

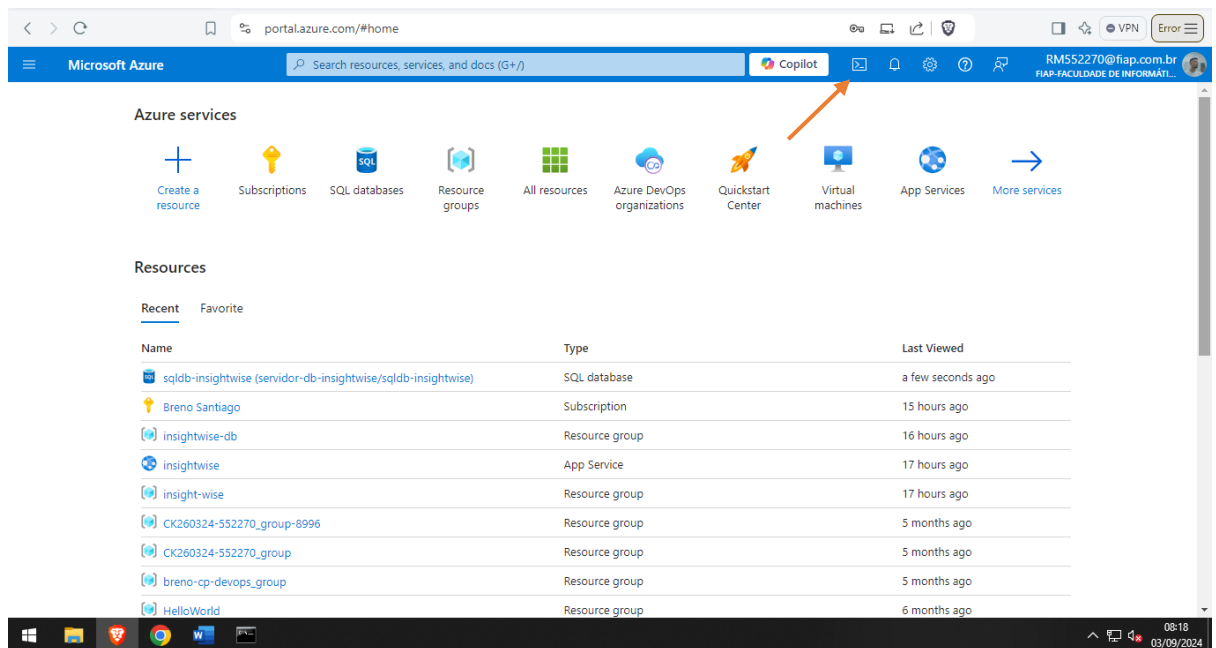
1 Checkpoint DevOps

Breno Lemes Santiago

RM: 552270

CRIANDO GRUPO DE RECURSOS NO AZURE CLI

1. Acesse o <https://portal.azure.com/>
2. Abra o CloudShell



3. Digite o seguinte comando para criar um grupo de recursos: 'az group create --name RM_552270 --location brazilsouth'

```
Switch to PowerShell Restart Manage files New session Editor Web preview Settings Help
Requesting a Cloud Shell.Succeeded.
Connecting terminal...

Welcome to Azure Cloud Shell

Type "az" to use Azure CLI
Type "help" to learn about Cloud Shell

Your Cloud Shell session will be ephemeral so no files or system changes will persist beyond your current session.
breno [ ~ ]$ az group create --name RM_03092024 --location brazilsouth

Your Cloud Shell session will be ephemeral so no files or system changes will persist beyond your current session.
breno [ ~ ]$ az group create --name RM_552270 --location brazilsouth
{
  "id": "/subscriptions/868f5b55-a7f4-418b-9f18-4e67dbd48380/resourceGroups/RM_552270",
  "location": "brazilsouth",
  "managedBy": null,
  "name": "RM_552270",
  "properties": {
    "provisioningState": "Succeeded"
  },
  "tags": null,
  "type": "Microsoft.Resources/resourceGroups"
}
breno [ ~ ]$
```

4. Aqui conseguimos visualizar a nossa vm criada no nosso grupo de recursos:

Microsoft Azure

Search resources, services, and docs (G+J)

Copilot

RM552270@fiap.com.br
FIAP-FACULDADE DE INFORMÁTICA

Home >

RM_552270
Resource group

Search

CreateManage viewDelete resource groupRefreshExport to CSVOpen queryAssign tagsMoveDelete

Overview

Activity log

Access control (IAM)

Tags

Resource visualizer

Events

Settings

Cost Management

Monitoring

Automation

Help

ResourcesRecommendations (1)

Filter for any field...Type equals allLocation equals allAdd filter

Showing 1 to 10 of 10 records.☐ Show hidden types

No groupingList view

<input type="checkbox"/> Name ↑↓	Type ↑↓	Location ↑↓
<input type="checkbox"/> nsgsr-linux	Network security group	Brazil South
<input type="checkbox"/> pip-ubuntu	Public IP address	Brazil South
<input type="checkbox"/> rm-fiap-checkpoint88	App Service	Brazil South
<input type="checkbox"/> servidor552270	SQL server	Brazil South
<input type="checkbox"/> vm-ubuntu	Virtual machine	Brazil South
<input type="checkbox"/> vm-ubuntu_OsDisk_1_aba4cf65587b4181b8d3019e8099ca80	Disk	Brazil South
<input type="checkbox"/> vm-ubuntuVMNic	Network Interface	Brazil South

< PreviousPage 1 of 1Next >

Give feedback

CONFIGURAÇÃO DE UMA MÁQUINA VIRTUAL

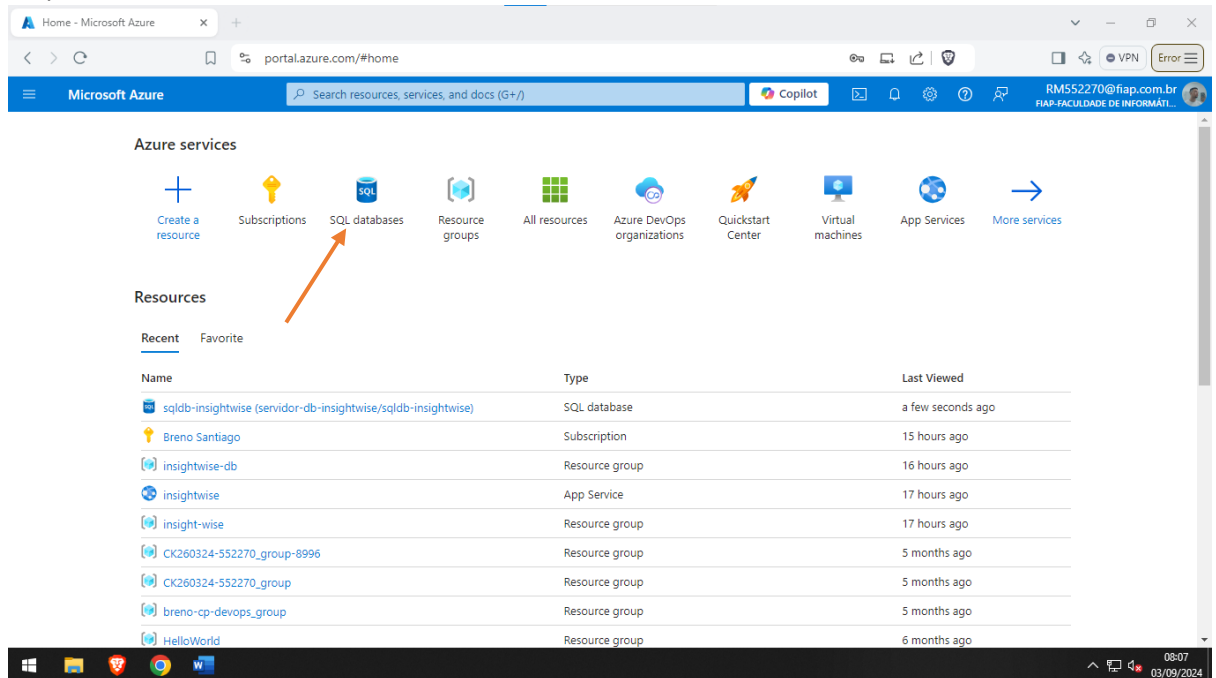
1. Na mesma CLI digite o comando:

```
'az vm create --resource-group RM_552270 --name vm-ubuntu --image Canonical:UbuntuServer:19_04-gen2:19.04.201908230 --size Standard_B2s --vnet-name nnet-Linux --nsg nsgr-linux --public-ip-address pip-ubuntu --authentication-type password --admin-username admlnx --admin-password Fiap@2tdsvms'
```

