


Chapter 1: Getting Started with AWS

Create an AWS account

Email address

Password

Confirm password

AWS account name 

Continue

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


© 2018 Amazon Web Services, Inc. or its affiliates.
All rights reserved.

[Privacy Policy](#) | [Terms of Use](#)

Contact Information

All fields are required.

Please select the account type and complete the fields below with your contact details.

Account type 

Professional Personal

Full name

Phone number

Country/Region

United States ▼

Address

Street, P.O. Box, Company Name, c/o

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

City

State / Province or region

Postal code

Check here to indicate that you have read and agree to the terms of the [AWS Customer Agreement](#)

Create Account and Continue

Payment Information

Please type your payment information so we can verify your identity. We will not charge you unless your usage exceeds the [AWS Free Tier Limits](#). Review [frequently asked questions](#) for more information.



As part of our card verification process we will charge INR 2 on your card when you click the "Secure Submit" button below. This will be refunded once your card has been validated. Your bank may take 3-5 business days to show the refund. Mastercard/Visa customers may be redirected to your bank website to authorize the charge.

Credit/Debit card number

Expiration date

Cardholder's name

Billing address

Use my contact address



Use a new address

Do you have a PAN?

You can go on the [Tax Settings Page](#) on Billing and Cost Management Console to update your PAN information.

Yes No

Secure Submit

Phone Verification

AWS will call you immediately using an automated system. When prompted, enter the 4-digit number from the AWS website on your phone keypad.

Provide a telephone number

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

Country/Region code

Phone number

Ext

Security Check

Select a Support Plan

AWS offers a selection of support plans to meet your needs. Choose the support plan that best aligns with your AWS usage. [Learn more](#)



Basic Plan

Free

- Included with all accounts
- 24/7 self-service access to forums and resources
- Best practice checks to help improve security and performance
- Access to health status and notifications



Developer Plan

From \$29/month

- For early adoption, testing and development
- Email access to AWS Support during business hours
- 1 primary contact can open an unlimited number of support cases
- 12-hour response time for nonproduction systems



Business Plan

From \$100/month

- For production workloads & business-critical dependencies
- 24/7 chat, phone, and email access to AWS Support
- Unlimited contacts can open an unlimited number of support cases
- 1-hour response time for production systems

Need Enterprise level support?

Contact your account manager for additional information on running business and mission critical-workloads on AWS (starting at \$15,000/month). [Learn more](#)

Sign in ⓘ

Email address of your AWS account

To sign in as an IAM user, enter your [account ID](#) or [account alias](#) instead.

Next

————— New to AWS? —————

Create a new AWS account

Root user sign in

Email

sunil.gulabani3@gmail.com

Password

Sign In

[Sign in to a different account](#)

[Forgot your password?](#)

aws Services Resource Groups Sunil Gulabani N. Virginia Support

AWS services

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

Recently visited services

All services

Compute	Management Tools	Mobile Services
EC2	CloudWatch	Mobile Hub
Lightsail	AWS Auto Scaling	AWS AppSync
Elastic Container Service	CloudFormation	Device Farm
Lambda	CloudTrail	Mobile Analytics
Batch	Config	
Elastic Beanstalk	OpsWorks	AR & VR
	Service Catalog	Amazon Sumerian
	Systems Manager	
Storage	Trusted Advisor	Application Integration
S3	Managed Services	Step Functions
EFS		Amazon MQ
Glacier	Media Services	Simple Notification Service
Storage Gateway	Elastic Transcoder	
	Kinesis Video Streams	

Helpful tips

Manage your costs
Get real-time billing alerts based on your cost and usage budgets. [Start now](#)

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

Explore AWS

Amazon Relational Database Service (RDS)
RDS manages and scales your database for you. RDS supports Aurora, MySQL, PostgreSQL, MariaDB, Oracle, and SQL Server. [Learn more](#)

```
C:\WINDOWS\System32>aws --version
aws-cli/1.11.133 Python/2.7.9 Windows/8 botocore/1.6.0
```

```
[root@ip-172-31-18-198 ec2-user]# aws --version
aws-cli/1.11.133 Python/2.7.5 Linux/3.10.0-693.el7.x86_64 botocore/1.6.0
[root@ip-172-31-18-198 ec2-user]#
```

Chapter 2: Configuring IAM

Create policy

1 2

A policy defines the AWS permissions that you can assign to a user, group, or role. You can create and edit a policy in the visual editor and using JSON. [Learn more](#)

Visual editor JSON [Import managed policy](#)

Expand all | Collapse all

▼ Select a service [Clone](#) [Remove](#)

Service [Choose a service](#)

Actions Choose a service before defining actions

Resources Choose actions before applying resources

Request conditions Choose actions before specifying conditions

[Add additional permissions](#)

[Cancel](#) [Review policy](#)

Copy an AWS Managed Policy

Select a policy to copy from the following list.

AmazonDMSRedshiftS3Role

Provides access to manage S3 settings for Redshift endpoints for DMS.

[Select](#)

AmazonS3FullAccess

Provides full access to all buckets via the AWS Management Console.

[Select](#)

QuickSightAccessForS3StorageManagementAnalyticsReadOnly

Policy used by QuickSight team to access customer data produced by S3 Storage Management Analytics.

[Select](#)

AmazonS3ReadOnlyAccess

Provides read only access to all buckets via the AWS Management Console.

[Select](#)

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

Review Policy

Customize permissions by editing the following policy document. For more information about the access policy language, see [Overview of Policies](#) in the *Using IAM* guide. To test the effects of this policy before applying your changes, use the [IAM Policy Simulator](#).

Policy Name

AmazonS3FullAccess-201708250640

Description

Provides full access to all buckets via the AWS Management Console.

Policy Document

```
1 {
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Effect": "Allow",
6       "Action": "s3:*",
7       "Resource": "*"
8     }
9   ]
10 }
```

Use autoformatting for policy editing

Cancel

Validate Policy

Previous

Create Policy

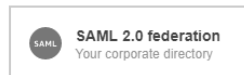
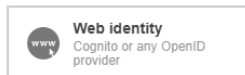
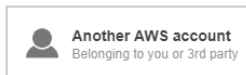
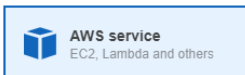
Create role

1

2

3

Select type of trusted entity



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	Data Pipeline	ElasticLoadBalancing	MediaConvert	Service Catalog
Auto Scaling	DeepLens	Glue	OpsWorks	Step Functions
Batch	Directory Service	Greengrass	RDS	Storage Gateway
CloudFormation	DynamoDB	GuardDuty	Redshift	
CloudHSM	EC2	Inspector	Rekognition	

* Required

Cancel

Next: Permissions

Create role

1 2 3

Attach permissions policies

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

[Create policy](#) [Refresh](#)

Filter: **Customer managed** Showing 1 result

	Policy name	Attachments	Description
<input checked="" type="checkbox"/>	AmazonS3FullAccess	0	Amazon S3 Full Access

* Required

[Cancel](#) [Previous](#) [Next: Review](#)

Create role

1 2 3

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 [AmazonS3FullAccess](#)

* Required

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

Showing 1 result

Role name	Description	Trusted entities
<input type="checkbox"/> AmazonS3FullAccess	Allows EC2 instances to call AWS services on your behalf.	AWS service: ec2

Set Group Name

Specify a group name. Group names can be edited any time.

Group Name:
Example: Developers or ProjectAlpha
 Maximum 128 characters

Attach Policy

Select one or more policies to attach. Each role can have up to 10 policies attached.

Filter: Policy Type Showing 275 results

<input type="checkbox"/>	Policy Name	Attached Entities	Creation Time	Edited Time
<input type="checkbox"/>	AmazonEC2FullAccess	1	2015-02-07 00:10 UTC+0530	2015-02-07 00:10 UTC+0530
<input type="checkbox"/>	AmazonRDSFullAccess	1	2015-02-07 00:10 UTC+0530	2017-08-29 03:05 UTC+0530
<input checked="" type="checkbox"/>	AmazonS3FullAccess	1	2015-02-07 00:10 UTC+0530	2015-02-07 00:10 UTC+0530
<input type="checkbox"/>	AmazonSNSFullAccess	1	2015-02-07 00:11 UTC+0530	2015-02-07 00:11 UTC+0530
<input type="checkbox"/>	IAMFullAccess	1	2015-02-07 00:10 UTC+0530	2015-02-07 00:10 UTC+0530
<input type="checkbox"/>	AdministratorAccess	0	2015-02-07 00:09 UTC+0530	2015-02-07 00:09 UTC+0530
<input type="checkbox"/>	AmazonAPIGatewayAdministr...	0	2015-07-09 23:04 UTC+0530	2015-07-09 23:04 UTC+0530
<input type="checkbox"/>	AmazonAPIGatewayInvokeFull...	0	2015-07-09 23:06 UTC+0530	2015-07-09 23:06 UTC+0530
<input type="checkbox"/>	AmazonAPIGatewayPushToCl...	0	2015-11-12 05:11 UTC+0530	2015-11-12 05:11 UTC+0530
<input type="checkbox"/>	AmazonAppStreamFullAccess	0	2015-02-07 00:10 UTC+0530	2015-02-07 00:10 UTC+0530

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

Review

Review the following information, then click **Create Group** to proceed.

Group Name	Developer	Edit Group Name
Policies	arn:aws:iam::aws:policy/AmazonS3FullAccess	Edit Policies

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

[Create New Group](#) [Group Actions](#) ↺ ⚙ ⓧ

Filter Showing 1 results

<input type="checkbox"/>	Group Name	Users	Inline Policy	Creation Time
<input type="checkbox"/>	Developer	0		2017-09-07 20:36 UTC+0530

Add user



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.

* Required


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

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
-
- Require password reset** Users must create a new password at next sign-in
Users automatically get the [IAMUserChangePassword](#) policy to allow them to change their own password.


