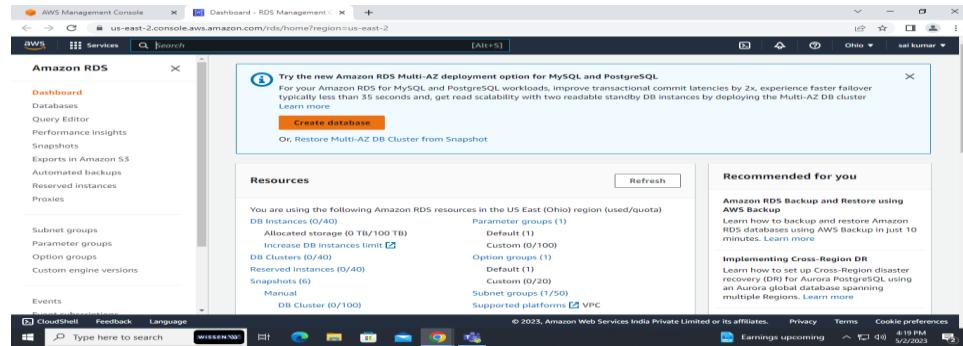


Open the AWS Management Console, when the console opens, select Database from the left navigation pane and choose RDS to open the Amazon RDS console. Click on create database.



You now have options to select your engine. Choose the MySQL icon, leave the default value of edition and engine version, and select the Free Tier template

You will now configure your DB instance. DB instance identifier: Type a name for the DB instance that is unique for your account in the Region that you selected. We will name as **mydb1**

Master username: Type a username that you will use to log in to your DB instance. We will give as "admin" Master password: Type a password.

We will give a password "\*\*\*\*\*".

Confirm password: Retype your password

DB instance class: Select db.t2.micro and Storage type: Select General Purpose SSD(gp2) and storage with 20GB. Choose Don't connect to an EC2 compute resource. Select Default VPC Public accessibility: Choose Yes. Select Create new VPC security group

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Public accessibility: Choose Yes.

Select existing VPC security group as **rds demo** Availability Zone: Choose No preference

The screenshot shows the AWS Management Console interface for creating a new RDS database. In the 'Public access' section, 'Yes' is selected. Under 'VPC security group (firewall)', 'Choose existing' is selected and 'rds demo' is chosen from the dropdown. In the 'Availability Zone' section, 'No preference' is selected. On the right side, there is a detailed description of MySQL and its features.

Choose Password authentication from the list

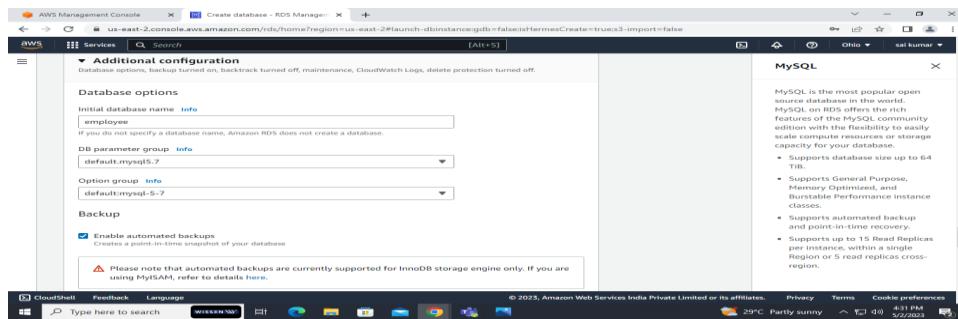
The screenshot shows the 'Database authentication' configuration screen. Under 'Database authentication options', 'Password authentication' is selected. The 'Monitoring' section has 'Enable Enhanced monitoring' unchecked. On the right side, there is a detailed description of MySQL and its features.

Emp name:Sai Kumar Vemula

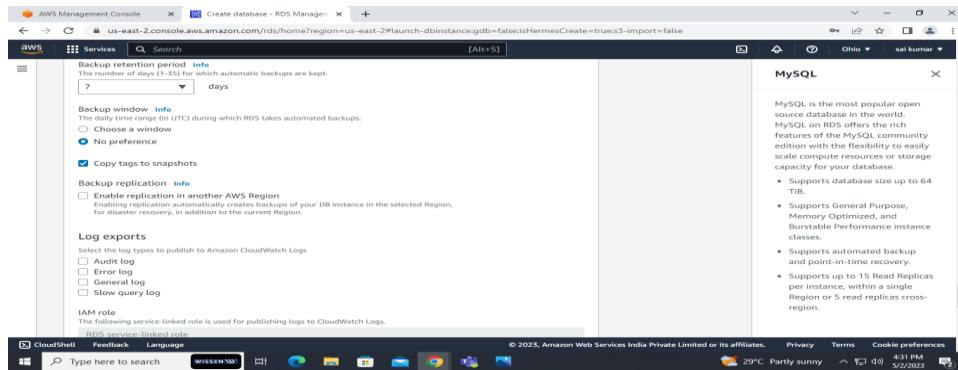
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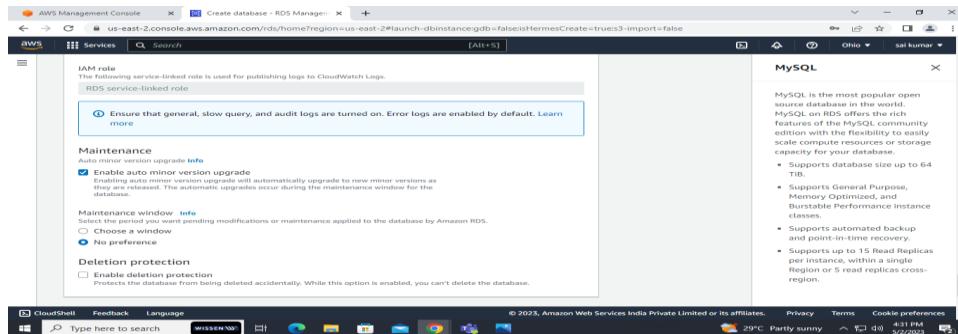
Leave Enable enhanced monitoring unchecked to stay within the Free Tier. Enter a database name as employee



Backup retention period: choose 7-day Backup window: Use the default of No preference



Select Enable auto minor version upgrade to receive automatic updates when they become available.

