

# RESEARCH PAPER

## Cloud training: How to pass 'Go'

Ensuring resources are in place for integration,  
end-user adoption, business and legal  
processes to get the most out of cloud

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## Executive summary

This report launched in partnership with QA, identifies the drivers behind why organisations are choosing cloud solutions, the associated technologies used and how to overcome the key issues of implementation.

Three-quarters of the organisations surveyed are on a journey to the cloud, whether that journey is a departmental excursion or a full-blown organisational transformation. That journey is revealing a large number of IT leaders' concerns over the technologies themselves, their own lack of leadership, organisational problems, and more.

However, less than one-quarter of organisations have a training plan to help them. This report explains why it is essential they put one in place, with external help.

## Cloud in context

In these days of social networking, mobility, and the so-called 'consumerisation' of IT, the barriers are tumbling between enterprise systems and the technologies that we might choose to use ourselves, independent of the organisation we work for. Indeed, even within the enterprise, many people mix and match their own solutions, without oversight from the IT department.

In some ways, this is evidence that technology has become more intuitive and people-focused: a positive outcome for all. So, it's easy for employees to assume that they're the real experts in cloud adoption, that the IT department is an obstacle to them doing their jobs, and that using today's enterprise IT is a simple matter of logging on to some readily available service and feeling their way, learning by their mistakes as they go.

Organisations can't operate in that way; they have mission statements, strategic objectives, organisational policies, management structures, and operational procedures – not to mention legal obligations to obey industry regulations, together with data privacy and security rules (which are changing all of the time). Plus they have customers, users, partners, stakeholders, and investors. Organisations need approved, centrally-managed technologies, standards, interoperability, and more, not a trend-driven, app-propelled free-for-all.

But there's a problem. Even today, cloud computing is an umbrella term that some people still believe to be synonymous with the internet ('the' cloud). Really, it refers to several distinct things, including platforms, infrastructure, and software as a service, delivered using either private or public networks, or in a hybrid environment that mixes legacy systems with hosted services. There is no single cloud, and automation and virtualisation are part and parcel of the technological journey to this service-based world.

In all, that's a very different proposition to simply logging on and clicking 'Go'.

Training is essential, and that means ensuring that system administrators, developers, project managers and other IT leaders are fully up to speed in deploying the technologies, in support of business aims. Inevitably, skills gaps will occur, especially in such a fast-moving sector at a time of major transformation, disruption, and transition.

# Research methodology

The findings in this paper were collected in an exclusive *Computing* survey of 127 senior IT managers, from CIOs to systems administrators in organisations of every size across the UK economy.

## Cloud is now mainstream

**Fig. 1 : Which of the following statements is most similar to your organisation's cloud adoption so far?**

<b>We are not yet using any cloud services, and have no plans to do so</b>	<b>10%</b>
<b>We are not yet using any cloud services but are considering adopting in the future</b>	<b>9%</b>
<b>We have little internal usage of any cloud platform (public, private, or hybrid), and no overall strategy or plans to implement yet</b>	<b>5%</b>
<b>It's tactical, not strategic. We use a few public cloud platforms on an ad-hoc basis to complete certain tasks and functions, and there are no firm plans to expand that usage to a strategic organisational level</b>	<b>17%</b>
<b>We currently use either a public, private or hybrid-cloud solution as a step on our journey to much wider cloud adoption</b>	<b>29%</b>
<b>We already use a hybrid-cloud environment and it is part of a business-wide strategy to move our IT and data operations onto hosted solutions</b>	<b>19%</b>
<b>We are using mainly private cloud solutions</b>	<b>9%</b>
<b>Other (please specify)</b>	<b>2%</b>

