User Guide

AWS Pricing Calculator

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AWS Pricing Calculator: User Guide

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What is AWS Pricing Calculator?

AWS Pricing Calculator is a free web-based planning tool that you can use to create cost estimates for using AWS services. You can use AWS Pricing Calculator for the following use cases:

- Model your solutions before building them
- Explore AWS service price points
- Review the calculations behind your estimates
- Plan your AWS spend
- Find cost saving opportunities

For example, if you are an existing AWS customer and you want to add another EC2 instance to handle to your weekly spike traffic. You can specify your weekly peak information, then choose your EC2 instance and payment options. AWS Pricing Calculator generates an estimate that includes the upfront, monthly, annual costs. You can use the estimate to make an informed decision before using AWS services.

> **Note**
>
> You don't need any experience with cloud computing or AWS to use AWS Pricing Calculator. The tool is useful for those you never used AWS before, and for those who want to reorganize or expand their AWS usage.

You can access AWS Pricing Calculator through a web-based console at https://calculator.aws/#/ .

Features of AWS Pricing Calculator

With AWS Pricing Calculator, you can do the following tasks:

- **View transparent prices** – View the calculations behind the estimated prices for your service configurations. You can view price estimates by service or by groups of services to analyze your architecture costs.
- **Use groups for hierarchical estimates** – Sort your estimates into groups to align with your architecture for clear service cost analysis.

- **Save your estimates** – Save the link to each estimate to share or revisit at a later time. Estimates are saved to the AWS public servers.
- **Export your estimates** – Export your estimates in CSV or PDF format to share locally with your stakeholders.

Pricing for AWS Pricing Calculator

AWS Pricing Calculator is a free tool to use. It provides an estimate of your AWS fees and charges, but the estimate doesn't include any taxes that might apply. AWS Pricing Calculator provides pricing details for only the information you enter. If the prices on the marketing pages are different from the prices on AWS Pricing Calculator, AWS uses the prices from the marketing pages when generating your estimates. For more information about AWS service pricing, see Cloud Services Pricing.

The prices on AWS Pricing Calculator for the estimates come from the AWS Price List API. For more information about the AWS Price List API, see Using the AWS Price List API in the AWS Billing User Guide.

Getting started

This section provides an overview of how to get started with AWS Pricing Calculator. It will help you understand the prerequisites for using the calculator, how to access it, and navigate the console.

Topics

- Prerequisites for using AWS Pricing Calculator
- Accessing AWS Pricing Calculator
- Using the AWS Pricing Calculator console

Prerequisites for using AWS Pricing Calculator

You don't need an AWS account or in-depth knowledge of AWS to use AWS Pricing Calculator.

For best results, we recommend that you have a plan for how you want to use AWS before starting your estimate. For example, decide whether you want to break out your estimate by cost center, by products to run on AWS, or by Regional stacks. Then, you can use the **Group** feature to organize your estimates.

Accessing AWS Pricing Calculator

AWS Pricing Calculator is available through a web-based console at https://calculator.aws/#/ . Currently, there are no APIs available.

You can use the AWS Pricing Calculator to generate monthly cost estimates for all AWS Regions that are supported by your preferred services. To see which Regions are available for each service, see the corresponding service user guide documentation.

For estimating costs in the China Region, you can access the AWS Pricing Calculator at https://calculator.amazonaws.cn/.

Using the AWS Pricing Calculator console

The AWS Pricing Calculator consists of four major console pages.

- **Landing page**

This page provides an overview of how the tool works and a link to create your estimate. It also provides links to key resources, such as marketing FAQs, and pricing assumptions.

Direct link: https://calculator.aws/#/

- **Add Service page**

  When you select the **Create estimate** button, you are navigated to the **Add service page**. This page provides a list of all the AWS services that AWS Pricing Calculator supports. You can filter services by location types, and search for services by entering keywords or service names. You can also use the product page links to find more information about each service.

  Direct link: https://calculator.aws/#/addService

- **Configure service page**

  After you select the **Configure** link of a service, you are navigated to the configure service page. You can use this page to choose the AWS Region you want to create the estimate for and input service specific details based on your use case. When you input your use case specifications, you can add these to your estimate.

- **My estimate page**

  This page displays your estimate summary in upfront, monthly, 12-month costs. The 12-month cost is the sum of all estimates and groups. The Groups and My estimate sections display the list of services within your estimate. In this section you can add new services, support, and create new groups.

  Additionally, you can use the My estimate page to export your estimates to CSV or PDF files, save your estimate links, and navigate to the AWS console to sign in or create an account.

  Direct link: https://calculator.aws/#/estimate

> **Note**
>
> AWS provides the Free Tier that you can use to try some AWS services for free. The Free Tier only covers certain instances or usage for a limited amount of time. Free Tier isn't included in your AWS Pricing Calculator estimates unless it's specifically called out otherwise. AWS Pricing Calculator assumes that you aren't using the Free Tier and doesn't include any expiring Free Tier in your estimates.

Generate an estimate in AWS Pricing Calculator

This section outlines how to use AWS Pricing Calculator to generate estimates for your use cases. The following step-by step processes detail how you can configure services, specify parameters such as instance types and storage, and add additional services to build a detailed estimate.

To get the most out of your estimates, make sure you have a good understanding of your base requirements. For example, if you want to try Amazon Elastic Compute Cloud (Amazon EC2), we recommended that you know the type of operating system you need, your memory requirements, and how much I/O you need.

Additionally, you should determine whether you need storage. For example, decide if you want to run a database and for how long you intend to use the servers you need. You can use the AWS Pricing Calculator service configuration and parameters to see which option meets your specific use case and budget.

Topics

- Create and configure an estimate
- Adding Support costs to your estimates

Create and configure an estimate

AWS Pricing Calculator allows you to generate detailed estimates for your projected AWS usage and costs across a variety of services. The following procedures provide a step-by step process on how to to create a new estimate, configure the specific AWS services you want to include, and add services like Support plans based on your technical support requirements.

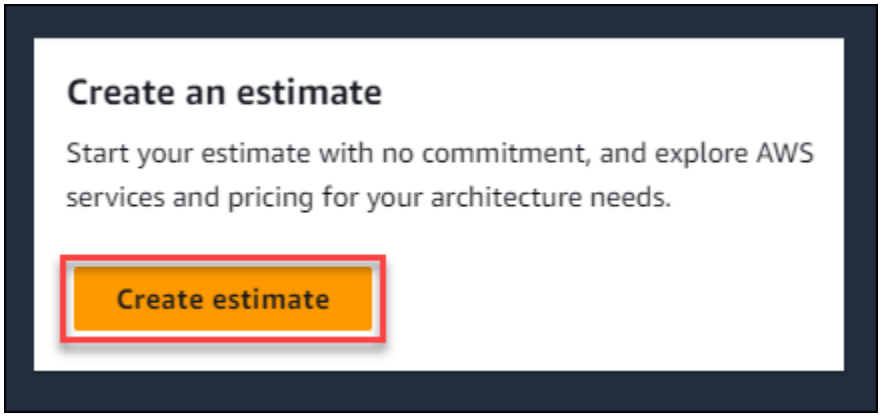
Topics

- Create an estimate
- Configure a service
- Add more services
- Edit your inputs

Create an estimate

To create your estimate

1. Open AWS Pricing Calculator at https://calculator.aws/#/.
2. Choose **Create estimate**.



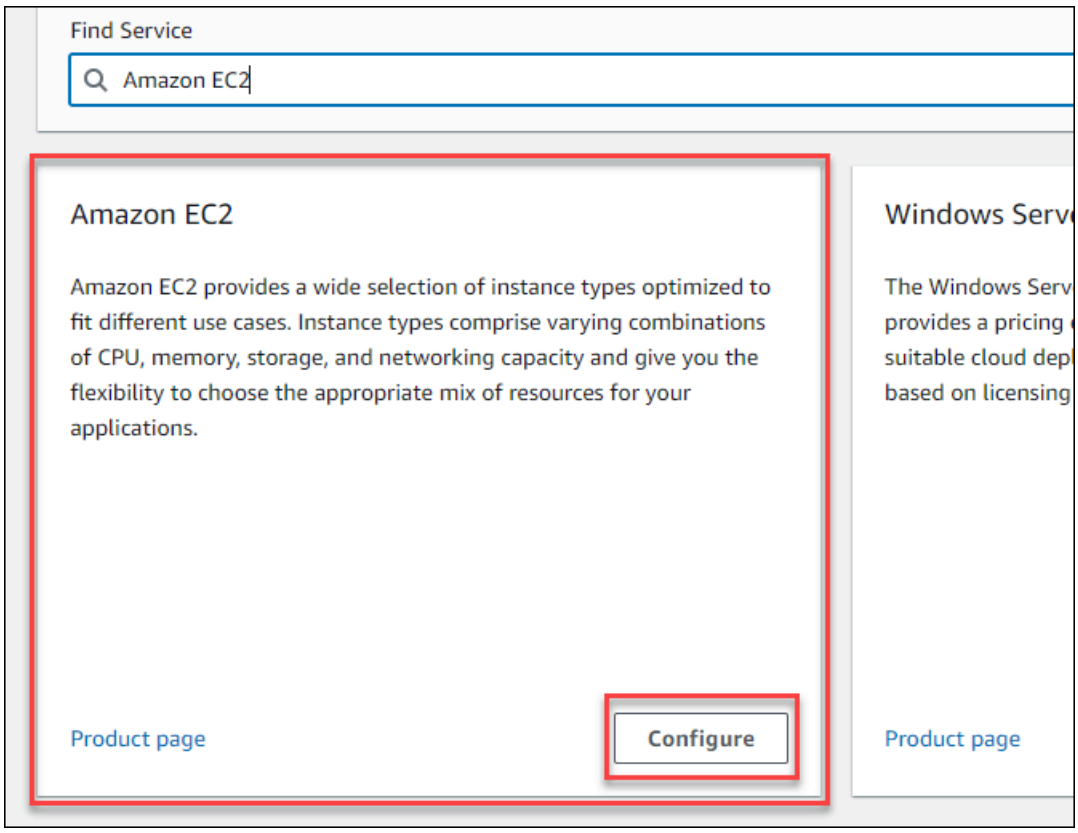
3. On the **Add service** page, find the service that you want. Then, choose **Configure**. For more information, see Configure a service.
4. Add a **Description** for the estimated service.
5. Select a **Region**.
6. Enter your sevice specifications.
7. Choose **Save and add service**.
8. To view the estimate you created, choose **View summary**.

