**AZURE vs WEB HOSTING**

**Difference between Azure and a web hosting**

With web hosting you cannot install more software as with virtual machines, and you cannot have big scalability, nor handle a huge amount of transactions, and the security is better with Azure.

**Who is more suitable for web hosting and who for Azure?**

Web hosting for a small company that doesn’t need scalability, nor is security important and has few transactions. But if you want security, scalability, handle a lot of transactions, the option is Azure; also, with Azure you have more services available, for Machine Learning, I.A., IoT. A web hosting offers a web page and a database as services, Azure offers more services.

**AZURE**

**How is security handle with Azure?**

When you create a database you can set the IP’s that are going to be allow to access the database in the firewall.

**How can I organize all of my resources and bill?**

With your subscription you can create as many group resources as you want, that will help to organize your bill. You can create the group resources as the number of departments or projects, and set the resources you want by group of resources.

**What is IaaS?**

Infrastructure as a Service, you don’t buy any hardware, everything is in the cloud. You can have Virtual Machines (like having a desktop) or Virtual Networks. However, you do all of the installations, tuning, as having the hardware, and it is important that in this approach you install a firewall and set the rules.

**What is PaaS?**

Platform as a Service, you have the infrastructure and also the platform, you don’t need to do any installation. For IaaS you have to install the web server (apache, IIS, NGIX, WordPress) in this approach you request you want to have a web server or a specific database, and important, you don’t need to create a firewall, you just set which IP’s are allow to access your resource.

**What is SaaS?**

Software as a Service, azure has a market place, other users have created software and you want to use the Web APIs or the software that is in the cloud.

**Can I mix IaaS, PaaS, SaaS?**

Yes, you can have VM’s with simple databases and web servers (IaaS) and the web pages can access databases in the cloud like PostgreSQL (PaaS) , and for static web pages that are going to be online always, create a web page as SaaS in the cloud.

**CHEAPEST OPTIONS**

**What options do I have as IaaS (Infrastructure as a Service)?**

As far as I recall, virtual machines with Linux (cheaper) or with Windows. You are in charge to install whatever you want as a local machine.

**What benefits do I have with IaaS approach?**

You can turn off the VM at night or during the weekends and save cost, also you can set a very simple configuration of Disk / RAM / CPU, you can use it as for development or a test environment, and for production you can increase Disk / RAM / CPU. So it is elastic, you will increase features when you need it, you can set the parameter to increase when it is needed or until you decide, if you don’t need to increase then you can keep it simple.

**If I want to have a cheap machine, with few specifications of disk, memory?**

You can is IaaS (Infraestructure as a Service) Create a Virtual Machine, you can select a Windows ($250 monthly) or a Linux (cheaper), few little disc, memory.

**If I want to use windows exe?**

Then use a Virtual Machine with Windows, or use wine for linux as an emunator.

**If I want to have a web server?**

You can install in the VM NGINX for linux (better than apache) or IIS for windows, or you can create a new resource as PaaS (Platform as Service) for a web server, so you don’t need to install anything, but in this case you create a resource as a web service and you don’t need to install nothing else as it was needed in the VM’s.

**If I want to have WordPress ?**

You can create the new resource as PaaS for word press and configure the web page.

**If I want to have a simple database?**

Install mysql, or SqlExpress in Windows, if you have VM’s if you don’t have VM’s then use a PaaS approach, create a resource for MariaDB, with the basic features, and set the policy how it will increase size, as demand or until you decide.

**What can I do to decrease the bill?**

You can turn off the VM at night, without replications for the database, you do the backup manually.

**If I want to keep a special information on the web, static information, even though the rest can be stopped?**

You can use SaaS (Software as a Service) create on the cloud the option of a web page, that web page will be always on line.

**SCALATING CAPABILITIES AND SECURITY**

**If the web tool is being accessed for many people, many transactions to be handle?**

Increase CPU / memory

**If the problem is not CPU nor memory but to handle a lot of transactions?**

Increase the number of transactions (that increases cost) or use 2 VM’s install the same web server (NGINX / IIS) , then install CLI and use the command to create a load balance between the 2 VM’s to handle all of the transactions, a very special condition for VM’s.

**If I don’t want to handle the load balance?**

You can use Kubenetes as an orchestor (mostly this is for web apis), this is more complex than a simple command using CLI. Kibenetes handles the requests from users, Azure will bill according to the number of accesses, and you charge the cost among the users, this is a serverless approach, and for your clients is a SaaS (Software as a Service).

**If I don’t want to handle the database what can I do?**

PaaS (Platform as a Service) Create a resource for the database, that connection string can be used in the web pages and/or create web apis (like store procedures in the cloud) to handle the data.

**If I want to be sure that the database is going to be up always?**

Use redundancy by region in the configuration of the database

**If I want to use a database with a LOT of transactions?**

PostgreSQL, and if that is not enough then PostgreSQL option Hiperscale

**If I want to have a very robust database that handle a lot of transactions but I don’t want to do installation, nor update the versions, nor do the back ups**?

Use PaaS, create a resource for a database, configure the size, replication, back up, more size, replication, daily or weekly back ups, changes the costs.

**If I want to create web APIs (as a store procedures) for me or other clients?**

This is serverless, you create the code, then you load the code and the others are going to use your code as a SaaS (Software as a Service), your cost is going to be how many times you use the web API, by you or others, and you share the cost with the ones using the Web API.

**What kind of data is going to have the Web APIs?**

Access to the databases a PaaS, databases on the cloud, or databases in the VM’s according to the connection string, but usually the databases were created as PaaS.

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**When to have 1 VM with much CPU or 2 VM with load balance?**

If you increase CPU it will increase the cost, if you use 2 VM you have a fixed cost, 2 CPU’s instead of increasing 1 CPU, that handles better the requests.