La Minute CLOUD de JULES & LÉA

Azure
SQL Managed Instance #1

Today, we will discuss about the **SQL Managed Instance** (**SQL MI**) service.

SQL MI is a database (DB) service that offers the broadest SQL DB engine compatibility.

Is it a managed service?

Yes like SQL Database.

SQL MI is perfect for performing migrations from On-Premise environments, in lift and shift mode.

If I understood, it makes migrating to Azure easier by reducing application and DB changes?

Exactly!

Your journey to the Cloud will be easier, while modernizing your applications.

And the migration is not too complicated?

No. The product team offers **Azure Data Migration Service** (**ADMS**) which is an automated solution to support customers, in your migration project.

How are resources allocated to SQL MI?

Through the **vCore** model which allows you to choose the number of cores, the amount of memory and the storage size required.

Great. And I guess I can scale the amount of resource based on my workload?

Obviously.

Moreover, 3 configurations are offered: **Standard**, **Premium** or **Premium with optimized memory**.

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Azure SQL Managed Instance #2

In addition, SQL MI is available in two service levels.

The 1st one, **general purpose**, designed for applications with standard performance.

And the 2nd one, the **business critical**, for applications that require a low latency.

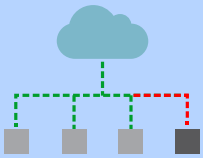
Very well. Like this, depending on the criticality of our application, we have the choice.

Concerning the network part, a **dedicated subnet** is required for SQL MI.

In addition, a NSG and a routing table are automatically associated with this subnet, in order to optimize the connection with other Azure services.

Really cool !

Another question, do we have to expose SQL MI on the internet to consume it?



Not at all.

You can of course choose to expose to internet but not only.

You also have the option of using a private endpoint for security reasons.

Nice!

And how the authentication is done to the DB?

You have the choice, either you can use **Azure Active Directory** or **SQL authentication**. And if it's required, you can even combine the both authentication.

This is great because it may actually depend on our use case.

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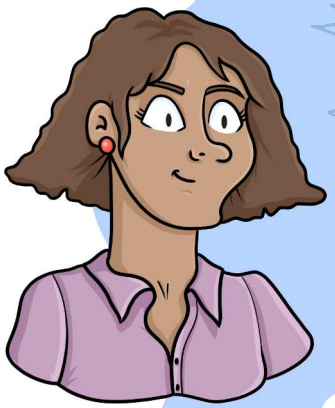
Azure
SQL Managed Instance #3

You mentioned data migration earlier?



Yes, it's true.

There are different tools to migrate your data from DB2 and Oracle type DBs.

But also from DBs hosted by other Cloud providers, whether on VMs or on competing PAAS services.

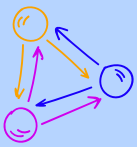
Excellent news for those who want to centralize their data on Azure.

I assume there is also a backup option?

Obviously !

SQL MI offers an automated backup system for **full**, **differential** and **transaction log backups**.

The data is stored in storage accounts, and is therefore replicated with **LRS**, **ZRS**, **GRS** or **GZRS** mode, depending on what you define.



Ah indeed, we had already mentioned the different types of replication in the past.

And of course you can define the retentions of your choice, whether short term (**PITR**) or long term (**LTR**).

You do well to remember that.

For the short term, the maximum retention is 35 days, while the long term can be up to 10 years.

You do have a good memory.

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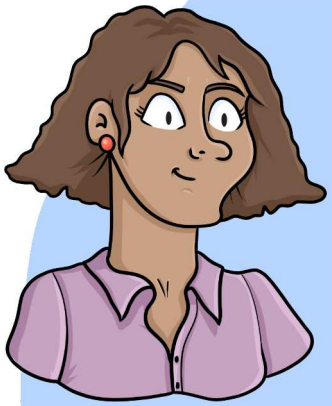
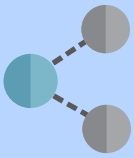
Azure SQL Managed Instance #4

There is also the notion of automatic failover groups, which make it possible to manage the replication and failover DBs to another Azure region if an incident occurs.



As for SQL Database.

And in terms of security, I guess there are different options?



Yes it is!

SQL MI can be protected by **Microsoft Defender for Cloud** to identify, as an example, potential DB vulnerabilities.

It can also report alerts by **SQL code injection** or **anormal activity** at the DB level.

And in terms of encryption?

Two options are available to you.

The 1st with encryption at rest, what we call **TDE**.

And the 2nd, **Always Encrypted**, which encrypts only a part of sensitive data, such as bank credit card numbers or other personal data.

And of course, you can export the audit logs, to storage accounts, like others, which can be used by the security team, if necessary.

Thus, SQL Managed Instance is, among other things, an excellent optin when we want to quickly migrate our SQL workloads to Azure.

Exactly, it all depends on your use case and the different constraints of your application.

End

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Thank you!

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