



Welcome

Neptune Data API



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Neptune Data API: Welcome

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Table of Contents

Welcome	1
Actions	2
CancelGremlinQuery	4
Request Syntax	4
URI Request Parameters	4
Request Body	4
Response Syntax	4
Response Elements	4
Errors	5
See Also	10
CancelLoaderJob	11
Request Syntax	11
URI Request Parameters	11
Request Body	11
Response Syntax	11
Response Elements	11
Errors	12
See Also	17
CancelMLDataProcessingJob	18
Request Syntax	18
URI Request Parameters	18
Request Body	18
Response Syntax	18
Response Elements	19
Errors	19
See Also	23
CancelMLModelTrainingJob	24
Request Syntax	24
URI Request Parameters	24
Request Body	24
Response Syntax	24
Response Elements	25
Errors	25
See Also	29

CancelMLModelTransformJob	30
Request Syntax	30
URI Request Parameters	30
Request Body	30
Response Syntax	30
Response Elements	31
Errors	31
See Also	35
CancelOpenCypherQuery	36
Request Syntax	36
URI Request Parameters	36
Request Body	36
Response Syntax	36
Response Elements	37
Errors	37
See Also	42
CreateMLEndpoint	44
Request Syntax	44
URI Request Parameters	44
Request Body	44
Response Syntax	46
Response Elements	47
Errors	47
See Also	51
DeleteMLEndpoint	53
Request Syntax	53
URI Request Parameters	53
Request Body	53
Response Syntax	53
Response Elements	54
Errors	54
See Also	58
DeletePropertygraphStatistics	59
Request Syntax	59
URI Request Parameters	59
Request Body	59

Response Syntax	59
Response Elements	59
Errors	60
See Also	65
DeleteSparqlStatistics	66
Request Syntax	66
URI Request Parameters	66
Request Body	66
Response Syntax	66
Response Elements	66
Errors	67
See Also	72
ExecuteFastReset	73
Request Syntax	73
URI Request Parameters	73
Request Body	73
Response Syntax	74
Response Elements	74
Errors	75
See Also	79
ExecuteGremlinExplainQuery	81
Request Syntax	81
URI Request Parameters	81
Request Body	82
Response Syntax	82
Response Elements	82
Errors	82
See Also	90
ExecuteGremlinProfileQuery	91
Request Syntax	91
URI Request Parameters	91
Request Body	91
Response Syntax	92
Response Elements	93
Errors	93
See Also	100

ExecuteGremlinQuery	102
Request Syntax	102
URI Request Parameters	102
Request Body	103
Response Syntax	103
Response Elements	103
Errors	104
See Also	111
ExecuteOpenCypherExplainQuery	113
Request Syntax	113
URI Request Parameters	113
Request Body	113
Response Syntax	114
Response Elements	114
Errors	114
See Also	122
ExecuteOpenCypherQuery	123
Request Syntax	123
URI Request Parameters	123
Request Body	124
Response Syntax	124
Response Elements	124
Errors	125
See Also	132
GetEngineStatus	134
Request Syntax	134
URI Request Parameters	134
Request Body	134
Response Syntax	134
Response Elements	135
Errors	137
See Also	140
GetGremlinQueryStatus	141
Request Syntax	141
URI Request Parameters	141
Request Body	141

Response Syntax	141
Response Elements	142
Errors	142
See Also	148
GetLoaderJobStatus	149
Request Syntax	149
URI Request Parameters	149
Request Body	150
Response Syntax	150
Response Elements	150
Errors	151
See Also	155
GetMLDataProcessingJob	157
Request Syntax	157
URI Request Parameters	157
Request Body	157
Response Syntax	157
Response Elements	158
Errors	158
See Also	162
GetMLEndpoint	164
Request Syntax	164
URI Request Parameters	164
Request Body	164
Response Syntax	164
Response Elements	165
Errors	166
See Also	170
GetMLModelTrainingJob	171
Request Syntax	171
URI Request Parameters	171
Request Body	171
Response Syntax	171
Response Elements	172
Errors	173
See Also	177

GetMLModelTransformJob	179
Request Syntax	179
URI Request Parameters	179
Request Body	179
Response Syntax	179
Response Elements	180
Errors	181
See Also	185
GetOpenCypherQueryStatus	186
Request Syntax	186
URI Request Parameters	186
Request Body	186
Response Syntax	186
Response Elements	187
Errors	187
See Also	193
GetPropertygraphStatistics	195
Request Syntax	195
URI Request Parameters	195
Request Body	195
Response Syntax	195
Response Elements	196
Errors	196
See Also	201
GetPropertygraphStream	202
Request Syntax	202
URI Request Parameters	202
Request Body	204
Response Syntax	204
Response Elements	204
Errors	205
See Also	210
GetPropertygraphSummary	211
Request Syntax	211
URI Request Parameters	211
Request Body	211

Response Syntax	211
Response Elements	212
Errors	213
See Also	217
GetRDFGraphSummary	219
Request Syntax	219
URI Request Parameters	219
Request Body	219
Response Syntax	219
Response Elements	220
Errors	220
See Also	225
GetSparqlStatistics	226
Request Syntax	226
URI Request Parameters	226
Request Body	226
Response Syntax	226
Response Elements	226
Errors	227
See Also	232
GetSparqlStream	233
Request Syntax	233
URI Request Parameters	233
Request Body	234
Response Syntax	234
Response Elements	235
Errors	236
See Also	240
ListGremlinQueries	242
Request Syntax	242
URI Request Parameters	242
Request Body	242
Response Syntax	242
Response Elements	243
Errors	243
See Also	249

ListLoaderJobs	251
Request Syntax	251
URI Request Parameters	251
Request Body	251
Response Syntax	251
Response Elements	252
Errors	252
See Also	256
ListMLDataProcessingJobs	258
Request Syntax	258
URI Request Parameters	258
Request Body	258
Response Syntax	258
Response Elements	259
Errors	259
See Also	263
ListMLEndpoints	264
Request Syntax	264
URI Request Parameters	264
Request Body	264
Response Syntax	264
Response Elements	265
Errors	265
See Also	269
ListMLModelTrainingJobs	270
Request Syntax	270
URI Request Parameters	270
Request Body	270
Response Syntax	270
Response Elements	271
Errors	271
See Also	275
ListMLModelTransformJobs	276
Request Syntax	276
URI Request Parameters	276
Request Body	276

Response Syntax	276
Response Elements	277
Errors	277
See Also	281
ListOpenCypherQueries	282
Request Syntax	282
URI Request Parameters	282
Request Body	282
Response Syntax	282
Response Elements	283
Errors	283
See Also	290
ManagePropertygraphStatistics	291
Request Syntax	291
URI Request Parameters	291
Request Body	291
Response Syntax	291
Response Elements	292
Errors	292
See Also	297
ManageSparqlStatistics	298
Request Syntax	298
URI Request Parameters	298
Request Body	298
Response Syntax	298
Response Elements	299
Errors	299
See Also	304
StartLoaderJob	305
Request Syntax	305
URI Request Parameters	305
Request Body	305
Response Syntax	312
Response Elements	312
Errors	312
See Also	318

StartMLDataProcessingJob	319
Request Syntax	319
URI Request Parameters	319
Request Body	319
Response Syntax	323
Response Elements	323
Errors	323
See Also	327
StartMLModelTrainingJob	329
Request Syntax	329
URI Request Parameters	329
Request Body	330
Response Syntax	333
Response Elements	333
Errors	334
See Also	338
StartMLModelTransformJob	339
Request Syntax	339
URI Request Parameters	339
Request Body	339
Response Syntax	342
Response Elements	343
Errors	343
See Also	347
Data Types	349
CustomModelTrainingParameters	351
Contents	351
See Also	351
CustomModelTransformParameters	353
Contents	353
See Also	353
DeleteStatisticsValueMap	354
Contents	354
See Also	354
EdgeStructure	355
Contents	355

See Also	355
FastResetToken	356
Contents	356
See Also	356
GremlinQueryStatus	357
Contents	357
See Also	357
GremlinQueryStatusAttributes	358
Contents	358
See Also	358
LoaderIdResult	359
Contents	359
See Also	359
MLConfigDefinition	360
Contents	360
See Also	360
MLResourceDefinition	361
Contents	361
See Also	362
NodeStructure	363
Contents	363
See Also	363
PropertygraphData	364
Contents	364
See Also	365
PropertygraphRecord	366
Contents	366
See Also	367
PropertygraphSummary	368
Contents	368
See Also	370
PropertygraphSummaryValueMap	371
Contents	371
See Also	371
QueryEvalStats	372
Contents	372

See Also	372
QueryLanguageVersion	374
Contents	374
See Also	374
RDFGraphSummary	375
Contents	375
See Also	376
RDFGraphSummaryValueMap	377
Contents	377
See Also	377
RefreshStatisticsIdMap	378
Contents	378
See Also	378
SparqlData	379
Contents	379
See Also	379
SparqlRecord	380
Contents	380
See Also	381
Statistics	382
Contents	382
See Also	383
StatisticsSummary	384
Contents	384
See Also	384
SubjectStructure	385
Contents	385
See Also	385
Common Parameters	386
Common Error Types	389

Welcome

The Amazon Neptune data API provides SDK support for more than 40 of Neptune's data operations, including data loading, query execution, data inquiry, and machine learning. It supports the Gremlin and openCypher query languages, and is available in all SDK languages. It automatically signs API requests and greatly simplifies integrating Neptune into your applications.

This document was last published on April 5, 2026.

Actions

The following actions are supported:

- [CancelGremlinQuery](#)
- [CancelLoaderJob](#)
- [CancelMLDataProcessingJob](#)
- [CancelMLModelTrainingJob](#)
- [CancelMLModelTransformJob](#)
- [CancelOpenCypherQuery](#)
- [CreateMLEndpoint](#)
- [DeleteMLEndpoint](#)
- [DeletePropertygraphStatistics](#)
- [DeleteSparqlStatistics](#)
- [ExecuteFastReset](#)
- [ExecuteGremlinExplainQuery](#)
- [ExecuteGremlinProfileQuery](#)
- [ExecuteGremlinQuery](#)
- [ExecuteOpenCypherExplainQuery](#)
- [ExecuteOpenCypherQuery](#)
- [GetEngineStatus](#)
- [GetGremlinQueryStatus](#)
- [GetLoaderJobStatus](#)
- [GetMLDataProcessingJob](#)
- [GetMLEndpoint](#)
- [GetMLModelTrainingJob](#)
- [GetMLModelTransformJob](#)
- [GetOpenCypherQueryStatus](#)
- [GetPropertygraphStatistics](#)
- [GetPropertygraphStream](#)
- [GetPropertygraphSummary](#)

- [GetRDFGraphSummary](#)
- [GetSparqlStatistics](#)
- [GetSparqlStream](#)
- [ListGremlinQueries](#)
- [ListLoaderJobs](#)
- [ListMLDataProcessingJobs](#)
- [ListMLEndpoints](#)
- [ListMLModelTrainingJobs](#)
- [ListMLModelTransformJobs](#)
- [ListOpenCypherQueries](#)
- [ManagePropertygraphStatistics](#)
- [ManageSparqlStatistics](#)
- [StartLoaderJob](#)
- [StartMLDataProcessingJob](#)
- [StartMLModelTrainingJob](#)
- [StartMLModelTransformJob](#)

CancelGremlinQuery

Cancels a Gremlin query. See [Gremlin query cancellation](#) for more information.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:CancelQuery](#) IAM action in that cluster.

Request Syntax

```
DELETE /gremlin/status/queryId HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[queryId](#)

The unique identifier that identifies the query to be canceled.

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "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.

status

The status of the cancelation

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConcurrentModificationException

Raised when a request attempts to modify data that is concurrently being modified by another process.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

FailureByQueryException

Raised when a request fails.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

ParsingException

Raised when a parsing issue is encountered.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TimeLimitExceededException

Raised when the an operation exceeds the time limit allowed for it.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

CancelLoaderJob

Cancels a specified load job. This is an HTTP DELETE request. See [Neptune Loader Get-Status API](#) for more information.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:CancelLoaderJob](#) IAM action in that cluster..

Request Syntax

```
DELETE /loader/loadId HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

loadId

The ID of the load job to be deleted.

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "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.

status

The cancellation status.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

BulkLoadIdNotFoundException

Raised when a specified bulk-load job ID cannot be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The bulk-load job ID that could not be found.

HTTP Status Code: 404

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InternalFailureException

Raised when the processing of the request failed unexpectedly.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

LoadUrlAccessDeniedException

Raised when access is denied to a specified load URL.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

CancelMLDataProcessingJob

Cancels a Neptune ML data processing job. See [The dataprocessing command](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:CancelMLDataProcessingJob](#) IAM action in that cluster.