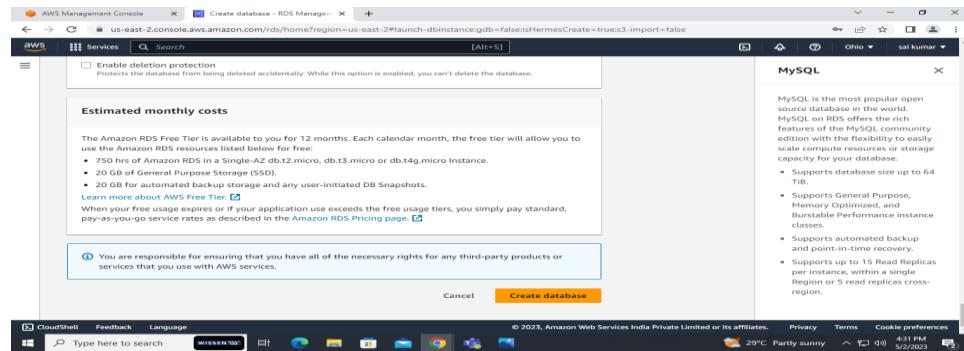


Emp name:Sai Kumar Vemula

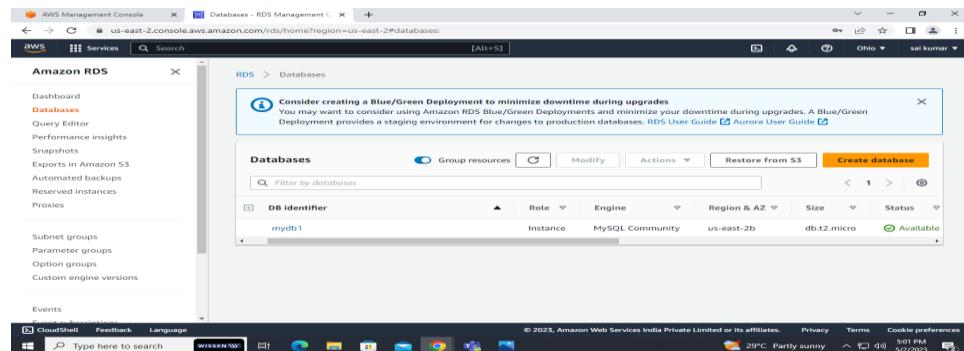
Blue/green deployment of RDS

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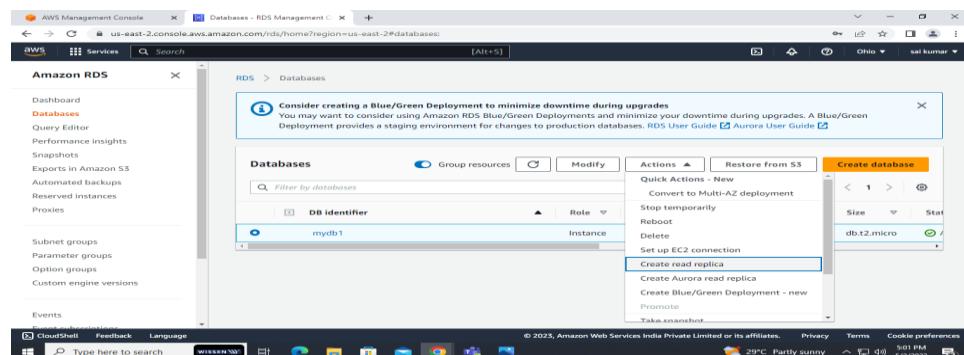
Click on create database



After creating database the database state is first provisioning state after few minutes database is in available state



After database is in available state then we must have to create one read replica for the my rds database instance



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The image consists of three vertically stacked screenshots from the AWS Management Console, specifically the Amazon RDS service.

**Screenshot 1: Create Read Replica - RDS Manager**

This screen shows the initial step of creating a read replica. It includes a "Replica source" section where "mydb1" is selected as the "Source DB instance identifier". A "DB instance identifier" field contains "mydb2". Below this is a "Settings" section with a "Replica source" dropdown set to "mydb1" and a "DB instance identifier" dropdown set to "mydb2".

**Screenshot 2: Create Read Replica - RDS Manager**

This screen shows the continuation of the configuration. It includes an "Instance configuration" section with a "DB instance class" dropdown set to "db.t2.micro" (1 vCPU, 1 GiB RAM, Not EBS Optimized) and a "Storage" section where "General Purpose SSD (gp2)" is selected as the storage type. The "Allocated storage" field is set to "20" GiB.

**Screenshot 3: Create Read Replica - RDS Manager**

This screen shows the final configuration steps. It includes an "AWS Region" section with "US East (Ohio)" selected as the destination region. Below it is a "Storage" section with "General Purpose SSD (gp2)" selected as the storage type and "20" GiB allocated. There is also a note about provisioning less than 100 GiB of storage for high throughput workloads.

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The image consists of three vertically stacked screenshots from the AWS Management Console, specifically the RDS service.

**Screenshot 1: Availability**  
This screen shows the deployment options for creating a read replica. The "Single DB instance" option is selected. It also displays connectivity settings, including network type (IPv4) and DB subnet group (default-vpc-0d3bce81db09e6cd). A note indicates that the DB subnet group defines which subnets and IP ranges the DB instance can use in the VPC.

**Screenshot 2: Connectivity**  
This screen continues the configuration process. It shows the DB subnet group selected as default-vpc-0d3bce81db09e6cd. The "Publicly accessible" option is chosen, allowing EC2 instances and other resources outside the VPC to connect. An existing VPC security group named "rds demo" is selected. The availability zone is set to "No preference".

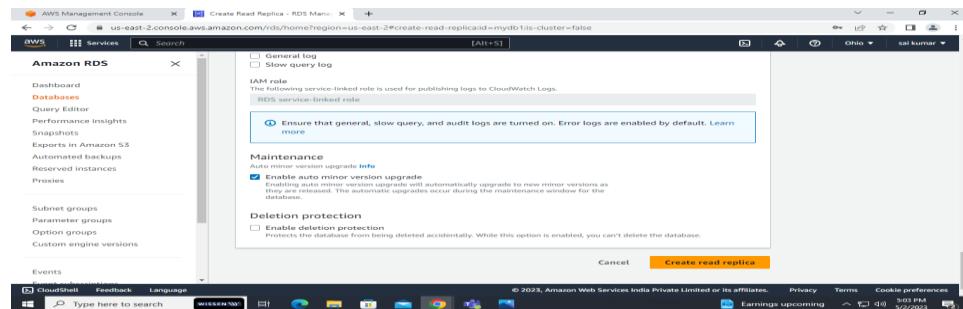
**Screenshot 3: Database port and authentication**  
This final step involves setting the database port to 3306 and selecting database authentication options. The "Password authentication" option is chosen, which authenticates using database passwords. Other options like "Password and IAM database authentication" and "Password and Kerberos authentication" are also listed.

