



Supercharge your skills for cloud success

Jonathan Allen, Enterprise Strategist
at Amazon Web Services

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In France, as in the rest of Europe, the pace of cloud adoption is accelerating all the time. But as managers and business leaders seek to benefit from the agility and intelligence of cloud technology, they are having to confront a growing problem: the ever-widening skills gap in the digital workforce.

The shortfall of skilled and certified talent in France alone numbers around 80,000, with 40% of employers across Europe reporting difficult to recruit the ICT professionals they need.

The assumption among many organizations is that only an external search will land this type of high-value, high-functioning talent. Yet such an approach overlooks one of their richest potential sources of leaders for their transformational journey - the people they already have.

AWS has developed training programs that can create new opportunities and new jobs. In 2018 alone we committed to reaching more than 100,000 people in Europe and by the end of the year we reached more than 140,000. This number will continue to grow every year. Attending these sessions, Europeans from all backgrounds can learn about how to architect, design, and develop cloud-based applications using AWS and develop tangible skills to use the latest cloud computing technology in order to start their own business or find the job of their dreams.

IT professionals are, by their very nature, open to and eager to familiarize themselves with new systems and processes. So, the training needed to bring them through from legacy to cloud-based platforms is not the problem.

Often, the bigger challenge is the cultural one. After all, before any technological transformation can take place, there has to be a human transformation first.

One AWS customer, Frédéric Augier, Director of Digital at Nexity Real Estate, opted for employee training as an essential first step for his company's migration to the cloud. He told us that he started from the premise that employees were not yet ready for the cloud and that before any change could be made, it was necessary to move them from a technician's role to that of infrastructure management manager."

The company has since adopted the training modules proposed by AWS, including general education for employees and more advanced programs for technicians. And it's to familiarize other French enterprises with these principles that we've produced this e-book, with the help of AWS Enterprise Strategist, Jonathan Allen.

At the heart of Jonathan's advice for managing the human transformation is a simple premise. "You have to look deeper at what motivates people and that means taking a holistic approach." Citing the work of author Daniel Pink, Jonathan identifies those motivations as the need for Autonomy, Mastery and Purpose in our chosen work roles.

In his book, 'A Whole New Mind', Pink goes on to cite a raft of other essential factors that must be present in an organization before transformation of any note can take place, including trust, transparency, availability, the right to make mistakes, leadership and coaching.

Many of these are explored by Jonathan in the '12 steps to enterprise-scale cloud' that underpin his approach, starting with how to manage acceptance levels among team leaders and progressing through critical considerations such as the importance of foundational training, why safe 'hands-on time' is essential for engineers to experiment and learn how to fail, and the value of recognition and rewards.

If there is a theme to 'Supercharging your Skills for Cloud Success', it's that collaboration, honesty and teamwork are essential to break down silos and develop the agility necessary to complete the journey to the Cloud. I hope you find the information and advice it offers useful, whatever stage you're at on that journey.

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When you move to the cloud, it's critical to ensure leaders and teams across the organization have the right skills.



Jonathan Allen, Enterprise Strategist at Amazon Web Services and former UK CTO of CapitalOne, knows how.

Two years ago Jonathan Allen joined AWS as an enterprise strategist. In his previous role as UK CTO at Capital One, he oversaw an ambitious project to adopt AWS as the company's predominant cloud platform. And in common with the hundreds of technology leaders he's since helped to master their own cloud transformations, Allen quickly realized the challenge wasn't technology – it was people.

The first thing you need to do is put together a leadership team with the skills and autonomy to drive through the transformation, guided by a clear strategic vision from the top. "This is critical. Declare a bold cloud objective that's aligned to your business goals. At Capital One, CIO Rob Alexander declared we wanted to move forward with a cloud-first approach and close our data centers. That's the kind of clear, unambiguous goal you need," Allen told an audience of cloud-curious executives at the AWS Summit in London in May.

But you need to bring leaders from all areas of the business with you. That means setting up a leadership team or cloud business office with people from procurement, legal, security and finance, as well as heads of infrastructure delivery, engineering, risk, audit and HR – at both a global and divisional level. Everyone needs to understand the implications of changing from capex-intensive technology investment to the cashflow/opex approach that cloud enables.

That's a learning process that has to happen. "Unless this team comes together regularly to remove blockers and go on the learning journey themselves, you're going to struggle," said Allen. They should meet at least every two weeks, and there will be lots of questions. "They all need to be answered – don't sweep them under the carpet. It's important to have a parking lot where you can prioritize questions."

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This can be a very revealing exercise. "One result is often the discovery that the people on the leadership team all have different principles that are rarely aligned," said Allen.

Reaching agreement and clarity is vital. You need to be certain of your business goals, preferred cloud partner, security/governance objectives and – above all – how you are going to build and support the teams you need to move forward effectively.

One key principle leaders must grasp is what AWS calls 'single-threaded leadership' – the idea that every project, program, product or service has one person with the overall ownership to get an idea off the ground and ensure its continued innovation. "This is hugely transformative. But when your organization is siloed it can be challenging. So leading the leadership team is hugely important. You need to establish these principles and challenge blockers at the outset," said Allen.

It may be tempting to bring in a new 'cloud leader' from outside, but Allen says that's not the answer. "I remember writing a unicorn job specification for a director of cloud and placing it into the market only to

be met with profound inbox silence. I was missing the fact that the team I had was the team I needed. I just needed to show them a path forward," said Allen.

A big part of that is training. "Training has been proven to accelerate cloud transformations massively," said Allen.

But that's just the tip of the iceberg. "You have to look deeper at what motivates people and that means taking a holistic approach," said Allen.

