Module 13. AWS Pricing Models

This module covers the following subjects:

- **Fundamentals of Pricing**: This section describes how pricing generally works in AWS. It educates you on the fundamental types of costs associated with using AWS.
- **Pricing Details**: This section ensures you understand the various factors in pricing for a given service. This section is critical for you to control your costs in AWS.

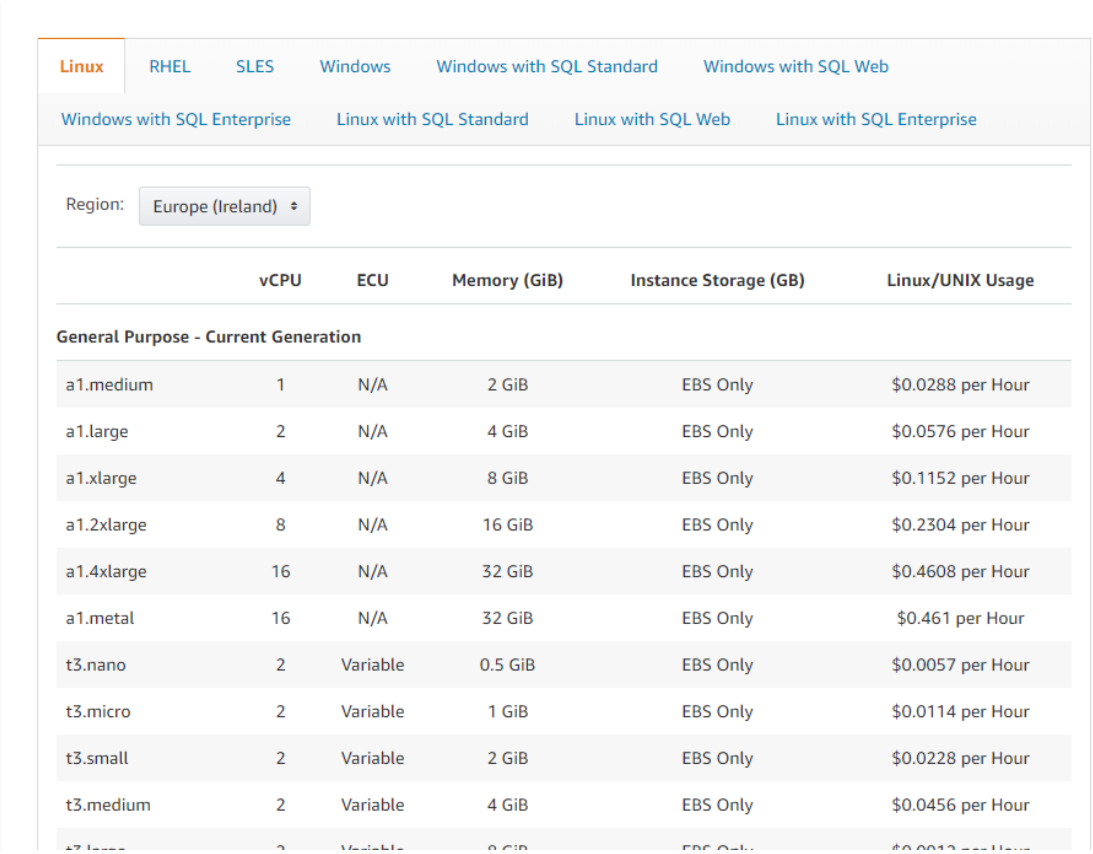
AWS can save you money, and there are many other advantages this public cloud offering can bring. However, you can most effectively save money only if you understand the pricing model in general, as well as the various factors that go into charges for the primary services of AWS. This module ensures you have this knowledge. Although not every service is covered in this module, knowing these variables and seeing some examples will help you understand how other services may be charged for.

