

Services → Database → RDS → create database

Templates based questions
Amazon auora is not available as free tier

RDS > Create database

Create database

1

Database settings


☒ Easy create

Provides the fastest way to get started with your database. You can modify this configuration anytime after creation.


Engine options

Engine type


☒ Amazon Aurora




☐ MySQL




☐ MariaDB




☐ PostgreSQL



☐ Oracle



☐ Microsoft SQL Server



Edition

☒ Amazon Aurora with MySQL compatibility

☐ Amazon Aurora with PostgreSQL compatibility

Version

Aurora (MySQL) 5.6.10a

Database features are supported with specific engine versions.

Settings

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DB instance identifier

Info

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

acloudguru

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constrains: 1 to 60 alphanumeric characters or hyphens (1 to 15 for SQL Server). 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.

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1 to 16 alphanumeric characters. First character must be a letter.

☐ 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), " (double quote) and @ (at sign).

Confirm password

Info

.....

DB instance size

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DB instance class [Info](#)

Choose a DB instance class that meets your processing power and memory requirements. The DB instance class options below are limited to those supported by the engine you selected above.

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

db.t2.micro

1 vCPUs 1 GiB RAM Not EBS Optimized

☐ Include previous generation classes

Storage

4

Storage type [Info](#)

General Purpose (SSD)

Allocated storage

20

GiB

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

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 once the specified threshold is exceeded.

Maximum storage threshold [Info](#)

Charges will apply when your database autoscales to the specified threshold

1000

GiB

Minimum: 21 GiB, Maximum: 16384 GiB

Availability & durability

5

Multi-AZ deployment [Info](#)

- ☐ Create a standby instance (recommended for production usage)
Creates a standby in a different Availability Zone (AZ) to provide data redundancy, eliminate I/O freezes, and minimize latency spikes during system backups.
- ☐ Do not create a standby instance

Connectivity

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Virtual Private Cloud (VPC) [Info](#)

VPC that defines the virtual networking environment for this DB instance.

Default VPC (vpc-09919f60)

Only VPCs with a corresponding DB subnet group are listed.

[i](#) After a database is created, you can't change the VPC selection.

▼ Additional connectivity configuration

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Subnet group [Info](#)

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

default-vpc-09919f60

Publicly accessible [Info](#)

- ☐ Yes
Amazon EC2 instances and devices outside the VPC can connect to your database. Choose one or more VPC security groups that specify which EC2 instances and devices inside the VPC can connect to the database.
- ☒ No
RDS will not assign a public IP address to the database. Only Amazon EC2 instances and devices inside the VPC can connect to your database.

VPC security group

Choose one or more RDS security groups to allow access to your database. Ensure that the security group rules allow incoming traffic from EC2 instances and devices outside your VPC. (Security groups are required for publicly accessible databases.)

☐ Choose existing
Choose existing VPC security groups

☒ Create new
Create new VPC security group

New VPC security group name

RDS-SG

Availability zone [Info](#)

No preference

Database port [Info](#)

TCP/IP port the database will use for application connections.

3306

▼ Additional configuration

Database options, backup enabled, backtrack disabled, Enhanced Monitoring disabled, maintenance, CloudWatch Logs, delete protection disabled

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Database options

Initial database name [Info](#)

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

DB parameter group [Info](#)

default.mysql5.7

Option group [Info](#)

default:mysql-5-7

IAM db authentication [Info](#)

- ☐ Enable IAM DB authentication
Manage your database user credentials through AWS IAM users and roles.

Backup

Creates a point in time snapshot of your database

- ☒ Enable automatic backups
Enabling backups will automatically create backups of your database during a certain time window.

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

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.

- ☐ Select 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.

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Backup retention period [Info](#)
Choose the number of days that RDS should retain automatic backups for this instance.

7 days ▼

Backup window [Info](#)
Select the period you want automated backups of the database to be created by Amazon RDS.

☐ Select window

☒ No preference

☒ Copy tags to snapshots

Monitoring

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

Log exports
Select the log types to publish to Amazon CloudWatch Logs

☐ Error log

☐ General log

☐ Slow query log

☐ Audit log

IAM role
The following service-linked role is used for publishing logs to CloudWatch Logs.

