MAKING
DEVOPS
AT SCALE
STICK

FOUR LESSONS
FROM ACCENTURE’S
OWN DEVOPS
TRANSFORMATION

By Martin Croker
Driving DevOps adoption at scale remains a challenging proposition for most organizations. How does a massive organization like Accenture, with more than 175,000 IT professionals do it? Accenture DevOps lead Martin Croker offers four key success factors from the company’s own 20-year journey to doing DevOps and aspiring to make DevOps our default approach.
The most essential DevOps enabler of all? Training. It might sound obvious, but training can be difficult to define—and hard to implement.

We developed our own two-day training course to introduce our people to DevOps principles and technologies, after searching unsuccessfully for external training providers. The primary objective is to build a critical mass of people who understand what ‘good’ looks like in DevOps, what DevOps delivery entails, and what benefits this provides.

We had no delusions that two days of training would, on its own, be enough to give us a workforce of deeply-skilled DevOps practitioners. But it did give us a large (and growing) number of people who’ve seen DevOps in operation, can talk knowledgeably about it and recognize the bar they’re aiming for.

Our course focused on the ‘continuous delivery’ element of DevOps. We introduced the concepts of delivery pipelines, working with small batch sizes, and the fact that huge amounts of testing can be automated. It’s delivered through a combination of hands-on labs and presentations. Crucially, we tried to make it really practical. If you simply talk about infrastructure as code, you’ll soon lose your audience. But if people can watch a demo showing how DevOps lets them go from nothing to a running platform in under 30 minutes, they really start to get it. We demonstrated this in front of them, in real time, to give them a flavor of the art of the possible, and then consolidated the learnings through hands-on labs. The intention was that the attendees go back to their business units as catalysts for DevOps adoption.

Broadly speaking, we’re succeeding. This past year’s target was for more than 4,000 technologists to attend the training course—a sizeable investment in time and resources for us. And, it was a scale challenge that we’ve addressed by evolving the course. For the first six months, we delivered all the sessions in person. Now, we deliver a large proportion of them through virtual classrooms, allowing us to expand training coverage, better leverage our in-demand faculty, and significantly cut down on the travel involved.

We’ve also introduced DevOps into our other training courses—and not as a one-off module, or an add-on to existing courses on software development. Instead, we’ve embedded constructs around DevOps and software engineering into the heart of our core training courses. Because of the scale of Accenture’s IT training, it was a huge undertaking. This included updating all of our new-joiner training so the people flowing into Accenture, our next generation of engineers, are all learning their trade in a DevOps-centric way. We’ve also skilled-up our executives and sales leads to expand our number of DevOps evangelists. This all has been part of a multi-pronged approach to driving DevOps practices into everything we do.
2. GET EQUIPPED
GLUING TOGETHER THE
BEST-OF-BREED TOOLSET

Giving people the best-of-breeds

toolset to deliver projects the
DevOps way has been vital. This
is where our Accenture DevOps
Platform has played a pivotal
role. Originally developed as the
lab environment for our training
course, the DevOps Academy,
we quickly realized that it could
also be hugely valuable to
support client work.

The Accenture DevOps Platform enabled us
to demonstrate (very persuasively) what can
be achieved through DevOps. Functionally,
it’s a framework for gluing together a suite
of open source development tools and
providing a rapid way of mobilizing software
development projects in a consistent,
standardized way. The platform comprises
the tools typically needed for software
delivery—version control, code analysis,
pipelines, QA and more. The platform is
technically implemented as a cloud template
with a set of Docker-compose scripts
that provision the suite of DevOps tools.
This means we can get a project up and
running—and looking good from a DevOps

perspective—in around 10 minutes. And
that’s enormously helpful in client-facing
situations. It has made it easier for project
teams to start delivering ‘the DevOps way’,
rather than carrying on as before. That’s why
the Accenture DevOps Platform is now also
proving its value in client project delivery.

