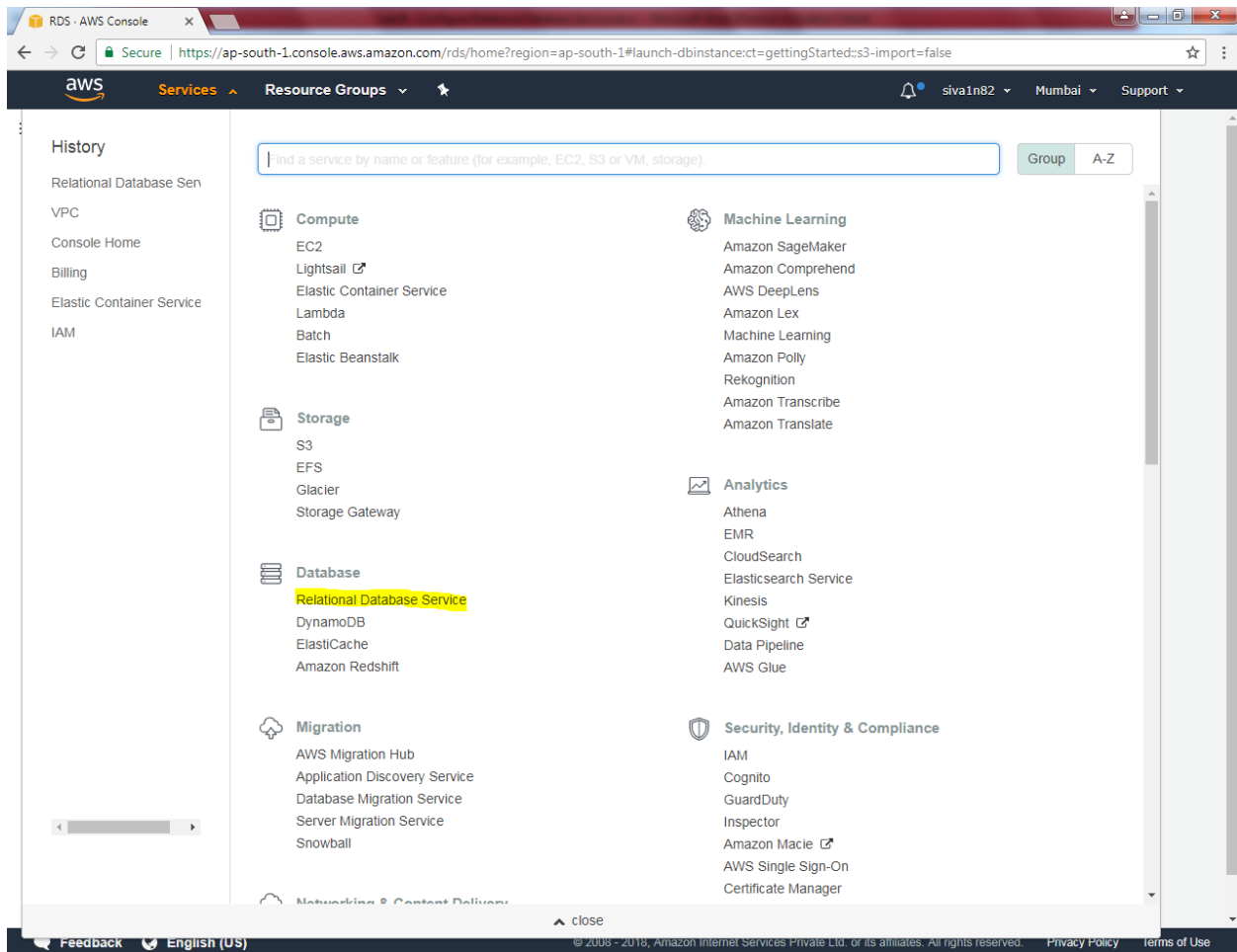


Lab 28

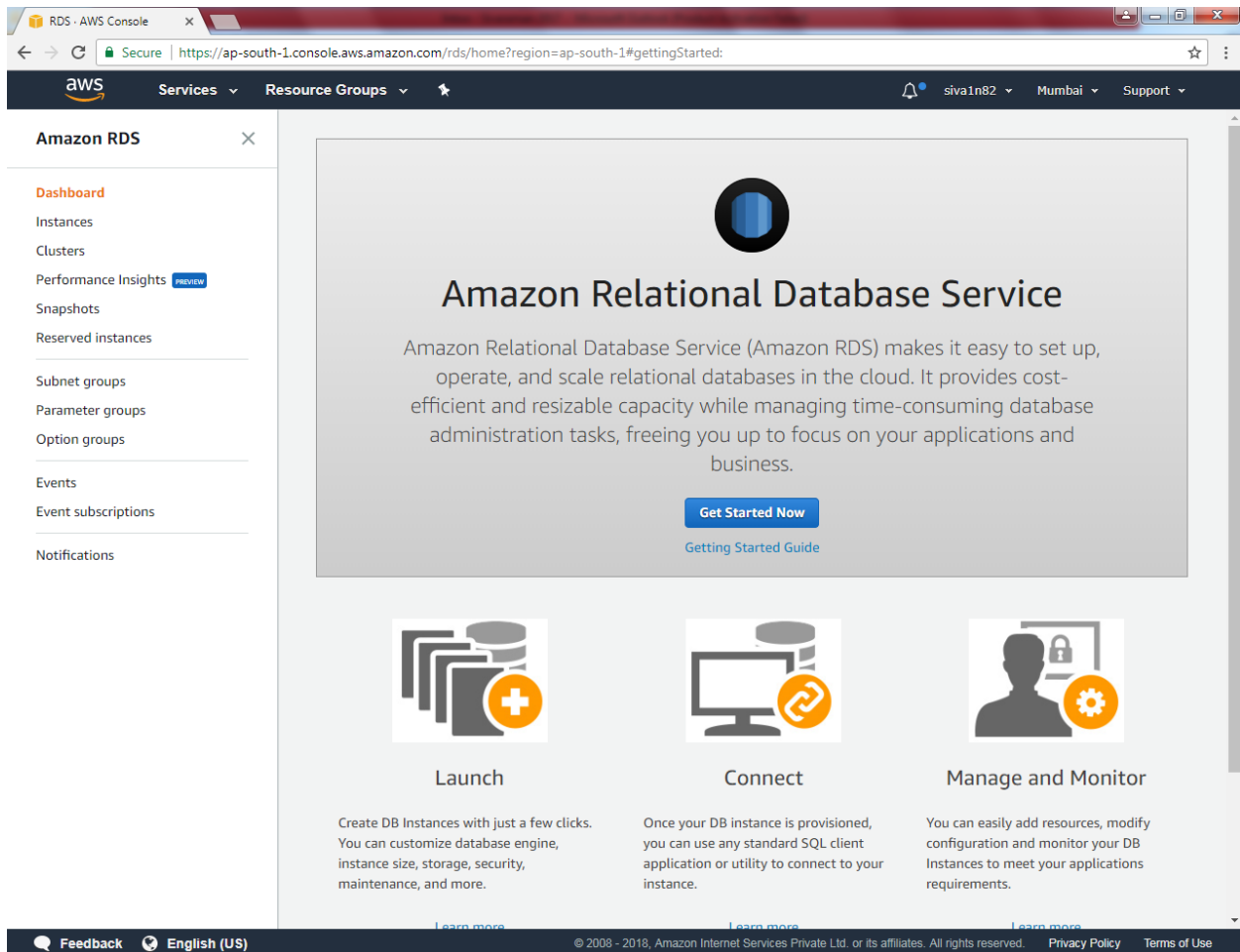
Configuring Relational database service (RDS)

Note: You will select only t2.micro instance type in this scenario. Otherwise charges will be applicable.

Click “Relational Database service”.

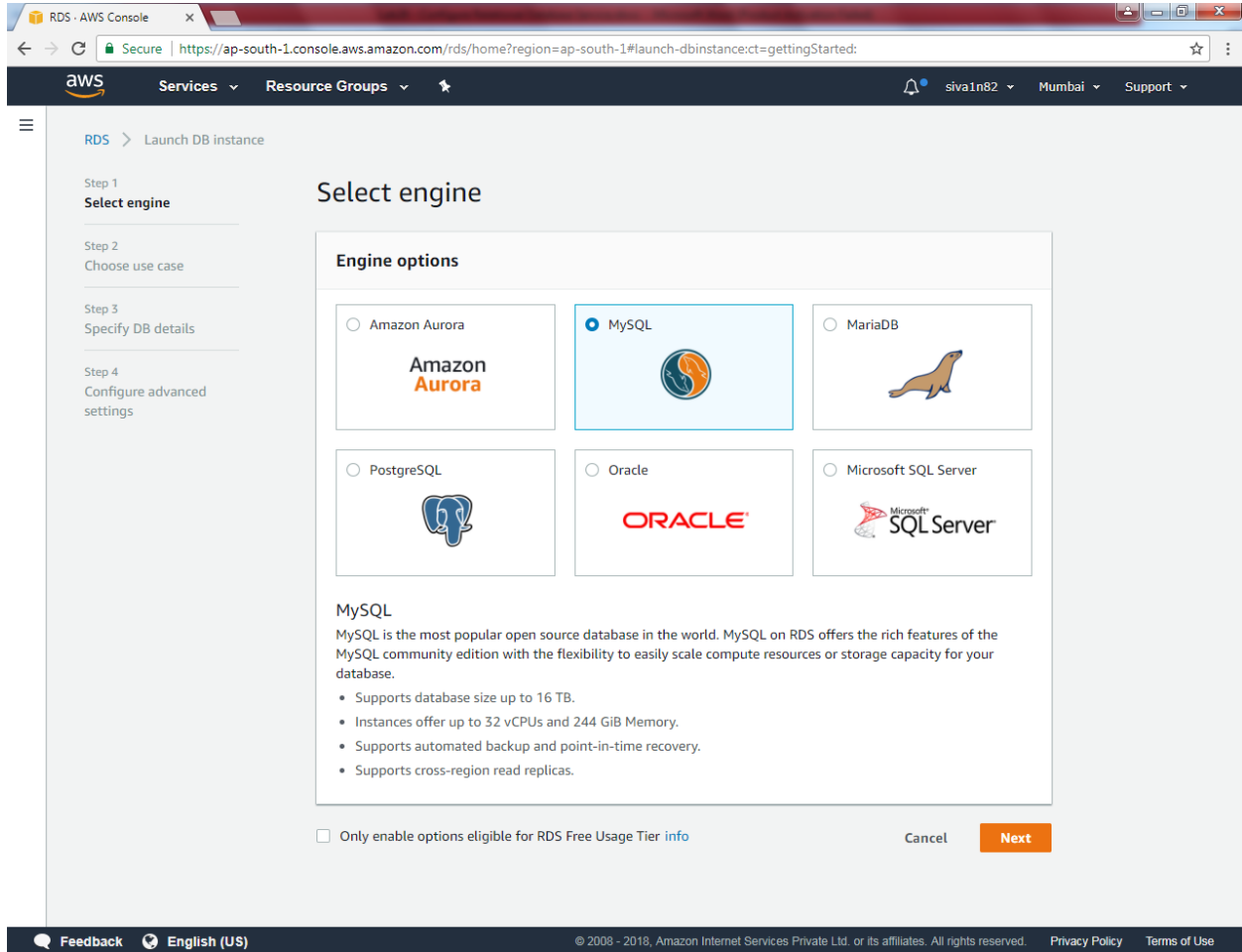


Click “Get started now”.



