

Learn More

Get Started using Elastic Beanstalk
What Is AWS Elastic Beanstalk?
How Does AWS Elastic Beanstalk Work?

Featured

Create your own custom platform

Command Line Interface (v3)

Installing the AWS EB CLI
EB CLI Command Reference

If you want to use a command line to create, manage, and scale your Elastic Beanstalk applications, please use the Elastic Beanstalk Command Line Interface (EB CLI).

Get Started
\$ mkdir HelloWorld
\$ cd HelloWorld
\$ eb init -p PHP
\$ echo "Hello World" > index.html
\$ eb create dev-env
\$ eb open

To deploy updates to your applications, use 'eb deploy'.

All Applications

My First Elastic Beanstalk Application

Default-Environment
Environment tier: Web Server Running versions: 201703191820-3 Last modified: 2017-03-19 18:23:20 UTC+0530 URL: Default-Environment.bn293wmx.us-west-1.elasticbeanstalk...

Default-Environment (Terminated)
Environment tier: Web Server Running versions: gamenlife-1.0 Last modified: 2017-03-19 17:26:41 UTC+0530 URL: Default-Environment.bn293wmx.us-west-1.elasticbeanstalk...

Create New Application

Actions ▾

- Create environment
- Restore terminated environment
- View application versions**
- View saved configurations
- Delete application

In Application Versions, select an older version and click on Deploy.

All Applications > My First Elastic Beanstalk Application

Environments

Application versions
Saved configurations

Version Label	Description	Date Created	Source	Deployed To
201703191820-3		2017-03-19 18:21:16 UTC+0530	My First Elastic Beanstalk Application-201703191820-3.zip	Default-Environment
201703191804-2		2017-03-19 18:05:02 UTC+0530	My First Elastic Beanstalk Application-201703191804-2.zip	
Sample Application		2017-03-19 17:45:35 UTC+0530	Sample Application	

Delete Deploy Upload Refresh

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Restarting app servers.
Click on Actions and select Restart App Service

The screenshot shows the AWS Elastic Beanstalk console for a 'Default-Environment'. The 'Actions' menu is open, and the 'Restart App Server(s)' option is highlighted. The environment status is 'Ok'.

Time	Type	Details
2017-03-19 18:25:55 UTC+0530	INFO	Environment health has transitioned from Ok to Info. Application update in progress on 1 instance. 0 out of 1 instance completed (running for 7 seconds).
2017-03-19 18:25:51 UTC+0530	INFO	Environment update completed successfully.
2017-03-19 18:25:51 UTC+0530	INFO	New application version was deployed to running EC2 instances.
2017-03-19 18:25:28 UTC+0530	INFO	Deploying new version to instance(s).
2017-03-19 18:25:22 UTC+0530	INFO	Environment update is starting.



16. Amazon S3 (Simple Storage Service)

Amazon Simple Storage Service (Amazon S3) is storage for the Internet. You can use Amazon S3 to store and retrieve any amount of data at any time, from anywhere on the web. You can accomplish these tasks using the simple and intuitive web interface of the AWS Management Console.

Following are some of the advantages of Amazon S3 Service:

- **Create Buckets** – Create and name a bucket that stores data. Buckets are the fundamental container in Amazon S3 for data storage.
- **Store data in Buckets** – Store an infinite amount of data in a bucket. Upload as many objects as you like into an Amazon S3 bucket. Each object can contain up to 5 TB of data. Each object is stored and retrieved using a unique developer-assigned key.
- **Download data** – Download your data or enable others to do so. Download your data any time you like or allow others to do the same.
- **Permissions** – Grant or deny access to others who want to upload or download data into your Amazon S3 bucket. Grant upload and download permissions to three types of users. Authentication mechanisms can help keep data secure from unauthorized access.
- **Standard interfaces** – Use standards-based REST and SOAP interfaces designed to work with any Internet-development toolkit.

