## **Billing and Cost Management**

- 1. AWS Cost Explorer
- 2. AWS Budgets
- 3. AWS Cost and Usage Report
- 4. AWS Billing Dashboard
- 5. AWS Marketplace Subscriptions

# **Pricing Tools**

- 6. AWS Pricing Calculator
- 7. AWS Free Tier
- 8. AWS Savings Plans
- 9. AWS Reserved Instances
- 10. AWS Compute Savings Plans
- 11. AWS Service Quotas

# **Billing and Cost Optimization Services**

- 12. AWS Trusted Advisor (Cost Optimization)
- 13. **AWS Cost Anomaly Detection**

#### **Billing and Cost Management**

#### 1. AWS Cost Explorer

- **Description**: Tool for visualizing and managing your AWS costs and usage.
- Uses: View and analyze cost and usage data over time.
- Integrated with: AWS Budgets, AWS Billing Dashboard.

## 2. AWS Budgets

- Description: Service to set custom cost and usage budgets.
- Uses: Track progress against budgets and receive alerts.
- Integrated with: Cost Explorer, AWS SNS.

#### 3. AWS Cost and Usage Report

- Description: Comprehensive cost and usage data for AWS services.
- Uses: Analyze cost and usage at a detailed level.
- Integrated with: S3, Athena, Redshift.

#### 4. AWS Billing Dashboard

- Description: Central location to view and manage AWS billing and payments.
- Uses: Monitor current charges, pay bills, and manage payment methods.
- Integrated with: Cost Explorer, AWS Budgets.

#### 5. AWS Marketplace Subscriptions

- Description: Manage subscriptions to software products on AWS Marketplace.
- Uses: Track and manage third-party software usage and costs.
- Integrated with: AWS Billing Dashboard, Cost Explorer.

## **Pricing Tools**

#### 6. AWS Pricing Calculator

- Description: Tool to estimate the cost of AWS services based on your configurations.
- **Uses**: Create cost estimates for planning and comparison.
- Integrated with: N/A (standalone tool).

#### 7. AWS Free Tier

- Description: Offers free usage for certain AWS services within specified limits.
- Uses: Experiment with AWS services without incurring costs.
- Integrated with: All AWS services eligible for Free Tier.

#### 8. AWS Savings Plans

- **Description**: Flexible pricing model offering savings on AWS usage.
- Uses: Reduce costs by committing to a consistent amount of usage over a 1- or 3-year term.
- Integrated with: EC2, Lambda, Fargate.

#### 9. AWS Reserved Instances

- **Description**: Pricing model offering significant discounts for committing to use EC2 instances over a 1- or 3-year term.
- **Uses**: Save on EC2 costs with long-term commitments.
- Integrated with: EC2, RDS, ElastiCache.

## 10. AWS Compute Savings Plans

- **Description**: Pricing plan offering savings on a variety of compute services.
- Uses: Save on costs for EC2, Fargate, and Lambda with flexible usage.
- Integrated with: EC2, Fargate, Lambda.

## 11. AWS Service Quotas

- Description: Manage and request increases for AWS service limits.
- **Uses**: Monitor and manage service limits to avoid disruptions.
- Integrated with: AWS Management Console, AWS CLI.

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#### **Billing and Cost Optimization Services**

#### 12. AWS Trusted Advisor (Cost Optimization)

- **Description**: Provides recommendations to optimize AWS costs and performance.
- Uses: Identify opportunities to reduce costs and improve efficiency.
- Integrated with: AWS Management Console, IAM.

#### 13. AWS Cost Anomaly Detection

- Description: Uses machine learning to detect unusual spending patterns.
- Uses: Receive alerts on unexpected cost increases.
- Integrated with: AWS Budgets, AWS SNS.

## **Compute Pricing**

#### 1. Amazon EC2 Pricing

- Description: Various pricing options for Amazon EC2 instances.
- Types:
  - **On-Demand Instances**: Pay for compute capacity by the hour or second with no long-term commitments.
  - **Reserved Instances**: Significant discount over On-Demand pricing for a one-year or three-year commitment.
  - **Spot Instances**: Bid for unused EC2 capacity at potentially lower prices.
  - Savings Plans: Flexible pricing model offering savings on AWS compute usage.

