



Today, I bring you a very popular service named, **Azure SQL Database (SQL DB)**.

Oh cool, is it a relational database (DB) service?

Indeed.

Azure SQL DB, is a DB engine, where DBs are deployed on a SQL Server.

With the number of the SQL versions, it's not too complicated?

That's why it always runs the **latest stable version** of the SQL server engine.

SQL DB allows you to define and scale the performance of your DB and comes in 2 different models.

The 1st one, the **vCore model**, which allows to choose the number of vCores, the amount of memory and storage.

And the 2nd one, the **DTU model** for **Database Transaction Unit**.

The DTU offers a combination of compute, memory, and I/O resources.

It's pretty cool because it allows us to choose the model that best suits our use case.

Absolutely.

In addition, it offers 2 deployment modes.

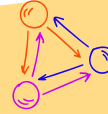
Single database which represents a completely isolated DB.

And **Elastic pool** which represents a collection of **Single database** where CPU and memory resources are shared between them.

Very ingenious when you have several databases that are not requested at the same time.

In addition, regardless of the deployment mode used, you can reduce or increase the resources as you wish.

Are there options to provide **business continuity**?



Sure.

The 1st one is active **geo-replication**.

This allows data to be replicated to a second region or the same region with **read-only access**.

Ah yes, super practical in the event of a disaster, on the 1st region, it switches to the 2nd?!

Yes, but the switch must be done manually.

If you are looking for an automatic solution, you can opt for the 2nd option: **automatic failover groups**.

It's actually an abstraction that relies on active geo-replication.

Excellent.

On the other hand, it is obviously necessary that the architecture be designed multi-region, because having only the data alone does not allow you to have a continuity plan for your application.



Excellent comment.

SQL DB also offers **automatic backups**, which allows you to restore data on demand based on your retention, with a maximum of 35 days.

Hmm, I see but what if I need to back up for longer periods?

Then you use the option, **Long Term Retention (LTR)** which offers a retention of up to 10 years.

When you perform a restore, the source DB is not overwritten, because the restore is performed on another DB on the server of your choice.



I suppose that in terms of security we are well supplied?



Yes, you can for example encrypt the data at rest, with the option **Transparent Data Encryption (TDE)**

Il existe également l'option **Always Encrypted** qui permet de chiffrer les données dites sensibles aux administrateurs des BD.

Ah I see, so there is a separation between those who hold the data and those who manage it?!

Exactly

For those who wish to limit access to the DB from the internet, you can do it at the network **Firewall** level.

And you can even activate the **Private Link**, to consume the DB through the Azure network.



I suppose that we can also export the logs to carry out **audit phases**?

Yes, these logs can be stored in a storage account, or you can send them to Event Hub or Log Analytics.

And if I want to migrate data to SQL DB, is it possible?



Obviously.

Azure offers various services, such as **Database Migration Service** which will allow you to migrate data from Oracle, DB2, or MySQL for example, to the Azure SQL DB service.

I understand why this service is so popular within Azure, it affords different options that make it suitable for different use cases.

Thank you!



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