

## **Transcript for Introduction to AWS Billing and Cost Management**

Hello! Welcome to Introduction to AWS Billing and Cost Management!

In the next ten minutes or so you will receive a high level overview of tools available for greater visibility into your cloud spend with AWS. As every user's experience is unique, you may find some cost related resources to be exactly what you need, while others might be more appropriate for later when you adopt more advanced use cases.

On balance, this particular course is more about sharing insights related to general capabilities, and helping you to be knowledgeable about the many tools available. Near the end of this video though, a click-by-click user experience is provided to demonstrate the online process for a particular case of setting up spend alerts using AWS Budgets.

We collectively refer to the set of cost reporting and monitoring tools as Billing and Cost Management. You can use this suite of tools to help estimate and plan future cloud costs, or receive notifications when cloud costs rise or exceed a threshold. You can also use the tools to analyze your sources of cloud spend, and improve your finance organization's operational efficiency when working with multiple AWS accounts.

We will start with the billing console, where you will find a high-level dashboard. In this dashboard, you have the ability to see what and where you are spending, from an AWS service perspective, in the current month. The other view available to you here is a month-over-month snapshot of your spend. You can compare and contrast how

much you are currently spending compared to the previous month. If you are using a service that offers a Free Tier of usage, and you are deliberate about staying in that Free Tier to avoid charges, you can also monitor this free usage on the dashboard.

From this landing page, you can access links to all of the individual AWS cost management services. This includes AWS Cost Explorer, AWS Budgets, Savings Plans, and Reserved Instances, expense reduction recommendations, payment method information, and your billing history.

Most users typically work with PDF versions of their bills. You can download all of your bills as PDF files that contain your regular monthly usage. If you purchase Savings Plans, Reserve Instances, or an item from the AWS Marketplace, or if you have subscribed to AWS Premium Support, you will also receive a separate bill for each of those items. Credit memos issued to your AWS account can be found in this view.

Here's an example of a PDF bill, which may differ slightly in format by Region. At the top, it includes a summary of charges, followed by additional details and associated taxes for each service.

Next we have Cost Explorer. Cost Explorer is a business intelligence, or BI, reporting tool available in the console that can help you assess your costs and usage across a variety of different views based on filters. With Cost Explorer you can evaluate things like how much you are paying for compute servers. If you are using Amazon Elastic Compute Cloud, or Amazon EC2, you can also find answers to more detailed questions. For example, you can ask “How much did it cost for Amazon EC2 servers using the latest AWS Graviton2 processor to run in the California Region for the last 5 days?”.

Additionally, there are graphical view options where you can toggle between a bar graph and a line graph, or even a table view which you can export as a CSV file.

Yet another way you can access Cost Explorer is through API calls.

Finally, if you'd like you can also create and save custom report templates designed for different teams or stakeholders, and all of these can be accessed in the console. Another perspective available for cost visibility is the AWS Current Usage Report, which is also referred to as AWS CUR. The first column typically shows the AWS service name, and the second column can indicate the type of metered usage. Other columns can show the API operation that caused the resource to be metered, or the Availability Zone in which the resource was provisioned. Remaining columns can capture usage amounts, billing currency, detailed line-item descriptions, and more. Information generated by AWS CUR can be stored in an S3 bucket, and from there a Cost Intelligence dashboard can be used to help visualize cost and usage, providing insights into trends and opportunities for additional expense savings.

To help think about AWS resources applicable for understanding sources of costs, this chart presents the various services we've discussed so far; ability to customize is scaled on the vertical axis from low to high, and level of cost and usage detail is scaled from low to high on the horizontal axis.

The billing dashboard serves as your entry point and landing page. As a level up from there, there is the easy-to-follow high level overview of spend in the form of PDFs.

Meantime, if particular user teams want to analyze data in detail and near real time, there is Cost Explorer and AWS CUR.

The full spectrum of tools presented in this Summary and their respective

customizability, level of detail, and ability to provide data for specific users and use cases, all represent unique solutions within the AWS suite of cost visibility offerings.