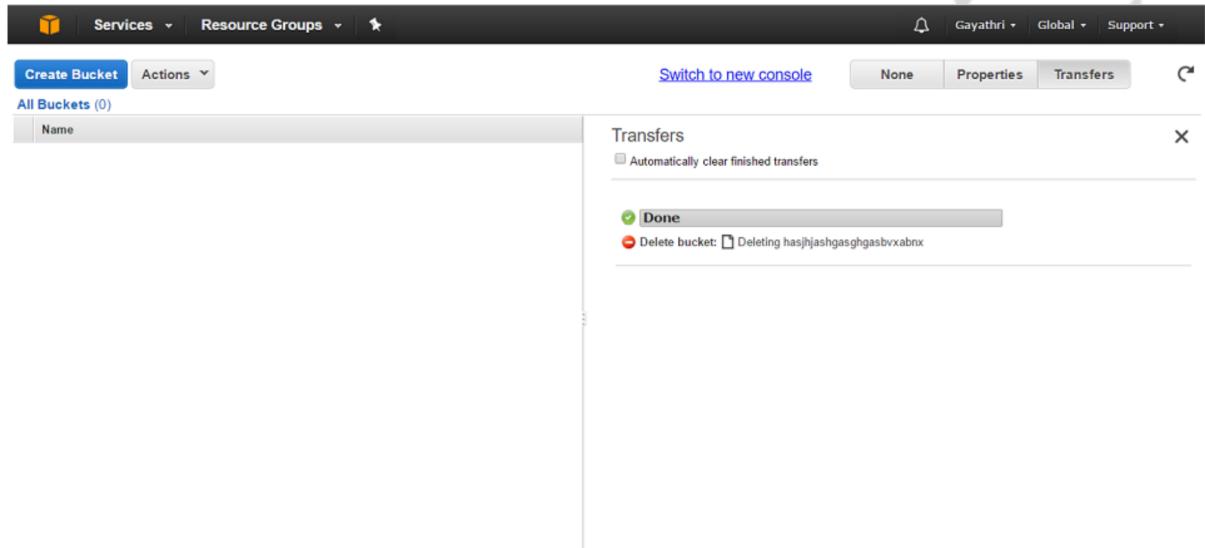
Amazon S3 stores data as objects within buckets. An object consists of a file and optionally any metadata that describes that file.

To store an object in Amazon S3, you upload the file you want to store to a bucket. When you upload a file, you can set permissions on the object as well as any metadata.

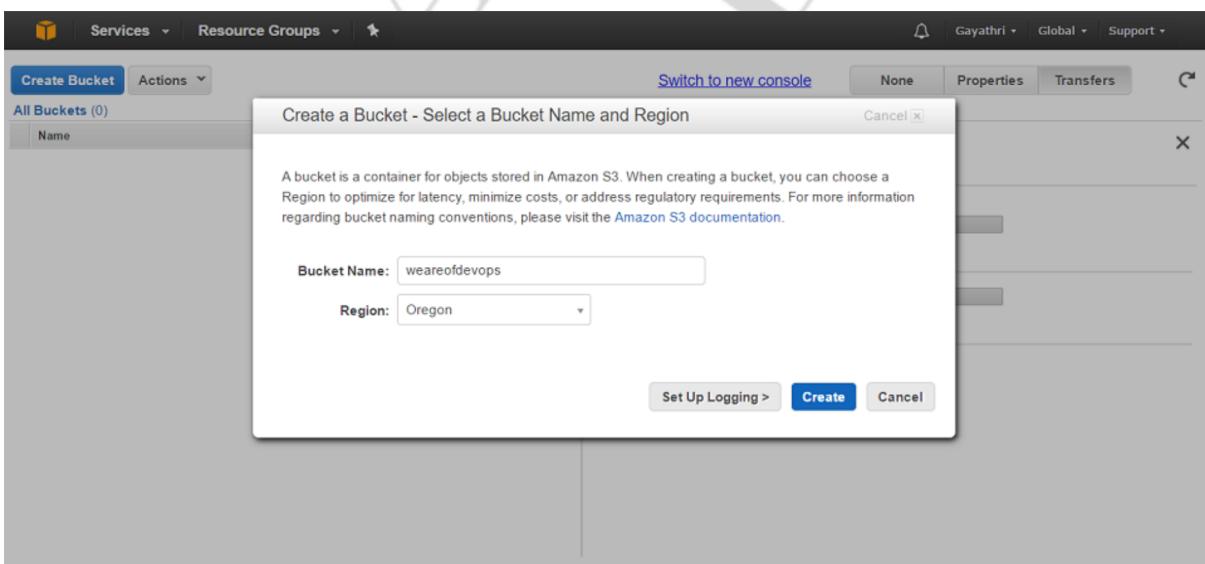
Buckets are the containers for objects. You can have one or more buckets. For each bucket, you can control access to it (who can create, delete, and list objects in the bucket), view access logs for it and its objects, and choose the geographical region where Amazon S3 will store the bucket and its contents.

