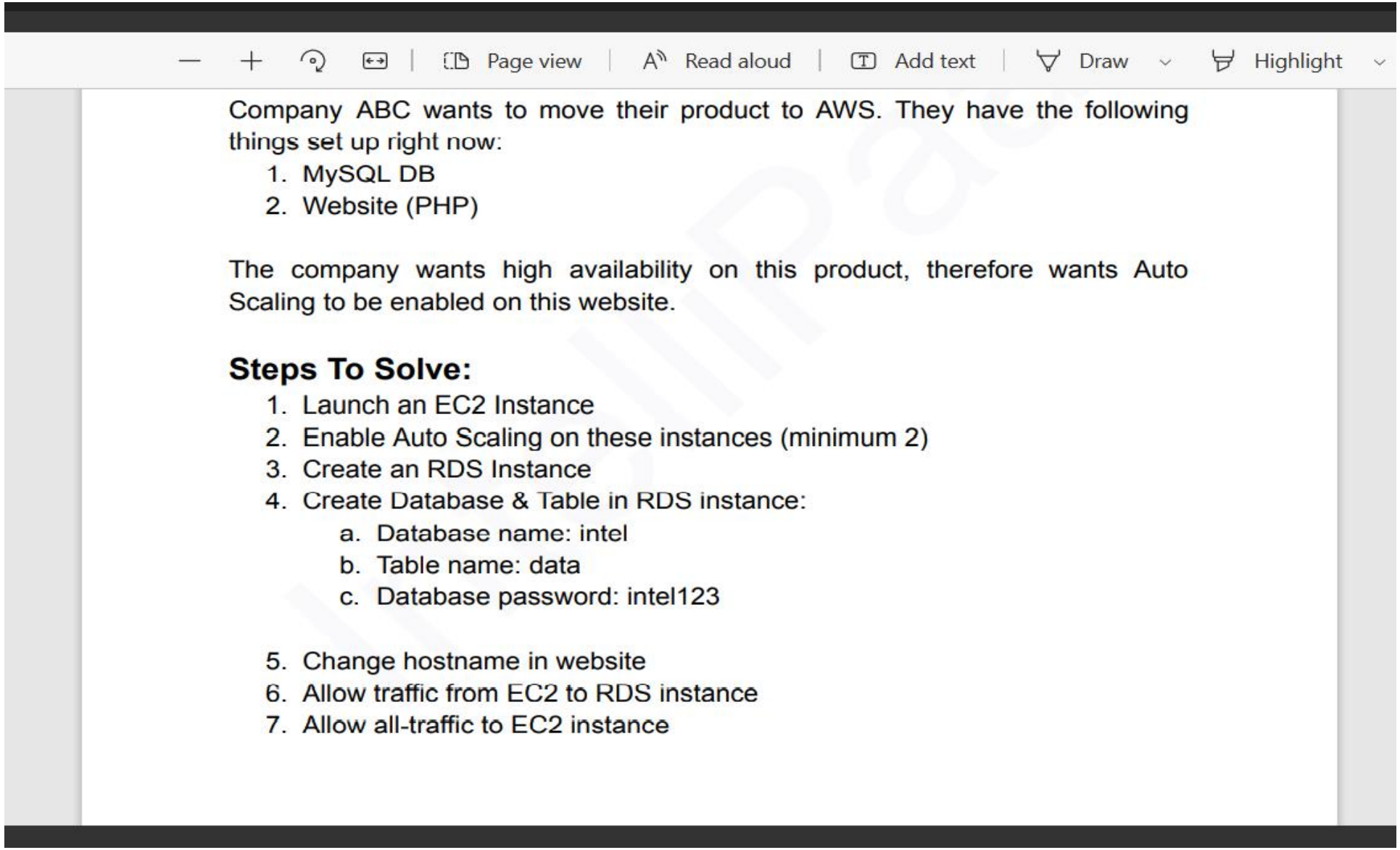
AWS Capstone Project 1



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:

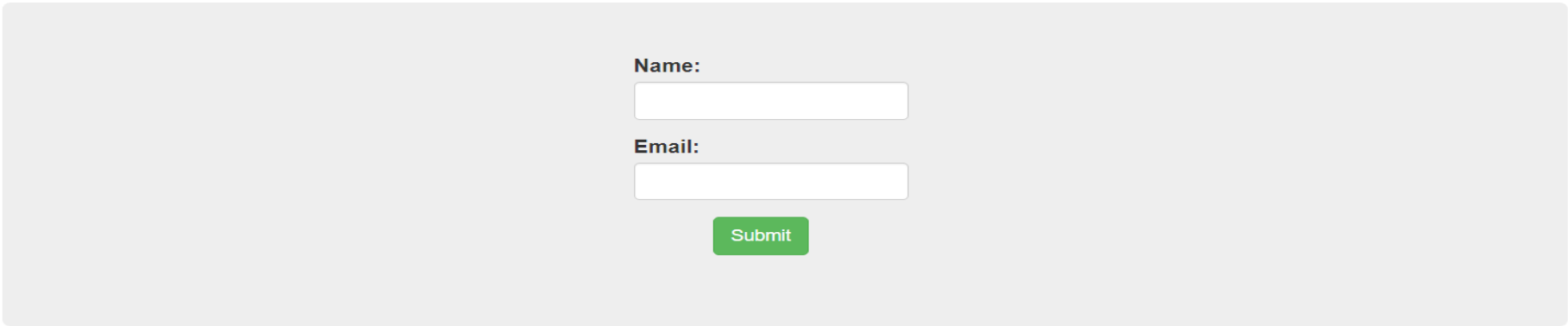
1. Launch an EC2 Instance
2. Enable Auto Scaling on these instances (minimum 2)
3. Create an RDS Instance
4. Create Database & Table in RDS instance:
    a. Database name: intel
    b. Table name: data
    c. Database password: intel123
5. Change hostname in website
6. Allow traffic from EC2 to RDS instance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

Create an ec2 instance with all traffic allowed.

```
ubuntu@ip-172-31-25-98:/var/www/html$ history
    1  sudo apt-get update -y
    2  sudo apt-get install apache2 -y
    3  cd /var/www/html
    4  ls
    5  sudo rm index.html
    6  ls
    7  sudo nano index.php
    8  sudo rm index.php
    9  ls
   10  sudo nano index.php
   11  history
ubuntu@ip-172-31-25-98:/var/www/html$
```

i-0e2ea38aa0ae3981d (aws-project1)

