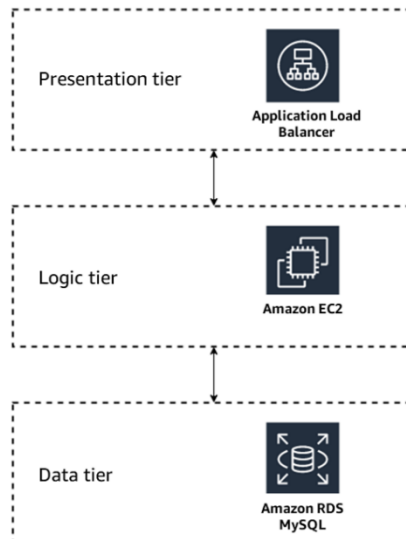


Lab: Getting Started with Cost Estimation

Lab overview and objectives

In this hands-on lab I go through the steps to estimate Amazon Web Services (AWS) costs for a sample workload. The workload that I evaluate is for a three-tier web application that consists of an **Application Load Balancer**, an **Amazon EC2 instance**, and an **Amazon RDS instance**.

3 tier LAMP stack based Web Application on AWS



The preceding diagram includes a Load Balancer, an EC2 instance, and an RDS instance.

Objectives

In this lab, I will show you how to do the following:

- Estimate AWS Costs using AWS Pricing Calculator.

Task 1: Launch the AWS Pricing Calculator

The screenshot displays the AWS Pricing Calculator interface. The top navigation bar includes the AWS logo, 'pricing calculator', and links for 'Feedback', 'Language: English', 'Contact Sales', and 'Create an AWS Account'. The main heading is 'AWS Pricing Calculator' with the subtext 'Estimate the cost for your architecture solution.' Below this, a 'Create an estimate' box encourages starting an estimate with no commitment. The 'How it works' section shows 'Step 1: Add services' as the current step. The 'Add service' page features a search bar with 'Search by location type' selected, a 'Choose a location type' dropdown set to 'Region', and a 'Choose a Region' dropdown set to 'US East (Ohio)'. Below the search bar, three service cards are visible: 'AWS Application Migration Service', 'Amazon API Gateway', and 'Amazon AppFlow'. At the bottom, a cost summary shows 'Upfront cost: 0.00 USD', 'Monthly cost: 0.00 USD', and 'Total 12 months cost: 0.00 USD (Includes upfront cost)'. A 'View summary' button is located next to the total cost.

Task 2: Add and configure services in AWS Pricing Calculator

In this task, I use AWS Pricing Calculator to explore AWS services and create an estimate for the cost of a use case, a three-tier web application.

Add the load balancer to the estimate

The screenshot displays the AWS Pricing Calculator interface for configuring an Elastic Load Balancing service. The browser address bar shows the URL `calculator.aws/#/createCalculator/ElasticLoadBalancing`. The page header includes the AWS logo, navigation links (Feedback, Language: English, Contact Sales), and a button to 'Create an AWS Account'.

The main content area is titled 'Create estimate: Configure Elastic Load Balancing' and includes an 'Info' icon. It is divided into two steps: 'Step 1: Add service' and 'Step 2: Configure service'. Under 'Step 1', the 'Description' field is set to 'Load Balancer'. Under 'Step 2', the 'Choose a location type' dropdown is set to 'Region', and the 'Choose a Region' dropdown is set to 'Africa (Cape Town)'.

The 'Elastic Load Balancing' section allows selecting function options. The 'Application Load Balancer' option is selected, while 'Classic Load Balancer', 'Network Load Balancer', and 'Gateway Load Balancer' are unselected. Below this, the 'Application Load Balancer feature' section shows 'Load Balancer in AWS Region' selected, with a description: 'Application Load Balancer is best suited for load balancing of HTTP and HTTPS traffic and provides advanced request routing targeted at the delivery of modern application architectures, including microservices and containers. Operating at the individual request level (Layer 7), Application Load Balancer routes traffic to targets within Amazon Virtual Private Cloud (Amazon VPC) based on the content of the request.' The 'Load Balancer on Outposts' option is unselected, with a description: 'ALB on Outposts is a fully managed and secure request level (layer 7) load balancing service that automatically distributes incoming HTTP(S) traffic across multiple targets, such as Amazon EC2 instances, containers, and IP addresses. Within Outposts, ALB will operate in a single subnet and will scale automatically up to the capacity available on the rack to meet varying levels of application load without manual intervention. Similar to ALB in the Region, ALB on Outposts will promote high security posture for your application as it works within your Amazon Virtual Private Cloud (VPC) and provides robust security features like integrated certificate management and TLS offload.'