Creating Amazon S3 Bucket:

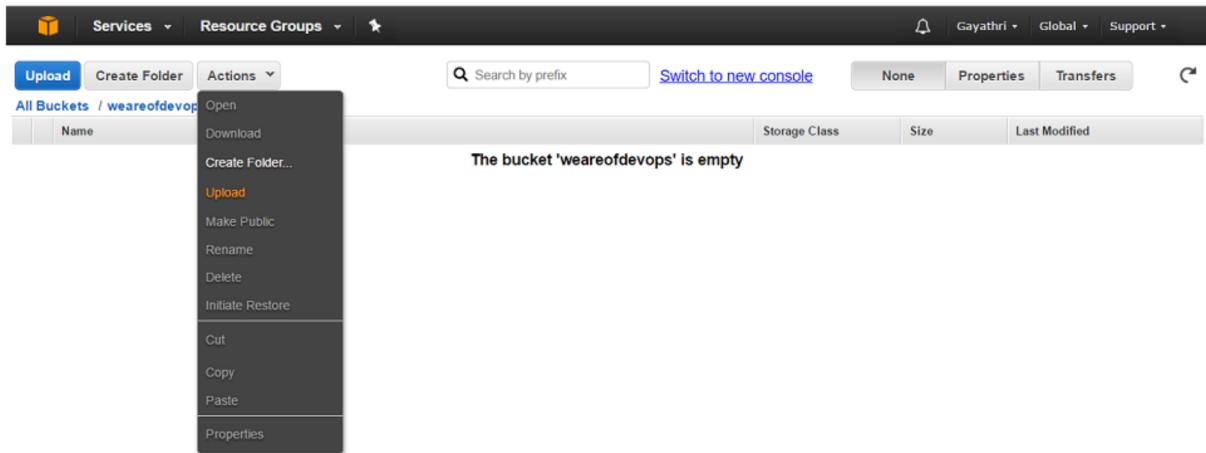
Go to Amazon S3 Service page from main Dashboard, Click on Create Bucket



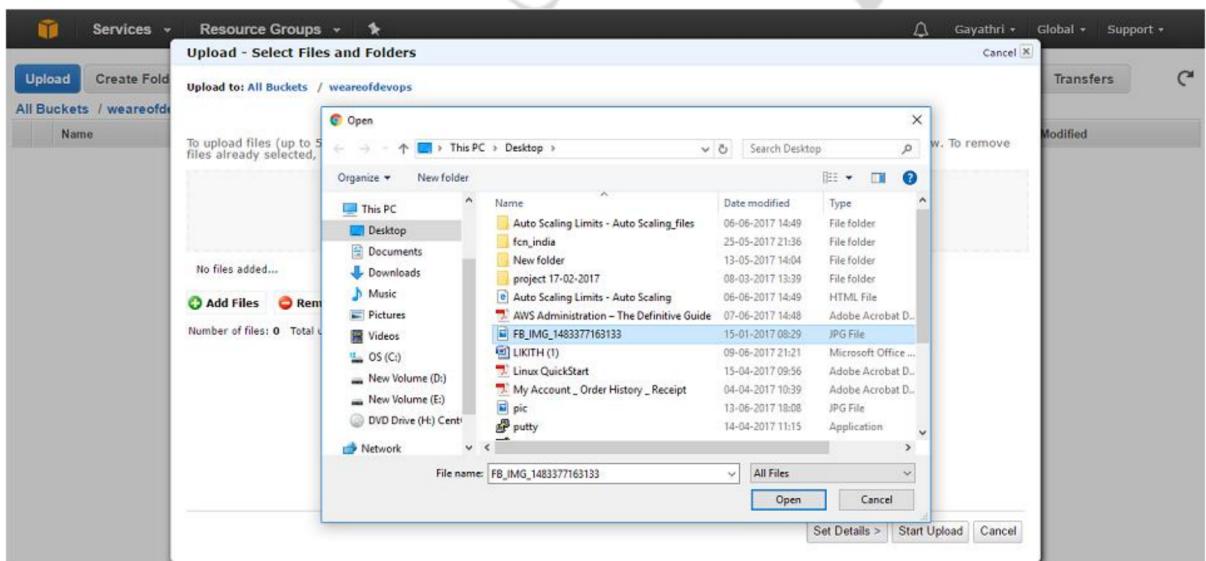
You will see create bucket dialog box in which you have to give Bucket Name and Region. Click on Create



Bucket is created and now you can upload files into that which you want to store. Click on Upload and choose Add files to choose the file to be uploaded.