PublicIPs: 16.16.209.216 PrivateIPs: 172.31.25.98



onnect_error) { die("Connection failed: " . $conn->connect_error); } if(isset($_POST['firstname']) && isset($_POST['email'])){ $sql = "INSERT INTO data (firstname,email) VALUES ('".$firstname."', '".$email."')"; if ($conn->query($sql) === TRUE) { cho "New record created successfully"; } else { echo "Error: " . $sql . "
. $conn->error; } $conn->close(); } ?>

Sudo nano index.php file script , open this script in notepad++

```
<html><link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css"><body
background="images/2.png" style="background-repeat:no-repeat;background-size: 100% 100%"><br><br><br><br><div
class="container">  <div class="jumbotron vertical-center">              <table class="grid" cellspacing="0">
              <tr>  <td
colspan="4">                &
nbsp;                 &n
bsp;                 &nb
sp;                 &nbs
p;                  
; </td>  <td colspan="4">                    <form method="post">  <div class="form-group" action="post">    <label
for="firstname">Name:</label>    <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>             <button type="submit"
class="btn btn-success">Submit</button></form></td>    <td
colspan="4"></td></tr></table></div></div><?php$firstname=$_POST['firstname'];$email=$_POST['email'];$servername =
"intelli.coghw13fheqo.us-east-2.rds.amazonaws.com";$username = "intel";$password = "intel123";$db = "intel";// Create
connection$conn = new mysqli($servername, $username, $password, $db);// Check connectionif ($conn->connect_error) {
die("Connection failed: " . $conn->connect_error);}if(isset($_POST['firstname']) && isset($_POST['email'])){$sql = "INSERT INTO
data (firstname,email)VALUES ('".$firstname."', '".$email."')";if ($conn->query($sql) === TRUE) {    echo "New record created
successfully";} else {    echo "Error: " . $sql . "<br>" . $conn->error;}$conn->close();}?></body></html>
```

RDS > Create database

Create database

Choose a database creation method Info

- (•) Standard create
  You set all of the configuration options, including ones for availability, security, backups, and maintenance.
- ( ) Easy create
  Use recommended best-practice configurations. Some configuration options can be changed after the database is created.

Engine options

Engine type Info

- ( ) Aurora (MySQL Compatible)
- ( ) Aurora (PostgreSQL Compatible)
- (•) MySQL
- ( ) MariaDB
- ( ) PostgreSQL
- ( ) Oracle
- ( ) Microsoft SQL Server

Edition

(•) MySQL Community

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

▼ Hide filters

- [ ] Show versions that support the Multi-AZ DB cluster Info
  Create a 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 8.0.33

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

Availability and durability

Deployment options Info

The deployment options below are limited to those supported by the engine you selected above.

- ( ) Multi-AZ DB Cluster
  Creates a DB cluster with a primary DB instance and two readable standby DB instances, with each DB instance in a different Availability Zone (AZ). Provides high availability, data redundancy and increases capacity to serve read workloads.
- ( ) Multi-AZ DB instance (not supported for Multi-AZ DB cluster snapshot)
  Creates a primary DB instance and a standby DB instance in a different AZ. Provides high availability and data redundancy, but the standby DB instance doesn't support connections for read workloads.
- ( ) Single DB instance (not supported for Multi-AZ DB cluster snapshot)
  Creates a single DB instance with no standby DB instances.

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.

aws-rds-project

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.

- [ ] Manage master credentials in AWS Secrets Manager
  Manage master user credentials in Secrets Manager. RDS can generate a password for you and manage it throughout its lifecycle.

If you manage the master user credentials in Secrets Manager, some RDS features aren't supported.
Learn more

- [ ] Auto generate a password
  Amazon RDS can generate a password for you, or you can specify your own password.

Master password Info

••••••••

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), '(single quote), "(double quote) and @ (at sign).

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

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

Storage autoscaling Info

Provides dynamic scaling support for your database's storage based on your application's needs.

- [ ] Enable storage autoscaling
  Enabling this feature will allow the storage to increase after the specified threshold is exceeded.

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-080f6a5ebfa0d9944)
3 Subnets, 3 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 incoming traffic.

- Choose existing
  Choose existing VPC security groups
- Create new
  Create new VPC security group

Existing VPC security groups

Choose one or more options

default

Availability Zone Info

No preference

RDS Proxy
RDS Proxy is a fully managed, highly available database proxy that improves application scalability, resiliency, and security.

- Create an RDS Proxy Info
  RDS automatically creates an IAM role and a Secrets Manager secret for the proxy. RDS Proxy has additional costs. For more information, see Amazon RDS Proxy pricing.

Certificate authority - *optional* Info
Using a server certificate provides an extra layer of security by validating that the connection is being made to an Amazon database. It does so by checking the server certificate that is automatically installed on all databases that you provision.

rds-ca-2019 (default)
Expiry: Aug 22, 2024

If you don't select a certificate authority, RDS chooses one for you.

▶ Additional configuration

Database authentication

Database authentication options Info

- Password authentication
  Authenticates using database passwords.
- Password and IAM database authentication
  Authenticates using the database password and user credentials through AWS IAM users and roles.
- Password and Kerberos authentication
  Choose a directory in which you want to allow authorized users to authenticate with this DB instance using Kerberos Authentication.

Monitoring

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

▼ 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

Backup

- Enable automated backups
  Creates a point-in-time snapshot of your database

Encryption

- Enable encryption
  Choose to encrypt the given instance. Master key IDs and aliases appear in the list after they have been created using the AWS Key Management Service console. Info

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

Maintenance

Auto minor version upgrade Info

- Enable auto minor version upgrade
  Enabling auto minor version upgrade will automatically upgrade to new minor versions as they are released. The automatic upgrades occur during the maintenance window for the database.

Maintenance window Info
Select the period you want pending modifications or maintenance applied to the database by Amazon RDS.

- Choose a window
- No preference

Deletion protection

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

Estimated Monthly costs

DB instance	12.41 USD
Storage	2.40 USD
Total	**14.81 USD**

This billing estimate is based on on-demand usage as described in Amazon RDS Pricing. Estimate does not include costs for backup storage, IOs (if applicable), or data transfer.

Estimate your monthly costs for the DB Instance using the AWS Simple Monthly Calculator.

