

E-Guide

What developers should know about Amazon Web Services (AWS)

Essential tips to leverage AWS initiatives from Amazon

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With more and more enterprises embracing a mobile first strategy, and Amazon Web Services (AWS) firmly established within the web application development, testing and deployment fields, it's not surprising that their next move is in addressing mobile and embedded device development. Read on for a review about added features and predictions for the future.

Additionally, AWS is making it easier for companies to manage, store and analyze their data. Did you know that AWS offers a library of free datasets? And that's not all. Read on for two more things about big data and AWS that you may not know.

Amazon accelerates embedded development with mobile AWS initiatives

By Jason Tee

The development of embedded devices has become the top priority of many enterprise organizations, but it also poses a great challenge in terms of people, tools and technology. Fortunately, the development of embedded devices can be greatly accelerated by leveraging Amazon's AWS mobile initiatives. Amazon Web Services (AWS) have become well established in the web application development, testing and deployment field, so it's not surprising that the cloud giant is addressing mobile and embedded device development as the next big market. This is an especially timely move since more and more enterprises are embracing a mobile first strategy for application development. Here's a broad overview of where AWS is today, along with a review of some of the most recently added features and predictions for the future.

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What does AWS offer mobile developers?

At the most basic level, AWS provides SDKs for both iOS and Android in the mobile space. For Android in particular, Java developers may be interested in the AWS Toolkit for Eclipse, "a plug-in for the Eclipse Java IDE that makes it easier for developers to develop, deploy, and debug Java applications using Amazon Web Services." Since hybrid apps with Java and HTML5 are likely to gain more traction in the foreseeable future, it's a smart move to provide support for this developer group.

Updates enhance AWS mobile SDKs

New versions of the SDKs for Android and iOS were released in May of 2013. One of the major updates is the addition of support for web identity federation to the AWS Security Token Service. A new API allows cloud-backed mobile apps to authenticate using public identity providers including Facebook, Google, and Login with Amazon. This will provide a new way to issue temporary security credentials so developers have less administrative responsibility for maintaining backend services. The web identity federation can be combined with policy variables to tightly restrict and compartmentalize access within a developer's account.

The Amazon Elastic Transcoder client has also been improved with tools to make it easier for developers to work with video. Now, they can encode and deliver content to a broader array of video-capable mobile devices. Since everyone from individual app developers to large enterprises are becoming more multi-media savvy and mobile device types are proliferating, this is a timely enhancement. Your video content is only as good as your ability to make it available to end users.

Community matters for mobile on AWS

AWS is working hard to communicate with the developer community via the mobile AWS blog. Perhaps more important, the company is

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also pushing to foster as much crosstalk as possible on its mobile developer forum. In some situations, answers to newbie questions just turn into an advertisement for AWS offerings. However, some of the advice is pretty good. For example, a recent poster asked how to force an HTTP protocol for putObject to reduce the time for a call. Fast response times are, of course, the Holy Grail for mobile apps. But that doesn't mean security can be sacrificed.

The question received a fast response, within just a day, that gave several reasons for keeping the SDK's default HTTPS setting in place. The responder pointed out that even if the content being uploaded was headed to a public bucket and not really sensitive, there could still be concerns surrounding the transaction type itself. The DNS could be spoofed, the data could be modified in flight, or other communications could end up being affected by changing the endpoint for the SDK. While the breakneck development pace for mobile will always be challenging, getting extra perspective may help AWS users avoid rookie mistakes while getting the lowdown on the corner-cutting tricks that really do work. One of the biggest time-savers is always finding out that someone else has already tried an approach and discovered it doesn't work.

AWS is actively seeking to expand its expertise

Much is being made of an active job posting at AWS for a mobile software development engineer. The position is designed for someone who: "will be responsible for creating and owning world-class production applications across major mobile platforms." The company states that a commitment to team work, hustle, and strong communication skills are absolute requirements. When hiring new talent, the Amazon mobile team wants a rock star with a Top 25 app on the resume.