According to Daniel Pink, author of [*Drive – The Surprising Truth About What Motivates Us*](#), people have three key motivators:

- Autonomy – the ability to control when and how they do their job;
- Mastery – the desire to be really good at what they do;
- Purpose – a good reason for doing it that reflects their broader values.

Allen says you must talk to people informally to understand their drivers, and remove their reluctance to change by continually sparking these motivations, showing them how the new approach will give them the autonomy, mastery and purpose they seek.

12 steps to enterprise-scale cloud

Once the leadership team is on the same page, you can start on skilling up engineering teams across the business in the new approach. Allen ran through a 12-step plan based on his experience working on hundreds of customer cloud transformations.

- 1 Acceptance.** Work through people's denial of the new approach and lead them towards acceptance. "At first, it can feel like being on a rollercoaster – but remember people's change curve is different. Mine's about one second long, whereas for some people it can take two years," said Allen.
- 2 Training.** Foundational training in the essentials of cloud will accelerate the organization's rate of adoption and ensure everyone is on the same page. "For example the AWS Tech Essentials or Architect courses train people in the core services they need to know about, with a heavy emphasis on security," Allen said. "But don't force people on courses until you've put together a team that will use what they learn."
- 3 Safe 'hands-on' time.** Give your engineers time and freedom to experiment and play. "That's really vital to boosting their skills. They need an always-accessible non-production environment where they can gain experience of many different services," said Allen.
- 4 Create your first two-pizza team.** Amazon famously pioneered this idea. Your team should be small enough to be comfortably fed with two American pizzas. "Don't have more than 6-12 people in the team or it will fragment," said Allen. It also needs to have a full range of skills - a product manager, a lead architect as well as engineers with skills in infrastructure, security, operations and applications. "To become truly agile and move to a point where you can deliver every day, this team needs to be responsible for development and operation of their product or service end to end," said Allen. Putting in place the first team – which will be the template for the entire organization – will show you where the blockers are and allow you to overcome them before you roll the approach out more widely.

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Bring in experts. To boost your team's skills, bring in external experts to give them hands-on help. One productive approach is known as pair programming. "That's a technique where two programmers using one PC with two keyboards and two mice then develop code together from scratch all the way to pushing it into the cloud. This can be a very powerful method of skills transfer, particularly where people don't respond well to classroom training, for example, if they're too embarrassed to ask questions when they don't understand something. In a pair programming scenario, we see even the most introverted developers having a continual conversation with their pair partners," said Allen.

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Make it real. The next stage is to ship something important that results in a tangible business outcome. "Proof of concepts don't work. To fix the learning in place, it's really got to matter for your business," said Allen.

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Scale the learning by splitting the team. One team isn't enough. "Depending on the size of your organization you're going to need tens or even hundreds of cloud-fluent teams that can deliver business outcomes," said Allen. One good way to scale is to cut teams in half. "Split your first team of 12 into two teams of six and bring six new people into each. Then give each team a new business outcome to deliver. Once those new people are up to speed, you can split each team again, bring in more new people and keep repeating the process to scale the number of teams," said Allen

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Certification. After a while, you may begin to notice some teams 'get it' while others don't. What seems to make the most difference is whether or not those teams have attained formal certification for their cloud skills. AWS, for example, offers a range of broad-based and specialist cloud certifications that people can either study in a classroom or online at their own pace using a service like [A Cloud Guru](#). "We all like to learn in different ways so you need to offer multiple mechanisms for anyone who wants to gain certification," said Allen.



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Scaling certification. It has been shown that once 10% of your organization is certified, the rest will follow. “I’ve seen a tipping point in virtually every single customer once it reaches 10% certified. Psychologists have known for years that when 10% of a population has a passionate belief about something, the majority will always adopt that belief. So 10% certified should be your goal,” said Allen. “Then something really interesting happens – your organization will start speaking a common language around cloud - not just at the engineering level, but at the product and management levels too.”

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Recognize and reward expertise loudly. It’s also important to recognize people’s mastery. “Depending on how individuals best respond, you might use an internal roster of honor, give people a special chair for the day or some Amazon vouchers, praise them in a meeting or put their name up on a screen,” said Allen. Make sure you’re doing it in the way the individual wants, though - not everyone responds to group attention – some prefer quieter forms of recognition.

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Take the challenge yourself. If you’re telling everyone to get certified, you should really be prepared to do the same yourself. After a mid-presentation heckle of “When are you going to take the exam?” from one employee, Allen decided to do just that, running through online lessons at home in the evenings over the course of a month. “I’m pleased to say I passed. And it really helped. Now I understood how managers were gluing all these bits together to solve problems. I’d recommend it to any leader as I learned a tremendous amount,” he said.

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Create a unifying job family portfolio. Once the cloud transformation takes hold, you can start defining the new roles and job families in your business. “There’s no definitive answer to what these should be – it depends what’s appropriate for your organization,” said Allen.

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Allen's 12-step approach has been tried and tested among many AWS customers. For example, National Australia Bank in Sydney now has 7% of all AWS-certified individuals in the region. Another customer, Verizon, has more than 1,000. And in Allen's old organization, CapitalOne, the approach has scaled to thousands of certified engineers. As he said: "This mechanism absolutely works."

If you want to delve further, Allen has written in [more detail about his 12 steps on Medium](#).



Learn More

eBook: Staying Competitive by Investing in Cloud Skills

Take advantage of your employees' wealth of knowledge as company insiders by helping them leverage their existing technical skills to learn the critical new ones.

AWS Executive Insights

Perspectives on enabling cloud innovation and transformation through culture, talent, and leadership.

About the Author

Jonathan Allen is an Enterprise Strategist at Amazon Web Services and the former Chief Technology Officer and Senior Director in CapitalOne Bank's UK division.