

(AWS) - PART IV



A Beginner's Guide to **AMAZON** WEB SERVICES

Introduction to Cost Optimization and Monitoring, Application and Data Management Tools, Content Delivery and Edge Networking, Monitoring and Observability, Backup and Disaster Recovery, Data Migration, Application Integration and Event Driven Architectures, Azure.



BY: **PAULA WONG**, CEO AND FOUNDER, CEH-MASTER,
CCIE SECURITY AND SWITCHING, C-7 #1086962
AWS CERTIFIED CLOUD PRACTITIONER



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Mastering AWS Billing: Simple Tips for Managing Costs



Amazon Web Services (AWS) provides many cloud services that help businesses grow and create new things quickly. But with so many options, it can be hard to manage costs. Understanding how AWS billing works is important to avoid surprise charges and make the best use of cloud resources. In this article, we explain AWS billing and give simple tips to help you keep your cloud costs under control.

AWS Billing Overview

AWS charges customers based on usage, meaning that costs can vary depending on the services consumed and the way resources are used. Here's a breakdown of key concepts in AWS billing:

1. Pay-As-You-Go Model

AWS operates on a pay-as-you-go model, meaning that you only pay for what you use. This provides flexibility but can also lead to unpredictable costs if not properly managed. Billing is typically based on:

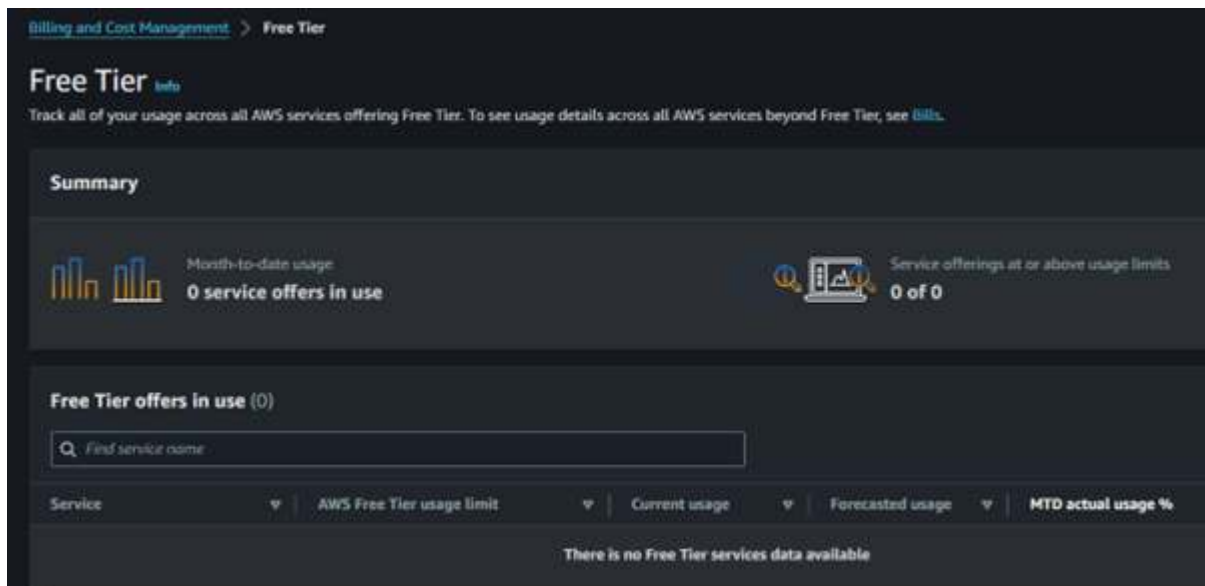
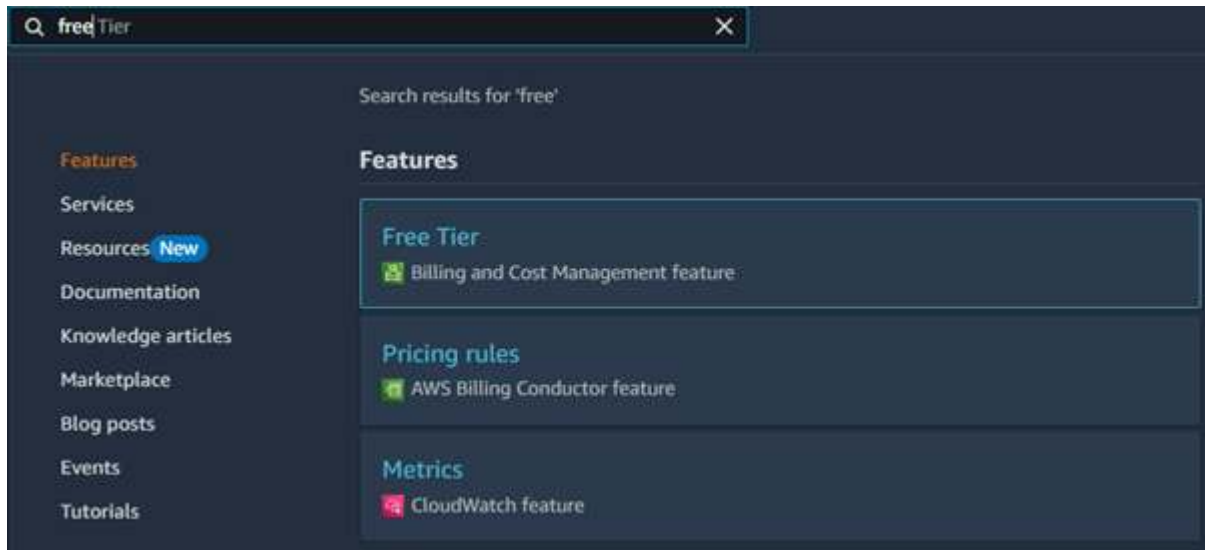
Compute: Charges for EC2 instances, Lambda executions, and other compute services.