Set permissions for Sunil



Add user to group



Copy permissions from existing user



Attach existing policies directly

Select an existing user from which to copy policies and group membership.

Q Search Showing 1 result

User name	Groups	Attached policies
<input type="radio"/> aws-bootcamp	None	AmazonRDSFullAccess and 4 more

Cancel Previous **Next: Review**

Attach one or more existing policies directly to the users or create a new policy. [Learn more](#)

Create policy Refresh

Filter: Policy type Q Search Showing 276 results

	Policy name	Type	Attachments	Description
<input type="checkbox"/>	AdministratorAccess	Job function	0	Provides full access to AWS services and resources.
<input type="checkbox"/>	AmazonAPIGatewayAdministrator	AWS managed	0	Provides full access to create/edit/delete APIs in Amazon API Gateway via the A...
<input type="checkbox"/>	AmazonAPIGatewayInvokeFullAcc...	AWS managed	0	Provides full access to invoke APIs in Amazon API Gateway.
<input type="checkbox"/>	AmazonAPIGatewayPushToCloud...	AWS managed	0	Allows API Gateway to push logs to user's account.
<input type="checkbox"/>	AmazonAppStreamFullAccess	AWS managed	0	Provides full access to Amazon AppStream via the AWS Management Console.
<input type="checkbox"/>	AmazonAppStreamReadOnlyAccess	AWS managed	0	Provides read only access to Amazon AppStream via the AWS Management Con...
<input type="checkbox"/>	AmazonAppStreamServiceAccess	AWS managed	0	Default policy for Amazon AppStream service role.
<input type="checkbox"/>	AmazonAthenaFullAccess	AWS managed	0	Provide full access to Amazon Athena and scoped access to the dependencies n...
<input type="checkbox"/>	AmazonCloudDirectoryFullAccess	AWS managed	0	Provides full access to Amazon Cloud Directory Service.
<input type="checkbox"/>	AmazonCloudDirectoryReadOnlyA...	AWS managed	0	Provides read only access to Amazon Cloud Directory Service.

Cancel Previous **Next: Review**

Review

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

User details

User name	Sunil
AWS access type	Programmatic access and AWS Management Console access
Console password type	Autogenerated
Require password reset	Yes

Permissions summary

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

Type	Name
Group	Developer
Managed policy	IAMUserChangePassword

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

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://\[redacted\].signin.aws.amazon.com/console](https://[redacted].signin.aws.amazon.com/console)

[Download .csv](#)

	User	Access key ID	Secret access key	Password	Email login instructions
▶	✔ Sunil	AKIAIZSTCDPQVQUXPIOA	***** Show	***** Show	Send email ↗

[Close](#)

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

[↻](#) [⚙️](#) [ℹ️](#)

🔍 Find users by username or access key

Showing 2 results

<input type="checkbox"/>	User name ▾	Groups	Access key age	Password age	Last activity	MFA
<input type="checkbox"/>	aws-bootcamp	None	✔ 14 days	None	Yesterday	Not enabled
<input type="checkbox"/>	Sunil	Developer	None	Today	None	Not enabled

Chapter 3: Building Servers Using EC2

Create Key Pair ✕

Key pair name:

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

[Create Key Pair](#) [Import Key Pair](#) [Delete](#)

Filter by attributes or search by keyword

<input type="checkbox"/>	Key pair name	Fingerprint
<input checked="" type="checkbox"/>	aws-bootcamp	37:0a:32:89:08:89:af:73:b8:f7:f3:cc:fd:7d:9b:3d:e4:a7:7a:c6

Create Security Group ✕

Security group name ⓘ
Description ⓘ
VPC ⓘ

Security group rules:

Inbound | Outbound

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ	Description ⓘ	
SSH	TCP	22	Anywhere	0.0.0.0/0, ::/0	SSH for Admin Access

Security group rules:

Inbound | **Outbound**

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Destination ⓘ	Description ⓘ	
All traffic	All	0 - 65535	Custom	0.0.0.0/0	e.g. SSH for Admin Desktop

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

<input type="checkbox"/>	Name	Group ID	Group Name	VPC ID	Description
<input type="checkbox"/>		sg-c93be3ba	aws-bootcamp	vpc-a1cbefd8	Security Group for AWS Bootcamp
<input type="checkbox"/>		sg-eca0229c	default	vpc-a1cbefd8	default VPC security group

Step 1: Choose an Amazon Machine Image (AMI)

[Cancel and Exit](#)

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

Quick Start 1 to 33 of 33 AMIs

My AMIs

AWS Marketplace

Community AMIs

Free tier only (i)

Amazon Linux
Free tier eligible

Amazon Linux AMI 2017.03.1 (HVM), SSD Volume Type - ami-4fffc834

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

64-bit

[Select](#)

SUSE Linux
Free tier eligible

SUSE Linux Enterprise Server 12 SP2 (HVM), SSD Volume Type - ami-8fac8399

SUSE Linux Enterprise Server 12 Service Pack 2 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled.

Root device type: ebs Virtualization type: hvm

64-bit

[Select](#)

Red Hat
Free tier eligible

Red Hat Enterprise Linux 7.4 (HVM), SSD Volume Type - ami-c998b6b2

Red Hat Enterprise Linux version 7.4 (HVM), EBS General Purpose (SSD) Volume Type

Root device type: ebs Virtualization type: hvm

64-bit

[Select](#)

Ubuntu

Ubuntu Server 16.04 LTS (HVM), SSD Volume Type - ami-cd0f5cb6

[Select](#)

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 (i)	Memory (GiB)	Instance Storage (GB) (i)	EBS-Optimized Available (i)	Network Performance (i)	IPv6 Support (i)
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.micro <small>Free tier eligible</small>	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

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

IAM role [Create new IAM role](#)

Shutdown behavior

Enable termination protection Protect against accidental termination

Monitoring Enable CloudWatch detailed monitoring
[Additional charges apply.](#)

Tenancy
[Additional charges will apply for dedicated tenancy.](#)

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

Advanced Details

User data As text As file Input is already base64 encoded

(Optional)

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/sda1	snap-0822784885cd20aff	10	General Purpose SSD (GP2)	100 / 3000	N/A	<input checked="" 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.

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Tags](#)

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 = Webservers.
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	AWS Bootcamp	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

(Up to 50 tags maximum)

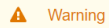
Step 6: Configure Security Group

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:
Description:

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



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.

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 ID	Name	Description	Actions
<input type="checkbox"/> sg-eca0229c	default	default VPC security group	Copy to new

Select a security group above to view its inbound rules.




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

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.

AMI Details

[Edit AMI](#)

 **Red Hat Enterprise Linux 7.4 (HVM), SSD Volume Type - ami-c998b6b2**
Free tier eligible Red Hat Enterprise Linux version 7.4 (HVM), EBS General Purpose (SSD) Volume Type
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](#)

Instance Details

[Edit instance details](#)

Storage

[Edit storage](#)

Tags

[Edit tags](#)

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

Select an existing key pair or create a new key pair



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

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

Choose an existing key pair

Select a key pair

aws-bootcamp

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

Cancel

Launch Instances

Launch Status

Your instances are now launching

The following instance launches have been initiated: [i-04272d02f6c4727e9](#) [View launch log](#)

Get notified of estimated charges

Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

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

Click **View Instances** to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. [Find out](#) how to connect to your instances.

Here are some helpful resources to get you started

- [How to connect to your Linux instance](#)
- [Amazon EC2: User Guide](#)
- [Learn about AWS Free Usage Tier](#)
- [Amazon EC2: Discussion Forum](#)

While your instances are launching you can also

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

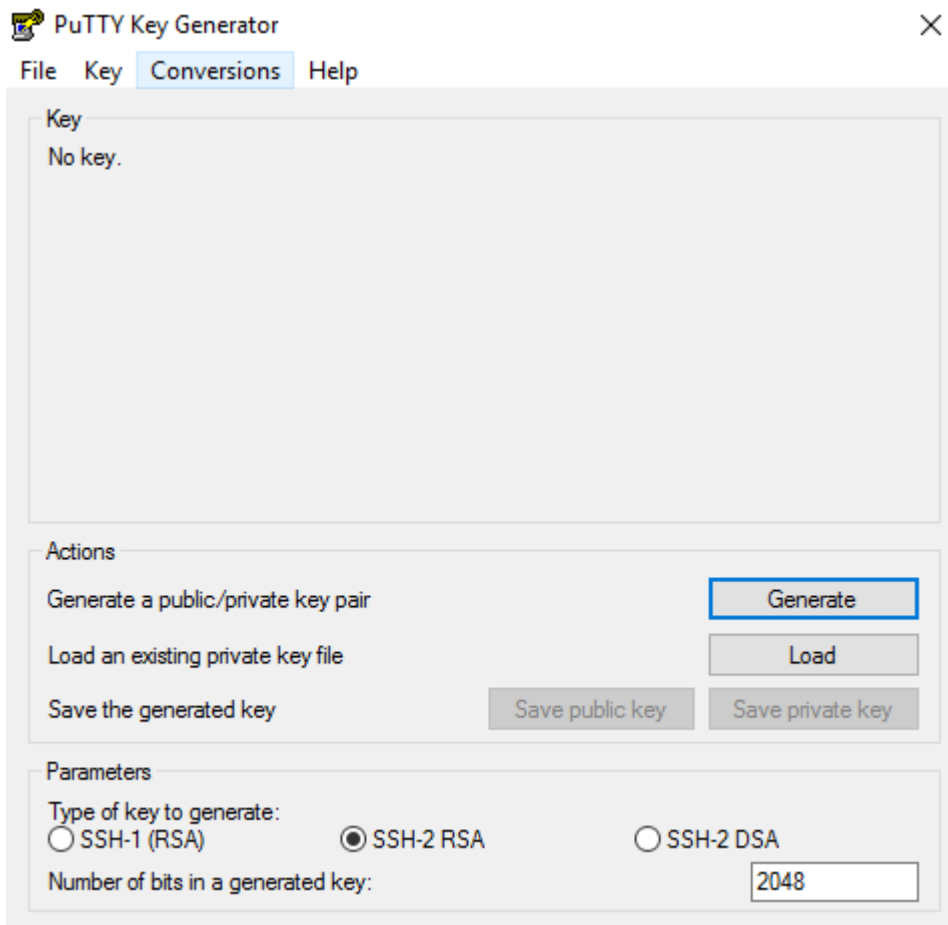
[View Instances](#)

