Amazon Timestream for LiveAnalytics

# Amazon Timestream Write

**API Version 2018-11-01**

# Amazon Timestream Write: Amazon Timestream for LiveAnalytics

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# Welcome

## Amazon Timestream Write

Amazon Timestream is a fast, scalable, fully managed time-series database service that makes it easy to store and analyze trillions of time-series data points per day. With Timestream, you can easily store and analyze IoT sensor data to derive insights from your IoT applications. You can analyze industrial telemetry to streamline equipment management and maintenance. You can also store and analyze log data and metrics to improve the performance and availability of your applications.

Timestream is built from the ground up to effectively ingest, process, and store time-series data. It organizes data to optimize query processing. It automatically scales based on the volume of data ingested and on the query volume to ensure you receive optimal performance while inserting and querying data. As your data grows over time, Timestream's adaptive query processing engine spans across storage tiers to provide fast analysis while reducing costs.

## Amazon Timestream Query

# Actions

The following actions are supported by Amazon Timestream Write:

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- CreateDatabase
- CreateTable
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- DeleteTable
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## Amazon Timestream Write

The following actions are supported by Amazon Timestream Write:

- CreateBatchLoadTask
- CreateDatabase
- CreateTable
- DeleteDatabase
- DeleteTable
- DescribeBatchLoadTask
- DescribeDatabase
- DescribeEndpoints
- DescribeTable
- ListBatchLoadTasks
- ListDatabases
- ListTables
- ListTagsForResource
- ResumeBatchLoadTask
- TagResource
- UntagResource

- UpdateDatabase
- UpdateTable
- WriteRecords

# CreateBatchLoadTask

Service: Amazon Timestream Write

Creates a new Timestream batch load task. A batch load task processes data from a CSV source in an S3 location and writes to a Timestream table. A mapping from source to target is defined in a batch load task. Errors and events are written to a report at an S3 location. For the report, if the AWS KMS key is not specified, the report will be encrypted with an S3 managed key when SSE_S3 is the option. Otherwise an error is thrown. For more information, see AWS managed keys. Service quotas apply. For details, see code sample.

## Request Syntax

```
{
   "ClientToken": "string",
   "DataModelConfiguration": {
      "DataModel": {
         "DimensionMappings": [
            {
               "DestinationColumn": "string",
               "SourceColumn": "string"
            }
         ],
         "MeasureNameColumn": "string",
         "MixedMeasureMappings": [
            {
               "MeasureName": "string",
               "MeasureValueType": "string",
               "MultiMeasureAttributeMappings": [
                  {
                     "MeasureValueType": "string",
                     "SourceColumn": "string",
                     "TargetMultiMeasureAttributeName": "string"
                  }
               ],
               "SourceColumn": "string",
               "TargetMeasureName": "string"
            }
         ],
         "MultiMeasureMappings": {
            "MultiMeasureAttributeMappings": [
               {
                  "MeasureValueType": "string",
```

```
                    "SourceColumn": "string",
                    "TargetMultiMeasureAttributeName": "string"
                 }
              ],
              "TargetMultiMeasureName": "string"
           },
           "TimeColumn": "string",
           "TimeUnit": "string"
        },
        "DataModelS3Configuration": {
           "BucketName": "string",
           "ObjectKey": "string"
        }
     },
     "DataSourceConfiguration": {
        "CsvConfiguration": {
           "ColumnSeparator": "string",
           "EscapeChar": "string",
           "NullValue": "string",
           "QuoteChar": "string",
           "TrimWhiteSpace": boolean
        },
        "DataFormat": "string",
        "DataSourceS3Configuration": {
           "BucketName": "string",
           "ObjectKeyPrefix": "string"
        }
     },
     "RecordVersion": number,
     "ReportConfiguration": {
        "ReportS3Configuration": {
           "BucketName": "string",
           "EncryptionOption": "string",
           "KmsKeyId": "string",
           "ObjectKeyPrefix": "string"
        }
     },
     "TargetDatabaseName": "string",
     "TargetTableName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**ClientToken**

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Required: No

**DataModelConfiguration**

Type: DataModelConfiguration object

Required: No

**DataSourceConfiguration**

Defines configuration details about the data source for a batch load task.

Type: DataSourceConfiguration object

Required: Yes

**RecordVersion**

Type: Long

Required: No

**ReportConfiguration**

Report configuration for a batch load task. This contains details about where error reports are stored.

Type: ReportConfiguration object

Required: Yes

**TargetDatabaseName**

Target Timestream database for a batch load task.

Type: String

Pattern: `[a-zA-Z0-9_.-]+`

Required: Yes

**TargetTableName**

Target Timestream table for a batch load task.

Type: String

Pattern: `[a-zA-Z0-9_.-]+`

Required: Yes

## Response Syntax

```
{
   "TaskId": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**TaskId**

The ID of the batch load task.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 32.

Pattern: `[A-Z0-9]+`

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**ConflictException**

Timestream was unable to process this request because it contains resource that already exists.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ServiceQuotaExceededException**

The instance quota of resource exceeded for this account.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# CreateDatabase

Service: Amazon Timestream Write

Creates a new Timestream database. If the AWS KMS key is not specified, the database will be encrypted with a Timestream managed AWS KMS key located in your account. For more information, see AWS managed keys. Service quotas apply. For details, see code sample.

## Request Syntax

```
{
   "DatabaseName": "string",
   "KmsKeyId": "string",
   "Tags": [
      {
         "Key": "string",
         "Value": "string"
      }
   ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**DatabaseName**

The name of the Timestream database.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Pattern: `[a-zA-Z0-9_.-]+`

Required: Yes

**KmsKeyId**

The AWS KMS key for the database. If the AWS KMS key is not specified, the database will be encrypted with a Timestream managed AWS KMS key located in your account. For more information, see AWS managed keys.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

**Tags**

A list of key-value pairs to label the table.

Type: Array of Tag objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

## Response Syntax

```
{
   "Database": {
      "Arn": "string",
      "CreationTime": number,
      "DatabaseName": "string",
      "KmsKeyId": "string",
      "LastUpdatedTime": number,
      "TableCount": number
   }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Database**

The newly created Timestream database.

Type: Database object

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**ConflictException**

Timestream was unable to process this request because it contains resource that already exists.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ServiceQuotaExceededException**

The instance quota of resource exceeded for this account.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
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- AWS SDK for JavaScript V3
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- AWS SDK for Python
- AWS SDK for Ruby V3

# CreateTable

Service: Amazon Timestream Write

Adds a new table to an existing database in your account. In an AWS account, table names must be at least unique within each Region if they are in the same database. You might have identical table names in the same Region if the tables are in separate databases. While creating the table, you must specify the table name, database name, and the retention properties. Service quotas apply. See code sample for details.

## Request Syntax

```
{
   "DatabaseName": "string",
   "MagneticStoreWriteProperties": {
      "EnableMagneticStoreWrites": boolean,
      "MagneticStoreRejectedDataLocation": {
         "S3Configuration": {
            "BucketName": "string",
            "EncryptionOption": "string",
            "KmsKeyId": "string",
            "ObjectKeyPrefix": "string"
         }
      }
   },
   "RetentionProperties": {
      "MagneticStoreRetentionPeriodInDays": number,
      "MemoryStoreRetentionPeriodInHours": number
   },
   "Schema": {
      "CompositePartitionKey": [
         {
            "EnforcementInRecord": "string",
            "Name": "string",
            "Type": "string"
         }
      ]
   },
   "TableName": "string",
   "Tags": [
      {
         "Key": "string",
         "Value": "string"
```

```
        }
    ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**DatabaseName**

The name of the Timestream database.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Pattern: `[a-zA-Z0-9_.-]+`

Required: Yes

**MagneticStoreWriteProperties**

Contains properties to set on the table when enabling magnetic store writes.

Type: MagneticStoreWriteProperties object

Required: No

**RetentionProperties**

The duration for which your time-series data must be stored in the memory store and the magnetic store.

Type: RetentionProperties object

Required: No

**Schema**

The schema of the table.

Type: Schema object

Required: No

### TableName

The name of the Timestream table.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Pattern: `[a-zA-Z0-9_.-]+`

Required: Yes

### Tags

A list of key-value pairs to label the table.

Type: Array of Tag objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

## Response Syntax

```
{
   "Table": {
      "Arn": "string",
      "CreationTime": number,
      "DatabaseName": "string",
      "LastUpdatedTime": number,
      "MagneticStoreWriteProperties": {
         "EnableMagneticStoreWrites": boolean,
         "MagneticStoreRejectedDataLocation": {
            "S3Configuration": {
               "BucketName": "string",
               "EncryptionOption": "string",
               "KmsKeyId": "string",
               "ObjectKeyPrefix": "string"
            }
         }
      },
```

```
      "RetentionProperties": {
         "MagneticStoreRetentionPeriodInDays": number,
         "MemoryStoreRetentionPeriodInHours": number
      },
      "Schema": {
         "CompositePartitionKey": [
            {
               "EnforcementInRecord": "string",
               "Name": "string",
               "Type": "string"
            }
         ]
      },
      "TableName": "string",
      "TableStatus": "string"
   }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Table

The newly created Timestream table.

Type: Table object

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**ConflictException**

Timestream was unable to process this request because it contains resource that already exists.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ServiceQuotaExceededException**

The instance quota of resource exceeded for this account.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# DeleteDatabase

Service: Amazon Timestream Write

Deletes a given Timestream database. *This is an irreversible operation. After a database is deleted, the time-series data from its tables cannot be recovered.*

> **Note**
>
> All tables in the database must be deleted first, or a ValidationException error will be thrown.
> Due to the nature of distributed retries, the operation can return either success or a ResourceNotFoundException. Clients should consider them equivalent.

See code sample for details.

## Request Syntax

```
{
   "DatabaseName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**DatabaseName**

The name of the Timestream database to be deleted.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# DeleteTable

Service: Amazon Timestream Write

Deletes a given Timestream table. This is an irreversible operation. After a Timestream database table is deleted, the time-series data stored in the table cannot be recovered.

> **Note**
>
> Due to the nature of distributed retries, the operation can return either success or a ResourceNotFoundException. Clients should consider them equivalent.

See code sample for details.

## Request Syntax

```
{
   "DatabaseName": "string",
   "TableName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**DatabaseName**

The name of the database where the Timestream database is to be deleted.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: Yes

**TableName**

The name of the Timestream table to be deleted.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# DescribeBatchLoadTask

Service: Amazon Timestream Write

Returns information about the batch load task, including configurations, mappings, progress, and other details. Service quotas apply. See code sample for details.

## Request Syntax

```
{
   "TaskId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

### TaskId

The ID of the batch load task.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 32.

Pattern: `[A-Z0-9]+`

Required: Yes

## Response Syntax

```
{
   "BatchLoadTaskDescription": {
      "CreationTime": number,
      "DataModelConfiguration": {
         "DataModel": {
            "DimensionMappings": [
               {
                  "DestinationColumn": "string",
                  "SourceColumn": "string"
               }
```

```
            ],
            "MeasureNameColumn": "string",
            "MixedMeasureMappings": [
               {
                  "MeasureName": "string",
                  "MeasureValueType": "string",
                  "MultiMeasureAttributeMappings": [
                     {
                        "MeasureValueType": "string",
                        "SourceColumn": "string",
                        "TargetMultiMeasureAttributeName": "string"
                     }
                  ],
                  "SourceColumn": "string",
                  "TargetMeasureName": "string"
               }
            ],
            "MultiMeasureMappings": {
               "MultiMeasureAttributeMappings": [
                  {
                     "MeasureValueType": "string",
                     "SourceColumn": "string",
                     "TargetMultiMeasureAttributeName": "string"
                  }
               ],
               "TargetMultiMeasureName": "string"
            },
            "TimeColumn": "string",
            "TimeUnit": "string"
         },
         "DataModelS3Configuration": {
            "BucketName": "string",
            "ObjectKey": "string"
         }
      },
      "DataSourceConfiguration": {
         "CsvConfiguration": {
            "ColumnSeparator": "string",
            "EscapeChar": "string",
            "NullValue": "string",
            "QuoteChar": "string",
            "TrimWhiteSpace": boolean
         },
         "DataFormat": "string",
```

```
         "DataSourceS3Configuration": {
            "BucketName": "string",
            "ObjectKeyPrefix": "string"
         }
      },
      "ErrorMessage": "string",
      "LastUpdatedTime": number,
      "ProgressReport": {
         "BytesMetered": number,
         "FileFailures": number,
         "ParseFailures": number,
         "RecordIngestionFailures": number,
         "RecordsIngested": number,
         "RecordsProcessed": number
      },
      "RecordVersion": number,
      "ReportConfiguration": {
         "ReportS3Configuration": {
            "BucketName": "string",
            "EncryptionOption": "string",
            "KmsKeyId": "string",
            "ObjectKeyPrefix": "string"
         }
      },
      "ResumableUntil": number,
      "TargetDatabaseName": "string",
      "TargetTableName": "string",
      "TaskId": "string",
      "TaskStatus": "string"
   }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### BatchLoadTaskDescription

Description of the batch load task.

Type: BatchLoadTaskDescription object

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++

- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# DescribeDatabase

Service: Amazon Timestream Write

Returns information about the database, including the database name, time that the database was created, and the total number of tables found within the database. Service quotas apply. See code sample for details.

## Request Syntax

```
{
   "DatabaseName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

### DatabaseName

The name of the Timestream database.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: Yes

## Response Syntax

```
{
   "Database": {
      "Arn": "string",
      "CreationTime": number,
      "DatabaseName": "string",
      "KmsKeyId": "string",
      "LastUpdatedTime": number,
      "TableCount": number
   }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Database**

The name of the Timestream table.

Type: Database object

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# DescribeEndpoints

Service: Amazon Timestream Write

Returns a list of available endpoints to make Timestream API calls against. This API operation is available through both the Write and Query APIs.

Because the Timestream SDKs are designed to transparently work with the service's architecture, including the management and mapping of the service endpoints, *we don't recommend that you use this API operation unless*:

- You are using VPC endpoints (AWS PrivateLink) with Timestream
- Your application uses a programming language that does not yet have SDK support
- You require better control over the client-side implementation

For detailed information on how and when to use and implement DescribeEndpoints, see The Endpoint Discovery Pattern.