The screenshot shows the Amazon RDS console dashboard. The top navigation bar includes the AWS logo, 'Services', 'Resource Groups', and user information (siva1n82, Mumbai, Support). The left sidebar lists navigation options: Dashboard, Instances, Clusters, Performance Insights (PREVIEW), Snapshots, Reserved instances, Subnet groups, Parameter groups, Option groups, Events, Event subscriptions, and Notifications. The main content area features a large header for 'Amazon Relational Database Service' with a description: 'Amazon Relational Database Service (Amazon RDS) makes it easy to set up, operate, and scale relational databases in the cloud. It provides cost-efficient and resizable capacity while managing time-consuming database administration tasks, freeing you up to focus on your applications and business.' Below this is a 'Get Started Now' button and a link to the 'Getting Started Guide'. Three main action cards are displayed: 'Launch' (Create DB Instances with just a few clicks. You can customize database engine, instance size, storage, security, maintenance, and more.), 'Connect' (Once your DB instance is provisioned, you can use any standard SQL client application or utility to connect to your instance.), and 'Manage and Monitor' (You can easily add resources, modify configuration and monitor your DB Instances to meet your applications requirements.). Each card has an icon and a 'Learn more' link. The footer includes a 'Feedback' button, 'English (US)' language selector, and copyright information: '© 2008 - 2018, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use'.

Click “MySql”.



RDS - AWS Console

Services Resource Groups

Launch DB instance

Step 1
Select engine

Step 2
Choose use case

Step 3
Specify DB details

Step 4
Configure advanced settings

Select engine

Engine options

- ☐ Amazon Aurora
- ☒ MySQL
- ☐ MariaDB
- ☐ PostgreSQL
- ☐ Oracle
- ☐ Microsoft SQL Server

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

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

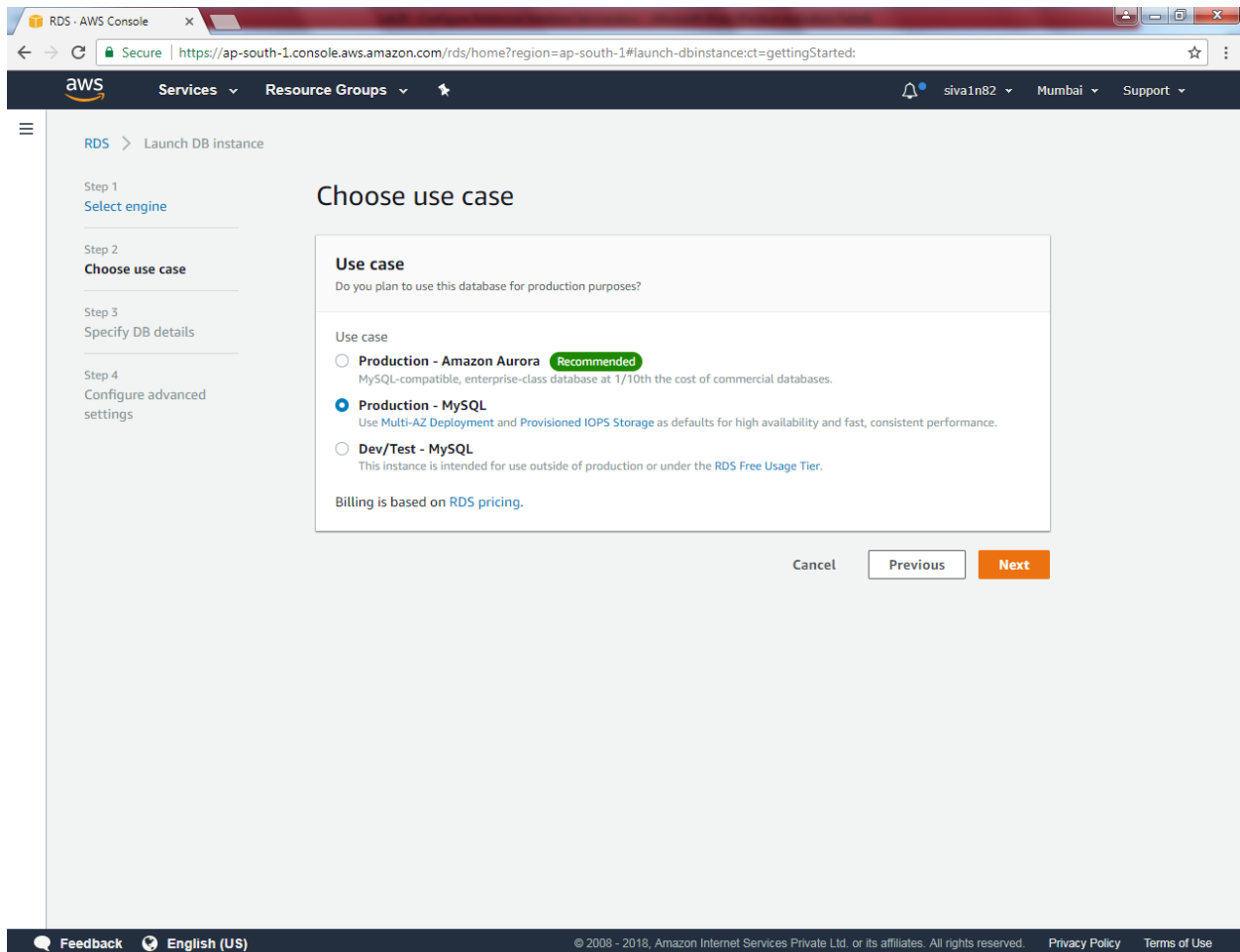
☐ Only enable options eligible for RDS Free Usage Tier [info](#)

Cancel **Next**

Feedback English (US)

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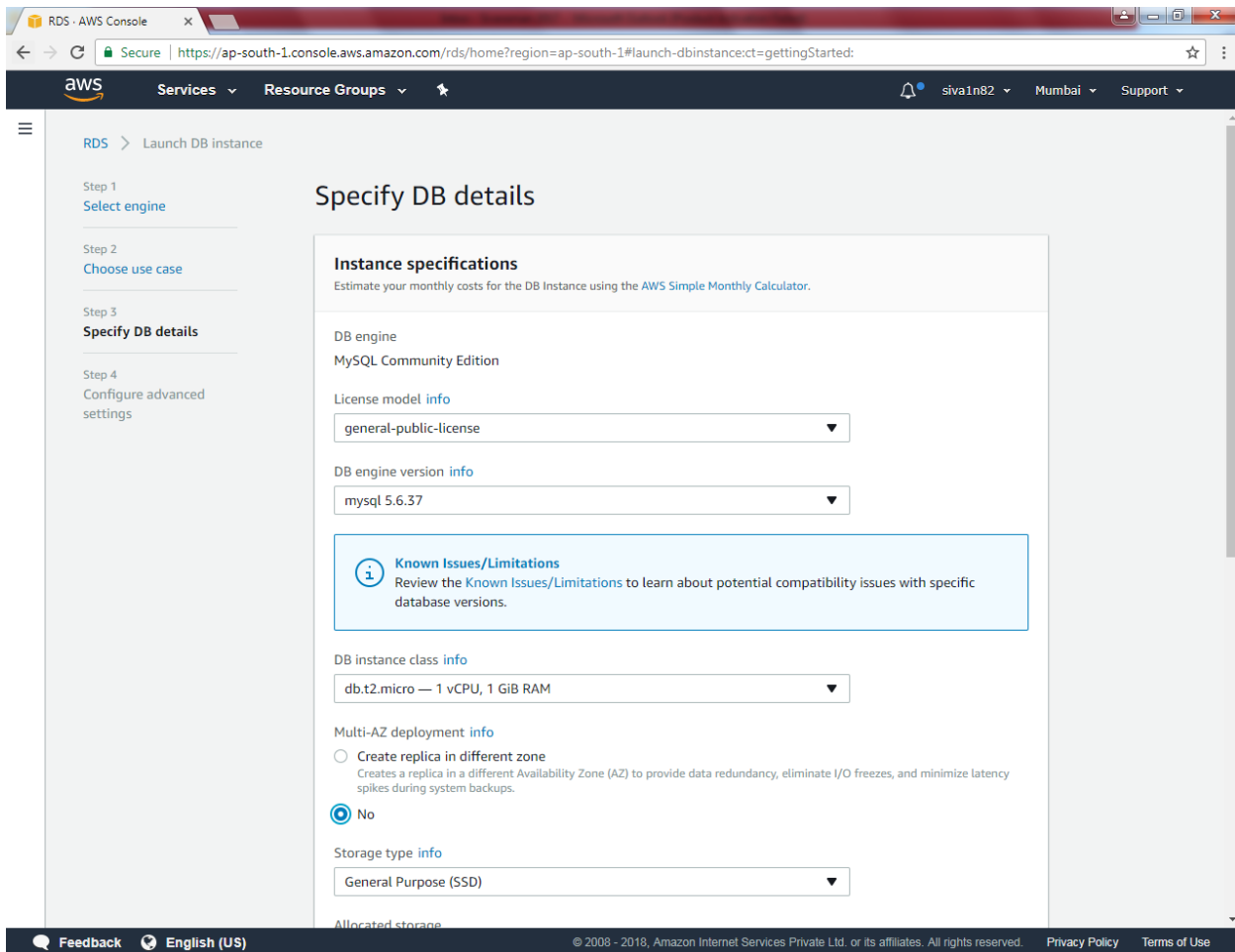
Select “ Production – MySQL”