Choose a file to upload, and then choose Open.



The file is uploaded, now you have to give permissions to the file, who has to open/download, view and edit permissions etc. So select the file right click on it you can see properties where you can change/give permissions.

The screenshot shows the AWS S3 console interface. On the left, there's a sidebar with options like 'Upload', 'Create Folder', and 'Actions'. The main area shows a table of buckets, with 'weareofdevops' selected. On the right, the 'Properties' tab is active, displaying file details for 'FB_IMG_1483377163133.jpg'. A modal window is open over the properties panel, specifically the 'Permissions' section. It lists two grantee entries: 'gayathri009.k' and 'Everyone'. Both entries have the 'Open/Download' and 'View Permissions' checkboxes checked. There are also 'Edit Permissions' buttons next to each entry. At the bottom of the modal, there are 'Save' and 'Cancel' buttons.

In the permissions tab you can add permissions as required. Here I have given permissions to everyone. Once done click on save. Now you can see the details of the bucket, it gives the url for the file which you can open it through browser.

This screenshot shows the AWS S3 console after saving the changes made in the previous step. The 'Permissions' section now only contains a single entry for 'Everyone', with the 'Open/Download' checkbox checked. The 'View Permissions' checkbox is also checked. Below this, there's a 'Edit Permissions' button. The 'Add more permissions' button is visible at the bottom. The modal window on the right still displays the file details for 'FB_IMG_1483377163133.jpg'.

Similarly, we can create folders in bucket, move the objects and delete buckets to prevent further charges if you no longer need to store the objects that you have uploaded.

17. AWS RDS

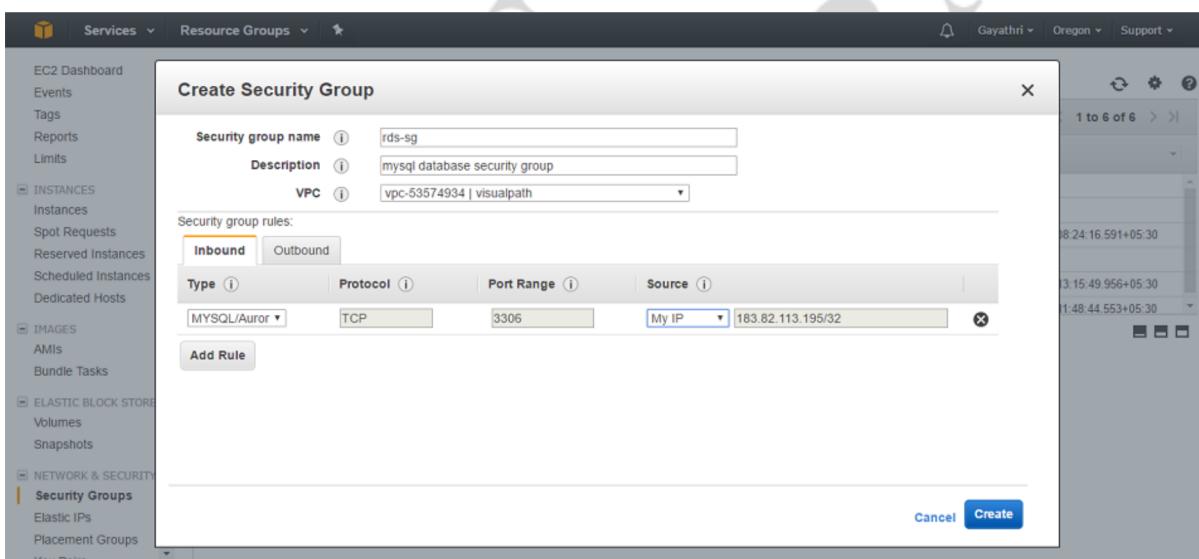
Amazon Relational Database Service (Amazon RDS) is a web service that makes it easier to set up, operate, and scale a relational database in the cloud. It provides cost-efficient, resizable capacity for an industry-standard relational database and manages common database administration tasks.

