

# AWS Free Services

Cheat sheets, Practice Exams and Flash cards [👉 www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

AWS Free services are free forever, unlike the “free-tier” that are up to a point of usage or time



**IAM - Identity Access Management**



**Amazon VPC**



**Auto Scaling**



**CloudFormation**



**Elastic Beanstalk**



**Opsworks**



**Amplify**



**AppSync**



**CodeStar**

The AWS services are also free. however these AWS Services provision other services which may cost money



**Organizations & Consolidated Billing**



**AWS Cost Explorer**

# AWS Support Plans

Watch later Share

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

Basic	Developer	Business	Enterprise
Email Support only For <b>Billing and Account</b>	Tech Support via <b>Email</b> ~24 hours until reply  <b>No</b> third party support		
	General Guidance		< 24 hrs
	System Impaired		< 12 hrs
		Production System Impaired	< 4 hrs
		Production System <b>DOWN!</b>	< 1 hrs
			Business-Critical System <b>DOWN!</b> < 15m
			 Personal Concierge
			 TAM
<b>7</b> Trusted Advisor Checks		All Trusted Advisor Checks	
<b>\$0 USD</b> /month	<b>*\$29 USD</b> /month	<b>*\$100 USD</b> / month	<b>*\$15,000 USD</b> / month

# AWS Support Plans

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## Developer

**\*\$29 USD** /month

or  
3% of monthly AWS usage  
*whichever is greater*

eg.

**Monthly Spend is \$500**  
3% of 500 = \$15 USD (\$29)

**Monthly Spend is \$1000**  
3% of 1000 = \$30 USD

## Business

**\*\$100 USD** / month

or  
10% of monthly AWS usage for the first \$0–\$10K  
7% of monthly AWS usage from \$10K–\$80K  
5% of monthly AWS usage from \$80K–\$250K  
3% of monthly AWS usage over \$250K  
*whichever is greater*

eg.

**Monthly Spend is \$1000**  
10% of 1000 = \$100 USD

**Monthly Spend is \$5000**  
10% of 5000 = \$500 USD

**Monthly Spend is \$12,000**  
10% of 10,000 = \$1000 USD  
7% of 2,000 = 140 USD  
\$1140 USD

## Enterprise

**\*\$15,000 USD** / month

or  
10% of monthly AWS usage for the first \$0–\$150K  
7% of monthly AWS usage from \$150K–\$500K  
5% of monthly AWS usage from \$500K–\$1M  
3% of monthly AWS usage over \$1M  
*whichever is greater*

Player for CLF-C01 — AWS Support Plans

# Technical Account Manager (TAM)

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)



**A Technical Account Manager? (TAM) provides both proactive guidance and reactive support to help you succeed with your AWS journey**

What does a TAM do? (Straight from an AWS Job Posting)

- Build solutions, provide technical guidance and advocate for the customer
- Ensure AWS environments remain operationally healthy whilst reducing cost and complexity
- Develop trusting relationships with customers, understanding their business needs and technical challenges
- Using your technical acumen and customer obsession, you'll drive technical discussions regarding incidents, trade-offs, and risk management
- Consult with a range of partners from developers through to C-suite executives
- Collaborates with AWS Solutions Architects, Business Developers, Professional Services Consultants, and Sales Account Managers
- Proactively find opportunities for customers to gain additional value from AWS
- Provide detailed reviews of service disruptions, metrics, detailed prelaunch planning
- Being part of a wider Enterprise Support team providing post-sales, consultative expertise
- Solve a variety of problems across different customers as they migrate their workloads to the cloud
- Uplift customer capabilities by running workshops, brown bag sessions, etc.



TAMs follow the Amazon Leadership Principles  
Especially about being Customer Obsessed!



TAMs are only available at the Enterprise Support tier.

# AWS Marketplace

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

**AWS Marketplace** is a curated digital catalogue with **thousands** of software listings from independent software vendors.

Easily find, buy, test, and deploy software that already runs on AWS.

The product can be **free** to use or can have an **associated charge**. The charge becomes part of your AWS bill, and once you pay, AWS Marketplace pays the provider.

The sales channel for ISVs and Consulting Partners allows you to **sell your solutions** to other AWS customers.



Products can be offered as

- Amazon Machine Images (AMIs)
- AWS CloudFormation templates
- Software as a service (SaaS) offerings
- Web ACL
- AWS WAF rules

# Consolidated Billing

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

**Consolidated Billing** is a feature of AWS Organizations that allows you to pay for multiple AWS accounts with **one bill**.

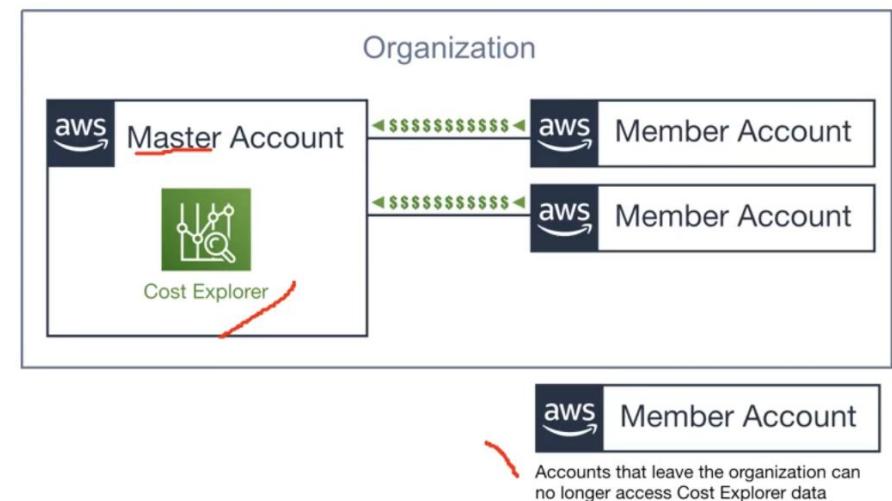
For billing AWS treats all the accounts in an organization as if they were one account.

