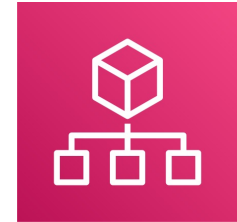


Account Management, Billing & Support Section

AWS Organizations

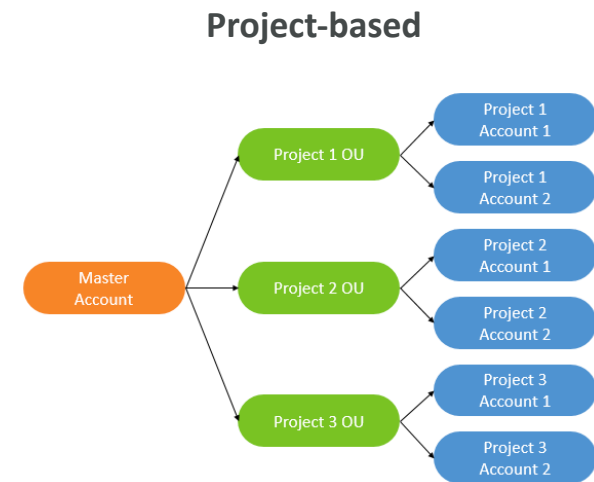
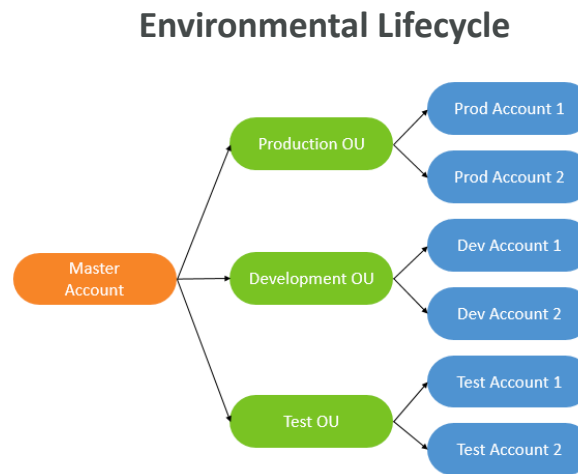
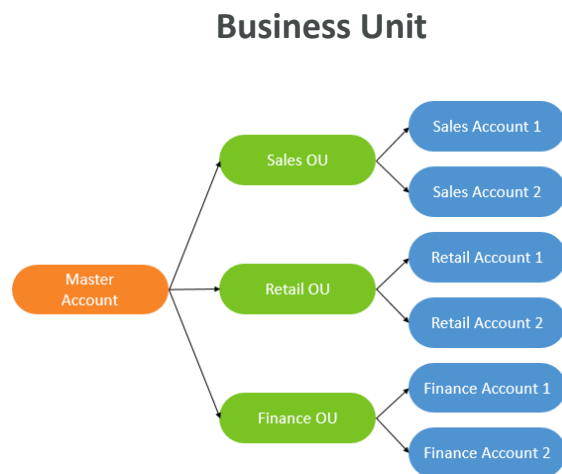


- Global service
- Allows to manage **multiple AWS accounts**
- The main account is the master account
- Cost Benefits:
 - **Consolidated Billing** across all accounts - single payment method
 - Pricing benefits from **aggregated usage** (volume discount for EC2, S3...)
 - **Pooling of Reserved EC2 instances** for optimal savings
- API is available to **automate AWS account creation**
- Restrict account privileges using Service Control Policies (SCP)

Multi Account Strategies

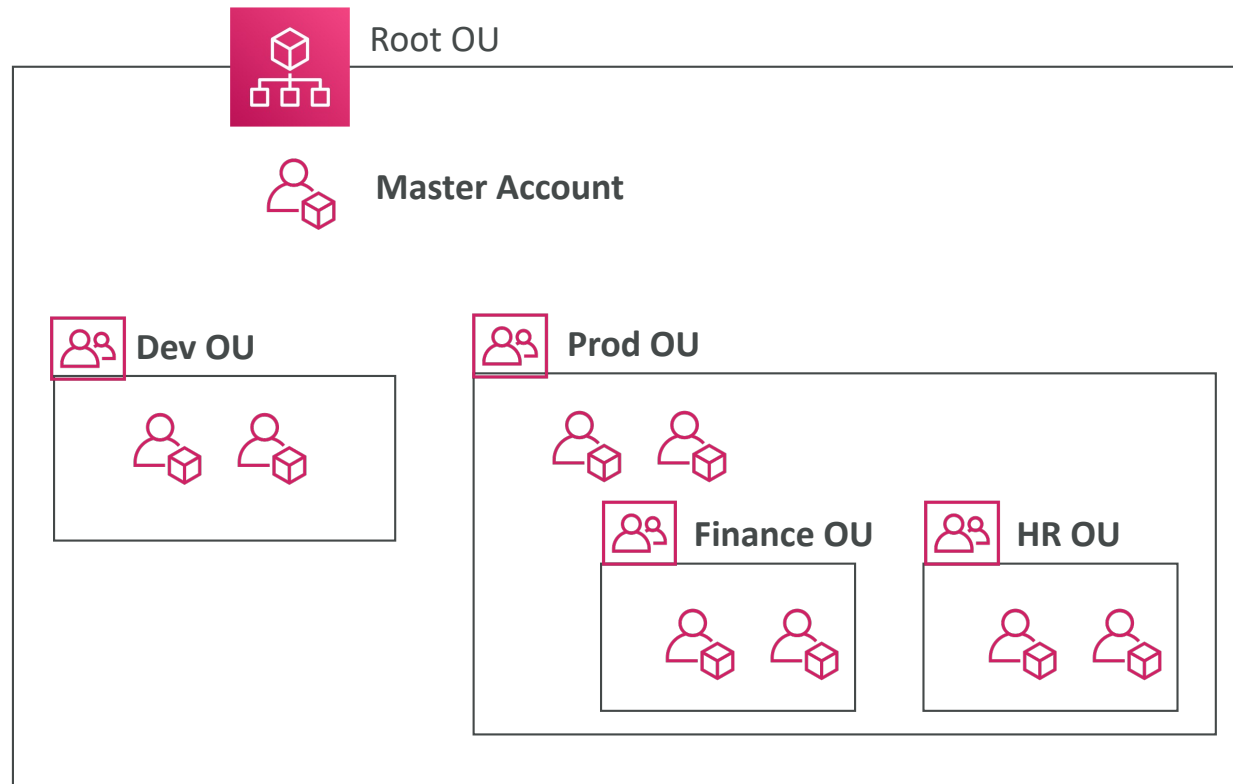
- Create accounts per **department**, per **cost center**, per **dev / test / prod**, based on **regulatory restrictions** (using SCP), for **better resource isolation** (ex:VPC), to have **separate per-account service limits**, isolated account for **logging**
- Multi Account vs One Account Multi VPC
- Use tagging standards for billing purposes
- Enable CloudTrail on all accounts, send logs to central S3 account
- Send CloudWatch Logs to central logging account

