

UNIVERSIDADE DE SÃO DE PAULO

ENGENHARIA MECATRÔNICA

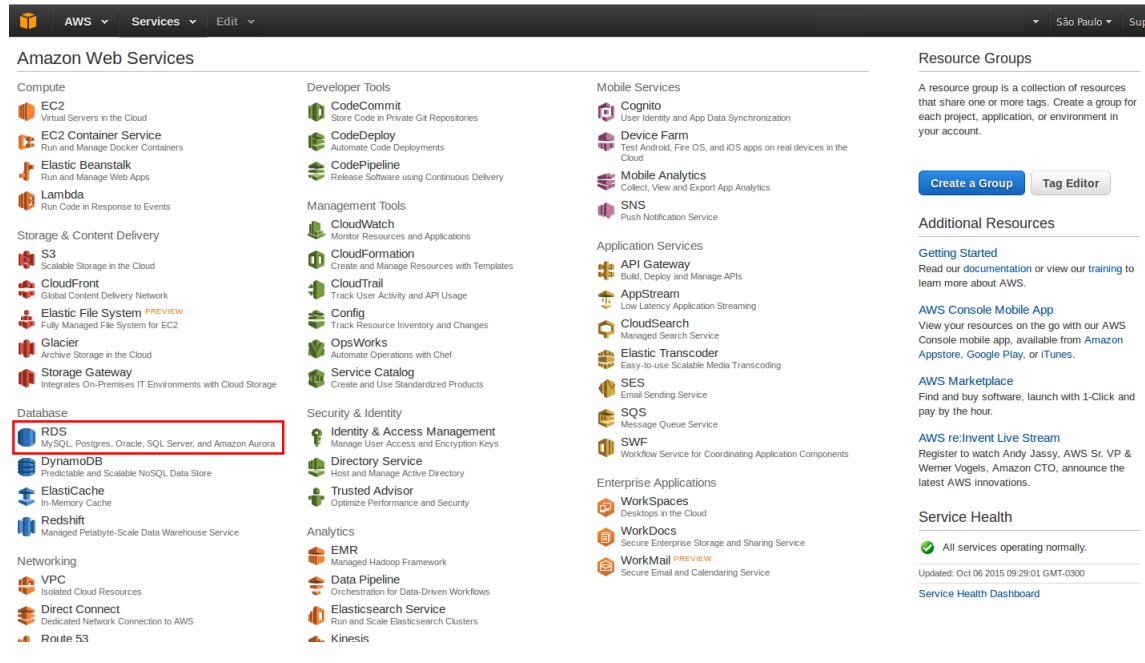


Trabalhando com RDS Amazon

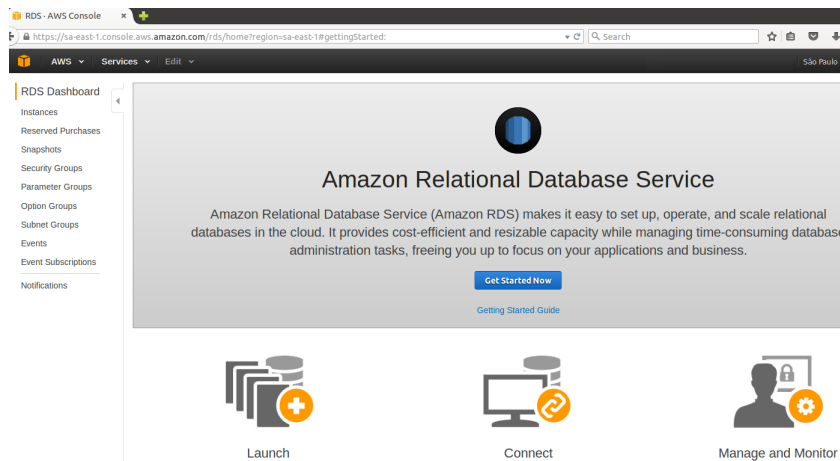
October 26, 2016

1 Trabalhando com RDS Amazon Services

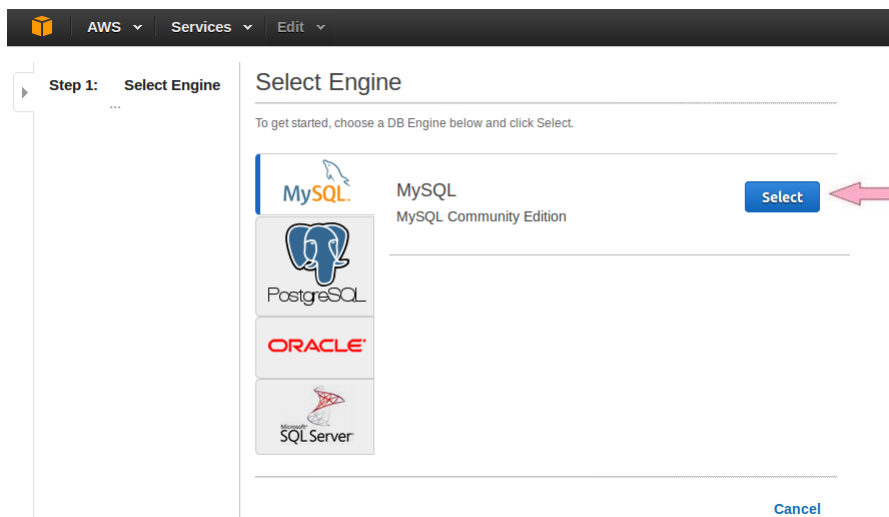
1. Depois de acessar a sua conta na AWS, conta AWS Console, fazer click na opção *RDS* da seção Database (destacado em vermelho).