The screenshot shows the AWS RDS console interface for launching a new database instance. The browser address bar shows the URL: <https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:ct=gettingStarted:>. The console header includes the AWS logo, navigation tabs for Services, Resource Groups, and a user profile section with the name 'siva1n82', location 'Mumbai', and a Support link. The main content area is titled 'Launch DB instance' and shows a progress bar with four steps: Step 1 'Select engine', Step 2 'Choose use case' (the current step), Step 3 'Specify DB details', and Step 4 'Configure advanced settings'. The 'Choose use case' section asks 'Do you plan to use this database for production purposes?' and lists three options: 'Production - Amazon Aurora' (marked as 'Recommended'), 'Production - MySQL' (selected with a blue radio button), and 'Dev/Test - MySQL'. The 'Production - MySQL' option includes a sub-note: 'Use Multi-AZ Deployment and Provisioned IOPS Storage as defaults for high availability and fast, consistent performance.' A note at the bottom of the selection box states 'Billing is based on RDS pricing.' At the bottom right of the selection box are three buttons: 'Cancel', 'Previous', and 'Next' (highlighted in orange).

Click “Next”.

Leave mysql version by default.



RDS · AWS Console

Services Resource Groups

Step 1
Select engine

Step 2
Choose use case

Step 3
Specify DB details

Step 4
Configure advanced settings

Specify DB details

Instance specifications
Estimate your monthly costs for the DB Instance using the [AWS Simple Monthly Calculator](#).

DB engine
MySQL Community Edition

License model [info](#)
general-public-license

DB engine version [info](#)
mysql 5.6.37

Known Issues/Limitations
Review the [Known Issues/Limitations](#) to learn about potential compatibility issues with specific database versions.

DB instance class [info](#)
db.t2.micro — 1 vCPU, 1 GiB RAM

Multi-AZ deployment [info](#)
☐ Create replica in different zone
Creates a replica in a different Availability Zone (AZ) to provide data redundancy, eliminate I/O freezes, and minimize latency spikes during system backups.
☒ No

Storage type [info](#)
General Purpose (SSD)

Allocated storage

Feedback English (US)

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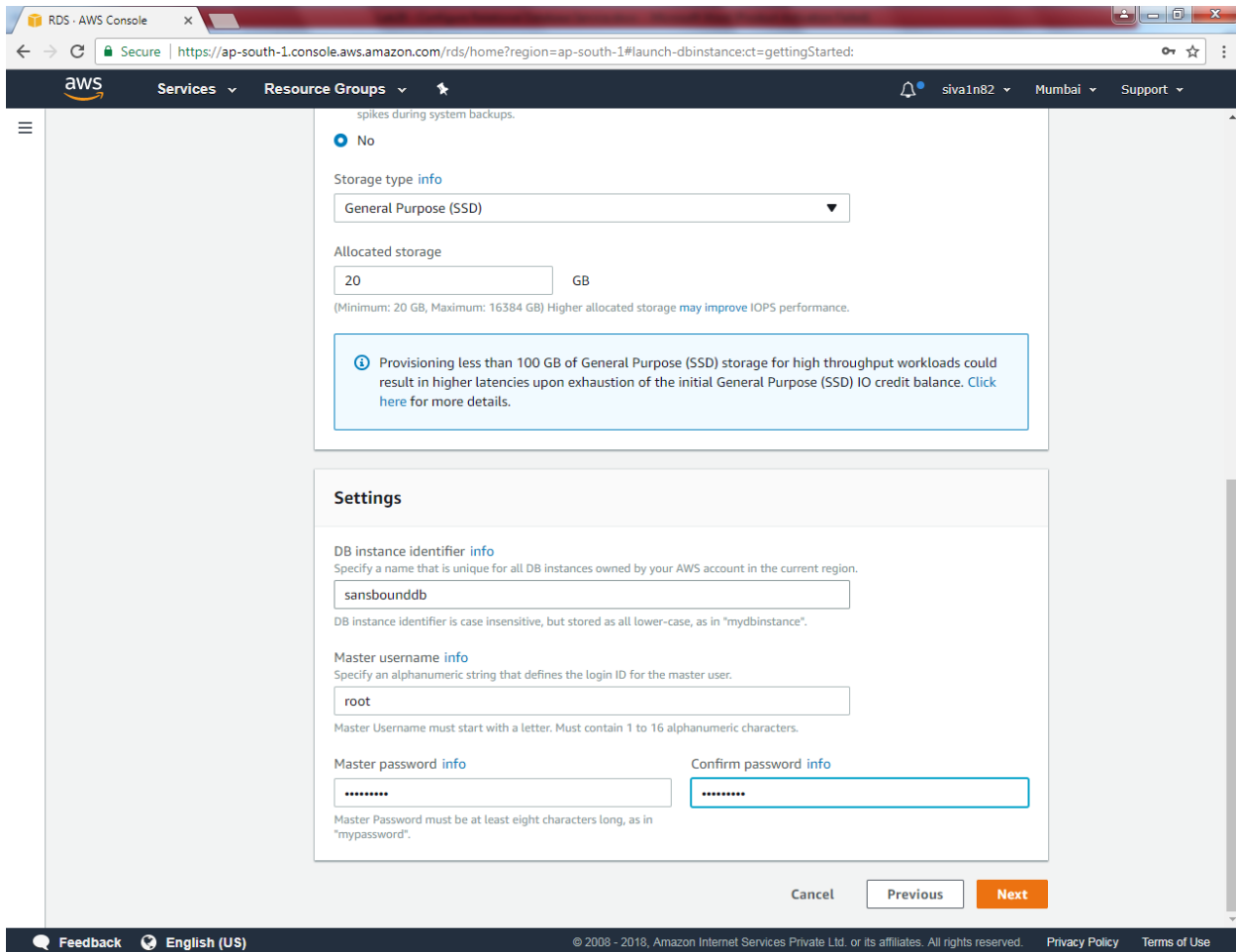
Select "t2.micro" otherwise charges will be applicable

Scroll down

Type DB instance name as `sansbounddb`

Master username: `root`

Master password:



The screenshot shows the AWS RDS console 'Getting started' page for a new DB instance. The page is titled 'RDS - AWS Console' and shows the URL 'https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:ct=gettingStarted:'. The page has a dark blue header with the AWS logo, 'Services', 'Resource Groups', and user information 'siva1n82', 'Mumbai', and 'Support'. The main content area is divided into two sections. The top section is for 'Storage type' and 'Allocated storage'. It shows a radio button for 'No' (selected) and a dropdown for 'Storage type' set to 'General Purpose (SSD)'. The 'Allocated storage' is set to '20 GB'. A blue box contains a warning: 'Provisioning less than 100 GB of General Purpose (SSD) storage for high throughput workloads could result in higher latencies upon exhaustion of the initial General Purpose (SSD) IO credit balance. Click here for more details.' The bottom section is titled 'Settings' and contains three fields: 'DB instance identifier' (set to 'sansbounddb'), 'Master username' (set to 'root'), and 'Master password' (masked with dots). There is also a 'Confirm password' field. At the bottom right, there are 'Cancel', 'Previous', and 'Next' buttons. The footer contains 'Feedback', 'English (US)', and copyright information.

RDS - AWS Console

Secure | https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:ct=gettingStarted:

aws Services Resource Groups siva1n82 Mumbai Support

spikes during system backups.

☒ No

Storage type [info](#)

General Purpose (SSD)

Allocated storage

20 GB

(Minimum: 20 GB, Maximum: 16384 GB) Higher allocated storage [may improve](#) IOPS performance.

ⓘ Provisioning less than 100 GB of General Purpose (SSD) storage for high throughput workloads could result in higher latencies upon exhaustion of the initial General Purpose (SSD) IO credit balance. [Click here for more details.](#)

Settings

DB instance identifier [info](#)
Specify a name that is unique for all DB instances owned by your AWS account in the current region.

sansbounddb

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

Master username [info](#)
Specify an alphanumeric string that defines the login ID for the master user.

root

Master Username must start with a letter. Must contain 1 to 16 alphanumeric characters.

Master password [info](#) **Confirm password** [info](#)

Master Password must be at least eight characters long, as in "mypassword".