Configure a service

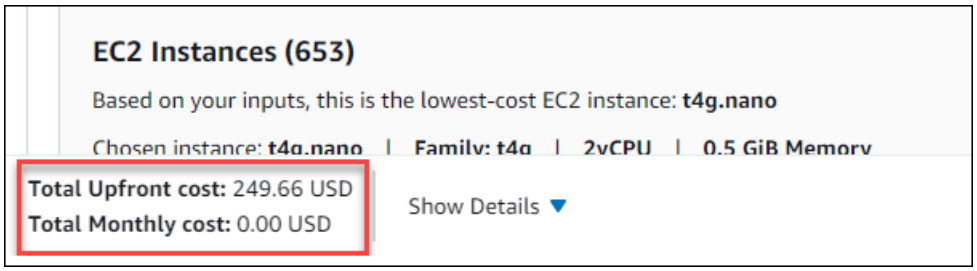
This section shows how to configure a service you're creating an estimate for. In this example, we're adding Amazon EC2 using the Amazon EC2 **Quick estimate** option.

To configure a service for your estimate

1. Open the **Add service** page at https://calculator.aws/#/addService .
2. Enter **`Amazon EC2`** in the search bar and choose **Configure**.



3. In the **Description** field, enter a description for your estimate.
4. Choose a **Region**.
5. In the EC2 specifications section, update the parameters based on your use case requirements.
6. At this stage you can view the total upfront and monthly costs. These costs are based on the current EC2 parameters you selected.



7. (Optional) Choose **Show calculations** to view the breakeven analysis and utilization summary of your estimate.
8. (Optional) In the **Amazon EBS** section, choose the storage for each Amazon EC2 instance, and enter the storage amount.

> **Note**
>
> If you aren't adding Amazon EBS volumes, enter **0**.

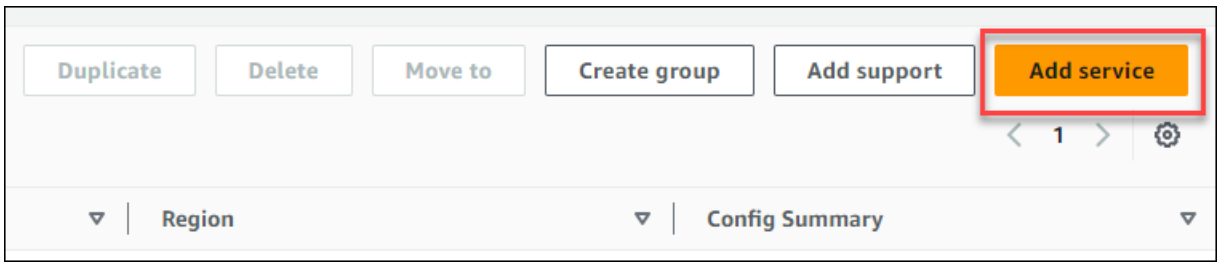
9. Choose **Save and add service**.

Add more services

You can add more services to your estimate based on your use case requirements. For process examples and tutorials that show estimates for specific services, see Estimate examples for services.

To add more services to your estimate

1. Open the **My estimate** page at https://calculator.aws/#/estimate .
2. Choose **Add Service**.



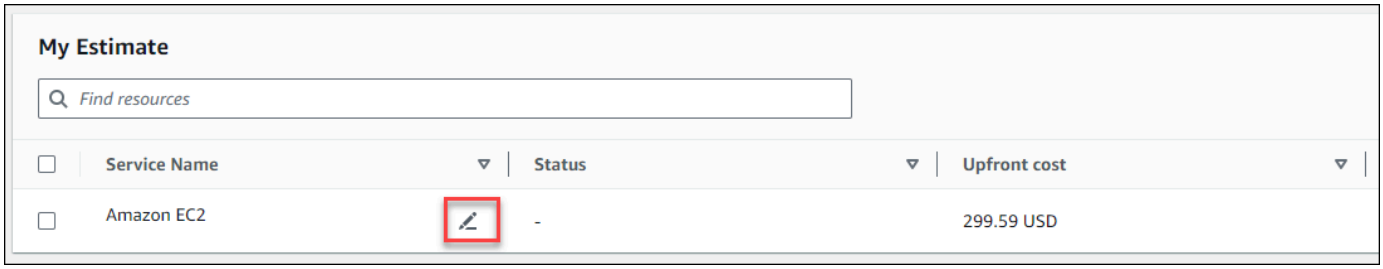
3. Search for a service and choose **Configure**.
4. Enter the service parameters. Then, choose **Save and add service**.
5. Repeat this process as needed.

Edit your inputs

You can edit the inputs for a service added to your estimate.

To edit the inputs for a service

1. Open the **My Estimate** page at https://calculator.aws/#/estimate .
2. In the **My Estimate** section, locate the service you want to update. Then, choose the **Edit** icon.



3. Edit your service inputs. Then, choose **Save** to return to your **My Estimate** page.

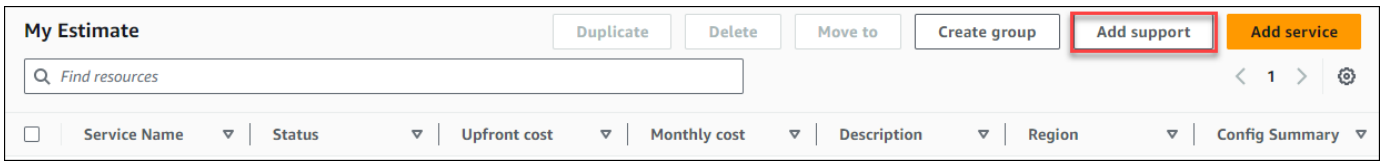
Adding Support costs to your estimates

You can add Support costs to your estimates using the AWS Pricing Calculator. You can either directly choose your preferred support plan, or complete the recommendations that match your usage needs. You can change your Support within the calculator at any time.

Procedure

To add Support costs to your estimates

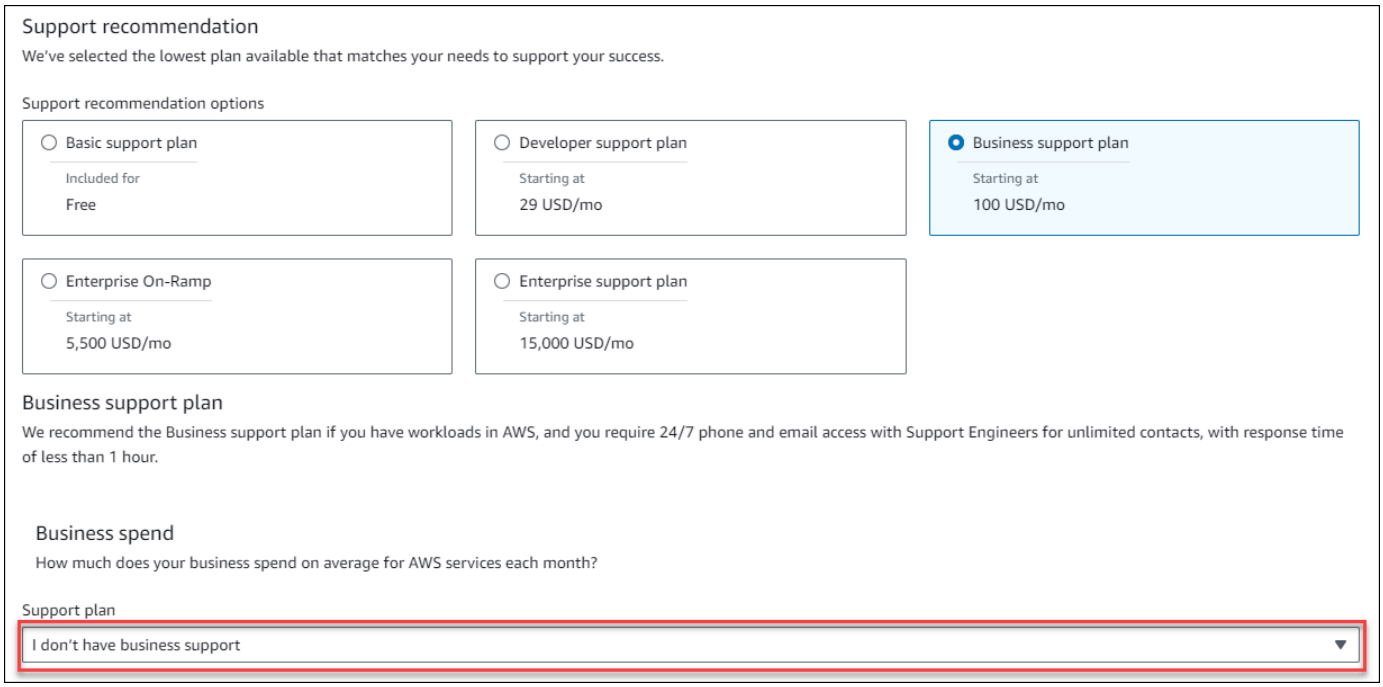
1. Open AWS Pricing Calculator at https://calculator.aws/#/.
2. Choose **Create estimate**.
3. Add a service to your estimate. For more information, see Create an estimate
4. In your **My Estimate** page, choose **Add support**.