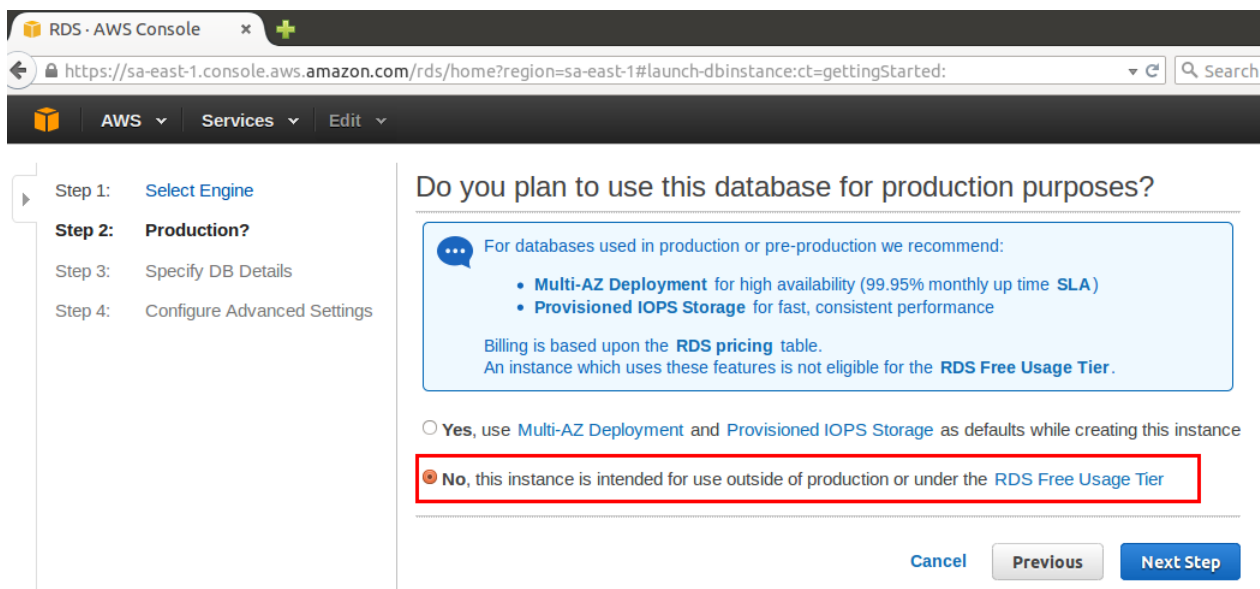
2. Aparecerá a página: *RDS Dashboard*. Fazer click no botão *Get Started*.



3. O primeiro passo é escolher o gerenciador de banco de dados. No nosso caso é o MySQL Community Edition.



4. A seguir vamos escolher o propósito da instalação. A nossa instância não vai ser voltada para o desenvolvimento de aplicações, portanto marcar *No, this instance is intended for use outside of production or under the RDS Free Usage Tier* que garante o uso gratuito:



5. Neste ponto vamos especificar as propriedades da nossa instância. O mais importante neste passo é escolher como tipo de instância: *db.t2.micro-1vCPU, 1 GiBRAM*; na opção **Multi-AZ Deployment** escolher *No*; e 5 GB espaço de armazenagem. Além disso, especificar um identificador para a instância, o user e correspondente senha (importantes para o acesso remoto). Fazer click em *Next Step*.

RDS · AWS Console

https://sa-east-1.console.aws.amazon.com/rds/home?region=sa-east-1#launch-dbinstance:ct=gettingStarted:

AWS Services Edit

Step 2: Production?

Step 3: Specify DB Details

Step 4: Configure Advanced Settings

Your current selection is eligible for the free tier. [Learn More.](#)

Instance Specifications

DB Engine: mysql

License Model: general-public-license

DB Engine Version: 5.6.23

Review the **Known Issues/Limitations** to learn about potential compatibility issues with specific database versions.

DB Instance Class: db.t2.micro — 1 vCPU, 1 GiB RAM

Multi-AZ Deployment: No

Storage Type: General Purpose (SSD)

Allocated Storage*: 5 GB

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*: testDBInstance

Master Username*: testuser

Master Password*:

Confirm Password*:

* Required

Cancel Previous **Next Step**

6. A seguir configurar opções avançadas: nome do banco de dados (*pmr2490*). Escolher como regras de acesso as estabelecidas no grupo: default (*Default VPC*), e por último estabelecer período para fazer Backup e Manutenção. Fazer click no botão *Launch DB Instance*

Step 4: Configure Advanced Settings

Configure Advanced Settings

Network & Security

This instance will be created with the new Certificate Authority rds-ca-2015. If you are using SSL to connect to this instance, you should use the [new certificate bundle](#). Learn more [here](#)

VPC* Default VPC (vpc-c5ea92a0)

Subnet Group default

Publicly Accessible Yes

Availability Zone No Preference

VPC Security Group(s) Create new Security Group
DB-Security-Group (VPC)
default (VPC)
rds-launch-wizard (VPC)

Database Options

Database Name pmr2490

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

Database Port 3306

DB Parameter Group default.mysql5.6

Option Group default:mysql-5-6

Copy Tags To Snapshots

Enable Encryption No

The selected Engine or DB Instance Class does not support storage encryption.