Cancel Previous Next

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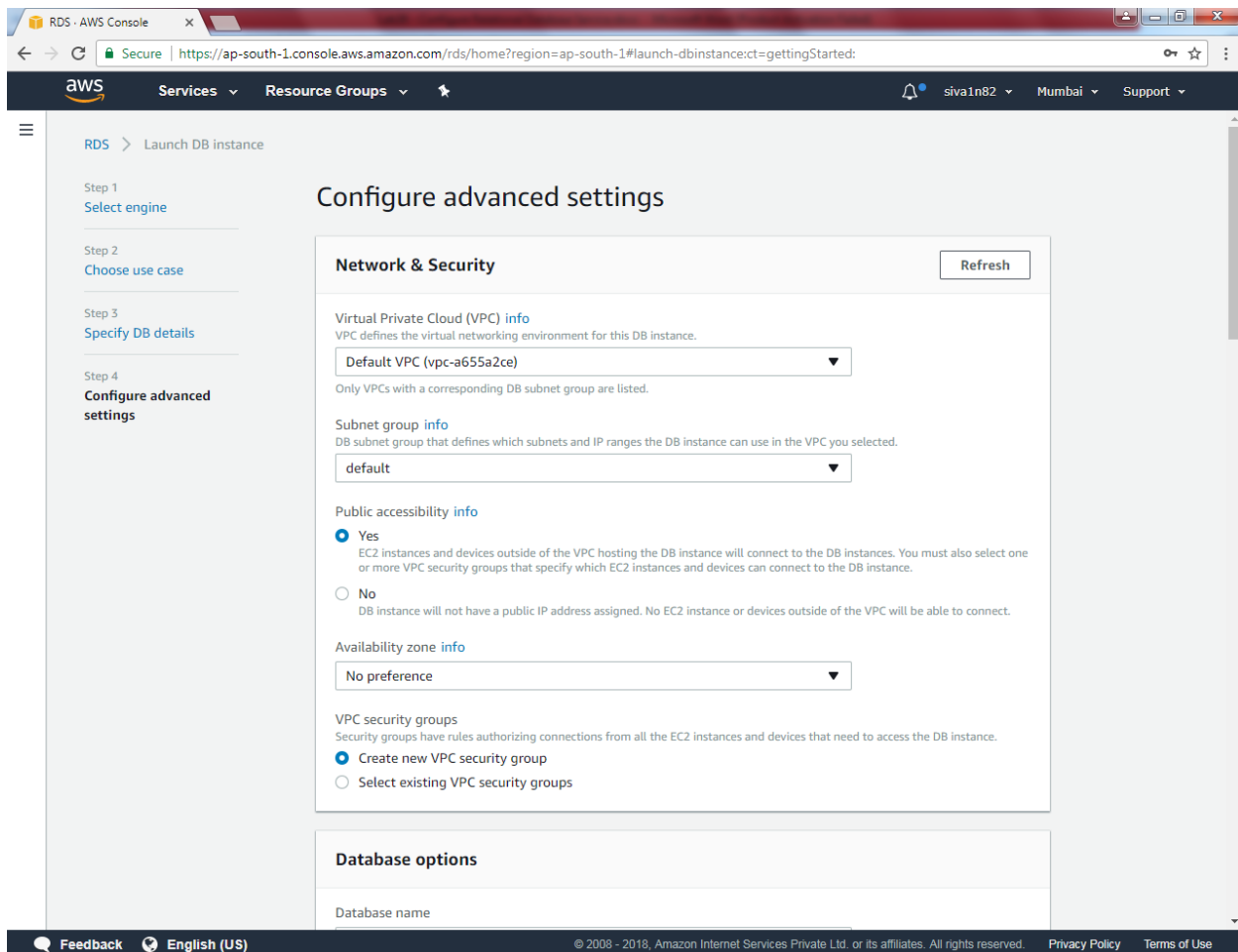
Click "Next".

Select VPC as default VPC

Subnet as Default subnet

Public accessibility : Yes

Create a new security Group



The screenshot shows the AWS RDS console interface for configuring a new DB instance. The left sidebar indicates the current step is 'Step 4: Configure advanced settings'. The main content area is titled 'Configure advanced settings' and contains two sections: 'Network & Security' and 'Database options'.

Network & Security

- Virtual Private Cloud (VPC)**: A dropdown menu is set to 'Default VPC (vpc-a655a2ce)'. A note states: 'VPC defines the virtual networking environment for this DB instance. Only VPCs with a corresponding DB subnet group are listed.'
- Subnet group**: A dropdown menu is set to 'default'. A note states: 'DB subnet group that defines which subnets and IP ranges the DB instance can use in the VPC you selected.'
- Public accessibility**: The 'Yes' radio button is selected. A note states: 'EC2 instances and devices outside of the VPC hosting the DB instance will connect to the DB instances. You must also select one or more VPC security groups that specify which EC2 instances and devices can connect to the DB instance.'
- Availability zone**: A dropdown menu is set to 'No preference'.
- VPC security groups**: The 'Create new VPC security group' radio button is selected. A note states: 'Security groups have rules authorizing connections from all the EC2 instances and devices that need to access the DB instance.'

Database options

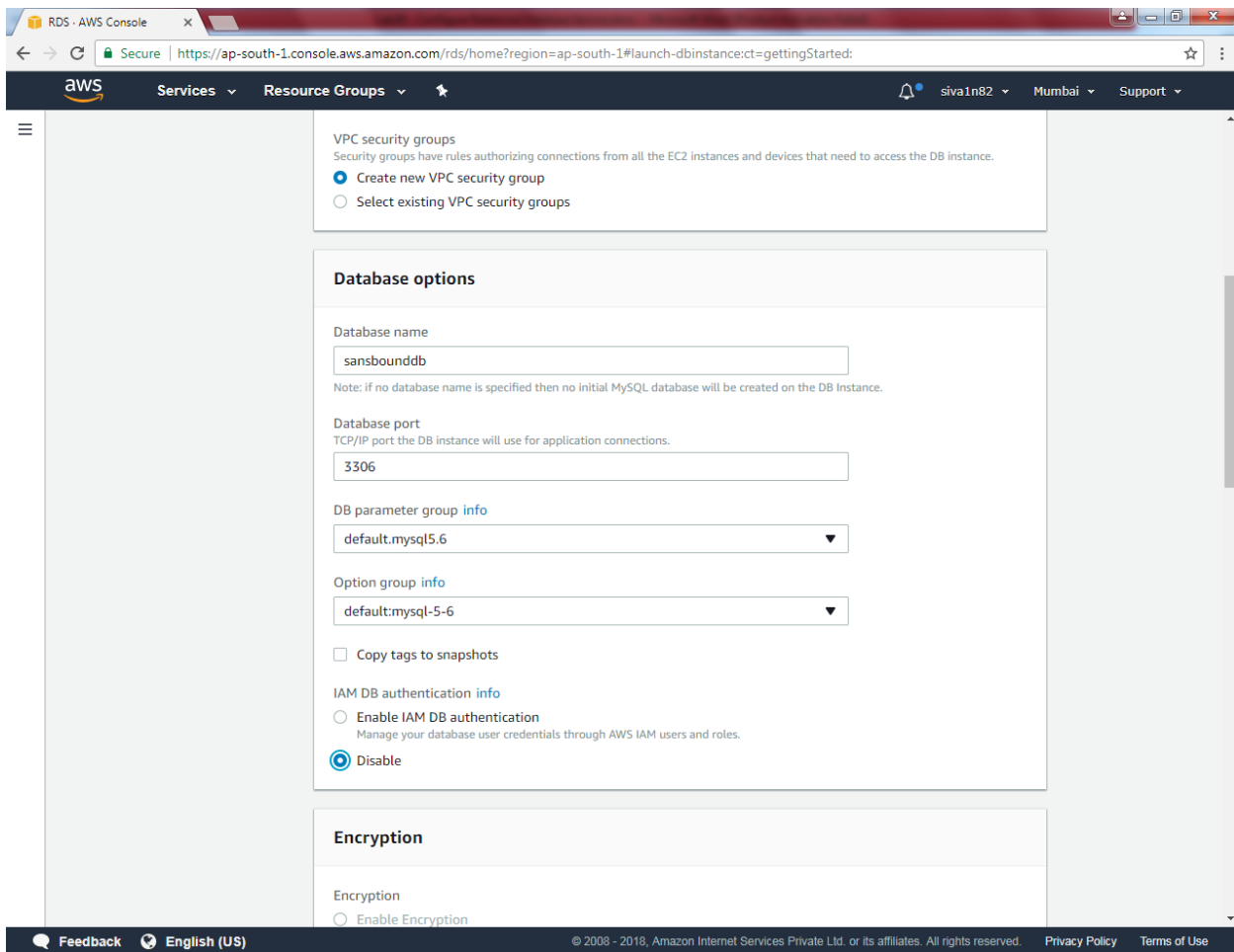
- Database name**: A text input field is present but empty.

The footer of the console shows 'Feedback', 'English (US)', and copyright information: '© 2008 - 2018, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use'.

Scroll down

Database options

Dbname: Sansbounddb



RDS - AWS Console

Secure | <https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:ct=gettingStarted:>

aws Services Resource Groups siva1n82 Mumbai Support

VPC security groups
Security groups have rules authorizing connections from all the EC2 instances and devices that need to access the DB instance.

☒ Create new VPC security group
☐ Select existing VPC security groups

Database options

Database name
sansbounddb

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

Database port
TCP/IP port the DB instance will use for application connections.
3306

DB parameter group [info](#)
default.mysql5.6

Option group [info](#)
default:mysql-5-6

☐ Copy tags to snapshots

IAM DB authentication [info](#)
☐ Enable IAM DB authentication
Manage your database user credentials through AWS IAM users and roles.
☒ Disable