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Click on create read replica



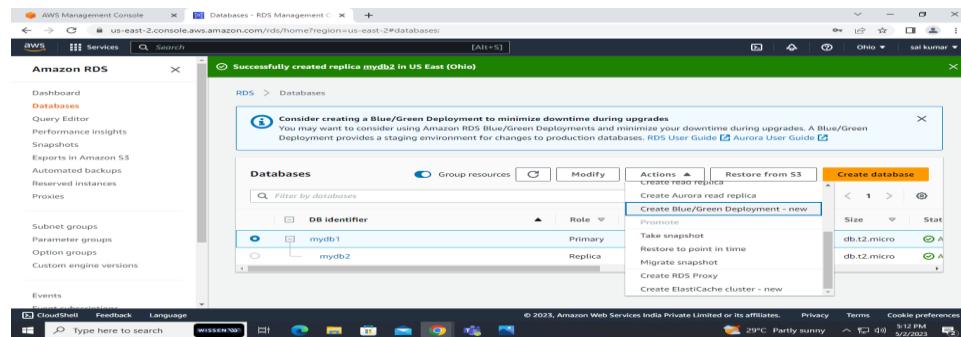
After click on read replica, it is in creating state then after few minutes it goes into available state

The image contains two screenshots of the AWS Management Console. The top screenshot shows the 'Creating replica mydb2 in US East (Ohio)' state, with a note about minimizing downtime during upgrades. The bottom screenshot shows the 'Successfully created replica mydb2 in US East (Ohio)' state, with the database now listed as 'Available' in the status column. Both screenshots show a table of databases with columns for DB identifier, Role, Engine, Region & AZ, Size, and Status.

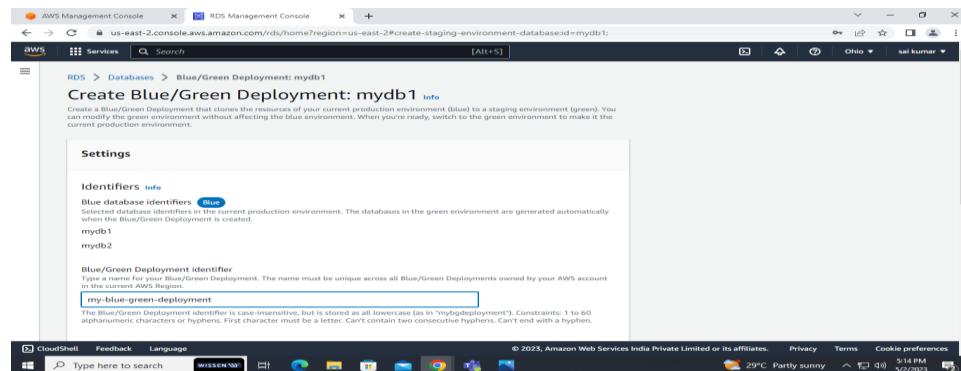
DB identifier	Role	Engine	Region & AZ	Size	Status
mydb1	Primary	MySQL Community	us-east-2b	db.t2.micro	Modifying
mydb2	Replica	MySQL Community	-	db.t2.micro	Creating

DB identifier	Role	Engine	Region & AZ	Size	Status
mydb1	Primary	MySQL Community	us-east-2b	db.t2.micro	Available
mydb2	Replica	MySQL Community	us-east-2a	db.t2.micro	Available

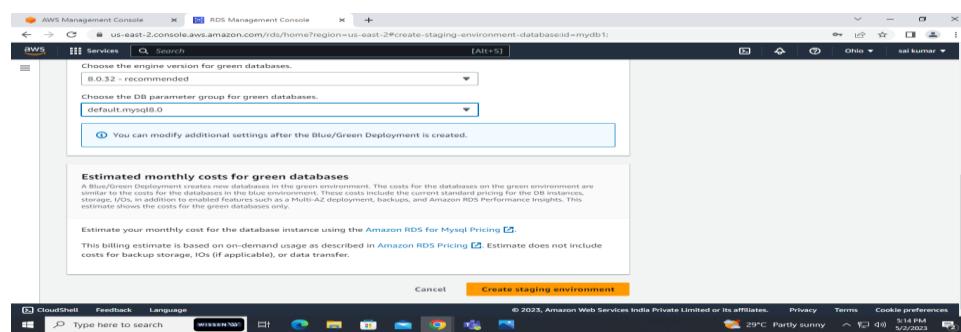
First, we must select the mydb1 rds database instance and navigate through actions select the create blue/green deployment -new



Giving the blue/green deployment identifier name as my-blue-green-deployment remaining all are default



Click on staging environment



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My blue/green deployment status is provisioning state then goes into available state. Two environments, one is blue and other one is green environment.

The screenshot shows the AWS Management Console - Databases - RDS Management page. A modal dialog box at the top left says "Consider creating a Blue/Green Deployment to minimize downtime during upgrades". The main table lists three items:

DB identifier	Role	Engine	Region & AZ	Size	Status
mydb1 (Blue)	Primary	MySQL Community	us-east-2b	db.t2.micro	Available
mydb2 (Blue)	Replica	MySQL Community	us-east-2a	db.t2.micro	Available

A third item, "my-blue-green-deployment", is listed under "Blue/Green Deployment".

The screenshot shows the same AWS Management Console - Databases - RDS Management page. The modal dialog box remains. The main table now shows four items:

DB identifier	Role	Engine	Region & AZ	Size	Status
mydb1 (Blue)	Primary	MySQL Community	us-east-2b	db.t2.micro	Modifying
mydb2 (Blue)	Replica	MySQL Community	us-east-2a	db.t2.micro	Available
my-blue-green-deployment	Blue/Green Deployment	-	-	-	Provisioning

A new item, "mydb1-green-nlncmt (Green)", is listed under "my-blue-green-deployment".

Once the blue/green environments available state after that automatically created one read replica for the green environment

The screenshot shows the same AWS Management Console - Databases - RDS Management page. The modal dialog box remains. The main table now shows five items:

DB identifier	Role	Engine	Region & AZ	Size	Status
mydb1 (Blue)	Primary	MySQL Community	us-east-2b	db.t2.micro	Available
mydb2 (Blue)	Replica	MySQL Community	us-east-2a	db.t2.micro	Available
my-blue-green-deployment	Blue/Green Deployment	-	-	-	Available
mydb1-green-nlncmt (Green)	Primary	MySQL Community	us-east-2b	db.t2.micro	Available
mydb2-green-ws9vB7 (Green)	Replica	MySQL Community	us-east-2a	db.t2.micro	Available

Two new items, "mydb1-green-nlncmt (Green)" and "mydb2-green-ws9vB7 (Green)", are listed under "my-blue-green-deployment".