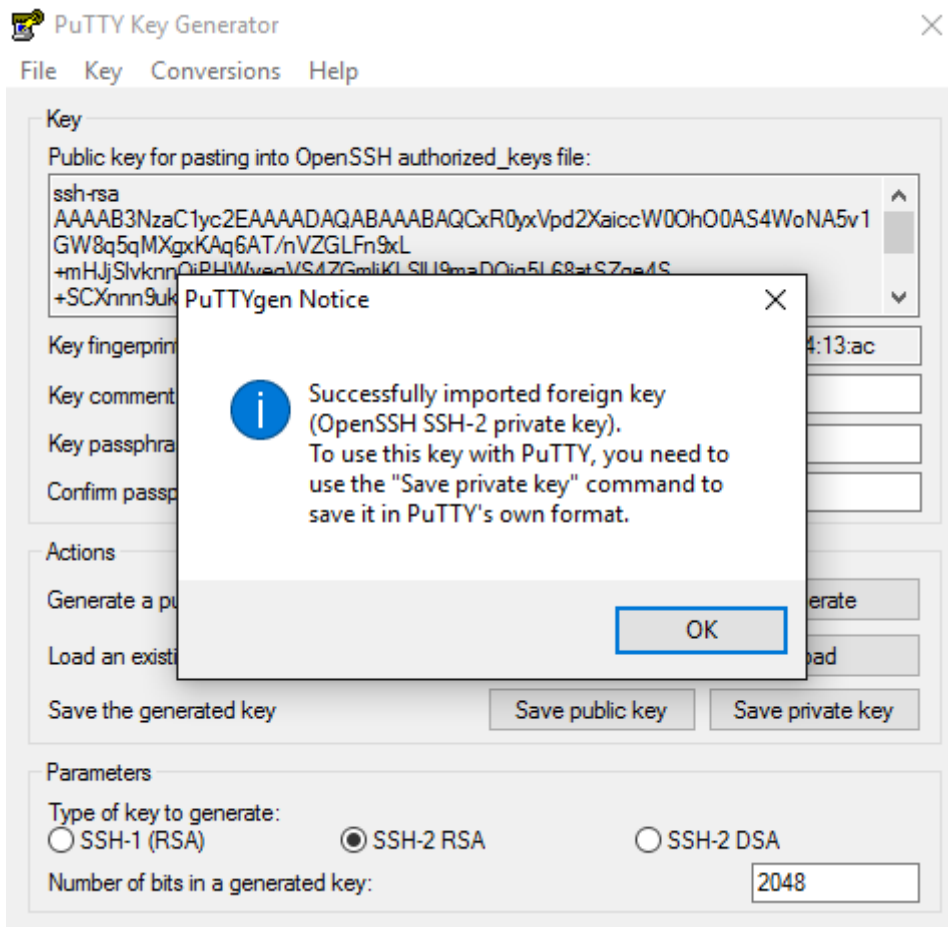
Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
AWS Bootcamp	i-04272d02f6c4727e9	t2.micro	us-east-1d	running	Initializing	None	ec2-54-174-220-67.co...

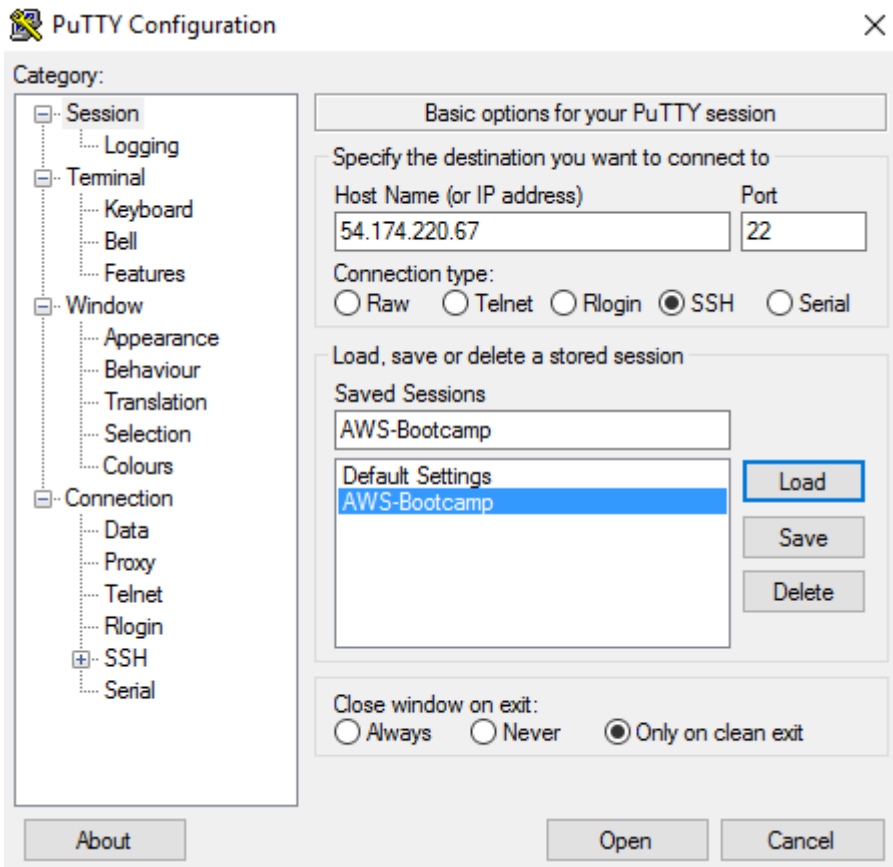
Instance: **i-04272d02f6c4727e9 (AWS Bootcamp)** Public DNS: **ec2-54-174-220-67.compute-1.amazonaws.com**

[Description](#)
[Status Checks](#)
[Monitoring](#)
[Tags](#)

Instance ID	i-04272d02f6c4727e9	Public DNS (IPv4)	ec2-54-174-220-67.compute-1.amazonaws.com
Instance state	running	IPv4 Public IP	54.174.220.67
Instance type	t2.micro	IPv6 IPs	-
Elastic IPs	-	Private DNS	ip-172-31-26-57.ec2.internal
Availability zone	us-east-1d	Private IPs	172.31.26.57
Security groups	default view inbound rules	Secondary private IPs	-
Scheduled events	No scheduled events	VPC ID	vpc-a1cbefd8
AMI ID	RHEL-7_4_HVM_GA-20170808-x86_64-2-Hourly2-GP2 (ami-c998b6b2)	Subnet ID	subnet-79363431
Platform	-	Network interfaces	eth0
IAM role	-	Source/dest. check	True
Key pair name	aws-bootcamp	EBS-optimized	False
Owner	993735536778	Root device type	ebs
Launch time	September 17, 2017 at 11:47:24 AM UTC+5:30 (less than one hour)	Root device	/dev/sda1
Termination protection	False		







PuTTY Security Alert



The server's host key is not cached in the registry. You have no guarantee that the server is the computer you think it is.

The server's rsa2 key fingerprint is:

ssh-rsa 2048 a7:e4:db:03:cc:b9:2b:07:99:88:ec:13:33:e6:60:49

If you trust this host, hit Yes to add the key to

PuTTY's cache and carry on connecting.

If you want to carry on connecting just once, without adding the key to the cache, hit No.

If you do not trust this host, hit Cancel to abandon the connection.

Yes

No

Cancel

ec2-user@ip-172-31-26-57:~



login as: ec2-user

Authenticating with public key "imported-openssh-key"

[ec2-user@ip-172-31-26-57 ~]\$

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	Network Load Balancer	Classic Load Balancer
 Create	 Create	PREVIOUS GENERATION for HTTP, HTTPS, and TCP 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, TLS termination and visibility features targeted at application architectures, including microservices and containers. Learn more >	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 >	Choose a Classic Load Balancer when you have an existing application running in the EC2-Classical network. Learn more >

Cancel

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	
HTTP	80	HTTP	80	✕

[Cancel](#)

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

Filter:

Security Group ID	Name	Description	Actions
<input checked="" type="checkbox"/> sg-7c6ecf0f	aws-bootcamp	aws-bootcamp	Copy to new
<input type="checkbox"/> sg-eca0229c	default	default VPC security group	Copy to new

[Cancel](#)

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](#)

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

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-a1cbe0d8 (172.31.0.0/16)

<input type="checkbox"/>	Instance	Name	State	Security groups	Zone	Subnet ID	Subnet CIDR
<input checked="" type="checkbox"/>	i-00021afadb836cb96		running	aws-bootcamp	us-east-1d	subnet-79363431	172.31.16.0/20

Availability Zone Distribution

1 instance in us-east-1d

Enable Cross-Zone Load Balancing

Enable Connection Draining seconds

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

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="Name"/>	<input type="text" value="AWS-Bootcamp"/>

[Create Tag](#)

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

Step 7: Review

Please review the load balancer details before continuing

▼ Define Load Balancer

[Edit load balancer definition](#)

Load Balancer name: AWS-Bootcamp
Scheme: internet-facing
Port Configuration: 80 (HTTP) forwarding to 80 (HTTP)

▼ Configure Health Check

[Edit health check](#)

Ping Target: TCP:80
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

[Cancel](#)

[Previous](#)

[Create](#)

Load Balancer Creation Status



Successfully created load balancer

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

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

[Close](#)

Name	DNS name	State	VPC ID	Availability Zones
AWS-Bootcamp	AWS-Bootcamp-140544650...		vpc-a1cbefd8	us-east-1a, us-east-1b,...