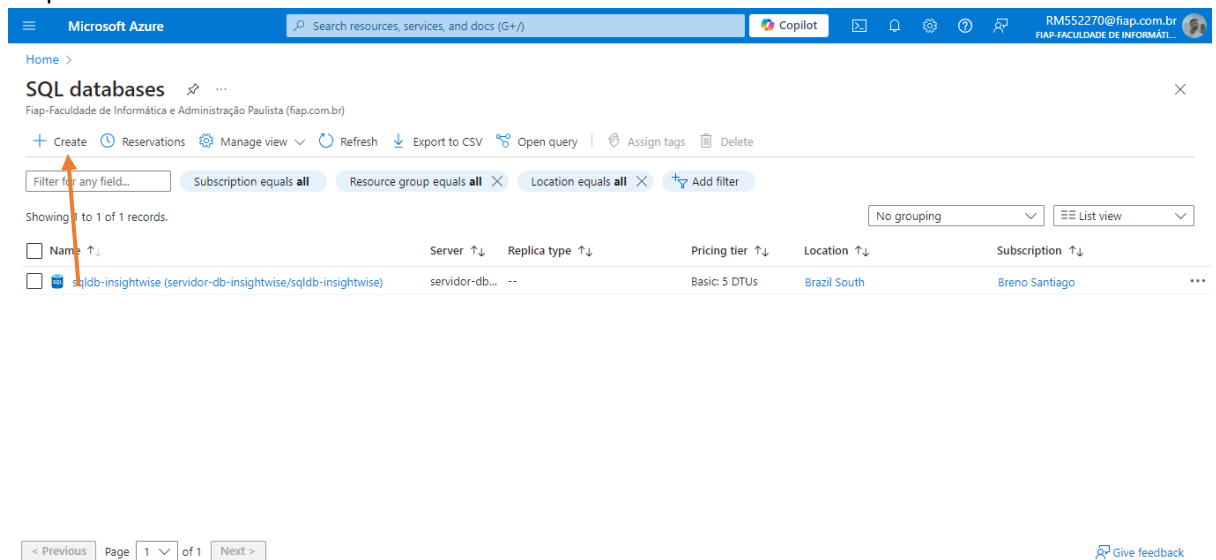
```
breno [ ~ ]$ az vm create --resource-group RM_552270 --name vm-ubuntu --image Canonical:UbuntuServer:19_04-gen2:19.04.201908230 --size Standard_B2s --vnet-name nnet-Linux --nsg nsgr-linux --public-ip-address pip-ubuntu --authentication-type password --admin-username admlnx --admin-password Fiap@2tdsvms
Consider upgrading security for your workloads using Azure Trusted Launch VMs. To know more about Trusted Launch, please visit https://aka.ms/TrustedLaunch.
{
  "fqdn": "",
  "id": "/subscriptions/868f5b55-a7f4-418b-9f18-4e67dbd48380/resourceGroups/RM_552270/providers/Microsoft.Compute/virtualMachines/vm-ubuntu",
  "location": "brazilsouth",
  "macAddress": "00-22-48-35-F2-46",
  "powerState": "VM running",
  "privateIpAddress": "10.0.0.4",
  "publicIpAddress": "4.201.175.63",
  "resourceGroup": "RM_552270",
  "zones": ""
}
breno [ ~ ]$
```

CRIANDO BANCO DE DADOS

1. Abra o <https://portal.azure.com/>
2. Clique no ícone SQL Databases



3. Clique em Create



4. Agora nesta tela teremos que fazer alguns ajustes

Microsoft Azure

Search resources, services, and docs (G+/)

Copilot

RM552270@fiap.com.br

Home > SQL databases >

Create SQL Database

Microsoft

Basics Networking Security Additional settings Tags Review + create

Create a SQL database with your preferred configurations. Complete the Basics tab then go to Review + Create to provision with smart defaults, or visit each tab to customize. [Learn more](#)

Want to try Azure SQL Database for free? Create a free serverless database with the first 100,000 vCore seconds, 32GB of data, and 32GB of backup storage free per month for the lifetime of the subscription. [Learn more](#)

Apply offer (Preview)

SQL Database Hyperscale: Low price, high scalability, and best feature set. [Learn more](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * Breno Santiago

Review + create Next: Networking >

Cost summary

General Purpose (GP_S_Gen5_1)

Cost per GB (in USD) 0.22

Max storage selected (in GB) x 41.6

ESTIMATED STORAGE COST / MONTH 9.09 USD

COMPUTE COST / VCORE SECOND ¹ 0.000275 USD

NOTES

¹ Serverless databases are billed in vCore seconds based on a combination of CPU and memory utilization. [Learn more about serverless billing](#)

5. Selecione o grupo de recursos que acabamos de criar:

Microsoft Azure

Search resources, services, and docs (G+/)

Copilot

RM552270@fiap.com.br

Home > SQL databases >

Create SQL Database

Microsoft

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * Breno Santiago

Resource group * RM_552270

Create new

Database details

Enter required settings for this database, including picking a logical server and configuring the compute and storage resources

Database name * Enter database name

Server * Select a server

Create new

The value must not be empty.

Review + create Next: Networking >

ESTIMATED STORAGE COST / MONTH 9.09 USD

COMPUTE COST / VCORE SECOND ¹ 0.000275 USD

NOTES

¹ Serverless databases are billed in vCore seconds based on a combination of CPU and memory utilization. [Learn more about serverless billing](#)

6. Indique o nome da tabela

Microsoft Azure

Search resources, services, and docs (G+/)

Copilot

RM552270@fiap.com.br

Home > SQL databases >

Create SQL Database

Microsoft

manage all your resources.

Subscription * Breno Santiago

Resource group * RM_552270

Create new

Database details

Enter required settings for this database, including picking a logical server and configuring the compute and storage resources

Database name * db_rm_552270

Server * Select a server

Create new

The value must not be empty.

Want to use SQL elastic pool? ☐ Yes ☒ No

Workload environment ☒ Development ☐ Production

Review + create Next: Networking >

¹ Serverless databases are billed in vCore seconds based on a combination of CPU and memory utilization. [Learn more about serverless billing](#)

7. Agora teremos que criar um servidor para rodar o nosso banco de dados

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br
FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases >

Create SQL Database

Microsoft
manage all your resources.

Subscription *

Resource group *
[Create new](#)

1 Serverless databases are billed in vCore seconds based on a combination of CPU and memory utilization. [Learn more about serverless billing](#)

Database details

Enter required settings for this database, including picking a logical server and configuring the compute and storage resources

Database name *

Server *
[Create new](#)

☒ The value must not be empty.

Want to use SQL elastic pool? ☐ Yes ☒ No

Workload environment
☒ Development
☐ Production

[Review + create](#) [Next: Networking >](#)

8. Para isso damos um nome ao servidor e escolhemos a região mais próxima

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br
FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases > Create SQL Database >

Create SQL Database Server

Microsoft

Server details

Enter required settings for this server, including providing a name and location. This server will be created in the same subscription and resource group as your database.

Server name *
.database.windows.net

Location *

Authentication

! Azure Active Directory (Azure AD) is now Microsoft Entra ID. [Learn more](#)

Select your preferred authentication methods for accessing this server. Create a server admin login and password to access your server with SQL authentication, select only Microsoft Entra authentication [Learn more](#) using an existing Microsoft Entra user, group, or application as Microsoft Entra admin [Learn more](#), or select both SQL and Microsoft

[OK](#)

9. Após isso teremos que configurar o usuário e a senha para acesso, clicando neste botão:

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br
FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases > Create SQL Database >

Create SQL Database Server

Microsoft

Authentication

! Azure Active Directory (Azure AD) is now Microsoft Entra ID. [Learn more](#)

Select your preferred authentication methods for accessing this server. Create a server admin login and password to access your server with SQL authentication, select only Microsoft Entra authentication [Learn more](#) using an existing Microsoft Entra user, group, or application as Microsoft Entra admin [Learn more](#), or select both SQL and Microsoft

Authentication method
☒ Use Microsoft Entra-only authentication
☐ Use both SQL and Microsoft Entra authentication
☐ Use SQL authentication

Set Microsoft Entra admin * **Not Selected**
[Set admin](#)

[OK](#)

10. Após isso podemos configurar o login de administrador e senha e clicar em OK para finalizar a criação do nosso servidor:

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br
FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases > Create SQL Database >

Create SQL Database Server

Microsoft

ⓘ Azure Active Directory (Azure AD) is now Microsoft Entra ID. [Learn more](#)

Select your preferred authentication methods for accessing this server. Create a server admin login and password to access your server with SQL authentication, select only Microsoft Entra authentication [Learn more](#) or using an existing Microsoft Entra user, group, or application as Microsoft Entra admin [Learn more](#) or, or select both SQL and Microsoft Entra authentication.

