La Minute CLOUD de JULES & LÉA

Azure
Availability Set #1

Stan, a question comes to mind: What happens if the **rack** that hosts my VM, therefore my application, becomes **unavailable** ?

Good question Leah!
This is where the concept of **Availability Set** (**AS**) takes on its full meaning.

As we have seen previously, the **racks are independent** in terms of **power supply** and **network** !

To overcome the failure of a rack, Microsoft has introduced the notion of **Fault Domain** (**FD**). A rack is therefore considered as an **FD**.

We can therefore say that **there are as many FDs as there are racks** in a Datacenter. And as the racks are independent of each other, if one of them breaks down, it doesn't affect the others ?!

Exactly, that's the whole idea behind the **FD**.
But that's not all ...

1 rack = 1 Fault Domain

next

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Azure
Availability Set #2

In addition to the concept of **FD**, Microsoft has also introduced the concept of **Update Domain** (**UD**).

And what is a **UD** for ?

Before explaining its usefulness to you, you have to understand that a **FD** is composed of several **UDs**!

The principle of a **UD** is that when Microsoft needs to **perform hardware or software maintenance**, the actions are performed on the **UDs**, one after the other to avoid restarting, simultaneously, all the VMs deployed within of a rack, therefore of an **FD**.

If I understood correctly, **my application** must, as far as possible, be **deployed on several VMs**, which are themselves deployed on different racks, that is to say on several **FDs**, and therefore distributed over several **UD** ?!

Absolutely, this is also part of the **best practices** recommended by Microsoft for VMs!

1 rack = 1 Fault Domain = several Update Domain

next

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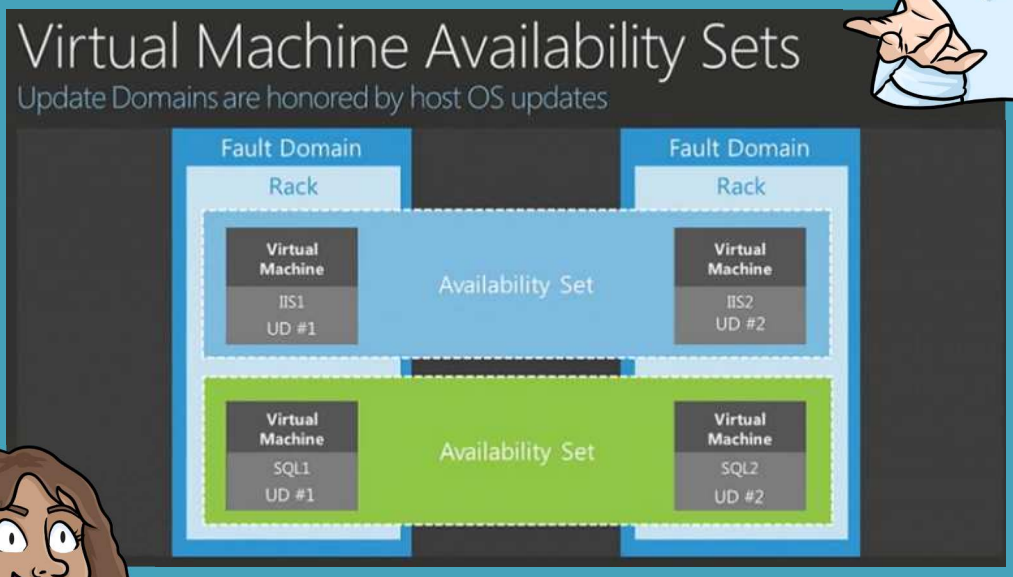
Azure
Availability Set #3

I got the idea. On the other hand, it becomes complicated to remember in which **FDs** our VMs are deployed, and to which **UDs** they are associated!!

Yes, especially since it is very complicated to know. This is why Microsoft offers **AS**, which we discussed earlier.
An **AS** is a logical zone distributed among several **FDs**, and therefore associated with several **UDs**.

When creating an **AS**, you select the number of **FDs** on which you want your VMs to be deployed (3 max), as well as the number of **UDs** (20 max).
During the deployment phase of your VMs, you will only have to select the **AS** created and it will automatically distribute your VMs within the **FDs** and **UDs** that you will have preconfigured.



Very ingenious and this offers additional availability of our application !

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Thank you !

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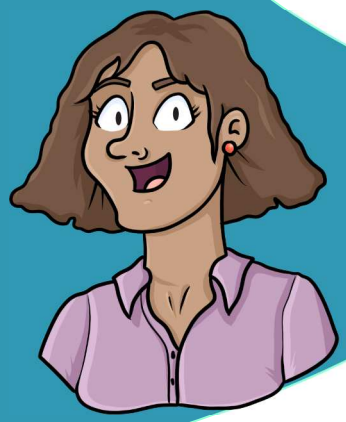
See you soon !