schedule multiple entries to be added to a database.

High Throughput: FIFO queues support up to 300 messages per second (300 send, receive, or delete operations per second). When you batch 10 messages per operation (maximum), FIFO queues can support up to 3,000 messages per second. To request a limit increase, file a support request.

First-in-First-out Delivery: The order in which messages are sent and received is strictly preserved.

Exactly-Once Processing: A message is delivered once and remains available until a consumer processes and deletes it. Duplicates are not introduced into the queue.



Send data between applications when the order of events is important, for example:

- Ensure that user-entered commands are executed in the right order.
- Display the correct product price by sending price modifications in the right order.
- Prevent a student from enrolling in a course before registering for an account.

For more information, see the [Amazon SQS FAQs](#) and the [Amazon SQS Developer Guide](#).

To create a new queue, choose **Quick-Crete Queue**. To configure your queue's parameters, choose **Configure Queue**.

Cancel

Configure Queue

Quick-Crete Queue

You can change these default parameters.

Queue Attributes

Default Visibility Timeout ⓘ Value must be between 0 seconds and 12 hours.

Message Retention Period ⓘ Value must be between 1 minute and 14 days.

Maximum Message Size ⓘ KB Value must be between 1 and 256 KB.

Delivery Delay ⓘ Value must be between 0 seconds and 15 minutes.

Receive Message Wait Time ⓘ seconds Value must be between 0 and 20 seconds.

Dead Letter Queue Settings

Use Redrive Policy ⓘ

Dead Letter Queue ⓘ Value must be an existing queue name.

Maximum Receives ⓘ Value must be between 1 and 1000.

Server-Side Encryption (SSE) Settings

Use SSE ⓘ

AWS KMS Customer Master Key (CMK) ⓘ

Data Key Reuse Period ⓘ This value must be between 1 minute and 24 hours.

Cancel

Create Queue

[Create New Queue](#) Queue Actions ↻ ⚙️

Filter by Prefix: ✕ ⏪ < 1 to 1 of 1 items > ⏩

Name	Queue Type	Content-Based Deduplication	Messages Available	Messages in Flight	Created
<input checked="" type="checkbox"/> markocloud	Standard	N/A	0	0	2018-12-26 05:42:44 GMT-05:00

1 SQS Queue selected ☰ ☷ ☱

[Details](#) [Permissions](#) [Redrive Policy](#) [Monitoring](#) [Tags](#) [Encryption](#) [Lambda Triggers](#)

Name: markocloud **Default Visibility Timeout:** 30 seconds
URL: https://sqs.us-east-2.amazonaws.com/866117724370/markocloud **Message Retention Period:** 4 days
ARN: arn:aws:sqs:us-east-2:866117724370:markocloud **Maximum Message Size:** 256 KB
Created: 2018-12-26 05:42:44 GMT-05:00 **Receive Message Wait Time:** 0 seconds
Last Updated: 2018-12-26 05:42:44 GMT-05:00 **Messages Available (Visible):** 0
Delivery Delay: 0 seconds **Messages in Flight (Not Visible):** 0
Queue Type: Standard **Messages Delayed:** 0
Content-Based Deduplication: N/A

[Create New Queue](#) Queue Actions ↻ ⚙️

Filter by Prefix: ✕ ⏪ < 1 to 1 of 1 items > ⏩

Name	Queue Type	Content-Based Deduplication	Messages Available	Messages in Flight	Created
<input checked="" type="checkbox"/> markocloud	Standard	N/A	0	0	2018-12-26 05:42:44 GMT-05:00

1 SQS Queue selected ☰ ☷ ☱

[Details](#) [Permissions](#) [Redrive Policy](#) [Monitoring](#) [Tags](#) [Encryption](#) [Lambda Triggers](#)

[Add a Permission](#) [Edit Policy Document \(Advanced\)](#) [What's an SQS Queue Access Policy?](#)

Effect	Principals	Actions	Conditions
<i>This queue has an empty SQS Queue Access Policy. This means that only the queue owner is allowed to use it. You can Add a Permission to grant another account access to this queue.</i>			

Add a Permission to markocloud



Permissions enable you to control which operations a user can perform on a queue. [Click here](#) to learn more about access control concepts.

Effect ⓘ Allow

Deny

Principal ⓘ

Everybody (*)

Use commas between multiple values.

Actions ⓘ

All SQS Actions (SQS:*)

- AddPermission
- ChangeMessageVisibility
- DeleteMessage
- DeleteQueue
- GetQueueAttributes
- GetQueueUrl
- ListDeadLetterSourceQueues
- PurgeQueue
- ReceiveMessage
- RemovePermission
- SendMessage
- SetQueueAttributes

Cancel

Add Permission

Create New Queue Queue Actions

Filter by Prefix: Enter Text...

Name	Queue Type	Content-Based Deduplication	Messages Available	Messages in Flight	Created
markocloud	Standard	N/A	0	0	2018-12-26 05:42:44 GMT-05:00

1 SQS Queue selected

Details Permissions Redrive Policy Monitoring Tags Encryption Lambda Triggers

Add a Permission Edit Policy Document (Advanced) What's an SQS Queue Access Policy?

Effect	Principals	Actions	Conditions
Allow	Everybody (*)	SQS:ReceiveMessage	None

Create New Queue Queue Actions

Filter by Prefix: Enter Text...

Name	Queue Type	Content-Based Deduplication	Messages Available	Created
markocloud	Standard	N/A	0	2018-12-26 05:42:44 GMT-05:00

- Send a Message
- View/Delete Messages
- Configure Queue
- Add a Permission
- Purge Queue
- Delete Queue
- Subscribe Queue to SNS Topic
- Configure Trigger for Lambda Function

Create New Queue Queue Actions

Filter by Prefix: Enter Text...

Name	Queue Type	Content-Based Deduplication	Messages Available	Created
markocloud	Standard	N/A	0	2018-12-26 05:42:44 GMT-05:00

- Send a Message
- View/Delete Messages
- Configure Queue
- Add a Permission
- Purge Queue
- Delete Queue
- Subscribe Queue to SNS Topic
- Configure Trigger for Lambda Function

Send a Message to markocloud ✕

Message Body | Message Attributes

Enter the text of a message you want to send.

This is a test message

Delay delivery of this message by seconds (up to 15 minutes).

Cancel Send Message

Send a Message to markocloud ✕

Your message has been sent and is ready to be received.

Note: It may take up to 60 seconds for the *Messages Available* column to update.

Sent Message Attributes:

Message Identifier: 2e50bc36-90d6-4ef9-82d2-5769462394f0
MD5 of Body: 2309502dc5493f110869b570d9028942

Create New Queue Queue Actions

Filter by Prefix: Enter Text...

Name	Queue Type	Content-Based Deduplication	Messages Available	Messages in Flight	Created
markocloud	Standard	N/A	1	0	2018-12-26 05:42:44 GMT-05:00

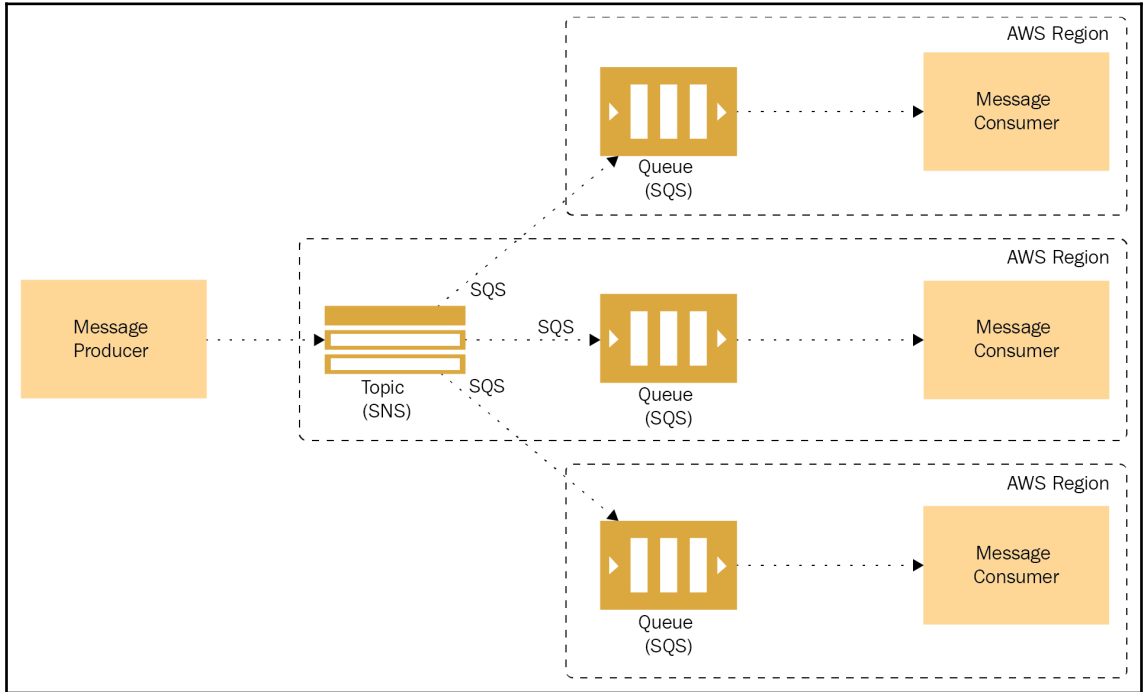
Create New Queue Queue Actions

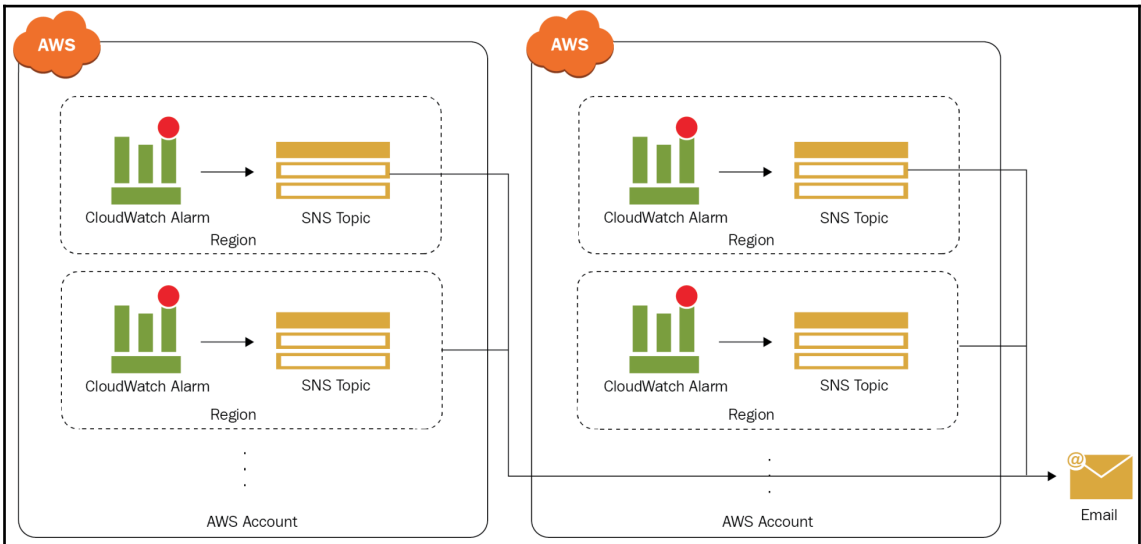
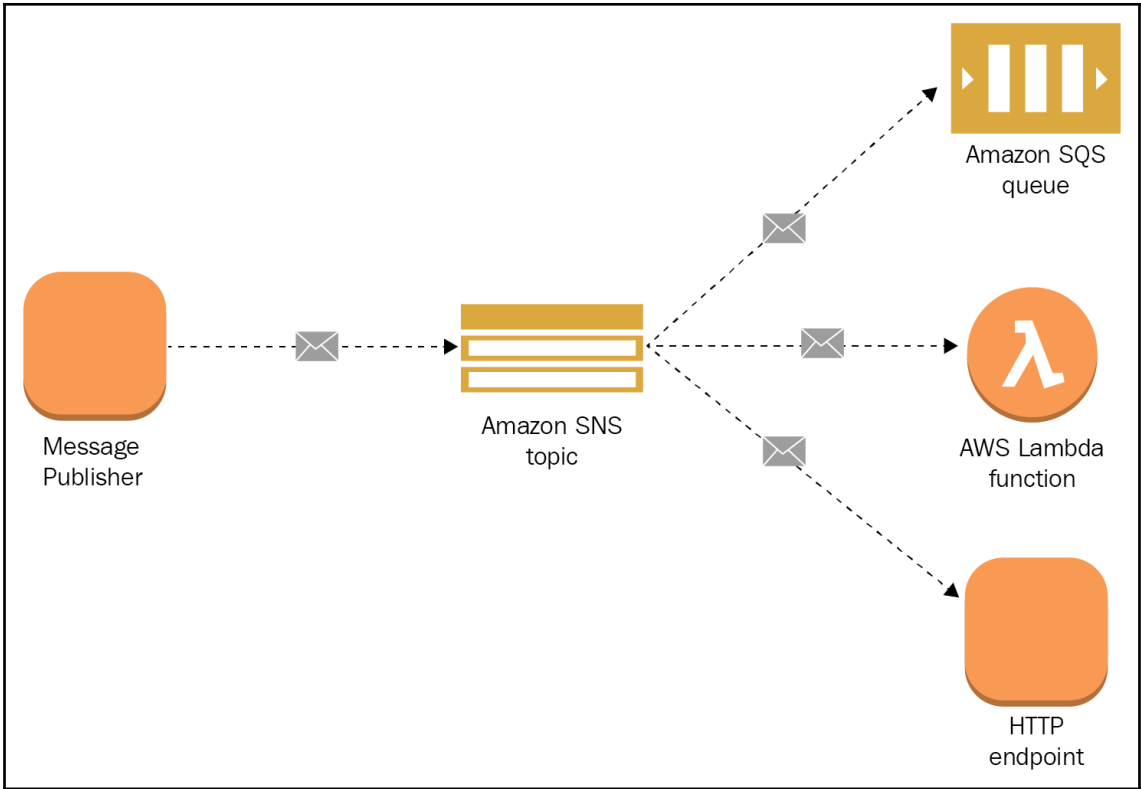
Filter by Prefix: Enter Text...