Storage: Costs for services like S3, EBS (Elastic Block Store), and Glacier.

Data Transfer: Costs related to transferring data between AWS regions or out to the internet.

2. Free Tier

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Three Types of Offers

More than 100 AWS products are available on AWS Free Tier today. Three different types of free offers are available depending on the product used. Click an icon below to explore our offers.



AWS offers a Free Tier that allows new customers to explore AWS services without incurring costs. This includes limited usage for services like EC2, S3, and Lambda for 12 months, and certain services that remain free within usage limits.

3. Reserved Instances (RI)

For predictable workloads, AWS offers Reserved Instances, which allow you to reserve capacity in advance for a reduced hourly rate. These provide significant savings (up to 72%) compared to on-demand pricing.

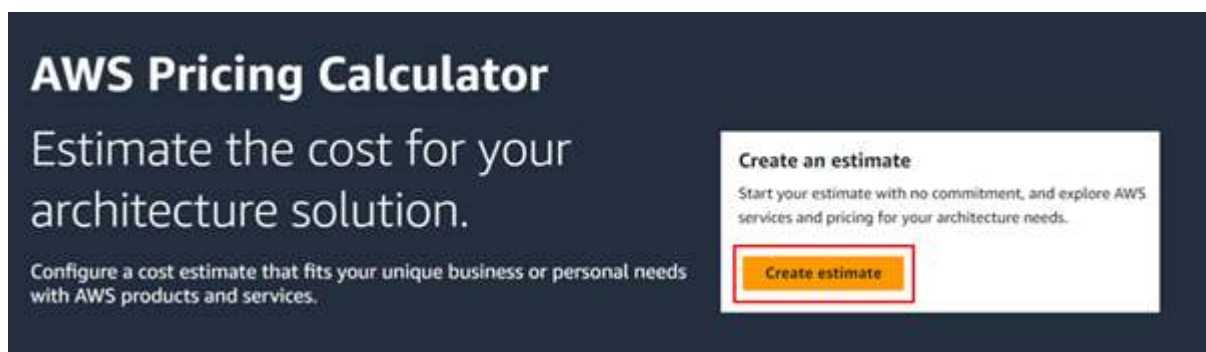
4. Savings Plans

AWS Savings Plans are flexible pricing models that allow you to save on EC2, Lambda, and Fargate usage by committing to a consistent amount of usage (measured in dollars per hour) for a 1 or 3-year term. They offer similar savings to Reserved Instances but with more flexibility.

