aws

API Reference

Amazon RDS Performance Insights

API Version 2018-02-27

Amazon RDS Performance Insights: API Reference

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Welcome

Amazon RDS Performance Insights enables you to monitor and explore different dimensions of database load based on data captured from a running DB instance. The guide provides detailed information about Performance Insights data types, parameters and errors.

When Performance Insights is enabled, the Amazon RDS Performance Insights API provides visibility into the performance of your DB instance. Amazon CloudWatch provides the authoritative source for AWS service-vended monitoring metrics. Performance Insights offers a domain-specific view of DB load.

DB load is measured as average active sessions. Performance Insights provides the data to API consumers as a two-dimensional time-series dataset. The time dimension provides DB load data for each time point in the queried time range. Each time point decomposes overall load in relation to the requested dimensions, measured at that time point. Examples include SQL, Wait event, User, and Host.

- To learn more about Performance Insights and Amazon Aurora DB instances, go to the *Amazon Aurora User Guide* .
- To learn more about Performance Insights and Amazon RDS DB instances, go to the *Amazon RDS User Guide* .
- To learn more about Performance Insights and Amazon DocumentDB clusters, go to the *Amazon DocumentDB Developer Guide* .

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Actions

The following actions are supported:

- CreatePerformanceAnalysisReport
- DeletePerformanceAnalysisReport
- DescribeDimensionKeys
- GetDimensionKeyDetails
- GetPerformanceAnalysisReport
- GetResourceMetadata
- GetResourceMetrics
- ListAvailableResourceDimensions
- ListAvailableResourceMetrics
- ListPerformanceAnalysisReports
- ListTagsForResource
- TagResource
- UntagResource

CreatePerformanceAnalysisReport

Creates a new performance analysis report for a specific time period for the DB instance.

Request Syntax

```
{
   "EndTime": number,
   "Identifier": "string",
   "ServiceType": "string",
   "StartTime": number,
   "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.

> **Note**
>
> In the following list, the required parameters are described first.

EndTime

The end time defined for the analysis report.

Type: Timestamp

Required: Yes

Identifier

An immutable, AWS Region-unique identifier for a data source. Performance Insights gathers metrics from this data source.

To use an Amazon RDS instance as a data source, you specify its `DbiResourceId` value. For example, specify `db-ADECBTYHKTSAUMUZQYPDS2GW4A`.

Type: String

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

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

Required: Yes

ServiceType

The AWS service for which Performance Insights will return metrics. Valid value is `RDS`.

Type: String

Valid Values: `RDS | DOCDB`

Required: Yes

StartTime

The start time defined for the analysis report.

Type: Timestamp

Required: Yes

Tags

The metadata assigned to the analysis report consisting of a key-value pair.

Type: Array of Tag objects

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

Required: No

Response Syntax

```
{
   "AnalysisReportId": "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.

AnalysisReportId

A unique identifier for the created analysis report.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `report-[0-9a-f]{17}`

Errors

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

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

Create a performance analysis report

The following example creates a performance analysis report for the specified time period and adds the specified tag to the report.

Sample Request

```
POST / HTTP/1.1
Host: <Hostname>
Accept-Encoding: identity
X-Amz-Target: PerformanceInsightsv20180227.CreatePerformanceAnalysisReport
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>

{
    "ServiceType": "RDS",
    "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
    "StartTime": 1689280091,
    "EndTime": 1689282071,
    "Tags": [{
        "Key": "Name",
        "Value": "MyName"
    }]
}
```

Sample Response

```
                    HTTP/1.1 200 OK
Content-Type: application/x-amz-json-1.1
Date: <Date>
x-amzn-RequestId: <RequestId>
Content-Length: <PayloadSizeBytes>
Connection: keep-alive

{
    "AnalysisReportId": "report-01234567890abcdef"
}
```

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

DeletePerformanceAnalysisReport

Deletes a performance analysis report.

Request Syntax

```
{
   "AnalysisReportId": "string",
   "Identifier": "string",
   "ServiceType": "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.

> **Note**
>
> In the following list, the required parameters are described first.

AnalysisReportId

The unique identifier of the analysis report for deletion.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `report-[0-9a-f]{17}`

Required: Yes

Identifier

An immutable identifier for a data source that is unique for an AWS Region. Performance Insights gathers metrics from this data source. In the console, the identifier is shown as *ResourceID*. When you call `DescribeDBInstances`, the identifier is returned as `DbiResourceId`.

To use a DB instance as a data source, specify its `DbiResourceId` value. For example, specify `db-ABCDEFGHIJKLMNOPQRSTU1VW2X`.

Type: String

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

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

Required: Yes

ServiceType

The AWS service for which Performance Insights will return metrics. Valid value is `RDS`.

Type: String

Valid Values: `RDS | DOCDB`

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.

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

Delete a perfornamce analysis report

The following example deletes the performance analysis report `report-01234567890abcdef`.

Sample Request

```
                    POST / HTTP/1.1
Host: <Hostname>
Accept-Encoding: identity
X-Amz-Target: PerformanceInsightsv20180227.GetPerformanceAnalysisReport
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>

{
    "AnalysisReportId": "report-01234567890abcdef",
    "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
    "ServiceType": "RDS"
}
```

Sample Response

```
                    HTTP/1.1 200 OK
Content-Type: application/x-amz-json-1.1
Date: <Date>
x-amzn-RequestId: <RequestId>
Content-Length: <PayloadSizeBytes>
Connection: keep-alive
```

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

DescribeDimensionKeys

For a specific time period, retrieve the top `N` dimension keys for a metric.

> **Note**
>
> Each response element returns a maximum of 500 bytes. For larger elements, such as SQL statements, only the first 500 bytes are returned.

Request Syntax

```
{
   "AdditionalMetrics": [ "string" ],
   "EndTime": number,
   "Filter": {
      "string" : "string"
   },
   "GroupBy": {
      "Dimensions": [ "string" ],
      "Group": "string",
      "Limit": number
   },
   "Identifier": "string",
   "MaxResults": number,
   "Metric": "string",
   "NextToken": "string",
   "PartitionBy": {
      "Dimensions": [ "string" ],
      "Group": "string",
      "Limit": number
   },
   "PeriodInSeconds": number,
   "ServiceType": "string",
   "StartTime": number
}
```

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.

> **Note**
>
> In the following list, the required parameters are described first.

EndTime

The date and time specifying the end of the requested time series data. The value specified is *exclusive*, which means that data points less than (but not equal to) `EndTime` are returned.

The value for `EndTime` must be later than the value for `StartTime`.

Type: Timestamp

Required: Yes

GroupBy

A specification for how to aggregate the data points from a query result. You must specify a valid dimension group. Performance Insights returns all dimensions within this group, unless you provide the names of specific dimensions within this group. You can also request that Performance Insights return a limited number of values for a dimension.

Type: DimensionGroup object

Required: Yes

Identifier

An immutable, AWS Region-unique identifier for a data source. Performance Insights gathers metrics from this data source.

To use an Amazon RDS instance as a data source, you specify its `DbiResourceId` value. For example, specify `db-FAIHNTYBKTGAUSUZQYPDS2GW4A`.

Type: String

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

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

Required: Yes

Metric

The name of a Performance Insights metric to be measured.

Valid values for `Metric` are:

- `db.load.avg` - A scaled representation of the number of active sessions for the database engine.
- `db.sampledload.avg` - The raw number of active sessions for the database engine.

If the number of active sessions is less than an internal Performance Insights threshold, `db.load.avg` and `db.sampledload.avg` are the same value. If the number of active sessions is greater than the internal threshold, Performance Insights samples the active sessions, with `db.load.avg` showing the scaled values, `db.sampledload.avg` showing the raw values, and `db.sampledload.avg` less than `db.load.avg`. For most use cases, you can query `db.load.avg` only.

Type: String

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

Pattern: `.*\S.*`

Required: Yes

ServiceType

The AWS service for which Performance Insights will return metrics. Valid values are as follows:

- `RDS`
- `DOCDB`

Type: String

Valid Values: `RDS | DOCDB`

Required: Yes

StartTime

The date and time specifying the beginning of the requested time series data. You must specify a `StartTime` within the past 7 days. The value specified is *inclusive*, which means that data points equal to or greater than `StartTime` are returned.

The value for `StartTime` must be earlier than the value for `EndTime`.

Type: Timestamp

Required: Yes

AdditionalMetrics

Additional metrics for the top `N` dimension keys. If the specified dimension group in the `GroupBy` parameter is `db.sql_tokenized`, you can specify per-SQL metrics to get the values for the top `N` SQL digests. The response syntax is as follows: `"AdditionalMetrics" : { "string" : "string" }`.

The only supported statistic function is `.avg`.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 30 items.

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

Pattern: `^[a-zA-Z0-9-_\.:/*)( ]+$`

Required: No

Filter

One or more filters to apply in the request. Restrictions:

- Any number of filters by the same dimension, as specified in the `GroupBy` or `Partition` parameters.
- A single filter for any other dimension in this dimension group.

> **Note**
>
> The `db.sql.db_id` filter isn't available for RDS for SQL Server DB instances.

Type: String to string map

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

Key Pattern: `^[a-zA-Z0-9-_\.:/*)( ]+$`

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

Value Pattern: `.*\S.*`

Required: No

MaxResults

The maximum number of items to return in the response. If more items exist than the specified `MaxRecords` value, a pagination token is included in the response so that the remaining results can be retrieved.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 25.

Required: No

NextToken

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the token, up to the value specified by `MaxRecords`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 8192.

Pattern: `^[a-zA-Z0-9_=-]+$`

Required: No

PartitionBy

For each dimension specified in `GroupBy`, specify a secondary dimension to further subdivide the partition keys in the response.

Type: DimensionGroup object

Required: No

PeriodInSeconds

The granularity, in seconds, of the data points returned from Performance Insights. A period can be as short as one second, or as long as one day (86400 seconds). Valid values are:

- `1` (one second)
- `60` (one minute)
- `300` (five minutes)
- `3600` (one hour)

- 86400 (twenty-four hours)

If you don't specify PeriodInSeconds, then Performance Insights chooses a value for you, with a goal of returning roughly 100-200 data points in the response.

Type: Integer

Required: No

Response Syntax

```
{
   "AlignedEndTime": number,
   "AlignedStartTime": number,
   "Keys": [
      {
         "AdditionalMetrics": {
            "string" : number
         },
         "Dimensions": {
            "string" : "string"
         },
         "Partitions": [ number ],
         "Total": number
      }
   ],
   "NextToken": "string",
   "PartitionKeys": [
      {
         "Dimensions": {
            "string" : "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.