## Creating EC2 instance

Create a ec2 instance

The screenshots illustrate the step-by-step process of launching an EC2 instance:

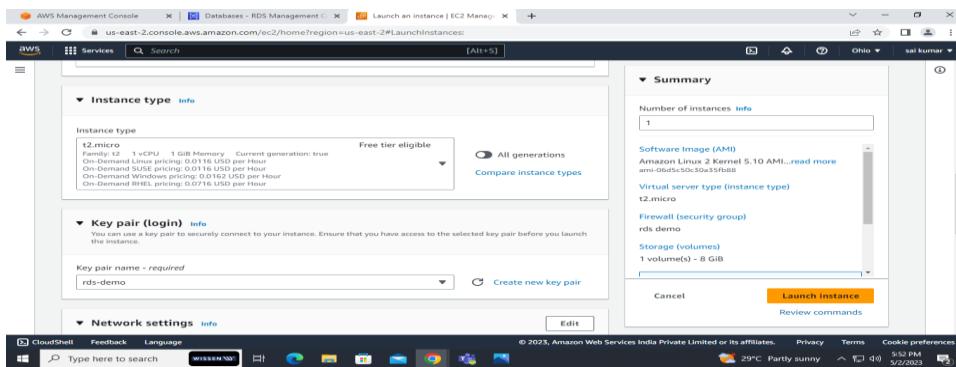
- Screenshot 1: Launch Instance Wizard - Step 1: Set Instance Details**  
Shows the initial step of the wizard where the user selects "Launch instance". Other options like "Launch instance from template" and "Launch instance from AMI" are also visible.
- Screenshot 2: Launch an instance - Step 2: Set Instance Details**  
Shows the "Launch an instance" screen. The instance name is set to "blue-green-deployment-rds". Under "Software Image (AMI)", "Amazon Linux 2 Kernel 5.10 AMI" is selected. The "Virtual server type (instance type)" is chosen as "t2.micro". The "Storage (volumes)" section shows "1 volume(s) - 8 GiB". The "Launch instance" button is highlighted.
- Screenshot 3: Launch an instance - Step 3: Set Instance Details**  
Shows the continuation of the wizard. The "Quick Start" section highlights the "Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type" AMI. The "Description" section provides details about the AMI: "Amazon Linux 2 Kernel 5.10 AMI 2.0.20230418.0.x86\_64 HVM gp2", "Architecture: 64-bit (x86)", "AMI ID: ami-06d5c50c50a35fb88", and "Verified provider". The "Launch instance" button is again highlighted.

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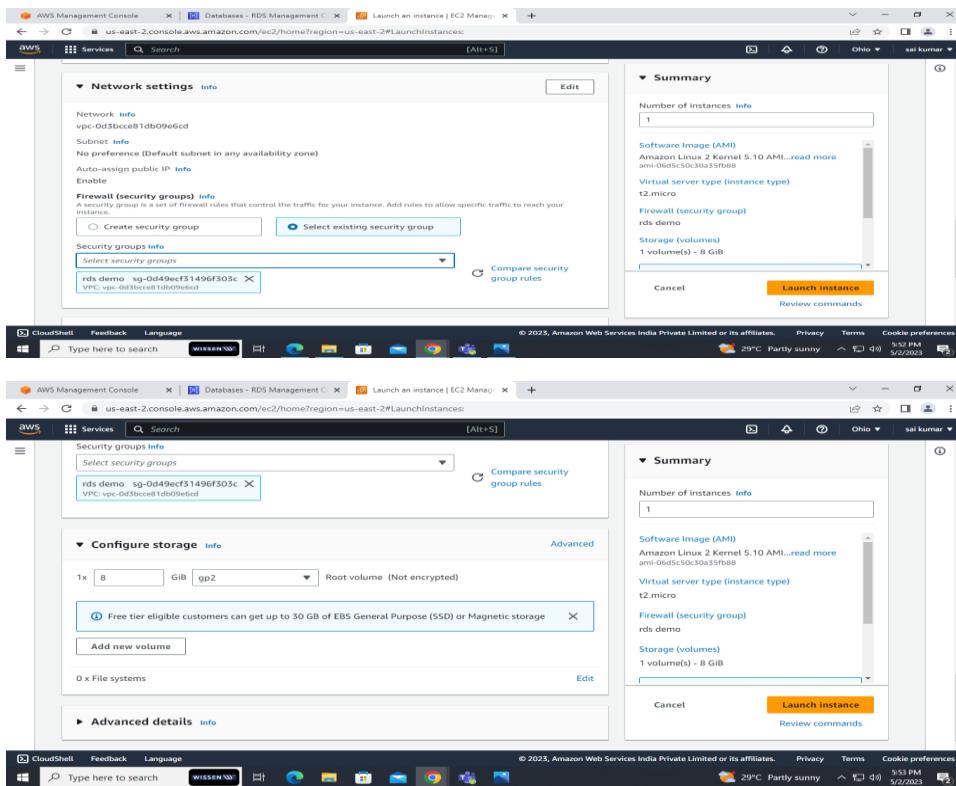
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### Create a key pair



Select a security group that suits for the 3306 port and create instance



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Blue/green deployment of RDS

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## Connect the instance

The screenshot shows two browser tabs. The top tab is 'Instances | EC2 Management Con...' showing a single instance named 'blue-green-de...' with an ID of 'i-0840f83e32be439df' in the 'Running' state. The bottom tab is 'Connect to instance | EC2 Man...' where the instance ID 'i-0840f83e32be439df (blue-green-deployment-rds)' is selected. The 'EC2 Instance Connect' tab is active, displaying the connection details: Public IP address '13.59.209.189', User 'ec2-user', and a note about the default user name.

## Go to root user Install SQL server to the queries

The screenshot shows a terminal window within the AWS Management Console. The user has run a 'yum update' command, which lists several packages to be updated, including 'kernel' and 'httpd'. The terminal also shows the user switching to the root account using 'su -' and installing the 'mssql-server' package using 'sudo yum install mssql-server'. The output indicates that the package will be installed from the 'amzn2extra-kernel-5.10' repository.