RDS Service Linked Role

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

Estimated monthly costs

DB instance	12.41 USD
Storage	2.30 USD
Total	14.71 USD

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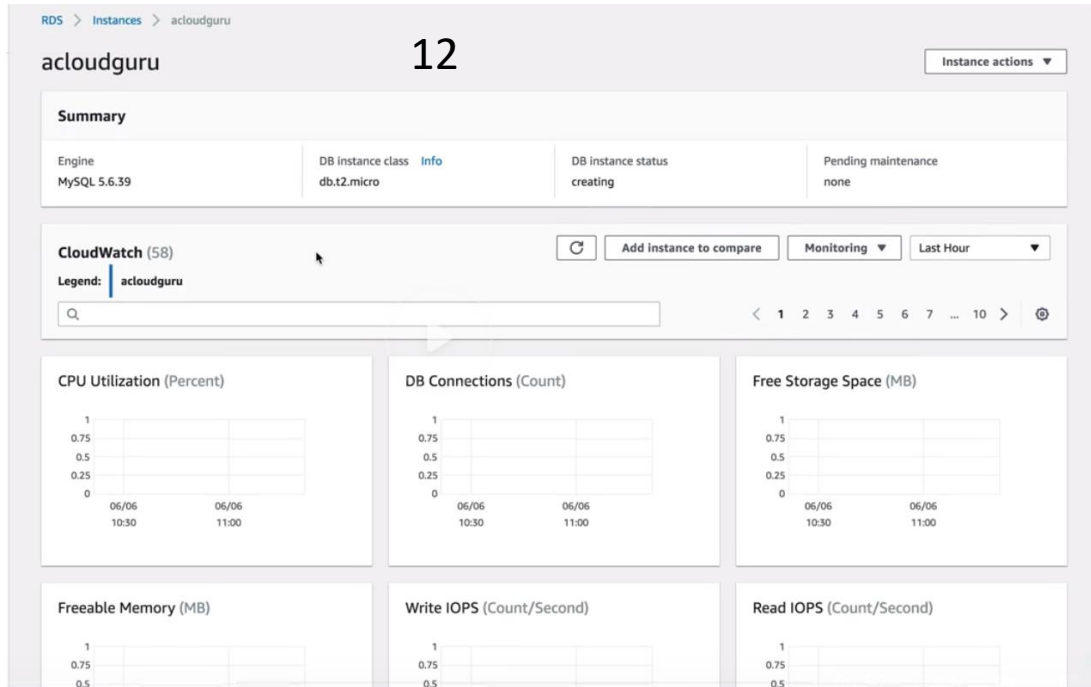
This billing estimate is based on on-demand usage as described in [Amazon RDS Pricing](#). Estimate does not include costs for backup storage, IOs (if applicable), or data transfer.

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

Cancel

Create database

Dns is given for rds and never ipv4 address is given



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Connect

Endpoint acloudguru.cfwcyr8fah5.us-east-1.rds.amazonaws.com	Port 3306	Publicly accessible No
--	--------------	---------------------------

Security group rules (2)

Filter security group rules

Security group	Type	Rule
rds-launch-wizard (sg-ccf6fe84)	CIDR/IP - Inbound	90.152.124.231/32
rds-launch-wizard (sg-ccf6fe84)	CIDR/IP - Outbound	0.0.0.0/0

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RDS > Instances

Instances (1)

Filter instances

Instance actions

Restore from S3

Launch DB instance

DB instance	Engine	Status	CPU	Current activity	Maintenance	Class	VPC
acloudguru	MySQL	creating			none	db.t2.micro	vpc-16431

Services → EC2 → create ec2 instances

Rest of the steps are same as mentioned previously

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 3: Configure Instance Details

Network [Create new VPC](#)

Subnet [Create new subnet](#)

Auto-assign Public IP

Placement group ☐ Add instance to placement group.

IAM role [Create new IAM role](#)

Shutdown behavior

Enable termination protection ☐ Protect against accidental termination

Monitoring ☐ Enable CloudWatch detailed monitoring
[Additional charges apply.](#)

Tenancy
[Additional charges will apply for dedicated tenancy.](#)

T2 Unlimited ☐ Enable
[Additional charges may apply](#)

▼ Advanced Details

User data ☒ As text ☐ As file ☐ Input is already base64 encoded

```
yum update -y
chkconfig httpd on
service httpd start
echo "<?php phpinfo();?>" > /var/www/html/index.php
cd /var/www/html
wget https://s3.eu-west-2.amazonaws.com/acloudguru-example/connect.php
```

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

```
#!/bin/bash
yum install httpd php php-mysql -y
yum update -y
chkconfig httpd on
service httpd start
echo "<?php phpinfo();?>" > /var/www/html/index.php
cd /var/www/html
wget https://s3.eu-west-2.amazonaws.com/acloudguru-example/connect.php
```

Currently Open Documents

connect.txt

rds.sh

```
1 <?php
2 $username = "acloudguru";
3 $password = "acloudguru";
4 $hostname = "yourhostnameaddress";
5 $dbname = "acloudguru";
6
7 //connection to the database
8 $dbhandle = mysql_connect($hostname, $username, $password) or die("Unable to connect to MySQL");
9 echo "Connected to MySQL using username - $username, password - $password, host - $hostname<br>";
10 $selected = mysql_select_db("$dbname", $dbhandle) or die("Unable to connect to MySQL DB - check the database name and try again.");
11 ?>
```