- Send a Message
- View/Delete Messages
- Configure Queue
- Add a Permission
- Purge Queue
- Delete Queue
- Subscribe Queue to SNS Topic
- Configure Trigger for Lambda Function

Name	Queue Type	Content-Based Deduplication	Messages Available	Messages in Flight	Created
markocloud	Standard	N/A	1	0	2018-12-26 05:42:44 GMT-05:00

Chapter 15: Handling Messaging with Simple Notification Service





SNS dashboard

Topics
Subscriptions

SNS dashboard

Common actions

- Create topic**
Create a communication channel to send messages and subscribe to notifications
- Create subscription**
Subscribe an endpoint to a topic to receive messages published to that topic
- Publish message**
Publish a message to a topic or as a direct publish to a platform endpoint

Resources

You are using the following Amazon SNS resources in the us-east-2 region:

Topic	1
Subscriptions	0

More info

- [Getting started](#)
- [Documentation](#)
- [API reference](#)
- [Forums](#)
- [Service health](#)

Create new topic

A topic name will be used to create a permanent unique identifier called an Amazon Resource Name (ARN).

Topic name ⓘ

Display name ⓘ

[Cancel](#) [Create topic](#)

SNS dashboard

Topics
Subscriptions

Topic details: markocloud

Successfully created new topic. ✕

[Publish to topic](#) [Other topic actions](#)

Topic ARN am:aws:sns:us-east-2:866117724370:markocloud

Topic owner 866117724370

Region us-east-2

Display name MyTopic

Encryption at rest Disabled ⓘ

Subscriptions

[Create subscription](#) [Request confirmations](#) [Confirm subscription](#) [Other subscription actions](#) ⓘ

Filter

<input type="checkbox"/>	Subscription ID	Protocol	Endpoint	Subscriber
--------------------------	-----------------	----------	----------	------------

Create subscription

Topic ARN

Protocol

Endpoint

[Cancel](#) [Create subscription](#)

SNS dashboard

- Topics
- Subscriptions

Topic details: markocloud

[Publish to topic](#) [Other topic actions](#)

Topic ARN arn:aws:sns:us-east-2:866117724370:markocloud
Topic owner 866117724370
Region us-east-2
Display name MyTopic
Encryption at rest Disabled ⓘ

Subscriptions

[Create subscription](#) [Request confirmations](#) [Confirm subscription](#) [Other subscription actions](#) [Refresh](#) ⓘ

Filter

<input type="checkbox"/>	Subscription ID	Protocol	Endpoint	Subscriber
<input type="checkbox"/>	PendingConfirmation	email	user@example.com	

SNS dashboard

Topics

Subscriptions

Publish a message

Amazon SNS enables you to publish notifications to all subscriptions associated with a topic as well as to an individual endpoint associated with a platform application.

Topic ARN ⓘ

Subject ⓘ

Message format Raw JSON

Message

JSON message generator

Time to live (TTL) ⓘ

Message Attributes

<input type="text" value="key"/>	Attribute type ▼	<input \"value2\"]"="" type="text" value="value or [\" value1\",=""/>	
----------------------------------	-------------------------	---	--

Cancel **Publish message**

JSON message generator

The JSON message generator tool allows you to convert your messages to the appropriate JSON format.

Message

We have new tuff!

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Email | <input checked="" type="checkbox"/> SQS | <input checked="" type="checkbox"/> Lambda |
| <input checked="" type="checkbox"/> HTTP | <input checked="" type="checkbox"/> HTTPS | <input checked="" type="checkbox"/> SMS |

Target platforms

- | | | |
|--|--|---|
| <input checked="" type="checkbox"/> iOS Prod | <input checked="" type="checkbox"/> iOS Dev | <input checked="" type="checkbox"/> VoIP Prod |
| <input checked="" type="checkbox"/> VoIP Dev | <input checked="" type="checkbox"/> MacOS Prod | <input checked="" type="checkbox"/> MacOS Dev |
-
- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Android | <input checked="" type="checkbox"/> Amazon FireOS | <input checked="" type="checkbox"/> Baidu |
| <input checked="" type="checkbox"/> Windows MPNS | <input checked="" type="checkbox"/> Windows 8.1+ | |

Cancel

Generate JSON

Message format Raw JSON

Message



```
{
  "default": "We have new stuff!",
  "email": "We have new stuff!",
  "sqs": "We have new stuff!",
  "lambda": "We have new stuff!",
  "http": "We have new stuff!",
  "https": "We have new stuff!",
  "sms": "We have new stuff!",
  "APNS": "{\"aps\":{\"alert\":\"We have new stuff!\"}}",
  "APNS_SANDBOX": "{\"aps\":{\"alert\":\"We have new stuff!\"}}",
  "APNS_VOIP": "{\"aps\":{\"alert\":\"We have new stuff!\"}}",
  "APNS_VOIP_SANDBOX": "{\"aps\":{\"alert\":\"We have new stuff!\"}}",
  "MACOS": "{\"aps\":{\"alert\":\"We have new stuff!\"}}",
  "MACOS_SANDBOX": "{\"aps\":{\"alert\":\"We have new stuff!\"}}",
  "GCM": "{\"data\":{\"message\":\"We have new stuff!\"}}",
  "ADM": "{\"data\":{\"message\":\"We have new stuff!\"}}",
}
```

JSON message generator

SNS dashboard

Topics

Topics
Subscriptions

Publish to topic **Create new topic** **Actions**  

Filter

<input type="checkbox"/>	Name	ARN
<input checked="" type="checkbox"/>	markocloud	arn:aws:sns:us-east-1:123456789012:markocloud

- Edit topic encryption configuration
- Edit topic display name
- Subscribe to topic
- Confirm a subscription
- Edit topic policy
- Edit topic delivery policy
- Delivery status
- Delete topics**

SNS dashboard < Topics

Subscriptions

Help us improve the new Amazon SNS console by providing [feedback](#).

Publish to topic Create new topic Actions

Filter

<input type="checkbox"/>	Name	ARN
<input checked="" type="checkbox"/>	markocloud	arn:aws:sns:us-east-1:123456789012:markocloud

- Edit topic encryption configuration
- Edit topic display name
- Subscribe to topic
- Confirm a subscription
- Edit topic policy**
- Edit topic delivery policy
- Delivery status
- Delete topics

Help us improve the new Amazon SNS console by providing [feedback](#).

Basic view **Advanced view**

Allow these users to publish messages to this topic

Only me (topic owner)
 Everyone
 Only these AWS users

Allow these users to subscribe to this topic

Only me (topic owner)
 Everyone
 Only these AWS users

Only users with endpoints that match

Using these delivery protocols

<input checked="" type="checkbox"/> HTTP	<input checked="" type="checkbox"/> HTTPS	<input checked="" type="checkbox"/> Email
<input checked="" type="checkbox"/> Email-JSON	<input checked="" type="checkbox"/> SMS	<input checked="" type="checkbox"/> Amazon SQS
<input checked="" type="checkbox"/> Application	<input checked="" type="checkbox"/> AWS Lambda	

Cancel **Update policy**

Help us improve the new Amazon SNS console by providing [feedback](#). ✕

Basic view

Advanced view

This view allows direct manipulation of your topic access control policy.

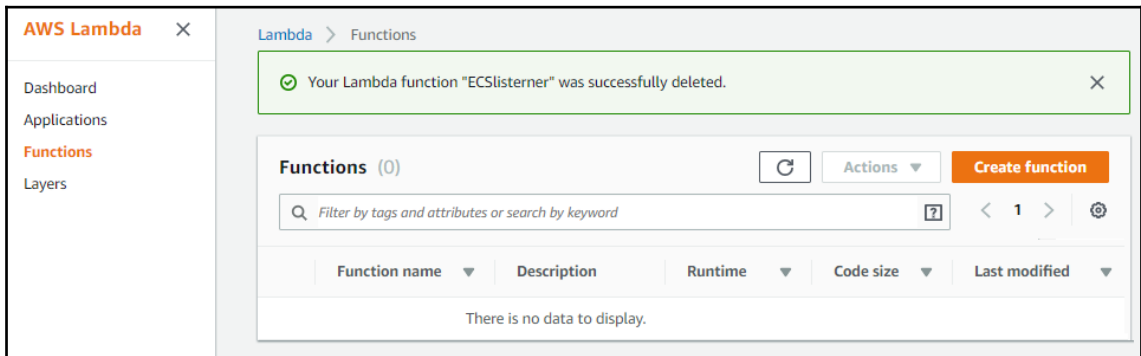
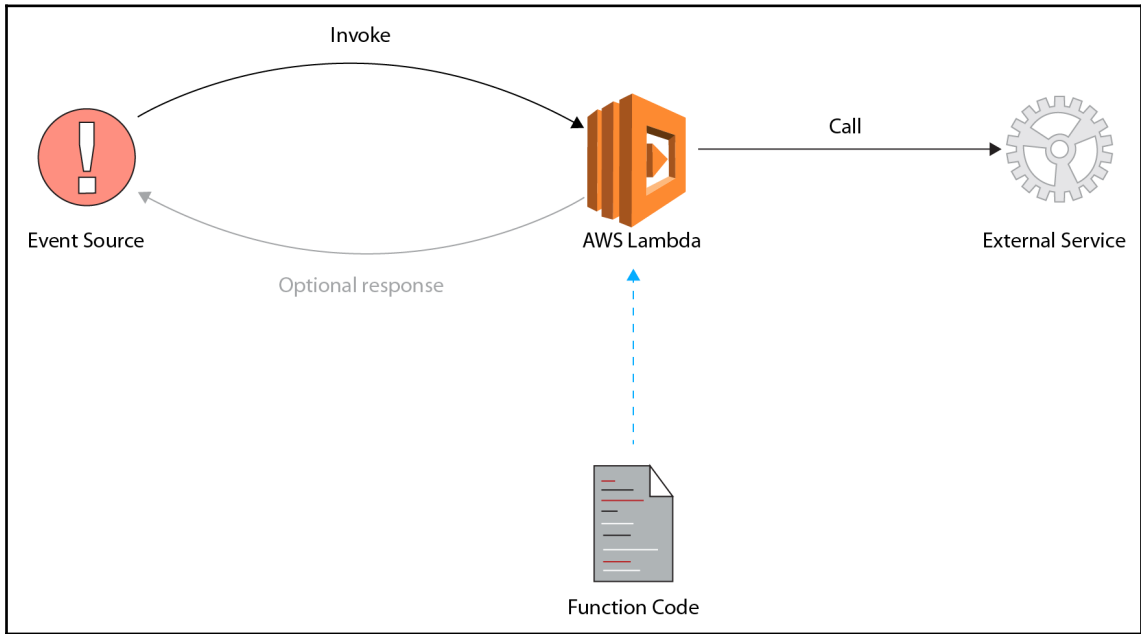
Note: Editing your access control policy directly may disable this policy editor basic view. As the topic owner, you will always have full access to the topic, and you may delete the current policy and restore the default topic policy at any time.

```
{
  "Version": "2008-10-17",
  "Id": "__default_policy_ID",
  "Statement": [
    {
      "Sid": "__default_statement_ID",
      "Effect": "Allow",
      "Principal": {
        "AWS": "*"
      },
    }
  ],
}
```

Cancel

Update policy

Chapter 17: Overview of AWS Lambda



Create function

Author from scratch

Start with a simple "hello world" example.



Blueprints

Choose a preconfigured template as a starting point for your Lambda function.



AWS Serverless Application Repository

Find and deploy serverless applications published by AWS, AWS partners, and other developers.



Author from scratch [Info](#)

Name

Runtime
You can select a supported AWS Lambda runtime or provide your own runtime as part of the function deployment package or Lambda layer after creating the function.

Role
Defines the permissions of your function. Note that new roles may not be available for a few minutes after creation. [Learn more](#) about Lambda execution roles.

Existing role
You can use an existing role with this function. Lambda must be able to assume this role, and the role must have Amazon CloudWatch Logs permissions.

[Cancel](#) [Create function](#)

Lambda > Functions > helloworld ARN - arn:aws:lambda:us-east-2:866117724370:function:helloworld

helloworld Throttle Qualifiers Actions Select a test event... Test Save

✔ Congratulations! Your Lambda function "helloworld" has been successfully created. You can now change its code and configuration. Choose Test to input a test event when you want to test your function. ✕

Configuration | Monitoring

▼ Designer

Add triggers
Choose a trigger from the list below to add it to your function.

- API Gateway
- AWS IoT
- Application Load Balancer
- CloudWatch Events
- CloudWatch Logs
- CodeCommit

helloworld
Layers (0)

Add triggers from the list on the left

Amazon CloudWatch Logs
Resources that the function's role has access to appear here

Function code [Info](#)

Code entry type: ▼

Runtime: ▼

Handler: [Info](#)

Environment

- helloworld
 - index.js

```
1 exports.handler = function(event, context) {
2   context.succeed('Hello, World!');
3 };
```

Environment variables

You can define environment variables as key-value pairs that are accessible from your function code. These are useful to store configuration settings without the need to change function code. [Learn more.](#)

<input type="text" value="Key"/>	<input type="text" value="Value"/>	<input type="button" value="Remove"/>
----------------------------------	------------------------------------	---------------------------------------

► Encryption configuration

Tags

You can use tags to group and filter your functions. A tag consists of a case-sensitive key-value pair. [Learn more.](#)

<input type="text" value="Key"/>	<input type="text" value="Value"/>	<input type="button" value="Remove"/>
----------------------------------	------------------------------------	---------------------------------------

Execution role

Defines the permissions of your function. Note that new roles may not be available for a few minutes after creation. [Learn more](#) about Lambda execution roles.

▼

Existing role

You can use an existing role with this function. Lambda must be able to assume this role, and the role must have Amazon CloudWatch Logs permissions.

