# Workshop #5
# Pricing, Support, Migration, and Innovation

# Announcement: Rebranding!

We are now an official AWS club!

AWS Community Code of Conduct (amazon.com)

# Membership: Please join the Meetup.com

# Check-In

## Last Workshop

**Global Infrastructure, Security, Monitoring & Analytics**

Practice your skills on AWS Skill Builder regularly to stay sharp on your skills!

# Pricing

# AWS Free Tier

- Always Free
  - Ex. DynamoDB allows 25 GB of free storage per month
- 12 Months Free
  - Ex. thresholds for monthly hours of Amazon EC2 compute time
- Trials
  - Ex. Amazon Inspector offers a 90-day free trial

# Pricing Concepts

1. Pay for what you use.
2. Pay less when you reserve.
3. Pay less with volume-based discounts when you use more.

| | | |
|---|---|---|
| **Simple Storage Service** | | **$0.00** |
| **US East (N. Virginia)** | | **$0.00** |
| Amazon Simple Storage Service Requests-Tier1 | | $0.00 |
| $0.00 per request - PUT, COPY, POST, or LIST requests under the monthly global free tier | 185.000 Requests | $0.00 |
| Amazon Simple Storage Service Requests-Tier2 | | $0.00 |
| $0.00 per request - GET and all other requests under the monthly global free tier | 923.000 Requests | $0.00 |
| Amazon Simple Storage Service TimedStorage-ByteHrs | | $0.00 |
| $0.000 per GB - storage under the monthly global free tier | 0.159 GB-Mo | $0.00 |
| **US East (Ohio)** | | **$0.00** |
| Amazon Simple Storage Service USE2-Requests-Tier2 | | $0.00 |
| $0.00 per request - GET and all other requests under the monthly global free tier | 4.000 Requests | $0.00 |
| Amazon Simple Storage Service USE2-TimedStorage-ByteHrs | | $0.00 |
| $0.000 per GB - storage under the monthly global free tier | 0.000001 GB-Mo | $0.00 |