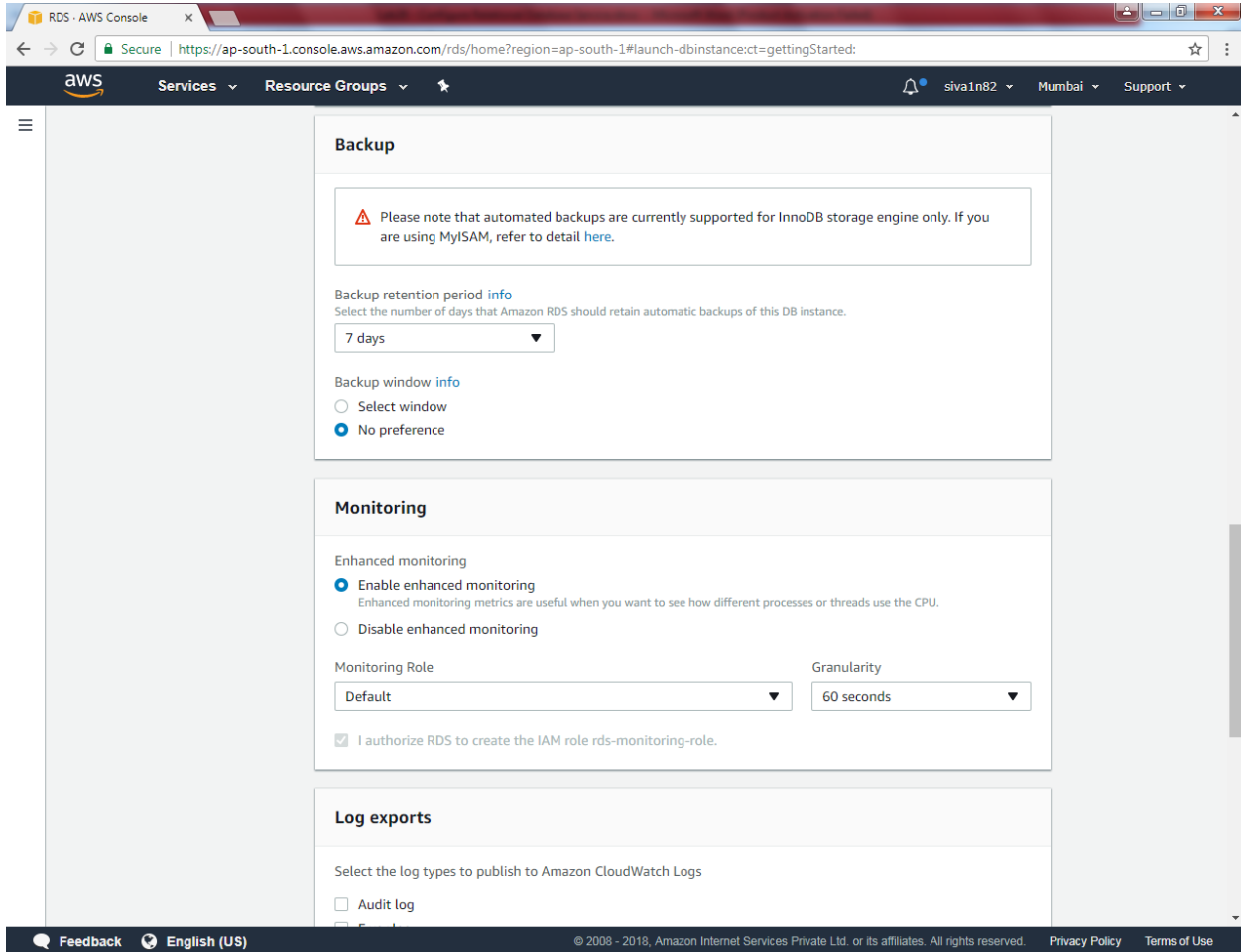
Encryption

Encryption
☐ Enable Encryption

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Scroll down

Backup 7 days



The screenshot shows the AWS RDS console interface. The top navigation bar includes the AWS logo, 'Services', 'Resource Groups', and user information 'siva1n82' in 'Mumbai'. The main content area is divided into three sections: 'Backup', 'Monitoring', and 'Log exports'. The 'Backup' section contains a warning about InnoDB storage engine support, a 'Backup retention period' dropdown set to '7 days', and 'Backup window' options. The 'Monitoring' section has 'Enhanced monitoring' options, a 'Monitoring Role' dropdown set to 'Default', a 'Granularity' dropdown set to '60 seconds', and an authorization checkbox. The 'Log exports' section has a heading and a checkbox for 'Audit log'.

Backup

Please note that automated backups are currently supported for InnoDB storage engine only. If you are using MyISAM, refer to detail [here](#).

Backup retention period [info](#)
Select the number of days that Amazon RDS should retain automatic backups of this DB instance.

7 days ▼

Backup window [info](#)

☐ Select window

☒ No preference

Monitoring

Enhanced monitoring

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

☐ Disable enhanced monitoring

Monitoring Role: Default ▼

Granularity: 60 seconds ▼

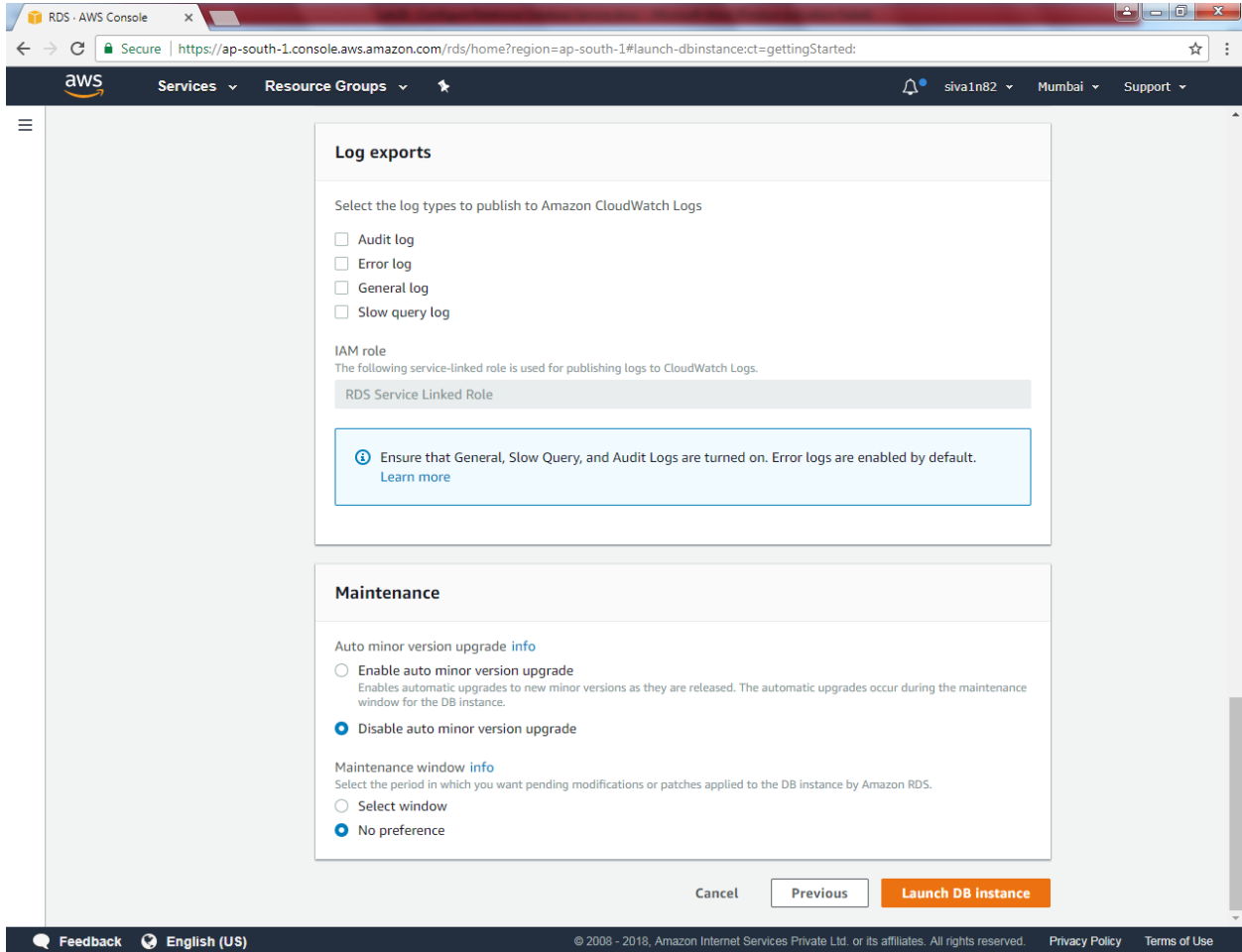
☒ I authorize RDS to create the IAM role rds-monitoring-role.

Log exports

Select the log types to publish to Amazon CloudWatch Logs

☐ Audit log

Scroll down.



RDS - AWS Console

Secure | <https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:ct=gettingStarted>

Services Resource Groups

siva1n82 Mumbai Support

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

Info Ensure that General, Slow Query, and Audit Logs are turned on. Error logs are enabled by default.
[Learn more](#)

Maintenance

Auto minor version upgrade [info](#)

- ☐ Enable auto minor version upgrade
Enables automatic upgrades to new minor versions as they are released. The automatic upgrades occur during the maintenance window for the DB instance.
- ☒ Disable auto minor version upgrade

Maintenance window [info](#)
Select the period in which you want pending modifications or patches applied to the DB instance by Amazon RDS.