FOUNDATION TOPICS

FUNDAMENTALS OF PRICING

Remember, AWS's general concept of pricing follows the utility company model. Furthermore, AWS pricing follows these general concepts:

- **Pay as you go**: This is done without excessive long-term commitments. It ensures adaptability and helps to eliminate CapEx costs for IT. Costs are related to cheaper variable costs as you operate. Figure 13-1 shows some sample costs associated with an EC2 instance.



	vCPU	ECU	Memory (GiB)	Instance Storage (GB)	Linux/UNIX Usage
General Purpose - Current Generation					
a1.medium	1	N/A	2 GiB	EBS Only	$0.0288 per Hour
a1.large	2	N/A	4 GiB	EBS Only	$0.0576 per Hour
a1.xlarge	4	N/A	8 GiB	EBS Only	$0.1152 per Hour
a1.2xlarge	8	N/A	16 GiB	EBS Only	$0.2304 per Hour
a1.4xlarge	16	N/A	32 GiB	EBS Only	$0.4608 per Hour
a1.metal	16	N/A	32 GiB	EBS Only	$0.461 per Hour
t3.nano	2	Variable	0.5 GiB	EBS Only	$0.0057 per Hour
t3.micro	2	Variable	1 GiB	EBS Only	$0.0114 per Hour
t3.small	2	Variable	2 GiB	EBS Only	$0.0228 per Hour
t3.medium	2	Variable	4 GiB	EBS Only	$0.0456 per Hour

Figure 13-1 Sample EC2 Instance Costs

Note

Notice how there is a 30-day free trial for this sample EC2 instance. This way, you get to spin it up and ensure it works for you before you start paying for usage. This is common with many EC2 instances in the AWS Marketplace in the Management Console.

- **Pay less when you reserve**: You can use reserved EC2 instances and save as much as 70% over On-Demand pricing; you can pay all upfront, some, or nothing for these reserved instances. Discounts vary, as you pay less upfront. Remember, there is also spot pricing, where you can bid an amount, you are willing to pay for compute power. Figure 13-2 shows an example of reserved instance pricing for a Windows Server running SQL Server Enterprise Edition on an instance type

called a t3.xlarge. As you might guess, these systems are packed with horsepower.

