

Project - 1: Deploying a Multi-Tier Website Using AWS EC2

Problem Statement:

Company ABC wants to move their product to AWS. They have the following things set up right now:

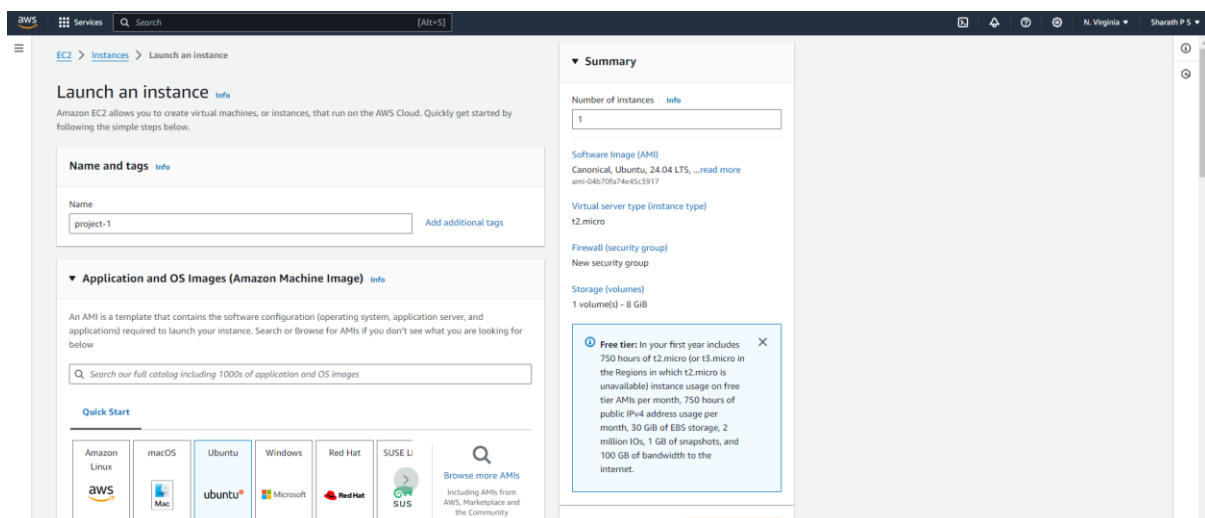
1. MySQL DB
2. Website (PHP)

The company wants high availability on this product, therefore wants Auto Scaling to be enabled on this website.

Steps To Solve:

1. Launch an EC2 Instance
2. Enable Auto Scaling on these instances (minimum 2)
3. Create an RDS Instance
4. Create Database & Table in RDS instance:
 - a. Database name: intel
 - b. Table name: data
 - c. Database password: intel123
5. Change hostname in website
6. Allow traffic from EC2 to RDS instance
7. Allow all-traffic to EC2 instance

1. EC2 instance and configuration



Inbound Security Group Rules

▼ Security group rule 1 (All, All, 0.0.0.0/0)

Type: All traffic

Protocol: All

Port range: All

Source type: Anywhere

Source: 0.0.0.0/0

Description - optional: e.g. SSH for admin desktop

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.

Add security group rule

Configure storage

1x 8 GiB gp2 Root volume (Not encrypted)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

Add new volume

1

Software Image (AMI)
Canonical, Ubuntu, 24.04 LTS, ...read more
ami-04b70fa74e45c3917

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel Launch instance Review commands

Instances (1/1)

Find Instance by attribute or tag (case-sensitive) All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs
project-1	i-009e4af78fb5ae2fc	Running	t2.micro	Initializing		us-east-1a	ec2-44-206-226-74.co...	44.206.226.74	-	-

i-009e4af78fb5ae2fc (project-1)

Details | Status and alarms | Monitoring | Security | Networking | Storage | Tags

▼ Instance summary

Instance ID
i-009e4af78fb5ae2fc (project-1)

IPv6 address
-

Hostname type
IP name: ip-172-31-91-236.ec2.internal

Answer private resource DNS name
IPv4 (A)
44.206.226.74 [Public IP]