Authentication method

- ☐ Use Microsoft Entra-only authentication
- ☐ Use both SQL and Microsoft Entra authentication
- ☒ Use SQL authentication

Server admin login *

Password *

Confirm password *

OK

11. Agora já podemos selecioná-lo

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br
FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases >

Create SQL Database

Microsoft

Database details

Enter required settings for this database, including picking a logical server and configuring the compute and storage resources

Database name *

Server *

Want to use SQL elastic pool? ☐ Yes ☒ No

Workload environment

- ☒ Development
- ☐ Production

ⓘ Default settings provided for Development workloads. Configurations can be modified as needed.

Review + create

Next : Networking >

12. Também é importante configurarmos o nosso banco de dados de acordo com a nossa necessidade para evitar desperdício de recursos e consequentemente dinheiro, para isso devemos clicar em “Configurar bando de dados”

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br

FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases >

Create SQL Database

Microsoft

Want to use SQL elastic pool? ☐ Yes ☒ No

Workload environment ☒ Development ☐ Production

Default settings provided for Development workloads. Configurations can be modified as needed.

Compute + storage * ☐ **General Purpose - Serverless**
Standard-series (Gen5), 1 vCore, 32 GB storage
[Configure database](#)

Backup storage redundancy

Choose how your PITR and LTR backups are replicated. Geo restore or ability to recover from regional outage is only available when geo-redundant storage is selected.

Backup storage redundancy ☐ Locally-redundant backup storage ☐ Zone-redundant backup storage

[Review + create](#) [Next : Networking >](#)

13. Como estamos criando um banco de dados de teste, não precisaremos de muitos recursos, portanto selecionaremos a opção mais barata:

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br

FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases >

Configure

Feedback

Service and compute tier

Select from the available tiers based on the needs of your workload. The vCore model provides a wide range of configuration controls and offers Hyperscale and Serverless to automatically scale your database based on your workload needs. Alternately, the DTU model provides set price/performance packages to choose from for easy configuration. [Learn more](#)

SQL Database Hyperscale: Low price, high scalability, and best feature set. [Learn more](#)

Service tier **General Purpose (Most budget friendly)**

Compute tier **Serverless** - Compute resources are auto-scaled. Billed per second based on vCores used.

Compute Hardware

Select the hardware configuration based on your workload requirements. Availability of compute optimized, memory optimized, and confidential computing hardware depends on the region, service tier, and compute tier.

[Apply](#)

Cost summary

General Purpose (GP_S_Gen5_1)

Cost per GB (in USD) 0.22

Max storage selected (in GB) x 41.6

ESTIMATED STORAGE COST / MONTH 9.09 USD

COMPUTE COST / VCORE SECOND ¹ 0.000275 USD

NOTES

¹ Serverless databases are billed in vCore seconds based

14. Após isso basta clicar em “Apply” e em seguida avançar para a parte de Networking:

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br

FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases >

Configure

Feedback

Service and compute tier

Select from the available tiers based on the needs of your workload. The vCore model provides a wide range of configuration controls and offers Hyperscale and Serverless to automatically scale your database based on your workload needs. Alternately, the DTU model provides set price/performance packages to choose from for easy configuration. [Learn more](#)

SQL Database Hyperscale: Low price, high scalability, and best feature set. [Learn more](#)

Service tier **Basic (For less demanding workloads)**

DTUs [Compare DTU options](#)

5 (Basic)

Data max size (GB)

[Apply](#)

Cost summary

Basic (Basic)

Cost per DTU (in USD) 1.19

DTUs selected x 5

ESTIMATED COST / MONTH 5.93 USD

Microsoft Azure

Search resources, services, and docs (G+/I)

Copilot

Home > SQL databases >

Create SQL Database

Microsoft

Compute + storage *

Basic
2 GB storage
[Configure database](#)

Backup storage redundancy

Choose how your PITR and LTR backups are replicated. Geo restore or ability to recover from regional outage is only available when geo-redundant storage is selected.

Backup storage redundancy

- ☐ Locally-redundant backup storage
- ☐ Zone-redundant backup storage
- ☒ Geo-redundant backup storage

Selected value for backup storage redundancy is Geo-redundant backup storage. Database backups will be geo-replicated which might impact your data residency requirements. [Learn more](#)

[Review + create](#) [Next : Networking >](#)

15. Aqui devemos selecionar a opção de Endpoint Público, para poder permitir conexões externas:

Microsoft Azure

Search resources, services, and docs (G+/I)

Copilot

Home > SQL databases >

Create SQL Database

Microsoft

Basics **Networking** Security Additional settings Tags Review + create

Configure network access and connectivity for your server. The configuration selected below will apply to the selected server 'servidor552270' and all databases it manages. [Learn more](#)

Network connectivity

Choose an option for configuring connectivity to your server via public endpoint or private endpoint. Choosing no access creates with defaults and you can configure connection method after server creation. [Learn more](#)

Connectivity method *

- ☐ No access
- ☒ Public endpoint
- ☐ Private endpoint

Firewall rules

Setting 'Allow Azure services and resources to access this server' to Yes allows communications from all resources inside the Azure boundary, that may or may not be part of your subscription. [Learn more](#)

Setting 'Add current client IP address' to Yes will add an entry for your client IP address to the server firewall.

Allow Azure services and resources to access this server *

☒ No ☐ Yes

[Review + create](#) [Previous](#) [Next : Security >](#)

SQL

Cost summary

Basic (Basic)	
Cost per DTU (in USD)	1.19
DTUs selected	x 5
ESTIMATED COST / MONTH	5.93 USD

16. Aqui devemos habilitar essas duas opções para que ele selecione e armazene o IP atual do cliente:

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br

FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases >

Create SQL Database

Microsoft

Connectivity method *

☐ No access

☒ Public endpoint

☐ Private endpoint

Firewall rules

Setting 'Allow Azure services and resources to access this server' to 'Yes' allows communications from all resources inside the Azure boundary, that may or may not be part of your subscription. [Learn more](#)

Setting 'Add current client IP address' to 'Yes' will add an entry for your client IP address to the server firewall.

Allow Azure services and resources to access this server *

☐ No ☒ Yes

Add current client IP address *

☐ No ☒ Yes

Connection policy

Configure how clients communicate with your SQL database server. [Learn more](#)

Connection policy

☒ Default - Uses Redirect policy for all client connections originating inside of Azure (except Private Endpoint connections) and Proxy for all client connections originating outside Azure

☐ Proxy - All connections are proxied via the Azure SQL Database gateways

☐ Redirect - Clients establish connections directly to the node hosting the database

Cost summary

Basic (Basic)	
Cost per DTU (in USD)	1.19
DTUs selected	x 5
ESTIMATED COST / MONTH	5.93 USD

Review + create

< Previous

Next : Security >

17. Após isso podemos seguir para "Security":

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br

FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases >

Create SQL Database

Microsoft

Add current client IP address *

☐ No ☒ Yes

Connection policy

Configure how clients communicate with your SQL database server. [Learn more](#)

Connection policy

☒ Default - Uses Redirect policy for all client connections originating inside of Azure (except Private Endpoint connections) and Proxy for all client connections originating outside Azure

☐ Proxy - All connections are proxied via the Azure SQL Database gateways

☐ Redirect - Clients establish connections directly to the node hosting the database

Encrypted connections

This server supports encrypted connections using Transport Layer Security (TLS). For information on TLS version and certificates, refer to connecting with TLS/SSL. [Learn more](#)

Minimum TLS version

TLS 1.2

Review + create

< Previous

Next : Security >

18. Aqui podemos deixar tudo como padrão e seguir para configurações adicionais:

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br

FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases >

Create SQL Database

Microsoft

Basics Networking **Security** Additional settings Tags Review + create

Microsoft Defender for SQL

Protect your data using Microsoft Defender for SQL, a unified security package including vulnerability assessment and advanced threat protection for your server. [Learn more](#)

Get started with a 30 day free trial period, and then 15 USD/server/month.

Enable Microsoft Defender for SQL *

☐ Start free trial

☒ Not now

Ledger

Ledger cryptographically verifies the integrity of your data and detects any tampering that might have occurred. [Learn more](#)

Ledger

Not configured

[Configure ledger](#)

Server identity

Review + create

< Previous

Next : Additional settings >

Cost summary

Basic (Basic)	
Cost per DTU (in USD)	1.19
DTUs selected	x 5
ESTIMATED COST / MONTH	5.93 USD

19. Aqui também podemos deixar tudo com padrão e seguir para “Tags”:

Microsoft Azure

Home > SQL databases >

Create SQL Database

Microsoft

Basics Networking Security **Additional settings** Tags Review + create

Customize additional configuration parameters including collation & sample data.

Data source

Start with a blank database, restore from a backup or select sample data to populate your new database.