AWS Pricing Calculator

# Billing Dashboard

## Top Free Tier Services by Usage

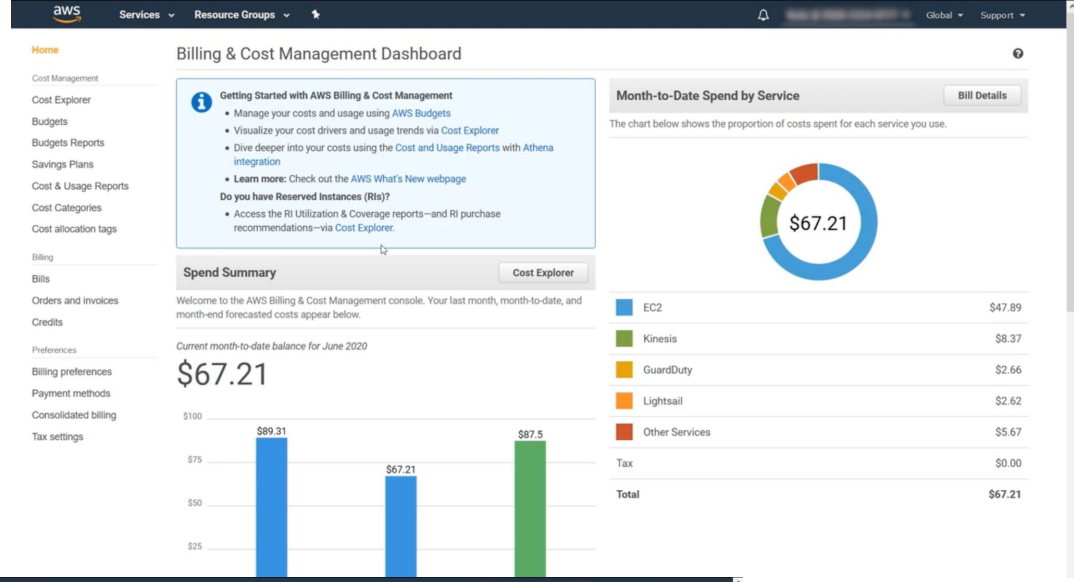
View all

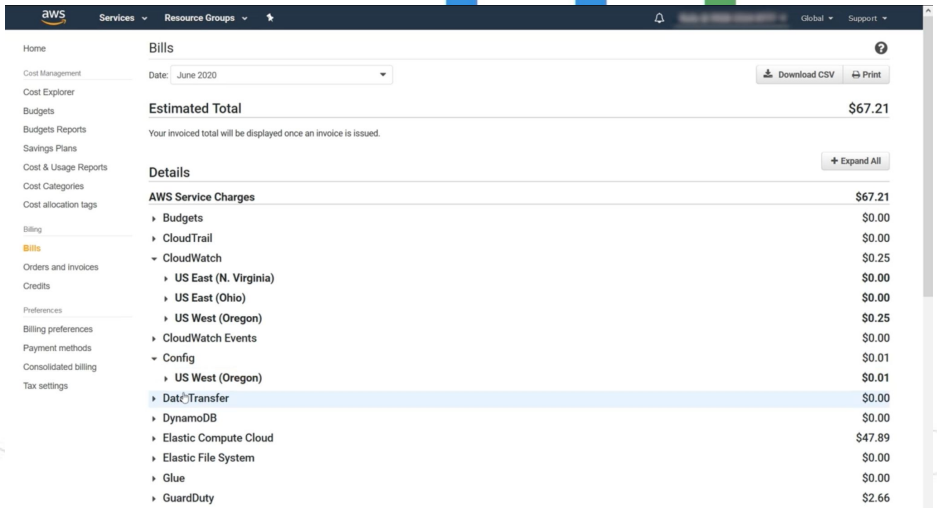
| Service | Free Tier usage limit | Month-to-date usage |
|---|---|---|
| AWS Key Management Service | 20,000 free requests per month for AWS Key Management Service | 2.25% (449.00/20,000 Requests) |
| AmazonCloudWatch | 5 GB of Log Data Archive for Amazon Cloudwatch | 0.10% (0.00/5 GB-Mo) |
| Amazon Simple Notification Service | 1,000,000 Requests for Amazon Simple Notification Service (USW2) | 0.01% (120.00/1,000,000 Requests) |
| Amazon Simple Queue Service | 1,000,000 Requests of Amazon Simple Queue Service | 0.01% (69.00/1,000,000 Requests) |
| Amazon Simple Notification Service | 1,000,000 Requests for Amazon Simple Notification Service (EU) | 0.00% (24.00/1,000,000 Requests) |

## Alerts & Notifications

AWS Budgets allows you to create custom cost and usage budgets that alert you when you exceed (or are forecasted to exceed) your budget thresholds. Create and Manage Your Budgets.

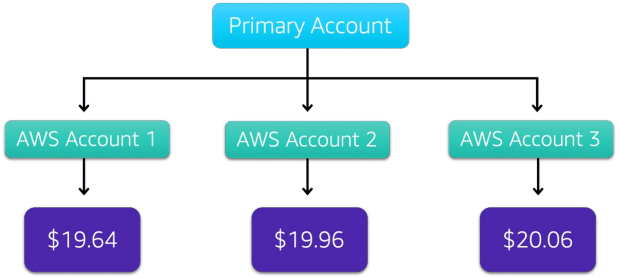
To ensure that we calculate your taxes correctly or apply the correct exemptions, please enter or update your tax settings here.