5. (Optional) Enter a description for your support plan estimate.
6. (Optional) Choose an **Enhanced technical support** level from the dropdown list that appears.
7. (Optional) Choose a **High severity response** time from the dropdown list that appears..

> **Note**
>
> Some of the Support recommendation options might not be available. This depends on the **Enhanced technical support** level and **High severity response** times you selected.

8. Choose a **Support recommendation** option.
9. If you chose a **Business support plan** or **Enterprise support plan**, choose the range of how much your business or enterprise spends on average for AWS services each month.



10. (Optional) Choose **Show calculations** to review the calculations behind the estimates.
11. Choose **Add to my estimate**.
12. If you chose a **Business support plan** or **Enterprise support plan**, choose **Confirm** in the prompt that appears. Then, choose **Add to my estimate**.

Managing your estimates

This section provides an overview of the features AWS Pricing Calculator provides for managing and organizing your cost estimates effectively.

You can create groups to categorize your estimates based on different criteria such as cost centers, product architectures, or AWS Regions. You can use groups to compare estimates side-by-side and make informed decisions about your AWS deployments.

You can also save your estimates by generating a unique public link for each estimate you create. Additionally, you can export your estimates as PDF or CSV files.

The following sections provide step-by-step processes for each feature.

Topics

- Using groups to organize your estimates
- Sharing your estimate
- Exporting your estimates
- Migrating Simple Monthly Calculator estimates to Pricing Calculator

Using groups to organize your estimates

You can organize your AWS estimates by defining groups. A group can reflect how your company is organized, such as by providing estimates for each cost center.

A group can reflect other organization methods, such as by product stack or product architecture. For example, if you want to price out different ways to build your AWS setup, you can use different groups for each variation of your setup and compare the estimates. You can generate one estimate to view the costs of running a website. Then, you can generate another estimate to view the costs of running a machine learning process. You can then view the combined estimate for your AWS usage.

Groups are also useful to compare AWS Regions. If you create a group for each Region, you can compare the cost to run servers in two different locations. For example, you can generate an estimate for US East (N. Virginia) in one group and Asia Pacific (Seoul) for another. Then, you can compare your two estimates to meet your specific use case and budget.

Topics

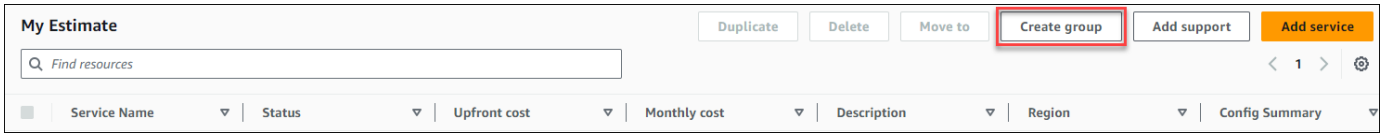
- Creating a group
- Moving groups

Creating a group

Use groups to organize services together. You can add one or more services to each group. You can also use groups to organize your estimate in different ways. For example, you can organize your estimate by cost center, service stack, product architecture, or client.

To add a group to your estimate

1. Open the **My estimate** page at https://calculator.aws/#/estimate .
2. Choose **Create group**.



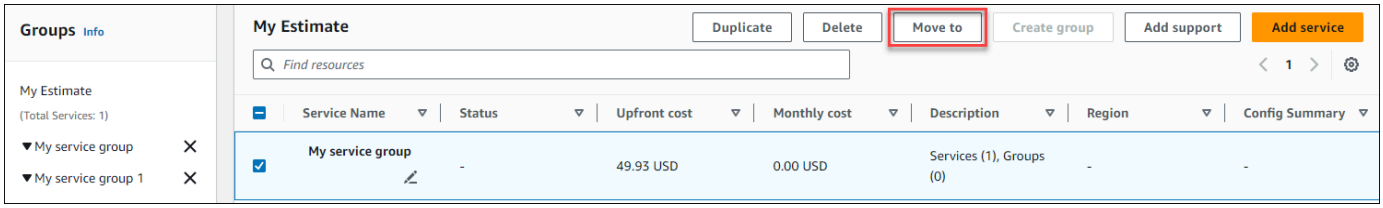
3. In the prompt that appears, enter a group name.
4. Choose **Create group**.

Moving groups

You can move your groups and services to organize your estimate. All sub-groups and services are moved as a part of your action. You can move single or multiple groups using this process.

To move a group

1. Open the **My estimate** page at https://calculator.aws/#/estimate .
2. Select the check box of the groups and services you want to move.
3. Choose **Move to**.



4. Choose the destination group from the dropdown.
5. Choose **Move**.

Note

You can't move Support calculator into a group because estimates for your chosen support plans aren't specific to a group.

Sharing your estimate

You can create a unique, public link for each estimate that you create. Use this link to share the estimate with stakeholders or access the estimate again at a later time. Estimates are saved to AWS public servers.

Any changes you make to an estimate requires you to save again. AWS Pricing Calculator doesn't automatically save to the same link to prevent unwanted overwrites. Alternatively, you can use the shared link as a template for common use cases, and use it as a starting point to build complex estimates.

Note

- Make sure that you save your estimate links because your estimates can't be accessed without them.
- Estimates that are exported as a PDF or JSON file contain a share link to your estimate.
- Estimate links aren't auto-saved with updates. If you make changes to an estimate, generate a new estimate link.
- Estimate links created on or after May 31, 2023, remain valid for one year. Estimate links created before this date remain valid for three years.

Topics

- Sharing an estimate link
- Updating a saved estimate

Sharing an estimate link

To generate a public share link

1. Open AWS Pricing Calculator at https://calculator.aws/#/.
2. Create an estimate by adding one or more services. For more information, see Create an estimate.
3. Open the **My Estimate** page at https://calculator.aws/#/estimate .
4. Choose **Share**.
5. Read the **Public server acknowledgment** and choose **Agree and Continue**.

   (Optional) You can select **Don't show me this again** for future visits.
6. Choose **Copy public link** to copy your generated link.

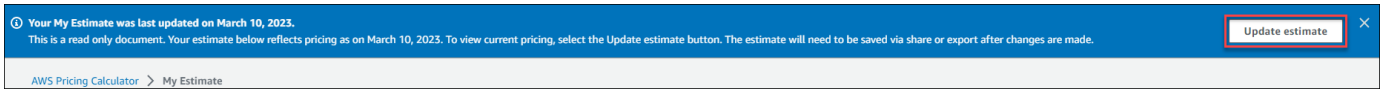
We recommend you document your shared links with a brief description of the estimate.

Updating a saved estimate

The total cost of your previously saved estimates can become out of date over time. This is because of pricing changes or updates to services within the AWS Pricing Calculator. You can update your estimates to reflect the latest costs and keep them updated.

To update a previously saved estimate

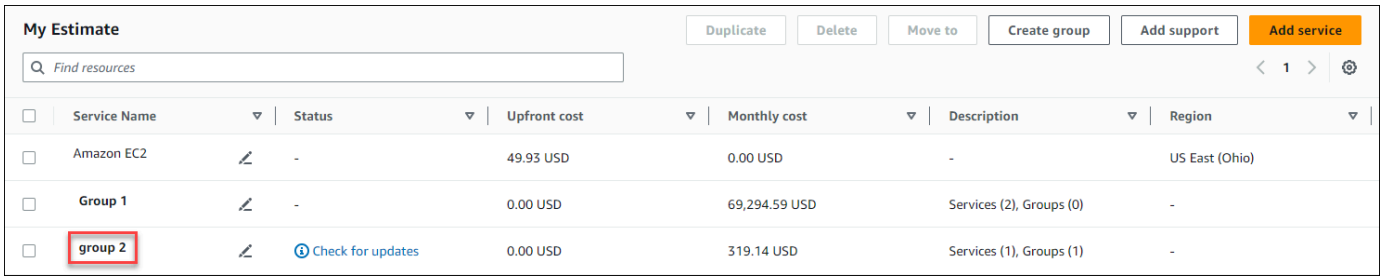
1. Open your saved estimate in AWS Pricing Calculator. To do this, copy your unique link into your browser's navigation bar.
2. In the banner that shows when your estimate was last updated, choose **Update estimate**.



3. In the **My Estimate** section, check the **Status** column for updates. There are four types of status values:

   - **Required inputs** — an update was made to a service within the estimate. This means that your current estimate is out of date and requires action. If you have services with a **Required inputs** status, skip to step 4.

- **Cost updated** — a pricing model or a cost calculation change occurred to a service that impacts your estimate total. No action is required because Pricing Calculator automatically updates your estimate with these changes.
- **Read-only** — an update was made to a service within the estimate. However, direct updates to that service estimate isn't supported. To view an up-to-date estimate that contains the latest service changes, re-create the service estimate. For more information about how to create a new estimate, see Creating an estimate link.
- **Check for updates** — an update was made to a service within a group. Your current estimate is out of date and requires action. If you have groups with a **Check for updates** status, select the group name to view the service impacted. Then, skip to step 4.