5. AWS Pricing Calculator

The

To access the pricing calculator, on the left side of the Billing console select pricing calculator, you can also access this service even if you are not logged in to the management console, lets see how we can create an estimate, click on create an estimate.



Fill in your details for the estimate.

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Create estimate: Configure Amazon EC2 [Info](#)

Description

Choose a location type [Info](#) Choose a Region

Region

EC2 specifications [Info](#)

Tenancy
Choose the tenancy type to run your Amazon EC2 instances on.

Select your operating system, number of instances, and workloads.

Operating system
Choose the operating system to run your Amazon EC2 instances on.

Workloads
Choose the graph that best represents your monthly workload

Constant usage Daily spike traffic Weekly spike traffic Monthly spike traffic

Number of instances
Please specify the total number of instances that you need each month.

<input type="radio"/>	t4g.nano	2	0.5 GiB	Up to 5 Gigabit	EBS only	0.0042
<input type="radio"/>	t3a.nano	2	0.5 GiB	Up to 5 Gigabit	EBS only	0.0047
<input checked="" type="radio"/>	t3.nano	2	0.5 GiB	Up to 5 Gigabit	EBS only	0.0052
<input type="radio"/>	t2.nano	1	0.5 GiB	Low	EBS only	0.0058
<input type="radio"/>	t4g.micro	2	1 GiB	Up to 5 Gigabit	EBS only	0.0084
<input type="radio"/>	t3a.micro	2	1 GiB	Up to 5 Gigabit	EBS only	0.0094
<input type="radio"/>	t3.micro	2	1 GiB	Up to 5 Gigabit	EBS only	0.0104
<input type="radio"/>	t2.micro	1	1 GiB	Low to Moderate	EBS only	0.0116
<input type="radio"/>	t4g.small	2	2 GiB	Up to 5 Gigabit	EBS only	0.0168
<input type="radio"/>	t3a.small	2	2 GiB	Up to 5 Gigabit	EBS only	0.0188

Select payment options.

Payment options

Estimated commitment price based on the following selections:
Instance type: **t3.nano** Operating system: **Linux**

Select the container and options to find your best price

Compute Savings Plans

One plan that automatically applies to all usage on EC2, Fargate, and Lambda. Up to 66% discount. [Learn more](#)

Reservation term

- 1 year
- 3 year

Payment Options

- No upfront
- Partial upfront

EC2 Instance Savings Plans

Get deeper discount when you only need one instance family and region. Up to 72% discount. [Learn more](#)

Reservation term

- 1 year
- 3 year

Payment Options

- No upfront
- Partial upfront

On-Demand

Maximize flexibility. [Learn more](#)

Expected utilization

Enter the expected usage of Amazon EC2 instances

Usage

Usage type

Spot Instances

Minimize cost by leveraging EC2's spare capacity. Recommended for fault tolerant and interruption tolerant applications. [Learn more](#)

The historical average discount for t3.nano is 71%.