The basic building block of Amazon RDS is the DB instance. A DB instance is an isolated database environment in the cloud. A DB instance can contain multiple user-created databases, and you can access it by using the same tools and applications that you use with a stand-alone database instance. You can create and modify a DB instance by using the AWS Command Line Interface, the Amazon RDS API, or the AWS Management Console.

Each DB instance runs a DB engine. Amazon RDS currently supports the MySQL, MariaDB, PostgreSQL, Oracle, and Microsoft SQL Server DB engines. Each DB engine has its own supported features, and each version of a DB engine may include specific features. Additionally, each DB engine has a set of parameters in a DB parameter group that control the behaviour of the databases that it manages.

Creating MySQL DB Instance:

Create a security group of MySQL port (3306) for RDS instance.



Create an AWS RDS instance with MySQL database.

The screenshot shows the AWS RDS console in Mozilla Firefox. The URL is <https://us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#launch-dbinstance:ct=dbinstances>. The page title is "RDS · AWS Console". The main content area is titled "Step 1: Select Engine". It lists several database engines: Amazon Aurora, MySQL (selected), Mariadb, PostgreSQL, Oracle, and SQL Server. A "Select" button is next to the MySQL entry. Below MySQL, there is a "Free tier eligible" badge. To the right of MySQL, there is a brief description and a bulleted list of features. At the bottom of the page, there are links for "Feedback", "English", "Privacy Policy", and "Terms of Use".

Select MySQL RDS free usage Tier for practice and click on next step

The screenshot shows the AWS RDS console in Mozilla Firefox, continuing from the previous step. The URL is the same. The main content area is titled "Step 2: Production?". It asks "Do you plan to use this database for production purposes?". There are two options: "Production" and "Dev/Test". Under "Production", "Amazon Aurora" is listed with a "Recommended" badge. Under "Dev/Test", "MySQL" is selected with a radio button. A note says "This instance is intended for use outside of production or under the RDS Free Usage Tier." At the bottom, there are "Cancel", "Previous", and "Next Step" buttons.

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Specify the DB Details like License Model, DB Engine version, DB instance class, storage type, allocated size etc. Here I have chosen the default settings.

Step 1: Select Engine
Step 2: Production
Step 3: Specify DB Details
Step 4: Configure Advanced Settings

Your current selection is eligible for the free tier.
[Learn More](#).
Estimate your monthly costs for the DB Instance using the [RDS Instance Cost Calculator](#).

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 show options that are eligible for RDS Free Tier

Instance Specifications

DB Engine mysql
License Model general-public-license
DB Engine Version MySQL 5.6.27

Review the Known Issues/Limitations to learn about potential compatibility issues with specific database versions.

DB Instance Class db.t2.micro — 1 vCPU, 1 GiB RAM
Multi-AZ Deployment No
Storage Type General Purpose (SSD)

Create User for Database with Username and Password as shown below, click on next step.

Review the Known Issues/Limitations to learn about potential compatibility issues with specific database versions.

DB Instance Class db.t2.micro — 1 vCPU, 1 GiB RAM
Multi-AZ Deployment No
Storage Type General Purpose (SSD)
Allocated Storage* 5 GB

Settings

DB Instance Identifier* rds-instance
Master Username* rdsuser
Master Password*
Confirm Password*
Retype the value you specified for Master Password.

* Required Cancel Previous **Next Step**

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Configure the Advanced Settings like VPC, Subnet Group, AZ and security group for DB instance.

Step 1: Select Engine
Step 2: Production?
Step 3: Specify DB Details
Step 4: Configure Advanced Settings

Configure Advanced Settings

Network & Security

VPC* Default VPC (vpc-8022f2e7)
Subnet Group default
Publicly Accessible Yes
Availability Zone us-west-2a
VPC Security Group(s) instance-sg (VPC)
my-security-group (VPC)
rds-launch-wizard (VPC)
wordpress-rds-sg (VPC)

Select the Virtual Private Cloud (VPC) that defines the virtual networking environment for this DB instance. Only VPCs with a corresponding DB Subnet Group are listed. [Learn More](#).