Organizational Units (OU) - Examples



<https://aws.amazon.com/answers/account-management/aws-multi-account-billing-strategy/>

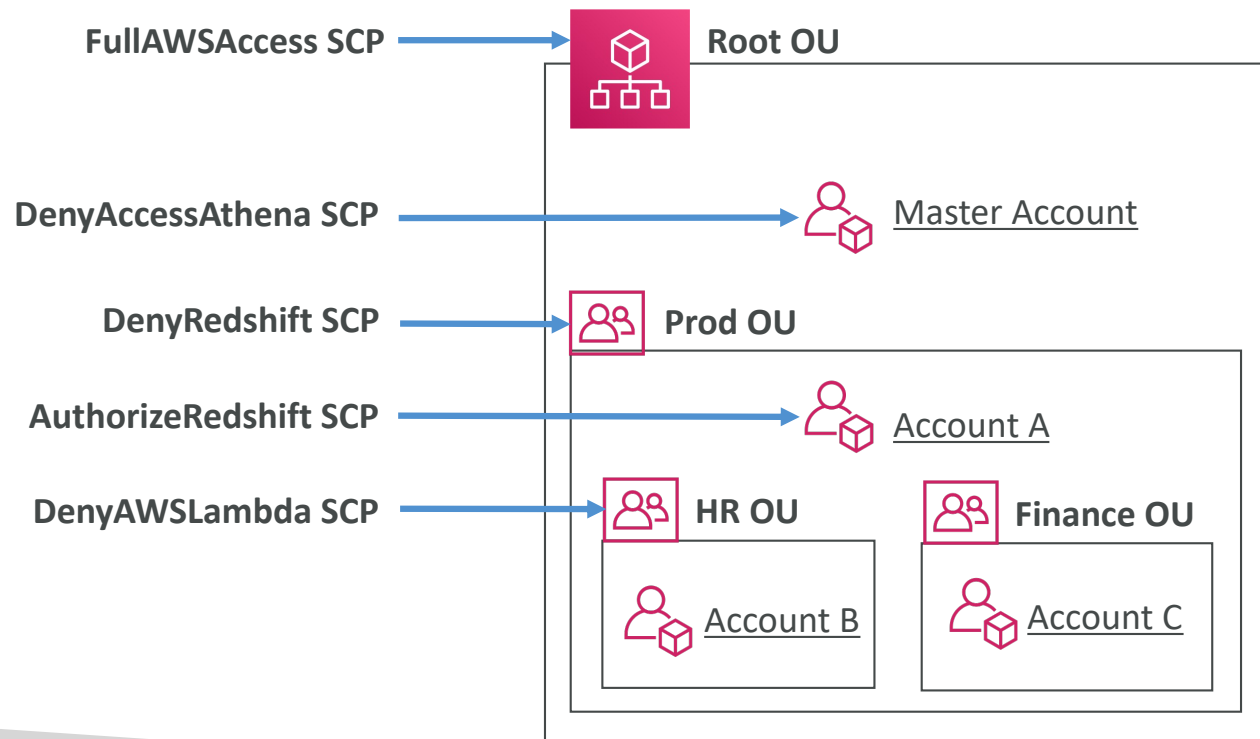
AWS Organization



Service Control Policies (SCP)

- Whitelist or blacklist IAM actions
- Applied at the **OU** or **Account** level
- Does not apply to the Master Account
- SCP is applied to all the **Users and Roles** of the Account, including Root user
- The SCP does not affect service-linked roles
 - Service-linked roles enable other AWS services to integrate with AWS Organizations and can't be restricted by SCPs.
- SCP must have an explicit Allow (does not allow anything by default)
- Use cases:
 - Restrict access to certain services (for example: can't use EMR)
 - Enforce PCI compliance by explicitly disabling services

SCP Hierarchy



- **Master Account**
 - Can do anything
 - (no SCP apply)
- **Account A**
 - Can do anything
 - EXCEPT access Redshift (explicit Deny from Prod OU)
- **Account B**
 - Can do anything
 - EXCEPT access Redshift (explicit Deny from Prod OU)
 - EXCEPT access Lambda (explicit Deny from HR OU)
- **Account C**
 - Can do anything
 - EXCEPT access Redshift (explicit Deny from Prod OU)

SCP Examples

Blacklist and Whitelist strategies

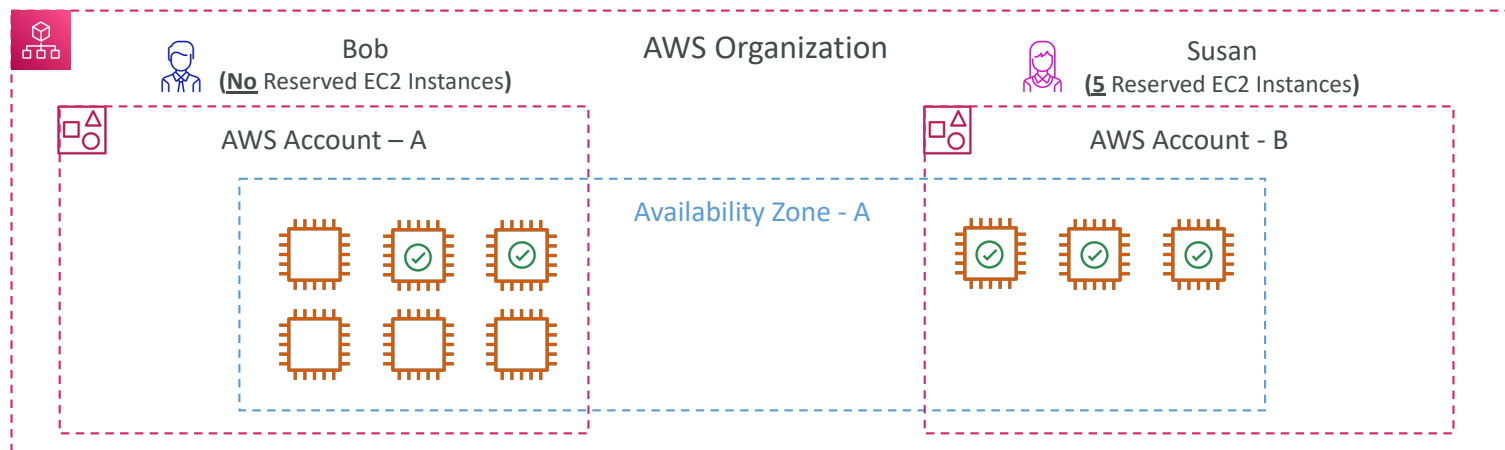
```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "AllowsAllActions",
      "Effect": "Allow",
      "Action": "*",
      "Resource": "*"
    },
    {
      "Sid": "DenyDynamoDB",
      "Effect": "Deny",
      "Action": "dynamodb:*",
      "Resource": "*"
    }
  ]
}
```