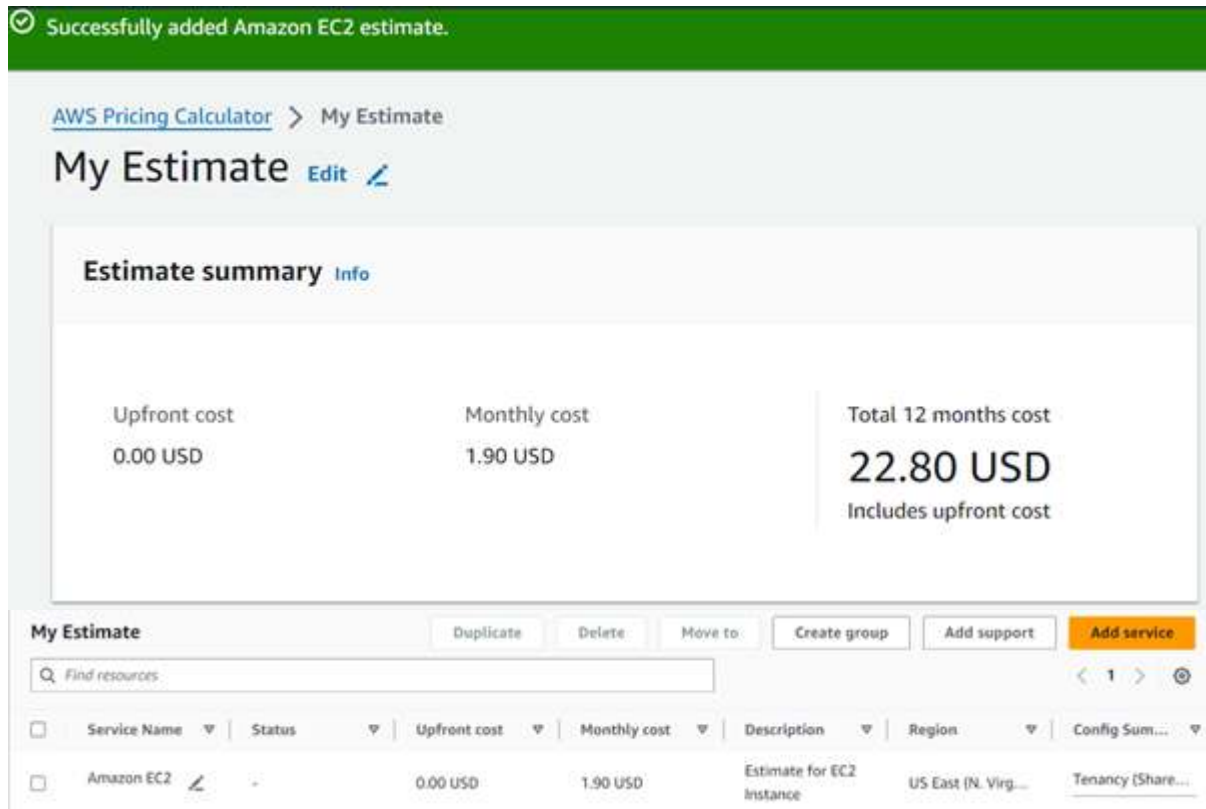
Assume percentage discount for my estimate



Actual spot instance pricing varies

With spot instances, you pay the spot price that's in effect for the time period your instance is running

Then you can save and view estimates.



Tips for Managing AWS Billing

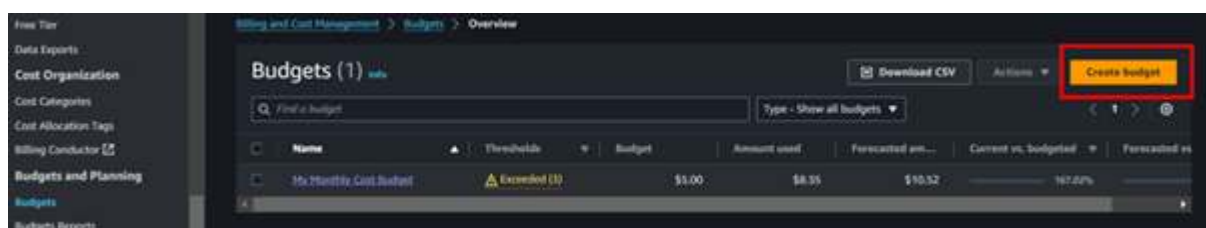
To avoid unexpected charges and optimize your AWS costs, consider these key tips:

1. Set Billing Alerts

AWS provides the ability to set up billing alerts, which can notify you when your usage exceeds a specified threshold. By configuring these alerts in the **AWS Budgets** service, you can track your spending in real time and take action before costs spiral out of control.