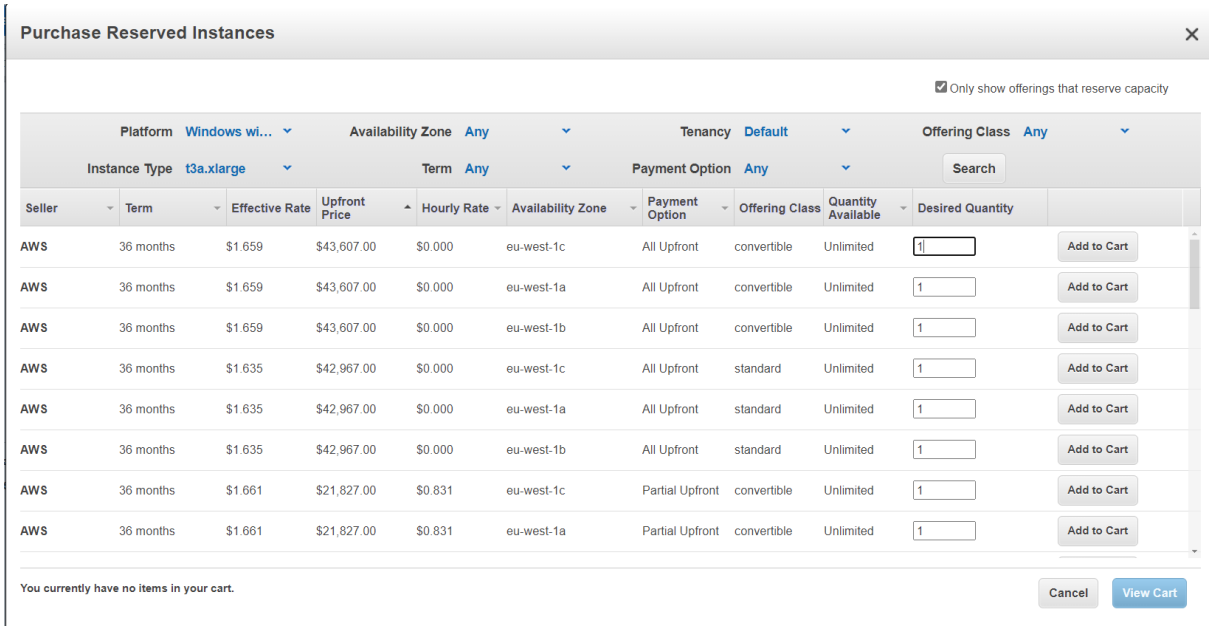


Figure 13-2 Sample Reserved Instance Pricing

- **Pay even less per unit using more**: Services like S3 and EC2 offer volume discounts as your AWS infrastructure grows.
- **Pay even less as AWS grows**: Amazon is constantly learning how to host the cloud more efficiently; as it saves costs, it passes these savings on to you.

If you are a very large enterprise, Amazon can also offer custom pricing models. This might be required if you have a large volume project for which their pricing model would be cost-prohibitive.

Also, remember the Free Tier of service that you can start with. Remember that some AWS services can remain free (given certain service levels). These free services include the following:

- VPC
- CloudFormation
- IAM
- Auto Scaling

PRICING DETAILS

It is essential that you memorise the general cost categories of AWS:

- Compute
- Storage
- Data Transfer Out (aggregated across services)

Notice that, in general, there are no charges for the following:

- Data transfers in
- Data transfers between AWS resources

What variables go into the pricing of the different fundamental services? Here are some to give you a feel for your abilities to control costs:

- **EC2**: Total clock hours of usage; amount and distribution of load balancing; machine configuration; detailed monitoring; machine purchase type; software/OS; elastic IP addresses; number of instances (including those created by Auto Scaling); cross-AZ data transfer
- **S3**: Storage type; storage class; requests; data transfer out
- **EBS**: Volume type; IOPS; snapshots
- **RDS**: Total clock hours of usage; additional storage; database configuration; purchase type; deployment type; number of databases; data transfer out; provisioned storage
- **CloudFormation**: Traffic distribution location; request; data transfer out

Remember, you can also obtain up-to-the-second details on your AWS costs thanks to the cost tools available in the AWS Management Console. Figure 13-3 shows an example of a quick cost report.