Request Syntax

```
DELETE /ml/dataprocessing/id?clean=clean&neptuneIamRoleArn=neptuneIamRoleArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[clean](#)

If set to TRUE, this flag specifies that all Neptune ML S3 artifacts should be deleted when the job is stopped. The default is FALSE.

[id](#)

The unique identifier of the data-processing job.

Required: Yes

[neptuneIamRoleArn](#)

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200  
Content-type: application/json
```

```
{  
  "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.

status

The status of the cancellation request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

CancelMLModelTrainingJob

Cancels a Neptune ML model training job. See [Model training using the modeltraining command](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:CancelMLModelTrainingJob](#) IAM action in that cluster.

Request Syntax

```
DELETE /ml/modeltraining/id?clean=clean&neptuneIamRoleArn=neptuneIamRoleArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[clean](#)

If set to TRUE, this flag specifies that all Amazon S3 artifacts should be deleted when the job is stopped. The default is FALSE.

[id](#)

The unique identifier of the model-training job to be canceled.

Required: Yes

[neptunelamRoleArn](#)

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200  
Content-type: application/json
```

```
{  
  "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.

status

The status of the cancellation.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

CancelMLModelTransformJob

Cancels a specified model transform job. See [Use a trained model to generate new model artifacts](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:CancelMLModelTransformJob](#) IAM action in that cluster.

Request Syntax

```
DELETE /ml/modeltransform/id?clean=clean&neptuneIamRoleArn=neptuneIamRoleArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[clean](#)

If this flag is set to TRUE, all Neptune ML S3 artifacts should be deleted when the job is stopped. The default is FALSE.

[id](#)

The unique ID of the model transform job to be canceled.

Required: Yes

[neptuneIamRoleArn](#)

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200  
Content-type: application/json
```

```
{  
  "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.

status

the status of the cancelation.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

CancelOpenCypherQuery

Cancels a specified openCypher query. See [Neptune openCypher status endpoint](#) for more information.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:CancelQuery](#) IAM action in that cluster.

Request Syntax

```
DELETE /opencypher/status/queryId?silent=silent HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[queryId](#)

The unique ID of the openCypher query to cancel.

Required: Yes

[silent](#)

If set to TRUE, causes the cancelation of the openCypher query to happen silently.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "payload": boolean,
  "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.

payload

The cancelation payload for the openCypher query.

Type: Boolean

status

The cancellation status of the openCypher query.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConcurrentModificationException

Raised when a request attempts to modify data that is concurrently being modified by another process.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

FailureByQueryException

Raised when a request fails.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidNumericDataException

Raised when invalid numerical data is encountered when servicing a request.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

ParsingException

Raised when a parsing issue is encountered.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TimeLimitExceededException

Raised when the an operation exceeds the time limit allowed for it.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)

- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

CreateMLEndpoint

Creates a new Neptune ML inference endpoint that lets you query one specific model that the model-training process constructed. See [Managing inference endpoints using the endpoints command](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:CreateMLEndpoint](#) IAM action in that cluster.

Request Syntax

```
POST /ml/endpoints HTTP/1.1
Content-type: application/json

{
  "id": "string",
  "instanceCount": number,
  "instanceType": "string",
  "mlModelTrainingJobId": "string",
  "mlModelTransformJobId": "string",
  "modelName": "string",
  "neptuneIamRoleArn": "string",
  "update": boolean,
  "volumeEncryptionKMSKey": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

id

A unique identifier for the new inference endpoint. The default is an autogenerated timestamped name.

Type: String

Required: No

instanceCount

The minimum number of Amazon EC2 instances to deploy to an endpoint for prediction. The default is 1

Type: Integer

Required: No

instanceType

The type of Neptune ML instance to use for online servicing. The default is `m1.m5.xlarge`. Choosing the ML instance for an inference endpoint depends on the task type, the graph size, and your budget.

Type: String

Required: No

mlModelTrainingJobId

The job Id of the completed model-training job that has created the model that the inference endpoint will point to. You must supply either the `mlModelTrainingJobId` or the `mlModelTransformJobId`.

Type: String

Required: No

mlModelTransformJobId

The job Id of the completed model-transform job. You must supply either the `mlModelTrainingJobId` or the `mlModelTransformJobId`.

Type: String

Required: No

modelName

Model type for training. By default the Neptune ML model is automatically based on the `modelType` used in data processing, but you can specify a different model type here. The default is `rgcn` for heterogeneous graphs and `kge` for knowledge graphs. The only valid

value for heterogeneous graphs is `rgcn`. Valid values for knowledge graphs are: `kge`, `transe`, `distmult`, and `rotate`.

Type: String

Required: No

neptunelamRoleArn

The ARN of an IAM role providing Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will be thrown.

Type: String

Required: No

update

If set to `true`, `update` indicates that this is an update request. The default is `false`. You must supply either the `mlModelTrainingJobId` or the `mlModelTransformJobId`.

Type: Boolean

Required: No

volumeEncryptionKMSKey

The Amazon Key Management Service (Amazon KMS) key that SageMaker uses to encrypt data on the storage volume attached to the ML compute instances that run the training job. The default is `None`.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "arn": "string",
  "creationTimeInMillis": number,
  "id": "string"
```

```
}
```

Response Elements

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

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

arn

The ARN for the new inference endpoint.

Type: String

creationTimeInMillis

The endpoint creation time, in milliseconds.

Type: Long

id

The unique ID of the new inference endpoint.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)

- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

DeleteMLEndpoint

Cancels the creation of a Neptune ML inference endpoint. See [Managing inference endpoints using the endpoints command](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db>DeleteMLEndpoint](#) IAM action in that cluster.

Request Syntax

```
DELETE /ml/endpoints/id?clean=clean&neptuneIamRoleArn=neptuneIamRoleArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[clean](#)

If this flag is set to TRUE, all Neptune ML S3 artifacts should be deleted when the job is stopped. The default is FALSE.

[id](#)

The unique identifier of the inference endpoint.

Required: Yes

[neptunelamRoleArn](#)

The ARN of an IAM role providing Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will be thrown.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200  
Content-type: application/json
```

```
{  
  "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.

status

The status of the cancellation.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

DeletePropertygraphStatistics

Deletes statistics for Gremlin and openCypher (property graph) data.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:DeleteStatistics](#) IAM action in that cluster.

Request Syntax

```
DELETE /propertygraph/statistics HTTP/1.1
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 statusCode
Content-type: application/json

{
  "payload": {
    "active": boolean,
    "statisticsId": "string"
  },
  "status": "string"
}
```

Response Elements

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

[statusCode](#)

The HTTP response code: 200 if the delete was successful, or 204 if there were no statistics to delete.

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

payload

The deletion payload.

Type: [DeleteStatisticsValueMap](#) object

status

The cancel status.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

StatisticsNotAvailableException

Raised when statistics needed to satisfy a request are not available.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

DeleteSparqlStatistics

Deletes SPARQL statistics

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db>DeleteStatistics](#) IAM action in that cluster.

Request Syntax

```
DELETE /sparql/statistics HTTP/1.1
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 statusCode
Content-type: application/json

{
  "payload": {
    "active": boolean,
    "statisticsId": "string"
  },
  "status": "string"
}
```

Response Elements

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

[statusCode](#)

The HTTP response code: 200 if the delete was successful, or 204 if there were no statistics to delete.

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

payload

The deletion payload.

Type: [DeleteStatisticsValueMap](#) object

status

The cancel status.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

StatisticsNotAvailableException

Raised when statistics needed to satisfy a request are not available.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

ExecuteFastReset

The fast reset REST API lets you reset a Neptune graph quickly and easily, removing all of its data.

Neptune fast reset is a two-step process. First you call `ExecuteFastReset` with `action` set to `initiateDatabaseReset`. This returns a UUID token which you then include when calling `ExecuteFastReset` again with `action` set to `performDatabaseReset`. See [Empty an Amazon Neptune DB cluster using the fast reset API](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:ResetDatabase](#) IAM action in that cluster.

Request Syntax

```
POST /system HTTP/1.1
Content-type: application/json

{
  "action": "string",
  "token": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

action

The fast reset action. One of the following values:

- **initiateDatabaseReset** – This action generates a unique token needed to actually perform the fast reset.
- **performDatabaseReset** – This action uses the token generated by the `initiateDatabaseReset` action to actually perform the fast reset.

Type: String

Valid Values: `initiateDatabaseReset` | `performDatabaseReset`

Required: Yes

token

The fast-reset token to initiate the reset.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
  "payload": {
    "token": "string"
  },
  "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.

payload

The `payload` is only returned by the `initiateDatabaseReset` action, and contains the unique token to use with the `performDatabaseReset` action to make the reset occur.

Type: [FastResetToken](#) object

status

The `status` is only returned for the `performDatabaseReset` action, and indicates whether or not the fast reset request is accepted.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MethodNotAllowedException

Raised when the HTTP method used by a request is not supported by the endpoint being used.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 405

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

ServerShutdownException

Raised when the server shuts down while processing a request.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)

- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ExecuteGremlinExplainQuery

Executes a Gremlin Explain query.

Amazon Neptune has added a Gremlin feature named `explain` that provides is a self-service tool for understanding the execution approach being taken by the Neptune engine for the query. You invoke it by adding an `explain` parameter to an HTTP call that submits a Gremlin query.

The `explain` feature provides information about the logical structure of query execution plans. You can use this information to identify potential evaluation and execution bottlenecks and to tune your query, as explained in [Tuning Gremlin queries](#). You can also use query hints to improve query execution plans.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows one of the following IAM actions in that cluster, depending on the query:

- [neptune-db:ReadDataViaQuery](#)
- [neptune-db:WriteDataViaQuery](#)
- [neptune-db>DeleteDataViaQuery](#)

Note that the [neptune-db:QueryLanguage:Gremlin](#) IAM condition key can be used in the policy document to restrict the use of Gremlin queries (see [Condition keys available in Neptune IAM data-access policy statements](#)).

Request Syntax

```
POST /gremlin/explain HTTP/1.1
Content-type: application/json

{
  "gremlin": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

gremlin

The Gremlin explain query string.

Type: String

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

```
output
```

Response Elements

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

The response returns the following as the HTTP body.

output

A text blob containing the Gremlin explain result, as described in [Tuning Gremlin queries](#).

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

CancelledByUserException

Raised when a user cancelled a request.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConcurrentModificationException

Raised when a request attempts to modify data that is concurrently being modified by another process.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

FailureByQueryException

Raised when a request fails.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MalformedQueryException

Raised when a query is submitted that is syntactically incorrect or does not pass additional validation.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the malformed query request.

HTTP Status Code: 400

MemoryLimitExceededException

Raised when a request fails because of insufficient memory resources. The request can be retried.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that failed.

HTTP Status Code: 500

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

ParsingException

Raised when a parsing issue is encountered.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

QueryLimitExceededException

Raised when the number of active queries exceeds what the server can process. The query in question can be retried when the system is less busy.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request which exceeded the limit.

HTTP Status Code: 500

QueryLimitException

Raised when the size of a query exceeds the system limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that exceeded the limit.

HTTP Status Code: 400

QueryTooLargeException

Raised when the body of a query is too large.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that is too large.

HTTP Status Code: 400

TimeLimitExceededException

Raised when the an operation exceeds the time limit allowed for it.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

ExecuteGremlinProfileQuery

Executes a Gremlin Profile query, which runs a specified traversal, collects various metrics about the run, and produces a profile report as output. See [Gremlin profile API in Neptune](#) for details.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:ReadDataViaQuery](#) IAM action in that cluster.

Note that the [neptune-db:QueryLanguage:Gremlin](#) IAM condition key can be used in the policy document to restrict the use of Gremlin queries (see [Condition keys available in Neptune IAM data-access policy statements](#)).

Request Syntax

```
POST /gremlin/profile HTTP/1.1
Content-type: application/json

{
  "profile.chop": number,
  "gremlin": "string",
  "profile.indexOps": boolean,
  "profile.results": boolean,
  "profile.serializer": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

[profile.chop](#)

If non-zero, causes the results string to be truncated at that number of characters. If set to zero, the string contains all the results.

Type: Integer

Required: No

[gremlin](#)

The Gremlin query string to profile.

Type: String

Required: Yes

[profile.indexOps](#)

If this flag is set to TRUE, the results include a detailed report of all index operations that took place during query execution and serialization.

Type: Boolean

Required: No

[profile.results](#)

If this flag is set to TRUE, the query results are gathered and displayed as part of the profile report. If FALSE, only the result count is displayed.