IAM Role
-

IMDSv2
Required

Public IPv4 address
44.206.226.74 | open address

Instance state
Running

Private IP DNS name (IPv4 only)
ip-172-31-91-236.ec2.internal

Instance type
t2.micro

VPC ID
vpc-04cad945293b4ed0b

Subnet ID
subnet-023e5694417a4014b

Instance ARN
arn:aws:ec2:us-east-1:253457894661:instance/i-009e4af78fb5ae2fc

Private IPv4 addresses
172.31.91.236

Public IPv4 DNS
ec2-44-206-226-74.compute-1.amazonaws.com | open address

Elastic IP addresses
-

AWS Compute Optimizer finding
Opt-in to AWS Compute Optimizer for recommendations. | Learn more

Auto Scaling Group name
-

▼ Instance details

Platform
Ubuntu (Inferred)

AMI ID
ami-04b70fa74e45c3917

Monitoring
disabled

2. Connect EC2 instance and install required services

Connecting to EC2 using the public IP. Then processing the below linux commands to install the services.

- `sudo apt-get update`
- `sudo apt-get install apache2`
- `systemctl start apache2`
- `systemctl enable apache2`

```

MobaXterm Personal Edition v23.6
(SSH client, X server and network tools)

SSH session to ubuntu@44.206.226.74
• Direct SSH : ✓
• SSH compression : ✓
• SSH-browser : ✓
• X11-forwarding : ✓ (remote display is forwarded through SSH)
• For more info, ctrl+click on help or visit our website.

Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1008-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sat Jun 22 07:08:41 UTC 2024

System load:  0.0          Processes:      112
Usage of /:   26.4% of 6.71GB    Users logged in: 0
Memory usage: 22%          IPv4 address for enx0: 172.31.91.236
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

83 updates can be applied immediately.
48 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

```

After installed the apache service - goto the location of the index.html

- `cd /var/www/html`

Remove the index.html file and add index.php file instead of it

- `rm index.html`
- `nano index.php`



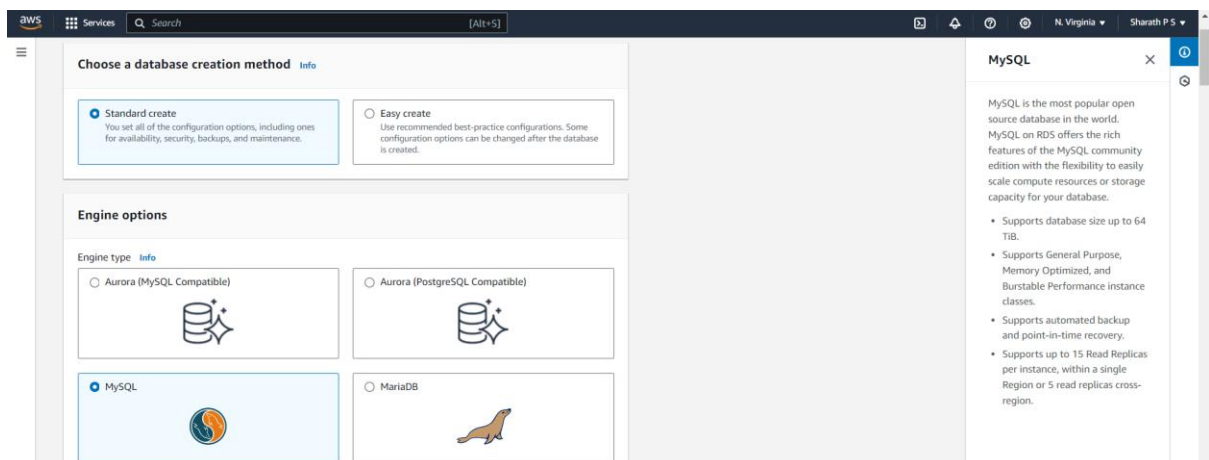
1243\index.php

```

2. 44.206.226.74
ubuntu@ip-172-31-91-236:/var/www/html$ ls
index.php

```

3. Create MySQL Database and configure it.



Edition

☒ MySQL Community

Engine version [Info](#)

View the engine versions that support the following database features.

▼ Hide filters

☐ Show versions that support the Multi-AZ DB cluster [Info](#)
 Create a Multi-AZ DB cluster with one primary DB instance and two readable standby DB instances. Multi-AZ DB clusters provide up to 2x faster transaction commit latency and automatic failover in typically under 35 seconds.