## Response Syntax

```
{
   "Endpoints": [
      {
         "Address": "string",
         "CachePeriodInMinutes": number
      }
   ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Endpoints

An `Endpoints` object is returned when a `DescribeEndpoints` request is made.

Type: Array of Endpoint objects

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
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- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# DescribeTable

Service: Amazon Timestream Write

Returns information about the table, including the table name, database name, retention duration of the memory store and the magnetic store. Service quotas apply. See code sample for details.

## Request Syntax

```
{
   "DatabaseName": "string",
   "TableName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**DatabaseName**

The name of the Timestream database.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: Yes

**TableName**

The name of the Timestream table.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: Yes

## Response Syntax

```
{
   "Table": {
```

```
      "Arn": "string",
      "CreationTime": number,
      "DatabaseName": "string",
      "LastUpdatedTime": number,
      "MagneticStoreWriteProperties": {
         "EnableMagneticStoreWrites": boolean,
         "MagneticStoreRejectedDataLocation": {
            "S3Configuration": {
               "BucketName": "string",
               "EncryptionOption": "string",
               "KmsKeyId": "string",
               "ObjectKeyPrefix": "string"
            }
         }
      },
      "RetentionProperties": {
         "MagneticStoreRetentionPeriodInDays": number,
         "MemoryStoreRetentionPeriodInHours": number
      },
      "Schema": {
         "CompositePartitionKey": [
            {
               "EnforcementInRecord": "string",
               "Name": "string",
               "Type": "string"
            }
         ]
      },
      "TableName": "string",
      "TableStatus": "string"
   }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Table

The Timestream table.

Type: Table object

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# ListBatchLoadTasks

Service: Amazon Timestream Write

Provides a list of batch load tasks, along with the name, status, when the task is resumable until, and other details. See code sample for details.

## Request Syntax

```
{
   "MaxResults": number,
   "NextToken": "string",
   "TaskStatus": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**MaxResults**

The total number of items to return in the output. If the total number of items available is more than the value specified, a NextToken is provided in the output. To resume pagination, provide the NextToken value as argument of a subsequent API invocation.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

**NextToken**

A token to specify where to start paginating. This is the NextToken from a previously truncated response.

Type: String

Required: No

**TaskStatus**

Status of the batch load task.

Type: String

Valid Values: `CREATED | IN_PROGRESS | FAILED | SUCCEEDED | PROGRESS_STOPPED | PENDING_RESUME`

Required: No

## Response Syntax

```
{
   "BatchLoadTasks": [
      {
         "CreationTime": number,
         "DatabaseName": "string",
         "LastUpdatedTime": number,
         "ResumableUntil": number,
         "TableName": "string",
         "TaskId": "string",
         "TaskStatus": "string"
      }
   ],
   "NextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**BatchLoadTasks**

A list of batch load task details.

Type: Array of BatchLoadTask objects

**NextToken**

A token to specify where to start paginating. Provide the next ListBatchLoadTasksRequest.

Type: String

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2

- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# ListDatabases

Service: Amazon Timestream Write

Returns a list of your Timestream databases. Service quotas apply. See code sample for details.

## Request Syntax

```
{
   "MaxResults": number,
   "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**MaxResults**

The total number of items to return in the output. If the total number of items available is more than the value specified, a NextToken is provided in the output. To resume pagination, provide the NextToken value as argument of a subsequent API invocation.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 20.

Required: No

**NextToken**

The pagination token. To resume pagination, provide the NextToken value as argument of a subsequent API invocation.

Type: String

Required: No

## Response Syntax

```
{
```

```
   "Databases": [
      {
         "Arn": "string",
         "CreationTime": number,
         "DatabaseName": "string",
         "KmsKeyId": "string",
         "LastUpdatedTime": number,
         "TableCount": number
      }
   ],
   "NextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Databases**

A list of database names.

Type: Array of Database objects

**NextToken**

The pagination token. This parameter is returned when the response is truncated.

Type: String

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# ListTables

Service: Amazon Timestream Write

Provides a list of tables, along with the name, status, and retention properties of each table. See code sample for details.

## Request Syntax

```
{
   "DatabaseName": "string",
   "MaxResults": number,
   "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**DatabaseName**

The name of the Timestream database.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: No

**MaxResults**

The total number of items to return in the output. If the total number of items available is more than the value specified, a NextToken is provided in the output. To resume pagination, provide the NextToken value as argument of a subsequent API invocation.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 20.

Required: No

### NextToken

The pagination token. To resume pagination, provide the NextToken value as argument of a subsequent API invocation.

Type: String

Required: No

## Response Syntax

```
{
   "NextToken": "string",
   "Tables": [
      {
         "Arn": "string",
         "CreationTime": number,
         "DatabaseName": "string",
         "LastUpdatedTime": number,
         "MagneticStoreWriteProperties": {
            "EnableMagneticStoreWrites": boolean,
            "MagneticStoreRejectedDataLocation": {
               "S3Configuration": {
                  "BucketName": "string",
                  "EncryptionOption": "string",
                  "KmsKeyId": "string",
                  "ObjectKeyPrefix": "string"
               }
            }
         },
         "RetentionProperties": {
            "MagneticStoreRetentionPeriodInDays": number,
            "MemoryStoreRetentionPeriodInHours": number
         },
         "Schema": {
            "CompositePartitionKey": [
               {
                  "EnforcementInRecord": "string",
                  "Name": "string",
                  "Type": "string"
               }
            ]
         },
```

```
            "TableName": "string",
            "TableStatus": "string"
        }
    ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**NextToken**

A token to specify where to start paginating. This is the NextToken from a previously truncated response.

Type: String

**Tables**

A list of tables.

Type: Array of Table objects

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# ListTagsForResource

Service: Amazon Timestream Write

Lists all tags on a Timestream resource.

## Request Syntax

```
{
   "ResourceARN": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**ResourceARN**

The Timestream resource with tags to be listed. This value is an Amazon Resource Name (ARN).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1011.

Required: Yes

## Response Syntax

```
{
   "Tags": [
      {
         "Key": "string",
         "Value": "string"
      }
   ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Tags**

The tags currently associated with the Timestream resource.

Type: Array of Tag objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# ResumeBatchLoadTask

Service: Amazon Timestream Write

## Request Syntax

```
{
   "TaskId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

### TaskId

The ID of the batch load task to resume.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 32.

Pattern: `[A-Z0-9]+`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

### AccessDeniedException

You are not authorized to perform this action.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3

- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# TagResource

Service: Amazon Timestream Write

Associates a set of tags with a Timestream resource. You can then activate these user-defined tags so that they appear on the Billing and Cost Management console for cost allocation tracking.

## Request Syntax

```
{
   "ResourceARN": "string",
   "Tags": [
      {
         "Key": "string",
         "Value": "string"
      }
   ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**ResourceARN**

Identifies the Timestream resource to which tags should be added. This value is an Amazon Resource Name (ARN).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1011.

Required: Yes

**Tags**

The tags to be assigned to the Timestream resource.

Type: Array of Tag objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ServiceQuotaExceededException**

The instance quota of resource exceeded for this account.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# UntagResource

Service: Amazon Timestream Write

Removes the association of tags from a Timestream resource.

## Request Syntax

```
{
   "ResourceARN": "string",
   "TagKeys": [ "string" ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**ResourceARN**

The Timestream resource that the tags will be removed from. This value is an Amazon Resource Name (ARN).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1011.

Required: Yes

**TagKeys**

A list of tags keys. Existing tags of the resource whose keys are members of this list will be removed from the Timestream resource.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ServiceQuotaExceededException**

The instance quota of resource exceeded for this account.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# UpdateDatabase

Service: Amazon Timestream Write

Modifies the AWS KMS key for an existing database. While updating the database, you must specify the database name and the identifier of the new AWS KMS key to be used (`KmsKeyId`). If there are any concurrent `UpdateDatabase` requests, first writer wins.

See code sample for details.

## Request Syntax

```
{
   "DatabaseName": "string",
   "KmsKeyId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

### DatabaseName

The name of the database.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: Yes

### KmsKeyId

The identifier of the new AWS KMS key (`KmsKeyId`) to be used to encrypt the data stored in the database. If the `KmsKeyId` currently registered with the database is the same as the `KmsKeyId` in the request, there will not be any update.

You can specify the `KmsKeyId` using any of the following:

- Key ID: `1234abcd-12ab-34cd-56ef-1234567890ab`
- Key ARN: `arn:aws:kms:us-east-1:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab`

- Alias name: `alias/ExampleAlias`
- Alias ARN: `arn:aws:kms:us-east-1:111122223333:alias/ExampleAlias`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

## Response Syntax

```
{
   "Database": {
      "Arn": "string",
      "CreationTime": number,
      "DatabaseName": "string",
      "KmsKeyId": "string",
      "LastUpdatedTime": number,
      "TableCount": number
   }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Database

A top-level container for a table. Databases and tables are the fundamental management concepts in Amazon Timestream. All tables in a database are encrypted with the same AWS KMS key.

Type: Database object

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ServiceQuotaExceededException**

The instance quota of resource exceeded for this account.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# UpdateTable

Service: Amazon Timestream Write

Modifies the retention duration of the memory store and magnetic store for your Timestream table. Note that the change in retention duration takes effect immediately. For example, if the retention period of the memory store was initially set to 2 hours and then changed to 24 hours, the memory store will be capable of holding 24 hours of data, but will be populated with 24 hours of data 22 hours after this change was made. Timestream does not retrieve data from the magnetic store to populate the memory store.

See code sample for details.

## Request Syntax

```
{
   "DatabaseName": "string",
   "MagneticStoreWriteProperties": {
      "EnableMagneticStoreWrites": boolean,
      "MagneticStoreRejectedDataLocation": {
         "S3Configuration": {
            "BucketName": "string",
            "EncryptionOption": "string",
            "KmsKeyId": "string",
            "ObjectKeyPrefix": "string"
         }
      }
   },
   "RetentionProperties": {
      "MagneticStoreRetentionPeriodInDays": number,
      "MemoryStoreRetentionPeriodInHours": number
   },
   "Schema": {
      "CompositePartitionKey": [
         {
            "EnforcementInRecord": "string",
            "Name": "string",
            "Type": "string"
         }
      ]
   },
   "TableName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**DatabaseName**

The name of the Timestream database.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: Yes

**MagneticStoreWriteProperties**

Contains properties to set on the table when enabling magnetic store writes.

Type: MagneticStoreWriteProperties object

Required: No

**RetentionProperties**

The retention duration of the memory store and the magnetic store.

Type: RetentionProperties object

Required: No

**Schema**

The schema of the table.

Type: Schema object

Required: No

**TableName**

The name of the Timestream table.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: Yes

## Response Syntax

```
{
   "Table": {
      "Arn": "string",
      "CreationTime": number,
      "DatabaseName": "string",
      "LastUpdatedTime": number,
      "MagneticStoreWriteProperties": {
         "EnableMagneticStoreWrites": boolean,
         "MagneticStoreRejectedDataLocation": {
            "S3Configuration": {
               "BucketName": "string",
               "EncryptionOption": "string",
               "KmsKeyId": "string",
               "ObjectKeyPrefix": "string"
            }
         }
      },
      "RetentionProperties": {
         "MagneticStoreRetentionPeriodInDays": number,
         "MemoryStoreRetentionPeriodInHours": number
      },
      "Schema": {
         "CompositePartitionKey": [
            {
               "EnforcementInRecord": "string",
               "Name": "string",
               "Type": "string"
            }
         ]
      },
      "TableName": "string",
      "TableStatus": "string"
   }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Table**

The updated Timestream table.

Type: Table object

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# WriteRecords

Service: Amazon Timestream Write

Enables you to write your time-series data into Timestream. You can specify a single data point or a batch of data points to be inserted into the system. Timestream offers you a flexible schema that auto detects the column names and data types for your Timestream tables based on the dimension names and data types of the data points you specify when invoking writes into the database.

Timestream supports eventual consistency read semantics. This means that when you query data immediately after writing a batch of data into Timestream, the query results might not reflect the results of a recently completed write operation. The results may also include some stale data. If you repeat the query request after a short time, the results should return the latest data. Service quotas apply.

See code sample for details.

**Upserts**

You can use the `Version` parameter in a `WriteRecords` request to update data points. Timestream tracks a version number with each record. `Version` defaults to `1` when it's not specified for the record in the request. Timestream updates an existing record's measure value along with its `Version` when it receives a write request with a higher `Version` number for that record. When it receives an update request where the measure value is the same as that of the existing record, Timestream still updates `Version`, if it is greater than the existing value of `Version`. You can update a data point as many times as desired, as long as the value of `Version` continuously increases.

For example, suppose you write a new record without indicating `Version` in the request. Timestream stores this record, and set `Version` to `1`. Now, suppose you try to update this record with a `WriteRecords` request of the same record with a different measure value but, like before, do not provide `Version`. In this case, Timestream will reject this update with a `RejectedRecordsException` since the updated record's version is not greater than the existing value of Version.

However, if you were to resend the update request with `Version` set to `2`, Timestream would then succeed in updating the record's value, and the `Version` would be set to `2`. Next, suppose you sent a `WriteRecords` request with this same record and an identical measure value, but with `Version` set to `3`. In this case, Timestream would only update `Version` to `3`. Any further

updates would need to send a version number greater than 3, or the update requests would receive a `RejectedRecordsException`.

## Request Syntax

```
{
   "CommonAttributes": {
      "Dimensions": [
         {
            "DimensionValueType": "string",
            "Name": "string",
            "Value": "string"
         }
      ],
      "MeasureName": "string",
      "MeasureValue": "string",
      "MeasureValues": [
         {
            "Name": "string",
            "Type": "string",
            "Value": "string"
         }
      ],
      "MeasureValueType": "string",
      "Time": "string",
      "TimeUnit": "string",
      "Version": number
   },
   "DatabaseName": "string",
   "Records": [
      {
         "Dimensions": [
            {
               "DimensionValueType": "string",
               "Name": "string",
               "Value": "string"
            }
         ],
         "MeasureName": "string",
         "MeasureValue": "string",
         "MeasureValues": [
            {
               "Name": "string",
```

```
                "Type": "string",
                "Value": "string"
            }
        ],
        "MeasureValueType": "string",
        "Time": "string",
        "TimeUnit": "string",
        "Version": number
    }
  ],
  "TableName": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

### CommonAttributes

A record that contains the common measure, dimension, time, and version attributes shared across all the records in the request. The measure and dimension attributes specified will be merged with the measure and dimension attributes in the records object when the data is written into Timestream. Dimensions may not overlap, or a `ValidationException` will be thrown. In other words, a record must contain dimensions with unique names.

Type: Record object

Required: No

### DatabaseName

The name of the Timestream database.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: Yes

### Records

An array of records that contain the unique measure, dimension, time, and version attributes for each time-series data point.

Type: Array of Record objects

Array Members: Minimum number of 1 item. Maximum number of 100 items.

Required: Yes

**TableName**

The name of the Timestream table.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: Yes

## Response Syntax

```
{
   "RecordsIngested": {
      "MagneticStore": number,
      "MemoryStore": number,
      "Total": number
   }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**RecordsIngested**

Information on the records ingested by this request.

Type: RecordsIngested object

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You are not authorized to perform this action.

HTTP Status Code: 400

**InternalServerException**

Timestream was unable to fully process this request because of an internal server error.

HTTP Status Code: 500

**InvalidEndpointException**

The requested endpoint was not valid.

HTTP Status Code: 400

**RejectedRecordsException**

WriteRecords would throw this exception in the following cases:

- Records with duplicate data where there are multiple records with the same dimensions, timestamps, and measure names but:
  - Measure values are different
  - Version is not present in the request *or* the value of version in the new record is equal to or lower than the existing value

  In this case, if Timestream rejects data, the `ExistingVersion` field in the `RejectedRecords` response will indicate the current record's version. To force an update, you can resend the request with a version for the record set to a value greater than the `ExistingVersion`.
- Records with timestamps that lie outside the retention duration of the memory store.
- Records with dimensions or measures that exceed the Timestream defined limits.

For more information, see Quotas in the Amazon Timestream Developer Guide.

**RejectedRecords**

HTTP Status Code: 400

**ResourceNotFoundException**

The operation tried to access a nonexistent resource. The resource might not be specified correctly, or its status might not be ACTIVE.