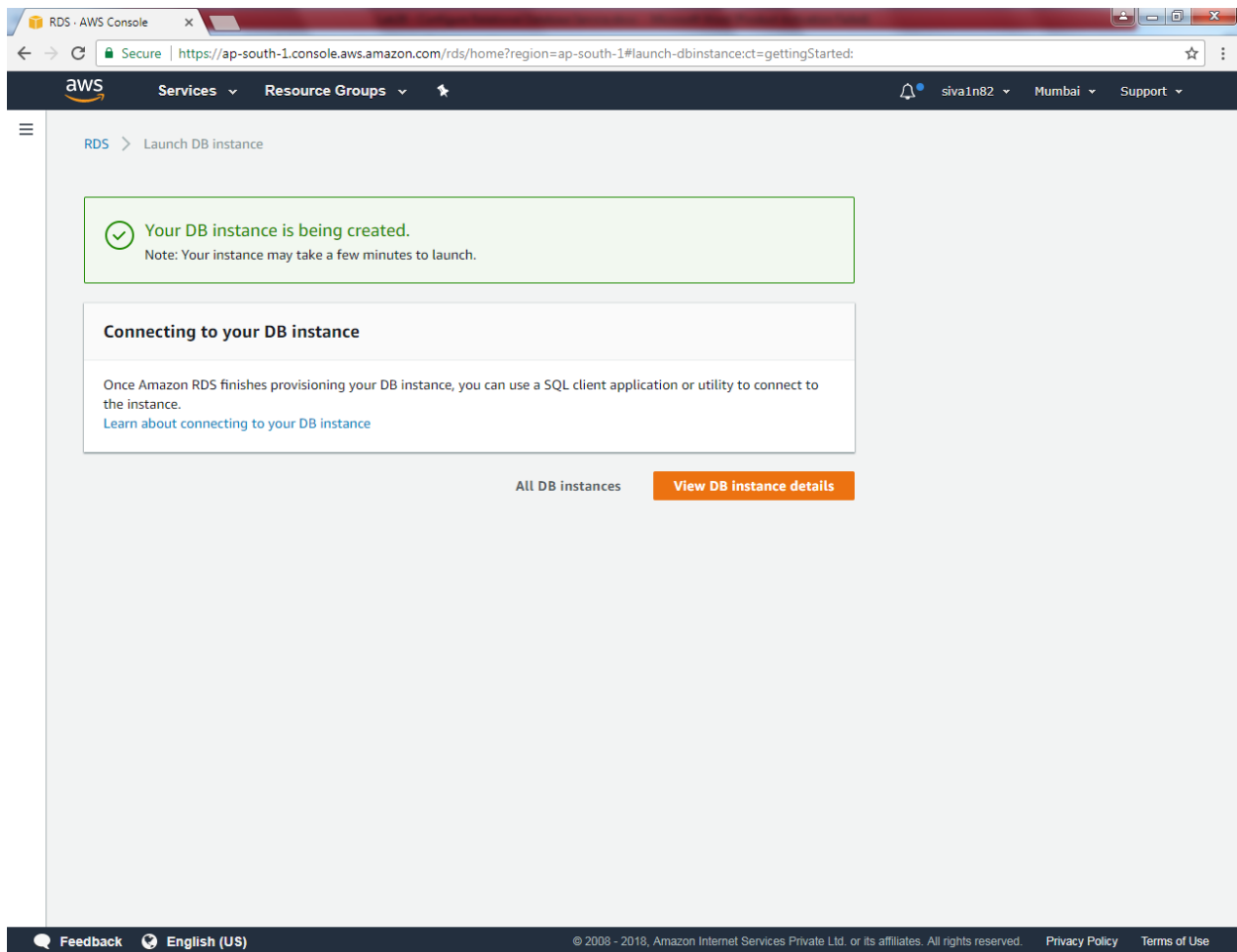
- ☐ Select window
- ☒ No preference

Cancel Previous **Launch DB Instance**

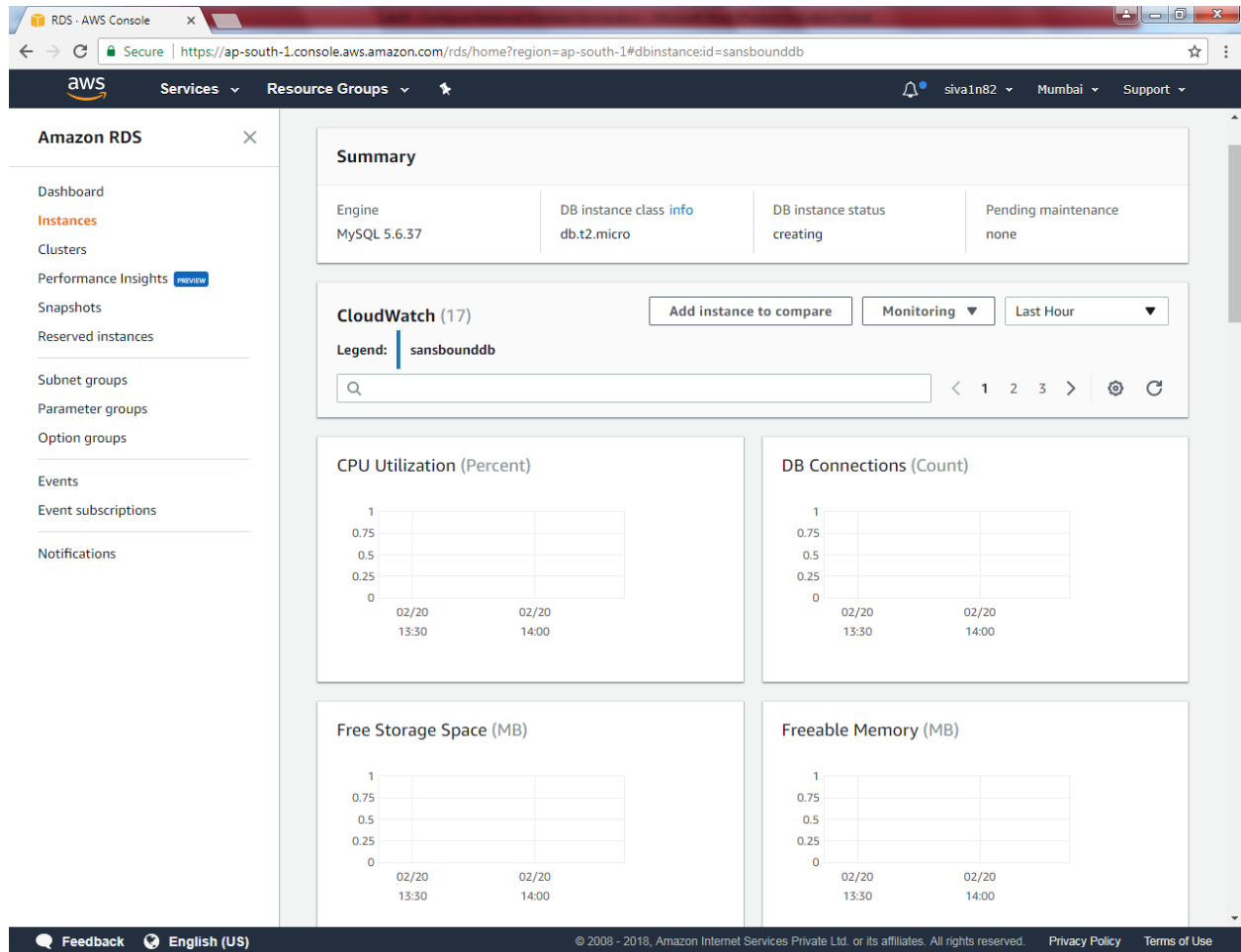
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Click “Launch DB Instance”.

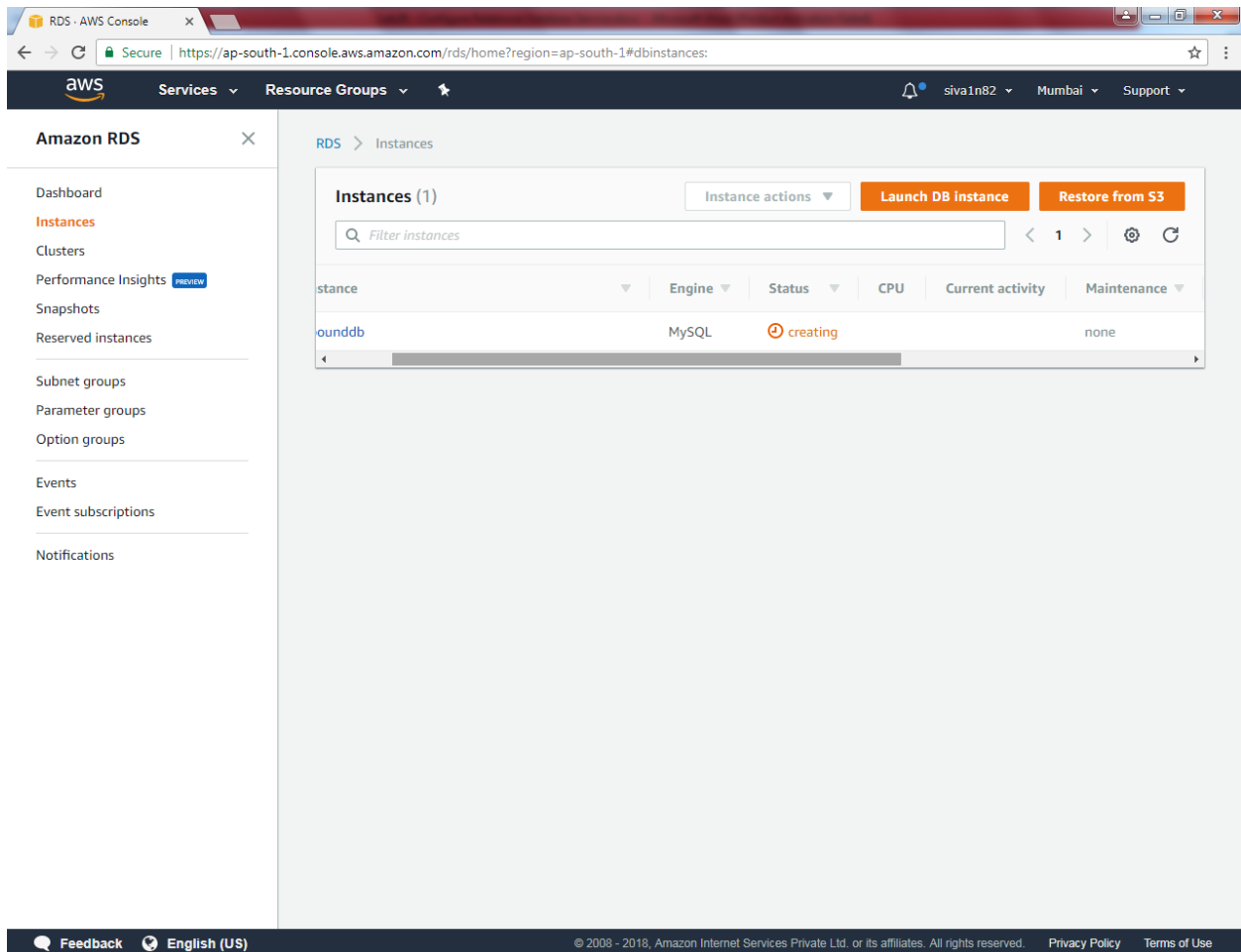
You have got a message that Your DB instance is being created.



Click “View DB instance details”.



