



Amazon Managed Service for Apache Flink pricing

Introduction

Transform and analyze streaming data in real time using Apache Flink

With Amazon Managed Service for Apache Flink, you can transform and analyze streaming data in real time using Apache Flink, an open source framework and engine for processing data streams. Amazon Managed Service for Apache Flink simplifies building and managing Apache Flink workloads and help you to more easily integrate applications with other AWS services.

With Amazon Managed Service for Apache Flink you are charged for duration and number of KPIUs, billed in one-second increments. A single KPIU comprises 1 vCPU compute and 4 GB of memory.

Amazon Managed Service for Apache Flink streaming applications pricing

For Apache Flink applications, you are charged a single additional KPIU per application, used for orchestration. Applications are also charged for running storage and durable backups. Running application storage is used for stateful processing capabilities in Amazon Managed Service for Apache Flink and is charged per GB/month. Durable backups are optional and provide point-in-time recovery for applications, charged per GB/month.

In streaming mode, Amazon Managed Service for Apache Flink automatically scales the number of KPIUs required by your stream processing application as the demands of memory and compute fluctuate. You may choose to provision your application with the number of KPIUs required.

Amazon Managed Service for Apache Flink Studio pricing

You are charged two additional KPIUs per Studio application in interactive mode. One KPIU is used for Apache Flink application orchestration and the other for the serverless interactive development environment. You will also be charged for running application storage used for stateful processing capabilities. Running application storage is charged per GB/month.

When developing in the Studio notebook, you will not have the option to create durable application backups. However, when you deploy your application in the Studio notebook from interactive mode to streaming mode, you will be able to create durable application backups.

Original KPIU pricing information



Pricing by AWS Region

Region:	
Europe (London)	
Kinesis Processing Unit, Per Hour	\$0.127 per hour
Running Application Storage, Per GB-month (50GB of running application storage is assigned per KPIU)	\$0.116 per GB-month
Durable Application Backups, Per GB-month	\$0.024 per GB-month
Kinesis Processing Unit, Per Hour for Studio notebooks	\$0.127 per hour
Running Application Storage, Per GB-month for Studio notebooks	\$0.116 per GB-month

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Pricing example 1: Apache Flink application performing streaming ETL with workload changes

You use an Apache Flink application in Amazon Managed Service for Apache Flink to continuously transform and deliver log data captured by your Kinesis Data Streams to Amazon Simple Storage Service (Amazon S3). The log data is transformed using several operators including applying a schema to the different log events, partitioning data by event type, sorting data by timestamp, and buffering data for one hour prior to delivery. The application has many transformation steps, but none are computationally intensive. This stream ingests data at 2,000 records/second for 12 hours per day and increases to 8,000 records/second for 12 hours per day. You do not create any durable application backups. The monthly Amazon Managed Service for Apache Flink charges will be computed as follows:

Monthly charges

The price in U.S. East (N. Virginia) Region is \$0.11 per KPIU-hour. Amazon Managed Service for Apache Flink allocates 50 GB of running application storage per KPIU and charges \$0.10 per GB/month.

Heavy Workload: During the 12-hour heavy workload period, the Amazon Managed Service for Apache Flink application is processing 8,000 records/second and automatically scales up to 8 KPIUs. After the heavy workload period, the Amazon Managed Service for Apache Flink application scales the application down after 6 hours of lower throughput. The application is scaled up to 8 KPIUs for a total of 18 hours per day.

30 Days/Month * 18 Hours/Day = 540 Hours/Month

Monthly KPIU Charges = 540 Hours/Month * 8 KPIUs * \$0.11/Hour= \$475.20

Monthly Running Application Storage Charges = 540 Hours/Month * 8 KPIUs * 50GB/KPIU * \$0.10/GB-month = \$30.00

Monthly KPIU and Storage Charges = \$475.20 + \$30.00 = \$505.20

Light Workload: During the remaining 6-hour light workload period, the Amazon Managed Service for Apache Flink application is processing 2,000 records/second and automatically scales down to 2 KPIUs.

30 Days/Month * 6 Hours/Day = 180 Hours/Month

Monthly KPIU Charges = 180 Hours/Month * 2 KPIUs * \$0.11/Hour = \$39.60

Monthly Running Application Storage Charges = 180 Hours/Month * 2 KPIUs * 50GB * \$0.10/GB-month = \$2.50

Monthly KPIU and Storage Charges = \$39.60 + \$2.50 = \$42.10

Each Apache Flink application is charged an additional KPIU per application.