▼

Basic settings

Description

Memory (MB) [Info](#)

Your function is allocated CPU proportional to the memory configured.

Timeout [Info](#)

min sec

Network

Virtual Private Cloud (VPC) [Info](#)
Choose a VPC for your function to access.

No VPC ▼

Debugging and error handling

DLQ resource [Info](#)
Choose the AWS service to send the event payload to after maximum retries are exceeded.

None ▼

Enable active tracing [Info](#)

Concurrency

Unreserved account concurrency **1000**

Use unreserved account concurrency

Reserve concurrency

Auditing and compliance

AWS CloudTrail can log this function's invocations for operational and risk auditing, governance, and compliance. [Get started](#) on the CloudTrail console.

Lambda > Functions > helloworld ARN - arn:aws:lambda:us-east-2:866117724370:function:helloworld

helloworld Throttle Qualifiers Actions Select a test event... Test Save

Configuration | **Monitoring**

CloudWatch metrics at a glance View logs in CloudWatch View traces in X-Ray

1h 3h 12h 1d 3d 1w custom - [refresh] [dropdown]

Invocations

No data available.
Try adjusting the dashboard time range.

Duration

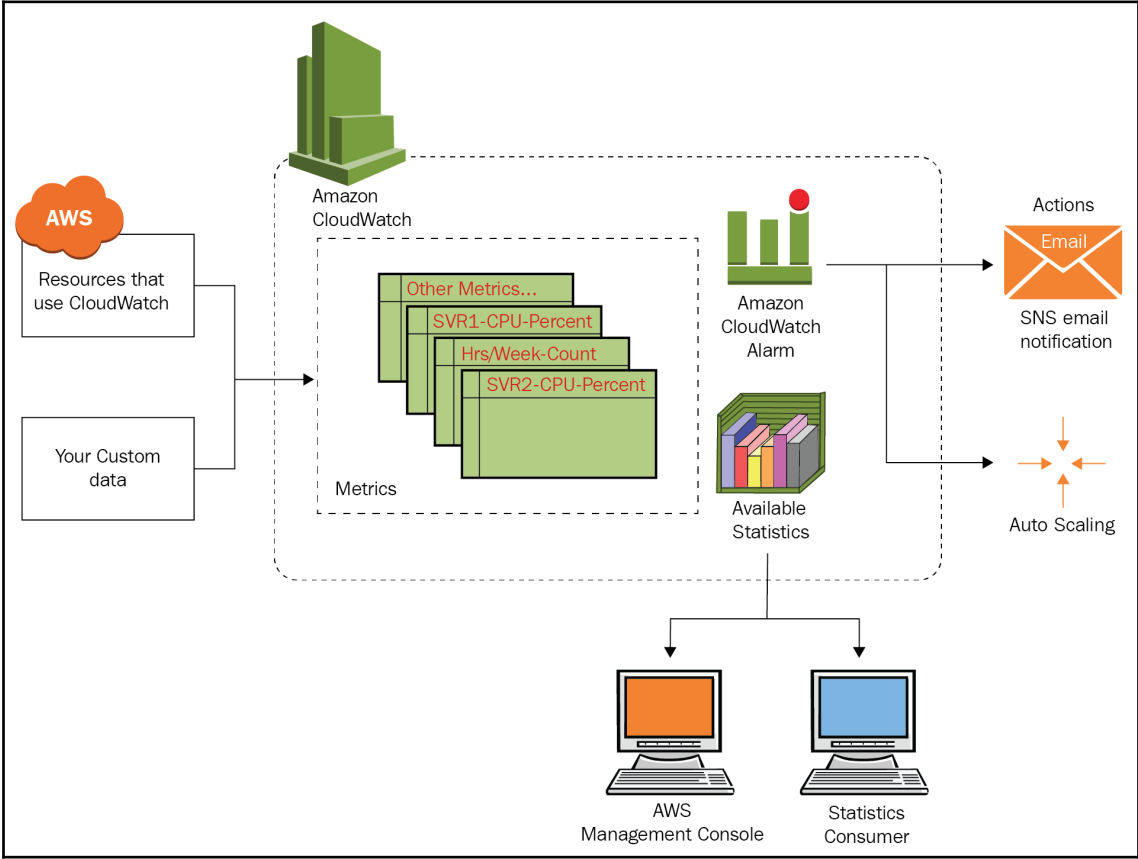
No data available.
Try adjusting the dashboard time range.

Errors, Availability (%)

No data available.
Try adjusting the dashboard time range.

Legend: ■ Invocations ■ Duration Minimum ■ Duration Average ■ Duration Maximum ■ Errors ■ Availability (%)

Chapter 18: Monitoring Resources with Amazon CloudWatch



CloudWatch

Dashboards

markocloud

Alarms

- ALARM 0
- INSUFFICIENT 0
- OK 0

Billing

Events

Rules

Event Buses

Logs

Insights

Metrics

Favorites

[Add a dashboard](#)

Create Alarm Add to Dashboard Actions

Filter: All alarms Search Alarms Hide all AutoScaling alarms

State	Name	Threshold	Config Status
No records found.			

0 Alarms selected

Select an alarm above

Create new alarm

Metric

Select a metric to alarm on.

Select metric

Alarm details

Provide the details and threshold for your alarm. Use the graph to help set the appropriate threshold.

Name:

Description:

[Cancel](#) [Create Alarm](#)

Select metric

Markocloud CPU usage 

1h **3h** 12h 1d 3d 1w custom ▾

Line ▾



Percent



CPUUtilization

All metrics

Graphed metrics (1)

Graph options

Source

All > EC2 > Per-Instance Metrics

<input type="checkbox"/>	Instance Name (32)	InstanceId	Metric Name
<input checked="" type="checkbox"/>	Markocloud-env	i-0412ecc8be43bbee5	CPUUtilization
<input type="checkbox"/>	Markocloud-env	i-0412ecc8be43bbee5	NetworkPacketsIn
<input type="checkbox"/>	Markocloud-env	i-0412ecc8be43bbee5	NetworkOut

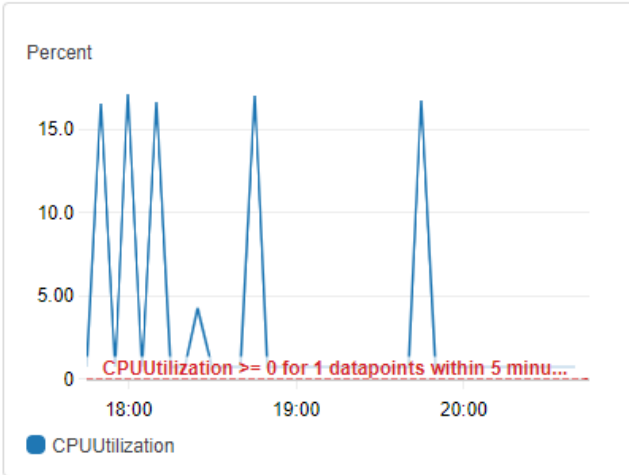
Cancel

Select metric

Create new alarm

Metric [Edit](#)

This alarm will trigger when the blue line goes up to or above the red line for 1 datapoints within 5 minutes



Namespace: AWS/EC2

Metric Name: CPUUtilization

InstanceId: i-0412ecc8be43bbee5

InstanceName: Markocloud-env

Period: 5 Minutes

Statistic: Average

Alarm details


Provide the details and threshold for your alarm. Use the graph to help set the appropriate threshold.

Name:

Description:


Whenever: CPUUtilization

is:

for: out of datapoints 

Additional settings

Provide additional configuration for your alarm.

Treat missing data as: 

Actions

Define what actions are taken when your alarm changes state.

Notification Delete

Whenever this alarm: State is ALARM

Send notification to: Notifications-us-west-2 New list Enter list ⓘ

Email list: aws@markocloud.com

+ Notification + AutoScaling Action + EC2 Action

Cancel Create Alarm

CloudWatch Dashboards

- Alarms
- ALARM
- INSUFFICIENT
- OK
- Billing
- Events
- Rules
- Event Buses
- Logs
- Insights
- Metrics
- Favorites
- Add a dashboard

Create Alarm Add to Dashboard Actions

Filter: All alarms Search Alarms Hide all AutoScaling alarms 1 to 1 of 1 alarms

State	Name	Threshold	Config Status
OK	cpu	CPUUtilization >= 80 for 1 datapoints within 5 minutes	

0 Alarms selected

Select an alarm above

CloudWatch: Overview

Time range 1h 3h 12h 1d 3d 1w custom - Actions [refresh] [dropdown]

All resources

Alarms by AWS service

Services	Status	Alarm	Insufficient	OK
EC2	OK	-	-	2
Classic ELB	-	-	-	-
CloudWatch Logs	-	-	-	-
ElastiCache	-	-	-	-
Elastic Beanstalk	-	-	-	-
Elastic Block Store	-	-	-	-
RDS	-	-	-	-
S3	-	-	-	-
Simple Notification Service	-	-	-	-
Simple Queue Service	-	-	-	-

Recent alarms

awsec2-i-0a1d969d48c2fb... OK

StatusCheckFailed

cpu OK

CPUUtilization

Cross service dashboard

The cross service dashboard aggregates key metrics from each of the services in your account. [View cross service dashboard](#)

CloudWatch: Overview

Time range 1h 3h 12h 1d 3d 1w custom - Actions [refresh] [dropdown]

All resources

Alarms by AWS service

Services	Status	Alarm	Insufficient	OK
EC2	OK	-	-	-
Classic ELB	-	-	-	-
CloudWatch Logs	-	-	-	-
ElastiCache	-	-	-	-
Elastic Beanstalk	-	-	-	-
Elastic Block Store	-	-	-	-
RDS	-	-	-	-
S3	-	-	-	-
Simple Notification Service	-	-	-	-
Simple Queue Service	-	-	-	-

Recent alarms

Recent alarms will appear here. [Learn more about CloudWatch Alarms.](#)

Cross service dashboard

The cross service dashboard aggregates key metrics from each of the services in your account. [View cross service dashboard](#)

Default dashboard

Name any CloudWatch dashboard CloudWatch-Default to display it here. [Create a new CloudWatch-Default dashboard](#)

CloudWatch

Dashboards

Alarms

ALARM

INSUFFICIENT

OK

Billing

Events

Rules

Event Buses

Logs

Insights

Metrics

Dashboards

Create dashboard

Name	Favorite	Last updated (UTC)
You have no CloudWatch dashboards. Please create a dashboard .		

Additional Information

- [Getting Started Guide](#)
- [Documentation](#)
- [Forums](#)
- [Report an Issue](#)


Create new dashboard

Dashboard name:


Cancel Create dashboard

Add to this dashboard


Select a widget type to configure and add to this dashboard.




Line
Compare metrics over time




Stacked area
Compare the total over time



Number
Instantly see the latest value for a metric




Text
Free text with markdown formatting



Query results
Explore results from Logs Insights

Cancel Configure

Add metric graph

Untitled graph 

1h **3h** 12h 1d 3d 1w custom ▾

Line ▾



1.00

0.8

0.6

0.4

0.2

0

Your CloudWatch graph is empty.
Select some metrics to appear here.

17:20 17:25 17:30 17:35 17:40 17:45 17:50 17:55 18:00 18:05 18:10 18:15 18:20 18:25

All metrics

Graphed metrics

Graph options

Source

 Search for any metric, dimension or resource id

552 Metrics

EBS

18 Metrics

EC2

48 Metrics

ElastiCache

246 Metrics

ElasticBeanstalk

1 Metric

Logs

4 Metrics

RDS

216 Metrics

S3

6 Metrics

SNS

4 Metrics

Cancel

Create widget

Add metric graph

Untitled graph 1h 3h 12h 1d 3d 1w custom - Line

Various units

39.4

19.7

0.033

17:15 17:20 17:25 17:30 17:35 17:40 17:45 17:50 17:55 18:00 18:05 18:10 18:15 18:20 18:25 18:30 18:35 18:40 18:45 18:50 18:55 19:00 19:05 19:10 19:15

■ i-0412ecc8be43bbe5 (Markocloud-env) CPUUtilization
 ■ i-0412ecc8be43bbe5 (Markocloud-env) CPUCreditBalance
 ■ i-0a1d969d48c2fb006 (markocloud.com) CPUUtilization

[All metrics](#) | [Graphed metrics \(3\)](#) | [Graph options](#) | [Source](#)

All > EC2 > Per-Instance Metrics

<input type="checkbox"/>	Instance Name (32)	InstanceId	Metric Name
<input type="checkbox"/>	markocloud.com	i-0a1d969d48c2fb006	NetworkPacketsIn
<input type="checkbox"/>	markocloud.com	i-0a1d969d48c2fb006	NetworkIn
<input type="checkbox"/>	markocloud.com	i-0a1d969d48c2fb006	DiskReadOps
<input checked="" type="checkbox"/>	markocloud.com	i-0a1d969d48c2fb006	CPUUtilization
<input type="checkbox"/>	markocloud.com	i-0a1d969d48c2fb006	NetworkPacketsOut
<input type="checkbox"/>	markocloud.com	i-0a1d969d48c2fb006	CPUCreditUsage

[Cancel](#) [Create widget](#)