AlignedEndTime

The end time for the returned dimension keys, after alignment to a granular boundary (as specified by `PeriodInSeconds`). `AlignedEndTime` will be greater than or equal to the value of the user-specified `Endtime`.

Type: Timestamp

AlignedStartTime

The start time for the returned dimension keys, after alignment to a granular boundary (as specified by `PeriodInSeconds`). `AlignedStartTime` will be less than or equal to the value of the user-specified `StartTime`.

Type: Timestamp

Keys

The dimension keys that were requested.

Type: Array of DimensionKeyDescription objects

NextToken

A pagination token that indicates the response didn't return all available records because `MaxRecords` was specified in the previous request. To get the remaining records, specify `NextToken` in a separate request with this value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 8192.

Pattern: `^[a-zA-Z0-9_=-]+$`

PartitionKeys

If `PartitionBy` was present in the request, `PartitionKeys` contains the breakdown of dimension keys by the specified partitions.

Type: Array of ResponsePartitionKey objects

Errors

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

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

Retrieve top dimension keys

The following example retrieves the top 10 dimension keys for metrics `db.load.avg`, `db.sql_tokenized.stats.calls_per_sec.avg`, and `db.sql_tokenized.statement` over a specific 5-minute time range. The request returns the metrics in dimension groups `db.sql_tokenized.id` and `db.sql_tokenized.statement`. For both of these dimension groups, the request subdivides the partition keys by `db.user.id` and `db.user.name`.

Sample Request

```
POST / HTTP/1.1
Host: <Hostname>
Accept-Encoding: identity
X-Amz-Target: PerformanceInsightsv20180227.DescribeDimensionKeys
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>

{
```

```
   "ServiceType": "RDS",
   "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
   "StartTime": 1603915200,
   "EndTime": 1603918800,
   "PeriodInSeconds": 300,
   "Metric": "db.load.avg",
   "GroupBy": {
      "Dimensions": [ "db.sql_tokenized.id", "db.sql_tokenized.statement" ],
      "Group": "db.sql_tokenized",
      "Limit": 5
   },
   "Filter": {
      "db.user.name" : "example-user"
   },
   "PartitionBy": {
      "Dimensions": [ "db.user.id", "db.user.name" ],
      "Group": "db.user",
      "Limit": 5
   },
   "MaxResults": 10,
   "AdditionalMetrics": [
      "db.sql_tokenized.stats.calls_per_sec.avg",
      "db.sql_tokenized.stats.rows_per_sec.avg"
   ]
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Type: application/x-amz-json-1.1
Date: <Date>
x-amzn-RequestId: <RequestId>
Content-Length: <PayloadSizeBytes>
Connection: keep-alive

{
   "AlignedEndTime": 1.6244895E9,
   "AlignedStartTime": 1.6244889E9,
   "Keys": [
      {
         "Dimensions": {
            "db.sql_tokenized.id" : "12A345BCDE67F8G9H012I3IJKI4J5675K8L912M",
```

```
            "db.sql_tokenized.statement" : "INSERT INTO pgbench_history (tid, bid, aid,
 delta, mtime) VALUES (?, ?, ?, ?, CURRENT_TIMESTAMP);"
          },
          "Partitions": [ 2.1333333333333333 ],
          "Total": 2.1333333333333333,
          "AdditionalMetrics" : {
             "db.sql_tokenized.stats.calls_per_sec.avg": 1.0,
             "db.sql_tokenized.stats.rows_per_sec.avg": 3.0
          }
       },
       ......
    ],
    "PartitionKeys": [
      {
         "Dimensions": {
           "db.user.name": "example-user",
           "db.user.id": "A12B3456C7D8E890F123F45G67HIJ8K9LM0N1O2"
         }
      }
    ]
}
}
```

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

GetDimensionKeyDetails

Get the attributes of the specified dimension group for a DB instance or data source. For example, if you specify a SQL ID, `GetDimensionKeyDetails` retrieves the full text of the dimension `db.sql.statement` associated with this ID. This operation is useful because `GetResourceMetrics` and `DescribeDimensionKeys` don't support retrieval of large SQL statement text, lock snapshots, and execution plans.

Request Syntax

```
{
   "Group": "string",
   "GroupIdentifier": "string",
   "Identifier": "string",
   "RequestedDimensions": [ "string" ],
   "ServiceType": "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.

> **Note**
>
> In the following list, the required parameters are described first.

Group

The name of the dimension group. Performance Insights searches the specified group for the dimension group ID. The following group name values are valid:

- `db.execution_plan` (Amazon RDS and Aurora only)
- `db.lock_snapshot` (Aurora only)
- `db.query` (Amazon DocumentDB only)
- `db.sql` (Amazon RDS and Aurora only)

Type: String

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

Pattern: `.*\S.*`

Required: Yes

GroupIdentifier

The ID of the dimension group from which to retrieve dimension details. For dimension group `db.sql`, the group ID is `db.sql.id`. The following group ID values are valid:

- `db.execution_plan.id` for dimension group `db.execution_plan` (Aurora and RDS only)
- `db.sql.id` for dimension group `db.sql` (Aurora and RDS only)
- `db.query.id` for dimension group `db.query` (DocumentDB only)
- For the dimension group `db.lock_snapshot`, the `GroupIdentifier` is the epoch timestamp when Performance Insights captured the snapshot, in seconds. You can retrieve this value with the `GetResourceMetrics` operation for a 1 second period.

Type: String

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

Pattern: `.*\S.*`

Required: Yes

Identifier

The ID for a data source from which to gather dimension data. This ID must be immutable and unique within an AWS Region. When a DB instance is the data source, specify its `DbiResourceId` value. For example, specify `db-ABCDEFGHIJKLMNOPQRSTU1VW2X`.

Type: String

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

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

Required: Yes

ServiceType

The AWS service for which Performance Insights returns data. The only valid value is RDS.

Type: String

Valid Values: RDS | DOCDB

Required: Yes

RequestedDimensions

A list of dimensions to retrieve the detail data for within the given dimension group. If you don't specify this parameter, Performance Insights returns all dimension data within the specified dimension group. Specify dimension names for the following dimension groups:

- db.execution_plan - Specify the dimension name db.execution_plan.raw_plan or the short dimension name raw_plan (Amazon RDS and Aurora only)
- db.lock_snapshot - Specify the dimension name db.lock_snapshot.lock_trees or the short dimension name lock_trees. (Aurora only)
- db.sql - Specify either the full dimension name db.sql.statement or the short dimension name statement (Aurora and RDS only).
- db.query - Specify either the full dimension name db.query.statement or the short dimension name statement (DocumentDB only).

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

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

Pattern: ^[a-zA-Z0-9-_\.:/*)( ]+$

Required: No

Response Syntax

```
{
   "Dimensions": [
      {
         "Dimension": "string",
         "Status": "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.

Dimensions

The details for the requested dimensions.

Type: Array of DimensionKeyDetail objects

Errors

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

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

Retrieve the full SQL text for a query

The following example requests the full text for the SQL query with the ID `example-group-identifier`, which is a placeholder for a SQL ID that you retrieved by calling `GetResourceMetrics` or `DescribeDimensionKeys`. Because the dimension details are available, the response shows the full SQL text.

Sample Request

```
{
    "ServiceType":"RDS",
    "Identifier":"db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
    "Group": "db.sql",
    "GroupIdentifier": "example-group-identifier",
    "RequestedDimensions": ["statement"]
}
```

Sample Response

```
{
    "Dimensions":[
    {
        "Value": "SELECT e.last_name, d.department_name FROM employees e, departments d
 WHERE e.department_id=d.department_id",
        "Dimension": "db.sql.statement",
        "Status": "AVAILABLE"
    },
    ...
    ]
}
```

Retrieve locking data for a database at a point in time

The following example requests locking data at the epoch timestamp `1730231303`. You can retrieve the epoch timestamp with the `GetResourceMetrics` operation for a 1 second period.

Note that Performance Insights uses the comma-separated values format for the response. Each column value is enclosed in double quotation marks (" ") and separated by a comma. Each line is separated by a new line. The first line in the response describes the column names, and each of the following lines represents session data from a blocking or blocked session. The value `level` is the level of the session in the blocking tree hierarchy. For example, the session at level 0 is blocking the sessions at level 1.