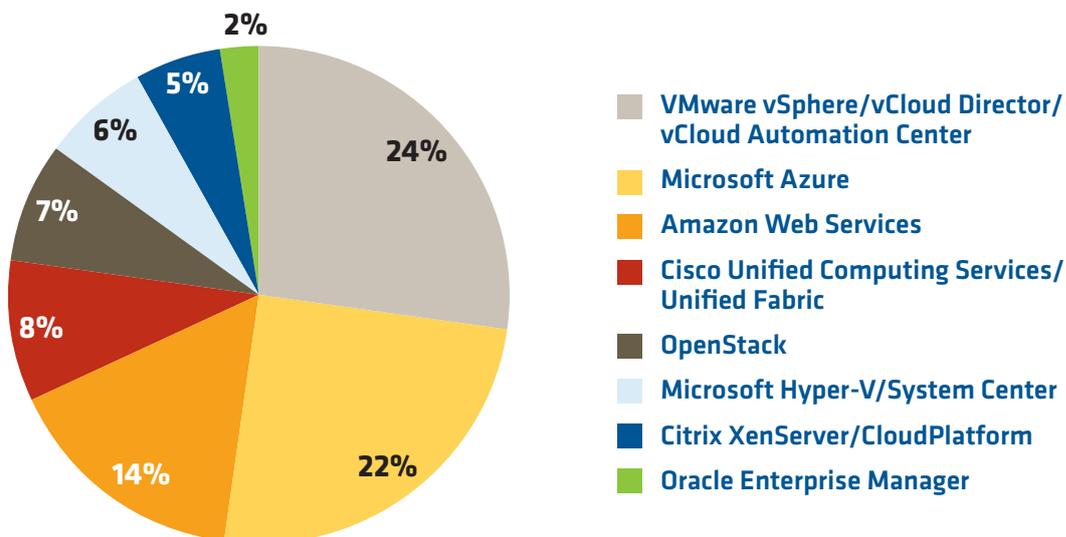
*Computing* found that 79 per cent of those surveyed are adopting cloud technologies in some form (Fig. 1). Seventeen per cent said that they use a handful of public cloud platforms tactically, not strategically, to carry out non-critical tasks. A much larger group – 29 per cent of all respondents – are currently using a mix of public, private (or hybrid) solutions strategically, with a view to deepening their relationship with cloud services and platforms in the future. Similarly, a further 19 per cent said that they are working in a hybrid environment as part of a business-wide strategy to move all of their IT and data operations into an entirely hosted environment. Just nine per cent of respondents said that they are mainly using private cloud solutions.

This, then, is the big picture: typically, organisations that are on the cloud journey are at four distinct phases of cloud adoption:

- Those that are consulting about moving to cloud services, platforms, and/or infrastructures.
- Those who have decided to move and who have chosen a vendor, or multiple providers.
- Those looking to maximise their existing use of cloud technologies to create organisational efficiencies and savings, to underscore new ventures, and so on.
- And those looking for certification in specific cloud technologies, such as Amazon Web Services (AWS) and Microsoft Azure, among others.