Use existing data * None Backup Sample

Database collation

Database collation defines the rules that sort and compare data, and cannot be changed after database creation. The default database collation is SQL_Latin1_General_CP1_CI_AS. [Learn more](#)

Collation * [Find a collation](#)

Maintenance window

Select a preferred maintenance window from the drop-down. During maintenance, databases remain available, but some updates may require a failover. The system default maintenance window (5pm to 8am) limits most activities to this time, but urgent updates may occur outside of it. To ensure all updates occur only during the maintenance window, select a maintenance window.

Review + create < Previous Next: Tags >

Cost summary

Basic (Basic)	
Cost per DTU (in USD)	1.19
DTUs selected	x 5
ESTIMATED COST / MONTH	5.93 USD

20. Para melhor visualização e compreensão dos custos é importante adicionarmos Rótulos para a nossa aplicação e após isso podemos seguir para revisão:

Microsoft Azure

Home > SQL databases >

Create SQL Database

Microsoft

Basics Networking Security Additional settings **Tags** Review + create

Tags are name/value pairs that enable you to categorize and view consolidated billing by applying the same tag to multiple resources and resource groups. [Learn more](#)

Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.

Name	Value	Resource
CP Depto financeiro	CP SQL Server Database	2 selected
		2 selected

Review + create < Previous Next: Review + create >

Cost summary

Basic (Basic)	
Cost per DTU (in USD)	1.19
DTUs selected	x 5
ESTIMATED COST / MONTH	5.93 USD

21. Na parte de revisão já podemos ter uma boa ideia dos custos da nossa aplicação, que neste caso irá consumir aproximadamente 6 dólares por mês:

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br
FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases >

Create SQL Database

Microsoft

Basics Networking Security Additional settings Tags **Review + create**

Product details

SQL database by Microsoft
[Terms of use](#) | [Privacy policy](#)

Estimated cost per month
5.93 USD

Terms

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. For additional details see [Azure Marketplace Terms](#).

Basics

Subscription: Breno Santiago
Resource group: RM_552270

Cost summary

Basic (Basic)	
Cost per DTU (in USD)	1.19
DTUs selected	x 5
ESTIMATED COST / MONTH	5.93 USD

[Create](#) [Previous](#) [Download a template for automation](#)

22. Após isso podemos criar a nossa aplicação clicando no botão de criação:

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br
FIAP-FACULDADE DE INFORMÁTICA

Home > SQL databases >

Create SQL Database

Microsoft

Database level customer-managed key: Not configured
Database level user assigned managed identity: Not configured
Advanced data security: Not now
Always encrypted with secure enclaves: Not configured
Sql Ledger(Database): Disabled
Digest Storage: Disabled

Additional settings

Use existing data: Blank
Collation: SQL_Latin1_General_CP1_CI_AS
Maintenance window: System default (5pm to 8am)

Tags

CP Depto financeiro: CP SQL Server Database (Database)
CP Depto financeiro: CP SQL Server Database (Server)

[Create](#) [Previous](#) [Download a template for automation](#)

23. Após a criação do banco de dados, clique no botão para ir para o recurso:

Home >

Microsoft.SQLDatabase.newDatabaseNewServer_30eb65cd072346e9bb69e | Overview

Deployment

Search

Delete Cancel Redeploy Download Refresh

Overview

Inputs

Outputs

Template

Your deployment is complete

Deployment name: Microsoft.SQLDatabase.newDatabaseNewServer_30eb65cd072346e9bb69e
Subscription: Breno Santiago
Resource group: RM_552270

Start time: 9/3/2024, 9:07:15 AM
Correlation ID: 9dfa3f04-5ce0-41d3-9634-34f7752c01...

Deployment details

Next steps

[Go to resource](#)

Give feedback
[Tell us about your experience with deployment](#)

Cost management

Get notified to stay within your budget and prevent unexpected charges on your bill.
[Set up cost alerts >](#)

Microsoft Defender for Cloud

Secure your apps and infrastructure
[Go to Microsoft Defender for Cloud >](#)

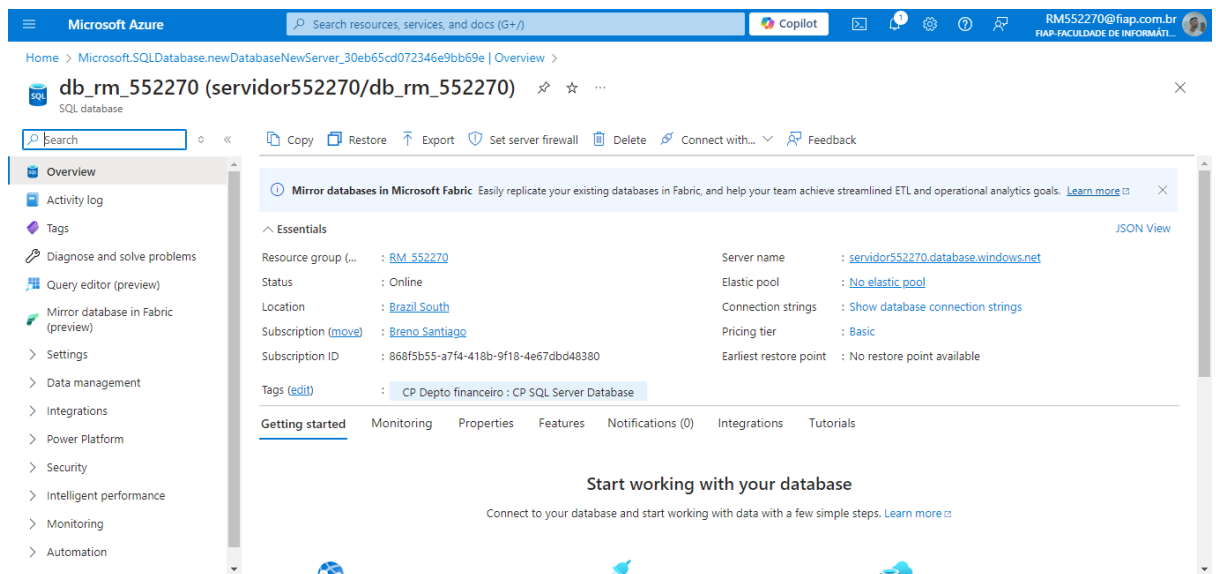
Free Microsoft tutorials

[Start learning today >](#)