At the bottom left, the cost summary shows 'Total Upfront cost: 0.00 USD' and 'Total Monthly cost: 63.51 USD'. At the bottom right, there are buttons for 'Cancel', 'Save and view summary', and 'Save and add service'.

The footer of the page includes links for 'Privacy', 'Site terms', and 'Cookie preferences', along with the copyright notice '© 2024, Amazon Web Services, Inc. or its affiliates. All rights reserved.' The system tray at the very bottom shows the date and time as '2024/06/18 18:40'.

calculator.aws/#/createCalculator/ElasticLoadBalancing

aws pricing calculator

FeedbackLanguage: EnglishContact SalesCreate an AWS Account

Load Balancer Capacity Units (LCUs) info

Please specify at least one of the following dimensions to determine LCU pricing.

Processed bytes (Lambda functions as targets)
Enter the total data processed per ALB for Lambda functions as targets.

Value

Unit

GB per hour

Processed bytes (EC2 Instances and IP addresses as targets)
Enter the total data processed per ALB for EC2 Instances and IP addresses as targets.

Value

Unit

GB per hour

Average number of new connections per ALB

Unit

per second

Average connection duration
Enter the average duration for each new connection (if the duration is less than 1 second then enter 1 second).

Value

Unit

Total Upfront cost: 0.00 USD
Total Monthly cost: 63.51 USD

Show Details

Cancel

Save and view summary

Save and add service

calculator.aws/#/createCalculator/ElasticLoadBalancing

aws pricing calculator

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Average number of new connections per ALB

Unit

per second

Average connection duration
Enter the average duration for each new connection (if the duration is less than 1 second then enter 1 second).

Value

Unit

minutes

Average number of requests per second per ALB
Enter the average number of requests per connection.

Average number of rule evaluations per request

Show calculations

Total Upfront cost: 0.00 USD
Total Monthly cost: 63.51 USD

Show Details

Cancel

Save and view summary

Save and add service

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14°C
Cloudy

Search

ENG
US

18:41
2024/06/18

calculator.aws/#/addService

aws pricing calculator

Feedback Language: English Contact Sales Create an AWS Account

Successfully added Elastic Load Balancing estimate.

AWS Pricing Calculator > My Estimate > Add service

Step 1 Add service

Step 2 Configure service

Add service

AWS services (100)

☒ Search by location type
See the services that are available in your region, wave length zone, and local zone.

☐ Search all services
Choose a service or workload to configure an estimate.

Choose a location type
Region

Choose a Region
Africa (Cape Town)

Find Service
Search for a service

AWS Application Migration Service
AWS Application Migration Service minimizes time-intensive, error-prone manual processes by

Amazon API Gateway
Amazon API Gateway is a fully managed service that makes it easy for developers to create, publish,

Amazon AppFlow
Amazon AppFlow offers significant cost-savings advantage compared to building connectors in-

Upfront cost: 0.00 USD Monthly cost: 63.51 USD Total 12 months cost 762.12 USD (includes upfront cost)

View summary

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14°C Cloudy

Add the EC2 instance to the estimate

calculator.aws/#/createCalculator/ec2-enhancement

aws pricing calculator

Feedback Language: English Contact Sales Create an AWS Account

AWS Pricing Calculator > My Estimate > Create estimate: Configure Amazon EC2

Step 1 Add service

Step 2 Configure service

Create estimate: Configure Amazon EC2

Description
EC2

Choose a location type
Region

Choose a Region
US West (Oregon)

