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Microsoft Azure 101: The Beginner's Guide to Azure

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"You might think businesses use Azure for hosting applications and services, and you'd be right, but it offers much more than that."

The Microsoft Azure cloud platform and its range of 200+ products and services have the potential to transform your business, take you steps ahead of your competitors and delight your customers. But navigating cloud security and costs can be a minefield if you don't understand the platform or have the in-house expertise.

For those of you dipping your toe into the world of Azure, here's what you need to know:

What is Microsoft Azure used for?

You might think businesses use Azure for hosting applications and services, and you'd be right, but it offers much more than that. On a strategic level, companies use Azure to drive modernisation and digital transformation, as well as enable tech innovation. They do this through accessing a range of Microsoft's cloud services spanning Serverless Functions, Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS) - think everything from hosting servers to cognitive AI services.

Who uses Microsoft Azure?

Due to its global presence and accessibility, businesses from all sectors and of all sizes use Azure – from healthcare startups to Fortune 500 financial services companies. In terms of SMEs who are trying out public cloud services, the majority are opting for Azure. According to Flexera's 2021 State of Cloud Report, 36% are experimenting with Azure, followed by 19% with AWS and 19% with Google Cloud.

What are the benefits?

There are several:

- **Cost efficiencies** – Azure is delivered on a pay-per-usage model, so you only pay for what you consume. Take note, though, the charging mechanisms are complex so you need to fully understand what you're building and the associated costs to make savings.

- **Access to the latest technologies** – With Azure, you can access services that would be difficult to create in your own data centre. You may not have the resource to write your own algorithm or train an AI engine, but these kinds of projects become possible with Azure services.

- **Access to new markets** – Azure is available in over 60 regions. This means that if you have business growth opportunities in different geographical markets, it's possible to launch services within that region and expand rapidly.

- **Scalability** – Cloud platforms enable you to add new services, increase your storage capabilities or develop new applications – all without having to worry about the infrastructure to support these changes. This means you can adapt quickly to new developments in the market or your business.

- **Easy to manage and innovate** – Services can be managed programmatically, while DevOps and automation tools allow developers to work more creatively and quickly.

- **Deeper insights** – Data services provide you with valuable insights, and enable you to make better decisions and predictions for the future.

- **Secure, dependable service** – Azure offers a 99% uptime guarantee and its regional coverage means that you can ensure data sovereignty, both of which are important to maintaining customer trust.

Why choose Azure over other public cloud providers like AWS and Google Cloud?

For businesses already using various Microsoft services, Azure is the obvious choice because of the technology alignment.

It offers a natural modernisation path and integration for Microsoft technologies like SQL Server, Exchange and Windows, and platforms like Azure DevOps (previously TFS).

Most companies use Microsoft's Active Directory (AD) to control user access and permissions centrally - and AD natively integrates with Azure. This sounds like a small, technical detail, but it means when you move to the cloud, you can continue to control user access through AD. If you're a bigger company, this is particularly useful for keeping track of new and old users and staying in control of security and costs. Another pull is that Microsoft offers good incentives (discounts, etc.) to existing customers.

From a market perspective, Azure has a user-friendly, service-based proposition suited to business users and those new to the cloud. Its services are designed to help businesses run and integrate both customer-facing web applications and internal, back-office systems.

AWS and Google Cloud, on the other hand, are less focused on delivering a service experience for a business user and deliver more on build-your-own components. These platforms tend to be used by development teams with existing experience for point web application projects.

All platforms cover the majority of use cases, so choice can come down to personal skills, preference and strategic vendor alignment.

Through 2025, 99% of cloud security failures will be the customer's fault.

(Source: Gartner)

Is Azure secure?

Providing you uphold your responsibilities, it is secure. Azure operates a shared security model. This means Microsoft takes ownership of the platform and the integrity of its services, while you take responsibility for whatever you build on top of those.

The danger is you could easily go into Azure and launch services without realising you need to take responsibility for everything you've configured.