You can designate one **master account** that pays the **charges** of all the other **member accounts**.

Consolidated billing is offered at no additional cost!

Use **Cost Explorer** to visualize usage for consolidated billing

You can combine the usage across all accounts in the organization to share the volume pricing discounts



# Consolidated Billing – Volume Discounts

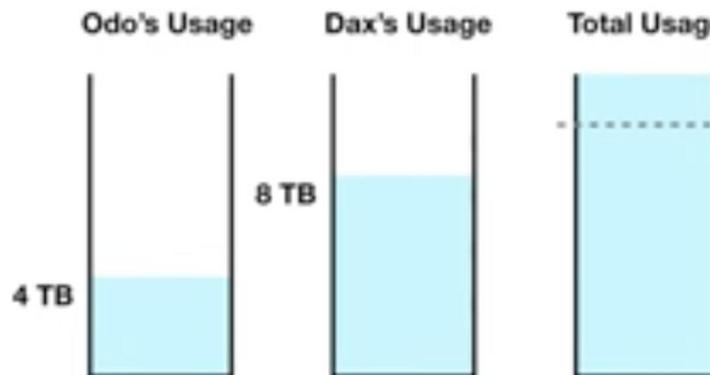
Cheat sheets, Practice Exams and Flash cards [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

AWS has **Volume Discounts** for many services

The more you use, the more you save.

Consolidated Billing lets you take advantage of Volume Discounts

Consolidate Billing is a feature of AWS Organizations



Data Transfer	
First 10 TB	\$0.17 per GB
Next 40 TB	\$0.13 per GB

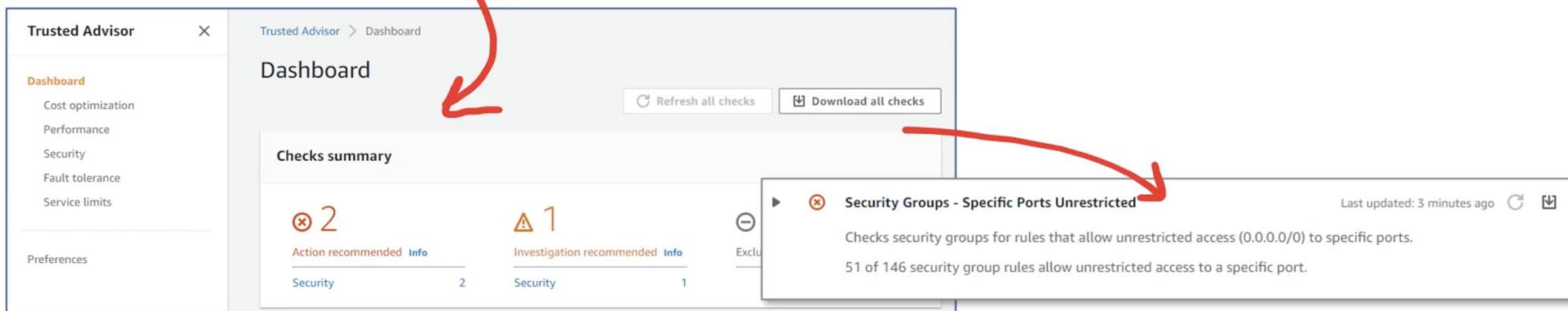
Odo	$(4 * 1024) * 0.17$	= \$696.32	1 TB = 1024 GB
Dax	$(8 * 1024) * 0.17$	= \$1392.64	
Unconsolidated	$696.32 + 1392.64$	= \$2088.96	
Consolidated	$((10 * 1024) * 0.17) + ((2 * 1024) * 0.13)$	= \$2007.04	

# AWS Trusted Advisor

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)



**AWS Trusted Advisor** is a **recommendation tool** which automatically and actively monitors your AWS account to provide **actional recommendations** across a series of categories.



The screenshot shows the AWS Trusted Advisor interface. The sidebar on the left has 'Dashboard' selected. The main area is the 'Checks summary' section. It shows 2 'Action recommended' items under 'Security' and 1 'Investigation recommended' item under 'Security'. A red arrow points from the 'Dashboard' link in the sidebar to the 'Checks summary' section. Another red arrow points from the 'Download all checks' button to a detailed view of a specific recommendation: 'Security Groups - Specific Ports Unrestricted'. This detail view includes a description: 'Checks security groups for rules that allow unrestricted access (0.0.0.0/0) to specific ports.', a note: '51 of 146 security group rules allow unrestricted access to a specific port.', and update information: 'Last updated: 3 minutes ago'.



Think of AWS Trusted Advisor like an **automated checklist of best practices on AWS**

The 5 categories of AWS Trusted Advisor

- Cost Optimization – How can we save money?
- Performance – How can improve performance?
- Security – How we can improve security?
- Fault Tolerance – How can we prevent a disaster or data loss?
- Service Limits – Are we are going to hit the maximum limit for a service?

# AWS Trusted Advisor

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

AWS Trusted Advisor providers different level of checks based on your AWS Support Plan

## Basic

## Developer

## Business

## Enterprise

7 Trusted Advisor Checks

All Trusted Advisor Checks

AWS providers the following checks for free:

1. MFA on Root Account
2. Security Groups – Specific Ports of Unrestricted
3. Amazon S3 Bucket Permissions
4. Amazon EBS Public Snapshots
5. Amazon RDS Public Snapshots
6. IAM Use - discourage the use of root access
7. Service Limits (All Service limits checks are free)

Six security checks

# Service Level Agreements

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

## What is a Service Level Agreement (SLA)?

A SLA is a **formal commitment** about the **expected level of service** between a customer and provider.