Database Options

Database Name wordpressDB
Note: If no database name is specified then no initial MySQL database will be created on the DB Instance.
Database Port 3306

Feedback English | RDS - AWS Console - M... | Sat Apr 15, 7:22 PM root | Applications Places System Firefox | Welcome to CentOS EC2 Management Co... | Search | Gayathri Oregon Support | Privacy Policy Terms of Use | root@server1:~/Deskt... | © 2008 - 2017, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.

You can also take backup for DB instance if you want by specifying Backup Retention Period. Click on Launch DB instance.

Copy Tags To Snapshots
Enable Encryption No

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 7 days
Backup Window No Preference

Monitoring

Enable Enhanced Monitoring No

Maintenance

Auto Minor Version Upgrade Yes
Maintenance Window No Preference

* Required Cancel Previous Launch DB Instance

Feedback English | RDS - AWS Console - M... | Sat Apr 15, 7:23 PM root | Applications Places System Firefox | Welcome to CentOS EC2 Management Co... | Search | Gayathri Oregon Support | Privacy Policy Terms of Use | root@server1:~/Deskt... | © 2008 - 2017, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.

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RDS DB instance is successfully created. You can also connect to the DB instance by using End-point.

The screenshot shows a Mozilla Firefox browser window with the AWS RDS console. The URL is https://us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#launch-dbinstance:ct=dbinstances. The page displays a success message: "Your DB Instance is being created." It also includes a note: "Note: Your instance may take a few minutes to launch." On the left, there's a navigation sidebar with steps: Step 1: Select Engine, Step 2: Production?, Step 3: Specify DB Details, Step 4: Configure Advanced Settings. Below the message, there's a section titled "Connecting to your DB Instance" with a link "Learn about connecting to your DB instance". At the bottom right is a blue button labeled "View Your DB Instances".

The highlighted link is the endpoint for DB instance which you have to connect.

The screenshot shows the AWS RDS Dashboard in Mozilla Firefox. The URL is https://us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#dbinstances:id=rds-instance;sf=all. The main area displays a table for "Viewing 1 of 1 DB Instances". The table has columns: Engine, DB Instance, Status, CPU, Current Activity, Maintenance, Class, VPC, Multi-AZ, and Replicatic. One row is shown for "MySQL rds-instance available". Below the table, the "Endpoint" is listed as "rds-instance.c7g05q1cpxml.us-west-2.rds.amazonaws.com:3306 (authorized)". There are tabs for "Alarms and Recent Events" and "Monitoring". The "Monitoring" tab shows metrics for CPU, Memory, Storage, Read IOPS, Write IOPS, and Swap Usage. At the bottom are buttons for "Instance Actions", "Tags", and "Logs".

Login to the RDS instance from EC2 centos.

```
# mysql -h rds-instance.c7g05q1cpxml.us-west-2.rds.amazonaws.com -P 3306 -u rdsuser -p
```

You will get a prompt then enter your password.

We will enter into the mysql shell.

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18. ROUTE53

Amazon Route 53 is a highly available and scalable cloud Domain Name System (DNS) web service. It is designed to give developers and businesses an extremely reliable and cost effective way to route end users to Internet applications by translating names like www.example.com into the numeric IP addresses like 192.0.2.1 that computers use to connect to each other. Amazon Route 53 is fully compliant with IPv6 as well.

Amazon Route 53 effectively connects user requests to infrastructure running in AWS such as Amazon EC2 instances, Elastic Load Balancing load balancers, or Amazon S3 buckets and can also be used to route users to infrastructure outside of AWS. You can use Amazon Route 53 to configure DNS health checks to route traffic to healthy endpoints or to independently monitor the health of your application and its endpoints.

STEPS TO CREATE HOSTED ZONE:

- 1) Buy a website from any DNS providers like GODADDY, etc..
- 2) Click on route53 service in AWS console
- 3) Click on create Hosted Zone
- 4) Enter your Domain name in the box mentioned like below

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:

konaganesh.xyz

Comment:

test

Type:

Public Hosted Zone

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

- 5) Click on **create** button to create hosted zone
- 6) After click on **create** button automatically some NS(Name Server) and SOA(Start Of Authority) records are created like as shown as below

<input type="checkbox"/>	Name	Type	Value	Evaluate
<input type="checkbox"/>	konaganesh.xyz.	NS	ns-1296.awsdns-34.org. ns-1572.awsdns-04.co.uk. ns-851.awsdns-42.net. ns-12.awsdns-01.com.	-
<input type="checkbox"/>	konaganesh.xyz.	SOA	ns-1296.awsdns-34.org. awsdns-hostmaster.amazon.com.	-