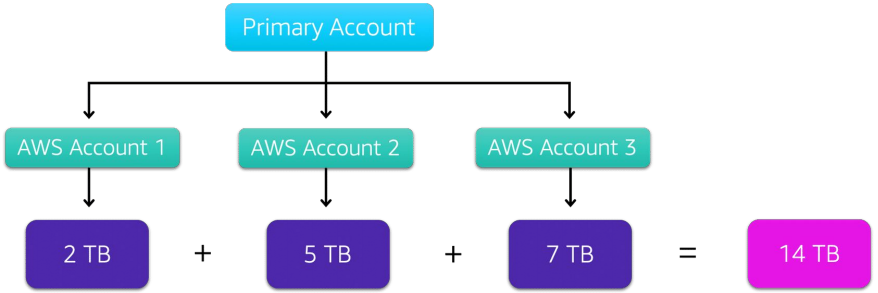



# Consolidated Billing

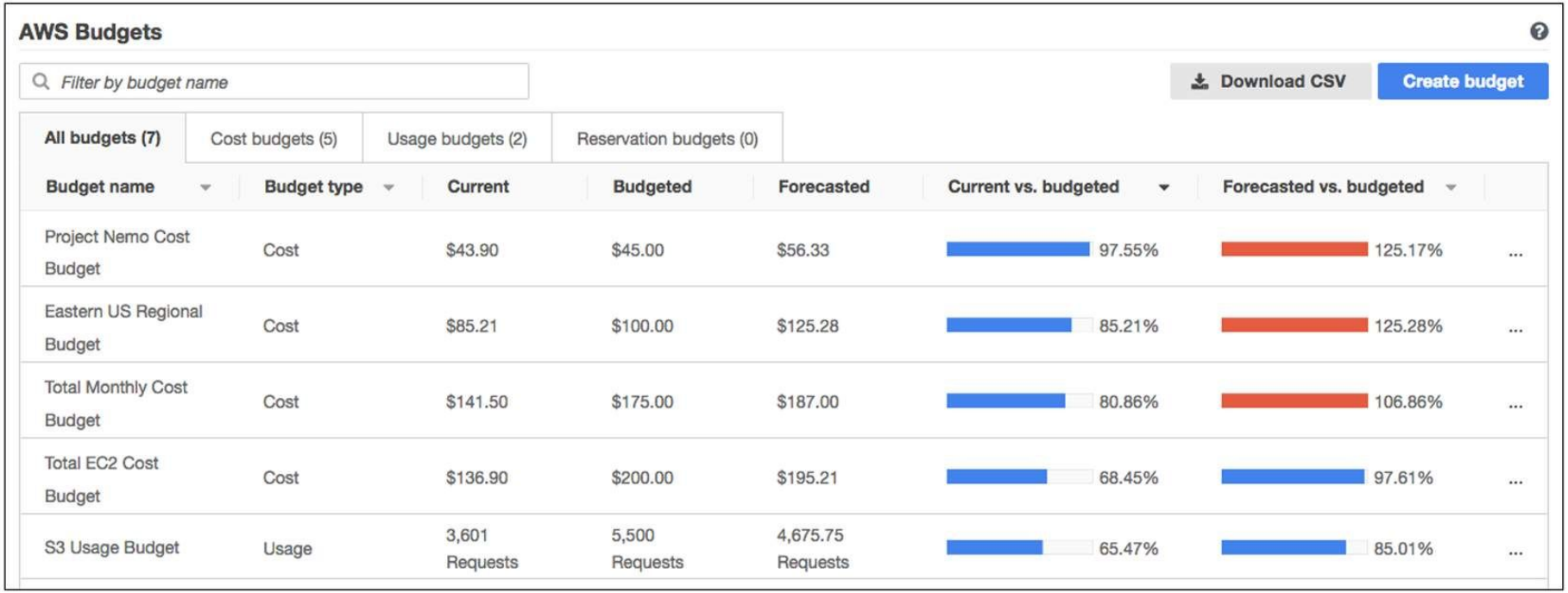
- AWS Organizations
  - Max 4 accounts in org.
- Track combined and itemized costs
- Share usage pricing
  - Bulk discounts
  - Savings Plans
  - Reserved Instances




| Monthly Consolidated Bill | |
|---|---|
| Primary Account | $14.14 |
| AWS Account 1 | $19.64 |
| AWS Account 2 | $19.96 |
| AWS Account 3 | $20.06 |
| Total charged to paying account: | $73.80 |