When a service level is not met and if Customer meets its obligations under the SLA, Customer will be eligible to receive the compensation eg. **Financial or Service Credits**

## What is a Service Level Indicator (SLI)?

A **metric/measurement** that indicates what measure of performance a customer is receiving at a given time

A SLI metric could be uptime, performance, availability, throughput, latency, error rate, durability, correctness

## What is a Service Level Objective (SLO)?

The objective that the provider has agreed to meet

SLOs are represented as a specific **target percentage** over a period of time.

Availability SLA of **99.99%** in a period of **3 months**

Target percentages

- 99.95%
- 99.99%
- 99.99999999% (commonly called **Nine nines**)

# AWS Service Level Agreements

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

## DynamoDB SLA

AWS will use commercially reasonable efforts to make DynamoDB available with a Monthly Uptime Percentage for each AWS region, during any monthly billing cycle, of (a) at least 99.999% if the Global Tables SLA applies, or (b) at least 99.99% if the Standard SLA applies

In the event DynamoDB does not meet the Service Commitment, you will be eligible to receive a Service Credit as described below

	Monthly Uptime Percentage	Service Credit Percentage
<i>Global Tables SLA</i>	Less than 99.999% but equal to or greater than 99.0%	10%
	Less than 99.0% but equal to or greater than 95.0%	25%
	Less than 95.0%	100%
<i>Standard SLA</i>	Less than 99.99% but equal to or greater than 99.0%	10%
	Less than 99.0% but equal to or greater than 95.0%	25%
	Less than 95.0%	100%

# AWS Service Level Agreements

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

## Compute SLAs

- Amazon Elastic Compute Cloud (Amazon EC2)\*
- Amazon Elastic Block Store (Amazon EBS)
- Amazon Elastic Container Service (Amazon ECS)
- AWS Fargate for Amazon ECS and Amazon EKS

AWS makes two SLA commitments for the Included Services:

1. a Region-Level SLA that governs Included Services deployed across multiple AZs or regions, and
2. an Instance-Level SLA that governs Amazon EC2 instances individually.

	Monthly Uptime Percentage	Service Credit Percentage
<i>Region-Level SLA</i>	Less than 99.99% but equal to or greater than 99.0%	10%
	Less than 99.0% but equal to or greater than 95.0%	30%
	Less than 95.0%	100%
<i>Instance-Level SLA</i>	Less than 99.5% but equal to or greater than 99.0%	10%
	Less than 99.0% but equal to or greater than 95.0%	30%
	Less than 95.0%	100%

# AWS Service Level Agreements

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

## RDS SLA

AWS will use commercially reasonable efforts to make Multi-AZ instances available with a Monthly Uptime Percentage of at least 99.95% during any monthly billing cycle

In the event Amazon RDS does not meet the Monthly Uptime Percentage commitment, you will be eligible to receive a Service Credit as described below.

### Monthly Uptime Percentage

### Service Credit Percentage

Less than 99.95% but equal to or greater than 99.0%

10%

Less than 99.0% but equal to or greater than 95.0%

25%

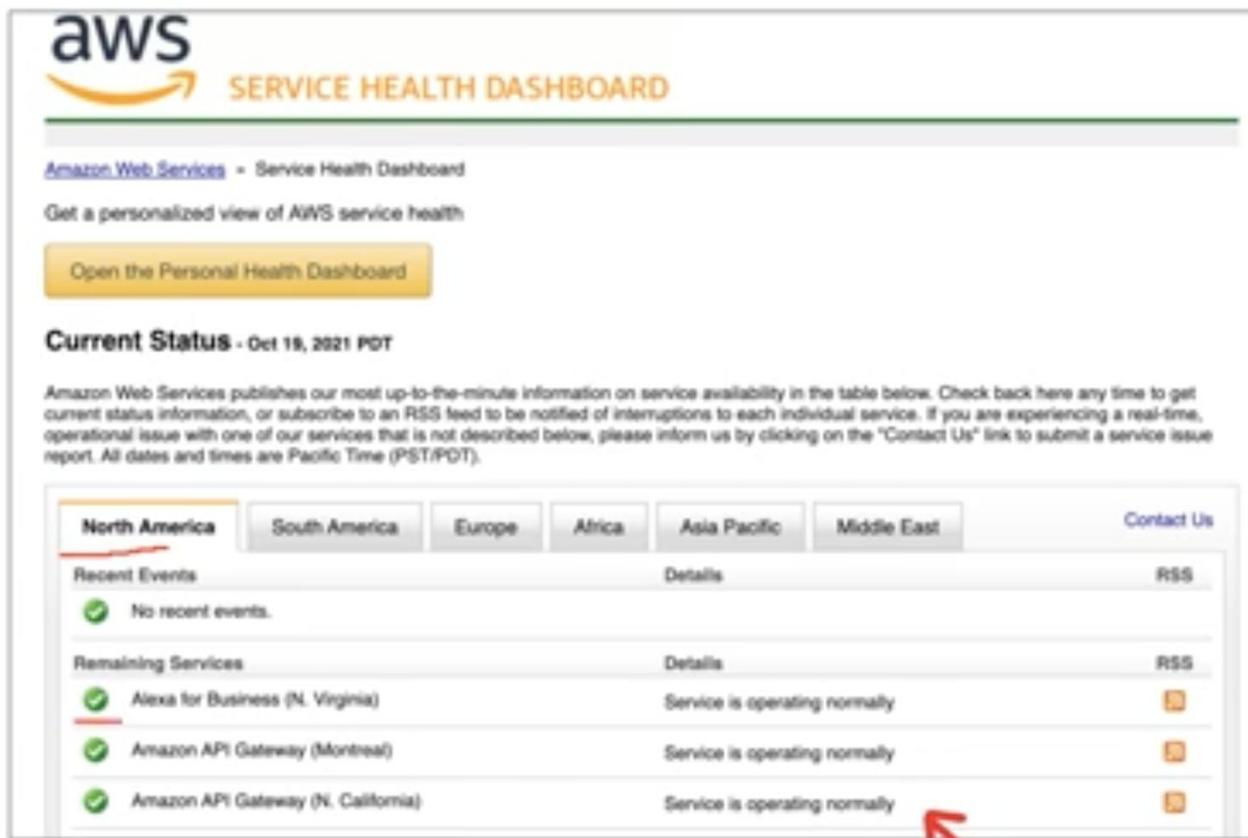
Less than 95.0%

100%

# Service Health Dashboard

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clif-c01](http://www.exampro.co/clif-c01)