Estimated monthly costs

The Amazon RDS Free Tier is available to you for 12 months. Each calendar month, the free tier will allow you to use the Amazon RDS resources listed below for free:

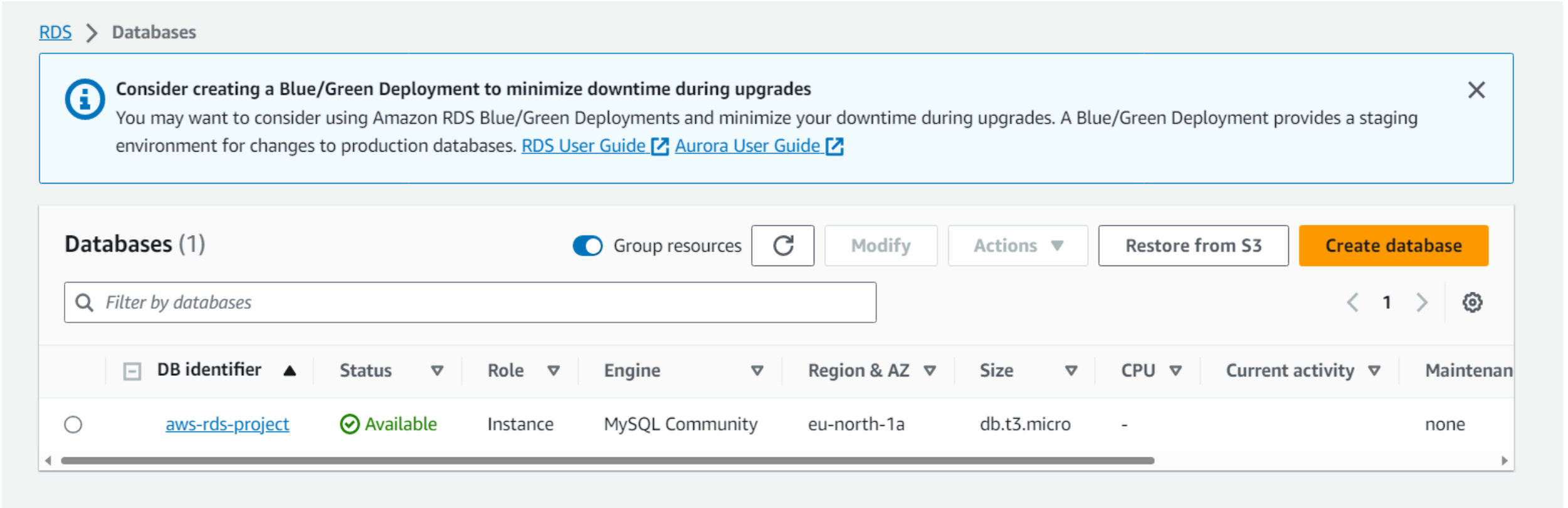
- 750 hrs of Amazon RDS in a Single-AZ db.t2.micro, db.t3.micro or db.t4g.micro Instance.
- 20 GB of General Purpose Storage (SSD).
- 20 GB for automated backup storage and any user-initiated DB Snapshots.

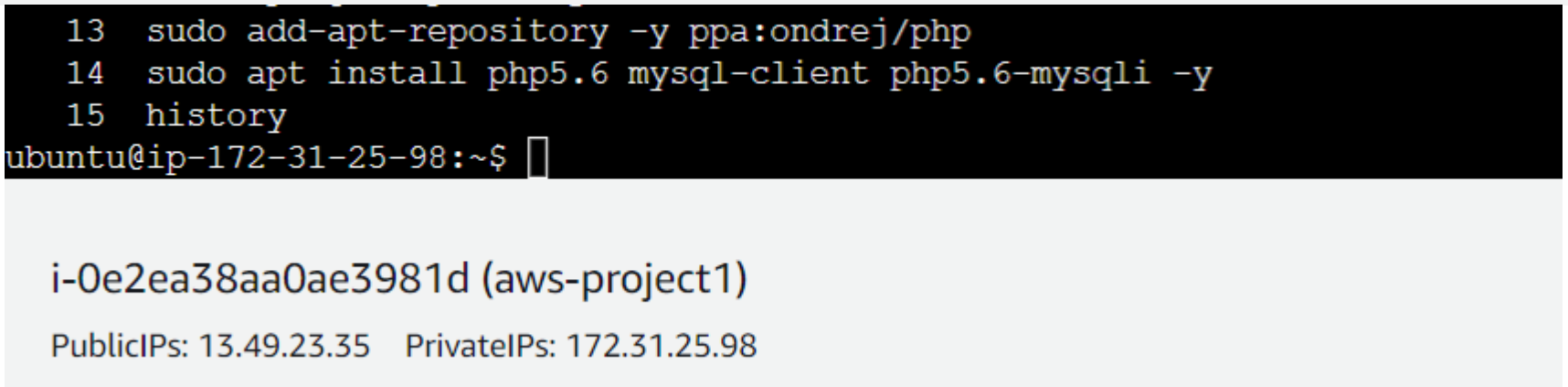
Learn more about AWS Free Tier.

When your free usage expires or if your application use exceeds the free usage tiers, you simply pay standard, pay-as-you-go service rates as described in the Amazon RDS Pricing page.

You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.

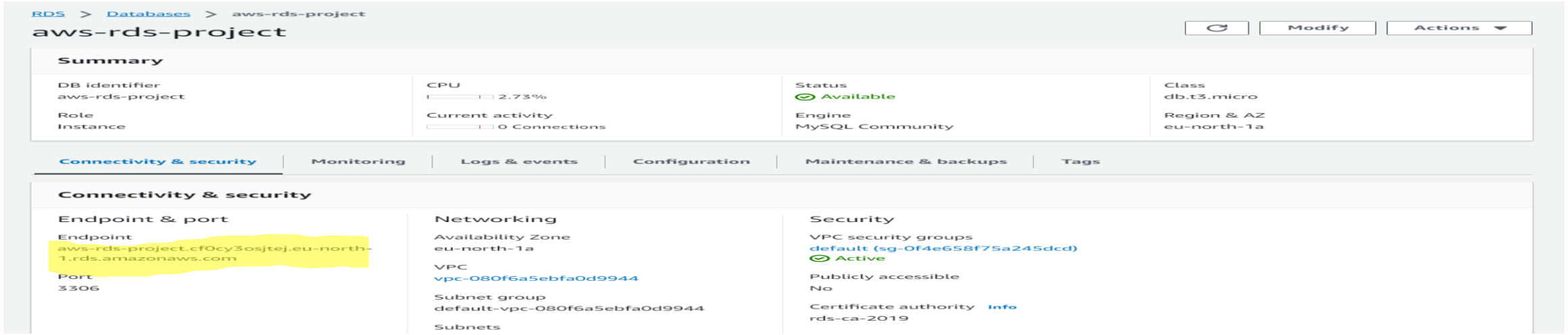
Cancel | Create database





Give these two commands in an instance outside the /var/www/html directory as ubuntu and root user.