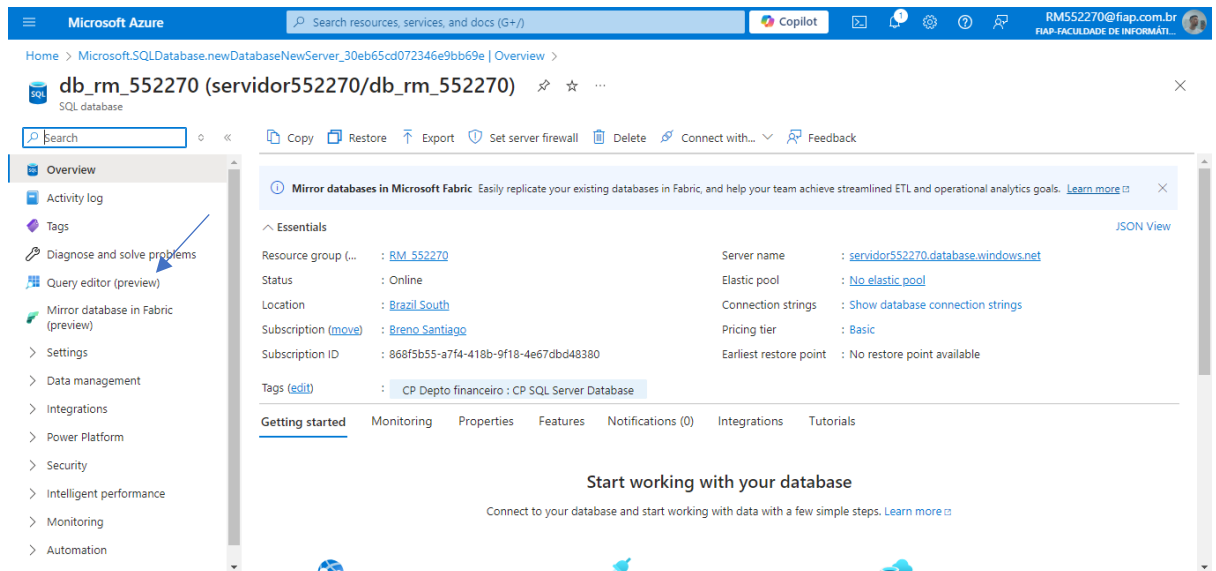
Work with an expert

Azure experts are service provider partners who can help manage your assets on

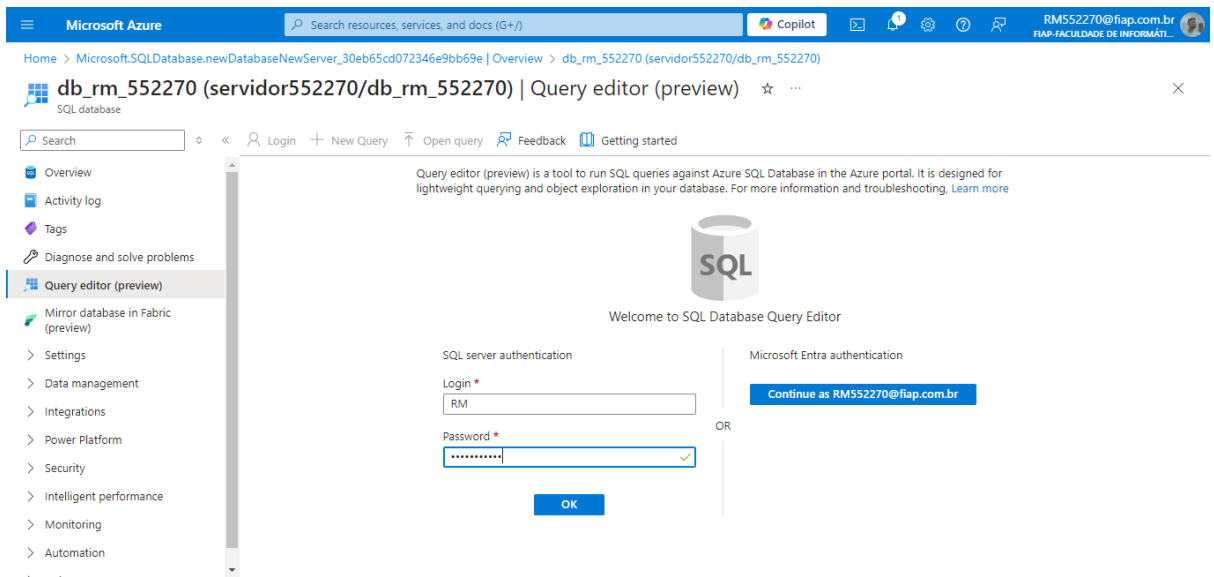
24. Na próxima tela temos uma visão geral do nosso recurso



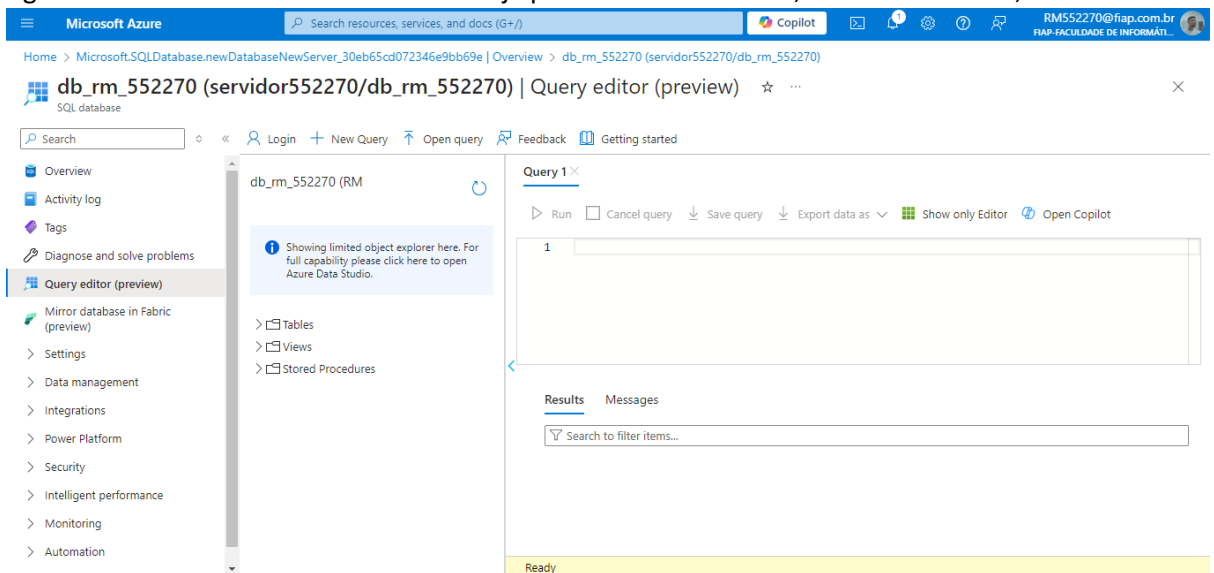
25. Agora iremos criar algumas tabelas no banco de dados, para isso devemos abrir o “Query editor”



26. Agora basta fazermos login no banco de dados com o login e senha que configuramos:



27. Agora temos acesso ao banco de dados e já podemos criar tabelas, realizar consultas, etc.



28. Para criar as tabelas iremos utilizar este código de exemplo:

```
CREATE TABLE Clientes
(
  IdCliente NUMERIC (10),
  Nome VARCHAR(60) NOT NULL,
  SexoCliente CHAR(01) NOT NULL,
  email VARCHAR(60) NOT NULL,

  CONSTRAINT PK_Cliente PRIMARY KEY (IdCliente),
  CONSTRAINT CH_Cliente CHECK (SexoCliente IN ('F', 'M'))
)

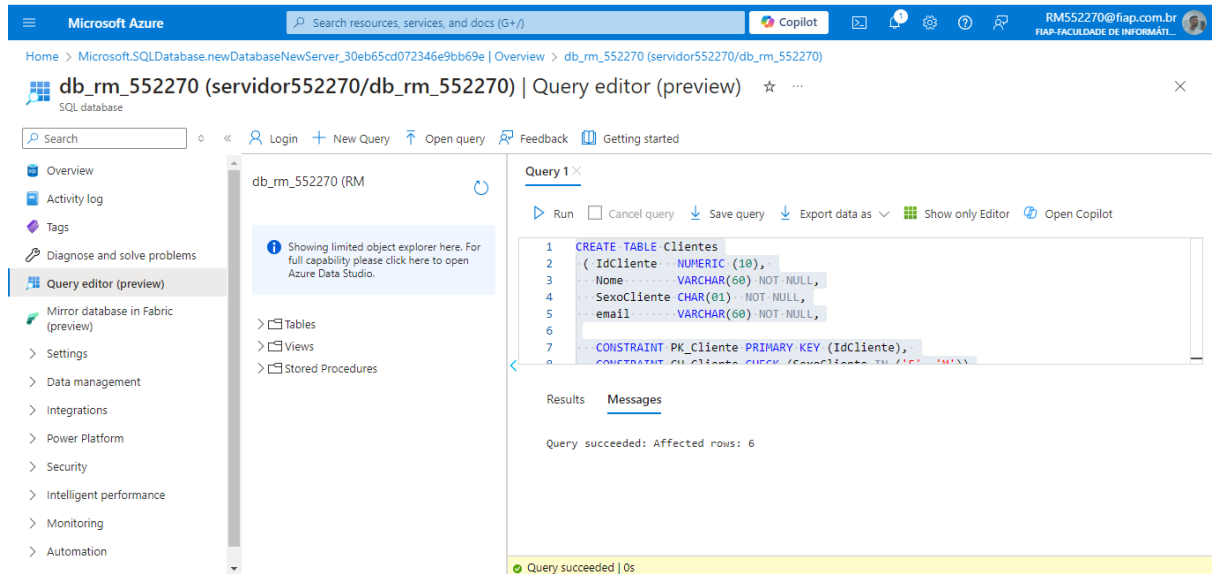
CREATE TABLE Documentos
(
  IdDocumento NUMERIC (10),
  IdCliente NUMERIC (10),
  TipoDocumento VARCHAR(25) NOT NULL,
  NumeroDocumento VARCHAR(15) NOT NULL,

  CONSTRAINT PK_Documento PRIMARY KEY (IdDocumento),
  CONSTRAINT FK_IdCliente FOREIGN KEY (IdCliente) REFERENCES Clientes (IdCliente)
)

INSERT INTO Clientes VALUES(1, 'Jimi Hendrix', 'M', 'jimi@fiap.com.br')
INSERT INTO Clientes VALUES(2, 'Robert Plant', 'M', 'plant@fiap.com.br')
INSERT INTO Clientes VALUES(3, 'Amy Lee', 'F', 'amylee@fiap.com.br')

INSERT INTO Documentos VALUES(1, 1, 'RG', '44.888.123.4')
INSERT INTO Documentos VALUES(2, 2, 'CPF', '111.900.543-00')
INSERT INTO Documentos VALUES(3, 3, 'RG', '55.777.321.0')
```

29. Rodando esse código já conseguimos criar as tabelas



Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br
FIAP-FACULDADE DE INFORMÁTICA

Home > Microsoft.SqlDatabase.newDatabaseNewServer_30eb65cd072346e9bb69e | Overview > db_rm_552270 (servidor552270/db_rm_552270)

db_rm_552270 (servidor552270/db_rm_552270) | Query editor (preview) ☆ ...