The Service Health Dashboard shows the general status of AWS services,



The screenshot shows the AWS Service Health Dashboard. At the top, there's a navigation bar with the AWS logo and a "SERVICE HEALTH DASHBOARD" button. Below the navigation, a breadcrumb trail shows "Amazon Web Services > Service Health Dashboard". A sub-header says "Get a personalized view of AWS service health" with a "Open the Personal Health Dashboard" button. A "Current Status" section is dated "Oct 19, 2021 PDT". It contains a message from Amazon Web Services about publishing service availability information and a link to "Contact Us". Below this, there are tabs for "North America", "South America", "Europe", "Africa", "Asia Pacific", and "Middle East", with "North America" being the active tab. Under "Recent Events", it says "No recent events." Under "Remaining Services", there are three entries: "Alexa for Business (N. Virginia)" with status "Service is operating normally", "Amazon API Gateway (Montreal)" with status "Service is operating normally", and "Amazon API Gateway (N. California)" with status "Service is operating normally". Each service entry has "Details" and "RSS" links.

Region	Service	Status	Details	RSS
North America	Alexa for Business (N. Virginia)	Service is operating normally	<a href="#">Details</a>	<a href="#">RSS</a>
North America	Amazon API Gateway (Montreal)	Service is operating normally	<a href="#">Details</a>	<a href="#">RSS</a>
North America	Amazon API Gateway (N. California)	Service is operating normally	<a href="#">Details</a>	<a href="#">RSS</a>

An **icon** and **details** will indicate the status of each AWS Service

# AWS Personal Health Dashboard

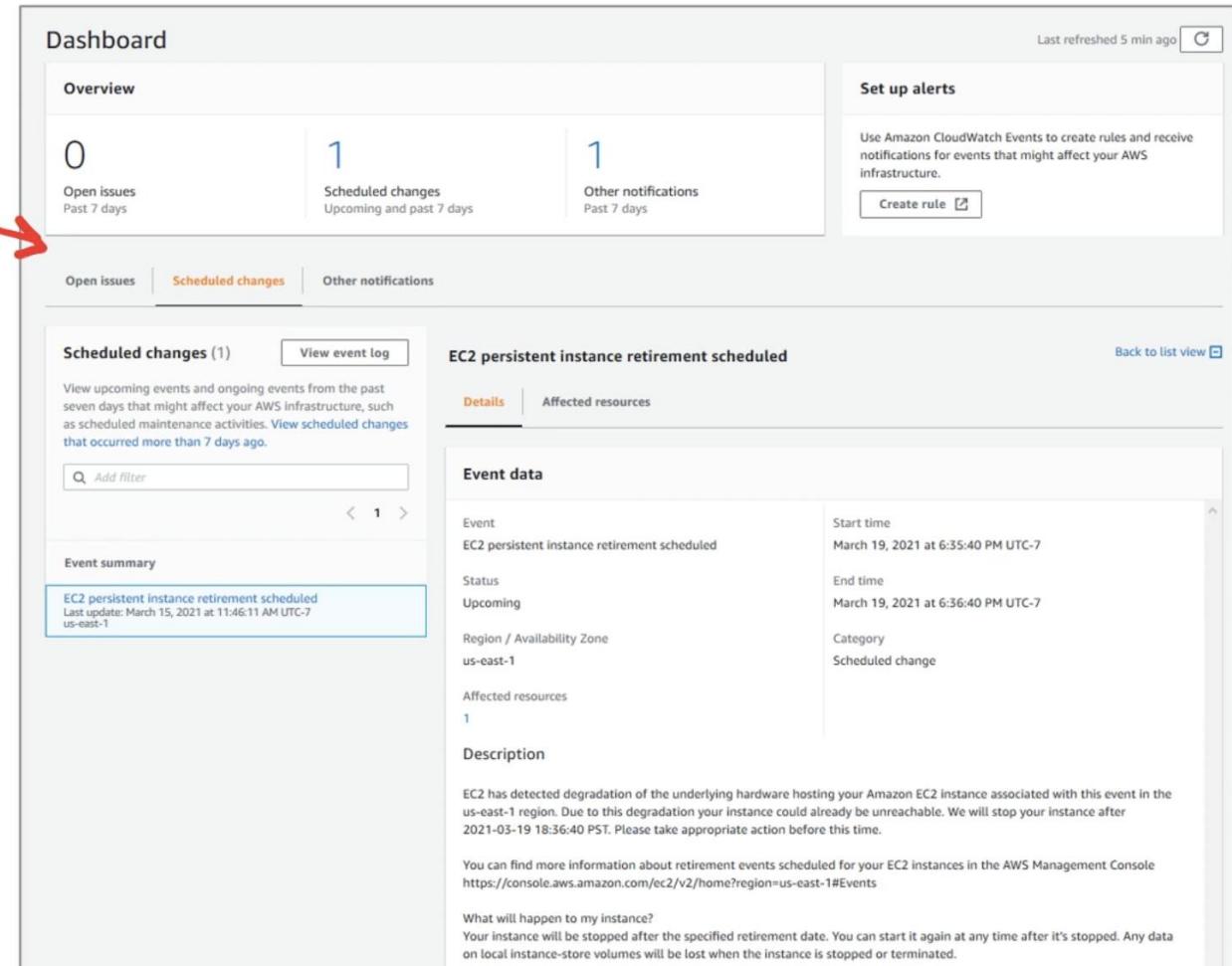
Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

**AWS Personal Health Dashboard** provides **alerts and guidance** for AWS events that might affect your environment.

All AWS customers can access the Personal Health Dashboard.