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "ec2:*",
        "cloudwatch:*"
      ],
      "Resource": "*"
    }
  ]
}
```

More examples: https://docs.aws.amazon.com/organizations/latest/userguide/orgs_manage_policies_example-scps.html

AWS Organization – Consolidated Billing

- When enabled, provides you with:
 - **Combined Usage** – combine the usage across all AWS accounts in the AWS Organization to share the volume pricing, **Reserved Instances** and **Savings Plans** discounts
 - **One Bill** – get one bill for all AWS Accounts in the AWS Organization
- The management account can turn off Reserved Instances discount sharing for any account in the AWS Organization, including itself



AWS Control Tower



- Easy way to set up and govern a secure and compliant multi-account AWS environment based on best practices
- Benefits:
 - Automate the set up of your environment in a few clicks
 - Automate ongoing policy management using guardrails
 - Detect policy violations and remediate them
 - Monitor compliance through an interactive dashboard
- AWS Control Tower runs on top of AWS Organizations:
 - It automatically sets up AWS Organizations to organize accounts and implement SCPs (Service Control Policies)

Pricing Models in AWS

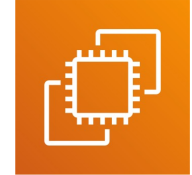
- AWS has 4 pricing models:
- **Pay as you go:** pay for what you use, remain agile, responsive, meet scale demands
- **Save when you reserve:** minimize risks, predictably manage budgets, comply with long-terms requirements
 - Reservations are available for EC2 Reserved Instances, DynamoDB Reserved Capacity, ElastiCache Reserved Nodes, RDS Reserved Instance, Redshift Reserved Nodes
- **Pay less by using more:** volume-based discounts
- **Pay less as AWS grows**

Free services & free tier in AWS

- IAM
 - VPC
 - Consolidated Billing
 - Elastic Beanstalk
 - CloudFormation
 - Auto Scaling Groups
 - Free Tier: <https://aws.amazon.com/free/>
 - EC2 t2.micro instance for a year
 - S3, EBS, ELB, AWS Data transfer
- ! You do pay for the resources created**

Compute Pricing – EC2

- Only charged for what you use
- Number of instances
- Instance configuration:
 - Physical capacity
 - Region
 - OS and software
 - Instance type
 - Instance size
- ELB running time and amount of data processed
- Detailed monitoring



Compute Pricing – EC2

- **On-demand instances:**
 - Minimum of 60s
 - Pay per second (Linux/Windows) or per hour (other)
- **Reserved instances:**
 - Up to 75% discount compared to On-demand on hourly rate
 - 1- or 3-years commitment
 - All upfront, partial upfront, no upfront
- **Spot instances:**
 - Up to 90% discount compared to On-demand on hourly rate
 - Bid for unused capacity
- **Dedicated Host:**
 - On-demand
 - Reservation for 1 year or 3 years commitment
- **Savings plans** as an alternative to save on sustained usage

Compute Pricing – Lambda & ECS

- Lambda:
 - Pay per call
 - Pay per duration
- ECS:
 - EC2 Launch Type Model: No additional fees, you pay for AWS resources stored and created in your application
- Fargate:
 - Fargate Launch Type Model: Pay for vCPU and memory resources allocated to your applications in your containers



Storage Pricing – S3



- **Storage class:** S3 Standard, S3 Infrequent Access, S3 One-Zone IA, S3 Intelligent Tiering, S3 Glacier and S3 Glacier Deep Archive
- Number and size of objects: Price can be tiered (based on volume)
- Number and type of requests
- Data transfer OUT of the S3 region
- S3 Transfer Acceleration
- Lifecycle transitions
- Similar service: EFS (pay per use, has infrequent access & lifecycle rules)

Storage Pricing - EBS



- Volume type (based on performance)
- Storage volume in GB per month **provisionned**
- IOPS:
 - General Purpose SSD: Included
 - Provisioned IOPS SSD: Provisionned amount in IOPS
 - Magnetic: Number of requests
- Snapshots:
 - Added data cost per GB per month
- Data transfer:
 - Outbound data transfer are tiered for volume discounts
 - Inbound is free

Database Pricing - RDS



- Per hour billing
- Database characteristics:
 - Engine
 - Size
 - Memory class
- Purchase type:
 - On-demand
 - Reserved instances (1 or 3 years) with required up-front
- Backup Storage: There is no additional charge for backup storage up to 100% of your total database storage for a region.

Database Pricing - RDS



- Additional storage (per GB per month)
- Number of input and output requests per month
- Deployment type (storage and I/O are variable):
 - Single AZ
 - Multiple AZs
- Data transfer:
 - Outbound data transfer are tiered for volume discounts
 - Inbound is free

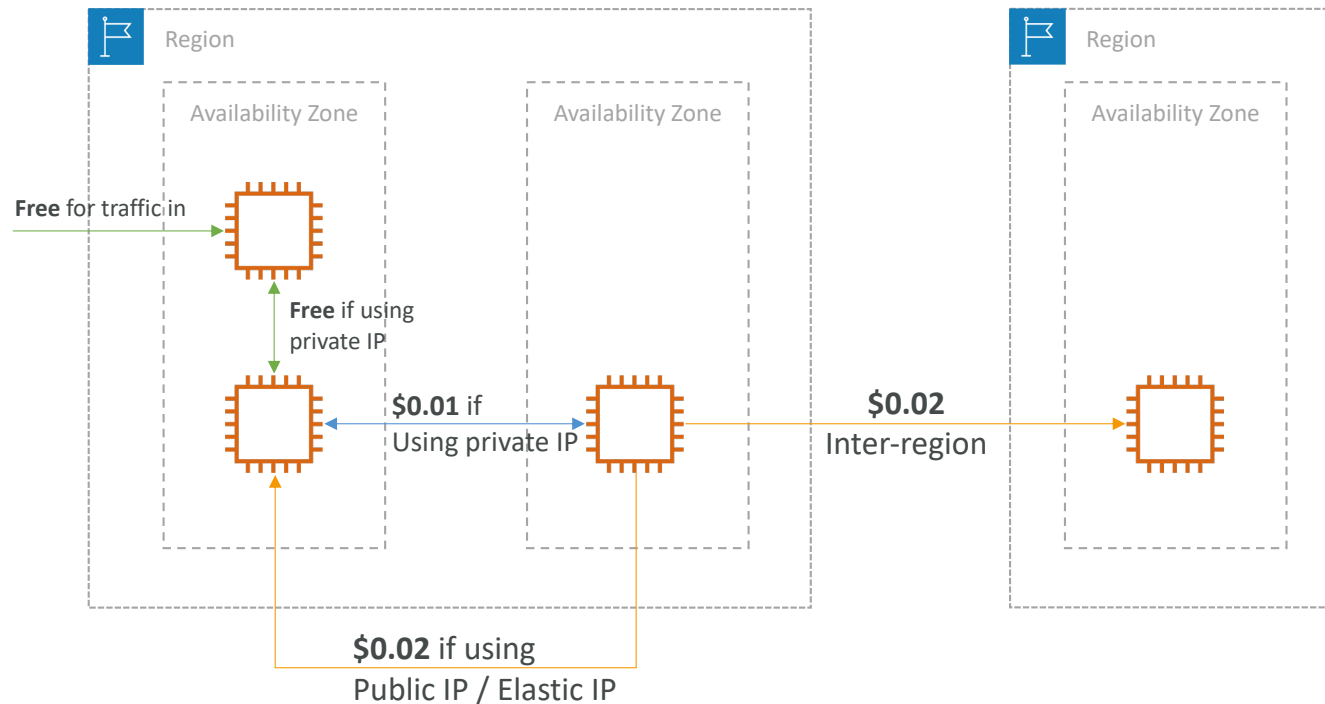
Content Delivery – CloudFront



- Pricing is different across different geographic regions
- Aggregated for each edge location, then applied to your bill
- Data Transfer Out (volume discount)
- Number of HTTP/HTTPS requests

Per Month	United States & Canada	Europe & Israel	South Africa, Kenya, & Middle East	South America	Japan	Australia	Singapore, South Korea, Taiwan, Hong Kong, & Philippines	India
First 10TB	\$0.085	\$0.085	\$0.110	\$0.110	\$0.114	\$0.114	\$0.140	\$0.170
Next 40TB	\$0.080	\$0.080	\$0.105	\$0.105	\$0.089	\$0.098	\$0.135	\$0.130
Next 100TB	\$0.060	\$0.060	\$0.090	\$0.090	\$0.086	\$0.094	\$0.120	\$0.110

Networking Costs in AWS per GB - Simplified



- Use Private IP instead of Public IP for good savings and better network performance
- Use same AZ for maximum savings (at the cost of high availability)

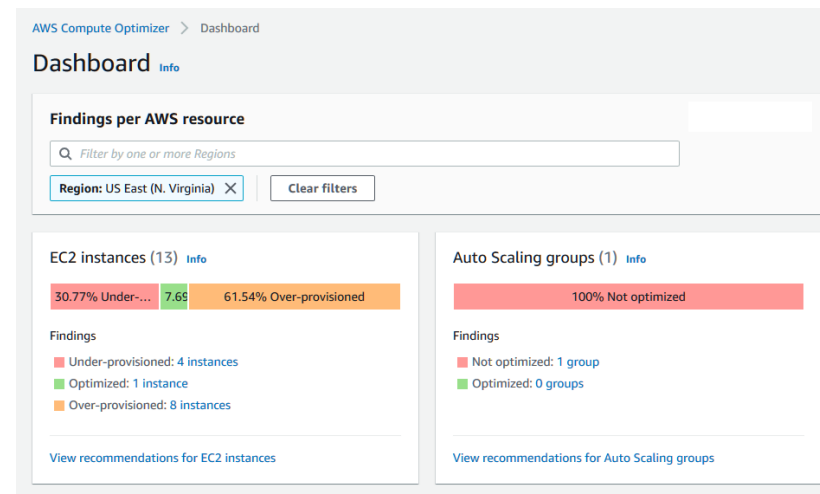
Savings Plan



- Commit a certain \$ amount per hour for 1 or 3 years
- Easiest way to setup long-term commitments on AWS
- **EC2 Savings Plan**
 - Up to 72% discount compared to On-Demand
 - Commit to usage of individual instance families in a region (e.g. C5 or M5)
 - Regardless of AZ, size (m5.xl to m5.4xl), OS (Linux/Windows) or tenancy
 - All upfront, partial upfront, no upfront
- **Compute Savings Plan**
 - Up to 66% discount compared to On-Demand
 - Regardless of Family, Region, size, OS, tenancy, compute options
 - Compute Options: EC2, Fargate, Lambda
- **Machine Learning Savings Plan:** SageMaker...
- Setup from the AWS Cost Explorer console
- Estimate pricing at <https://aws.amazon.com/savingsplans/pricing/>

AWS Compute Optimizer

- Reduce costs and improve performance by recommending optimal AWS resources for your workloads
- Helps you choose optimal configurations and right-size your workloads (over/under provisioned)
- Uses Machine Learning to analyze your resources' configurations and their utilization CloudWatch metrics
- Supported resources
 - EC2 instances
 - EC2 Auto Scaling Groups
 - EBS volumes
 - Lambda functions
- Lower your costs by up to 25%
- Recommendations can be exported to S3



Billing and Costing Tools



- Estimating costs in the cloud:
 - Pricing Calculator
- Tracking costs in the cloud:
 - Billing Dashboard
 - Cost Allocation Tags
 - Cost and Usage Reports
 - Cost Explorer
- Monitoring against costs plans:
 - Billing Alarms
 - Budgets

AWS Pricing Calculator

- Available at <https://calculator.aws/>
- Estimate the cost for your solution architecture

AWS Pricing Calculator > My Estimate

My Estimate [Info](#)

[Add service](#) [Add support](#) [Add group](#) [Action ▼](#) [Save and share](#)

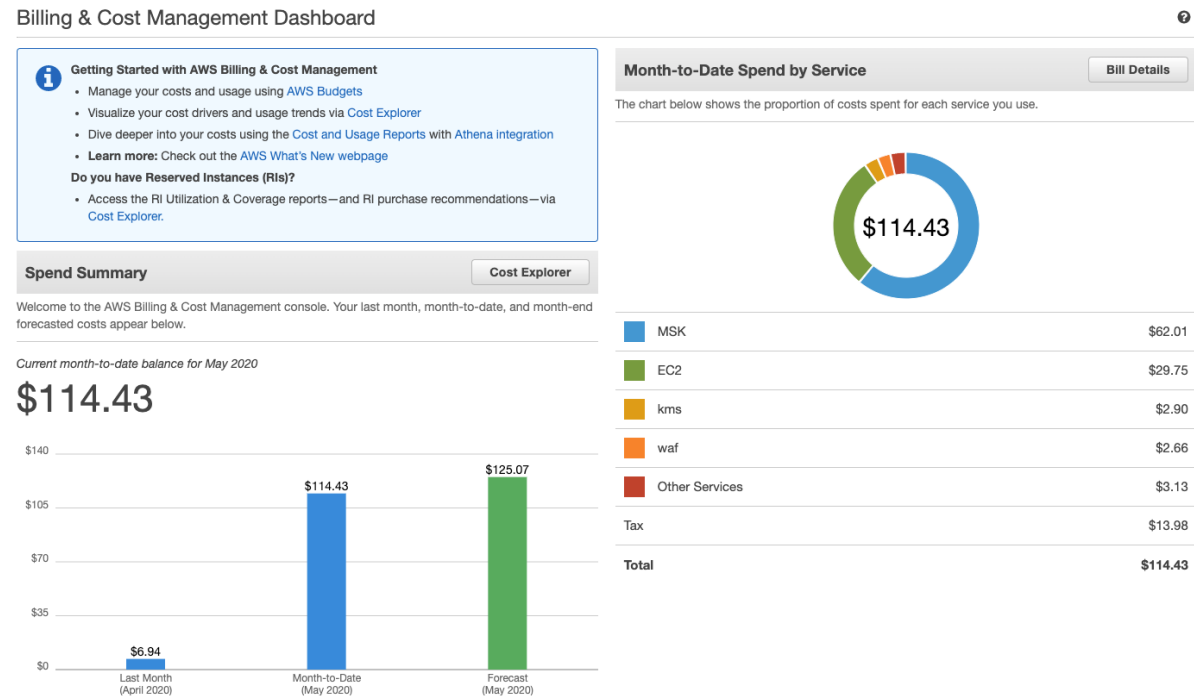
First 12 months total	Total upfront	Total monthly
62,191.68 USD	0.00 USD	5,182.64 USD

Services (2)

Amazon Aurora MySQL-Compatible Region: US East (Ohio)	Edit Action ▼
Aurora MySQL-Compatible Change records per statement (0.38), (1 Instances) db.r5.12xlarge Memory optimized OnDemand, Storage amount (300 GB)	Monthly: 5,110.80 USD

Amazon EC2 Region: US East (Ohio)	Edit Action ▼
Quick estimate Operating system (Linux), Quantity (1), Storage for each EC2 instance (General Purpose SSD (gp2)), Storage amount (30 GB), Instance type (t3a.xlarge)	Monthly: 71.84 USD