☐ Show versions that support the Amazon RDS Optimized Writes [Info](#)
 Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.

Engine Version

MySQL 8.0.35 ▼

☐ Enable RDS Extended Support [Info](#)
 Amazon RDS Extended Support is a [paid offering](#). By selecting this option, you consent to being charged for this offering if you are running your database major version past the RDS end of standard support date for that version. Check the end of standard support date for your major version in the [RDS for MySQL documentation](#).

Templates

Choose a sample template to meet your use case.

☐ Production
 Use defaults for high availability and fast, consistent performance.

☐ Dev/Test
 This instance is intended for development use outside of a production environment.

☒ Free tier
 Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS. [Info](#)

- Credentials

username: admin
password: Admin123

Settings

DB instance identifier [Info](#)

Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.

project-1-db

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

▼ Credentials Settings

Master username [Info](#)

Type a login ID for the master user of your DB instance.

admin

1 to 16 alphanumeric characters. The first character must be a letter.

Credentials management

You can use AWS Secrets Manager or manage your master user credentials.

☐ Managed in AWS Secrets Manager - *most secure*
 RDS generates a password for you and manages it throughout its lifecycle using AWS Secrets Manager.

☒ Self managed
 Create your own password or have RDS create a password that you manage.

☐ Auto generate password
 Amazon RDS can generate a password for you, or you can specify your own password.

Master password [Info](#)

Minimum constraints: At least 8 printable ASCII characters. Can't contain any of the following symbols: / ' * @

Confirm master password [Info](#)

Instance configuration

The DB instance configuration options below are limited to those supported by the engine that you selected above.

DB instance class [Info](#)

▼ Hide filters

☒ Show instance classes that support Amazon RDS Optimized Writes [Info](#)
Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.

☐ Include previous generation classes

- ☐ Standard classes (includes m classes)
- ☐ Memory optimized classes (includes r and x classes)
- ☒ Burstable classes (includes t classes)

db.t3.micro
2 vCPUs 1 GiB RAM Network: 2,085 Mbps

Storage

Storage type [Info](#)

Provisioned IOPS SSD (io2) storage volumes are now available.

General Purpose SSD (gp2)
Baseline performance determined by volume size

Storage

Storage type [Info](#)

Provisioned IOPS SSD (io2) storage volumes are now available.

General Purpose SSD (gp2)
Baseline performance determined by volume size

Allocated storage [Info](#)

20 GiB

The minimum value is 20 GiB and the maximum value is 6,144 GiB

ⓘ After you modify the storage for a DB instance, the status of the DB instance will be in storage-optimization. Your instance will remain available as the storage-optimization operation completes. [Learn more](#)

► Storage autoscaling

aws

Services

Search

[Alt+S]

Connectivity [Info](#)

Compute resource

Choose whether to set up a connection to a compute resource for this database. Setting up a connection will automatically change connectivity settings so that the compute resource can connect to this database.

☒ Don't connect to an EC2 compute resource
Don't set up a connection to a compute resource for this database. You can manually set up a connection to a compute resource later.

☐ Connect to an EC2 compute resource
Set up a connection to an EC2 compute resource for this database.

Virtual private cloud (VPC) [Info](#)

Choose the VPC. The VPC defines the virtual networking environment for this DB instance.

Default VPC (vpc-04cad945293b4ed0b)
6 Subnets, 6 Availability Zones

Only VPCs with a corresponding DB subnet group are listed.

ⓘ After a database is created, you can't change its VPC.

DB subnet group [Info](#)

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

default

Public access [Info](#)

☐ Yes
RDS assigns a public IP address to the database. Amazon EC2 instances and other resources outside of the VPC can connect to your database. Resources inside the VPC can also connect to the database. Choose one or more VPC security groups that specify which resources can connect to the database.

☒ No
RDS doesn't assign a public IP address to the database. Only Amazon EC2 instances and other resources inside the VPC can connect to your database. Choose one or more VPC security groups that specify which resources can connect to the database.

VPC security group (firewall) [Info](#)

Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the appropriate

- database name - intel

▼ Additional configuration

Database options, encryption turned off, backup turned off, backtrack turned off, maintenance, CloudWatch Logs, delete protection turned off.