Sample Request

```
{
    "ServiceType":"RDS",
    "Identifier":"db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
```

```
    "Group": "db.lock_snapshot",
    "GroupIdentifier": "1730231303",
    "RequestedDimensions": ["lock_trees"]
}
```

Sample Response

```
{
    "Dimensions":[
    {
        "Value": "\"level\",\"blocked_sessions_count\",\"pid\",\"session_id
\",\"blocking_mode\",\"waiting_mode\",\"last_query_executed\",\"application
\",\"blocking_txn_start_time\",\"waiting_start_time\",\"session_start_time
\",\"state\",\"wait_event_type\",\"wait_event\",\"last_query_exec_time\",
\"user\",\"host\",\"port\",\"client_address\",\"granted\",\"waiting_tuple\",
\"waiting_page\",\"waiting_transaction_id\",\"waiting_relation\",\"waiting_object_id
\",\"waiting_database_id\",\"waiting_database_name\",\"waiting_locktype\",
\"blocking_time_(In_Seconds)\"\n\"0\",\"4\",\"28599\",\"63bcb300.6fb7\",\"\",\"\",
\"update sbtest1 set id = 200000 where id=1;\",\"psql\",\"\",\"\",\"1672533380000\",
\"idle in transaction\",\"Client\",\"ClientRead\",\"1672533380000\",\"postgres\",\"\",
\"37444\",\"34.222.155.102\",\"t\",\"\",\"\",\"\",\"\",\"\",\"\",\"\",\"\",\"\",\"42\"\n
\"1\",\"3\",\"30877\",\"63bcbc21.789d\",\"ExclusiveLock\",\"ShareLock\",\"update
 sbtest1 set id=20000 where id=1;\",\"psql\",\"1672533380000\",\"1672535758000\",
\"1672535758000\",\"active\",\"Lock\",\"transactionid\",\"1672535758000\",\"postgres
\",\"\",\"35064\",\"34.222.155.102\",\"f\",\"\",\"\",\"569470\",\"\",\"\",\"\",
\"sbtest\",\"transactionid\",\"2430\"\n\"2\",\"2\",\"30937\",\"63bcbc5c.78d9\",
\"AccessExclusiveLock\",\"AccessExclusiveLock\",\"update sbtest1 set id = 200000 where
 id=1;\",\"psql\",\"1672535758000\",\"1672533370000\",\"1672533370000\",\"active\",
\"Lock\",\"tuple\",\"1672533370000\",\"postgres\",\"\",\"37398\",\"34.222.155.102\",
\"f\",\"1\",\"0\",\"\",\"16946\",\"\",\"16839\",\"sbtest\",\"tuple\",\"2470\"\n
\"3\",\"1\",\"31029\",\"63bcbcbf.7935\",\"AccessExclusiveLock\",\"AccessExclusiveLock
\",\"update sbtest1 set id = 200000 where id=1;\",\"psql\",\"1672533370000\",
\"1672533330000\",\"1672533330000\",\"active\",\"Lock\",\"tuple\",\"1672533330000\",
\"postgres\",\"\",\"36266\",\"34.222.155.102\",\"f\",\"1\",\"0\",\"\",\"16946\",\"\",
\"16839\",\"sbtest\",\"tuple\",\"2440\"\n\"4\",\"0\",\"31062\",\"63bcbcd8.7956\",
\"AccessExclusiveLock\",\"AccessExclusiveLock\",\"update sbtest1 set id = 200000 where
 id=1;\",\"psql\",\"1672533330000\",\"1672533360000\",\"1672533360000\",\"active\",
\"Lock\",\"tuple\",\"1672533360000\",\"postgres\",\"\",\"56694\",\"34.222.155.102\",\"f
\",\"1\",\"0\",\"\",\"16946\",\"\",\"16839\",\"sbtest\",\"tuple\",\"\"\n",
        "Dimension": "db.lock_snapshot",
        "Status": "AVAILABLE"
    },
    ...
```

```
    ]
}
```

Retrieve execution plans for a database

The following example requests execution plans for a database, where the plan ID is 435345209.

Sample Request

```
{
      "ServiceType": "RDS",
      "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
      "GroupIdentifier": "435345209",
      "Group": "db.execution_plan",
      "RequestedDimensions": ["raw_plan"]
}
```

Sample Response

```
{
      "Dimensions":[
      {
         "Value": "Update on orders  (cost=0.43..8.46 rows=0 width=0)\n  ->  Index Scan
 using orders_pk on orders  (cost=0.43..8.46 rows=1 width=14)\n        Index Cond:
 (order_id = 200)"
         "Dimension": "db.execution_plan.raw_plan",
         "Status": "AVAILABLE",
      }
      ]
}
```

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

GetPerformanceAnalysisReport

Retrieves the report including the report ID, status, time details, and the insights with recommendations. The report status can be `RUNNING`, `SUCCEEDED`, or `FAILED`. The insights include the `description` and `recommendation` fields.

Request Syntax

```
{
   "AcceptLanguage": "string",
   "AnalysisReportId": "string",
   "Identifier": "string",
   "ServiceType": "string",
   "TextFormat": "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.

> **Note**
>
> In the following list, the required parameters are described first.

AnalysisReportId

A unique identifier of the created analysis report. For example, `report-12345678901234567`

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `report-[0-9a-f]{17}`

Required: Yes

Identifier

An immutable identifier for a data source that is unique for an AWS Region. Performance Insights gathers metrics from this data source. In the console, the identifier is shown

as *ResourceID*. When you call `DescribeDBInstances`, the identifier is returned as `DbiResourceId`.

To use a DB instance as a data source, specify its `DbiResourceId` value. For example, specify `db-ABCDEFGHIJKLMNOPQRSTU1VW2X`.

Type: String

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

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

Required: Yes

ServiceType

The AWS service for which Performance Insights will return metrics. Valid value is `RDS`.

Type: String

Valid Values: `RDS | DOCDB`

Required: Yes

AcceptLanguage

The text language in the report. The default language is `EN_US` (English).

Type: String

Valid Values: `EN_US`

Required: No

TextFormat

Indicates the text format in the report. The options are `PLAIN_TEXT` or `MARKDOWN`. The default value is `plain text`.

Type: String

Valid Values: `PLAIN_TEXT | MARKDOWN`

Required: No

Response Syntax

```
{
   "AnalysisReport": {
      "AnalysisReportId": "string",
      "CreateTime": number,
      "EndTime": number,
      "Identifier": "string",
      "Insights": [
         {
            "BaselineData": [
               {
                  "PerformanceInsightsMetric": {
                     "Dimensions": {
                        "string" : "string"
                     },
                     "DisplayName": "string",
                     "Filter": {
                        "string" : "string"
                     },
                     "Metric": "string",
                     "Value": number
                  }
               }
            ],
            "Context": "string",
            "Description": "string",
            "EndTime": number,
            "InsightData": [
               {
                  "PerformanceInsightsMetric": {
                     "Dimensions": {
                        "string" : "string"
                     },
                     "DisplayName": "string",
                     "Filter": {
                        "string" : "string"
                     },
                     "Metric": "string",
                     "Value": number
                  }
               }
            ],
```

```
            "InsightId": "string",
            "InsightType": "string",
            "Recommendations": [
               {
                  "RecommendationDescription": "string",
                  "RecommendationId": "string"
               }
            ],
            "Severity": "string",
            "StartTime": number,
            "SupportingInsights": [
               "Insight"
            ]
         }
      ],
      "ServiceType": "string",
      "StartTime": number,
      "Status": "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.

AnalysisReport

The summary of the performance analysis report created for a time period.

Type: AnalysisReport object

Errors

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

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

Retrieve a performance analysis report

The following example gets the report insights and other details for the report `report-01234567890abcdef`.

Sample Request

```
                    POST / HTTP/1.1
Host: <Hostname>
Accept-Encoding: identity
X-Amz-Target: PerformanceInsightsv20180227.GetPerformanceAnalysisReport
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>

{
    "AnalysisReportId": "report-01234567890abcdef",
    "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
    "ServiceType": "RDS"
}
```

Sample Response

```
                    HTTP/1.1 200 OK
Content-Type: application/x-amz-json-1.1
Date: <Date>
x-amzn-RequestId: <RequestId>
Content-Length: <PayloadSizeBytes>
Connection: keep-alive

{
    "AnalysisReport": {
        "AnalysisReportId": "report-01234567890abcdef",
        "CreateTime": 1690906983.028,
        "EndTime": 1690453065,
        "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
        "Insights": [
            {
                "BaselineData": [
                    {
                        "PerformanceInsightsMetric": {
                            "Dimensions": {},
                            "Metric": "db.load.avg",
                            "Value": 0
                        }
                    }
                ],
                "Context": "CAUSAL",
                "Description": "The database is idle, with no detectable load for the
 time range.",
                "EndTime": 1690453065,
                "InsightData": [
                    {
                        "PerformanceInsightsMetric": {
                            "Dimensions": {},
                            "Metric": "db.load.avg",
                            "Value": 0
                        }
                    }
                ],
                "InsightId":
 "MURCX0xPQURfWkVSTwY8NIdQhkWEeU19Zybf8H636v470O8ID2uUn6uLWFp5MDAwMDAwMDAw",
                "InsightType": "DB_LOAD_ZERO",
                "Recommendations": [
                    {
                        "RecommendationDescription": "Try creating an analysis report
 for a different time range.",
```

```
                        "RecommendationId":
 "MVJlY29tbWVuZGF0aW9uREJfTE9BRF9aRVJPvXe8CGe_f-ZX2tY-
Em61aD6v2u9wcPi58j_zY28eKEwwMDAwMDAwMDA="
                    }
                ],
                "Severity": "LOW",
                "StartTime": 1690009222,
                "SupportingInsights": []
            }
        ],
        "ServiceType": "RDS",
        "StartTime": 1690009222,
        "Status": "SUCCEEDED"
    }
}
```

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

GetResourceMetadata

Retrieve the metadata for different features. For example, the metadata might indicate that a feature is turned on or off on a specific DB instance.