AWS Billing Dashboard



AWS Free Tier Dashboard

All Free Tier services by usage

Service	Free Tier usage limit	Current usage	Forecasted usage	Month-to-date actual usage	Month-end forecasted usage
AWS Lambda	1,000,000 free requests per month for AWS Lambda	585,089 Requests	697,606 Requests	58.51%	69.76%
Amazon Simple Notification Service	1,000,000 Requests for Amazon Simple Notification Service (SNS)	575,640 Requests	686,340 Requests	57.56%	68.63%
AWS Lambda	400,000 seconds of compute time per month for AWS Lambda	61,973 seconds	73,891 seconds	15.49%	18.47%
AWS Key Management Service	20,000 free requests per month for AWS Key Management Service	1,533 Requests	1,828 Requests	7.66%	9.14%
AmazonCloudWatch	5 GB of Log Data Ingestion for Amazon Cloudwatch	0 GB	0 GB	5.81%	6.92%
AmazonCloudWatch	5 GB of Log Data Archive for Amazon Cloudwatch	0 GB-Mo	0 GB-Mo	4.78%	5.70%
Amazon Simple Notification Service	1,000 email notifications for Amazon Simple Notification Service (USE1)	25 Notifications	30 Notifications	2.50%	2.98%
Amazon Simple Queue Service	1,000,000 Requests of Amazon Simple Queue Service	11,323 Requests	13,501 Requests	1.13%	1.35%
CodeBuild	100 build minutes per month of build.general1.small compute type usage for AWS CodeBuild	1 minutes	1 minutes	1.00%	1.19%
AWS Step Functions	4,000 state transitions per month for AWS Step Functions	15 StateTransitions	18 StateTransitions	0.38%	0.45%

Cost Allocation Tags

- Use **cost allocation tags** to track your AWS costs on a detailed level
- **AWS generated tags**
 - Automatically applied to the resource you create
 - Starts with Prefix **aws:** (e.g. **aws: createdBy**)
- **User-defined tags**
 - Defined by the user
 - Starts with Prefix **user:**

Total Cost ▾	user:Owner ▾	user:Stack ▾	user:Cost Center ▾	user:Application ▾
0.95	DbAdmin	Test	80432	Widget2
0.01	DbAdmin	Test	80432	Widget2
3.84	DbAdmin	Prod	80432	Widget2
6.00	DbAdmin	Test	78925	Widget1
234.63	SysEng	Prod	78925	Widget1
0.73	DbAdmin	Test	78925	Widget1
0.00	DbAdmin	Prod	80432	Portal
2.47	DbAdmin	Prod	78925	Portal

Tagging and Resource Groups

- **Tags** are used for organizing resources:
 - EC2: instances, images, load balancers, security groups...
 - RDS, VPC resources, Route 53, IAM users, etc...
 - Resources created by CloudFormation are all tagged the same way
- Free naming, common tags are: Name, Environment, Team ...
- Tags can be used to create **Resource Groups**
 - Create, maintain, and view a collection of resources that share common tags
 - Manage these tags using the Tag Editor

Cost and Usage Reports



- Dive deeper into your AWS costs and usage
- The AWS Cost & Usage Report contains **the most comprehensive set of AWS cost and usage data available**, including additional metadata about AWS services, pricing, and reservations (e.g., Amazon EC2 Reserved Instances (RIs)).
- The AWS Cost & Usage Report lists AWS usage for each service category used by an account and its IAM users in hourly or daily line items, as well as any tags that you have activated for cost allocation purposes.
- Can be integrated with Athena, Redshift or QuickSight

Cost and Usage Reports

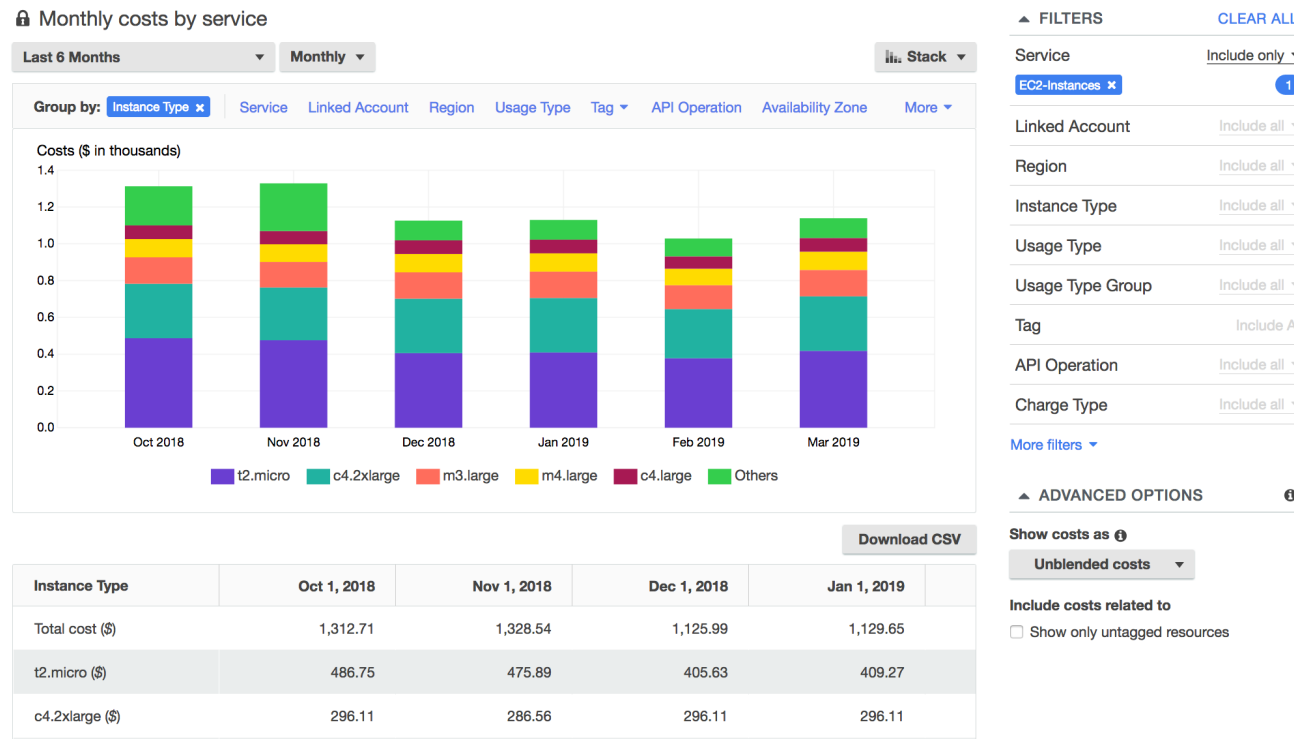
	M	N	O	P	R	S	T
	lineltem/ProductCode	lineltem/UsageType	lineltem/Operation	lineltem/AvailabilityZone	lineltem/UsageAmount	lineltem/CurrencyCode	lineltem/LineltemDescription
1	AmazonEC2	CW:AlarmMonitorUsage	Unknown		0.00134409	USD	\$0.00 per alarm-month - first 10 alarms
2	AmazonS3	Requests-Tier1	ListAllMyBuckets		2	USD	\$0.00 per request - PUT, COPY, POST, or LIST requests under the monthly global free tier
3	AmazonEC2	CW:AlarmMonitorUsage	Unknown		0.00134409	USD	\$0.00 per alarm-month - first 10 alarms
4	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
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	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