Go on rds copy the end point .



Come back in instance cd /var/www/html change the servername with endpoint.

```
</table>
</div>
</div>
<?php
$firstname=$_POST['firstname'];
$email=$_POST['email'];
$servername = "intelli.coghw13fheqo.us-east-2.rds.amazonaws.com";
$username = "intel";
$password = "intel123";
$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'])){
$sql = "INSERT INTO data (firstname,email)
VALUES ('".$firstname."', '".$email."')";

if ($conn->query($sql) === TRUE) {
    echo "New record created successfully";
} else {
```

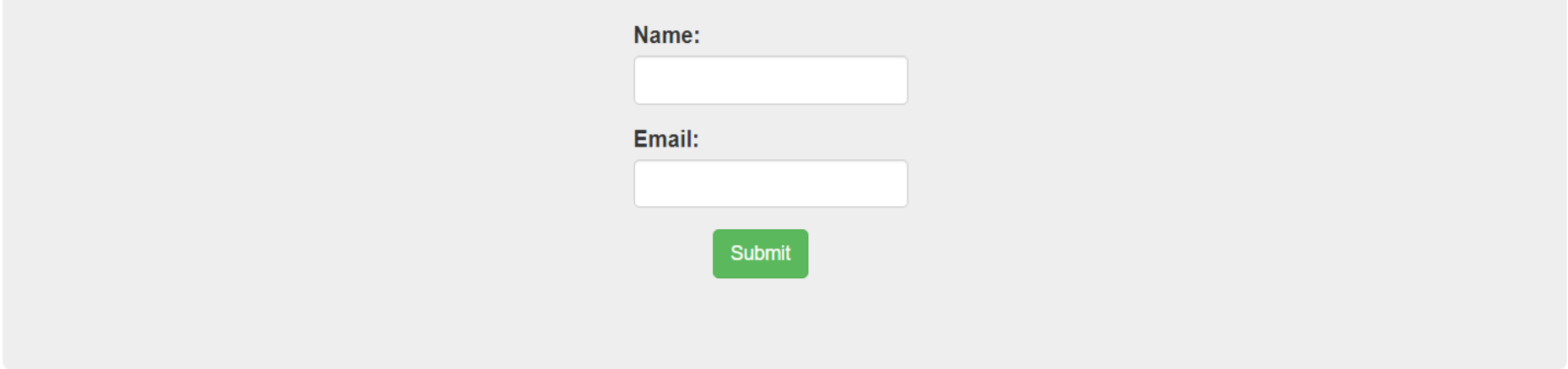
```
^G Help          ^O Write Out     ^W Where Is      ^K Cut           ^T Execute       ^C Location      M-U Undo         M-A Set Mark     M-] To Bracket   M-Q Previous
^X Exit          ^R Read File     ^\ Replace       ^U Paste         ^J Justify       ^/ Go To Line    M-E Redo         M-6 Copy         ^Q Where Was     M-W Next
```

i-0e2ea38aa0ae3981d (aws-project1)

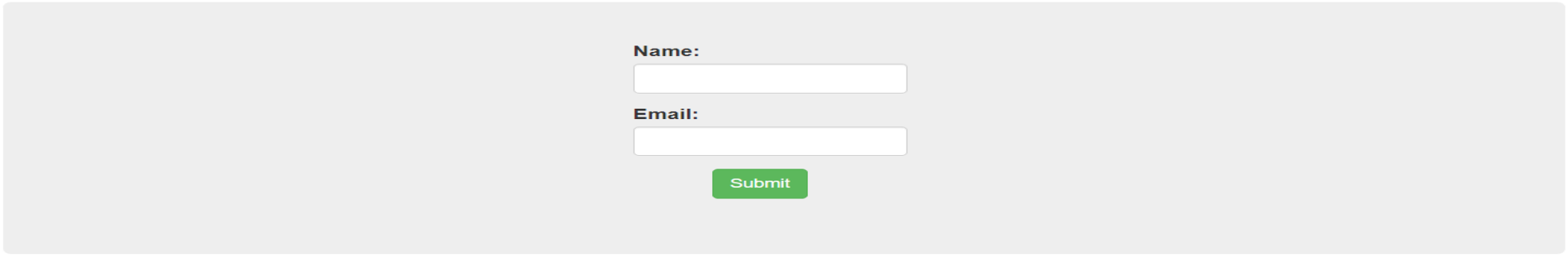
PublicIPs: 13.49.23.35 PrivateIPs: 172.31.25.98

Username and password will be same when creating the rds.

```
$servername = "aws-rds-project.cf0cy3osjtej.eu-north-1.rds.amazonaws.com";
$username = "admin";
$password = "intel123";
$db = "intel";
// Create connection
```



This time the error is gone now we need to add table data.



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

Enter any name and any email you will get this error then we need to do some steps in instance.

```
ubuntu@ip-172-31-17-55:/var/www/html$ cd
ubuntu@ip-172-31-17-55:~$ sudo  mysql -h sid-rds-aws.cf0cy3osjtej.eu-north-1.rds.amazonaws.com -u admin -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 25
Server version: 8.0.33 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> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| intel              |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
```

i-01bf9b771b28482e9 (aws)