## Cloud is still an umbrella term that includes a number of technologies

**Fig. 2 : What technologies/platforms are you mainly using?**

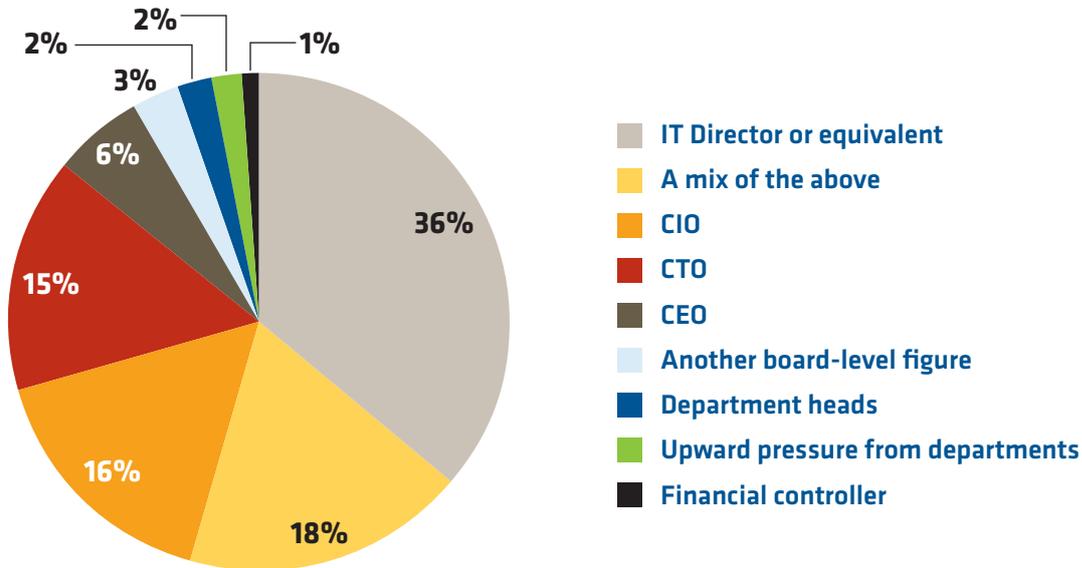


In terms of the underlying technologies to build cloud services, the survey found that the virtualisation platforms that are essential to cloud see the most use, with VMware vSphere, vCloud Director, and vCloud Automation Center being used by 24 per cent of respondents. In terms of third-party cloud services Microsoft Azure took the top spot among our respondents, with 22 per cent adoption among the survey base, with Amazon Web Services also a popular choice. The “Other” category featured Google, Salesforce and smaller bespoke suppliers (Fig. 2).

All of the technologies listed in Fig. 2 involve not just technical training in the usage and deployment of the technologies, but also a measure of ‘cultural’ training and market awareness. For example, the OpenStack movement doesn’t just include smaller independent hardware and software providers, but also major enterprise vendors, which are contributing technologies too.

## Who decides and why?

Fig. 3 : Who makes your strategic cloud decisions?

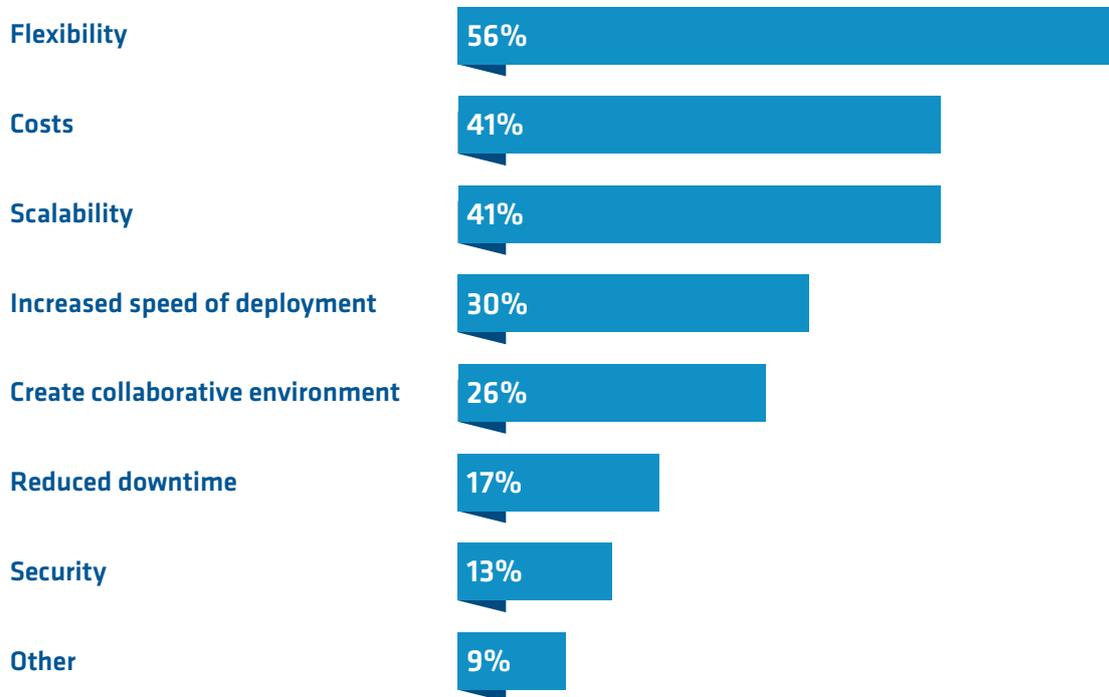


So who is making the strategic and buying decisions? Currently, directional technology decisions remain with senior IT strategists, found the survey – despite the growth of shadow IT, ‘consumerisation’, and other internal pressures. Thirty-six per cent of respondents said that strategic cloud decisions are made by the IT director, or equivalent; 16 per cent cited the CIO; 15 per cent the CTO; six per cent the CEO; and 18 per cent identified a mix of the above (Fig. 3).

But before decision-makers get their hands dirty, what do organisations believe are the main advantages of cloud adoption in the first place?