4. If you have services with a **Required inputs** status or you want to modify a specific service, select the edit icon beside the service name.
5. Make your changes to the service. Then, choose **Update**.
6. Choose **Share** to save your changes.

Note

- When you save your estimate, a new estimate link is generated. The updates aren't saved to the original shared link.
- For more information about updates to services in AWS Pricing Calculator, see Service Updates.

Exporting your estimates

You can export your AWS Pricing Calculator estimate as a PDF or a CSV file. By doing this, you can save the parameters that AWS Pricing Calculator used to create your estimate so that you can revisit them if you set up AWS services in the console.

> **Note**
>
> Your PDF contains a share link to your estimate.

To export an AWS Pricing Calculator estimate

1. Open AWS Pricing Calculator at https://calculator.aws/#/.
2. Create an estimate by adding one or more services. For more information, see Create an estimate.
3. Open the **My estimate** page at https://calculator.aws/#/estimate
4. Use the **Export** dropdown and choose CSV or PDF.
5. Read the acknowledgement and choose **OK**.
6. In the dialog box, choose **Save File** and choose **OK**.

Migrating Simple Monthly Calculator estimates to Pricing Calculator

> **Important**
>
> Simple Monthly Calculator (SMC) is no longer supported. You can convert your saved SMC estimates to AWS Pricing Calculator using the steps outlined in this section. This conversion feature closes on December 31, 2023 at 11.59PM PST.
> If you have existing SMC estimates, we recommend that you migrate to the AWS Pricing Calculator using the conversion feature at your earliest convenience. If you don't need access to your saved SMC estimates, no action is needed.

To convert your SMC estimate to an estimate compatible with AWS Pricing Calculator

1. Copy and paste your unique SMC estimate link into your browser. This link redirects you to the AWS Pricing Calculator website where you can view the status of your estimate conversion.
2. Generate an AWS Pricing Calculator migrated estimate link for your records. To do this, choose **Share**.

> **Note**
>
> If your SMC estimate failed to generate in AWS Pricing Calculator, choose **errors** to see the reasons why the conversion failed.

Differences between Simple Monthly Calculator and AWS Pricing Calculator estimates

There are several reasons why your SMC estimate and your AWS Pricing Calculator estimates don't match in total costs.

- **AWS Free Tier pricing**: The AWS Pricing Calculator doesn't account for Free Tier pricing in cost calculations.
- **Time period**: The AWS Pricing Calculator calculates using 730 hours in a month for cost calculations. This is based on the calculation, 365 days a year x 24 hours a day for 12 months a year.

Services and features not supported by AWS Pricing Calculator

You might have Simple Monthly Calculator estimates saved previously that won't successfully migrate to AWS Pricing Calculator. This is because some services and features aren't supported in AWS Pricing Calculator at this time. The following table outlines what is currently not supported in AWS Pricing Calculator.

Service name	Pricing feature not supported in AWS Pricing Calculator
Amazon EC2	Additional T2/T3/T4g Unlimited vCpu Hours

Service name	Pricing feature not supported in AWS Pricing Calculator
	Legacy Amazon EC2 instances and instance families
Amazon S3	Transfer acceleration Glacier select Cross region replication
Amazon CloudFront	HTTP requests Invalidation requests SSL certificates
Amazon RDS	RDS Aurora Global Database
Amazon DynamoDB	Global tables
Amazon CloudWatch	Archived logs Metric streams
Amazon Redshift	Previous generation node type
Amazon Glacier	Glacier select
Amazon CloudSearch	Entire service
Amazon SimpleDB	Entire service
AWS Key Management Service	Customer managed keys (CMK) - multi Region

Note

You must generate new AWS Pricing Calculator sharable links if you make changes to your estimate. For more information, see Sharing your estimate.

Estimate examples for services

This section provides examples and tutorials that show how you can use AWS Pricing Calculator to generate estimates for certain services.

Topics

- Generating Amazon EC2 estimates
- Generating estimates for Windows Servers and SQL Servers on EC2
- Generating estimates for Windows Servers and SQL Servers on EC2 Dedicated Hosts
- Generating Microsoft estimates with AWS Modernization Calculator

Generating Amazon EC2 estimates

You can use the AWS Pricing Calculator to estimate costs for your Amazon Elastic Compute Cloud (Amazon EC2) instances. This section provides the procedure on how to generate an Amazon EC2 estimate and describes the specifications, payment options, and add-ons you can choose for your Amazon EC2 estimate.

Topics

- Procedure
- Amazon EC2 instance specifications
- Payment options
- Amazon Elastic Block Store (EBS)
- Detailed monitoring costs
- Data transfer costs
- Elastic IP costs
- Additional costs

Procedure

To generate an Amazon EC2 estimate

1. Open the **Amazon EC2 estimate** page at https://calculator.aws/#/createCalculator/ec2-enhancement .
2. Enter the description for your Amazon EC2 estimate.
3. Choose the **Location type** and **Region** from the dropdown.
4. (Optional) Choose the parameters you want in your estimate.
   - Amazon EC2 instance specifications
   - Payment options
   - Amazon Elastic Block Store (EBS)
   - Detailed monitoring costs
   - Data transfer costs
   - Elastic IP costs
   - Additional costs
5. Choose **Save and add service**.

The calculator view is preloaded with default values so you can see a starting estimate without adding or changing any information. You can change any of the values for the following parameters. Otherwise, you can also keep the defaults when they're applicable.

The Amazon EC2 instance estimate path has the following sections and parameters.

Amazon EC2 instance specifications

These settings determine the Amazon EC2 instance that AWS Pricing Calculator uses to generate an estimate for you.

Select your tenancy

The default value for tenancy is `Shared Instances`.

Select your operating system

The operating system on an Amazon EC2 instance. AWS Pricing Calculator generates your estimate using Amazon Machine Images (AMIs) that match the OS you choose. Choose the operating system (OS) that best matches your needs. The default value for the OS is Linux.

Choose your instance type

AWS Pricing Calculator lists all available instance types. Use the search bar to filter the instances.

Search for an instance type by name

If you know the instance family or instance size that you want, it's efficient to search for the instance name. For example, you can search for a `t2.medium` instance.

Search for an instance type based on minimum requirements

Minimum requirements are most useful when you know the specifications of the instances that you want. For example, you can search either for an instance with a minimum of four vCPUs and 16 GB of memory for any network performance.

For information about the available Amazon EC2 instance families, see Amazon EC2 Instance Types.

Number of EC2 instances

The default value is one. AWS Pricing Calculator uses this default because it's the minimum number that you might need.

Workloads

Workloads are the usage patterns that match your Amazon EC2 usage. Choosing the workload that most closely matches what you use reduces the number of On-Demand and unused RI hours that you might purchase. It does this by covering your usage with the most appropriate combination of RIs and On-Demand Instances for you. You can define more than one workload for your estimate.

Constant usage

This workload is suitable for use cases that have a constant, predicable load. This includes use cases such as logging traffic to a website or running processes in the background.

Daily spike

This workload is best for usage patterns that peak once a day. This is suitable for scenarios where, for example, you need to run several jobs at midnight or have a morning news spike.

Weekly spike

This workload is best for patterns that peak once a week. This is suitable for scenarios such as blogs that post once a week and weekly television shows.

Monthly spike

This workload is best for traffic that spikes once a month, such as monthly invoices, payroll, or other monthly reports.

Payment options

These settings determine the pricing strategy that AWS Pricing Calculator uses to generate your estimate.

Pricing model

The pricing model determines whether you're searching for a pay-as-you-use instance or an instance that you can reserve in advance. Reserving an instance isn't the same as paying for the use of an instance.

Reservation terms

When you reserve a Reserved Instance (RI), you purchase a reservation for the period of your contract. Contracts can be for either one or three years.

The default value is one year. AWS Pricing Calculator uses this default because it's the least costly option for trying out AWS.

Payment options

For RIs, payment options determine when you pay for your reservation. You can pay for the entire reservation upfront, which is a hefty single-time payment but you have no monthly payments. You can pay for the RI with a partial upfront payment and a monthly payment. This gives you a smaller upfront cost but accrues monthly costs. You can also pay with no upfront payment. This means you pay only on a monthly basis. All upfront gives you the best discount, but no upfront and partial upfront spread your costs out over a greater period of time.

The default value for the payment options is `No Upfront`. AWS Pricing Calculator uses this default because it gives you the least expensive start-up price.

Expected utilization of EC2 instances

Enter the expected usage of Amazon EC2 instances. The feature is only applicable when you select the On-Demand pricing strategy.

Spot

The calculator shows the historical average discount percentage for the instance chosen. You can enter a percentage discount for creating estimates.

Amazon Elastic Block Store (EBS)

These settings determine the Amazon EBS settings that AWS Pricing Calculator uses to generate an estimate for you. Amazon Elastic Block Store (Amazon EBS) is a type of storage that you can connect to your Amazon EC2 instance. You can use it to do things such as backing up your instance, creating a boot volume, or running a database on your instance. For more information about Amazon EBS, see the Amazon Elastic Block Store documentation.

Storage volume

The storage volume determines what kind of storage that Amazon EBS assigns to your instance. Different types have different capabilities. For example, you can choose better I/O and faster calculations, or slower, less expensive options for your specific use cases such as boot volumes and backups.