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Create a user and password for the SQL to connect with workbench

```
aws Management Console | Database - RDS Management | Connect to instance | EC2 Mens... | EC2 Instance Connect | + | Ohio | sat kumar | 
aws Services Search [Alt+5] 
Transaction Summary
Install 1 Package
total download size: 33 M
Installed sizes: 136 M
Delta RPMs disabled because /usr/bin/applydeltarpm not installed.
kernel-5.10.178-162.673.amzn2.x86_64.rpm
kernel-5.10.178-162.673.amzn2.x86_64
Running transaction test
Running transaction test
Running transaction
  Installing : kernel-5.10.178-162.673.amzn2.x86_64
    Verifying : kernel-5.10.178-162.673.amzn2.x86_64
  Installed:
    kernel.x86_64 0:5.10.178-162.673.amzn2
Complete!
[root@ip-172-31-34-125 ~]# yum install mysql -y
Resolving Dependencies
--> Running transaction check
--> Checking for updates on all packages
--> Finished
--> mariadb-10.5.6-1.amzn2 will be installed

i-0840f83e32be439df (blue-green-deployment-rds)
PublicIPs: 13.59.209.189 PrivateIPs: 172.31.34.125

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Type here to search [Alt+5]
Windows 10

aws Management Console | Database - RDS Management | Connect to instance | EC2 Mens... | EC2 Instance Connect | + | Ohio | sat kumar | 
aws Services Search [Alt+5] 
Package Arch Version Repository Size
Installing: mariadb.x86_64 1:5.5.68-1.amzn2 amzn2-core 8.8 M
Transaction Summary
Install 1 Package
total download size: 0.0 M
Installed sizes: 49 M
mariadb-10.5.68-1.amzn2.x86_64.rpm
Running transaction test
Running transaction test
Transaction test succeeded
  Installing : mariadb-10.5.68-1.amzn2.x86_64
    Verifying : mariadb-10.5.68-1.amzn2.x86_64
  Installed:
    mariadb.x86_64 1:5.5.68-1.amzn2
Complete!
[root@ip-172-31-34-125 ~]# 

i-0840f83e32be439df (blue-green-deployment-rds)
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Type here to search [Alt+5]
Windows 10
```

`mysql -h end point address of the rds database instance -u admin -P 3306 -p` Use this command to connect rds and ec2

```
aws Management Console X Database Details - RDS Manager X Connect to instance | EC2 Manager X EC2 Instance Connect X + aws Services Search [All+S] aws east-2.compute.amazonaws.com:80/ec2-instance-connect/ssh?connType=standard&instanceId=i-0840f83e32be439df&User=ec2-user&Region=us-east-2&sshPort=22 Ohio sal kumar

root@i-0840f83e32be439df:~# mysql -h mysql.ccqcuuhfhlnn.us-east-2.rds.amazonaws.com -u admin -P 3306 -p
Enter password: MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 1
Copyright (c) 2000, 2018, Oracle. MariaDB Corporation Ab and others.
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
mysql> i-0840f83e32be439df (blue-green-deployment-rds)
Publication: 15.59.209.189 PrivateIP: 172.51.54.125
```

After connecting the rds database mydb1 then creating the one database in blue environment nothing but production environment.in this environment having both read/write permissions

```

AWS Management Console Database Details - RDS Manager Connect to instance | EC2 Man... EC2 Instance Connect
aws Services Search [Alt+5] Ohio saikumar

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
0 rows in set (0.00 sec)

MySQL [(none)]> create database student;
Query OK, 1 row affected (0.02 sec)

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
| student |
+-----+
0 rows in set (0.00 sec)

I-0840f83e52be439df (blue-green-deployment-rds)
PublicIPs: 13.59.209.189 PrivateIPs: 172.31.34.125

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AWS Management Console Database Details - RDS Manager Connect to instance | EC2 Man... EC2 Instance Connect
aws Services Search [Alt+5] Ohio saikumar

Query OK, 1 row affected (0.02 sec)

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| employee |
| mysql |
| performance_schema |
| student |
| sys |
+-----+
0 rows in set (0.00 sec)

MySQL [(none)]> select version();
+-----+
| version() |
+-----+
| 5.7.39-log |
+-----+
1 row in set (0.00 sec)

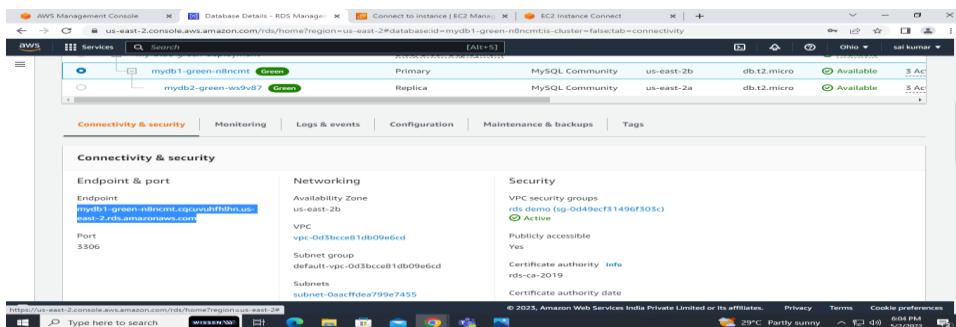
MySQL [(none)]>

I-0840f83e52be439df (blue-green-deployment-rds)
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```

### Copying the green environment end point



Then connecting to the green environment. Previously we created one database in blue environment that database is also reflected in green environment also

```

AWS Management Console Database Details - RDS Manager Connect to instance | EC2 Manager EC2 Instance Connect
aws Services Search [Alt+5]
1 row in set (0.00 sec)

MySQL [(none)]> 
Welcome to the MariaDB monitor.  Commands end with ; or g.
Enter password:
MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
| wissen |
+-----+
1 row in set (0.00 sec)

MySQL [(none)]> 
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MySQL [(none)]> 
MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| innodb |
| mysql |
| performance_schema |
| sys |
| wissen |
+-----+
1 row in set (0.00 sec)

MySQL [(none)]> 
i-0840f83e52be439df (blue-green-deployment-rds)
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```

In this green environment only having the read-only permission and it's don't have the any write permission in this environment. Green environment is also called as staging environment

```

AWS Management Console Database Details - RDS Manager Connect to instance | EC2 Manager EC2 Instance Connect
aws Services Search [Alt+5]
Welcome to the MariaDB monitor.  Commands end with ; or g.
Enter password:
MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| innodb |
| mysql |
| performance_schema |
| sys |
| wissen |
+-----+
1 row in set (0.01 sec)

MySQL [(none)]> create database wissen;
ERROR 1290 (HY000): The MySQL server is running with the --read-only option so it cannot execute this statement
MySQL [(none)]> 

i-0840f83e52be439df (blue-green-deployment-rds)
PublicIPs: 13.59.209.189 PrivateIPs: 172.31.34.125

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AWS Management Console Database Details - RDS Manager Connect to instance | EC2 Manager EC2 Instance Connect
aws Services Search [Alt+5]
MySQL [(none)]> select version();
+-----+
| version() |
+-----+
| 8.0.32 |
+-----+
1 row in set (0.00 sec)

MySQL [(none)]> 
version()
+-----+
| version() |
+-----+
| 8.0.32 |
+-----+
1 row in set (0.00 sec)

MySQL [(none)]> 
i-0840f83e52be439df (blue-green-deployment-rds)
PublicIPs: 13.59.209.189 PrivateIPs: 172.31.34.125

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CloudShell Type here to search 29°C Partly sunny 6:06 PM 5/2/2023