7	AmazonEC2	USW2-USE1-AWS-Out-Bytes	PublicIP-Out		0.00000174	USD	\$0.000 per GB - data transfer out under the monthly global free tier
8	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)
9	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)
10	AmazonS3	Requests-Tier1	ListAllMyBuckets		2	USD	\$0.00 per request - PUT, COPY, POST, or LIST requests under the monthly global free tier
11	AmazonEC2	USW2-DataTransfer-Out-Bytes	RunInstances		0.00038144	USD	\$0.000 per GB - data transfer out under the monthly global free tier
12	AmazonEC2	USW2-USW1-AWS-Out-Bytes	PublicIP-Out		0.00000174	USD	\$0.000 per GB - data transfer out under the monthly global free tier
13	AmazonEC2	USW2-DataTransfer-In-Bytes	RunInstances		0.00030951	USD	\$0.000 per GB - data transfer in per month
14	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
15	AmazonEC2	USW2-USW1-AWS-Out-Bytes	PublicIP-Out		0.00000349	USD	\$0.000 per GB - data transfer out under the monthly global free tier
16	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)
17	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
18	AmazonEC2	CW:AlarmMonitorUsage	Unknown		0.00134409	USD	\$0.00 per alarm-month - first 10 alarms
19	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
20	AmazonEC2	USW2-DataTransfer-Regional-Bytes	PublicIP-Out		0.00000349	USD	\$0.000 per GB - regional data transfer under the monthly global free tier
21	AmazonEC2	USW2-DataTransfer-In-Bytes	RunInstances		0.00032071	USD	\$0.000 per GB - data transfer in per month
22	AmazonEC2	USW2-DataTransfer-Regional-Bytes	PublicIP-In		0.00000302	USD	\$0.000 per GB - regional data transfer under the monthly global free tier
23	AmazonEC2	USW2-USE1-AWS-Out-Bytes	PublicIP-Out		0.00000174	USD	\$0.000 per GB - data transfer out under the monthly global free tier
24	AmazonEC2	USW2-DataTransfer-Out-Bytes	RunInstances		0.00045736	USD	\$0.000 per GB - data transfer out under the monthly global free tier
25	AmazonEC2	USW2-DataTransfer-In-Bytes	RunInstances		0.00036737	USD	\$0.000 per GB - data transfer in per month
26	AmazonEC2	USW2-APN2-AWS-In-Bytes	PublicIP-In		0.00000005	USD	\$0.00 per GB - US West (Oregon) data transfer from Asia Pacific (Seoul)
27	AmazonEC2	USW2-APN2-AWS-Out-Bytes	PublicIP-Out		0.00000018	USD	\$0.000 per GB - data transfer out under the monthly global free tier
28	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)
29	AmazonEC2	USW2-DataTransfer-Out-Bytes	RunInstances		0.00039945	USD	\$0.000 per GB - data transfer out under the monthly global free tier
30	AmazonEC2	CW:AlarmMonitorUsage	Unknown		0.00134409	USD	\$0.00 per alarm-month - first 10 alarms
31	AmazonEC2	CW:AlarmMonitorUsage	Unknown		0.00134409	USD	\$0.00 per alarm-month - first 10 alarms

Cost Explorer

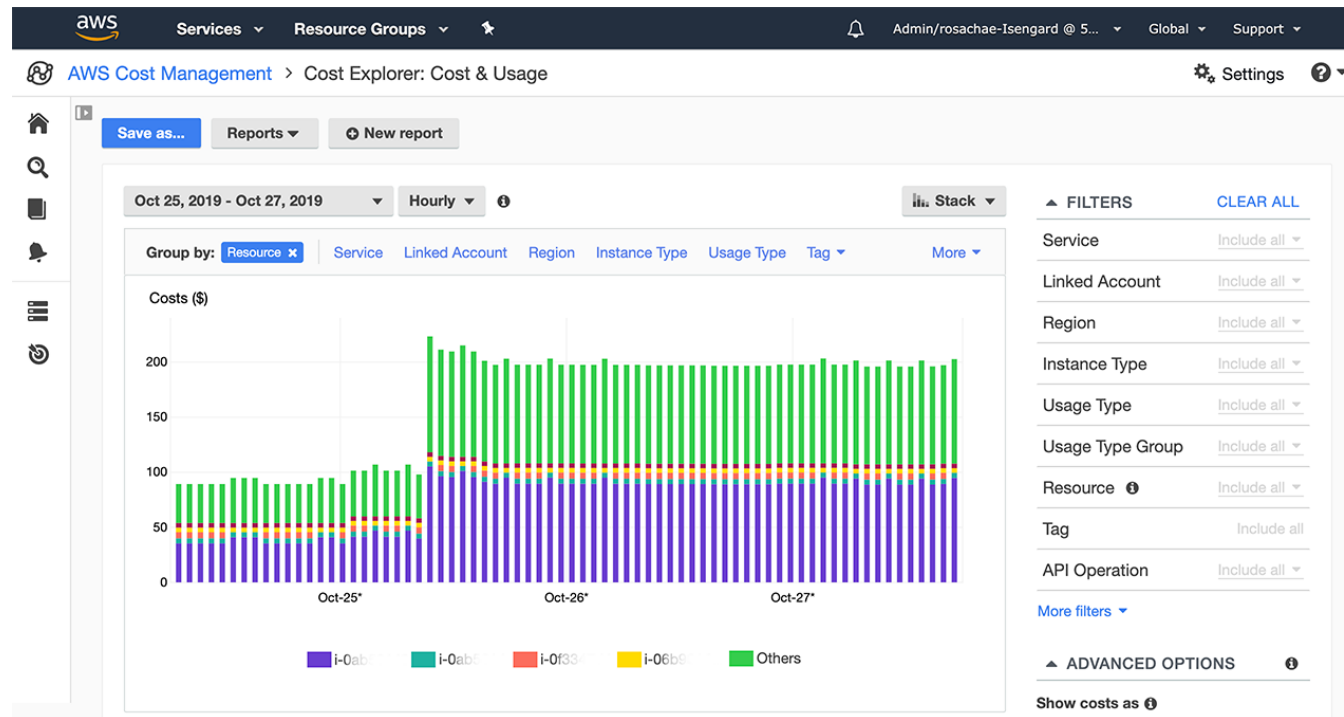


- Visualize, understand, and manage your AWS costs and usage over time
- Create custom reports that analyze cost and usage data.
- Analyze your data at a high level: total costs and usage across all accounts
- Or Monthly, hourly, resource level granularity
- Choose an optimal **Savings Plan** (to lower prices on your bill)
- Forecast usage up to 12 months based on previous usage

Cost Explorer – Monthly Cost by AWS Service



Cost Explorer– Hourly & Resource Level



Cost Explorer – Savings Plan Alternative to Reserved Instances

Recommendation options

Savings Plans type
☒ Compute
☐ EC2 Instance

Savings Plans term
☐ 1-year
☒ 3-year

Payment option
☒ All upfront
☐ Partial upfront
☐ No upfront

Based on the past
☐ 7 days
☐ 30 days
☒ 60 days

Recommendation: Purchase a Compute Savings Plan at a commitment of \$2.40/hour

You could save an estimated \$1,173 monthly by purchasing the recommended Compute Savings Plan.

Based on your past 60 days of usage, we recommend purchasing a Savings Plan with a commitment of \$2.40/hour for a 3-year term. With this commitment, we project that you could save an average of \$1.61/hour - representing a 40% savings compared to On-Demand. To account for variable usage patterns, this recommendation maximizes your savings by leaving an average \$0.04/hour of On-Demand spend.