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 7 days

Backup Window No Preference

Maintenance

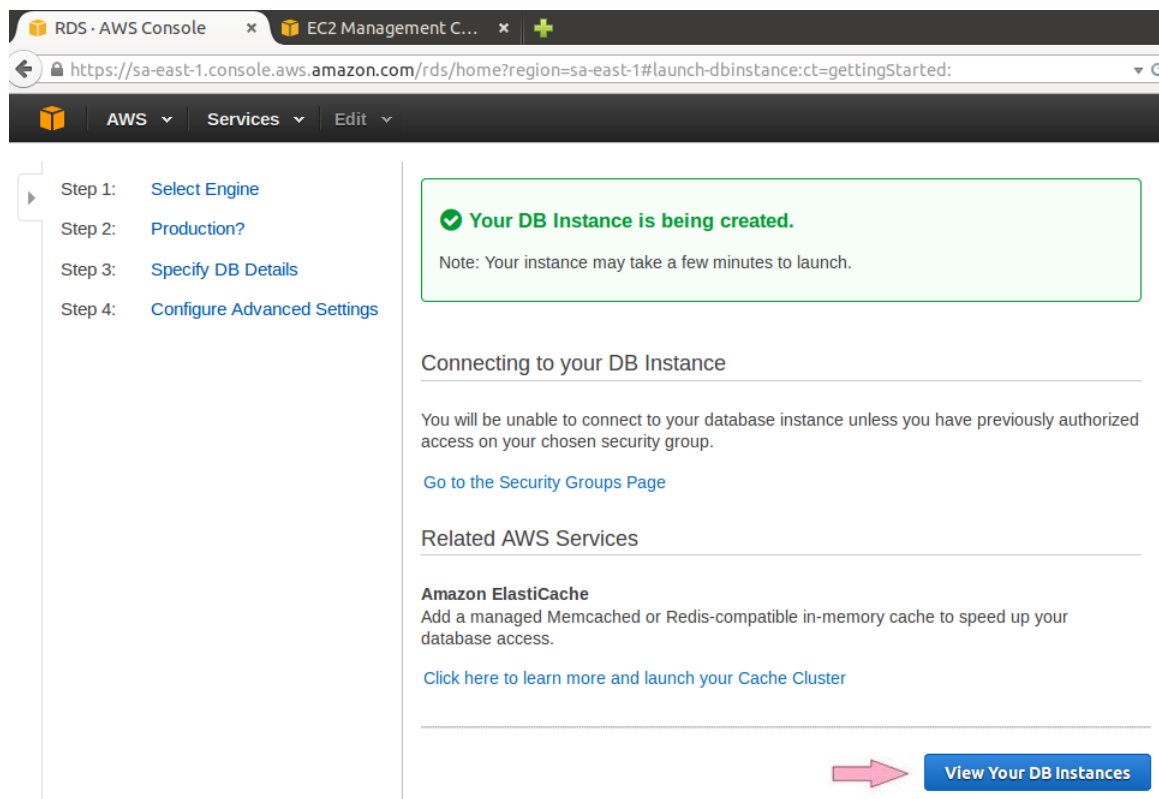
Auto Minor Version Upgrade Yes

Maintenance Window No Preference

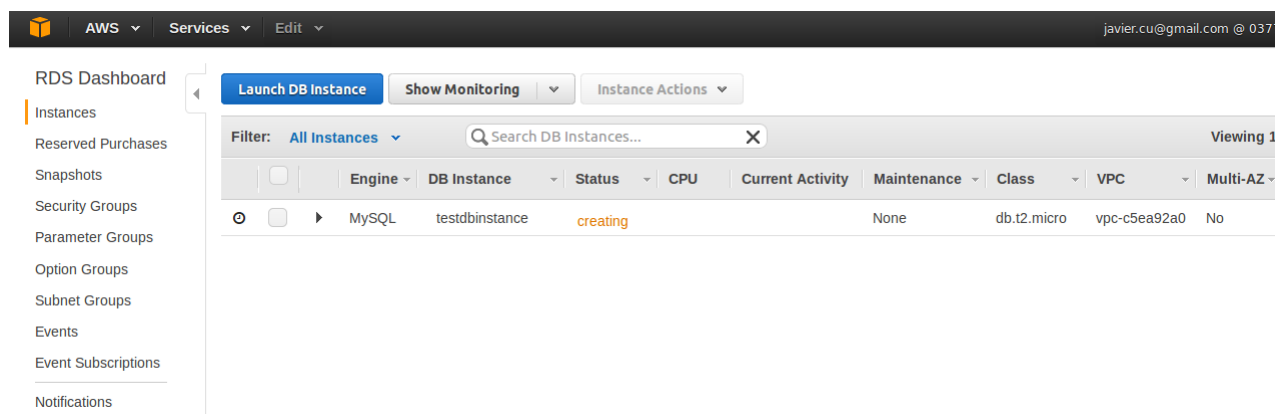
* Required

[Cancel](#) [Previous](#) [Launch DB Instance](#)

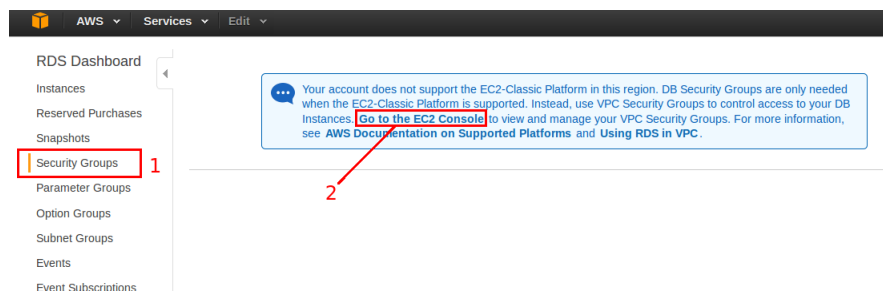
7. Assim, a nova instância foi devidamente configurada.