```

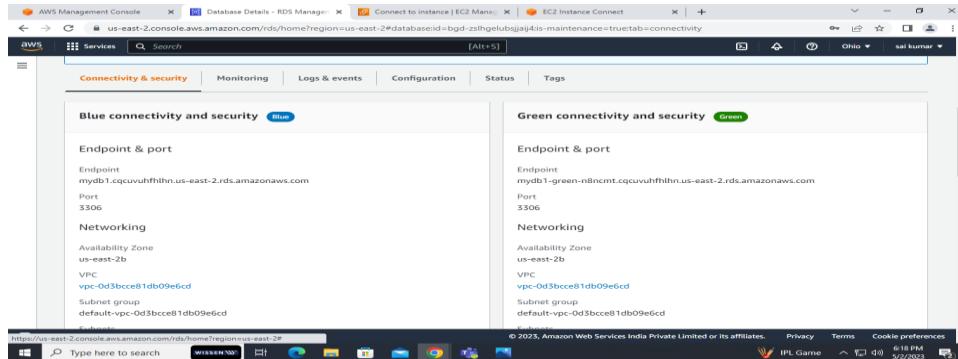
Emp name:Sai Kumar Vemula

Blue/green deployment of RDS

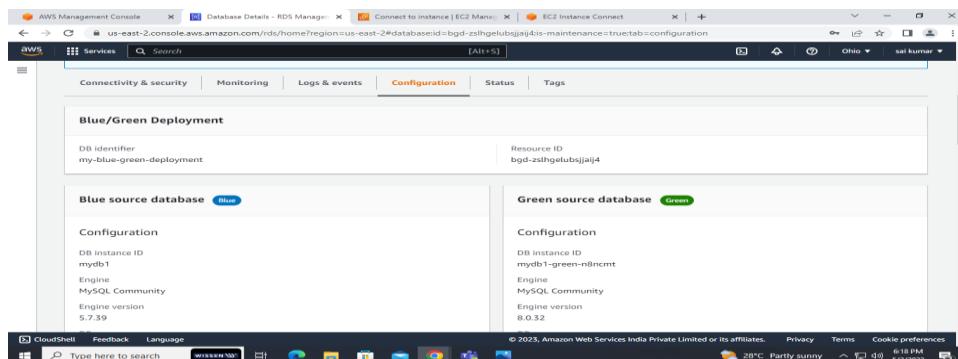
Emp id:6778

```
aws Services Search [Alt+5] EC2 Instance Connect
AWS Ohio saikumar
Package Arch Version Repository Size
Install: mariadb x86_64 1:5.5.60-1.amzn2 amzn2-core 8.8 M
Transaction summary
Install 1 Package
Total download size: 0.0 M
Is this ok [y/N]: y
Downloading packages:
mariadb-1:5.5.60-1.amzn2.x86_64.rpm
Running transaction check
Running transaction test
Performing transaction test succeeded
Performing transaction step succeeded
Installing mariadb
  Installing : mariadb-1:5.5.60-1.amzn2.x86_64
  Verifying : mariadb-1:5.5.60-1.amzn2.x86_64
Installed:
  mariadb.x86_64 1:5.5.60-1.amzn2
Completed!
[root@ip-172-31-34-125 ~]# i-0840f83e532be459df (blue-green-deployment-rds)
PublicIPs: 13.59.209.189 PrivateIPs: 172.31.34.125
```

Here we can see both environments connectivity and security and also see the difference between both endpoints.



These are both environment configuration details



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The screenshot shows the AWS Management Console with the RDS Management interface. A prominent message box at the top states: "Some green environment settings are different from blue environment settings" with a note: "• The blue engine version is 5.7.39 and the green engine version is 8.0.32." Below this, there are tabs for Connectivity & security, Monitoring, Logs & events, Configuration, Status (which is selected), and Tags. Under the Status tab, there are sections for Green environment status (4 items) and Switchover mapping (2 items). The green environment status items include: Creating read replica of source (Completed), DB engine version upgrade (Completed), Configure backups (Completed), and Creating topology of source (Completed).

After that select my blue/green deployment navigate through the actions and select the switch over option

The screenshot shows the AWS Management Console with the RDS Management interface. The database 'my-blue-green-deployment' is selected. In the Actions menu, the 'Switch over' button is highlighted. The database list shows three entries: 'mydb1' (blue, Primary), 'mydb2' (blue, Replica), and 'mydb1-green-n8mcmt' (green, Primary). The 'mydb1-green-n8mcmt' entry is highlighted.

The screenshot shows the AWS Management Console with the RDS Management interface. The 'Switch over: my-blue-green-deployment' page is displayed. It includes a 'Switchover summary' section with a note: "You are about to switch over from Blue databases to Green databases. Check the settings of the Green databases to verify that they are ready for the switchover." Below this, there are two tables: 'Blue databases' (mydb1, mydb2) and 'Green databases' (mydb1-green-n8mcmt, mydb2-green-ws9v87). Each table lists details such as Engine version, Option group, and Parameter group.

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The screenshot shows the AWS Management Console with the RDS Management Console open. It displays two database instances: 'mydb2' (Blue) and 'mydb2-green-ws9v87' (Green). The 'Replica setting details' section indicates that the replicas have different settings. The storage type for both instances is listed as 'General Purpose SSD (gp2)'.

Switch over default time is 5 minutes and remaining all are default then click on switch over

The screenshot shows the AWS Management Console with the RDS Management Console open. It displays two database instances: 'mydb2' (Blue) and 'mydb2-green-ws9v87' (Green). The 'Timeout setting' section shows a duration of 5 minutes and a unit of time of minutes. A 'Switch over' button is visible.

The screenshot shows the AWS Management Console with the RDS Management Console open. It displays a list of databases. The 'my-blue-green-deployment' database is selected, showing it is a 'Blue/Green Deployment'. Other databases listed include 'mydb1' (Primary) and 'mydb2' (Replica). A 'Create database' button is highlighted.

After clicking on switch over the blue environment traffic is routed to green environment. Now blue environment is an old environment and green environment is present environment.