Load balancer: **AWS-Bootcamp**

[Description](#)
[Instances](#)
[Health Check](#)
[Listeners](#)
[Monitoring](#)
[Tags](#)

Basic Configuration

Name:	AWS-Bootcamp	Creation time:	September 29, 2017 at 3:09:17 PM UTC+5:30
* DNS name:	AWS-Bootcamp-1405446502.us-east-1.elb.amazonaws.com (A Record)	Hosted zone:	Z35SXDOTRQ7X7K
Scheme:	internet-facing	Status:	1 of 1 instances in service
Availability Zones:	subnet-3c985558 - us-east-1b, subnet-42b6f54e - us-east-1f, subnet-79363431 - us-east-1d,	VPC:	vpc-a1cbefd8

aws-bootcamp-1405446502.us-east-1.elb.amazonaws.com

Red Hat Enterprise Linux Test Page

This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page, it means that the Apache HTTP server installed at this site is working properly.

If you are a member of the general public:

The fact that you are seeing this page indicates that the website you just visited is either experiencing problems, or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting www.example.com, you should send e-mail to "webmaster@example.com".

For information on Red Hat Enterprise Linux, please visit the [Red Hat, Inc. website](#). The documentation for Red Hat Enterprise Linux is [available on the Red Hat, Inc. website](#).

If you are the website administrator:

You may now add content to the directory `/var/www/html/`. Note that until you do so, people visiting your website will see this page, and not your content. To prevent this page from ever being used, follow the instructions in the file `/etc/httpd/conf.d/welcome.conf`.

You are free to use the image below on web sites powered by the Apache HTTP Server.



Create Auto Scaling Group

[Cancel and Exit](#)

To create an Auto Scaling group, you will first need to choose a template that your Auto Scaling group will use when it launches instances for you, called a launch configuration. Choose a launch configuration or create a new one, and then apply it to your group. Later, if you want to use a different template, you can create another launch configuration and apply it to this group, even if you already have instances running in it. Using this method, you can update the software that your group uses when it launches new instances.



[Cancel](#) [Create launch configuration](#)

Create Launch Configuration

[Cancel and Exit](#)

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

Quick Start < 1 to 32 of 32 AMIs >

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

<p>Amazon Linux AMI 2017.03.1 (HVM), SSD Volume Type - ami-4fffc834</p> <p>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>Root device type: ebs Virtualization type: hvm</p> <p>Free tier eligible</p>	<p>Select</p> <p>64-bit</p>
<p>Red Hat Enterprise Linux 7.4 (HVM), SSD Volume Type - ami-c998b6b2</p> <p>Red Hat Enterprise Linux version 7.4 (HVM), EBS General Purpose (SSD) Volume Type</p> <p>Root device type: ebs Virtualization type: hvm</p> <p>Free tier eligible</p>	<p>Select</p> <p>64-bit</p>
<p>SUSE Linux Enterprise Server 12 SP3 (HVM), SSD Volume Type - ami-51cedd2a</p> <p>SUSE Linux Enterprise Server 12 Service Pack 3 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled.</p> <p>Root device type: ebs Virtualization type: hvm</p> <p>Free tier eligible</p>	<p>Select</p> <p>64-bit</p>
<p>Ubuntu Server 16.04 LTS (HVM), SSD Volume Type - ami-cd0f5cb6</p>	<p>Select</p>

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

[Cancel](#) [Previous](#) [Next: Configure details](#)

Create Launch Configuration

Name ⓘ

Purchasing option ⓘ Request Spot Instances

IAM role ⓘ

Monitoring ⓘ Enable CloudWatch detailed monitoring
[Learn more](#)

Advanced Details

Later, if you want to use a different launch configuration, you can create a new one and apply it to any Auto Scaling group. Existing launch configurations cannot be edited.

[Cancel](#) [Previous](#) [Skip to review](#) [Next: Add Storage](#)

Advanced Details

Kernel ID ⓘ

RAM Disk ID ⓘ

User data ⓘ As text As file Input is already base64 encoded

```
yum install httpd -y
service httpd start
```

IP Address Type ⓘ Only assign a public IP address to instances launched in the default VPC and subnet. (default)
 Assign a public IP address to every instance.
 Do not assign a public IP address to any instances.
Note: this option only affects instances launched into an Amazon VPC

Later, if you want to use a different launch configuration, you can create a new one and apply it to any Auto Scaling group. Existing launch configurations cannot be edited.

[Cancel](#) [Previous](#) [Skip to review](#) [Next: Add Storage](#)

Create Launch Configuration

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.
<https://docs.aws.amazon.com/console/ec2/launchinstance/storage> about storage options in Amazon EC2.

Volume Type ⓘ	Device ⓘ	Snapshot ⓘ	Size (GiB) ⓘ	Volume Type ⓘ	IOPS ⓘ	Throughput ⓘ	Delete on Termination ⓘ	Encrypted ⓘ
Root	/dev/sda1	snap-0622784885cd20aff	<input type="text" value="10"/>	<input type="text" value="General Purpose (SSD)"/>	100 / 3000	N/A	<input checked="" type="checkbox"/>	No

[Add New Volume](#)

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

[Cancel](#) [Previous](#) [Skip to review](#) [Next: Configure Security Group](#)

Create Launch Configuration

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 ID	Name	VPC ID	Description	Actions
<input checked="" type="checkbox"/> sg-7c6ecf0f	aws-bootcamp	vpc-a1cbefd8	aws-bootcamp	Copy to new
<input type="checkbox"/> sg-eca0229c	default	vpc-a1cbefd8	default VPC security group	Copy to new

Inbound rules for sg-7c6ecf0f Selected security groups: sg-7c6ecf0f.

Type	Protocol	Port Range	Source
HTTP	TCP	80	0.0.0.0/0
SSH	TCP	22	0.0.0.0/0

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

Create Launch Configuration

Review the details of your launch configuration. You can go back to edit the details of each section before you finish.

⚠ Improve security of instances launched using your launch configuration, AWS-Bootcamp. Your security group, aws-bootcamp, 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](#)

 **Red Hat Enterprise Linux 7.4 (HVM), SSD Volume Type - ami-c998b6b2**
Red Hat Enterprise Linux version 7.4 (HVM), EBS General Purpose (SSD) Volume Type
Free tier eligible Root device type: ebs Virtualization Type: hvm

Instance Type

[Edit instance type](#)

Launch configuration details

[Edit details](#)

Storage

[Edit storage](#)

Security Groups

[Edit security groups](#)

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

Select an existing key pair or create a new key pair



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

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

Choose an existing key pair

Select a key pair

aws-bootcamp

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

Cancel

Create launch configuration

Create Auto Scaling Group

Cancel and Exit

Launch Configuration AWS-Bootcamp

Group name AWS-Bootcamp

Group size Start with 2 instances

Network vpc-a1cbef08 (172.31.0.0/16) (default) Create new VPC

Subnet

subnet-ec8ecfb6(172.31.32.0/20) Default in us-east-1a	X
subnet-79363431(172.31.16.0/20) Default in us-east-1d	X
subnet-4411f3cb(172.31.64.0/20) Default in us-east-1e	X
subnet-972769bb(172.31.80.0/20) Default in us-east-1c	X
subnet-3c985558(172.31.0.0/20) Default in us-east-1b	X
subnet-42b6f54e(172.31.48.0/20) Default in us-east-1f	X

Create new subnet

Cancel Next: Configure scaling policies

▼ Advanced Details

Load Balancing ⓘ Receive traffic from one or more load balancers [Learn about Elastic Load Balancing](#)

Health Check Grace Period ⓘ seconds

Monitoring ⓘ Amazon EC2 Detailed Monitoring metrics, which are provided at 1 minute frequency, are not enabled for the launch configuration AWS-Bootcamp. Instances launched from it will use Basic Monitoring metrics, provided at 5 minute frequency. [Learn more](#)

Instance Protection ⓘ

[Cancel](#) [Next: Configure scaling policies](#)

Create Auto Scaling Group

You can optionally add scaling policies if you want to adjust the size (number of instances) of your group automatically. A scaling policy is a set of instructions for making such adjustments in response to an Amazon CloudWatch alarm that you assign to it. In each policy, you can choose to add or remove a specific number of instances or a percentage of the existing group size, or you can set the group to an exact size. When the alarm triggers, it will execute the policy and adjust the size of your group accordingly. [Learn more](#) about scaling policies.

- Keep this group at its initial size
- Use scaling policies to adjust the capacity of this group

Scale between and instances. These will be the minimum and maximum size of your group.