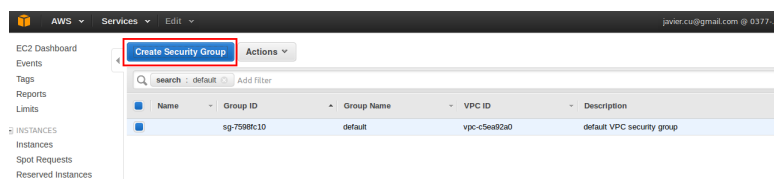
8. Para ter certeza, clicar em *View Your DB Instances*); aparece a seguinte tela. O processo pode demorar alguns minutos onde o estado da instância é *creating*.



9. Antes de acessar o BD vamos configurar as regras de acesso. Para isto, vamos criar um novo grupo de acesso com as devidas permissões. Fazer clic no painel da esquerda na opção *Security Groups* e a seguir no painel central *Go to EC2 Console* (links destacados em vermelho).



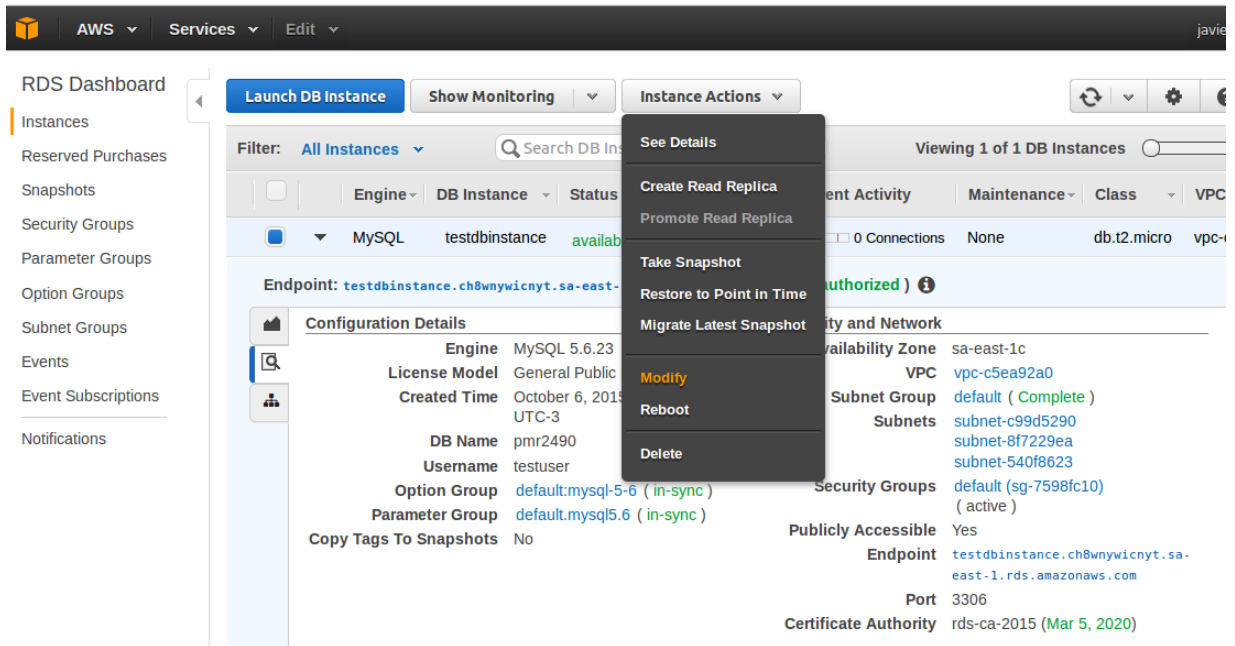
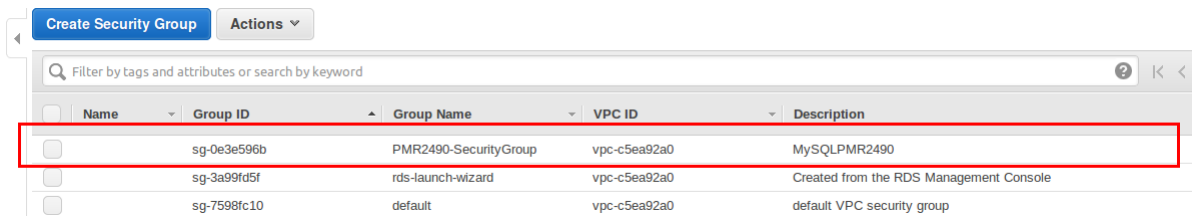
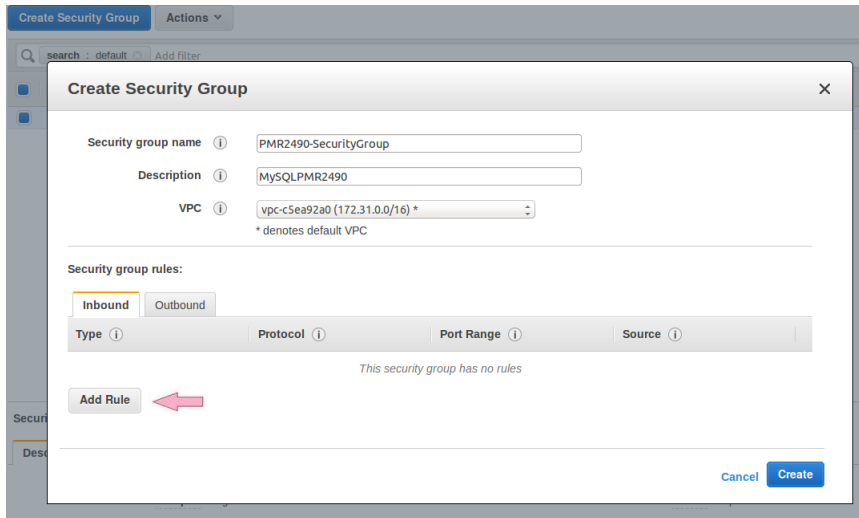
10. Uma vez no console EC2, criar o grupo de acesso (*PMR2490-SecurityGroup*):