The Personal Health Dashboard shows recent events to help you manage active events, and shows proactive notifications so that you can plan for scheduled activities

Use these alerts to get notified about changes that can affect your AWS resources, and then follow the guidance to diagnose and resolve issues.



Dashboard

Overview

Last refreshed 5 min ago

0 Open issues Past 7 days

1 Scheduled changes Upcoming and past 7 days

1 Other notifications Past 7 days

Set up alerts

Use Amazon CloudWatch Events to create rules and receive notifications for events that might affect your AWS infrastructure.

Create rule

Scheduled changes (1) View event log

EC2 persistent instance retirement scheduled

Back to list view

Event data

Event	EC2 persistent instance retirement scheduled	Start time	March 19, 2021 at 6:35:40 PM UTC-7
Status	Upcoming	End time	March 19, 2021 at 6:36:40 PM UTC-7
Region / Availability Zone	us-east-1	Category	Scheduled change
Affected resources	1		

Description

EC2 has detected degradation of the underlying hardware hosting your Amazon EC2 instance associated with this event in the us-east-1 region. Due to this degradation your instance could already be unreachable. We will stop your instance after 2021-03-19 18:36:40 PST. Please take appropriate action before this time.

You can find more information about retirement events scheduled for your EC2 instances in the AWS Management Console <https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#Events>

What will happen to my instance?

Your instance will be stopped after the specified retirement date. You can start it again at any time after it's stopped. Any data on local instance-store volumes will be lost when the instance is stopped or terminated.

# AWS Abuse

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

**AWS Trust & Safety** is a team that specifically deals with abuses occurring on the AWS platform for the following issues:

## **Spam**

You are receiving unwanted emails from an AWS-owned IP address, or AWS resources are used to spam websites or forums.

## **Port scanning**

Your logs show that one or more AWS-owned IP addresses are sending packets to multiple ports on your server. You also believe this is an attempt to discover unsecured ports.

## **Denial-of-service (DoS) attacks**

Your logs show that one or more AWS-owned IP addresses are used to flood ports on your resources with packets. You also believe that this is an attempt to overwhelm or crash your server or the software running on your server.

## **Intrusion attempts:**

Your logs show that one or more AWS-owned IP addresses are used to attempt to log in to your resources.

## **Hosting prohibited content:**

You have evidence that AWS resources are used to host or distribute prohibited content, such as illegal content or copyrighted content without the consent of the copyright holder.

## **Distributing malware**

You have evidence that AWS resources are used to distribute software that was knowingly created to compromise or cause harm to computers or machines that it's installed on.



AWS Support does not deal with Abuse tickets. You need to contact [abuse@amazonaws.com](mailto:abuse@amazonaws.com) or fill out the Report Amazon AWS abuse form.

# AWS Free-Tier

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

AWS has a free-tier which allows you to use AWS at no cost

- for the first 12 months of signup
- Or free usage up to a certain monthly limit forever

**EC2** Web Server

t2.micro 750 hours per month for 1 year

**RDS** Database (MySQL or Postgres)

t2.db.micro 750 hours per month for 1 year

**ELB** Load Balancer

750 hours per month for 1 year

**Amazon CloudFront** Homepage Video

50 GB data-transfer out in total for 1 year

**Amazon Connect** Toll Free Number

90 minutes of call-time per month for 1 year

**Amazon ElastiCache** Caching

cache.t3.micro 750 hours per month for 1 year

**Amazon ElasticSearch Service** Full Text Search

750 hours per month for 1 year

**PinPoint** Campaign / Marketing Emails

5,000 targeted users per month for 1 year

**SES** Emails sent by your web-application

62,000 emails per month forever

**AWS CodePipeline** CI/CD

1 Pipeline free

**AWS CodeBuild** Building Code

100 build minutes per month forever

**AWS Lambda** Serverless Compute

1M free request per month

3.2M seconds of compute time per month

# AWS Credits

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)



**AWS Promotional Credits** (or AWS Credits for short) are the equivalent to USD dollars on the AWS platform. AWS Credits can be earned several ways:

- Joining the AWS Activate startup program
- Winning Hackathons
- Participating in Surveys
- ...

Redeem credit

Summary

Total amount remaining	Total amount used
\$500.00	\$332.00



AWS Credits generally have an expiry date attached to them.

AWS Credits can be used for most services but there are exceptions where AWS Credits cannot be used eg. Purchasing a domain via Route53

# AWS Partner Network (APN)

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)



partner  
network



The AWS Partner Network (APN) is a global partner program for AWS. Joining the APN will open your organization up to business opportunities and allows exclusives trainings and marketing events

When joining the APN you can either be a:

Consulting Partner – you help companies utilize AWS

Technology Partner – you build technology ontop of AWS as a service offering

- A partner belongs to a specific Tier: Select, Advanced or Premier
- Different tiers have different Annual fee commitments
- Different tiers have different Knowledge requirements
  - AWS Certification
  - AWS APN-Exclusive Certifications
- You can get back Promotional AWS Credits
- You can have unique speaking opportunities in the official AWS marketing channels. Eg blogs, webinars
- Being part of the APN is a requirement to be a Sponsor with a vendor booth at AWS Events

# AWS Budgets

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)



**AWS Budgets** give you the ability to setup alerts if you **exceed** or are **approaching** your defined budget

## Create **Cost, Usage or Reservation** Budgets

It can be tracked at the **monthly, quarterly, or yearly levels**, with customizable start and end dates

Alerts support **EC2, RDS, Redshift, and ElastiCache** reservations.