Type: Boolean

Required: No

[profile.serializer](#)

If non-null, the gathered results are returned in a serialized response message in the format specified by this parameter. See [Gremlin profile API in Neptune](#) for more information.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
```

```
output
```

Response Elements

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

The response returns the following as the HTTP body.

output

A text blob containing the Gremlin Profile result. See [Gremlin profile API in Neptune](#) for details.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

CancelledByUserException

Raised when a user cancelled a request.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConcurrentModificationException

Raised when a request attempts to modify data that is concurrently being modified by another process.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

FailureByQueryException

Raised when a request fails.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MalformedQueryException

Raised when a query is submitted that is syntactically incorrect or does not pass additional validation.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the malformed query request.

HTTP Status Code: 400

MemoryLimitExceededException

Raised when a request fails because of insufficient memory resources. The request can be retried.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that failed.

HTTP Status Code: 500

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

ParsingException

Raised when a parsing issue is encountered.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

QueryLimitExceededException

Raised when the number of active queries exceeds what the server can process. The query in question can be retried when the system is less busy.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request which exceeded the limit.

HTTP Status Code: 500

QueryLimitException

Raised when the size of a query exceeds the system limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that exceeded the limit.

HTTP Status Code: 400

QueryTooLargeException

Raised when the body of a query is too large.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that is too large.

HTTP Status Code: 400

TimeLimitExceededException

Raised when the an operation exceeds the time limit allowed for it.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)

- [AWS SDK for Ruby V3](#)

ExecuteGremlinQuery

This command executes a Gremlin query. Amazon Neptune is compatible with Apache TinkerPop3 and Gremlin, so you can use the Gremlin traversal language to query the graph, as described under [The Graph](#) in the Apache TinkerPop3 documentation. More details can also be found in [Accessing a Neptune graph with Gremlin](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that enables one of the following IAM actions in that cluster, depending on the query:

- [neptune-db:ReadDataViaQuery](#)
- [neptune-db:WriteDataViaQuery](#)
- [neptune-db>DeleteDataViaQuery](#)

Note that the [neptune-db:QueryLanguage:Gremlin](#) IAM condition key can be used in the policy document to restrict the use of Gremlin queries (see [Condition keys available in Neptune IAM data-access policy statements](#)).

Request Syntax

```
POST /gremlin HTTP/1.1
accept: serializer
Content-type: application/json

{
  "gremlin": "string"
}
```

URI Request Parameters

The request uses the following URI parameters.

[serializer](#)

If non-null, the query results are returned in a serialized response message in the format specified by this parameter. See the [GraphSON](#) section in the TinkerPop documentation for a list of the formats that are currently supported.

Request Body

The request accepts the following data in JSON format.

gremlin

Using this API, you can run Gremlin queries in string format much as you can using the HTTP endpoint. The interface is compatible with whatever Gremlin version your DB cluster is using (see the [Tinkerpop client section](#) to determine which Gremlin releases your engine version supports).

Type: String

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "meta": JSON value,
  "requestId": "string",
  "result": JSON value,
  "status": {
    "attributes": JSON value,
    "code": number,
    "message": "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.

meta

Metadata about the Gremlin query.

Type: JSON value

requestId

The unique identifier of the Gremlin query.

Type: String

result

The Gremlin query output from the server.

Type: JSON value

status

The status of the Gremlin query.

Type: [GremlinQueryStatusAttributes](#) object

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

CancelledByUserException

Raised when a user cancelled a request.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConcurrentModificationException

Raised when a request attempts to modify data that is concurrently being modified by another process.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

FailureByQueryException

Raised when a request fails.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MalformedQueryException

Raised when a query is submitted that is syntactically incorrect or does not pass additional validation.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the malformed query request.

HTTP Status Code: 400

MemoryLimitExceededException

Raised when a request fails because of insufficient memory resources. The request can be retried.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that failed.

HTTP Status Code: 500

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

ParsingException

Raised when a parsing issue is encountered.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

QueryLimitExceededException

Raised when the number of active queries exceeds what the server can process. The query in question can be retried when the system is less busy.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request which exceeded the limit.

HTTP Status Code: 500

QueryLimitException

Raised when the size of a query exceeds the system limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that exceeded the limit.

HTTP Status Code: 400

QueryTooLargeException

Raised when the body of a query is too large.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that is too large.

HTTP Status Code: 400

TimeLimitExceededException

Raised when the an operation exceeds the time limit allowed for it.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ExecuteOpenCypherExplainQuery

Executes an openCypher explain request. See [The openCypher explain feature](#) for more information.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:ReadDataViaQuery](#) IAM action in that cluster.

Note that the [neptune-db:QueryLanguage:OpenCypher](#) IAM condition key can be used in the policy document to restrict the use of openCypher queries (see [Condition keys available in Neptune IAM data-access policy statements](#)).

Request Syntax

```
POST /opencypher/explain HTTP/1.1
Content-type: application/json
```

```
{
  "explain": "string",
  "query": "string",
  "parameters": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

[explain](#)

The openCypher explain mode. Can be one of: `static`, `dynamic`, or `details`.

Type: String

Valid Values: `static` | `dynamic` | `details`

Required: Yes

query

The openCypher query string.

Type: String

Required: Yes

parameters

The openCypher query parameters.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
```

```
results
```

Response Elements

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

The response returns the following as the HTTP body.

results

A text blob containing the openCypher explain results.

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

CancelledByUserException

Raised when a user cancelled a request.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConcurrentModificationException

Raised when a request attempts to modify data that is concurrently being modified by another process.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

FailureByQueryException

Raised when a request fails.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidNumericDataException

Raised when invalid numerical data is encountered when servicing a request.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MalformedQueryException

Raised when a query is submitted that is syntactically incorrect or does not pass additional validation.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the malformed query request.

HTTP Status Code: 400

MemoryLimitExceededException

Raised when a request fails because of insufficient memory resources. The request can be retried.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that failed.

HTTP Status Code: 500

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

ParsingException

Raised when a parsing issue is encountered.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

QueryLimitExceededException

Raised when the number of active queries exceeds what the server can process. The query in question can be retried when the system is less busy.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request which exceeded the limit.

HTTP Status Code: 500

QueryLimitException

Raised when the size of a query exceeds the system limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that exceeded the limit.

HTTP Status Code: 400

QueryTooLargeException

Raised when the body of a query is too large.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that is too large.

HTTP Status Code: 400

TimeLimitExceededException

Raised when the an operation exceeds the time limit allowed for it.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

ExecuteOpenCypherQuery

Executes an openCypher query. See [Accessing the Neptune Graph with openCypher](#) for more information.

Neptune supports building graph applications using openCypher, which is currently one of the most popular query languages among developers working with graph databases. Developers, business analysts, and data scientists like openCypher's declarative, SQL-inspired syntax because it provides a familiar structure in which to querying property graphs.

The openCypher language was originally developed by Neo4j, then open-sourced in 2015 and contributed to the [openCypher project](#) under an Apache 2 open-source license.

Note that when invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows one of the following IAM actions in that cluster, depending on the query:

- [neptune-db:ReadDataViaQuery](#)
- [neptune-db:WriteDataViaQuery](#)
- [neptune-db>DeleteDataViaQuery](#)

Note also that the [neptune-db:QueryLanguage:OpenCypher](#) IAM condition key can be used in the policy document to restrict the use of openCypher queries (see [Condition keys available in Neptune IAM data-access policy statements](#)).

Request Syntax

```
POST /opencypher HTTP/1.1
Content-type: application/json

{
  "query": "string",
  "parameters": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

query

The openCypher query string to be executed.

Type: String

Required: Yes

parameters

The openCypher query parameters for query execution. See [Examples of openCypher parameterized queries](#) for more information.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "results": JSON value
}
```

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.

results

The openCypherquery results.

Type: JSON value

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

CancelledByUserException

Raised when a user cancelled a request.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConcurrentModificationException

Raised when a request attempts to modify data that is concurrently being modified by another process.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

FailureByQueryException

Raised when a request fails.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidNumericDataException

Raised when invalid numerical data is encountered when servicing a request.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MalformedQueryException

Raised when a query is submitted that is syntactically incorrect or does not pass additional validation.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the malformed query request.

HTTP Status Code: 400

MemoryLimitExceededException

Raised when a request fails because of insufficient memory resources. The request can be retried.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that failed.

HTTP Status Code: 500

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

ParsingException

Raised when a parsing issue is encountered.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

QueryLimitExceededException

Raised when the number of active queries exceeds what the server can process. The query in question can be retried when the system is less busy.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request which exceeded the limit.

HTTP Status Code: 500

QueryLimitException

Raised when the size of a query exceeds the system limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that exceeded the limit.

HTTP Status Code: 400

QueryTooLargeException

Raised when the body of a query is too large.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that is too large.

HTTP Status Code: 400

TimeLimitExceededException

Raised when the an operation exceeds the time limit allowed for it.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetEngineStatus

Retrieves the status of the graph database on the host.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetEngineStatus](#) IAM action in that cluster.

Request Syntax

```
GET /status HTTP/1.1
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "dbEngineVersion": "string",
  "dfeQueryEngine": "string",
  "features": {
    "string" : JSON value
  },
  "gremlin": {
    "version": "string"
  },
  "labMode": {
    "string" : "string"
  },
  "opencypher": {
    "version": "string"
  },
  "role": "string",
```

```
"rollingBackTrxCount": number,
"rollingBackTrxEarliestStartTime": "string",
"settings": {
  "string" : "string"
},
"sparql": {
  "version": "string"
},
"startTime": "string",
"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.

dbEngineVersion

Set to the Neptune engine version running on your DB cluster. If this engine version has been manually patched since it was released, the version number is prefixed by Patch-.

Type: String

dfEngine

Set to `enabled` if the DFE engine is fully enabled, or to `viaQueryHint` (the default) if the DFE engine is only used with queries that have the `useDFE` query hint set to `true`.

Type: String

features

Contains status information about the features enabled on your DB cluster.

Type: String to JSON value map

gremlin

Contains information about the Gremlin query language available on your cluster. Specifically, it contains a `version` field that specifies the current TinkerPop version being used by the engine.

Type: [QueryLanguageVersion](#) object

labMode

Contains Lab Mode settings being used by the engine.

Type: String to string map

opencypher

Contains information about the openCypher query language available on your cluster. Specifically, it contains a version field that specifies the current openCypher version being used by the engine.

Type: [QueryLanguageVersion](#) object

role

Set to `reader` if the instance is a read-replica, or to `writer` if the instance is the primary instance.

Type: String

rollingBackTrxCount

If there are transactions being rolled back, this field is set to the number of such transactions. If there are none, the field doesn't appear at all.

Type: Integer

rollingBackTrxEarliestStartTime

Set to the start time of the earliest transaction being rolled back. If no transactions are being rolled back, the field doesn't appear at all.

Type: String

settings

Contains information about the current settings on your DB cluster. For example, contains the current cluster query timeout setting (`clusterQueryTimeoutInMs`).

Type: String to string map

sparql

Contains information about the SPARQL query language available on your cluster. Specifically, it contains a version field that specifies the current SPARQL version being used by the engine.

Type: [QueryLanguageVersion](#) object

startTime

Set to the UTC time at which the current server process started.

Type: String

status

Set to `healthy` if the instance is not experiencing problems. If the instance is recovering from a crash or from being rebooted and there are active transactions running from the latest server shutdown, `status` is set to `recovery`.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InternalFailureException

Raised when the processing of the request failed unexpectedly.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

GetGremlinQueryStatus

Gets the status of a specified Gremlin query.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetQueryStatus](#) IAM action in that cluster.

Note that the [neptune-db:QueryLanguage:Gremlin](#) IAM condition key can be used in the policy document to restrict the use of Gremlin queries (see [Condition keys available in Neptune IAM data-access policy statements](#)).

Request Syntax

```
GET /gremlin/status/queryId HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[queryId](#)

The unique identifier that identifies the Gremlin query.

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "queryEvalStats": {
    "cancelled": boolean,
    "elapsed": number,
    "subqueries": JSON value,
```

```
  "waited": number
},
"queryId": "string",
"queryString": "string"
}
```

Response Elements

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

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

queryEvalStats

The evaluation status of the Gremlin query.

Type: [QueryEvalStats](#) object

queryId

The ID of the query for which status is being returned.

Type: String

queryString

The Gremlin query string.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConcurrentModificationException

Raised when a request attempts to modify data that is concurrently being modified by another process.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

FailureByQueryException

Raised when a request fails.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

ParsingException

Raised when a parsing issue is encountered.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

TimeLimitExceededException

Raised when the an operation exceeds the time limit allowed for it.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

GetLoaderJobStatus

Gets status information about a specified load job. Neptune keeps track of the most recent 1,024 bulk load jobs, and stores the last 10,000 error details per job.

See [Neptune Loader Get-Status API](#) for more information.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetLoaderJobStatus](#) IAM action in that cluster..

Request Syntax

```
GET /loader/loadId?details=details&errors=errors&errorsPerPage=errorsPerPage&page=page
HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[details](#)

Flag indicating whether or not to include details beyond the overall status (TRUE or FALSE; the default is FALSE).

[errors](#)

Flag indicating whether or not to include a list of errors encountered (TRUE or FALSE; the default is FALSE).

The list of errors is paged. The page and errorsPerPage parameters allow you to page through all the errors.

[errorsPerPage](#)

The number of errors returned in each page (a positive integer; the default is 10). Only valid when the errors parameter set to TRUE.

Valid Range: Minimum value of 1.

[loadId](#)

The load ID of the load job to get the status of.

Required: Yes

[page](#)

The error page number (a positive integer; the default is 1). Only valid when the errors parameter is set to TRUE.

Valid Range: Minimum value of 1.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "payload": JSON value,
  "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.

[payload](#)

Status information about the load job, in a layout that could look like this:

Type: JSON value

[status](#)

The HTTP response code for the request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

BulkLoadIdNotFoundException

Raised when a specified bulk-load job ID cannot be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The bulk-load job ID that could not be found.

HTTP Status Code: 404

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InternalFailureException

Raised when the processing of the request failed unexpectedly.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

LoadUrlAccessDeniedException

Raised when access is denied to a specified load URL.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)

- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetMLDataProcessingJob

Retrieves information about a specified data processing job. See [The dataprocessing command](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:neptune-db:GetMLDataProcessingJobStatus](#) IAM action in that cluster.

Request Syntax

```
GET /ml/dataprocessing/id?neptuneIamRoleArn=neptuneIamRoleArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

id

The unique identifier of the data-processing job to be retrieved.