CloudWatch Dashboards

markocloud Add widget Actions Save dashboard 1h 3h 12h 1d 3d 1w custom -

markocloud

Alarms

- ALARM 0
- INSUFFICIENT 0
- OK 0

Billing

Events

Rules

Event Buses

Logs

Insights

Metrics

CPUCreditBalance, CPUUtilization

Various units

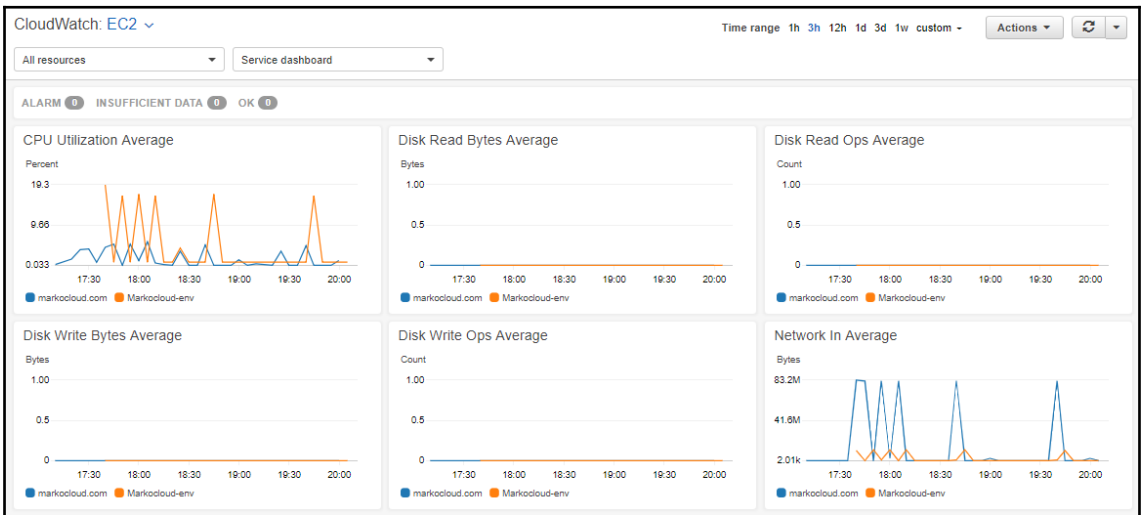
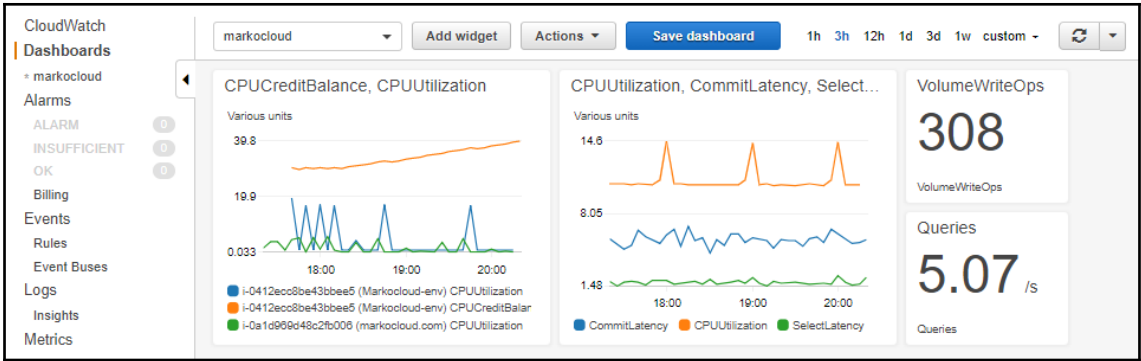
39.4

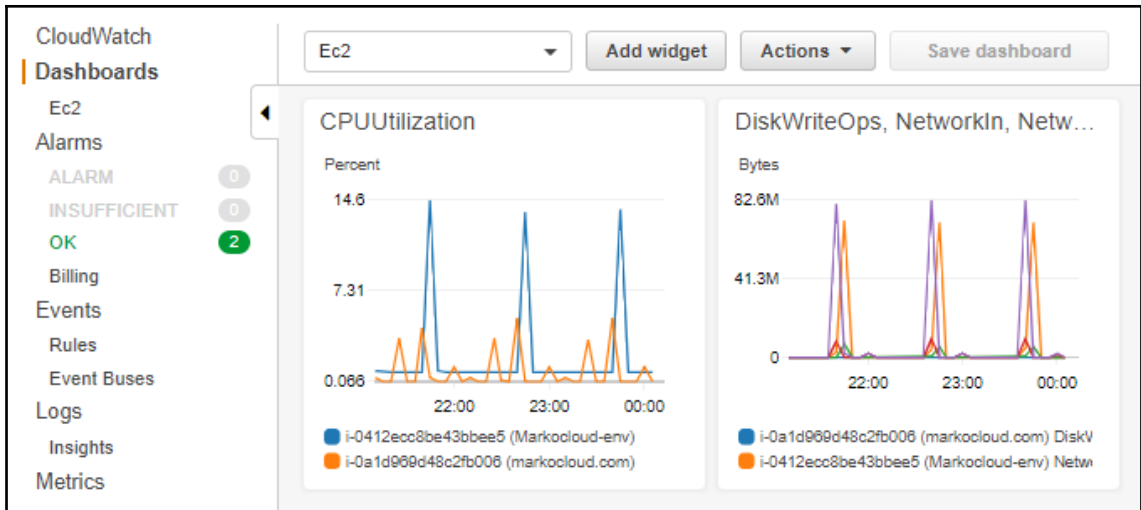
19.7

0.033

18:00 19:00 20:00

■ i-0412ecc8be43bbe5 (Markocloud-env) CPUUtilization
 ■ i-0412ecc8be43bbe5 (Markocloud-env) CPUCreditBalar
 ■ i-0a1d969d48c2fb006 (markocloud.com) CPUUtilization





EC2 Dashboard

Launch Instance

Connect

Actions

Filter by tags and attributes or search by keyword

1 to 2 of 2

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status
markocloud.com	i-0a1d969d48c2fb006	t2.micro	us-east-2b	running	2/2 checks ...	None
Markocloud-env	i-0412ecc8be43bbee5	t2.micro	us-east-2c	running	2/2 checks ...	OK

Instance: i-0a1d969d48c2fb006 (markocloud.com) Public DNS: ec2-18-221-200-117.us-east-2.compute.amazonaws.com

Description

Status Checks

Monitoring

Tags

Status checks detect problems that may impair this instance from running your applications. [Learn more](#) about status checks.

Create Status Check Alarm

Create Alarm ✕

You can use CloudWatch alarms to be notified automatically whenever metric data reaches a level you define.

To edit an alarm, first choose whom to notify and then define when the notification should be sent.

Send a notification to: [Notifications-us-west-2 \(aws@markoclou\)](#) create topic

Take the action:

- Recover this instance ?
- Stop this instance ?
- Terminate this instance ?
- Reboot this instance ?

Whenever: Status Check Failed (Any) ▼

Is: Failing

For at least: consecutive period(s) of 1 Minute ▼

Name of alarm:

Cancel Create Alarm

Status Check Failed (Any) Count

Time Period	Count
1/10 16:00	1
1/10 18:00	0
1/10 20:00	0

Alarm created successfully ✕

Click the alarm to view additional details and options in Amazon CloudWatch (opens in a new window)

- [awsec2-i-0a1d969d48c2fb006-Status-Check-Failed-Any-](#)

Note: If you created a new SNS topic or added a new email address, each new address will receive a subscription email that must be confirmed within three days. Notifications will only be sent to confirmed addresses.

Close

CloudWatch

Alarms

ALARM

INSUFFICIENT

OK

Billing

Events

Rules

Event Buses

Logs

Insights

Metrics

Favorites

[Add a dashboard](#)

Create Alarm Add to Dashboard Actions

Filter: All alarms Search Alarms Hide all AutoScaling alarms

State	Name	Threshold	Config Status
<input checked="" type="checkbox"/> OK	awsec2-i-0a1d969d48c2fb006-Status-Check-Failed-Any-	StatusCheckFailed >= 1 for 2 datapoints within 2 minutes	
<input type="checkbox"/> OK	cpu	CPUUtilization >= 80 for 1 datapoints within 5 minutes	

1 Alarm selected

Alarm:awsec2-i-0a1d969d48c2fb006-Status-Check-Failed-Any-

Details History

State Details: State changed to OK at 2019/01/10. Reason: Threshold Crossed: 2 datapoints [0.0 (10/01/19 21:12:00), 0.0 (10/01/19 21:11:00)] were not greater than or equal to the threshold (1.0)

Description: Created from EC2 Console

Threshold: StatusCheckFailed >= 1 for 2 datapoints within 2 minutes

Actions: In ALARM • Send message to topic "Notifications-us-west-2" (aws@markocloud.com)

Namespace: AWS/EC2

Metric Name: StatusCheckFailed

Dimensions: InstanceId = i-0a1d969d48c2fb006 (markocloud.com)

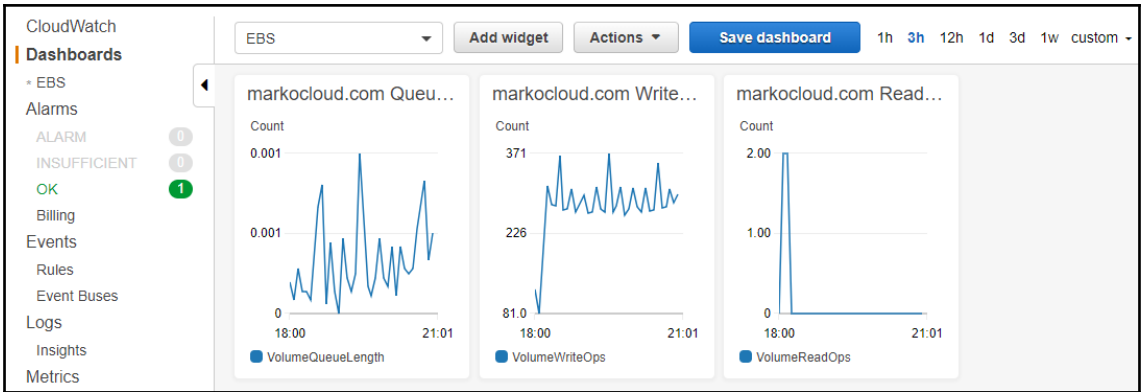
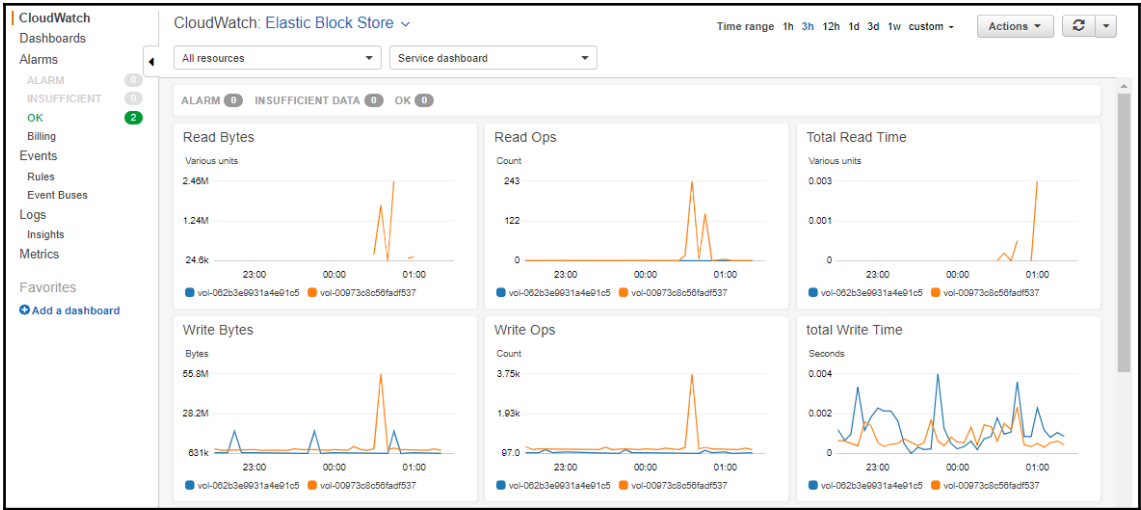
Statistic: Maximum

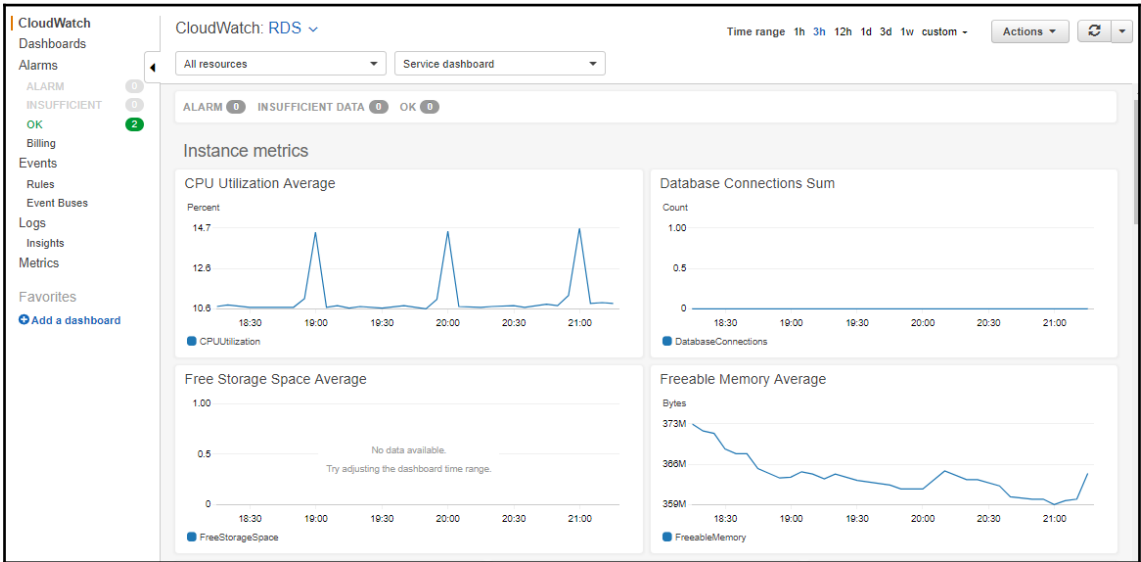
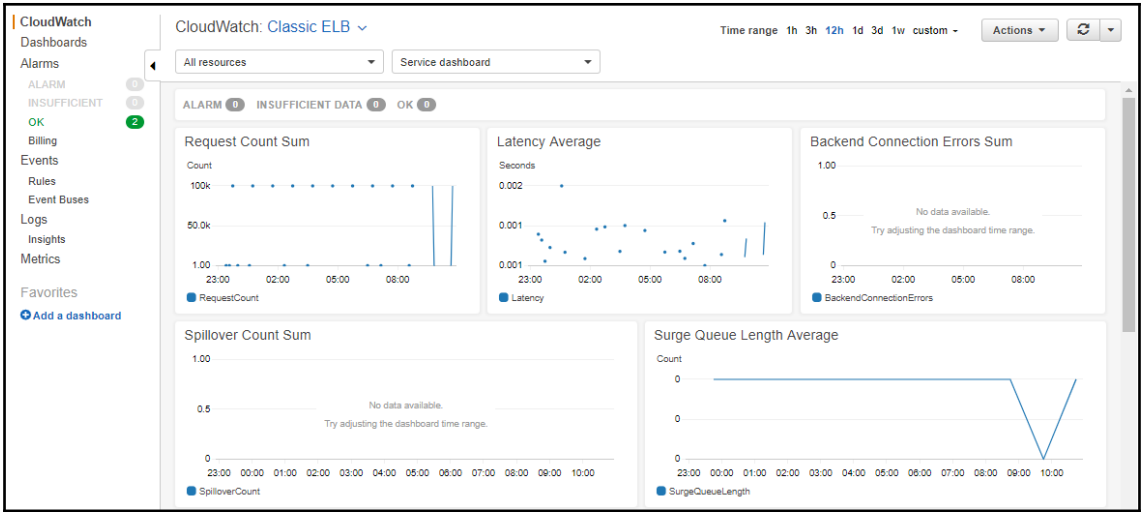
Period: 1 minute