HTTP Status Code: 400

**ThrottlingException**

Too many requests were made by a user and they exceeded the service quotas. The request was throttled.

HTTP Status Code: 400

**ValidationException**

An invalid or malformed request.

HTTP Status Code: 400

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

## Amazon Timestream Query

The following actions are supported by Amazon Timestream Query:

- CancelQuery
- CreateScheduledQuery

- DeleteScheduledQuery
- DescribeAccountSettings
- DescribeEndpoints
- DescribeScheduledQuery
- ExecuteScheduledQuery
- ListScheduledQueries
- ListTagsForResource
- PrepareQuery
- Query
- TagResource
- UntagResource
- UpdateAccountSettings
- UpdateScheduledQuery

# CancelQuery

Service: Amazon Timestream Query

Cancels a query that has been issued. Cancellation is provided only if the query has not completed running before the cancellation request was issued. Because cancellation is an idempotent operation, subsequent cancellation requests will return a `CancellationMessage`, indicating that the query has already been canceled. See code sample for details.

## Request Syntax

```
{
   "QueryId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

### QueryId

The ID of the query that needs to be cancelled. `QueryID` is returned as part of the query result.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[a-zA-Z0-9]+`

Required: Yes

## Response Syntax

```
{
   "CancellationMessage": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**CancellationMessage**

A `CancellationMessage` is returned when a `CancelQuery` request for the query specified by `QueryId` has already been issued.

Type: String

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You do not have the necessary permissions to access the account settings.

HTTP Status Code: 400

**InternalServerException**

An internal server error occurred while processing the request.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# CreateScheduledQuery

Service: Amazon Timestream Query

Create a scheduled query that will be run on your behalf at the configured schedule. Timestream assumes the execution role provided as part of the `ScheduledQueryExecutionRoleArn` parameter to run the query. You can use the `NotificationConfiguration` parameter to configure notification for your scheduled query operations.

## Request Syntax

```
{
   "ClientToken": "string",
   "ErrorReportConfiguration": {
      "S3Configuration": {
         "BucketName": "string",
         "EncryptionOption": "string",
         "ObjectKeyPrefix": "string"
      }
   },
   "KmsKeyId": "string",
   "Name": "string",
   "NotificationConfiguration": {
      "SnsConfiguration": {
         "TopicArn": "string"
      }
   },
   "QueryString": "string",
   "ScheduleConfiguration": {
      "ScheduleExpression": "string"
   },
   "ScheduledQueryExecutionRoleArn": "string",
   "Tags": [
      {
         "Key": "string",
         "Value": "string"
      }
   ],
   "TargetConfiguration": {
      "TimestreamConfiguration": {
         "DatabaseName": "string",
         "DimensionMappings": [
            {
```

```
                "DimensionValueType": "string",
                "Name": "string"
             }
          ],
          "MeasureNameColumn": "string",
          "MixedMeasureMappings": [
             {
                "MeasureName": "string",
                "MeasureValueType": "string",
                "MultiMeasureAttributeMappings": [
                   {
                      "MeasureValueType": "string",
                      "SourceColumn": "string",
                      "TargetMultiMeasureAttributeName": "string"
                   }
                ],
                "SourceColumn": "string",
                "TargetMeasureName": "string"
             }
          ],
          "MultiMeasureMappings": {
             "MultiMeasureAttributeMappings": [
                {
                   "MeasureValueType": "string",
                   "SourceColumn": "string",
                   "TargetMultiMeasureAttributeName": "string"
                }
             ],
             "TargetMultiMeasureName": "string"
          },
          "TableName": "string",
          "TimeColumn": "string"
       }
    }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

### ClientToken

Using a ClientToken makes the call to CreateScheduledQuery idempotent, in other words, making the same request repeatedly will produce the same result. Making multiple identical CreateScheduledQuery requests has the same effect as making a single request.

- If CreateScheduledQuery is called without a `ClientToken`, the Query SDK generates a `ClientToken` on your behalf.
- After 8 hours, any request with the same `ClientToken` is treated as a new request.

Type: String

Length Constraints: Minimum length of 32. Maximum length of 128.

Required: No

### ErrorReportConfiguration

Configuration for error reporting. Error reports will be generated when a problem is encountered when writing the query results.

Type: ErrorReportConfiguration object

Required: Yes

### KmsKeyId

The Amazon KMS key used to encrypt the scheduled query resource, at-rest. If the Amazon KMS key is not specified, the scheduled query resource will be encrypted with a Timestream owned Amazon KMS key. To specify a KMS key, use the key ID, key ARN, alias name, or alias ARN. When using an alias name, prefix the name with *alias/*

If ErrorReportConfiguration uses SSE_KMS as encryption type, the same KmsKeyId is used to encrypt the error report at rest.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

### Name

Name of the scheduled query.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[a-zA-Z0-9|!\-_*'\(\)]([a-zA-Z0-9]|[!\-_*'\(\)\/.])+`

Required: Yes

**NotificationConfiguration**

Notification configuration for the scheduled query. A notification is sent by Timestream when a query run finishes, when the state is updated or when you delete it.

Type: NotificationConfiguration object

Required: Yes

**QueryString**

The query string to run. Parameter names can be specified in the query string `@` character followed by an identifier. The named Parameter `@scheduled_runtime` is reserved and can be used in the query to get the time at which the query is scheduled to run.

The timestamp calculated according to the ScheduleConfiguration parameter, will be the value of `@scheduled_runtime` paramater for each query run. For example, consider an instance of a scheduled query executing on 2021-12-01 00:00:00. For this instance, the `@scheduled_runtime` parameter is initialized to the timestamp 2021-12-01 00:00:00 when invoking the query.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 262144.

Required: Yes

**ScheduleConfiguration**

The schedule configuration for the query.

Type: ScheduleConfiguration object

Required: Yes

**ScheduledQueryExecutionRoleArn**

The ARN for the IAM role that Timestream will assume when running the scheduled query.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

**Tags**

A list of key-value pairs to label the scheduled query.

Type: Array of Tag objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: No

**TargetConfiguration**

Configuration used for writing the result of a query.

Type: TargetConfiguration object

Required: No

## Response Syntax

```
{
   "Arn": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Arn**

ARN for the created scheduled query.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You do not have the necessary permissions to access the account settings.

HTTP Status Code: 400

**ConflictException**

Unable to poll results for a cancelled query.

HTTP Status Code: 400

**InternalServerException**

An internal server error occurred while processing the request.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ServiceQuotaExceededException**

You have exceeded the service quota.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# DeleteScheduledQuery

Service: Amazon Timestream Query

Deletes a given scheduled query. This is an irreversible operation.

## Request Syntax

```
{
   "ScheduledQueryArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**ScheduledQueryArn**

The ARN of the scheduled query.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You do not have the necessary permissions to access the account settings.

HTTP Status Code: 400

**InternalServerException**

An internal server error occurred while processing the request.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ResourceNotFoundException**

The requested resource could not be found.

**ScheduledQueryArn**

The ARN of the scheduled query.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2

- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# DescribeAccountSettings

Service: Amazon Timestream Query

Describes the settings for your account that include the query pricing model and the configured maximum TCUs the service can use for your query workload.

You're charged only for the duration of compute units used for your workloads.

## Response Syntax

```
{
   "MaxQueryTCU": number,
   "QueryCompute": {
      "ComputeMode": "string",
      "ProvisionedCapacity": {
         "ActiveQueryTCU": number,
         "LastUpdate": {
            "Status": "string",
            "StatusMessage": "string",
            "TargetQueryTCU": number
         },
         "NotificationConfiguration": {
            "RoleArn": "string",
            "SnsConfiguration": {
               "TopicArn": "string"
            }
         }
      }
   },
   "QueryPricingModel": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### MaxQueryTCU

The maximum number of Timestream compute units (TCUs) the service will use at any point in time to serve your queries. To run queries, you must set a minimum capacity of 4 TCU. You

can set the maximum number of TCU in multiples of 4, for example, 4, 8, 16, 32, and so on. This configuration is applicable only for on-demand usage of (TCUs).

Type: Integer

**QueryCompute**

An object that contains the usage settings for Timestream Compute Units (TCUs) in your account for the query workload. QueryCompute is available only in the Asia Pacific (Mumbai) region.

Type: QueryComputeResponse object

**QueryPricingModel**

The pricing model for queries in your account.

> **Note**
>
> The `QueryPricingModel` parameter is used by several Timestream operations; however, the `UpdateAccountSettings` API operation doesn't recognize any values other than `COMPUTE_UNITS`.

Type: String

Valid Values: `BYTES_SCANNED | COMPUTE_UNITS`

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You do not have the necessary permissions to access the account settings.

HTTP Status Code: 400

**InternalServerException**

An internal server error occurred while processing the request.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# DescribeEndpoints

Service: Amazon Timestream Query

DescribeEndpoints returns a list of available endpoints to make Timestream API calls against. This API is available through both Write and Query.

Because the Timestream SDKs are designed to transparently work with the service's architecture, including the management and mapping of the service endpoints, *it is not recommended that you use this API unless*:

- You are using VPC endpoints (AWS PrivateLink) with Timestream
- Your application uses a programming language that does not yet have SDK support
- You require better control over the client-side implementation

For detailed information on how and when to use and implement DescribeEndpoints, see The Endpoint Discovery Pattern.

## Response Syntax

```
{
   "Endpoints": [
      {
         "Address": "string",
         "CachePeriodInMinutes": number
      }
   ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### Endpoints

An `Endpoints` object is returned when a `DescribeEndpoints` request is made.

Type: Array of Endpoint objects

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**InternalServerException**

An internal server error occurred while processing the request.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# DescribeScheduledQuery

Service: Amazon Timestream Query

Provides detailed information about a scheduled query.

## Request Syntax

```
{
   "ScheduledQueryArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

### ScheduledQueryArn

The ARN of the scheduled query.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

## Response Syntax

```
{
   "ScheduledQuery": {
      "Arn": "string",
      "CreationTime": number,
      "ErrorReportConfiguration": {
         "S3Configuration": {
            "BucketName": "string",
            "EncryptionOption": "string",
            "ObjectKeyPrefix": "string"
         }
      },
      "KmsKeyId": "string",
      "LastRunSummary": {
```

```
      "ErrorReportLocation": {
         "S3ReportLocation": {
            "BucketName": "string",
            "ObjectKey": "string"
         }
      },
      "ExecutionStats": {
         "BytesMetered": number,
         "CumulativeBytesScanned": number,
         "DataWrites": number,
         "ExecutionTimeInMillis": number,
         "QueryResultRows": number,
         "RecordsIngested": number
      },
      "FailureReason": "string",
      "InvocationTime": number,
      "QueryInsightsResponse": {
         "OutputBytes": number,
         "OutputRows": number,
         "QuerySpatialCoverage": {
            "Max": {
               "PartitionKey": [ "string" ],
               "TableArn": "string",
               "Value": number
            }
         },
         "QueryTableCount": number,
         "QueryTemporalRange": {
            "Max": {
               "TableArn": "string",
               "Value": number
            }
         }
      },
      "RunStatus": "string",
      "TriggerTime": number
   },
   "Name": "string",
   "NextInvocationTime": number,
   "NotificationConfiguration": {
      "SnsConfiguration": {
         "TopicArn": "string"
      }
   },
```

```
      "PreviousInvocationTime": number,
      "QueryString": "string",
      "RecentlyFailedRuns": [
         {
            "ErrorReportLocation": {
               "S3ReportLocation": {
                  "BucketName": "string",
                  "ObjectKey": "string"
               }
            },
            "ExecutionStats": {
               "BytesMetered": number,
               "CumulativeBytesScanned": number,
               "DataWrites": number,
               "ExecutionTimeInMillis": number,
               "QueryResultRows": number,
               "RecordsIngested": number
            },
            "FailureReason": "string",
            "InvocationTime": number,
            "QueryInsightsResponse": {
               "OutputBytes": number,
               "OutputRows": number,
               "QuerySpatialCoverage": {
                  "Max": {
                     "PartitionKey": [ "string" ],
                     "TableArn": "string",
                     "Value": number
                  }
               },
               "QueryTableCount": number,
               "QueryTemporalRange": {
                  "Max": {
                     "TableArn": "string",
                     "Value": number
                  }
               }
            },
            "RunStatus": "string",
            "TriggerTime": number
         }
      ],
      "ScheduleConfiguration": {
         "ScheduleExpression": "string"
```

```
      },
      "ScheduledQueryExecutionRoleArn": "string",
      "State": "string",
      "TargetConfiguration": {
         "TimestreamConfiguration": {
            "DatabaseName": "string",
            "DimensionMappings": [
               {
                  "DimensionValueType": "string",
                  "Name": "string"
               }
            ],
            "MeasureNameColumn": "string",
            "MixedMeasureMappings": [
               {
                  "MeasureName": "string",
                  "MeasureValueType": "string",
                  "MultiMeasureAttributeMappings": [
                     {
                        "MeasureValueType": "string",
                        "SourceColumn": "string",
                        "TargetMultiMeasureAttributeName": "string"
                     }
                  ],
                  "SourceColumn": "string",
                  "TargetMeasureName": "string"
               }
            ],
            "MultiMeasureMappings": {
               "MultiMeasureAttributeMappings": [
                  {
                     "MeasureValueType": "string",
                     "SourceColumn": "string",
                     "TargetMultiMeasureAttributeName": "string"
                  }
               ],
               "TargetMultiMeasureName": "string"
            },
            "TableName": "string",
            "TimeColumn": "string"
         }
      }
   }
```

```
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**ScheduledQuery**

The scheduled query.

Type: ScheduledQueryDescription object

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You do not have the necessary permissions to access the account settings.

HTTP Status Code: 400

**InternalServerException**

An internal server error occurred while processing the request.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ResourceNotFoundException**

The requested resource could not be found.

**ScheduledQueryArn**

The ARN of the scheduled query.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# ExecuteScheduledQuery

Service: Amazon Timestream Query

You can use this API to run a scheduled query manually.

If you enabled `QueryInsights`, this API also returns insights and metrics related to the query that you executed as part of an Amazon SNS notification. `QueryInsights` helps with performance tuning of your query. For more information about `QueryInsights`, see Using query insights to optimize queries in Amazon Timestream.

## Request Syntax

```
{
   "ClientToken": "string",
   "InvocationTime": number,
   "QueryInsights": {
      "Mode": "string"
   },
   "ScheduledQueryArn": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

### ClientToken

Not used.

Type: String

Length Constraints: Minimum length of 32. Maximum length of 128.

Required: No

### InvocationTime

The timestamp in UTC. Query will be run as if it was invoked at this timestamp.

Type: Timestamp

Required: Yes

**QueryInsights**

Encapsulates settings for enabling `QueryInsights`.

Enabling `QueryInsights` returns insights and metrics as a part of the Amazon SNS notification for the query that you executed. You can use `QueryInsights` to tune your query performance and cost.

Type: ScheduledQueryInsights object

Required: No

**ScheduledQueryArn**

ARN of the scheduled query.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You do not have the necessary permissions to access the account settings.

HTTP Status Code: 400

**InternalServerException**

An internal server error occurred while processing the request.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ResourceNotFoundException**

The requested resource could not be found.