11. Preencher o formulário e acrescentar uma nova regra (**Type:** *MYSQL/AURORA*, **Source:** *Anywhere*):

12. Uma vez criado, o novo grupo deverá aparecer na lista de grupos:

13. Voltamos à nossa instância RDS (com identificador *testdbinstance*) para modifica-la associando a esta um novo grupo de acesso. Fazer click no console RDS em *Instance Actions* com a nossa instância previamente selecionada.



14. Entre as propriedades procuramos *Security Group* e fazemos a mudança para *PMR2490-SecurityGroup*. Fazer click em *Continue*

RDS Dashboard

- Instances
- Reserved Purchases
- Snapshots
- Security Groups
- Parameter Groups
- Option Groups
- Subnet Groups
- Events
- Event Subscriptions
- Notifications

Allocated Storage* 5 GB

! 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 testdbinstance

New Master Password

Network & Security

Security Group DB-Security-Group (sg-fa9afe9f) (vpc-c-PMR2490-SecurityGroup (sg-0e3e596l) default (sg-7598fc10) (vpc-c5ea92a0) rds-launch-wizard (sg-3a99fd5f) (vpc-c-

Certificate Authority rds-ca-2015

Database Options

DB Parameter Group default:mysql5.6

Option Group default:mysql-5-6

Copy Tags To Snapshots

15. A seguinte tela confirma quais foram as mudanças feitas. Fazer click em *Modify DB Instance*

RDS Dashboard

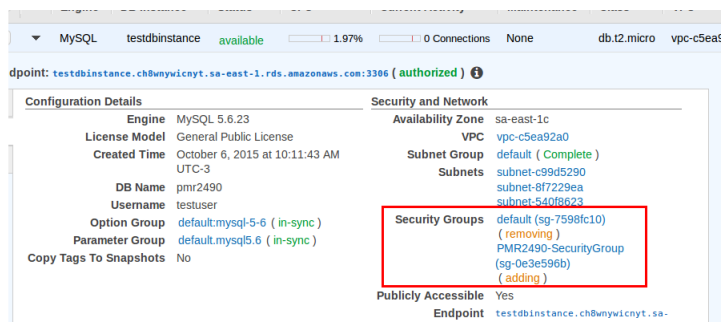
- Instances
- Reserved Purchases
- Snapshots
- Security Groups
- Parameter Groups
- Option Groups
- Subnet Groups
- Events
- Event Subscriptions
- Notifications

Modify DB Instance: testdbinstance

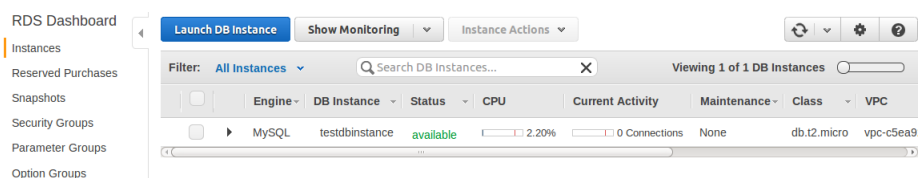
You are about to submit the following modifications. Only values that will change are displayed. Carefully verify your changes and click Modify DB Instance.

- DB Instance Identifier -
- DB Engine Version -
- DB Instance Class -
- Multi-AZ Deployment -
- Auto Minor Version Upgrade -
- Storage Type -
- Allocated Storage -
- Provisioned IOPS -
- Security Group PMR2490-SecurityGroup
- Certificate Authority
- DB Parameter Group -
- Option Group -
- Copy Tags To Snapshots -
- Master Password -
- Backup Retention Period -
- Backup Window -
- Maintenance Window -
- Apply Immediately No