SQL database

Search

« Login + New Query ↑ Open query Feedback Getting started

Overview

Activity log

Tags

Diagnose and solve problems

Query editor (preview)

Mirror database in Fabric (preview)

Settings

Data management

Integrations

Power Platform

Security

Intelligent performance

Monitoring

Automation

db_rm_552270 (RM)

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

Tables

Views

Stored Procedures

Query 1

Run Cancel query Save query Export data as Show only Editor Open Copilot

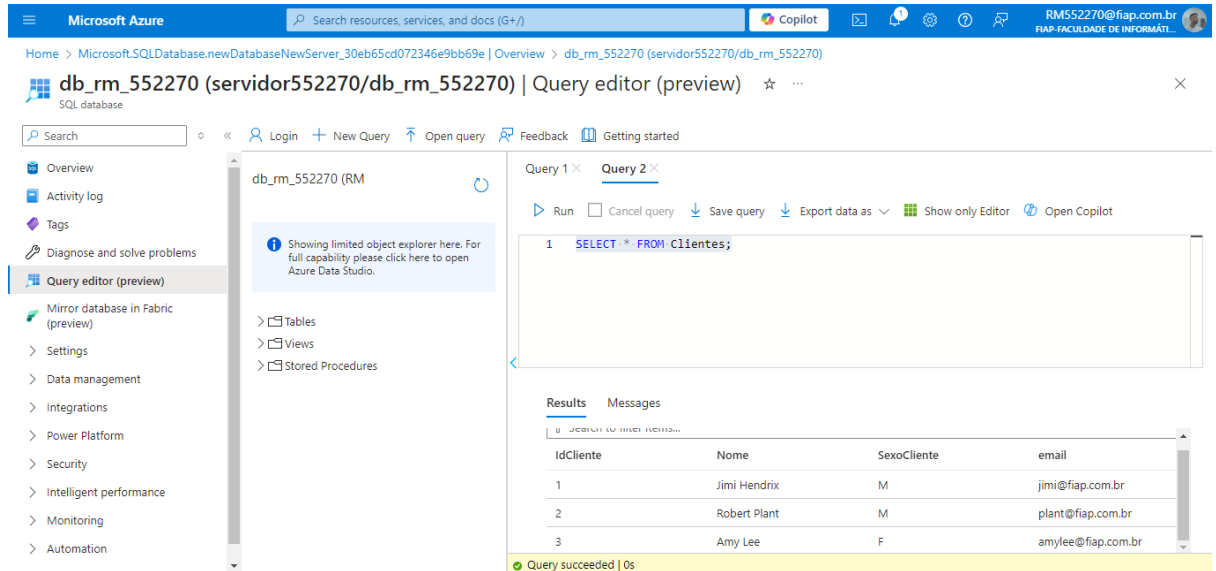
```
1 CREATE TABLE Clientes
2 (
3   IdCliente NUMERIC(10),
4   Nome VARCHAR(60) NOT NULL,
5   SexoCliente CHAR(01) NOT NULL,
6   email VARCHAR(60) NOT NULL,
7   CONSTRAINT PK_Cliente PRIMARY KEY (IdCliente),
8   CONSTRAINT FK_Cliente CHECK (SexoCliente IN ('M', 'F'))
9 )
```

Results Messages

Query succeeded: Affected rows: 6

Query succeeded | 0s

30. Agora podemos rodar um select para visualizar os dados que quisermos:



Microsoft Azure

Search resources, services, and docs (G+)

Copilot

RM552270@fiap.com.br
FIAP-FACULDADE DE INFORMÁTICA

Home > Microsoft.SqlDatabase.newDatabaseNewServer_30eb65cd072346e9bb69e | Overview > db_rm_552270 (servidor552270/db_rm_552270)

db_rm_552270 (servidor552270/db_rm_552270) | Query editor (preview) ☆ ...

SQL database

Search

« Login + New Query ↑ Open query Feedback Getting started

Overview

Activity log

Tags

Diagnose and solve problems

Query editor (preview)

Mirror database in Fabric (preview)

Settings

Data management

Integrations

Power Platform

Security

Intelligent performance

Monitoring

Automation

db_rm_552270 (RM)

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

Tables

Views

Stored Procedures

Query 1

Query 2

Run Cancel query Save query Export data as Show only Editor Open Copilot

```
1 SELECT * FROM Clientes;
```

Results Messages

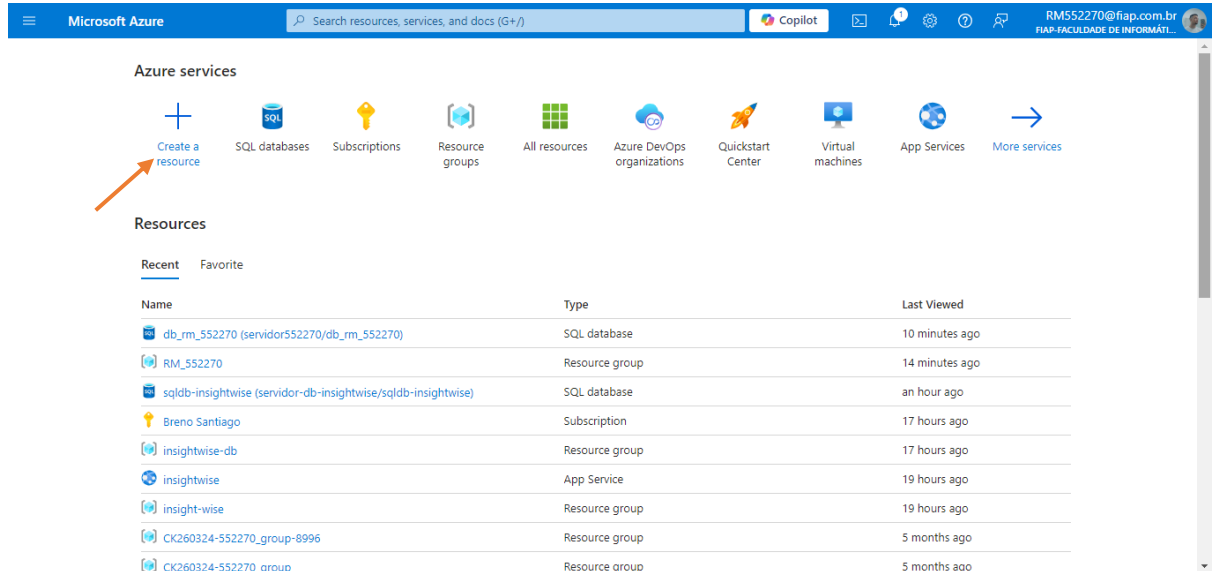
IdCliente	Nome	SexoCliente	email
1	Jimi Hendrix	M	jimi@fiap.com.br
2	Robert Plant	M	plant@fiap.com.br
3	Amy Lee	F	amylee@fiap.com.br

Query succeeded: Affected rows: 3

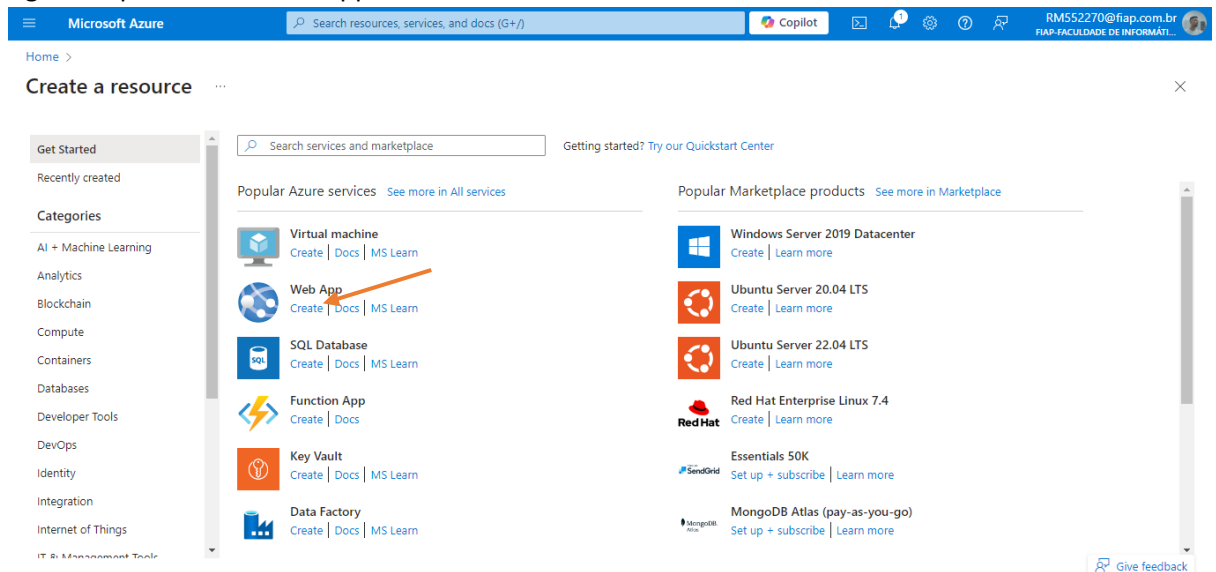
Query succeeded | 0s

criação de um web app com php no azure

1. Acesse o <https://portal.azure.com/>
2. Clique em criar um recurso



3. Agora clique em criar web app:



4. Agora selecione o Grupo de recursos que criamos e dê um nome para o seu webapp

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

Home > Create a resource >

Create Web App

platform to perform infrastructure maintenance. [Learn more](#)