**ScheduledQueryArn**

The ARN of the scheduled query.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## Examples

### Scheduled query notification message for the ENABLED_WITH_RATE_CONTROL mode

The following example shows a successful scheduled query notification message for the `ENABLED_WITH_RATE_CONTROL` mode of the `QueryInsights` parameter.

```
"SuccessNotificationMessage": {
    "type": "MANUAL_TRIGGER_SUCCESS",
    "arn": "arn:aws:timestream:<Region>:<Account>:scheduled-query/sq-test-49c6ed55-
c2e7-4cc2-9956-4a0ecea13420-80e05b035236a4c3",
    "scheduledQueryRunSummary": {
        "invocationEpochSecond": 1723710546,
        "triggerTimeMillis": 1723710547490,
        "runStatus": "MANUAL_TRIGGER_SUCCESS",
        "executionStats": {
            "executionTimeInMillis": 17343,
```

```
            "dataWrites": 1024,
            "bytesMetered": 0,
            "cumulativeBytesScanned": 600,
            "recordsIngested": 1,
            "queryResultRows": 1
        },
        "queryInsightsResponse": {
            "querySpatialCoverage": {
                "max": {
                    "value": 1.0,
                    "tableArn": "arn:aws:timestream:<Region>:<Account>:database/BaseDb/
table/BaseTable",
                    "partitionKey": [
                        "measure_name"
                    ]
                }
            },
            "queryTemporalRange": {
                "max": {
                    "value": 2399999999999,
                    "tableArn": "arn:aws:timestream:<Region>:<Account>:database/BaseDb/
table/BaseTable"
                }
            },
            "queryTableCount": 1,
            "outputRows": 1,
            "outputBytes": 59
        }
    }
}
```

### Scheduled query notification message for the DISABLED mode

The following example shows a successful scheduled query notification message for the `DISABLED` mode of the `QueryInsights` parameter.

```
"SuccessNotificationMessage": {
    "type": "MANUAL_TRIGGER_SUCCESS",
    "arn": "arn:aws:timestream:<Region>:<Account>:scheduled-query/sq-test-
fa109d9e-6528-4a0d-ac40-482fa05e657f-140faaeecdc5b2a7",
    "scheduledQueryRunSummary": {
        "invocationEpochSecond": 1723711401,
        "triggerTimeMillis": 1723711402144,
```

```
        "runStatus": "MANUAL_TRIGGER_SUCCESS",
        "executionStats": {
            "executionTimeInMillis": 17992,
            "dataWrites": 1024,
            "bytesMetered": 0,
            "cumulativeBytesScanned": 600,
            "recordsIngested": 1,
            "queryResultRows": 1
        }
    }
}
```

**Failure notification message for the ENABLED_WITH_RATE_CONTROL mode**

The following example shows a failed scheduled query notification message for the ENABLED_WITH_RATE_CONTROL mode of the QueryInsights parameter.

```
"FailureNotificationMessage": {
    "type": "MANUAL_TRIGGER_FAILURE",
    "arn": "arn:aws:timestream:<Region>:<Account>:scheduled-query/sq-test-
b261670d-790c-4116-9db5-0798071b18b1-b7e27a1d79be226d",
    "scheduledQueryRunSummary": {
        "invocationEpochSecond": 1727915513,
        "triggerTimeMillis": 1727915513894,
        "runStatus": "MANUAL_TRIGGER_FAILURE",
        "executionStats": {
            "executionTimeInMillis": 10777,
            "dataWrites": 0,
            "bytesMetered": 0,
            "cumulativeBytesScanned": 0,
            "recordsIngested": 0,
            "queryResultRows": 4
        },
        "errorReportLocation": {
            "s3ReportLocation": {
                "bucketName": "amzn-s3-demo-bucket",
                "objectKey": "4my-organization-f7a3c5d065a1a95e/1727915513/
MANUAL/1727915513894/5e14b3df-b147-49f4-9331-784f749b68ae"
            }
        },
        "failureReason": "Schedule encountered some errors and is incomplete. Please
 take a look at error report for further details"
    }
```

```
}
```

### Failure notification message for the DISABLED mode

The following example shows a failed scheduled query notification message for the `DISABLED` mode of the `QueryInsights` parameter.

```
"FailureNotificationMessage": {
    "type": "MANUAL_TRIGGER_FAILURE",
    "arn": "arn:aws:timestream:<Region>:<Account>:scheduled-query/sq-test-
b261670d-790c-4116-9db5-0798071b18b1-b7e27a1d79be226d",
    "scheduledQueryRunSummary": {
        "invocationEpochSecond": 1727915194,
        "triggerTimeMillis": 1727915195119,
        "runStatus": "MANUAL_TRIGGER_FAILURE",
        "executionStats": {
            "executionTimeInMillis": 10777,
            "dataWrites": 0,
            "bytesMetered": 0,
            "cumulativeBytesScanned": 0,
            "recordsIngested": 0,
            "queryResultRows": 4
        },
        "errorReportLocation": {
            "s3ReportLocation": {
                "bucketName": "amzn-s3-demo-bucket",
                "objectKey": "4my-organization-b7e27a1d79be226d/1727915194/
MANUAL/1727915195119/08dea9f5-9a0a-4e63-a5f7-ded23247bb98"
            }
        },
        "failureReason": "Schedule encountered some errors and is incomplete. Please
 take a look at error report for further details"
    }
}
```

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4

- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# ListScheduledQueries

Service: Amazon Timestream Query

Gets a list of all scheduled queries in the caller's Amazon account and Region. `ListScheduledQueries` is eventually consistent.

## Request Syntax

```
{
   "MaxResults": number,
   "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**MaxResults**

The maximum number of items to return in the output. If the total number of items available is more than the value specified, a `NextToken` is provided in the output. To resume pagination, provide the `NextToken` value as the argument to the subsequent call to `ListScheduledQueriesRequest`.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

**NextToken**

A pagination token to resume pagination.

Type: String

Required: No

## Response Syntax

```
{
```

```
   "NextToken": "string",
   "ScheduledQueries": [
      {
         "Arn": "string",
         "CreationTime": number,
         "ErrorReportConfiguration": {
            "S3Configuration": {
               "BucketName": "string",
               "EncryptionOption": "string",
               "ObjectKeyPrefix": "string"
            }
         },
         "LastRunStatus": "string",
         "Name": "string",
         "NextInvocationTime": number,
         "PreviousInvocationTime": number,
         "State": "string",
         "TargetDestination": {
            "TimestreamDestination": {
               "DatabaseName": "string",
               "TableName": "string"
            }
         }
      }
   ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### NextToken

A token to specify where to start paginating. This is the NextToken from a previously truncated response.

Type: String

### ScheduledQueries

A list of scheduled queries.

Type: Array of ScheduledQuery objects

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You do not have the necessary permissions to access the account settings.

HTTP Status Code: 400

**InternalServerException**

An internal server error occurred while processing the request.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4

- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# ListTagsForResource

Service: Amazon Timestream Query

List all tags on a Timestream query resource.

## Request Syntax

```
{
   "MaxResults": number,
   "NextToken": "string",
   "ResourceARN": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**MaxResults**

The maximum number of tags to return.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 200.

Required: No

**NextToken**

A pagination token to resume pagination.

Type: String

Required: No

**ResourceARN**

The Timestream resource with tags to be listed. This value is an Amazon Resource Name (ARN).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

## Response Syntax

```
{
   "NextToken": "string",
   "Tags": [
      {
         "Key": "string",
         "Value": "string"
      }
   ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**NextToken**

A pagination token to resume pagination with a subsequent call to `ListTagsForResourceResponse`.

Type: String

**Tags**

The tags currently associated with the Timestream resource.

Type: Array of Tag objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ResourceNotFoundException**

The requested resource could not be found.

**ScheduledQueryArn**

The ARN of the scheduled query.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# PrepareQuery

Service: Amazon Timestream Query

A synchronous operation that allows you to submit a query with parameters to be stored by Timestream for later running. Timestream only supports using this operation with `ValidateOnly` set to `true`.

## Request Syntax

```
{
   "QueryString": "string",
   "ValidateOnly": boolean
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**QueryString**

The Timestream query string that you want to use as a prepared statement. Parameter names can be specified in the query string @ character followed by an identifier.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 262144.

Required: Yes

**ValidateOnly**

By setting this value to `true`, Timestream will only validate that the query string is a valid Timestream query, and not store the prepared query for later use.

Type: Boolean

Required: No

## Response Syntax

```
{
```

```
   "Columns": [
      {
         "Aliased": boolean,
         "DatabaseName": "string",
         "Name": "string",
         "TableName": "string",
         "Type": {
            "ArrayColumnInfo": {
               "Name": "string",
               "Type": "Type"
            },
            "RowColumnInfo": [
               {
                  "Name": "string",
                  "Type": "Type"
               }
            ],
            "ScalarType": "string",
            "TimeSeriesMeasureValueColumnInfo": {
               "Name": "string",
               "Type": "Type"
            }
         }
      }
   ],
   "Parameters": [
      {
         "Name": "string",
         "Type": {
            "ArrayColumnInfo": {
               "Name": "string",
               "Type": "Type"
            },
            "RowColumnInfo": [
               {
                  "Name": "string",
                  "Type": "Type"
               }
            ],
            "ScalarType": "string",
            "TimeSeriesMeasureValueColumnInfo": {
               "Name": "string",
               "Type": "Type"
            }
```

```
            }
         }
      ],
      "QueryString": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Columns**

A list of SELECT clause columns of the submitted query string.

Type: Array of SelectColumn objects

**Parameters**

A list of parameters used in the submitted query string.

Type: Array of ParameterMapping objects

**QueryString**

The query string that you want prepare.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 262144.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You do not have the necessary permissions to access the account settings.

HTTP Status Code: 400

**InternalServerException**

An internal server error occurred while processing the request.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# Query

Service: Amazon Timestream Query

`Query` is a synchronous operation that enables you to run a query against your Amazon Timestream data.

If you enabled `QueryInsights`, this API also returns insights and metrics related to the query that you executed. `QueryInsights` helps with performance tuning of your query. For more information about `QueryInsights`, see Using query insights to optimize queries in Amazon Timestream.

> **Note**
>
> The maximum number of `Query` API requests you're allowed to make with `QueryInsights` enabled is 1 query per second (QPS). If you exceed this query rate, it might result in throttling.

`Query` will time out after 60 seconds. You must update the default timeout in the SDK to support a timeout of 60 seconds. See the code sample for details.

Your query request will fail in the following cases:

- If you submit a `Query` request with the same client token outside of the 5-minute idempotency window.
- If you submit a `Query` request with the same client token, but change other parameters, within the 5-minute idempotency window.
- If the size of the row (including the query metadata) exceeds 1 MB, then the query will fail with the following error message:

  ```
  Query aborted as max page response size has been exceeded by the output result row
  ```

- If the IAM principal of the query initiator and the result reader are not the same and/or the query initiator and the result reader do not have the same query string in the query requests, the query will fail with an `Invalid pagination token` error.

## Request Syntax

```
{
   "ClientToken": "string",
   "MaxRows": number,
   "NextToken": "string",
   "QueryInsights": {
      "Mode": "string"
   },
   "QueryString": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

### ClientToken

Unique, case-sensitive string of up to 64 ASCII characters specified when a `Query` request is made. Providing a `ClientToken` makes the call to `Query` *idempotent*. This means that running the same query repeatedly will produce the same result. In other words, making multiple identical `Query` requests has the same effect as making a single request. When using `ClientToken` in a query, note the following:

- If the Query API is instantiated without a `ClientToken`, the Query SDK generates a `ClientToken` on your behalf.
- If the `Query` invocation only contains the `ClientToken` but does not include a `NextToken`, that invocation of `Query` is assumed to be a new query run.
- If the invocation contains `NextToken`, that particular invocation is assumed to be a subsequent invocation of a prior call to the Query API, and a result set is returned.
- After 4 hours, any request with the same `ClientToken` is treated as a new request.

Type: String

Length Constraints: Minimum length of 32. Maximum length of 128.

Required: No

### MaxRows

The total number of rows to be returned in the `Query` output. The initial run of `Query` with a `MaxRows` value specified will return the result set of the query in two cases:

- The size of the result is less than `1MB`.
- The number of rows in the result set is less than the value of `maxRows`.

Otherwise, the initial invocation of `Query` only returns a `NextToken`, which can then be used in subsequent calls to fetch the result set. To resume pagination, provide the `NextToken` value in the subsequent command.

If the row size is large (e.g. a row has many columns), Timestream may return fewer rows to keep the response size from exceeding the 1 MB limit. If `MaxRows` is not provided, Timestream will send the necessary number of rows to meet the 1 MB limit.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 1000.

Required: No

### NextToken

A pagination token used to return a set of results. When the `Query` API is invoked using `NextToken`, that particular invocation is assumed to be a subsequent invocation of a prior call to `Query`, and a result set is returned. However, if the `Query` invocation only contains the `ClientToken`, that invocation of `Query` is assumed to be a new query run.

Note the following when using NextToken in a query:

- A pagination token can be used for up to five `Query` invocations, OR for a duration of up to 1 hour – whichever comes first.
- Using the same `NextToken` will return the same set of records. To keep paginating through the result set, you must to use the most recent `nextToken`.
- Suppose a `Query` invocation returns two `NextToken` values, `TokenA` and `TokenB`. If `TokenB` is used in a subsequent `Query` invocation, then `TokenA` is invalidated and cannot be reused.
- To request a previous result set from a query after pagination has begun, you must re-invoke the Query API.
- The latest `NextToken` should be used to paginate until `null` is returned, at which point a new `NextToken` should be used.

- If the IAM principal of the query initiator and the result reader are not the same and/or the query initiator and the result reader do not have the same query string in the query requests, the query will fail with an `Invalid pagination token` error.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

**QueryInsights**

Encapsulates settings for enabling `QueryInsights`.

Enabling `QueryInsights` returns insights and metrics in addition to query results for the query that you executed. You can use `QueryInsights` to tune your query performance.

Type: QueryInsights object

Required: No

**QueryString**

The query to be run by Timestream.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 262144.

Required: Yes

## Response Syntax

```
{
   "ColumnInfo": [
      {
         "Name": "string",
         "Type": {
            "ArrayColumnInfo": "ColumnInfo",
            "RowColumnInfo": [
               "ColumnInfo"
            ],
            "ScalarType": "string",
            "TimeSeriesMeasureValueColumnInfo": "ColumnInfo"
         }
```

```
      }
   ],
   "NextToken": "string",
   "QueryId": "string",
   "QueryInsightsResponse": {
      "OutputBytes": number,
      "OutputRows": number,
      "QuerySpatialCoverage": {
         "Max": {
            "PartitionKey": [ "string" ],
            "TableArn": "string",
            "Value": number
         }
      },
      "QueryTableCount": number,
      "QueryTemporalRange": {
         "Max": {
            "TableArn": "string",
            "Value": number
         }
      },
      "UnloadPartitionCount": number,
      "UnloadWrittenBytes": number,
      "UnloadWrittenRows": number
   },
   "QueryStatus": {
      "CumulativeBytesMetered": number,
      "CumulativeBytesScanned": number,
      "ProgressPercentage": number
   },
   "Rows": [
      {
         "Data": [
            {
               "ArrayValue": [
                  "Datum"
               ],
               "NullValue": boolean,
               "RowValue": "Row",
               "ScalarValue": "string",
               "TimeSeriesValue": [
                  {
                     "Time": "string",
                     "Value": "Datum"
```

```
                    }
                ]
            }
        ]
    }
]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**ColumnInfo**

The column data types of the returned result set.