**Screenshot 1: Initial State**

DB identifier	Role	Engine	Region & AZ	Size	Status
mydb1	Primary	MySQL Community	us-east-2b	db.t2.micro	Switching over
mydb2	Replica	MySQL Community	us-east-2a	db.t2.micro	Available
mydb1-green-n8ncmt	Blue/Green Deployment	-	-	-	Switching over
mydb1-green-n8ncmt	Primary	MySQL Community	us-east-2b	db.t2.micro	Switching over
mydb2-green-ws9v87	Replica	MySQL Community	us-east-2a	db.t2.micro	Available

**Screenshot 2: After Switch Over**

DB identifier	Role	Engine	Region & AZ	Size	Status
mydb1	Blue/Green Deployment	-	-	-	Switchover complete
mydb2	Primary	MySQL Community	us-east-2b	db.t2.micro	Available
mydb1-old1	Replica	MySQL Community	us-east-2a	db.t2.micro	Available
mydb2-old1	Primary	MySQL Community	us-east-2b	db.t2.micro	Available
mydb2-old1	Replica	MySQL Community	us-east-2a	db.t2.micro	Available

**Screenshot 3: Connectivity & Security Details**

Endpoint & port	Endpoint	Port
Endpoint	mydb1-old1.cqcuvuhfhln.us-east-2.rds.amazonaws.com	3306
Networking	Availability Zone	us-east-2b
VPC	vpc-0d3ccce81db09e6cd	
Subnet group	default-vpc-0d3ccce81db09e6cd	

Emp name:Sai Kumar Vemula

Blue/green deployment of RDS

Emp id:6778

The screenshot shows the AWS Management Console with the URL <https://us-east-2.console.aws.amazon.com/rds/home?region=us-east-2#databaseid=bgd-zslhgelubsjaj4is-maintenance=true&tab=configuration>. The page displays the 'Blue/Green Deployment' configuration for a database with DB identifier 'my-blue-green-deployment'. It compares the 'Blue source database' (blue status) and the 'Green source database' (green status). Both databases share the same configuration parameters: DB instance ID (mydb1-old1), Engine (MySQL Community), Engine version (5.7.39), DB name (employee), and License model (General Public License).

old environment is the blue environment and other one is green environment

The screenshot shows the AWS Management Console with the URL <https://us-east-2.console.aws.amazon.com/rds/home?region=us-east-2#databaseid=bgd-zslhgelubsjaj4is-maintenance=true>. The 'Connectivity & security' tab is selected. It compares the 'Blue connectivity and security' (blue status) and 'Green connectivity and security' (green status). Both environments have the same endpoint (mydb1-cqcuvhfhln.us-east-2.rds.amazonaws.com), port (3306), and networking configurations (Availability Zone: us-east-2b, VPC: vpc-0d3bcc81db09e6cd, Subnet group: default-vpc-0d3bcc81db09e6cd).

Emp name:Sai Kumar Vemula

Blue/green deployment of RDS

Emp id:6778

Blue/Green Deployment

DB identifier: my-blue-green-deployment

Resource ID: bpd-zslhgelsubsjaj4

**Blue source database** (blue)

**Configuration**

DB instance ID: mydb1-old1

Engine: MySQL Community

Engine version: 5.7.39

DB name: employee

License model: General Public License

**Green source database** (green)

**Configuration**

DB instance ID: mydb1

Engine: MySQL Community

Engine version: 8.0.32

DB name: employee

License model: General Public License

Copy the old environment end point address

Blue connectivity and security (blue)

**Endpoint & port**

Endpoint: mydb1-old1.cqcuvhflln.us-east-2.rds.amazonaws.com

Port: 3306

**Networking**

Availability Zone: us-east-2b

VPC: vpc-0d3bcc81db09e6cd

Subnet group: default-vpc-0d3bcc81db09e6cd

Subnets:

- subnet-0acffedc799e7455
- subnet-03f1c03b1a42e7562
- subnet-04a05a9fcba9421f2

Green connectivity and security (green)

**Endpoint & port**

Endpoint: mydb1.cqcuvhflln.us-east-2.rds.amazonaws.com

Port: 3306

**Networking**

Availability Zone: us-east-2b

VPC: vpc-0d3bcc81db09e6cd

Subnet group: default-vpc-0d3bcc81db09e6cd

Subnets:

- subnet-0acffedc799e7455
- subnet-03f1c03b1a42e7562
- subnet-04a05a9fcba9421f2

i-0840fb3e32be439df (blue-green-deployment-rds)

PublicIPs: 13.59.209.189 PrivateIPs: 172.31.34.125

MySQL [(none)]> exit;

mysql>exit;

[root@i-0840fb3e32be439df ~]# mysql -h mydb1-old1.cqcuvhflln.us-east-2.rds.amazonaws.com -u admin -p 3306 -p

Enter password:

Re-enter password:

Your MySQL connection id is 39

Server version: 5.7.39-log (Source distribution)

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MySQL [(none)]> show databases;

Empty set (0.00 sec)

i-0840fb3e32be439df (blue-green-deployment-rds)

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MySQL [(none)]> use information\_schema;

Empty set (0.00 sec)

i-0840fb3e32be439df (blue-green-deployment-rds)

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MySQL [(none)]> use performance\_schema;

Empty set (0.00 sec)

i-0840fb3e32be439df (blue-green-deployment-rds)

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MySQL [(none)]> use student;

Empty set (0.00 sec)

i-0840fb3e32be439df (blue-green-deployment-rds)

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MySQL [(none)]> use sys;

Empty set (0.00 sec)

i-0840fb3e32be439df (blue-green-deployment-rds)

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MySQL [(none)]> exit;

[root@i-0840fb3e32be439df ~]#

Old environment have the read-only permissions

```

AWS Management Console Database Details - RDS Manager Connect to instance | EC2 Man... EC2 Instance Connect
AWS Services Search [Alt+5] Ohio sal kumar
MySQL [(none)]> show databases;
+-----+
| databases |
+-----+
| information_schema |
| employee |
| mysql |
| performance_schema |
| student |
| sys |
+-----+
7 rows in set (0.00 sec)

MySQL [(none)]> select version();
+-----+
| version() |
+-----+
| 5.7.39-log |
+-----+
1 row in set (0.00 sec)

MySQL [(none)]> create database wizzen;
ERROR 1290 (HY000): The MySQL server is running with the --read-only option so it cannot execute this statement
MySQL [(none)]>

i-0840f83e52be459df (blue-green-deployment-rds)
PublicIPs: 13.59.209.189 PrivateIPs: 172.31.54.125

