

THEORETICAL: Explain some of the practical benefits of using the cloud

According to <https://cloudacademy.com/>

10 Benefits of Using Cloud Storage

1. Usability and accessibility

Most all of the cloud services come with an easy-to-use user interface and provide a feature of drag and drop

2. Safety

The cloud storage saves your data across the redundant servers, so even if one of the data centers gets collapsed, your data will be managed by the other data centers, which make your data safe and supervised.

3. Cost-efficient

By using online data storage, the enterprise reduces the expenses of internal resources. With this technology, the company itself does not need any inner power and support to manage and store their data.

4. Convenient sharing of files

Every cloud storage service provides file-sharing features, which helps you to share your file with other users. You can either send a file to another user or invite multiple users to view your data

5. Automation

Cloud storage works like a hard disk on your system, and if you want to store any file in the cloud, it will not temper any ongoing task. There may be more than one user using a cloud storage service, and the current responsibility of one user would not affect the task of another since it is all is managed and automated by the cloud vendor

6. Multiple users

The same cloud environment can have more than one use associated with it. With cloud storage, multiple users can collaborate with the common file. For instance, you can give access to your files to multiple users so they can access and edit your file. The authorized person can access your file from any part of the world in real-time.

7. Synchronization

Every storage vendor gives the sync feature. With synchronization, you can sync the cloud storage data with any device you want.

8. Convenient

You do not need any hard disk or flash drive to access or view your data — all is done online.

9. Scalable


Cloud storage is scalable and flexible. If the current plan of storage is not enough, you can upgrade the service plan. And you do not need to move any data from one location to another, the extra space will be added to your storage environment with some extra features.

10. Disaster recovery

Every business has a backup storage plan where they store all the copies of their data. If they encounter any collapse or loss of data problem, they can retrieve data from their backup plan


PRACTICAL: Connect our project to an Amazon RDS database

- Select Create Database


 Try the new Amazon RDS Multi-AZ deployment option for MySQL and PostgreSQL

For your Amazon RDS for MySQL and PostgreSQL workloads, improve transactional commit latencies by 2x, experience faster failover typically less than 35 seconds and, get read scalability with two readable standby DB instances by deploying the Multi-AZ DB cluster [Learn more](#)

[Create database](#)



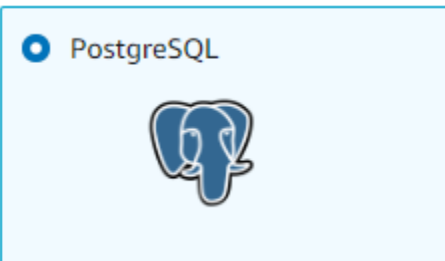
Or, Restore Multi-AZ DB Cluster from Snapshot



- Select Standard Create

- ☒ **Standard create**
You set all of the configuration options, including ones for availability, security, backups, and maintenance.

- Select Database Engine “in my case PostGreSQL”



- Select Version

My recommendation

Version

PostgreSQL 12.11-R1

- Select Free Tier

- ☒ **Free tier**
Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS.
[Info](#)

- Type DB instance identifier

“that is unique for all DB instances owned by your AWS account in the current region.
DB instance identifier is case insensitive, but stored as all lower-case, as in “mydbinstance”

DB instance identifier [Info](#)

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

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

- Master Username and password :
"In my case using postgres for poth "

▼ Credentials Settings

Master username [Info](#)

Type a login ID for the master user of your DB instance.

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), ' (single quote), " (double quote) and @ (at sign).

Confirm password [Info](#)

- select DB.t2 for testing

Instance configuration

The DB instance configuration options below are limited to those supported by the engine that you selected above.

DB instance class [Info](#)

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

1 vCPUs 1 GiB RAM Not EBS Optimized



☐ Include previous generation classes

- Type Database name in Additional Configuration

▼ **Additional configuration**

Database options, backup turned on, backtrack turned off, Performance Insights turned on, Enhanced Monitoring turned off, maintenance, CloudWatch Logs, delete protection turned off.

Database options

Initial database name [Info](#)

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

- For testing be sure that you are in free tier and there is no add cost

Estimated monthly costs


The Amazon RDS Free Tier is available to you for 12 months. Each calendar month, the free tier will allow you to use the Amazon RDS resources listed below for free:

- 750 hrs of Amazon RDS in a Single-AZ db.t2.micro, db.t3.micro or db.t4g.micro Instance.
- 20 GB of General Purpose Storage (SSD).
- 20 GB for automated backup storage and any user-initiated DB Snapshots.

[Learn more about AWS Free Tier.](#) [↗](#)

When your free usage expires or if your application use exceeds the free usage tiers, you simply pay standard, pay-as-you-go service rates as described in the [Amazon RDS Pricing page.](#) [↗](#)

- Click Create Database

 You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.

Cancel

Create database

-

- If you face connection error check DB access
Go to VPC Security groups

Connectivity & security | Monitoring | Logs & events | Configuration | Maintenance & backups | Tags

Connectivity & security

Endpoint & port	Networking	Security
Endpoint database-1.cbuvd0f6smh6.us-east-1.rds.amazonaws.com	Availability Zone us-east-1c	VPC security groups default (sg-07af2e0e2379769c1) Active
Port 5432	VPC vpc-0543f33645adb8f05	Publicly accessible Yes
	Subnet group	

- Click inbound rules
- Click Edit inbound Rule

Details | **Inbound rules** | Outbound rules | Tags

You can now check network connectivity with Reachability Analyzer [Run Reachability Analyzer](#)

Inbound rules (1/1) [Manage tags](#) [Edit inbound rules](#)

Filter security group rules

<input checked="" type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol
<input checked="" type="checkbox"/>	-	sgr-035e63e074199cd...	-	All traffic	All

- Add rule

Inbound rules [Info](#)

Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info	Description - optional Info	
sgr-035e63e074199cd85	All traffic	All	All	Custom		<div> <div>sg-07af2e0e2379769c1</div> <div>×</div> </div>

[Add rule](#) [Delete](#)

Create the following Role

All traffic ▼

All

All

My IP ▼

Q

Dele
te

Connection is now successful