# Budgets


AWS Budgets
Filter by budget name
Download CSV
Create budget
All budgets (7)
Cost budgets (5)
Usage budgets (2)
Reservation budgets (0)
Budget name
Budget type
Current
Budgeted
Forecasted
Current vs. budgeted
Forecasted vs. budgeted
Project Nemo Cost Budget
Cost
$43.90
$45.00
$56.33
97.55%
125.17%
Eastern US Regional Budget
Cost
$85.21
$100.00
$125.28
85.21%
125.28%
Total Monthly Cost Budget
Cost
$141.50
$175.00
$187.00
80.86%
106.86%
Total EC2 Cost Budget
Cost
$136.90
$200.00
$195.21
68.45%
97.61%
S3 Usage Budget
Usage
3,601 Requests
5,500 Requests
4,675.75 Requests
65.47%
85.01%

# Cost Explorer

Visualize costs and usage over time

Supports filtering and report generation

| Instance Type | Oct 1, 2018 | Nov 1, 2018 | Dec 1, 2018 | Jan 1, 2019 |
|---|---|---|---|---|
| Total cost ($) | 1,312.71 | 1,328.54 | 1,125.99 | 1,129.65 |
| t2.micro ($) | 486.75 | 475.89 | 405.63 | 409.27 |
| c4.2xlarge ($) | 296.11 | 286.56 | 296.11 | 296.11 |

# Support

# Support

1. Basic
2. Developer
    a. + Email access to AWS support
3. Business
    a. + Full AWS Trusted Advisor access
    b. + Phone access to AWS support
    c. + Infrastructure event management
4. Enterprise On-Ramp
    a. + 30-min response time for critical issues
    b. + TAM
5. Enterprise
    a. + 15-min response time for critical issues

Support Plans

# Marketplace

Find, test, and buy software from independent vendors that runs on AWS.

Infrastructure Software

DevOps

Data Products

Professional Services

Business Applications

Machine Learning

Industries

Internet of Things (IoT)

# Migration

# AWS Cloud Adoption Framework

- Provides advice to companies to enable a quick and smooth migration to AWS.
- Organizes guidance into six areas focused on the different types of people that you'll need to involve for your migration
  - Business, People, Governance, Platform, Security, Operations

# Business Perspective

The Business Perspective ensures that IT aligns with business needs and that IT investments link to key business results.

Use the Business Perspective to create a strong business case for cloud adoption and prioritize cloud adoption initiatives. Ensure that your business strategies and goals align with your IT strategies and goals.

Common roles in the Business Perspective include:

Business managers

Finance managers

Budget owners

Strategy stakeholders

## People Perspective

The People Perspective supports development of an organization-wide change management strategy for successful cloud adoption.

Use the People Perspective to evaluate organizational structures and roles, new skill and process requirements, and identify gaps. This helps prioritize training, staffing, and organizational changes.

Human Resources

# Governance Perspective

The Governance Perspective focuses on the skills and processes to align IT strategy with business strategy. This ensures that you maximize the business value and minimize risks.

Use the Governance Perspective to understand how to update the staff skills and processes necessary to ensure business governance in the cloud. Manage and measure cloud investments to evaluate business outcomes.

Chief Information Officer (CIO), Program managers, Enterprise architects

## Platform Perspective

The Platform Perspective includes principles and patterns for implementing new solutions on the cloud, and migrating on-premises workloads to the cloud.

Use a variety of architectural models to understand and communicate the structure of IT systems and their relationships. Describe the architecture of the target state environment in detail.

Solutions architects

## Security Perspective

The Security Perspective ensures that the organization meets security objectives for visibility, auditability, control, and agility.

Use the AWS CAF to structure the selection and implementation of security controls that meet the organization's needs.

IT security managers, IT security analysts

## Operations Perspective

The Operations Perspective helps you to enable, run, use, operate, and recover IT workloads to the level agreed upon with your business stakeholders.

Define how day-to-day, quarter-to-quarter, and year-to-year business is conducted. Align with and support the operations of the business. The AWS CAF helps these stakeholders define current operating procedures and identify the process changes and training needed to implement successful cloud adoption.

IT operations managers

## Practice Question!

1) Which Perspective of the AWS Cloud Adoption Framework helps you design, implement, and optimize your AWS infrastructure based on your business goals and perspectives?

a) Business Perspective
b) Platform Perspective
c) Operations Perspective
d) People Perspective

The correct response option is Platform Perspective.