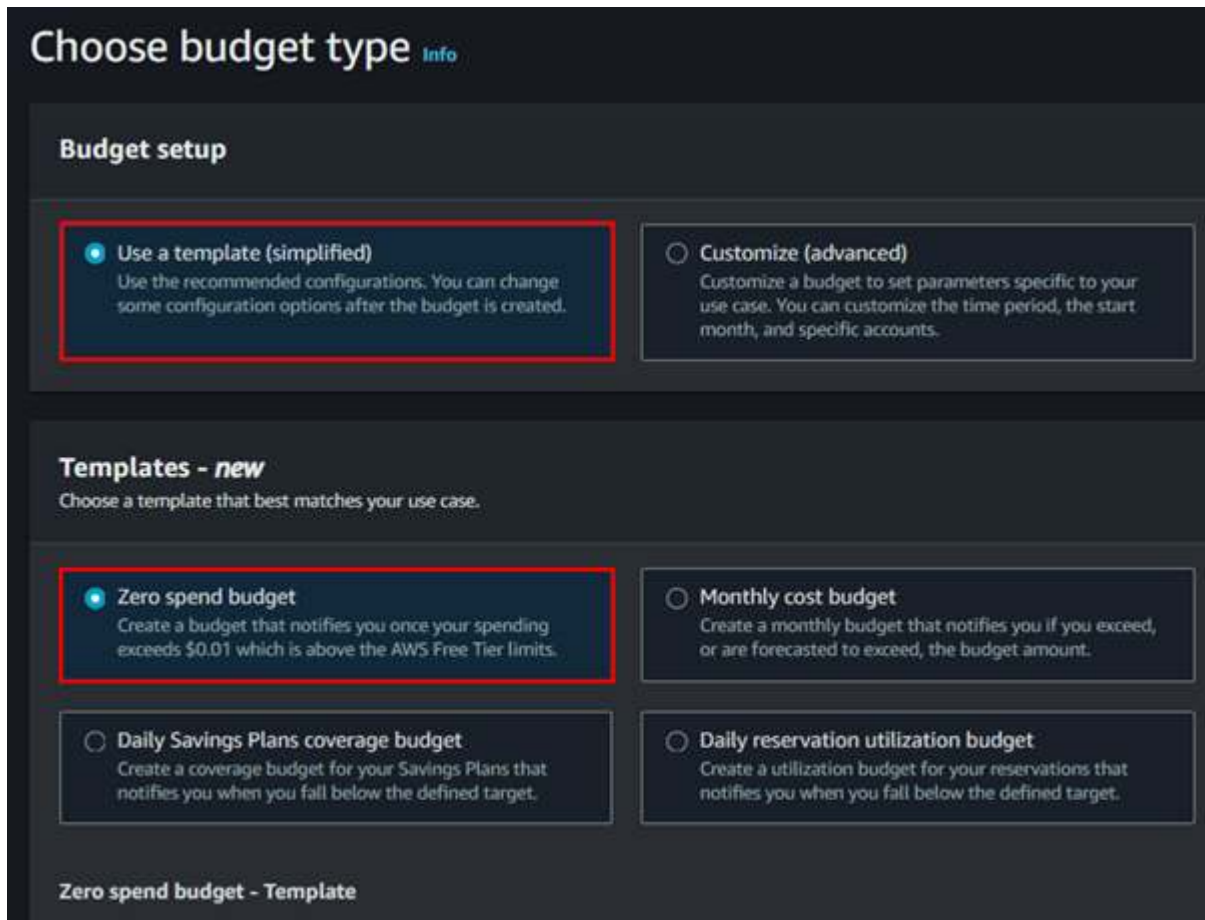
For example, if you are a new bae, you can set zero spending in the AWS budget, lets create a small budget for zero spend, this will ensure as we navigate the AWS free tier, the AWS budget does not exceed the free tier with any amount.