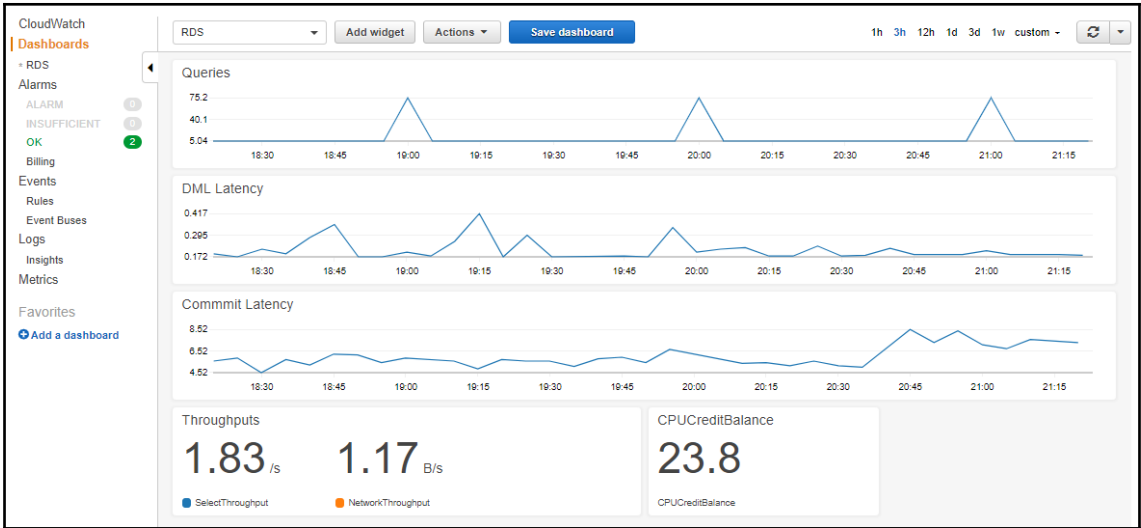
Treat missing data as: missing

```
[ec2-user@ip-10-0-0-127 aws-scripts-mon]$ ./mon-put-instance-data.pl --mem-util
--verify --verbose
MemoryUtilization: 12.9875018822466 (Percent)
Using AWS credentials file <./awscreds.conf>
Endpoint: https://monitoring.us-east-2.amazonaws.com
Payload: {"MetricData":[{"Timestamp":1547167690,"Dimensions":[{"Value":"i-0ald96
9d48c2fb006","Name":"InstanceId"}],"Value":12.9875018822466,"Unit":"Percent","Me
tricName":"MemoryUtilization"},"Namespace":"System/Linux","__type":"com.amazona
ws.cloudwatch.v2010_08_01#PutMetricDataInput"}]
Verification completed successfully. No actual metrics sent to CloudWatch.
```

```
[ec2-user@ip-10-0-0-127 aws-scripts-mon]$ ./mon-put-instance-data.pl --mem-used
incl-cache-buff --mem-util --mem-used --mem-avail
Successfully reported metrics to CloudWatch. Reference Id: a2ff3003-153a-11e9-b3
e5-ef42ef31d503
```





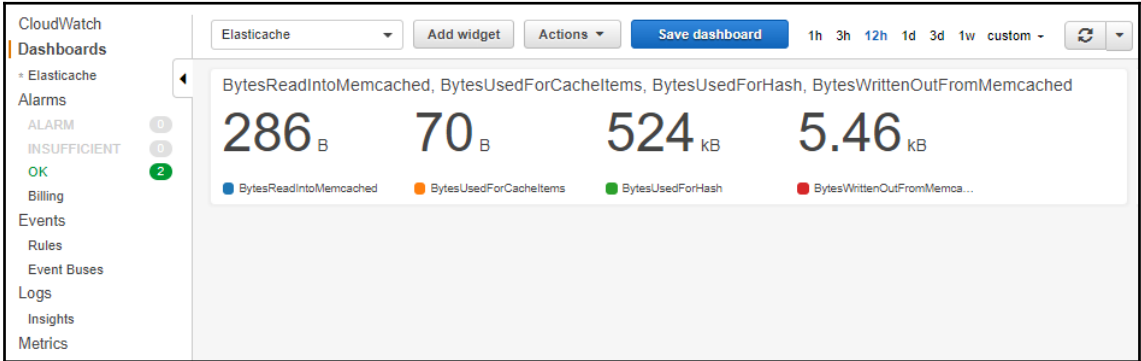
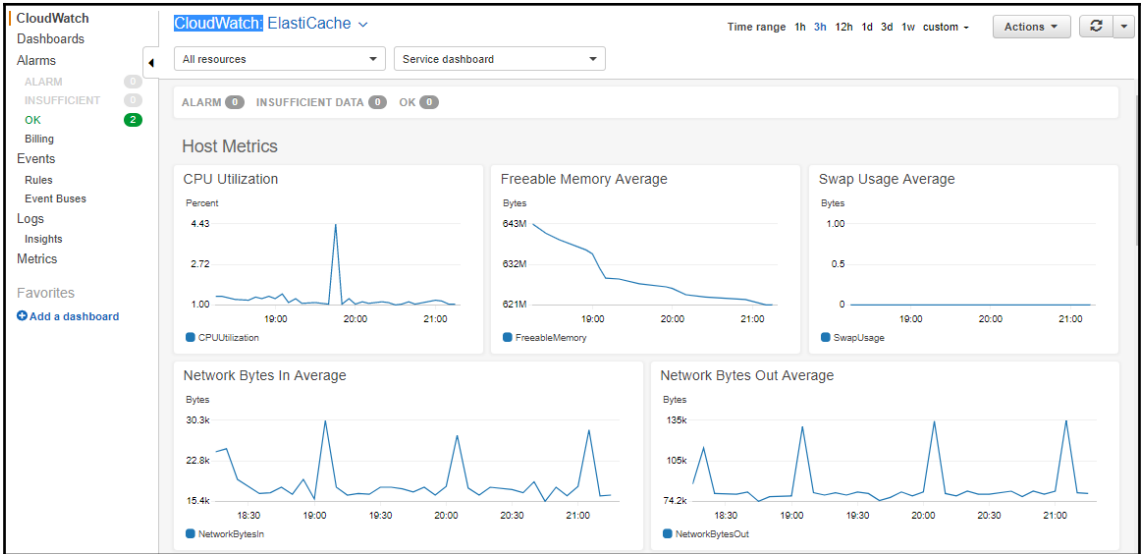


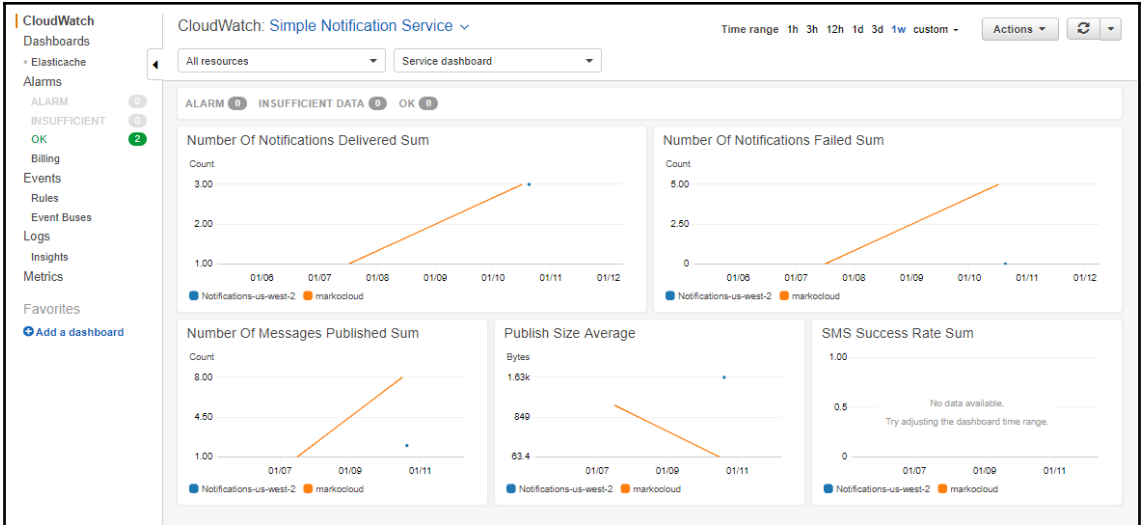
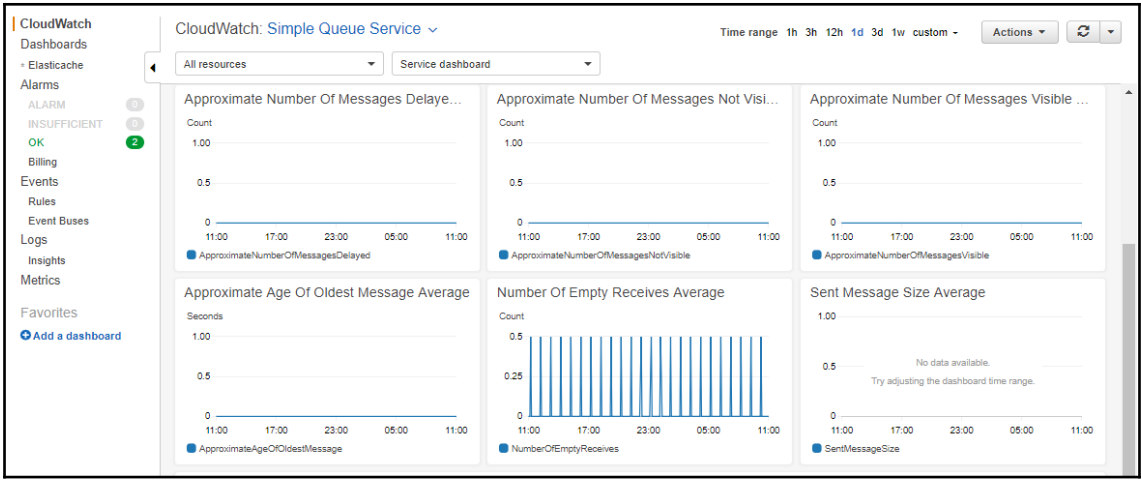
CloudWatch Log Groups > /aws/rds/cluster/markocloud/error > markocloud

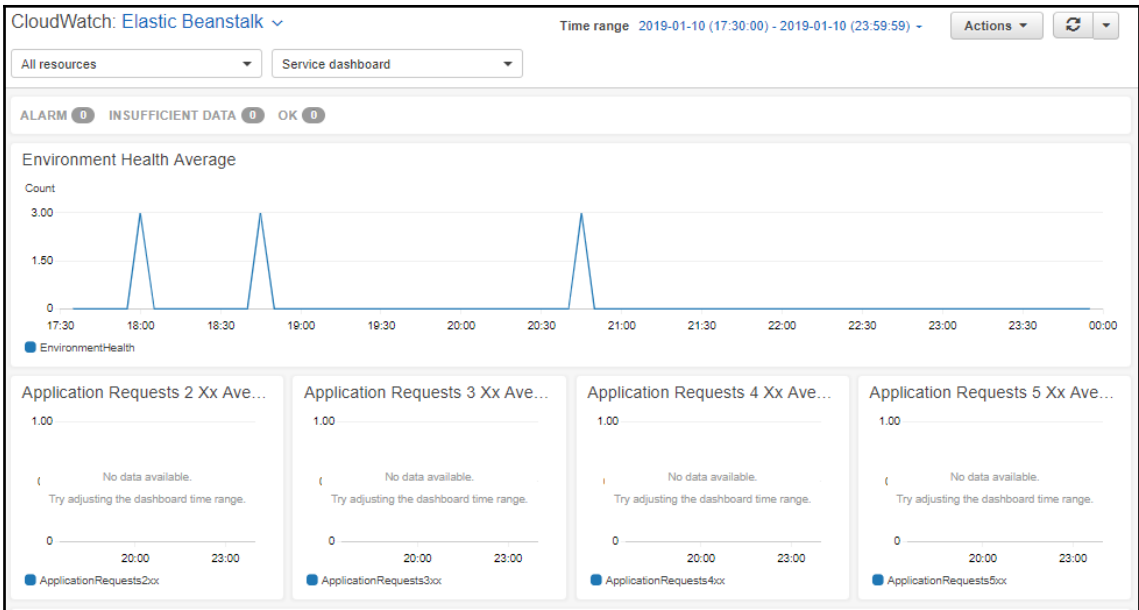
Expand all Row Text

Filter events: all 2019-01-09 (16:48:18)

