**WHY MICROSOFT AZURE IS BETTER THAN AN ON-PREMISEs SERVER**

**Introduction**

Before ‘cloud’ even became a thing, businesses only had an on-premises solution. However, with times changing and technology having come a long way since then, most companies have adopted a cloud-first approach as a must-have, rather than a ‘nice to have’. We’d like to introduce you to Microsoft Azure.

In a 2017 survey where nearly 200 IT managers took part, it was revealed that 79% were committed to cloud projects like Microsoft Azure Services or Azure Cloud Services. In addition, 58% among the participants using a cloud-based system like Azure said that it delivered real business value.

A 2018 study revealed that Microsoft Azure Services offer up to 93% better energy efficiency and capable of generating up to 98% less carbon emissions, compared to traditional or on-premises servers. Now, we’re not downplaying on-premises servers by any means – they do have their uses, although drawbacks like lack of scalability, solutions too expensive to implement, inherent security risks, and staffing requirements have made it a less-than-popular choice today among businesses of all scales.

**Key reasons why Microsoft Azure is better than on-premises.**

Azure migration is a major business decision, no matter what your industry or scale, and it certainly can’t be taken lightly. With that said, it is still a vastly better solution, and in many cases, superior to on-premises:

1. **Azure is scalable:** Microsoft Azure services let you dynamically scale apps according to your ever-changing demands. This kind of flexibility is not available in on-premises solutions without significant investment in upgrading the equipment, however Azure can quickly scale to meet your business needs at any point in time.
2. **Cheaper than on-premises:** In nearly every use case, Azure beats on-premises in terms of cost and by a significant margin too. Azure cloud services require no investment in infrastructure, servers/hardware, new machines, replacement of ageing servers, etc. The flexible expenditure model that comes with Azure means you can pay more to get more, you pay as per your needs, and you save a lot on space, energy, and cooling costs. You simply pay for what you use, nothing more.
3. **More secure than on-premises:** Businesses believe that by having on-premises servers and hardware, they have better security; unfortunately, this is more of a myth than reality. Azure’s Active Directory, for example, is a cloud-based, multi-tenant directory with a dedicated identity management service – giving employees single sign-on access to multiple apps in the cloud like Office 365, SharePoint and more.

Additionally, the identity management service within Microsoft Azure services offers a number of security-boosting features such as app usage monitoring, multi-factor authentication, device registration, and more, to provide an unparalleled level of security.

1. **Better for remote working:** Azure offers a superior remote working solution through Azure Virtual Desktop, a cloud-based app with integrated security and compliance features, providing a completely virtual desktop infrastructure and interface to a company’s end users. Authorized personnel can sign in from any device anywhere in the world, which means companies have a highly flexible and scalable option at their fingertips to help significantly reduce operational and capital costs.

**What is azure app service?**

In this article we will discuss what is azure app service.

App Service is a Platform as a Service (PaaS) offering from Microsoft. We use it to host web applications, REST API's and backend services for mobile applications.

It doesn't really matter which programming language or framework you have used. Web applications and services that are developed using any of the following programming languages or frameworks can be hosted using azure app service. It could be

* .NET
* .NET Core
* Java
* Ruby
* Node.js
* PHP
* Python

**Azure App Service v/s On-premises Hosting**

How is hosting on azure app service different from hosting on your own on-premises server. In other words, why would anyone use azure app service instead of using other alternatives to host their applications.

Well, to understand this, it is very important you understand the difference between IaaS and Paas. We discussed these 2 concepts in detail in Parts 11 and 12 of our cloud computing tutorials.

With on-premises web hosting, you or your organization is responsible for managing pretty much everything.

* You may have to spec out and procure physical servers, storage, networking equipment and all the related hardware.
* Make sure there is main power supply, back-up power supply, cooling system etc are in place.
* Install and set up the network.
* Install and configure virtualization software, operating system, any middleware or runtime components that your application needs.
* Install and configure a web server like IIS, Apache, Nginx etc.

Azure App Service is a Platform as a Service (PaaS) offering. This means you or your organization is only responsible for managing your business application and it's data. Everything else is managed by Azure. You don't have to worry about any of the things like, managing the network or underlying infrastructure. Installing the operating system updates, critical patches, runtime or middleware components. All these are taken care by Azure. This gives you, even more time to concentrate on what matters to your business.

**BENEFITS OF USING AZURE APP SERVICE**

1. **Fully managed environment:** It's a fully managed environment, meaning App Service automatically patches and maintains the OS and language frameworks for you. You get the time to focus on designing, developing and maintaining your application and data.
2. **Multiple programming languages and frameworks are supported:** Azure App Service supports a wide variety of programming languages and frameworks.

* .NET
* .NET Core
* Java
* Ruby
* Node.js
* PHP
* Python

You can also run PowerShell and other scripts or executables as background services.

1. **Scalability:** Based on the demand for your application, App Service can scale resources up and down or in and out. You can do this either manually if you want to or automatically based on metrics like CPU utilization for example.
2. **Compliance:** App Service is ISO (International Organization for Standardization), SOC (Service Organization Controls), and PCI (Payment Card Industry) compliant.
3. **Security:** Authenticate users with Azure Active Directory or any of the external authentication providers like Google, Facebook, Twitter, or Microsoft.
4. **Support for Containerization and Docker:** You can also host a custom Windows or Linux container in App Service. So, if you want to, you can dockerize your app and host it in App Service. You can also run multi-container apps with Docker Compose. We will discuss how to do all these in our upcoming videos.
5. **DevOps optimization:** Set up CI/CD i.e., continuous integration and deployment with Azure DevOps, GitHub, BitBucket, Docker Hub, or Azure Container Registry.
6. **Access on-premises data:** With App Service you can still access data on your on-premises servers using Hybrid Connections and Azure Virtual Networks.

Link to YTD: https://www.youtube.com/playlist?list=PL6n9fhu94yhVIhqTz-LBfwgz\_Amz7rRLp