In your Billing dashboard, click on the AWS budget, then click on Create Budget.



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In the choose budget type, select use a template, then select zero spend budget.



Give your budget a name, for example, my zero-spend budget. Provide the email address you will be notified with in case your budget exceeds zero, then scroll down and click Create a budget.

Zero spend budget - Template

Budget name
Provide a descriptive name for this budget.

My Zero-Spend Budget

Names must be between 1-100 characters.

Email recipients
Specify the email recipients you want to notify when the threshold has exceeded.

email@example.com

Maximum number of email recipients is 10.

Scope
All AWS services are in scope in this budget.

i You will be notified via email when any spend above \$0.01 is incurred.

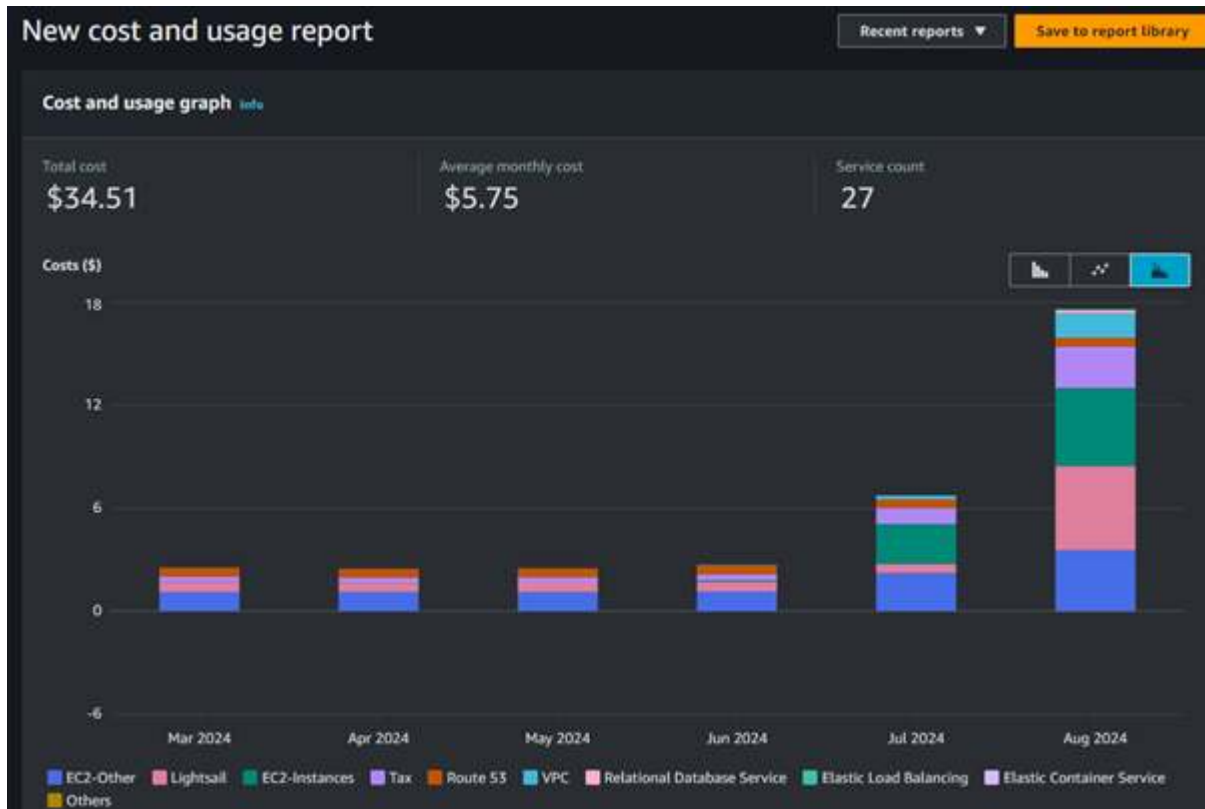
▼ Template settings

This template has default configurations that can be changed later. To change any of these settings, see [Custom](#). You can also download this template in [JSON](#).