## 2. AWS Lambda Pricing

- Description: Pricing based on the number of requests and duration of compute time.
- Types:
  - Request Pricing: Number of requests your functions receive.
  - **Duration Pricing**: Time your code executes, rounded up to the nearest millisecond.

#### 3. Amazon ECS and EKS Pricing

- **Description**: Pricing for running containerized applications.
- Types:
  - ECS on EC2: Pay for the EC2 instances.
  - **ECS with Fargate**: Pay for the vCPU and memory resources.
  - **EKS**: Pay for the EKS cluster and the resources used by applications.

#### **Storage Pricing**

#### 4. Amazon S3 Pricing

- **Description**: Pricing based on storage class, data transfer, and requests.
- Types:
  - Standard Storage: Regular storage for frequently accessed data.
  - Infrequent Access (IA): Lower-cost storage for data that is accessed less frequently.
  - Glacier and Glacier Deep Archive: Long-term archival storage with retrieval times ranging from minutes to hours.

## 5. Amazon EBS Pricing

- **Description**: Pricing for block storage used with EC2 instances.
- Types:
  - General Purpose SSD (gp2/gp3): Balance of price and performance.
  - Provisioned IOPS SSD (io1/io2): Designed for I/O-intensive applications.
  - Magnetic Volumes: Low-cost storage option.

#### 6. Amazon EFS Pricing

- Description: Pricing for scalable file storage.
- Types:
  - Standard Storage: Frequently accessed file storage.
  - Infrequent Access (IA): Lower-cost option for files not accessed frequently.

## **Network Pricing**

## 7. AWS Data Transfer Pricing

- Description: Costs associated with transferring data in and out of AWS.
- Types:
  - Data Transfer In: Typically free for most services.
  - Data Transfer Out: Charged based on the amount of data transferred out of AWS regions.

#### 8. Amazon CloudFront Pricing

- Description: Pricing for content delivery network (CDN) services.
- Types:
  - Data Transfer Out: Charges based on the volume of data delivered.
  - HTTP/HTTPS Requests: Charges based on the number of requests made.

#### **Database Pricing**

#### 9. Amazon RDS Pricing

- **Description**: Pricing for managed relational database services.
- Types:
  - **On-Demand Instances**: Pay per hour with no commitments.
  - **Reserved Instances**: Discounted rates for one-year or three-year commitments.
  - Storage: Pay for the storage capacity used by the database.

## 10. Amazon DynamoDB Pricing

- **Description**: Pricing for NoSQL database services.
- Types:
  - Provisioned Capacity: Pay for read and write capacity units.
  - On-Demand Capacity: Pay per request.
  - **Data Storage**: Pay for the amount of data stored.

#### **Savings Plans and Reserved Instances**

#### 11. AWS Savings Plans

- Description: Flexible pricing model offering significant savings on AWS usage.
- Types:
  - Compute Savings Plans: Apply to EC2, Fargate, and Lambda usage.
  - EC2 Instance Savings Plans: Specific to EC2 instance usage.

#### 12. AWS Reserved Instances

- **Description**: Significant discounts for long-term commitments to specific instance types.
- Types:
  - Standard Reserved Instances: One-year or three-year terms.
  - Convertible Reserved Instances: Flexibility to change instance families, OS types, and tenancies.

#### **Other Pricing Models**

#### 13. Amazon Elastic Beanstalk Pricing

- **Description**: Pay for the underlying AWS resources consumed by your application.
- Types: EC2 instances, S3 storage, RDS databases, etc.

#### 14. Amazon CloudWatch Pricing

- Description: Monitoring and management service for AWS resources and applications.
- Types:
  - Metrics: Pay per metric monitored.
  - Alarms: Pay for each alarm created.
  - Logs: Pay for data ingested and stored.

#### 15. AWS Glue Pricing

- **Description**: Pay for data processing units (DPUs) used to run your ETL jobs.
- Types: Jobs, development endpoints, crawlers.

#### **Specialized Pricing**

## 16. Amazon Lightsail Pricing

- **Description**: Simple cloud servers, storage, and networking for a fixed monthly price.
- Types: Bundles include compute, memory, storage, and data transfer.

## 17. AWS Outposts Pricing

- Description: Pay for the physical hardware and additional capacity or services consumed.
- Types: Monthly and upfront payment options for hardware.