Required: Yes

neptuneIamRoleArn

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "id": "string",
  "processingJob": {
    "arn": "string",
```

```
    "cloudwatchLogUrl": "string",
    "failureReason": "string",
    "name": "string",
    "outputLocation": "string",
    "status": "string"
  },
  "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.

id

The unique identifier of this data-processing job.

Type: String

processingJob

Definition of the data processing job.

Type: [MLResourceDefinition](#) object

status

Status of the data processing job.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)

- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetMLEndpoint

Retrieves details about an inference endpoint. See [Managing inference endpoints using the endpoints command](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetMLEndpointStatus](#) IAM action in that cluster.

Request Syntax

```
GET /ml/endpoints/id?neptuneIamRoleArn=neptuneIamRoleArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

id

The unique identifier of the inference endpoint.

Required: Yes

neptuneIamRoleArn

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "endpoint": {
```

```
    "arn": "string",
    "cloudwatchLogUrl": "string",
    "failureReason": "string",
    "name": "string",
    "outputLocation": "string",
    "status": "string"
  },
  "endpointConfig": {
    "arn": "string",
    "name": "string"
  },
  "id": "string",
  "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.

endpoint

The endpoint definition.

Type: [MLResourceDefinition](#) object

endpointConfig

The endpoint configuration

Type: [MLConfigDefinition](#) object

id

The unique identifier of the inference endpoint.

Type: String

status

The status of the inference endpoint.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

GetMLModelTrainingJob

Retrieves information about a Neptune ML model training job. See [Model training using the modeltraining command](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetMLModelTrainingJobStatus](#) IAM action in that cluster.

Request Syntax

```
GET /ml/modeltraining/id?neptuneIamRoleArn=neptuneIamRoleArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

id

The unique identifier of the model-training job to retrieve.

Required: Yes

neptunelamRoleArn

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "hpoJob": {
    "arn": "string",
```

```
    "cloudwatchLogUrl": "string",
    "failureReason": "string",
    "name": "string",
    "outputLocation": "string",
    "status": "string"
  },
  "id": "string",
  "mlModels": [
    {
      "arn": "string",
      "name": "string"
    }
  ],
  "modelTransformJob": {
    "arn": "string",
    "cloudwatchLogUrl": "string",
    "failureReason": "string",
    "name": "string",
    "outputLocation": "string",
    "status": "string"
  },
  "processingJob": {
    "arn": "string",
    "cloudwatchLogUrl": "string",
    "failureReason": "string",
    "name": "string",
    "outputLocation": "string",
    "status": "string"
  },
  "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.

hpoJob

The HPO job.

Type: [MLResourceDefinition](#) object

id

The unique identifier of this model-training job.

Type: String

mlModels

A list of the configurations of the ML models being used.

Type: Array of [MLConfigDefinition](#) objects

modelTransformJob

The model transform job.

Type: [MLResourceDefinition](#) object

processingJob

The data processing job.

Type: [MLResourceDefinition](#) object

status

The status of the model training job.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetMLModelTransformJob

Gets information about a specified model transform job. See [Use a trained model to generate new model artifacts](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetMLModelTransformJobStatus](#) IAM action in that cluster.

Request Syntax

```
GET /ml/modeltransform/id?neptuneIamRoleArn=neptuneIamRoleArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

id

The unique identifier of the model-transform job to be retrieved.

Required: Yes

neptuneIamRoleArn

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "baseProcessingJob": {
    "arn": "string",
```

```
    "cloudwatchLogUrl": "string",
    "failureReason": "string",
    "name": "string",
    "outputLocation": "string",
    "status": "string"
  },
  "id": "string",
  "models": [
    {
      "arn": "string",
      "name": "string"
    }
  ],
  "remoteModelTransformJob": {
    "arn": "string",
    "cloudwatchLogUrl": "string",
    "failureReason": "string",
    "name": "string",
    "outputLocation": "string",
    "status": "string"
  },
  "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.

baseProcessingJob

The base data processing job.

Type: [MLResourceDefinition](#) object

id

The unique identifier of the model-transform job to be retrieved.

Type: String

models

A list of the configuration information for the models being used.

Type: Array of [MlConfigDefinition](#) objects

[remoteModelTransformJob](#)

The remote model transform job.

Type: [MlResourceDefinition](#) object

[status](#)

The status of the model-transform job.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

GetOpenCypherQueryStatus

Retrieves the status of a specified openCypher query.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetQueryStatus](#) IAM action in that cluster.

Note that the [neptune-db:QueryLanguage:OpenCypher](#) IAM condition key can be used in the policy document to restrict the use of openCypher queries (see [Condition keys available in Neptune IAM data-access policy statements](#)).

Request Syntax

```
GET /opencypher/status/queryId HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[queryId](#)

The unique ID of the openCypher query for which to retrieve the query status.

Required: Yes

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "queryEvalStats": {
    "cancelled": boolean,
    "elapsed": number,
    "subqueries": JSON value,
```

```
  "waited": number
},
"queryId": "string",
"queryString": "string"
}
```

Response Elements

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

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

queryEvalStats

The openCypher query evaluation status.

Type: [QueryEvalStats](#) object

queryId

The unique ID of the query for which status is being returned.

Type: String

queryString

The openCypher query string.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConcurrentModificationException

Raised when a request attempts to modify data that is concurrently being modified by another process.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

FailureByQueryException

Raised when a request fails.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidNumericDataException

Raised when invalid numerical data is encountered when servicing a request.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

ParsingException

Raised when a parsing issue is encountered.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

TimeLimitExceededException

Raised when the an operation exceeds the time limit allowed for it.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)

- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetPropertygraphStatistics

Gets property graph statistics (Gremlin and openCypher).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetStatisticsStatus](#) IAM action in that cluster.

Request Syntax

```
GET /propertygraph/statistics HTTP/1.1
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "payload": {
    "active": boolean,
    "autoCompute": boolean,
    "date": "string",
    "note": "string",
    "signatureInfo": {
      "instanceCount": number,
      "predicateCount": number,
      "signatureCount": number
    },
    "statisticsId": "string"
  },
  "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.

payload

Statistics for property-graph data.

Type: [Statistics](#) object

status

The HTTP return code of the request. If the request succeeded, the code is 200. See [Common error codes for DFE statistics request](#) for a list of common errors.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

StatisticsNotAvailableException

Raised when statistics needed to satisfy a request are not available.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

GetPropertygraphStream

Gets a stream for a property graph.

With the Neptune Streams feature, you can generate a complete sequence of change-log entries that record every change made to your graph data as it happens. `GetPropertygraphStream` lets you collect these change-log entries for a property graph.

The Neptune streams feature needs to be enabled on your Neptune DBcluster. To enable streams, set the [neptune_streams](#) DB cluster parameter to 1.

See [Capturing graph changes in real time using Neptune streams](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetStreamRecords](#) IAM action in that cluster.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that enables one of the following IAM actions, depending on the query:

Note that you can restrict property-graph queries using the following IAM context keys:

- [neptune-db:QueryLanguage:Gremlin](#)
- [neptune-db:QueryLanguage:OpenCypher](#)

See [Condition keys available in Neptune IAM data-access policy statements](#)).

Request Syntax

```
GET /propertygraph/stream?  
commitNum=commitNum&iteratorType=iteratorType&limit=limit&opNum=opNum HTTP/1.1  
Accept-Encoding: encoding
```

URI Request Parameters

The request uses the following URI parameters.

commitNum

The commit number of the starting record to read from the change-log stream. This parameter is required when `iteratorType` is `AT_SEQUENCE_NUMBER` or `AFTER_SEQUENCE_NUMBER`, and ignored when `iteratorType` is `TRIM_HORIZON` or `LATEST`.

encoding

If set to `TRUE`, Neptune compresses the response using gzip encoding.

Valid Values: `gzip`

iteratorType

Can be one of:

- `AT_SEQUENCE_NUMBER` – Indicates that reading should start from the event sequence number specified jointly by the `commitNum` and `opNum` parameters.
- `AFTER_SEQUENCE_NUMBER` – Indicates that reading should start right after the event sequence number specified jointly by the `commitNum` and `opNum` parameters.
- `TRIM_HORIZON` – Indicates that reading should start at the last untrimmed record in the system, which is the oldest unexpired (not yet deleted) record in the change-log stream.
- `LATEST` – Indicates that reading should start at the most recent record in the system, which is the latest unexpired (not yet deleted) record in the change-log stream.

Valid Values: `AT_SEQUENCE_NUMBER` | `AFTER_SEQUENCE_NUMBER` | `TRIM_HORIZON` | `LATEST`

limit

Specifies the maximum number of records to return. There is also a size limit of 10 MB on the response that can't be modified and that takes precedence over the number of records specified in the `limit` parameter. The response does include a threshold-breaching record if the 10 MB limit was reached.

The range for `limit` is 1 to 100,000, with a default of 10.

Valid Range: Minimum value of 1. Maximum value of 100000.

opNum

The operation sequence number within the specified commit to start reading from in the change-log stream data. The default is 1.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "format": "string",
  "lastEventId": {
    "string" : "string"
  },
  "lastTrxTimestamp": number,
  "records": [
    {
      "commitTimestamp": number,
      "data": {
        "from": "string",
        "id": "string",
        "key": "string",
        "to": "string",
        "type": "string",
        "value": JSON value
      },
      "eventId": {
        "string" : "string"
      },
      "isLastOp": boolean,
      "op": "string"
    }
  ],
  "totalRecords": number
}
```

Response Elements

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

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

format

Serialization format for the change records being returned. Currently, the only supported value is PG_JSON.

Type: String

lastEventId

Sequence identifier of the last change in the stream response.

An event ID is composed of two fields: a `commitNum`, which identifies a transaction that changed the graph, and an `opNum`, which identifies a specific operation within that transaction:

Type: String to string map

lastTrxTimestamp

The time at which the commit for the transaction was requested, in milliseconds from the Unix epoch.

Type: Long

records

An array of serialized change-log stream records included in the response.

Type: Array of [PropertygraphRecord](#) objects

totalRecords

The total number of records in the response.

Type: Integer

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ExpiredStreamException

Raised when a request attempts to access a stream that has expired.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MemoryLimitExceededException

Raised when a request fails because of insufficient memory resources. The request can be retried.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that failed.

HTTP Status Code: 500

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

StreamRecordsNotFoundException

Raised when stream records requested by a query cannot be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

ThrottlingException

Raised when the rate of requests exceeds the maximum throughput. Requests can be retried after encountering this exception.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

GetPropertygraphSummary

Gets a graph summary for a property graph.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetGraphSummary](#) IAM action in that cluster.

Request Syntax

```
GET /propertygraph/statistics/summary?mode=mode HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[mode](#)

Mode can take one of two values: BASIC (the default), and DETAILED.

Valid Values: `basic` | `detailed`

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 statusCode
Content-type: application/json

{
  "payload": {
    "graphSummary": {
      "edgeLabels": [ "string" ],
      "edgeProperties": [
        {
          "string" : number
        }
      ]
    }
  }
}
```

```
    ],
    "edgeStructures": [
      {
        "count": number,
        "edgeProperties": [ "string" ]
      }
    ],
    "nodeLabels": [ "string" ],
    "nodeProperties": [
      {
        "string" : number
      }
    ],
    "nodeStructures": [
      {
        "count": number,
        "distinctOutgoingEdgeLabels": [ "string" ],
        "nodeProperties": [ "string" ]
      }
    ],
    "numEdgeLabels": number,
    "numEdgeProperties": number,
    "numEdges": number,
    "numNodeLabels": number,
    "numNodeProperties": number,
    "numNodes": number,
    "totalEdgePropertyValues": number,
    "totalNodePropertyValues": number
  },
  "lastStatisticsComputationTime": "string",
  "version": "string"
}
```

Response Elements

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

statusCode

The HTTP return code of the request. If the request succeeded, the code is 200.

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

payload

Payload containing the property graph summary response.

Type: [PropertygraphSummaryValueMap](#) object

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

StatisticsNotAvailableException

Raised when statistics needed to satisfy a request are not available.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)

- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

GetRDFGraphSummary

Gets a graph summary for an RDF graph.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetGraphSummary](#) IAM action in that cluster.

Request Syntax

```
GET /rdf/statistics/summary?mode=mode HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

mode

Mode can take one of two values: BASIC (the default), and DETAILED.