The heightened competitive demands of today’s fast-moving, fast-changing business world are top of the list. Flexibility is the main driver, with cost benefits and scalability coming next (Fig. 4).

**Fig. 4 : What were your main reason(s) for implementing cloud?**



\* Respondents could select multiple answers.

But that's not all. One of the growing hotspots in cloud deployment is in unlocking internal talent and ideas; accordingly, over one-quarter of respondents said that creating a more collaborative work environment is a major impetus. A further 17 per cent said that the promise of reduced downtime in the cloud's more service-driven culture is the most appealing factor, while 13 per cent chose something that others still see as a negative consideration: security (see below).

Other pluses mentioned by IT decision-makers include the more attractive business model of the cloud, and the twin abilities to share resources and work on proof-of-concept projects. However, previous *Computing* surveys have shown that creating more collaborative workflows are as much about management and organisational culture as they are about the technologies themselves, and it's essential that IT professionals receive all the education, training and support they need to achieve these aims.

# Into the unknown

Cloud technologies confer many strategic advantages. However, the powerful competitive impetus behind technology buying decisions could be seen as a risk factor, unless training and education are provided. This is because the urge to compete often drives tactical, rather than strategic, buying, and so it is important that major commitments are not made 'in the heat of the moment', based on what a competitor might be doing. In these instances, training and support are essential.

So what are the other potential downsides?

Security fears remain the biggest bugbear for most IT leaders, as has been the case in all previous *Computing* surveys: well over half of respondents (55 per cent) still identified security as their major concern about the cloud, far ahead of other worries, such as cost (15 per cent).

This discrepancy in attitudes about cloud security, with some seeing it as superior and others as a major flaw, suggests that this is another area where in-depth training would be beneficial. However, as many as five per cent of IT leaders said they had no concerns about the cloud at all: a surprising discovery.

As we've seen already in this report, roughly 75 per cent of organisations have embarked on a journey to the cloud, even if in some cases it might be an exploratory excursion rather than a full-scale trek into a new world. A period of transition and technology migration is inevitable, potentially lasting several years and involving the gradual hybridisation of on-premise and hosted solutions – not to mention cultural transformation, together with a new focus on services rather than packaged technologies.

So have IT leaders' cloud strategies and migration projects caused internal problems of any sort? Definitely yes in 40 per cent of cases, found the survey, with a further 15 per cent saying they weren't sure.

### Fig. 5 : Has your cloud migration project or current/ongoing plans caused any organisational problems?

<b>Yes, among some individuals</b>	<b>21%</b>
<b>Yes, among departments</b>	<b>12%</b>
<b>Yes, in the organisation as a whole</b>	<b>7%</b>
<b>Not sure</b>	<b>15%</b>
<b>No, not that I'm aware of</b>	<b>45%</b>

Among the problems cited by respondents, by far the most commonplace were the cultural challenges inherent in adopting new technologies and workflows and a simple lack of skills – both of which can, and should, be addressed by training.

Two related issues, poor technology uptake and a lack of the promised collaborative advantages, were also cited, reinforcing the point that cloud services are not technology solutions to technology problems, they're tools to be deployed in support of business aims. As such, they won't work without the necessary training and support and, importantly, a cultural and management transformation within the organisation.

Other common problems included the informal use of unauthorised technologies, cost control and poor data security.

## IT, heal thyself

In those organisations where the problems were at departmental level, in most instances this was somewhere within the IT function itself, although problems were reported "cross department", and also in the Finance and Legal teams in a small minority of cases. The conclusion is obvious: the IT department itself needs training, before the rest of the organisation can possibly experience the benefits.