- 7) Copy the NS entities and paste it on your domain manager(GODADDY)

- 8) Now you create two EC2 instances in two different regions . And deploy an application to each instance
- 9) Now back on to route53 console and create record set as shown as below

Create Record Set

Name:	N.virginia.konaganesh.xyz.
Type:	A – IPv4 address
Alias:	<input type="radio"/> Yes <input checked="" type="radio"/> No
TTL (Seconds):	300 1m 5m 1h 1d
Value:	54.63.35.87
IPv4 address. Enter multiple addresses on separate lines. Example: 192.0.2.235 198.51.100.234	
Routing Policy:	Simple

- In name box write any name to access your webserver
- In type box there are several options like A,CNAME etc..,we have to select one of the option based on our requirement
 - ✓ A-----ipv4 address of the webserver
 - ✓ CNAME----- to typing the CNAME we can give directly domain name of the webserver instead of Alias name
 - ✓ Mostly these two type of options are preferred
- In the value box we have to type ip address or dns name of webserver
- In routing policy we have select any one of the option based on your requirement
 - ✓ **Simple:** it is a default routing policy single alias name with single webserver.
 - ✓ **Weighted:** Based on the weight we have to mention in the weight box how many no.of requests to go particular instances in the different regions.

For weighted we have to specify same name to different record set in the name box

1st record set:

Create Record Set

Name: N.virginia.konaganesh.xyz.

Type: A – IPv4 address

Alias: Yes No

TTL (Seconds): 300

Value: See example below

IPv4 address. Enter multiple addresses
on separate lines.

Example:

192.0.2.235
198.51.100.234

Routing Policy: Weighted

Route 53 responds to queries based on weighting that you specify in this
and other record sets that have the same name and type. [Learn More](#)

Weight: 4

Set ID: user1

Description of this record set that is unique
within the group of weighted sets.

Create

2nd record set:

LAMP VISUAL PATH

Create Record Set

Name: N.virginia.konaganesh.xyz.

Type: A – IPv4 address

Alias: Yes No

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

Value: 45.67.24.78

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

Routing Policy: Weighted

Route 53 responds to queries based on weighting that you specify in this and other record sets that have the same name and type. [Learn More](#)

Weight: 1

Set ID: user2

Description of this record set that is unique within the group of weighted sets.

Create

- **Latency Based:** when a person search for a particular website it must be access from nearest server location for him .

1st record set:

Create Record Set

Name: N.virginia.konaganesh.xyz.

Type: A – IPv4 address

Alias: Yes No

TTL (Seconds): 300

Value: 45.67.24.78

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

Routing Policy: Latency

Route 53 responds to queries based on regions that you specify in this and other record sets that have the same name and type. [Learn More](#)

Region: us-west-1

Set ID: server1

Description of this record set that is unique within the group of latency sets.

Create

2nd record set:

Create Record Set

Name:	N.virginia.konaganesh.xyz.
Type:	A – IPv4 address
Alias:	<input type="radio"/> Yes <input checked="" type="radio"/> No
TTL (Seconds):	300 <input type="button" value="1m"/> <input type="button" value="5m"/> <input type="button" value="1h"/> <input type="button" value="1d"/>
Value:	54.67.35.27
IPv4 address. Enter multiple addresses on separate lines. Example: 192.0.2.235 198.51.100.234	
Routing Policy:	Latency
Route 53 responds to queries based on regions that you specify in this and other record sets that have the same name and type. Learn More	
Region:	us-east-1
Set ID:	server2
Description of this record set that is unique within the group of latency sets.	
Create	

- **Fail over:** It acts like ELB (region based) with different regions . if one instance (primary) failed in one region then it will automatically hit the another instance(secondary) where it is in another region.
 - **Geolocation:** its choose where route53 will send your traffic based on geographic location of your users
- 1st record set:**

Name: N.virginia.konaganesh.xyz.

Type: A – IPv4 address

Alias: Yes No

TTL (Seconds): 300

Value: 54.67.35.27

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

Routing Policy: Geolocation

Route 53 responds to queries based on the locations from which DNS queries originate. We recommend that you create a Default location resource record set [Learn More](#)

Location: North America

Set ID: test1

Description of this record set that is unique

Create

2nd recordset:

Visualpath

Name: N.virginia.konaganesh.xyz.