Valid Values: basic | detailed

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 statusCode
```

```
Content-type: application/json
```

```
{
  "payload": {
    "graphSummary": {
      "classes": [ "string" ],
      "numClasses": number,
      "numDistinctPredicates": number,
      "numDistinctSubjects": number,
      "numQuads": number,
      "predicates": [
        {
```

```
        "string" : number
      }
    ],
    "subjectStructures": [
      {
        "count": number,
        "predicates": [ "string" ]
      }
    ]
  },
  "lastStatisticsComputationTime": "string",
  "version": "string"
}
```

Response Elements

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

statusCode

The HTTP return code of the request. If the request succeeded, the code is 200.

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

payload

Payload for an RDF graph summary response

Type: [RDFGraphSummaryValueMap](#) object

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

StatisticsNotAvailableException

Raised when statistics needed to satisfy a request are not available.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

GetSparqlStatistics

Gets RDF statistics (SPARQL).

Request Syntax

```
GET /sparql/statistics HTTP/1.1
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "payload": {
    "active": boolean,
    "autoCompute": boolean,
    "date": "string",
    "note": "string",
    "signatureInfo": {
      "instanceCount": number,
      "predicateCount": number,
      "signatureCount": number
    },
    "statisticsId": "string"
  },
  "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.

payload

Statistics for RDF data.

Type: [Statistics](#) object

status

The HTTP return code of the request. If the request succeeded, the code is 200. See [Common error codes for DFE statistics request](#) for a list of common errors.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetStatisticsStatus](#) IAM action in that cluster.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

StatisticsNotAvailableException

Raised when statistics needed to satisfy a request are not available.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

GetSparqlStream

Gets a stream for an RDF graph.

With the Neptune Streams feature, you can generate a complete sequence of change-log entries that record every change made to your graph data as it happens. `GetSparqlStream` lets you collect these change-log entries for an RDF graph.

The Neptune streams feature needs to be enabled on your Neptune DBcluster. To enable streams, set the [neptune_streams](#) DB cluster parameter to 1.

See [Capturing graph changes in real time using Neptune streams](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetStreamRecords](#) IAM action in that cluster.

Note that the [neptune-db:QueryLanguage:Sparql](#) IAM condition key can be used in the policy document to restrict the use of SPARQL queries (see [Condition keys available in Neptune IAM data-access policy statements](#)).

Request Syntax

```
GET /sparql/stream?  
commitNum=commitNum&iteratorType=iteratorType&limit=limit&opNum=opNum HTTP/1.1  
Accept-Encoding: encoding
```

URI Request Parameters

The request uses the following URI parameters.

[commitNum](#)

The commit number of the starting record to read from the change-log stream. This parameter is required when `iteratorType` is `AT_SEQUENCE_NUMBER` or `AFTER_SEQUENCE_NUMBER`, and ignored when `iteratorType` is `TRIM_HORIZON` or `LATEST`.

[encoding](#)

If set to `TRUE`, Neptune compresses the response using gzip encoding.

Valid Values: `gzip`

iteratorType

Can be one of:

- `AT_SEQUENCE_NUMBER` – Indicates that reading should start from the event sequence number specified jointly by the `commitNum` and `opNum` parameters.
- `AFTER_SEQUENCE_NUMBER` – Indicates that reading should start right after the event sequence number specified jointly by the `commitNum` and `opNum` parameters.
- `TRIM_HORIZON` – Indicates that reading should start at the last untrimmed record in the system, which is the oldest unexpired (not yet deleted) record in the change-log stream.
- `LATEST` – Indicates that reading should start at the most recent record in the system, which is the latest unexpired (not yet deleted) record in the change-log stream.

Valid Values: `AT_SEQUENCE_NUMBER` | `AFTER_SEQUENCE_NUMBER` | `TRIM_HORIZON` | `LATEST`

limit

Specifies the maximum number of records to return. There is also a size limit of 10 MB on the response that can't be modified and that takes precedence over the number of records specified in the `limit` parameter. The response does include a threshold-breaching record if the 10 MB limit was reached.

The range for `limit` is 1 to 100,000, with a default of 10.

Valid Range: Minimum value of 1. Maximum value of 100000.

opNum

The operation sequence number within the specified commit to start reading from in the change-log stream data. The default is 1.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
  "format": "string",
  "lastEventId": {
    "string" : "string"
  },
  "lastTrxTimestamp": number,
  "records": [
    {
      "commitTimestamp": number,
      "data": {
        "stmt": "string"
      },
      "eventId": {
        "string" : "string"
      },
      "isLastOp": boolean,
      "op": "string"
    }
  ],
  "totalRecords": number
}
```

Response Elements

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

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

format

Serialization format for the change records being returned. Currently, the only supported value is NQUADS.

Type: String

lastEventId

Sequence identifier of the last change in the stream response.

An event ID is composed of two fields: a `commitNum`, which identifies a transaction that changed the graph, and an `opNum`, which identifies a specific operation within that transaction:

Type: String to string map

lastTrxTimestamp

The time at which the commit for the transaction was requested, in milliseconds from the Unix epoch.

Type: Long

records

An array of serialized change-log stream records included in the response.

Type: Array of [SparqlRecord](#) objects

totalRecords

The total number of records in the response.

Type: Integer

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ExpiredStreamException

Raised when a request attempts to access a stream that has expired.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MemoryLimitExceededException

Raised when a request fails because of insufficient memory resources. The request can be retried.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that failed.

HTTP Status Code: 500

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

StreamRecordsNotFoundException

Raised when stream records requested by a query cannot be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

ThrottlingException

Raised when the rate of requests exceeds the maximum throughput. Requests can be retried after encountering this exception.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)

- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ListGremlinQueries

Lists active Gremlin queries. See [Gremlin query status API](#) for details about the output.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetQueryStatus](#) IAM action in that cluster.

Note that the [neptune-db:QueryLanguage:Gremlin](#) IAM condition key can be used in the policy document to restrict the use of Gremlin queries (see [Condition keys available in Neptune IAM data-access policy statements](#)).

Request Syntax

```
GET /gremlin/status?includeWaiting=includeWaiting HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[includeWaiting](#)

If set to TRUE, the list returned includes waiting queries. The default is FALSE;

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "acceptedQueryCount": number,
  "queries": [
    {
      "queryEvalStats": {
        "cancelled": boolean,
```

```
    "elapsed": number,  
    "subqueries": JSON value,  
    "waited": number  
  },  
  "queryId": "string",  
  "queryString": "string"  
}  
],  
"runningQueryCount": number  
}
```

Response Elements

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

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

acceptedQueryCount

The number of queries that have been accepted but not yet completed, including queries in the queue.

Type: Integer

queries

A list of the current queries.

Type: Array of [GremlinQueryStatus](#) objects

runningQueryCount

The number of Gremlin queries currently running.

Type: Integer

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConcurrentModificationException

Raised when a request attempts to modify data that is concurrently being modified by another process.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

FailureByQueryException

Raised when a request fails.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

ParsingException

Raised when a parsing issue is encountered.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

TimeLimitExceededException

Raised when the an operation exceeds the time limit allowed for it.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)

- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ListLoaderJobs

Retrieves a list of the loadIds for all active loader jobs.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:ListLoaderJobs](#) IAM action in that cluster..

Request Syntax

```
GET /loader?includeQueuedLoads=includeQueuedLoads&limit=limit HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[includeQueuedLoads](#)

An optional parameter that can be used to exclude the load IDs of queued load requests when requesting a list of load IDs by setting the parameter to FALSE. The default value is TRUE.

[limit](#)

The number of load IDs to list. Must be a positive integer greater than zero and not more than 100 (which is the default).

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

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "payload": {
    "loadIds": [ "string" ]
  },
}
```

```
"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.

[payload](#)

The requested list of job IDs.

Type: [LoaderIdResult](#) object

[status](#)

Returns the status of the job list request.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

BulkLoadIdNotFoundException

Raised when a specified bulk-load job ID cannot be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The bulk-load job ID that could not be found.

HTTP Status Code: 404

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InternalFailureException

Raised when the processing of the request failed unexpectedly.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

LoadUrlAccessDeniedException

Raised when access is denied to a specified load URL.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)

- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

ListMLDataProcessingJobs

Returns a list of Neptune ML data processing jobs. See [Listing active data-processing jobs using the Neptune ML dataprocessing command](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:ListMLDataProcessingJobs](#) IAM action in that cluster.

Request Syntax

```
GET /ml/dataprocessing?maxItems=maxItems&neptuneIamRoleArn=neptuneIamRoleArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[maxItems](#)

The maximum number of items to return (from 1 to 1024; the default is 10).

Valid Range: Minimum value of 1. Maximum value of 1024.

[neptuneIamRoleArn](#)

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "ids": [ "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.

ids

A page listing data processing job IDs.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

ListMLEndpoints

Lists existing inference endpoints. See [Managing inference endpoints using the endpoints command](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:ListMLEndpoints](#) IAM action in that cluster.

Request Syntax

```
GET /ml/endpoints?maxItems=maxItems&neptuneIamRoleArn=neptuneIamRoleArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[maxItems](#)

The maximum number of items to return (from 1 to 1024; the default is 10).

Valid Range: Minimum value of 1. Maximum value of 1024.

[neptuneIamRoleArn](#)

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "ids": [ "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.

ids

A page from the list of inference endpoint IDs.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

ListMLModelTrainingJobs

Lists Neptune ML model-training jobs. See [Model training using the modeltraining command](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:neptune-db>ListMLModelTrainingJobs](#) IAM action in that cluster.

Request Syntax

```
GET /ml/modeltraining?maxItems=maxItems&neptuneIamRoleArn=neptuneIamRoleArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[maxItems](#)

The maximum number of items to return (from 1 to 1024; the default is 10).

Valid Range: Minimum value of 1. Maximum value of 1024.

[neptuneIamRoleArn](#)

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "ids": [ "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.

ids

A page of the list of model training job IDs.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

ListMLModelTransformJobs

Returns a list of model transform job IDs. See [Use a trained model to generate new model artifacts](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:ListMLModelTransformJobs](#) IAM action in that cluster.

Request Syntax

```
GET /ml/modeltransform?maxItems=maxItems&neptuneIamRoleArn=neptuneIamRoleArn HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[maxItems](#)

The maximum number of items to return (from 1 to 1024; the default is 10).

Valid Range: Minimum value of 1. Maximum value of 1024.

[neptuneIamRoleArn](#)

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "ids": [ "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.

ids

A page from the list of model transform IDs.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

ListOpenCypherQueries

Lists active openCypher queries. See [Neptune openCypher status endpoint](#) for more information.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:GetQueryStatus](#) IAM action in that cluster.

Note that the [neptune-db:QueryLanguage:OpenCypher](#) IAM condition key can be used in the policy document to restrict the use of openCypher queries (see [Condition keys available in Neptune IAM data-access policy statements](#)).

Request Syntax

```
GET /opencypher/status?includeWaiting=includeWaiting HTTP/1.1
```

URI Request Parameters

The request uses the following URI parameters.

[includeWaiting](#)

When set to TRUE and other parameters are not present, causes status information to be returned for waiting queries as well as for running queries.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "acceptedQueryCount": number,
  "queries": [
    {
      "queryEvalStats": {
        "cancelled": boolean,
```

```
    "elapsed": number,  
    "subqueries": JSON value,  
    "waited": number  
  },  
  "queryId": "string",  
  "queryString": "string"  
}  
],  
"runningQueryCount": number  
}
```

Response Elements

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

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

acceptedQueryCount

The number of queries that have been accepted but not yet completed, including queries in the queue.

Type: Integer

queries

A list of current openCypher queries.

Type: Array of [GremlinQueryStatus](#) objects

runningQueryCount

The number of currently running openCypher queries.

Type: Integer

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConcurrentModificationException

Raised when a request attempts to modify data that is concurrently being modified by another process.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

FailureByQueryException

Raised when a request fails.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidNumericDataException

Raised when invalid numerical data is encountered when servicing a request.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

ParsingException

Raised when a parsing issue is encountered.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

TimeLimitExceededException

Raised when the an operation exceeds the time limit allowed for it.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 500

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

ManagePropertygraphStatistics

Manages the generation and use of property graph statistics.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:ManageStatistics](#) IAM action in that cluster.

Request Syntax

```
POST /propertygraph/statistics HTTP/1.1
Content-type: application/json

{
  "mode": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

mode

The statistics generation mode. One of: DISABLE_AUTO COMPUTE, ENABLE_AUTO COMPUTE, or REFRESH, the last of which manually triggers DFE statistics generation.

Type: String

Valid Values: disableAutoCompute | enableAutoCompute | refresh

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
  "payload": {
    "statisticsId": "string"
  },
  "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.

payload

This is only returned for refresh mode.

Type: [RefreshStatisticsIdMap](#) object

status

The HTTP return code of the request. If the request succeeded, the code is 200.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

StatisticsNotAvailableException

Raised when statistics needed to satisfy a request are not available.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

ManageSparqlStatistics

Manages the generation and use of RDF graph statistics.

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:ManageStatistics](#) IAM action in that cluster.

Request Syntax

```
POST /sparql/statistics HTTP/1.1
Content-type: application/json

{
  "mode": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

mode

The statistics generation mode. One of: DISABLE_AUTO COMPUTE, ENABLE_AUTO COMPUTE, or REFRESH, the last of which manually triggers DFE statistics generation.

Type: String

Valid Values: disableAutoCompute | enableAutoCompute | refresh

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

```
{
  "payload": {
    "statisticsId": "string"
  },
  "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.

payload

This is only returned for refresh mode.