The good news, however, is you don't have to manage cloud security alone. Microsoft provides a great range of tools and audit capability to help you keep within guidelines, which you can find at the **Microsoft Trust Centre.**

Another option is to work with a Managed Services Provider (MSP), who'll ensure you've got everything set up correctly from the start. An MSP can guide you on keeping control of your Azure tenancy from a security and cost perspective. It can even build the tenancy for you - so if a developer goes off and starts spinning up new services, you can be sure they're still working under your umbrella of policies.

Is Azure free?

If you want a taster of Azure, you can sign up for a **free account** and you'll receive £150 credit for 30 days. Alongside this, you get free access to Azure's most popular services for 12 months and permanent free access to 25+ services.

Once you've used up your credit or get to the end of your 30 days, you can only continue with your account if you upgrade to pay-as-you-go pricing and remove the spending limit. While an individual user might get away with staying within the usage limits of complementary services, within a business, it's more likely you'll eventually have to pay for what you use.

How is Azure billed?

You receive a monthly charge to your account. This charge is made up of the different services you're taking, which vary in their charging mechanisms. Some services might charge per transaction, while others might charge per user or number of hours of service.

This variation can make the bill quite complex, and it's easy to lose control of your spending. However, Microsoft provides some useful tools for cost control.

The Azure pricing calculator is a good way to estimate your monthly charges before you launch new services. In the **Azure Portal,** there's a Cost Manager, which gives you a real-time view of how much you're spending.

We always recommend that businesses take the time to understand what they're building and the associated costs, as well as putting budgets in place (especially as Azure billing is not always as granular as you might like it to be!).

30%
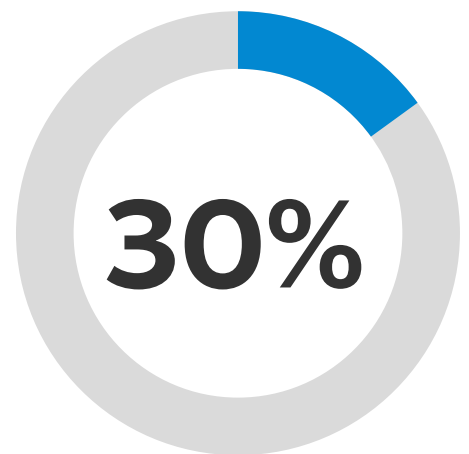
30% of an organisation's cloud spend is wasted (on average).