EC2 specifications

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

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

Workloads
Choose the graph that best represents your monthly workload
☐ Constant usage ☒ Daily spike traffic ☐ Weekly spike traffic ☐ Monthly spike traffic

Total Upfront cost: 0.00 USD
Total Monthly cost: 23.30 USD

Show Details

Cancel Save and view summary Save and add service

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calculator.aws/#/createCalculator/ec2-enhancement

aws pricing calculator

FeedbackLanguage: EnglishContact SalesCreate an AWS Account

Operating system

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

Linux

Workloads

Choose the graph that best represents your monthly workload

☐ Constant usage☒ Daily spike traffic☐ Weekly spike traffic☐ Monthly spike traffic

▼ Daily spike pattern

Remove pattern

Workload days

Select days for your workload pattern.

☐ Sunday☒ Monday☒ Tuesday☒ Wednesday☒ Thursday☒ Friday☐ Saturday

Baseline

Enter the minimum number of instances for your workload.

1

Total Upfront cost: 0.00 USD

Total Monthly cost: 23.30 USD

Show Details

Cancel

Save and view summary

Save and add service

calculator.aws/#/createCalculator/ec2-enhancement

aws pricing calculator

FeedbackLanguage: EnglishContact SalesCreate an AWS Account

Peak

Enter the maximum number of instances for your workload.

2

Duration of peak (hours, minutes)

Enter the amount of days, hours, and minutes your instances are running at peak.

Hours

8

Minutes

30

Add daily spike pattern

EC2 Instances (1)

Based on your inputs, this is the lowest-cost EC2 instance: t4g.small

Chosen instance: t4g.nano | Family: t4g | 2vCPU | 0.5 GiB Memory

Search instance type

t4g.small

Instance family

Any Instance family

vCPUs

Any vCPUs

Memory (GiB)

Any Memory (GiB)

Network performance

Any Network Performance

Total Upfront cost: 0.00 USD

Total Monthly cost: 23.30 USD

Show Details

Cancel

Save and view summary

Save and add service

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15°C Cloudy19:092024/06/18

calculator.aws/#/createCalculator/ec2-enhancement

aws pricing calculator

FeedbackLanguage: EnglishContact SalesCreate an AWS Account

Payment options

Estimated commitment price based on the following selections:
Instance type: **t4g.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

☐ All 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

☐ All upfront

☒ On-Demand

Maximize flexibility. [Learn more](#)

☐ 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 t4g.nano is 50%

Assume percentage discount for my estimate

Actual spot instance pricing varies

With spot instances, you pay the spot price that's in effect

Total Upfront cost: 0.00 USD

Total Monthly cost: 23.30 USD

Show Details

Cancel

Save and view summary

Save and add service

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15°C Cloudy

Search

calculator.aws/#/createCalculator/ec2-enhancement

aws pricing calculator

FeedbackLanguage: EnglishContact SalesCreate an AWS Account

Amazon Elastic Block Store (EBS) - optional

Calculating EBS snapshots

[Learn more](#) on how EBS snapshot prices are calculated.

Storage for each EC2 instance

Choose EBS volume storage type.

General Purpose SSD (gp3)

General Purpose SSD (gp3) - IOPS

gp3 supports a max of 16,000 IOPS per volume

Enter amount of IOPS per volume

General Purpose SSD (gp3) - Throughput

gp3 supports a max of 1000 MBps per volume

Value

Unit

MBps

Storage amount

Unit

GB

Total Upfront cost: 0.00 USD

Total Monthly cost: 23.30 USD

Show Details

Cancel

Save and view summary

Save and add service

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calculator.aws/#/createCalculator/ec2-enhancement

aws pricing calculator

FeedbackLanguage: EnglishContact SalesCreate an AWS Account

Data transfer - optional

Inbound Data Transfer

Enter the data you expect to transfer into US West (Oregon)

Data transfer from

Enter Amount

Data amount

Internet (free)

50

GB per month

Add inbound data transfer

Intra-Region Data Transfer

Enter the data you expect to transfer between Availability Zones or VPC Peering connections in US West (Oregon)

Enter Amount

Data amount

Enter amount

TB per month

Outbound Data Transfer

Enter the data you expect to transfer out of US West (Oregon)

Data transfer to

Enter Amount

Data amount

Internet (0.05 USD - ...)