Database options

Initial database name [Info](#)

intel

If you do not specify a database name, Amazon RDS does not create a database.

DB parameter group [Info](#)

default.mysql8.0

Option group [Info](#)

default:mysql-8-0

Database and details

RDS > Databases

Consider creating a Blue/Green Deployment to minimize downtime during upgrades

You may want to consider using Amazon RDS Blue/Green Deployments and minimize your downtime during upgrades. A Blue/Green Deployment provides a staging environment for changes to production databases. [RDS User Guide](#) [Aurora User Guide](#)

Databases (1)

Group resources

Modify

Actions ▼

Restore from S3

Create database

Filter by databases

DB identifier ▲	Status ▼	Role ▼	Engine ▼	Region & AZ ▼	Size ▼	Recommendations ▼	CPU ▼	Current activi
project-1-db	Available	Instance	MySQL Community	us-east-1d	db.t3.micro		4.89%	0 Con

project-1-db

Modify

Actions ▼

Summary

DB identifier

project-1-db

Status

Available

Role

Instance

Engine

MySQL Community

Recommendations

CPU

3.15%

Class

db.t3.micro

Current activity

0 Connections

Region & AZ

us-east-1d

Connectivity & security

Monitoring

Logs & events

Configuration

Zero-ETL integrations

Maintenance & backups

Tags

Recommendations

Connectivity & security

Endpoint & port

Endpoint

project-1-db.cpi06ig6oktz.us-east-1.rds.amazonaws.com

Port

3306

Networking

Availability Zone

us-east-1d

VPC

vpc-04cad945293b4ed0b

Subnet group

default-vpc-04cad945293b4ed0b

Subnets

subnet-04cbe6274fe2544ff

subnet-0bbe55cd99cd967e0

subnet-023e5694417a4014b

subnet-0366aa5589aadf2bd

subnet-068f3dcf3636e0c58

subnet-0f4e2eaf6121f0b1a

Security

VPC security groups

default (sg-0537f2b4cd4bc3565)

Active

Publicly accessible

No

Certificate authority [Info](#)

rds-ca-rsa2048-g1

Certificate authority date

May 26, 2061, 05:04 (UTC+05:30)

DB instance certificate expiration date

June 22, 2025, 13:09 (UTC+05:30)

4. Connect back to EC2 instance and install php-mysql using the following commands

- sudo add-apt-repository -y ppa:ondrej/php

- `sudo apt install php5.6 mysql-client php5.6-mysqli`

```

ubuntu@ip-172-31-91-236:~$ sudo add-apt-repository -y ppa:ondrej/php
PPA publishes dbgsym, you may need to include 'main/debug' component
Repository: 'Types: deb
URIs: https://ppa.launchpadcontent.net/ondrej/php/ubuntu/
Suites: noble
Components: main
'
Description:
Co-installable PHP versions: PHP 5.6, PHP 7.x, PHP 8.x and most requested extensions are included. Only Supported Ubuntu Releases (https://wiki.ubuntu.com/Releases) are provided.
Debian oldstable and stable packages are provided as well: https://deb.sury.org/#debian-dpa
You can get more information about the packages at https://deb.sury.org
BUGS&FEATURES: This PPA now has a issue tracker:
https://deb.sury.org/#bug-reporting
CAVEATS:
1. If you are using php-gearman, you need to add ppa:ondrej/pkg-gearman
2. If you are using apache2, you are advised to add ppa:ondrej/apache2
3. If you are using nginx, you are advised to add ppa:ondrej/nginx-mainline
   or ppa:ondrej/nginx
PLEASE READ: If you like my work and want to give me a little motivation, please consider donating regularly: https://donate.sury.org/
WARNING: add-apt-repository is broken with non-UTF-8 locales, see
https://github.com/perdnj/deb.sury.org/issues/56 for workaround:
# LC_ALL=C.UTF-8 add-apt-repository ppa:ondrej/php
More info: https://launchpad.net/~ondrej/+archive/ubuntu/php
Adding repository.
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Get:5 https://ppa.launchpadcontent.net/ondrej/php/ubuntu noble InRelease [24.4 kB]
Get:6 https://ppa.launchpadcontent.net/ondrej/php/ubuntu noble/main amd64 Packages [108 kB]
Get:7 https://ppa.launchpadcontent.net/ondrej/php/ubuntu noble/main Translation-en [33.9 kB]
Fetched 167 kB in 1s (148 kB/s)
Reading package lists... Done