Type: Array of ColumnInfo objects

**NextToken**

A pagination token that can be used again on a `Query` call to get the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

**QueryId**

A unique ID for the given query.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[a-zA-Z0-9]+`

**QueryInsightsResponse**

Encapsulates `QueryInsights` containing insights and metrics related to the query that you executed.

Type: QueryInsightsResponse object

**QueryStatus**

Information about the status of the query, including progress and bytes scanned.

Type: QueryStatus object

**Rows**

The result set rows returned by the query.

Type: Array of Row objects

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You do not have the necessary permissions to access the account settings.

HTTP Status Code: 400

**ConflictException**

Unable to poll results for a cancelled query.

HTTP Status Code: 400

**InternalServerException**

An internal server error occurred while processing the request.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**QueryExecutionException**

Timestream was unable to run the query successfully.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# TagResource

Service: Amazon Timestream Query

Associate a set of tags with a Timestream resource. You can then activate these user-defined tags so that they appear on the Billing and Cost Management console for cost allocation tracking.

## Request Syntax

```
{
   "ResourceARN": "string",
   "Tags": [
      {
         "Key": "string",
         "Value": "string"
      }
   ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

### ResourceARN

Identifies the Timestream resource to which tags should be added. This value is an Amazon Resource Name (ARN).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

### Tags

The tags to be assigned to the Timestream resource.

Type: Array of Tag objects

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ResourceNotFoundException**

The requested resource could not be found.

**ScheduledQueryArn**

The ARN of the scheduled query.

HTTP Status Code: 400

**ServiceQuotaExceededException**

You have exceeded the service quota.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# UntagResource

Service: Amazon Timestream Query

Removes the association of tags from a Timestream query resource.

## Request Syntax

```
{
   "ResourceARN": "string",
   "TagKeys": [ "string" ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**ResourceARN**

The Timestream resource that the tags will be removed from. This value is an Amazon Resource Name (ARN).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

**TagKeys**

A list of tags keys. Existing tags of the resource whose keys are members of this list will be removed from the Timestream resource.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 200 items.

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ResourceNotFoundException**

The requested resource could not be found.

**ScheduledQueryArn**

The ARN of the scheduled query.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++

- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# UpdateAccountSettings

Service: Amazon Timestream Query

Transitions your account to use TCUs for query pricing and modifies the maximum query compute units that you've configured. If you reduce the value of `MaxQueryTCU` to a desired configuration, the new value can take up to 24 hours to be effective.

> **Note**
>
> After you've transitioned your account to use TCUs for query pricing, you can't transition to using bytes scanned for query pricing.

## Request Syntax

```
{
   "MaxQueryTCU": number,
   "QueryCompute": {
      "ComputeMode": "string",
      "ProvisionedCapacity": {
         "NotificationConfiguration": {
            "RoleArn": "string",
            "SnsConfiguration": {
               "TopicArn": "string"
            }
         },
         "TargetQueryTCU": number
      }
   },
   "QueryPricingModel": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

### MaxQueryTCU

The maximum number of compute units the service will use at any point in time to serve your queries. To run queries, you must set a minimum capacity of 4 TCU. You can set the maximum number of TCU in multiples of 4, for example, 4, 8, 16, 32, and so on. The maximum value supported for `MaxQueryTCU` is 1000. To request an increase to this soft limit, contact AWS Support. For information about the default quota for maxQueryTCU, see Default quotas. This configuration is applicable only for on-demand usage of Timestream Compute Units (TCUs).

The maximum value supported for `MaxQueryTCU` is 1000. To request an increase to this soft limit, contact AWS Support. For information about the default quota for `maxQueryTCU`, see Default quotas.

Type: Integer

Required: No

### QueryCompute

Modifies the query compute settings configured in your account, including the query pricing model and provisioned Timestream Compute Units (TCUs) in your account. QueryCompute is available only in the Asia Pacific (Mumbai) region.

> **Note**
>
> This API is idempotent, meaning that making the same request multiple times will have the same effect as making the request once.

Type: QueryComputeRequest object

Required: No

### QueryPricingModel

The pricing model for queries in an account.

> **Note**
>
> The `QueryPricingModel` parameter is used by several Timestream operations; however, the `UpdateAccountSettings` API operation doesn't recognize any values other than `COMPUTE_UNITS`.

Type: String

Valid Values: `BYTES_SCANNED | COMPUTE_UNITS`

Required: No

## Response Syntax

```
{
   "MaxQueryTCU": number,
   "QueryCompute": {
      "ComputeMode": "string",
      "ProvisionedCapacity": {
         "ActiveQueryTCU": number,
         "LastUpdate": {
            "Status": "string",
            "StatusMessage": "string",
            "TargetQueryTCU": number
         },
         "NotificationConfiguration": {
            "RoleArn": "string",
            "SnsConfiguration": {
               "TopicArn": "string"
            }
         }
      }
   },
   "QueryPricingModel": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

### MaxQueryTCU

The configured maximum number of compute units the service will use at any point in time to serve your queries.

Type: Integer

**QueryCompute**

Confirms the updated account settings for querying data in your account. QueryCompute is available only in the Asia Pacific (Mumbai) region.

Type: QueryComputeResponse object

**QueryPricingModel**

The pricing model for an account.

Type: String

Valid Values: `BYTES_SCANNED | COMPUTE_UNITS`

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You do not have the necessary permissions to access the account settings.

HTTP Status Code: 400

**InternalServerException**

An internal server error occurred while processing the request.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# UpdateScheduledQuery

Service: Amazon Timestream Query

Update a scheduled query.