Time (UTC +00:00)	Message
2019-01-10 18:48:16	190110 16:48:16 server_audit: server_audit_excl_users set to "
2019-01-10 16:48:16	2019-01-10 16:48:16 5866 [Note] RSA private key file not found: /rdsdbdata/db/private_key.pem. Some authentication plugins will not work.
2019-01-10 16:48:16	2019-01-10 16:48:16 5866 [Note] Server hostname (bind-address): "", port: 3306
2019-01-10 16:48:16	2019-01-10 16:48:16 5866 [Note] IPv6 is available.
2019-01-10 16:48:16	2019-01-10 16:48:16 5866 [Note] - resolves to "
2019-01-10 16:48:16	2019-01-10 16:48:16 5866 [Note] Server socket created on IP "
2019-01-10 16:48:16	2019-01-10 16:48:16 5866 [Note] Event Scheduler: Loaded 0 events AFTER password_expired AFTER Load_from_S3_priv AFTER Select_into_S3_priv
2019-01-10 16:48:17	2019-01-10 16:48:17 5866 [Note] /rdsdbbin/oscarbin/mysqld: ready for connections. Version: '5.6.10-log' socket: '/tmp/mysql.sock' port: 3306 MySQL Communi
2019-01-10 16:48:17	2019-01-10 16:48:17 6283 [Warning] You need to use --log-bin to make --log-slave-updates work.
2019-01-10 16:48:17	2019-01-10 16:48:17 2b223fe5ac40 InnoDB: Warning: Setting innodb_checkssums to OFF is DEPRECATED. This option may be removed in future releases. Yo
2019-01-10 16:48:17	2019-01-10 16:48:17 6283 [Note] InnoDB: The InnoDB memory heap is disabled
2019-01-10 16:48:17	2019-01-10 16:48:17 6283 [Note] InnoDB: Mutexes and rw_locks use GCC atomic builtins
2019-01-10 16:48:17	2019-01-10 16:48:17 6283 [Note] InnoDB: Compressed tables use zlib 1.2.3
2019-01-10 16:48:17	2019-01-10 16:48:17 6283 [Note] InnoDB: CPU does not support crc32 instructions
2019-01-10 16:48:17	2019-01-10 16:48:17 6283 [Note] InnoDB: Initializing buffer pool, size = 699 0M
2019-01-10 16:48:17	2019-01-10 16:48:17 5866 [Note] /rdsdbbin/oscarbin/mysqld: ready for connections. Version: '5.6.10-log' socket: '/tmp/mysql.sock' port: 3306 MySQL Communi
2019-01-10 16:48:17	2019-01-10 16:48:17 6283 [Warning] You need to use --log-bin to make --log-slave-updates work.
2019-01-10 16:48:17	2019-01-10 16:48:17 2b223fe5ac40 InnoDB: Warning: Setting innodb_checkssums to OFF is DEPRECATED. This option may be removed in future releases. Yo
2019-01-10 16:48:17	2019-01-10 16:48:17 6283 [Note] InnoDB: The InnoDB memory heap is disabled
2019-01-10 16:48:17	2019-01-10 16:48:17 6283 [Note] InnoDB: Mutexes and rw_locks use GCC atomic builtins
2019-01-10 16:48:17	2019-01-10 16:48:17 6283 [Note] InnoDB: Compressed tables use zlib 1.2.3
2019-01-10 16:48:17	2019-01-10 16:48:17 6283 [Note] InnoDB: CPU does not support crc32 instructions
2019-01-10 16:48:17	2019-01-10 16:48:17 6283 [Note] InnoDB: Initializing buffer pool, size = 699 0M
2019-01-10 16:48:18	2019-01-10 16:48:18 6283 [Note] InnoDB: Completed initialization of buffer pool
2019-01-10 16:48:18	2019-01-10 16:48:18 6283 [Note] InnoDB: Highest supported file format is Barracuda.







<p>CloudWatch</p> <p>Dashboards</p> <p>eb</p> <p>Alarms</p> <p>ALARM 0</p> <p>INSUFFICIENT DATA 0</p> <p>OK 0</p> <p>Billing</p> <p>Events</p>	<h3>Billing Alarms</h3> <p>No billing metrics found. To get started, please visit the Account Billing console, click Preferences in the left navigation pane, and check the Receive Billing Alerts box. If you recently updated your preferences, please wait a few moments and refresh this page.</p> <h3>How to Monitor Your AWS Charges</h3> <p>Amazon CloudWatch can help you monitor the charges on your AWS bill by sending you email alerts when charges exceed a threshold you define. Once you update your preferences in the Account Billing console, you will begin receiving Amazon CloudWatch metrics that reflect your month-to-date AWS charges. Then, you can create a billing alarm by specifying a spending threshold and an e-mail address to notify. Learn more about billing alerts</p> <p>You get 10 free alarms and 1,000 free e-mail notifications each month as part of the AWS Free Tier.</p>	<h3>Additional Info</h3> <p>Getting Started Guide</p> <p>Monitoring Scripts Guide</p> <p>Overview and Features</p> <p>Documentation</p> <p>Forums</p> <p>Report an Issue</p>
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Dashboard

Bills

Cost Explorer

Budgets

Reports

Cost Allocation Tags

Payment Methods

Payment History

Consolidated Billing

Preferences

Credits

Tax Settings

Preferences ?

▼ Billing Preferences

Receive PDF Invoice By Email

Turn on this feature to receive a PDF version of your invoice by email. Invoices are generally available within the first three days of the month.

Disable credit sharing

When credit sharing is disabled, credits will only be applied to the credit owner's account, and will not be shared across accounts in the same billing family. [Download credit sharing preference history.](#)

▶ RI discount sharing ⓘ

▼ Cost Management Preferences

Receive Free Tier Usage Alerts

Turn on this feature to receive email alerts when your AWS service usage is approaching, or has exceeded, the AWS Free Tier usage limits. If you wish to receive these alerts at an email address that is not the primary email address associated with this account, please specify the email address below.

Email Address:

Receive Billing Alerts

Turn on this feature to monitor your AWS usage charges and recurring fees automatically, making it easier to track and manage your spending on AWS. You can set up billing alerts to receive email notifications when your charges reach a specified threshold. Once enabled, this preference cannot be disabled. [Manage Billing Alerts](#) or try [the new budgets feature!](#)

Receive Billing Reports

Turn on this feature to receive ongoing reports of your AWS charges once or more daily. AWS delivers these reports to the Amazon S3 bucket that you specify where indicated below. For consolidated billing customers, AWS generates reports only for paying accounts. Linked accounts cannot sign up for billing reports.

Save to S3 Bucket:

CloudWatch

Dashboards

eb

Alarms

ALARM

INSUFFICIENT

OK

Billing Alarms

Amazon CloudWatch can help you monitor the charges on your **AWS bill** by sending you email alerts when charges exceed a threshold you define.

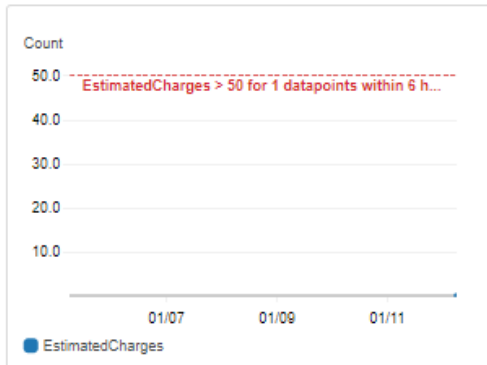
Once you update your preferences in the Account Billing console, you will begin receiving Amazon CloudWatch metrics that reflect your month-to-date AWS charges. Then, you can create a billing alarm by specifying a spending threshold and an e-mail address to notify. [Learn more about billing alerts](#)

You get 10 free alarms and 1,000 free e-mail notifications each month as part of the [AWS Free Tier](#).

Create new alarm

Metric [Edit](#)

This alarm will trigger when the blue line goes above the red line for 1 datapoints within 6 hours



[AWS Billing console](#)
[Getting started with billing alarms](#)

Billing alarm

You can create a billing alarm to receive e-mail alerts when your AWS charges exceed a threshold you choose. Simply:

1. Enter a spending threshold
2. Provide an email address
3. Check your inbox for a confirmation email and click the link provided

When my total AWS charges for the month

exceed: USD

send a notification to:

Reminder: for each address you add, you will receive an email from AWS with the subject "AWS Notification - Subscription Confirmation". Click the link

[Cancel](#)

[Create Alarm](#)

Select metric



Untitled graph

1h 3h 12h 1d 3d 1w custom ▾

Line ▾



Count

0.02

0.01

0

01/05

01/06

01/06

01/07

01/07

01/08

01/08

01/09

01/09

EstimatedCharges

All metrics

Graphed metrics (1)

Graph options

Source

All > Billing

23 Metrics

By Linked Account and Service

11 Metrics

By Linked Account

1 Metric

By Service

10 Metrics

Total Estimated Charge

1 Metric

Cancel

Select metric

Select metric

Untitled graph

1h 3h 12h 1d 3d 1w custom ▾

Line ▾



Count

0.01

0.005

0

01/05 01/06 01/06 01/07 01/07 01/08 01/08 01/09 01/09 01/10 01/10 01/11 01/11 01/12

● EstimatedCharges ● AmazonEC2

All metrics

Graphed metrics (2)

Graph options

Source

All > Billing > By Service

<input type="checkbox"/>	ServiceName (10)	Currency	Metric Name
<input type="checkbox"/>	AmazonCloudWatch	USD	EstimatedCharges
<input checked="" type="checkbox"/>	AmazonEC2	USD	EstimatedCharges
<input type="checkbox"/>	AmazonElastiCache	USD	EstimatedCharges
<input type="checkbox"/>	AmazonRDS	USD	EstimatedCharges
<input type="checkbox"/>	AmazonS3	USD	EstimatedCharges
<input type="checkbox"/>	AmazonSNS	USD	EstimatedCharges
<input type="checkbox"/>	AWSConfig	USD	EstimatedCharges
<input type="checkbox"/>	AWSDataTransfer	USD	EstimatedCharges
<input type="checkbox"/>	...	USD	EstimatedCharges

Cancel

Select metric

Confirm new email addresses

Check your email inbox for a message with the subject "AWS Notification - Subscription Confirmation" and click the included link to confirm that you are willing to receive alerts to that address. AWS can only send notifications to confirmed addresses

Waiting for confirmation of 0 new email address

✔ aws@markocloud.com

Note: You have 72 hours to confirm these email addresses

I will do it later

View Alarm

The screenshot shows the AWS CloudWatch Alarms console. A green notification banner at the top states: "Your alarm BillingAlarm has been saved." Below this, the "Create Alarm" button is active. The alarm list table shows one alarm:

State	Name	Threshold	Config Status
INSUFFICIENT_DATA	BillingAlarm	EstimatedCharges > 50 for 1 datapoints within 6 hours	

The left sidebar shows navigation options: Dashboards, Alarms (selected), Billing, Events, Rules, Event Buses, Logs, Insights, Metrics, and Favorites. The "Alarms" section has a sub-menu with "ALARM" (0), "INSUFFICIENT" (1), and "OK" (0).

The screenshot shows the AWS CloudWatch Alarms console with the "BillingAlarm" selected and its details displayed. The alarm state is now "OK".

Alarm: BillingAlarm

Details | History

State Details: State changed to OK at 2019/01/12. Reason: Threshold Crossed: 1 datapoint [0.01 (12/01/19 05:17:00)] was not greater than the threshold (50.0).

Description:

- Threshold: EstimatedCharges > 50 for 1 datapoints within 6 hours
- Actions: In ALARM: Send message to topic "NotifyMe" (aws@markocloud.com)
- Namespace: AWS/Billing
- Metric Name: EstimatedCharges
- Dimensions: Currency = USD
- Statistic: Maximum
- Period: 6 hours
- Treat missing data: missing
- as:
- Percentiles with: evaluate
- low samples:

BillingAlarm (OK)

Count

50.0

EstimatedCharges > 50 for 1 datapoints within 6 hours

25.0

0.01

01/07 01/09 01/11

EstimatedCharges

View in metrics

Chapter 19: Understanding Elastic Beanstalk

Elastic Beanstalk | markocloud-env | [Create New Application](#)

All Applications > markocloud-env Actions ▾

Environments

Application versions

Saved configurations

Environment	MarkocloudEnv-env	MarkocloudEnv-env-1	MarkocloudEnv-env-2
Environment tier:	Web Server	Web Server	Web Server
Platform:	Python 3.6 running on 64bit Amazon Linux/2.8.0	PHP 7.2 running on 64bit Amazon Linux/2.8.6	Java 8 running on 64bit Amazon Linux/2.8.0
Running versions:	Sample Application	Sample Application	Sample Application
Last modified:	2019-01-23 18:36:17 UTC+0530	2019-01-23 18:49:02 UTC+0530	2019-01-23 19:05:59 UTC+0530
URL:	MarkocloudEnv-env-jda9rtp3ip.us-west-2.elasticbe...	MarkocloudEnv-env-1-jda9rtp3ip.us-west-2.elastic...	MarkocloudEnv-env-2-jda9rtp3ip.us-west-2.elastic...

Elastic Beanstalk | markocloud | [Create New Application](#)

All Applications > markocloud

Settings Delete Deploy Upload Refresh

Environments

Application versions

Saved configurations

<input type="checkbox"/>	Version Label	Description	Date Created	Source	Deployed To
<input type="checkbox"/>	green		2019-01-17 11:22:02 UTC-0500	2019017rz6-application.zip	
<input type="checkbox"/>	blue		2019-01-17 11:19:23 UTC-0500	2019017CUv-application.zip	Markocloud-env
<input type="checkbox"/>	Sample Application		2019-01-17 11:15:50 UTC-0500	Sample Application	Markocloud-env-1, Markocloud-env-2

Elastic Beanstalk | markocloud | [Create New Application](#)

All Applications > markocloud

Delete Load Launch environment

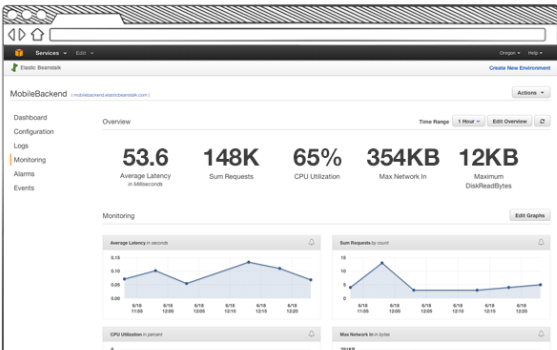
Environments

Application versions

Saved configurations

<input type="checkbox"/>	Configuration Name	Last Updated	Solution Stack	Description
<input type="checkbox"/>	markocloud-green	2019-01-17 11:22:47 UTC-0500	64bit Amazon Linux 2018.03 v2.7.7 running Python 3.6	

Elastic Beanstalk Create New Application



Welcome to AWS Elastic Beanstalk

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


To deploy your **existing web application**, create an [application source bundle](#) and then **create a new application**. If you're using **Git** and would prefer to use it with our command line tool, please see [Getting Started with the EB CLI](#).