Before recommended purchase	After recommended purchase (based on your past 60 days of usage)	
Monthly On-Demand spend ⓘ	Estimated monthly spend ⓘ	Estimated monthly savings ⓘ
\$2,955 (\$4.05/hour) <small>Based on your On-Demand spend over the past 60 days</small>	\$1,782 (\$2.44/hour) <small>Your recommended \$2.40/hour Savings Plans commitment = an average \$0.04/hour of On-Demand spend</small>	\$1,173 (\$1.61/hour) <small>40% monthly savings over On-Demand \$2,955 - \$1,782 = \$1,173</small>

This recommendation examines your usage over the past 60 days (including your existing Savings Plans and EC2 Reserved Instances) and calculates what your costs would have been had you purchased the recommended Savings Plans. See applicable rates for Savings Plans [here](#). To generate this recommendation, AWS simulates your bill for different commitment amounts and recommends the commitment amount that provides the greatest estimated savings. [Learn more](#)

Recommended Compute Savings Plans

Download CSVAdd selected Savings Plan(s) to cart

x	Term	Payment option	Recommended commitment	Estimated hourly savings ⬆
<input checked="" type="checkbox"/>	3-year	All upfront	\$2.40/hour	\$1.61 (40%)

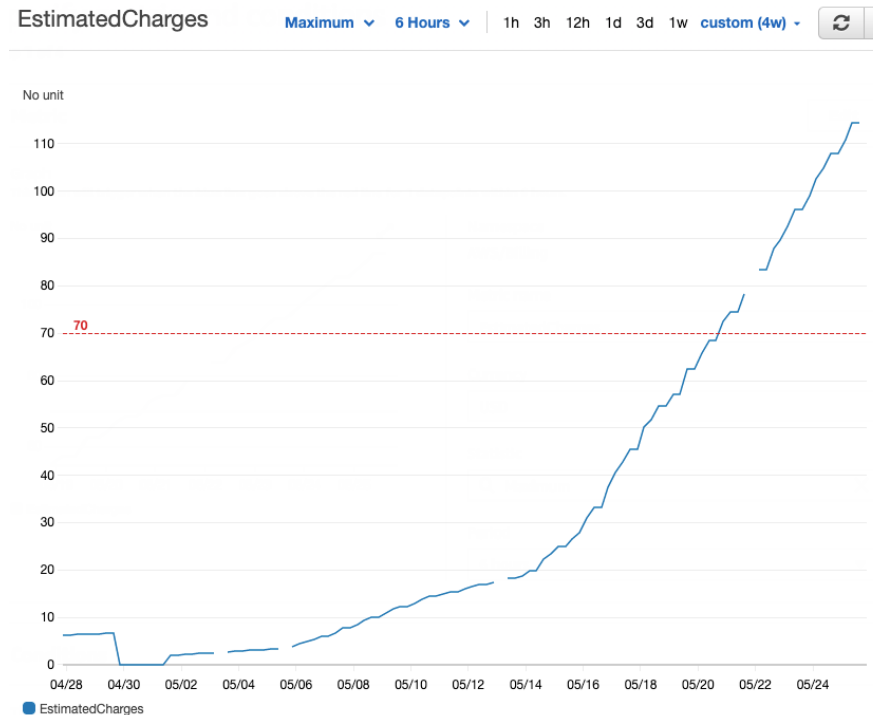
*Average hourly spend and minimum hourly spend based on your current on-demand spend for the given instance family.

Cost Explorer – Forecast Usage



Billing Alarms in CloudWatch

- Billing data metric is stored in CloudWatch us-east-1
- Billing data are for overall **worldwide** AWS costs
- It's for actual cost, not for projected costs
- Intended a simple alarm (not as powerful as AWS Budgets)



AWS Budgets






- Create budget and **send alarms** when costs exceeds the budget
- 3 types of budgets: Usage, Cost, Reservation
- For Reserved Instances (RI)
 - Track utilization
 - Supports EC2, ElastiCache, RDS, Redshift
- Up to 5 SNS notifications per budget
- Can filter by: Service, Linked Account, Tag, Purchase Option, Instance Type, Region, Availability Zone, API Operation, etc...
- Same options as AWS Cost Explorer!
- 2 budgets are free, then \$0.02/day/budget

Trusted Advisor

- No need to install anything – high level AWS account assessment
- Analyze your AWS accounts and provides recommendation on 5 categories
- Cost optimization
- Performance
- Security
- Fault tolerance
- Service limits



Checks	
▶ 	Amazon EBS Public Snapshots Checks the permission settings for your Amazon Elastic Block Store (EBS) snapshots. 0 EBS snapshots are marked as public.
▶ 	Amazon RDS Public Snapshots Checks the permission settings for your Amazon Relational Database Service (RDS) snapshots. 0 RDS snapshots are marked as public.
▶ 	IAM Use This check is intended to discourage the use of root access. At least one IAM user has been created for this account.

Trusted Advisor – Support Plans

7 CORE CHECKS

Basic & Developer Support plan

- S3 Bucket Permissions
- Security Groups – Specific Ports Unrestricted
- IAM Use (one IAM user minimum)
- MFA on Root Account
- EBS Public Snapshots
- RDS Public Snapshots
- Service Limits

FULL CHECKS

Business & Enterprise Support plan

- Full Checks available on the 5 categories
- Ability to set CloudWatch alarms when reaching limits
- Programmatic Access using AWS Support API

AWS Support Plans Pricing

- Basic Support: free

Developer	Business	Enterprise On-Ramp	Enterprise
Greater of \$29.00	Greater of \$100.00	Greater of \$5,500.00	Greater of \$15,000.00
- or -	- or -	- or -	- or -
3% of monthly AWS charges	10% of monthly AWS charges for the first \$0-\$10K	10% of monthly AWS charges	10% of monthly AWS charges for the first \$0-\$150K
	7% of monthly AWS charges from \$10K--\$80K		7% of monthly AWS charges from \$150K-\$500K