AWS Budgets can be used to Forecast costs but is limited compared to Cost Explorer or doing your analysis with AWS Cost and Usage Reports along with a Business Intelligence tool

Budget based on a fixed cost or plan your upfront based on your chosen level  
Can be easily managed from the **AWS Budgets** dashboard or via the **Budgets API**.  
Get Notified by providing an email or **Chatbot** and threshold how close to the current or forecasted budget

Choose your budget amount in \$\$\$

Budgeted amount

 Last month's cost \$126.59

Usage unit(s)

Usage Type Group

Usage Type

EC2: Running Hours (Hrs) x

Choose based a different kind of unit

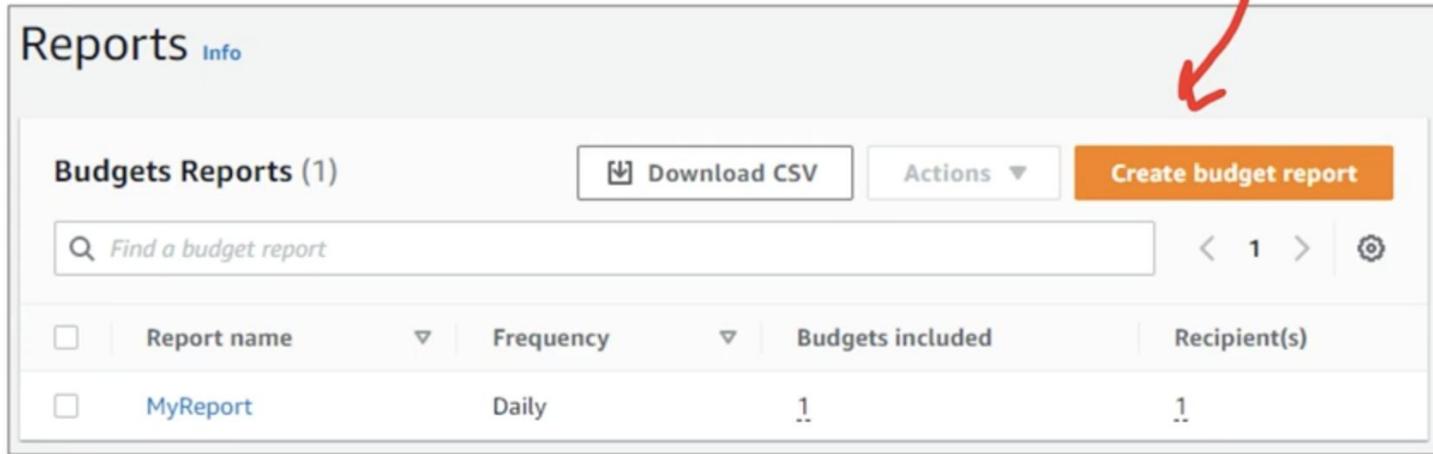
Budgeted amount

 Hrs Last month's usage 2260.54 Hrs

# AWS Budget Reports

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

**AWS Budget Report** is used alongside AWS Budgets to create and send daily, weekly, or monthly reports to monitor the performance of your AWS Budget that will be emailed to specific emails.



The screenshot shows the AWS Budget Reports interface. At the top, it says "Reports Info". Below that, it shows "Budgets Reports (1)". There is a "Create budget report" button in orange. A red arrow points to this button. There is also a "Download CSV" button and an "Actions" dropdown. A search bar says "Find a budget report". Below the search bar, there is a table with columns: "Report name", "Frequency", "Budgets included", and "Recipient(s)". The table has one row: "MyReport", "Daily", "1", and "1".

Report name	Frequency	Budgets included	Recipient(s)
MyReport	Daily	1	1

AWS Budget Reports serve as a more convenient way of staying on top of reports since they are delivered to your email instead of logging into the AWS Management Console

# AWS Cost and Usage Reports (CUR)

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)



Generate a **detailed spreadsheet**, enabling you to **better analyze and understand your AWS costs**