Storage amount

The storage amount determines how much storage your Amazon EBS volume has.

The default value is `30 GB`. You can enter `0 GB` if you don't attach Amazon EBS volumes to your Amazon EC2 instance. You can also estimate additional Amazon EBS volumes by configuring and adding a standalone Amazon EBS calculator into your estimate at https://calculator.aws/#/createCalculator/EBS .

Detailed monitoring costs

Your instances are turned on for basic monitoring by default. You can optionally turn on detailed monitoring. Once detailed monitoring is turned on, the Amazon EC2 console shows monitoring graphs with a one minute period for the instance. For more information, see Detailed monitoring.

Data transfer costs

You can accrue additional costs by transferring data in and out of Amazon EC2. If you know how much data you can expect to upload or download in a month, you can add these costs to your estimate. For more information, see the Data transfer section on the *On-Demand Pricing* page.

Elastic IP costs

You can have one Elastic IP (EIP) address associated with a running instance at no charge. If you associate additional EIPs with that instance, you will be charged for each additional EIP associated with that instance per hour on a pro rata basis. A small hourly charge applies when EIPs are not associated with a running instance or when they are associated with a stopped instance or unattached network interface. For more information, see Elastic IP Addresses section on the *On-Demand Pricing* page.

Additional costs

You can add a custom cost to your Amazon EC2 pricing estimates. You can use this to add any placeholder costs you'd like to include in your estimates.

Generating estimates for Windows Servers and SQL Servers on EC2

You can use the workload calculator in AWS Pricing Calculator to guide you on AWS tenancy qualifications for Microsoft Windows Server and SQL Server on Amazon Elastic Compute Cloud (Amazon EC2). You can use the workload calculator to estimate AWS cost using minimal information and parameters. You can generate an estimate even if you don't know the details for each parameter. This is because each parameter includes a default setting.

For options for using Microsoft software licenses on the AWS Cloud, see Microsoft Licensing on AWS.

Topics

- Procedure
- Licensing and tenancy recommendations
- Configuring machine specifications

- Pricing strategy
- Cost details
- Tutorial: Generating estimates for Windows Servers and SQL Servers on EC2

Procedure

To generate an estimate for Windows Server and SQL Server on Amazon EC2

1. Open AWS Pricing Calculator at https://calculator.aws/#/.
2. Choose **Create estimate**.
3. Under **Windows Server and SQL Server on Amazon EC2**, choose **Configure**.
4. On the **Configure Windows Server and SQL Server on Amazon EC2** page, choose your customized settings.
   - For information about your tenancy choices, see Licensing and tenancy recommendations.
   - For information about how to choose your machine specifications, see Configuring machine specifications.
   - For information about how to choose your pricing strategy, see Pricing strategy.
   - For information about how to choose your cost details, see Cost details.
5. Choose **Add to my estimate**.

For a step-by step example shows how to generate an estimate for Windows Server and SQL Server on Amazon EC2, see Tutorial: Generating estimates for Windows Servers and SQL Servers on EC2.

Licensing and tenancy recommendations

You can determine your AWS licensing and tenancy options for your workload through your choices for Windows Server and SQL Server licensing inputs. The licensing options include AWS provided licenses with License Included offerings, and your existing licenses with Bring Your Own License (BYOL) offerings for optimal cost savings. You can identify the most suitable cloud tenancy, for example, Shared tenancy or Dedicated Hosts.

The following table shows the AWS licensing and tenancy scenarios supported by AWS Pricing Calculator.

Windows Server	SQL Server	AWS tenancy
License Included	License Included	Shared tenancy
License Included	BYOL	Shared tenancy or Dedicated Hosts
BYOL	BYOL	Dedicated Hosts
BYOL	License Included	Not supported

Some license and tenancy variables include the following:

- Whether your Windows Server license was purchased before or after October 1, 2019
- Whether your SQL Server license was purchased before or after October 1, 2019
- Whether you want to bring your own license (BYOL), or you have active Software Assurance for SQL Server licenses

If you don’t choose a preference for Windows Server or SQL Server, the calculator assumes the Licence Included scenario that doesn't utilize the existing licenses for cost savings.

Configuring machine specifications

Based on your choice of machine specification, we recommend the Amazon EC2 instance that AWS Pricing Calculator uses to generate an estimate for your cost. You can also select different instances than the one recommended, or add multiple machine specifications for a workload.

This section defines the terms mentioned in the **Configure machine specifications** section.

Machine description

A description for the machine. This is generally a hostname identifier. If unknown, you can specify unique software components running on this machine—for example, `WebApp DB1` or `Webserver 1`.

Operating system

You can choose an operating system with a licensing option, depending on your tenancy qualification. The default value is `Windows`.

SQL Server edition

You can choose a SQL Server with licensing option, depending on your tenancy qualification. The default value is `SQL Standard`.

Storage volumes per specification

You can specify the storage needs in this section. If you don't know storage needs upfront, you can remove it from the estimate using **Remove**. This section is optional.

Instances can have either none or one or more storage volumes associated. Choose **Add new volume** to add multiple volumes to an instance.

You can use different volume types for each volume. The calculator recommends the appropriate Amazon EBS storage type based on the optional inputs such as **IOPS** and **Throughput**.

Storage amount

You can specify your storage amount needs. The default value is 1000 GB. If only storage amount is specified, the default recommended Amazon EBS storage type is `General Purpose SSD (gp3)`.

IOPs

IOPS (input/output operations per second) is the standard unit of measurement for the maximum number of reads and writes to non-contiguous storage locations. IOPS describes performance in solid state drives (SSD), hard disk drives (HDD), and storage area networks.

You can specify IOPs for I/O intensive workloads. AWS uses this value to potentially recommend `io2` Amazon EBS storage types.

`io2` delivers a consistent baseline performance of up to 500 IOPS/GB to a maximum of 64,000 IOPS,. It provides up to 1,000 MB/s of throughput per volume.

Throughput

Throughput measures how many units of information a system can process in a period of time. It can refer to the number of I/O operations per second, but is typically measured in bytes per second.

You can specify this input for throughput-intensive workloads.

`st1` is backed by hard disk drives. It's ideal for frequently accessed, throughput-intensive workloads with large datasets and large I/O sizes. Examples include MapReduce, Kafka, and log processing.

EC2 instance type

Obtain an EC2 instance type recommendation

This is the default choice. Choose the number of vCPUs and memory inputs to generate an EC2 instance recommendation. Only x86 architecture instances are considered. The default vCPU value is 4, and memory is 16 GB.

Search for an EC2 instance type

You can use this option to choose different instance types than the recommended instance.

To find an instance, search by minimum requirements or by name. Minimum requirements are the most useful when you know the specification of the instances you prefer. Instance names are useful when you know the instance family or size of the instance you prefer. For example, you can search for an instance with a minimum of 4 vCPUs and 16 GB memory, or for an m5 instance name.

You can also search instances by using filters such as *instance category*. We recommend memory-optimized instances for database workload. You can search for them faster by using the instance category filter.

Optimize CPU

You have the flexibility of specifying a custom number of vCPUs while using the same memory, storage, and bandwidth of a full sized instance. The default value is the same as the vCPU input specified for the machine specification.

For example, a x1e.4xlarge instance currently offers 16 vCPU, by default. However, you can specify x1e.4xlarge with 4, 5, 6, 7, 8, 9,10, 12,14 Optimized vCPUs. This means BYOL customers can optimize vCPU-based licensing costs. The CPU optimized instance has the same price as the instance that iisn't optimized for CPU.

Quantity

The default value is 1. This is the minimum number required.

SQL passive node

A passive SQL Server node is one that's not serving SQL Server data to clients or running active SQL Server workloads. If you select this check box and you bring SQL Server 2014 and later versions to AWS with Software Assurance, you aren't required to license SQL Server on a passive node.

Pricing strategy

Your choices in the **pricing strategy** section determine the pricing strategy AWS Pricing Calculator uses to generate your estimate.

Pricing model

The pricing model determines whether you're searching for a pay-as-you-use instance or an instance that you can reserve in advance. For Reserved Instance (RI) payment options, see **payment options**.

The default value is `Standard Reserved Instances`. This is because it's the most common Amazon EC2 purchase, and it offers the flexibility with highest discount for most use cases.

Reservation term

You purchase a reservation for the period of your contract when you reserve an RI. Choose either 1 or 3 years for your term. The default is set to 1 year. This is to save no costs.

Payment options

Payment options determine when you pay for your RI reservation.

Full upfront - You pay for the entire reservation upfront, resulting in a single payment but no monthly, recurring payments. This option provides the best discount.

Partial upfront - You pay for a smaller, partial upfront fee along with monthly payments.

No upfront - You only pay on a monthly basis.

The default value is **No upfront**. It gives you the least costly start-up price.

Cost details

The cost details section provides details for your workload.

EC2 Instance costs

A summary of the itemized breakdown for an EC2 instance. Pause on each row to show additional information, such as instance type, operating system, SQL version, vCPU, memory, quantity, optimize CPU, and SQL passive node.

Amazon EBS costs

The itemized cost breakdown for Amazon EBS.

SQL bring your own license summary

A summary to clarify the number of cores for your BYOL SQL Server licenses.

Tutorial: Generating estimates for Windows Servers and SQL Servers on EC2

This tutorial shows you how to use the Microsoft Windows Server and Microsoft SQL Server on Amazon EC2 in AWS Pricing Calculator to generate an estimate.