PublicIPs: 16.171.47.42 PrivateIPs: 172.31.17.55

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

mysql> use intel;
Database changed
mysql> create table data(firstname varchar(15), email varchar(25);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '' at line 1
mysql> create table data(firstname varchar(15), email varchar(25));
Query OK, 0 rows affected (0.03 sec)

mysql> select * from data;
+-----------+---------------+
| firstname | email         |
+-----------+---------------+
| abc       | abc@gmail.com |
| sid       | sid@gmail.com |
+-----------+---------------+
2 rows in set (0.00 sec)

mysql>
```

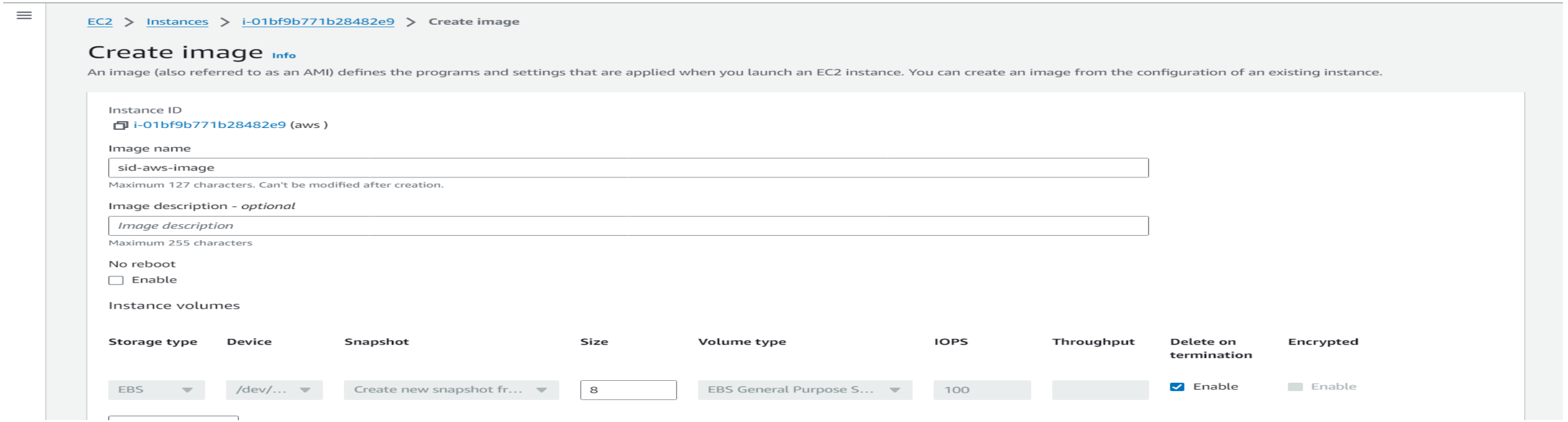
i-01bf9b771b28482e9 (aws)

PublicIPs: 16.171.47.42 PrivateIPs: 172.31.17.55

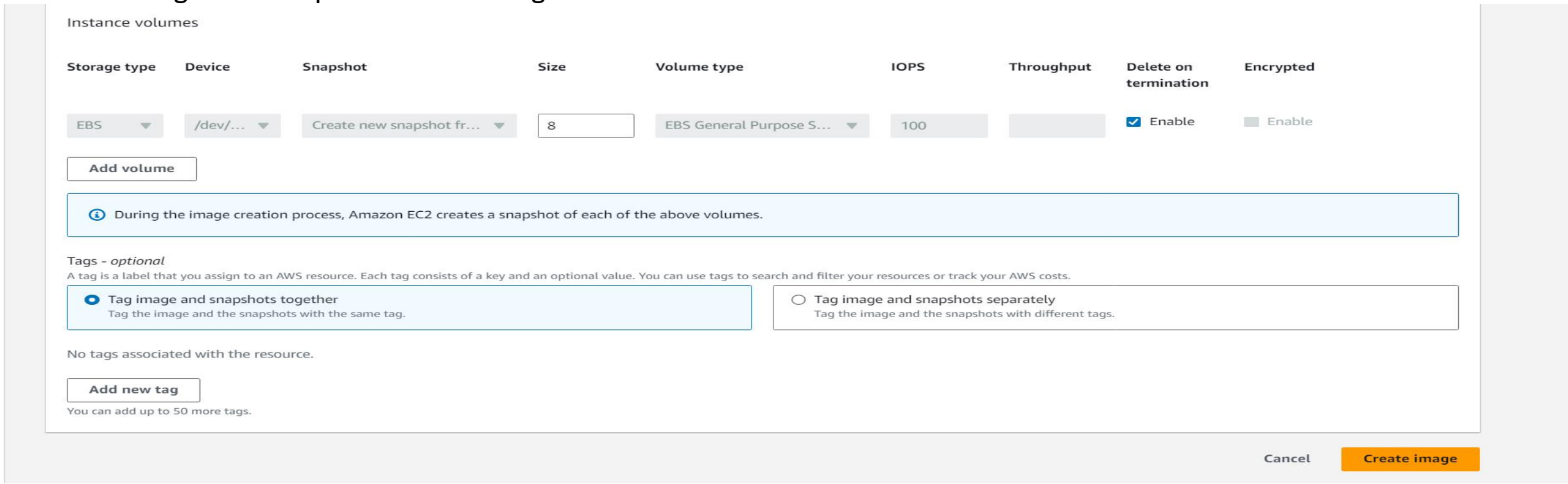
New record created successfully

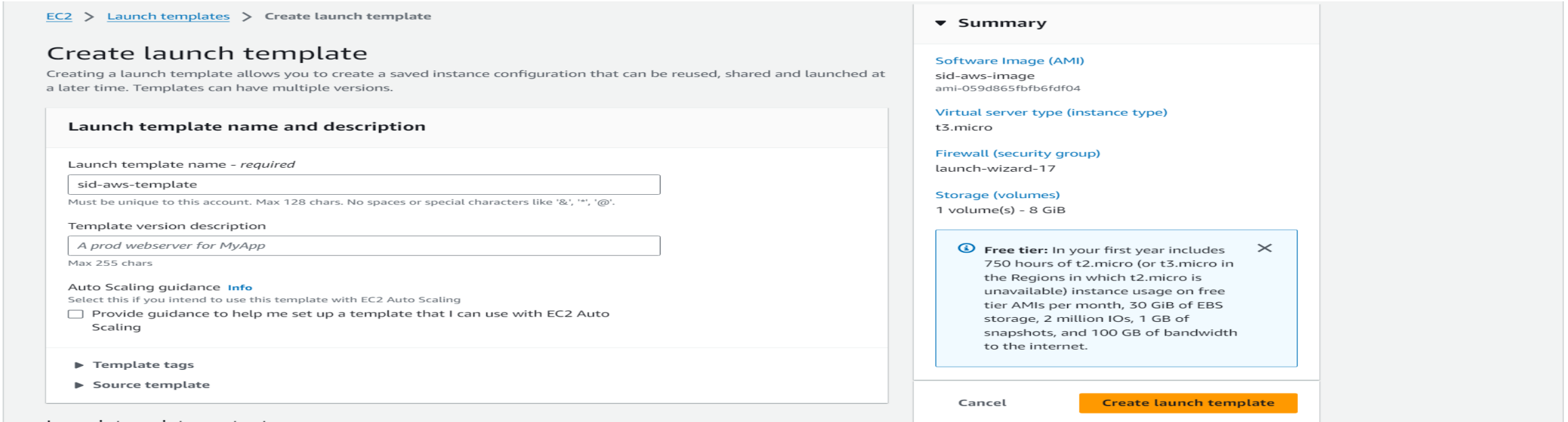
Enter any value and email , refresh the page you wiil see the following result in instance using such commands.

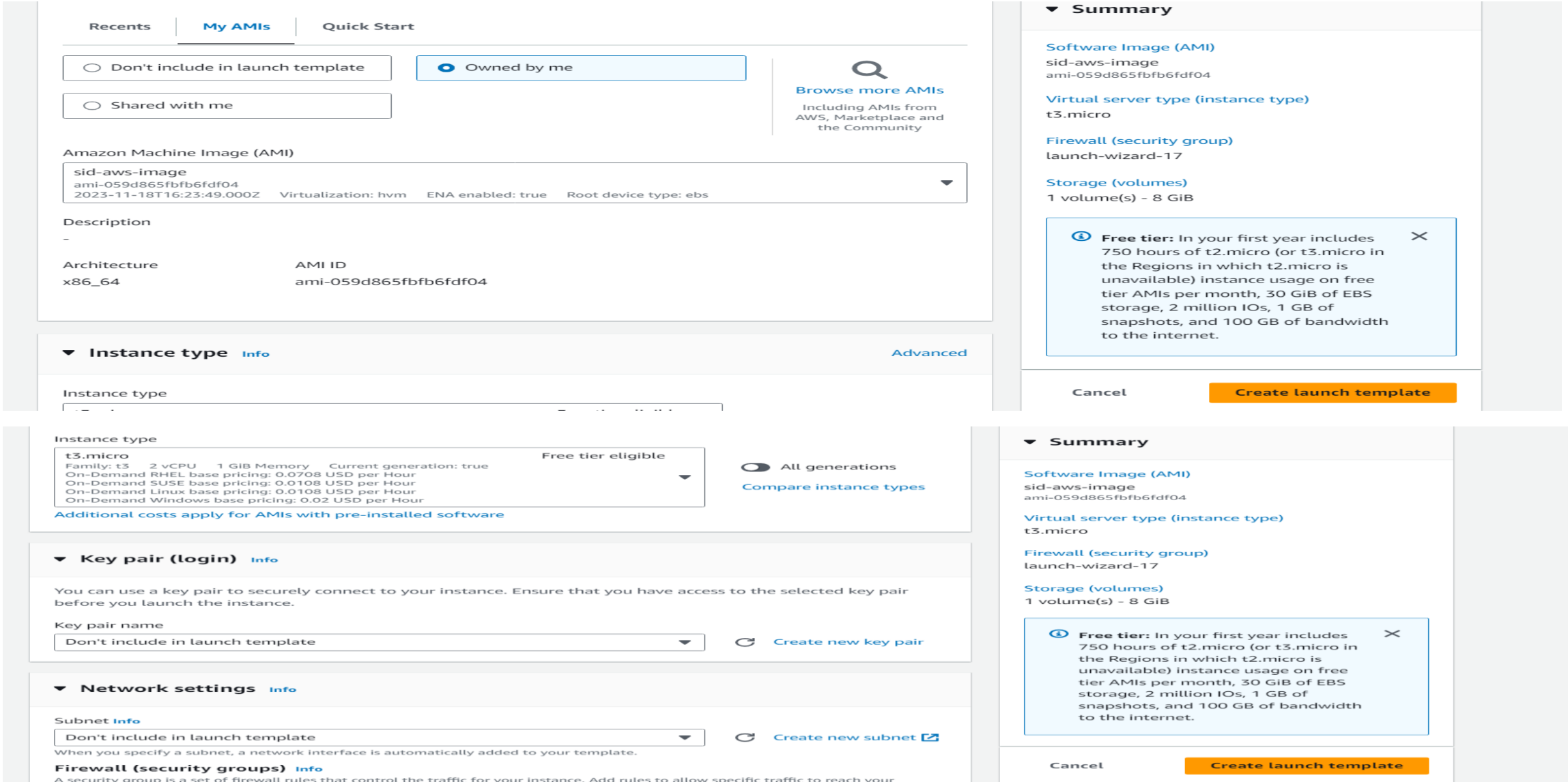
```
sudo apt-get update -y