Type: [RefreshStatisticsIdMap](#) object

status

The HTTP return code of the request. If the request succeeded, the code is 200.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

AccessDeniedException

Raised in case of an authentication or authorization failure.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 403

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

ReadOnlyViolationException

Raised when a request attempts to write to a read-only resource.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

StatisticsNotAvailableException

Raised when statistics needed to satisfy a request are not available.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

StartLoaderJob

Starts a Neptune bulk loader job to load data from an Amazon S3 bucket into a Neptune DB instance. See [Using the Amazon Neptune Bulk Loader to Ingest Data](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:StartLoaderJob](#) IAM action in that cluster.

Request Syntax

```
POST /loader HTTP/1.1
Content-type: application/json

{
  "dependencies": [ "string" ],
  "failOnError": boolean,
  "format": "string",
  "iamRoleArn": "string",
  "mode": "string",
  "parallelism": "string",
  "parserConfiguration": {
    "string" : "string"
  },
  "queueRequest": boolean,
  "region": "string",
  "source": "string",
  "updateSingleCardinalityProperties": boolean,
  "userProvidedEdgeIds": boolean
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

dependencies

This is an optional parameter that can make a queued load request contingent on the successful completion of one or more previous jobs in the queue.

Neptune can queue up as many as 64 load requests at a time, if their `queueRequest` parameters are set to "TRUE". The `dependencies` parameter lets you make execution of such a queued request dependent on the successful completion of one or more specified previous requests in the queue.

For example, if load Job-A and Job-B are independent of each other, but load Job-C needs Job-A and Job-B to be finished before it begins, proceed as follows:

1. Submit load-job-A and load-job-B one after another in any order, and save their load-ids.
2. Submit load-job-C with the load-ids of the two jobs in its `dependencies` field:

Because of the `dependencies` parameter, the bulk loader will not start Job-C until Job-A and Job-B have completed successfully. If either one of them fails, Job-C will not be executed, and its status will be set to `LOAD_FAILED_BECAUSE_DEPENDENCY_NOT_SATISFIED`.

You can set up multiple levels of dependency in this way, so that the failure of one job will cause all requests that are directly or indirectly dependent on it to be cancelled.

Type: Array of strings

Required: No

failOnError

failOnError – A flag to toggle a complete stop on an error.

Allowed values: "TRUE", "FALSE".

Default value: "TRUE".

When this parameter is set to "FALSE", the loader tries to load all the data in the location specified, skipping any entries with errors.

When this parameter is set to "TRUE", the loader stops as soon as it encounters an error. Data loaded up to that point persists.

Type: Boolean

Required: No

format

The format of the data. For more information about data formats for the Neptune Loader command, see [Load Data Formats](#).

Allowed values

- **csv** for the [Gremlin CSV data format](#).
- **opencypher** for the [openCypher CSV data format](#).
- **ntriples** for the [N-Triples RDF data format](#).
- **nquads** for the [N-Quads RDF data format](#).
- **rdxml** for the [RDF/XML RDF data format](#).
- **turtle** for the [Turtle RDF data format](#).

Type: String

Valid Values: csv | opencypher | ntriples | nquads | rdxml | turtle

Required: Yes

iamRoleArn

The Amazon Resource Name (ARN) for an IAM role to be assumed by the Neptune DB instance for access to the S3 bucket. The IAM role ARN provided here should be attached to the DB cluster (see [Adding the IAM Role to an Amazon Neptune Cluster](#)).

Type: String

Required: Yes

mode

The load job mode.

Allowed values: RESUME, NEW, AUTO.

Default value: AUTO.

- **RESUME** – In RESUME mode, the loader looks for a previous load from this source, and if it finds one, resumes that load job. If no previous load job is found, the loader stops.

The loader avoids reloading files that were successfully loaded in a previous job. It only tries to process failed files. If you dropped previously loaded data from your Neptune cluster, that data is not reloaded in this mode. If a previous load job loaded all files from the same source successfully, nothing is reloaded, and the loader returns success.

- **NEW** – In NEW mode, the creates a new load request regardless of any previous loads. You can use this mode to reload all the data from a source after dropping previously loaded data from your Neptune cluster, or to load new data available at the same source.
- **AUTO** – In AUTO mode, the loader looks for a previous load job from the same source, and if it finds one, resumes that job, just as in RESUME mode.

If the loader doesn't find a previous load job from the same source, it loads all data from the source, just as in NEW mode.

Type: String

Valid Values: RESUME | NEW | AUTO

Required: No

parallelism

The optional `parallelism` parameter can be set to reduce the number of threads used by the bulk load process.

Allowed values:

- **LOW** – The number of threads used is the number of available vCPUs divided by 8.
- **MEDIUM** – The number of threads used is the number of available vCPUs divided by 2.
- **HIGH** – The number of threads used is the same as the number of available vCPUs.
- **OVERSUBSCRIBE** – The number of threads used is the number of available vCPUs multiplied by 2. If this value is used, the bulk loader takes up all available resources.

This does not mean, however, that the **OVERSUBSCRIBE** setting results in 100% CPU utilization. Because the load operation is I/O bound, the highest CPU utilization to expect is in the 60% to 70% range.

Default value: HIGH

The `parallelism` setting can sometimes result in a deadlock between threads when loading openCypher data. When this happens, Neptune returns the `LOAD_DATA_DEADLOCK` error. You can generally fix the issue by setting `parallelism` to a lower setting and retrying the load command.

Type: String

Valid Values: `LOW` | `MEDIUM` | `HIGH` | `OVERSUBSCRIBE`

Required: No

parserConfiguration

parserConfiguration – An optional object with additional parser configuration values. Each of the child parameters is also optional:

- **namedGraphUri** – The default graph for all RDF formats when no graph is specified (for non-quads formats and NQUAD entries with no graph).

The default is `https://aws.amazon.com/neptune/vocab/v01/DefaultNamedGraph`.

- **baseUri** – The base URI for RDF/XML and Turtle formats.

The default is `https://aws.amazon.com/neptune/default`.

- **allowEmptyStrings** – Gremlin users need to be able to pass empty string values(“”) as node and edge properties when loading CSV data. If `allowEmptyStrings` is set to `false` (the default), such empty strings are treated as nulls and are not loaded.

If `allowEmptyStrings` is set to `true`, the loader treats empty strings as valid property values and loads them accordingly.

Type: String to string map

Required: No

queueRequest

This is an optional flag parameter that indicates whether the load request can be queued up or not.

You don't have to wait for one load job to complete before issuing the next one, because Neptune can queue up as many as 64 jobs at a time, provided that their `queueRequest` parameters are all set to `"TRUE"`. The queue order of the jobs will be first-in-first-out (FIFO).

If the `queueRequest` parameter is omitted or set to "FALSE", the load request will fail if another load job is already running.

Allowed values: "TRUE", "FALSE".

Default value: "FALSE".

Type: Boolean

Required: No

region

The Amazon region of the S3 bucket. This must match the Amazon Region of the DB cluster.

Type: String

Valid Values: us-east-1 | us-east-2 | us-west-1 | us-west-2 | ca-central-1 | sa-east-1 | eu-north-1 | eu-west-1 | eu-west-2 | eu-west-3 | eu-central-1 | me-south-1 | af-south-1 | ap-east-1 | ap-northeast-1 | ap-northeast-2 | ap-southeast-1 | ap-southeast-2 | ap-south-1 | cn-north-1 | cn-northwest-1 | us-gov-west-1 | us-gov-east-1

Required: Yes

source

The source parameter accepts an S3 URI that identifies a single file, multiple files, a folder, or multiple folders. Neptune loads every data file in any folder that is specified.

The URI can be in any of the following formats.

- `s3://(bucket_name)/(object-key-name)`
- `https://s3.amazonaws.com/(bucket_name)/(object-key-name)`
- `https://s3.us-east-1.amazonaws.com/(bucket_name)/(object-key-name)`

The `object-key-name` element of the URI is equivalent to the [prefix](#) parameter in an S3 [ListObjects](#) API call. It identifies all the objects in the specified S3 bucket whose names begin with that prefix. That can be a single file or folder, or multiple files and/or folders.

The specified folder or folders can contain multiple vertex files and multiple edge files.

Type: String

Required: Yes

updateSingleCardinalityProperties

`updateSingleCardinalityProperties` is an optional parameter that controls how the bulk loader treats a new value for single-cardinality vertex or edge properties. This is not supported for loading openCypher data.

Allowed values: "TRUE", "FALSE".

Default value: "FALSE".

By default, or when `updateSingleCardinalityProperties` is explicitly set to "FALSE", the loader treats a new value as an error, because it violates single cardinality.

When `updateSingleCardinalityProperties` is set to "TRUE", on the other hand, the bulk loader replaces the existing value with the new one. If multiple edge or single-cardinality vertex property values are provided in the source file(s) being loaded, the final value at the end of the bulk load could be any one of those new values. The loader only guarantees that the existing value has been replaced by one of the new ones.

Type: Boolean

Required: No

userProvidedEdgeIds

This parameter is required only when loading openCypher data that contains relationship IDs. It must be included and set to `True` when openCypher relationship IDs are explicitly provided in the load data (recommended).

When `userProvidedEdgeIds` is absent or set to `True`, an `:ID` column must be present in every relationship file in the load.

When `userProvidedEdgeIds` is present and set to `False`, relationship files in the load **must not** contain an `:ID` column. Instead, the Neptune loader automatically generates an ID for each relationship.

It's useful to provide relationship IDs explicitly so that the loader can resume loading after error in the CSV data have been fixed, without having to reload any relationships that have already been loaded. If relationship IDs have not been explicitly assigned, the loader cannot resume

a failed load if any relationship file has had to be corrected, and must instead reload all the relationships.

Type: Boolean

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "payload": {
    "string" : "string"
  },
  "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.

payload

Contains a `loadId` name-value pair that provides an identifier for the load operation.

Type: String to string map

status

The HTTP return code indicating the status of the load job.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

BulkLoadIdNotFoundException

Raised when a specified bulk-load job ID cannot be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The bulk-load job ID that could not be found.

HTTP Status Code: 404

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InternalFailureException

Raised when the processing of the request failed unexpectedly.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 500

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

LoadUrlAccessDeniedException

Raised when access is denied to a specified load URL.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

S3Exception

Raised when there is a problem accessing Amazon S3.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

StartMLDataProcessingJob

Creates a new Neptune ML data processing job for processing the graph data exported from Neptune for training. See [The dataprocessing command](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:StartMLModelDataProcessingJob](#) IAM action in that cluster.

Request Syntax

```
POST /ml/dataprocessing HTTP/1.1
```

```
Content-type: application/json
```

```
{
  "configFileName": "string",
  "id": "string",
  "inputDataS3Location": "string",
  "modelType": "string",
  "neptuneIamRoleArn": "string",
  "previousDataProcessingJobId": "string",
  "processedDataS3Location": "string",
  "processingInstanceType": "string",
  "processingInstanceVolumeSizeInGB": number,
  "processingTimeOutInSeconds": number,
  "s3OutputEncryptionKMSKey": "string",
  "sagemakerIamRoleArn": "string",
  "securityGroupIds": [ "string" ],
  "subnets": [ "string" ],
  "volumeEncryptionKMSKey": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

configFileName

A data specification file that describes how to load the exported graph data for training. The file is automatically generated by the Neptune export toolkit. The default is `training-data-configuration.json`.

Type: String

Required: No

id

A unique identifier for the new job. The default is an autogenerated UUID.

Type: String

Required: No

inputDataS3Location

The URI of the Amazon S3 location where you want SageMaker to download the data needed to run the data processing job.

Type: String

Required: Yes

modelType

One of the two model types that Neptune ML currently supports: heterogeneous graph models (heterogeneous), and knowledge graph (kge). The default is none. If not specified, Neptune ML chooses the model type automatically based on the data.

Type: String

Required: No

neptunelamRoleArn

The Amazon Resource Name (ARN) of an IAM role that SageMaker can assume to perform tasks on your behalf. This must be listed in your DB cluster parameter group or an error will occur.

Type: String

Required: No

[previousDataProcessingJobId](#)

The job ID of a completed data processing job run on an earlier version of the data.

Type: String

Required: No

[processedDataS3Location](#)

The URI of the Amazon S3 location where you want SageMaker to save the results of a data processing job.

Type: String

Required: Yes

[processingInstanceType](#)

The type of ML instance used during data processing. Its memory should be large enough to hold the processed dataset. The default is the smallest ml.r5 type whose memory is ten times larger than the size of the exported graph data on disk.

Type: String

Required: No

[processingInstanceVolumeSizeInGB](#)

The disk volume size of the processing instance. Both input data and processed data are stored on disk, so the volume size must be large enough to hold both data sets. The default is 0. If not specified or 0, Neptune ML chooses the volume size automatically based on the data size.

Type: Integer

Required: No

[processingTimeOutInSeconds](#)

Timeout in seconds for the data processing job. The default is 86,400 (1 day).

Type: Integer

Required: No

s3OutputEncryptionKMSKey

The Amazon Key Management Service (Amazon KMS) key that SageMaker uses to encrypt the output of the processing job. The default is none.