```

```

ubuntu@ip-172-31-91-236:~$ sudo apt install php5.6 mysql-client php5.6-mysqli
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'php5.6-mysql' instead of 'php5.6-mysqli'
The following additional packages will be installed:
  debconf debconf-archive-keyring libapache2-mod-php5.6 libpcre3 mysql-client-8.0 mysql-client-core-8.0 mysql-common php-common php5.6-cli php5.6-common php5.6-json
  php5.6-opcache php5.6-readline
Suggested packages:
  php-pear
The following NEW packages will be installed:
  debconf debconf-archive-keyring libapache2-mod-php5.6 libpcre3 mysql-client mysql-client-8.0 mysql-client-core-8.0 mysql-common php-common php5.6 php5.6-cli
  php5.6-common php5.6-json php5.6-mysql php5.6-opcache php5.6-readline
0 upgraded, 15 newly installed, 0 to remove and 77 not upgraded.
Need to get 6950 kB of archives.
After this operation, 76.9 MB of additional disk space will be used.

```

5. Now connect mysql and with the RDS

Before that we need to change the some of the code in the index.php file, so we need to go the location of index.php file and edit it

- `cd /var/www/html`
- `sudo nano index.php`


Edit server name, username, password, db

- Server name is the ‘endpoint of the mysql database’

Connectivity & security

Endpoint & port

Endpoint

 project-1-db.cpi06ig6oktz.us-east-1.rds.amazonaws.com

Port

3306

```
GNU nano 7.2 index.php *
<input type="text" class="form-control" name="firstname">
</div>
<div class="form-group">
  <label for="email">Email:</label>
  <input type="text" class="form-control" name="email">
</div>
<div>
  <button type="submit" class="btn btn-success">Submit</button>
</div>
</td>
</tr>
</table>
</div>
</div>
<?php
$firstname=$ _POST['firstname'];
$email=$ _POST['email'];
$servername = "project-1-db.cpi06ig6oktz.us-east-1.rds.amazonaws.com";
$username = "admin";
$password = "Admin@23";
$db = "intel";
// Create connection
$conn = new mysqli($servername, $username, $password, $db);

// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
if(isset($_POST['firstname']) && isset($_POST['email'])){
    $sql = "INSERT INTO data (firstname,email)
VALUES ('".$_POST['firstname']."', '".$_POST['email']."')";

    if ($conn->query($sql) === TRUE) {
        echo "New record created successfully";
    } else {
        echo "Error: " . $sql . "<br>" . $conn->error;
    }
}

$conn->close();
```

- Now try to login with the public IP of the instance and the login page will appear

← → ↻ Not secure 44.206.226.74 ☆ 📁 📄 🌐

Name:

Email:

Error: INSERT INTO data (firstname,email) VALUES ('Sharath','sharath123@gmail.com')
Table 'intel.data' doesn't exist

while we add data there will be show the error. so need to connect database and create table for sort out the error.

6. Connect the mysql database through instance and create table in order to save the data

- `mysql -h hostname -u username -p password`

```
ubuntu@ip-172-31-91-236:/var/www/html$ mysql -h project-1-db.cpi06ig6oktz.us-east-1.rds.amazonaws.com -u admin -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 30
Server version: 8.0.35 Source distribution

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

Commands for mysql:

- `show databases;`

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| intel      |
| mysql      |
| performance_schema |
| sys        |
+-----+
5 rows in set (0.00 sec)
```