sudo apt-get install apache2 -y

cd /var/www/html

sudo rm index.html

sudo nano index.php
(afte this, paste the code here)

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

sudo mysql -h [endpoint] -u [username] -p

.....................................................

show databases;

use intel;

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

select * from data;
```



Actions-image and templates-create image.







Choose t3 micro , same kay pair which use with instance and same security group with all traffic allowed.
Create launch template.

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 Info

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

Launch template Info

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.
sid-aws-template
Create a launch template

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.
sid-aws-template
Create a launch template
Version
Default (1)
Create a launch template version

Description -	Launch template sid-aws-template lt-09646772ecf5b13bf	Instance type t3.micro
AMI ID ami-059d865fbfb6fdf04	Security groups -	Request Spot Instances No
Key pair name -	Security group IDs sg-0ea6c1cd698da37c8	

Additional details

Storage (volumes) -	Date created Sat Nov 18 2023 22:11:47 GMT+0530 (India Standard Time)	

Cancel Next

Network Info

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-080f6a5ebfa0d9944
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

eu-north-1a | subnet-04fef07ed760f4ba5
172.31.16.0/20 Default

eu-north-1b | subnet-06dfdd82fb120796a
172.31.32.0/20 Default

eu-north-1c | subnet-06d7f09cca266494f
172.31.0.0/20 Default

Create a subnet

Cancel | Skip to review | Previous | Next

EC2 > Auto Scaling groups > Create Auto Scaling 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

Configure advanced options - *optional* Info

Integrate your Auto Scaling group with other services to distribute network traffic across multiple servers using a load balancer or to establish service-to-service communications using VPC Lattice. You can also set options that give you more control over health check replacements and monitoring.

Load balancing Info

Use the options below to attach your Auto Scaling group to an existing load balancer, or to a new load balancer that you define.

- ○ No load balancer
  Traffic to your Auto Scaling group will not be fronted by a load balancer.
- ○ Attach to an existing load balancer
  Choose from your existing load balancers.
- ◉ Attach to a new load balancer
  Quickly create a basic load balancer to attach to your Auto Scaling group.

Attach to a new load balancer

Define a new load balancer to create for attachment to this Auto Scaling group.

Load balancer type
Choose from the load balancer types offered below. Type selection cannot be changed after the load balancer is created. If you need a different type of load balancer than those offered here, visit the Load Balancing console.

- ◉ Application Load Balancer
  HTTP, HTTPS
- ○ Network Load Balancer
  TCP, UDP, TLS

Attach to a new load balancer

Define a new load balancer to create for attachment to this Auto Scaling group.

Load balancer type

Choose from the load balancer types offered below. Type selection cannot be changed after the load balancer is created. If you need a different type of load balancer than those offered here, visit the Load Balancing console.

- (●) Application Load Balancer — HTTP, HTTPS
- ( ) Network Load Balancer — TCP, UDP, TLS

Load balancer name

Name cannot be changed after the load balancer is created.

sid-aws-scaling-1

Load balancer scheme

Scheme cannot be changed after the load balancer is created.

- ( ) Internal
- (●) Internet-facing

Network mapping

Your new load balancer will be created using the same VPC and Availability Zone selections as your Auto Scaling group. You can select different subnets and add subnets from additional Availability Zones.

VPC

vpc-080f6a5ebfa0d9944

Availability Zones and subnets

You must select a single subnet for each Availability Zone enabled. Only public subnets are available for selection to support DNS resolution.

- [x] eu-north-1b — subnet-06dfdd82fb120796a
- [x] eu-north-1c — subnet-06d7f09cca266494f
- [x] eu-north-1a — subnet-04fef07ed760f4ba5

Listeners and routing

If you require secure listeners, or multiple listeners, you can configure them from the Load Balancing console after your load balancer is created.

Protocol	Port	Default routing (forward to)
HTTP	80	Create a target group

New target group name

An instance target group with default settings will be created.

sid-aws-scaling-1

Tags - *optional*

Consider adding tags to your load balancer. Tags enable you to categorize your AWS resources so you can more easily manage them.

Add tag

50 remaining

VPC

vpc-080f6a5ebfa0d9944

Availability Zones and subnets

You must select a single subnet for each Availability Zone enabled. Only public subnets are available for selection to support DNS resolution.

- [x] eu-north-1b — subnet-06dfdd82fb120796a

VPC Lattice integration options Info

To improve networking capabilities and scalability, integrate your Auto Scaling group with VPC Lattice. VPC Lattice facilitates communications between AWS services and helps you connect and manage your applications across compute services in AWS.

Select VPC Lattice service to attach

- (●) No VPC Lattice service
  VPC Lattice will not manage your Auto Scaling group's network access and connectivity with other services.
- ( ) Attach to VPC Lattice service
  Incoming requests associated with specified VPC Lattice target groups will be routed to your Auto Scaling group.

Create new VPC Lattice service

Health checks

Health checks increase availability by replacing unhealthy instances. When you use multiple health checks, all are evaluated, and if at least one fails, instance replacement occurs.

EC2 health checks

Always enabled

Additional health check types - *optional* Info