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP	IPv6 IPs
	i-01f9ff46ebb6d2602	t2.micro	us-east-1b	 running	 Initializing	None	 ec2-54-243-16-145.co...	54.243.16.145	-
	i-04931d2ef877c108f	t2.micro	us-east-1c	 terminated		None			-



System	Linux ip-172-31-25-145 4.14.33-51.37.amzn1.x86_64 #1 SMP Thu May 3 20:07:43 UTC 2018 x86_64
Build Date	May 12 2015 22:42:47
Configure Command	./configure '--build=x86_64-redhat-linux-gnu' '--host=x86_64-redhat-linux-gnu' '--target=x86_64-amazon-linux-gnu' '--program-prefix=' '--prefix=/usr' '--exec-prefix=/usr' '--bindir=/usr/bin' '--sbindir=/usr/sbin' '--sysconfdir=/etc' '--datadir=/usr/share' '--includedir=/usr/include' '--libdir=/usr/lib64' '--libexecdir=/usr/libexec' '--localstatedir=/var' '--sharedstatedir=/var/lib' '--mandir=/usr/share/man' '--infodir=/usr/share/info' '--cache-file=/config.cache' '--with-libdir=lib64' '--with-config-file-path=/etc' '--with-config-file-scan-dir=/etc/php.d' '--disable-debug' '--with-pic' '--disable-path' '--without-pear' '--with-bz2' '--with-

1

```
Ryans-iMac:Downloads acloudguru$ ssh ec2-user@54.243.16.145 -i MyNewKeyPair.pem
The authenticity of host '54.243.16.145 (54.243.16.145)' can't be established.
ECDSA key fingerprint is SHA256:nut3S9qga1YYpFHv1DE7LhHD/1K8yqSWjbIrQLg76vU.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '54.243.16.145' (ECDSA) to the list of known hosts.
```

```

  __|  __|_  )
 _| (    /   Amazon Linux AMI
---|\---|---
```

```
https://aws.amazon.com/amazon-linux-ami/2018.03-release-notes/
[ec2-user@ip-172-31-25-145 ~]$ sudo su
```

2

```
[root@ip-172-31-25-145 ec2-user]# cd /var/www/html
[root@ip-172-31-25-145 html]# ls
connect.php  index.php
[root@ip-172-31-25-145 html]# nano connect.php
[root@ip-172-31-25-145 html]#
```

```
<?php
$username = "acloudguru";
$password = "acloudguru";
$hostname = "acloudguru.cfwcyjr8fah5.us-east-1.rds.amazonaws.com";
$dbname = "acloudguru";

//connection to the database
$dbhandle = mysql_connect($hostname, $username, $password) or die("Unable to connect to MySQL database");
echo "Connected to MySQL using username - $username, password - $password";
$selectd = mysql_select_db("$dbname", $dbhandle) or die("Unable to connect to MySQL database");
?>
```


Unable to connect to MySQL

1

Two security groups are not communicating (web server and rds security groups)

Create Security Group Actions

Filter by tags and attributes or search by keyword

Name	Group ID	Group Name	VPC ID	Description
	sg-2eadb067	MyWebDMZ	vpc-16431e6d	launch-wizard-1 created 2018-05-03T11:27:21.618+01:00
	sg-cbfee382	default	vpc-16431e6d	default VPC security group
	sg-ccf6fe84	rds-launch-wizard	vpc-16431e6d	Created from the RDS Management Console: 2018/06/06 10:21:33

Create inbound rules by giving access / id of the webserver
i.e., rds instance and ec2 instance are communicating

2

Security Group: sg-ccf6fe84

Description Inbound Outbound Tags

Edit

Type	Protocol	Port Range	Source	Description
Custom TCP Rule	TCP	3306	90.152.124.231/32	

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Connected to MySQL using username - acloudguru, password - acloudguru, host - acloudguru.cfwcyr8fah5.us-east-1.rds.amazonaws.com

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Edit inbound rules

Type	Protocol	Port Range	Source	Description
Custom TCP	TCP	3306	Custom 90.152.124.231/32	e.g. SSH for Admin Desktop
MYSQL/Aurora	TCP	3306	Custom sg-2eadb067	e.g. SSH for Admin Desktop

Add Rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

Cancel Save

Exam question: One security group in ec2 and another security group in rds and both are not connecting. This is because we need to open up the port of the rds instance to the security group of ec2 instance.