## Request Syntax

```
{
   "ScheduledQueryArn": "string",
   "State": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters.

The request accepts the following data in JSON format.

**ScheduledQueryArn**

ARN of the scheuled query.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

**State**

State of the scheduled query.

Type: String

Valid Values: `ENABLED | DISABLED`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Error Types.

**AccessDeniedException**

You do not have the necessary permissions to access the account settings.

HTTP Status Code: 400

**InternalServerException**

An internal server error occurred while processing the request.

HTTP Status Code: 400

**InvalidEndpointException**

The requested endpoint is invalid.

HTTP Status Code: 400

**ResourceNotFoundException**

The requested resource could not be found.

**ScheduledQueryArn**

The ARN of the scheduled query.

HTTP Status Code: 400

**ThrottlingException**

The request was throttled due to excessive requests.

HTTP Status Code: 400

**ValidationException**

Invalid or malformed request.

HTTP Status Code: 400

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface V2
- AWS SDK for .NET V4
- AWS SDK for C++
- AWS SDK for Go v2
- AWS SDK for Java V2
- AWS SDK for JavaScript V3
- AWS SDK for Kotlin
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V3

# Data Types

The following data types are supported by Amazon Timestream Write:

- BatchLoadProgressReport
- BatchLoadTask
- BatchLoadTaskDescription
- CsvConfiguration
- Database
- DataModel
- DataModelConfiguration
- DataModelS3Configuration
- DataSourceConfiguration
- DataSourceS3Configuration
- Dimension
- DimensionMapping
- Endpoint
- MagneticStoreRejectedDataLocation
- MagneticStoreWriteProperties
- MeasureValue
- MixedMeasureMapping
- MultiMeasureAttributeMapping
- MultiMeasureMappings
- PartitionKey
- Record
- RecordsIngested
- RejectedRecord
- ReportConfiguration
- ReportS3Configuration
- RetentionProperties
- S3Configuration

- Schema
- Table
- Tag

The following data types are supported by Amazon Timestream Query:

- AccountSettingsNotificationConfiguration
- ColumnInfo
- Datum
- DimensionMapping
- Endpoint
- ErrorReportConfiguration
- ErrorReportLocation
- ExecutionStats
- LastUpdate
- MixedMeasureMapping
- MultiMeasureAttributeMapping
- MultiMeasureMappings
- NotificationConfiguration
- ParameterMapping
- ProvisionedCapacityRequest
- ProvisionedCapacityResponse
- QueryComputeRequest
- QueryComputeResponse
- QueryInsights
- QueryInsightsResponse
- QuerySpatialCoverage
- QuerySpatialCoverageMax
- QueryStatus
- QueryTemporalRange
- QueryTemporalRangeMax

- Row
- S3Configuration
- S3ReportLocation
- ScheduleConfiguration
- ScheduledQuery
- ScheduledQueryDescription
- ScheduledQueryInsights
- ScheduledQueryInsightsResponse
- ScheduledQueryRunSummary
- SelectColumn
- SnsConfiguration
- Tag
- TargetConfiguration
- TargetDestination
- TimeSeriesDataPoint
- TimestreamConfiguration
- TimestreamDestination
- Type

## Amazon Timestream Write

The following data types are supported by Amazon Timestream Write:

- BatchLoadProgressReport
- BatchLoadTask
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- Dimension
- DimensionMapping
- Endpoint
- MagneticStoreRejectedDataLocation
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- MixedMeasureMapping
- MultiMeasureAttributeMapping
- MultiMeasureMappings
- PartitionKey
- Record
- RecordsIngested
- RejectedRecord
- ReportConfiguration
- ReportS3Configuration
- RetentionProperties
- S3Configuration
- Schema
- Table
- Tag

# BatchLoadProgressReport

Service: Amazon Timestream Write

Details about the progress of a batch load task.

## Contents

**BytesMetered**

Type: Long

Required: No

**FileFailures**

Type: Long

Required: No

**ParseFailures**

Type: Long

Required: No

**RecordIngestionFailures**

Type: Long

Required: No

**RecordsIngested**

Type: Long

Required: No

**RecordsProcessed**

Type: Long

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# BatchLoadTask

Service: Amazon Timestream Write

Details about a batch load task.

## Contents

**CreationTime**

The time when the Timestream batch load task was created.

Type: Timestamp

Required: No

**DatabaseName**

Database name for the database into which a batch load task loads data.

Type: String

Required: No

**LastUpdatedTime**

The time when the Timestream batch load task was last updated.

Type: Timestamp

Required: No

**ResumableUntil**

Type: Timestamp

Required: No

**TableName**

Table name for the table into which a batch load task loads data.

Type: String

Required: No

**TaskId**

The ID of the batch load task.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 32.

Pattern: `[A-Z0-9]+`

Required: No

**TaskStatus**

Status of the batch load task.

Type: String

Valid Values: `CREATED | IN_PROGRESS | FAILED | SUCCEEDED | PROGRESS_STOPPED | PENDING_RESUME`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# BatchLoadTaskDescription

Service: Amazon Timestream Write

Details about a batch load task.

## Contents

**CreationTime**

The time when the Timestream batch load task was created.

Type: Timestamp

Required: No

**DataModelConfiguration**

Data model configuration for a batch load task. This contains details about where a data model for a batch load task is stored.

Type: DataModelConfiguration object

Required: No

**DataSourceConfiguration**

Configuration details about the data source for a batch load task.

Type: DataSourceConfiguration object

Required: No

**ErrorMessage**

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

**LastUpdatedTime**

The time when the Timestream batch load task was last updated.

Type: Timestamp

Required: No

**ProgressReport**

Type: BatchLoadProgressReport object

Required: No

**RecordVersion**

Type: Long

Required: No

**ReportConfiguration**

Report configuration for a batch load task. This contains details about where error reports are stored.

Type: ReportConfiguration object

Required: No

**ResumableUntil**

Type: Timestamp

Required: No

**TargetDatabaseName**

Type: String

Required: No

**TargetTableName**

Type: String

Required: No

**TaskId**

The ID of the batch load task.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 32.

Pattern: `[A-Z0-9]+`

Required: No

**TaskStatus**

Status of the batch load task.

Type: String

Valid Values: `CREATED | IN_PROGRESS | FAILED | SUCCEEDED | PROGRESS_STOPPED | PENDING_RESUME`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# CsvConfiguration

Service: Amazon Timestream Write

A delimited data format where the column separator can be a comma and the record separator is a newline character.

## Contents

**ColumnSeparator**

Column separator can be one of comma (','), pipe ('|), semicolon (';'), tab('/t'), or blank space (' ').

Type: String

Length Constraints: Fixed length of 1.

Required: No

**EscapeChar**

Escape character can be one of

Type: String

Length Constraints: Fixed length of 1.

Required: No

**NullValue**

Can be blank space (' ').

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: No

**QuoteChar**

Can be single quote (') or double quote (").

Type: String

Length Constraints: Fixed length of 1.

Required: No

**TrimWhiteSpace**

Specifies to trim leading and trailing white space.

Type: Boolean

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Database

Service: Amazon Timestream Write

A top-level container for a table. Databases and tables are the fundamental management concepts in Amazon Timestream. All tables in a database are encrypted with the same AWS KMS key.

## Contents

**Arn**

The Amazon Resource Name that uniquely identifies this database.

Type: String

Required: No

**CreationTime**

The time when the database was created, calculated from the Unix epoch time.

Type: Timestamp

Required: No

**DatabaseName**

The name of the Timestream database.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: No

**KmsKeyId**

The identifier of the AWS KMS key used to encrypt the data stored in the database.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

**LastUpdatedTime**

The last time that this database was updated.

Type: Timestamp

Required: No

**TableCount**

The total number of tables found within a Timestream database.

Type: Long

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# DataModel

Service: Amazon Timestream Write

Data model for a batch load task.

## Contents

**DimensionMappings**

Source to target mappings for dimensions.

Type: Array of DimensionMapping objects

Array Members: Minimum number of 1 item.

Required: Yes

**MeasureNameColumn**

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: No

**MixedMeasureMappings**

Source to target mappings for measures.

Type: Array of MixedMeasureMapping objects

Array Members: Minimum number of 1 item.

Required: No

**MultiMeasureMappings**

Source to target mappings for multi-measure records.

Type: MultiMeasureMappings object

Required: No

**TimeColumn**

Source column to be mapped to time.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: No

**TimeUnit**

The granularity of the timestamp unit. It indicates if the time value is in seconds, milliseconds, nanoseconds, or other supported values. Default is `MILLISECONDS`.

Type: String

Valid Values: `MILLISECONDS | SECONDS | MICROSECONDS | NANOSECONDS`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# DataModelConfiguration

Service: Amazon Timestream Write

## Contents

**DataModel**

Type: DataModel object

Required: No

**DataModelS3Configuration**

Type: DataModelS3Configuration object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# DataModelS3Configuration

Service: Amazon Timestream Write

## Contents

**BucketName**

Type: String

Length Constraints: Minimum length of 3. Maximum length of 63.

Pattern: `[a-z0-9][\.\-a-z0-9]{1,61}[a-z0-9]`

Required: No

**ObjectKey**

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `[a-zA-Z0-9|!\-_*'\(\)]([a-zA-Z0-9]|[!\-_*'\(\)\/.])+`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# DataSourceConfiguration

Service: Amazon Timestream Write

Defines configuration details about the data source.

## Contents

**DataFormat**

This is currently CSV.

Type: String

Valid Values: CSV

Required: Yes

**DataSourceS3Configuration**

Configuration of an S3 location for a file which contains data to load.

Type: DataSourceS3Configuration object

Required: Yes

**CsvConfiguration**

A delimited data format where the column separator can be a comma and the record separator is a newline character.

Type: CsvConfiguration object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# DataSourceS3Configuration

Service: Amazon Timestream Write

## Contents

**BucketName**

The bucket name of the customer S3 bucket.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 63.

Pattern: `[a-z0-9][\.\-a-z0-9]{1,61}[a-z0-9]`

Required: Yes

**ObjectKeyPrefix**

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `[a-zA-Z0-9|!\-_*'\(\)]([a-zA-Z0-9]|[!\-_*'\(\)\/.])+`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Dimension

Service: Amazon Timestream Write

Represents the metadata attributes of the time series. For example, the name and Availability Zone of an EC2 instance or the name of the manufacturer of a wind turbine are dimensions.

## Contents

**Name**

Dimension represents the metadata attributes of the time series. For example, the name and Availability Zone of an EC2 instance or the name of the manufacturer of a wind turbine are dimensions.

For constraints on dimension names, see Naming Constraints.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 60.

Required: Yes

**Value**

The value of the dimension.

Type: String

Required: Yes

**DimensionValueType**

The data type of the dimension for the time-series data point.

Type: String

Valid Values: VARCHAR

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# DimensionMapping

Service: Amazon Timestream Write

## Contents

### DestinationColumn

Type: String

Length Constraints: Minimum length of 1.

Required: No

### SourceColumn

Type: String

Length Constraints: Minimum length of 1.

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Endpoint

Service: Amazon Timestream Write

Represents an available endpoint against which to make API calls against, as well as the TTL for that endpoint.

## Contents

**Address**

An endpoint address.

Type: String

Required: Yes

**CachePeriodInMinutes**

The TTL for the endpoint, in minutes.

Type: Long

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# MagneticStoreRejectedDataLocation

Service: Amazon Timestream Write

The location to write error reports for records rejected, asynchronously, during magnetic store writes.

## Contents

### S3Configuration

Configuration of an S3 location to write error reports for records rejected, asynchronously, during magnetic store writes.

Type: S3Configuration object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# MagneticStoreWriteProperties

Service: Amazon Timestream Write

The set of properties on a table for configuring magnetic store writes.

## Contents

**EnableMagneticStoreWrites**

A flag to enable magnetic store writes.

Type: Boolean

Required: Yes

**MagneticStoreRejectedDataLocation**

The location to write error reports for records rejected asynchronously during magnetic store writes.

Type: MagneticStoreRejectedDataLocation object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# MeasureValue

Service: Amazon Timestream Write

Represents the data attribute of the time series. For example, the CPU utilization of an EC2 instance or the RPM of a wind turbine are measures. MeasureValue has both name and value.

MeasureValue is only allowed for type `MULTI`. Using `MULTI` type, you can pass multiple data attributes associated with the same time series in a single record

## Contents

**Name**

The name of the MeasureValue.

For constraints on MeasureValue names, see Naming Constraints in the Amazon Timestream Developer Guide.

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

**Type**

Contains the data type of the MeasureValue for the time-series data point.

Type: String

Valid Values: `DOUBLE | BIGINT | VARCHAR | BOOLEAN | TIMESTAMP | MULTI`

Required: Yes

**Value**

The value for the MeasureValue. For information, see Data types.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# MixedMeasureMapping

Service: Amazon Timestream Write

## Contents

**MeasureValueType**

Type: String

Valid Values: `DOUBLE | BIGINT | VARCHAR | BOOLEAN | TIMESTAMP | MULTI`

Required: Yes

**MeasureName**

Type: String

Length Constraints: Minimum length of 1.

Required: No

**MultiMeasureAttributeMappings**

Type: Array of MultiMeasureAttributeMapping objects

Array Members: Minimum number of 1 item.

Required: No

**SourceColumn**

Type: String

Length Constraints: Minimum length of 1.

Required: No

**TargetMeasureName**

Type: String

Length Constraints: Minimum length of 1.

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# MultiMeasureAttributeMapping

Service: Amazon Timestream Write

## Contents

**SourceColumn**

Type: String

Length Constraints: Minimum length of 1.

Required: Yes

**MeasureValueType**

Type: String

Valid Values: `DOUBLE | BIGINT | BOOLEAN | VARCHAR | TIMESTAMP`

Required: No

**TargetMultiMeasureAttributeName**

Type: String

Length Constraints: Minimum length of 1.

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# MultiMeasureMappings

Service: Amazon Timestream Write

## Contents

**MultiMeasureAttributeMappings**

Type: Array of MultiMeasureAttributeMapping objects

Array Members: Minimum number of 1 item.

Required: Yes

**TargetMultiMeasureName**

Type: String

Length Constraints: Minimum length of 1.

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# PartitionKey

Service: Amazon Timestream Write

An attribute used in partitioning data in a table. A dimension key partitions data using the values of the dimension specified by the dimension-name as partition key, while a measure key partitions data using measure names (values of the 'measure_name' column).

## Contents

**Type**

The type of the partition key. Options are DIMENSION (dimension key) and MEASURE (measure key).

Type: String

Valid Values: `DIMENSION | MEASURE`

Required: Yes

**EnforcementInRecord**

The level of enforcement for the specification of a dimension key in ingested records. Options are REQUIRED (dimension key must be specified) and OPTIONAL (dimension key does not have to be specified).

Type: String

Valid Values: `REQUIRED | OPTIONAL`

Required: No

**Name**

The name of the attribute used for a dimension key.

Type: String

Length Constraints: Minimum length of 1.

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Record

Service: Amazon Timestream Write

Represents a time-series data point being written into Timestream. Each record contains an array of dimensions. Dimensions represent the metadata attributes of a time-series data point, such as the instance name or Availability Zone of an EC2 instance. A record also contains the measure name, which is the name of the measure being collected (for example, the CPU utilization of an EC2 instance). Additionally, a record contains the measure value and the value type, which is the data type of the measure value. Also, the record contains the timestamp of when the measure was collected and the timestamp unit, which represents the granularity of the timestamp.

Records have a `Version` field, which is a 64-bit `long` that you can use for updating data points. Writes of a duplicate record with the same dimension, timestamp, and measure name but different measure value will only succeed if the `Version` attribute of the record in the write request is higher than that of the existing record. Timestream defaults to a `Version` of `1` for records without the `Version` field.

## Contents

**Dimensions**

Contains the list of dimensions for time-series data points.

Type: Array of Dimension objects

Array Members: Maximum number of 128 items.

Required: No

**MeasureName**

Measure represents the data attribute of the time series. For example, the CPU utilization of an EC2 instance or the RPM of a wind turbine are measures.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: No

**MeasureValue**

Contains the measure value for the time-series data point.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

**MeasureValues**

Contains the list of MeasureValue for time-series data points.

This is only allowed for type `MULTI`. For scalar values, use `MeasureValue` attribute of the record directly.

Type: Array of MeasureValue objects

Required: No

**MeasureValueType**

Contains the data type of the measure value for the time-series data point. Default type is `DOUBLE`. For more information, see Data types.

Type: String

Valid Values: `DOUBLE | BIGINT | VARCHAR | BOOLEAN | TIMESTAMP | MULTI`

Required: No

**Time**

Contains the time at which the measure value for the data point was collected. The time value plus the unit provides the time elapsed since the epoch. For example, if the time value is `12345` and the unit is `ms`, then `12345 ms` have elapsed since the epoch.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: No

**TimeUnit**

The granularity of the timestamp unit. It indicates if the time value is in seconds, milliseconds, nanoseconds, or other supported values. Default is `MILLISECONDS`.

Type: String

Valid Values: `MILLISECONDS | SECONDS | MICROSECONDS | NANOSECONDS`

Required: No

**Version**

64-bit attribute used for record updates. Write requests for duplicate data with a higher version number will update the existing measure value and version. In cases where the measure value is the same, `Version` will still be updated. Default value is 1.

> **Note**
>
> `Version` must be 1 or greater, or you will receive a `ValidationException` error.

Type: Long

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# RecordsIngested

Service: Amazon Timestream Write

Information on the records ingested by this request.

## Contents

**MagneticStore**

Count of records ingested into the magnetic store.

Type: Integer

Required: No

**MemoryStore**

Count of records ingested into the memory store.

Type: Integer

Required: No

**Total**

Total count of successfully ingested records.

Type: Integer

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# RejectedRecord

Service: Amazon Timestream Write

Represents records that were not successfully inserted into Timestream due to data validation issues that must be resolved before reinserting time-series data into the system.

## Contents

### ExistingVersion

The existing version of the record. This value is populated in scenarios where an identical record exists with a higher version than the version in the write request.

Type: Long

Required: No

### Reason

The reason why a record was not successfully inserted into Timestream. Possible causes of failure include:

- Records with duplicate data where there are multiple records with the same dimensions, timestamps, and measure names but:
  - Measure values are different
  - Version is not present in the request, *or* the value of version in the new record is equal to or lower than the existing value

  If Timestream rejects data for this case, the `ExistingVersion` field in the `RejectedRecords` response will indicate the current record's version. To force an update, you can resend the request with a version for the record set to a value greater than the `ExistingVersion`.
- Records with timestamps that lie outside the retention duration of the memory store.

> **Note**
>
> When the retention window is updated, you will receive a `RejectedRecords` exception if you immediately try to ingest data within the new window. To avoid a `RejectedRecords` exception, wait until the duration of the new window to ingest