You might predominantly use one of these tools, or even a combination of them.

Now that we've discussed some resources for understanding sources of costs, let's look at tools for monitoring costs.

Let's start with AWS Budgets, which is a free AWS service that can help you implement you monitor spend with AWS. You can use it to set up notifications if your budget is exceeded, or if it is on track to be exceeded. You can create budgets based on all the filters available in Cost Explorer. Accordingly, you can create a budget for all of your cloud spend in the California Region, or all of your cloud spend tagged with a specific cost allocation. You can also start by setting a budget for all of your AWS spend across all possible venues, perhaps excluding your credits and discounts if you elect to do so. You can also set budgets to be notified when Savings Plans or Reserved Instances coverage rates drop below specific thresholds. Customers can create budgets in the AWS console, or programmatically through APIs, or even with AWS CloudFormation templates.

Customers can send AWS Budgets alerts to up to 10 email addresses. You can also use an integration with Amazon Simple Notification Service, or Amazon SNS, to notify downstream tooling integrations. AWS Budgets can additionally be integrated into instant messaging applications such as Slack or Amazon Chime. For example, if your team is using one of these instant messaging systems, you can use an integration to send messages when the budget is close to being exceeded.

Another service that helps you with proactive cost reporting is AWS Cost Anomaly Detection. This service uses advanced machine learning technologies to identify

anomalous spend and root causes, so you can take appropriate action. This is yet another way to help minimize the risk of receiving a surprising cloud bill at the end of the month.

Let's now see how to set up spending alerts using AWS Budgets with a click-by-click demo.

We begin by logging into our AWS console.

Then we search for AWS Budgets. Select that. Set custom budgets and receive alerts. Over here we click on Create A Budget. And we are interested in a cost budget which is also what is recommended for us. And then we click Next. And we have nothing here in the way of any data because we are just now setting up our budget alerts for the first time.

And we are interested in setting up a budget amount, and then the scope of the budget and entering the budget details. For the budget name I'll simply call it "awsspend", and I'm interested in monthly, it will be recurring, I'm starting May 2022, I'm interested in a fixed budgeting method, I'll say that I'm interested in a \$10 alert amount, unblended costs for all AWS services, and I'll click Next.

I will say "Add An Alert Threshold", which allows me to indicate a particular percentage of the budgeted amount that I set to have a trigger that will send an email to me to let me know, so I will say at fifty percent of my budget which is \$5, I will receive an alert, and for the email I'll simply use name at domain dot com, and I can have up to 10 recipients for that. And I'll scroll down a little bit further and then if I wanted to I could have an SNS alert or a chatbot alerts but I'm simply going to go with email. I click Next, and I will click Next again, and Create Budget.

And with the green bar up here at top we are now told that our budget, “awsspend” has been created successfully, and after creating a budget it can take up to 24 hours to populate all of your spend data.

That’s all there is to it!

We now have a budget alert set up on AWS.

To get started on your billing and cost management journey, simply select a tool, begin working with it, and learn what’s providing you with what you need and what you may want to obtain from another AWS cost visibility solution. From learning and experimenting, you can best determine which tool you need for detail, frequency, and decision-making. In that vein, Cost Explorer is an excellent place to start! It's free, visually insightful, and has a variety of helpful APIs.

After selecting a tool to start with, you may want to empower any stakeholders with also using that particular resource. Some of that might be figuring out how to visualize the most appropriate data for specific individuals or teams.

In addition to reporting what your current spend is, it is important to be proactive and not wait for the end of the month to receive a final bill. You can stay ahead of unexpected costs with tools like AWS Budgets and AWS Cost Anomaly Detection. You do not need to wait for your monthly cloud bill to know how spend is trending; there is the ability to view data in near real-time.

This concludes the Introduction to AWS Billing and Cost Management course. To take a deeper dive on some of the topics presented in this video, be sure to check out AWS Ramp-Up Guides, and especially the series related to Cost Management.

Thank you!