To deploy a **sample application**, click **Get started**, choose a name, select a platform and click **Create app**.


By launching the sample application, you allow AWS Elastic Beanstalk to administer AWS resources and necessary permissions on your behalf. [Learn more](#)

[Get started](#)


Get Started in Three Easy Steps



Select a Platform



Upload an Application or Use a Sample



Run it!



Create a web app

Create a new application and environment with a sample application or your own code. By creating an environment, you allow AWS Elastic Beanstalk to manage AWS resources and permissions on your behalf. [Learn more](#)

Application information

Application name

Up to 100 Unicode characters, not including forward slash (/).

Base configuration

Platform

Application code

- Choose a platform --
- Generic
- Docker
- Multi-container Docker
- Preconfigured
- Elastic Beanstalk Packer Builder
- Go
- .NET (Windows/IIS)
- Java
- Node.js
- Ruby
- PHP
- Python**
- Tomcat
- Preconfigured – Docker
- GlassFish
- Go
- Python

copy one from Amazon S3.

Cancel

Configure more options

Create application



Create a web app

Create a new application and environment with a sample application or your own code. By creating an environment, you allow AWS Elastic Beanstalk to manage AWS resources and permissions on your behalf. [Learn more](#)

Application information

Application name

Up to 100 Unicode characters, not including forward slash (/).

Base configuration

Platform

Choose [Configure more options](#) for more platform configuration options.

Application code Sample application

Get started right away with sample code.

Upload your code

Upload a source bundle from your computer or copy one from Amazon S3.

ZIP or WAR

[Cancel](#)

[Configure more options](#)

[Create application](#)

Upload your code

Upload a source bundle from your computer or copy one from Amazon S3.

Source code origin Local file

(Maximum size 512 MB)

No file chosen

Public S3 URL

Version label

Unique name for this version of your application code.



Configure Markocloud-env-1

Start from a preset that matches your use case or choose *Custom configuration* to unset recommended values and use the service's default values.

- Configuration presets**
- Low cost (*Free Tier eligible*)
 - High availability
 - Custom configuration

Platform Python 3.6 running on 64bit Amazon Linux/2.7.7 [Change platform configuration](#)

Software

AWS X-Ray: disabled
Rotate logs: disabled (default)
Log streaming: disabled (default)
Static files: 1
Environment properties: 0

[Modify](#)

Instances

EC2 instance type: t2.micro
EC2 image ID: ami-0801b94d82dd34c33
Root volume type: container default
Root volume size (GB): container default
Root volume IOPS: container default
Security groups: none

[Modify](#)

Capacity

Environment type: single instance

[Modify](#)

Load balancer

This configuration does not contain a load balancer.

Rolling updates and deployments

Deployment policy: All at once
Rolling updates: disabled

[Modify](#)

Security

Service role: aws-elasticbeanstalk-service-role
Virtual machine key pair: --
Virtual machine instance profile: aws-elasticbeanstalk-ec2-role

[Modify](#)



Modify instances

Instance type

Choose an instance type that best matches your workload requirement.

Instance type

AMI ID

Root volume (boot device)

Root volume type

Size GB

The number of gigabytes of the root volume attached to each instance.

IOPS IOPS

Input/output operations per second for a provisioned IOPS (SSD) volume.

EC2 security groups

	Group name	Group ID	Name
<input type="checkbox"/>	awseb-e-xdrp56nj-stack-AWSEBSecurityGroup-1H47SU7BJQGBN	sg-0738bb3f5doda8f8f	Markocloud-env
<input type="checkbox"/>	default	sg-c7e71986	

Cancel

Save

Elastic Beanstalk markocloud

Modify security

Service role

Service role

Virtual machine permissions

EC2 key pair

IAM instance profile

Cancel Save

Monitoring
Health reporting system: Enhanced
Ignore HTTP 4xx: disabled
Health event log streaming: disabled
Modify

Managed Updates
Managed updates: disabled
Modify

Notifications
Email address: --
Modify

Network
This environment is not part of a VPC.
Modify

Database
Engine: --
Instance class: --
Storage (GB): --
Multi-AZ: --
Modify

Tags
Tags: none
Modify

Cancel Previous Create environment

Elastic Beanstalk markocloud ▼ Create New Application

All Applications > markocloud > Markocloud-env (Environment ID: e-xdrgp56nj) Actions ▼

Creating Markocloud-env
 This will take a few minutes...

10:49am Using elasticbeanstalk-us-east-1-866117724370 as Amazon S3 storage bucket for environment data.

10:49am createEnvironment is starting.

Learn More

- [Get started using Elastic Beanstalk](#)
- [Modify the code](#)
- [Create and connect to a database](#)
- [Add a custom domain](#)

Featured

- [Create your own custom platform](#)

Command Line Interface (v3)

- [Installing the AWS EB CLI](#)
- [EB CLI Command Reference](#)

Elastic Beanstalk markocloud ▼ Create New Application

All Applications > markocloud > Markocloud-env (Environment ID: e-xdrgp56nj, URL: Markocloud-env.amsrpsz5f6.us-east-1.elasticbeanstalk.com) Actions ▼

Dashboard

Configuration

Logs

Health

Monitoring

Alarms

Managed Updates

Events

Tags

Overview Refresh ↻

Health
Ok

Causes

Running Version
Sample Application

Upload and Deploy

Configuration
Python 3.6 running on 64bit
Amazon Linux/2.7.7

Change

Recent Events Show All

Time	Type	Details
2019-01-17 10:52:21 UTC-0500	INFO	Environment health has transitioned from Pending to Ok. Initialization completed 22 seconds ago and took 2 minutes.
2019-01-17 10:51:45 UTC-0500	INFO	Successfully launched environment: Markocloud-env
2019-01-17 10:51:44 UTC-0500	INFO	Application available at Markocloud-env.amsrpsz5f6.us-east-1.elasticbeanstalk.com.
2019-01-17 10:51:21 UTC-0500	INFO	Added instance [i-0972ca28c3d0adfc0] to your environment.
2019-01-17 10:51:20 UTC-0500	INFO	Waiting for EC2 instances to launch. This may take a few minutes.

Congratulations

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

What's Next?

- [AWS Elastic Beanstalk overview](#)
- [AWS Elastic Beanstalk concepts](#)
- [Deploy a Django Application to AWS Elastic Beanstalk](#)
- [Deploy a Flask Application to AWS Elastic Beanstalk](#)
- [Customizing and Configuring a Python Container](#)
- [Working with Logs](#)

Base configuration

Platform Preconfigured platform

Platforms published and maintained by AWS Elastic Beanstalk.

Python ▼

Custom platform

Platforms created and owned by you. [Learn more](#)

-- Choose a custom platform -- ▼

Application code Sample application

Get started right away with sample code.

Existing version

Application versions that you have uploaded for markocloud.


-- Choose a version -- ▼

-- Choose a version --

blue

green

or you can upload one from Amazon S3.

 Upload ZIP or WAR

Cancel

Configure more options

Create environment

Elastic Beanstalk markocloud Create New Application

All Applications > markocloud Actions ▼

	Markocloud-development	Markocloud-production	Markocloud-test
Environments	Markocloud-development	Markocloud-production	Markocloud-test
Application versions	Environment tier: Web Server Platform: Python 3.6 running on 64bit Amazon Linux/2.7.7 Running versions: green Last modified: 2019-01-18 11:03:33 UTC-0500 URL: Markocloud-development uzkf3s2eg4 us-east-2 elasticbeanst...	Environment tier: Web Server Platform: Python 2.7 running on 64bit Amazon Linux/2.7.7 Running versions: blue Last modified: 2019-01-18 11:04:24 UTC-0500 URL: Markocloud-production uzkf3s2eg4 us-east-2 elasticbeanstalk...	Environment tier: Web Server Platform: Python 3.4 running on 64bit Amazon Linux/2.7.7 Running versions: blue Last modified: 2019-01-18 11:03:59 UTC-0500 URL: Markocloud-test uzkf3s2eg4 us-east-2 elasticbeanstalk.com
Saved configurations			

Elastic Beanstalk markocloud Create New Application

All Applications > markocloud

Environments Settings Delete Deploy Upload Refresh

Application versions

Saved configurations

<input type="checkbox"/>	Version Label	Description	Date Created	Source	Deployed To
<input type="checkbox"/>	green		2019-01-17 11:22:02 UTC-0500	2019017r26-application.zip	
<input type="checkbox"/>	blue		2019-01-17 11:19:23 UTC-0500	2019017CUv-application.zip	Markocloud-env
<input type="checkbox"/>	Sample Application		2019-01-17 11:15:50 UTC-0500	Sample Application	Markocloud-env-1, Markocloud-env-2

Application version lifecycle settings

Configure a lifecycle policy to limit the number of application versions to retain for future deployments. This policy will not delete application versions that are currently deployed or are in the process of being created. [Learn more](#)

Lifecycle policy Enable

Lifecycle rule Set the application versions limit by total count

50 Application Versions

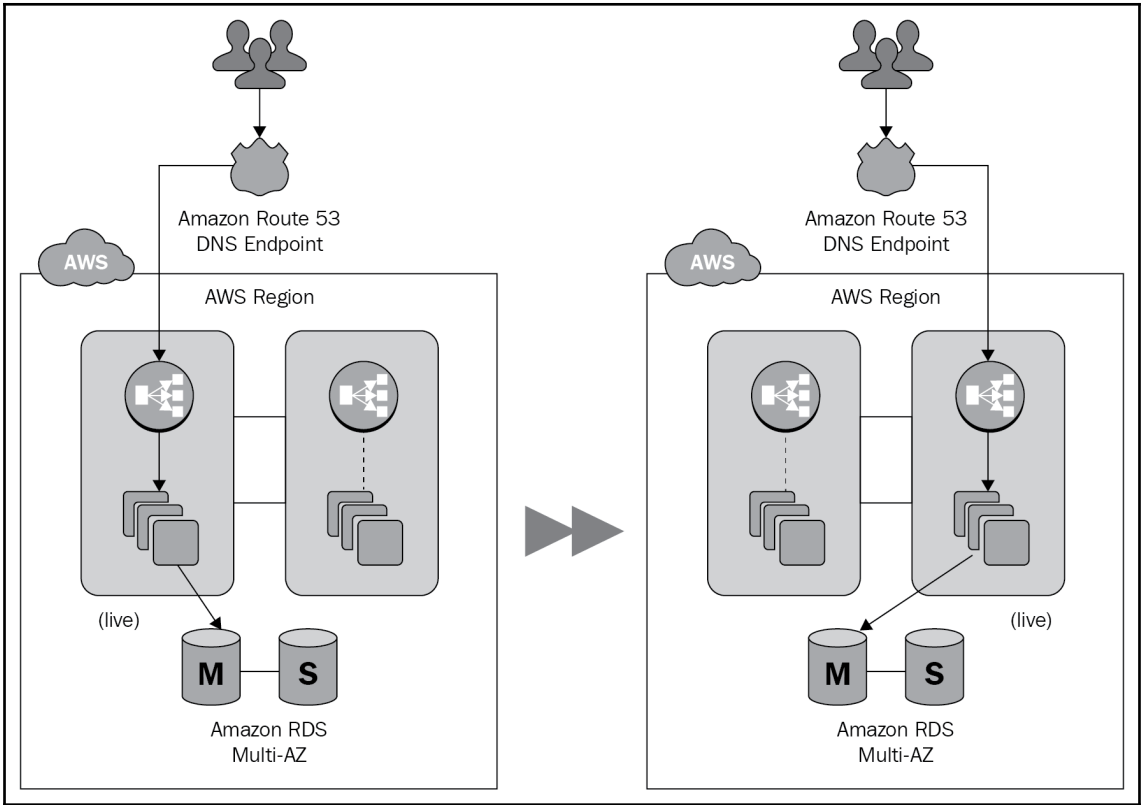
Set the application versions limit by age