Cancel **Create budget**

2. Use Cost Explorer

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AWS Cost Explorer allows you to visualize your spending patterns over time. It provides detailed reports on your usage, making it easier to identify which services are consuming the most resources and where potential savings can be made.

Filter by Service: Use filters to see which services are driving the majority of your costs.

Set Time Frames: Analyze costs over different periods (daily, monthly, or yearly).

Track Reserved Instances (RIs): Keep an eye on your RI usage to ensure you're getting the most out of your investments.

Conclusion

By familiarizing yourself with key AWS billing concepts, taking advantage of available tools, and implementing best practices, you can avoid surprises on your AWS bill and ensure that your company's cloud spending matches its goals.

Thanks for reading and stay tuned for more.

If you have any questions concerning this article or have an AWS project that requires our assistance, please reach out to us by leaving a comment below or email us at: sales@accendnetworks.com.

Thank you!

Mastering AWS Cost Monitoring: Essential Tools & Techniques



Controlling and reducing **cloud costs** can be challenging, particularly in settings like Amazon Web Services, where resources are constantly changing. To keep your cloud spending in check, it's important to implement effective and master AWS cost monitoring strategies as a significant part of this process involves leveraging AWS cost reports, and AWS usage reports, and conducting AWS audits. These tools offer insight into how resources are being utilized and where spending can be optimized, contributing to more efficient AWS cost management.

In this blog, we will dive into the role of cost reports in AWS cost management, and how you can use this resource to improve your budgeting and auditing processes.

Why AWS Cost Monitoring is Important

Monitor AWS spending is very important for businesses to keep their cloud spending under control. This monitoring process includes:

- tracking resource usage and costs in real-time
- fixing any inefficiencies as they happen.

The key tools to help with **AWS cost monitoring** include **AWS cost reports** and **AWS usage reports**. These provide:

visibility into both current spending and resource utilization, making them indispensable for cloud financial management.

Understanding AWS Cost Reports

AWS cost reports are detailed documents that provide insights into the costs associated with the resources you are using. They break down the costs by service, resource type, and time frame, allowing for an in-depth look at where your budget is going. These reports are essential for businesses looking to optimize their spending.

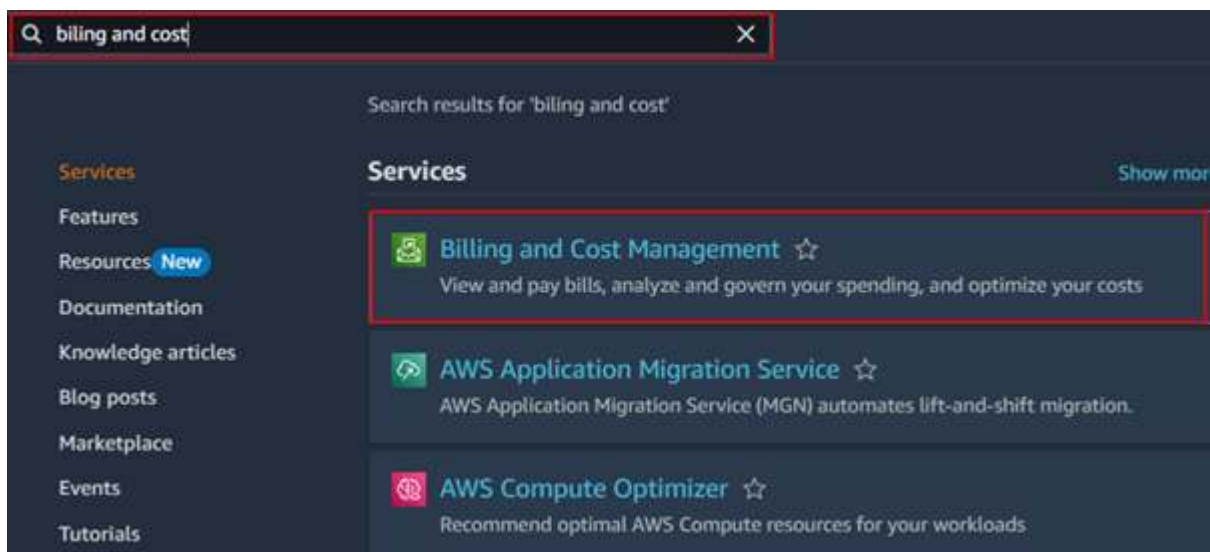
You can use **AWS cost reports** to:

- Track your overall spending trends.
- Identify which services are consuming the most resources and budget.
- Make informed decisions on resource allocation and scaling.

By regularly reviewing these reports, you can implement effective AWS cost-monitoring strategies that will help you identify inefficiencies and reduce unnecessary [expenses](#).

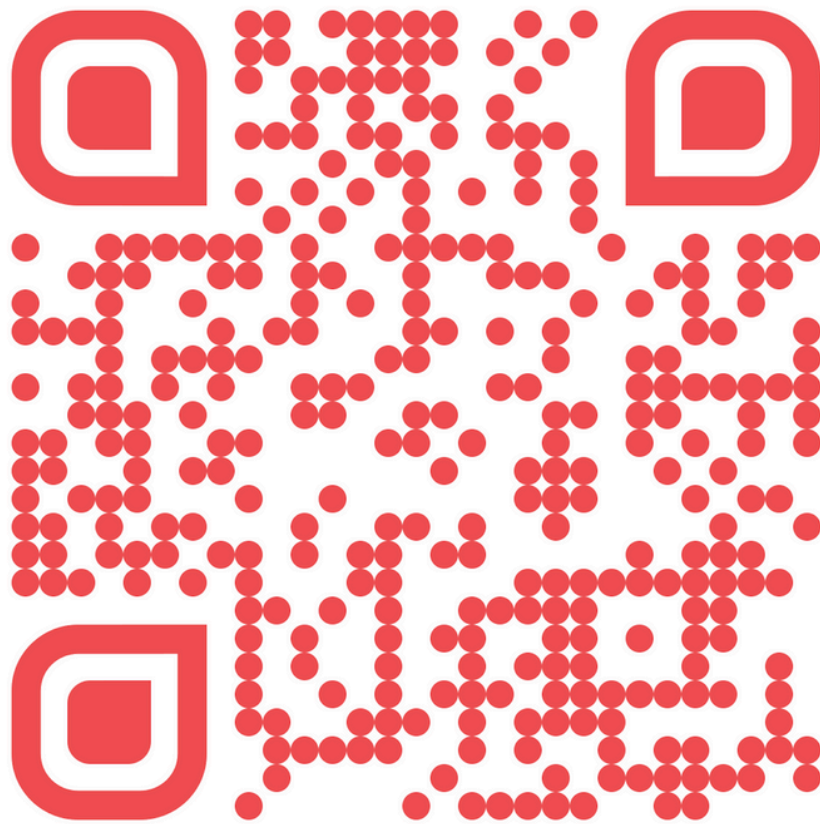
Let's explore how to access and view your AWS usage reports efficiently.

To view AWS usage reports, log in to the AWS Management Console and ensure you have the appropriate permissions. In the search bar type billing and cost management then select it under services.



In the Billing and Cost Management dashboard, navigate to the left side of the panel and select **Cost Explorer Saved Reports** from the navigation menu.

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