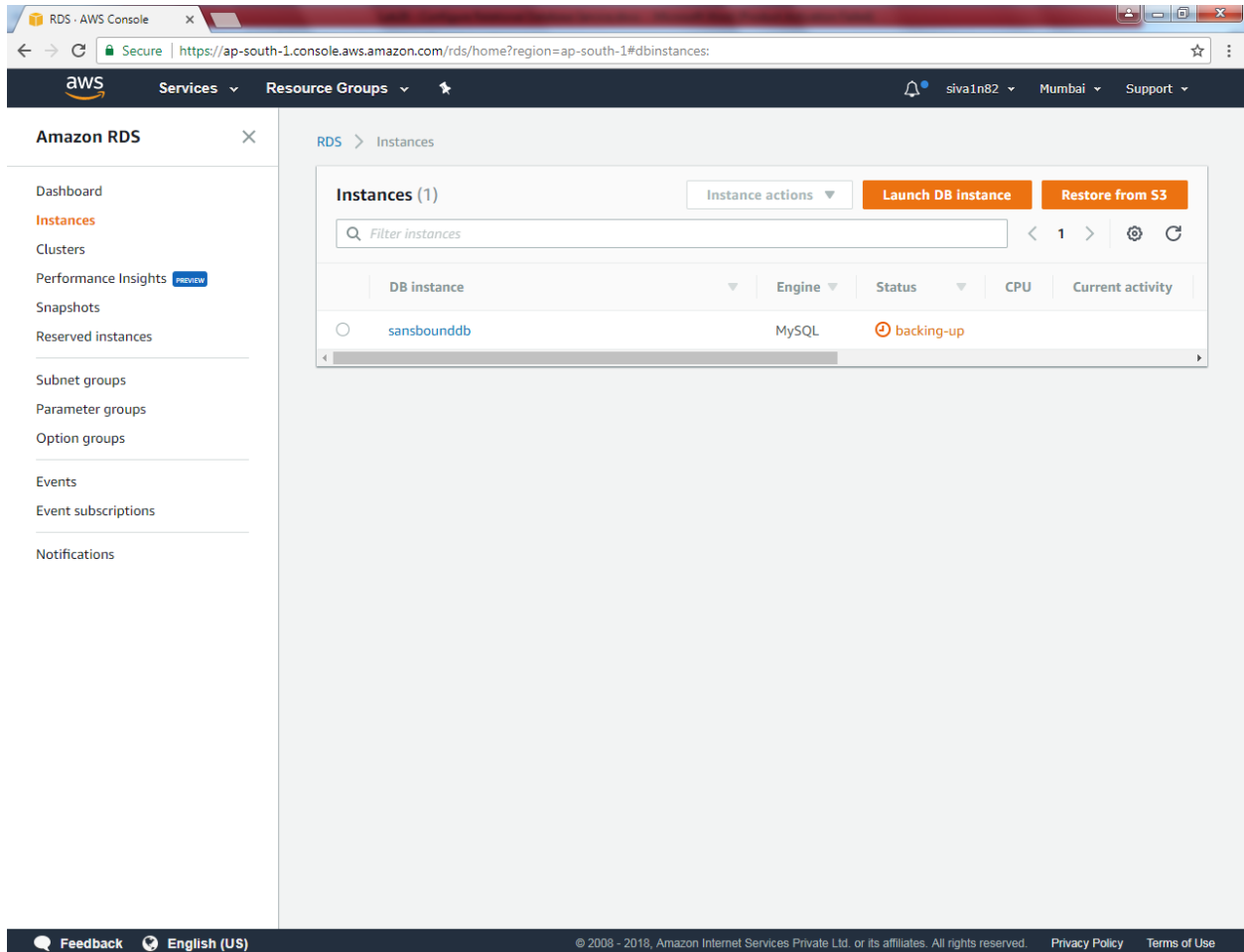
You can able to see that instance is getting created.



The screenshot displays the AWS RDS console interface. On the left, the 'Amazon RDS' sidebar menu is visible, with 'Instances' highlighted. The main content area shows the 'Instances (1)' page. At the top, there are buttons for 'Launch DB instance' and 'Restore from S3'. Below these is a search bar labeled 'Filter instances'. A table lists the instances, with one instance named 'ounddb' shown. The table has columns for 'Instance', 'Engine', 'Status', 'CPU', 'Current activity', and 'Maintenance'. The 'Status' for 'ounddb' is 'creating', indicated by an orange clock icon. The footer of the console shows 'Feedback', 'English (US)', and copyright information for 2008-2018.

Instance	Engine	Status	CPU	Current activity	Maintenance
ounddb	MySQL	creating			none

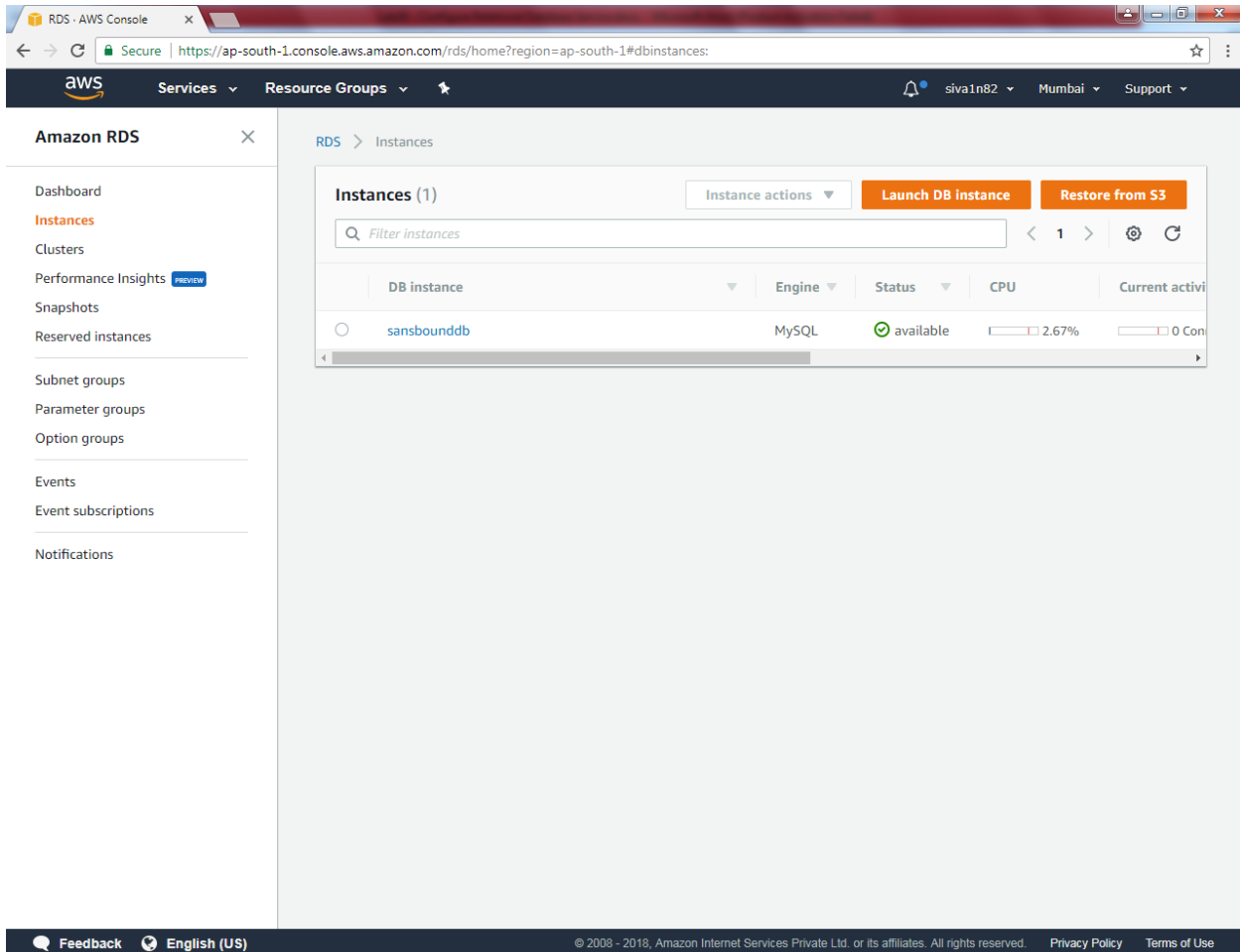
Now instance is taking backup.



The screenshot displays the AWS RDS console interface. The left-hand navigation pane lists various RDS services, with 'Instances' highlighted. The main content area, titled 'Instances (1)', shows a table with one instance. The instance is named 'sansbounddb', uses the 'MySQL' engine, and its status is 'backing-up', indicated by an orange circular icon. The table headers include 'DB instance', 'Engine', 'Status', 'CPU', and 'Current activity'. At the top of the console, there are buttons for 'Launch DB instance' and 'Restore from S3'. The footer of the console includes a 'Feedback' link, the language 'English (US)', and copyright information for Amazon Internet Services Private Ltd.