The Platform Perspective of the AWS Cloud Adoption Framework also includes principles for implementing new solutions and migrating on-premises workloads to the cloud.

# 6 Strategies for Migration

- Rehosting
  - lift-and-shift" involves moving applications without changes. The company is looking to implement its migration and scale quickly to meet a business case
- Replatforming
  - "lift, tinker, and shift," involves making a few cloud optimizations to realize a tangible benefit.
- Refactoring/re-architecting
  - Reimaginines how an application is architected and developed by using cloud-native features. Driven by a business need to add features, scale, or performance that would otherwise be difficult to achieve in the application's existing environment.

# 6 Strategies for Migration

- Repurchasing
  - Repurchasing involves moving from a traditional license to a software-as-a-service model.
- Retaining
  - Retaining consists of keeping applications that are critical for the business in the source environment.
- Retiring
  - Retiring is the process of removing applications that are no longer needed.

## Knowledge Check

Which migration strategy involves moving to a different product?

- Refactoring
- Retiring
- Replatforming
- Repurchasing

The correct response option is Repurchasing

Repurchasing involves replacing an existing application with a cloud-based version, such as software found in AWS Marketplace.

# Migration: AWS Family

K21Academy
Learn Cloud from Experts

ORACLE Gold Partner | Silver Microsoft Partner | DevOps

AWS aws
Snow
Family

# AWS Snow Family

- The AWS Snow Family is a collection of physical devices that help to physically transport up to exabytes of data into and out of AWS.
- Comprised of 3 Devices
- These devices offer different capacity points, and most include built-in computing capabilities. AWS owns and manages the Snow Family devices and integrates with AWS security, monitoring, storage management, and computing capabilities.

# Snowcone

- AWS Snowcone is a small, rugged, and secure edge computing and data transfer device.
  - It features 2 CPUs, 4 GB of memory, and 8 TB of usable storage.

# Snowball

- AWS Snowball offers two types of devices:
  - Snowball Edge Storage Optimized devices for large-scale data migrations and recurring transfer workflows, in addition to local computing with higher capacity needs.
    - Storage: 80 TB of hard disk drive (HDD) and 1 TB of SATA solid state drive
    - Compute: 40 vCPUs, and 80 GiB of memory
  - Snowball Edge Compute Optimized provides powerful computing resources for use cases such as machine learning, full motion video analysis, analytics, and local computing stacks.
    - Storage: 42-TB usable HDD capacity and 7.68 TB of usable NVMe SSD capacity for Amazon EBS compatible block volumes.
    - Compute: 52 vCPUs, 208 GiB of memory, and an optional NVIDIA Tesla V100 GPU. Devices run Amazon EC2 sbe-c and sbe-g instances, which are equivalent to C5, M5a, G3, and P3 instances.

# Snow Mobile

AWS Snowmobile is an exabyte-scale data transfer service used to move large amounts of data to AWS.

You can transfer up to 100 petabytes of data per Snowmobile, a 45-foot long ruggedized shipping container, pulled by a semi trailer truck.

# Innovation

## Innovation

When examining how to use AWS services, it is important to focus on the desired outcomes. You are properly equipped to drive innovation in the cloud if you can clearly articulate the following conditions:

1) The current state
2) The desired state
3) The problems you are trying to solve

# Innovation

- With AWS, serverless refers to applications that don't require you to provision, maintain, or administer servers. You don't need to worry about fault tolerance or availability. AWS handles these capabilities for you.
  - AWS Lambda
- AWS offers a variety of services powered by artificial intelligence (AI).
  - Convert speech to text with Amazon Transcribe.
  - Discover patterns in text with Amazon Comprehend.
  - Build voice and text chatbots with Amazon Lex.
- Traditional machine learning (ML) development is complex, expensive, time consuming, and error prone. AWS offers Amazon SageMaker to remove the difficult work from the process
  - You can use ML to analyze data, solve complex problems, and predict outcomes before they happen.

# Please fill out this Post-Event Survey!

# THANK YOU!