(Source: Flexera 2021 State of the Cloud Report)
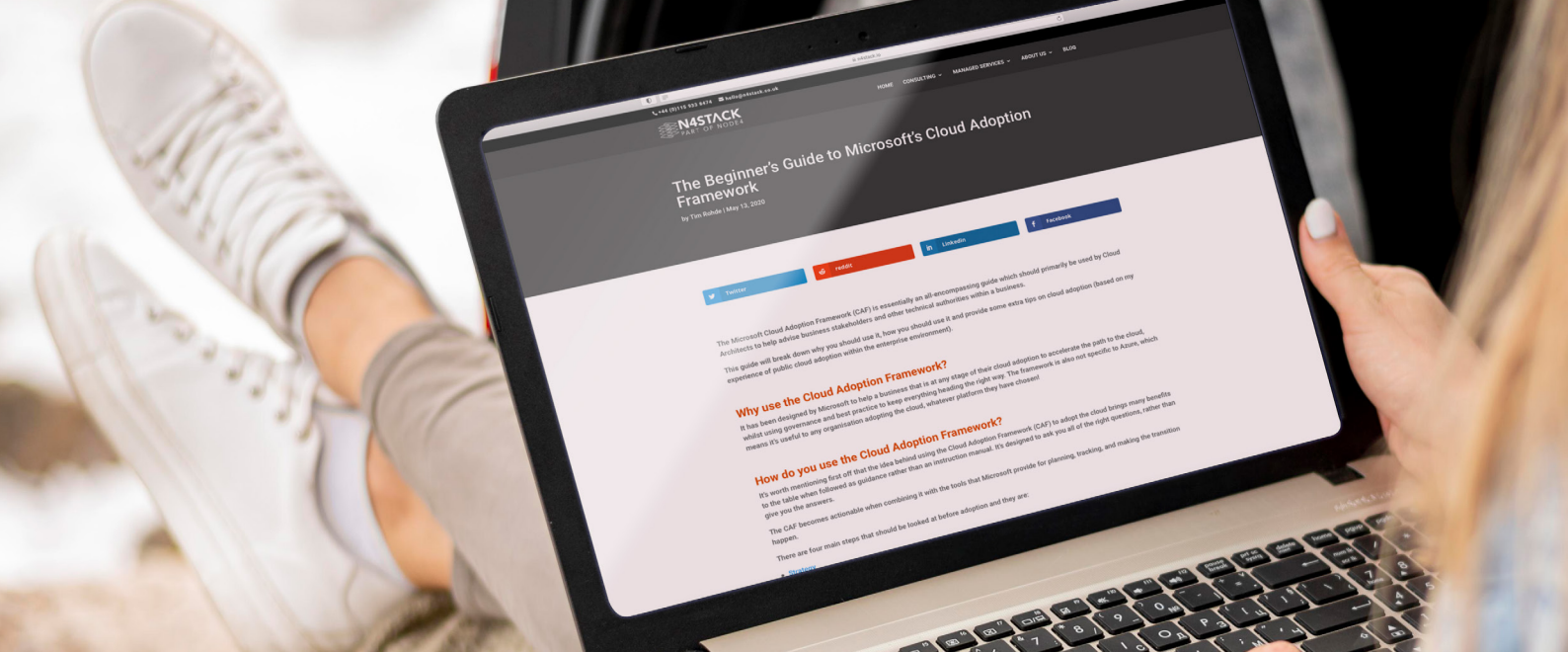
How can I successfully migrate to Azure?

We recommend using the **Microsoft Cloud Adoption Framework (CAF)**, which is essentially an all-encompassing guide to help a business accelerate its path to the cloud, whilst using governance and best practice. The framework is not specific to Azure, which means it's useful to any organisation adopting the cloud, whatever platform they have chosen.

The CAF should be followed as guidance rather than an instruction manual – it's designed to get you asking all the right questions rather than give you the answers. In practice, the CAF becomes actionable when combining it with Microsoft's various free tools for planning, tracking, and making the transition happen. You can find more information on the CAF and further tips on cloud adoption in our **Beginner's Guide to the Microsoft Cloud Adoption Framework.**

Another option you should strongly consider is finding a partner to help you make the switch. MSPs can bring people with experience and the right technical skillset to your project team, who can guide and help you implement cloud adoption.

Providing they're following the CAF approach, they'll ensure you get migration right first time and you reap the benefits of cloud adoption in a shorter time frame.

While these kinds of consultancy and project services come at a cost, it really is small change if you think of the bigger picture and the rewards of reaching your digital transformation goals.

What data services are available?

Azure provides an entire suite of data services, ranging from databases to tools for moving data around, to analytics and reporting.

Databases
There are several **different databases** to choose from within Azure, and they vary in the way they store data. They can be broadly divided into:
· SQL/relational databases (e.g. Azure SQL
· family of databases), which prioritise data integrity.
· NoSQL databases (e.g. Azure Cosmos DB), which focus on speed and scale. One advantage of Cosmos DB over Azure SQL is that you can write data in multiple places and all copies of your data will be synchronised.

Data warehousing
This service takes data of various types and from various sources, and pulls it together in one place with a design for providing the data in the right format for analysis. You can then apply data analytics and reporting for valuable insights, as well as machine learning for predictions.

Data Factory
Data Factory moves data from one place to another and transforms it in a way that makes it more useful. For example, say you're pulling data from your CRM system and Service Management system. If the dates are formatted differently in each system, Data Factory can bring them together in the same format.