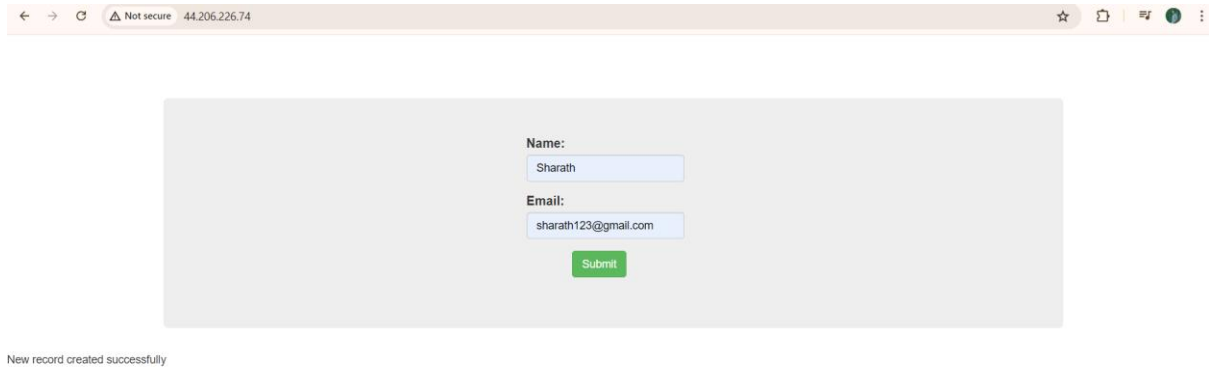
- `use intel;`

```
mysql> use intel
Database changed
```

- `create table data(firstname varchar(15), email varchar(25));`

```
mysql> create table data(firstname varchar(15), email varchar(25));
Query OK, 0 rows affected (0.04 sec)
```

Now go to web page and add the data that is name and email, it will record the data successfully.



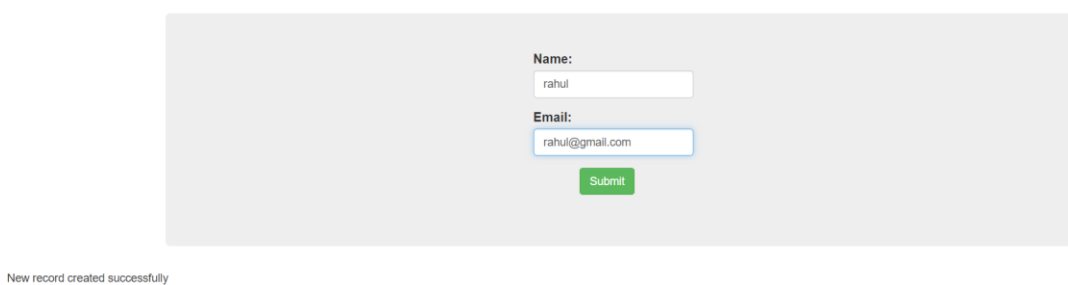
A screenshot of a web browser showing a form with two input fields: "Name:" with the value "Sharath" and "Email:" with the value "sharath123@gmail.com". Below the fields is a green "Submit" button. At the bottom of the page, a message reads "New record created successfully".

View the records in database that we stored in the table data.

- select * from table;

```
mysql> select * from data;
+-----+-----+
| firstname | email |
+-----+-----+
| Sharath   | sharath123@gmail.com |
| Sharath   | sharath123@gmail.com |
| kiran     | kiran22@gmail.com    |
+-----+-----+
3 rows in set (0.00 sec)
```

example:



A screenshot of a web browser showing a form with two input fields: "Name:" with the value "rahul" and "Email:" with the value "rahul@gmail.com". Below the fields is a green "Submit" button. At the bottom of the page, a message reads "New record created successfully".

```
mysql> select * from data;
+-----+-----+
| firstname | email |
+-----+-----+
| Sharath   | sharath123@gmail.com |
| Sharath   | sharath123@gmail.com |
| kiran     | kiran22@gmail.com    |
| rahul     | rahul@gmail.com      |
+-----+-----+
4 rows in set (0.00 sec)
```

7. Enable Auto Scaling on the instance

- Create an image of the EC2

The screenshot shows the AWS Management Console interface for an EC2 instance named 'project-1' (ID: i-009e4af78fb5ae2fc). The instance is in a 'Running' state. The 'Actions' menu is open, showing options like 'Connect', 'View details', 'Manage instance state', 'Instance settings', 'Networking', 'Security', 'Create image', 'Create template from instance', and 'Launch more like this'. The 'Create image' option is highlighted. The instance details section shows various attributes including Instance ID, IP addresses, Hostname type, VPC ID, Subnet ID, and AMI ID (ami-04b70fa74e45c3917).