Project Details

Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *

Resource Group * [Create new](#)

Instance Details

Name * [-e7grehercx5ekgb.eastus-01.azurewebsites.net](#)

☒ Unique default hostname (preview) on. [More about this update](#)

Publish *

☒ Code ☐ Container ☐ Static Web App

Runtime stack *

Select a runtime stack

Operating System

☒ Linux ☐ Windows

[Review + create](#) [< Previous](#) [Next: Database >](#)

5. Em Runtime stack escolhemos a linguagem que iremos utiliza, que no caso será PHP:

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

Home > Create a resource >

Create Web App

Instance Details

Name * [-e7grehercx5ekgb.eastus-01.azurewebsites.net](#)

☒ Unique default hostname (preview) on. [More about this update](#)

Publish *

☒ Code ☐ Container ☐ Static Web App

Runtime stack *

Select a runtime stack

Node 20 LTS

Node 18 LTS

PHP

PHP 8.3

PHP 8.2

Python

Python 3.12

Pricing plans

App Service plan pricing tier determines the location, features, cost and compute resources associated with your app. [Learn more](#)

Linux Plan (Brazil South) * [Create new](#)

Pricing plan

[Explore pricing plans](#)

[Review + create](#) [< Previous](#) [Next: Database >](#)

6. Como estamos criando um recurso apenas para teste podemos escolher o plano gratuito:

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

Home > Create a resource >

Create Web App

Pricing plans

App Service plan pricing tier determines the location, features, cost and compute resources associated with your app. [Learn more](#)

Linux Plan (Brazil South) * [Create new](#)

Pricing plan

[Explore pricing plans](#)

Zone redundancy

An App Service plan can be deployed as a zone redundant service in the regions that support it. This is a deployment time only decision. You can't make an App Service plan zone redundant after it has been deployed. [Learn more](#)

Zone redundancy

☐ Enabled: Your App Service plan and the apps in it will be zone redundant. The minimum App Service plan instance count will be three.

☒ Disabled: Your App Service Plan and the apps in it will not be zone redundant. The minimum App Service plan instance count will be one.

[Review + create](#) [< Previous](#) [Next: Database >](#)

7. Com essas configurações já podemos criar o nosso Web App:

Microsoft Azure Search resources, services, and docs (G+/)

Home > Create a resource >

Create Web App

Pricing plans
App Service plan pricing tier determines the location, features, cost and compute resources associated with your app. [Learn more](#)

Linux Plan (Brazil South) * ☐ (New) ASP-RM552270-8f2a [Create new](#)

Pricing plan: Free F1 (Shared infrastructure) [Explore pricing plans](#)

Zone redundancy
An App Service plan can be deployed as a zone redundant service in the regions that support it. This is a deployment time only decision. You can't make an App Service plan zone redundant after it has been deployed. [Learn more](#)

Zone redundancy: ☐ Enabled: Your App Service plan and the apps in it will be zone redundant. The minimum App Service plan instance count will be three. ☒ Disabled: Your App Service Plan and the apps in it will not be zone redundant. The minimum App Service plan instance count will be one.

[Review + create](#) < Previous Next: Database >

8. O processo é parecido com a criação do banco de dados e deveremos ver a seguinte tela após a criação:

Microsoft Azure Search resources, services, and docs (G+/)

Home > Microsoft.Web-WebApp-Portal-bd517e2b-92d7 | Overview

Deployment

Search x < Delete Cancel Redeploy Download Refresh

Overview Inputs Outputs Template

Your deployment is complete

Deployment name: Microsoft.Web-WebApp-Portal-bd517... Start time: 9/3/2024, 9:28:56 AM
Subscription: Breno Santiago Correlation ID: ecd21dc0-4e07-45a2-be17-9960969b3f4
Resource group: RM_552270

Deployment details

Next steps
[Manage deployments for your app.](#) Recommended
[Protect your app with authentication.](#) Recommended

[Go to resource](#)

Give feedback
[Tell us about your experience with deployment](#)

Cost Management
Get notified to stay within your budget and prevent unexpected charges on your bill. [Set up cost alerts >](#)

Microsoft Defender for Cloud
Secure your apps and infrastructure. [Go to Microsoft Defender for Cloud >](#)

Free Microsoft tutorials
[Start learning today](#)

Work with an expert
Azure experts are service provider partners who can help manage your assets on Azure

9. Podemos clicar em ir para Recurso e veremos a seguinte tela com informações gerais sobre a nossa aplicação, note que como escolhemos um plano gratuito, a aplicação não irá nos custar nada, diferente do banco de dados:

Microsoft Azure Search resources, services, and docs (G+/)

Home > rm-fiap-checkpoint88 | Overview

Web App

Search x < Browse Stop Swap Restart Delete Refresh Download publish profile Reset publish profile Share to mobile ...

Essentials

Resource group (...): BM_552270 Default domain: rm-fiap-checkpoint88-drcdh0abf6d0a7an.brazil-south-...
Status: Running App Service Plan: ASP-RM552270-8f2a (F1: 1)
Location (move): Brazil South Operating System: Linux
Subscription (move): Breno Santiago Health Check: Cannot fetch health check data. Please try again later.
Subscription ID: 868f5b55-a7f4-418b-9f18-4e67dbd48380
Tags (edit): CP Depto financeiro : Web App PHP

Properties **Monitoring** Logs Capabilities Notifications Recommendations

Key Metrics [See all metrics](#)
Show data for the last : 1 hour

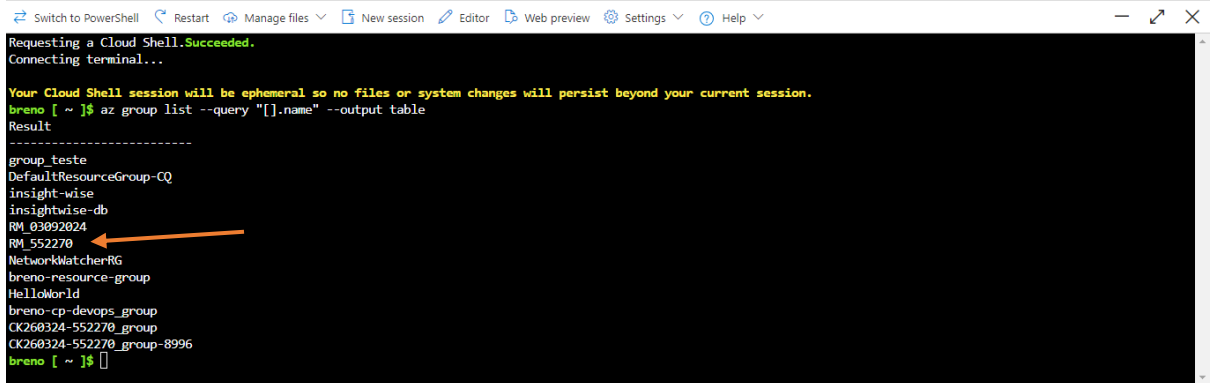
Http 5xx [↗](#)

Data In [↗](#)

Data Out [↗](#)