Monthly Charges for additional KPIU = 30 * 24 * 1 KPIU * \$0.11/Hour = \$79.20

Total Charges = \$505.20 + \$42.10 + \$79.20 = \$626.50

Pricing example 2: Apache Flink application performing batch ETL

You use an Apache Flink application in Amazon Managed Service for Apache Flink to transform log data in Amazon Simple Storage Service (Amazon S3) in batch mode. The log data is transformed using several operators such as applying a schema to the different log events, partitioning data by event type and sorting data by timestamp. The application has many transformation steps, but none are computationally intensive. This application ingests data at 2,000 records/second for 10 minutes every day in a 30-day month. You do not create any durable application backups. The monthly Amazon Managed Service for Apache Flink charges will be computed as follows:

Monthly charges

The price in U.S. East (N. Virginia) Region is \$0.11 per KPIU-hour. Amazon Managed Service for Apache Flink allocates 50 GB of running application storage per KPIU and charges \$0.10 per GB/month.

Batch Workload: For 10 minutes per day, the Amazon Managed Service for Apache Flink application is processing 2,000 records/second which takes 2 KPIUs.

30 Days/Month * 10 Minutes/Day = 300 Minutes/Month

Monthly KPIU Charges = 300 Minutes/Month * 2 KPIUs * \$0.11/Hour = \$1.10

Monthly Running Application Storage Charges = 300 Minutes/Month * 2 KPIUs * 50GB * \$0.10/GB-month = \$0.07

Monthly KPIU and Storage Charges = \$1.10 + \$0.07 = \$1.17

Each Apache Flink application is charged an additional KPIU per application.

Monthly Charges = 1 KPIU * \$0.11/Hour * 10 Minutes/Month= \$0.02 (rounded to the nearest penny)

Total Charges = \$1.17 + \$0.02 = \$1.19

Pricing example 3: Studio notebook with a simple streaming filter

You use Amazon Managed Service for Apache Flink Studio to continuously filter streaming data captured by your Amazon Kinesis Data Streams and only retain records of interest. You want the ability to view and visualize records in real time and easily write queries and programs in SQL and Python. You do not want durable state backups. You provision 4 KPIUs for your Studio notebook based on your input stream's throughput. Your monthly Amazon Managed Service for Apache Flink charges will be computed as follows:

Monthly charges

The price in U.S. East (N. Virginia) Region is \$0.11 per KPIU/hour used for your stream processing application. This simple application uses 4 KPIUs to process the incoming data stream. Each Studio notebook application (example: interactive mode) is charged 2 additional KPIUs per application.

Monthly KPIU Charges = 30 Days * 24 Hours * [(4 KPIUs + 2 additional KPIUs for Studio notebook) * \$0.11/ Hour] = \$475.20

Apache Flink applications use 50 GB running application storage per KPIU with an additional 50 GB running storage for Studio notebook applications, and are charged \$0.10 per GB/month in US-East-1.

Monthly Running Application Storage Charges = 30 Days * 24 Hours * (4 KPIUs + 1 additional KPIU for Studio notebook) * (50GB * \$0.10/GB/month) = \$25.00

Total Charges = \$475.20 + \$25.00 = \$500.20

Pricing example 4: Studio notebook with a sliding window deployed to streaming mode

You use Amazon Managed Service for Apache Flink Studio to build a sliding window on streaming data captured by a topic in your Amazon Managed Streaming for Apache Kafka (Amazon MSK) cluster. You use a Studio notebook with 4 KPIUs that you start at 10:30 on the first day of a month to develop and test your queries. After development, you deploy the application as a streaming application with 2 KPIUs at 17:00. Once the streaming application is deployed, you stop your Studio notebook one hour later at 18:00. The streaming application can use durable application state and you create durable state backups every day.

The price in U.S. East (N. Virginia) Region is \$0.11 per KPIU/hour used for your stream processing application.

Monthly charges

Developing and testing query using Amazon Managed Service for Apache Flink Studio:
Your Studio application runs for 450 minutes in the month (10:30 to 18:00 on the first day)

KPIU charges = 450 Minutes * (4 KPIUs + 2 additional KPIUs for Studio notebook) * \$0.11/Hour= \$4.95

Apache Flink applications use 50 GB running application storage per KPIU with an additional 50 GB running storage for Studio notebook applications, and are charged \$0.10 per GB/month in US-East-1.

Running Application Storage Charges = 450 Minutes * (4 KPIUs + 1 additional KPIU for Studio notebook) * (50GB * \$0.10/GB-month) = \$0.26

Deploying as streaming application to run continuously and take application backups:
The streaming application runs for 703 hours within the month (from 17:00 on the first day)

KPIU charges = 703 Hours * (2 KPIUs + 1 additional KPIU for streaming application) * \$0.11/Hour) = \$231.99

Apache Flink applications use 50 GB running application storage per KPIU and charged \$0.121 per GB/month in US-East-1.

Running Application Storage Charges = 703 Hours * 2 KPIUs * (50GB * \$0.10/GB-month) = \$9.76

Durable Application Storage Charges = 703 Hours * (1 MB/backups * 1 GB/1,000 MB) * \$0.023/GB-month = \$0.01 (rounded to the nearest penny)

Total Charges = \$4.95 + \$0.26 + \$231.99 + \$9.76 + \$0.01 = \$246.97

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