```

Copy the green environment end point address

```

AWS Management Console Database Details - RDS Manager Connect to instance | EC2 Man... EC2 Instance Connect
AWS Services Search [Alt+5] Ohio sal kumar
[Blue connectivity and security Blue]
[Green connectivity and security Green]

MySQL [(none)]> show databases;
+-----+
| databases |
+-----+
| information_schema |
| employee |
| mysql |
| performance_schema |
| student |
| sys |
+-----+
7 rows in set (0.00 sec)

MySQL [(none)]> select version();
+-----+
| version() |
+-----+
| 8.0.32 |
+-----+
1 row in set (0.00 sec)

MySQL [(none)]> create database wizzen;
+-----+
| Error |
+-----+
| 1290 (HY000): The MySQL server is running with the --read-only option so it cannot execute this statement |
+-----+
1 row in set (0.00 sec)

MySQL [(none)]> exit;
Bye

i-0840f83e52be459df (blue-green-deployment-rds)
PublicIPs: 13.59.209.189 PrivateIPs: 172.31.54.125

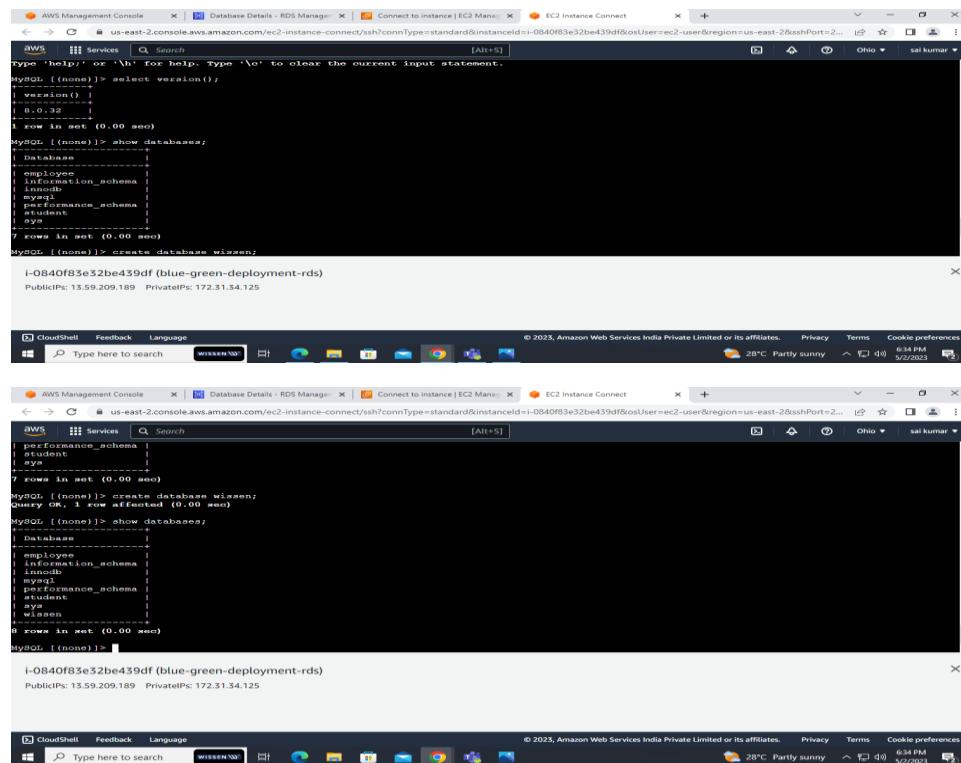
```

Emp name:Sai Kumar Vemula

Blue/green deployment of RDS

Emp id:6778

Now this green environment having both read/write permissions



The screenshot shows three separate AWS CloudShell windows. Each window has tabs for 'AWS Management Console', 'Database Details - RDS Manager', 'Connect to instance | EC2 Manager', and 'EC2 Instance Connect'. The URL for each window is 'aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0840f83e32be439df&osUser=ec2-user&region=us-east-2&sshPort=22'. The browser status bar shows 'CloudShell Feedback Language' and the AWS logo. The system tray shows the date and time as '5/2/2023 6:34 PM'. The MySQL prompt 'mysql [(none)]>' is visible in each window. The first window shows the output of 'select version();' which is '8.0.38'. The second window shows the output of 'show databases;' which includes 'wissen'. The third window shows the output of 'create database wissen;' followed by 'Query OK, 1 row affected (0.00 sec)'. All three windows have identical content.

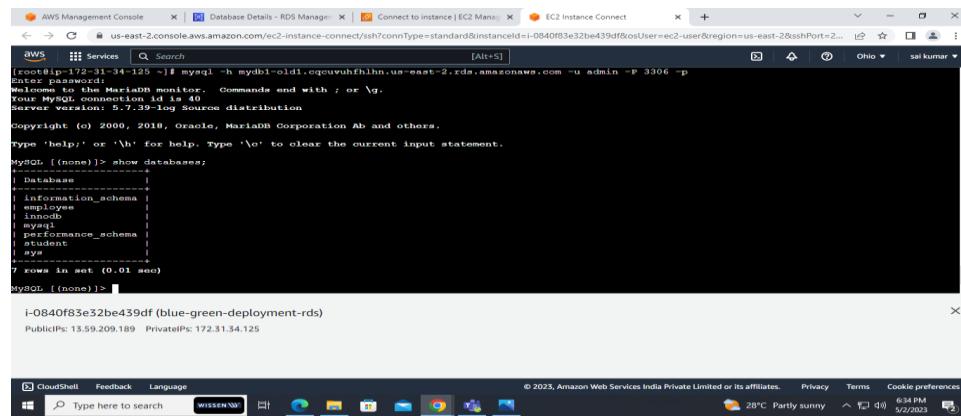
```
i-0840f83e32be439df (blue-green-deployment-rds)
PublicIPs: 13.59.209.189 PrivateIPs: 172.31.34.125

CloudShell Feedback Language
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```

After switching over we made any changes in green environment (production environment) that changes are not reflected in other environment nothing but a blue environment (staging environment)



The screenshot shows three separate AWS CloudShell windows. Each window has tabs for 'AWS Management Console', 'Database Details - RDS Manager', 'Connect to instance | EC2 Manager', and 'EC2 Instance Connect'. The URL for each window is 'aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0840f83e32be439df&osUser=ec2-user&region=us-east-2&sshPort=22'. The browser status bar shows 'CloudShell Feedback Language' and the AWS logo. The system tray shows the date and time as '5/2/2023 6:34 PM'. The MySQL prompt 'mysql [(none)]>' is visible in each window. The first window shows the output of 'mysql -h mydb1-old1.eqouuhfhln.us-east-2.rds.amazonaws.com -u admin -P 3306 -p'. The second window shows the output of 'show databases;' which includes 'wissen'. The third window shows the output of 'create database wissen;' followed by 'Query OK, 1 row affected (0.00 sec)'. All three windows have identical content.

```
i-0840f83e32be439df (blue-green-deployment-rds)
PublicIPs: 13.59.209.189 PrivateIPs: 172.31.34.125

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i-0840f83e32be439df (blue-green-deployment-rds)
PublicIPs: 13.59.209.189 PrivateIPs: 172.31.34.125

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```

In summary, we use the switch over in blue-green deployment in RDS to minimize downtime, reduce risk, provide a seamless transition, and ensure that the old environment is ready for rollback if needed. By using this approach, we can deploy new versions of our application with confidence, knowing that they have been fully tested and verified before releasing them to end-users.