LISTAGEM DOS RECURSOS PELO CLI

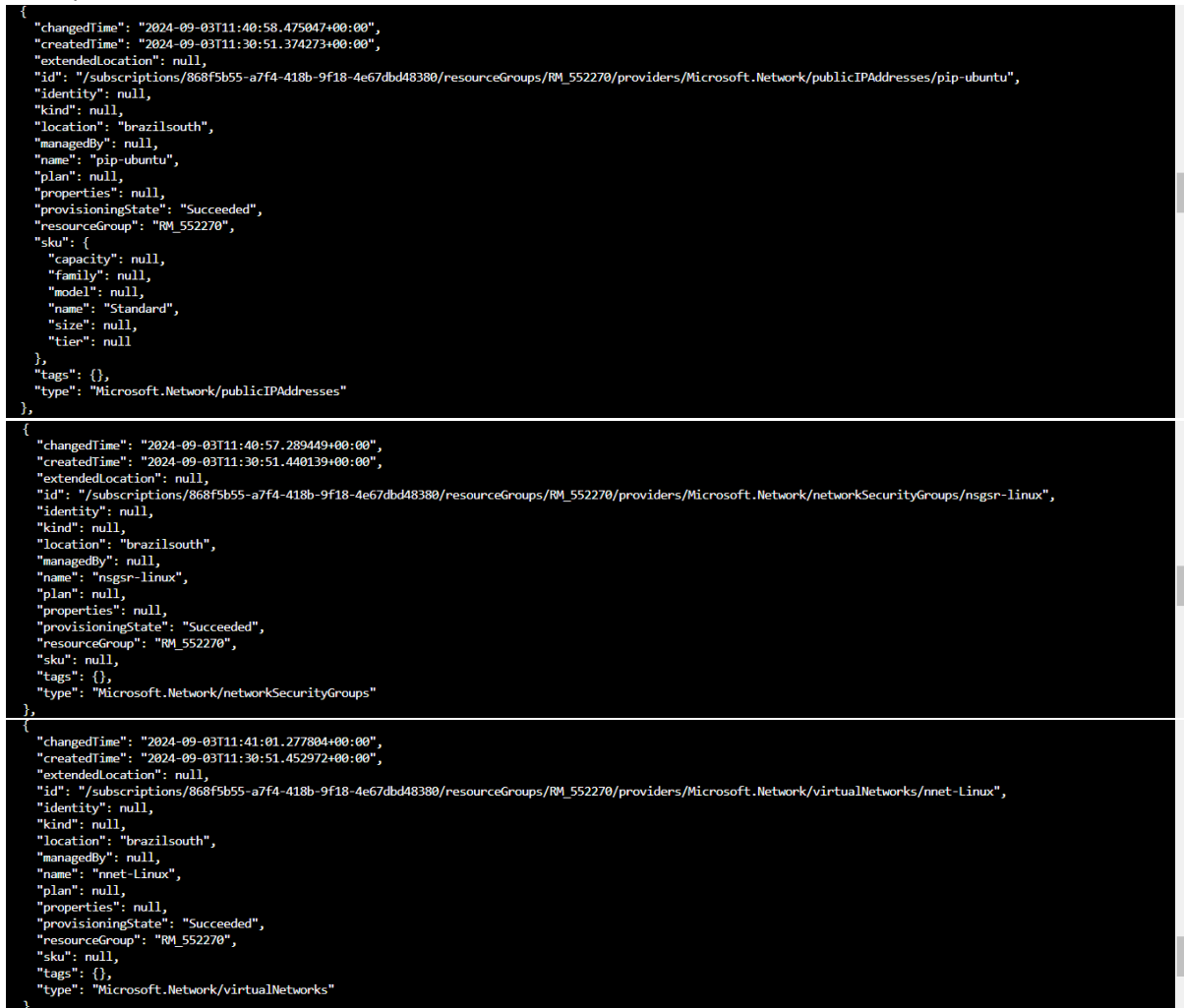
1. Acesse o mesmo CLI que utilizamos para criar nosso grupo de recursos
2. Primeiro vamos visualizar o grupo de recursos que criamos digitando: “az group list --query “[].name” --output table” assim podemos ver o nosso recurso:



```
Switch to PowerShell Restart Manage files New session Editor Web preview Settings Help
Requesting a Cloud Shell.Succeeded.
Connecting terminal...

Your Cloud Shell session will be ephemeral so no files or system changes will persist beyond your current session.
breno [ ~ ]$ az group list --query "[].name" --output table
Result
-----
group_teste
DefaultResourceGroup-CQ
insight-wise
insightwise-db
RM_03092024
RM_552270
NetworkWatcherRG
breno-resource-group
HelloWorld
breno-cp-devops_group
CK260324-552270_group
CK260324-552270_group-8996
breno [ ~ ]$
```

3. Agora para visualizar os recursos que criamos podemos rodar o comando “az resource list” onde podemos ver todos os nossos recursos:



```
{
  "changedTime": "2024-09-03T11:40:58.475047+00:00",
  "createdTime": "2024-09-03T11:30:51.374273+00:00",
  "extendedLocation": null,
  "id": "/subscriptions/868f5b55-a7f4-418b-9f18-4e67dbd48380/resourceGroups/RM_552270/providers/Microsoft.Network/publicIPAddresses/pip-ubuntu",
  "identity": null,
  "kind": null,
  "location": "brazilsouth",
  "managedBy": null,
  "name": "pip-ubuntu",
  "plan": null,
  "properties": null,
  "provisioningState": "Succeeded",
  "resourceGroup": "RM_552270",
  "sku": {
    "capacity": null,
    "family": null,
    "model": null,
    "name": "Standard",
    "size": null,
    "tier": null
  },
  "tags": {},
  "type": "Microsoft.Network/publicIPAddresses"
},

{
  "changedTime": "2024-09-03T11:40:57.289449+00:00",
  "createdTime": "2024-09-03T11:30:51.440139+00:00",
  "extendedLocation": null,
  "id": "/subscriptions/868f5b55-a7f4-418b-9f18-4e67dbd48380/resourceGroups/RM_552270/providers/Microsoft.Network/networkSecurityGroups/nsgsr-linux",
  "identity": null,
  "kind": null,
  "location": "brazilsouth",
  "managedBy": null,
  "name": "nsgsr-linux",
  "plan": null,
  "properties": null,
  "provisioningState": "Succeeded",
  "resourceGroup": "RM_552270",
  "sku": null,
  "tags": {},
  "type": "Microsoft.Network/networkSecurityGroups"
},

{
  "changedTime": "2024-09-03T11:41:01.277804+00:00",
  "createdTime": "2024-09-03T11:30:51.452972+00:00",
  "extendedLocation": null,
  "id": "/subscriptions/868f5b55-a7f4-418b-9f18-4e67dbd48380/resourceGroups/RM_552270/providers/Microsoft.Network/virtualNetworks/nnet-linux",
  "identity": null,
  "kind": null,
  "location": "brazilsouth",
  "managedBy": null,
  "name": "nnet-linux",
  "plan": null,
  "properties": null,
  "provisioningState": "Succeeded",
  "resourceGroup": "RM_552270",
  "sku": null,
  "tags": {},
  "type": "Microsoft.Network/virtualNetworks"
},
```

VISUALIZANDO CUSTOS

1. Para visualizar os custos das nossas aplicações basta acessarmos a nossa subscription:

The screenshot shows the Microsoft Azure portal interface. At the top, there's a navigation bar with the Microsoft Azure logo, a search bar, and user information. Below the navigation bar, there's a section for 'Azure services' with various icons like 'Create a resource', 'Subscriptions', 'SQL databases', etc. An orange arrow points to the 'Subscriptions' icon. Below this, there's a 'Resources' section with a table showing 'Recent' and 'Favorite' resources. A message states 'No resources have been viewed recently' with a 'View all resources' button. At the bottom, there's a 'Navigate' section. The main content area shows the 'Subscriptions' page with a search bar, filters, and a table of subscriptions. An orange arrow points to the 'Breno Santiago' subscription in the table.

Subscription name	Subscription ID	My role	Current cost	Secure Score	Parent management group	Status
Breno Santiago	868f5b55-a7f4-418b-9f18-4e67dbd48...	Owner	Not available	-	Tenant Root Group	Active

2. E com isso já podemos ver todos os custos que os nossos recursos estão gerando:

The screenshot shows the 'Breno Santiago' subscription details page in the Microsoft Azure portal. The page has a left sidebar with navigation links like 'Overview', 'Activity log', 'Access control (IAM)', etc. The main content area shows 'Essentials' with subscription details like 'Subscription ID', 'Directory', 'Status', and 'Parent management group'. Below this, there are three main sections: 'Spending rate and forecast' with a line chart showing current cost (R\$0.63) and forecast (R\$0.63); 'Costs by resource' with a donut chart showing a total of R\$0.63; and 'Top free services by usage' with a table showing usage for various services like 'Networking, Data Transfer Out (GB)' and 'Azure Cosmos DB, Free Data Stored'.

Service	Usage
Networking, Data Transfer Out (GB)	0 / 15 (1 GB)
Azure Cosmos DB, Free Data Stored	0 / 25 (1 GB/Month)
Azure Cosmos DB, Free ...	0 / 2976 (1/Hour)