Type: String

Required: No

sagemakerIamRoleArn

The ARN of an IAM role for SageMaker execution. This must be listed in your DB cluster parameter group or an error will occur.

Type: String

Required: No

securityGroupIds

The VPC security group IDs. The default is None.

Type: Array of strings

Required: No

subnets

The IDs of the subnets in the Neptune VPC. The default is None.

Type: Array of strings

Required: No

volumeEncryptionKMSKey

The Amazon Key Management Service (Amazon KMS) key that SageMaker uses to encrypt data on the storage volume attached to the ML compute instances that run the training job. The default is None.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "arn": "string",
  "creationTimeInMillis": number,
  "id": "string"
}
```

Response Elements

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

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

arn

The ARN of the data processing job.

Type: String

creationTimeInMillis

The time it took to create the new processing job, in milliseconds.

Type: Long

id

The unique ID of the new data processing job.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)

- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)
- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

StartMLModelTrainingJob

Creates a new Neptune ML model training job. See [Model training using the modeltraining command](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:StartMLModelTrainingJob](#) IAM action in that cluster.

Request Syntax

```
POST /ml/modeltraining HTTP/1.1
Content-type: application/json

{
  "baseProcessingInstanceType": "string",
  "customModelTrainingParameters": {
    "sourceS3DirectoryPath": "string",
    "trainingEntryPointScript": "string",
    "transformEntryPointScript": "string"
  },
  "dataProcessingJobId": "string",
  "enableManagedSpotTraining": boolean,
  "id": "string",
  "maxHPONumberOfTrainingJobs": number,
  "maxHPOParallelTrainingJobs": number,
  "neptuneIamRoleArn": "string",
  "previousModelTrainingJobId": "string",
  "s3OutputEncryptionKMSKey": "string",
  "sagemakerIamRoleArn": "string",
  "securityGroupIds": [ "string" ],
  "subnets": [ "string" ],
  "trainingInstanceType": "string",
  "trainingInstanceVolumeSizeInGB": number,
  "trainingTimeOutInSeconds": number,
  "trainModelS3Location": "string",
  "volumeEncryptionKMSKey": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

baseProcessingInstanceType

The type of ML instance used in preparing and managing training of ML models. This is a CPU instance chosen based on memory requirements for processing the training data and model.

Type: String

Required: No

customModelTrainingParameters

The configuration for custom model training. This is a JSON object.

Type: [CustomModelTrainingParameters](#) object

Required: No

dataProcessingJobId

The job ID of the completed data-processing job that has created the data that the training will work with.

Type: String

Required: Yes

enableManagedSpotTraining

Optimizes the cost of training machine-learning models by using Amazon Elastic Compute Cloud spot instances. The default is `False`.

Type: Boolean

Required: No

id

A unique identifier for the new job. The default is An autogenerated UUID.

Type: String

Required: No

maxHPONumberOfTrainingJobs

Maximum total number of training jobs to start for the hyperparameter tuning job. The default is 2. Neptune ML automatically tunes the hyperparameters of the machine learning model. To obtain a model that performs well, use at least 10 jobs (in other words, set `maxHPONumberOfTrainingJobs` to 10). In general, the more tuning runs, the better the results.

Type: Integer

Required: No

maxHPOParallelTrainingJobs

Maximum number of parallel training jobs to start for the hyperparameter tuning job. The default is 2. The number of parallel jobs you can run is limited by the available resources on your training instance.

Type: Integer

Required: No

neptunelamRoleArn

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Type: String

Required: No

previousModelTrainingJobId

The job ID of a completed model-training job that you want to update incrementally based on updated data.

Type: String

Required: No

s3OutputEncryptionKMSKey

The Amazon Key Management Service (KMS) key that SageMaker uses to encrypt the output of the processing job. The default is none.

Type: String

Required: No

sagemakerIamRoleArn

The ARN of an IAM role for SageMaker execution. This must be listed in your DB cluster parameter group or an error will occur.

Type: String

Required: No

securityGroupIds

The VPC security group IDs. The default is None.

Type: Array of strings

Required: No

subnets

The IDs of the subnets in the Neptune VPC. The default is None.

Type: Array of strings

Required: No

trainingInstanceType

The type of ML instance used for model training. All Neptune ML models support CPU, GPU, and multiGPU training. The default is `m1.p3.2xlarge`. Choosing the right instance type for training depends on the task type, graph size, and your budget.

Type: String

Required: No

trainingInstanceVolumeSizeInGB

The disk volume size of the training instance. Both input data and the output model are stored on disk, so the volume size must be large enough to hold both data sets. The default is 0. If not specified or 0, Neptune ML selects a disk volume size based on the recommendation generated in the data processing step.

Type: Integer

Required: No

trainingTimeoutInSeconds

Timeout in seconds for the training job. The default is 86,400 (1 day).

Type: Integer

Required: No

trainModelS3Location

The location in Amazon S3 where the model artifacts are to be stored.

Type: String

Required: Yes

volumeEncryptionKMSKey

The Amazon Key Management Service (KMS) key that SageMaker uses to encrypt data on the storage volume attached to the ML compute instances that run the training job. The default is None.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "arn": "string",
  "creationTimeInMillis": number,
  "id": "string"
}
```

Response Elements

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

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

arn

The ARN of the new model training job.

Type: String

creationTimeInMillis

The model training job creation time, in milliseconds.

Type: Long

id

The unique ID of the new model training job.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

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

StartMLModelTransformJob

Creates a new model transform job. See [Use a trained model to generate new model artifacts](#).

When invoking this operation in a Neptune cluster that has IAM authentication enabled, the IAM user or role making the request must have a policy attached that allows the [neptune-db:StartMLModelTransformJob](#) IAM action in that cluster.

Request Syntax

```
POST /ml/modeltransform HTTP/1.1
Content-type: application/json

{
  "baseProcessingInstanceType": "string",
  "baseProcessingInstanceVolumeSizeInGB": number,
  "customModelTransformParameters": {
    "sourceS3DirectoryPath": "string",
    "transformEntryPointScript": "string"
  },
  "dataProcessingJobId": "string",
  "id": "string",
  "mlModelTrainingJobId": "string",
  "modelTransformOutputS3Location": "string",
  "neptuneIamRoleArn": "string",
  "s3OutputEncryptionKMSKey": "string",
  "sagemakerIamRoleArn": "string",
  "securityGroupIds": [ "string" ],
  "subnets": [ "string" ],
  "trainingJobName": "string",
  "volumeEncryptionKMSKey": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

baseProcessingInstanceType

The type of ML instance used in preparing and managing training of ML models. This is an ML compute instance chosen based on memory requirements for processing the training data and model.

Type: String

Required: No

baseProcessingInstanceVolumeSizeInGB

The disk volume size of the training instance in gigabytes. The default is 0. Both input data and the output model are stored on disk, so the volume size must be large enough to hold both data sets. If not specified or 0, Neptune ML selects a disk volume size based on the recommendation generated in the data processing step.

Type: Integer

Required: No

customModelTransformParameters

Configuration information for a model transform using a custom model. The `customModelTransformParameters` object contains the following fields, which must have values compatible with the saved model parameters from the training job:

Type: [CustomModelTransformParameters](#) object

Required: No

dataProcessingJobId

The job ID of a completed data-processing job. You must include either `dataProcessingJobId` and a `mlModelTrainingJobId`, or a `trainingJobName`.

Type: String

Required: No

id

A unique identifier for the new job. The default is an autogenerated UUID.

Type: String

Required: No

[mlModelTrainingJobId](#)

The job ID of a completed model-training job. You must include either `dataProcessingJobId` and a `mlModelTrainingJobId`, or a `trainingJobName`.

Type: String

Required: No

[modelTransformOutputS3Location](#)

The location in Amazon S3 where the model artifacts are to be stored.

Type: String

Required: Yes

[neptunelamRoleArn](#)

The ARN of an IAM role that provides Neptune access to SageMaker and Amazon S3 resources. This must be listed in your DB cluster parameter group or an error will occur.

Type: String

Required: No

[s3OutputEncryptionKMSKey](#)

The Amazon Key Management Service (KMS) key that SageMaker uses to encrypt the output of the processing job. The default is none.

Type: String

Required: No

[sagemakeriamRoleArn](#)

The ARN of an IAM role for SageMaker execution. This must be listed in your DB cluster parameter group or an error will occur.

Type: String

Required: No

securityGroupIds

The VPC security group IDs. The default is None.

Type: Array of strings

Required: No

subnets

The IDs of the subnets in the Neptune VPC. The default is None.

Type: Array of strings

Required: No

trainingJobName

The name of a completed SageMaker training job. You must include either `dataProcessingJobId` and a `mlModelTrainingJobId`, or a `trainingJobName`.

Type: String

Required: No

volumeEncryptionKMSKey

The Amazon Key Management Service (KMS) key that SageMaker uses to encrypt data on the storage volume attached to the ML compute instances that run the training job. The default is None.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "arn": "string",
  "creationTimeInMillis": number,
  "id": "string"
```