The screenshot shows the AWS Management Console interface for an Amazon Machine Image (AMI) named 'project-1-image' (ID: ami-0738cc7251cbdafd6). The AMI is in a 'Pending' state. The 'Details' tab is selected, showing various attributes including AMI ID, AMI name, Root device name, Boot mode, Description, Last launched time, Image type, Owner account ID, Status, State reason, Product codes, Block devices, Platform details, Architecture, Source, Creation date, RAM disk ID, Deregistration protection, Root device type, Usage operation, Virtualization type, Kernel ID, and Deprecation time.

3

▼ Instance type

[Info](#) | [Get advice](#)

Instance type

t2.micro

Free tier eligible

Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Windows base pricing: 0.0182 USD per Hour
On-Demand SUSE base pricing: 0.0116 USD per Hour
On-Demand RHEL base pricing: 0.0716 USD per Hour
On-Demand Linux base pricing: 0.0116 USD per Hour

▼

☐ All generations

[Compare instance types](#)

Additional costs apply for AMIs with pre-installed software

▼ Key pair (login)

[Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name

ec2

▼

[Create new key pair](#)

project-1-image

ami-Q738cc7251cdaf06

Virtual server type (Instance type)

t2.micro

Firewall (security group)

-

Storage (volumes)

1 volume(s) - 8 GiB

❗ Free tier:

In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GB of bandwidth to the internet.

✕

▼ Key pair (login) info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name

ec2

Create new key pair

▼ Network settings info

Subnet info

Don't include in launch template

Create new subnet

When you specify a subnet, a network interface is automatically added to your template.

Firewall (security groups) info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Select existing security group

Create security group

Security groups info

Select security groups

Compare security group rules

► Advanced network configuration

ami-0738cc7251cbd4fd6

Virtual server type (instance type)

t2.micro

Firewall (security group)

-

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel

Create launch template

▼ Storage (volumes) info

EBS Volumes Hide details

► Volume 1 (AMI Root) (8 GiB, EBS, General purpose SSD (gp2))

AMI Volumes are not included in the template unless modified

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

Add new volume

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

▼ Resource tags info

No resource tags are currently included in this template. Add a resource tag to include it in the launch template.

Add new tag

You can add up to 50 more tags.

► Advanced details info

ami-0738cc7251cbd4fd6

Virtual server type (instance type)

t2.micro

Firewall (security group)

-

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel

Create launch template

- Autoscaling configuration in ‘autoscaling group’

Step 1

Choose launch template

Step 2

Choose instance launch options

Step 3 - optional

Configure advanced options

Step 4 - optional

Configure group size and scaling

Step 5 - optional

Add notifications

Step 6 - optional

Add tags

Step 7

Review

Choose launch template

Specify a launch template that contains settings common to all EC2 instances that are launched by this Auto Scaling group.

Name

Auto Scaling group name

Enter a name to identify the group.

project-1-asg

Must be unique to this account in the current Region and no more than 255 characters.

Launch template

For accounts created after May 31, 2023, the EC2 console only supports creating Auto Scaling groups with launch templates. Creating Auto Scaling groups with launch configurations is not recommended but still available via the CLI and API until December 31, 2023.

Launch template

Choose a launch template that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.

project-1-lt

Create a launch template

Version

Default (1)

Create a launch template version

Description

-

Launch template

project-1-lt

lt-0f30e9203cc58cfe4

Instance type

t2.micro

AMI ID

ami-0738cc7251cbdafd6

Security groups

-

Request Spot Instances

No

Key pair name

Security group IDs

Step 2

Choose instance launch options

Step 3 - optional

Configure advanced options

Step 4 - optional

Configure group size and scaling

Step 5 - optional

Add notifications

Step 6 - optional

Add tags

Step 7

Review

Instance type requirements

You can keep the same instance attributes or instance type from your launch template, or you can choose to override the launch template by specifying different instance attributes or manually adding instance types.