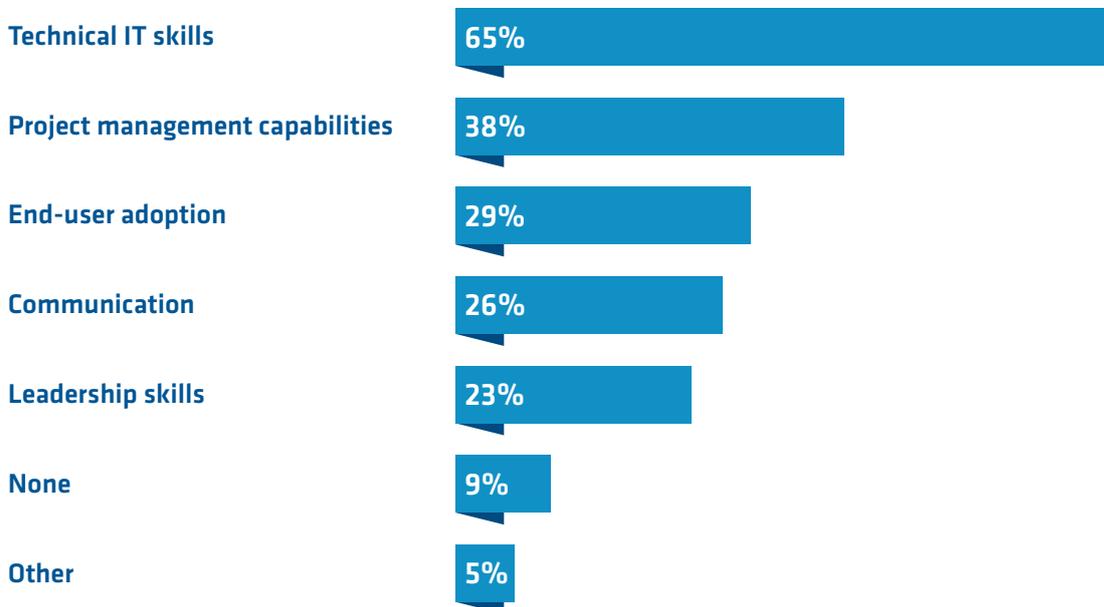
This finding was backed up by answers to another survey question: whether respondents believe that the use of cloud will change or reshape current IT job roles or functions? 'Yes' answered 77 per cent of IT leaders whose organisations are already on their journey to the cloud. The nature of those changes is set out in the box below, which reveals both the technological and the cultural impacts of the cloud, and the training that is implicitly essential in each case.

### **How do you anticipate the use of cloud will change current IT job roles and functions?**

- "IT will become more active in brokering services to the business rather than managing this infrastructure"
- "There is a need for more in-depth understanding and less admin-type related knowledge"
- "Skill focus moving away from tin [i.e. physical hardware] towards application"
- "Increased overhead in managing contracts"
- "Core infrastructure staff will need to learn new skills as their roles change or vanish"
- "Need to convert to Service management rather than traditional skills. Also need to build partnerships with vendors"

So with at least 40 per cent of enterprises experiencing internal problems of some sort – many at organisational level – and with 40 per cent of those businesses reporting a lack of relevant skills, in-depth training from specialist cloud partners is clearly a 'must', as otherwise cloud's promise of greater agility, flexibility and scalability may never come to pass.

**Fig. 6 : What skills gaps can you identify, either in people or the organisation when thinking about the adoption of cloud technologies?**



But what training needs have the UK's IT decision-makers identified themselves? The need for technical IT skills training dominates, cited by as many as 65 per cent of respondents – underlining the point made in the introduction that cloud technologies are not a simple matter of switching on and clicking 'Go', despite the apparent ease of the consumer experience.

The need for project management skills came next, reported by 38 per cent of IT leaders, followed by the needs for training in end-user adoption (to capitalise on cloud's promise), cited by 29 per cent, and for communication skills, by 26 per cent. As many as 23 per cent of IT decision-makers admitted that leadership skills training is essential, presumably because the onus falls on them to lead the transformation, in many cases.

Many of these skills gaps deeply concern the survey's respondents, for the reasons outlined in the box below, in which a picture emerges of the need to drive these projects strategically and culturally in order to receive the technical, cost, and efficiency benefits. Without that leadership, and the training support beneath it, organisations may create more problems than they solve.