- [ ] Turn on Elastic Load Balancing health checks Recommended
  Elastic Load Balancing monitors whether instances are available to handle requests. When it reports an unhealthy instance, EC2 Auto Scaling can replace it on its next periodic check.
- [ ] Turn on VPC Lattice health checks
  VPC Lattice can monitor whether instances are available to handle requests. If it considers a target as failed a health check, EC2 Auto Scaling replaces it after its next periodic check.

Health check grace period Info

This time period delays the first health check until your instances finish initializing. It doesn't prevent an instance from terminating when

EC2 health checks

Always enabled

Additional health check types - *optional* Info

- [ ] Turn on Elastic Load Balancing health checks Recommended
  Elastic Load Balancing monitors whether instances are available to handle requests. When it reports an unhealthy instance, EC2 Auto Scaling can replace it on its next periodic check.
- [ ] Turn on VPC Lattice health checks
  VPC Lattice can monitor whether instances are available to handle requests. If it considers a target as failed a health check, EC2 Auto Scaling replaces it after its next periodic check.

Health check grace period Info

This time period delays the first health check until your instances finish initializing. It doesn't prevent an instance from terminating when placed into a non-running state.

60 seconds

Additional settings

Monitoring Info

- [ ] Enable group metrics collection within CloudWatch

Default instance warmup Info

The amount of time that CloudWatch metrics for new instances do not contribute to the group's aggregated instance metrics, as their usage data is not reliable yet.

- [ ] Enable default instance warmup

Cancel | Skip to review | Previous | Next

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.

1

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

Max desired capacity

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

1

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.

- (selected) **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 metric's value.

Instance maintenance policy - *new* Info

Control your Auto Scaling group's availability during instance replacement events. This includes health checks, instance refreshes, maximum instance lifetime features and events that happen automatically to keep your group balanced, called rebalancing events.

Control availability and cost during replacement events

An instance maintenance policy determines how much availability your application has when EC2 Auto Scaling replaces instances. It also establishes guardrails that limit the amount of capacity that can be added or removed when replacing instances.

Control availability and cost during replacement events
An instance maintenance policy determines how much availability your application has when EC2 Auto Scaling replaces instances. It also establishes guardrails that limit the amount of capacity that can be added or removed when replacing instances.

Choose a replacement behavior depending on your availability requirements

Mixed behavior
- (●) No policy
  For rebalancing events, new instances will launch before terminating others. For all other events, instances terminate and launch at the same time.

Prioritize availability
- ( ) Launch before terminating
  Launch new instances and wait for them to be ready before terminating others. This allows you to go above your desired capacity by a given percentage and may temporarily increase costs.

Control costs
- ( ) Terminate and launch
  Terminate and launch instances at the same time. This allows you to go below your desired capacity by a given percentage and may temporarily reduce availability.

Flexible
- ( ) Custom behavior
  Set custom values for the minimum and maximum amount of available capacity. This gives you greater flexibility in setting how far below and over your desired capacity EC2 Auto Scaling goes when replacing instances.

Instance scale-in protection

Scale-in protection prevents newly launched instances from being terminated by scaling activities. Make sure to remove scale-in protection for the group or individual instances when instances are ready to be terminated.

☐ Enable instance scale-in protection

Cancel | Skip to review | Previous | Next

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

Name	Launch template/configuration	Instances	Status	Desired capacity	Min	Max	Availabil...
sid-aws-scaling	sid-aws-template | Version Default	0	Updating capacity...	1	1	1	eu-north-1...

Next-skip to review-create auto scaling group.

EC2 > Target groups

Target groups (1) Info

Actions ▼ | Create target group

Filter target groups

1

Name	ARN	Port	Protocol	Target type	Load balancer
sid-aws-scaling-1	arn:aws:elasticloadbalanci…	80	HTTP	Instance	sid-aws-scaling-1

EC2 > Load balancers

Load balancers (1)

Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.

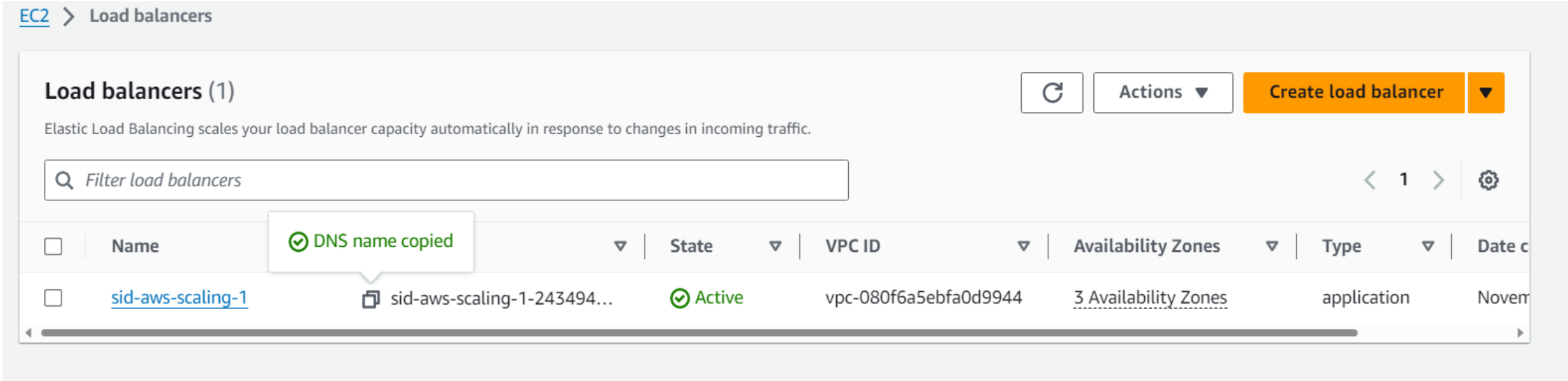
Actions ▼ | Create load balancer ▼

Filter load balancers

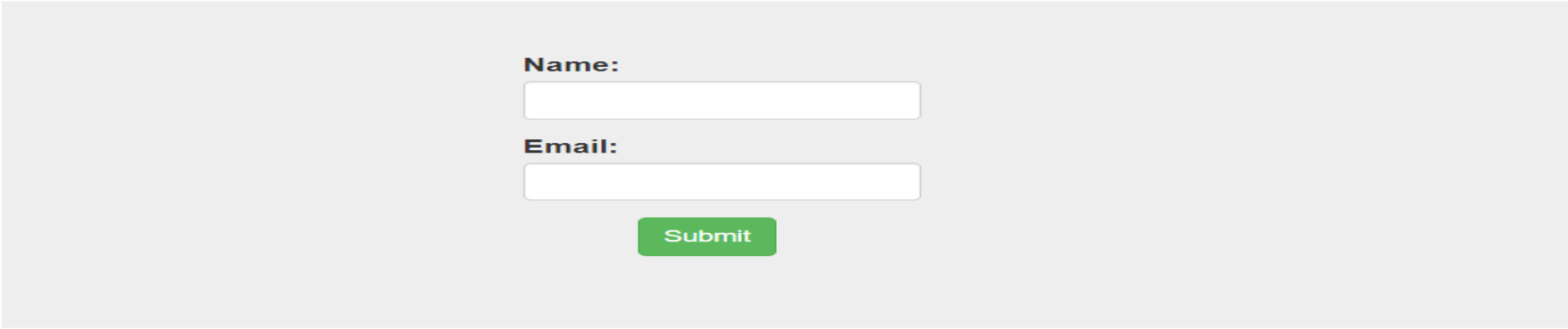
1

Name	DNS name	State	VPC ID	Availability Zones	Type	Date c
sid-aws-scaling-1	sid-aws-scaling-1-243494…	Active	vpc-080f6a5ebfa0d9944	3 Availability Zones	application	Novem

Target group and load balancer automatically created.



Copy DNS id and browse .

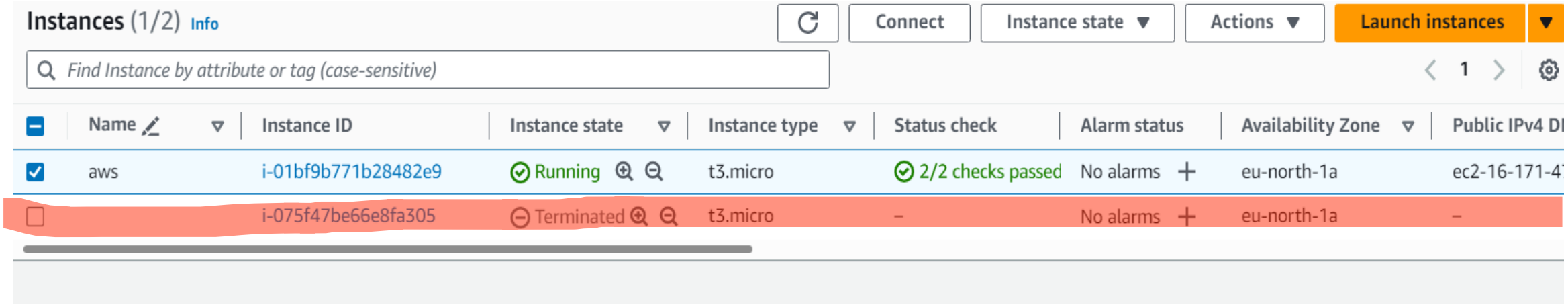


```
mysql> use intel;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> select * from data;
+-----------+-----------------+
| firstname | email           |
+-----------+-----------------+
| abc       | abc@gmail.com   |
| sid       | sid@gmail.com   |
| kapil     | kapil@gmail.com |
+-----------+-----------------+
3 rows in set (0.00 sec)

mysql>
```

i-01bf9b771b28482e9 (aws)

PublicIPs: 16.171.47.42 PrivateIPs: 172.31.17.55

Again you can enter new value for testing and check instance it will record the same value.



The result of creating auto scaling group which launch new instance.