new data. For further information, see Best Practices for Configuring Timestream and the explanation of how storage works in Timestream.

- Records with dimensions or measures that exceed the Timestream defined limits.

For more information, see Access Management in the Timestream Developer Guide.

Type: String

Required: No

**RecordIndex**

The index of the record in the input request for WriteRecords. Indexes begin with 0.

Type: Integer

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ReportConfiguration

Service: Amazon Timestream Write

Report configuration for a batch load task. This contains details about where error reports are stored.

## Contents

### ReportS3Configuration

Configuration of an S3 location to write error reports and events for a batch load.

Type: ReportS3Configuration object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ReportS3Configuration

Service: Amazon Timestream Write

## Contents

**BucketName**

Type: String

Length Constraints: Minimum length of 3. Maximum length of 63.

Pattern: `[a-z0-9][\.\-a-z0-9]{1,61}[a-z0-9]`

Required: Yes

**EncryptionOption**

Type: String

Valid Values: `SSE_S3 | SSE_KMS`

Required: No

**KmsKeyId**

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

**ObjectKeyPrefix**

Type: String

Length Constraints: Minimum length of 1. Maximum length of 928.

Pattern: `[a-zA-Z0-9|!\-_*'\(\)]([a-zA-Z0-9]|[!\-_*'\(\)\/.])+`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# RetentionProperties

Service: Amazon Timestream Write

Retention properties contain the duration for which your time-series data must be stored in the magnetic store and the memory store.

## Contents

**MagneticStoreRetentionPeriodInDays**

The duration for which data must be stored in the magnetic store.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 73000.

Required: Yes

**MemoryStoreRetentionPeriodInHours**

The duration for which data must be stored in the memory store.

Type: Long

Valid Range: Minimum value of 1. Maximum value of 8766.

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# S3Configuration

Service: Amazon Timestream Write

The configuration that specifies an S3 location.

## Contents

**BucketName**

The bucket name of the customer S3 bucket.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 63.

Pattern: `[a-z0-9][\.\-a-z0-9]{1,61}[a-z0-9]`

Required: No

**EncryptionOption**

The encryption option for the customer S3 location. Options are S3 server-side encryption with an S3 managed key or AWS managed key.

Type: String

Valid Values: `SSE_S3 | SSE_KMS`

Required: No

**KmsKeyId**

The AWS KMS key ID for the customer S3 location when encrypting with an AWS managed key.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

**ObjectKeyPrefix**

The object key preview for the customer S3 location.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 928.

Pattern: `[a-zA-Z0-9|!\-_*'\(\)]([a-zA-Z0-9]|[!\-_*'\(\)\/.])+`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Schema

Service: Amazon Timestream Write

A Schema specifies the expected data model of the table.

## Contents

### CompositePartitionKey

A non-empty list of partition keys defining the attributes used to partition the table data. The order of the list determines the partition hierarchy. The name and type of each partition key as well as the partition key order cannot be changed after the table is created. However, the enforcement level of each partition key can be changed.

Type: Array of PartitionKey objects

Array Members: Minimum number of 1 item.

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Table

Service: Amazon Timestream Write

Represents a database table in Timestream. Tables contain one or more related time series. You can modify the retention duration of the memory store and the magnetic store for a table.

## Contents

**Arn**

The Amazon Resource Name that uniquely identifies this table.

Type: String

Required: No

**CreationTime**

The time when the Timestream table was created.

Type: Timestamp

Required: No

**DatabaseName**

The name of the Timestream database that contains this table.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: No

**LastUpdatedTime**

The time when the Timestream table was last updated.

Type: Timestamp

Required: No

**MagneticStoreWriteProperties**

Contains properties to set on the table when enabling magnetic store writes.

Type: MagneticStoreWriteProperties object

Required: No

**RetentionProperties**

The retention duration for the memory store and magnetic store.

Type: RetentionProperties object

Required: No

**Schema**

The schema of the table.

Type: Schema object

Required: No

**TableName**

The name of the Timestream table.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 256.

Required: No

**TableStatus**

The current state of the table:

- `DELETING` - The table is being deleted.
- `ACTIVE` - The table is ready for use.

Type: String

Valid Values: `ACTIVE | DELETING | RESTORING`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Tag

Service: Amazon Timestream Write

A tag is a label that you assign to a Timestream database and/or table. Each tag consists of a key and an optional value, both of which you define. With tags, you can categorize databases and/or tables, for example, by purpose, owner, or environment.

## Contents

**Key**

The key of the tag. Tag keys are case sensitive.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

**Value**

The value of the tag. Tag values are case-sensitive and can be null.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Amazon Timestream Query

The following data types are supported by Amazon Timestream Query:

- AccountSettingsNotificationConfiguration
- ColumnInfo
- Datum
- DimensionMapping
- Endpoint
- ErrorReportConfiguration
- ErrorReportLocation
- ExecutionStats
- LastUpdate
- MixedMeasureMapping
- MultiMeasureAttributeMapping
- MultiMeasureMappings
- NotificationConfiguration
- ParameterMapping
- ProvisionedCapacityRequest
- ProvisionedCapacityResponse
- QueryComputeRequest
- QueryComputeResponse
- QueryInsights
- QueryInsightsResponse
- QuerySpatialCoverage
- QuerySpatialCoverageMax
- QueryStatus
- QueryTemporalRange
- QueryTemporalRangeMax
- Row
- S3Configuration
- S3ReportLocation
- ScheduleConfiguration
- ScheduledQuery

- ScheduledQueryDescription
- ScheduledQueryInsights
- ScheduledQueryInsightsResponse
- ScheduledQueryRunSummary
- SelectColumn
- SnsConfiguration
- Tag
- TargetConfiguration
- TargetDestination
- TimeSeriesDataPoint
- TimestreamConfiguration
- TimestreamDestination
- Type

# AccountSettingsNotificationConfiguration

Service: Amazon Timestream Query

Configuration settings for notifications related to account settings.

## Contents

**RoleArn**

An Amazon Resource Name (ARN) that grants Timestream permission to publish notifications. This field is only visible if SNS Topic is provided when updating the account settings.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

**SnsConfiguration**

Details on SNS that are required to send the notification.

Type: SnsConfiguration object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ColumnInfo

Service: Amazon Timestream Query

Contains the metadata for query results such as the column names, data types, and other attributes.

## Contents

### Type

The data type of the result set column. The data type can be a scalar or complex. Scalar data types are integers, strings, doubles, Booleans, and others. Complex data types are types such as arrays, rows, and others.

Type: Type object

Required: Yes

### Name

The name of the result set column. The name of the result set is available for columns of all data types except for arrays.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Datum

Service: Amazon Timestream Query

Datum represents a single data point in a query result.

## Contents

**ArrayValue**

Indicates if the data point is an array.

Type: Array of Datum objects

Required: No

**NullValue**

Indicates if the data point is null.

Type: Boolean

Required: No

**RowValue**

Indicates if the data point is a row.

Type: Row object

Required: No

**ScalarValue**

Indicates if the data point is a scalar value such as integer, string, double, or Boolean.

Type: String

Required: No

**TimeSeriesValue**

Indicates if the data point is a timeseries data type.

Type: Array of TimeSeriesDataPoint objects

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# DimensionMapping

Service: Amazon Timestream Query

This type is used to map column(s) from the query result to a dimension in the destination table.

## Contents

**DimensionValueType**

Type for the dimension.

Type: String

Valid Values: VARCHAR

Required: Yes

**Name**

Column name from query result.

Type: String

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Endpoint

Service: Amazon Timestream Query

Represents an available endpoint against which to make API calls against, as well as the TTL for that endpoint.

## Contents

**Address**

An endpoint address.

Type: String

Required: Yes

**CachePeriodInMinutes**

The TTL for the endpoint, in minutes.

Type: Long

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ErrorReportConfiguration

Service: Amazon Timestream Query

Configuration required for error reporting.

## Contents

### S3Configuration

The S3 configuration for the error reports.

Type: S3Configuration object

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ErrorReportLocation

Service: Amazon Timestream Query

This contains the location of the error report for a single scheduled query call.

## Contents

### S3ReportLocation

The S3 location where error reports are written.

Type: S3ReportLocation object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ExecutionStats

Service: Amazon Timestream Query

Statistics for a single scheduled query run.

## Contents

**BytesMetered**

Bytes metered for a single scheduled query run.

Type: Long

Required: No

**CumulativeBytesScanned**

Bytes scanned for a single scheduled query run.

Type: Long

Required: No

**DataWrites**

Data writes metered for records ingested in a single scheduled query run.

Type: Long

Required: No

**ExecutionTimeInMillis**

Total time, measured in milliseconds, that was needed for the scheduled query run to complete.

Type: Long

Required: No

**QueryResultRows**

Number of rows present in the output from running a query before ingestion to destination data source.

Type: Long

Required: No

**RecordsIngested**

The number of records ingested for a single scheduled query run.

Type: Long

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# LastUpdate

Service: Amazon Timestream Query

Configuration object that contains the most recent account settings update, visible only if settings have been updated previously.

## Contents

**Status**

The status of the last update. Can be either `PENDING`, `FAILED`, or `SUCCEEDED`.

Type: String

Valid Values: `PENDING | FAILED | SUCCEEDED`

Required: No

**StatusMessage**

Error message describing the last account settings update status, visible only if an error occurred.

Type: String

Required: No

**TargetQueryTCU**

The number of TimeStream Compute Units (TCUs) requested in the last account settings update.

Type: Integer

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

# MixedMeasureMapping

Service: Amazon Timestream Query

MixedMeasureMappings are mappings that can be used to ingest data into a mixture of narrow and multi measures in the derived table.

## Contents

**MeasureValueType**

Type of the value that is to be read from sourceColumn. If the mapping is for MULTI, use MeasureValueType.MULTI.

Type: String

Valid Values: `BIGINT | BOOLEAN | DOUBLE | VARCHAR | MULTI`

Required: Yes

**MeasureName**

Refers to the value of measure_name in a result row. This field is required if MeasureNameColumn is provided.

Type: String

Required: No

**MultiMeasureAttributeMappings**

Required when measureValueType is MULTI. Attribute mappings for MULTI value measures.

Type: Array of MultiMeasureAttributeMapping objects

Array Members: Minimum number of 1 item.

Required: No

**SourceColumn**

This field refers to the source column from which measure-value is to be read for result materialization.

Type: String

Required: No

**TargetMeasureName**

Target measure name to be used. If not provided, the target measure name by default would be measure-name if provided, or sourceColumn otherwise.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# MultiMeasureAttributeMapping

Service: Amazon Timestream Query

Attribute mapping for MULTI value measures.

## Contents

**MeasureValueType**

Type of the attribute to be read from the source column.

Type: String

Valid Values: `BIGINT | BOOLEAN | DOUBLE | VARCHAR | TIMESTAMP`

Required: Yes

**SourceColumn**

Source column from where the attribute value is to be read.

Type: String

Required: Yes

**TargetMultiMeasureAttributeName**

Custom name to be used for attribute name in derived table. If not provided, source column name would be used.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# MultiMeasureMappings

Service: Amazon Timestream Query

Only one of MixedMeasureMappings or MultiMeasureMappings is to be provided. MultiMeasureMappings can be used to ingest data as multi measures in the derived table.

## Contents

**MultiMeasureAttributeMappings**

Required. Attribute mappings to be used for mapping query results to ingest data for multi-measure attributes.

Type: Array of MultiMeasureAttributeMapping objects

Array Members: Minimum number of 1 item.

Required: Yes

**TargetMultiMeasureName**

The name of the target multi-measure name in the derived table. This input is required when measureNameColumn is not provided. If MeasureNameColumn is provided, then value from that column will be used as multi-measure name.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# NotificationConfiguration

Service: Amazon Timestream Query

Notification configuration for a scheduled query. A notification is sent by Timestream when a scheduled query is created, its state is updated or when it is deleted.

## Contents

### SnsConfiguration

Details about the Amazon Simple Notification Service (SNS) configuration. This field is visible only when SNS Topic is provided when updating the account settings.

Type: SnsConfiguration object

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ParameterMapping

Service: Amazon Timestream Query

Mapping for named parameters.

## Contents

### Name

Parameter name.

Type: String

Required: Yes

### Type

Contains the data type of a column in a query result set. The data type can be scalar or complex. The supported scalar data types are integers, Boolean, string, double, timestamp, date, time, and intervals. The supported complex data types are arrays, rows, and timeseries.

Type: Type object

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ProvisionedCapacityRequest

Service: Amazon Timestream Query

A request to update the provisioned capacity settings for querying data.

## Contents

**TargetQueryTCU**

The target compute capacity for querying data, specified in Timestream Compute Units (TCUs).

Type: Integer

Required: Yes

**NotificationConfiguration**

Configuration settings for notifications related to the provisioned capacity update.

Type: AccountSettingsNotificationConfiguration object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ProvisionedCapacityResponse

Service: Amazon Timestream Query

The response to a request to update the provisioned capacity settings for querying data.

## Contents

**ActiveQueryTCU**

The number of Timestream Compute Units (TCUs) provisioned in the account. This field is only visible when the compute mode is `PROVISIONED`.

Type: Integer

Required: No

**LastUpdate**

Information about the last update to the provisioned capacity settings.

Type: LastUpdate object

Required: No

**NotificationConfiguration**

An object that contains settings for notifications that are sent whenever the provisioned capacity settings are modified. This field is only visible when the compute mode is `PROVISIONED`.

Type: AccountSettingsNotificationConfiguration object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# QueryComputeRequest

Service: Amazon Timestream Query

A request to retrieve or update the compute capacity settings for querying data. QueryCompute is available only in the Asia Pacific (Mumbai) region.

## Contents

**ComputeMode**

The mode in which Timestream Compute Units (TCUs) are allocated and utilized within an account. Note that in the Asia Pacific (Mumbai) region, the API operation only recognizes the value `PROVISIONED`. QueryCompute is available only in the Asia Pacific (Mumbai) region.

Type: String

Valid Values: `ON_DEMAND | PROVISIONED`

Required: No

**ProvisionedCapacity**

Configuration object that contains settings for provisioned Timestream Compute Units (TCUs) in your account. QueryCompute is available only in the Asia Pacific (Mumbai) region.

Type: ProvisionedCapacityRequest object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# QueryComputeResponse

Service: Amazon Timestream Query

The response to a request to retrieve or update the compute capacity settings for querying data. QueryCompute is available only in the Asia Pacific (Mumbai) region.

## Contents

**ComputeMode**

The mode in which Timestream Compute Units (TCUs) are allocated and utilized within an account. Note that in the Asia Pacific (Mumbai) region, the API operation only recognizes the value `PROVISIONED`. QueryCompute is available only in the Asia Pacific (Mumbai) region.

Type: String

Valid Values: `ON_DEMAND | PROVISIONED`

Required: No

**ProvisionedCapacity**

Configuration object that contains settings for provisioned Timestream Compute Units (TCUs) in your account. QueryCompute is available only in the Asia Pacific (Mumbai) region.

Type: ProvisionedCapacityResponse object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# QueryInsights

Service: Amazon Timestream Query

`QueryInsights` is a performance tuning feature that helps you optimize your queries, reducing costs and improving performance. With `QueryInsights`, you can assess the pruning efficiency of your queries and identify areas for improvement to enhance query performance. With `QueryInsights`, you can also analyze the effectiveness of your queries in terms of temporal and spatial pruning, and identify opportunities to improve performance. Specifically, you can evaluate how well your queries use time-based and partition key-based indexing strategies to optimize data retrieval. To optimize query performance, it's essential that you fine-tune both the temporal and spatial parameters that govern query execution.

The key metrics provided by `QueryInsights` are `QuerySpatialCoverage` and `QueryTemporalRange`. `QuerySpatialCoverage` indicates how much of the spatial axis the query scans, with lower values being more efficient. `QueryTemporalRange` shows the time range scanned, with narrower ranges being more performant.

**Benefits of QueryInsights**

The following are the key benefits of using `QueryInsights`:

- **Identifying inefficient queries** – `QueryInsights` provides information on the time-based and attribute-based pruning of the tables accessed by the query. This information helps you identify the tables that are sub-optimally accessed.
- **Optimizing your data model and partitioning** – You can use the `QueryInsights` information to access and fine-tune your data model and partitioning strategy.
- **Tuning queries** – `QueryInsights` highlights opportunities to use indexes more effectively.

> **Note**
>
> The maximum number of `Query` API requests you're allowed to make with `QueryInsights` enabled is 1 query per second (QPS). If you exceed this query rate, it might result in throttling.

## Contents

### Mode

Provides the following modes to enable `QueryInsights`:

- `ENABLED_WITH_RATE_CONTROL` – Enables `QueryInsights` for the queries being processed. This mode also includes a rate control mechanism, which limits the `QueryInsights` feature to 1 query per second (QPS).
- `DISABLED` – Disables `QueryInsights`.

Type: String

Valid Values: `ENABLED_WITH_RATE_CONTROL | DISABLED`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# QueryInsightsResponse

Service: Amazon Timestream Query

Provides various insights and metrics related to the query that you executed.

## Contents

**OutputBytes**

Indicates the size of query result set in bytes. You can use this data to validate if the result set has changed as part of the query tuning exercise.

Type: Long

Required: No

**OutputRows**

Indicates the total number of rows returned as part of the query result set. You can use this data to validate if the number of rows in the result set have changed as part of the query tuning exercise.

Type: Long

Required: No

**QuerySpatialCoverage**

Provides insights into the spatial coverage of the query, including the table with sub-optimal (max) spatial pruning. This information can help you identify areas for improvement in your partitioning strategy to enhance spatial pruning.

Type: QuerySpatialCoverage object

Required: No

**QueryTableCount**

Indicates the number of tables in the query.

Type: Long

Required: No

**QueryTemporalRange**

Provides insights into the temporal range of the query, including the table with the largest (max) time range. Following are some of the potential options for optimizing time-based pruning:

- Add missing time-predicates.
- Remove functions around the time predicates.
- Add time predicates to all the sub-queries.

Type: QueryTemporalRange object

Required: No

**UnloadPartitionCount**

Indicates the partitions created by the `Unload` operation.

Type: Long

Required: No

**UnloadWrittenBytes**

Indicates the size, in bytes, written by the `Unload` operation.

Type: Long

Required: No

**UnloadWrittenRows**

Indicates the rows written by the `Unload` query.

Type: Long