Procedure

Tasks

- Step 1: Choose your AWS Region
- Step 2: Choose your licensing and tenancy recommendation
- Step 3: Configure your machine specifications
- Step 4: Choose a pricing strategy
- Step 5: Review calculations and cost details
- Step 6: Add a Windows LI and SQL Server LI to your estimate

Step 1: Choose your AWS Region

To name your estimate and select your Region

1. Open the **Configure Windows Server and SQL Server on Amazon EC2** section of AWS Pricing Calculator at https://calculator.aws/#/createCalculator/EC2WinSQL.
2. Enter the following estimate description: `Workload_SQL_BYOL`.

3. Make sure that your location type is set to **Region**. Then, choose the Region US East (Ohio).

> **Note**
>
> All AWS resources are priced based on the Region you choose.

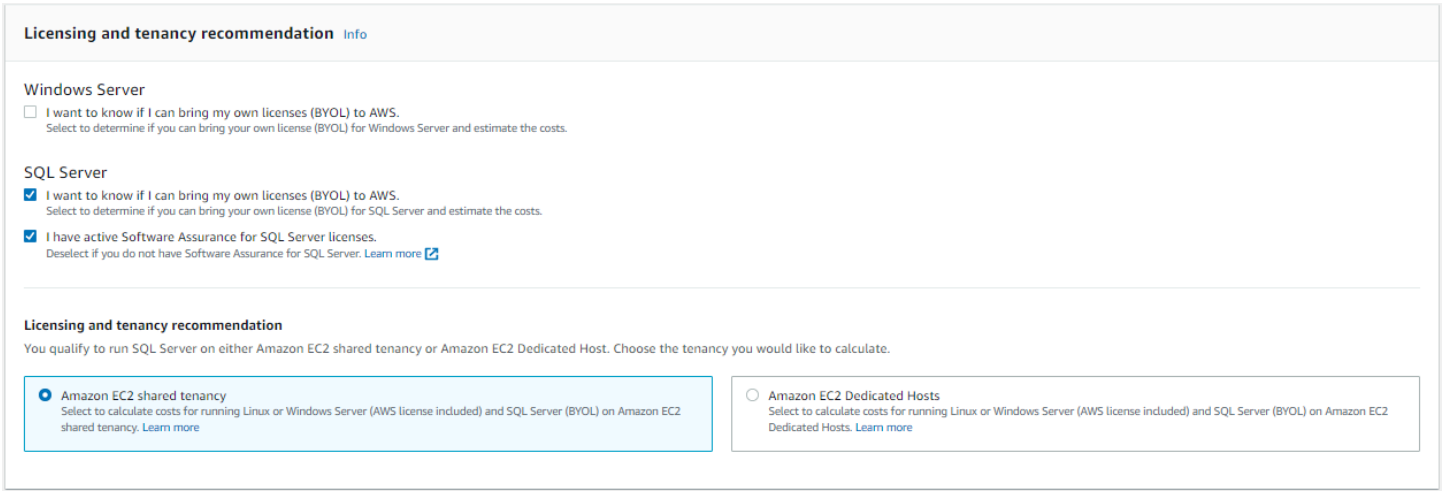
Step 2: Choose your licensing and tenancy recommendation

In this section, you can specify your license details to determine your cost-optimized tenancy qualifications. For more information about licensing and tenancy supported by AWS Pricing Calculator, see Licensing and tenancy recommendations.

To determine your licensing and tenancy recommendations for this example

1. Open the **Configure Windows Server and SQL Server on Amazon EC2** section of AWS Pricing Calculator at https://calculator.aws/#/createCalculator/EC2WinSQL.
2. In the **Licensing and tenancy recommendation** section, clear the **Windows Server** checkbox.
3. Under **SQL Server**, select both options.
4. Keep the default selection of the shared tenancy.

   You will notice that the recommended tenancy options are **Shared** and **Dedicated Hosts**. You can use the Amazon EC2 Dedicated Hosts calculator to estimate Dedicated Host tenancy.



Step 3: Configure your machine specifications

In this step, you can input machine specifications to configure your AWS Pricing Calculator estimate.

The following table provides an example workload scenario to show several capabilities in the AWS Pricing Calculator. You can use these values for the purpose of this tutorial.

Host description	vCPUs	Ram	Storage (GB)	IOPS	Software	Optimize vCPUs	Quantity	Passive node count
Server 1	16	800	5000	60000	SQL Enterprise Edition	16	10	5
Server 2	16	64	3000	15000	SQL Standard Edition	16	8	4
Server 3	8	16	1000		SQL Web Edition	8	10	0
Server 4	4	32	500		Windows	N/A	8	N/A

To specify your machine specifications for this example

1. Open the **Configure Windows Server and SQL Server on Amazon EC2** section of AWS Pricing Calculator at https://calculator.aws/#/createCalculator/EC2WinSQL.
2. In the **Configure machine specifications** section, choose the **Add new machine specification** button.
3. For **Machine description**, keep the name **`Server 1`**.
4. For **Operating system**, choose **Windows Server**.
5. For **SQL Server edition (BYOL)**, choose **SQL Server Enterprise**.

6. Under **Storage volumes per specifications**, enter the storage amount (GiB) as **5000** and **IOPS** as **60000**.

   For more information, see Machine specifications details.

7. For **Amazon EC2 instance type**, choose the **Obtain an Amazon EC2 instance type recommendation**.

   For more information, see Amazon EC2 instance type details.

8. For **Optimize vCPU**, keep the optimize CPU value as 16.

   For more information, see Benefits of Optimize vCPUs.

9. For **Quantity**, enter **10**.
10. For number of passive instances, choose **5**.
11. Choose **Add machine** to add more machine specification types.

    For this tutorial, add the remaining three workloads from the example workload table.

Machine specifications details

If you enter the storage size (GB) only, the calculator provides you with the most cost-effective Amazon Elastic Block Store (Amazon EBS) storage option. If you enter a value between **16000** and **64000** for IOPS, the AWS Pricing Calculator recommends the io2 EBS volume type. Anything value beyond that range, AWS Pricing Calculator recommends io2 Block Express with tiered pricing. For more information, see Amazon EBS volume types.

Amazon EC2 instance type details

You can choose **Obtain an Amazon EC2 instance type recommendation** for the server type specifications. AWS recommendations always default to the latest, cost-optimized instances for Windows Server and SQL Server workloads.

You can also choose **Search** for an Amazon EC2 instance type if you want the ability to filter the instance types. You can filter by instance category, memory, CPU, and other options.

Benefits of Optimize vCPUs

You have the flexibility to specify a custom number of vCPUs while using the same memory, storage, and bandwidth of a full-sized instance. This means that BYOL customers can optimize vCPU-based licensing costs.

Even though the CPU optimized instance has the same price as the instance that's not optimized for CPU, it offers flexibility to choose the CPU count, so you can bring the right SQL Server license to avoid extra costs. For example, an `x1e.8xlarge` instance has 32 vCPUs by default. But you can specify `x1e.8xlarge` with Optimize CPU value to 16, 14, or 12.

The passive SQL Server nodes allow for additional cost optimization. A passive SQL Server node doesn't serve SQL Server data or run active SQL Server workloads. If you bring SQL Server to AWS with Software Assurance, you aren't required to license SQL Server on a passive node.

Step 4: Choose a pricing strategy

In this step, you use the pricing strategy section in AWS Pricing Calculator to choose a pricing model.

To choose a pricing strategy for this example

1. Open the **Configure Windows Server and SQL Server on Amazon EC2** section of AWS Pricing Calculator at https://calculator.aws/#/createCalculator/EC2WinSQL.
2. In the **Choose a pricing strategy** section - under **Pricing model**, choose **Standard Reserved Instance**.
3. Under **Reservation term**, choose **1 year**.
4. Under **Payment options**, choose **No Upfront**.

> **Note**
>
> This is a default pricing strategy that offers up to 75 percent savings over On-Demand pricing. For more information, see Amazon EC2 pricing.

Step 5: Review calculations and cost details

At this stage in the example tutorial, you can view the breakdown your cost estimates.

To view the calculation and cost details of this example

1. Open the **Configure Windows Server and SQL Server on Amazon EC2** section of AWS Pricing Calculator at https://calculator.aws/#/createCalculator/EC2WinSQL.
2. To view the breakdown of the calculations, select the arrow next **Show calculations**.

3. The view the cost details of the EC2 instance, storage, and BYOL SQL license specifications, select the arrow next to **Cost details** section.
4. After you review the calculations and cost details of all four example workloads, choose **Save and add service**.

At this point, you successfully estimated workload costs for Windows Server License Included and SQL Server Bring Your Own License (BYOL) licensing. If want to clone your existing estimate to generate an estimate for the License Included option for an SQL Server, navigate to Step 6: Add a Windows LI and SQL Server LI to your estimate.

Step 6: Add a Windows LI and SQL Server LI to your estimate

To add a Windows LI and SQL Server LI to your estimate

1. Navigate to the **My Estimate** section in AWS Pricing Calculator.
2. Select the checkbox of the service you want to duplicate. Then, choose **Duplicate**.
3. Choose the **Edit** icon on the duplicate version of the estimate.
4. For the **Estimate details** description, enter **`Workload_LI`**.
5. Keep the **Region** as is.
6. In the **Licensing and tenancy recommendation** section, keep the **Windows Server** and **SQL Server** check boxes cleared.
7. For the SQL Server section, review and adjust the machine specifications.
8. Review the new monthly cost estimate and aggregated monthly costs.
9. Choose **Update**.