Request Syntax

```
{
   "Identifier": "string",
   "ServiceType": "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.

> **Note**
>
> In the following list, the required parameters are described first.

Identifier

An immutable identifier for a data source that is unique for an AWS Region. Performance Insights gathers metrics from this data source. To use a DB instance as a data source, specify its `DbiResourceId` value. For example, specify `db-ABCDEFGHIJKLMNOPQRSTU1VW2X`.

Type: String

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

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

Required: Yes

ServiceType

The AWS service for which Performance Insights returns metrics.

Type: String

Valid Values: `RDS | DOCDB`

Required: Yes

Response Syntax

```
{
   "Features": {
      "string" : {
         "Status": "string"
      }
   },
   "Identifier": "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.

Features

The metadata for different features. For example, the metadata might indicate that a feature is turned on or off on a specific DB instance.

Type: String to FeatureMetadata object map

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

Key Pattern: `.*\S.*`

Identifier

An immutable identifier for a data source that is unique for an AWS Region. Performance Insights gathers metrics from this data source. To use a DB instance as a data source, specify its `DbiResourceId` value. For example, specify `db-ABCDEFGHIJKLMNOPQRSTU1VW2X`.

Type: String

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

Pattern: `.*\S.*`

Errors

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

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

Retrieve metadata for different features

The following example requests all metadata for the database with the ID db-ABC1DEFGHIJKL2MNOPQRSTUV3W. The response shows that SQL digest statistics are enabled.

Sample Request

```
POST / HTTP/1.1
Host: <Hostname>
Accept-Encoding: identity
X-Amz-Target: PerformanceInsightsv20180227.GetResourceMetadata
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
```

```
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>

{
    "ServiceType": "RDS",
    "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W"
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Type: application/x-amz-json-1.1
Date: <Date>
x-amzn-RequestId: <RequestId>
Content-Length: <PayloadSizeBytes>
Connection: keep-alive

{
    "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
    "Features":{
        "SQL_DIGEST_STATISTICS":{
            "Status": "ENABLED"
        }
    }
}
```

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

GetResourceMetrics

Retrieve Performance Insights metrics for a set of data sources over a time period. You can provide specific dimension groups and dimensions, and provide filtering criteria for each group. You must specify an aggregate function for each metric.

> **Note**
>
> Each response element returns a maximum of 500 bytes. For larger elements, such as SQL statements, only the first 500 bytes are returned.

Request Syntax

```
{
   "EndTime": number,
   "Identifier": "string",
   "MaxResults": number,
   "MetricQueries": [
      {
         "Filter": {
            "string" : "string"
         },
         "GroupBy": {
            "Dimensions": [ "string" ],
            "Group": "string",
            "Limit": number
         },
         "Metric": "string"
      }
   ],
   "NextToken": "string",
   "PeriodAlignment": "string",
   "PeriodInSeconds": number,
   "ServiceType": "string",
   "StartTime": number
}
```

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.

> **Note**
>
> In the following list, the required parameters are described first.

EndTime

The date and time specifying the end of the requested time series query range. The value specified is *exclusive*. Thus, the command returns data points less than (but not equal to) `EndTime`.

The value for `EndTime` must be later than the value for `StartTime`.

Type: Timestamp

Required: Yes

Identifier

An immutable identifier for a data source that is unique for an AWS Region. Performance Insights gathers metrics from this data source. In the console, the identifier is shown as *ResourceID*. When you call `DescribeDBInstances`, the identifier is returned as `DbiResourceId`.

To use a DB instance as a data source, specify its `DbiResourceId` value. For example, specify `db-ABCDEFGHIJKLMNOPQRSTU1VW2X`.

Type: String

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

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

Required: Yes

MetricQueries

An array of one or more queries to perform. Each query must specify a Performance Insights metric and specify an aggregate function, and you can provide filtering criteria. You must append the aggregate function to the metric. For example, to find the average for the metric `db.load` you must use `db.load.avg`. Valid values for aggregate functions include `.avg`, `.min`, `.max`, and `.sum`.

Type: Array of MetricQuery objects

Array Members: Minimum number of 1 item. Maximum number of 15 items.

Required: Yes

ServiceType

The AWS service for which Performance Insights returns metrics. Valid values are as follows:

- RDS
- DOCDB

Type: String

Valid Values: RDS | DOCDB

Required: Yes

StartTime

The date and time specifying the beginning of the requested time series query range. You can't specify a StartTime that is earlier than 7 days ago. By default, Performance Insights has 7 days of retention, but you can extend this range up to 2 years. The value specified is *inclusive*. Thus, the command returns data points equal to or greater than StartTime.

The value for StartTime must be earlier than the value for EndTime.

Type: Timestamp

Required: Yes

MaxResults

The maximum number of items to return in the response.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 25.

Required: No

NextToken

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the token, up to the value specified by MaxRecords.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 8192.

Pattern: `^[a-zA-Z0-9_=-]+$`

Required: No

PeriodAlignment

The returned timestamp which is the start or end time of the time periods. The default value is `END_TIME`.

Type: String

Valid Values: `END_TIME | START_TIME`

Required: No

PeriodInSeconds

The granularity, in seconds, of the data points returned from Performance Insights. A period can be as short as one second, or as long as one day (86400 seconds). Valid values are:

- `1` (one second)
- `60` (one minute)
- `300` (five minutes)
- `3600` (one hour)
- `86400` (twenty-four hours)

If you don't specify `PeriodInSeconds`, then Performance Insights will choose a value for you, with a goal of returning roughly 100-200 data points in the response.

Type: Integer

Required: No

Response Syntax

```
{
```

```
   "AlignedEndTime": number,
   "AlignedStartTime": number,
   "Identifier": "string",
   "MetricList": [
      {
         "DataPoints": [
            {
               "Timestamp": number,
               "Value": number
            }
         ],
         "Key": {
            "Dimensions": {
               "string" : "string"
            },
            "Metric": "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.

AlignedEndTime

The end time for the returned metrics, after alignment to a granular boundary (as specified by `PeriodInSeconds`). `AlignedEndTime` will be greater than or equal to the value of the user-specified `Endtime`.

Type: Timestamp

AlignedStartTime

The start time for the returned metrics, after alignment to a granular boundary (as specified by `PeriodInSeconds`). `AlignedStartTime` will be less than or equal to the value of the user-specified `StartTime`.

Type: Timestamp

Identifier

An immutable identifier for a data source that is unique for an AWS Region. Performance Insights gathers metrics from this data source. In the console, the identifier is shown as *ResourceID*. When you call `DescribeDBInstances`, the identifier is returned as `DbiResourceId`.

Type: String

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

Pattern: `.*\S.*`

MetricList

An array of metric results, where each array element contains all of the data points for a particular dimension.

Type: Array of MetricKeyDataPoints objects

NextToken

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the token, up to the value specified by `MaxRecords`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 8192.

Pattern: `^[a-zA-Z0-9_=-]+$`

Errors

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

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

Retrieve Data Points for All Dimensions Within a Group

The following example requests data points for the db.wait_event dimension group, and for the db.wait_event.name dimension within that group. In the response, the relevant data points are grouped by the requested dimension (db.wait_event.name).

Sample Request

```
POST / HTTP/1.1
Host: <Hostname>
Accept-Encoding: identity
X-Amz-Target: PerformanceInsightsv20180227.GetResourceMetrics
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>

{
    "ServiceType": "RDS",
    "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
    "MetricQueries": [
        {
            "Metric": "db.load.avg",
            "GroupBy": {
                "Group": "db.wait_event",
                "Dimensions": ["db.wait_event.type"]
            }
        }
    ],
    "StartTime": 1527026400,
```

```
    "EndTime": 1527080400,
    "PeriodInSeconds": 300
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Type: application/x-amz-json-1.1
Date: <Date>
x-amzn-RequestId: <RequestId>
Content-Length: <PayloadSizeBytes>
Connection: keep-alive

{
    "AlignedEndTime": 1.5270804E9,
    "AlignedStartTime": 1.5270264E9,
    "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
    "MetricList": [
        {
            "Key": {
                "Metric": "db.load.avg"
            },
            "DataPoints": [
                {
                    "Timestamp": 1527026700.0,
                    "Value": 1.3533333333333333
                },
                {
                    "Timestamp": 1527027000.0,
                    "Value": 0.88
                },
                ...
            ]
        },
        {
            "Key": {
                "Metric": "db.load.avg",
                "Dimensions": {
                    "db.wait_event.name": "wait/synch/mutex/innodb/
aurora_lock_thread_slot_futex"
                }
            },
```

```
            "DataPoints": [
                {
                    "Timestamp": 1527026700.0,
                    "Value": 0.8566666666666667
                },
                {
                    "Timestamp": 1527027000.0,
                    "Value": 0.8633333333333333
                },
                ...
            ],
        },
        ...
    ]
}
```

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

ListAvailableResourceDimensions

Retrieve the dimensions that can be queried for each specified metric type on a specified DB instance.

Request Syntax

```
{
   "AuthorizedActions": [ "string" ],
   "Identifier": "string",
   "MaxResults": number,
   "Metrics": [ "string" ],
   "NextToken": "string",
   "ServiceType": "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.