Scale Group Size

Name:

Metric type:

Target value:

Instances need: seconds to warm up after scaling

Disable scale-in:

[Scale the Auto Scaling group using step or simple scaling policies](#) ⓘ

[Cancel](#) [Previous](#) [Review](#) [Next: Configure Notifications](#)

Increase Group Size ✕

Name:

Execute policy when: No alarm selected ↻ Add new alarm

Take the action: Add instances

[Add step](#) ⓘ

Instances need: seconds to warm up after each step

[Create a simple scaling policy](#) ⓘ

Decrease Group Size ✕

Name:

Execute policy when: No alarm selected ↻ Add new alarm

Take the action: Remove instances

[Add step](#) ⓘ

[Create a simple scaling policy](#) ⓘ

Cancel Previous Review Next: Configure Notifications

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: cancel

With these recipients:

Whenever: Average or CPU Utilization

Is: >= Percent

For at least: consecutive period(s) of 5 Minutes

Name of alarm:

Cancel Create Alarm

Increase Group Size

Name:

Execute policy when: `awsec2-AWS-Bootcamp-CPU-Utilization` [Edit](#) [Remove](#)
breaches the alarm threshold: `CPUUtilization >= 80` for 2 consecutive periods of 300 seconds for the metric dimensions `AutoScalingGroupName = AWS-Bootcamp`

Take the action: when `<= CPUUtilization < +infinity`

[Add step](#) ⓘ

Instances need: seconds to warm up after each step

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: [create topic](#)

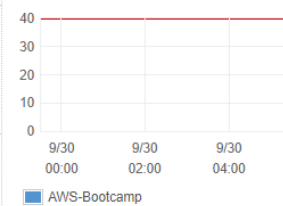
Whenever: of

Is: Percent

For at least: consecutive period(s) of

Name of alarm:

CPU Utilization Percent



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

Decrease Group Size

Name:

Execute policy when: `awsec2-AWS-Bootcamp-High-CPU-Utilization` [Edit](#) [Remove](#)
breaches the alarm threshold: `CPUUtilization <= 40` for 2 consecutive periods of 300 seconds for the metric dimensions `AutoScalingGroupName = AWS-Bootcamp`

Take the action: when `>= CPUUtilization > -infinity`

[Add step](#) ⓘ

Create Auto Scaling Group

Configure your Auto Scaling group to send notifications to a specified endpoint, such as an email address, whenever a specified event takes place, including: successful launch of an instance, failed instance launch, instance termination, and failed instance termination.

If you created a new topic, check your email for a confirmation message and click the included link to confirm your subscription. Notifications can only be sent to confirmed addresses.

Send a notification to: create topic ✕

Whenever instances:

- launch
- terminate
- fail to launch
- fail to terminate

Add notification

[Cancel](#) [Previous](#) [Review](#) [Next: Configure Tags](#)

Create Auto Scaling Group

A tag consists of a case sensitive key-value pair that you can use to identify your group. For example, you could define a tag with Key = Environment and Value = Production. You can optionally choose to apply these tags to instances in the group when they launch. [Learn more](#).

Key	Value	Tag New Instances i	
<input type="text" value="Name"/>	<input type="text" value="AWS-Bootcamp"/>	<input checked="" type="checkbox"/>	✕

[Add tag](#) 49 remaining

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


Create Auto Scaling Group

Please review your Auto Scaling group details. You can go back to edit changes for each section. Click **Create Auto Scaling group** to complete the creation of an Auto Scaling group.

- ▶ Auto Scaling Group Details [Edit details](#)
- ▶ Scaling Policies [Edit scaling policies](#)
- ▶ Notifications [Edit notifications](#)
- ▶ Tags [Edit tags](#)

[Cancel](#) [Previous](#) [Create Auto Scaling group](#)

Auto Scaling group creation status

 **Successfully created Auto Scaling group**

[View creation log](#)

▼ View

[View your Auto Scaling groups](#)

[View your launch configurations](#)

▶ Here are some helpful resources to get you started

Close

Name	Launch Configuration	Instances	Desired	Min	Max	Availability Zones	Default Cooldown	Health Check Grace Period
AWS-Bootcamp	AWS-Bootcamp	2	2	2	4	us-east-1a, us-east-1b, us-east-1c, us-east-1d, us-east-1e, us-east-1f	300	300

Property	Value
Launch Configuration	AWS-Bootcamp
Load Balancers	
Target Groups	
Desired	2
Min	2
Max	4
Health Check Type	EC2
Health Check Grace Period	300
Availability Zone(s)	us-east-1a, us-east-1b, us-east-1c, us-east-1d, us-east-1e, us-east-1f
Subnet(s)	subnet-ec8ecfb6, subnet-79363431, subnet-f411f3cb, subnet-972769bb, subnet-3c985558, subnet-42b6f54e
Default Cooldown	300
Placement Group	
Suspended Processes	


Chapter 4: Storing Files on S3

Amazon S3 [Discover the new console](#) [Quick tips](#)

Search for buckets

[+ Create bucket](#) [Delete bucket](#) [Empty bucket](#) 0 Buckets 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 Set properties
- 3 Set permissions
- 4 Review

Name and region

Bucket name 

aws-bootcamp-packt

Region

US East (N. Virginia) 

Copy settings from an existing bucket

You have no buckets

0 Buckets 

Create

Cancel

Next

Create bucket ✕

Name and region **2** Set properties 3 Set permissions 4 Review

Versioning

Keep multiple versions of an object in the same bucket.

[Learn more](#)

Disabled

Server access logging

Set up access log records that provide details about access requests.

[Learn more](#)

Disabled

Tags

Use tags to track your cost against projects or other criteria.

[Learn more](#)

0 Tags

Object-level logging

Record object-level API activity using the CloudTrail data events feature (additional cost).

[Learn more](#)

Disabled

[Previous](#) [Next](#)

Create bucket



Name and region



Set properties



Set permissions



Review

Manage users

User ID ⓘ

Objects ⓘ

Object permissions ⓘ

sunil.gulabani3(Owner)

Read

Write

Read Write



Access for other AWS account

[+ Add account](#)

Account ⓘ

Objects ⓘ

Object permissions ⓘ

Manage public permissions

Do not grant public read access to this bucket (Recommended) ▾

Manage system permissions

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

Previous

Next

Create bucket ✕

✓ Name and region✓ Set properties✓ Set permissions④ Review

Name and region [Edit](#)

Bucket name aws-bootcamp-packt **Region** US East (N. Virginia)

Properties [Edit](#)

Versioning	Disabled
Server access logging	Disabled
Tagging	0 Tags
Object-level logging	Disabled
Default encryption	None

Permissions [Edit](#)

Users	1
Public permissions	Disabled
System permissions	Disabled

Previous Create bucket

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

1 Buckets 1 Regions

Bucket name	Region	Date created
aws-bootcamp-packt	US East (N. Virginia)	Nov 5, 2017 12:58:37 PM

Amazon S3 > aws-bootcamp-packt

[Overview](#) [Properties](#) [Permissions](#) [Management](#)

[Upload](#) [+ Create folder](#) [More](#)

US East (N. Virginia)

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](#)



When you create a folder, S3 console creates an object with the above name appended by suffix "/" and that object is displayed as a folder in the S3 console. Choose the encryption setting for the object:


- None (Use bucket settings)
- AES-256
Use Server-Side Encryption with Amazon S3-Managed Keys (SSE-S3)
- AWS-KMS
Use Server-Side Encryption with AWS KMS-Managed Keys (SSE-KMS)

Viewing 1 to 1


<input type="checkbox"/>	Name ↑	Last modified ↑	Size ↑	Storage class ↑
<input type="checkbox"/>	PACKT	--	--	--

Viewing 1 to 1

Upload



- 1 Select files**
- 2 Set permissions
- 3 Set properties
- 4 Review




Drag and drop here
OR

Add files

Upload Next



Upload



- 1 Select files
- 2 Set permissions
- 3 Set properties
- 4 Review

1 Files **Size:** 193.0 B **Target path:** aws-bootcamp-packt

[+ Add more files](#)

	index.html - 193.0 B	
---	-------------------------	---

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

Upload

1 Files Size: 193.0 B Target path: aws-bootcamp-packt

Manage users

User ID	Objects	Object permissions	
sunil.gulabani3(Owner)	<input checked="" type="checkbox"/> Read <input checked="" type="checkbox"/> Write	<input checked="" type="checkbox"/> Read <input checked="" type="checkbox"/> Write	×

Access for other AWS account [+ Add account](#)

Account	Objects	Object permissions
---------	---------	--------------------

Manage public permissions

Do not grant public read access to this object(s) (Recommended) ▾

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

Upload

1 Files **Size:** 193.0 B **Target path:** aws-bootcamp-packt

Storage class

Choose one depending on your use case scenario and performance access requirements.

Standard Standard-IA Reduced redundancy


Encryption

Protect data at rest by using Amazon S3 master-key or by using AWS KMS master-key.

None Amazon S3 master-key AWS KMS master-key

Upload Previous Next

Upload



- ✓ Select files
- ✓ Set permissions
- 3 Set properties**
- 4 Review

Metadata

Metadata is a set of name-value pairs. You cannot modify object metadata after it is uploaded.

Header	Value
<input type="text" value="Select a key"/>	<input type="text"/>

Tag

Add tags to search, organize and manage access

Key	Value
<input type="text" value="Key"/>	<input type="text" value="Value"/>

Upload

✕

✔ Select files
✔ Set permissions
✔ Set properties
4 **Review**

Files

Edit

1 Files Size: 193.0 B

Permissions

Edit

1 grantees

Properties

Edit

Encryption	Storage class
No	Standard

Metadata

Tag	
Chapter	4

Previous
Upload

Viewing 1 to 2

	Name ↑	Last modified ↑	Size ↑	Storage class ↑
<input type="checkbox"/>	📁 PACKT	--	--	--
<input type="checkbox"/>	📄 index.html	Nov 12, 2017 2:12:29 PM	195.0 B	Standard

Overview Properties Permissions Management

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

📁 Upload + Create folder More ▾

Name ↑

📁 PACKT

📄 index.html

index.html

Download Copy path

Latest version ▾

Overview

Key	index.html
Size	195
Expiration date	N/A
Expiration rule	N/A
ETag	59cc619a43eeaa98b91de8c22f591d3d
Last modified	Nov 12, 2017 2:12:29 PM GMT+0530
Link	https://s3.amazonaws.com/aws-bootcamp-packt/index.html

Properties Storage Standard

Create bucket ✕

✓ Name and region✓ Set properties✓ Set permissions④ Review

Name and region [Edit](#)

Bucket name www.blog.tweakings3.com **Region** US East (N. Virginia)

Properties [Edit](#)

Versioning	Disabled
Server access logging	Disabled
Tagging	0 Tags
Object-level logging	Disabled
Default encryption	None

Permissions [Edit](#)