M	N	O	P	Q	R	S	T
LineItem/ProductCode	LineItem/UsageType	LineItem/Operation	LineItem/AvailabilityZone	LineItem/UsageAmount	LineItem/CurrencyCode	LineItem/LineItemDescription	
1 AmazonEC2	CW:AlarmMonitorUsage	Unknown		0.00134409	USD	\$0.00 per alarm-month - first 10 alarms	
2 AmazonS3	Requests-Tier1	ListAllMyBuckets		2	USD	\$0.00 per request - PUT, COPY, POST, or LIST requests under the monthly global free tier	
4 AmazonEC2	CW:AlarmMonitorUsage	Unknown		0.00134409	USD	\$0.00 per alarm-month - first 10 alarms	
5 AmazonEC2	APS2-EBS:VolumeUsage-gp2	CreateVolume-Gp2		0.01344086	USD	\$0.00 per GB-month of General Purpose (SSD) provisioned storage under monthly free tier	
6 AmazonEC2	APS2-EBS:VolumeUsage-gp2	CreateVolume-Gp2		0.01344086	USD	\$0.00 per GB-month of General Purpose (SSD) provisioned storage under monthly free tier	
7 AmazonEC2	USW2-BoxUsage-t2.micro	RunInstances:0002	us-west-2a	1	USD	\$0.00 per Windows t2.micro instance-hour (or partial hour) under monthly free tier	
8 AmazonEC2	USW2-USE1-AWS-Out-Bytes	PublicIP-Out		0.00000174	USD	\$0.00 per GB - data transfer out under the monthly global free tier	
9 AmazonEC2	USW2-USE1-AWS-In-Bytes	PublicIP-In		0.00000138	USD	\$0.00 per GB - US West (Oregon) data transfer from US East (Northern Virginia)	
10 AmazonEC2	USW2-USW1-AWS-In-Bytes	PublicIP-In		0.00000149	USD	\$0.00 per GB - US West (Oregon) data transfer from US West (Northern California)	
11 AmazonS3	Requests-Tier1	ListAllMyBuckets		2	USD	\$0.00 per request - PUT, COPY, POST, or LIST requests under the monthly global free tier	
12 AmazonEC2	USW2-DataTransfer-Out-Bytes	RunInstances		0.00038144	USD	\$0.00 per GB - data transfer out under the monthly global free tier	
13 AmazonEC2	USW2-USW1-AWS-Out-Bytes	PublicIP-Out		0.00000174	USD	\$0.00 per GB - data transfer out under the monthly global free tier	
14 AmazonEC2	USW2-DataTransfer-In-Bytes	RunInstances		0.00030951	USD	\$0.00 per GB - data transfer in per month	
15 AmazonEC2	USW2-BoxUsage-t2.micro	RunInstances:0002	us-west-2a	1	USD	\$0.00 per Windows t2.micro instance-hour (or partial hour) under monthly free tier	
16 AmazonEC2	USW2-USW1-AWS-Out-Bytes	PublicIP-Out		0.00000349	USD	\$0.00 per GB - data transfer out under the monthly global free tier	
17 AmazonEC2	USW2-USW1-AWS-In-Bytes	PublicIP-In		0.00000276	USD	\$0.00 per GB - US West (Oregon) data transfer from US West (Northern California)	
18 AmazonEC2	APS2-EBS:VolumeUsage-gp2	CreateVolume-Gp2		0.01344086	USD	\$0.00 per GB-month of General Purpose (SSD) provisioned storage under monthly free tier	
19 AmazonEC2	CW:AlarmMonitorUsage	Unknown		0.00134409	USD	\$0.00 per alarm-month - first 10 alarms	
20 AmazonEC2	USW2-BoxUsage-t2.micro	RunInstances:0002	us-west-2a	1	USD	\$0.00 per Windows t2.micro instance-hour (or partial hour) under monthly free tier	
21 AmazonEC2	USW2-DataTransfer-Regional-Bytes	PublicIP-Out		0.00000349	USD	\$0.00 per GB - regional data transfer under the monthly global free tier	
22 AmazonEC2	USW2-DataTransfer-In-Bytes	RunInstances		0.00032071	USD	\$0.00 per GB - data transfer in per month	
23 AmazonEC2	USW2-DataTransfer-Regional-Bytes	PublicIP-In		0.00000302	USD	\$0.00 per GB - regional data transfer under the monthly global free tier	
24 AmazonEC2	USW2-USE1-AWS-Out-Bytes	PublicIP-Out		0.00000174	USD	\$0.00 per GB - data transfer out under the monthly global free tier	
25 AmazonEC2	USW2-DataTransfer-Out-Bytes	RunInstances		0.00457365	USD	\$0.00 per GB - data transfer out under the monthly global free tier	
26 AmazonEC2	USW2-DataTransfer-In-Bytes	RunInstances		0.00367371	USD	\$0.00 per GB - data transfer in per month	
27 AmazonEC2	USW2-APN2-AWS-In-Bytes	PublicIP-In		0.00000000	USD	\$0.00 per GB - US West (Oregon) data transfer from Asia Pacific (Seoul)	
28 AmazonEC2	USW2-APN2-AWS-Out-Bytes	PublicIP-Out		0.00000018	USD	\$0.00 per GB - data transfer out under the monthly global free tier	
29 AmazonEC2	USW2-USE1-AWS-In-Bytes	PublicIP-In		0.00000153	USD	\$0.00 per GB - US West (Oregon) data transfer from US East (Northern Virginia)	
30 AmazonEC2	USW2-DataTransfer-Out-Bytes	RunInstances		0.0039945	USD	\$0.00 per GB - data transfer out under the monthly global free tier	
31 AmazonEC2	CW:AlarmMonitorUsage	Unknown		0.00134409	USD	\$0.00 per alarm-month - first 10 alarms	



Places the reports into S3



Use Athena to turn the report into a queryable database



Use QuickSight to visualize your billing data as graphs

choose the granularity of your data by selecting hourly, daily or monthly

The report will contain Cost Allocation Tags

CUR data is stored in a CSV (GZIP) or Parquet format in your selected S3 bucket

# Cost Allocation Tags

Cheat sheets, Practice Exams and Flash cards [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)

**Cost Allocation Tags** are optional metadata that can be attached to AWS resource so when you generate out a Cost and Usage Report you can use that data to better analyze your data.

There are **two types** of tags:

- User-Defined
  - Eg Project
- AWS Generated
  - E.g. aws:createdBy

You have to **activate** the tags you want to show up in the report

Tag key	Status
aws:createdBy	Active
aws:cloudformation:stack-name	Inactive
aws:ec2launchtemplate:id	Inactive

# Billing Alerts/Alarms

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)



You can create your own Alarms in CloudWatch Alarms to monitor spend. They are commonly called “Billing Alarms”

You first need to turn on **Billing Alerts**



▼ Cost Management Preferences

**Receive Free Tier Usage Alerts**  
Turn on this feature to receive email alerts when your AWS service usage exceeds the free tier. You can receive up to 10 alerts per month to an email address that is not the primary email address associated with the AWS account.

Email Address: andrew@exampro.co

**Receive Billing Alerts**  
Turn on this feature to monitor your AWS usage charges and recurring bills. You can receive up to 10 alerts per month to an email address that is not the primary email address associated with the AWS account. You can receive email notifications when your charges reach a specified threshold.

**Specify metric and conditions**

**Metric**

Graph  
This alarm will trigger when the blue line goes above the red line for 1 datapoints within 6 hours.