> **Note**
>
> In the following list, the required parameters are described first.

Identifier

An immutable identifier for a data source that is unique within an AWS Region. Performance Insights gathers metrics from this data source. To use an Amazon RDS DB instance as a data source, specify its `DbiResourceId` value. For example, specify `db-ABCDEFGHIJKLMNOPQRSTU1VWZ`.

Type: String

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

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

Required: Yes

Metrics

The types of metrics for which to retrieve dimensions. Valid values include `db.load`.

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 5 items.

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

Pattern: `^[a-zA-Z0-9-_\.:/*)( ]+$`

Required: Yes

ServiceType

The AWS service for which Performance Insights returns metrics.

Type: String

Valid Values: `RDS | DOCDB`

Required: Yes

AuthorizedActions

The actions to discover the dimensions you are authorized to access. If you specify multiple actions, then the response will contain the dimensions common for all the actions.

When you don't specify this request parameter or provide an empty list, the response contains all the available dimensions for the target database engine whether or not you are authorized to access them.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 3 items.

Valid Values: `DescribeDimensionKeys | GetDimensionKeyDetails | GetResourceMetrics`

Required: No

MaxResults

The maximum number of items to return in the response. If more items exist than the specified `MaxRecords` value, a pagination token is included in the response so that the remaining results can be retrieved.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 25.

Required: No

NextToken

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the token, up to the value specified by `MaxRecords`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 8192.

Pattern: `^[a-zA-Z0-9_=-]+$`

Required: No

Response Syntax

```
{
   "MetricDimensions": [
      {
         "Groups": [
            {
               "Dimensions": [
                  {
                     "Identifier": "string"
                  }
               ],
               "Group": "string"
            }
         ],
         "Metric": "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.

MetricDimensions

The dimension information returned for requested metric types.

Type: Array of MetricDimensionGroups objects

NextToken

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the token, up to the value specified by `MaxRecords`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 8192.

Pattern: `^[a-zA-Z0-9_=-]+$`

Errors

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

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

Retrieving dimensions for the metric type db.load

The following example retrieves the dimensions for the metric type `db.load`.

Sample Request

```
POST / HTTP/1.1
Host: <Hostname>
Accept-Encoding: identity
X-Amz-Target: PerformanceInsightsv20180227.DescribeDimensionKeys
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>

{
    "ServiceType": "RDS",
    "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
    "Metrics": ["db.load"]
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Type: application/x-amz-json-1.1
Date: <Date>
x-amzn-RequestId: <RequestId>
Content-Length: <PayloadSizeBytes>
Connection: keep-alive

{
    "MetricDimensions": [
        {
            "Metric": "db.load",
            "Groups": [
```

```
                {
                    "Group": "db.user",
                    "Dimensions": [
                        {
                            "Identifier": "db.user.id"
                        },
                        {
                            "Identifier": "db.user.name"
                        }
                    ]
                },
                {
                    "Group": "db.sql_tokenized",
                    "Dimensions": [
                        {
                            "Identifier": "db.sql_tokenized.id"
                        },
                        {
                            "Identifier": "db.sql_tokenized.db_id"
                        },
                        {
                            "Identifier": "db.sql_tokenized.statement"
                        }
                    ]
                },
                ...
            ]
        }
    ]
}
```

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

ListAvailableResourceMetrics

Retrieve metrics of the specified types that can be queried for a specified DB instance.

Request Syntax

```
{
   "Identifier": "string",
   "MaxResults": number,
   "MetricTypes": [ "string" ],
   "NextToken": "string",
   "ServiceType": "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.

> **Note**
>
> In the following list, the required parameters are described first.

Identifier

An immutable identifier for a data source that is unique within an AWS Region. Performance Insights gathers metrics from this data source. To use an Amazon RDS DB instance as a data source, specify its `DbiResourceId` value. For example, specify `db-ABCDEFGHIJKLMNOPQRSTU1VWZ`.

Type: String

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

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

Required: Yes

MetricTypes

The types of metrics to return in the response. Valid values in the array include the following:

- `os` (OS counter metrics) - All engines
- db (DB load metrics) - All engines except for Amazon DocumentDB
- `db.sql.stats` (per-SQL metrics) - All engines except for Amazon DocumentDB
- `db.sql_tokenized.stats` (per-SQL digest metrics) - All engines except for Amazon DocumentDB

Type: Array of strings

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

Pattern: `^[a-zA-Z0-9-_\.:/*)( ]+$`

Required: Yes

ServiceType

The AWS service for which Performance Insights returns metrics.

Type: String

Valid Values: `RDS | DOCDB`

Required: Yes

MaxResults

The maximum number of items to return. If the `MaxRecords` value is less than the number of existing items, the response includes a pagination token.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 25.

Required: No

NextToken

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the token, up to the value specified by `MaxRecords`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 8192.

Pattern: `^[a-zA-Z0-9_=-]+$`

Required: No

Response Syntax

```
{
   "Metrics": [
      {
         "Description": "string",
         "Metric": "string",
         "Unit": "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.

Metrics

An array of metrics available to query. Each array element contains the full name, description, and unit of the metric.

Type: Array of ResponseResourceMetric objects

NextToken

A pagination token that indicates the response didn't return all available records because `MaxRecords` was specified in the previous request. To get the remaining records, specify `NextToken` in a separate request with this value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 8192.

Pattern: `^[a-zA-Z0-9_=-]+$`

Errors

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

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

List specified metrics

The following example requests the metrics for metric types os and db.

Sample Request

```
POST / HTTP/1.1
Host: <Hostname>
Accept-Encoding: identity
X-Amz-Target: PerformanceInsightsv20180227.ListAvailableResourceMetrics
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
```

```
Content-Length: <PayloadSizeBytes>

{
    "ServiceType": "RDS",
    "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
    "MetricTypes": [ "os", "db" ]
}
```

Sample Response

```
HTTP/1.1 200 OK
Content-Type: application/x-amz-json-1.1
Date: <Date>
x-amzn-RequestId: <RequestId>
Content-Length: <PayloadSizeBytes>
Connection: keep-alive

{
    "Metrics": [
        {
            "Description": "The number of virtual CPUs for the DB instance",
            "Metric": "os.general.numVCPUs",
            "Unit": "vCPUs"
        },
        ......,
        {
            "Description": "Time spent reading data file blocks by backends in this
 instance",
            "Metric": "db.IO.read_latency",
            "Unit": "Milliseconds per block"
        },
        ......
    ]
}
```

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

ListPerformanceAnalysisReports

Lists all the analysis reports created for the DB instance. The reports are sorted based on the start time of each report.

Request Syntax

```
{
   "Identifier": "string",
   "ListTags": boolean,
   "MaxResults": number,
   "NextToken": "string",
   "ServiceType": "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.

> **Note**
>
> In the following list, the required parameters are described first.

Identifier

An immutable identifier for a data source that is unique for an AWS Region. Performance Insights gathers metrics from this data source. In the console, the identifier is shown as *ResourceID*. When you call `DescribeDBInstances`, the identifier is returned as `DbiResourceId`.

To use a DB instance as a data source, specify its `DbiResourceId` value. For example, specify `db-ABCDEFGHIJKLMNOPQRSTU1VW2X`.

Type: String

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

Pattern: ^[a-zA-Z0-9-]+$

Required: Yes

ServiceType

The AWS service for which Performance Insights returns metrics. Valid value is RDS.

Type: String

Valid Values: RDS | DOCDB

Required: Yes

ListTags

Specifies whether or not to include the list of tags in the response.

Type: Boolean

Required: No

MaxResults

The maximum number of items to return in the response. If more items exist than the specified MaxResults value, a pagination token is included in the response so that the remaining results can be retrieved.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 25.

Required: No

NextToken

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the token, up to the value specified by MaxResults.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 8192.