Users	1
Public permissions	Enabled
System permissions	Disabled

Previous Create bucket

Overview Properties **Permissions** Management

Access Control List **Bucket Policy** CORS configuration

Bucket policy editor ARN: arn:aws:s3::www.blog.tweakings3.com
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": "AddPerm",
6       "Effect": "Allow",
7       "Principal": "*",
8       "Action": "s3:GetObject",
9       "Resource": "arn:aws:s3::www.blog.tweakings3.com/*"
10    }
11  ]
12 }
13
```


Static website hosting ✕

Endpoint : <http://www.blog.tweakings3.com.s3-website-ap-southeast-1.amazonaws.com>

Use this bucket to host a website [Learn more](#)

Index document [i](#)

Error document [i](#)

Redirection rules (optional) [i](#)

Redirect requests [Learn more](#)

Disable website hosting

Static website hosting ✕

Endpoint : <http://blog.tweakings3.com.s3-website-ap-southeast-1.amazonaws.com>

- Use this bucket to host a website [Learn more](#)
- Redirect requests [Learn more](#)

Target bucket or domain

Protocol

- Disable website hosting

Aliases Only
 Weighted Only

Displaying 1 to 4 out of 4 Record Sets

<input type="checkbox"/>	Name	Type	Value	Evaluate Target Health	Health Check ID	TTL
<input type="checkbox"/>	tweakings3.com.	A	ALIAS s3-website-ap-southeast-1.amazonaws.com.	No	-	
<input type="checkbox"/>	tweakings3.com.	NS	ns-1583.awsdns-05.co.uk. ns-283.awsdns-35.com. ns-668.awsdns-19.net. ns-1497.awsdns-59.org.	-	-	172800
<input type="checkbox"/>	tweakings3.com.	SOA	ns-1583.awsdns-05.co.uk. awsdns-hostmaster.amazon.com.	-	-	900
<input type="checkbox"/>	www.tweakings3.com.	A	ALIAS s3-website-ap-southeast-1.amazonaws.com.	No	-	

Create Record Set

Name: .tweakings3.com.

Type:

Alias: Yes No

Alias Target:

Alias Hosted Zone ID: Z3O0J2DXBE1FTB

You can also type the domain name for the resource. Examples:

- CloudFront distribution domain name: d1111111abcdef8.cloudfront.net
- Elastic Beanstalk environment CNAME: example.elasticbeanstalk.com
- ELB load balancer DNS name: example-1.us-east-1.elb.amazonaws.com
- S3 website endpoint: s3-website.us-east-2.amazonaws.com
- Resource record set in this hosted zone: www.example.com

[Learn More](#)

Routing Policy:

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

Evaluate Target Health: Yes No

[Create](#)

Create Record Set

Name: .tweakings3.com.

Type:

Alias: Yes No

Alias Target:

Alias Hosted Zone ID: Z3O0J2DXBE1FTB

You can also type the domain name for the resource. Examples:

- CloudFront distribution domain name: d1111111abcdef8.cloudfront.net
- Elastic Beanstalk environment CNAME: example.elasticbeanstalk.com
- ELB load balancer DNS name: example-1.us-east-1.elb.amazonaws.com
- S3 website endpoint: s3-website.us-east-2.amazonaws.com
- Resource record set in this hosted zone: www.example.com

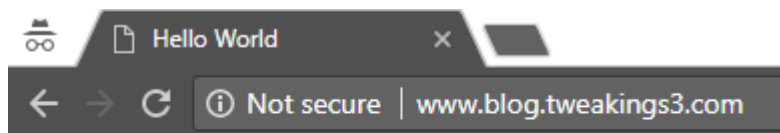
[Learn More](#)

Routing Policy:

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

Evaluate Target Health: Yes No

[Create](#)



Hello World!!!

Chapter 5: Managing RDS

<input type="checkbox"/>	Name	Group ID	Group Name	VPC ID	Description
<input checked="" type="checkbox"/>		sg-e4248e91	aws-bootcamp-mysql	vpc-a1cbefd8	Security Group for AWS Bootcamp MySQL
<input type="checkbox"/>		sg-eca0229c	default	vpc-a1cbefd8	default VPC security group

Security Group: **sg-e4248e91**

Description Inbound Outbound Tags

Edit

Type	Protocol	Port Range	Source	Description
MYSQL/Aurora	TCP	3306	0.0.0.0/0	

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

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

Cancel

Next

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 5.6.39 ▼



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 GB 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.micro — 1 vCPU, 1 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

Storage type [info](#)

General Purpose (SSD) ▼

Allocated storage

20

GB

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

Settings

DB instance identifier [info](#)

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

DB instance identifier is case insensitive, but stored as all lower-case, as in "mydbinstance".

Constraints:

- 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.

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

Network & Security

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

VPC defines the virtual networking environment for this DB instance.

Default VPC (vpc-a1cbefd8) ▼



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](#)

No preference ▼

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

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

Database port

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

DB parameter group [info](#)

Option group [info](#)

Copy tags to snapshots


IAM DB authentication [info](#)

- Enable IAM DB authentication
Manage your database user credentials through AWS IAM users and roles.
- Disable


Encryption

Encryption

- Enable Encryption
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. [Learn More](#).
- Disable Encryption

 The selected engine or DB instance class does not support storage 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

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

 Amazon RDS requires permissions to manage AWS resources on your behalf. By clicking Launch DB Instance, you grant permission for Amazon RDS to create a service-linked role in AWS IAM that contains the required permissions. [Learn more.](#)

Cancel

Previous

Launch DB instance



Your DB instance is being created.

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





Connecting to your DB instance

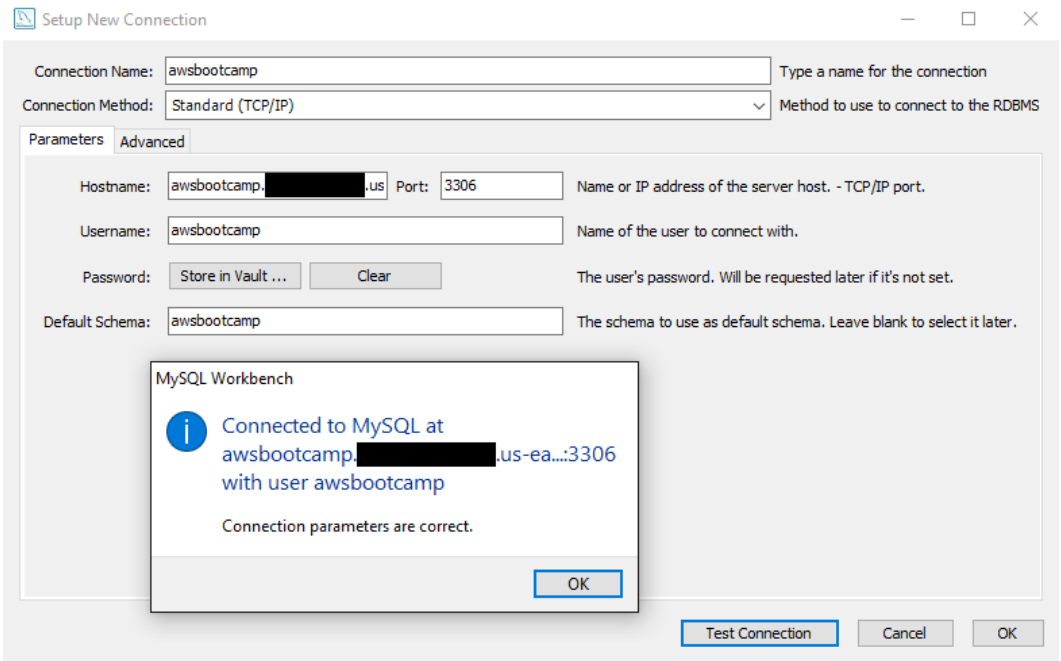
Once Amazon RDS finishes provisioning your DB instance, you can use a SQL client application or utility to connect to the instance.

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

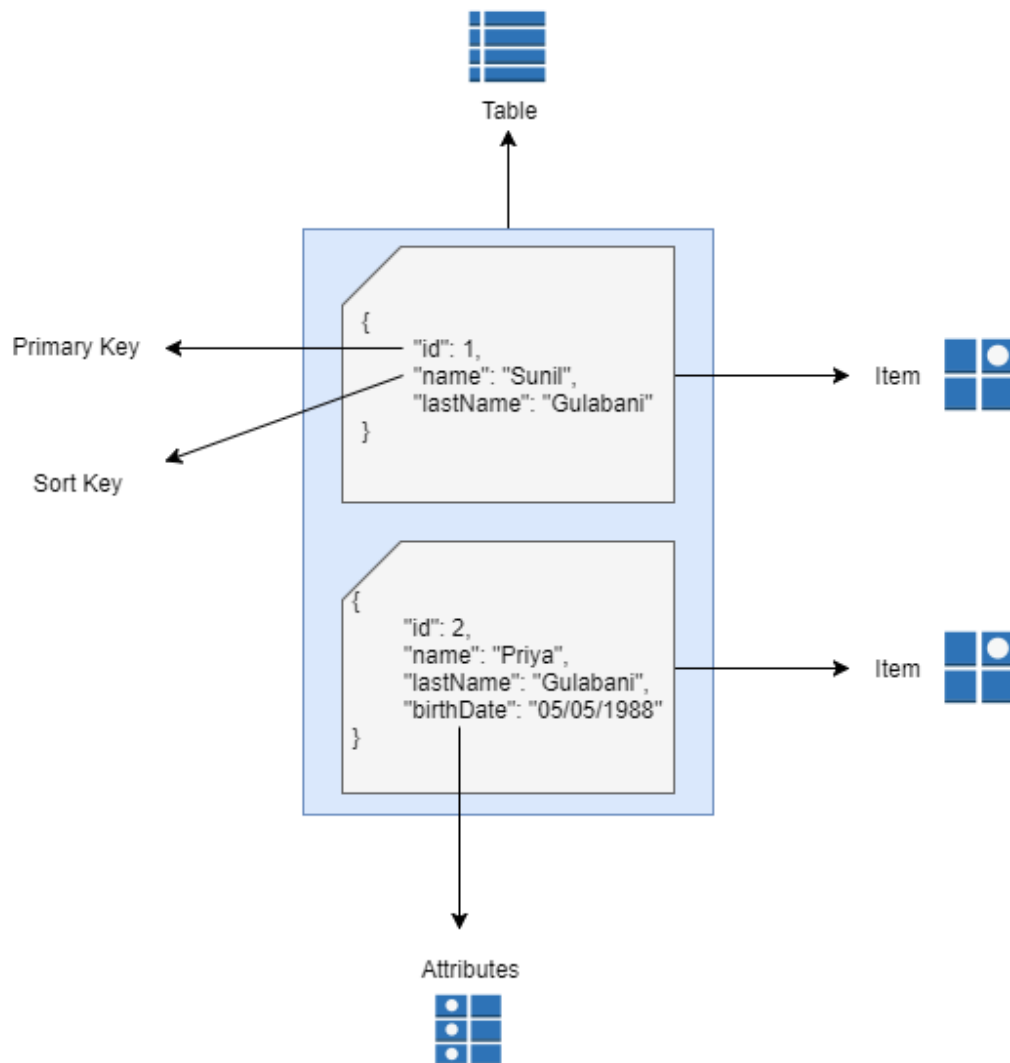
All DB instances

[View DB instance details](#)

Instances (1)			Instance actions ▾	Restore from S3	Launch DB instance
DB instance	Engine	Status	CPU	Current activity	Maintena
 awsbootcamp	MySQL	 available		 0 Connections	none



Chapter 6: Implementing DynamoDB – NoSQL Database



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

Number ▼ ⓘ

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".
 - On-Demand Backup and Restore Enabled **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

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
+ Add index				

Provisioned capacity

Read capacity units
Table
Estimated cost \$0.59 / month ([Capacity calculator](#))

Write capacity units

Auto Scaling

Read capacity Write capacity

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.

The screenshot shows the AWS IAM console interface for an Amazon DynamoDB table named 'awsbootcamp'. The table is currently in the 'Overview' tab. The 'Recent alerts' section indicates that no CloudWatch alarms have been triggered. The 'Stream details' section shows that the stream is disabled. The 'Table details' section provides the following information:

Table name	awsbootcamp
Primary partition key	id (Number)
Primary sort key	name (String)
Time to live attribute	DISABLED Manage TTL
Table status	Active
Creation date	December 20, 2017 at 3:54:13 PM UTC+5:30
Provisioned read capacity units	1 (Auto Scaling Disabled)
Provisioned write capacity units	1 (Auto Scaling Disabled)
Last decrease time	-
Last increase time	-
Storage size (in bytes)	0 bytes
Item count	0
Region	US East (N. Virginia)

Chapter 7: Implementing Caching Using ElastiCache

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

Memcached settings

Name	<input type="text" value="aws-bootcamp"/>	?
Engine version compatibility	<input type="text" value="1.4.34"/>	?
Port	<input type="text" value="11211"/>	?
Parameter group	<input type="text" value="default.memcached1.4"/>	?
Node type	<input type="text" value="cache.t2.micro (0.5 GiB)"/>	?
Number of nodes	<input type="text" value="2"/>	?

▶ Advanced Memcached settings

Cancel

Create

Cluster Name	Nodes	Node Type	Zone	Configuration Endpoint	Status
aws-bootcamp	2 nodes	cache.t2.micro	Multiple	aws-bootcamp.dph4e.cfg.use1.cache.amazonaws.com:11211	available

Cluster: aws-bootcamp **Creation Time:** January 5, 2018 at 8:33:47 PM UTC+5:30
Configuration Endpoint: aws-bootcamp.dph4e.cfg.use1.cache.amazonaws.com:11211 **Status:** available
Engine: memcached **Engine Version Compatibility:** 1.4.34
Node type: cache.t2.micro **Availability Zones:** Multiple
Number of Nodes: 2 **Number of Nodes Pending Creation:** -
Nodes Pending Deletion: - **Parameter Group:** default.memcached1.4 (in-sync)
Subnet Group: default **Security Group(s):** sg-2e5a905a (VPC)(active)
Notification ARN: Disabled **Maintenance Window:** tue:08:00-tue:09:00
Backup Retention Period: N/A **Backup Window:** N/A

Tags 



You have not created any tags. Please add tags using the **Manage Tags** button above.

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	<input type="text" value="aws-bootcamp-redis"/>	i
Description	<input type="text" value="AWS Bootcamp redis server"/>	i
Engine version compatibility	<input type="text" value="3.2.10"/>	i
Port	<input type="text" value="6379"/>	i
Parameter group	<input type="text" value="default.redis3.2"/>	i
Node type	<input type="text" value="cache.t2.micro (0.5 GiB)"/>	i
Number of replicas	<input type="text" value="2"/>	i

▶ Advanced Redis settings

▼ 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** ⓘ
- Preferred availability zone(s)** No preference ⓘ
 Select zones

Security

- Security groups** ⓘ
- | | Name |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | aws-bootcamp-elasticache (vpc-a1cbefd8) |
| <input type="checkbox"/> | aws-bootcamp-mysql (vpc-a1cbefd8) |
| <input type="checkbox"/> | default (vpc-a1cbefd8) |

⋮ Currently, enabling encryption in-transit / at-rest can only be done when creating a Redis cluster using Redis version 3.2.6 only.

- 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** ⓘ

Maintenance

- Maintenance window** No preference ⓘ
 Specify maintenance window
- Topic for SNS notification** ⓘ

Cancel

Cluster Name	Mode	Shards	Nodes	Node Type	Status	Encryption in-transit	Encryption at-rest
aws-bootcamp-redis	Redis	1	3 nodes	cache.t2.micro	available	No	No
Name: aws-bootcamp-redis Configuration Endpoint: - Primary Endpoint: aws-bootcamp-redis.dph4e.ng.0001.use1.cache.amazonaws.com:6379 Engine Version Compatibility: 3.2.4 Availability Zones: us-east-1f, us-east-1c, us-east-1e Number of Nodes: 3 nodes Description: AWS Bootcamp redis server Subnet Group: default Notification ARN: Disabled Backup Retention Period: Disabled Encryption in-transit: No Encryption at-rest: No				Creation Time: January 7, 2018 at 3:42:24 PM UTC+5:30 Status: available Engine: Redis Node type: cache.t2.micro Shards: 1 Multi-AZ: disabled Parameter Group: default.redis3.2 (In-sync) Security Group(s): sg-2e5a905a (VPC)(active) Maintenance Window: tue:08:30-tue:09:30 Backup Window: Disabled Redis Auth: No			

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	<input type="text" value="aws-bootcamp-redis"/>	
Description	<input type="text" value="AWS Bootcamp redis cluster"/>	
Engine version compatibility	<input type="text" value="3.2.10"/>	
Port	<input type="text" value="6379"/>	
Parameter group	<input type="text" value="default.redis3.2.cluster.on"/>	
Node type	<input type="text" value="cache.t2.micro (0.5 GiB)"/>	
Number of Shards	<input type="text" value="2"/>	
Replicas per Shard	<input type="text" value="2"/>	
Subnet group	<input type="text" value="default (vpc-a1cbefd8)"/>	

▼ 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

Security

Security groups ⓘ

	Name
<input checked="" type="checkbox"/>	aws-bootcamp-elasticache (vpc-a1cbefd8)
<input type="checkbox"/>	aws-bootcamp-mysql (vpc-a1cbefd8)
<input type="checkbox"/>	default (vpc-a1cbefd8)

Currently, enabling encryption in-transit / at-rest can only be done when creating a Redis cluster using Redis version 3.2.6 only.

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 i

Backup retention period i
day(s)

Backup window No preference i
 Specify backup window

Maintenance

Maintenance window No preference i
 Specify maintenance window

Topic for SNS notification i

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

Cluster Name	Mode	Shards	Nodes	Node Type	Status	Encryption in-transit	Encryption at-rest
aws-bootcamp-redis	Clustered Redis	2	6 nodes	cache.t2.micro	available	No	No
Name: aws-bootcamp-redis		Creation Time: January 12, 2018 at 6:26:21 PM UTC+5:30					
Configuration Endpoint: aws-bootcamp-redis.d1ph4e.clustercfg.use1.cache.amazonaws.com:6379		Status: available					
Primary Endpoint: -		Engine: Clustered Redis					
Engine Version Compatibility: 3.2.10		Node type: cache.t2.micro					
Availability Zones: us-east-1a, us-east-1c, us-east-1e, us-east-1f		Shards: 2					
Number of Nodes: 6 nodes		Multi-AZ: enabled					
Description: AWS Bootcamp redis cluster		Parameter Group: default.redis3.2.cluster.on (in-sync)					
Subnet Group: default		Security Group(s): sg-2e5a905a (VPC)(active)					
Notification ARN: Disabled		Maintenance Window: thu:03:00-thu:04:00					
Backup Retention Period: 1 day(s)		Backup Window: 06:00-07:00					
Encryption in-transit: No		Redis Auth: No					
Encryption at-rest: No							

< Name: aws-bootcamp-redis

Add shards

Delete shards

Rebalance Slot distribution

<input type="checkbox"/>	Shard Name	Nodes	Status	Slots/Keyspaces
<input type="checkbox"/>	aws-bootcamp-redis-0001	3 nodes	available	0-8191
<input type="checkbox"/>	aws-bootcamp-redis-0002	3 nodes	available	8192-16383

< Name: aws-bootcamp-redis-0001

Description

Nodes

Add Node

Actions



Viewing 3 of 3 Nodes

<input type="checkbox"/>	Node Name	Status	Port	Endpoint	Parameter Group Status	Created on
<input type="checkbox"/>	aws-bootcamp-redis-0001-001	available	6379	aws-bootcamp-redis-0001-001.dtp4e.0001.use1.cache.amazonaws.com	in-sync	January 12, 2018 at 6:26:21 PM
<input type="checkbox"/>	aws-bootcamp-redis-0001-002	available	6379	aws-bootcamp-redis-0001-002.dtp4e.0001.use1.cache.amazonaws.com	in-sync	January 12, 2018 at 6:33:49 PM