There's some speculation that AWS is positioning itself for a move into the Mobile Backend as a Service space as well. The company

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certainly has much of the infrastructure and services in place to make this happen with its other offerings. Existing leaders in the MBaaS industry are scoffing at the idea, but they are probably afraid deep down. Amazon has a way of figuring out a way to do things bigger, better and faster. There's just too much money in mobile development for AWS to turn a blind eye. So, if you're trying to figure out what skills to acquire for your next big career move, hustle on over and learn more about mobile, and what Amazon is doing to accelerate mobile application development.

Three things you didn't know about big data and Amazon Web Services (AWS)

By Jason Tee

As data gets bigger, Amazon Web Services (AWS) is positioning itself to help enterprises leverage the deluge of information to create more business value at a lower cost. Hadoop, DynamoDB and Elastic MapReduce get a lot of play in discussions of how AWS is making it easier for companies to manage, store and analyze their data. But there are also some hidden gems that are buried a little deeper under the surface. Here are three that could help organizations do business better.

Big data comes free with the Amazon cloud

When enterprises think about big data, they tend to focus mostly on the information they are collecting directly from interactions with customers. More forward-thinking business people might also recognize the value that can be extracted from data collected by partner organizations. But what about all the big data that is already available out there, free of charge, for anyone who cares to mine it?

AWS offers a library of free datasets that boggle the mind. Much of the information is of limited business value. For example, few users likely have a (legal) reason to browse the Whole Genome Shotgun

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Sequencing of the Cannabis Sativa Cultivar "Chemdawg". Datasets that do potentially have a commercial use for global enterprise might be Japan's economic census data or the facts available about millions of topics in the Freebase Data Dump. The information is typically a few years old, so it's not exactly real-time. But if you know how to query it correctly, you could potentially save money on consulting research. The most valuable thing about the AWS library is that it gets you to consider where else you might look for free data.

AWS will school you on big data

Amazon Web Services is giving back to the developer and business community as a sponsor of Big Data University. So far, IBM is dominating this venue. However, Amazon is making a play to attract more students for its own courses using giveaways for AWS. This online university offers a variety of courses free of charge. The Hadoop tutorials seem to be very popular, garnering testimonials such as this one from newbies like 'Roman': "The course is excellent because it saves time from reading big books to learn Hadoop. I prefer agile practice: try to achieve small results ASAP. I didn't know anything about Hadoop two months ago. But these two months were enough for me to create 7 nodes Hadoop cluster..."

For those with a little more big data savvy, there's even the opportunity to write and post an online course. That could be a smart play for enterprises that have a good developer team working on their big data. Creating a tutorial is an excellent way to ensure knowledge retention if a valued team member moves on to another job. Posting the course online for others to take increases the pool of available replacement talent.

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You can buy analyzing power for big data on the spot

Once you've provisioned the resources necessary to collect and store your data, you still have to spend more money to actually analyze it. Running any type of meaningful analytics is going to take computing power. For some types of data, it makes sense to perform analysis every hour, or even minute by minute. For other big data sets, doing analytics is only required occasionally. That might be daily, seasonally, after a big event (on a global scale or just one that shakes up your specific industry vertical), or when you acquire a large amount of new data. Fortunately, AWS lets you burst your business analytics with EC2 just as you do any other form of "as a Service" offering.

How does this work? At any given time, AWS has some resources that aren't being fully used. Like empty cabins on a cruise ship, you can purchase access at a discounted rate. These resources are available at spot prices. You bid, with a cap for the maximum rate you are willing to pay per hour, and get to spin up your additional instances to the cloud as long as no one outbids you. If you do get outbid or reach the limit of the available resource pool, your additional instances are terminated. This means spot instances aren't the best option for mission critical analytics. However, they can still be used as part of a larger elastic consumption model.

AWS has quite a few case studies for businesses that use this approach for regular big data tasks to save money. As an example, FourSquare uses spot instances to perform analytics across more than 3 million daily check-ins from users. They knew they would be using a lot of resources for this task on an ongoing basis, but didn't want to pay full price. So, they chose a task that can be interrupted occasionally without causing a massive problem. AWS cautions users to ensure their applications have a high fault tolerance to get the most out of spot instances.



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