Pattern: ^[a-zA-Z0-9_=-]+$

Required: No

Response Syntax

```
{
   "AnalysisReports": [
      {
         "AnalysisReportId": "string",
         "CreateTime": number,
         "EndTime": number,
         "StartTime": number,
         "Status": "string",
         "Tags": [
            {
               "Key": "string",
               "Value": "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.

AnalysisReports

List of reports including the report identifier, start and end time, creation time, and status.

Type: Array of AnalysisReportSummary objects

NextToken

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the token, up to the value specified by `MaxResults`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 8192.

Pattern: `^[a-zA-Z0-9_=-]+$`

Errors

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

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

List of analysis reports for a DB instance

The following example lists all the analysis reports for the DB instance db-ABC1DEFGHIJKL2MNOPQRSTUV3W along with tags for each report.

Sample Request

```
                    POST / HTTP/1.1
Host: <Hostname>
Accept-Encoding: identity
X-Amz-Target: PerformanceInsightsv20180227.ListPerformanceAnalysisReports
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>
```

```
{
    "Identifier": "db-ABC1DEFGHIJKL2MNOPQRSTUV3W",
    "ServiceType": "RDS",
    "ListTags": true,
    "MaxResults": 5
}
```

Sample Response

```
                    HTTP/1.1 200 OK
Content-Type: application/x-amz-json-1.1
Date: <Date>
x-amzn-RequestId: <RequestId>
Content-Length: <PayloadSizeBytes>
Connection: keep-alive

{
    "AnalysisReports": [
        {
            "AnalysisReportId": "report-01234567890abcdef",
            "CreateTime": 1690561641.014,
            "EndTime": 1689356407,
            "StartTime": 1689161030,
            "Status": "SUCCEEDED",
            "Tags": [
                {
                    "Key": "Name",
                    "Value": "MyName1"
                }
            ]
        },
        {
            "AnalysisReportId": "report-01234567891abcdef",
            "CreateTime": 1690487582.167,
            "EndTime": 1689339840,
            "StartTime": 1689176864,
            "Status": "SUCCEEDED",
            "Tags": [
                {
                    "Key": "MyKey",
                    "Value": "MyValue"
```

```
                },
                {
                    "Key": "Name",
                    "Value": "MyName2"
                }
            ]
        },
        {
            "AnalysisReportId": "report-01234567892abcdef",
            "CreateTime": 1690551889.941,
            "EndTime": 1689324849,
            "StartTime": 1689177272,
            "Status": "SUCCEEDED",
            "Tags": [
                {
                    "Key": "Name",
                    "Value": ""
                }
            ]
        }
    ]
}
```


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

Retrieves all the metadata tags associated with Amazon RDS Performance Insights resource.

Request Syntax

```
{
   "ResourceARN": "string",
   "ServiceType": "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.

> **Note**
>
> In the following list, the required parameters are described first.

ResourceARN

Lists all the tags for the Amazon RDS Performance Insights resource. This value is an Amazon Resource Name (ARN). For information about creating an ARN, see Constructing an RDS Amazon Resource Name (ARN).

Type: String

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

Pattern: `^arn:.*:pi:.*$`

Required: Yes

ServiceType

List the tags for the AWS service for which Performance Insights returns metrics. Valid value is RDS.

Type: String

Valid Values: RDS | DOCDB

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 metadata assigned to an Amazon RDS resource consisting of a key-value pair.

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.

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

List tags for an analysis report

The following example lists all the tags for the report `report-01234567890abcdef`.

Sample Request

```
                    POST / HTTP/1.1
Host: <Hostname>
Accept-Encoding: identity
X-Amz-Target: PerformanceInsightsv20180227.ListTagsForResource
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>

{
    "ServiceType": "RDS",
    "ResourceARN": "arn:aws:pi:us-west-2:123456789012:perf-reports/rds/db-
ABC1DEFGHIJKL2MNOPQRSTUV3W/report-01234567890abcdef"
}
```

Sample Response

```
                    HTTP/1.1 200 OK
Content-Type: application/x-amz-json-1.1
Date: <Date>
x-amzn-RequestId: <RequestId>
Content-Length: <PayloadSizeBytes>
Connection: keep-alive

{
    "Tags": [
        {
            "Key": "MyKey",
            "Value": "MyValue"
        },
        {
            "Key": "Name",
            "Value": "MyName"
        }
    ]
}
```

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

Adds metadata tags to the Amazon RDS Performance Insights resource.

Request Syntax

```
{
   "ResourceARN": "string",
   "ServiceType": "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.

> **Note**
>
> In the following list, the required parameters are described first.

ResourceARN

The Amazon RDS Performance Insights resource that the tags are added to. This value is an Amazon Resource Name (ARN). For information about creating an ARN, see Constructing an RDS Amazon Resource Name (ARN).

Type: String

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

Pattern: `^arn:.*:pi:.*$`

Required: Yes

ServiceType

The AWS service for which Performance Insights returns metrics. Valid value is RDS.

Type: String

Valid Values: RDS | DOCDB

Required: Yes

Tags

The metadata assigned to an Amazon RDS resource consisting of a key-value pair.

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.

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

Add tag to an analysis report

The following example adds a tag to the report `report-01234567890abcdef`.

Sample Request

```
                    POST / HTTP/1.1
Host: <Hostname>
Accept-Encoding: identity
X-Amz-Target: PerformanceInsightsv20180227.TagResource
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>

{
    "ServiceType": "RDS",
    "ResourceARN": "arn:aws:pi:us-west-2:123456789012:perf-reports/rds/db-
ABC1DEFGHIJKL2MNOPQRSTUV3W/report-01234567890abcdef",
    "Tags": [{
        "Key": "MyKey",
        "Value": "MyValue"
    }]
}
```

Sample Response

```
                    HTTP/1.1 200 OK
Content-Type: application/x-amz-json-1.1
Date: <Date>
x-amzn-RequestId: <RequestId>
Content-Length: <PayloadSizeBytes>
Connection: keep-alive
```

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

Deletes the metadata tags from the Amazon RDS Performance Insights resource.

Request Syntax

```
{
   "ResourceARN": "string",
   "ServiceType": "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.

> **Note**
>
> In the following list, the required parameters are described first.

ResourceARN

The Amazon RDS Performance Insights resource that the tags are added to. This value is an Amazon Resource Name (ARN). For information about creating an ARN, see Constructing an RDS Amazon Resource Name (ARN).

Type: String

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

Pattern: `^arn:.*:pi:.*$`

Required: Yes

ServiceType

List the tags for the AWS service for which Performance Insights returns metrics. Valid value is RDS.

Type: String

Valid Values: RDS | DOCDB

Required: Yes

TagKeys

The metadata assigned to an Amazon RDS Performance Insights resource consisting of a key-value pair.

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.

Pattern: ^.*$

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.

InternalServiceError

The request failed due to an unknown error.

HTTP Status Code: 500

InvalidArgumentException

One of the arguments provided is invalid for this request.

HTTP Status Code: 400

NotAuthorizedException

The user is not authorized to perform this request.

HTTP Status Code: 400

Examples

Delete tag from an analysis report

The following example deletes the tag `MyKey` from the report `report-01234567890abcdef`.

Sample Request

```
                    POST / HTTP/1.1
Host: <Hostname>
Accept-Encoding: identity
X-Amz-Target: PerformanceInsightsv20180227.UntagResource
Content-Type: application/x-amz-json-1.1
User-Agent: <UserAgentString>
X-Amz-Date: <Date>
Authorization: AWS4-HMAC-SHA256 Credential=<Credential>, SignedHeaders=<Headers>,
 Signature=<Signature>
Content-Length: <PayloadSizeBytes>

{
    "ServiceType": "RDS",
    "ResourceARN": "arn:aws:pi:us-west-2:123456789012:perf-reports/rds/db-
ABC1DEFGHIJKL2MNOPQRSTUV3W/report-01234567890abcdef",
    "Tags": ["MyKey"]
}
```

Sample Response

```
                    HTTP/1.1 200 OK
Content-Type: application/x-amz-json-1.1
Date: <Date>
x-amzn-RequestId: <RequestId>
Content-Length: <PayloadSizeBytes>
Connection: keep-alive
```

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 Amazon RDS Performance Insights API contains several data types that various actions use. This section describes each data type in detail.

> **Note**
>
> The order of each element in a data type structure is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

- AnalysisReport
- AnalysisReportSummary
- Data
- DataPoint
- DimensionDetail
- DimensionGroup
- DimensionGroupDetail
- DimensionKeyDescription
- DimensionKeyDetail
- FeatureMetadata
- Insight
- MetricDimensionGroups
- MetricKeyDataPoints
- MetricQuery
- PerformanceInsightsMetric
- Recommendation
- ResponsePartitionKey
- ResponseResourceMetric
- ResponseResourceMetricKey
- Tag

AnalysisReport

Retrieves the summary of the performance analysis report created for a time period.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

AnalysisReportId

The name of the analysis report.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 100.

Pattern: `report-[0-9a-f]{17}`

Required: Yes

CreateTime

The time you created the analysis report.

Type: Timestamp

Required: No

EndTime

The analysis end time in the report.

Type: Timestamp

Required: No

Identifier

The unique identifier of the analysis report.

Type: String

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

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

Required: No

Insights

The list of identified insights in the analysis report.

Type: Array of Insight objects

Required: No

ServiceType

List the tags for the AWS service for which Performance Insights returns metrics. Valid values are as follows:

- `RDS`
- `DOCDB`

Type: String

Valid Values: `RDS | DOCDB`

Required: No

StartTime

The analysis start time in the report.

Type: Timestamp

Required: No

Status

The status of the created analysis report.

Type: String

Valid Values: `RUNNING | SUCCEEDED | FAILED`

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

AnalysisReportSummary

Retrieves the details of the performance analysis report.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

AnalysisReportId

The name of the analysis report.

Type: String

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

Pattern: `.*\S.*`

Required: No

CreateTime

The time you created the analysis report.

Type: Timestamp

Required: No

EndTime

The end time of the analysis in the report.

Type: Timestamp

Required: No

StartTime

The start time of the analysis in the report.

Type: Timestamp

Required: No

Status

The status of the analysis report.

Type: String

Valid Values: `RUNNING | SUCCEEDED | FAILED`

Required: No

Tags

List of all the tags added to the analysis report.