On the **My Estimate** page, you can now compare the price under both the licensing options. In this example, the shared tenancy with Windows License Included and SQL Server BYOL option is approximately half of the cost of shared tenancy with Windows License Included and SQL Server License Included.

You have now completed the tutorial for using the Microsoft Windows Server and Microsoft SQL Server to generate a pricing estimate.

Generating estimates for Windows Servers and SQL Servers on EC2 Dedicated Hosts

You can use the workload calculator in AWS Pricing Calculator as a guide to the AWS tenancy qualifications for Microsoft Windows Server and SQL Server on Amazon Elastic Compute Cloud (Amazon EC2). You can use the workload calculator to estimate AWS cost using minimal information or generate a rough estimate.

For options for using Microsoft software licenses on the AWS Cloud, see Microsoft Licensing on AWS.

Topics

- Procedure
- Licensing and tenancy recommendations
- Machine specifications
- Review dedicated hosts
- Pricing strategy
- Cost details
- Bulk upload instructions for Dedicated Hosts

Procedure

To generate an estimate for Windows Server and SQL Server on Amazon EC2 Dedicated Hosts

1. Open AWS Pricing Calculator at https://calculator.aws/#/.
2. Choose **Create estimate**.
3. Do one of the following:
   - Under **Windows Server and SQL Server on Amazon EC2**, choose **Configure**.
   - From the **Find service** search bar, search for **Windows Server and SQL Server on Amazon EC2**. Then, choose **Configure**.
4. On the **Configure Windows Server and SQL Server on Amazon EC2** page, choose your customized settings.
   - For more information about license and tenancy options, see Licensing and tenancy recommendations.

- For more information about machine specifications, see Machine specifications.
- For more information about pricing strategy options, see Pricing strategy.
- For more information about reviewing dedicated hosts, see Review dedicated hosts.
- For more instructions about cost details, see Cost details.
- For instructions on how to bulk upload your machine specifications for Dedicated Hosts, see Bulk upload instructions for Dedicated Hosts.

5. Choose **Save and add service** or **Save and view summary**.

Licensing and tenancy recommendations

You can determine your AWS licensing and tenancy options for your workload through your choices for Windows Server and SQL Server licensing inputs. The licensing options include AWS provided licenses with License Included (LI) offerings. They also include your existing licenses with Bring Your Own License (BYOL) offerings for optimal cost savings. You can identify which is the most suitable cloud tenancy.

The following table shows the AWS licensing and tenancy scenarios supported by AWS Pricing Calculator.

Windows Server	SQL Server	AWS tenancy
LI	LI	Shared tenancy
LI	BYOL	Shared tenancy or Dedicated Hosts
BYOL	BYOL	Dedicated Hosts
BYOL	LI	Not supported

Machine specifications

Based on your choice of machine specification, we recommend that you select the Amazon EC2 instance that AWS Pricing Calculator uses to generate an estimate for your cost. You can also select another instance or instances of your choosing or add multiple machine specifications for a workload.

This section defines the terms that are mentioned in the **Configure machine specifications** section.

Machine description

A description for the machine. This is generally a hostname identifier. If you don't know the hostname identifier, specify unique software components that run on this machine—for example, `WebApp DB1` or `Webserver 1`.

Operating system

Depending on your tenancy qualification, you can choose an operating system with a licensing option. The default value is `Windows`.

SQL Server edition

Depending on your tenancy qualification, you can choose a SQL Server with licensing option. The default value is `SQL Standard`.

vCPU, Memory

Enter the number of vCPUs and memory inputs for your machine configuration. For example, 4vCPU and 8GB of memory.

Quantity

The default value is 1. This is the minimum number that's required.

Review dedicated hosts

The **Review dedicated hosts** table shows your recommended dedicated hosts instance family based on your inputs. You can see details such as host family and description, instances, license count, and used capacity (virtual cores). List count shows the license needed for a specific dedicated host.

Choose the instances to see the machines that are optimally packed within a single dedicated host.

By choosing **Download CSV**, you can download the dedicated host, instance, and license information.

Pricing strategy

Your choices in the **pricing strategy** section determine the pricing strategy that AWS Pricing Calculator uses to generate your estimate.

Pricing model

The pricing model determines whether you're searching for a pay-as-you-use instance or an instance that you can reserve in advance. For Reserved Instance (RI) payment options, see **payment options**.

The default value is `Standard Reserved Instances`. This is because it's the most common Amazon EC2 purchase, and it offers the flexibility with highest discount for most use cases.

Reservation term

When you reserve an RI, you purchase a reservation for the period of your contract. For your contract term, choose 1 year or 3 years. By default, a term is 1 year. This is to save costs.

Payment options

Payment options determine when you pay for your RI reservation.

Full upfront - You pay for the entire reservation upfront, resulting in a single payment but no monthly, recurring payments. This option provides the best discount.

Partial upfront - You pay for a smaller, partial upfront fee along with monthly payments.

No upfront - You only pay on a monthly basis.

The default value is **No upfront**. It gives you the least costly start-up price.

Cost details

The cost details section provides details for your workload.

EC2 Instance costs

A summary of the itemized breakdown for an EC2 instance. Pause on each row to show additional information, such as instance type, operating system, SQL version, vCPU, memory, quantity, optimize CPU, and SQL passive node.

Amazon EBS costs

The itemized cost breakdown for Amazon EBS.

SQL bring your own license summary

A summary to clarify the number of cores for your BYOL SQL Server licenses.

Bulk upload instructions for Dedicated Hosts

You can use bulk upload to upload your machine configuration, operating system, SQL server edition, quantity, vCPU, and memory in an excel file. Batch upload uploads this excel file to the AWS Pricing Calculator. To do this, use the provided excel template worksheet.

To download the excel worksheet template

1. Open AWS Pricing Calculator at https://calculator.aws/#/.
2. Choose **Create estimate**.
3. Do one of the following:
   - Under **Windows Server and SQL Server on Amazon EC2**, choose **Configure**.
   - Search for **Windows Server and SQL Server on Amazon EC2** from the **Find service** search bar.
4. On the **Configure Windows Server and SQL Server on Amazon EC2** page under the **Bulk upload instructions** sections, choose **Download template**.

   For more information, see Machine specifications.
5. Navigate to the downloaded file on your local machine.

> **Important**
>
> Don't remove any columns from the template.
> Don't add any columns to the template.
> Don't change the position of the template worksheet.

> **Tip**
>
> You can refer to the **Example** worksheet in the spreadsheet for an example data.

6. Choose **Upload file**.
7. Under the **Machine specifications** table, see the **Status** column to confirm if your template was uploaded correctly.
   - **Accepted** - The data that you entered is in the correct format. The data can be used for providing recommendations.

- **Declined** - The data format isn't valid. You can see the upload fail reason from the same column. After you correct your file, upload again using the previous steps.

  If the declined fail reasons aren't addressed, these rows aren't included for recommendations on dedicated Hosts in the **Review dedicated hosts** table.

8. Use the Review dedicated hosts section to see details such as host family, host description, instances, license count, and used capacity. For more information, see Review dedicated hosts.
9. Use the Dedicated Host costs section to see details for your workload.

   The costs table provides an itemized breakdown of the dedicated hosts with hourly cost, monthly cost per unit, and cost for the first twelve months included. All costs are shown in USD currency.
10. Use the **License(s) summary** section to clarify the list of licenses that you need to bring to AWS for the recommended dedicated hosts.
11. Choose **Save and add service** to save your estimate prices, and add additional services to the AWS Pricing Calculator.

Generating Microsoft estimates with AWS Modernization Calculator

AWS Modernization Calculator for Microsoft workloads provides a pricing estimate for modernizing your Microsoft workloads using open source and AWS cloud-native services deployed on AWS.

The calculator creates an estimate total cost of ownership for transforming your Windows and SQL server applications into a modern architecture. To use the calculator, you don't need an AWS account.

AWS Modernization Calculator for Microsoft workloads recommends modernized architecture for application patterns such as multi-tier, batch processing, CI/CD, or containerization. These recommendations are based on commonly adopted architectures by the AWS customer community. The calculator offers a reliable way to get modernization cost estimates without in-depth assessments. Using this information, you can conduct an in-depth assessment with Migration Hub Strategy Recommendations. For more information, see What is Migration Hub Strategy Recommendations?

Topics

- Procedure
- Architecture category and pattern
- Architecture size
- Modernized architecture pattern
- AWS service configuration
- My Estimate

Procedure

To generate an estimate with AWS Modernization Calculator for Microsoft Workloads

1. Open the AWS Modernization Calculator for Microsoft Workloads at https://modernization.calculator.aws/microsoft/workload.
2. In the **New estimate** section, add a description for this estimate.
3. In the **Current application/workload location** section, choose the current location of where your application is deployed.
4. Select an **Architecture category** and an **Architecture pattern**.

   For more information on architecture category and pattern, see Architecture category and pattern.
5. Choose **Next**.
6. On the **Select an architecture size** page, you can select your architecture characteristics (optional) and sizing.

   For more information, see Architecture size.
7. Choose **Next**.
8. On the **Select modernized architecture pattern** page, select a modernized architecture pattern for your application.

   For more information, see Modernized architecture pattern.
9. Choose **Next**.
10. On the **Edit service configuration** page, review the summary of recommendations.

    For more information, see AWS service configuration.
11. For an overview of your Microsoft estimate, choose **Save**.

For more information, see My Estimate

Architecture category and pattern

You can specify the architecture category of your application by choosing from **Architecture pattern**, **Use case**, or **Custom**. The category selection provides further options to analyze your application.