200

GB per month

Add outbound data transfer

Total Upfront cost: 0.00 USD

Total Monthly cost: 23.30 USD

Show Details

Cancel

Save and view summary

Save and add service

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calculator.aws/#/addService

aws pricing calculator

FeedbackLanguage: EnglishContact SalesCreate an AWS Account

Successfully added Amazon EC2 estimate.

AWS Pricing Calculator

My Estimate

Add service

Step 1

Add service

Step 2

Configure service

Add service

Info

Bulk import

AWS services (167)

Cancel

Search by location type

See the services that are available in your region, wave length zone, and local zone.

Search all services

Choose a service or workload to configure an estimate.

Choose a location type

Info

Choose a Region

Region

US West (Oregon)

Find Service

Search for a service

AWS Application Migration Service

AWS Application Migration Service minimizes time-intensive, error-prone manual processes by

Amazon API Gateway

Amazon API Gateway is a fully managed service that makes it easy for developers to create, publish,

Amazon AppFlow

Amazon AppFlow offers significant cost-savings advantage compared to building connectors in-

Upfront cost: 0.00 USD

Monthly cost: 74.77 USD

Total 12 months cost 897.24 USD (Includes upfront cost)

View summary

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calculator.aws/#/addService

aws pricing calculator

FeedbackLanguage: EnglishContact SalesCreate an AWS Account

Add the RDS instance to the estimate

calculator.aws/#/estimate

aws pricing calculator

Feedback Language: English Contact Sales Create an AWS Account

Successfully added Amazon RDS for MySQL estimate.

AWS Pricing Calculator > My Estimate

My Estimate [Edit](#)

Estimate summary [Info](#)

Upfront cost	Monthly cost	Total 12 months cost
0.00 USD	455.47 USD	5,465.64 USD Includes upfront cost

Getting Started with AWS

Export CSV PDF JSON

Get started for free Contact Sales

My Estimate Duplicate Delete Move to Create group Add support Add service

☐

Service Name

Status

Upfront cost

Monthly cost

Description

Region

Config Summary

☐

Elastic Load Balancing

-

0.00 USD

51.47 USD

Load Balancer

US West (Oregon)

Number of Applicatio...

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15°C Mostly cloudy Search ENG US 19:20 2024/06/18

Task 3: Review and download the estimate

In this task, I review the cost estimate that the calculator generated, and I download a copy of the estimate into a comma-separated values (CSV) file. A CSV file can be opened in desktop tools such as Excel.

The screenshot shows the AWS Pricing Calculator interface. The 'Estimate summary' section displays the following costs:

Category	Cost
Upfront cost	0.00 USD
Monthly cost	455.47 USD
Total 12 months cost	5,465.64 USD

The 'Total 12 months cost' includes the upfront cost. The 'My Estimate' section shows a table of services:

Service Name	Status	Upfront cost	Monthly cost	Description	Region	Config Summary
Elastic Load Balancing	-	0.00 USD	51.47 USD	Load Balancer	US West (Oregon)	Number of Applicatio...
Amazon EC2	-	0.00 USD	23.30 USD	EC2	US West (Oregon)	Tenancy (Shared Inst...
Amazon RDS for MySQL	-	0.00 USD	380.70 USD	Database	US West (Oregon)	Storage amount (100...

Task 4: Save and share the estimate

The screenshot shows the AWS Pricing Calculator interface with the 'Export' menu open. The 'CSV' option is selected. The 'Estimate summary' section displays the same costs as in Task 3:

Category	Cost
Upfront cost	0.00 USD
Monthly cost	455.47 USD
Total 12 months cost	5,465.64 USD

The 'Total 12 months cost' includes the upfront cost. The 'My Estimate' section shows the same table of services as in Task 3.

<https://calculator.aws/#/estimate?id=318ad4784b68cc3189a93ce83bff7f476c6ffd45>