Type: A – IPv4 address

Alias: Yes No

TTL (Seconds): 300

Value: 45.154.207.77

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

Routing Policy: Geolocation

Route 53 responds to queries based on the locations from which DNS queries originate. We recommend that you create a Default location resource record set [Learn More](#)

Location: Europe

Set ID: test2

Description of this record set that is unique within the group of geolocation sets.

Create

LAMAR VISUAL

19. AWS CLI

[Amazon Command Line Interface]

DOCUMENTED BY SATISH BABU.D.

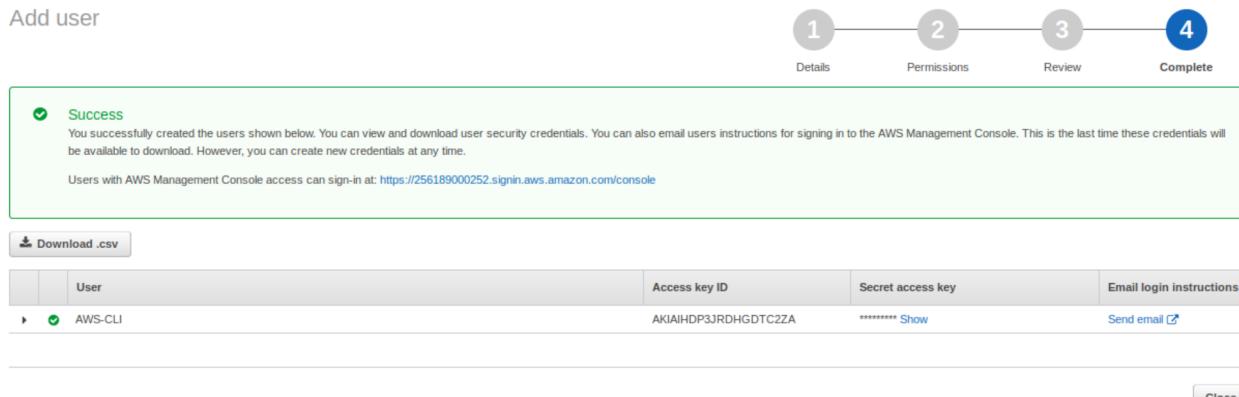
Installing & Configuration AWS-CLI

❖ Create IAM User from AWS Console

AWS Identity and Access Management (IAM) is a web service that helps you securely control access to AWS resources for your users.

1. Open IAM dashboard
2. Create user with programmatic access.
3. Select Attach Existing Policies Directly
Check Policy Name - AdminstrativeAccess & Click Next

Click Create user



6. After creating the user, Download Credentials file for Access Key and Security Key for AWS configuration for CLI

❖ Setup AWS CLI

```
@devops:~$ sudo apt-get install awscli
```

❖ AWS access setup

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```
satish@devops:~$ aws configure
AWS Access Key ID [None]: AKIAIARHZPBDZYS3LEA
AWS Secret Access Key [None]: 0QRoNi4/mX64AOCcUGQYGvoo0LgLJ/+i9RX76Q1Z
Default region name [None]: us-west-2
Default output format [None]: json
```

The aws configure set command can be used to set a single configuration value in the AWS config file.

Default region is the name of the region you want to make calls against by default. This is usually the region closest to you, but it can be any region.

Default Output format can be either json, test or table. If you dont give any value, default value is json.

Configuration and Credential Files

We can add additional configure profile by adding entries to config and credential files.

The CLI stores credentials specified with aws configure in a local file named credentials in a folder named. aws in your home directory. Home directory location varies but can be referred to using the environment variables %UserProfile% in Windows and \$HOME or ~ (tilde) in Unix-like systems.

For example, the following commands list the contents of the. aws folder:

Linux, macOS, or Unix

```
$ ls ~/.aws
```

Windows

```
> dir "%UserProfile%\aws"
```

```
satish@devops:~$ cd ~/.aws/
satish@devops:~/\.aws$ ls
config  credentials
satish@devops:~/\.aws$
```

In order to separate credentials from less sensitive options, region and output format are stored in a separate file named **config** in the same folder

```
~/.aws/credentials

[default]

aws_access_key_id=XXXXXXXXXXXXXXXXXXXXXX
```

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