### **Which skills gap concerns you most and why?**

"Cloud promises a lot but it also creates other issues which are not communicated to decision makers"

"Technical IT skills - cloud moves very quickly and trying to keep up is a challenge"

"Security is our main concern"

"Leadership skills - we need an overall strategy"

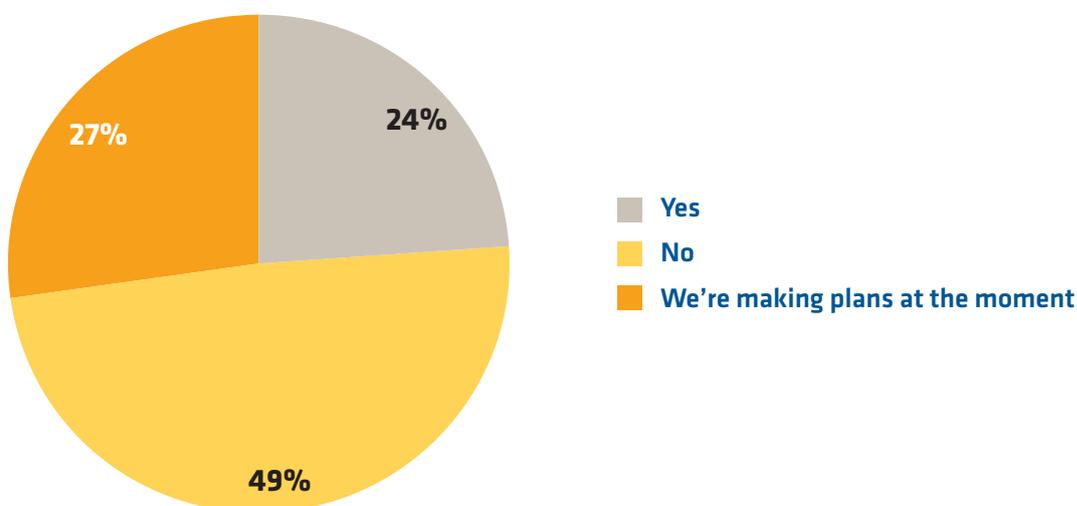
"End user adoption is always an uphill struggle..."

"Communication to support the changes in culture and fast pace of innovation"

However, the survey also reveals that nearly 60 per cent of organisations are training themselves as they go along, rather than bringing in external expertise and help. When this finding is set against the 40 per cent (at least) of organisations that are experiencing major problems internally (mentioned earlier in this report), and the numerous skills gaps and worries that are evident from other responses, it is clear that this is a high-risk strategy.

## Training for transition

**Fig. 7 : Do you have a training plan in place to facilitate a smooth transition to the cloud or once using a cloud solution?**



So do organisations have a training plan in place to facilitate a smooth transition to using cloud services? Astonishingly, the answer is that less than one-quarter of organisations (24 per cent) currently do, while nearly half of respondents (49 per cent) simply answered “no”. The remainder are making plans to fill those skills gaps.

Which brings us to perhaps the most important question for cloud buyers to date: what has been the single biggest change or impact of cloud adoption so far – once all the worries, skills gaps, and other concerns are set aside?

Among the many reported advantages were: increased collaboration (cited by 17 per cent of respondents); speed of designing and deploying applications (15 per cent); storage capacity (14 per cent); ability to get to market quicker (12 per cent); the ‘pay as you go’ service model (11 per cent), innovation in the IT department (eight per cent); and reduced costs (six per cent).

If the individual figures seem low, it’s important to remember that respondents were asked to select just one advantage, and so the broad spread of comparatively low-percentage responses indicates that there are many advantages of cloud technologies, not that there are few.

# Conclusion

Three-quarters of organisations have already embarked on their journeys to cloud services, platforms, and infrastructures – whether those solutions are delivered using public, private, or hybrid means. But it is clear from this survey that those journeys are far from easy, both from a technology standpoint, and also in terms of the organisation, skills, and leadership needed to get to the destination that everyone wants: a nimbler, more agile, more competitive organisation that is able to unlock its own capacity for innovation.

It is truly extraordinary, then, that so few organisations – less than one-quarter of those that are moving to the cloud – have any formal training plan in place, despite all of their problems and concerns, including over their own lack of leadership and technical knowledge.

The need to bring a specialist technical and IT management skills training provider on board could not be clearer, not least to help the organisation actually receive all of the promised benefits of cloud technologies.

# About the sponsor

QA is one of the largest learning services organisations in the UK, developing skills and capabilities for everyone from apprentices to business leaders. With training centres throughout the UK, QA delivers an exceptionally broad training curriculum to meet the needs of individuals and corporate businesses.

With a client base covering 80% of the FTSE 250, and employing over 300 instructors, subject matter experts and learning professionals across a portfolio of 1,500 courses, QA is currently the number one provider of technical and business training in the UK.

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