Type: Array of Tag objects

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

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

Data

List of data objects which provide details about source metrics. This field can be used to determine the PI metric to render for the insight. This data type also includes static values for the metrics for the Insight that were calculated and included in text and annotations on the DB load chart.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

PerformanceInsightsMetric

This field determines the Performance Insights metric to render for the insight. The name field refers to a Performance Insights metric.

Type: PerformanceInsightsMetric 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

DataPoint

A timestamp, and a single numerical value, which together represent a measurement at a particular point in time.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Timestamp

The time, in epoch format, associated with a particular `Value`.

Type: Timestamp

Required: Yes

Value

The actual value associated with a particular `Timestamp`.

Type: Double

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

DimensionDetail

The information about a dimension.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Identifier

The identifier of a dimension.

Type: String

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

Pattern: `.*\S.*`

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

DimensionGroup

A logical grouping of Performance Insights metrics for a related subject area. For example, the `db.sql` dimension group consists of the following dimensions:

- `db.sql.id` - The hash of a running SQL statement, generated by Performance Insights.
- `db.sql.db_id` - Either the SQL ID generated by the database engine, or a value generated by Performance Insights that begins with `pi-`.
- `db.sql.statement` - The full text of the SQL statement that is running, for example, `SELECT * FROM employees`.
- `db.sql_tokenized.id` - The hash of the SQL digest generated by Performance Insights.

> **Note**
>
> Each response element returns a maximum of 500 bytes. For larger elements, such as SQL statements, only the first 500 bytes are returned.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Group

The name of the dimension group. Valid values are as follows:

- db - The name of the database to which the client is connected. The following values are permitted:
  - Aurora PostgreSQL
  - Amazon RDS PostgreSQL
  - Aurora MySQL
  - Amazon RDS MySQL
  - Amazon RDS MariaDB

    - Amazon DocumentDB
- db.application - The name of the application that is connected to the database. The following values are permitted:
    - Aurora PostgreSQL
    - Amazon RDS PostgreSQL
    - Amazon DocumentDB
- db.blocking_sql - The SQL queries blocking the most DB load.
- db.blocking_session - The sessions blocking the most DB load.
- db.blocking_object - The object resources acquired by other sessions that are blocking the most DB load.
- db.host - The host name of the connected client (all engines).
- db.plans - The execution plans for the query (only Aurora PostgreSQL).
- db.query - The query that is currently running (only Amazon DocumentDB).
- db.query_tokenized - The digest query (only Amazon DocumentDB).
- db.session_type - The type of the current session (only Aurora PostgreSQL and RDS PostgreSQL).
- db.sql - The text of the SQL statement that is currently running (all engines except Amazon DocumentDB).
- db.sql_tokenized - The SQL digest (all engines except Amazon DocumentDB).
- db.user - The user logged in to the database (all engines except Amazon DocumentDB).
- db.wait_event - The event for which the database backend is waiting (all engines except Amazon DocumentDB).
- db.wait_event_type - The type of event for which the database backend is waiting (all engines except Amazon DocumentDB).
- db.wait_state - The event for which the database backend is waiting (only Amazon DocumentDB).

Type: String

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

Pattern: ^[a-zA-Z0-9-_\.:/*)( ]+$

Required: Yes

Dimensions

A list of specific dimensions from a dimension group. If this parameter is not present, then it signifies that all of the dimensions in the group were requested, or are present in the response.

Valid values for elements in the `Dimensions` array are:

- `db.application.name` - The name of the application that is connected to the database. Valid values are as follows:
  - Aurora PostgreSQL
  - Amazon RDS PostgreSQL
  - Amazon DocumentDB
- `db.blocking_sql.id` - The ID for each of the SQL queries blocking the most DB load.
- `db.blocking_sql.sql` - The SQL text for each of the SQL queries blocking the most DB load.
- `db.blocking_session.id` - The ID for each of the sessions blocking the most DB load.
- `db.blocking_object.id` - The ID for each of the object resources acquired by other sessions that are blocking the most DB load.
- `db.blocking_object.type` - The object type for each of the object resources acquired by other sessions that are blocking the most DB load.
- `db.blocking_object.value` - The value for each of the object resources acquired by other sessions that are blocking the most DB load.
- `db.host.id` - The host ID of the connected client (all engines).
- `db.host.name` - The host name of the connected client (all engines).
- `db.name` - The name of the database to which the client is connected. Valid values are as follows:
  - Aurora PostgreSQL
  - Amazon RDS PostgreSQL
  - Aurora MySQL
  - Amazon RDS MySQL
  - Amazon RDS MariaDB
  - Amazon DocumentDB
- `db.query.id` - The query ID generated by Performance Insights (only Amazon DocumentDB).

- db.query.db_id - The query ID generated by the database (only Amazon DocumentDB).
- db.query.statement - The text of the query that is being run (only Amazon DocumentDB).
- db.query.tokenized_id
- db.query.tokenized.id - The query digest ID generated by Performance Insights (only Amazon DocumentDB).
- db.query.tokenized.db_id - The query digest ID generated by Performance Insights (only Amazon DocumentDB).
- db.query.tokenized.statement - The text of the query digest (only Amazon DocumentDB).
- db.session_type.name - The type of the current session (only Amazon DocumentDB).
- db.sql.id - The hash of the full, non-tokenized SQL statement generated by Performance Insights (all engines except Amazon DocumentDB).
- db.sql.db_id - Either the SQL ID generated by the database engine, or a value generated by Performance Insights that begins with pi- (all engines except Amazon DocumentDB).
- db.sql.statement - The full text of the SQL statement that is running, as in SELECT * FROM employees (all engines except Amazon DocumentDB)
- db.sql.tokenized_id - The hash of the SQL digest generated by Performance Insights (all engines except Amazon DocumentDB). The db.sql.tokenized_id dimension fetches the value of the db.sql_tokenized.id dimension. Amazon RDS returns db.sql.tokenized_id from the db.sql dimension group.
- db.sql_tokenized.id - The hash of the SQL digest generated by Performance Insights (all engines except Amazon DocumentDB). In the console, db.sql_tokenized.id is called the Support ID because AWS Support can look at this data to help you troubleshoot database issues.
- db.sql_tokenized.db_id - Either the native database ID used to refer to the SQL statement, or a synthetic ID such as pi-2372568224 that Performance Insights generates if the native database ID isn't available (all engines except Amazon DocumentDB).
- db.sql_tokenized.statement - The text of the SQL digest, as in SELECT * FROM employees WHERE employee_id = ? (all engines except Amazon DocumentDB)
- db.user.id - The ID of the user logged in to the database (all engines except Amazon DocumentDB).
- db.user.name - The name of the user logged in to the database (all engines except Amazon DocumentDB).

- `db.wait_event.name` - The event for which the backend is waiting (all engines except Amazon DocumentDB).
- `db.wait_event.type` - The type of event for which the backend is waiting (all engines except Amazon DocumentDB).
- `db.wait_event_type.name` - The name of the event type for which the backend is waiting (all engines except Amazon DocumentDB).
- `db.wait_state.name` - The event for which the backend is waiting (only Amazon DocumentDB).

Type: Array of strings

Array Members: Minimum number of 1 item. Maximum number of 10 items.

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

Pattern: `^[a-zA-Z0-9-_\.:/*)( ]+$`

Required: No

Limit

The maximum number of items to fetch for this dimension group.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 25.

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

DimensionGroupDetail

Information about dimensions within a dimension group.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Dimensions

The dimensions within a dimension group.

Type: Array of DimensionDetail objects

Required: No

Group

The name of the dimension group.

Type: String

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

Pattern: `.*\S.*`

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

DimensionKeyDescription

An object that includes the requested dimension key values and aggregated metric values within a dimension group.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

AdditionalMetrics

A map that contains the value for each additional metric.

Type: String to double map

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

Key Pattern: `.*\S.*`

Required: No

Dimensions

A map of name-value pairs for the dimensions in the group.

Type: String to string map

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

Key Pattern: `.*\S.*`

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

Value Pattern: `.*\S.*`

Required: No

Partitions

If `PartitionBy` was specified, `PartitionKeys` contains the dimensions that were.

Type: Array of doubles

Required: No

Total

The aggregated metric value for the dimensions, over the requested time range.

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

DimensionKeyDetail

An object that describes the details for a specified dimension.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Dimension

The full name of the dimension. The full name includes the group name and key name. The following values are valid:

- `db.query.statement` (Amazon DocumentDB)
- `db.sql.statement` (Amazon RDS and Aurora)

Type: String

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

Pattern: `.*\S.*`

Required: No

Status

The status of the dimension detail data. Possible values include the following:

- `AVAILABLE` - The dimension detail data is ready to be retrieved.
- `PROCESSING` - The dimension detail data isn't ready to be retrieved because more processing time is required. If the requested detail data has the status `PROCESSING`, Performance Insights returns the truncated query.
- `UNAVAILABLE` - The dimension detail data could not be collected successfully.