```
}
```

Response Elements

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

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

arn

The ARN of the model transform job.

Type: String

creationTimeInMillis

The creation time of the model transform job, in milliseconds.

Type: Long

id

The unique ID of the new model transform job.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Error Types](#).

BadRequestException

Raised when a request is submitted that cannot be processed.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the bad request.

HTTP Status Code: 400

ClientTimeoutException

Raised when a request timed out in the client.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 408

ConstraintViolationException

Raised when a value in a request field did not satisfy required constraints.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

IllegalArgumentException

Raised when an argument in a request is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidArgumentException

Raised when an argument in a request has an invalid value.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

InvalidParameterException

Raised when a parameter value is not valid.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that includes an invalid parameter.

HTTP Status Code: 400

MissingParameterException

Raised when a required parameter is missing.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in which the parameter is missing.

HTTP Status Code: 400

MLResourceNotFoundException

Raised when a specified machine-learning resource could not be found.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 404

PreconditionsFailedException

Raised when a precondition for processing a request is not satisfied.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

TooManyRequestsException

Raised when the number of requests being processed exceeds the limit.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request that could not be processed for this reason.

HTTP Status Code: 429

UnsupportedOperationException

Raised when a request attempts to initiate an operation that is not supported.

code

The HTTP status code returned with the exception.

detailedMessage

A detailed message describing the problem.

requestId

The ID of the request in question.

HTTP Status Code: 400

See Also

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

- [AWS Command Line Interface V2](#)
- [AWS SDK for .NET V4](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go v2](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for JavaScript V3](#)

- [AWS SDK for Kotlin](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

Data Types

The Amazon NeptuneData 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:

- [CustomModelTrainingParameters](#)
- [CustomModelTransformParameters](#)
- [DeleteStatisticsValueMap](#)
- [EdgeStructure](#)
- [FastResetToken](#)
- [GremlinQueryStatus](#)
- [GremlinQueryStatusAttributes](#)
- [LoaderIdResult](#)
- [MLConfigDefinition](#)
- [MLResourceDefinition](#)
- [NodeStructure](#)
- [PropertygraphData](#)
- [PropertygraphRecord](#)
- [PropertygraphSummary](#)
- [PropertygraphSummaryValueMap](#)
- [QueryEvalStats](#)
- [QueryLanguageVersion](#)
- [RDFGraphSummary](#)
- [RDFGraphSummaryValueMap](#)
- [RefreshStatisticsIdMap](#)

- [SparqlData](#)
- [SparqlRecord](#)
- [Statistics](#)
- [StatisticsSummary](#)
- [SubjectStructure](#)

CustomModelTrainingParameters

Contains custom model training parameters. See [Custom models in Neptune ML](#).

Contents

sourceS3DirectoryPath

The path to the Amazon S3 location where the Python module implementing your model is located. This must point to a valid existing Amazon S3 location that contains, at a minimum, a training script, a transform script, and a `model-hpo-configuration.json` file.

Type: String

Required: Yes

trainingEntryPointScript

The name of the entry point in your module of a script that performs model training and takes hyperparameters as command-line arguments, including fixed hyperparameters. The default is `training.py`.

Type: String

Required: No

transformEntryPointScript

The name of the entry point in your module of a script that should be run after the best model from the hyperparameter search has been identified, to compute the model artifacts necessary for model deployment. It should be able to run with no command-line arguments. The default is `transform.py`.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

CustomModelTransformParameters

Contains custom model transform parameters. See [Use a trained model to generate new model artifacts](#).

Contents

sourceS3DirectoryPath

The path to the Amazon S3 location where the Python module implementing your model is located. This must point to a valid existing Amazon S3 location that contains, at a minimum, a training script, a transform script, and a `model-hpo-configuration.json` file.

Type: String

Required: Yes

transformEntryPointScript

The name of the entry point in your module of a script that should be run after the best model from the hyperparameter search has been identified, to compute the model artifacts necessary for model deployment. It should be able to run with no command-line arguments. The default is `transform.py`.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

DeleteStatisticsValueMap

The payload for DeleteStatistics.

Contents

active

The current status of the statistics.

Type: Boolean

Required: No

statisticsId

The ID of the statistics generation run that is currently occurring.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

EdgeStructure

An edge structure.

Contents

count

The number of edges that have this specific structure.

Type: Long

Required: No

edgeProperties

A list of edge properties present in this specific structure.

Type: Array of strings

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](#)

FastResetToken

A structure containing the fast reset token used to initiate a fast reset.

Contents

token

A UUID generated by the database in the `initiateDatabaseReset` action, and then consumed by the `performDatabaseReset` to reset the database.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

GremlinQueryStatus

Captures the status of a Gremlin query (see the [Gremlin query status API](#) page).

Contents

queryEvalStats

The query statistics of the Gremlin query.

Type: [QueryEvalStats](#) object

Required: No

queryId

The ID of the Gremlin query.

Type: String

Required: No

queryString

The query string of the Gremlin query.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

GremlinQueryStatusAttributes

Contains status components of a Gremlin query.

Contents

attributes

Attributes of the Gremlin query status.

Type: JSON value

Required: No

code

The HTTP response code returned from the Gremlin query request..

Type: Integer

Required: No

message

The status message.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

LoaderIdResult

Contains a list of load IDs.

Contents

loadIds

A list of load IDs.

Type: Array of strings

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](#)

MLConfigDefinition

Contains a Neptune ML configuration.

Contents

arn

The ARN for the configuration.

Type: String

Required: No

name

The configuration name.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

MLResourceDefinition

Defines a Neptune ML resource.

Contents

arn

The resource ARN.

Type: String

Required: No

cloudwatchLogUrl

The CloudWatch log URL for the resource.

Type: String

Required: No

failureReason

The failure reason, in case of a failure.

Type: String

Required: No

name

The resource name.

Type: String

Required: No

outputLocation

The output location.

Type: String

Required: No

status

The resource status.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

NodeStructure

A node structure.

Contents

count

Number of nodes that have this specific structure.

Type: Long

Required: No

distinctOutgoingEdgeLabels

A list of distinct outgoing edge labels present in this specific structure.

Type: Array of strings

Required: No

nodeProperties

A list of the node properties present in this specific structure.

Type: Array of strings

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](#)

PropertygraphData

A Gremlin or openCypher change record.

Contents

id

The ID of the Gremlin or openCypher element.

Type: String

Required: Yes

key

The property name. For element labels, this is `label`.

Type: String

Required: Yes

type

The type of this Gremlin or openCypher element. Must be one of:

- **v1** - Vertex label for Gremlin, or node label for openCypher.
- **vp** - Vertex properties for Gremlin, or node properties for openCypher.
- **e** - Edge and edge label for Gremlin, or relationship and relationship type for openCypher.
- **ep** - Edge properties for Gremlin, or relationship properties for openCypher.

Type: String

Required: Yes

value

This is a JSON object that contains a `value` field for the value itself, and a `datatype` field for the JSON data type of that value:

Type: JSON value

Required: Yes

from

If this is an edge (type = e), the ID of the corresponding from vertex or source node.

Type: String

Required: No

to

If this is an edge (type = e), the ID of the corresponding to vertex or target node.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

PropertygraphRecord

Structure of a property graph record.

Contents

commitTimestamp

The time at which the commit for the transaction was requested, in milliseconds from the Unix epoch.

Type: Long

Required: Yes

data

The serialized Gremlin or openCypher change record.

Type: [PropertygraphData](#) object

Required: Yes

eventId

The sequence identifier of the stream change record.

Type: String to string map

Required: Yes

op

The operation that created the change.

Type: String

Required: Yes

isLastOp

Only present if this operation is the last one in its transaction. If present, it is set to true. It is useful for ensuring that an entire transaction is consumed.

Type: Boolean

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

PropertygraphSummary

The graph summary API returns a read-only list of node and edge labels and property keys, along with counts of nodes, edges, and properties. See [Graph summary response for a property graph \(PG\)](#).

Contents

edgeLabels

A list of the distinct edge labels in the graph.

Type: Array of strings

Required: No

edgeProperties

A list of the distinct edge properties in the graph, along with the count of edges where each property is used.

Type: Array of string to long maps

Required: No

edgeStructures

This field is only present when the requested mode is DETAILED. It contains a list of edge structures.

Type: Array of [EdgeStructure](#) objects

Required: No

nodeLabels

A list of the distinct node labels in the graph.

Type: Array of strings

Required: No

nodeProperties

The number of distinct node properties in the graph.

Type: Array of string to long maps

Required: No

nodeStructures

This field is only present when the requested mode is DETAILED. It contains a list of node structures.

Type: Array of [NodeStructure](#) objects

Required: No

numEdgeLabels

The number of distinct edge labels in the graph.

Type: Long

Required: No

numEdgeProperties

The number of distinct edge properties in the graph.

Type: Long

Required: No

numEdges

The number of edges in the graph.

Type: Long

Required: No

numNodeLabels

The number of distinct node labels in the graph.

Type: Long

Required: No

numNodeProperties

A list of the distinct node properties in the graph, along with the count of nodes where each property is used.

Type: Long

Required: No

numNodes

The number of nodes in the graph.

Type: Long

Required: No

totalEdgePropertyValues

The total number of usages of all edge properties.

Type: Long

Required: No

totalNodePropertyValues

The total number of usages of all node properties.

Type: Long

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

PropertygraphSummaryValueMap

Payload for the property graph summary response.

Contents

graphSummary

The graph summary.

Type: [PropertygraphSummary](#) object

Required: No

lastStatisticsComputationTime

The timestamp, in ISO 8601 format, of the time at which Neptune last computed statistics.

Type: Timestamp

Required: No

version

The version of this graph summary response.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

QueryEvalStats

Structure to capture query statistics such as how many queries are running, accepted or waiting and their details.

Contents

cancelled

Set to TRUE if the query was cancelled, or FALSE otherwise.

Type: Boolean

Required: No

elapsed

The number of milliseconds the query has been running so far.

Type: Integer

Required: No

subqueries

The number of subqueries in this query.

Type: JSON value

Required: No

waited

Indicates how long the query waited, in milliseconds.

Type: Integer

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

QueryLanguageVersion

Structure for expressing the query language version.

Contents

version

The version of the query language.

Type: String

Required: Yes

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RDFGraphSummary

The RDF graph summary API returns a read-only list of classes and predicate keys, along with counts of quads, subjects, and predicates.

Contents

classes

A list of the classes in the graph.

Type: Array of strings

Required: No

numClasses

The number of classes in the graph.

Type: Long

Required: No

numDistinctPredicates

The number of distinct predicates in the graph.

Type: Long

Required: No

numDistinctSubjects

The number of distinct subjects in the graph.

Type: Long

Required: No

numQuads

The number of quads in the graph.

Type: Long

Required: No

predicates

"A list of predicates in the graph, along with the predicate counts.

Type: Array of string to long maps

Required: No

subjectStructures

This field is only present when the request mode is DETAILED. It contains a list of subject structures.

Type: Array of [SubjectStructure](#) 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](#)

RDFGraphSummaryValueMap

Payload for an RDF graph summary response.

Contents

graphSummary

The graph summary of an RDF graph. See [Graph summary response for an RDF graph](#).

Type: [RDFGraphSummary](#) object

Required: No

lastStatisticsComputationTime

The timestamp, in ISO 8601 format, of the time at which Neptune last computed statistics.

Type: Timestamp

Required: No

version

The version of this graph summary response.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

RefreshStatisticsIdMap

Statistics for REFRESH mode.

Contents

statisticsId

The ID of the statistics generation run that is currently occurring.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SparqlData

Neptune logs are converted to SPARQL quads in the graph using the Resource Description Framework (RDF) [N-QUADS](#) language defined in the W3C RDF 1.1 N-Quads specification

Contents

stmt

Holds an [N-QUADS](#) statement expressing the changed quad.

Type: String

Required: Yes

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SparqlRecord

A serialized SPARQL stream record capturing a change-log entry for the RDF graph.

Contents

commitTimestamp

The time at which the commit for the transaction was requested, in milliseconds from the Unix epoch.

Type: Long

Required: Yes

data

The serialized SPARQL change record. The serialization formats of each record are described in more detail in [Serialization Formats in Neptune Streams](#).

Type: [SparqlData](#) object

Required: Yes

eventId

The sequence identifier of the stream change record.

Type: String to string map

Required: Yes

op

The operation that created the change.

Type: String

Required: Yes

isLastOp

Only present if this operation is the last one in its transaction. If present, it is set to true. It is useful for ensuring that an entire transaction is consumed.

Type: Boolean

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Statistics

Contains statistics information. The DFE engine uses information about the data in your Neptune graph to make effective trade-offs when planning query execution. This information takes the form of statistics that include so-called characteristic sets and predicate statistics that can guide query planning. See [Managing statistics for the Neptune DFE to use](#).

Contents

active

Indicates whether or not DFE statistics generation is enabled at all.

Type: Boolean

Required: No

autoCompute

Indicates whether or not automatic statistics generation is enabled.

Type: Boolean

Required: No

date

The UTC time at which DFE statistics have most recently been generated.

Type: Timestamp

Required: No

note

A note about problems in the case where statistics are invalid.

Type: String

Required: No

signatureInfo

A StatisticsSummary structure that contains:

- `signatureCount` - The total number of signatures across all characteristic sets.
- `instanceCount` - The total number of characteristic-set instances.
- `predicateCount` - The total number of unique predicates.

Type: [StatisticsSummary](#) object

Required: No

statisticsId

Reports the ID of the current statistics generation run. A value of -1 indicates that no statistics have been generated.

Type: String

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

StatisticsSummary

Information about the characteristic sets generated in the statistics.

Contents

instanceCount

The total number of characteristic-set instances.

Type: Integer

Required: No

predicateCount

The total number of unique predicates.

Type: Integer

Required: No

signatureCount

The total number of signatures across all characteristic sets.

Type: Integer

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

SubjectStructure

A subject structure.

Contents

count

Number of occurrences of this specific structure.

Type: Long

Required: No

predicates

A list of predicates present in this specific structure.

Type: Array of strings

Required: No

See Also

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

- [AWS SDK for C++](#)
- [AWS SDK for Java V2](#)
- [AWS SDK for Ruby V3](#)

Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see [Signing AWS API requests](#) in the *IAM User Guide*.

X-Amz-Algorithm

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: AWS4-HMAC-SHA256

Required: Conditional

X-Amz-Credential

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: *access_key/YYYYMMDD/region/service/aws4_request*.

For more information, see [Create a signed AWS API request](#) in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-Date

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: 20120325T120000Z.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see [Elements of an AWS API request signature](#) in the *IAM User Guide*.

Type: string

Required: Conditional

X-Amz-Security-Token

The temporary security token that was obtained through a call to AWS Security Token Service (AWS STS). For a list of services that support temporary security credentials from AWS STS, see [AWS services that work with IAM](#) in the *IAM User Guide*.

Condition: If you're using temporary security credentials from AWS STS, you must include the security token.

Type: string

Required: Conditional

X-Amz-Signature

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-SignedHeaders

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see [Create a signed AWS API request](#) in the *IAM User Guide*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

Common Error Types

This section lists common error types that this AWS service may return. Not all services return all error types listed here. For errors specific to an API action for this service, see the topic for that API action.

AccessDeniedException

You don't have permission to perform this action. Verify that your IAM policy includes the required permissions.

HTTP Status Code: 403

ExpiredTokenException

The security token included in the request has expired. Request a new security token and try again.

HTTP Status Code: 403

IncompleteSignature

The request signature doesn't conform to AWS standards. Verify that you're using valid AWS credentials and that your request is properly formatted. If you're using an SDK, ensure it's up to date.

HTTP Status Code: 403

InternalFailure

The request can't be processed right now because of an internal server issue. Try again later. If the problem persists, contact AWS Support.

HTTP Status Code: 500

MalformedHttpRequestException

The request body can't be processed. This typically happens when the request body can't be decompressed using the specified content encoding algorithm. Verify that the content encoding header matches the compression format used.

HTTP Status Code: 400

NotAuthorized

You don't have permissions to perform this action. Verify that your IAM policy includes the required permissions.

HTTP Status Code: 401

OptInRequired

Your AWS account needs a subscription for this service. Verify that you've enabled the service in your account.

HTTP Status Code: 403

RequestAbortedException

The request was aborted before a response could be returned. This typically happens when the client closes the connection.

HTTP Status Code: 400

RequestEntityTooLargeException

The request entity is too large. Reduce the size of the request body and try again.

HTTP Status Code: 413

RequestTimeoutException

The request timed out. The server didn't receive the complete request within the expected time frame. Try again.

HTTP Status Code: 408

ServiceUnavailable

The service is temporarily unavailable. Try again later.

HTTP Status Code: 503

ThrottlingException

Your request rate is too high. The AWS SDKs automatically retry requests that receive this exception. Reduce the frequency of requests.

HTTP Status Code: 400

UnknownOperationException

The action or operation isn't recognized. Verify that the action name is spelled correctly and that it's supported by the API version you're using.

HTTP Status Code: 404

UnrecognizedClientException

The X.509 certificate or AWS access key ID you provided doesn't exist in our records. Verify that you're using valid credentials and that they haven't expired.

HTTP Status Code: 403

ValidationError

The input doesn't meet the required format or constraints. Check that all required parameters are included and that values are valid.

HTTP Status Code: 400