DB instance	Engine	Status	CPU	Current activity
sansbounddb	MySQL	backing-up		

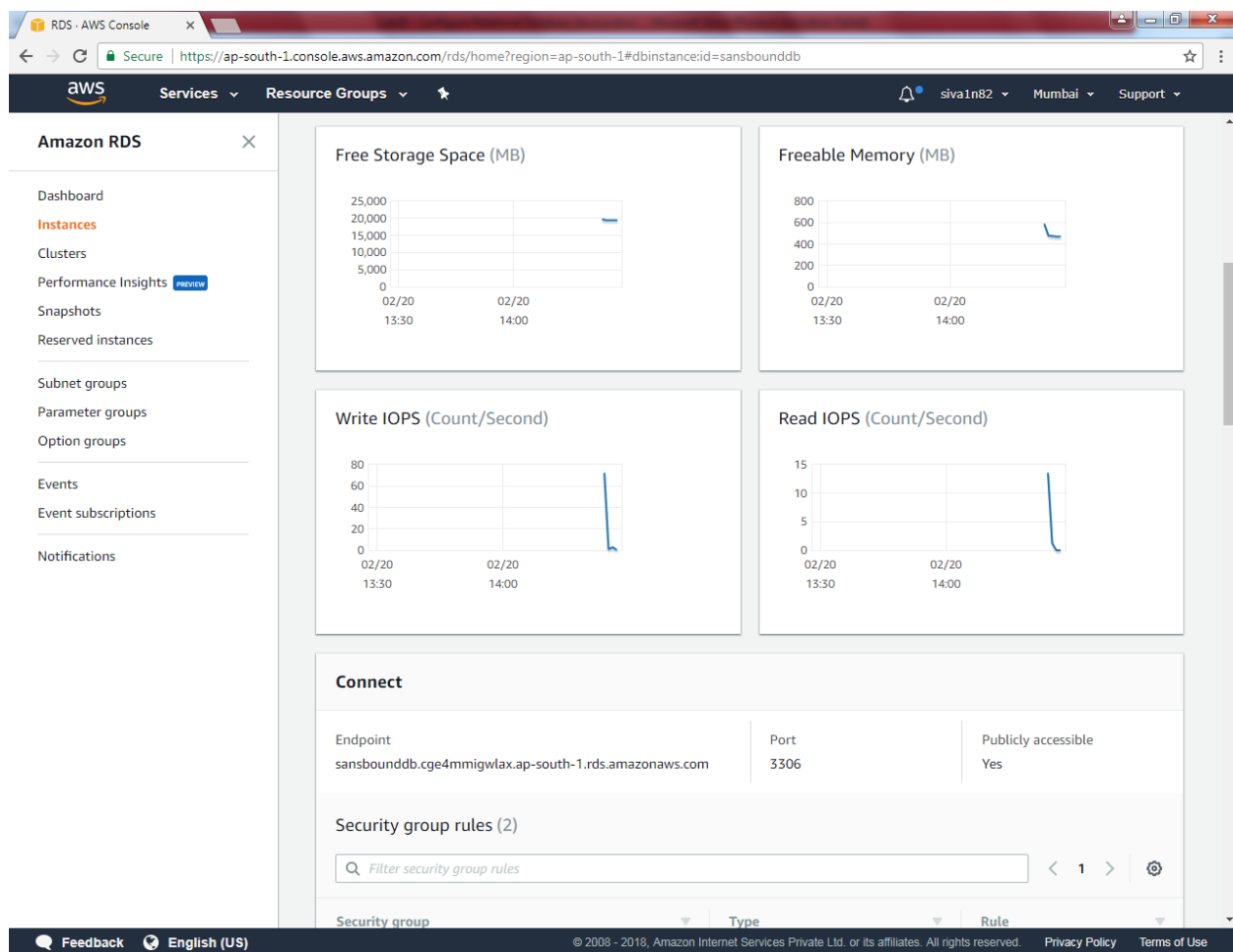
Now instance is available.



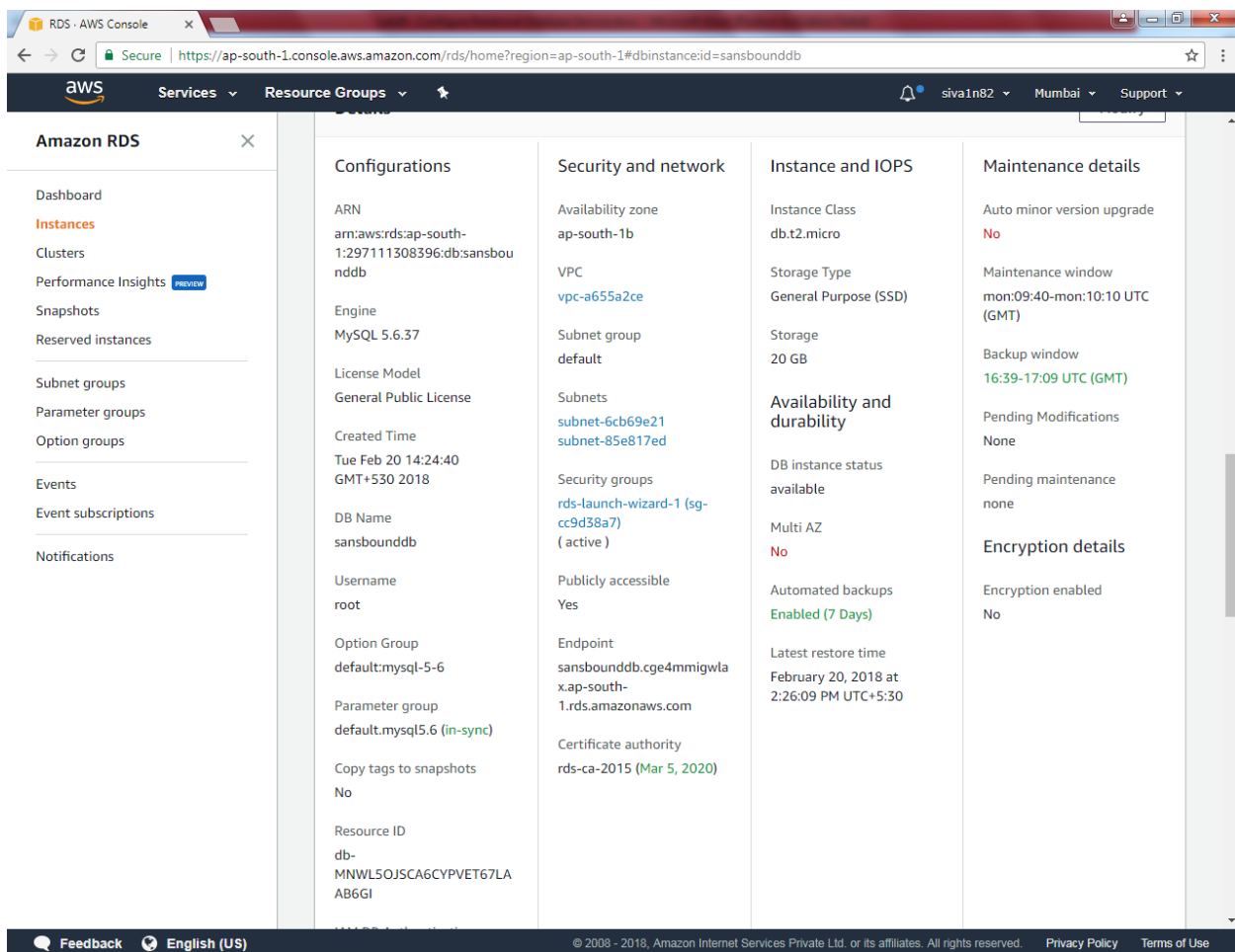
The screenshot displays the AWS RDS console interface. On the left, the 'Amazon RDS' sidebar menu is visible, with 'Instances' highlighted. The main content area shows the 'Instances (1)' page. At the top of this page, there are buttons for 'Launch DB instance' and 'Restore from S3'. Below these is a search bar labeled 'Filter instances'. A table lists the database instances, with one instance named 'sansbounddb' shown. The table columns include 'DB instance', 'Engine', 'Status', 'CPU', and 'Current activity'. The 'sansbounddb' instance is of type 'MySQL', has a status of 'available' (indicated by a green checkmark), and shows a CPU usage of 2.67%.

DB instance	Engine	Status	CPU	Current activity
sansbounddb	MySQL	available	2.67%	0 Con

Please find the URL of Endpoint as below. Kindly use the endpoint URL in MY workbench and using port details to connect.



You can able to see the security group details as below.



The screenshot displays the AWS RDS console interface. The left sidebar shows the navigation menu with 'Instances' selected. The main content area is divided into five columns: Configurations, Security and network, Instance and IOPS, and Maintenance details. The 'Configurations' column lists various instance settings, including the ARN, engine (MySQL 5.6.37), license model (General Public License), created time, DB name (sansbounddb), username (root), option group (default:mysql-5-6), parameter group (default:mysql5.6), copy tags to snapshots (No), and resource ID (db-MNWL5OJSCA6CYPVET67LA AB6GI). The 'Security and network' column shows the availability zone (ap-south-1b), VPC (vpc-a655a2ce), subnet group (default), subnets (subnet-6cb69e21, subnet-85e817ed), security groups (rds-launch-wizard-1 (sg-cc9d38a7) (active)), publicly accessible status (Yes), endpoint (sansbounddb.cge4mmigwla.x.ap-south-1.rds.amazonaws.com), and certificate authority (rds-ca-2015 (Mar 5, 2020)). The 'Instance and IOPS' column displays the instance class (db.t2.micro), storage type (General Purpose (SSD)), storage (20 GB), availability and durability (DB instance status: available, Multi AZ: No), automated backups (Enabled (7 Days)), and the latest restore time (February 20, 2018 at 2:26:09 PM UTC+5:30). The 'Maintenance details' column shows the auto minor version upgrade status (No), maintenance window (mon:09:40-mon:10:10 UTC (GMT)), backup window (16:39-17:09 UTC (GMT)), pending modifications (None), pending maintenance (none), and encryption details (Encryption enabled: No).

Configurations	Security and network	Instance and IOPS	Maintenance details
ARN arn:aws:rds:ap-south-1:297111308396:db:sansbounddb	Availability zone ap-south-1b	Instance Class db.t2.micro	Auto minor version upgrade No
Engine MySQL 5.6.37	VPC vpc-a655a2ce	Storage Type General Purpose (SSD)	Maintenance window mon:09:40-mon:10:10 UTC (GMT)
License Model General Public License	Subnet group default	Storage 20 GB	Backup window 16:39-17:09 UTC (GMT)
Created Time Tue Feb 20 14:24:40 GMT+530 2018	Subnets subnet-6cb69e21 subnet-85e817ed	Availability and durability DB instance status: available	Pending Modifications None
DB Name sansbounddb	Security groups rds-launch-wizard-1 (sg-cc9d38a7) (active)	Multi AZ No	Pending maintenance none
Username root	Publicly accessible Yes	Automated backups Enabled (7 Days)	Encryption details Encryption enabled No
Option Group default:mysql-5-6	Endpoint sansbounddb.cge4mmigwla.x.ap-south-1.rds.amazonaws.com	Latest restore time February 20, 2018 at 2:26:09 PM UTC+5:30	
Parameter group default:mysql5.6 (in-sync)	Certificate authority rds-ca-2015 (Mar 5, 2020)		
Copy tags to snapshots No			
Resource ID db-MNWL5OJSCA6CYPVET67LA AB6GI			