Type: String

Valid Values: `AVAILABLE | PROCESSING | UNAVAILABLE`

Required: No

Value

The value of the dimension detail data. Depending on the return status, this value is either the full or truncated SQL query for the following dimensions:

- `db.query.statement` (Amazon DocumentDB)
- `db.sql.statement` (Amazon RDS and Aurora)

Type: String

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

Pattern: `.*\S.*`

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

FeatureMetadata

The metadata for a feature. For example, the metadata might indicate that a feature is turned on or off on a specific DB instance.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Status

The status of the feature on the DB instance. Possible values include the following:

- `ENABLED` - The feature is enabled on the instance.
- `DISABLED` - The feature is disabled on the instance.
- `UNSUPPORTED` - The feature isn't supported on the instance.
- `ENABLED_PENDING_REBOOT` - The feature is enabled on the instance but requires a reboot to take effect.
- `DISABLED_PENDING_REBOOT` - The feature is disabled on the instance but requires a reboot to take effect.
- `UNKNOWN` - The feature status couldn't be determined.

Type: String

Valid Values: `ENABLED | DISABLED | UNSUPPORTED | ENABLED_PENDING_REBOOT | DISABLED_PENDING_REBOOT | UNKNOWN`

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

Insight

Retrieves the list of performance issues which are identified.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

InsightId

The unique identifier for the insight. For example, `insight-12345678901234567`.

Type: String

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

Pattern: `.*\S.*`

Required: Yes

BaselineData

Metric names and values from the timeframe used as baseline to generate the insight.

Type: Array of Data objects

Required: No

Context

Indicates if the insight is causal or correlated insight.

Type: String

Valid Values: `CAUSAL | CONTEXTUAL`

Required: No

Description

Description of the insight. For example: `A high severity Insight found between 02:00 to 02:30, where there was an unusually high DB load 600x above baseline. Likely performance impact.`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8000.

Pattern: `(.|\n)*`

Required: No

EndTime

The end time of the insight. For example, `2018-10-30T00:00:00Z`.

Type: Timestamp

Required: No

InsightData

List of data objects containing metrics and references from the time range while generating the insight.

Type: Array of Data objects

Required: No

InsightType

The type of insight. For example, `HighDBLoad`, `HighCPU`, or `DominatingSQLs`.

Type: String

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

Pattern: `.*\S.*`

Required: No

Recommendations

List of recommendations for the insight. For example, `Investigate the following SQLs that contributed to 100% of the total DBLoad during that time period: sql-id`.

Type: Array of Recommendation objects

Required: No

Severity

The severity of the insight. The values are: `Low`, `Medium`, or `High`.

Type: String

Valid Values: `LOW | MEDIUM | HIGH`

Required: No

StartTime

The start time of the insight. For example, `2018-10-30T00:00:00Z`.

Type: Timestamp

Required: No

SupportingInsights

List of supporting insights that provide additional factors for the insight.

Type: Array of Insight 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

MetricDimensionGroups

The available dimension information for a metric type.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Groups

The available dimension groups for a metric type.

Type: Array of DimensionGroupDetail objects

Required: No

Metric

The metric type to which the dimension information belongs.

Type: String

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

Pattern: `.*\S.*`

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

MetricKeyDataPoints

A time-ordered series of data points, corresponding to a dimension of a Performance Insights metric.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

DataPoints

An array of timestamp-value pairs, representing measurements over a period of time.

Type: Array of DataPoint objects

Required: No

Key

The dimensions to which the data points apply.

Type: ResponseResourceMetricKey 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

MetricQuery

A single query to be processed. You must provide the metric to query and append an aggregate function to the metric. For example, to find the average for the metric `db.load` you must use `db.load.avg`. Valid values for aggregate functions include `.avg`, `.min`, `.max`, and `.sum`. If no other parameters are specified, Performance Insights returns all data points for the specified metric. Optionally, you can request that the data points be aggregated by dimension group (`GroupBy`), and return only those data points that match your criteria (`Filter`).

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Metric

The name of a Performance Insights metric to be measured.

Valid values for `Metric` are:

- `db.load.avg` - A scaled representation of the number of active sessions for the database engine.
- `db.sampledload.avg` - The raw number of active sessions for the database engine.
- The counter metrics listed in Performance Insights operating system counters in the *Amazon Aurora User Guide*.
- The counter metrics listed in Performance Insights operating system counters in the *Amazon RDS User Guide*.

If the number of active sessions is less than an internal Performance Insights threshold, `db.load.avg` and `db.sampledload.avg` are the same value. If the number of active sessions is greater than the internal threshold, Performance Insights samples the active sessions, with `db.load.avg` showing the scaled values, `db.sampledload.avg` showing the raw values, and `db.sampledload.avg` less than `db.load.avg`. For most use cases, you can query `db.load.avg` only.

Type: String

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

Pattern: `^[a-zA-Z0-9-_\.:/*)( ]+$`

Required: Yes

Filter

One or more filters to apply in the request. Restrictions:

- Any number of filters by the same dimension, as specified in the `GroupBy` parameter.
- A single filter for any other dimension in this dimension group.

> **Note**
>
> The `db.sql.db_id` filter isn't available for RDS for SQL Server DB instances.

Type: String to string map

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

Key Pattern: `^[a-zA-Z0-9-_\.:/*)( ]+$`

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

Value Pattern: `.*\S.*`

Required: No

GroupBy

A specification for how to aggregate the data points from a query result. You must specify a valid dimension group. Performance Insights will return all of the dimensions within that group, unless you provide the names of specific dimensions within that group. You can also request that Performance Insights return a limited number of values for a dimension.

Type: DimensionGroup 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

PerformanceInsightsMetric

This data type helps to determine Performance Insights metric to render for the insight.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Dimensions

A dimension map that contains the dimensions for this partition.

Type: String to string map

Key Length Constraints: Minimum length of 1. Maximum length of 2000.

Key Pattern: `^.*$`

Value Length Constraints: Minimum length of 1. Maximum length of 2000.

Value Pattern: `^.*$`

Required: No

DisplayName

The Performance Insights metric name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Pattern: `^.*$`

Required: No

Filter

The filter for the Performance Insights metric.

Type: String to string map

Key Length Constraints: Minimum length of 1. Maximum length of 2000.

Key Pattern: `^.*$`

Value Length Constraints: Minimum length of 1. Maximum length of 2000.

Value Pattern: `^.*$`

Required: No

Metric

The Performance Insights metric.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Pattern: `^.*$`

Required: No

Value

The value of the metric. For example, 9 for `db.load.avg`.

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

Recommendation

The list of recommendations for the insight.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

RecommendationDescription

The recommendation details to help resolve the performance issue. For example, `Investigate the following SQLs that contributed to 100% of the total DBLoad during that time period: sql-id`

Type: String

Length Constraints: Minimum length of 0. Maximum length of 8000.

Pattern: `(.|\n)*`

Required: No

RecommendationId

The unique identifier for the recommendation.

Type: String

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

Pattern: `.*\S.*`

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

ResponsePartitionKey

If `PartitionBy` was specified in a `DescribeDimensionKeys` request, the dimensions are returned in an array. Each element in the array specifies one dimension.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Dimensions

A dimension map that contains the dimensions for this partition.

Type: String to string map

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

Key Pattern: `.*\S.*`

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

Value Pattern: `.*\S.*`

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

ResponseResourceMetric

An object that contains the full name, description, and unit of a metric.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Description

The description of the metric.

Type: String

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

Required: No

Metric

The full name of the metric.

Type: String

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

Pattern: `.*\S.*`

Required: No

Unit

The unit of the metric.

Type: String

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

Pattern: `.*\S.*`

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

ResponseResourceMetricKey

An object describing a Performance Insights metric and one or more dimensions for that metric.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Metric

The name of a Performance Insights metric to be measured.

Valid values for `Metric` are:

- `db.load.avg` - A scaled representation of the number of active sessions for the database engine.
- `db.sampledload.avg` - The raw number of active sessions for the database engine.
- The counter metrics listed in Performance Insights operating system counters in the *Amazon Aurora User Guide*.
- The counter metrics listed in Performance Insights operating system counters in the *Amazon RDS User Guide*.

If the number of active sessions is less than an internal Performance Insights threshold, `db.load.avg` and `db.sampledload.avg` are the same value. If the number of active sessions is greater than the internal threshold, Performance Insights samples the active sessions, with `db.load.avg` showing the scaled values, `db.sampledload.avg` showing the raw values, and `db.sampledload.avg` less than `db.load.avg`. For most use cases, you can query `db.load.avg` only.

Type: String

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

Pattern: `.*\S.*`

Required: Yes

Dimensions

The valid dimensions for the metric.

Type: String to string map

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

Key Pattern: `.*\S.*`

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

Value Pattern: `.*\S.*`

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

Metadata assigned to an Amazon RDS resource consisting of a key-value pair.

Contents

> **Note**
>
> In the following list, the required parameters are described first.

Key

A key is the required name of the tag. The string value can be from 1 to 128 Unicode characters in length and can't be prefixed with `aws:` or `rds:`. The string can only contain only the set of Unicode letters, digits, white-space, '_', '.', ':', '/', '=', '+', '-', '@' (Java regex: "`^([\\p{L}\\p{Z}\\p{N}_.:/=+\\-@]*)$`").

Type: String

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

Pattern: `^.*$`

Required: Yes

Value

A value is the optional value of the tag. The string value can be from 1 to 256 Unicode characters in length and can't be prefixed with `aws:` or `rds:`. The string can only contain only the set of Unicode letters, digits, white-space, '_', '.', ':', '/', '=', '+', '-', '@' (Java regex: "^([\\p{L}\\p{Z}\\p{N}_.:/=+\\-@]*)$").

Type: String

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

Pattern: `^.*$`

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

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