Launch template

project-1-lt

lt-0f30e9203cc58cfe4

Version

Default

Description

-

Instance type

t2.micro

Network

For most applications, you can use multiple Availability Zones and let EC2 Auto Scaling balance your instances across the zones. The default VPC and default subnets are suitable for getting started quickly.

VPC

Choose the VPC that defines the virtual network for your Auto Scaling group.

vpc-04cad945293b4ed0b

172.31.0.0/16

Default

Create a VPC

Availability Zones and subnets

Define which Availability Zones and subnets your Auto Scaling group can use in the chosen VPC.

Select Availability Zones and subnets

us-east-1a | subnet-023e5694417a4014b

172.31.80.0/20

Default

us-east-1b | subnet-04cbe6274fe2544ff

172.31.16.0/20

Default

us-east-1c | subnet-0bbe55cd99cd967e0

172.31.32.0/20

Default

us-east-1e | subnet-0f4e2eaf6121f0b1a

172.31.48.0/20

Default

Step 1
[Choose launch template](#)

Step 2
[Choose instance launch options](#)

Step 3 - optional
[Configure advanced options](#)

Step 4 - optional
Configure group size and scaling

Step 5 - optional
[Add notifications](#)

Step 6 - optional
[Add tags](#)

Step 7
[Review](#)

Configure group size and scaling - optional Info

Define your group's desired capacity and scaling limits. You can optionally add automatic scaling to adjust the size of your group.

Group size Info

Set the initial size of the Auto Scaling group. After creating the group, you can change its size to meet demand, either manually or by using automatic scaling.

Desired capacity type

Choose the unit of measurement for the desired capacity value. vCPUs and Memory(GiB) are only supported for mixed instances groups configured with a set of instance attributes.

Units (number of instances) ▾

Desired capacity

Specify your group size.

2

Scaling Info

You can resize your Auto Scaling group manually or automatically to meet changes in demand.

Scaling limits

Set limits on how much your desired capacity can be increased or decreased.

Min desired capacity

1

Equal or less than desired capacity

Max desired capacity

2

Equal or greater than desired capacity

Automatic scaling - optional

Choose whether to use a target tracking policy Info

You can set up other metric-based scaling policies and scheduled scaling after creating your Auto Scaling group.

☒ **No scaling policies**
Your Auto Scaling group will remain at its initial size and will not dynamically resize to meet demand.

☐ **Target tracking scaling policy**
Choose a CloudWatch metric and target value and let the scaling policy adjust the desired capacity in proportion to the specified metric.

EC2 > Auto Scaling groups

Auto Scaling groups (1/1) Info

🔄

Launch configurations

Launch templates 🔗

Actions ▾

Create Auto Scaling group

🔍 Search your Auto Scaling groups

< 1 > ⚙️

<input checked="" type="checkbox"/>	Name ▾	Launch template/configuration <small>🔗</small> ▾	Instances ▾	Status ▾	Desired capacity ▾	Min ▾	Max ▾	Availability Zones ▾
<input checked="" type="checkbox"/>	project-1-asg	project-1-lt Version Default	0	🔄 Updating capacity...	2	1	2	us-east-1a, us-east-1b, us-east-1c, us-east-1d, us-east-1e, us-east-1f

Auto Scaling group: project-1-asg ⚙️ ✕

Details | Activity | Automatic scaling | Instance management | Monitoring | Instance refresh

Group details

Edit

Auto Scaling group name project-1-asg	Desired capacity 2	Desired capacity type Units (number of instances)	Amazon Resource Name (ARN) arn:aws:autoscaling:us-east-1:253457894661:autoScalingGroup:60345b92-19d8-4d65-9924-480ff198f59a:autoScalingGroupName/project-1-asg
Date created Sat Jun 22 2024 15:28:46 GMT+0530 (India Standard Time)	Minimum capacity 1	Status 🔄 Updating capacity	
	Maximum capacity 2		

Launch template

Edit

Launch template 🔗 lt-0f30e9203cc58cfe4 project-1-lt	AMI ID 🔗 ami-0738cc7251cda4fd6	Instance type t2.micro	Owner arn:aws:iam::253457894661:root
Version Default	Security groups -	Security group IDs -	Create time Sat Jun 22 2024 15:24:25 GMT+0530 (India Standard Time)