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Java V2
- AWS SDK for Ruby V3

# QuerySpatialCoverage

Service: Amazon Timestream Query

Provides insights into the spatial coverage of the query, including the table with sub-optimal (max) spatial pruning. This information can help you identify areas for improvement in your partitioning strategy to enhance spatial pruning

For example, you can do the following with the `QuerySpatialCoverage` information:

- Add measure_name or use customer-defined partition key (CDPK) predicates.
- If you've already done the preceding action, remove functions around them or clauses, such as `LIKE`.

## Contents

### Max

Provides insights into the spatial coverage of the executed query and the table with the most inefficient spatial pruning.

- `Value` – The maximum ratio of spatial coverage.
- `TableArn` – The Amazon Resource Name (ARN) of the table with sub-optimal spatial pruning.
- `PartitionKey` – The partition key used for partitioning, which can be a default `measure_name` or a CDPK.

Type: QuerySpatialCoverageMax object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# QuerySpatialCoverageMax

Service: Amazon Timestream Query

Provides insights into the table with the most sub-optimal spatial range scanned by your query.

## Contents

**PartitionKey**

The partition key used for partitioning, which can be a default `measure_name` or a customer defined partition key.

Type: Array of strings

Required: No

**TableArn**

The Amazon Resource Name (ARN) of the table with the most sub-optimal spatial pruning.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

**Value**

The maximum ratio of spatial coverage.

Type: Double

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# QueryStatus

Service: Amazon Timestream Query

Information about the status of the query, including progress and bytes scanned.

## Contents

**CumulativeBytesMetered**

The amount of data scanned by the query in bytes that you will be charged for. This is a cumulative sum and represents the total amount of data that you will be charged for since the query was started. The charge is applied only once and is either applied when the query completes running or when the query is cancelled.

Type: Long

Required: No

**CumulativeBytesScanned**

The amount of data scanned by the query in bytes. This is a cumulative sum and represents the total amount of bytes scanned since the query was started.

Type: Long

Required: No

**ProgressPercentage**

The progress of the query, expressed as a percentage.

Type: Double

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2

- AWS SDK for Ruby V3

# QueryTemporalRange

Service: Amazon Timestream Query

Provides insights into the temporal range of the query, including the table with the largest (max) time range.

## Contents

### Max

Encapsulates the following properties that provide insights into the most sub-optimal performing table on the temporal axis:

- `Value` – The maximum duration in nanoseconds between the start and end of the query.
- `TableArn` – The Amazon Resource Name (ARN) of the table which is queried with the largest time range.

Type: QueryTemporalRangeMax object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# QueryTemporalRangeMax

Service: Amazon Timestream Query

Provides insights into the table with the most sub-optimal temporal pruning scanned by your query.

## Contents

**TableArn**

The Amazon Resource Name (ARN) of the table which is queried with the largest time range.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

**Value**

The maximum duration in nanoseconds between the start and end of the query.

Type: Long

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Row

Service: Amazon Timestream Query

Represents a single row in the query results.

## Contents

### Data

List of data points in a single row of the result set.

Type: Array of Datum objects

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# S3Configuration

Service: Amazon Timestream Query

Details on S3 location for error reports that result from running a query.

## Contents

**BucketName**

Name of the S3 bucket under which error reports will be created.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 63.

Pattern: `[a-z0-9][\.\-a-z0-9]{1,61}[a-z0-9]`

Required: Yes

**EncryptionOption**

Encryption at rest options for the error reports. If no encryption option is specified, Timestream will choose SSE_S3 as default.

Type: String

Valid Values: `SSE_S3 | SSE_KMS`

Required: No

**ObjectKeyPrefix**

Prefix for the error report key. Timestream by default adds the following prefix to the error report path.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 896.

Pattern: `[a-zA-Z0-9|!\-_*'\(\)]([a-zA-Z0-9]|[!\-_*'\(\)\/.])+`

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# S3ReportLocation

Service: Amazon Timestream Query

S3 report location for the scheduled query run.

## Contents

**BucketName**

S3 bucket name.

Type: String

Length Constraints: Minimum length of 3. Maximum length of 63.

Pattern: `[a-z0-9][\.\-a-z0-9]{1,61}[a-z0-9]`

Required: No

**ObjectKey**

S3 key.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ScheduleConfiguration

Service: Amazon Timestream Query

Configuration of the schedule of the query.

## Contents

### ScheduleExpression

An expression that denotes when to trigger the scheduled query run. This can be a cron expression or a rate expression.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ScheduledQuery

Service: Amazon Timestream Query

Scheduled Query

## Contents

**Arn**

The Amazon Resource Name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

**Name**

The name of the scheduled query.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[a-zA-Z0-9|!\-_*'\(\)]([a-zA-Z0-9]|[!\-_*'\(\)\/.])+`

Required: Yes

**State**

State of scheduled query.

Type: String

Valid Values: `ENABLED | DISABLED`

Required: Yes

**CreationTime**

The creation time of the scheduled query.

Type: Timestamp

Required: No

**ErrorReportConfiguration**

Configuration for scheduled query error reporting.

Type: ErrorReportConfiguration object

Required: No

**LastRunStatus**

Status of the last scheduled query run.

Type: String

Valid Values: `AUTO_TRIGGER_SUCCESS | AUTO_TRIGGER_FAILURE | MANUAL_TRIGGER_SUCCESS | MANUAL_TRIGGER_FAILURE`

Required: No

**NextInvocationTime**

The next time the scheduled query is to be run.

Type: Timestamp

Required: No

**PreviousInvocationTime**

The last time the scheduled query was run.

Type: Timestamp

Required: No

**TargetDestination**

Target data source where final scheduled query result will be written.

Type: TargetDestination object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ScheduledQueryDescription

Service: Amazon Timestream Query

Structure that describes scheduled query.

## Contents

**Arn**

Scheduled query ARN.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

**Name**

Name of the scheduled query.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[a-zA-Z0-9|!\-_*'\(\)]([a-zA-Z0-9]|[!\-_*'\(\)\/.])+`

Required: Yes

**NotificationConfiguration**

Notification configuration.

Type: NotificationConfiguration object

Required: Yes

**QueryString**

The query to be run.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 262144.

Required: Yes

**ScheduleConfiguration**

Schedule configuration.

Type: ScheduleConfiguration object

Required: Yes

**State**

State of the scheduled query.

Type: String

Valid Values: `ENABLED | DISABLED`

Required: Yes

**CreationTime**

Creation time of the scheduled query.

Type: Timestamp

Required: No

**ErrorReportConfiguration**

Error-reporting configuration for the scheduled query.

Type: ErrorReportConfiguration object

Required: No

**KmsKeyId**

A customer provided KMS key used to encrypt the scheduled query resource.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

**LastRunSummary**

Runtime summary for the last scheduled query run.

Type: ScheduledQueryRunSummary object

Required: No

**NextInvocationTime**

The next time the scheduled query is scheduled to run.

Type: Timestamp

Required: No

**PreviousInvocationTime**

Last time the query was run.

Type: Timestamp

Required: No

**RecentlyFailedRuns**

Runtime summary for the last five failed scheduled query runs.

Type: Array of ScheduledQueryRunSummary objects

Required: No

**ScheduledQueryExecutionRoleArn**

IAM role that Timestream uses to run the schedule query.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: No

**TargetConfiguration**

Scheduled query target store configuration.

Type: TargetConfiguration object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ScheduledQueryInsights

Service: Amazon Timestream Query

Encapsulates settings for enabling `QueryInsights` on an `ExecuteScheduledQueryRequest`.

## Contents

### Mode

Provides the following modes to enable `ScheduledQueryInsights`:

- `ENABLED_WITH_RATE_CONTROL` – Enables `ScheduledQueryInsights` for the queries being processed. This mode also includes a rate control mechanism, which limits the `QueryInsights` feature to 1 query per second (QPS).
- `DISABLED` – Disables `ScheduledQueryInsights`.

Type: String

Valid Values: `ENABLED_WITH_RATE_CONTROL | DISABLED`

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ScheduledQueryInsightsResponse

Service: Amazon Timestream Query

Provides various insights and metrics related to the `ExecuteScheduledQueryRequest` that was executed.

## Contents

**OutputBytes**

Indicates the size of query result set in bytes. You can use this data to validate if the result set has changed as part of the query tuning exercise.

Type: Long

Required: No

**OutputRows**

Indicates the total number of rows returned as part of the query result set. You can use this data to validate if the number of rows in the result set have changed as part of the query tuning exercise.

Type: Long

Required: No

**QuerySpatialCoverage**

Provides insights into the spatial coverage of the query, including the table with sub-optimal (max) spatial pruning. This information can help you identify areas for improvement in your partitioning strategy to enhance spatial pruning.

Type: QuerySpatialCoverage object

Required: No

**QueryTableCount**

Indicates the number of tables in the query.

Type: Long

Required: No

**QueryTemporalRange**

Provides insights into the temporal range of the query, including the table with the largest (max) time range. Following are some of the potential options for optimizing time-based pruning:

- Add missing time-predicates.
- Remove functions around the time predicates.
- Add time predicates to all the sub-queries.

Type: QueryTemporalRange object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# ScheduledQueryRunSummary

Service: Amazon Timestream Query

Run summary for the scheduled query

## Contents

**ErrorReportLocation**

S3 location for error report.

Type: ErrorReportLocation object

Required: No

**ExecutionStats**

Runtime statistics for a scheduled run.

Type: ExecutionStats object

Required: No

**FailureReason**

Error message for the scheduled query in case of failure. You might have to look at the error report to get more detailed error reasons.

Type: String

Required: No

**InvocationTime**

InvocationTime for this run. This is the time at which the query is scheduled to run. Parameter `@scheduled_runtime` can be used in the query to get the value.

Type: Timestamp

Required: No

**QueryInsightsResponse**

Provides various insights and metrics related to the run summary of the scheduled query.

Type: ScheduledQueryInsightsResponse object

Required: No

**RunStatus**

The status of a scheduled query run.

Type: String

Valid Values: `AUTO_TRIGGER_SUCCESS | AUTO_TRIGGER_FAILURE | MANUAL_TRIGGER_SUCCESS | MANUAL_TRIGGER_FAILURE`

Required: No

**TriggerTime**

The actual time when the query was run.

Type: Timestamp

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# SelectColumn

Service: Amazon Timestream Query

Details of the column that is returned by the query.

## Contents

**Aliased**

True, if the column name was aliased by the query. False otherwise.

Type: Boolean

Required: No

**DatabaseName**

Database that has this column.

Type: String

Required: No

**Name**

Name of the column.

Type: String

Required: No

**TableName**

Table within the database that has this column.

Type: String

Required: No

**Type**

Contains the data type of a column in a query result set. The data type can be scalar or complex. The supported scalar data types are integers, Boolean, string, double, timestamp, date, time, and intervals. The supported complex data types are arrays, rows, and timeseries.

Type: Type object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# SnsConfiguration

Service: Amazon Timestream Query

Details on SNS that are required to send the notification.

## Contents

### TopicArn

SNS topic ARN that the scheduled query status notifications will be sent to.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2048.

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Tag

Service: Amazon Timestream Query

A tag is a label that you assign to a Timestream database and/or table. Each tag consists of a key and an optional value, both of which you define. Tags enable you to categorize databases and/or tables, for example, by purpose, owner, or environment.

## Contents

**Key**

The key of the tag. Tag keys are case sensitive.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

**Value**

The value of the tag. Tag values are case sensitive and can be null.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# TargetConfiguration

Service: Amazon Timestream Query

Configuration used for writing the output of a query.

## Contents

### TimestreamConfiguration

Configuration needed to write data into the Timestream database and table.

Type: TimestreamConfiguration object

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# TargetDestination

Service: Amazon Timestream Query

Destination details to write data for a target data source. Current supported data source is Timestream.

## Contents

### TimestreamDestination

Query result destination details for Timestream data source.

Type: TimestreamDestination object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# TimeSeriesDataPoint

Service: Amazon Timestream Query

The timeseries data type represents the values of a measure over time. A time series is an array of rows of timestamps and measure values, with rows sorted in ascending order of time. A TimeSeriesDataPoint is a single data point in the time series. It represents a tuple of (time, measure value) in a time series.

## Contents

**Time**

The timestamp when the measure value was collected.

Type: String

Required: Yes

**Value**

The measure value for the data point.

Type: Datum object

Required: Yes

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# TimestreamConfiguration

Service: Amazon Timestream Query

Configuration to write data into Timestream database and table. This configuration allows the user to map the query result select columns into the destination table columns.

## Contents

**DatabaseName**

Name of Timestream database to which the query result will be written.

Type: String

Required: Yes

**DimensionMappings**

This is to allow mapping column(s) from the query result to the dimension in the destination table.

Type: Array of DimensionMapping objects

Required: Yes

**TableName**

Name of Timestream table that the query result will be written to. The table should be within the same database that is provided in Timestream configuration.

Type: String

Required: Yes

**TimeColumn**

Column from query result that should be used as the time column in destination table. Column type for this should be TIMESTAMP.

Type: String

Required: Yes

**MeasureNameColumn**

Name of the measure column.

Type: String

Required: No

**MixedMeasureMappings**

Specifies how to map measures to multi-measure records.

Type: Array of MixedMeasureMapping objects

Array Members: Minimum number of 1 item.

Required: No

**MultiMeasureMappings**

Multi-measure mappings.

Type: MultiMeasureMappings object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# TimestreamDestination

Service: Amazon Timestream Query

Destination for scheduled query.

## Contents

**DatabaseName**

Timestream database name.

Type: String

Required: No

**TableName**

Timestream table name.

Type: String

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Type

Service: Amazon Timestream Query

Contains the data type of a column in a query result set. The data type can be scalar or complex. The supported scalar data types are integers, Boolean, string, double, timestamp, date, time, and intervals. The supported complex data types are arrays, rows, and timeseries.

## Contents

**ArrayColumnInfo**

Indicates if the column is an array.

Type: ColumnInfo object

Required: No

**RowColumnInfo**

Indicates if the column is a row.

Type: Array of ColumnInfo objects

Required: No

**ScalarType**

Indicates if the column is of type string, integer, Boolean, double, timestamp, date, time. For more information, see Supported data types.

Type: String

Valid Values: `VARCHAR | BOOLEAN | BIGINT | DOUBLE | TIMESTAMP | DATE | TIME | INTERVAL_DAY_TO_SECOND | INTERVAL_YEAR_TO_MONTH | UNKNOWN | INTEGER`

Required: No

**TimeSeriesMeasureValueColumnInfo**

Indicates if the column is a timeseries data type.

Type: ColumnInfo object

Required: No

## See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Java V2
- AWS SDK for Ruby V3

# Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see Signing AWS API requests in the *IAM User Guide*.

**X-Amz-Algorithm**

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: `AWS4-HMAC-SHA256`

Required: Conditional

**X-Amz-Credential**

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: *access_key*/*YYYYMMDD*/*region*/*service*/aws4_request.

For more information, see Create a signed AWS API request in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

**X-Amz-Date**

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: `20120325T120000Z`.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see Elements of an AWS API request signature in the *IAM User Guide*.

Type: string

Required: Conditional

**X-Amz-Security-Token**

The temporary security token that was obtained through a call to AWS Security Token Service (AWS STS). For a list of services that support temporary security credentials from AWS STS, see AWS services that work with IAM in the *IAM User Guide*.

Condition: If you're using temporary security credentials from AWS STS, you must include the security token.

Type: string

Required: Conditional

**X-Amz-Signature**

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

**X-Amz-SignedHeaders**

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see Create a signed AWS API request in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

# Common Error Types

This section lists common error types that this AWS service may return. Not all services return all error types listed here. For errors specific to an API action for this service, see the topic for that API action.

**AccessDeniedException**

You don't have permission to perform this action. Verify that your IAM policy includes the required permissions.

HTTP Status Code: 403

**ExpiredTokenException**

The security token included in the request has expired. Request a new security token and try again.

HTTP Status Code: 403

**IncompleteSignature**

The request signature doesn't conform to AWS standards. Verify that you're using valid AWS credentials and that your request is properly formatted. If you're using an SDK, ensure it's up to date.

HTTP Status Code: 403

**InternalFailure**

The request can't be processed right now because of an internal server issue. Try again later. If the problem persists, contact AWS Support.

HTTP Status Code: 500

**MalformedHttpRequestException**

The request body can't be processed. This typically happens when the request body can't be decompressed using the specified content encoding algorithm. Verify that the content encoding header matches the compression format used.

HTTP Status Code: 400

**NotAuthorized**

You don't have permissions to perform this action. Verify that your IAM policy includes the required permissions.

HTTP Status Code: 401

**OptInRequired**

Your AWS account needs a subscription for this service. Verify that you've enabled the service in your account.

HTTP Status Code: 403

**RequestAbortedException**

The request was aborted before a response could be returned. This typically happens when the client closes the connection.

HTTP Status Code: 400

**RequestEntityTooLargeException**

The request entity is too large. Reduce the size of the request body and try again.

HTTP Status Code: 413

**RequestTimeoutException**

The request timed out. The server didn't receive the complete request within the expected time frame. Try again.

HTTP Status Code: 408

**ServiceUnavailable**

The service is temporarily unavailable. Try again later.

HTTP Status Code: 503

**ThrottlingException**

Your request rate is too high. The AWS SDKs automatically retry requests that receive this exception. Reduce the frequency of requests.

HTTP Status Code: 400

**UnknownOperationException**

The action or operation isn't recognized. Verify that the action name is spelled correctly and that it's supported by the API version you're using.

HTTP Status Code: 404

**UnrecognizedClientException**

The X.509 certificate or AWS access key ID you provided doesn't exist in our records. Verify that you're using valid credentials and that they haven't expired.

HTTP Status Code: 403

**ValidationError**

The input doesn't meet the required format or constraints. Check that all required parameters are included and that values are valid.

HTTP Status Code: 400