30 days

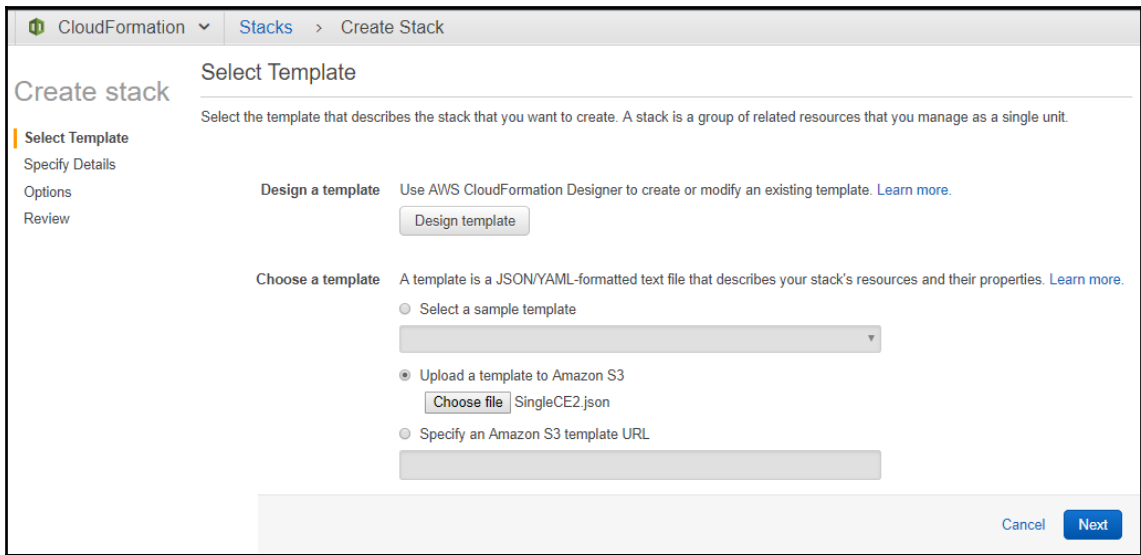
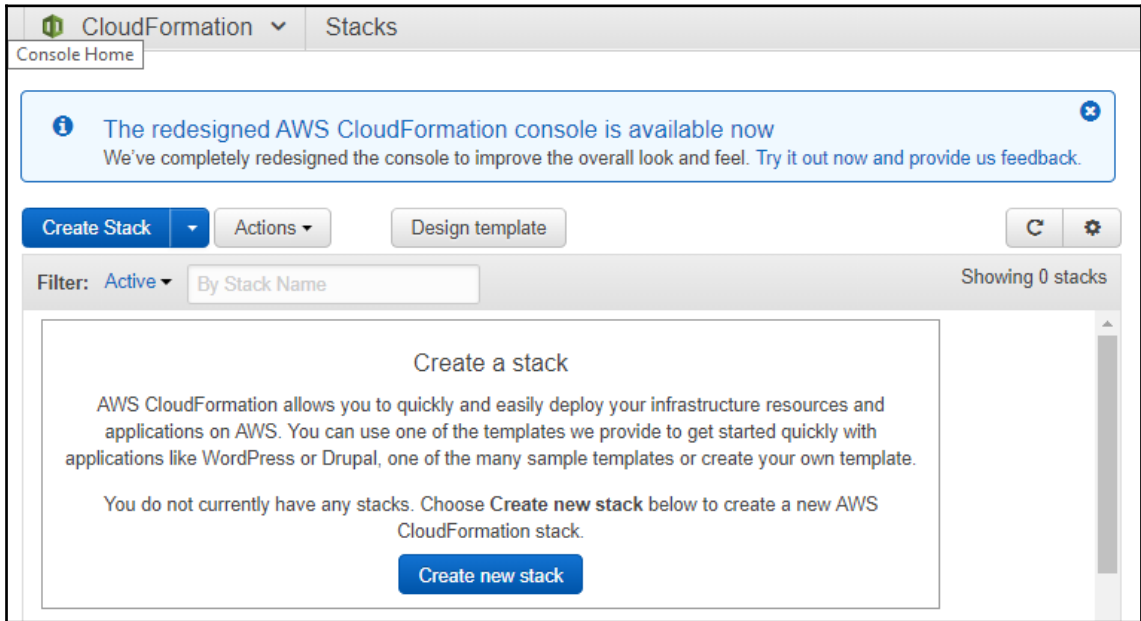
Retention Retain source bundle in S3

Service role aws-elasticbeanstalk-service-ro

Cancel Save



Chapter 20: Automation with the CloudFormation Service



CloudFormation > Stacks > Create Stack

Create stack

Select Template

Specify Details

Options

Review

Specify a stack name and parameter values. You can use or change the default parameter values, which are defined in the AWS CloudFormation template. [Learn more.](#)

Stack name

Parameters

InstanceType The EC2 instance type

KeyName to the instance

- ecs-user
- marko

Cancel Previous **Next**

CloudFormation > Stacks > Create Stack

Create stack

Select Template

Specify Details

Options

Review

Options

Tags

You can specify tags (key-value pairs) for resources in your stack. You can add up to 50 unique key-value pairs for each stack. [Learn more.](#)

	Key (127 characters maximum)	Value (255 characters maximum)	
1	<input type="text"/>	<input type="text"/>	+

Permissions

You can choose an IAM role that CloudFormation uses to create, modify, or delete resources in the stack. If you don't choose a role, CloudFormation uses the permissions defined in your account. [Learn more.](#)

IAM Role

Enter role arn

▼ Rollback Triggers

Rollback triggers enable you to have AWS CloudFormation monitor the state of your application during stack creation and updating, and to rollback that operation if the application breaches the threshold of any of the alarms you've specified. [Learn more](#)

Monitoring Time ⓘ Minutes
 Minimum value of 0. Maximum value of 180.

		Available triggers remaining: 5
Type	ARN (Amazon Resource Name)	
1 AWS::CloudWatch::Alarm	<input type="text"/>	+

► Advanced

You can set additional options for your stack, like notification options and a stack policy. [Learn more.](#)

Create stack
Review

Select Template

Specify Details

Options

Review

Template

Template URL <https://s3.us-east-2.amazonaws.com/cf-templates-1b8lrbele2rx2-us-east-2/2019018HF2-SingleCE2.json>

Description This template creates a t2 EC2 instance using the Amazon Linux AMI in one of the US regions and allows SSH access.

Estimate cost Cost

Details

Stack name: MyECInstance

InstanceType t2.micro

KeyName marko

Options

Tags

No tags provided

Rollback Triggers

No monitoring time provided
No rollback triggers provided

Advanced

Notification	
Termination Protection	Disabled
Timeout	none
Rollback on failure	Yes

[Quick Create Stack](#) (Create stacks similar to this one, with most details auto-populated)

[Cancel](#)
[Previous](#)
[Create](#)

CloudFormation ▾ Stacks

i The redesigned AWS CloudFormation console is available now
We've completely redesigned the console to improve the overall look and feel. Try it out now and provide us feedback.

i Drift detection now available
Drift detection lets you detect whether a stack's actual configuration has been changed outside of CloudFormation. To detect drift on a stack, select the stack, and then select Detect drift for current stack from the Actions menu. [Learn more.](#)

[Create Stack](#) ▾
 [Actions](#) ▾
 [Design template](#)

[C](#)
[⚙](#)

Filter: [Active](#) ▾ | [By Stack Name](#) Showing 1 stack

Stack Name	Created Time	Status	Drift Status	Description
<input checked="" type="checkbox"/> MyEInstance	2019-01-18 16:08:53 UTC-0500	CREATE_IN_PROGRE...	NOT_CHECKED	This template creates a t2 EC2 instance using the Amazon Linux ...

CloudFormation Stacks

Create Stack Actions Design template

Filter: Active By Stack Name Showing 1 stack

Stack Name	Created Time	Status	Drift Status	Description
<input checked="" type="checkbox"/> MyECInstance	2019-01-18 16:08:53 UTC-0500	CREATE_COMPLETE	NOT_CHECKED	This template creates a t2 EC2 instance using the Amazon Linux AM...

Overview Outputs Resources Events Template Parameters Tags Stack Policy Change Sets Rollback Triggers

Key	Value	Description	Export Name
InstanceId	i-08219c870b7172cb6	InstanceId of the newly created EC2 instance	
PublicIP	3.17.36.188	Public IP address of the newly created EC2 instance	

```

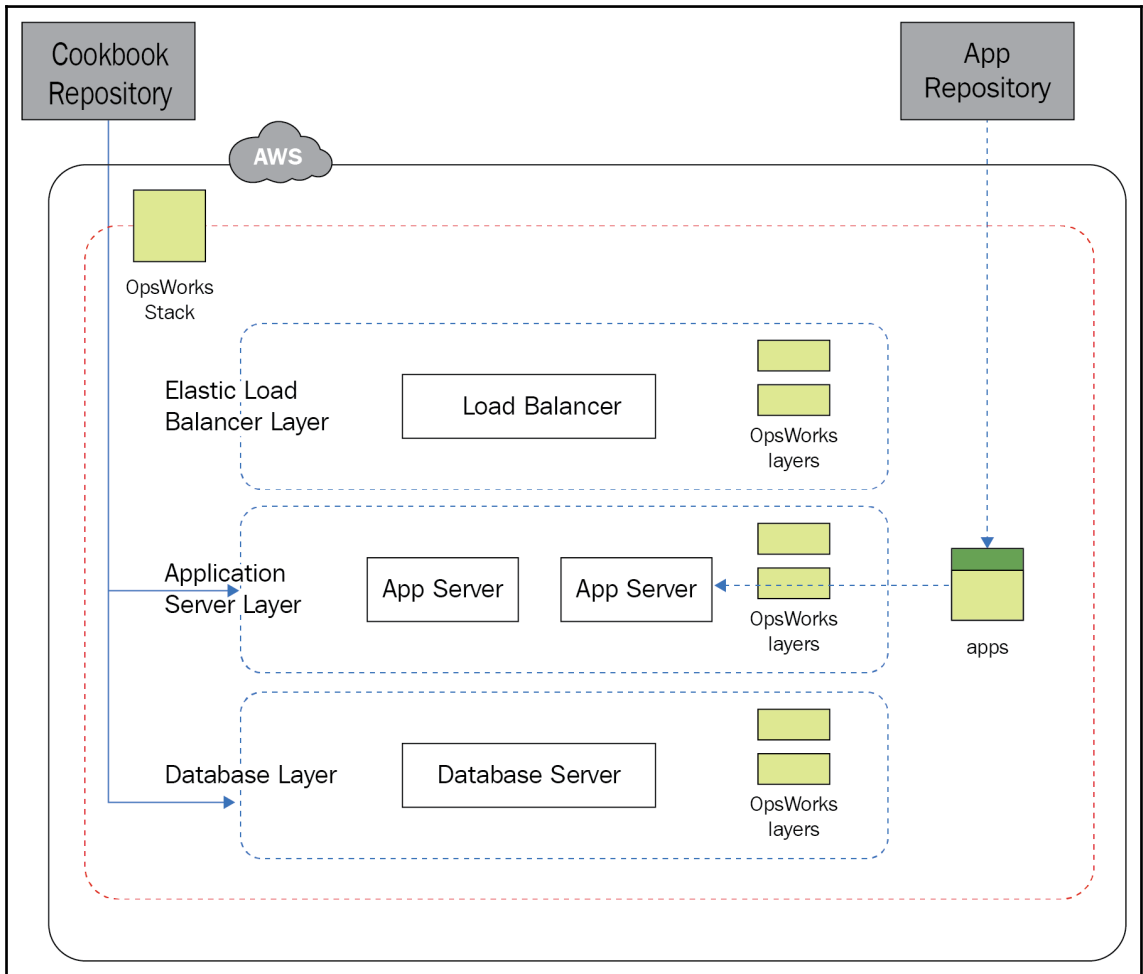
ec2-user@ip-172-31-40-155:~
Using username "ec2-user".
Authenticating with public key "imported-openssh-key"

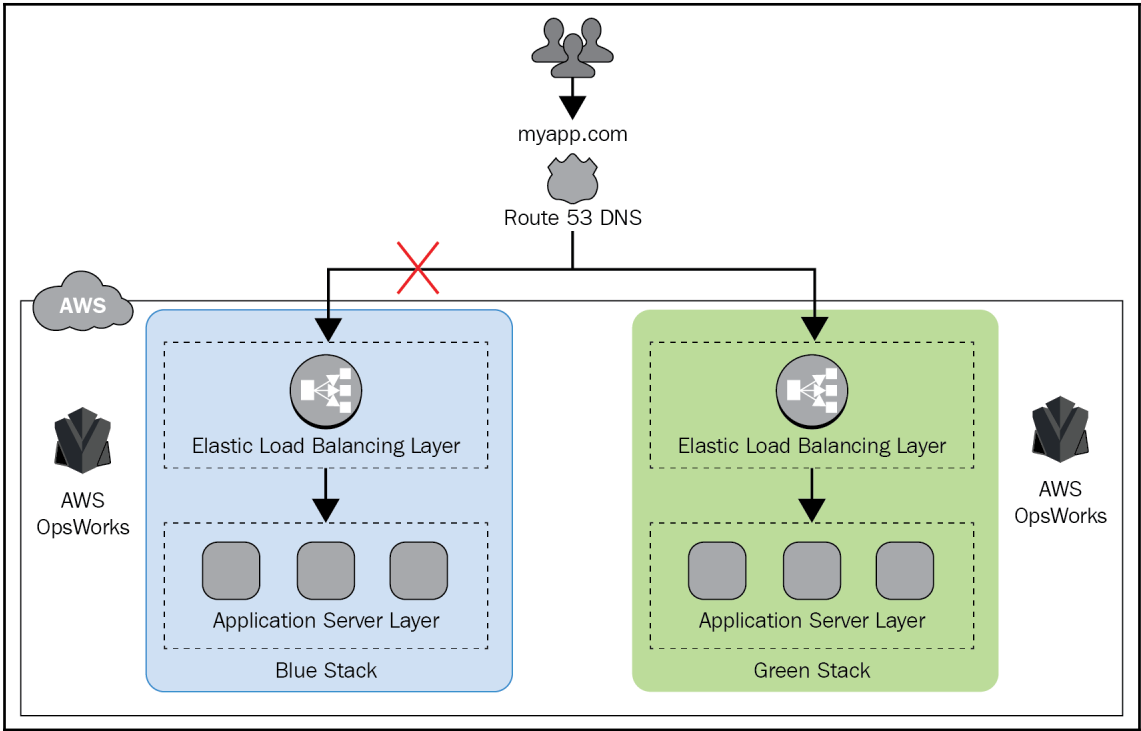
  ____|  _||_ )
 _|| ( _|| /   Amazon Linux AMI
  ____|\__||__|




https://aws.amazon.com/amazon-linux-ami/2018.03-release-notes/
17 package(s) needed for security, out of 30 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-40-155 ~]$ curl https://ipinfo.io/ip
3.17.36.188
[ec2-user@ip-172-31-40-155 ~]$ █

```


Chapter 21: Cloud Orchestration with OpsWorks





	ECS Cluster: markocloud Settings Recipes Network EBS Volumes Security CloudWatch Logs Tags Delete	No instances Add instance
	Node.js App Server Settings Recipes Network EBS Volumes Security CloudWatch Logs Tags Delete	Instances 1
	RDS: markocloud Details	No apps Connect app