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# The Beginner's Guide to Microsoft's Cloud Adoption Framework

The Microsoft Cloud Adoption Framework (CAF) is essentially an all-encompassing guide which should primarily be used by Cloud Architects to help advise business stakeholders and other technical authorities within a business.

This guide will break down why you should use it, how you should use it and provide some extra tips on cloud adoption (based on our experience of public cloud adoption within the enterprise environment).

Read the full guide

How Not to Screw up Your Move to Azure

In this video, N4Stack's Director, Andy Slater, takes a look at his team's experience of delivering hundreds of cloud migration projects, the lessons learned and must-do activities.
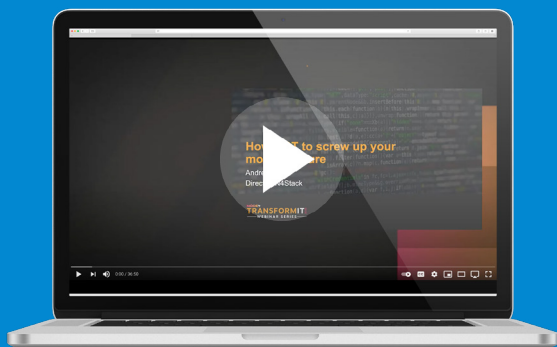
Watch the video

What can I do in Azure in terms of DevOps and automation?

The entire Azure platform and its services are programmable, so that means whatever you can do with your finger, you can do it in an automated fashion.

Developers use Azure DevOps to write new code for applications. With a click of a button, these changes can be sent into a test environment, which is spun up automatically. If the change is successful, it can be automatically pushed out to production. If it fails, the developer needn't recreate anything from scratch; they simply tweak the code and automatically spin up the test environment.

The benefits of automating these kinds of processes are huge. There's no risk of downtime, which means less fear around creating things and tearing them down again. Businesses needn't go through lengthy change processes or have test environments running all the time at exorbitant costs. Instead, they have more freedom to innovate, to try things out, see what works and what doesn't.

What's the difference between Azure and other Microsoft services like M365 and Windows Virtual Desktop?

Azure refers to the cloud platform – the data centres, infrastructure and services that sit on top.

Microsoft 365 (M365) is a user-focused SaaS suite, providing a range of productivity tools such as email, Microsoft Teams, SharePoint, OneDrive, etc., as well as the services to manage those tools. M365 will run on Azure, but you can't build it yourself – you take it as a service from Microsoft who manages it.

Windows Virtual Desktop (WVD) is an Azure-based service that allows employees to remotely access a Windows 10 desktop and business applications from anywhere and on any device. It can be integrated with M365 so that employees can access their usual apps. It's delivered as a Platform as a Service, which means you build it in Azure and take ownership for everything you've created.

20% Off Your First Azure Project with Node4

Enjoy all the benefits of cloud services, with none of the headaches. To help you get started in Azure and deliver a best-practice project quickly, we're offering a 20% discount on our expert Azure consultancy for your first engagement.

Get in touch now

Offer runs until 31st August 2021.

Here at Node4, we provide advanced, cloud-led digital transformation solutions that empower UK businesses to do more.

When it comes to Azure, we are one of just a handful of UK organisations to have received Microsoft Azure Expert MSP status. This recognises our capabilities, skills and expertise in delivering services across the complex technologies built on the Azure cloud.

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"Node4 has a real DevOps approach to the work they've done for us. They really 'get' how a developer wants to work with Azure and do everything to facilitate that. They've set up the infrastructure so that our developers can capitalise on the resources within Azure. This will be an incredible help in enabling us to launch new services further down the line. For the first time, it feels like our infrastructure really enables digital delivery, rather than holding it back - and that's a wonderful feeling!"

Dave Ankers, IT Strategy and Delivery Director at Nuffield Health

Click here to get in touch

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