	5% of monthly AWS charges from \$80K--\$250K		5% of monthly AWS charges from \$500K--\$1M
	3% of monthly AWS charges over \$250K		3% of monthly AWS charges over \$1M



AWS Basic Support Plan

- **Customer Service & Communities** - 24x7 access to customer service, documentation, whitepapers, and support forums.
- **AWS Trusted Advisor** - Access to the 7 core Trusted Advisor checks and guidance to provision your resources following best practices to increase performance and improve security.
- **AWS Personal Health Dashboard** - A personalized view of the health of AWS services, and alerts when your resources are impacted.

AWS Developer Support Plan

- All Basic Support Plan +
- **Business hours email access** to Cloud Support Associates
- Unlimited cases / 1 primary contact
- Case severity / response times:
 - General guidance: < 24 business hours
 - System impaired: < 12 business hours

AWS Business Support Plan (24/7)

- Intended to be used if you have **production workloads**
- **Trusted Advisor** – Full set of checks + API access
- **24x7 phone, email, and chat access** to Cloud Support Engineers
- Unlimited cases / unlimited contacts
- Access to Infrastructure Event Management **for additional fee.**
- Case severity / response times:
 - General guidance: < 24 business hours
 - System impaired: < 12 business hours
 - Production system impaired: < 4 hours
 - Production system down: < 1 hour

AWS Enterprise On-Ramp Support Plan (24/7)

- Intended to be used if you have production or business critical workloads
- All of Business Support Plan +
- Access to a pool of Technical Account Managers (TAM)
- Concierge Support Team (for billing and account best practices)
- Infrastructure Event Management, Well-Architected & Operations Reviews
- Case severity / response times:
 - ...
 - Production system impaired: < 4 hours
 - Production system down: < 1 hour
 - Business-critical system down: < 30 minutes

AWS Enterprise Support Plan (24/7)

- Intended to be used if you have mission critical workloads
- All of Business Support Plan +
- Access to a **designated** Technical Account Manager (TAM)
- **Concierge Support Team** (for billing and account best practices)
- Infrastructure Event Management, Well-Architected & Operations Reviews
- Case severity / response times:
 - ...
 - Production system impaired: < 4 hours
 - Production system down: < 1 hour
 - Business-critical system down: < **15 minutes**

Account Best Practices – Summary

- Operate multiple accounts using **Organizations**
- Use **SCP** (service control policies) to restrict account power
- Easily setup multiple accounts with best-practices with **AWS Control Tower**
- Use **Tags & Cost Allocation Tags** for easy management & billing
- **IAM guidelines**: MFA, least-privilege, password policy, password rotation
- **Config** to record all resources configurations & compliance over time
- **CloudFormation** to deploy stacks across accounts and regions
- **Trusted Advisor** to get insights, Support Plan adapted to your needs
- Send Service Logs and Access Logs to **S3** or **CloudWatch Logs**
- **CloudTrail** to record API calls made within your account
- **If your Account is compromised**: change the root password, delete and rotate all passwords / keys, contact the AWS support

Billing and Costing Tools – Summary



- **Compute Optimizer:** recommends resources' configurations to reduce cost
- **Pricing Calculator:** cost of services on AWS
- **Billing Dashboard:** high level overview + free tier dashboard
- **Cost Allocation Tags:** tag resources to create detailed reports
- **Cost and Usage Reports:** most comprehensive billing dataset
- **Cost Explorer:** View current usage (detailed) and forecast usage
- **Billing Alarms:** in us-east-1 – track overall and per-service billing
- **Budgets:** more advanced – track usage, costs, RI, and get alerts
- **Savings Plans:** easy way to save based on long-term usage of AWS