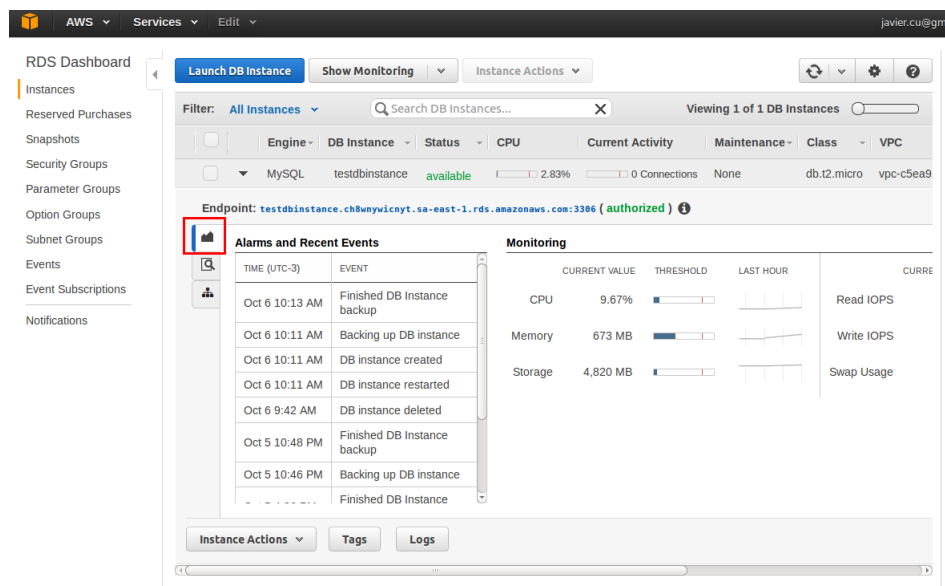
16. Acessando a instância no RDS console por uns minutos vai aparecer:



17. Neste ponto a instância está disponível e com as permissões devidamente configuradas.



18. Para monitorar e consultar as propriedades da instância:



AWS Services Edit

RDS Dashboard

- Instances
- Reserved Purchases
- Snapshots
- Security Groups
- Parameter Groups
- Option Groups
- Subnet Groups
- Events
- Event Subscriptions
- Notifications

Launch DB Instance Show Monitoring Instance Actions

Filter: All Instances Search DB Instances... Viewing 1 of 1 DB Instances

Engine	DB Instance	Status	CPU	Current Activity	Maintenance	Class	VPC
MySQL	testdbinstance	available	2.83%	0 Connections	None	db.t2.micro	vpc-c5e...

Endpoint: testdbinstance.ch8wmyicnyt.sa-east-1.rds.amazonaws.com:3306 (authorized)

Configuration Details

- Engine: MySQL 5.6.23
- License Model: General Public License
- Created Time: October 6, 2015 at 10:11:43 AM UTC-3
- DB Name: pmr2490
- Username: testuser
- Option Group: default:mysql-5-6 (in-sync)
- Parameter Group: default:mysql5.6 (in-sync)
- Copy Tags To Snapshots: No

Instance and IOPS

- Instance Class: db.t2.micro
- Storage Type: General Purpose (SSD)
- IOPS: disabled
- Storage: 5 GB

Encryption Details

- Encryption Enabled: No

Security and Network

- Availability Zone: sa-east-1c
- VPC: vpc-c5ea92a0
- Subnet Group: default (Complete)
- Subnets:
 - subnet-c99d5290
 - subnet-8f7229ea
 - subnet-540f8623
- Security Groups: default (sg-7598fc10) (active)
- Publicly Accessible: Yes
- Endpoint: testdbinstance.ch8wmyicnyt.sa-east-1.rds.amazonaws.com
- Port: 3306
- Certificate Authority: rds-ca-2015 (Mar 5, 2020)

Availability and Durability

- DB Instance Status: available
- Multi AZ: No
- Automated Backups: Enabled (1 Day)
- Latest Restore Time: October 6, 2015 at 10:11:59 AM UTC-3

Maintenance Details

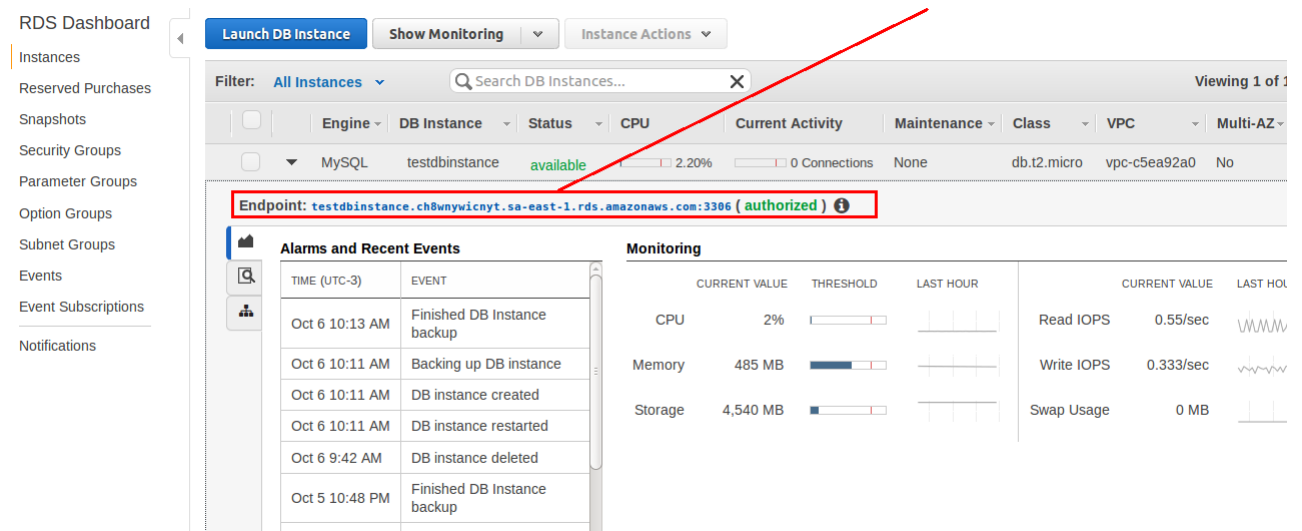
- Auto Minor Version Upgrade: Yes
- Maintenance Window: mon:05:10-mon:05:40
- Backup Window: 03:46-04:16
- Pending Maintenance: None

Instance Actions Tags Logs

2 Como acessar a uma instância RDS

A seguir explicaremos como acessar remotamente uma instância RDS via linha de comando e usando Mysql Workbench versão 6.3 CE.