We run it in two versions: as a centralized
managed service for hundreds of client
projects and as an open-sourced platform.
Because the platform has proven to be
such a great catalyst for our own DevOps
transformation, we decided to make it
available to the open source community.
Why? First and foremost, we strongly
believe it’s our responsibility to not just
consume open-source services, but also
to contribute to it. It’s also self-serving,
to a degree. Accenture’s DevOps team
supports multiple engagements for large
enterprise clients. If these engagements
can be encouraged to use DevOps from
the outset, it’s far easier (and quicker) than
trying to retrofit them. If they’re using the
platform, we know they’re already using
recommended DevOps practices.
The Accenture DevOps Platform has made it easy for us to move decisively towards training our people. By providing a common thread through everything we do, it’s given Accenture’s Technology business enormous traction. The platform provides us an architecture for standing something up in an infrastructure-independent way. Then we can easily introduce ‘cartridges’ on top, carrying reference applications for particular technologies (e.g., SAP, Oracle) and appropriate configurations for whatever tools are selected. As a result, we’ve now got a large number of active co-initiatives in various parts of Accenture where the DevOps capability is functioning as the enabler, letting each platform move to a DevOps mode of delivery, using whichever tools are right for them. That way, each practice gets all the advantages of rapid mobilization through the DevOps platform. And instead of feeling it’s being ‘done’ to them, they get to own it.
3. COLLABORATION COUNTS
FOSTERING AN INCLUSIVE ENVIRONMENT

One of the things that’s caused the DevOps community to thrive, we believe, is the open-source, collaborative nature we strive to maintain in everything we do.

For example, all of the materials for our DevOps training course are on an internal wiki. Any points of view we have are on a wiki. If people don’t like them, they can edit them. It’s all about fostering an inclusive approach for individual technologists and for all the capabilities that we work with. As well as increasing capacity for our team, it fosters an environment in which, as co-owners and co-beneficiaries, they’ll be more likely to sponsor and support wider DevOps adoption.

Illustrative of this collaboration, we’ve launched a DevOps shared service center within Accenture. Through this, we can support a whole variety of projects on a one-to-many basis. That’s been really important to us in three ways. First, it’s enabled us to support clients with DevOps skills that are in high demand (like the rest of the industry, we haven’t found it easy to grow talent at the rate we need to meet growing demand). Using a shared service center lets us make the people with expertise go a lot further. Coupled with that, and the second benefit, it’s allowed us to build DevOps much faster. By bringing people through the center, showing them what good looks like and getting them used to the DevOps way of delivery, it’s given us a way of training and upskilling our people at a much quicker rate than we could achieve otherwise. Third, it’s given us a center of gravity for building skills, assets and knowledge.

There’s a lot of debate in the open source community around centralized DevOps teams. Many believe they’re counter-productive, arguing that DevOps should enable a more democratic way of working for everyone on a project. We agree. But we also believe that using a center, a DevOps team, however one calls it, is a powerful catalyst for incubating new project, aligned to a ‘good’ level of practice. Then, when they’re ready, they can graduate back into a more conventional model. We don’t believe in shared services everywhere but, used correctly, they can be a powerful enabler for propagating DevOps skills and accelerating their adoption.
We’ve started to introduce new project delivery indexes to measure how projects are progressing in their adoption of DevOps practices, with a maturity scale that we can standardize across the organization.

This checks projects across five or six dimensions, where 1 is poor and 5 is leading practice (and probably not appropriate for every one of our projects) and somewhere in the middle, 2, is what we consider to be the minimum acceptable standard for DevOps adoption.

Do we expect every project in Accenture to be delivering to production 50 times a day? Probably not. Many of our clients aren’t ready for that. Do we expect every project in Accenture to have all of its source code and version control using DevOps? Absolutely. Using this approach for measuring DevOps adoption gives us a quantitative view. We can track progress, understand where we’re doing well and identify projects that need extra help. The important thing is to make sure that measurement provides a way of supporting delivery leads, not a means of piling extra pressure on them.

We also apply measurement and reporting to where we are from a DevOps capability perspective. We have defined key metrics for our DevOps capability and measure and report against these metrics to have a very clear view of our size, chargeability and value-add for the business.

Another reason measurement is so important is that training our people in DevOps represents a major investment. In every DevOps transformation, the value must always exceed the costs. And to win over internal stakeholders throughout the course of the rollout, it’s vital to be able to articulate that value. Through measurement, we can demonstrate that our investment is making us and our clients more productive, more cost efficient, increasing business value and securing greater market share. DevOps adoption can bring these same benefits to other large organizations.
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**ABOUT ACCENTURE**

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions – underpinned by the world’s largest delivery network – Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With approximately 401,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at [www.accenture.com](http://www.accenture.com).

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