<input type="checkbox"/>	aws-bootcamp-redis-0001-003	available	6379	aws-bootcamp-redis-0001-003.dtp4e.0001.use1.cache.amazonaws.com	in-sync	January 12, 2018 at 6:32:12 PM

Chapter 8: Triggering Notifications

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](#)

Topics

Successfully created new topic.

[Publish to topic](#) [Create new topic](#) [Actions ▾](#)

Filter

<input type="checkbox"/>	Name	ARN
<input type="checkbox"/>	aws-bootcamp	arn:aws:sns:us-east-1:993735536778:aws-bootcamp

Topic details: aws-bootcamp

Publish to topic

Other topic actions ▾

Topic ARN am:aws:sns:us-east-1:993735536778:aws-bootcamp
Topic owner 993735536778
Region us-east-1
Display name bootcamp

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

<input type="checkbox"/>	Subscription ID	Protocol	Endpoint	Subscriber
<input type="checkbox"/>	PendingConfirmation	email	sunil.gulabani1@gmail.com	993735536778

AWS Notification - Subscription Confirmation

Inbox x



bootcamp <no-reply@sns.amazonaws.com> 10:12 (6 minutes ago) ☆

to me ▾

You have chosen to subscribe to the topic:
arn:aws:sns:us-east-1:993735536778:aws-bootcamp

To confirm this subscription, click or visit the link below (If this was in error no action is necessary):
[Confirm subscription](#)

Please do not reply directly to this email. If you wish to remove yourself from receiving all future SNS subscription confirmation requests please send an email to [sns-opt-out](#)



Simple Notification Service

Subscription confirmed!

You have subscribed sunil.gulabani1@gmail.com to the topic:
aws-bootcamp.

Your subscription's id is:

arn:aws:sns:us-east-1:993735536778:aws-bootcamp:50c06be4-c502-4fa1-9d31-aa2837c9b10e

If it was not your intention to subscribe, [click here to unsubscribe](#).

<input type="checkbox"/>	Subscription ID	Protocol	Endpoint	Subscriber
<input type="checkbox"/>	arn:aws:sns:us-east-1:993735536778:aws-bootcamp:50...	email	sunil.gulabani1@gmail.com	993735536778

Topic details: aws-bootcamp

[Publish to topic](#)

[Other topic actions](#) ▾

Topic ARN arn:aws:sns:us-east-1:993735536778:aws-bootcamp
Topic owner 993735536778
Region us-east-1
Display name bootcamp

Subscriptions

[Create subscription](#)

[Request confirmations](#)

[Confirm subscription](#)

[Other subscription actions](#) ▾

Filter

<input type="checkbox"/>	Subscription ID	Protocol	Endpoint	Subscriber
<input type="checkbox"/>	arn:aws:sns:us-east-1:993735536778:aws-bootcamp:50...	email	sunil.gulabani1@gmail.com	993735536778

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

Time to live (TTL)

Message Attributes

AWS Bootcamp Notification Inbox x

 **bootcamp** <no-reply@sns.amazonaws.com>
to me

10:41 (0 minutes ago) ☆  

Hello,

This is test notification from SNS!

If you wish to stop receiving notifications from this topic, please click or visit the link below to unsubscribe:

<https://sns.us-east-1.amazonaws.com/unsubscribe.html?SubscriptionArn=arn:aws:sns:us-east-1:993735536778:aws-bootcamp:50c06be4-c502-4fa1-9d31-aa2837c9b10e&Endpoint=sunil.qulabani1@gmail.com>

Please do not reply directly to this email. If you have any questions or comments regarding this email, please contact us at <https://aws.amazon.com/support>

Chapter 9: All About CloudWatch

All metrics | Graphed metrics | Graph options

Q Search for any metric, dimension or resource id

78 Metrics

▼ Custom Namespaces

- Custom/AWSBootcampBook
2 Metrics

▼ AWS Namespaces

- RDS
72 Metrics
- S3
2 Metrics
- SNS
2 Metrics

All metrics | Graphed metrics | Graph options

All > Custom/AWSBootcampBook Q Search for any metric, dimension or resource id

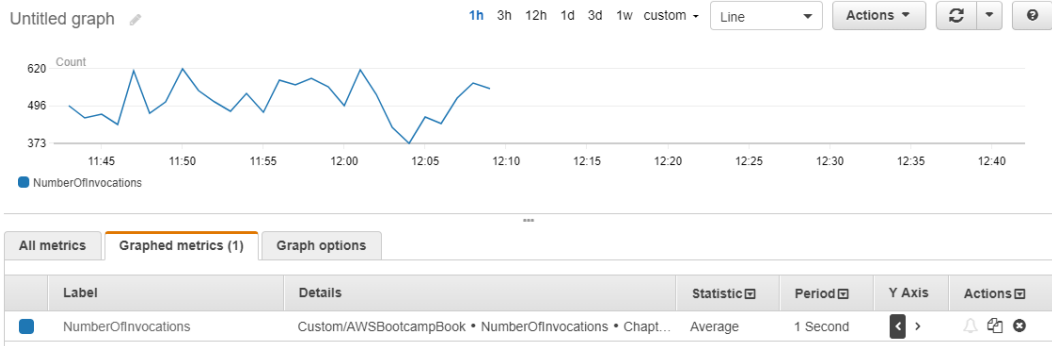
2 Metrics

- ChapterName, ChapterNo
1 Metric
- Chapter
1 Metric

All metrics | Graphed metrics | Graph options

All > Custom/AWSBootcampBook > ChapterName, ChapterNo Q Search for any metric, dimension or resource id

<input type="checkbox"/>	ChapterName (1)	ChapterNo	Metric Name
<input type="checkbox"/>	All About CloudWatch	9	NumberOfInvocations



Create Alarm ✕

1. Select Metric 2. Define Alarm

RDS 1 to 1 of 1 metrics

Searching for CPUUtilization...

RDS > Per-Database Metrics

DBInstanceIdentifier	Metric Name
<input checked="" type="checkbox"/> awsbootcamp	CPUUtilization

Title: CPUUtilization Average ▾ 5 Minutes ▾

■ CPUUtilization

Update Graph

Time Range

Relative Absolute UTC (GMT) ▾

From: 3 days ago ▾

To: 0 days ago ▾

Zoom: 1h | 3h | 6h | 12h | 1d | 3d | 1w | 2w

Left Y-axis

Cancel Previous Next Create Alarm

Create Alarm



1. [Select Metric](#) 2. [Define Alarm](#)

Alarm Threshold

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

Name:

Description:

Whenever: CPUUtilization

is:

for: 1 out of datapoints

Additional settings

Provide additional configuration for your alarm.

Treat missing data as:

Actions

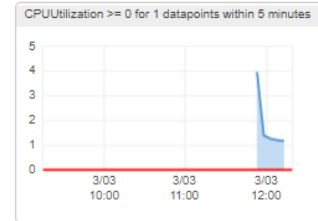
Define what actions are taken when your alarm changes state.

Notification	Delete
Whenever this alarm: <input type="text" value="State is ALARM"/>	
Send notification to: <input type="text" value="Select a notification list"/> New list Enter list	

- [+ Notification](#) [+ AutoScaling Action](#) [+ EC2 Action](#)

Alarm Preview

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



Namespace: AWS/RDS

DBInstance-Identifier:

Metric Name:

Period:

Statistic: Standard Custom

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

State	Name	Threshold	Config Status
<input checked="" type="checkbox"/> OK	AWS-Bootcamp-RDS-High-CPU-Utilization	CPUUtilization >= 80 for 1 datapoints within 5 minutes	

Log Groups	Expire Events After	Metric Filters	Subscriptions
<input type="radio"/> aws-bootcamp	Never Expire	0 filters	None

Log Streams	Last Event Time
<input type="checkbox"/> chapter-9	2018-03-03 18:46 UTC+5:30



Expand all Row Text   

Filter events		all	30s	5m	1h	6h	1d	1w	custom -
Time (UTC +00:00)	Message								
2018-03-03		No older events found at the moment. Retry.							
▶ 13:16:27	Hello World!!!								
▶ 13:16:29	Hello World - 2!!!								
		No newer events found at the moment. Retry.							

Create new dashboard ✕

Dashboard name:

[Cancel](#) [Create dashboard](#)

AWS-Bootcamp 1h 3h 12h 1d 3d 1w custom -  

Add to this dashboard



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



Line

Compare metrics over time



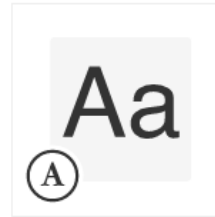
Stacked area

Compare the total over time



Number

Instantly see the latest value for a metric



Text

Free text with markdown formatting

Cancel

Configure

Add metric graph



Untitled graph

1h 3h 12h 1d 3d 1w custom

Line



All metrics		Graphed metrics (1)	Graph options
All	> RDS	> Per-Database Metrics	Search for any metric, dimension or resource id
<input type="checkbox"/>	DBInstanceIdentifier (18)		Metric Name
<input type="checkbox"/>	awsbootcamp		FreeStorageSpace
<input checked="" type="checkbox"/>	awsbootcamp		CPUUtilization
<input type="checkbox"/>	awsbootcamp		CPUCreditBalance
<input type="checkbox"/>	awsbootcamp		BurstBalance

Cancel

Create widget