1. Fazer click sobre a instância no console RDS e consultar o *EndPoint* (copiar o destacado em vermelho):



The screenshot shows the AWS RDS console interface. On the left is a navigation menu with options like 'Instances', 'Reserved Purchases', 'Snapshots', etc. The main area displays a table of instances. The instance 'testdbinstance' is highlighted, and its status is 'available'. A red box highlights the 'Endpoint' field, which contains the text: 'Endpoint: testdbinstance.ch8wnywicnyt.sa-east-1.rds.amazonaws.com:3306 (authorized)'. A red arrow points from this endpoint text to the terminal command in the next block.

2. Abrir um terminal e digitar `mysql -h End Point -u UserName -p` No nosso caso o **End Point** é `testdbinstance.ch8wnywicnyt.sa-east-1.rds.amazonaws.com` (tomar cuidado para não incluir a porta:3306) e o **UserName** é `textuser` [ir 5].

```
javier@javier-desktop: ~  
javier@javier-desktop:~$ sudo mysql -h testdbinstance.ch8wnywicnyt.sa-east-1.rds.amazonaws.com -u testuser -p
```

3. Ao digitar sua senha aparecerá:

```
javier@javier-desktop:~$ sudo mysql -h testdbinstance.ch8wnywicnyt.sa-east-1.rds.amazonaws.com -u testuser -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 52
Server version: 5.6.23-log MySQL Community Server (GPL)

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owners.

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

mysql> █
```

4. Uma vez no prompt MySQL podemos executar instruções SQL. Vamos conferir se o banco de dados pmr2490 é um dos bancos de dados da nossa instância.

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

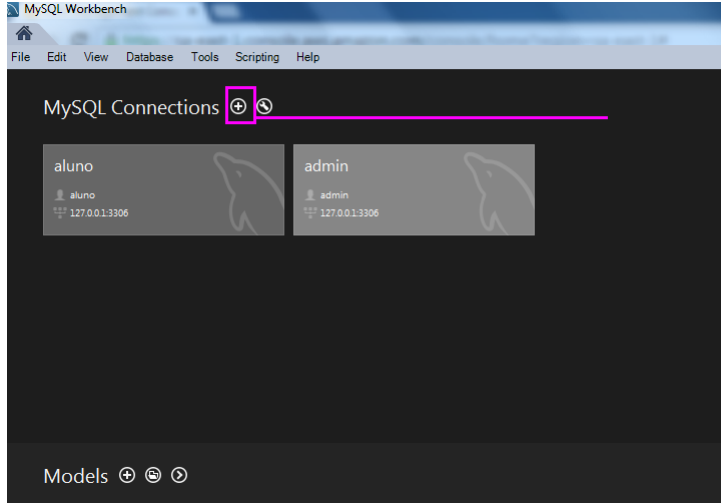
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show database;
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 'data
base' at line 1
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| innodb |
| mysql |
| performance_schema |
| pmr2490 |
+-----+
5 rows in set (0.01 sec)