- **Architecture pattern** refers to a fundamental schema for software systems in an organization. It defines the structural composition of the program and the interactions between the elements. In most enterprises, some of the commonly found patterns include the following.
  - **Multi-tier** pattern has been a cornerstone architecture pattern for decades, and remains a popular pattern for user-facing applications. Multi-tier generally consists of a presentation tier, data tier, and logic tier. These three tiers can be hosted on the same or separate servers. This pattern provides a general framework to ensure decoupled and independently scalable application components can be separately developed, managed, and maintained.
  - **Batch processing** is the method computers periodically use to complete high-volume and repetitive data jobs. Certain data processing tasks, such as backups, filtering, and sorting, can be compute intensive and inefficient to run on individual data transactions. Instead, data systems process such tasks in batches. These tasks are processed during off-peak times such as the evening and overnight.
- **Use case** includes grouped architecture patterns. This grouping represents a collaboration by different teams on performing tasks. Use cases are further categorized into the following.
  - **Software development** involves several steps including creating, testing, staging, and deploying software. In an organization, multiple teams collaborate as a group to create software.
  - **Container** provides a standard way to package your application's code, configurations, and dependencies into a single object. Containers share an operating system that's installed on the server and run as resource-isolated processes. This ensures quick, reliable, and consistent deployments, regardless of the environment. Containers are lightweight and provide a consistent and portable software environment for applications to run and scale virtually anywhere. Building and deploying microservices, running batch jobs for machine learning applications, and moving existing applications into the cloud are some of common use cases.

- **Custom** category provides you with the option to build any custom architectures by selecting the relevant AWS services from the list. This is a suitable option if you're familiar with AWS services and their role in your application's architecture pattern.

Architecture size

This step includes a short questionnaire about the specifics of your application's architecture. All questions are optional. The calculator provides a sizing recommendation based on your answers. The default recommendation is **Small**.

If you choose to answer the questions, the calculator recommends a size. You can proceed with the recommended size or select any size that meets your business requirements.

Modernized architecture pattern

The calculator provides modernized architecture pattern options based on your inputs in preceding steps. You can download the pattern diagram to learn more.

If you see more than one option, you can choose the recommended or another pattern. If you have one recommendation without options, choose the recommended pattern to proceed to the next step.

AWS service configuration

This page provides a summary of recommendations. You can see a list of recommended AWS services. You can add or remove any service, and change the recommended settings of each service.

- **AWS Region** has a drop-down list that you can select the Region where you want to host your modernized application from. The pricing of AWS services can differ by Region.
- **Estimated cost** provides the total monthly cost of running a modernized application on AWS. The cost isn't intended as an actual price quote. It doesn't account for data transfer charges or any additional configurations offered by AWS services.
- **AWS services** lists the recommended services for your modernized application. You can add or delete any service from this list. You can expand each service card to modify size and parameters for that service. You can also see the breakdown of cost for each service by expanding *Show calculation*, which is located in each service card.
- Select **Save** to see a graphical presentation of estimate on **My Estimate** page.

My Estimate

This page provides the estimate for your modernized application. You can do the following with this page:

- Clone the same or add new workload to your estimate.
- Increase or decrease the number of applications in a workload.
- Change the recommended AWS services by editing a workload.
- Add the cost of accessing Support to your estimate.
- Export to an excel file or share your estimate by using a unique URL.

If you retrieve and modify a shared estimate, you must save and share the modified version. The modifications aren't automatically added to your original estimate.

Security in AWS Pricing Calculator

Cloud security at AWS is the highest priority. As an AWS customer, you benefit from a data center and network architecture that is built to meet the requirements of the most security-sensitive organizations.

Security is a shared responsibility between AWS and you. The shared responsibility model describes this as security *of* the cloud and security *in* the cloud:

- **Security of the cloud** – AWS is responsible for protecting the infrastructure that runs AWS services in the AWS Cloud. AWS also provides you with services that you can use securely. Third-party auditors regularly test and verify the effectiveness of our security as part of the AWS Compliance Programs. To learn about the compliance programs that apply to AWS Pricing Calculator, see AWS Services in Scope by Compliance Program.
- **Security in the cloud** – Your responsibility is determined by the AWS service that you use. You are also responsible for other factors including the sensitivity of your data, your company's requirements, and applicable laws and regulations.

AWS Pricing Calculator is a public interface. The information you provide isn't stored, and AWS does not collect your input or associate your input with an AWS account.

Topics

- Data protection in AWS Pricing Calculator
- Compliance validation for AWS Pricing Calculator

Data protection in AWS Pricing Calculator

The AWS shared responsibility model applies to data protection in AWS Pricing Calculator. As described in this model, AWS is responsible for protecting the global infrastructure that runs all of the AWS Cloud. You are responsible for maintaining control over your content that is hosted on this infrastructure. This content includes the security configuration and management tasks for the AWS services that you use. For more information about data privacy, see the Data Privacy FAQ. For information about data protection in Europe, see the AWS Shared Responsibility Model and GDPR blog post on the *AWS Security Blog*.

For data protection purposes, we recommend that you protect AWS account credentials and set up individual user accounts with AWS Identity and Access Management (IAM). That way each user is given only the permissions necessary to fulfill their job duties. We also recommend that you secure your data in the following ways:

- Use multi-factor authentication (MFA) with each account.
- Use SSL/TLS to communicate with AWS resources. We recommend TLS 1.2 or later.
- Set up API and user activity logging with AWS CloudTrail.
- Use AWS encryption solutions, along with all default security controls within AWS services.
- Use advanced managed security services such as Amazon Macie, which assists in discovering and securing personal data that is stored in Amazon S3.
- If you require FIPS 140-2 validated cryptographic modules when accessing AWS through a command line interface or an API, use a FIPS endpoint. For more information about the available FIPS endpoints, see Federal Information Processing Standard (FIPS) 140-2.

We strongly recommend that you never put confidential or sensitive information, such as your customers' email addresses, into tags or free-form fields such as a **Name** field. This includes when you work with AWS Pricing Calculator or other AWS services using the console, API, AWS CLI, or AWS SDKs. Any data that you enter into tags or free-form fields used for names may be used for billing or diagnostic logs. If you provide a URL to an external server, we strongly recommend that you do not include credentials information in the URL to validate your request to that server.

Compliance validation for AWS Pricing Calculator

Third-party auditors assess the security and compliance of AWS Pricing Calculator as part of multiple AWS compliance programs. AWS Pricing Calculator is not in scope of any AWS compliance programs.

For a list of AWS services in scope of specific compliance programs, see AWS Services in Scope by Compliance Program. For general information, see AWS Compliance Programs.

Your compliance responsibility when using AWS Pricing Calculator is determined by the sensitivity of your data, your company's compliance objectives, and applicable laws and regulations. AWS provides the following resources to help with compliance:

- Security and Compliance Quick Start Guides – These deployment guides discuss architectural considerations and provide steps for deploying security- and compliance-focused baseline environments on AWS.
- AWS Compliance Resources – This collection of workbooks and guides might apply to your industry and location.
- Evaluating Resources with Rules in the *AWS Config Developer Guide* – The AWS Config service assesses how well your resource configurations comply with internal practices, industry guidelines, and regulations.
- AWS Security Hub CSPM – This AWS service provides a comprehensive view of your security state within AWS that helps you check your compliance with security industry standards and best practices.

Resources

The following related resources can help you as you work with this service.

Service-specific resources

Each AWS service has its own documentation that you can use to help understand the service.

- **AWS Pricing Calculator Frequently Asked Questions** – Explore the FAQs that are listed in the AWS Marketing pages
- **AWS Pricing Calculator pricing assumptions –** Understand the disclaimers for AWS Pricing Calculator prices.
- **Amazon Elastic Compute Cloud documentation** – Provides the documentation for using Amazon Elastic Compute Cloud (Amazon EC2).
- **Elastic Load Balancing documentation** – Provides the documentation for using Elastic Load Balancing.
- **Amazon Elastic Block Store documentation** – Provides the documentation for using Amazon Elastic Block Store.

General AWS resources

AWS provides several helpful guides, forums, contact info, and other resources for you.

- **AWS Developer Resource Center** – Provides a central starting point to find documentation, code samples, release notes, and other information to help you build innovative applications with AWS.
- **AWS Training and Courses** – Links to role-based and specialty courses and self-paced labs to help sharpen your AWS skills and gain practical experience.
- **AWS Developer Tools** – Links to developer tools and resources that provide documentation, code samples, release notes, and other information to help you build innovative applications with AWS.
- **AWS Support Center** – The hub where you can create and manage your AWS Support cases. It also includes links to other helpful resources, such as forums, technical FAQs, service health status, and AWS Trusted Advisor.

- **AWS Support** – The primary web page for information about AWS Support, a one-on-one, fast-response support channel to help you build and run applications in the cloud.
- **Contact Us** – A central contact point for inquiries that concern AWS billing, your account, events, abuse, and other issues.
- **AWS Site Terms** – Detailed information about our copyright and trademark; your account, license, and site access; and other topics.

Document history for User Guide

The following table describes the documentation for this release of AWS Pricing Calculator.

- **Latest documentation update:** Dec 16, 2019

Change	Description	Date
New save and share feature	Added the Saving and Sharing Your Estimate section.	December 16, 2019
UI update	Updated the UI to enable nested groups.	December 17, 2018
Initial launch	First publication of the documentation.	October 23, 2018