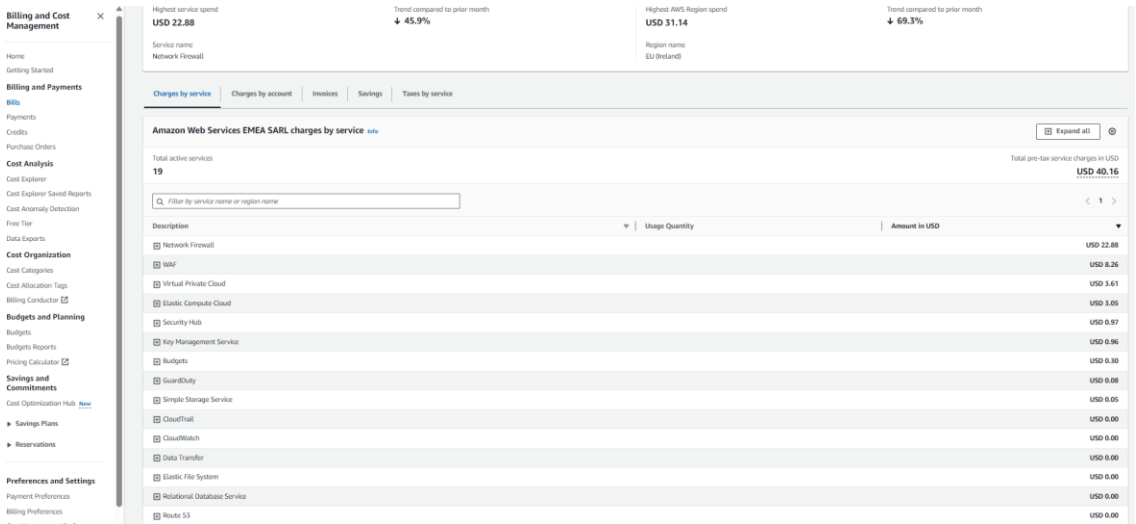
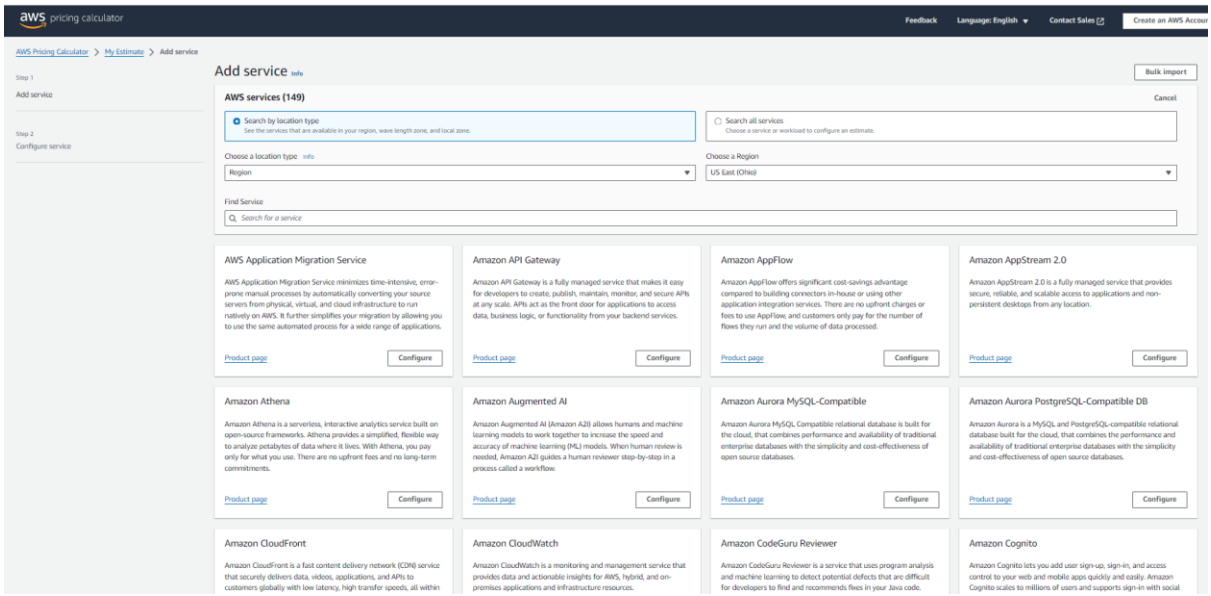


Figure 13-3 Checking AWS Costs

Pricing Calculator

The AWS Pricing Calculator is a valuable tool for estimating the cost of AWS services tailored to your needs. It allows you to configure a cost estimate that fits your unique business or personal requirements with a wide range of AWS products and services. The process is straightforward: add the services you need, configure your usage details, and view the estimated costs. This tool provides transparency in pricing, allowing you to see the math behind the price for your service configurations.

You do not need an AWS Account to use the pricing calculator.



There is a tutorial on using the AWS Pricing Calculator here:

https://docs.aws.amazon.com/pricing-calculator/latest/userguide/create-configure-estimate.html

EXAM PREPARATION TASKS

- **REVIEW ALL TOPICS**
- **DEFINE ALL KEY TERMS AND CHECK ANSWERS IN THE GLOSSARY.**
- **DO THE QUIZ – REPEAT UNTIL YOU PASS IT (100% PASSMARK).**

DEFINE KEY TERMS

There are no key terms in this module.

Q&A

1. Name at least two fundamental cost areas of AWS.

2. Name at least two cost variables for AWS S3.