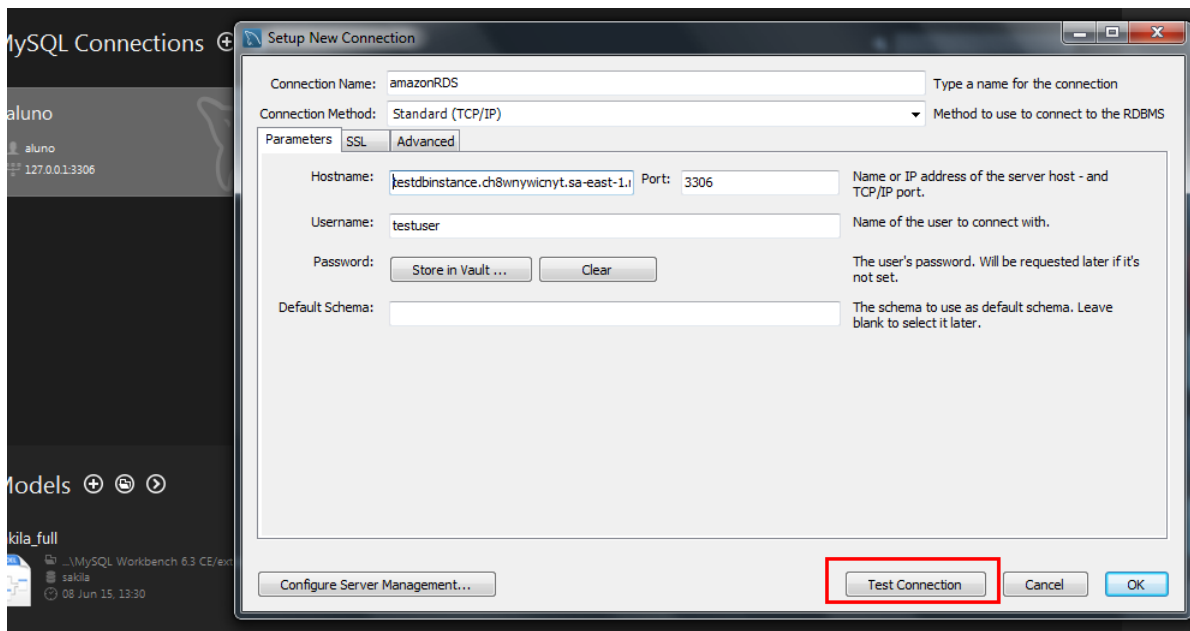
mysql> █
```

2.1 Acessando o BD via MySQL WorkBench 6.3 CE

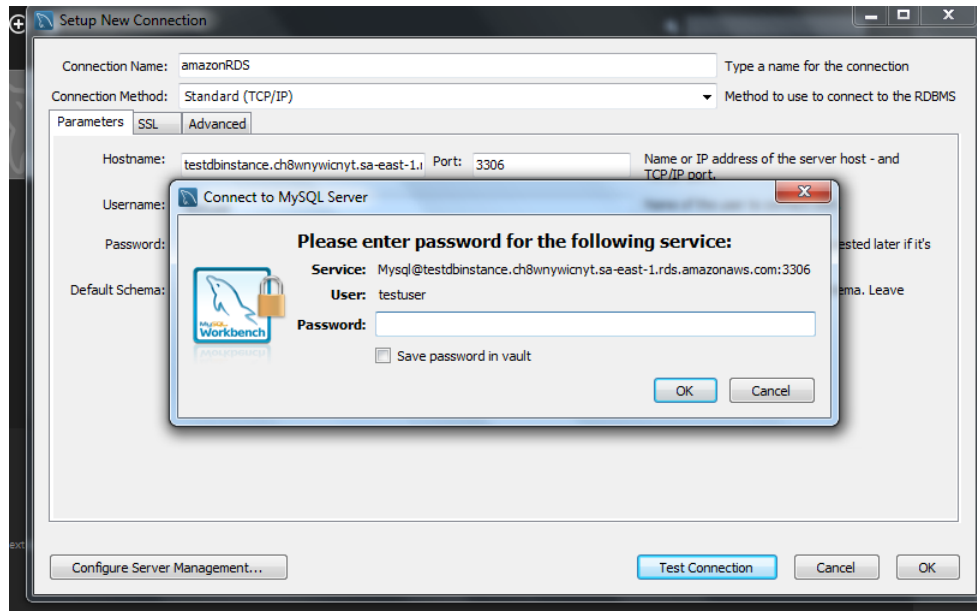
1. Executar o MySQL WorkBench 6.3 CE e acrescentar uma nova conexão:



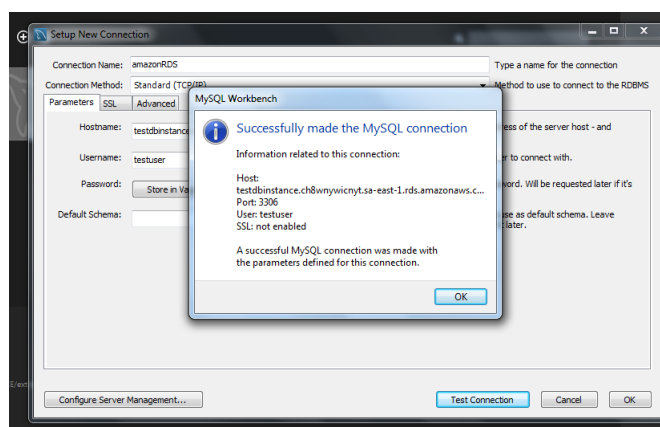
2. Preencher os campos. **Nome da conexão** (amazonDB) e no **Hostname** colocar o nome da nossa instância (*testdbinstance.ch8wnywicnyt.sa-east-1.rds.amazonaws.com*) [ir 1]. Depois de especificar o nome de usuário fazer click no botão *Test Connection*.



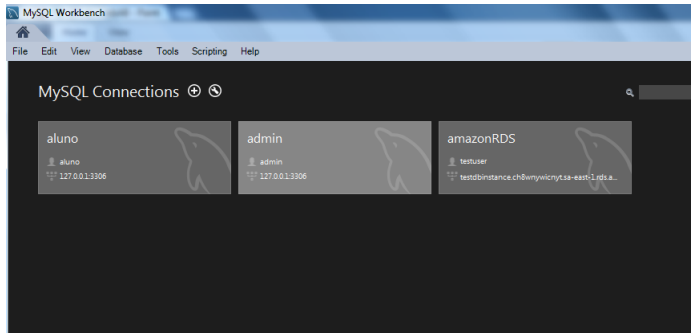
3. Uma vez selecionado o *Test Connection* o sistema vai solicitar a senha do usuário especificado.



4. Se a conexão foi feita satisfatoriamente aparecerá a seguinte tela:



5. No MySQL WorkBench entre as conexões aparecerá a nova conexão (*amazonDB*). Acessar fazendo dois click:



6. Entre os bancos de dados da nova conexão deverá aparecer o banco de dados criado na primeira seção do tutorial (*pmr2490*) [ir 6].