No unit

Namespaces: AWS/Billing

Metric name: EstimatedCharges

Currency: USD

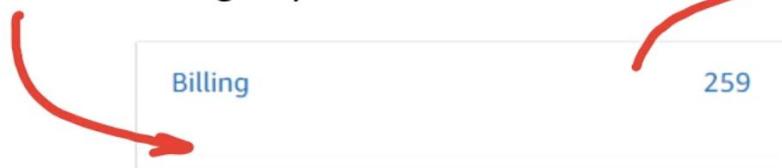
Statistic: Maximum

Period: 6 hours

Graph Data (EstimatedCharges):

Date	EstimatedCharges (USD)
10/21	280
10/22	290
10/23	300
10/24	310
10/25	320
10/26	340

Go create a CloudWatch Alarm and you can choose Billing as your Metric



Billing Alarms are much more flexible than AWS Budgets and ideal for more complex use-cases for monitoring spend and usage

# AWS Cost Explorer

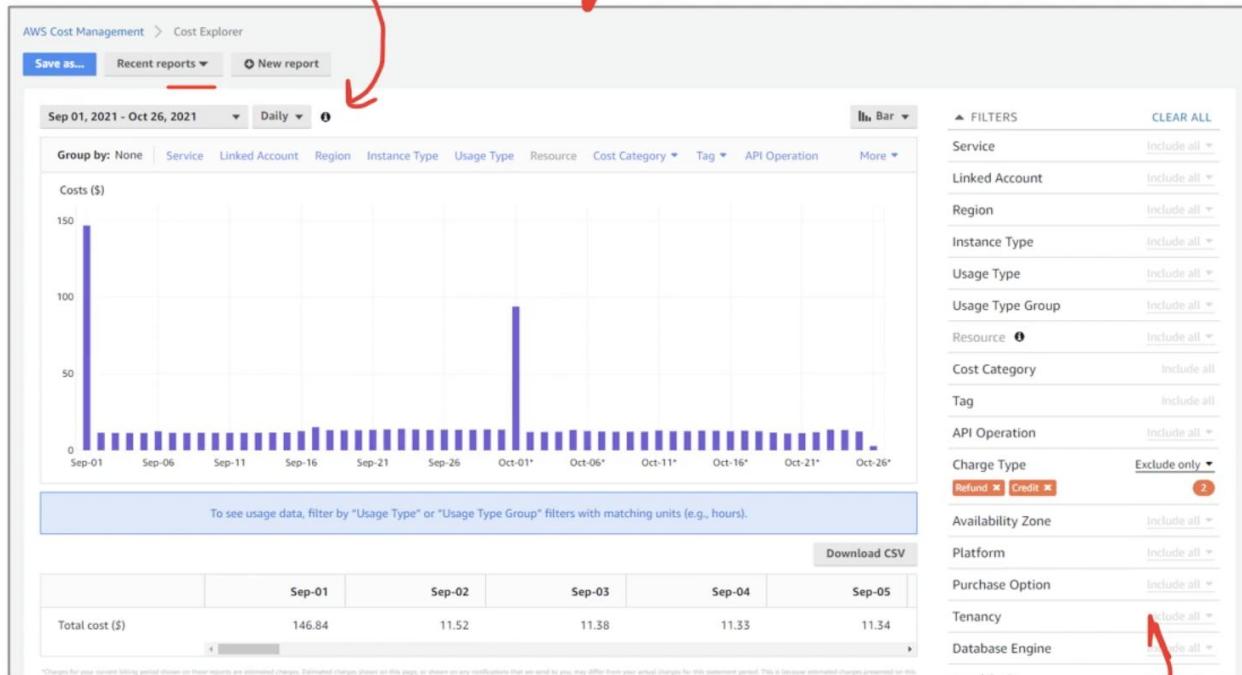
Watch later Share

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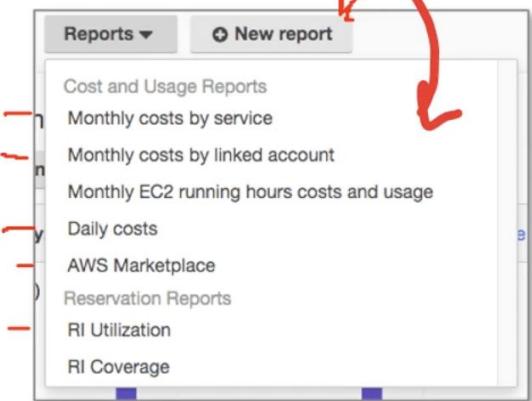
AWS Cost Explorer lets you **visualize, understand, and manage** your AWS costs and usage **over time**.

Specific type range and aggregation

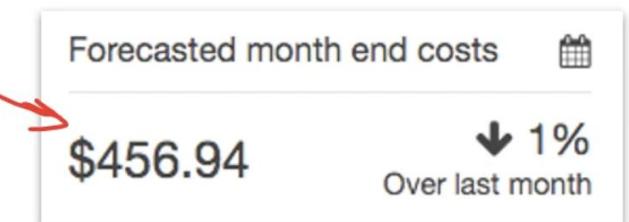


Robust filtering

Default reports help you gain insight into your cost drivers and usage trends.



Use **forecasting** to get an idea of future costs



# AWS Pricing API

Cheat sheets, Practice Exams and Flash cards  [www.exampro.co/clf-c01](http://www.exampro.co/clf-c01)



With AWS you can programmatically access pricing information to get the latest price offering for services.

There are two versions of this API:

- Query API – The Pricing Service API via **JSON**
  - <https://api.pricing.us-east-1.amazonaws.com>
- Batch API – The Price List API via **HTML**
  - <https://pricing.us-east-1.amazonaws.com/offers/v1.0/aws/index.json>

You can also subscribe to Amazon Simple Notification Service (Amazon SNS) notifications to get alerts when prices for the services change.

AWS prices change periodically, such as when AWS cuts prices, when new instance types are launched, or when new services are introduced